

ADDENDUM NO. 22

June 14, 2019

**REQUEST FOR PROPOSALS
(BID DOCUMENTS)**

FOR

**STUDENT SUCCESS CENTER
PROJECT NO. 950512**



The following changes, additions, or deletions shall be made to the following documents as indicated for this Project; and all other terms and conditions shall remain the same. Each Proposer (Design Builder) is responsible for transmitting this information to all affected subcontractors and suppliers before the Proposal Deadline.

1. **REQUEST FOR PROPOSALS**

1. Proposal Schedule

Delete “Proposal Schedule” and **replace** with the one issued in this Addendum.

2. General Requirements (Div. 01)

1. Section 01 1300 BIM Specifications

Delete “Section 01 1300 BIM Specifications” and **replace** with the one issued in this Addendum.

3. University Furnished Information

1. Table of Contents

Delete the “University Furnished Information Table of Contents” and **replace** with the one issued in this Addendum.

2. **Add** Item “1.I. Campus 12KV Expansion-1 (E-4) and Item “1.J. Camps 12KV Expansion-1 (E-7)” to the Table of Contents and place in the University Furnished Information Item 1 folder.

<u>I.</u>	<u>Campus 12KV Expansion – 1 (E-4)</u>	<u>Randall Engineering</u>	<u>November 01, 2000</u>
	<u>University of California - Riverside</u>		

<u>J.</u>	<u>Campus 12KV Expansion – 1 (E-7)</u>	<u>Randall Engineering</u>	<u>November 01, 2000</u>
	<u>University of California – Riverside</u>		

4. **Add** Item “33.G. Emergency Phone Details” to the Table of Contents and place in the University Furnished Information Item 33 folder.

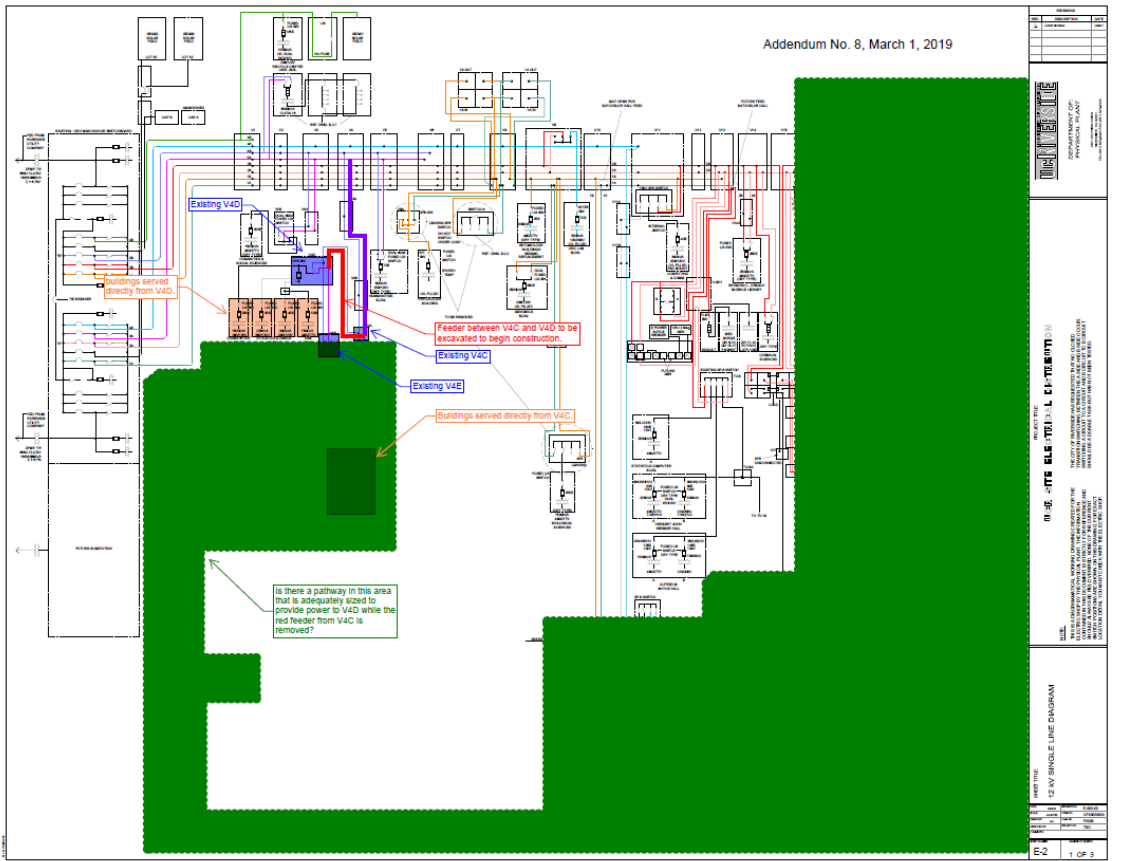
G. Emergency Phone Details **UCR**

5. **Add** Item “57 UCR Interior Letter Signage – Building Dedication Plaque” to the Table of Contents and place in the University Furnished Information folder.

57. UCR INTERIOR LETTER SIGNAGE, BUILDING DEDICATION PLAQUE

<u>A.</u>	<u>UCR Interior Letter Signage – Building Dedication Plaque</u>	<u>Century Sign Builders</u>	<u>November 29, 2018</u>
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2. DESIGN BUILDER QUESTIONS & ANSWERS

<p>Q121</p>	<p>The RFP as well as Addendum 15 Q/A 82 reference Simplex (JCI) as the only University accepted fire alarm system. Will the University allow EST (Edwards) to be used as an alternate for the fire alarm system on this project provided the system is code compliant and meets University requirements with the exception of the ability to network with the Campus?</p>
<p>A121</p>	<p>At this time the current campus infrastructure and operations can only support Simplex. The University will only accept fire alarm systems by Simplex for this project.</p>
<p>Q122</p>	<p>1. Vault V4D serves multiple existing buildings directly (Chass Inter. South, Athletics & Dance BLDG, & SSS). The feeder between V4D and V4C will be disconnected and re-routed during the project. Is there a pathway coming from the direction of V4E or another path in the green clouded area on the attached single line diagram that is adequately sized to provide power to V4D while the feeders from V4C are being relocated?</p> <p>2. Per Addendum 20, MC cable will not be allowed. It is industry standard to provide flexible MC cable connections to mechanical equipment and MC cable fixture whips from junction boxes to lighting fixtures. The home run circuits back to the electrical panels and circuits concealed in walls to receptacles and other devices will be in conduit. Please confirm MC cable will be allowed to mechanical equipment and to lighting fixtures.</p> 



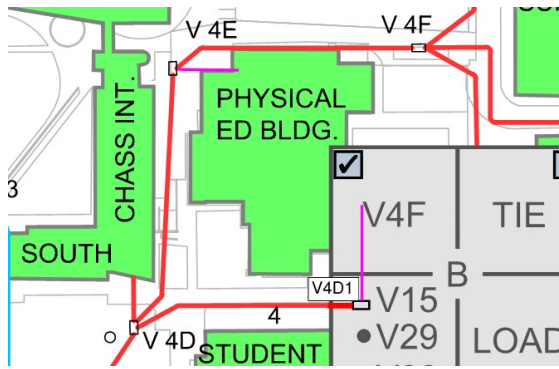
A122

- The University Facilities Services has identified that there isn't an existing feeder that is adequately sized to serve the requirements of the buildings identified. The Design Builder will be required to build the new infrastructure prior to disconnecting / or cutting over the existing building feeds. Design Builder will have to adequately plan and phase construction activities to minimize impact to adjacent facilities.**
- The use of MC Cables is acceptable from the junction box to light fixtures only. The use of MC Cables is unacceptable to use for motors or vibrating mechanical equipment. Liquid-Tight flexible conduit with approved fittings to be used on all motors.**

Q123

Reference Addendum 08, File 35-A-6079_E2-12kv Layout and University Furnished Information, As-Builts, Student Academic Support Services Electrical Drawing Sheet E6.01 and specifically Detail A on Sheet E6.01.

Both documents indicate a second service at the Athletic building. Our review of University-furnished-information shows the location of the original service to the Athletic Building, PE-1. If the above provided information is correct, there is a second service connected to the 12kv circuits in vault V4D leading us to believe there may have been a second substation installed in the Athletic building (perhaps in the Military Science Wing expansion; reference University Supplied

	<p>Information – As-Built - B. Physical Education Building\Original Bldg – 18_83340_6278_Proposed Transformer Vault.</p> <ol style="list-style-type: none"> 1. Please provide the location of Athletic Building electrical service PE-2. 2. Please provide record drawing(s) showing conduit pathway, quantity and size of conduits (including any spares if applicable), and size of 12kv conductors connecting electrical service PE-2 to Vault V4D. 3. If service PE-2 is NOT connected to Vault V4D, please confirm location of PE-2's connection to campus 12kV service.
<p>A123</p>	<p>There are two services at the Athletics Building.</p> <ol style="list-style-type: none"> 1. There are two feeds to the Athletic and Dance Building. There is a feed from vault 4E and a second feed between Student Services and the Athletics and Dance building to Vault 4D-1. Please find diagram below illustrating above:  <ol style="list-style-type: none"> 2. Please refer to the Electrical drawings E-4 an E-7 issued with Addendum No. 22
<p>Q124</p>	<p>Addendum 13 Q/A64 provided clarification of the University's intent for allocation/provision of CIS fixtures (i.e., gender specific) and GIR fixtures (i.e., gender inclusive). As noted, GIRs are to occur in either a single-stall room and/or multi-stall suite. Please clarify the following:</p> <ol style="list-style-type: none"> A. Please confirm the direction(s) provided in Addendum 13 Q/A64 supersedes the University's Policy to allocate/provide 20% of fixtures on each floor as GIR fixtures per University Furnished Information No. 25. Multi-stall GIF Doc 9-18-2018. Addendum 13 Q/A64 was clear, Design Builder is required to provide one (1) multi-stall suite of GIR fixtures to occur on any floor of Design-Builder's choosing (subject to the University's Chief Building Official's final approval). It is less clear if Design Builder is allowed to allocate only one (1) single-stall GIR restroom on all other floors not containing the GIR multi-stall suite or does the Design Builder have to meet the University's Policy of 20% GIR Fixtures on each floor as noted in University Furnished Information No. 25. Multistall GIF Doc_9-18-2018...please verify. B. Does the University have a minimum requirement for total GIR Fixtures (total for the building and/or total per floor expressed as either a percentage or number)? Addendum 13 Q/A64 states "up to 20% of code mandated fixtures" are to be GIR which leads one to believe the GIR Fixture count can be less than 20%; is there a minimum? C. Please confirm the stipulated requirement of 80% of total are to be CIS fixtures is a "hard number" and cannot be altered. Or can the percentage of CIS fixtures be more than 80% depending on allocation/provision of GIR fixtures as noted above (total fixture count (CIS + GIR) provided shall still meet code minimum requirements).

	<p>D. Is there a minimum number of individual rooms/stalls required to qualify as a multi-stall GIR suite?</p> <p>E. Can the Design-Builder provide all multi-stall GIR suites on each floor of the building and not provide any single-stall GIR rooms? Or does the University require at least one single-stall and at least one multi-stall GIR somewhere in the building? CIS fixtures/facilities to be provided as required per code.</p>
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<p>A124</p>	<p>A. The information provided in Addendum No. 13 supplements University of California Guidelines on Gender Inclusive Facilities (effective July, 01 2015) and UC Riverside ‘draft’ Policy on Multi-Stall Gender Inclusive Facilities.</p> <ul style="list-style-type: none"> - The Design Builder is required to provide gender inclusive facilities on each floor, with the number of fixtures not to exceed 20% of code mandated total number of fixtures <u>for the project</u>. - The Design Builder is only required to provide a minimum of one gender inclusive single-stall restroom on every floor excluding the floor where the gender inclusive multi-stall restroom is located. - The sum of all gender inclusive fixtures in the project (single-stall and multi-stall) up to 20%; shall be accepted in the aggregate total number of required plumbing fixtures in accordance with the California Plumbing Code (CPC). <p>B. The UC Riverside ‘draft’ Policy on Gender Inclusive Multi-Stall Facilities does not maintain a minimum requirement of total gender inclusive fixtures; as project specific requirements may vary. However, the University identifies that its objective is to strive towards a 20% gender inclusive fixture count. Design Builders are encouraged to strive towards the spirit and the intent of the ‘draft’ Policy to meet the University’s long-term inclusivity goals.</p> <p>C. The number of fixtures for the building should meet all applicable code requirements including the California Building Code (CBC) and the California Plumbing Code (CPC).</p> <p>The number of gender specific (CIS) fixtures to be the sum difference between the code mandated requirements for the project, and the gender specific accommodations (up to 20% of the aggregate total number of required plumbing fixtures); to be distributed evenly between the genders (50% male and 50% female).</p> <p>D. A multi-stall gender inclusive facility suite would have more than one individual toilet room- as identified in the UC Riverside’s ‘draft’ Gender Inclusive Facility Policy:</p> <p>“A facility or suite, which includes more than one individual toilet room, each containing plumbing fixtures and accessories, such as a toilet, toilet paper dispenser, mirror and a shelf, to be used by a single individual at a time. Each toilet room shall be separated by substantially constructed, private and secure partitions/walls and enclosed by an appropriate locking door. Each toilet room is separated from a common anteroom containing sinks, paper towels dispensers and/or hand dryers, etc. all within a single suite/room within a building.”</p> <p>“Each multi-stall gender inclusive facility shall provide privacy and security for the individual user within each private and secure toilet room. Gender inclusive facilities shall include spaces and fixtures equivalent to gender specific facilities.”</p> <p>E. The University of California Guidelines requires a minimum of one gender inclusive single-stall facility on every floor excluding the (1) floor where the gender inclusive multi-stall facility is located. The inclusion of multi-stall gender inclusive suites, does not eliminate the requirement for single-stall gender inclusive facilities.</p>
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END OF ADDENDUM

PROPOSAL SCHEDULE

	ACTIVITY	DATE	TIME
A	The RFP will be available to Prequalified Proposers, subcontractors and design consultants.	1/11/19	2:00 PM
B	Pre-Proposal Conference & Site Visit – Mandatory for all Prequalified Proposers. Participants must arrive at University of California, Riverside, Glen Mor, Building K, Room K106/K108, Riverside, CA 92507 at or before the established time.	1/14/19	1:30 PM
C	The University will hold confidential One-on-One meetings with each Proposer prior to the Technical Proposal Submittal for the purpose of answering questions, clarifying RFP and program requirements, reviewing and validating preliminary designs etc. Meeting location: University of California, Riverside, Pentland Hills Bear Cave B107/C101, Riverside, CA 92507.	2/7/19	8:30 AM (SB) 11:00 AM (HP) 1:30 PM (MB)
	The University will hold confidential One-on-One meetings with each Proposer prior to the Technical Proposal Submittal for the purpose of answering questions, clarifying RFP and program requirements, reviewing and validating preliminary designs etc. Meeting location: University of California, Riverside, University Village, 1299 University Ave., Room EUV-1103, Riverside, CA 92507.	3/1/19	8:00 AM (MB) 10:30 AM (SB) 1:00 PM (HP)
	The University will hold confidential One-on-One meetings with each Proposer prior to the Technical Proposal Submittal for the purpose of answering questions, clarifying RFP and program requirements, reviewing and validating preliminary designs etc. Meeting location: University of California, Riverside, Alumni & Visitor Center, Alumni Johnson Board Room, 3701 Canyon Crest Drive, Riverside, CA 92521.	3/21/19	8:30 AM (HP) 11:00 AM (MB) 1:30 PM (SB)
		05/21/2019	9:30 AM (SB) 12:00 PM (HP) 2:00 PM (MB)
	<u>The University will hold optional confidential One-on-One meeting with each Proposer prior to the Technical Proposal Submittal for the purpose of answering questions, clarifying RFP and program requirements, reviewing and validating preliminary designs etc. Meeting location: University of California, Riverside, Planning, Design & Construction, 1223 University Avenue, Suite 210-16, Riverside, CA 92521</u>	<u>06/20/2019</u>	<u>8:30 AM (MB) 10:30 AM (SB) 3:00 PM (HP)</u>

D	Technical Proposal Submittal is due from Proposers and will be received only at University of California, Riverside, Planning, Design & Construction, 1223 University Avenue, Suite 240, Riverside, CA 92507. The Technical Proposal Submittal is defined in the <i>Technical Proposal</i>.	<u>TBD</u>	2:00 PM
E	Lump Sum Base Price Proposal Submittal is due from Proposers and will be received only at University of California, Riverside, Planning, Design & Construction, 1223 University Avenue, Suite 240, Riverside, CA 92507. The Lump Sum Base Price Proposal Submittal is defined in the <i>Lump Sum Base Price Proposal</i>.	<u>TBD</u>	2:00 PM
F	The University's Technical Review Committee will meet to review timely submitted Technical Proposals as described in the Proposal Evaluation Process document.	07/11/2019-07/12/2019 <u>TBD</u>	8:00 AM – 5:00 PM
G	Proposers shall make an Oral Presentation and describe the best value aspects of their proposals. Cost shall not be discussed during the Oral Presentation.	07/15/2019 <u>TBD</u>	8:00 – 5:00 PM
H	Timely submitted Lump Sum Base Price Proposals shall be publicly opened at University of California, Riverside, Planning, Design & Construction, 1223 University Avenue, Conference Room Suite 210-16, Riverside, CA 92507. The University will acknowledge the timely receipt of submittals and whether or not the submittals appear to be responsive. No cost or point scoring information will be disclosed to the public at this time.	07/16/2019 <u>TBD</u>	11:00 AM
!	The University will issue Notice to Proceed- Phase 1 to the successful proposer.	08/23/2019 <u>TBD</u>	
<u>Late Proposals:</u> Any proposal, modification, or revision that is received at the designated University of California, Riverside, Planning, Design & Construction location after the exact time specified for receipt of proposals is “late” and will not be considered unless it was the only proposal received. Late proposals and modifications that are not considered will be held unopened, unless opened for identification, and then returned to the Proposer after award.			

SECTION 01 1300 - BIM SPECIFICATIONS

PART 1 – GENERAL

1.1 SUMMARY

- A. **Design Builder:** The Design Builder will employ VDC and BIM tools to facilitate the construction, coordination, scheduling, phasing, and close out of the Work. The VDC and BIM requirements will be developed and refined with UCR via BIM Execution Plan (BXP), the final BXP shall be formally submitted to UCR for review and approval. The BIM Process shall be an integral part of project delivery and shall be used for:
1. Enabling all stakeholders to view and track the project throughout design, construction and closeout.
 2. Enabling a coordinated Design Build delivery of Construction Documents and Shop Drawings. The Design Builder, its Design Professionals and Consultants, its Subcontractors and their Subcontractors shall assist, integrate and use the BIM model for the creation of construction documents and shop drawings.
 3. Enabling schedule project tracking via 4D BIM model information. 4D BIM model information will not be required through 30% submittal.
- B. **BIM Manager:** The Design Builder shall appoint a BIM manager to develop and oversee the BIM Execution Plan (BXP) as defined in Section D. The BIM manager's detailed responsibilities will include overseeing the development of the model, its integration and execution, and coordination between all entities of the Design Build Delivery. The Design Builder's BIM manager will coordinate with the University's representative concerning setting up the appropriate templates and project boundaries.

1.2 A COORDINATION AND DETAILING ACTIVITY (CDA)

- A. The Design Builder's Coordination and Detailing Activity (CDA) shall include a formal process to document, track and confirm the coordination and detailing process of the design and construction teams. CDA ensures agreement among Subcontractors regarding field coordination aspects of the Projects. CDA and BIM coordination are complementary processes to the review of construction drawings for their completeness, constructability, and code compliance.
- B. Conflicts shall be resolved through the CDA process rather than at the installation stage. Conflicts occurring at the installation stage, ***or resulting from Request for Information (RFI) responses/ Change Orders*** will not be the basis for additional costs or time extensions. Failure to perform the CDA process satisfactorily will not be the basis for additional compensation or extension of the Contract Time.
- C. CDA is performed to assure that all utilities, architectural and structural building systems are inter-coordinated and agreed upon by Design Builder, its Design Professionals and Subcontractors, minimizing field changes. CDA is to be utilized as a validation mechanism to the BIM coordination process and clash / collision detection and resolution. The end product of this effort shall be a fully coordinated model and set of drawings, consistent with the design intent and Applicable Code Requirements for the Work. Upon the completion of the CDA process, Design Builder, its Design

Professional and Subcontractors shall indicate in writing that they have coordinated their Work prior to starting construction.

- D. CDA shall occur at a minimum on a weekly basis as soon as the first Subcontractors are engaged on the project, and concurrently with development of the Construction Drawings. CDA milestone submittals shall be required with the 60%, 90%, and 100% progress/Issue for construction submittals.
- E. The provisions of this Section shall not reduce the Design Builder's responsibility to provide adequate coordination for all Work including Work not indicated above.
- F. UCR, the Design Builder's Project staff, Subcontractors, and Design Professionals shall participate in this program. At the completion of the CDA, the Design Builder, its Design Professionals and Subcontractors are required to sign off on their acceptance. Signatures shall indicate that the Work represented on the CDA drawings is constructible and has been reviewed by Design Builder, Design Builder's Design Professionals, and Subcontractors and all are in concurrence with information contained on the CDA Drawings.
- G. CDA drawings shall be 2D or axonometric print outs of the BIM models and shall be usable as field documents aimed at coordination and allocation of work between different trades (structure, framing, casework, ceilings, ductwork, plumbing and mechanical piping, electrical and LV conduits and outlets, MEP and architecturally or structurally significant equipment, miscellaneous anchorage, supports and bracing of different trades, exterior wall components, code clearances, etc.).
- H. Exterior Wall Coordination: Separate Overlay Drawings for Coordination of All Miscellaneous Steel and/or Structural Stud Systems on Background Drawings and Elevations: Illustrate the connection points of the precast, windows, curtain wall, stone, metal panel systems, as well as all elements that will be contained in the exterior wall systems including but not limited to recessed electrical, communications outlets, security devices, panels, telephones, recessed water connections, lighting and alarms, the Design Builder's Design Build team shall prepare an overlay CDA drawing for all recessed systems.
- I. CDA Drawings: The Design Builder shall prepare CDA Drawings to optimize the utilization of space, provide for efficient installation of different components, and coordinate the installation of products and materials. The CDA drawings shall be the basis for coordinated shop drawings. Additional shop drawings shall not be produced after signing off CDA drawings without review, verification, and sign-off by all trades that changes did not impact agreed-upon coordination. There are other potential areas of the building systems that will require a process for completion. These should be illustrated in the Design Builder's work plan and schedule.
- J. Orientation Meeting: The Design Builder, its Design Professionals, Consultants, Subcontractors, and UCR shall hold an orientation meeting prior to the beginning of the CDA effort. The purpose of this meeting is to develop a mutual understanding of the administration of the CDA, and the scope of the required submittals and Drawings. All personnel involved in coordination and detailing of the work and the BIM model of shall attend the Orientation Meeting. The meeting shall be administered by the Design Builder's BIM manager and the Design Builder's MEP / Systems Coordinator.
- K. CDA Meetings: During CDA meetings the Design Builder, its Design Professionals and its Subcontractors shall discuss and coordinate the locations of utilities and building elements,

problems of fit, trade interfaces, and constructability. As a minimum, CDA meetings will be biweekly prior to the CDA finish milestone. UCR may attend all CDA meetings. The Design Builder shall prepare and distribute meeting minutes to document session resolution decisions or track issues requiring further rework of the drawings and re-coordination.

- L. Conflict Resolution Plan: Design Builder must provide leadership in the space allocation and adjusting of previous designs in order to resolve BIM conflicts in an effective and timely manner while maintaining design quality, and maintenance space allocation. Specialty Subcontractors shall work with the Design Builder's MEP Coordinator to identify alternate acceptable routes to resolve conflicts. The Design Builder shall be present to provide leadership and assign responsibilities as required to find alternate routing methods for conflict resolution. Resolve Conflicts and Re-detail or re-model as required. Generate a conflict list that shall identify all systems that are in conflict with another building system. Revise discipline models as required to avoid a particular building systems that cannot be relocated. Revise the discipline models with the intent of eliminating the interference's and conflicts.

1.3 BUILDING INFORMATION MODEL (BIM):

- A. Design Builder's BIM MODEL shall include at a minimum the following:

- 1. Development and maintenance of a three-dimensional building information model of the Work that includes Design Builder - developed, shop-drawing level information of the following building components and systems:
 - a. Underground, including but not limited to, utilities: piping, connections, vaults, manholes, tanks, valves, vents, and structural: shoring, shafts, tunnels, and impact zones.
 - b. Building structure, including but not limited to foundations, columns, beams, joists, purlins, floor and roof decking and fill, bracing, and load-bearing walls.
 - c. HVAC systems, including but not limited to HVAC piping and pumps, air distribution ductwork, fans, air terminal units, air outlets and inlets; central cooling equipment compressors, chillers, condensers, and cooling towers; boilers, heat exchangers and packaged and/or custom air-handling units, thermal storage systems and supplementary structural support members, and seismic support.
 - d. Plumbing systems, including but not limited to water distribution, storm drainage, tanks, grease interceptors, and sanitary sewerage waste and vent piping, water-heaters and plumbing fixtures systems and supplementary structural support members, and seismic support.
 - e. Fire suppression systems, including but not limited to, standpipes, sprinkler systems, fire pumps, and non-water-based fire-extinguishing systems and supplementary structural support members, and seismic support.
 - f. Electrical systems, including but not limited to conduit 1-112 inches in diameter and larger, or bundled conduits, cable-tray, transformers, switchgear, panel boards, generators, lightning protection and lighting and supplementary structural support members, and seismic support.
 - g. Communication, security, access control, alarm monitoring (ACAMS), and wireless systems, including but not limited to, structured cabling, premise wiring distribution system, equipment room fittings, racks, frames and enclosures, data communications switches, hubs, and routers, common use systems, and paging systems and supplementary structural support members, and seismic support.

- h. Architectural building systems including interior and exterior walls, windows, curtain walls, ceilings, and roof.
- 2. Coordination and Detailing Activity (CDA) and Collision Detection: Based on information developed and included in the Design Builder's three-dimensional BIM model, perform weekly collision/interference checking and develop reports for review and resolution by the integrated Design Builder team, including the design team, Subcontractors, manufacturers and suppliers, prior to release of fabrication drawings. Ensure all drawings and backgrounds are coordinating at all levels of detail necessary for fabrication and field installation. Refer to the Coordination and Detailing Activity section for the requirements.
- 3. Schedule Visualization (4D): Develop, update and maintain Schedule tracking information and all meta data required by UCR and described in this section. Develop and maintain 4D BIM information with the expressed purpose of visually demonstrating and communicating proposed project construction schedule, and phasing to UCR and its consultants, the Design Builder's design team, and Subcontractors and their Subcontractors and suppliers as applicable. The model shall include all major building systems and shall be constructed in such a fashion as to permit animation showing sequential construction of the project based on and driven by the approved construction schedule.
 - a. Architectural Visualization: Develop three dimensional renderings using the BIM model and enhance with rendering programs to clearly illustrate the architectural (aesthetic) design, as described in the Scope of Work.
 - b. Use of BIM for Facility Management and Maintenance: Upon completion and commissioning of the Project, UCR's goal is to use the Design Builder's Record Model prepared in BIM software for integration into its Building Management and Maintenance. During the preparation of Construction Documents, the Design Builder shall meet with UCR's operations and maintenance staff and discuss specific requirements that shall be built into the BIM model. It is the intent that any implementation of additions to the BIM design model for Building Monitoring Management and Maintenance will be included as part of future task authorizations. Refer to Project Requirement for Project Closeout.

1.3 BIM EXECUTION PLAN (BXP):

- A. The Design Builder shall prepare a BIM Execution Plan (BXP) to include master information/data management and assignment of roles and responsibilities for model creation and data integration at project startup. The BXP shall be submitted no later than 30 days after the first NTP and shall address use of multiple software products, training of staff, collaboration and sharing of information models on a common review software platform for open communication and effectiveness of clash detection, and graphic presentations of multi-discipline integrated design. The plan shall highlight responsible individuals designated to manage discipline coordination, and attend regular Design/Build Team coordination meetings. The plan should include, or address the following:
 - 1. List of specialty Subcontractors using digital fabrication.
 - 2. Proposed BIM Software to be used by the Design-Build Team and fabrication digital modelers.
 - 3. Proposed specialty Subcontractor BIM workshops and training integrated into project schedule.
 - 4. Strategy to assure all trade information is modeled and coordinated.

5. Discipline coordination strategy for clash detection via the CDA process.
6. Development strategy from Design to Construction Model.
7. Constructability analysis with BIM.
8. Development of graphics showing installation methods for building equipment and systems.
9. Space allocation showing space clearance reservations for operations, repair, maintenance, and replacement.
10. Strategy for software compatibility, file formats, hosting, transfer, and access of data between disciplines.
11. Use of model server, extranet, access security, etc.
12. Use of 4D scheduling and construction sequencing technology, including submission and monthly update process.
13. Use of Commissioning and facilities management related technologies.
14. List of final BIM deliverable for each respective discipline.
15. Updating all as-built conditions in As-built/Record BIM, ***including revisions resulting from Request for Information (RFI) responses and Change Orders.***

B. Model Management during Construction: The BXP shall describe the process of developing the Record As-built Model from continuous updates of the Construction Model. All as-built information shall be reconciled and included in the record model. The Design Builder shall continuously update the BIM model to include RFI's, Change Orders, Submittals, and all other changes affecting the project's design and construction. The Design Builder shall demonstrate continuous updating of the model and submit status on a monthly basis. An updated model is a payment requirement as stated in the Special Conditions.

C. As-built Construction Model Creation and Delivery: The BIM model, as it is updated throughout the project duration, shall represent in electronic format the physical design and construction of the project throughout all trades. The Design Builder shall provide the Record as-built model as required in the Project Requirements for Project Closeout.

1.4 BIM MODELING REQUIREMENTS

A. Summary: The Design Builder shall develop and submit for approval a Federated Model (Fed Model) of the Project utilizing a Building Information Modeling (BIM) system as defined by this Section. The Design Builder shall:

1. Manage communication and coordination between the Design Builder's Design Professionals and Subcontractors to develop the Fed Model throughout the Work of the Project.
2. Submit a LOD 300 Fed Model to UCR for review and approval as part of the 60% Drawings submission.
3. Use the Fed Model to facilitate the construction methods and means.
4. Update the Fed Model progressively throughout the construction period to incorporate all construction actions so that the Fed Model shall be developed to LOD 400 construction level, including:
 - a. Shop Drawings
 - b. Approved Change Orders
 - c. Fabrication, assembly and detailing
 - d. Field Modifications

- e. **Request for Information (RFI) Revisions**
 - f. Submit the Model to UCR for review and approval at 90% and 100% completion of the Work of the Project.
- 5. Provide a final “as-built” LOD 500 Fed Model to UCR as part of the Project Close-Out phase.
 - 6. Definitions: (Refer to General Conditions for definitions)

1.5 USE OF FEDERATED MODEL AND AS-BUILT MODEL (Reconciled Design Model RDM)

- A. The Design Builder shall prepare and maintain the Federated Model and the Design Model throughout the duration of the project. At the completion of the Work these models shall be turned over to UCR. The university shall have exclusive rights to the models for their use: 1) as an as-built model for future modification to the constructed facilities and 2) as a source of data in operating and maintaining the facility. The Reconciled Design Model (s) (RMD), prepared by licensed Design Professionals, shall have the legal bearing of the Design Intent.
- B. Basis of Information for Modeling: The Construction Documents (drawings and specifications) shall be the basis of information for the Fed Model described herein. If any or all of the university’s own models are available for use by the Design Builder in developing the Fed Model, such usage shall be for convenience only and shall not carry contractual implication.
- C. Relation of BIM to other Contract Documents: If the Design Builder through developing and/or use of the BIM or Fed Model identifies any potential changes that the Design Builder thinks should be reflected in changes to the Contract Documents, the Design Builder shall produce the necessary changes via Change Order after notifying UCR of a potential Change Order(s).
- D. Changes by Others: All changes to the Fed Model, subsequent to completion of the Work, including additional modeling by others, shall be solely the responsibility of the entity providing the changes or additions.

1.7 ASTM UNIFORMAT II CLASSIFICATION SYSTEM

- A. Every Object in the Native Model shall have a classification code. The UNIFORMAT II system is a combination of letters, numbers and nomenclature, and is formatted as shown in the following example:
 - 1. Level 1; Major Group Elements: for example: B Shell.
 - a. Level 2; Group Elements: for example: B20 Exterior Enclosure.
 - i. Level 3; Individual Elements: for example: B2030 Exterior Door.
- B. The Design Builder shall include the appropriate UNIFORMAT II classification in the list of attributes that is assigned to the Objects.

1.8 OMNICLASS CONSTRUCTION CLASSIFICATION

- A. General: The OmniClass Construction Classification System (known as OmniClass or OCCS) is a classification system for the construction industry developed by the Construction Specification Institute (CSI). It builds upon MasterFormat for work results, UniFormat for elements and EPCI (Electronic product Information Cooperation) for structuring products. OmniClass is a reference library system that will serve as the foundation upon which information is transferred between the construction and operations phases.
- B. OmniClass automatically assigned: The Design Builder shall include the appropriate OmniClass classification in the list of attributes that are automatically assigned to the Objects by the Model software.
- C. Exception when OmniClass not automatically assigned: The Design Builder is not required to include the appropriate OmniClass classification in the list of attributes a discipline Native Model if that particular Native Model software does not automatically assign the classification to its Objects. This exception applies only to the Native Model software that does not automatically assign the classification; for all other Native Models that do automatically assign the classification, it shall still be provided.

1.9 COMMISSIONING AND COBIE REQUIREMENTS

- A. General: If commissioning activities and/or COBIE data is required by other sections of these specifications, the Design Builder shall comply with the requirements of those sections in addition to the requirements of this section.
- B. Commissioning requirements: The scope of work related to Commissioning, if required, shall be provided in accordance with the Commissioning section. In addition, and in support of, the extent of Model and Object parametric data required by this section shall be provided as described herein with modifications as follows:
 - 1. The submittal of the Model data shall be as scheduled by the Commissioning requirements.
- C. The Model data shall be formatted as required by the COBIE Data Sets requirements.
- D. The submittal of the Model data shall be as scheduled by the COBIE requirements.

1.10 LEVEL OF DEVELOPMENT (LOD)

- A. The American Institute of Architects has developed a Level of Development (LOD) system which serves as the basis for this Project with Project-specific modifications as shown in the following requirements.
- B. General: Regardless of LOD, the model(s) shall be capable of being presented in three dimensions, and shall be an object-based parametric database system.
- C. LOD 100: This is the “programming” level. Buildings and/or structures shall be modeled as masses indicative of area, height, volume, spatial location, and orientation.
- D. LOD 200: This is the “planning” level. Buildings and/or structures including major architectural, structural, mechanical, electrical, and plumbing objects shall be modeled as generalized systems

or assemblies with approximate quantities, approximate configuration, spatial location, and orientation. Each enclosed space shall be identified as a unique Room with associated parameters.

- E. LOD 300: This is the “design” level. Buildings and/or structures including all objects shall be modeled as specific systems or assemblies with accurate quantities, recognizable configuration, spatial location, and orientation. Each enclosed space shall be identified as a unique Room with associated parameters.
- F. LOD 400: This is the “construction” level. Buildings and/or structures including all objects shall be modeled as specific systems or assemblies with accurate quantities, recognizable configuration, spatial location, and orientation, with complete fabrication, assembly, and detailing information. Each enclosed space shall be identified as a unique Room with associated parameters.
- G. LOD 500: This is the “as-built” level. Buildings and/or structures including all objects shall be modeled as constructed systems or assemblies with accurate quantities, shape, spatial location, and orientation, with complete fabrication, assembly, and detailing information. Each enclosed space shall be identified as a unique Room with associated parameters.

PART 2 – PRODUCTS

1.2 NATIVE MODEL SOFTWARE – MINIMUM REQUIREMENTS

- A. General: The Native Model(s) shall be developed to include parametric components of major building and site elements as defined in this Section. All discipline Native Models shall be linked to the Architectural Native Model.
- B. Accuracy of the Models: The Fed Model and each of its Native Models shall be developed to within a tolerance of ¼” plus or minus.
- C. BIM application(s) and software(s) for the Fed Model shall:
 1. Have maximum interoperability between systems models, and shall be fully compatible with the current version of Autodesk® Navisworks software.
 2. Be provided in a format that is compatible with a free software download for viewing the Design Builder’s models with the ability to save and track user annotations and notes.
 3. Contain reports/logs of:
 - a. Discrepancies and/or clarifications in the Construction Documents identified during the modeling process.
 - b. Conflicts between location and alignment of model elements with resolutions developed by the Design Builder.
 - b. Quantities of modeled building element.
 - c. Schedule for each building element.
 4. For any additional electronic model information that is not supported by the Revit or the primary software solution approved by UCR, and for constructing 4D models, the Design Builder shall utilize Navisworks software (Manage, Review, Simulate and Freedom) to create and utilize .nwd files.

- D. The Design Builder shall use the latest version of Native Model software listed in the matrix below:

Acceptable Native Model Software Matrix		
Discipline	Native Model Software	Comments
Architectural	Revit Architecture	
Fixtures, and Equipment	Revit Architecture	Applies to stationary items only
Structural	Revit Structure	
HVAC	Revit MEP AutoCAD MEP CAD-Duct	
Plumbing	Revit MEP AutoCAD MEP CAD-Pipe	
Fire Protection	AutoCAD MEP AutoSPRINK v 7	
Electrical	Revit MEP AutoCAD MEP	
Security Electronics	Revit MEP AutoCAD MEP	
Civil	AutoCAD Civil 3D	
Hardscape	Revit Architecture	

2.2. OBJECT IDENTIFICATION

- A. **General:** Every Object in the Model shall have a Unique Identification (UID) parameter and a Common Name parameter attached to it in the Native Model.
- B. **Unique Identification:** The UID shall be readable by the user of the Native Model software without additional software applications. The UID may be in the form of alpha, numeric, or alpha-numeric.
1. If the UID form is alpha-numeric, it shall be a consistent string format for all Objects, within its discipline, and shall be readable by any commonly available database. The UID is an “Instance” parameter.
 2. If the Native Model software is not a full object-based, parametric, database platform, such as some of the older 3D CAD programs, the UID shall be attached to the Object manually, if necessary, so that it can be read by the user without additional software applications.
- C. **Common Name:** In addition to the UID, each Object shall have a Common Name parameter attached to it in the Native Model. The Common Name shall be approved by UCR prior to modeling. Examples of a Common Name include such as: door, window, toilet, VAV Box, etc. Typically the Common Name will be generated automatically by the software, but if not, it shall be input manually in the Native Model. The Common Name is an Object “Type” parameter.

2.3. OBJECT PARAMETRIC ATTRIBUTES – MINIMUM REQUIREMENTS

- A. The following attributes shall be attached to each Object. Note: If a required attribute is not automatically generated by Native Model software, it shall be manually input in the Native Model, or provided in an Excel or Access document that includes the UID.
1. Unique Identification (Instance parameter).
 2. Common Name (Type parameter).
 3. Uniformat II Classification Code Levels 1, 2, and 3 (Type parameter).
 4. Omni Code Classification (Type parameter).
 5. Native Model Assembly Code (Type parameter).
 6. Manufacturer (where applicable) (Instance parameter).
 7. Model Number (where applicable) (Instance parameter).

2.4 OBJECT ASSOCIATION

- A. Every Object in the Model shall be associated with either a Room or a Floor and shall have an association “Instance” parameter attached to it in the Native Model.
- B. Room association: Any Object that will be visible in a Room of the completed facility shall be associated with that specific Room. This includes all Objects regardless of responsible discipline; examples include without limitation: electrical switches and outlets, electrical switch gear and panel boards, plumbing equipment and fixtures, access panels to concealed Objects, cabinets, doors and frames, wainscot, light fixtures, HVAC supply and return grilles, fire sprinkler heads and valves, etc.
- C. Floor association: Any Object that will be concealed in a wall or interstitial space (but would be visible if the finish surface or item was non-existent) shall be associated with the specific Floor level that it is within. This includes all Objects regardless of responsible discipline; examples include without limitation: electrical conduit, plumbing piping and valves, HVAC supply and return ducts, HVAC equipment, fire sprinkler lines and valves, etc.
- D. Objects extending beyond Room boundaries: Floors, walls, and/or ceilings are sometimes modeled as objects that extend beyond individual Room boundaries. Where this occurs, the architectural discipline Native Model shall be modeled as follows:
1. Floors: Structural floor Objects may extend beyond Room boundaries, however, finish flooring such as carpet, resilient flooring, etc., shall be modeled as Objects, with extents contained within the Room boundaries, and with appropriate Room association.
 2. Walls: Structural wall and non-structural partition Objects may extend beyond Room limits, however, the surface material such as gypsum wallboard, wall covering, etc., shall be modeled as Objects, or scheduled in the Room Finish Schedule, with extents contained within the Room boundaries, and with appropriate Room association.
 3. Ceilings: Structural ceiling Objects may extend beyond Room limits, however, finish surface material such as gypsum wallboard, acoustical ceiling tiles, etc., shall be modeled as Objects, with extents contained within the Room boundaries, and with appropriate Room association.

2.5 BUILDING INFORMATION MODELING SYSTEM DISCIPLINE MODELS

- A. Civil Systems: The Civil Systems Model shall be a sub-system model linked to the Architectural System Model. The Civil Systems Model shall serve as the basis for project shared coordinates through which the position of building elements on the site will be coordinated. Where applicable, provide model Objects of:
1. Topography: 1) existing natural and/or graded contours, and 2) new grades and finish contours.
 2. Planting: 1) existing major landscaped areas, 2) existing trees to remain, 3) new landscaped areas, 4) new trees, and 5) irrigation lines over 2" diameter.
 3. Surface Improvements: 1) pavements, 2) curbs and gutters, 3) retaining walls, and 4) exterior non-building structures such as tanks, shade structures etc.
 4. Existing Structures: 1) all buildings within the project area intended to remain, 2) buildings intended to be demolished. All existing structures may be modeled.
 5. Storm Water and Sanitary Sewers: 1) existing lines (over 3" diameter), boxes and structures within project area, 2) all new lines, boxes and structures and 3) existing public lines, boxes and structures beyond the project area but serving as points of connection for the project.
 6. Utilities: 1) existing domestic and fire water main and branch lines (2" and larger diameter) within project area, 2) all new domestic and fire water lines, 3) existing electrical overhead and underground lines within project area, all new electrical lines outside buildings, 4) existing telephone and data lines within project area, 5) all new telephone and data lines outside buildings, 6) existing gas lines within project area and, 7) all new gas lines outside buildings.
 7. Other requirements:
 - a. Quantities: data to reflect accurate quantities of the above elements.
 - b. Schedules: data for installation of the above elements.
- E. Architectural Systems: The Architectural Systems Model shall be the primary model to which others are linked. Provide model Objects of:
1. Spaces: 1) net square footage of all occupied spaces, 2) gross constructed floor area, 3) room names and numbers, and 4) floor, base, wall, and ceiling finishes. NOTE: Model room names and numbers shall match UCR's Architectural Program space names and numbers.
 2. Exterior Walls and Curtain Walls: 1) type and composition, 2) height, length, and width, and 3) thermal, acoustic, fire, and security ratings.
 3. Partitions: 1) type and composition, 2) height, length, and width and, 3) thermal, acoustic, fire, and security ratings.
 4. Floors: 1) type and material, 2) thickness and 3) Finishes with manufacturer's name and product numbers. Link floor structure to the Structural Systems Model.
 5. Ceilings: 1) type and composition, 2) height, length, and width, and 3) thermal, acoustic, fire, and security ratings.
 6. Roof Coverings and Openings: 1) configuration, 2) drainage system, and 3) penetrations for modeled building components.
 7. Exterior Doors, Windows, and Louvers: 1) type and material, 2) height, width, and thickness, 3) thermal, acoustic, fire, and security rating, 4) location and, 5) hardware elements or group.

8. Interior Doors, Windows, and Louvers: 1) type and material, 2) height, width, and thickness, 3) thermal, acoustic, fire, and security rating, 4) location, and 5) hardware elements or group.
9. Stairs and Ramps: 1) stairs and railings, 2) ramps and railings, and 3) handrails and guardrails.
10. Elevators: 1) elevator cabs and doors, 2) elevator hoist-way doors and trim, 3) elevator machinery and equipment.
11. Casework and Counters: 1) type and material, 2) height, width, and depth, 3) location, and 4) hardware.
12. Plumbing Fixtures: 1) type and material, 2) location, 3) trim, and 4) finishes: Link fixtures and trim to the Mechanical Systems Model.
13. HVAC Grills and Registers: 1) type and material, 2) location, 3) trim, and 4) finishes: Link fixtures and trim to the Mechanical Systems Model.
14. Electrical Fixtures and Equipment: 1) type and material, 2) bulb type and wattage, 3) location, 4) trim, and 5) finishes: Link fixtures and trim to the Electrical Systems Model.
15. Miscellaneous Fittings: 1) toilet partitions, 2) toilet room accessories, 3) personal storage lockers, 5) display cases, and 6) other surface applied quasi-permanent items such as mirrors etc.
16. Other requirements:
 - a. Quantities: data to reflect accurate quantities of the above elements.
 - b. Schedules: data for installation of the above elements.

F. Structural Systems: The Structural Systems Model shall be a sub-system model linked to the Architectural System Model. Provide model Objects of:

1. Foundations and footings: 1) type and configuration, and 2) depth, length, and width.
2. Slab(s) on-grade: 1) type and configuration, 2) under-slab base and waterproofing, 3) recesses, curbs, pads, closure pours, and 4) major penetrations.
3. Basement Walls: 1) type and composition, 2) height, length, and width, and 3) thermal, acoustic, fire, and security ratings.
4. Elevated Floors: 1) columns and beams, 2) primary and secondary framing members, 3) bracing, 4) connections, and 5) framed, composite, and/or slab decks.
5. Roofs: 1) columns and beams, 2) primary and secondary framing members, 3) bracing, 4) connections, and 5) framed, composite, and/or slab decks.
6. Joints: 1) expansion and/or contraction, and 2) seismic.
7. Stairs and Ramps: 1) openings and framing, and 2) railing supports.
8. Shafts and Pits: 1) openings and framing, and 2) railing supports.
9. Other requirements:
 - a. Quantities: include data to reflect accurate quantities of the above elements.
 - b. Schedules: data for installation of the above elements.
 - c. Fireproofing: Fireproofing is not to be included in the BIM but clash detection studies shall include definition of tolerances for conflict detection.
 - d. Color Code: color code structural steel from other elements.

G. Mechanical: The Mechanical Systems Model shall be a sub-system model linked to the Architectural System Model. Provide model Objects of:

1. Heating, Ventilating, and Air Conditioning: 1) all heating, ventilating, air-conditioning, exhaust fans, and specialty equipment, 2) air supply, return, ventilation and exhaust ducts, including space-consuming elbows and transitions, 3) fire dampers with ratings, 4) mechanical piping, and 5) registers, diffusers, grills and hydronic baseboards. Coordinate and link fixtures and trim to the Architectural Systems Model.
 2. Plumbing: 1) all domestic plumbing piping and fixtures, 2) floor and area drains, 3) valves (regardless of pipe size) and 4) related equipment.
 - a. Piping larger than 1 .5" diameter shall be modeled.
 3. Roof Drainage: 1) all piping and fixtures, and 2) related equipment.
 - a. Piping larger than 1 .5" diameter shall be modeled.
 4. Other requirements:
 - a. Quantities: data to reflect accurate quantities of the above elements.
 - b. Schedules: schedule data for installation of the above elements.
 - c. Equipment Clearances: Clearances for major equipment and all M/E/P Equipment and Architecturally Significant Specialty Equipment, as model objects for conflict detection and maintenance access requirements.
 - d. Color Code: separate color code for each type element.
- H. Electrical and Low Voltage: The Electrical and Low Voltage Systems Model shall be a sub-system model linked to the Architectural System Model. Provide model Objects of:
1. Interior Electrical Power and Lighting: 1) all interior electrical components, 2) lighting, receptacles, special and general purpose power receptacles, 3) lighting fixtures, 4) panel-boards and control systems, and 5) conduit and cable trays.
 - a. Individual conduit larger than 1 .5" diameter shall be modeled.
 - b. Groups or clusters runs, and cable trays of conduit of all sizes shall be modeled.
 2. Exterior Building Lighting: 1) all exterior electrical components, 2) lighting, receptacles, special and general purpose power receptacles, 3) lighting fixtures, 4) panel-boards and control systems, and transformers, and 5) utility connection and equipment.
 - a. Individual conduit larger than 1 .5" diameter shall be modeled.
 - b. Grouped or clustered runs of conduit of all sizes shall be modeled.
 3. Telephone, Data, Television, and Other Low Voltage: 1) all interior low voltage components, 2) outlets, receptacles, special and controls, 3) fixtures, 4) panel-boards, equipment racks, and control systems, and 5) conduit and cable trays.
 - a. Individual conduit larger than 1 .5" diameter shall be modeled.
 - b. Groups or clusters runs of conduit of all sizes shall be modeled.
 4. Other requirements:

- a. Quantities: data to reflect accurate quantities of the above elements.
 - b. Schedules: schedule data for installation of the above elements.
 - c. Equipment Clearances: Clearances for major as model objects for conflict detection and maintenance access requirements.
 - d. Color Code: separate color code for each type element.
- I. **Fire Suppression:** The Fire Suppression Systems Model shall be a sub-system model linked to the Architectural System Model. Provide model Objects of:
1. Fire Suppression System: 1) valves and risers, 2) all main, branch, and drains lines, 3) sprinkler heads, and fittings, and 4) pumps.
 2. Fire Alarms: 1) alarm and notification devices, and 2) detection systems.
 3. Other requirements:
 - a. Quantities: data to reflect accurate quantities of the above elements.
 - b. Schedules: schedule data for installation of the above elements.
 - c. Equipment Clearances: Clearances for major equipment as model objects for conflict detection and maintenance access requirements.
 - d. Color Code: separate color code for each type element.
- J. **Specialty Equipment:** The Specialty Equipment Model shall be a sub-system model linked to the Architectural System Model. Specialty Equipment includes without limitation such specialties as: service equipment and systems, concessions / food service equipment and systems, security equipment and systems, conveyance equipment and systems, manufacturing equipment and systems, etc. Provide model Objects of:
1. Specialty Equipment: 1) equipment, 2) related mechanical, plumbing, and electrical requirements.
 - a. Quantities: data to reflect accurate quantities of the above elements.
 - b. Schedules: schedule data for installation of the above elements.
 - c. Equipment Clearances: equipment clearances as model objects for conflict detection and maintenance access requirements.

2.6 SCHEDULE INFORMATION

- A. Fed model with 4D Data shall be submitted with the Phase 2 preliminary and baseline schedule submittals and updated monthly thereafter. Continuously update schedule information in the BIM model so that information provided monthly in the schedule update is reflective of the project's progress as stated in the monthly submissions. Refer to the General Conditions for schedule requirements.
- B. Schedule Data (4D):
 1. Provide construction activity sequences, including rough-in, finish, and phasing schedules for major elements of all models.
 2. Breakdown the schedule of elements by individual Subcontractors.
 3. Link the activity sequence to the Schedule of Values.

PART 3 – EXECUTION

3.1 DEVELOPMENT AND SUBMITTAL OF THE MODELS

- A. **BIM Submittal Execution:** The Design Builder shall develop the Fed Model and its discipline systems Native Models in compliance with the Contract Documents and the following:
 - 1. Develop and submit all of the discipline systems Native Models concurrently. Note: if any of the discipline systems Native Models qualify as deferred approvals, they may be submitted separately.
 - 2. Submit the Fed Model with 300 LOD at 60% completion of the Work of the Project for UCR's review and coordination.
 - 3. Submit updated Fed Model and all linked Native Models at any time when the Design Builder requests changes and/or clarifications.
 - 4. Submit fully completed Fed Model with 400 LOD and its systems models, prior to construction.
 - 5. Submit updated discipline systems Native Models complying with final approved shop drawing submittals.
 - 6. Submit the "as-built" Fed Model with 500 LOD and its discipline systems Native Models as part of the close-out process.

3.2 UPDATING MODELS DURING CONSTRUCTION:

- A. The BIM Model shall be routinely updated/ revised to keep it current with construction activity.
 - 1. Revising: issue the revised Fed Model and/or its discipline systems Native Models immediately after each meeting or other activity where revisions have been made. Include a report that indicates every change.
- B. Submit the updates and revisions to UCR.
- C. Closeout Requirements:
 - 1. Refer to the "Project Closeout" for Requirements.

END OF SECTION 01 1300

UNIVERSITY FURNISHED INFORMATION

The following information is made available for the convenience of Proposers and is not a part of the Contract. The information is provided subject to the provisions of subparagraph 3.1.1 of the General Conditions.

Issued electronically on the "Request for Proposals" CD
 (Located behind the first tab of this binder)

PREVAILING WAGES

General Prevailing Wage Determinations and information can be accessed at www.dir.ca.gov or by contacting University's principal Facility office.

DESCRIPTION

No.	Title:	Prepared by:	Date:
1. AS-BUILTS			
A.	Fine Arts Seismic Facility	Fields Devereaux Architects & Engineers	April 27, 1998
B.	Physical Education Building	Arthur Froehlich, AIA, Architect	April 28, 1952
C.	Physical Education Building Room 102 Alterations for Dance	Cashion Horie Cocke Gonzales Architects, Inc. (CHCG)	June 1986
D.	CHASS-Instruction & Research Facility	PEI Cobb Freed & Partners	March 20, 2008
E.	Administration Building (Hinderaker)	Allison and Rible Architects	January 27, 1961
F.	Humanities and Social Sciences Unit 1	Cesar Pelli & Associates	August 10, 1993
G.	Classroom and Office Unit 1 (Sproul)	Douglas Honnold FAIA, John Rex, FAIA, Architects and Associates	June 2, 1965
H.	Student Academic Support Services Building	Sasaki	March 2009
I.	<u>Campus 12KV Expansion – 1 (E-4) University of California - Riverside</u>	<u>Randall Engineering</u>	<u>November 01, 2000</u>

DESCRIPTION			
No.	Title:	Prepared by:	Date:
J.	<u>Campus 12KV Expansion – 1 (E-7) University of California – Riverside</u>	<u>Randall Engineering</u>	<u>November 01, 2000</u>
2. UCR MOBILITY HUB AND CENTRAL CAMPUS LINKAGES			
A.	UCR Mobility Hub and Central Campus Linkages – Scope 1 Report	Gruen Associates	December 21, 2017
B.	UCR Mobility Hub and Central Campus Linkages – Appendices	Gruen Associates	December 21, 2017
3. STUDENT SUCCESS CENTER VISIONING WORKSHOP			
A.	UCR Student Success Center Visioning Workshop Capital Asset Strategies	Capital Planning	April 20, 2017
B.	UCR Student Success Visioning Workshop – Site Selection Study Handout	UCR Capital Planning	April 20, 2017
4. UCR 2005 LRDP AND AMENDMENTS			
A.	Long Range Development Plan 2005	UCR Office of Academic Planning & Budget; Capital & Physical Planning with the assistance of: BMS Design Group	November 2005
B.	2005 Long Range Development Plan Amendment 2	UCR Finance & Business Operations Capital Resource Management	November 2001
C.	2005 LRDP Amendment 3 Campus Infrastructure Overlay Land Use Designation		September 2013

DESCRIPTION

Title:	Prepared by:	Date:
5. TOPOGRAPHIC SURVEY		
University of California, Riverside Student Success Center Topographic Survey	IMEG	July 13, 2018
6. GEOTECHNICAL REPORTS		
A. Proposed Student Success Center UCR Project No. 958056	Twining	December 17, 2018
B. Geotechnical Engineering Evaluation Report Pierce Hall Classroom Addition and Building Renovation Project	Twining	July 8, 2016
C. Percolation Testing Report Pierce Hall Classroom Addition and Building Renovation Project	Twining	May 5, 2017
D. Geotechnical Investigation Proposed Interdisciplinary Studies Building Riverside Campus		
E. Geotechnical Observation of Grading and Field Density Test Results Report Proposed College of Humanities Arts and Social Sciences (CHASS) Buildings – Instruction & Research Facility	Converse Consultants	September 21, 2006
7. PHYSICAL DESIGN FRAMEWORK		
Physical Design Framework		2009/10 – 2018/2019

DESCRIPTION		
Title:	Prepared by:	Date:
8. UC BOARD OF REGENTS		
Regents Policy 4400: Policy on University of California Diversity Statement	University of California Board of Regents	Adopted September 20, 2007 Amended September 16, 2010
9. STUDENT SUCCESS CENTER CLASSROOM COMPONENT SUMMARY OF FEEDBACK		
Student Success Center Classroom Component Summary of Campus Feedback	UCR Office of the Provost and Executive Vice Chancellor	May 2017
10. STUDENT SUCCESS CENTER SITE SELECTION STUDY		
Site Selection Study Student Success Center Building	UCR Capital Asset Strategies	June 16, 2017
11. UC SUSTAINABLE PRACTICES POLICY		
UC Policy on Sustainable Practices	University of California	Issuance Date: July 1, 2004 Effective Date: August 10, 2018
12. UCR CAMPUS PROCESS: GENDER INCLUSIVE FACILITIES 2015		
A. UCR Campus Process: Gender Inclusive Facilities 2015	Associate Vice Chancellor / Campus Architect Architect & Engineers	November 1, 2015
B. UC President Letter Guidelines Gender Inclusive Facilities	UC Office of the President	June 10, 2015
13. UCR CENTRAL CAMPUS NEIGHBORHOOD STUDY		
UCR Central Campus Neighborhood Study	HKS Spurlock	April 12, 2017

DESCRIPTION

Title:	Prepared by:	Date:
14. UCR PHYSICAL MASTER PLAN STUDY		
UCR Physical Master Plan Study		May 17, 2016
15. UCR PRINCIPLES OF COMMUNITY		
UCR Principles of Community		
16. UCR DINING SERVICES		
Warm Shell Tenant Improvement Space Guideline	UCR Dining Services	March 16, 2018
17. UCR RIVERSIDE SITE FEASIBILITY REPORT		
UCR Site Feasibility Report	Steinberg Hart	January 2018
18. UTILITY MAPS		
A. Student Success Center 100 PSI Air Controls Approximate Locations (Draft)		10/9/18
B. Student Success Center 100 PSI Steam Controls Approximate Locations (Draft)		10/9/18
C. Student Success Center Chilled Water Line Approximate Locations (Draft)		10/8/18
D. Student Success Center Natural Gas Line Approximate Locations (Draft)		10/8/18
E. Student Success Center Storm Drain Manholes (Surveyed – 2014) Storm Drain Line (Approximate Locations) (Draft)		10/8/18

DESCRIPTION

Title:	Prepared by:	Date:
F. Student Success Center Existing Electric Distribution (Draft)		10/9/18

19. DAART ENGINEERING FLOW TEST

Daart Engineering Flow Test UCR Student Success Center		6/7/18
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20. UCR CAMPUS STANDARDS - DRAFT

Div. 3 – Concrete		Revised April 17, 2018
Div. 4 - Masonry		January 14, 2018
Div. 5 – Metal		January 14, 2018
Div. 6 – Wood, Plastics and Composite		January 18, 2018
Div. 7 – Thermal and Moisture Protection		January 14, 2018
Div. 8 – Openings		Revised March 21, 2018
Div. 9 – Finishes		January 14, 2018
Div. 10 - Specialties		March 12, 2018
Div. 12 – Furnishings		November 30, 2015
Div. 13 – Special Construction		January 14, 2018
Div. 14 – Conveying Systems		January 14, 2018
Div. 15 – Operation and Maintenance Manuals		
Div. 21 – Fire Suppression		Revised April 25, 2018
Div. 22 – Plumbing		Revised April 17, 2018
Div. 23 – HVAC		March 28, 2018
Div. 25 – Integrated Automation		Revised March 13, 2018
Div. 26 - Electrical		January 24, 2018
Div. 27 – Communications		January 24, 2018

DESCRIPTION		
Title:	Prepared by:	Date:
Div. 28 – Electronic Safety and Security		January 24, 2018
Div. 31 – Site Work		January 2016
Div. 33 – Site Utilities		January 2018
21. SEWER CAPACITY STUDY		
UC Riverside Physical Master Plan Study Appendix 6.8-A Sanitary Sewer Calculations		
22. UCR 2020 - FINAL		
UCR 2020 The Path to Preeminence		July 2010
23. UCR LANDSCAPE SERVICES DEPT. LANDSCAPE- IRRIGATION GUIDELINES 2012		
UCR Landscape Services Dept. Landscape-Irrigation Guidelines 2012		2012
24. TREE INVENTORY REPORT		
Tree Inventory Report University of California, Riverside Student Success Center Project	Tricia D. Thrasher University of California, Riverside Campus Planning Capital Asset Strategies Psomas	May 9, 2018
25. IMPLEMENTATION OF UC GENDER INCLUSIVE FACILITIES POLICY AT UC RIVERSIDE - MEMO		
Implementation of UC Gender Inclusive Facilities Policy at UC Riverside - Memo	To: Gerry Bomotti, Vice Chancellor, Planning and Budget From: Jacqueline Norman, Campus Architect & Robert Keith Williams, Certified Building Official	September 18, 2018

DESCRIPTION		
Title:	Prepared by:	Date:
26. UCR CAMPUS CONTEXT		
UCR Campus Context (Exemplary Examples / Non-Exemplary Examples)	UCR Planning Design & Construction	2019
27. WEPA LOW PRINT STATION SPECIFICATIONS		
WEPA Low Profile Print Station Specifications	WEPA	
28. LAPTOP KIOSK CONFIGURATION		
Laptop Kiosk Configuration	Laptops Anytime	
29. UCR CAMPUS V2018 UPDATES CADD DRAWINGS AND SUPPORTING DOUMENTATION		
A. UCR Campus v2018 Update Auto CADD Drawings		
B. University California, Riverside Aerial Target Ground Control Survey Report Job #2011018.003		March 2015
C. UCR Campus Control Survey – Sheet 1 of 2	Hillwig – Goodrow, Inc.	December 2013
D. UCR Campus Control Survey – Sheet 2 of 2	Hillwig – Goodrow, Inc.	December 2013
E. UCR Data Delivery Standards for UCR Planning, & Design Projects Capital Programs		March 13, 2015
F. UCR Horizontal and Vertical Accuracy of Campus Spatial Data (GIS) (Memorandum)		May 22, 2013
G. UC Riverside Campus Control Points	Hillwig – Goodrow, Inc.	December 2013

DESCRIPTION		
Title:	Prepared by:	Date:
H. UCR Campusv2017 Updates	UCR	July 2017
30. MOBILITY HUB AND CENTRAL CAMPUS LINKAGES		
Mobility Hub and Central Campus Linkages – 100% Construction Document Bid Set	Gruen Associates	January 10, 2019
31. BICYCLE MASTER PLAN EXCERPT		
Bicycle Master Plan Excerpt		
32. TOPO SURVEY CAD DRAWINGS		
TOPO Survey CAD Drawings		July 30, 2018
33. CAMPUS COMMUNICATIONS DRAWINGS		
A. Typical BDF Wall Elevation Layout – Rack Power - Plan & Elevation	UCR	
B. Typical Details – Communications Symbols and Telephone/Data Subscript Schedule	UCR	
C. Typical Details – Details A through F	UCR	
D. Typical Details – Typical 3 Data Rack BDF and IDF Front Elevation Views	UCR	
E. Typical Details – Typical BDF and IDF Telecom Room Requirements	UCR	
F. Typical Details – Work Station Outlet Labeling Detail and Patch Panel / 110 Block Labeling Plan	UCR	

DESCRIPTION			
Title:	Prepared by:	Date:	
G. <i>Emergency Phone Details</i>	<i>UCR</i>		
34. UCR POLICIES, GUIDELINES & STANDARDS			
A. Communications Infrastructure Planning Guidelines Version – November 23, 2015	UCR	November 23, 2015	
B. PPSM 84: Accommodations for Nursing Mothers	University of California	December 10, 2018	
C. UCR Healthy Campus Initiative Healthy Workplace Checklist			
D. UCR Building, Room Numbering Standards	Facilities Management	October 2006	
35. UCR CAMPUS ELECTRICAL DRAWINGS AND DIAGRAMS			
A. UCR Site Electrical Distribution 12 kv Single Line Diagram (E-2, 1 of 3)	UCR	October 19, 2015	
B. UCR Site Electrical Distribution Combined Diagrams (E-2, E2.1 & E2.2)	UCR	October 19, 2015	
C. UCR Site Electrical Distribution Parking Lot 30 Substation 4.16 kv Single Line Diagram (E2.1, 2 of 3)	UCR	October 19, 2015	
D. UCR Site Electrical Distribution Steam Plant 4.16 kv Single Line Diagram (E2.2, 3 of 3)	UCR	October 19, 2015	

DESCRIPTION

Title:	Prepared by:	Date:
E. UCR Existing Electrical Site Plan 2015 Partial UCR Campus Map Electrical Distribution (E-4, 1 of 1)	UCR	October 14, 2019

36. UC RIVERSIDE CAMPUS SIGN PROGRAM

A. UC Riverside Campus Sign Program, 100% Package	Hunt Design	August 3, 2012
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37. UC RIVERSIDE BUDGET PLANNING DOCUMENT

A. UC Riverside Budget Planning Document for Network Electronics Student Success Center 100% Description Design & Criteria	UC Riverside Computing and Communications	May 30, 2018
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38. UCR TUNNEL AND VAULT DRAWINGS

A. Tunnel, Vault & Bldg. Map Chilled Water System High Pressure Condensate Pumped Condensate 100 PSI Steam 100 PSI Compressed Air Natural Gas	UC Riverside	October 2016 March 2012 May 2012 May 2012 May 2012 May 2012 May 2012
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39. DINING SERVICES VENUE: CONCEPT PLAN

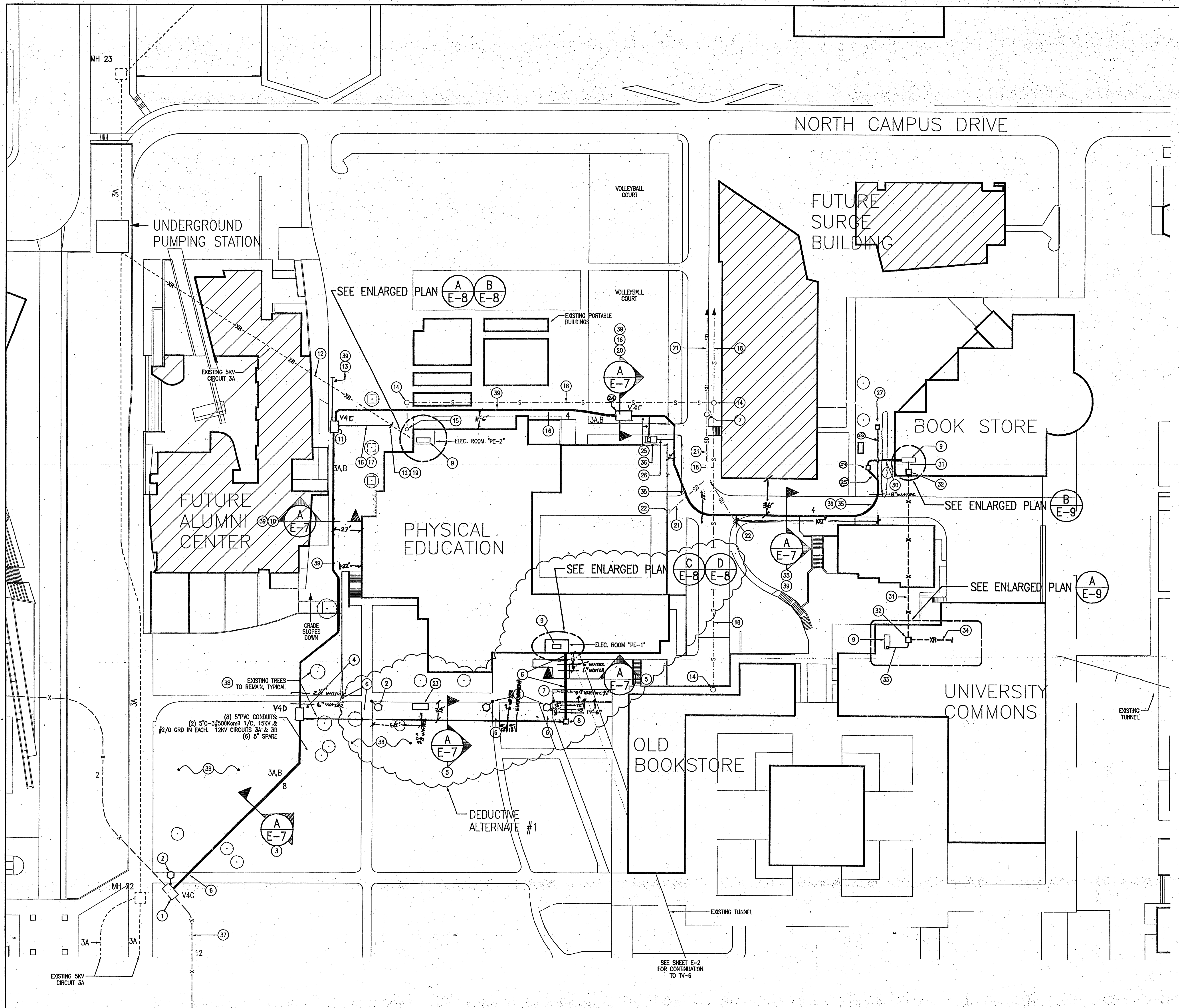
A. UC Riverside Student Success Center Dining Services Venue: Concept Plan Project Number: 950512		
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DESCRIPTION			
Title:	Prepared by:	Date:	
40. UCR NORTH DISTRICT DINING DRAWINGS			
A. UCR Food Lab North District Riverside, CA (Drawings K-01, K-02 & K-02.1)	Clay Enterprises	January 17, 2019	
41. WALKER MACY UCR PLANT LIST REVIEW			
A. Walker Macy UCR Plant List Review			
42. BENCHMARK-BASED, WHOLE-BUILDING ENERGY PERFORMANCE TARGETS FOR UC BUILDINGS			
A. Benchmark-based, Whole-Building Energy Performance Targets for UC Buildings	California Institute for Energy and Environment	March 2014	
43. DESIGN HANDBOOK FOR LOW IMPACT DEVELOPMENT – BEST MANAGEMENT PRACTICES			
A. Design Handbook for Low Impact Development Best Management Practices	Riverside County Flood Control and Water Conservation District	September 2011	
44. EFFICIENCIES AND EQUIPMENT INFORMATION			
A. 2018 Steam Plant	UCR	January 2018 – December 2018	
B. Central Plant Efficiencies	UCR		
C. Steam Plant Equipment	UCR		

DESCRIPTION			
Title:	Prepared by:	Date:	
45. EXTERIOR LIGHTING – LIGHT POLE EXHIBIT			
A. Student Success Center LW1 Exterior Lighting – Light Pole Exhibit Project No. 950512	Selux		
46. UCR EMERGENCY PHONE			
A. Code Blue – CB 5-s Product Sheet	Code Blue		
47. UCR EAST CAMPUS ELECTRICAL DISTRIBUTION SYSTEM REVIEW			
A. University of California, Riverside East Campus Electrical Distribution System Review	P2S	October 31, 2011	
48. CAMPUS UTILITY SURVEY 2014			
A. Utility Diagrams			
1. Electrical			
2. Storm			
3. Campus Utility Survey Zone Map Draft			
B. Utility Survey 2015			
1. Survey Electrical			
2. Survey Sewer			
3. Survey Storm			
4. Control Points Dec. 2013			
C. Data Delivery Standards for UCR Planning & Design Project, Capital Projects		March 13, 2015	
49. ITS TUBE DRAWINGS			
A. ITS Tube Drawings			

DESCRIPTION			
Title:	Prepared by:	Date:	
50. IRRIGATION DIAGRAMS			
A. Student Success Center 950512 Irrigation Diagrams			
51. COST ESTIMATES			
A. University of California, Riverside Riverside, California Student Success Center Programming Estimate	Campbell-Anderson & Associates, Inc.	August 6, 2018	
B. Program Cost Model University of California, Riverside Student Success Center Riverside, California	RLB / Rider Levett Bucknall	August 6, 2018	
C. Expected Design Build Costs UCR Student Success Center ROM	Abbott Construction	September 13, 2018	
52. UCR PHYSICAL MASTER PLAN STUDY			
A. UC Riverside Physical Master Plan Study Appendix 6.8-A Sanitary Sewer Calculation			
53. LECTURE HALL FURNITURE PRODUCTS			
A. M-Series: Lecture Hall Furniture	Sedia Systems Inc.	2017	
B. Beam and Jury-Series	Sedia Systems Inc.	2017	

DESCRIPTION		
Title:	Prepared by:	Date:
54. UNMANNED AIRCRAFT SYSTEMS- INSURANCE REQUIREMENTS		
A. University of California UAS Liability Insurance and 3 rd Party Minimum	University of California- Center for Excellence	August 2, 2016
55. BASELINE CEQA ASSUMPTIONS		
A. Baseline CEQA Assumptions	University of California, Riverside	
DESCRIPTION		
56. POST-CONSTRUCTION STORMWATER MANAGEMENT		
A. Phase II Small MS4 Post-Construction Stormwater Management Requirements	UCR	September 26, 2016
B. Phase II Small MS4 Post-Construction Stormwater Management Checklist	UCR	January 2019
<u>57. UCR INTERIOR LETTER SIGNAGE, BUILDING DEDICATION PLAQUE</u>		
<u>A. UCR Interior Letter Signage – Building Dedication Plaque</u>	<u>Century Sign Builders</u>	<u>November 29, 2018</u>

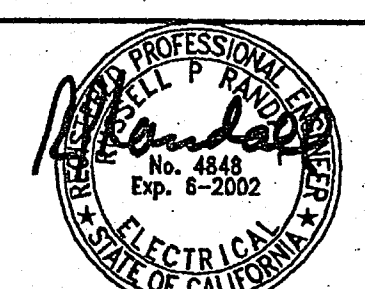


- REFERENCE NOTES:**
- EXISTING WALKWAY "V 4C". INSTALL NEW 5" CONDUITS THERETO AS REQUIRED. SEE DETAIL "F/E-7" AND "G/E-7".
 - EXISTING WALKWAY LIGHTING STANDARD TO REMAIN. PROTECT IN PLACE AND MAINTAIN CIRCUIT CONTINUITY.
 - NEW 5" PVC SCHEDULE #40 CONDUITS: (6) SPARE AND (2) WITH 3#500KCMIL 15KV & 1#2/0 GROUND IN EACH (CIRCUITS 3A & 3B).
 - NEW 12KV VAULT "V 4D". SEE DETAIL "E/E-7" AND "H/E-7".
 - NEW (1) 5" C-3#1 15KV AND 1 #1 GROUND TO SUBSTATION "PE-1".
 - SAW CUT AND REMOVE EXISTING CONCRETE WALKWAY FOR CONDUIT INSTALLATION. SAW CUTTING SHALL BE RIGHT ANGLES TO WALK AND SHALL BE COORDINATED WITH EXISTING SCORING. REPLACE REMOVED CONCRETE WALK TO EXACTLY MATCH EXISTING.
 - EXISTING STORM DRAIN MANHOLE TO REMAIN.
 - NEW 12KV PRE-CAST CONCRETE PULL BOX "12KV-01". SEE DETAIL "D/E-7". ENGRAVE OR BEAD WELD INTO PULL BOX COVER "12KV-01 HIGH VOLTAGE".
 - EXISTING ELECTRICAL SWITCHGEAR WITH AREA OF WORK. SEE ENLARGED PLANS FOR ADDITIONAL INFORMATION.
 - NEW 5" PVC SCHEDULE #40 CONDUITS: (5) SPARE, (2) WITH 3#500KCMIL 15KV & 1#2/0 GROUND IN EACH (CIRCUITS 3A & 3B), AND (1) WITH 3#1 15KV & 1#1 GROUND (FEEDER TO SUBSTATION "PE-2").
 - NEW VAULT 12KV VAULT "V 4E". SEE DETAIL "E/E-7" AND "J/E-7". COORDINATE INSTALLATION WITH EXISTING UNDERGROUND UTILITIES IN AREA.
 - EXISTING (1) 4" C.O. SPARE AND (1) 4" CONDUIT WITH SKV CABLES TO EXISTING SUBSTATION "PE-2". AFTER SUBSTATION "PE-2" HAS BEEN DE-ENERGIZED FROM THE SKV SYSTEM, REMOVE THE SKV CABLES BACK TO THE OIL SWITCH IN PUMPING PLANT AND ABANDON CONDUITS IN PLACE.
 - STUB-OUT, CAP AND MARK (4) 5" C.O. 50 FT. FROM NEW 12KV VAULT "V 4E". ENCASED PER DETAIL "A/E-7".
 - EXISTING SEWER MANHOLE TO REMAIN. VERIFY EXACT LOCATION IN FIELD.
 - EXISTING SEWER CLEAN-OUT TO REMAIN. VERIFY EXACT LOCATION IN FIELD.
 - NOTE OF CAUTION: THERE ARE SEVERAL EXISTING UNDERGROUND UTILITIES IN THIS AREA. TAKE CARE NOT TO DAMAGE EXISTING UTILITIES.
 - NEW (1) 4" C-3#1 15KV AND 1#1 GROUND. SEE DETAIL "A/E-7".
 - EXISTING UNDERGROUND SEWER LINE. VERIFY EXACT LOCATION IN FIELD.
 - BREAK INTO EXISTING SKV DUCT-BANK AND INTERCEPT EXISTING 4" C.O. TO SUBSTATION "PE-2".
 - NEW (2) 5" C.O. SPARE AND (2) 5" C-3#500KCMIL 15KV AND 1#2/0 GROUND. CIRCUITS 3A AND 3B. SEE DETAIL "A/E-7".
 - EXISTING UNDERGROUND STORM DRAIN. VERIFY EXACT LOCATION IN FIELD.
 - EXISTING STORM WATER CATCH BASIN. VERIFY EXACT LOCATION IN FIELD.
 - EXISTING IRRIGATION CONTROL VALVES.
 - NEW 12KV VAULT "V 4F". SEE DETAIL "E/E-7" AND "K/E-7".
 - NEW 5" C-3#1 15KV AND 1#1 GROUND. SEE DETAIL "A/E-7".
 - NEW (3) 5" C.O. FOR FUTURE 480V SECONDARY FEEDER TO SURGE BUILDING. SEE DETAIL "A/E-7".
 - NEW 480V PRE-CAST CONCRETE PULL BOX "480V-01". SEE DETAIL "D/E-7". ENGRAVE OR BEAD WELD INTO PULL BOX COVER "480-01 HIGH VOLTAGE".
 - STUB-OUT 5FT. AND CAP FOR FUTURE EXTENSION TO THE SURGE BUILDING ELECTRICAL (3) 4" C.O. SEE DETAIL "A/E-7".
 - NEW 12KV PRE-CAST CONCRETE PULL BOX "12KV-02". ENGRAVE OR BEAD WELD INTO PULL BOX COVER "12KV-02 HIGH VOLTAGE".
 - NEW 4" C-3#1 15KV AND 1#1 GROUND. SEE DETAIL "A/E-7".
 - EXISTING 5" C-3#500KCMIL 15KV CABLE AND 1# 2/0 GROUND (EXISTING 5 KV FEEDER WITH 15KV CABLE TO BE CONNECTED TO THE 12KV SYSTEM).
 - EXISTING HIGH VOLTAGE PULL BOX. SEE ENLARGED FLOOR PLANS.
 - NEW 4" C-3#1/0 15KV AND 1#1 GROUND. RUN EXPOSED IN MECH/ELEC. ROOM. SEE ENLARGED FLOOR PLANS.
 - EXISTING 4" C-3#500KCMIL 15KV CABLE, AND 1#2/0 GROUND TO BE ABANDONED. SEE ENLARGED FLOOR PLANS FOR ADDITIONAL INFORMATION.
 - (3) 5" C.O. FUTURE 480V AND (1) 5" C-3#1 15KV AND 1#1 GROUND SEE DETAIL "A/E-7".
 - NEW 750KVA PAD-MOUNT TRANSFORMER 12.47 KV DELTA TO 120/208V, 3PH, 4W WYE. SEE DETAIL "G/E-8".
 - EXISTING 12KV CIRCUITS 3A & 3B.
 - AVOID CUTTING LARGE TREE ROOTS.
 - SAW CUT EXISTING A.C. PAVING (PARKING LOT, SIDEWALK & STREET) FOR INSTALLATION OF DUCTBANK AND VAULTS. PATCH TO MATCH EXISTING AFTER INSTALLATION IS COMPLETE.

- LEGEND:**
- X- EXISTING 12KV UNDERGROUND DUCT BANK.
 - - - EXISTING SKV UNDERGROUND CONDUIT. REMOVE WIRE AND ABANDON CONDUIT.
 - XR- EXISTING SKV UNDERGROUND DUCT BANK. REMOVE CONDUCTORS AND ABANDON CIRCUIT.
 - 3A, B NEW CONCRETE ENCASED UNDERGROUND DUCT BANK. #B INDICATES THE NUMBER OF 5" PVC SCHEDULE #40 CONDUITS ENCASED IN 6" CONCRETE ENVELOPE AND BURIED 42" MINIMUM BELOW GRADE. 3A,B INDICATES 12KV CIRCUITS 3A AND 3B.
 - [Symbol] NEW 4' x 5' x 5' DEEP PRE-CAST CONCRETE PULL BOX WITH TRAFFIC COVER.
 - [Symbol] NEW 8' x 14' x 8'-6" DEEP PRE-CAST CONCRETE 12KV VAULT.
 - [Symbol] EXISTING WALKWAY LIGHTING STANDARD TO REMAIN.

PARTIAL ELECTRICAL SITE PLAN
SCALE: 1" = 40'-0"

REVISION	DESCRIPTION	DATE

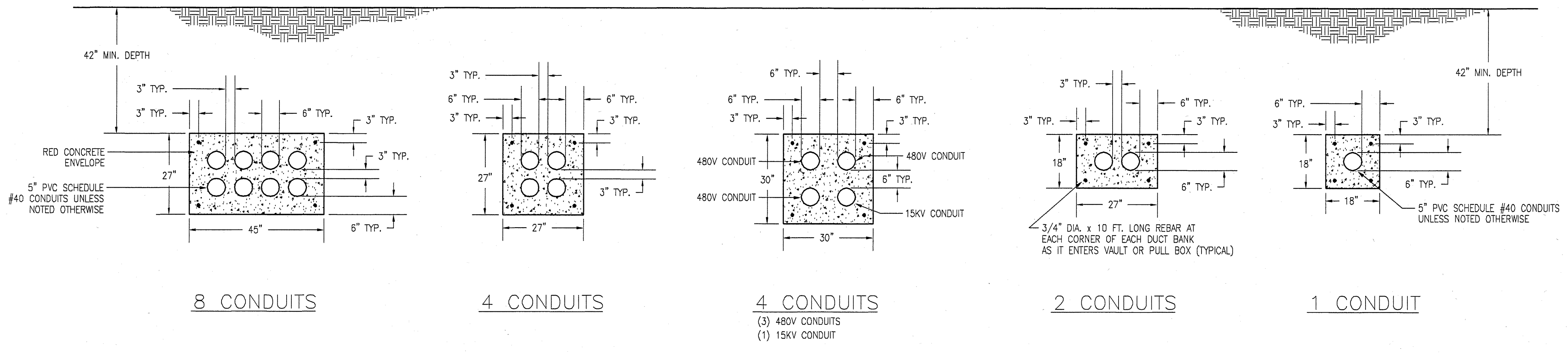


RANDALL ENGINEERING
CONSULTING ELECTRICAL ENGINEER
2908 ALLESANDRO STREET
LOS ANGELES, CA 90039
323-667-9081 * Fax: 323-667-9083

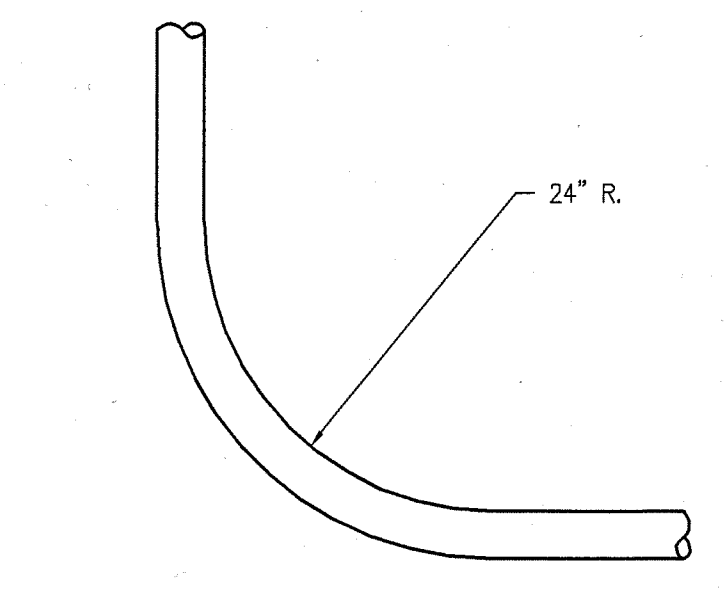
PARTIAL ELECTRICAL SITE PLAN
CAMPUS 12KV EXPANSION - 1
UNIVERSITY OF CALIFORNIA - RIVERSIDE

DATE	11/01/00	SHEET NO.	E-4
DRAWN	NY	CHECKED	RPR
JOB NO.	RE-131	OF 9	

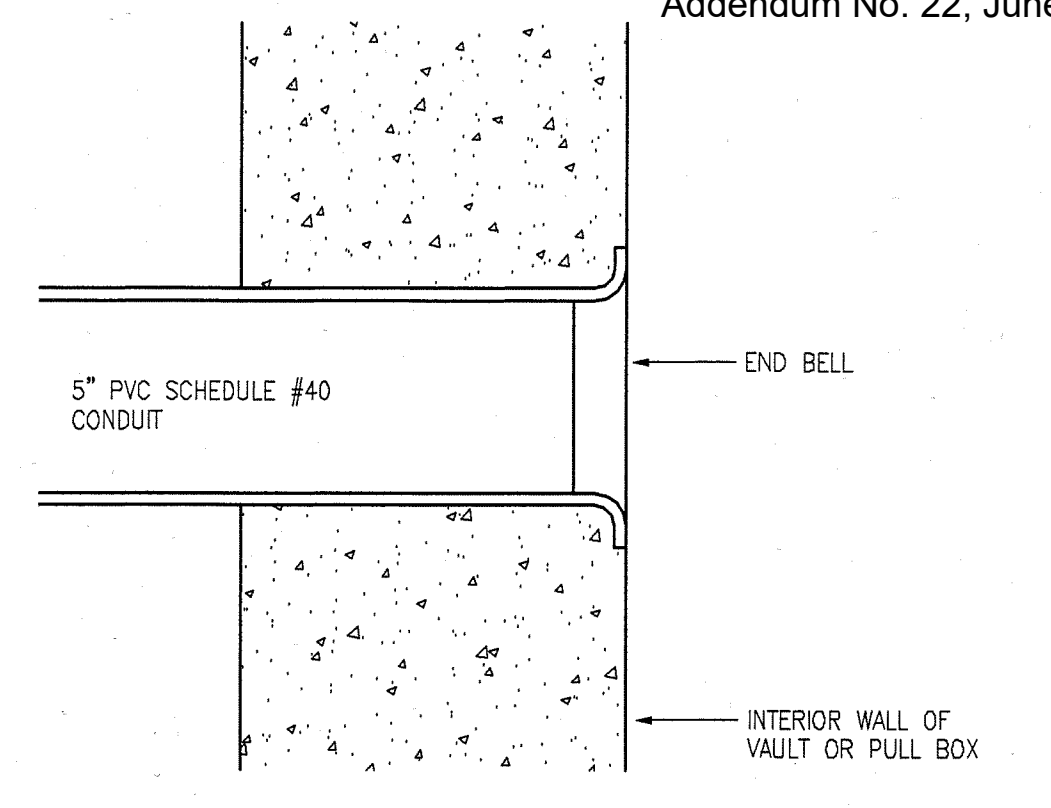
AS-BUILT



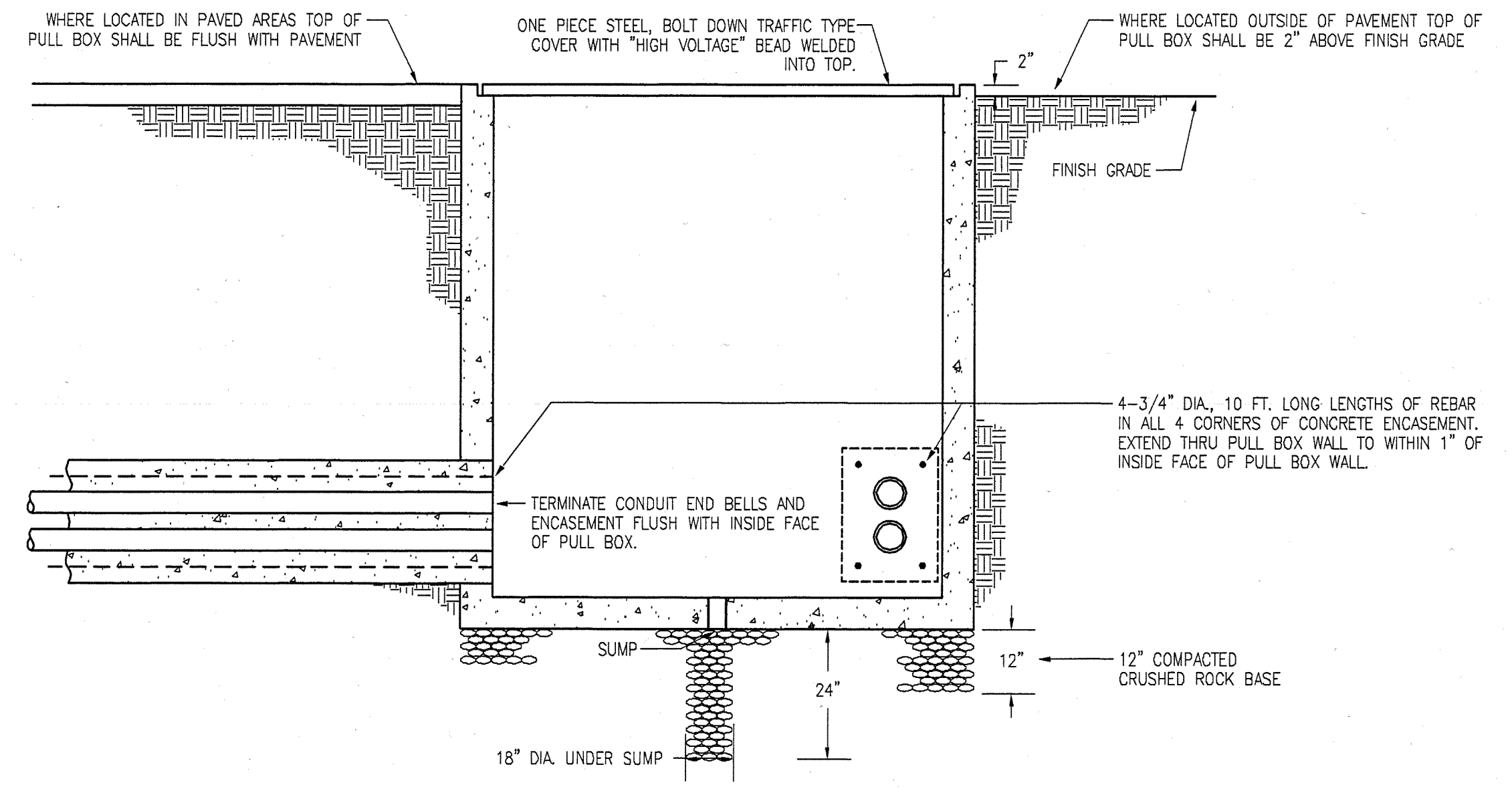
DUCT BANK DETAILS
SCALE: 1/2" = 1'-0"
A
E-7



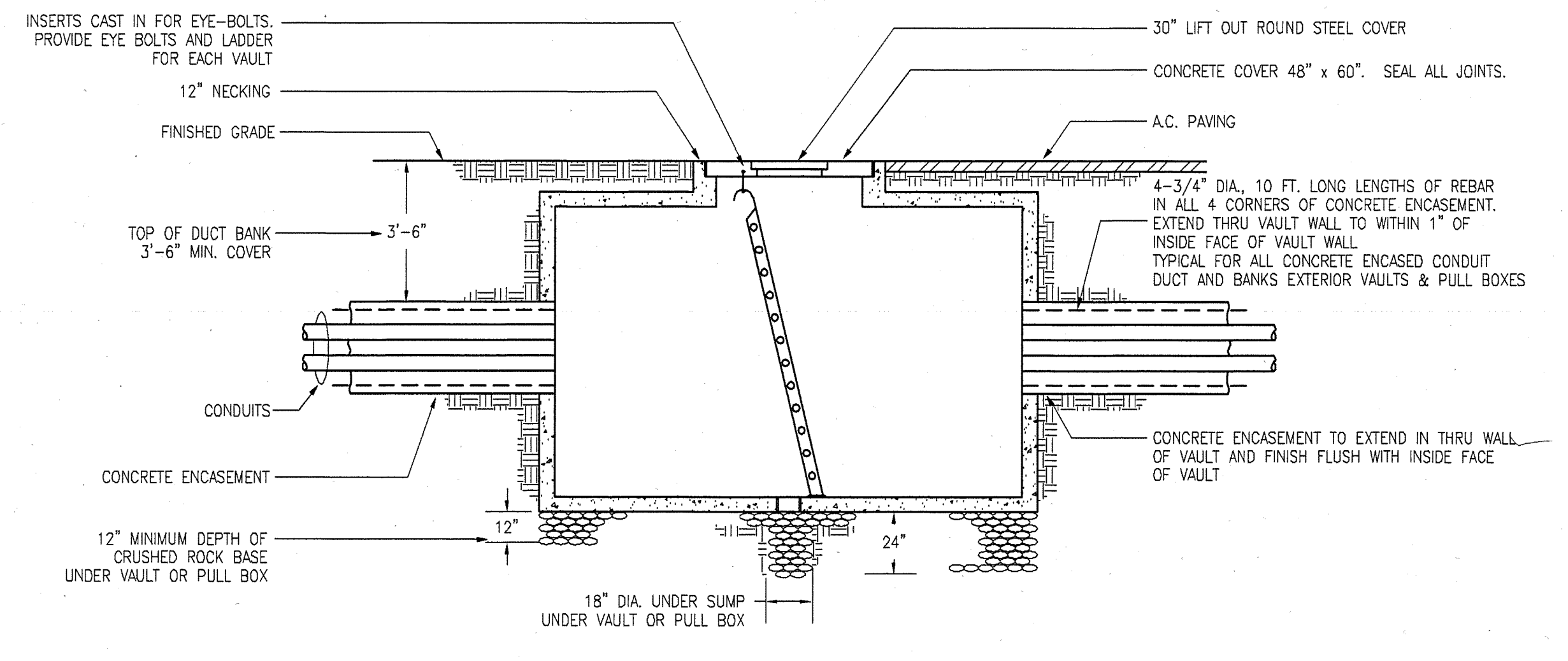
CABLE BENDING DETAIL
NOT TO SCALE
B
E-7



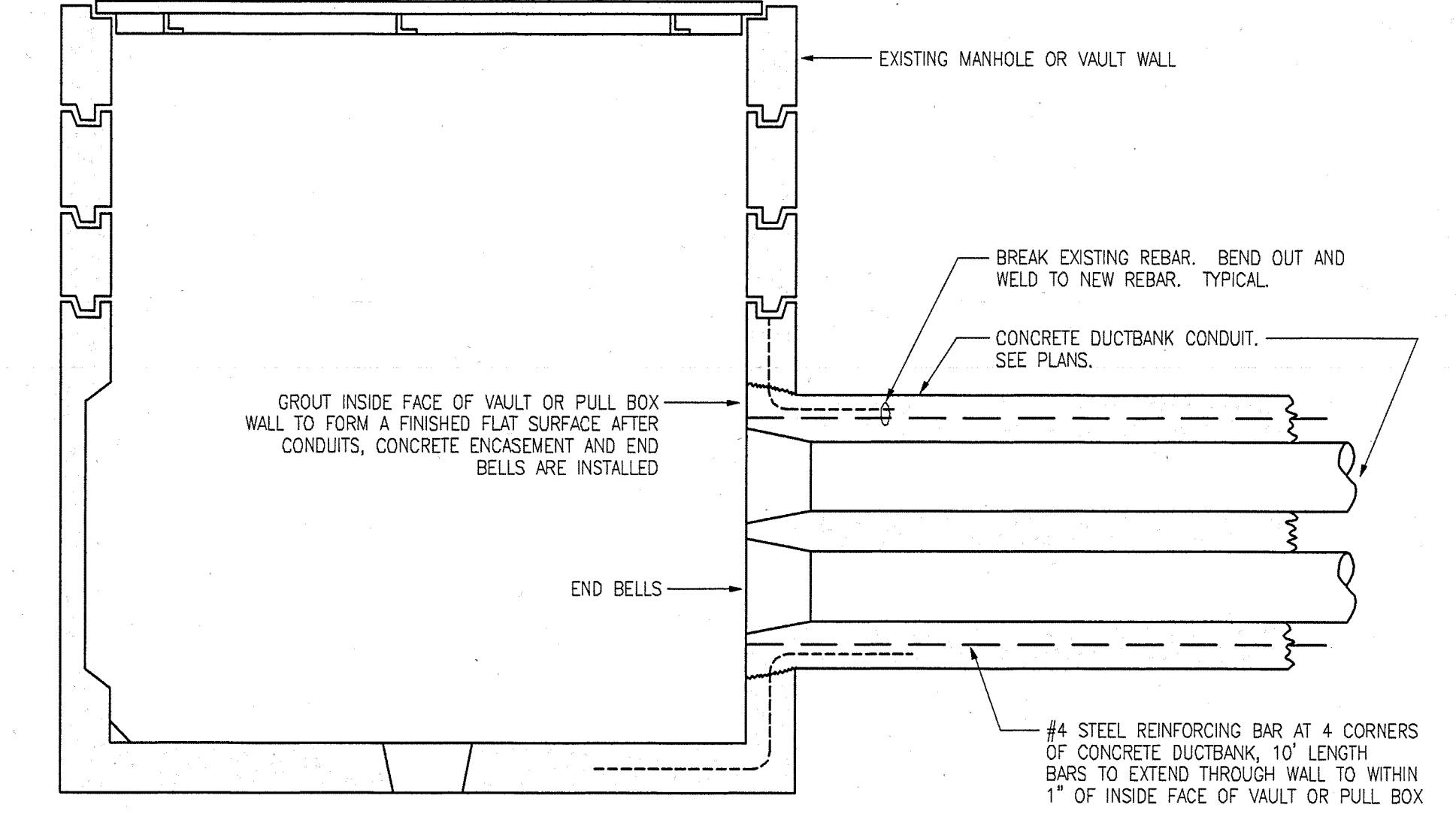
CONDUIT END BELL DETAIL
SCALE: 1/2" = 1'-0"
C
E-7



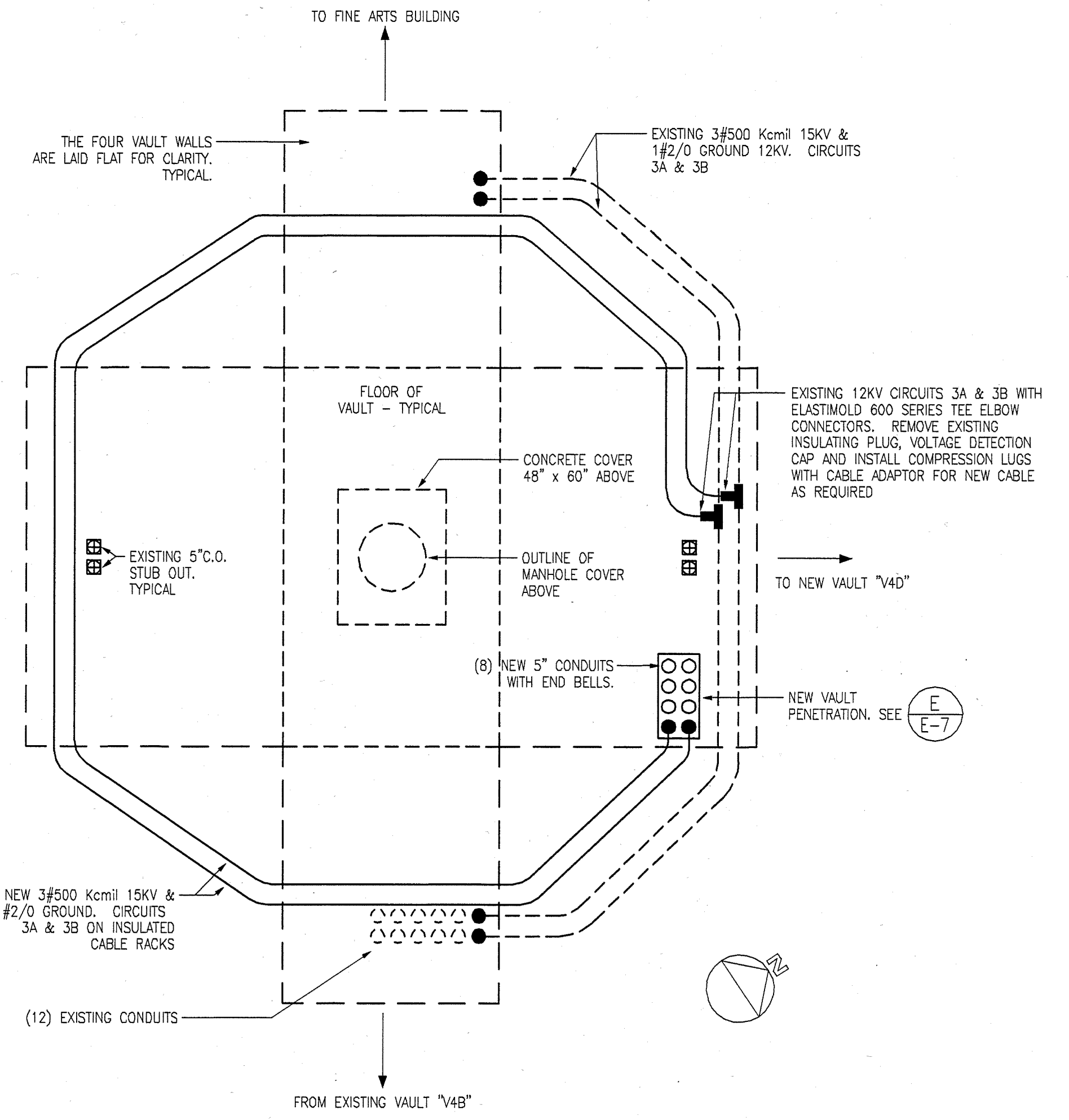
4' x 5' x 5' DEEP PRE-CAST CONCRETE PULL BOX INSTALLATION DETAIL
SCALE: 1/2" = 1'-0"
D
E-7



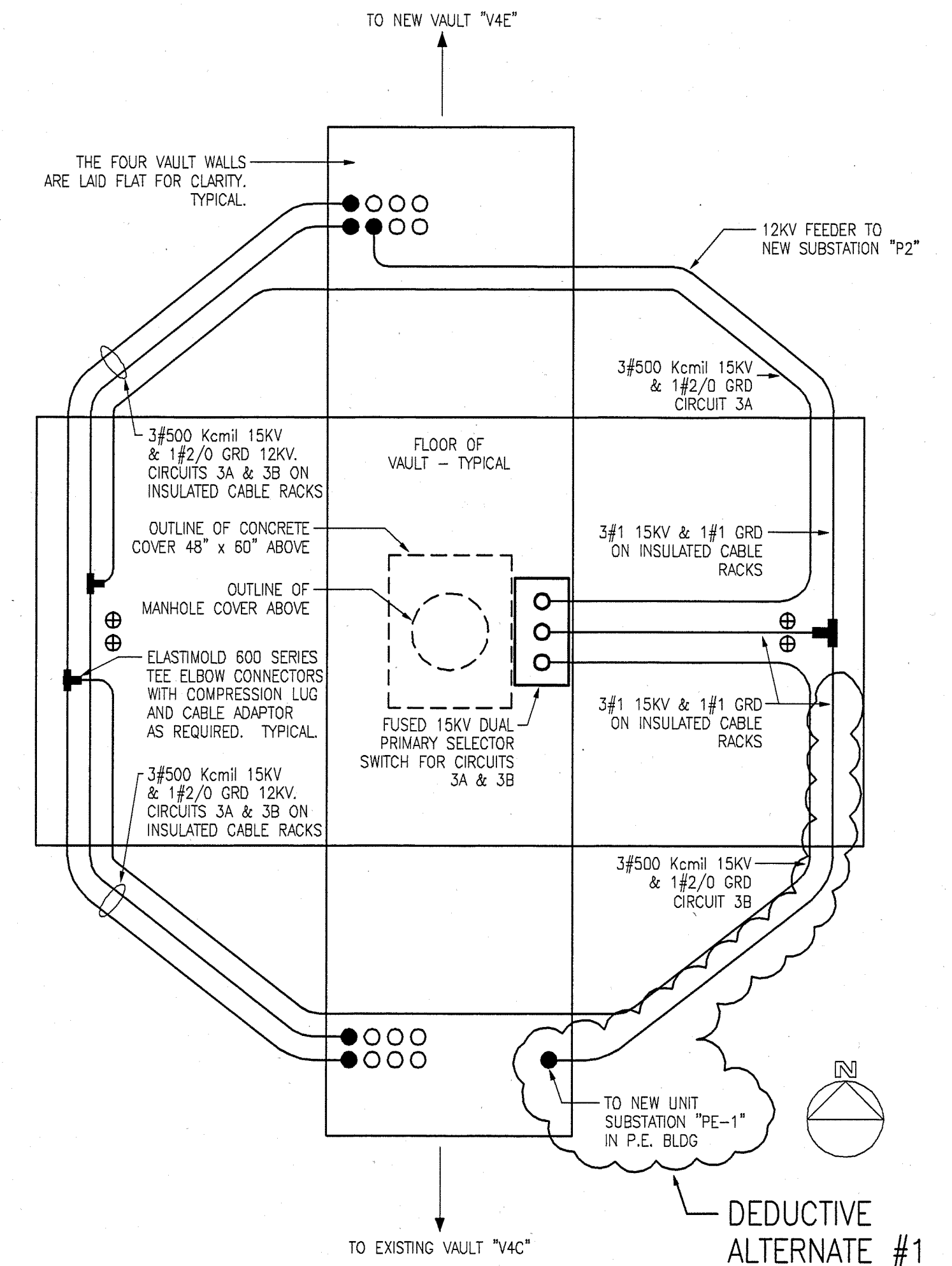
SECTION THRU TYPICAL VAULT
SCALE: 1/4" = 1'-0"
E
E-7



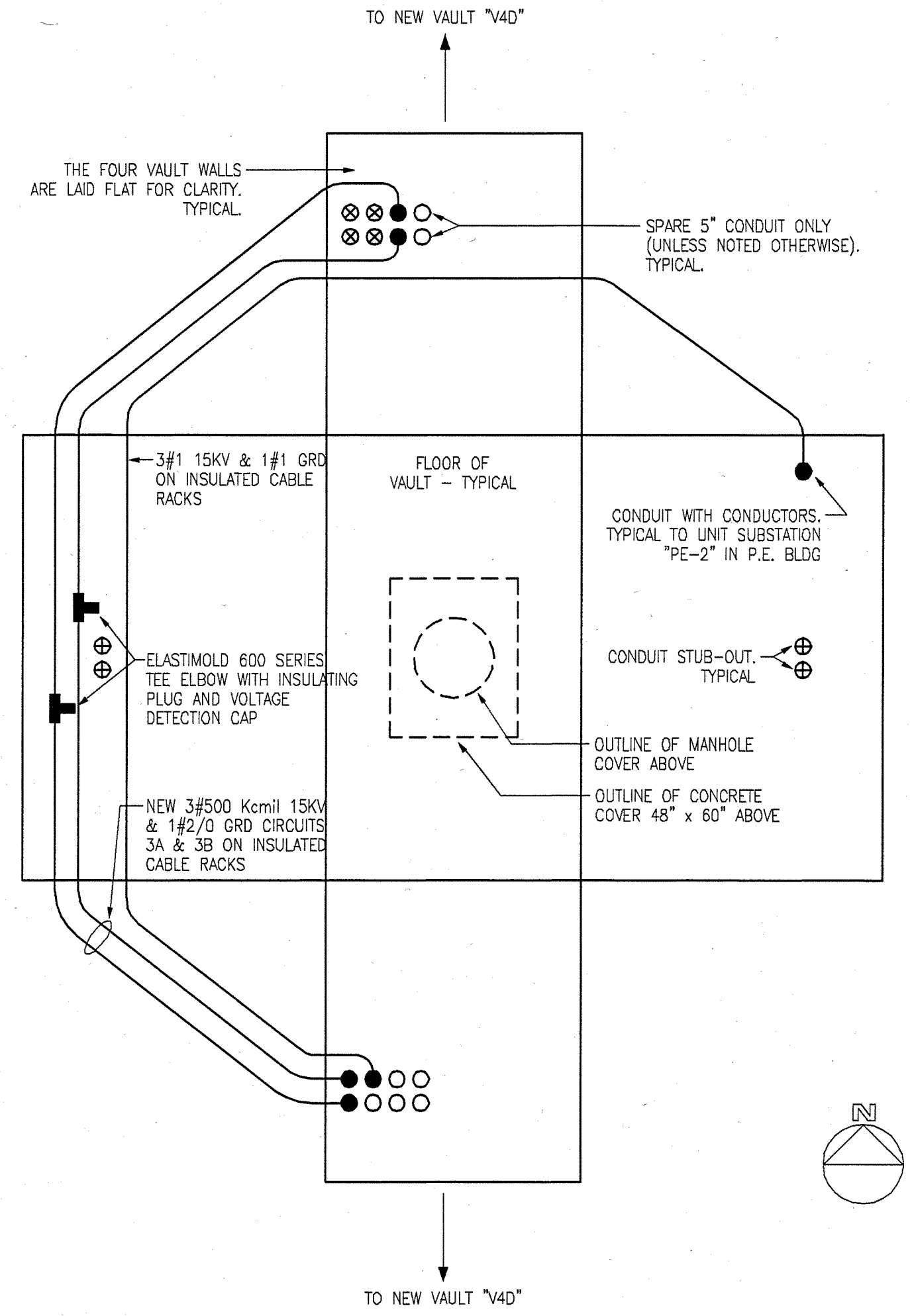
EXISTING MANHOLE/VAULT PENETRATION DETAIL
NOT TO SCALE
F
E-7



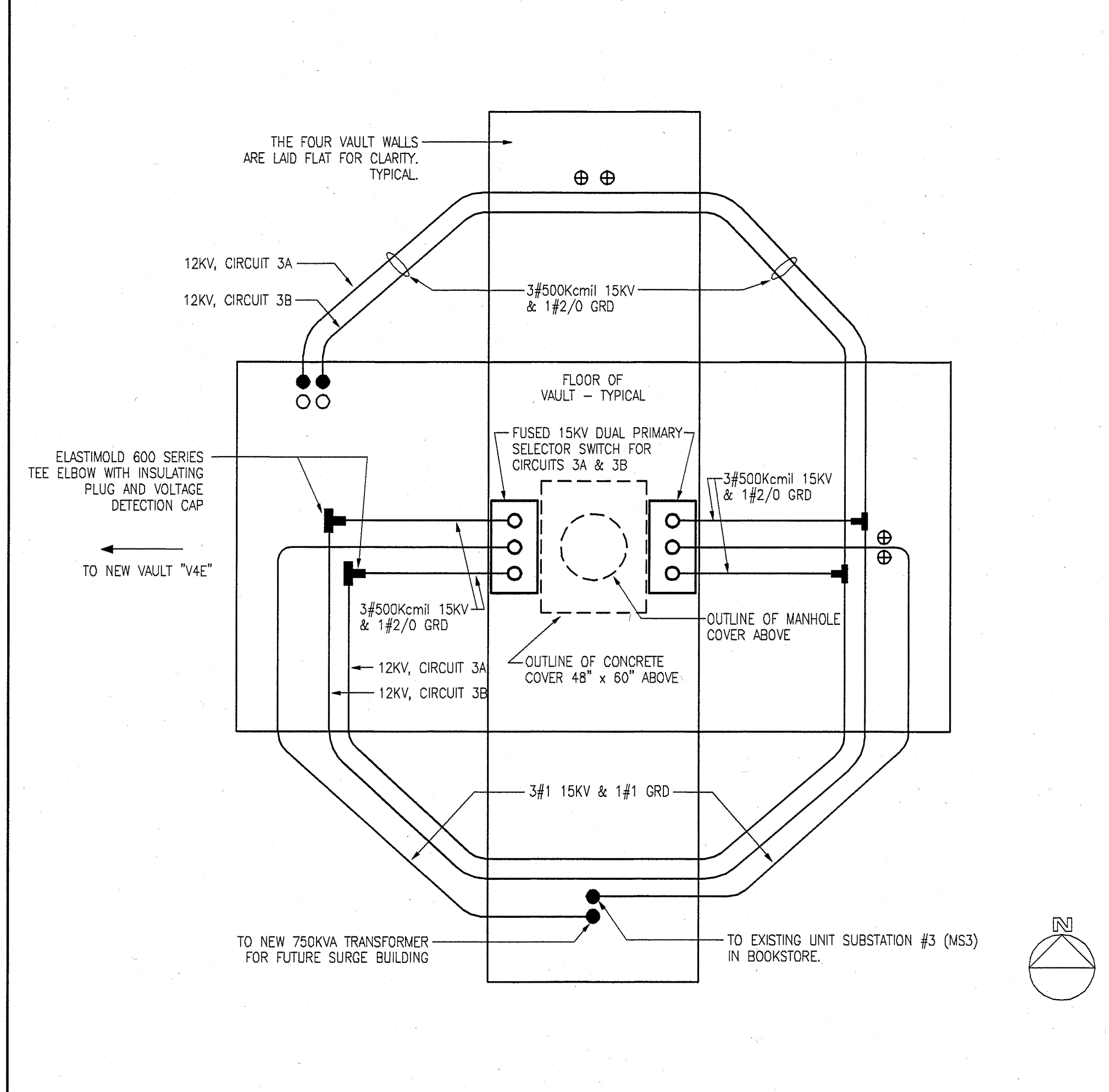
EXISTING VAULT "V4C"
SCALE: 1/4" = 1'-0"
G
E-7



NEW VAULT "V4D"
SCALE: 1/4" = 1'-0"
H
E-7



NEW VAULT "V4E"
SCALE: 1/4" = 1'-0"
J
E-7

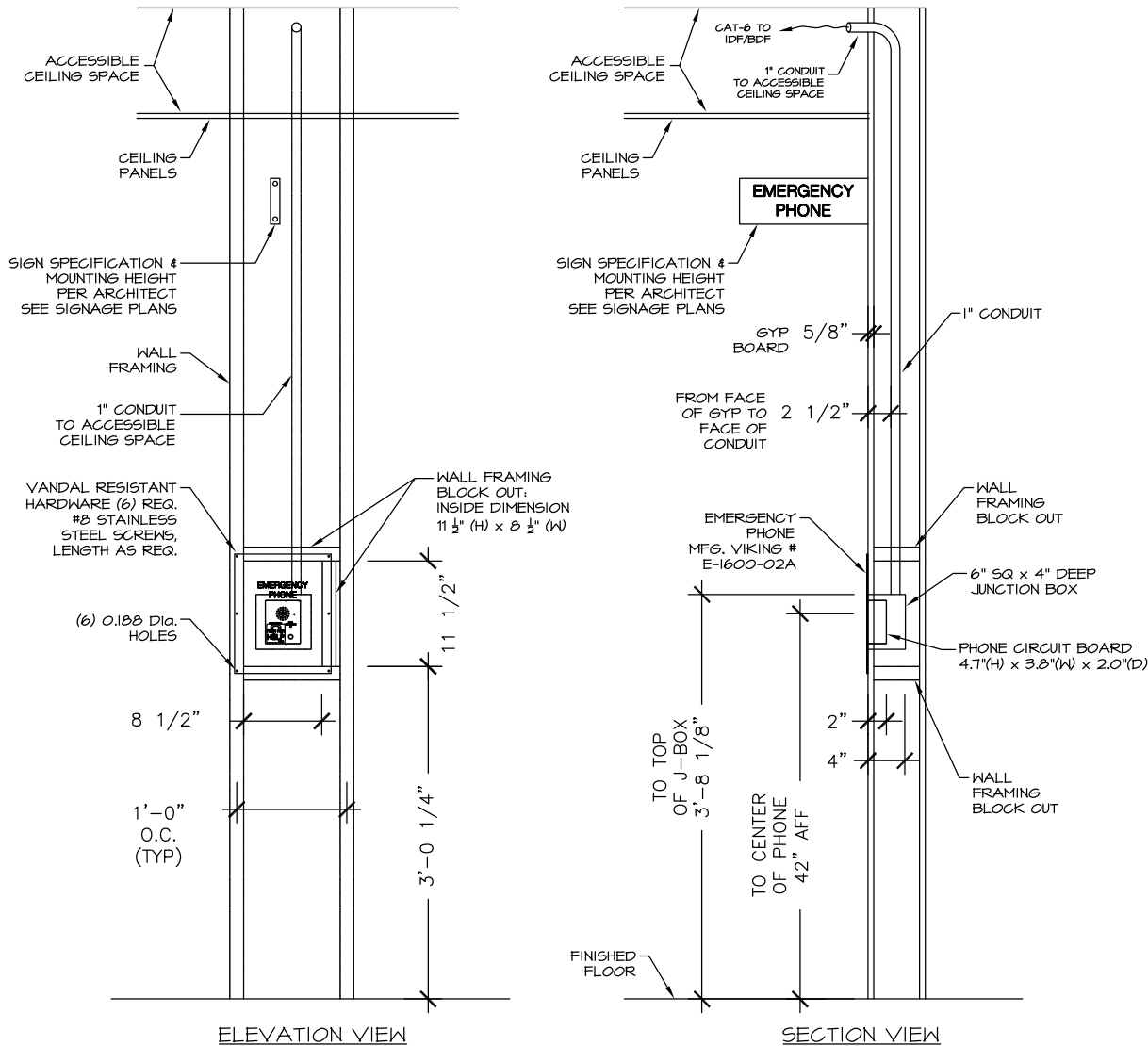


NEW VAULT "V4F"
SCALE: 1/4" = 1'-0"
K
E-7

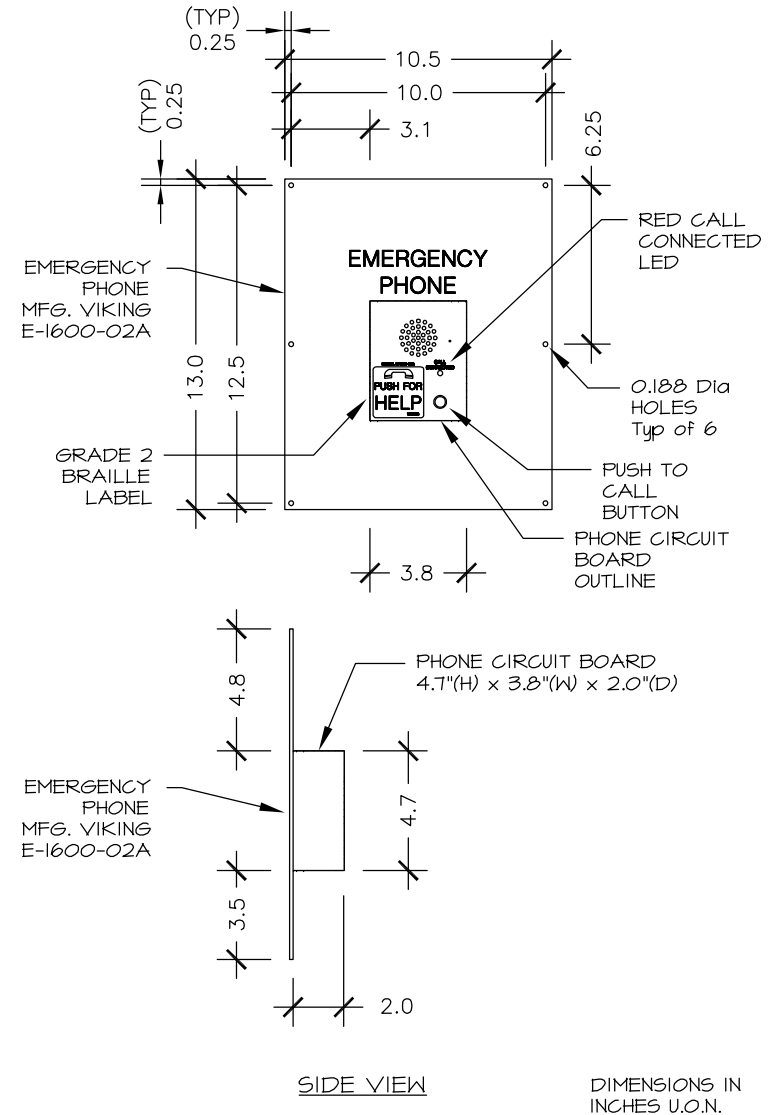


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LOS ANGELES, CA 90039
323-667-9081 * Fax: 323-667-9083

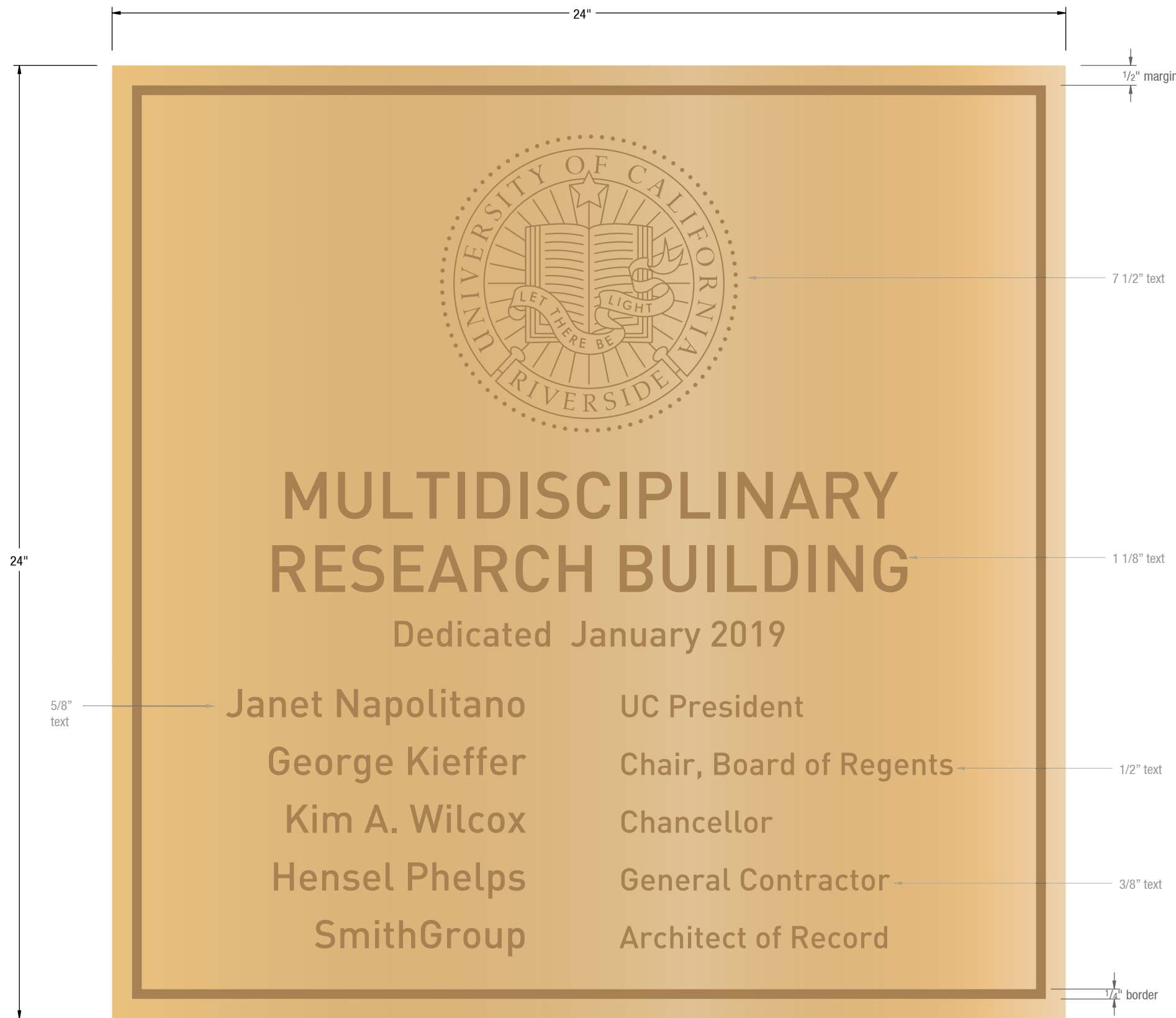
ELECTRICAL DETAILS		DATE: 11/01/00	SHEET NO.
CAMPUS 12KV EXPANSION - 1		DRAWN BY: RPR	E-7
UNIVERSITY OF CALIFORNIA - RIVERSIDE		CHECKED BY: RPR	
		JOB NO: RE-131	



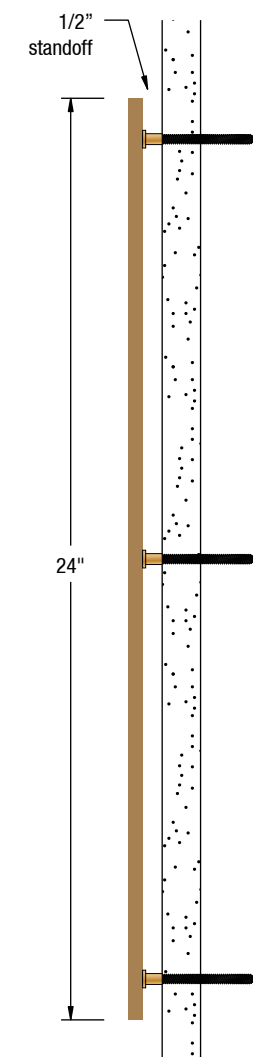
A EMERGENCY PHONE DETAILS - TYPICAL COORIDOR
- SCALE: AS NOTED



B EMERGENCY PHONE DETAILS
- SCALE: AS NOTED



A FRONT ELEVATION
SCALE 1:3



B SIDE SECTION
SCALE 1:5

PLQ

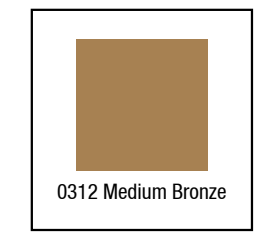
SIGN SPECIFICATIONS

- 1. SIGN PANEL SUBSTRATE**
Finish Sizes:
- 12" H x 18" W
Material: Cast Bronze (horizontal grain)
Return: 5/16"
- 2. TEXT**
Finish: Natural Satin (horizontal grain)
Clear Coat: Semi-Gloss
Recessed Texture: Sand
Recessed Paint Fill: 0312 Medium Bronze
Fonts: DIN Medium
Brushed Bronze = Raised
Text = Recessed
- 3. MOUNTING**
Studs: 10/24 Blind Stud - 2" length
Standoffs: 1/2"
Border: 1/8" Outline
Edges: Square
Mounting Pattern: Yes
- 4. MOUNTING SURFACE**
Brick

**Cast Bronze with Recessed Text.
Paint filled medium bronze text.**



Material
Grain Runs Horizontal
On Finish Product



Paint Fill

C FINISH
SCALE: NTS

FILE PATH Q:\UCR MRB1\20180426 UCR Contract\Renderings, Submittals & PDFs\Submittals\UCR MRB1_SignSubmittal

CONTACT	DRAWN BY	CLIENT / PROJECT	DATE	SHEET TITLE	SHEET
Albuquerque / Phoenix P 505.888.2901 ext 109 F 505.888.2902 csbsigns.com	Lawrence Spingola Lawrence Spingola@csbsigns.com <small>This artwork and design is owned by Century Sign Builders unless expressly stated. Use of this document or the design shown here without permission is prohibited.</small>	Client / GC: Hensel Phelps Project: University of California, Riverside - MRB1 APPROVAL REQUIRED FOR PRODUCTION	Modification Date: November 29, 2018 9:10 AM SIGNATURE / DATE	Sign Type PLQ Building Dedication Plaque	27

