



December 10, 2020

## ADDENDUM NO. 1

TO THE CONTRACT DOCUMENTS

**FOR**

PACIFIC HIGH SCHOOL – MODERNIZATION

**FOR THE**

SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

777 North F Street

San Bernardino, CA 92410

DSA No. 04-118035      File No. 36-H7      RCA Job No. 1-78-21

### NOTICE TO BIDDERS

This Addendum forms a part of the Contract and modifies the original documents DSA Approved on January 16, 2020. It is intended that all work affected by the following modifications shall conform with related provisions and general conditions of the contract of the original drawings and specifications. Modify the following items wherever appearing in any drawing or sections of the specifications. Acknowledge receipt of Addendum No. 1 in the space provided on the Bid Form. Failure to do so may subject bidder to disqualification.

### GENERAL

- |              |  |
|--------------|--|
| Item No. 1.1 | General Items:   |
| 1.1.1        | Reference Front End Bid Documents, campus as-built drawings are available upon request by contacting the District's Plans and Records Department |
| 1.1.2        | For bidder reference, the Project Estimate is \$21.5 million.  |

### CHANGES TO THE SPECIFICATIONS

- |              |  |
|--------------|--|
| Item No. 1.2 | Reference Section 01 10 00 - Summary:  |
| 1.2.1        | Item 1.08.E.1&2, revise hours of Time Restrictions to read "hours of 7am – 8pm as indicated in City of San Bernardino Municipal Code 8.54.070" |
| Item No. 1.3 | Reference Section 01 91 13 - General Commissioning Requirements:   |
| 1.3.1        | Paragraph 1.02.A, remove items 4.b as it does not apply to project   |
| Item No. 1.4 | Reference Section 01 31 14 – Facility Services Coordination  |
| 1.4.1        | Remove paragraph 1.03 in its entirety  |
| Item No. 1.5 | Reference Section 01 32 16 - Construction Progress Schedule:   |
| 1.5.1        | Item 1.05.A.3.a, revise to read "Knowledge of critical path method (CPM) scheduling utilizing MS Project or Primavera latest release software" |



- 1.5.2 Remove Paragraph 3.05 in its entirety.
- Item No. 1.6 Reference Section 01 60 00 - Product Requirements:
  - 1.6.1 Remove Item 2.02.D.2.
- Item No. 1.7 Reference Section 01 70 00 - Execution and Closeout Requirements:
  - 1.7.1 Item 1.06.F.2, revise hours mentioned to read "hours of 7am – 8pm as indicated in City of San Bernardino Municipal Code 8.54.070".
- Item No. 1.8 Reference Section 01 71 23 – Field Engineering
  - 1.8.1 Remove paragraph 3.06 in its entirety
  - 1.8.2 Paragraph 3.07.A, revise to read as follows:  
"Email copies of Contractor's daily reports to Architect weekly after the day covered in the associated report. Daily report shall be signed by responsible member of Contractor's staff, such as project manager or superintendent, or foreman designated by Contractor as having authority to sign daily reports."
- Item No. 1.9 Reference Section 01 78 00.01 - Warranty Form Letter:
  - 1.9.1 For clarity, remove entire section since District will provide their own warranty form letter.
- Item No. 1.10 Reference Section 02 41 00 - Demolition:
  - 1.10.1 Remove Item 3.01.A, existing buildings G & H in way of new construction were demolished in previous phase.
- Item No. 1.11 Reference Section 03 35 11 – Concrete Floor Finishes:
  - 1.11.1 Replace section in its entirety per attached revised Section 03 35 11
- Item No. 1.12 Reference Section 04 20 01 – Masonry Veneer:
  - 1.12.1 Revise per attached revised Section
- Item No. 1.13 Reference Section 05 40 00 – Cold-Formed Metal Framing:
  - 1.13.1 Item 2.02.B.2, Remove requirement in its entirety, does not apply to project
- Item No. 1.14 Reference Section 05 51 33 – Metal Ladders:
  - 1.14.1 Revise per attached revised Section 05 51 33
- Item No. 1.15 Reference Section 06 41 00 - Architectural Wood Casework:
  - 1.15.1 Revise per attached revised Section 06 41 00
- Item No. 1.16 Reference Section 07 21 00 - Thermal Insulation:
  - 1.16.1 Remove Paragraph 3.02, does not apply to project
- Item No. 1.17 Reference Section 07 54 00 - Thermoplastic Membrane Roofing:
  - 1.17.1 Paragraphs 2.03.A.1.c and 2.03.B.5, revise insulation thermal value to be **R-38**.
- Item No. 1.18 Reference Section 08 06 71 – Door Hardware Schedule
  - 1.18.1 Revise per attached revised Section 08 06 71
- Item No. 1.19 Reference Section 08 31 00 - Access Doors and Panels:
  - 1.19.1 Revise per attached revised Section 08 31 00
- Item No. 1.20 Reference Section 09 21 16 - Gypsum Board Assemblies
  - 1.20.1 Remove paragraph 2.03.E in its entirety
- Item No. 1.21 Reference Section 09 51 00 – Suspended Acoustical Ceilings
  - 1.21.1 Item 2.02.A.1.a, revise to read "Local contact: Kolby Johnson (949)344-8612"
- Item No. 1.22 Reference Section 09 30 00 - Tiling:
  - 1.22.1 Revise per attached revised Section 09 30 00



- Item No. 1.23      Reference New Section 09 68 13 – Tile Carpeting:  
1.23.1      Add attached new Section 09 68 13 in its entirety
- Item No. 1.24      Reference Section 09 91 13 - Exterior Painting:  
1.24.1      Item 2.01.B.1, revise paint manufacturer to PPG Industries in lieu of Behr.  
1.24.2      Remove Item 2.03.A.2.a.1, paint manufacturer not applicable to this project.  
1.24.3      Remove Item 2.03.A.2.b.2, paint manufacturer not applicable to this project.
- Item No. 1.25      Reference Section 09 91 23 - Interior Painting:  
1.25.1      Item 2.01.B.1, revise paint manufacturer to PPG Industries in lieu of Behr.
- Item No. 1.26      Reference Section 10 11 23.13 – Fixed Tackboards:  
1.26.1      Item 2.01.A.1, revise to read:  
              “Fabric as scheduled. Refer to Architect’s Colors, Materials, & Finishes Legend on Sheet ID1.1”  
1.26.2      Item 2.02.A.5, revise to read:  
              “Edge Molding: Provide hidden channel as indicated on Architect’s detail 28/AD7.1.”
- Item No. 1.27      Reference Section 10 28 00 - Toilet Accessories:  
1.27.1      Remove Items 1.01.C & 2.08, Electric hand dryers no longer apply to project.  
1.27.2      Remove Item 2.03.B.2, does not apply to project  
1.27.3      Remove Item 2.03.B.3, does not apply to project  
1.27.4      Revise Item 2.03.D, to be multi-roll, surface mounted Bobrick B-2888  
1.27.5      Add Item 2.03.H.2, Recess mounted sanitary disposal in accessible compartment Bobrick B-353  
1.27.6      Remove Item 2.03.I, does not apply to project  
1.27.7      Remove Item 2.03.K, does not apply to project  
1.27.8      Remove Item 2.03.L, does not apply to project  
1.27.9      Revise Item 2.03.M, to include Semi-Recessed Bobrick B-3944, use at multi-occupant restrooms.  
              Fully-Recessed Bobrick B-369 to be used at single-occupant restrooms.  
1.27.10      Revise Item 2.03.O, to be O.F.O.I.
- Item No. 1.28      Reference Section 11 52 16 - Audio-Video Mounts:  
1.28.1      Remove Item 1.07 in its entirety, refer to approved Detail 23/AD1.2 for installation requirements.
- Item No. 1.29      Reference Section 28 10 00 – Access Control:  
1.29.1      Remove section in its entirety, no longer applies to project
- Item No. 1.30      Reference Section 28 13 16 – Access Control Equipment:  
1.30.1      Remove section in its entirety, no longer applies to project
- Item No. 1.31      Reference Section 32 11 23 – Aggregate Base Courses:  
1.31.1      Item 3.03.D.1, revise to read “Compact to 95 percent at vehicular traffic areas and 90 percent at pedestrian traffic areas, unless noted otherwise in project specific geotechnical investigation report.”
- Item No. 1.32      Reference Section 32 33 00 – Site Furnishings  
1.32.1      Revise per clouded areas of attached section 32 33 00
- Item No. 1.33      Reference Section 32 93 00 – Plants  
1.33.1      Paragraph 1.08.A.1, revise to read “Maintenance Period: 180 days from date of Acceptance of Planting”

## CHANGES TO THE DRAWINGS

- Item No. 1.34      Reference Sheet T1:  
1.34.1      General Note 10, remove requirement for R.B.I.P. Does not apply to project.
- Item No. 1.35      Reference Sheet C-1.1:  
1.35.1      Revised Grading Construction Notes, per clouded areas of attached revised sheet C-1.1



- Item No. 1.36      Reference Sheet C-2.1:  
1.36.1      Removed C.I.P. seat walls & ramps, per clouded areas of attached revised sheet C-2.1
- Item No. 1.37      Reference Sheet C-2.2:  
1.37.1      Removed C.I.P. seat walls & ramps, and sitework North of existing Buildings N, O, P, per clouded areas of attached revised sheet C-2.2
- Item No. 1.38      Reference Sheet C-2.3:  
1.38.1      Removed C.I.P. seat walls, per clouded areas of attached revised sheet C-2.3
- Item No. 1.39      Reference Sheet C-2.4:  
1.39.1      Removed C.I.P. seat walls & revised sitework South of existing Building P, per clouded areas of attached revised sheet C-2.4
- Item No. 1.40      Reference Sheet C-2.5:  
1.40.1      Revise Grading Construction Notes, per clouded areas of attached revised sheet C-2.5
- Item No. 1.41      Reference Sheet C-3.1:  
1.41.1      Revised linework of adjacent utilities from project A#04-117817 for reference. See clouded areas of attached revised sheet C-3.1
- Item No. 1.42      Reference Sheet C-3.2:  
1.42.1      Revise per clouded areas of attached revised sheet C-3.2
- Item No. 1.43      Reference Sheet C-3.5:  
1.43.1      Revise per clouded areas of attached revised sheet C-3.5
- Item No. 1.44      Reference sheet C-3.6:  
1.44.1      Revise per clouded areas of attached revised sheet C-3.6
- Item No. 1.45      Reference Sheet C-3.7:  
1.45.1      Revise per clouded areas of attached revised sheet C-3.7
- Item No. 1.46      Reference Sheet C-3.8:  
1.46.1      Revise per clouded areas of attached revised sheet C-3.8
- Item No. 1.47      Reference Sheet C-3.9:  
1.47.1      Revise per clouded areas of attached revised sheet C-3.9
- Item No. 1.48      Reference Sheet C-4.1:  
1.48.1      Revise per clouded areas of attached revised sheet C-4.1
- Item No. 1.49      Reference Sheet C-4.2:  
1.49.1      Revise per clouded areas of attached revised sheet C-4.2
- Item No. 1.50      Reference Sheet C-4.3:  
1.50.1      Revise per clouded areas of attached revised sheet C-4.3
- Item No. 1.51      Reference Sheet C-4.4:  
1.51.1      Revise per clouded areas of attached revised sheet C-4.4
- Item No. 1.52      Reference Sheet C-4.5:  
1.52.1      Revise per clouded areas of attached revised sheet C-4.5
- Item No. 1.53      Reference Sheet C-5.1:  
1.53.1      Revise Grading Construction Notes, per clouded areas of attached revised sheet C-5.1
- Item No. 1.54      Reference Sheet C-5.2:  
1.54.1      Revise Grading Construction Notes, per clouded areas of attached revised sheet C-5.2



- 1.54.2 Planter Area Drain Detail 84, remove detail in its entirety
- Item No. 1.55 Reference Sheet L1.1A:  
1.55.1 Revise site lighting locations, remove C.I.P. seat walls & ramps, and revise hardscape materials, per clouded areas of attached revised sheet L1.1A
- Item No. 1.56 Reference Sheet L1.1B:  
1.56.1 Revise per clouded areas of attached revised sheet L1.1A
- Item No. 1.57 Reference Sheet L1.2A:  
1.57.1 Removed C.I.P. seat walls & ramps, and sitework North of existing Buildings N, O, P, per clouded areas of attached revised sheet L1.2A
- Item No. 1.58 Reference Sheet L1.2B:  
1.58.1 Revise per clouded areas of attached revised sheet L1.2B
- Item No. 1.59 Reference Sheet L1.3A:  
1.59.1 Removed C.I.P. seat walls, per clouded areas of attached revised sheet L1.3A
- Item No. 1.60 Reference Sheet L1.3B:  
1.60.1 Revise per clouded areas of attached revised sheet L1.3B
- Item No. 1.61 Reference Sheet L1.4A:  
1.61.1 Removed C.I.P. seat walls & revised sitework South of existing Building P, per clouded areas of attached revised sheet L1.4A
- Item No. 1.62 Reference Sheet L1.4B:  
1.62.1 Revise per clouded areas of attached revised sheet L1.4B
- Item No. 1.63 Reference Sheet L1.5A:  
1.63.1 Revise legend per clouded areas of attached revised sheet L1.5A
- Item No. 1.64 Reference Sheet L1.6:  
1.64.1 Revise hardscape legend per clouded areas of attached revised sheet L1.6
- Item No. 1.65 Reference Sheet L1.7:  
1.65.1 Revise per clouded areas of attached revised sheet L1.7
- Item No. 1.66 Reference Sheet L1.8:  
1.66.1 Revise per clouded areas of attached revised sheet L1.8
- Item No. 1.67 Reference Sheet L1.9:  
1.67.1 Detail 9, remove detail in its entirety
- Item No. 1.68 Reference Sheet L1.10:  
1.68.1 Detail 2, remove detail in its entirety
- Item No. 1.69 Reference Sheet L1.11:  
1.69.1 Revise per clouded area of attached revised sheet L1.11
- Item No. 1.70 Reference Sheet L2.1:  
1.70.1 Revise irrigation per clouded areas of attached revised sheet L2.1
- Item No. 1.71 Reference Sheet L2.2:  
1.71.1 Revise irrigation per clouded areas of attached revised sheet L2.2
- Item No. 1.72 Reference Sheet L2.3:  
1.72.1 Revise irrigation per clouded areas of attached revised sheet L2.3



Item No. 1.73	Reference Sheet L2.4:
1.73.1	Revise irrigation per clouded areas of attached revised sheet L2.4
Item No. 1.74	Reference Sheet L2.6:
1.74.1	Revise per clouded areas of attached revised sheet L2.6
Item No. 1.75	Reference Sheet L3.1:
1.75.1	Revise planting per clouded areas of attached revised sheet L3.1
Item No. 1.76	Reference Sheet L3.2:
1.76.1	Revise planting per clouded areas of attached revised sheet L3.2
Item No. 1.77	Reference Sheet L3.3:
1.77.1	Revise planting per clouded areas of attached revised sheet L3.3
Item No. 1.78	Reference Sheet L3.4:
1.78.1	Revise planting per clouded areas of attached revised sheet L3.4
Item No. 1.79	Reference Sheet L3.6:
1.79.1	Revise planting legend per clouded areas of attached revised sheet L3.6
Item No. 1.80	Reference Sheet L3.7:
1.80.1	Detail 6, remove detail in its entirety
Item No. 1.81	Reference Sheet D-1.0:
1.81.1	Revise per clouded areas of attached revised Sheet D-1.0
Item No. 1.82	Reference Sheet D-1.2:
1.82.1	Revise per clouded areas of attached revised Sheet D-1.2
Item No. 1.83	Reference Sheet D-1.3:
1.83.1	Revise per clouded areas of attached revised Sheet D-1.3
Item No. 1.84	Reference Sheet D-1.4:
1.84.1	Revise per clouded areas of attached revised Sheet D-1.4
Item No. 1.85	Reference Sheet AS-1.0:
1.85.1	Removed C.I.P. seat walls & ramps, and sitework North of existing Buildings N, O, P, per clouded areas of attached revised sheet AS-1.0
Item No. 1.86	Reference Sheet AS-2.1:
1.86.1	Revise per clouded areas of attached revised sheet AS-2.1
Item No. 1.87	Reference Sheet AS-2.2:
1.87.1	Revise per clouded areas of attached revised sheet AS-2.2
Item No. 1.88	Reference Sheet AS-2.3:
1.88.1	Revise per clouded areas of attached revised sheet AS-2.3
Item No. 1.89	Reference Sheet AS-2.4:
1.89.1	Revise per clouded areas of attached revised sheet AS-2.4
Item No. 1.90	Reference Sheet ASD-1.0:
1.90.1	Detail 27, revise retaining wall dimensional note per attached sketch ASK-1.1
1.90.2	Detail 28, revise chainlink fence post notes per attached sketch ASK-1.2
Item No. 1.91	Reference Sheet A1-1.1:
1.91.1	Revise per clouded areas of attached revised sheet A1-1.1



- Item No. 1.92      Reference Sheet A1-1.2:  
1.92.1      Revise per clouded areas of attached revised sheet A1-1.2
- Item No. 1.93      Reference Sheet A1-2.1:  
1.93.1      Revise ceiling & lighting layout per clouded areas of attached revised sheet A1-2.1
- Item No. 1.94      Reference Sheet A1-2.2:  
1.94.1      Revise ceiling & lighting layout per clouded areas of attached revised sheet A1-2.2
- Item No. 1.95      Reference Sheet A1-3.1:  
1.95.1      Revise roofing materials per clouded areas of attached revised sheet A1-3.1
- Item No. 1.96      Reference Sheet A1-3.2:  
1.96.1      Revise per clouded areas of attached revised sheet A1-3.2
- Item No. 1.97      Reference Sheet A1-4.1:  
1.97.1      Revise exterior materials per clouded areas of attached revised sheet A1-4.1
- Item No. 1.98      Reference Sheet A1-4.2:  
1.98.1      Revise per clouded areas of attached revised sheet A1-4.2
- Item No. 1.99      Reference Sheet A1-5.1:  
1.99.1      Revise per clouded areas of attached revised sheet A1-5.1
- Item No. 1.100      Reference Sheet A1-6.1:  
1.100.1      Revise per clouded areas of attached revised sheet A1-6.1
- Item No. 1.101      Reference Sheet A1-7.1:  
1.101.1      Revise keynotes & wall tile patterns, per clouded areas of attached revised sheet A1-7.1
- Item No. 1.102      Reference Sheet A1-7.2:  
1.102.1      Revise interior elevations per clouded areas of attached sketch ASK-1.3  
1.102.2      Keynote 10.115, revise to read:  
                  " **WALL MOUNTED TELEVISION, O.F.C.I. SHALL HAVE 4" MAX. PROJECTION FROM F.O.F. *WHEN MOUNTED ALONG PATH OF TRAVEL***"
- Item No. 1.103      Reference Sheet A1-7.3:  
1.103.1      Keynote 10.115, revise to read:  
                  " **WALL MOUNTED TELEVISION, O.F.C.I. SHALL HAVE 4" MAX. PROJECTION FROM F.O.F. *WHEN MOUNTED ALONG PATH OF TRAVEL***"
- Item No. 1.104      Reference Sheet A1-7.4:  
1.104.1      Revise per clouded areas of attached revised sheet A1-7.4
- Item No. 1.105      Reference Sheet A1-7.5:  
1.105.1      Revise interior elevations per clouded areas of attached sketch ASK-1.4  
1.105.2      Keynote 10.115, revise to read:  
                  " **WALL MOUNTED TELEVISION, O.F.C.I. SHALL HAVE 4" MAX. PROJECTION FROM F.O.F. *WHEN MOUNTED ALONG PATH OF TRAVEL***"
- Item No. 1.106      Reference Sheet A1-9.1:  
1.106.1      Revise per clouded areas of attached revised sheet A1-9.1
- Item No. 1.107      Reference Sheet A1-9.2:  
1.107.1      Revise per clouded areas of attached revised sheet A1-9.2
- Item No. 1.108      Reference Sheet A2-1.1:  
1.108.1      Revise per clouded areas of attached revised sheet A2-1.1



- Item No. 1.109    Reference Sheet A2-1.2:  
1.109.1    Revise per clouded areas of attached revised sheet A2-1.2
- Item No. 1.110    Reference Sheet A2-2.1:  
1.110.1    Revise ceiling & lighting layout per clouded areas of attached revised sheet A2-2.1
- Item No. 1.111    Reference Sheet A2-2.2:  
1.111.1    Revise ceiling & lighting layout per clouded areas of attached revised sheet A2-2.2
- Item No. 1.112    Reference Sheet A2-3.1:  
1.112.1    Revise roofing materials per clouded areas of attached revised sheet A2-3.1
- Item No. 1.113    Reference Sheet A2-3.2:  
1.113.1    Revise roofing materials per clouded areas of attached revised sheet A2-3.2
- Item No. 1.114    Reference Sheet A2-4.1:  
1.114.1    Revise exterior materials per clouded areas of attached revised sheet A2-4.1
- Item No. 1.115    Reference Sheet A2-4.2:  
1.115.1    Revise exterior materials per clouded areas of attached revised sheet A2-4.2
- Item No. 1.116    Reference Sheet A2-5.1:  
1.116.1    Revise per clouded areas of attached revised sheet A2-5.1
- Item No. 1.117    Reference Sheet A2-6.1:  
1.117.1    Revise per clouded areas of attached revised sheet A2-6.1
- Item No. 1.118    Reference Sheet A2-7.1:  
1.118.1    Revise keynotes & wall tile patterns, per clouded areas of attached revised sheet A2-7.1
- Item No. 1.119    Reference Sheet A2-7.2:  
1.119.1    Keynote 10.115, revise to read:  
              "Wall mounted television, O.F.C.I. shall have 4" max. projection from F.O.F. **WHEN MOUNTED ALONG PATH OF TRAVEL**"
- Item No. 1.120    Reference Sheet A2-7.3:  
1.120.1    Keynote 10.115, revise to read:  
              "Wall mounted television, O.F.C.I. shall have 4" max. projection from F.O.F. **WHEN MOUNTED ALONG PATH OF TRAVEL**"
- Item No. 1.121    Reference Sheet A2-7.4:  
1.121.1    Revise interior elevations per clouded areas of attached sketch ASK-1.5
- Item No. 1.122    Reference Sheet A2-7.5:  
1.122.1    Revise per clouded areas of attached revised sheet A2-7.5
- Item No. 1.123    Reference Sheet A2-8.1:  
1.123.1    Revise per clouded areas of attached revised sheet A2-8.1
- Item No. 1.124    Reference Sheet A2-9.1:  
1.124.1    Revise per clouded areas of attached revised sheet A2-9.1
- Item No. 1.125    Reference Sheet A3-1.1:  
1.125.1    Revise per clouded areas of attached revised sheet A3-1.1
- Item No. 1.126    Reference Sheet A3-1.2:  
1.126.1    Revise per clouded areas of attached revised sheet A3-1.2
- Item No. 1.127    Reference Sheet A3-2.1:  
1.127.1    Revise ceiling & lighting layout per clouded areas of attached revised sheet A3-2.1



- Item No. 1.128    Reference Sheet A3-2.2:  
1.128.1    Revise ceiling & lighting layout per clouded areas of attached revised sheet A3-2.2
- Item No. 1.129    Reference Sheet A3-3.1:  
1.129.1    Revise roofing materials per clouded areas of attached revised sheet A3-3.1
- Item No. 1.130    Reference sheet A3-3.2:  
1.130.1    Revise roofing materials per clouded areas of attached revised sheet A3-3.2
- Item No. 1.131    Reference Sheet A3-4.1:  
1.131.1    Revise exterior materials per clouded areas of attached revised sheet A3-4.1
- Item No. 1.132    Reference Sheet A3-4.2:  
1.132.1    Revise exterior materials per clouded areas of attached revised sheet A3-4.2
- Item No. 1.133    Reference Sheet A3-5.1:  
1.133.1    Revise per clouded areas of attached revised sheet A3-5.1
- Item No. 1.134    Reference Sheet A3-6.1:  
1.134.1    Revise per clouded areas of attached revised sheet A3-6.1
- Item No. 1.135    Reference Sheet A3-7.1:  
1.135.1    Revise keynotes & wall tile patterns, per clouded areas of attached revised sheet A3-7.1
- Item No. 1.136    Reference Sheet A3-7.2:  
1.136.1    Revise per clouded areas of attached revised sheet A3-7.2
- Item No. 1.137    Reference Sheet A3-7.3:  
1.137.1    Revise per clouded areas of attached revised sheet A3-7.3
- Item No. 1.138    Reference Sheet A3-7.4:  
1.138.1    Revise per clouded areas of attached revised sheet A3-7.4
- Item No. 1.139    Reference Sheet A3-7.5:  
1.139.1    Revise interior elevations per clouded areas of attached sketch ASK-1.6
- Item No. 1.140    Reference Sheet A3-8.1:  
1.140.1    Revise per clouded areas of attached revised sheet A3-8.1
- Item No. 1.141    Reference Sheet A3-9.1:  
1.141.1    Revise per clouded areas of attached revised sheet A3-9.1
- Item No. 1.142    Reference Sheet A4-1.1:  
1.142.1    Revise per clouded areas of attached revised sheet A4-1.1
- Item No. 1.143    Reference Sheet A4-2.1:  
1.143.1    Revise ceiling & lighting layout per clouded areas of attached revised sheet A4-2.1
- Item No. 1.144    Reference Sheet A4-3.1:  
1.144.1    Revise roofing materials per clouded areas of attached revised sheet A4-3.1
- Item No. 1.145    Reference Sheet A4-4.1:  
1.145.1    Revise exterior materials per clouded areas of attached revised sheet A4-4.1
- Item No. 1.146    Reference Sheet A4-5.1:  
1.146.1    Building Section 4, revise per clouded areas of attached sketch ASK 1.7
- Item No. 1.147    Reference Sheet A4-6.1:  
1.147.1    Revise per clouded areas of attached revised sheet A4-6.1



- Item No. 1.148    Reference Sheet A4-7.1:  
1.148.1    Revise per clouded areas of attached revised sheet A4-7.1
- Item No. 1.149    Reference Sheet A4-7.2:  
1.149.1    Revise interior elevations per clouded areas of attached sketch ASK-1.8
- Item No. 1.150    Reference Sheet A4-9.1:  
1.150.1    Revise per clouded areas of attached revised sheet A4-9.1
- Item No. 1.151    Reference Sheet A5-1.1:  
1.151.1    Revise per clouded areas of attached revised sheet A5-1.1
- Item No. 1.152    Reference Sheet A5-2.1:  
1.152.1    Revise ceiling & lighting layout per clouded areas of attached revised sheet A5-2.1
- Item No. 1.153    Reference Sheet A5-3.1:  
1.153.1    Revise roofing materials per clouded areas of attached revised sheet A5-3.1
- Item No. 1.154    Reference Sheet A5-4.1:  
1.154.1    Revise exterior materials per clouded areas of attached revised sheet A5-4.1
- Item No. 1.155    Reference Sheet A5-5.1:  
1.155.1    Building Section 4, revise per clouded areas of attached sketch ASK-1.12
- Item No. 1.156    Reference Sheet A5-6.1:  
1.156.1    Wall Sections 4 & 7, revise per clouded areas of attached sketch ASK-1.9
- Item No. 1.157    Reference Sheet A5-7.1:  
1.157.1    Revise per clouded areas of attached revised sheet A5-7.1
- Item No. 1.158    Reference Sheet A5-7.2:  
1.158.1    Revise per clouded areas of attached revised sheet A5-7.2
- Item No. 1.159    Reference Sheet A5-9.1:  
1.159.1    Revise per clouded areas of attached revised sheet A4-9.1
- Item No. 1.160    Reference Sheet AD1.2:  
1.160.1    Detail 4, revise per clouded areas of attached ASK-1.10
- Item No. 1.161    Reference New Sheet AD1.3:  
1.161.1    Add new sheet in its entirety per attached Sheet AD1.3
- Item No. 1.162    Reference Sheet AD2.1:  
1.162.1    Add new detail 25, per attached ASK-1.11  
1.162.2    Details 9,17,22, & 27, remove details in their entirety
- Item No. 1.163    Reference Sheet AD2.2:  
1.163.1    Detail 19, revise per clouded areas of attached ASK-1.13  
1.163.2    Detail 27, revise per clouded areas of attached ASK-1.14  
1.163.3    Details 20 & 30, remove details in their entirety
- Item No. 1.164    Reference Sheet AD2.3:  
1.164.1    Detail 4, revise per clouded areas of attached ASK-1.15
- Item No. 1.165    Reference Sheet AD3.1:  
1.165.1    Detail 1, revise per clouded areas of attached ASK-1.16  
1.165.2    Detail 14, remove detail in its entirety  
1.165.3    Detail 25, revise per clouded areas of attached ASK-1.17



Item No. 1.166    Reference Sheet AD3.2:  
1.166.1    Revise sheet per clouded areas of attached revised sheet AD3.2

Item No. 1.167    Reference Sheet AD3.3:  
1.167.1    Revise sheet per clouded areas of attached revised sheet AD3.3

Item No. 1.168    Reference Sheet AD4.2:  
1.168.1    Detail 21, remove detail in its entirety

Item No. 1.169    Reference Sheet AD4.3:  
1.169.1    Add new Details 15 & 26-30, per attached revised sheet AD4.3

Item No. 1.170    Reference Sheet AD5.1:  
1.170.1    Details 2,6,8, & 21, revise per clouded areas of attached revised sheet AD5.1

Item No. 1.171    Reference Sheet AD6.1:  
1.171.1    Revise per clouded areas of attached revised sheet AD6.1

Item No. 1.172    Reference Sheet AD7.1:  
1.172.1    Detail 1, revise per clouded area of attached ASK-1.19  
1.172.2    Detail 23, revise per clouded area of attached ASK-1.20

Item No. 1.173    Reference Sheet ID1.1:  
1.173.1    Revise sheet per clouded areas of attached revised sheet ID1.1

Item No. 1.174    Reference Sheet S1-1.1:  
1.174.1    Revise sheet per clouded areas of attached revised Sheet S1-1.1

Item No. 1.175    Reference Sheet S1-3.1:  
1.175.1    Revise sheet per clouded areas of attached revised Sheet S1-3.1

Item No. 1.176    Reference Sheet S1-4.1:  
1.176.1    Revise sheet per clouded areas of attached revised Sheet S1-4.1

Item No. 1.177    Reference Sheet S2-1.1:  
1.177.1    Revise sheet per clouded areas of attached revised Sheet S2-1.1

Item No. 1.178    Reference Sheet S2-3.1:  
1.178.1    Revise sheet per clouded areas of attached revised Sheet S2-3.1

Item No. 1.179    Reference Sheet S3-1.1:  
1.179.1    Revise sheet per clouded areas of attached revised Sheet S3-1.1

Item No. 1.180    Reference Sheet S3-3.1:  
1.180.1    Revise sheet per clouded areas of attached revised Sheet S3-3.1

Item No. 1.181    Reference Sheet S4-1.1:  
1.181.1    Revise sheet per clouded areas of attached revised Sheet S4-1.1

Item No. 1.182    Reference Sheet S4-3.1:  
1.182.1    Revise sheet per clouded areas of attached revised Sheet S4-3.1

Item No. 1.183    Reference Sheet S5-1.1:  
1.183.1    Revise sheet per clouded areas of attached revised Sheet S5-1.1

Item No. 1.184    Reference Sheet S5-3.1:  
1.184.1    Revise sheet per clouded areas of attached revised Sheet S5-3.1

Item No. 1.185    Reference Sheet SD-1.1:  
1.185.1    Detail 19, revise per clouded areas of attached revised Sheet SD-1.1



- Item No. 1.186     Reference Sheet SD-3.1:  
1.186.1     Detail 8, revise per clouded areas of attached revised Sheet SD-3.1
- Item No. 1.187     Reference Sheet SD-3.3:  
1.187.1     Add new detail 15, per clouded areas of attached revised Sheet SD-3.3
- Item No. 1.188     Reference Sheet SD-3.4:  
1.188.1     Add new Details 8 & 19, per clouded areas of attached revised Sheet SD-3.4  
1.188.2     Detail 17, revise per clouded areas of attached revised Sheet SD-3.4
- Item No. 1.189     Reference Drawing M0.1 – Abbreviations & Symbols  
1.189.1     Coordination Note #1: Change “15000” to “Division 23.”
- Item No. 1.190     Reference Drawing M0.3 – Details  
1.190.1     Detail 1: Add reference to details 2 & 3/AD3.1 for flashing.
- Item No. 1.191     Reference Drawing M1-1.1 – Building D-West – HVAC Floor Plans  
1.191.1     Detail 2: Add flex duct through seismic separation at gridline “5” for 8x8 exhaust duct as indicated on MSK-01.03.
- Item No. 1.192     Reference Drawing M1-1.2 – Building D-East – HVAC Floor Plans  
1.192.1     Detail 2: Change ducting and diffuser/grilles in Staff Workroom 119 as indicated on MSK-01.04.
- Item No. 1.193     Reference Drawing M3-1.1 – Building F-West – HVAC Floor Plans  
1.193.1     Detail 2: Add Mechanical Room 318 with 1/2” door undercut and 10x10 air louver through to Elec/Data Room 316 as indicated on MSK-01.02.  
1.193.2     Detail 2: Revise diffuser/grille locations to accommodate revised ceiling grid and lighting in Science Classroom 301 as indicated on attached sketch MSK-01.05.  
1.193.3     Detail 2: Revise diffuser/grille locations to accommodate revised ceiling grid and lighting in Science Classroom 301 as indicated on attached sketch MSK-01.06.
- Item No. 1.194     Reference Drawing M3-1.2 – Building F-East – HVAC Floor Plans  
1.194.1     Detail 2: Revise diffuser/grille locations to accommodate revised ceiling grid and lighting in Science Lab 314 as indicated on attached sketch MSK-01.07.
- Item No. 1.195     Reference Drawing M4-1.1 – Building G – HVAC Floor Plans  
1.195.1     Detail 2: Revise diffuser/grille locations to accommodate revised ceiling grid and lighting in Classroom 401 as indicated on attached sketch MSK-01.08.
- Item No. 1.196     Reference Drawing M5-1.1 – Building H – HVAC Floor Plans  
1.196.1     Detail 2: Revise diffuser/grille locations to accommodate revised ceiling grid and lighting in Science Classroom 504 as indicated on attached sketch MSK-01.09.
- Item No. 1.197     Reference Drawing P0.1 – Abbreviations and Symbols:  
1.197.1     General Notes #22 – Pay attention to this note. Trap primers and associated prime line and access panels are to be installed per this note.
- Item No. 1.198     Reference Drawing PS-2 – Plumbing Remodel Site Plan - Gas  
1.198.1     See revised PS-1 indicating:  
                Revise MPG piping to Building E so that 3/4" MPG is delivered to Building E-West, not Building E-East.  
                Revise MPG piping to entrance to Building F-East.  
                Revise MPG piping to entrance to Building G.  
                Add 2” waste and drywell to (3) site drinking fountains.  
                Add 3/4” CW with shut off valve in yard box to (2) site drinking fountains.
- Item No. 1.200     Reference Drawing P1-1.2 – Building D-East – Plumbing Floor Plans  
1.200.1     Detail 2: Revise CW piping service location to building as indicated on PSK-01.03.



- Item No. 1.201     Reference Drawing P1-1.3 – Building D – Enlarged Plans and Schedules  
1.201.1     Detail 6: Revise CW piping location as indicated on PSK-01.04.  
1.201.2     Detail 8: Revise SD piping and relocate floor drain and associated piping as indicated on PSK-01.05.
- Item No. 1.202     Reference Drawing P2-1.2 – Building E-East – Plumbing Floor Plans  
1.202.1     Detail 3: Remove unidentified pipe at gridlines 12/A.5 as indicated on PSK-01.08.  
1.202.2     Detail 2: Add 3/4" CW to serve site drinking fountain as indicated on PSK-01.07.
- Item No. 1.203     Reference Drawing P2-1.3 – Building E – Enlarged Plans and Schedules  
1.203.1     Detail 1: Relocated floor drain and associated piping as indicated on PSK-01.06.
- Item No. 1.204     Reference Drawing P3-1.1 – Building F-West – Plumbing Floor Plans  
1.204.1     See revised P3-1.1 indicating:  
                    Detail 2: Added HW piping.
- Item No. 1.205     Reference Drawing P3-1.2 – Building F-East – Plumbing Floor Plans  
1.205.1     Detail 2: Revise MPG piping service location to building as indicated on PSK-01.01.
- Item No. 1.206     Reference Drawing P3-1.3 – Building F – Enlarged Plans and Schedules  
1.206.1     Add Construction Notes as indicated on PSK-01.02.  
1.206.2     Detail 3: Revise MPG piping service location to building as indicated on PSK-01.02.  
1.206.3     Detail 7: Revise utility panel locations to accommodate revised ceiling grid and lighting in Science Lab 314 as indicated on attached sketch PSK-01.09.
- Item No. 1.207     Reference Drawing P3-1.4 – Building F – Enlarged Plans  
1.207.1     See revised P3-1.4 indicating:  
                    Detail 2: Added HW piping.  
                    Detail 9: New detail for Mech 318 Enlarged Plan.
- Item No. 1.208     Reference Drawing P4-1.1 – Building G – Plumbing Floor Plans  
1.208.1     See revised P4-1.1 indicating:  
                    Detail 2: Revise MPG piping service location to building.  
                    Detail 2: Added HW Piping.
- Item No. 1.209     Reference Drawing P4-1.2 – Building G – Enlarged Plans and Schedules  
1.209.1     See revised P4-1.2 indicating:  
                    Add Construction Notes.  
                    Detail 4: Revise MPG piping service location to building.  
                    Detail 4: Add HW piping.  
                    Detail 4: Add piping sizes and SOC/SOV callouts.  
                    Detail 7: Add HW piping and revise CW piping.
- Item No. 1.210     Reference Drawing P5-1.1 – Building H – Plumbing Floor Plans  
1.210.1     See revised P5-1.1 indicating:  
                    Detail 2: Move recessed hose bibb RHB-1 in Science Classroom 504 to the left slightly so that it is out of the window and in the wall, (gridlines 6.5/A).  
                    Detail 2: Add Mech 507 room and associated waste and HW piping.  
                    Detail 2: Revise CW piping.  
                    Detail 3: Add 2" VTR.
- Item No. 1.211     Reference Drawing P5-1.2 – Building H – Enlarged Plans and Schedules  
1.211.1     See revised P5-1.2 indicating:  
                    Added Recirculating Pump Schedule and Water Heater Schedule.  
                    Detail 8: Revised water pipe size to 1-1/4".  
                    Added Details 9 & 10 for Mech 501 plumbing.  
                    Detail 7: Added 2" waste.  
                    Add Thermostatic Mixing Valve (TMV-1) and Water Heater Stand (WH-STAND) to Plumbing Fixture Schedule.  
                    Detail 6: Added water piping and TMV-1 for Emergency Shower Eye Wash.



- Item No. 1.212    Reference Sheet E0.11:  
1.212.1    Revise circuiting on panel schedule, per clouded areas of attached revised Sheet E0.11
- Item No. 1.213    Reference Sheet E0.12:  
1.213.1    Revise circuiting on panel schedule, per clouded areas of attached revised Sheet E0.12
- Item No. 1.214    Reference Sheet E0.13:  
1.214.1    Revise circuiting on panel schedule, per clouded areas of attached revised Sheet E0.13
- Item No. 1.215    Reference Sheet E0.14:  
1.215.1    Revise circuiting on panel schedule, per clouded areas of attached revised Sheet E0.14
- Item No. 1.216    Reference Sheet E0.15:  
1.216.1    Revise circuiting on panel schedule, per clouded areas of attached revised Sheet E0.15
- Item No. 1.217    Reference Sheet E0.20:  
1.217.1    Revise fixture schedule, per clouded areas of attached revised Sheet E0.20
- Item No. 1.218    Reference Sheet E0.30A:  
1.218.1    Revise Title 24 based on revisions to lighting fixtures, per clouded areas of attached revised Sheet E0.30A
- Item No. 1.219    Reference Sheet E0.30B:  
1.219.1    Revise Title 24 based on revisions to lighting fixtures, per clouded areas of attached revised Sheet E0.30B
- Item No. 1.220    Reference Sheet E0.31A:  
1.220.1    Revise Title 24 based on revisions to lighting fixtures, per clouded areas of attached revised Sheet E0.31A
- Item No. 1.221    Reference Sheet E0.31B:  
1.221.1    Revise Title 24 based on revisions to lighting fixtures, per clouded areas of attached revised Sheet E0.31B
- Item No. 1.222    Reference Sheet E0.32A:  
1.222.1    Revise Title 24 based on revisions to lighting fixtures, per clouded areas of attached revised Sheet E0.32A
- Item No. 1.223    Reference Sheet E0.32B:  
1.223.1    Revise Title 24 based on revisions to lighting fixtures, per clouded areas of attached revised Sheet E0.32B
- Item No. 1.224    Reference Sheet E0.33A:  
1.224.1    Revise Title 24 based on revisions to lighting fixtures, per clouded areas of attached revised Sheet E0.33A
- Item No. 1.225    Reference Sheet E0.33B:  
1.225.1    Revise Title 24 based on revisions to lighting fixtures, per clouded areas of attached revised Sheet E0.33B
- Item No. 1.226    Reference Sheet E0.34A:  
1.226.1    Revise Title 24 based on revisions to lighting fixtures, per clouded areas of attached revised Sheet E0.34A
- Item No. 1.227    Reference Sheet E0.34B:  
1.227.1    Revise Title 24 based on revisions to lighting fixtures, per clouded areas of attached revised Sheet E0.34B
- Item No. 1.228    Reference Sheet E1.12:



- 1.228.1 Revise plan notes, panel locations, conduit connection points & other, per clouded areas of attached revised Sheet E1.12
- Item No. 1.229 Reference Sheet E1.13:  
1.229.1 Revise light fixture locations, per clouded areas of attached revised sheet E1.13
- Item No. 1.230 Reference Sheet E1-1.1:  
1.230.1 Revise per clouded areas of attached revised sheet E1-1.1
- Item No. 1.231 Reference Sheet E1-2.1:  
1.231.1 Revise lighting layout, per clouded areas of attached revised sheet E1-2.1
- Item No. 1.232 Reference Sheet E2-1.1:  
1.232.1 Revise sheet per clouded areas of attached revised sheet E2-1.1
- Item No. 1.233 Reference Sheet E2-2.1:  
1.233.1 Revise lighting layout, per clouded areas of attached revised sheet E2-2.1
- Item No. 1.234 Reference Sheet E3-1.1:  
1.234.1 Revise sheet per clouded areas of attached revised Sheet E3-1.1
- Item No. 1.235 Reference Sheet E3-2.1:  
1.235.1 Revise lighting layout, per clouded areas of attached revised sheet E3-2.1
- Item No. 1.236 Reference Sheet E4-1.1:  
1.236.1 Revise sheet per clouded areas of attached revised sheet E4-1.1
- Item No. 1.237 Reference Sheet E4-2.1:  
1.237.1 Revise lighting layout, per clouded areas of attached revised sheet E4-2.1
- Item No. 1.238.1 Reference Sheet E5-1.1:  
1.238.1 Revise sheet per clouded areas of attached revised sheet E5-1.1
- Item No. 1.239 Reference Sheet E5-2.1:  
1.239.1 Revise lighting layout, per clouded areas of attached revised sheet E5-2.1
- Item No. 1.240 Reference Sheet EFA0.10:  
1.240.1 Revise block diagram, per clouded areas of attached revised sheet EFA0.10
- Item No. 1.241 Reference Sheet EFA0.11:  
1.241.1 Revise block diagram, per clouded areas of attached revised sheet EFA0.11
- Item No. 1.242 Reference Sheet EFA2-1.1:  
1.242.1 Revise sheet per clouded areas of attached revised sheet EFA2-1.1
- Item No. 1.243 Reference Sheet EFA3-1.1:  
1.243.1 Revise sheet per clouded areas of attached revised sheet EFA3-1.1
- Item No. 1.244 Reference Sheet EFA4-1.1:  
1.244.1 Revise sheet per clouded areas of attached revised sheet EFA4-1.1
- Item No. 1.245 Reference Sheet EFA5-1.1:  
1.245.1 Revise sheet per clouded areas of attached revised sheet EFA5-1.1



## ATTACHMENTS

Exhibits	N/A
Specifications	03 35 11, 05 51 33, 06 41 00, 08 06 71, 08 31 00, 09 30 00, 09 68 13, 32 33 00
Sketches	ASK-1.1, ASK-1.2, ASK-1.3, ASK-1.4, ASK-1.5, ASK-1.6, ASK-1.7, ASK-1.8, ASK-1.9, ASK-1.10, ASK-1.11, ASK-1.12, ASK-1.13, ASK-1.14, ASK-1.15, ASK-1.16, ASK-1.17, ASK-1.18, ASK-1.19, ASK-1.20, <del>ASK-01.01</del> (NOT USED), MSK-01.02, MSK-01.03, MSK-01.04, MSK-01.05, MSK-01.06, MSK-01.07, MSK-01.08, MSK-01.09, PSK-01.01, PSK-01.02, PSK-01.03, PSK-01.04, PSK-01.05, PSK-01.06, PSK-01.07, PSK-01.08, PSK-01.09
Sheets	C-1.1, C-2.1, C-2.2, C-2.3, C-2.4, C-2.5, C-3.1, C-3.2, C-3.5, C-3.6, C-3.7, C-3.8, C-3.9, C-4.1, C-4.2, C-4.3, C-4.4, C-4.5, C-5.1, C-5.2, L1.1A, L1.1B, L1.2A, L1.2B, L1.3A, L1.3B, L1.4A, L1.4B, L1.5A, L1.6, L1.7, L1.8, L1.11, L2.1, L2.2, L2.3, L2.4, L2.6, L3.1, L3.2, L3.3, L3.4, L3.6, D-1.0, D-1.2, D-1.3, D-1.4, AS-1.0, AS-2.1, AS-2.2, AS-2.3, AS-2.4, A1-1.1, A1-1.2, A1-2.1, A1-2.2, A1-3.1, A1-3.2, A1-4.1, A1-4.2, A1-5.1, A1-6.1, A1-7.1, A1-7.4, A1-9.1, A1-9.2, A2-1.1, A2-1.2, A2-2.1, A2-2.2, A2-3.1, A2-3.2, A2-4.1, A2-4.2, A2-5.1, A2-6.1, A2-7.1, A2-7.5, A2-8.1, A2-9.1, A3-1.1, A3-1.2, A3-2.1, A3-2.2, A3-3.1, A3-3.2, A3-4.1, A3-4.2, A3-5.1, A3-6.1, A3-7.1, A3-7.2, A3-7.3, A3-7.4, A3-8.1, A3-9.1, A4-1.1, A4-2.1, A4-3.1, A4-4.1, A4-6.1, A4-7.1, A4-9.1 A5-1.1, A5-2.1, A5-3.1, A5-4.1, A5-7.1, A5-7.2, A5-9.1, AD1.3, AD3.2, AD3.3, AD4.3, AD5.1, AD6.1, ID1.1, S1-1.1, S1-3.1, S1-4.1, S2-1.1, S2-3.1, S3-1.1, S3-3.1, S4-1.1, S4-3.1, S5-1.1, S5-3.1, SD-1.1, SD-3.1, SD-3.3, SD-3.4, M3-1.1, PS-2, P3-1.1, P3-1.4, P4-1.1, P4-1.2, P5-1.1, P5-1.2, E0.11, E0.12, E0.13, E0.14, E0.15, E0.20, E0.30A, E0.30B, E0.31A, E0.31B, E0.32A, E0.32B, E0.33A, E0.33B, E0.34A, E0.34B, E1.12, E1.13, E1-1.1, E1-2.1, E2-1.1, E2-2.1, E3-1.1, E3-2.1, E4-1.1, E4-2.1, E5-1.1, E5-2.1, EFA0.10, EFA0.11, EFA2-1.1, EFA3-1.1, EFA4-1.1, EFA5-1.1

## END OF ADDENDUM NO. 1

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Roger Clarke, Principal  
#C-21340



**SECTION 03 35 11**  
**CONCRETE FLOOR FINISHES**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Surface treatments for concrete floors and slabs.
- B. Liquid densifiers and hardeners.
- C. Concrete stains and dyes.
- D. Clear penetrating sealers.

**1.02 RELATED REQUIREMENTS**

- A. Section 03 30 00 - Cast-in-Place Concrete: Finishing of concrete surface to tolerance; floating, troweling, and similar operations; curing.
- B. Section 09 65 66 - Resilient Athletic Flooring: Fluid-applied athletic flooring.
- C. Section 09 67 00 - Fluid-Applied Flooring.

**1.03 ADMINISTRATIVE REQUIREMENTS**

- A. Coordinate the work with concrete floor placement and concrete floor curing.
- B. Pre-Concrete Placement Meeting:
  - 1. Prior to the start of concrete placement Contractor shall conduct a meeting to review the required methods and procedures to achieve the required finish. Contractor shall send a meeting agenda to all attendees 20 days prior to the scheduled date of the meeting
  - 2. The Contractor shall require responsible representatives of every party concerned with the concreting work to attend the meeting, including but not limited to the following: Contractor's superintendent, ready-mix company, testing lab, topping and coating applicator, and Construction Manager.

**1.04 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Manufacturer's published data on each finishing product, including information on compatibility of different products and limitations.
- C. Maintenance Data: Provide data on maintenance and renewal of applied finishes.
- D. Certification: Submit manufacturer's certificate that all materials supplied conform to applicable Federal regulations and to applicable State and Local air pollution emission ordinances and regulations.

**1.05 MOCK-UP**

- A. For coatings, construct mock-up area under conditions similar to those that will exist during application, with coatings applied.
- B. Mock-Up Size: 6 feet square.



1. Demonstrate typical joints, surface finish, texture, color, and standard of workmanship.
- C. Locate where directed.
- D. Acceptable mock-up may remain as part of the work.

#### **1.06 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver materials in manufacturer's sealed packaging, including application instructions.

#### **1.07 FIELD CONDITIONS**

- A. Maintain light level equivalent to a minimum 200 W light source at 8 feet above the floor surface over each 20 foot square area of floor being finished.
- B. Do not finish floors until interior heating system is operational.
- C. Maintain ambient temperature of 50 degrees F minimum.

#### **1.08 WARRANTY**

- A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.
- B. Correct defective work within a two-year period commencing on the Date of Substantial Completion.
- C. Finish Warranty: Provide five-year manufacturer warranty against excessive degradation of finish. Include provision for replacement of units with excessive fading, chalking, or flaking.

### **PART 2 PRODUCTS**

#### **2.01 REGULATORY REQUIREMENTS**

- A. All products used shall meet VOC requirements listed in Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.
- B. Requirements for Physically Disabled: Provide flooring meeting slip-resistant requirements of California Code of Regulations (CCR), Title 24, Part 2, Chapter 11B and 2010 ADA Standards, latest amendment.
  1. Flooring demonstrating a coefficient of friction of at least wet SCOF 0.6 per ASTM C1028 will be accepted as meeting the intent of slip resistance; CBC 11B-302 Floor or Ground Surfaces, 11B-403 Walking Surfaces, and ADA Standards.
    - a. Also acceptable: A dynamic coefficient of friction of at least 0.42 per DCOF AcuTest ANSI A137.1 Section 9.6 or ASTM F609.
  2. Flooring surface shall be stable, firm, and slip resistant. CBC Section 11B-302.1 General.
  3. Flooring surface demonstrating a dynamic coefficient of friction of at least 0.42 wet per DCOF AcuTest ANSI A137.1 Section 9.6 and ANSI/NFSI B101.3 (using a BOT-3000 testing unit) will be accepted as meeting the intent of slip resistance; CBC 11B-302 Floor or Ground Surfaces and ADA Standards.
    - a. Ramp surface: Provide DCOF value of 0.46 wet.

#### **2.02 CONCRETE FLOOR FINISH APPLICATIONS**

- A. Unless otherwise indicated, all concrete floors are to be finished using penetrating sealer.
- B. Liquid Densifier and Hardener:



1. Use at following locations: new concrete floors on grade.
- C. Floor Finish Topping
  1. Use at the following locations: CONC-4.
- D. Concrete Stain:
  1. Use at following locations: CONC-2, CONC-3, and CONC-5.
- E. Penetrating Clear Sealer:
  1. Use at following locations: All existing and new concrete floors on grade.
- F. High Gloss Clear Sealer:
  1. Use at following locations: All.
- G. Slip Resistant Coating: Finely-ground aggregates added to coatings.
  1. Use at following locations: Utility rooms and Bldg 8; Rooms 807, 806, 808, 810.

### **2.03 SURFACE TREATMENTS**

- A. Troweling Aid, Densifier and Curing Agent: Liquid reactive colloidal silica-based topical treatment, spray-applied to wet concrete and floated or troweled into the surface.

### **2.04 DENSIFIERS AND HARDENERS**

- A. Liquid Densifier and Hardener: Penetrating chemical compound that reacts with concrete, filling the pores and dustproofing; for application to concrete after set.
  1. Coefficient of Friction: 0.86 dry, 0.69 wet when tested in accordance with ASTM C1028.
  2. Products:
    - a. Ameripolish, Inc; 3D HS Hybrid Silicate Densifier: [www.ameripolish.com/#sle](http://www.ameripolish.com/#sle).
    - b. Curecrete Distribution. Inc.; Ashford Formula: [www.ashfordformula.com](http://www.ashfordformula.com).
    - c. Dayton Superior Corporation; Densifier J13: [www.daytonsuperior.com/#sle](http://www.daytonsuperior.com/#sle).
    - d. Euclid Chemical Company; ULTRASIL LI+: [www.euclidchemical.com/#sle](http://www.euclidchemical.com/#sle).
    - e. L&M Construction Chemicals, Inc, a subsidiary of Laticrete International, Inc; SEAL HARD: [www.lmcc.com/#sle](http://www.lmcc.com/#sle).
    - f. Nox-Crete Inc; Duro-Nox: [www.nox-crete.com/#sle](http://www.nox-crete.com/#sle).
    - g. PROSOCO, Inc; Consolideck LS/CS: [www.prosoco.com/consolideck/#sle](http://www.prosoco.com/consolideck/#sle).
    - h. SpecChem, LLC; Cure Hard: [www.specchemllc.com/#sle](http://www.specchemllc.com/#sle).
    - i. Euclid Chemical Corporation; Eucosil: [www.euclidchemical.com](http://www.euclidchemical.com).
    - j. Paul M. Wolff Co.; SHUR-HARD: [www.paulwolffco.com](http://www.paulwolffco.com).
    - k. W. R. Meadows, Inc; Liqui-Hard: [www.wrmeadows.com/#sle](http://www.wrmeadows.com/#sle).
    - l. US Mix Products Co.; US SPEC Industraseal: [www.euclidchemical.com](http://www.euclidchemical.com).
    - m. Substitutions: See Section 01 60 00 - Product Requirements.

### **2.05 COATINGS**

- A. CONC-4 Self-drying, trowelable topping for fast-track finishing or resurfacing of interior concrete.
  1. Product:



- a. Basis of Design Product: ARDEX SD-M™ Designer Floor Finish™ as manufactured by Ardex Americas, or approved equal.
- 2. Performance and Physical Properties: Meet or exceed the following values for material cured at 70° F+/-3°F (21° C+/-3°C) and 50% +/-5% relative humidity:
  - a. Application: Trowel.
  - b. Initial Set (ASTM C191): Approx. 45 minutes.
  - c. Final Set (ASTM C191): Approx. 90 minutes.
  - d. Compressive Strength (ASTM C109M): 5,000 psi (352 kg/sq.cm) at 28 days.
  - e. Flexural Strength (ASTM C348): 1,200 psi (84 kg/sq.cm) at 28 days.
  - f. Color: Gray.
- 3. Water shall be clean, potable, and sufficiently cool (not warmer than 70°F).
- 4. Sealer: Penetrating Sealer.
- B. CONC-2/3/5 Concrete Stain or Dye: Translucent, penetrating compound for interior or exterior use; must be finished with a compatible topical sealer.
  - 1. Composition: Solvent-based, non-reactive.
  - 2. Number of Coats: Minimum of two.
  - 3. VOC: 100 g/L or less.
  - 4. Application: Graphic Pattern.
    - a. Primary Color: Spray applied.
  - 5. Basis of Design Product: Dye-N-Seal Pro as manufactured by Ameripolish, Inc, or approved equal.
  - 6. Products:
    - a. BRICKFORM; BRICKFORM ARTesian Stain: [www.brickform.com/#sle](http://www.brickform.com/#sle).
    - b. Butterfield Color; Elements Transparent Concrete Stain: [www.butterfieldcolor.com](http://www.butterfieldcolor.com).
    - c. L.M. Scofield Company; LITHOCHROME Chemstain Classic Concrete Stain: [www.scofield.com/#sle](http://www.scofield.com/#sle).
    - d. L&M Construction Chemicals, Inc., a subsidiary of Laticrete International, Inc.; Vivid Dye: [www.lmcc.com](http://www.lmcc.com).
    - e. Substitutions: See Section 01 60 00 - Product Requirements.
- C. CONC-2/3/4/5 Penetrating Sealer: Transparent, nonyellowing, solvent-based coating.
  - 1. Products:
    - a. Basis of Design: Ameripolish, Inc; SR2 Concrete Sealer: [www.ameripolish.com/#sle](http://www.ameripolish.com/#sle), or equal.
    - b. Ameron International Performance Coatings, Division of PPG Marine and Protective Coatings; Product - Amercoat 335 (USDA approved for incidental food contact.) : [www.ppgpmc.com](http://www.ppgpmc.com).
    - c. Arizona Polymer Flooring; Product - Epoxy 100 : [www.apfepoxy.com](http://www.apfepoxy.com).
    - d. L&M Construction Chemicals, Inc, a subsidiary of Laticrete International, Inc; L&M Permaguard SPS: [www.lmcc.com/#sle](http://www.lmcc.com/#sle).
    - e. Rustoleum Corporation; Product - Water Based Epoxy 6010 System : [www.rustoleum.com](http://www.rustoleum.com). Also available through Vista Paint, [www.vistapaint.com](http://www.vistapaint.com).



- f. Substitutions: See Section 01 60 00 - Product Requirements.
- D. CONC-1 Plastic Aggregate: Finely ground polymer for addition to coatings for slip resistance.
  - 1. Products:
    - a. Dayton Superior Corporation: [www.daytonsuperior.com/#sle](http://www.daytonsuperior.com/#sle).
    - b. Euclid Chemical Company; EUCO GRIP: [www.euclidchemical.com/#sle](http://www.euclidchemical.com/#sle).
    - c. SpecChem, LLC; Surface Grip: [www.specchemllc.com/#sle](http://www.specchemllc.com/#sle).
    - d. W. R. Meadows, Inc; Sure-Step: [www.wrmeadows.com/#sle](http://www.wrmeadows.com/#sle).
    - e. Substitutions: See Section 01 60 00 - Product Requirements.

## **2.06 JOINT FILLER**

- A. Two component, semi-rigid, epoxy joint filler with minimum compressive strength at 72 hours of 3000 psi per ASTM D695, minimum elongation of 55% per ASTM D638, and minimum Shore A Hardness of 100 per ASTM D2240.
- B. Color(s): As selected by Architect from manufacturer's standard range.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that floor surfaces are acceptable to receive the work of this section.
  - 1. Concrete substrate shall be structurally sound.
- B. Concrete shall be minimum 28 days old.
- C. Verify that flaws in concrete have been patched and joints filled with methods and materials suitable for further finishes.

### **3.02 PREPARATION**

- A. Blow clean using unoled air or vacuum clean.
- B. Surface profile shall be CSP 2-5 per ICRI 310.2R.

### **3.03 GENERAL**

- A. Apply materials in accordance with manufacturer's instructions.

### **3.04 JOINT FILLER APPLICATION**

- A. All joint facings shall possess an open surface texture. Run a saw blade or grinder down each side of the joint to expose fresh concrete.
- B. Do not use backer rod, sand, or other fill material. Joint filler shall be full depth. A very thin sand layer is acceptable to help prevent the joint filler from flowing into the substrate.
- C. Blow joints clean using un-oiled air.
- D. Prepare joint filler per manufacturer's recommendations.
- E. Fill to 2/3 of the full depth of the joint.
- F. Allow the joint filler to settle and then within 1 hour complete the filling and slightly overfill the joint.
- G. Within 24 hours cut flush with a razor knife or grind flush.



### 3.05 TOPPING APPLICATION

- A. Examine substrates and conditions under which materials will be installed. Do not proceed with installation until unsatisfactory conditions are corrected.
- B. Coordinate installation with adjacent work to ensure proper sequence of construction. Protect adjacent areas from contact due to mixing and handling of materials.
- C. Priming
  - 1. For standard absorbent concrete: No primer is required. Note: For highly porous or absorbent surfaces prime with ARDEX P 51™ Primer diluted with 3 parts water and apply evenly in accordance with the technical data sheet.
- D. Mixing: Comply with manufacturer's printed instructions and the following.
  - 1. Mix one 10 lb. (4.5 kg) bag of ARDEX SD-M, use 2 quarts (1.9 L) of water.
  - 2. For filling pop-outs and spalls up to 2" (5 cm) in diameter and 1/2" (12 mm) deep, use 3.5 parts by volume of powder to 1 part of water.
- E. Application: Comply with manufacturer's printed instructions and the following.
  - 1. Apply a scratch coat of the mix to the substrate with the flat side of a steel trowel to obtain a solid mechanical bond. Apply sufficient pressure to fill all defects and to feather the product into the subfloor surface. The scratch coat or base coat should be applied to pre-smooth and achieve a uniformly absorbent surface.
  - 2. It is necessary to have a minimum of two coats of ARDEX SD-M™ with the total finished thickness of 20 mils (500 microns, about the thickness of a standard business card). Use the least amount possible to attain the desired smoothness. The finish coat may be applied as soon as the trowel will not damage the base coat. A third application of ARDEX SD-M™ is optional depending on the desired finish and texture. This application is used primarily to achieve a very smooth troweled finish. Total thickness should not exceed 1/16" (1.5mm).
- F. Sealing
  - 1. Dry time prior to burnish-polishing or sealer application varies by sealer type and thickness of application. Follow ARDEX recommendation for dry time prior to the installation of the sealer.

### 3.06 COATING APPLICATION

- A. Verify that surface is free of previous coatings, sealers, curing compounds, water repellents, laitance, efflorescence, fats, oils, grease, wax, soluble salts, residues from cleaning agents, and other impediments to adhesion.
- B. Verify that water vapor emission from concrete and relative humidity in concrete are within limits established by coating manufacturer.
- C. Protect adjacent non-coated areas from drips, overflow, and overspray; immediately remove excess material.
- D. Apply coatings in accordance with manufacturer's instructions, matching approved mock-ups for color, special effects, sealing and workmanship.
- E. Broadcast system:
  - 1. Apply first layer of coating with non-slip aggregate as recommended by manufacturer.



2. Apply topcoat as recommended by manufacturer.

### **3.07 SURFACE DENSIFIER/SEALER APPLICATION**

- A. New Concrete: Apply cure-seal-hardener to new concrete as soon as the concrete is firm enough to work on after troweling; with colored concrete, wait a minimum of 30 days before application.
  1. Spray on at rate of 200 sq.ft./gal.
  2. Keep surface wet with cure-seal-hardener for a minimum soak-in period of 30 minutes without allowing it to dry out or become slippery.
    - a. In hot weather, slipperiness may appear before the 30 minute time period has elapsed.
    - b. If that occurs, apply additional cure-seal-hardener as needed to keep the entire surface in a non-slippery state for the first 15 minutes.
    - c. For the remaining 15 minutes, mist the surface as needed with water to keep the material in a non-slippery state.
    - d. In hot weather conditions, follow manufacturer's special application procedures.
  3. When the treated surface becomes slippery after this period, lightly mist with water until slipperiness disappears.
  4. Wait for surface to become slippery again, and then flush entire surface with water to remove all cure-seal-hardener residue.
  5. Squeegee surface completely dry, flushing any remaining slippery areas until no residue remains.
  6. Wet vacuum or scrubbing machines can be used in accordance with manufacturer's instructions to remove residue.
- B. Existing Concrete: Apply cure-seal-hardener only to clean bare concrete.
  1. Thoroughly remove previous treatments, laitance, oil and other contaminants.
  2. Saturate surface with cure-seal-hardener; re-spray or broom excess onto dry spots.
  3. Keep surface wet with cure-seal-hardener for a minimum soak-in period of 30 - 40 minutes.
  4. If most of the material has been absorbed after the 30 minute soak-in period, remove all excess material, especially from low spots, using broom or squeegee.
  5. If most of the material remains on the surface after the 30 minute soak-in period, wait until the surface becomes slippery and then flush with water, removing all cure-seal-hardener residue. Squeegee completely dry, flushing any remaining slippery areas until no residue remains.
  6. If water is not available, remove residue using squeegee.

### **3.08 CONCRETE POLISHING**

- A. Execute using materials, equipment, and procedures specified by manufacturer, using manufacturer approved installer.



1. Final Polished Sheen: Satin finish; other sheens are included as comparison to illustrate required sheen; final sheen is before addition of any sealer or coating, regardless of whether that is also specified or not.
  2. Satin Finish: Reflecting images from side lighting.
- B. Protect finished surface as required and as recommended by manufacturer of polishing system.

### **3.09 PROTECTION**

- A. Prevent trades from walking and driving through uncured Joint Filler.

**END OF SECTION**



## **SECTION 05 51 33**

### **METAL LADDERS**

#### **PART 1 GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Prefabricated ladders.

##### **1.02 REFERENCE STANDARDS**

- A. 29 CFR 1910.27 - Scaffolds and Rope Descent Systems; Current Edition.
- B. ANSI A14.3 - American National Standard for Ladders -- Fixed -- Safety Requirements; 2008.
- C. ASTM B211/B211M - Standard Specification for Aluminum and Aluminum-Alloy Rolled or Cold Finished Bar, Rod, and Wire; 2019.
- D. AWS A2.4 - Standard Symbols for Welding, Brazing, and Nondestructive Examination; 2012.
- E. IAS AC172 - Accreditation Criteria for Fabricator Inspection Programs for Structural Steel; International Accreditation Service, Inc; 2017.

##### **1.03 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's data sheets on each ladder safety system product to be used, including installation instructions.
- C. Shop Drawings:
  - 1. Indicate profiles, sizes, connection attachments, reinforcing, anchorage, size and type of fasteners, and accessories. Include erection drawings, elevations, and details where applicable.
  - 2. Indicate welded connections using standard AWS A2.4 welding symbols. Indicate net weld lengths.
- D. Certificate: Provide documentation that ladder safety system products of this section meet or exceed cited ANSI A14.3 requirements.
- E. Welders' Certificates: Submit certification for welders employed on the project, verifying AWS qualification within the previous 12 months.
- F. Fabricator's Qualification Statement: Provide documentation showing steel fabricator is accredited under IAS AC172.

##### **1.04 QUALITY ASSURANCE**

- A. Fabricator Qualifications: A qualified steel fabricator that is accredited by IAS AC172.

#### **PART 2 PRODUCTS**

##### **2.01 MATERIALS - STEEL**

- A. Mechanical Fasteners: Same material or compatible with materials being fastened; type consistent with design and specified quality level.



## **2.02 FABRICATION**

- A. Fit and shop assemble items in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- D. Exposed Mechanical Fastenings: Flush countersunk screws or bolts; unobtrusively located; consistent with design of component, except where specifically noted otherwise.
- E. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

## **2.03 PREFABRICATED LADDERS**

- A. Provide roof access ladder and cage where required, as indicated on Drawings, fabricated of bar/rail sides and brackets, mounted to building wall, configured and dimensioned in conformance to OSHA Regulation 29 CFR 1910.27.
  - 1. Unless otherwise shown or required by governing authorities, fabricate ladder in accordance with NAAMM standards and recommended details.
- B. Prefabricated Folding Ladder: Welded metal unit complying with ANSI A14.3; factory fabricated to greatest degree practical and in the largest components possible.
  - 1. Components: Manufacturer's standard rails, rungs, treads, handrails, returns, platforms, and safety devices complying with the requirements of the MATERIALS article of this section.
  - 2. Materials: Aluminum; ASTM B211/B211M, 6063 alloy, T52 temper.
  - 3. Operation: Manual.
  - 4. Maximum Height: 120 inches
  - 5. Finish: Mill finish aluminum.
  - 6. Ladder Width: 23-1/2 inches.
  - 7. Unit Weight: 88 lbs.
  - 8. Load Limit: 330 lbs.
  - 9. Manufacturers:
    - a. Precision Ladders, LLC; Super Simplex: [www.precisionladders.com/#sle](http://www.precisionladders.com/#sle).
    - b. Fixfast USA;; RL62 Vista Commercial Fold Down Ladder [www.fixfastusa.com](http://www.fixfastusa.com)

## **2.04 FABRICATION TOLERANCES**

- A. Squareness: 1/8 inch maximum difference in diagonal measurements.
- B. Maximum Offset Between Faces: 1/16 inch.
- C. Maximum Misalignment of Adjacent Members: 1/16 inch.
- D. Maximum Bow: 1/8 inch in 48 inches.
- E. Maximum Deviation From Plane: 1/16 inch in 48 inches.



## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that field conditions are acceptable and are ready to receive work.

### **3.02 INSTALLATION**

- A. Install items plumb and level, accurately fitted, free from distortion or defects.
- B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.
- C. Obtain approval prior to site cutting or making adjustments not scheduled.

### **3.03 TOLERANCES**

- A. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.
- B. Maximum Offset From True Alignment: 1/4 inch.
- C. Maximum Out-of-Position: 1/4 inch.

**END OF SECTION**







**SECTION 06 41 00**  
**ARCHITECTURAL WOOD CASEWORK**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Specially fabricated cabinet units.
- B. Countertops.
- C. Hardware.
- D. Factory finishing.
- E. Preparation for installing utilities.

**1.02 RELATED REQUIREMENTS**

- A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.
- B. Section 06 10 00 - Rough Carpentry: Support framing, grounds, and concealed blocking.
- C. Section 06 20 00 - Finish Carpentry: Wood trim unrelated to casework.
- D. Section 09 21 16 - Gypsum Board Assemblies: Support framing, grounds, and concealed blocking.
- E. Section 10 11 00 - Visual Display Boards: Sliding markerboards integrated with casework.

**1.03 REFERENCE STANDARDS**

- A. AWMAC/WI (NAAWS) - North American Architectural Woodwork Standards, U.S. Version 3.0; 2016.
  - 1. Certified Seismic Casework Installation, OPM-0092-13.
- B. BHMA A156.9 - American National Standard for Cabinet Hardware; 2015.
- C. NEMA LD 3 - High-Pressure Decorative Laminates; 2005.
- D. UL (DIR) - Online Certifications Directory; current listings at [database.ul.com](http://database.ul.com).
- E. WI (MCP) - Monitored Compliance Program (MCP); current edition at [www.woodworkinstitute.com](http://www.woodworkinstitute.com).

**1.04 ADMINISTRATIVE REQUIREMENTS**

- A. Preinstallation Meeting: Convene a preinstallation meeting not less than one week before starting work of this section; require attendance by all affected installers.

**1.05 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.
  - 1. Scale of Drawings: 1-1/2 inch to 1 foot, minimum.
  - 2. Provide the information required by AWMAC/WI (NAAWS).
  - 3. Include certification program label.



- a. Affix a Woodwork Institute Certified Compliance Label WI (CCP) on the first page of the shop drawings.
- C. Product Data: Provide data for hardware accessories.
- D. Samples: Submit actual samples of architectural cabinet construction, minimum 12 inches square, illustrating proposed cabinet, countertop, and shelf unit substrate and finish.
- E. Samples: Submit actual sample items of proposed pulls, hinges, shelf standards, and locksets, demonstrating hardware design, quality, and finish.
- F. Certificate: Submit labels and certificates required by quality assurance and quality control programs.
- G. Maintenance Materials: Furnish the following for District's use in maintenance of project:
  - 1. See Section 01 60 00 - Product Requirements, for additional provisions.
  - 2. Spare Parts: One of each kind of lock.
  - 3. Extra Stock Materials: six keys of each kind of lock.

## 1.06 QUALITY ASSURANCE

- A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum five years of documented experience.
  - 1. Company with at least one project in the past 5 years with value of woodwork within 20 percent of cost of woodwork for this Project.
  - 2. Accredited participant in the specified certification program prior to the commencement of fabrication and throughout the duration of the project.
  - 3. A Licensee of the Woodwork Institute's Certified Compliance Program.
- B. Quality Certification:
  - 1. Comply with WI (MCP) woodwork association quality certification service/program in accordance with requirements for work specified in this section:  
<https://woodworkinstitute.com/#sle>.
  - 2. Provide labels or certificates indicating that the installed work complies with AWMAC/WI (NAAWS) requirements for grade or grades specified.
  - 3. Certified Seismic Casework Installation:
    - a. All wood or metal frame wall construction shall be constructed with continuous in wall blocking of either 3x6 flat Douglas Fir, 16 ga. x 6 inch wide, or as indicated on the AHJ approved structural drawings, 50 KSI sheet metal provided in accordance with the location requirements included on the cabinet fabricator/installer's shop drawings. Responsibility for blocking installation shall be that of the wall fabricator.
    - b. All casework installation shall be certified by the Woodwork Institute in accordance with their Certified Seismic Installation Program (CSIP) and their DSA Pre-approvals, including:
      - 1) A CSIP Certificate indicating that all of the casework installation fully meets the requirements of the AWS, CSIP and WI's OSHPD Pre-approvals.
    - c. It is the responsibility of the installer to include within their bid, any and all costs for WI's CSIP certification. Certification is a prerequisite for final acceptance. For further information, please visit [www.woodworkinstitute.com](http://www.woodworkinstitute.com)



4. Provide designated labels on shop drawings as required by certification program.
5. Provide designated labels on installed products as required by certification program.
  - a. Before delivery to the jobsite the woodwork supplier shall provide a Woodwork Institute Certified Compliance Certificate indicating the millwork products being supplied and Certifying that these products fully meet the requirements of the Grade or Grades specified.
  - b. Each elevation of casework, each laminated plastic top, and each solid surface top shall bear a Woodwork Institute Certified Compliance Label.
6. Submit certifications upon completion of installation that verifies this work is in compliance with specified requirements.
  - a. At completion of installation the woodwork installer shall provide a Woodwork Institute Certified Compliance Certificate indicating the products installed, and Certifying that the installation of these products fully meets the requirements of the Grade or Grades specified.
7. All fees charged by the Woodwork Institute for their Certified Compliance program are the responsibility of the millwork manufacturer and/or installer and shall be included in the bid.
8. Replace, repair, or rework all work for which certification is refused.

#### **1.07 MOCK-UP**

- A. Provide mock-up of typical base cabinet, wall cabinet, and countertop, including hardware, finishes, and plumbing accessories.
- B. See Section 01 40 00 - Quality Requirements for additional requirements.
- C. Locate where directed.
- D. Mock-up may remain as part of the Work, if approved.

#### **1.08 DELIVERY, STORAGE, AND HANDLING**

- A. Protect units from moisture damage.

#### **1.09 FIELD CONDITIONS**

- A. During and after installation of custom cabinets, maintain temperature and humidity conditions in building spaces at same levels planned for occupancy.

### **PART 2 PRODUCTS**

#### **2.01 REGULATORY REQUIREMENTS:**

- A. Wall hung cabinets and floor supported cabinets over 5 feet high shall be braced and anchored in accordance with the California Building Code (CBC) Title 24 Part 2, Table 1607A.1.
  1. Comply with OHSPD Pre-Approval OPM-0092-13.
- B. Requirements for Physically Disabled: Provide products meeting requirements of California Code of Regulations (CCR), Title 24, Part 2, Chapter 11B and ADA Accessibility Guidelines for Buildings and Facilities, latest amendment.



1. Operable parts for all accessible casework shall comply with CBC Section 11B-309 Operable Parts.
2. Pull hardware shall be U-shaped wire pulls or equally accessible at all accessible casework; CBC 11B-811.4 Operable Parts.

## 2.02 CABINETS

- A. Quality Standard: Custom Grade, in accordance with AWMAC/WI (NAAWS), unless noted otherwise.
  1. Storage, Janitor Closet, and/or Utility Room cabinets shall be built in conformance to Custom Grade.
- B. Plastic Laminate Faced Cabinets: Custom grade.
- C. Cabinets:
  1. Finish - Exposed Exterior Surfaces: Decorative laminate.
  2. Finish - Exposed Interior Surfaces: Decorative laminate.
  3. Finish - Semi-Exposed Surfaces: Solid phenolic
  4. Finish - Concealed Surfaces: Manufacturer's option. All surfaces to be sealed against checking.
  5. Finish - Semi-Exposed Surfaces: Cabinet interiors (other than exposed interior surfaces of open or glass front cabinets) including faces of shelving therein, and interior door faces: Finish with cabinet liner as specified herein, color as selected by the Architect.
  6. Shelf, Door, Drawer Front and False Front Edge Profiles: Square edge with thick applied band.
    - a. Provide with subfronts and applied finish fronts securely fastened, with square corners, edges finished with 3 mm purified PVC.
    - b. Doors, Drawer Fronts, and False Fronts: 3mm purified PVC edge band, color and pattern to match exposed laminate, hot-melt applied.
    - c. All other exposed and semi exposed edges: 1mm PVC edge band, color and pattern to match exposed laminate.
  7. Door and Drawer Front Retention Profiles: Fixed panel.
  8. Casework Construction Type: Type A - Frameless.
  9. Interface Style for Cabinet and Door: Style 1 - Overlay; flush overlay.
    - a. Hinged to swing flat against the face of adjoining cabinet or the side of cabinet
    - b. Do not notch door or cabinet ends, or divisions to receive hinge.
  10. Layout for Cabinet and Door Fronts: Flush panel.
    - a. Custom Grade: Doors, drawer fronts and false fronts wood grain to run and match vertically within each cabinet unit.
  11. Cabinet Design Series: As indicated on drawings.
    - a. Base Cabinets without drawers: 100 series.
    - b. Base Cabinets with drawers: 200 series.
    - c. Wall hung Cabinets: 300 series.
    - d. Tall Storage Cabinets: 400 series.



- e. Wardrobe Cabinets: 500 series.
- f. Library Cabinets: 600 series.
- 12. Adjustable Shelf Loading: 50 lbs. per sq. ft.
  - a. Deflection: L/144.
  - b. In-line bored holes with locking adjustable shelf clips.
- 13. Cabinet Style: Flush overlay.
- 14. Cabinet Doors and Drawer Fronts: Flush style.
- 15. Drawer Side Construction: Multiple-dovetailed.
- 16. Drawer Construction Technique: As recommended by fabricator.
- 17. Toe Kick Base: Resilient base at toe kick provided under Section 09 65 00 - Resilient Flooring.

### 2.03 WOOD-BASED COMPONENTS

- A. Lumber shall be sound, kiln dried softwood and/or hardwood meeting the requirements of the **AWSNAAWS** Grade specified for its intended purpose.
- B. Panels shall contain no added urea-formaldehyde resins and shall be in accordance with the **AWSNAAWS** requirements for the grade specified.
  - 1. Veneer: HPVA grade to meet the **AWSNAAWS** requirements for type of surface and grade.
  - 2. Core: Comply with **AWSNAAWS**.
    - a. Basis of Design Material: Combination Core, PureBond Classic Core, [www.columbiaforestproducts.com](http://www.columbiaforestproducts.com), or approved equal.

### 2.04 LAMINATE MATERIALS

- A. Manufacturers:
  - 1. Abet - Laminati: [www.abetlaminati.com](http://www.abetlaminati.com)
  - 2. Formica Corporation: [www.formica.com/#sle](http://www.formica.com/#sle).
  - 3. Lamin-Art: [www.laminart.com](http://www.laminart.com).
  - 4. Panolam Industries International, Inc; Nevamar: [www.nevamar.com](http://www.nevamar.com).
  - 5. Wilsonart LLC: [www.wilsonart.com/#sle](http://www.wilsonart.com/#sle).
  - 6. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Thermally Fused Laminate (TFL): Melamine resin, NEMA LD 3, Type VGL laminate panels.
  - 1. Manufacturers:
    - a. Wilsonart LLC: [www.wilsonart.com/#sle](http://www.wilsonart.com/#sle).
    - b. Substitutions: See Section 01 60 00 - Product Requirements.
- C. High Pressure Decorative Laminate (HPDL): NEMA LD 3, types as recommended for specific applications.
- D. Provide specific types as indicated.
  - 1. Horizontal Surfaces: HGS, 0.048 inch nominal thickness, color as selected, finish as scheduled.



2. Vertical Surfaces: VGS, 0.028 inch nominal thickness, color as selected, finish as scheduled.
3. Post-Formed Horizontal Surfaces: HGP, 0.039 inch nominal thickness, color as selected, finish as indicated.
4. Post-Formed Vertical Surfaces: VGP, 0.028 inch nominal thickness, color as selected, finish as indicated.
5. Cabinet Liner: CLS, 0.020 inch nominal thickness, color as selected, finish as scheduled.
  - a. Low Pressure Decorative Laminate: color as selected by Architect from the manufacturers full range, melamine surfacing.
6. Laminate Backer: BKL, 0.020 inch nominal thickness, undecorated; for application to concealed backside of panels faced with high pressure decorative laminate.

**E. For more information on laminate materials, see Architect's Colors, Materials, & Finishes legend on sheet ID1.1.**

## **2.05 COUNTERTOPS**

- A. Plastic Laminate Countertops: Medium density fiberboard substrate covered with HPDL, ~~post-formed, with bullnose edge~~ as indicated on Drawings.
  1. **Exposed Edge Treatment: Molded PVC edge with T-spline, sized to completely cover edge of panel.**
    - a. **Color: As selected by Architect from the manufacturer's full line.**
  2. **Exposed Edge Treatment: Walnut nosing as indicated on drawings, natural spar varnish finish; back and end splashes with square top covered with matching laminate.**

## **2.06 ACCESSORIES**

- A. Adhesive: Type recommended by fabricator to suit application.
  1. Urea Formaldehyde adhesives shall not be used.
  2. Contact cement shall have a VOC content of less than 80 g/l.
  3. Construction adhesive shall have a VOC content compliant with Section 01 61 16.
- B. Fasteners: Size and type to suit application.
- C. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; galvanized or chrome-plated finish in concealed locations and stainless steel or chrome-plated finish in exposed locations.
- D. Concealed Joint Fasteners: Threaded steel.
- E. Grommets: Standard plastic, painted metal, or stainless steel / chrome plated grommets for cut-outs, in color to match adjacent surface.
  1. Basis of Design Product: TG Flip-Top® Series as manufactured by Doug Mockett & Company, Inc., or approved equal.
    - a. Application: desk, countertop, or worksurface grommets.
    - b. Hole Diameter: 3 inches.
    - c. Type: Flip Top.
    - d. Color as selected by Architect.
    - e. **Location as directed by Architect or District. Final location and color to be indicated on shop drawing submittal. Allow for minimum of one and maximum of three per workstation.**



## 2.07 HARDWARE

- A. Hardware: BHMA A156.9, types as recommended by fabricator for quality grade specified.
- B. Adjustable Shelf Supports: Standard side-mounted system using multiple holes for pin supports and coordinated self rests, satin chrome or nickel finish, for nominal 1 inch spacing adjustments.
  - 1. Locking 3/4-inch plastic shelf supports for 5mm hole diameter.: Knapé & Vogt Manufacturing Company; Product No. 339: [www.knapandvogt.com](http://www.knapandvogt.com).
  - 2. Substitutions: See Section 01 60 00 - Product Requirements.
- C. Fixed Specialty Shelf Supports:
  - 1. Material: Steel.
  - 2. Manufacturer's standard, factory-applied, textured powder coat.
  - 3. Color: White.
- D. Fixed Specialty Workstation and Countertop Brackets:
  - 1. Material: Steel.
  - 2. Finish: Manufacturer's standard, factory-applied powder coat.
  - 3. Color: Selected by Architect from manufacturer's standard range.
- E. Fixed Americans with Disabilities Act (ADA)-Compliant Vanity and Countertop Brackets:
  - 1. Material: Steel.
  - 2. Finish: Manufacturer's standard, factory-applied powder coat.
  - 3. Color: Selected by Architect from manufacturer's standard range.
- F. Drawer and Door Pulls: "U" shaped wire pull, steel with satin finish, 4 inch centers.
  - 1. Comply with CBC 11B-811.4.
  - 2. Amerock: BP76312-G10, 4 inch Pull, Allison Value Hardware
  - 3. Rockler: Satin Nickel 4 inch Wire Pull.
  - 4. Top Knob: M338 - Wire Pull 4 inch - Brushed Satin Nickel - Somerset Collection
  - 5. Substitutions: See Section 01 60 00 - Product Requirements.
- G. Sliding Markerboard: See Section 10 11 01 - Visual Display Boards.
- H. Sliding Markerboard Pulls: Elongated shape for recessed installation, aluminum with satin finish.
  - 1. Comply with CBC 11B-811.4.
  - 2. Knapé & Vogt; Product No. 813, Steel Knob Pull: [www.knapandvogt.com](http://www.knapandvogt.com).
  - 3. Substitutions: See Section 01 60 00 - Product Requirements.
- I. Cabinet Locks: Keyed cylinder, two keys per lock, master keyed, steel with chrome finish.
  - 1. Provide locks on all cabinet doors and drawers in classrooms, except accessible sink bases, and as follows:
    - a. A.V. Cabinets.
    - b. Tall Storage Cabinets.
    - c. Display Cabinets.



- d. Teacher's Wardrobe.
  - e. Teacher's Work Area.
  - f. Teacher's "Personal" Drawers.
  - g. Filing Cabinets.
  - h. Workrooms to have locks on all doors and drawers.
  - i. Nurse's office to have locks on all doors and drawers.
- 2. Locks for doors and drawers shall be keyed alike for each room and master keyed.
  - 3. Metal Strike Plates: Provide cabinet door and drawer locks with metal strike plates to protect against particle board rip out.
  - 4. Door and drawer locks shall be of pin tumbler design and include working cylinder slides and forwardly removable cylinder to re-key without totally disassembling lock body and passed by ANSI Grade 1 testing.
  - 5. Locks shall be easily rekeyable pin tumbler with working top slide and retainer staple.
  - 6. Cabinet Locks:
    - a. Olympus Lock; Product 500DR: [www.olympus-lock.com](http://www.olympus-lock.com).
    - b. Corbin Cabinet Lock; Product 0737 Drawer Lock: [www.cclsecurity.com](http://www.cclsecurity.com).
    - c. Substitutions: See Section 01 60 00 - Product Requirements.
  - 7. Drawer Locks:
    - a. Olympus Lock; Product 600DW: [www.olympus-lock.com](http://www.olympus-lock.com).
    - b. Corbin Cabinet Lock; Product 0738 Drawer Lock: [www.cclsecurity.com](http://www.cclsecurity.com).
    - c. Substitutions: See Section 01 60 00 - Product Requirements.
- J. Catches: Magnetic.
- 1. Catches for Doors Without Locks: Magnetic with aluminum case.
    - a. Amerock; Product No. 145: [www.amerock.com](http://www.amerock.com).
    - b. The Engineered Products Co.; Product EP591: [www.epcohardwaresecurity.com](http://www.epcohardwaresecurity.com).
    - c. Stanley Architectural Hardware; Product CD46.
    - d. Substitutions: See Section 01 60 00 - Product Requirements.
  - 2. Catches for Inactive Leaf of Pairs of Doors With Locks: Elbow catch.
    - a. Amerock; Product E.Z. Flex No. 3675-2G: [www.amerock.com](http://www.amerock.com).
    - b. The Engineered Products Co.; Product No. 1016: [www.epcohardwaresecurity.com](http://www.epcohardwaresecurity.com).
    - c. Ives; Product 2-A92: [www.iveshinges.com](http://www.iveshinges.com).
    - d. Substitutions: See Section 01 60 00 - Product Requirements.
- K. Drawer Slides:
- 1. Type: Full extension with no deflection.
  - 2. Static Load Capacity: As required by drawer size.
    - a. For drawers up to 18 inches wide and less than 4 inches in depth, provide slides with 100 pound capacity.
    - b. For drawers over 18 inches in width and over 4 inches in depth, provide slides with 150 pound capacity.
      - 1) Drawer slide capacity with paper storage: 200 pounds.



3. Mounting: Side mounted.
  4. Stops: Positive type.
    - a. Provide mechanical stops designed to prevent accidental removal of the drawer.
  5. Features: Provide self closing/stay closed type with rolling balls, steel rollers and self-lubricating bearings.
  6. Manufacturers:
    - a. Accuride International, Inc: [www accuride.com/#sle](http://www accuride.com/#sle).
    - b. Grant Hardware Company, Division of Hettich International: [www.hettichamerica.com](http://www.hettichamerica.com).
    - c. Hettich America, LP: [www.hettich.com/#sle](http://www.hettich.com/#sle).
    - d. Knappe & Vogt Manufacturing Company: [www.knappeandvogt.com/#sle](http://www.knappeandvogt.com/#sle).
    - e. Substitutions: See Section 01 60 00 - Product Requirements.
- L. File Drawer Slides and accessories:
1. Type: Full extension.
  2. Static Load Capacity: Extra Heavy Duty grade.
    - a. Provide 150 pound capacity.
    - b. Lateral file drawers more than 24 inches wide: 200 pound capacity
  3. Mounting: Side mounted.
  4. Stops: Positive type. 3-section slide, 1/2 inch slide space.
  5. File Drawer Track and Follower: K&V 476T ZC and K&V 476F ZC or equal.
  6. Features: Provide self closing/stay closed type with rolling balls, steel rollers and self-lubricating bearings.
  7. Manufacturers:
    - a. Accuride International, Inc: [www accuride.com](http://www accuride.com).
    - b. Grant Hardware Company Division of Hettich International: [www.hettichamerica.com](http://www.hettichamerica.com).
    - c. Grass America Inc: [www.grassusa.com](http://www.grassusa.com).
    - d. Knappe & Vogt Manufacturing Company: [www.knappeandvogt.com](http://www.knappeandvogt.com).
    - e. Substitutions: See Section 01 60 00 - Product Requirements.
- M. Hinges: Semiconcealed type, BHMA No. B01521-3, steel with satin finish.
1. Provide two hinges for doors up to 48 inches in height. Provide minimum three hinges for doors over 48 inches in height. Comply with WI certification requirements.
  2. Wrap around style offset for overlay doors with non-removable pin.
  3. Five- knuckle hinge.
  4. ANSI/BHMA A156.9 level: Grade 1.
  5. Manufacturers:
    - a. Grass America Inc; Institutional Hinges: [www.grassusa.com/#sle](http://www.grassusa.com/#sle).
    - b. Hafele America Co.; : [www.hafele.com](http://www.hafele.com).
    - c. Hardware Resources: [www.hardwareresources.com](http://www.hardwareresources.com).
    - d. Hettich America, LP: [www.hettich.com/#sle](http://www.hettich.com/#sle).



- e. Blum, Inc: [www.blum.com](http://www.blum.com).
  - f. Stanley Hardware Div.; Product No. 1592: [www.stanleycommercialhardware.com](http://www.stanleycommercialhardware.com).
  - g. Substitutions: See Section 01 60 00 - Product Requirements.
- N. Soft Close Adapter: Concealed, frame-mounted, screw-adjustable damper ; steel with polished finish.
- O. Sliding Door Track Assemblies: Upper and lower track of satin anodized aluminum, with matching shoe equipped with nylon rollers.
  - 1. Knappe & Vogt Manufacturing Company; Product Sliding track system 467 Single Track and 594 NYLON, Round Groove Wheel: [www.knappeandvogt.com](http://www.knappeandvogt.com).
  - 2. Manufacturers:
    - a. Substitutions: See Section 01 60 00 - Product Requirements.
- P. Dual Sliding Door/Markerboard Track and Carriers for Solid Doors: Overhead type for 3/4-inch thick doors.
  - 1. Grant Hardware Company, Division of Hettich International; Product No. 6065 Option I, with No. 6005 fascia: [www.hettichamerica.com](http://www.hettichamerica.com).
  - 2. Bottom track supported type: Knappe & Vogt Manufacturing Company; Product 469 Double Track, 594 NYLON Round Groove Wheel and 953 Upper T Guide for Ball Bearing Track: [www.knappeandvogt.com](http://www.knappeandvogt.com).
  - 3. Substitutions: See Section 01 60 00 - Product Requirements.
- Q. Closet Utility Hook: 5-1/2 inch long steel with Anachrome finish for mounting on back side of wardrobe door cabinets.
  - 1. Knappe & Vogt Manufacturing Company; Product No. PKV3 ANO 5-1/2 Utility Hook: [www.knappeandvogt.com](http://www.knappeandvogt.com).
  - 2. Substitutions: See Section 01 60 00 - Product Requirements.
- R. Label Holder: Anochrome finish.
  - 1. Knappe & Vogt Manufacturing Company; Product No. 701 Drawer Label Holder; 2-5/8 x 1-7/16 inch for 2 x 1 inch Cards: [www.knappeandvogt.com](http://www.knappeandvogt.com).
  - 2. Knappe & Vogt Manufacturing Company; Product No. 704 Drawer Label Holder; 3-1/2 x 1-3/4 inch for card 2-15/16 x 1-1/2 inch: [www.knappeandvogt.com](http://www.knappeandvogt.com).
  - 3. Substitutions: See Section 01 60 00 - Product Requirements.

## **2.08 SHOP TREATMENT OF WOOD MATERIALS**

- A. Provide UL (DIR) listed and approved identification on fire retardant treated material.
- B. Deliver fire retardant treated materials cut to required sizes. Minimize field cutting.

## **2.09 FABRICATION**

- A. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.
- B. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.



- C. Fitting: When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide matching trim for scribing and site cutting.
- D. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises. Locate counter butt joints minimum 2 feet from sink cut-outs.
  - 1. Apply laminate backing sheet to reverse side of plastic laminate finished surfaces.
  - 2. Cap exposed plastic laminate finish edges with material of same finish and pattern.
- E. Mechanically fasten back splash to countertops with steel brackets at 16 inches on center.
- F. Provide cutouts for plumbing fixtures. Verify locations of cutouts from on-site dimensions. Seal cut edges.

## **2.10 SHOP FINISHING**

- A. Sand work smooth and set exposed nails and screws.
- B. For opaque finishes, apply wood filler in exposed nail and screw indentations and sand smooth.
- C. On items to receive transparent finishes, use wood filler matching or blending with surrounding surfaces and of types recommended for applied finishes.
- D. Finish work in accordance with AWMAC/WI (NAAWS), Section 5 - Finishing for grade specified and as follows:
  - 1. Transparent:
    - a. System - 12, Polyurethane, Water-based.
    - b. Stain: As selected by Architect.
    - c. Sheen: Satin.
  - 2. Opaque:
    - a. System - 4, Latex Acrylic, Water-based.
    - b. Color: As selected by Architect.
    - c. Sheen: Semigloss.
- E. Site applied stains and finishes shall comply with the requirements of Section 01 61 16
  - 1. All such products shall meet the VOC content requirements in the applicable category of South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings (current version).

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify adequacy of backing and support framing.
- B. Verify location and sizes of utility rough-in associated with work of this section.

### **3.02 INSTALLATION**

- A. Install work in accordance with AWMAC/WI (NAAWS) requirements for grade indicated.
  - 1. Provide a WI Certified Compliance Certificate for installation as specified herein.



2. Install in accordance and comply with WI Certified Seismic Installation Program (CSIP).
- B. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.
  1. Install plumb, level, true and straight with no distortions. Shim as required using concealed shims. Scribe and cut for accurate fit.
  2. Base Cabinets: Set cabinets straight, plumb, and level. Adjust sub-tops within 1/16 inch of a single plane. Fasten each individual cabinet to floor at toe space, with fasteners spaced 12 inches on center. Bolt continuous cabinets together. Secure individual cabinets with not less than 2 fasteners into floor, where they do not adjoin other cabinets.
    - a. Where required, assemble units into one integral unit with joints flush, tight, and uniform. Align similar adjoining doors and drawers to a tolerance of 1/16 inch.
  3. Wall Cabinets: Securely fasten woodwork per Division of the State Architect Standards (as adopted by WI) to solid supporting wall framing material, not plaster, lath, or gypsum board. Anchor, adjust, and align wall cabinets as specified for base cabinets.
    - a. Reinforcement of stud walls to support wall-mounted cabinets specified in appropriate section, but responsibility for accurate location and sizing of reinforcement shall be coordinated with applicable trade.
- C. Use fixture attachments in concealed locations for wall mounted components.
  1. Secure to ground, stripping, blocking with countersunk, concealed fasteners.
- D. Use concealed joint fasteners to align and secure adjoining cabinet units.
  1. Install without distortion so that doors and drawers fit openings and are accurately aligned.
- E. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim for this purpose.
- F. Secure cabinets to floor using appropriate angles and anchorages.
- G. Countersink anchorage devices at exposed locations. Conceal with solid wood plugs of species to match surrounding wood; finish flush with surrounding surfaces.
- H. Install finish hardware after all finish work has been completed. Inspect drilling operations for surface splinters or delaminations. Pieces bearing such imperfections will be rejected.

### **3.03 ADJUSTING**

- A. Test installed work for rigidity and ability to support loads.
- B. Adjust moving or operating parts to function smoothly and correctly.
  1. Adjust casework and hardware so that doors and drawers operate smoothly without warp or bind. Lubricate operating hardware as recommended by manufacturer.

### **3.04 CLEANING**

- A. Take necessary action to keep this work clean and free of dirt, trash, obstruction and equipment, except that necessary for the proper completion of this work. Remove materials not used.
- B. Clean casework, counters, shelves, hardware, fittings, and fixtures.

### **END OF SECTION**



**SECTION 08 06 71**  
**DOOR HARDWARE SCHEDULE**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Preliminary schedule of door hardware sets for swinging, sliding, and other door types as indicated on drawings.

**1.02 RELATED REQUIREMENTS**

- A. Section 08 71 00 - Door Hardware: Requirements to comply with in coordination with this section.

**1.03 REFERENCE STANDARDS**

- A. BHMA (CPD) - Certified Products Directory; 2016.
- B. BHMA A156.3 - American National Standard for Exit Devices; 2014.
- C. BHMA A156.5 - American National Standard for Cylinders and Input Devices for Locks; 2014.
- D. BHMA A156.13 - American National Standard for Mortise Locks & Latches Series 1000; 2012.
- E. BHMA A156.18 - American National Standard for Materials and Finishes; 2012.
- F. DHI (H&S) - Sequence and Format for the Hardware Schedule; 1996.

**1.04 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Comply with submittal requirements as indicated in Section 08 71 00.

**PART 2 PRODUCTS**

**2.01 MANUFACTURERS**

- A. Only manufacturers listed in Door Hardware Schedule or Section 08 71 00 are considered acceptable, unless noted otherwise.
- B. Obtain each type of door hardware as indicated from a single manufacturer and single supplier.
- C. Products are listed and certified compliant with specified standards by BHMA (CPD).
- D. Manufacturer's Abbreviations: Coordinate with manufacturers listed in Section 08 71 00.
  - 1. GLY - Glynn Johnson, Allegion, PLC.
  - 2. IVE - Ives, Allegion, PLC.
  - 3. LCN - LCN Commercial Division, Allegion, PLC.
  - 4. SCE - Schlage Electronic Security, Allegion, PLC
  - 5. SCH/SC - Schlage Lock Company, Allegion, PLC.
  - 6. VON - Von Duprin, Allegion, PLC..
  - 7. ZER - Zero Industries, Inc., Allegion, PLC.



8. TBD - To be determined.
9. BYO/OT - By Others.

## **2.02 DESCRIPTION**

- A. Door hardware sets provided represent the design intent, they are only a guideline and should not be considered a detailed or complete hardware schedule.
  1. Provide door hardware item(s) as required for similar purposes, even when item is not listed for a door in Door Hardware Schedule.
  2. Necessary items that are not included in a Hardware Set should be added and have the appropriate additional hardware as required for proper application and functionality.
  3. Door hardware supplier is responsible for providing proper size and hand of door for products required in accordance with Door Hardware Schedule and as indicated on drawings.
  4. Quantities listed are for each Pair (PR) of doors, or for each Single (SGL) door, as indicated in hardware sets.

## **2.03 LOCK FUNCTION CODES**

- A. Function Codes for Cylindrical Locks: Complying with BHMA A156.5.
- B. Function Codes for Mortise Locks: Complying with BHMA A156.13.
- C. Function Codes for Exit Devices: Complying with BHMA A156.3.

## **2.04 FINISHES**

- A. Finishes: Complying with BHMA A156.18.

# **PART 3 EXECUTION**

## **3.01 DOOR HARDWARE SCHEDULE**

- A. Organize listing of door hardware components within each hardware set in compliance with 10-Part scheduling sequence indicated in DHI (H&S), unless otherwise indicated.
- B. See door schedule in drawings for hardware set assignments.
- C. No hardware shall be ordered until Finished Hardware has been reviewed and approved by Architect's hardware consultant.
- D. Provide Factory order numbers for all products supplied on this project as part of close out documents for District's warranty records.
- E. Any door count quantity shown in the HW set listings is for reference only. Contractor shall verify all door quantities with the Architectural Drawings.
- F. See door schedule in drawings for hardware set assignments.
- G. Hardware Sets: See next page.

**UPDATED 10/5/20**



**HwSet - 002**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
1	EA	CONT. HINGE	112XY	628	IVE
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	PUSH PLATE	8200 4" X 16"	630	IVE
1	EA	PULL PLATE	8300 4" X 16"	630	IVE
1	EA	SURFACE CLOSER	4041 DEL	689	LCN
1	EA	PROTECTION PLATE	8400 4" X 2" LDW	630	IVE
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS436/438 AS REQ'D	626	IVE
3	EA	SILENCER	SR64/65 AS REQ'D	GRY	IVE

**HwSet - 020**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	PRIVACY W/INDICATOR	L9440 06A L583-363	626	SCH
1	EA	FLOOR STOP	FS436/438 AS REQ'D	626	IVE
3	EA	SILENCER	SR64/65 AS REQ'D	GRY	IVE

**HwSet - 021**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	PRIVACY W/INDICATOR	L9440 06A L583-363	626	SCH
1	EA	OH STOP	90S	630	GLY
3	EA	SILENCER	SR64/65 AS REQ'D	GRY	IVE

**HwSet - 040**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	L9070L 06A L9070P-06A	626	SCH
1	EA	<b>MORTISE CYLINDER</b>	<b>MATCH EXISTING KEY SYSTEM</b>	<b>626</b>	<b>SAR</b>
1	EA	FLOOR STOP	FS436/438 AS REQ'D	626	IVE
3	EA	SILENCER	SR64/65 AS REQ'D	GRY	IVE



**HwSet - 041.5****HwSet - 042.1**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
1	EA	CONT. HINGE	112XY	628	IVE
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM SEC LOCK	<del>L9071L 06A</del> L9071P-06A	626	SCH
1	EA	<b>MORTISE CYLINDER</b>	<b>MATCH EXISTING KEY SYSTEM</b>	<b>626</b>	<b>SAR</b>
1	EA	SURFACE CLOSER	4040XP	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS436/438 AS REQ'D	626	IVE
3	EA	SILENCER	SR64/65 AS REQ'D	GRY	IVE

**HwSet - 044**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	<del>L9070L 06A</del> L9070P-06A	626	SCH
1	EA	<b>MORTISE CYLINDER</b>	<b>MATCH EXISTING KEY SYSTEM</b>	<b>626</b>	<b>SAR</b>
1	EA	SURFACE CLOSER	4040XP H	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS436/438 AS REQ'D	626	IVE
3	EA	SILENCER	SR64/65 AS REQ'D	GRY	IVE

**HwSet - 044.1**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM SEC LOCK	<del>L9071L 06A</del> L9071P-06A	626	SCH
1	EA	<b>MORTISE CYLINDER</b>	<b>MATCH EXISTING KEY SYSTEM</b>	<b>626</b>	<b>SAR</b>
1	EA	SURFACE CLOSER	4040XP H	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS436/438 AS REQ'D	626	IVE
3	EA	SILENCER	SR64/65 AS REQ'D	GRY	IVE



**HwSet - 050**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	<del>L9080L 06A</del> <del>L9080P-06A</del>	626	SCH
1	EA	<b>MORTISE CYLINDER</b>	<b>MATCH EXISTING KEY SYSTEM</b>	<b>626</b>	<b>SAR</b>
1	EA	FLOOR STOP	FS436/438 AS REQ'D	626	IVE
3	EA	SILENCER	SR64/65 AS REQ'D	GRY	IVE

**HwSet - 050.5**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	<del>L9080L 06A</del> <del>L9080P-06A</del>	626	SCH
1	EA	<b>MORTISE CYLINDER</b>	<b>MATCH EXISTING KEY SYSTEM</b>	<b>626</b>	<b>SAR</b>
1	EA	FLOOR STOP	FS436/438 AS REQ'D	626	IVE
3	EA	SILENCER	SR64/65 AS REQ'D	GRY	IVE

**HwSet - 050.A**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	L9080L 06A	626	SCH
1	EA	MORTISE CYLINDER	MATCH EXISTING KEY SYSTEM	626	SAR
1	EA	OH STOP & HOLDER	90H	630	GLY
1	EA	GASKETING	488SBK PSA	BK	ZER

**HwSet - 052**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	<del>L9080L 06A</del> <del>L9080P-06A</del>	626	SCH
1	EA	<b>MORTISE CYLINDER</b>	<b>MATCH EXISTING KEY SYSTEM</b>	<b>626</b>	<b>SAR</b>
1	EA	SURFACE CLOSER	4040XP	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS436/438 AS REQ'D	626	IVE
3	EA	SILENCER	SR64/65 AS REQ'D	GRY	IVE



**HwSet - 053**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	<del>L9080L 06A</del> L9080P-06A	626	SCH
<b>1</b>	<b>EA</b>	<b>MORTISE CYLINDER</b>	<b>MATCH EXISTING KEY SYSTEM</b>	<b>626</b>	<b>SAR</b>
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64/65 AS REQ'D	GRY	IVE

**HwSet - 078**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	ELEC OFFICE LOCK	AD-400-MS-50-MT-RHO-LD <b>SAR P6</b>	626	SCE
		(FOR REFERENCE ONLY)			
1	EA	CYLINDER/ <del>CORE</del>	<b>MATCH EXISTING KEY SYSTEM AS</b>	626	<b>SAR</b>
			<b>REQUIRED</b>		<b>SCH</b>
1	EA	FLOOR STOP	FS436/438 AS REQ'D	626	IVE
3	EA	SILENCER	SR64/65 AS REQ'D	GRY	IVE

LOCK SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN SECTION 28

**HwSet - 078.2**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
2	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	ELECTRIC HINGE	3CB1 4.5 X 4.5 TW8	652	IVE
1	EA	ELEC OFFICE LOCK	AD-300-MS-50-MT-RHO-LD <b>SAR P6</b>	626	SCE
		12/24 VDC (FOR REFERENCE ONLY)			
1	EA	CYLINDER/ <del>CORE</del>	<b>MATCH EXISTING KEY SYSTEM AS</b>	626	<b>SAR</b>
			<b>REQUIRED</b>		<b>SCH</b>
1	EA	SURFACE CLOSER	4040XP	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS436/438 AS REQ'D	626	IVE
3	EA	SILENCER	SR64/65 AS REQ'D	GRY	IVE
1	EA	POWER SUPPLY	PROVIDED IN SECTION 28 13 00	LGR	SCE

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**HwSet - 078.2.A**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	ELEC OFFICE LOCK	AD-400-MS-50-MT-RHO-LD <del>SAR P6</del>	626	SCE
			(FOR REFERENCE ONLY)		
1	EA	CYLINDER/ <del>CORE</del>	<b>MATCH EXISTING KEY SYSTEM AS</b>	626	<b>SAR</b>
			<b>REQUIRED</b>		<b>SCH</b>
1	EA	SURFACE CLOSER	4040XP	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS436/438 AS REQ'D	626	IVE
3	EA	SILENCER	SR64/65 AS REQ'D	GRY	IVE

LOCK SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN SECTION 28

**HwSet - 078.3**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
2	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	ELECTRIC HINGE	3CB1 4.5 X 4.5 TW8	652	IVE
1	EA	ELEC OFFICE LOCK	AD-300-MS-50-MT-RHO-LD <del>SAR P6</del>	626	SCE
			12/24 VDC (FOR REFERENCE ONLY)		
1	EA	CYLINDER/ <del>CORE</del>	<b>MATCH EXISTING KEY SYSTEM AS</b>	626	<b>SAR</b>
			<b>REQUIRED</b>		<b>SCH</b>
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64/65 AS REQ'D	GRY	IVE
1	EA	POWER SUPPLY	PROVIDED IN SECTION 28 13 00	LGR	SCE

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**HwSet - 078.3.A**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>		<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	3CB1HW 4.5 X 4.5		652	IVE
1	EA	STOREROOM LOCK	<del>L9080L 06A</del> <del>L9080P 06A</del>		626	SCH
<b>1</b>	<b>EA</b>	<b>MORTISE CYLINDER</b>	<b>MATCH EXISTING KEY SYSTEM</b>		<b>626</b>	<b>SAR</b>
1	EA	ELECTRIC STRIKE	6211 FSE 12/24 V	⚡	630	VON
1	EA	SURF. AUTO OPERATOR	9531	⚡	ANCLR	LCN
1	EA	ACTUATOR	8310-836T	⚡	630	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS		630	IVE
3	EA	SILENCER	SR64/65 AS REQ'D		GRY	IVE
1	EA	MULTITECH READER	PROVIDED IN DIVISION 28.	⚡	BLK	SCE
1	EA	POWER SUPPLY	PS904 BBK 900-4RL 120240 VAC	⚡		

WALL MOUNTED CARD READER & WIRING BY DIVISION 28.

ACTUATOR TO BE LOCATED AT OUTSIDE OF ROOM (RAMP).

PRESENTING CREDENTIAL AT WALL-MOUNTED CARD READER WILL OPEN ELECTRIC STRIKE FOR MANUAL ENTRY AND WILL ACTIVATE ACTUATOR FOR SEVERAL SECONDS. PRESSING ACTUATOR WILL AUTOMATICALLY OPEN THE DOOR.

**POWER FAILURE OPERATION:**

AUTO-OPERATOR, ELECTRIC STRIKE & ACCESS CONTROL DEVICE TO BE CONNECTED TO A POWER SUPPLY WITH BATTERY BACKUP. DURING POWER OUTAGE, DOOR TO AUTOMATICALLY OPEN AND REMAIN OPEN VIA MAGNETIC HOLD-OPEN. CONNECT MAGNETIC HOLD-OPEN TO FIRE ALARM SYSTEM.

FREE EGRESS AT ALL TIMES.

**HwSet - 082.1**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>		<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	3CB1 4.5 X 4.5		652	IVE
1	EA	PANIC HARDWARE	AX-98-L-NL-06-PA		626	VON
1	EA	IC RIM CYLINDER	<b>MATCH EXISTING KEY SYSTEM</b> <del>20-057</del>		626	<b>SAR</b>
						<del>SCH</del>
1	EA	SURFACE CLOSER	4040XP		689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS		630	IVE
1	EA	FLOOR STOP	FS436/438 AS REQ'D		626	IVE
3	EA	SILENCER	SR64/65 AS REQ'D		GRY	IVE



#### HwSet - 142.1

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3 2	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	EA	<del>ELECTRIC HINGE</del>	<del>3CB1 4.5 X 4.5 TW8</del>	<del>652</del>	<del>IVE</del>
1	EA	<b>OFFICE/ENTRY LOCK</b>	<b>L9050L 06A L583-363</b>	<b>626</b>	<b>SCH</b>
1	EA	<del>ELEC OFFICE LOCK</del>	<del>AD-300-MS-50-MT-RHO-P6-12/24-VDC</del> (FOR REFERENCE ONLY)	<del>626</del>	<del>SCE</del>
1	EA	<b>MORTISE CYLINDER</b> <b>/CORE</b>	<b>MATCH EXISTING KEY SYSTEM AS</b> <b>REQUIRED</b>	626	<b>SAR</b> <b>SCH</b>
1	EA	SURFACE CLOSER	4040XP	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS436/438 AS REQ'D	626	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	<del>POWER SUPPLY</del>	<del>PROVIDED IN SECTION 28-13-00</del>	<del>LGR</del>	<del>SCE</del>
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#### HwSet - 241

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	SET	CONST LATCHING BOLT	FB51/61 AS REQ'D	630	IVE
1	EA	DUST PROOF STRIKE	DP1/2 AS REQ'D	626	IVE
1	EA	CLASSROOM LOCK	<del>L9070L 06A L9070P-06A</del>	626	SCH
1	EA	<b>MORTISE CYLINDER</b>	<b>MATCH EXISTING KEY SYSTEM</b>	<b>626</b>	<b>SAR</b>
2	EA	OH STOP & HOLDER	90H	630	GLY
2	EA	SILENCER	SR64/65 AS REQ'D	GRY	IVE



#### HwSet - 242.1

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	SET	CONST LATCHING BOLT	FB51/61 AS REQ'D	630	IVE
1	EA	DUST PROOF STRIKE	DP1/2 AS REQ'D	626	IVE
1	EA	CLASSROOM SEC LOCK	<del>L9071L 06A</del> L9071P-06A	626	SCH
<b>1</b>	<b>EA</b>	<b>MORTISE CYLINDER</b>	<b>MATCH EXISTING KEY SYSTEM</b>	<b>626</b>	<b>SAR</b>
1	EA	COORDINATOR	COR-2 COMPLETE	628	IVE
2	EA	SURFACE CLOSER	4040XP	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	FLOOR STOP	FS436/438 AS REQ'D	626	IVE
2	EA	SILENCER	SR64/65 AS REQ'D	GRY	IVE

#### HwSet - 382R.1

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
<b>2</b>	<b>EA</b>	<b>CONT. HINGE</b>	<b>112XY</b>	<b>628</b>	<b>IVE</b>
<del>6</del>	<del>EA</del>	<del>HINGE</del>	<del>3CB1 4.5 X 4.5</del>	<del>652</del>	<del>IVE</del>
1	EA	FIRE RATED REMOVABLE MULLION	KR9954	689	VON
2	EA	FIRE EXIT HARDWARE	AX-98-L-F-2-06-PA	626	VON
1	EA	MULLION STORAGE KIT	MT54	689	VON
1	EA	MORTISE CYLINDER	<del>MATCH EXISTING KEY SYSTEM 20-001</del>	626	<b>SAR</b>
		<b>(MULLION)</b>	<del>FOR MULLION</del>		<del>SCH</del>
4	EA	IC RIM CYLINDER	<del>MATCH EXISTING KEY SYSTEM 20-057</del>	626	<b>SAR</b>
					<del>SCH</del>
2	EA	SURFACE CLOSER	4040XP	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	FLOOR STOP	FS436/438 AS REQ'D	626	IVE
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER



#### HwSet - 382R.2

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
1	EA	CONT. HINGE	112HD	628	IVE
3	EA	HINGE	3CB1HW-5-X-4.5	652	IVE
1	EA	FIRE EXIT HARDWARE	AX-98-L-F-2-06-PA	626	VON
2	EA	IC RIM CYLINDER	<del>MATCH EXISTING KEY SYSTEM 20-057</del>	626	<del>SAR</del> SCH
1	EA	SURFACE CLOSER	4040XP	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS436/438 AS REQ'D	626	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER

#### HwSet - 412

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
1	EA	CONT. HINGE	112HD	628	HD
3	EA	HINGE	3CB1 SH 4.5 X 4.5 NRP	630	IVE
1	EA	CLASSROOM HOLDBK	<del>L9076L 06A L/OST L9076P 06A L/OST</del>	626	SCH
1	EA	MORTISE CYLINDER	MATCH EXISTING KEY SYSTEM	626	SAR
1	EA	PULL PLATE	8300 4' X 16" CFC	630	IVE
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS441/444 AS REQ'D	626	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	DOOR BOTTOM	355	A	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER

#### HwSet - 413

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	3CB1 SH 4.5 X 4.5 NRP	630	IVE
1	EA	CLASSROOM HOLDBK	<del>L9076L 06A L/OST L9076P 06A L/OST</del>	626	SCH
1	EA	MORTISE CYLINDER	MATCH EXISTING KEY SYSTEM	626	SAR
1	EA	PULL PLATE	8300 4' X 16" CFC	630	IVE
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	DOOR BOTTOM	355	A	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER



**HwSet - 415**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
1	EA	CONT. HINGE	112HD	628	IVE
3	EA	HINGE	3CB1 4.5 X 4.5	630	IVE
1	EA	CLASSROOM HOLDBK	<del>L9076L 06A L/OST</del> L9076P 06A L/OST	626	SCH
1	EA	MORTISE CYLINDER	MATCH EXISTING KEY SYSTEM	626	SAR
1	EA	PUSH PLATE	8200 4" X 16" CFC	630	IVE
1	EA	SURFACE CLOSER	4040XP	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS436/438 AS REQ'D	626	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	DOOR BOTTOM	355	A	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER

**HwSet - 428**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3 2	EA	HINGE	3CB1 SH 4.5 X 4.5 NRP	630	IVE
1	EA	ELECTRIC HINGE	3CB1 4.5 X 4.5 TW8	630	IVE
1	EA	STAFF PRIVACY	L9485L 06A L583-363 L283-722	626	SCH
1	EA	ELEC PRIVACY LOCK	AD-300-MD-40-MT-RHO-P6-12/24 VDC (FOR REFERENCE ONLY)	626	SCE
1	EA	MORTISE CYLINDER /CORE	MATCH EXISTING KEY SYSTEM AS REQUIRED	626	SAR SCH
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS441/444 AS REQ'D	626	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	DOOR BOTTOM	355	A	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER
1	EA	POWER SUPPLY	PROVIDED IN SECTION 28-13-00	LGR	SCE

LOCK SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN SECTION 28



**HwSet - 452**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	3CB1 SH 4.5 X 4.5 NRP	630	IVE
1	EA	STOREROOM LOCK	<del>L9080L 06A</del> L9080P-06A	626	SCH
<b>1</b>	<b>EA</b>	<b>MORTISE CYLINDER</b>	<b>MATCH EXISTING KEY SYSTEM</b>	<b>626</b>	<b>SAR</b>
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS441/444 AS REQ'D	626	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	DOOR BOTTOM	355	A	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER

**HwSet - 453.5**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	3CB1 SH 4.5 X 4.5 NRP	630	IVE
1	EA	STOREROOM LOCK	<del>L9080L 06A</del> L9080P-06A	626	SCH
<b>1</b>	<b>EA</b>	<b>MORTISE CYLINDER</b>	<b>MATCH EXISTING KEY SYSTEM</b>	<b>626</b>	<b>SAR</b>
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	DOOR BOTTOM	355	A	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER



### HwSet - 478.3

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3 2	EA	HINGE	3CB1 SH 4.5 X 4.5 NRP	630	IVE
1	EA	<del>ELECTRIC HINGE</del>	<del>3CB1 4.5 X 4.5 TW8</del>	<del>630</del>	<del>IVE</del>
1	EA	<b>OFFICE/ENTRY LOCK</b>	<b>L9050L 06A L583-363</b>	<b>626</b>	<b>SCH</b>
1	EA	<del>ELEC OFFICE LOCK</del>	<del>AD-300-MS-50-MT-RHO-P6-12/24-VDC</del> (FOR REFERENCE ONLY)	<del>626</del>	<del>SCE</del>
1	EA	<b>MORTISE CYLINDER</b> <b>/CORE</b>	<b>MATCH EXISTING KEY SYSTEM AS</b> <b>REQUIRED</b>	626	<b>SAR</b> <b>SCH</b>
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	DOOR BOTTOM	355	A	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER
1	EA	<del>POWER SUPPLY</del>	<del>PROVIDED IN SECTION 28-13-00</del>	<del>LGR</del>	<del>SCE</del>
LOCK SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN SECTION 28					

### HwSet - 486.2

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	3CB1 SH 4.5 X 4.5 NRP	630	IVE
1	EA	PANIC HARDWARE	AX-98-L-NL-06-PA-LD	626	VON
1	EA	<b>IC RIM CYLINDER</b>	<b>MATCH EXISTING KEY SYSTEM 20-057</b>	626	<b>SAR</b> <b>SCH</b>
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS441/444 AS REQ'D	626	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	DOOR BOTTOM	355	A	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER



**HwSet - 486.3**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	3CB1 SH 4.5 X 4.5 NRP	630	IVE
1	EA	PANIC HARDWARE	AX-98-L-NL-06-PA-LD	626	VON
1	EA	IC RIM CYLINDER	<b>MATCH EXISTING KEY SYSTEM 20-057</b>	626	<b>SAR</b> <b>SCH</b>
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	DOOR BOTTOM	355	A	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER

**HwSet - 486.5**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
3	EA	HINGE	3CB1 SH 4.5 X 4.5 NRP	630	IVE
1	EA	PANIC HARDWARE	AX-98-L-NL-06-PA-LD	626	VON
1	EA	IC RIM CYLINDER	<b>MATCH EXISTING KEY SYSTEM 20-057</b>	626	<b>SAR</b> <b>SCH</b>
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	DOOR BOTTOM	355	A	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER



HwSet - 498.2

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
1	EA	CONT. HINGE	112HD	628	IVE
2	EA	HINGE	3CB1 SH 4.5 X 4.5 NRP	630	IVE
1	EA	ELECTRIC HINGE	3CB1 4.5 X 4.5 TW8	630	IVE
1	EA	PANIC HARDWARE	<del>CDSI-PA-AX-98-NL-OP-110MD L/OST-PA-LD</del>	626	VON
1	EA	<del>ELEC EXIT DEVICE TRIM</del>	<del>AD-300-993R-70-MT-RHO-P6-12/24 VDC (FOR REFERENCE ONLY)</del>	626	SCE
1	EA	MORTISE CYLINDER /CORE	MATCH EXISTING KEY SYSTEM AS REQUIRED	626	SAR SCH
1	EA	IC RIM CYLINDER	MATCH EXISTING KEY SYSTEM	626	SAR
1	EA	DOOR PULL	VR910 NL	630	IVE
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS441/444 AS REQ'D	626	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	DOOR BOTTOM	355	A	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER
1	EA	POWER SUPPLY	<del>PROVIDED IN SECTION 28-13-00</del>	LGR	SCE

~~EXIT DEVICE TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN SECTION 28~~



HwSet - 498.2.A

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
1	EA	CONT. HINGE	112HD	628	IVE
3	EA	HINGE	3CB1HW-SH 4.5 X 4.5-NRP	630	IVE
1	EA	PANIC HARDWARE	AX-98-L-L/OST-PA-LD	626	VON
1	EA	ELEC EXIT DEVICE TRIM	AD-400-993R-70-MT-RHO-LD SAR P6 (FOR REFERENCE ONLY)	626	SCE
1	EA	CYLINDER /CORE	<b>MATCH EXISTING KEY SYSTEM AS REQUIRED</b>	626	<b>SAR SCH</b>
1	EA	ELECTRIC STRIKE	6300 FSE 12/24 VAC/VDC	630	VON
1	EA	SURF. AUTO OPERATOR	9542	ANCLR	LCN
1	EA	ACTUATOR	8310-836T	630	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS441/444 AS REQ'D	626	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	DOOR BOTTOM	355	A	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER

EXIT DEVICE TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN SECTION 28.

ACTUATOR TO BE LOCATED AT INSIDE OF ROOM.

POWER PART OF DIVISION 28.



**HwSet - 498.3**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
1	EA	CONT. HINGE	112HD	628	IVE
2	EA	HINGE	3CB1-SH 4.5 X 4.5 NRP	630	IVE
1	EA	ELECTRIC HINGE	3CB1 4.5 X 4.5 TW8	630	IVE
1	EA	PANIC HARDWARE	CDSI-PA-AX-98-NL-OP-110MD L/OST-PA-LD	626	VON
1	EA	ELEC EXIT DEVICE TRIM	AD-300-993R-70-MT-RHO-P6 12/24 VDC (FOR REFERENCE ONLY)	626	SCE
1	EA	MORTISE CYLINDER /CORE	MATCH EXISTING KEY SYSTEM AS REQUIRED	626	SAR SCH
1	EA	IC RIM CYLINDER	MATCH EXISTING KEY SYSTEM	626	SAR
1	EA	DOOR PULL	VR910 NL	630	IVE
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	DOOR BOTTOM	355	A	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER
1	EA	POWER SUPPLY	PROVIDED IN SECTION 28-13-00	LGR	SCE

EXIT DEVICE TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN SECTION 28

**HwSet - 498.3.A**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
1	EA	CONT. HINGE	112HD	628	IVE
3	EA	HINGE	3CB1-SH 4.5 X 4.5 NRP	630	IVE
1	EA	PANIC HARDWARE	AX-98-L-L/OST-PA-LD	626	VON
1	EA	ELEC EXIT DEVICE TRIM	AD-400-993R-70-MT-RHO-LD SAR P6 (FOR REFERENCE ONLY)	626	SCE
1	EA	CYLINDER /CORE	MATCH EXISTING KEY SYSTEM AS REQUIRED	626	SAR SCH
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	DOOR BOTTOM	355	A	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER

EXIT DEVICE TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN SECTION 28



**HwSet - 498.5**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
1	EA	CONT. HINGE	112HD	628	IVE
2	EA	HINGE	3CB1HW SH 5 X 4.5 NRP	630	IVE
1	EA	ELECTRIC HINGE	3CB1 4.5 X 4.5 TW8	630	IVE
1	EA	PANIC HARDWARE	CDSI-PA-AX-98-NL-OP-110MD L/OST-PA-LD	626	VON
1	EA	ELEC EXIT DEVICE TRIM	AD-300-993R-70-MT-RHO-P6-12/24 VDC (FOR REFERENCE ONLY)	626	SCE
1	EA	MORTISE CYLINDER /CORE	MATCH EXISTING KEY SYSTEM AS REQUIRED	626	SAR SCH
1	EA	IC RIM CYLINDER	MATCH EXISTING KEY SYSTEM	626	SAR
1	EA	DOOR PULL	VR910 NL	630	IVE
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS441/444 AS REQ'D	626	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	DOOR BOTTOM	355	A	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER
1	EA	POWER SUPPLY	PROVIDED IN SECTION 28-13-00	LGR	SCE

EXIT DEVICE TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN SECTION 28

**HwSet -500.1**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
1	EA	CONT. HINGE	112HD	628	IVE
1	EA	PANIC HARDWARE	CDSI-PA-AX-98-NL-OP-110MD	626	VON
1	EA	MORTISE CYLINDER (CD)	MATCH EXISTING KEY SYSTEM	626	SAR
1	EA	IC RIM CYLINDER	MATCH EXISTING KEY SYSTEM	626	SAR
1	EA	DOOR PULL	VR910 NL	630	IVE
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS441/444 AS REQ'D	626	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	DOOR BOTTOM	355		ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER



#### HwSet - 552

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
6	EA	HINGE	3CB1 SH 4.5 X 4.5 NRP	630	IVE
1	SET	CONST LATCHING BOLT	FB51/61 AS REQ'D	630	IVE
1	EA	DUST PROOF STRIKE	DP1/2 AS REQ'D	626	IVE
1	EA	STOREROOM LOCK	<del>L9080L 06A L9080P-06A</del>	626	SCH
<b>1</b>	<b>EA</b>	<b>MORTISE CYLINDER</b>	<b>MATCH EXISTING KEY SYSTEM</b>	<b>626</b>	<b>SAR</b>
1	EA	COORDINATOR	COR-2 COMPLETE	628	IVE
2	EA	SURFACE CLOSER	4040XP EDA	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	FLOOR STOP	FS441/444 AS REQ'D	626	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	ASTRAGAL	44ST X 188	STST	ZER
2	EA	DOOR SWEEP	339AA	AA	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER

#### HwSet - 552.5

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
6	EA	HINGE	3CB1 SH 4.5 X 4.5 NRP	630	IVE
1	SET	CONST LATCHING BOLT	FB51/61 AS REQ'D	630	IVE
1	EA	DUST PROOF STRIKE	DP1/2 AS REQ'D	626	IVE
1	EA	STOREROOM LOCK	<del>L9080L 06A L9080P-06A</del>	626	SCH
<b>1</b>	<b>EA</b>	<b>MORTISE CYLINDER</b>	<b>MATCH EXISTING KEY SYSTEM</b>	<b>626</b>	<b>SAR</b>
1	EA	COORDINATOR	COR-2 COMPLETE	628	IVE
2	EA	SURFACE CLOSER	4040XP EDA	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	FLOOR STOP	FS441/444 AS REQ'D	626	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	ASTRAGAL	44ST X 188	STST	ZER
2	EA	DOOR SWEEP	339AA	AA	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER



#### HwSet - 553.1

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
6	EA	HINGE	3CB1 SH 4.5 X 4.5 NRP	630	IVE
1	SET	CONST LATCHING BOLT	FB51/61 AS REQ'D	630	IVE
1	EA	DUST PROOF STRIKE	DP1/2 AS REQ'D	626	IVE
1	EA	STOREROOM LOCK	<del>L9080L 06A L9080P 06A</del>	626	SCH
<b>1</b>	<b>EA</b>	<b>MORTISE CYLINDER</b>	<b>MATCH EXISTING KEY SYSTEM</b>	<b>626</b>	<b>SAR</b>
1	EA	COORDINATOR	COR-2 COMPLETE	628	IVE
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS441/444 AS REQ'D	626	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	ASTRAGAL	44ST X 188	STST	ZER
2	EA	DOOR SWEEP	339AA	AA	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER

#### HwSet - 553.5

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
6	EA	HINGE	3CB1 SH 4.5 X 4.5 NRP	630	IVE
1	SET	CONST LATCHING BOLT	FB51/61 AS REQ'D	630	IVE
1	EA	DUST PROOF STRIKE	DP1/2 AS REQ'D	626	IVE
1	EA	STOREROOM LOCK	<del>L9080L 06A L9080P 06A</del>	626	SCH
<b>1</b>	<b>EA</b>	<b>MORTISE CYLINDER</b>	<b>MATCH EXISTING KEY SYSTEM</b>	<b>626</b>	<b>SAR</b>
1	EA	COORDINATOR	COR-2 COMPLETE	628	IVE
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	FLOOR STOP	FS441/444 AS REQ'D	626	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	ASTRAGAL	44ST X 188	STST	ZER
2	EA	DOOR SWEEP	339AA	AA	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER



**HwSet - 578.2**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
1	EA	CONT. HINGE	112XY	628	IVE
1	EA	CONT. HINGE	112XY TWP CON	628	IVE
5	EA	HINGE	3CB1 SH 4.5 X 4.5 NRP	630	IVE
1	EA	ELECTRIC HINGE	3CB1 4.5 X 4.5 TW8	630	IVE
1	SET	AUTO FLUSH BOLT	FB31/41 AS REQ'D	630	IVE
1	EA	DUST PROOF STRIKE	DP1/2 AS REQ'D	626	IVE
1	EA	ELEC OFFICE LOCK	AD-300-MS-50-MT-RHO-LD SAR P6 12/24 VDC (FOR REFERENCE ONLY)	626	SCE
1	EA	CYLINDER /CORE	<del>REQUIRED</del> <b>MATCH EXISTING KEY SYSTEM AS</b>	626	<b>SAR</b> <del>SCH</del>
1	EA	COORDINATOR	COR-2 COMPLETE	628	IVE
2	EA	SURFACE CLOSER	4040XP EDA	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 1" LDW B-CS	630	IVE
2	EA	FLOOR STOP	FS441/444 AS REQ'D	626	IVE
1	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	ASTRAGAL	44ST X 188	STST	ZER
2	EA	DOOR SWEEP	339AA	AA	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER
1	EA	POWER SUPPLY	PROVIDED IN SECTION 28 13 00	LGR	SCE
LOCK SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN SECTION 28					

**HwSet - 588**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
6	EA	HINGE	3CB1 SH 4.5 X 4.5 NRP	630	IVE
1	SET	CONST LATCHING BOLT	FB51/61 AS REQ'D	630	IVE
1	EA	DUST PROOF STRIKE	DP1/2 AS REQ'D	626	IVE
1	EA	PANIC HARDWARE	9875-L-NL-996L-06-PA-LD	626	VON
1	EA	MORTISE CYLINDER	<del>20-001</del> <b>MATCH EXISTING KEY SYSTEM</b> <del>114-36-083</del>	626	<b>SAR</b> <del>SCH</del>
1	EA	COORDINATOR	COR-2 COMPLETE	628	IVE
2	EA	SURFACE CLOSER	4040XP EDA	689	LCN
2	EA	FLOOR STOP	FS441/444 AS REQ'D	626	IVE
2	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
2	EA	DOOR SWEEP	339AA	AA	ZER
1	EA	ASTRAGAL	44ST X 188	STST	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER



#### HwSet - 588.5

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
6	EA	HINGE	3CB1 SH 4.5 X 4.5 NRP	630	IVE
1	SET	CONST LATCHING BOLT	FB51/61 AS REQ'D	630	IVE
1	EA	DUST PROOF STRIKE	DP1/2 AS REQ'D	626	IVE
1	EA	PANIC HARDWARE	9875-L-NL-996L-06-PA-LD	626	VON
1	EA	MORTISE CYLINDER	<b>MATCH EXISTING KEY SYSTEM 20-001</b> <del>114-36-083</del>	626	<b>SAR</b> <del>SCH</del>
1	EA	COORDINATOR	COR-2 COMPLETE	628	IVE
2	EA	SURFACE CLOSER	4040XP EDA	689	LCN
2	EA	FLOOR STOP	FS441/444 AS REQ'D	626	IVE
2	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
2	EA	ASTRAGAL	44ST X 188	STST	ZER
1	EA	DOOR SWEEP	339AA	AA	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER

#### HwSet - 598R.2

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
<b>2</b>	<b>EA</b>	<b>CONT. HINGE</b>	<b>112HD</b>	<b>628</b>	<b>IVE</b>
6	EA	HINGE	<del>3CB1 SH 4.5 X 4.5 NRP</del>	630	IVE
1	EA	REMOVABLE MULLION	KR4954	689	VON
2	EA	PANIC HARDWARE	AX-98-L-L/OST-PA-LD	626	VON
1	EA	MULLION STORAGE KIT	MT54	689	VON
2	EA	ELEC EXIT DEVICE TRIM	AD-400-993R-70-MT-RHO-LD <b>SAR P6</b> (FOR REFERENCE ONLY)	626	SCE
2	EA	CYLINDER <del>/CORE</del>	<b>MATCH EXISTING KEY SYSTEM AS</b> <b>REQUIRED</b>	626	<b>SAR</b> <del>SCH</del>
1	EA	MORTISE CYLINDER <b>(MULLION)</b>	<b>MATCH EXISTING KEY SYSTEM 20-001</b> <b>FOR MULLION</b>	626	<b>SAR</b> <del>SCH</del>
2	EA	SURFACE CLOSER	4040XP EDA	689	LCN
2	EA	PROTECTION PLATE	8400 10" X 2" LDW B-CS	630	IVE
2	EA	FLOOR STOP	FS441/444 AS REQ'D	626	IVE
2	EA	PERIMETER SEALS	328AA HEAD AND JAMBS	AA	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
2	EA	DOOR BOTTOM	355	A	ZER
1	EA	THRESHOLD	AS DETAILED	A	ZER

EXIT DEVICE TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN SECTION 28



**HwSet - 600**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
6	EA	HINGE	3CB1 4.5 X 4.5	652	IVE
1	SET	CONST LATCHING BOLT	FB51/61 AS REQ'D	630	IVE
1	EA	DUST PROOF STRIKE	DP1/2 AS REQ'D	626	IVE
1	EA	CLASSROOM LOCK	<del>L9070L 06A</del> <del>L9070P 06A</del>	626	SCH
<b>1</b>	<b>EA</b>	<b>MORTISE CYLINDER</b>	<b>MATCH EXISTING KEY SYSTEM</b>	<b>626</b>	<b>SAR</b>
2	EA	OH STOP	90S	630	GLY
1	EA	ASTRAGAL	905AA	AA	ZER
2	EA	SILENCER	SR64/65 AS REQ'D	GRY	IVE

**HwSet - 962**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
			ALL HARDWARE BY SLIDING DOOR MFR		B/O

**HwSet - A598R.5**

<u>QTY</u>		<u>DESCRIPTION</u>	<u>CATALOG NUMBER</u>	<u>FINISH</u>	<u>MFR</u>
2	EA	PIVOT SET	7215 SET	626	IVE
2	EA	INTERMEDIATE PIVOT	7215PT INT	626	IVE
2	EA	INTERMEDIATE PIVOT	7215 INT	626	IVE
1	EA	REMOVABLE MULLION	5654	628	VON
2	EA	PANIC HARDWARE	AX-98-L-L/OST-PA-LD	626	VON
2	EA	ELEC EXIT DEVICE TRIM	AD-300-993R-70-MT-RHO-LD <del>SAR P6</del>	626	SCE
			12/24 VDC (FOR REFERENCE ONLY)		
2	EA	CYLINDER/ <del>CORE</del>	<b>MATCH EXISTING KEY SYSTEM AS</b>	626	<b>SAR</b>
			<del>REQUIRED</del>		<del>SCH</del>
1	EA	SURFACE CLOSER	4040XP SCUSH	689	LCN
1	EA	SURFACE CLOSER	4040XP EDA	689	LCN
2	EA	MOUNTING PLATE	4040XP-18	689	LCN
1	EA	FLOOR STOP	FS441/444 AS REQ'D	626	IVE
1	EA	THRESHOLD	AS DETAILED	A	ZER
1	EA	POWER SUPPLY	PROVIDED IN SECTION 28 13 00	LGR	SCE

SEALS AND SWEEPS BY DOOR MANUFACTURER

DOORS MUST BE WIDE STILE TO MOUNT PANIC DEVICE

EXIT DEVICE TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN SECTION 28

**END OF SECTION**



**SECTION 08 31 00**  
**ACCESS DOORS AND PANELS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Wall and ceiling access door and frame units.

**1.02 RELATED REQUIREMENTS**

- A. Section 09 21 16 - Gypsum Board Assemblies: Openings in partitions.
- B. Section 09 21 16 - Gypsum Board Assemblies and 10 00 060 - 10 00 060: Openings in ceilings.
- C. Section 09 30 00 - Tiling: Tile finishes on and around openings.
- D. Section 09 91 13 - Exterior Painting: Field paint finish.
- E. Section 09 91 23 - Interior Painting: Field paint finish.
- F. Divisions 11, 12, ~~13~~, and 14: Miscellaneous components requiring access.
- G. Divisions 21, 22, 23, 26, 27, and 28: Mechanical and Electrical components requiring access.
  - 1. Access doors in ductwork.

**1.03 REFERENCE STANDARDS**

- A. ITS (DIR) - Directory of Listed Products; current edition.
- B. UL (FRD) - Fire Resistance Directory; current edition.

**1.04 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide sizes, types, finishes, hardware, scheduled locations, and details of adjoining work.
  - 1. If other than specified products by specified manufacturer, submit product data for each type of access door to be used. Include schedule of access door types, sizes and locations.
- C. Shop Drawings: Indicate exact position of each access door and/or panel unit.
  - 1. For access doors other than shown on Drawings, submit marked floor plan giving locations of all access doors. Submit shop drawing for Architect's review before laying out utility services which require access doors.
- D. Manufacturer's Installation Instructions: Indicate installation requirements.
- E. Project Record Documents: Record actual locations of each access unit.

**1.05 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- B. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years documented experience.



## 1.06 QUALITY ASSURANCE

- ~~A. Single Source Responsibility: Obtain access doors for entire project from one source from a single manufacturer.~~
- B. Regulation Requirements: Fire rated access doors shall conform to California Building Code (CBC) Title 24, Part 2, Chapter 7. Panels shall bear the label of Underwriters Laboratories or other testing agency acceptable to the State Fire Marshal.
- C. Fire-Resistance Ratings: Wherever a fire-resistance classification is indicated, provide access door assembly for rating shown, with flush door, frame, hinge, and latch from manufacturer listed in UL - Building Materials Directory. Provide UL label on each fire-rated access door.
- D. Size Variations: Obtain Architect's acceptance of manufacturer's standard size units, which may vary slightly from sizes indicated.
- E. Coordination: Furnish inserts and anchoring devices for building into adjoining Work for installation of access doors.

## 1.07 PROJECT CONDITIONS

- A. Verification: Obtain specific locations and sizes for required access doors for Work specified in Plumbing, Mechanical, Electrical or other Sections, for access to concealed equipment, and indicate on submitted schedule.
- B. Special-Size Access Doors: Sizes up to 20-inches by 30-inches used where necessary or as indicated. Indicate special size access doors on submitted schedule.

## PART 2 PRODUCTS

### 2.01 ACCESS DOORS AND PANELS

- A. Access Door Materials and Fabrication, General: Provide each access door assembly manufactured as an integral unit, complete with all parts, and ready for installation.
  - 1. If size is not indicated, provide size as directed to adequately access concealed operable mechanisms.
- B. Units in Fire Rated Assemblies: Fire rating equivalent to the fire rated assembly in which they are to be installed.
  - 1. Provide products listed and labeled by UL or ITS (Warnock Hersey) as suitable for the purpose specified and indicated.

### 2.02 ACCESS DOORS AND PANELS ASSEMBLIES

- A. Wall-Mounted Units:
  - 1. Location: As indicated on drawings.
  - 2. Material: Steel.
  - 3. Size: 12 inch by 12 inch.
  - 4. Door/Panel: Hinged, standard duty, with tool-operated spring or cam lock and no handle.
  - 5. Wall Mounting Criteria: Provide surface-mounted face frame and door surface flush with frame surface.



6. Gypsum Board Mounting Criteria: Provide drywall bead frame with door surface flush with wall surface.
- B. Wall-Mounted Units in Wet Areas:
1. Material: Steel, hot-dipped zinc, or zinc-aluminum-alloy coated.
  2. Size: 12 inch by 12 inch.
  3. Door/Panel: Hinged, standard duty, with tool-operated spring or cam lock and no handle.
  4. Wall Mounting Criteria: Provide surface-mounted face frame and door surface flush with frame surface.
  5. Gypsum Board Mounting Criteria: Provide drywall bead frame with door surface flush with wall surface.
- C. Fire-Rated Wall-Mounted Units:
1. Wall Fire-Rating: As indicated on drawings.
  2. Material: Steel.
  3. Size: 12 inch by 12 inch.
  4. Door/Panel: Insulated double-surface panel, with tool-operated spring or cam lock and no handle.
- D. Ceiling-Mounted Units:
1. Material: Steel.
  2. Size - Other Ceilings: 12 inch by 12 inch.
  3. Door/Panel: Hinged, standard duty, with tool-operated spring or cam lock and no handle.
- E. Parapet Wall-Mounted Units in Wet Areas:
1. **Basis of Design Product: Exterior Access Panel XPA as manufactured by Activar, Inc., or approved equal.**
  2. **Location: Inside the roof parapet for sprinkler access.**
  3. **Material: 16 ga. Galvanized Steel Frame and 2 inch thick insulated 0.040 aluminum door.**
  4. **Handle: Locking, zinc die cast with chrome plating.**
  5. **Gasketing: EPDM Foam Rubber Bulb Seal.**
  6. **Size: 36 inch by 36 inch.**
  7. **Door/Panel: Hinged, stainless steel.**
  8. **Finish: Powder Coat Gray Primer.**
  9. **Wall Mounting Criteria: Provide surface-mounted face frame and door surface flush with frame surface.**
  10. **Plaster Mounting Criteria: Provide drywall bead frame with door surface flush with wall surface.**



## 2.03 WALL AND CEILING MOUNTED UNITS

### A. Manufacturers:

~~1.~~ **1. Activar Construction Products Group - JL Industries: [www.activarcpg.com/#sle](http://www.activarcpg.com/#sle).**

2. ACUDOR Products Inc: [www.acudor.com/#sle](http://www.acudor.com/#sle).

~~23.~~ Babcock-Davis: [www.babcockdavis.com](http://www.babcockdavis.com).

~~34.~~ Cendrex, Inc: [www.cendrex.com/#sle](http://www.cendrex.com/#sle).

~~4. JL Industries Division of Activar, Inc.: [www.activarcpg.com/jl-industries](http://www.activarcpg.com/jl-industries).~~

5. Larsen's Manufacturing Co.: [www.larsensmfg.com](http://www.larsensmfg.com).

6. Karp Associates, Inc: [www.karpinc.com](http://www.karpinc.com).

7. Milcor, Inc: [www.milcorinc.com](http://www.milcorinc.com).

8. Nystrom, Inc: [www.nystrom.com](http://www.nystrom.com).

9. Substitutions: See Section 01 60 00 - Product Requirements.

### B. Wall and Ceiling Mounted Units: Factory fabricated door and frame, fully assembled units with corner joints welded, filled and ground flush; square and without rack or warp; coordinate requirements with type of installation assembly being used for each unit.

1. Style: As indicated on drawings.

2. Door Style: Single thickness with rolled or turned in edges.

3. Frames: 16 gage, 0.0598 inch, minimum thickness.

a. Exposed flange: Nominal 1-inch wide around perimeter of frame. Provide flange at flush-mounted (surface) access doors.

b. For installation at gypsum drywall or gypsum veneer plaster finishes: Provide perforated frames with drywall bead.

c. For installation in concrete or masonry construction: Provide frames with adjustable metal masonry anchors.

d. For installation at full-bed plaster finishes: Provide frames with galvanized expanded metal lath and exposed casing bead, welded to perimeter of frame.

4. Heavy Duty Frames: 14 gage, 0.0747 inch, minimum thickness.

5. Heavy Duty Single Steel Sheet Door Panels: 14 gage, 0.0747 inch, minimum thickness.

6. Insulation: Non-combustible mineral wool or glass fiber.

### C. Units in Fire-Rated Assemblies: Fire rating as required by applicable code for fire-rated assembly that access doors are being installed.

1. Provide products listed by ITS (DIR) or UL (FRD) as suitable for purpose indicated.

2. Provide certificate of compliance from authorities having jurisdiction indicating approval of fire rated doors.

3. ~~Steel~~**Aluminum** Finish: ~~Primed~~**Natural brushed**.

4. Primed and Factory Finish: Polyester powder coat; color as selected by Architect from manufacturer's standard colors.

5. Door/Panel Size: As indicated on the drawings.

6. Hardware:



- a. Hardware for Fire-Rated Units: As required for listing.
  - b. Hinges for Non-Fire-Rated Units: Concealed, constant force closure spring type.
  - c. Latch/Lock: Screw driver slot for quarter turn cam latch.
  - d. Gasketing: Extruded neoprene, around perimeter of door panel.
- D. Provide recess-mounted doors for concealed installation in:
  - 1. Acoustic tile ceiling systems, where indicated.
  - 2. Acoustical tile-finished gypsum board ceilings, where indicated.
  - 3. Gypsum board walls, where indicated.
  - 4. Ceramic tile walls, where indicated.
- E. Provide recess-mounted doors and frames with expanded metal lath for concealed installation in plaster.

## **2.04 ACCESSORIES**

- A. Furnish attachment devices and fasteners of type required to secure access doors to types of support shown.
- B. Locks:
  - 1. Non-Rated Access Doors: By Manufacturer, type where indicated
    - a. Cam-action latch with special square-shanked key.
  - 2. Fire-Rated Access Doors: By Manufacturer, type where indicated.
    - a. Flush key device for self-latching bolt-type latch.
  - 3. Key all locks alike, unless otherwise scheduled.
  - 4. Where shown or scheduled, provide one cylinder lock per access door.
  - 5. For recess-mounted access doors, provide access sleeves for each locking device.
  - 6. Provide plastic grommets for installation in holes cut through finish.

## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that rough openings are correctly sized and located.
- B. Begin installation only after substrates have been properly prepared, and if the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### **3.02 PREPARATION**

- A. Clean surfaces thoroughly prior to proceeding with this work.
- B. Prepare surfaces using methods recommended by manufacturer for applicable substrates in accordance with project conditions.

### **3.03 INSTALLATION**

- A. Install units in accordance with manufacturer's instructions, in compliance with requirements of listing authority..
- B. Install frames plumb and level in openings, and secure units rigidly in place.



- C. Provide for correct termination of adjoining finish materials.
- D. Position units to provide convenient access to concealed equipment when necessary.

### **3.04 ADJUST AND CLEAN**

- A. Adjust access doors and hardware after installation for proper and smooth operation.
- B. Remove and replace panels or frames that are warped, bowed, or otherwise damaged.
- C. Remove protective coverings and clean stainless steel access doors during cleaning for Substantial Completion Review.

### **3.05 SCHEDULES**

- A. Access Door Locations:
  - 1. Provide access doors where indicated on Architectural, Mechanical, Plumbing and Electrical Drawings.
  - 2. Access doors indicated and required for Mechanical, Plumbing and Electrical Work shall be of a type matching those specified in this Section.
  - 3. Provide access doors as required to service building systems and as required by governing authorities, although not shown on Drawings.
    - a. Provide at smoke or fire detector in attic spaces. Size to allow for access and testing.
  - 4. Locate access doors, where practical, in building service areas and not in public or guest view.
  - 5. Submit proposed locations for access doors, not indicated on Drawings, to Architect for review prior to rough-in.
- B. Non-Fire Rated Door and Frame Units in Walls:
  - 1. In Gypsum Board on Studs:
    - a. For service and utility locations, primer paint finish, Model DSC-214M manufactured by Karp.
    - b. For food service, toilet and damp locations, stainless steel, Model DSC-214M manufactured by Karp.
    - c. For Administration, Multi-Purpose and similar areas accessible by general public, recessed face for field-applied and finished plaster on door face, Model RDW manufactured by Karp.
    - d. For toilets and locations accessible by general public with ceramic tile wall finish, flush-mounted with face of tile, stainless steel, Model DSB-214M manufactured by Karp.
- C. Non-Fire Rated Door and Frame Units in Ceilings:
  - 1. In Gypsum Board on Metal Furring:
    - a. For service and utility locations, primer paint finish, Model DSC-214M manufactured by Karp.
    - b. For food service, toilet and damp locations, stainless steel, Model DSC-214M manufactured by Karp.



- c. For Administration, Multi-Purpose and similar areas accessible by general public, recessed face for field-applied and finished plaster on door face, Model RDW manufactured by Karp.
- D. Fire-Rated Access Doors: Access doors in time-rated fire-resistive walls, partitions and ceilings shall carry same rating as the wall, partition or ceiling.
- E. Fire Rated Door and Frame Units in Walls:
  - 1. In Gypsum Board on Studs:
    - a. 1-1/2 hour B label fire rating.
    - b. For public areas, service and utility locations, primer paint finish, surface mounted, filled with 2-inch thick fire-rated insulation, with automatic closer, self-latching bolt-type latch, Model KPR-150FR manufactured by Karp.
    - c. For Food Service, Toilet and other damp locations with ceramic tile finish, stainless steel finish, surface mounted, filled with 2-inch thick fire-rated insulation, with automatic closer, self-latching bolt-type latch, Model KPR-150FR manufactured by Karp.
- F. Fire Rated Door and Frame Units in Ceilings:
  - 1. In Gypsum Board on Metal Furring:
    - a. For typical dry locations, surface mounted, primer paint finish, filled with 2-inch thick fire-rated insulation, with automatic closer, self-latching bolt-type latch, Model KRP-150FR manufactured by Karp.
    - b. For Food Service, Toilet and other damp locations, stainless steel finish, surface mounted, filled with 2-inch thick fire-rated insulation, with automatic closer, self-latching bolt-type latch, Model KPR-150FR manufactured by Karp.

**END OF SECTION**







## **SECTION 09 30 00**

### **TILING**

#### **PART 1 GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Tile for floor applications.
- B. Tile for wall applications.
- C. Cementitious backer board as tile substrate.
- D. Stone thresholds.
- E. Ceramic trim.
- F. Non-ceramic trim.

##### **1.02 RELATED REQUIREMENTS**

- A. Section 07 92 00 - Joint Sealants: Sealing joints between tile work and adjacent construction and fixtures.
- B. Section 08 31 00 - Access Doors and Panels: Access panels set in tile surface.
- C. Section 09 21 16 - Gypsum Board Assemblies: Tile backer board.
- D. Section 09 24 00 - Cement Plastering: Lath and Portland cement scratch coat, where required by the TCNA (HB) Method specified.
- E. Division 22 - Plumbing: Plumbing Fixtures, Floor drains and miscellaneous devices.

##### **1.03 REFERENCE STANDARDS**

- A. ANSI A108/A118/A136 - American National Standard Specifications for the Installation of Ceramic Tile (Compendium); 2017.
  - 1. Use 1999 (Reapproved 2002) as indicated in CBC 2016 Referenced Standards.
- B. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.
- C. ANSI A108.1a - American National Standard Specifications for Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar; 2014.
- D. ANSI A108.1b - American National Standard Specifications for Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).
- E. ANSI A108.1c - Specifications for Contractors Option: Installation of Ceramic Tile in the Wet-Set Method with Portland Cement Mortar or Installation of Ceramic Tile on a Cured Portland Cement Mortar Bed with Dry-Set or Latex-Portland Cement; 1999 (Reaffirmed 2010).
- F. ANSI A108.4 - American National Standard Specifications for Installation of Ceramic Tile with Organic Adhesives or Water Cleanable Tile-Setting Epoxy Adhesive; 2009 (Revised).
- G. ANSI A108.5 - American National Standard Specifications for Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).



- H. ANSI A108.6 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy; 1999 (Reaffirmed 2010).
- I. ANSI A108.8 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant Furan Resin Mortar and Grout; 1999 (Reaffirmed 2010).
- J. ANSI A108.9 - American National Standard Specifications for Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout; 1999 (Reaffirmed 2010).
- K. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework; 1999 (Reaffirmed 2010).
- L. ANSI A108.11 - American National Standard Specifications for Interior Installation of Cementitious Backer Units; 2010 (Reaffirmed 2016).
- M. ANSI A108.11> ANSI A108/A118/A136.1 - American National Standard for Interior of Cementitious Backer Units; 2010 (Revised).
- N. ANSI A108.12 - American National Standard for Installation of Ceramic Tile with EGP (Exterior Glue Plywood) Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).
- O. ANSI A108.13 - American National Standard for Installation of Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone; 2005 (Reaffirmed 2010).
- P. ANSI A118.1 - American National Standard Specifications for Dry-Set Cement Mortar; 2012 (Revised).
- Q. ANSI A118.3 - American National Standard Specifications for Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy and Water Cleanable Tile-Setting Epoxy Adhesive; 2013 (Revised).
- R. ANSI A118.4 - American National Standard Specifications for Modified Dry-Set Cement Mortar; 2012 (Revised).
- S. ANSI A118.7 - American National Standard Specifications for High Performance Cement Grouts for Tile Installation; 2010 (Reaffirmed 2016).
- T. ANSI A118.9 - American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units; 1999 (Reaffirmed 2016).
- U. ANSI A118.9>ANSI A108/A118/A136.1 - American National Standard Specifications for Test Methods and Specifications for Cementitious Backer Units; 1999 (Reaffirmed 2010).
- V. ANSI A118.10 - American National Standard Specifications for Load Bearing, Bonded, Waterproof Membranes For Thin-Set Ceramic Tile And Dimension Stone Installation; 2014.
- W. ANSI A118.12 - American National Standard Specifications for Crack Isolation Membranes for Thin-Set Ceramic Tile and Dimension Stone Installation; 2014.
- X. ANSI A137.1 - American National Standard Specifications for Ceramic Tile; 2012.
  - 1. Use 2012 as indicated in CBC 2016 Referenced Standards.
- Y. ANSI/NFSI B101.3 - Test Method for Measuring Wet DCOF of Common Hard Surface Floor Materials; 2012.
- Z. ASTM C373 - Standard Test Methods for Determination of Water Absorption and Associated Properties by Vacuum Method for Pressed Ceramic Tiles and Glass Tiles and Boil Method for Extruded Ceramic Tiles and Non-tile Fired Ceramic Whiteware Products; 2016e1.



- AA. ASTM C847 - Standard Specification for Metal Lath; 2014a.
- AB. ASTM D638 - Standard Test Method for Tensile Properties of Plastics; 2014.
- AC. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2011.
- AD. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride; 2011.
- AE. BAAQMD 8-51 - Bay Area Air Quality Management District Regulation 8, Rule 51, Adhesive and Sealant Products; www.baaqmd.gov; 2002.
- AF. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; current edition.
- AG. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation; 2016.

#### **1.04 ADMINISTRATIVE REQUIREMENTS**

- A. Preinstallation Meeting: Convene a preinstallation meeting one week before starting work of this section; require attendance by all affected installers.

#### **1.05 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.
- C. Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, thresholds, and setting details.
- D. Samples: Mount tile and apply grout on two plywood panels, minimum 18 by 18 inches in size illustrating pattern, color variations, and grout joint size variations.
- E. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
  - 1. Submit manufacturer's certification that grout materials being provided are suitable for intended use, meet or exceed referenced ANSI standards, and are listed on Ceramic Tile Institute "Tested Materials" list.
  - 2. Prior to shipment of tile to jobsite, deliver Master Grade Certificates to Architect, complying with TCNA/ANSI A137.1.
- F. Maintenance Data: Include recommended cleaning methods, cleaning materials, and stain removal methods.
- G. Maintenance Materials: Furnish the following for District's use in maintenance of project.
  - 1. See Section 01 60 00 - Product Requirements, for additional provisions.
  - 2. Extra Tile: One box, minimum of 24 pieces of each size, color, and surface finish combination.

#### **1.06 QUALITY ASSURANCE**

- A. Maintain one copy of and ANSI A108/A118/A136 and TCNA (HB) on site.
- B. Requirements for Physically Disabled: Provide ceramic tile flooring meeting slip-resistant requirements of California Code of Regulations (CCR), Title 24, Part 2, Chapter 11B and ADA Standards, latest amendment.



1. Tile flooring surface shall be stable, firm, and slip resistant. CBC Section 11B-302.1 General.
  2. Tile flooring Surface shall demonstrate a dynamic coefficient of friction of at least 0.42 wet per DCOF AcuTest ANSI A137.1 Section 9.6 and ANSI/NFSI B101.3 (using a BOT-3000 testing unit) will be accepted as meeting the intent of slip resistance; CBC 11B-302 Floor or Ground Surfaces and ADA Standards.
    - a. Ramp surface: Provide wet DCOF value of 0.46.
- C. Regulatory Requirements:
1. California Plumbing Code:
    - a. Floor Drains:
      - 1) Inspection of Work - All surfaces prepared by others shall be inspected by the tile installer before starting tile work and all unsatisfactory conditions reported to the Administrative Authority. Starting tile work by the tile installer shall be considered as acceptance of surfaces prepared by others.
      - 2) Surfaces - All surfaces to receive tile work shall be clean, structurally sound, and slopes shall to conform to CBC.  
Note: No tile work shall proceed until the pan and drain construction has been inspected and approved by the Administrative Authority, where required.
    - b. Definition:
      - 1) Receptor: An approved plumbing fixture or device of such material, shape, and capacity as to adequately receive the discharge from indirect waste pipes, so constructed and located as to be readily cleaned. CPC 220.0
- D. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, with minimum five years of documented experience.
- E. Installer Qualifications:
1. Company specializing in performing tile installation, with minimum of five years of documented experience.

#### **1.07 MOCK-UP**

- A. See Section 01 40 00 - Quality Requirements, for general requirements for mock-up.
- B. Construct tile mock-up where indicated on drawings, incorporating all components specified for the location.
  1. Minimum size of mock-up is indicated on drawings.
  2. Approved mock-up may remain as part of the Work.

#### **1.08 DELIVERY, STORAGE, AND HANDLING**

- A. Delivery:
  1. Deliver tile, cement, lime, mortar and grout to the project site in unopened containers, labeled with the manufacturer's name and brand designation.
  2. Grade seal tile cartons by the manufacturer in accordance with ANSI A137.1.
  3. Include hallmarks on labels for dry set and latex mortars certifying compliance with ANSI A118.1 and ANSI A118.4 respectively.



- B. Storage: Store tile and cementitious materials in dry, weather tight enclosures. Store stand in a well drained area on a solid surface to prevent mixing with foreign matter.
- C. Protect adhesives from freezing or overheating in accordance with manufacturer's instructions.

#### **1.09 FIELD CONDITIONS**

- A. Do not install solvent-based products in an unventilated environment.
- B. Maintain ambient and substrate temperature of 50 degrees F and rising during installation of mortar and grout materials. Temperature of the substrate shall not exceed 100 degrees F.
- C. Shade work from direct sunlight during tile installation as needed to prevent rapid evaporation caused by excessive heat.

#### **1.10 WARRANTY**

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective Work within a one year period after Date of Substantial Completion.
- C. Provide ten year manufacturer warranty for waterproofing liners.

### **PART 2 PRODUCTS**

#### **2.01 TILE**

- A. Acceptable Manufacturers: All products by the same manufacturer.
  - 1. American Olean Corporation: [www.americanolean.com/#sle](http://www.americanolean.com/#sle).
  - 2. Dal-Tile Corporation: [www.daltile.com/#sle](http://www.daltile.com/#sle).
  - 3. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Ceramic Mosaic Tile: ANSI A137.1, standard grade.
  - 1. Moisture Absorption: 0 to 0.5 percent as tested in accordance with ASTM C373.
  - 2. Size: As indicated on Drawings, nominal.
  - 3. Shape: Square.
  - 4. Edges: Cushioned.
  - 5. Surface Finish: Unglazed.
    - a. Dynamic Wet Slip Resistance DCOF AcuTest: 0.42
  - 6. Color(s): To be selected by Architect from manufacturer's standard range.
- C. Glazed Wall Tile: ANSI A137.1, standard grade.
  - 1. Moisture Absorption: 7.0 to 20.0 percent as tested in accordance with ASTM C373.
  - 2. Size: As indicated on Drawings, nominal.
  - 3. Edges: Cushioned.
  - 4. Surface Finish: High gloss.
  - 5. Color(s): To be selected by Architect from manufacturer's standard range.
- D. Porcelain Tile: ANSI A137.1, standard grade.
  - 1. Moisture Absorption: 0 to 0.5 percent as tested in accordance with ASTM C373.



2. Size: As indicated on Drawings, nominal.
3. Thickness: 3/8 inch.
4. Edges: Cushioned.
5. Surface Finish: Unglazed.
6. Color(s): **As indicated in Architect's Colors, Materials, & Finishes Legend on Sheet ID1.1**
7. Trim Units: Matching bullnose, double bullnose, cove base, and cove shapes in sizes coordinated with field tile.

## 2.02 TRIM AND ACCESSORIES

- A. Ceramic Trim: Matching bullnose, surface bullnose, double bullnose, cove base, and cove ceramic shapes in sizes coordinated with field tile.
  1. Applications:
    - a. Open Edges: Bullnose.
    - b. Inside Corners: Jointed.
    - c. Floor to Wall Joints: Cove base.
  2. Manufacturers: Same as for tile.
- B. Non-Ceramic Trim: Brushed stainless steel, style and dimensions to suit application, for setting using tile mortar or adhesive.
  1. Material and Finish: E - Stainless Steel Type 304 = V2A.
  2. Applications:
    - a. Open edges of wall tile.
    - b. Open edges of floor tile.
      - 1) Trim tile to carpet.
      - 2) Product; 5/16-inch AE-80 as manufactured by Schluter; [www.schluter.com](http://www.schluter.com).
    - c. Wall corners, outside and inside.
      - 1) Description: Profile with square visible surface, integrated trapezoid-perforated anchoring leg, and integrated grout joint spacer.
      - 2) Product; Quadec as manufactured by Schluter; [www.schluter.com](http://www.schluter.com).
    - d. Transition between floor finishes of different heights.
    - e. Expansion and control joints, floor and wall.
    - f. Floor to wall joints (Cove Base).
      - 1) Description: Profile with integrated trapezoid-perforated anchoring legs, connected at a 90 degree angle by a cove-shaped section with 3/8 inch radius that forms the visible surface.
    - g. Borders and other trim as indicated on drawings.
  3. Manufacturers:
    - a. Custom Building Products: [www.custombuildingproducts.com](http://www.custombuildingproducts.com).
    - b. Schluter-Systems: [www.schluter.com/#sle](http://www.schluter.com/#sle).
    - c. Genesis APS International: [www.genesis-aps.com/#sle](http://www.genesis-aps.com/#sle).
    - d. Blanke Corp: [www.blanke-co.com](http://www.blanke-co.com).
    - e. Substitutions: See Section 01 60 00 - Product Requirements.



- C. Thresholds: Type and color as indicated on Drawings or as selected by Architect, honed finish; 2 inches wide by full width of wall or frame opening; 1/2 inch thick; beveled one long edge with radiused corners on top side; without holes, cracks, or open seams.
  - 1. Applications:
    - a. At doorways where tile terminates.
  - 2. Acceptable Manufacturers/Distributors: See Ceramic Tile Article above.
  - 3. Solid Polymer Fabricated: ASTM D638.
    - a. Color and Pattern: As indicated on drawings.
    - b. Manufacturers:
      - 1) Formica Corporation Product: Signatures: [www.formica.com](http://www.formica.com).
      - 2) Avonite Surfaces Product Avonite: [www.avonitesurfaces.com](http://www.avonitesurfaces.com).
      - 3) Dupont Product: Corian: [www.corian.com](http://www.corian.com).
      - 4) Panolam Industries International, Inc.(Nevamar); Product Fountainhead: [www.nevamar.com](http://www.nevamar.com).
      - 5) Wilsonart International, Inc Product: Gibraltar: [www.wilsonart.com](http://www.wilsonart.com).
      - 6) Substitutions: See Section 01 60 00 - Product Requirements.

## 2.03 SETTING MATERIALS

- A. Manufacturers:
  - 1. Bostik Inc: [www.bostik-us.com](http://www.bostik-us.com).
  - 2. Custom Building Products: [www.custombuildingproducts.com](http://www.custombuildingproducts.com).
  - 3. LATICRETE International, Inc: [www.laticrete.com](http://www.laticrete.com).
  - 4. Mapei Corporation: [www.mapei.com](http://www.mapei.com).
  - 5. Merkrete, by Parex USA, Inc: [www.merkrete.com](http://www.merkrete.com).
  - 6. TEC, an H.B. Fuller Construction Products Brand: [www.tecspecialty.com/#sle](http://www.tecspecialty.com/#sle).
  - 7. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Interior adhesives, sealants, primers and sealants used as filler must meet the requirements of low emitting materials. Conform to SCAQMD 1168 and BAAQMD 8-51.
- C. Epoxy Adhesive and Mortar Bond Coat: ANSI A118.3 and TCNA (HB).
  - 1. Applications: Where indicated on drawings.
  - 2. Products:
    - a. Custom Building Products; EBM-Lite Epoxy Bonding Mortar: [www.custombuildingproducts.com/#sle](http://www.custombuildingproducts.com/#sle).
    - b. LATICRETE International, Inc; LATICRETE LATAPOXY 300 Adhesive: [www.laticrete.com/#sle](http://www.laticrete.com/#sle).
    - c. **Mapei Corporation: [www.mapei.com](http://www.mapei.com).**
    - d. Merkrete, by Parex USA, Inc; Merkrete Pro Epoxy: [www.merkrete.com/#sle](http://www.merkrete.com/#sle).
    - e. Substitutions: See Section 01 60 00 - Product Requirements.
- D. Dry-Set Portland Cement Mortar Bond Coat: ANSI A118.1 and TCNA (HB), Zero-volatile organic compound (VOC) content..
  - 1. Products:



- a. Custom Building Products: [www.custombuildingproducts.com](http://www.custombuildingproducts.com).
  - bb. Mapei Corporation: [www.mapei.com](http://www.mapei.com).**
  - c. Substitutions: See Section 01 60 00 - Product Requirements.
- E. Mortar Bed Materials: Pre-packaged mix of Portland cement, sand, latex additive, and water.
  - 1. Products:
    - a. Custom Building Products; ProLite Tile & Stone Mortar: [www.custombuildingproducts.com](http://www.custombuildingproducts.com).
    - b. LATICRETE International, Inc; LATICRETE 3701 Fortified Mortar Bed: [www.laticrete.com/#sle](http://www.laticrete.com/#sle).
    - cc. Mapei Corporation: [www.mapei.com](http://www.mapei.com).**
    - d. Merkrete, by Parex USA, Inc; Merkrete Underlay C: [www.merkrete.com/#sle](http://www.merkrete.com/#sle).
    - de. Proflex Products, Inc: [www.proflex.us/#sle](http://www.proflex.us/#sle).
    - ef. Substitutions: See Section 01 60 00 - Product Requirements.

## 2.04 GROUTS

- A. Manufacturers:
  - 1. Basis of Design: Custom Building Products: [www.custombuildingproducts.com](http://www.custombuildingproducts.com).
  - 2. Custom Building Products: [www.custombuildingproducts.com](http://www.custombuildingproducts.com).
  - 3. LATICRETE International, Inc: [www.laticrete.com/#sle](http://www.laticrete.com/#sle).
  - 4. MAPEI Corporation: [www.mapei.com](http://www.mapei.com).
  - 5. Merkrete, by Parex USA, Inc: [www.merkrete.com](http://www.merkrete.com).
  - 6. TEC, an H.B. Fuller Construction Products Brand: [www.tecspecialty.com/#sle](http://www.tecspecialty.com/#sle).
  - 7. Substitutions: See Section 01 60 00 - Product Requirements.
- B. High Performance Polymer Modified Grout: ANSI A118.7 polymer modified cement grout.
  - 1. Applications: Use this type of grout where indicated on exterior over plaster.
  - 2. Use sanded grout for joints 1/8 inch wide and larger; use unsanded grout for joints less than 1/8 inch wide.
  - 3. Color(s): As selected by Architect from manufacturer's full line.
  - 4. Products:
    - a. Bostik Inc: [www.bostik-us.com](http://www.bostik-us.com).
    - b. Custom Building Products; Fusion Pro Single Component Grout: [www.custombuildingproducts.com](http://www.custombuildingproducts.com).
    - c. LATICRETE International, Inc; LATICRETE PERMACOLOR Grout: [www.laticrete.com/#sle](http://www.laticrete.com/#sle).
    - d. Mapei, Inc.; Keracolor S Grout unsanded: [www.mapei.com](http://www.mapei.com)
    - e. Merkrete, by Parex USA, Inc; Merkrete Pro Grout: [www.merkrete.com/#sle](http://www.merkrete.com/#sle).
    - f. TEC, an H.B. Fuller Construction Products Brand; TEC AccuColor Plus Grout: [www.tecspecialty.com/#sle](http://www.tecspecialty.com/#sle).
    - g. TEC Specialty Construction Brands; Accucolor® Premium Sanded Grout: [www.tecspecialty.com](http://www.tecspecialty.com).
    - h. Substitutions: See Section 01 60 00 - Product Requirements.



- C. Epoxy Grout: ANSI A118.3 chemical resistant and water-cleanable epoxy grout.
  - 1. Applications: Toilet Room Floors.
  - 2. Color(s): As indicated on drawings.
  - 3. Products:
    - a. Custom Building Products; CEG-Lite 100% Solids Commercial Epoxy Grout: [www.custombuildingproducts.com](http://www.custombuildingproducts.com).
    - b. LATICRETE International, Inc; LATICRETE SPECTRALOCK PRO Premium Grout: [www.laticrete.com/#sle](http://www.laticrete.com/#sle).
    - c. MAPEI Corporation; Kerapoxy Epoxy Grout: [www.mapei.com](http://www.mapei.com).
    - d. Merkrete, by Parex USA, Inc; Merkrete Pro Epoxy: [www.merkrete.com/#sle](http://www.merkrete.com/#sle).
    - e. TEC, an H.B. Fuller Construction Products Brand; TEC AccuColor EFX Epoxy Special Effects Grout: [www.tecspecialty.com/#sle](http://www.tecspecialty.com/#sle).
    - f. Substitutions: See Section 01 60 00 - Product Requirements.
- D. Stain Resistant Grout Additive: Liquid admixture for sanded and unsanded cement-based grouts; mix with dry grout material in place of water.
  - 1. Applications: Toilet Rooms.

## 2.05 MAINTENANCE MATERIALS

- A. Tile Sealant: Gunnable, silicone, siliconized acrylic, or urethane sealant; moisture and mildew resistant type.
  - 1. Applications: Between tile and plumbing fixtures.
  - 2. Color(s): As selected by Architect from manufacturer's full line.
  - 3. Products:
    - a. ARDEX Engineered Cements; ARDEX SX: [www.ardexamericas.com/#sle](http://www.ardexamericas.com/#sle).
    - b. Custom Building Products; Commercial 100% Silicone Caulk: [www.custombuildingproducts.com/#sle](http://www.custombuildingproducts.com/#sle).
    - c. LATICRETE International, Inc; LATICRETE LATASIL: [www.laticrete.com/#sle](http://www.laticrete.com/#sle).
    - d. MAPEI Corporation; Mapesil Silicone Sealant: [www.mapei.com](http://www.mapei.com).
    - e. Merkrete, by Parex USA, Inc; Merkrete Colored Caulking: [www.merkrete.com/#sle](http://www.merkrete.com/#sle).
    - f. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Grout Sealer: Liquid-applied, moisture and stain protection for existing or new Portland cement grout.
  - 1. Composition: Water-based colorless silicone.
    - a. Wall Grout Sealer: Silicone sealer, clear penetrating.
    - b. Floor Grout and Tile Sealer: Acrylic emulsion, 18 percent solids, clear, non-yellowing, slip resistant.
  - 2. Products:
    - a. Specified Manufacturer: Aqua-Mix: [www.custombuildingproducts.com](http://www.custombuildingproducts.com); local representative Dale Roberts (951) 255-0243.
    - b. Merkrete, by Parex USA, Inc; Merkrete Grout Sealer: [www.merkrete.com/#sle](http://www.merkrete.com/#sle).
    - c. Substitutions: See Section 01 60 00 - Product Requirements.



## 2.06 ACCESSORY MATERIALS

- A. Concrete Floor Slab Crack Isolation Membrane: Material complying with ANSI A118.12; not intended as waterproofing.
  - 1. Type: Fluid-applied.
  - 2. Thickness: 20 mils, maximum.
  - 3. Crack Resistance: No failure at 1/16 inch gap, minimum.
  - 4. Products:
    - a. Custom Building Products; Custom 9240 Waterproofing and Anti-Fracture Membrane: [www.custombuildingproducts.com](http://www.custombuildingproducts.com).
    - b. LATICRETE International, Inc; LATICRETE Blue 92 Anti-Fracture Membrane: [www.laticrete.com/#sle](http://www.laticrete.com/#sle).
    - c. MAPEI Corporation; Mapelastic HPG w/Fiberglass Mesh: [www.mapei.com](http://www.mapei.com).
    - d. Merkrete, by Parex USA, Inc; Merkrete Fracture Guard: [www.merkrete.com/#sle](http://www.merkrete.com/#sle).
    - e. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Waterproofing Membrane at Floors: Specifically designed for bonding to cementitious substrate under thick mortar bed or thin-set tile; complying with ANSI A118.10.
  - 1. Fluid or Trowel Applied Type:
    - a. Thickness: 25 mils, minimum, dry film thickness.
    - b. Products:
      - 1) Custom Building Products; RedGuard Crack Prevention and Waterproofing Membrane: [www.custombuildingproducts.com/#sle](http://www.custombuildingproducts.com/#sle).
      - 2) LATICRETE International, Inc; LATICRETE HYDRO BAN: [www.laticrete.com/#sle](http://www.laticrete.com/#sle).
      - 33) Mapei Corporation: [www.mapei.com](http://www.mapei.com).**
      - 4) Merkrete, by Parex USA, Inc; Merkrete Hydro Guard 2000: [www.merkrete.com/#sle](http://www.merkrete.com/#sle).
      - 45) Substitutions: See Section 01 60 00 - Product Requirements.**
- C. Cleavage Membrane Under Thick Mortar Bed:
  - 1. Material: No. 15 asphalt saturated felt.
- D. Reinforcing Mesh: 2 by 2 inch size weave of 16/16 wire size; welded fabric, galvanized.
- E. Membrane at Walls:
  - 1. Material: No. 15 asphalt saturated felt.
- F. Metal Lath: ASTM C847, Flat diamond mesh, of weight to suit application, galvanized finish.
- G. Backer Board: Cementitious type complying with ANSI A118.9; high density, glass fiber reinforced, 1/2 inch thick; 2 inch wide coated glass fiber tape for joints and corners.
  - 1. Products:
    - a. Custom Building Products; WonderBoard Lite Backerboard: [www.custombuildingproducts.com/#sle](http://www.custombuildingproducts.com/#sle).
    - b. Substitutions: See Section 01 60 00 - Product Requirements.
- H. Mesh Tape: 2 inch wide self-adhesive fiberglass mesh tape.



## **PART 3 EXECUTION**

### **3.01 REGULATORY REQUIREMENTS FOR INSTALLATION**

- A. California Plumbing Code:
  - 1. Floor Drains:
    - a. Floors shall be sloped maximum 2% to drains. CPC 411.4.

### **3.02 EXAMINATION**

- A. Verify that sub-floor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive tile.
  - 1. Walls and floors to be level, plumb and true to within the listed for each applicable TCNA (HB) assembly method used.
- B. Confirm that rough-ins for plumbing, mechanical and electrical work behind tile have been installed and tested.
- C. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive tile.
- D. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of setting materials to sub-floor surfaces.
- E. Verify that concrete sub-floor surfaces are ready for tile installation by testing for moisture emission rate and alkalinity; obtain instructions if test results are not within the following limits:
  - 1. Moisture Emission Rate: Not greater than 3 lb per 1000 sq ft per 24 hours, test in accordance with ASTM F1869.
  - 2. Alkalinity (pH): Verify pH range of 5 to 9, test in accordance with ASTM F710.
- F. Verify that required floor-mounted utilities are in correct location.

### **3.03 PREPARATION**

- A. Protect surrounding work from damage.
- B. Vacuum clean surfaces and damp clean.
- C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.
- D. Install backer board in accordance with ANSI A108.11 and board manufacturer's instructions. Tape joints and corners, cover with skim coat of setting material to a feather edge.
- E. Prepare substrate surfaces for adhesive installation in accordance with adhesive manufacturer's instructions.

### **3.04 INSTALLATION - GENERAL**

- A. Waterproof/Anti-Fracture Membrane Application: Comply with manufacturer's written instructions and recommendations for substrate, tile setting method and Project conditions.
- B. Install tile and thresholds and grout in accordance with applicable requirements of ANSI A108.1a through ANSI A108.13, manufacturer's instructions, and TCNA (HB) recommendations.



- C. Expansion Joints: Provide expansion joints at locations and spacings as recommended by TCNA (HB) Detail EJ171 and as indicated on Drawings. Keep joints free of setting bed mix and grout.
- D. Lay tile to pattern indicated. Do not interrupt tile pattern through openings.
  - 1. Joint Pattern: Lay tile in grid pattern unless otherwise indicated on Drawings or directed by Architect. Lay out tile pattern and center tile fields both directions in each space or on each wall area. Provide uniform joint widths.
  - 2. Coordinate with work of Division 22 - Plumbing for access door locations to coincide (at least 2 sides) with tile joints.
- E. Set tile firmly on new; setting bed or backerboard surfaces with a minimum of 100 percent coverage at floors.
  - 1. Back-butter ribbed tiles and other tiles in accordance with TCNA/ANSI A108.5.
  - 2. Spacers on tile determine joint width between tiles.
  - 3. Strings or pegs may be used to space tile that have no spacers.
  - 4. Bring all surfaces to a true plane at proper position or elevation.
  - 5. Thoroughly beat-in all tile with a beating block while mortar coat is still plastic.
  - 6. Beating shall fill minimum of 95 percent of entire space between units and setting bed.
  - 7. Eighty percent coverage of individual tiles is permitted for walls in non-wet areas.
- F. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.
  - 1. Prepare surfaces, cut, fit and set tile. Extend tile into recesses and under equipment and fixtures to form a complete covering without interruptions. Terminate tile neatly at obstructions, edges, and corners, without disruption of pattern or joint alignment.
- G. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make joints watertight, without voids, cracks, excess mortar, or excess grout. All inside corners shall be coved. No butted 90 degree intersections permitted. All outside corners shall be bull nosed.
- H. Form internal angles square and external angles bullnosed.
- I. Install non-ceramic trim in accordance with manufacturer's instructions.
- J. Install thresholds where indicated.
- K. Sound tile after setting. Replace hollow sounding units.
- L. Keep control and expansion joints free of mortar, grout, and adhesive.
- M. Prior to grouting, allow installation to completely cure; minimum of 48 hours.
- N. Grout tile joints unless otherwise indicated. Use standard grout unless otherwise indicated.
- O. At changes in plane and tile-to-tile control joints, use tile sealant instead of grout, with either bond breaker tape or backer rod as appropriate to prevent three-sided bonding.

### **3.05 INSTALLATION - FLOORS - MORTAR BED METHODS**

- A. Over interior concrete substrates, install in accordance with TCNA (HB) Method with waterproof membrane, unless otherwise indicated.



1. Where waterproofing membrane is indicated, with standard grout or no mention of grout type, install in accordance with TCNA (HB) Method F121.
- B. Cleavage Membrane: Lap edges and ends.
- C. Waterproofing Membrane: Install as recommended by manufacturer .
- D. Mortar Bed Thickness: 1-1/4 inch, unless otherwise indicated.

### 3.06 INSTALLATION - WALL TILE

- A. Over cementitious backer units on studs, install in accordance with TCNA (HB) Method W244C, using membrane at toilet rooms.

### 3.07 GROUTING

- A. Joint Width: As follows unless indicated otherwise on Drawings.
  1. Glazed Wall Tile, Unmounted: As determined by spacing lugs.
  2. Glazed Floor Tile, Unmounted: 1/8 inch.
  3. Porcelain Floor Tile: 1/4 inch.
  4. Mounted Tile: As determined by factory-produced spacing.
  5. Trim and Accessories: Match adjoining tile units.
- B. Wall Tile Grouting: TCNA/ANSI A108.10, latex-portland cement.
- C. Floor Tile Grouting: TCNA/ANSI A108.10, latex-portland cement.
- D. Do not begin grouting tiles until they are firmly set and a minimum of 48 hours of curing has occurred.
- E. Remove spacers, ropes, glue, and similar foreign matter prior to grouting.
- F. When using proprietary grout, comply with manufacturer's instructions and recommendations unless otherwise more stringent requirements are specified.
- G. Force maximum amount of approved grout into joints in accordance with pertinent recommendations contained in TCNA/ANSI A108.10.
- H. Fill joints of cushion-edge tile to depth of cushion; fill joints of square-edge tile flush with tile surface.
- I. Fill all gaps and skips.
- J. Do not permit mortar or mounting mesh to show through grouted joints.
- K. Provide hard finished grout which is uniform in color, smooth, and without voids, pin holes, or low spots.
- L. Leave tile clean.

### 3.08 TOLERANCES

- A. Subsurface Guidelines: Refer to TCNA (HB) for a complete guidelines.

Mortar Bed	1/4 inch: 10 feet
Thin Bed w/ cementitious bonding material w/ Tiles <15"	1/4 inch: 10 feet from plane Maximum 1/16 inch variation in 12 inches from high points.



Thin Bed w/ cementitious bonding material w/ Tiles any side >15"	1/8 inch: 10 feet from plane Maximum 1/16 inch variation in 24 inches from high points.
Thin Bed w/ organic adhesive bonding material w/ Tiles any side >15"	1/16 inch in 3 feet No abrupt irregularities >1/32 inch

### 3.09 GROUT SEALER

- A. Clean grout and apply sealer in accordance with manufacturer's instructions and recommendations.

### 3.10 JOINT SEALANT

- A. Apply sealant after tile is grouted, grout is cured and tile field is thoroughly clean and dry.
- B. Seal between tile and all penetrating elements.
- C. Seal perimeter of tile field where tile base is not provided.
- D. Sealant Locations shall include:
  - 1. Around plumbing penetrations.
  - 2. Around door frames and other items set in wall.
- E. Refer to Section 07 92 00 - Joint Sealants for additional requirements.

### 3.11 FIELD QUALITY CONTROL

- A. See Section 01 40 00 - Quality Requirements, for additional requirements.
- B. Provide manufacturer's field representative to inspect waterproofing.
- C. Test shower linings with standing water to the top of the rough threshold for a period of minimum 24 hours. CPC 418.1.
  - 1. A test plug shall be so placed that both the upper and under sides of the lining shall be subjected to test at its point of contact with the sub-drain.
    - a. When the test plug is removed, all of the test water shall drain out by gravity through the weep holes.
    - b. A ring of non-absorbent material must be placed around the weep holes to keep them open when the finish materials are installed.
  - 2. Verify water level has not changed beyond normal evaporation.
  - 3. Inspect floor below and adjacent surfaces for leaks.
- D. Repair or remove and reinstall as required.
- E. Repeat until a satisfactory result is achieved.

### 3.12 CLEANING

- A. Clean tile and grout surfaces.
  - 1. After completion of setting and grouting, thoroughly clean and polish tile.
  - 2. Do not use acid or acid cleaners to clean tile.
  - 3. When tile is thoroughly clean and dry, polish glazed tile with clean dry cloths.



### **3.13 PROTECTION**

- A. Do not permit traffic over finished floor surface for 4 days after installation.
- B. Cover floors with kraft paper and protect from dirt and residue from other trades.
- C. Where floor is to be exposed for prolonged periods cover with plywood or other similar type walkways

**END OF SECTION**







## **SECTION 09 68 13**

### **TILE CARPETING**

#### **PART 1 GENERAL**

##### **1.01 SECTION INCLUDES**

- A. Carpet tile, fully adhered. CPT-1, CPT-2

##### **1.02 RELATED REQUIREMENTS**

- A. Section 01 61 16 - Volatile Organic Compound (VOC) Content Restrictions.
- B. Section 01 74 19 - Construction Waste Management and Disposal: Reclamation/Recycling of new carpet tile scrap and removed carpet tile.
- C. Section 09 05 61 - Common Work Results for Flooring Preparation: Removal of existing floor coverings, cleaning, and preparation.

##### **1.03 REFERENCE STANDARDS**

- A. AATCC Test Method 134 - Electrostatic Propensity of Carpets; 2016.
- B. AATCC Test Method 16 - Test Method for Colorfastness to Light; 2004.
- C. ASTM D2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials; 2016.
- D. ASTM E648 - Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source; 2015.
- E. CRI 104 - Standard for Installation of Commercial Carpet; 2015.
- F. CRI (GLP) - Green Label Plus Testing Program - Certified Products; [www.carpet-rug.org](http://www.carpet-rug.org); current edition.
- G. NFPA 253 - Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source; 2015.

##### **1.04 SUBMITTALS**

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.
- C. Shop Drawings: Indicate layout of joints.
- D. Samples: Submit two carpet tiles illustrating color and pattern design for each carpet color selected.
- E. Submit two, 6 inch long samples of edge strip and base cap.
- F. Manufacturer's Installation Instructions: Indicate special procedures.
- G. Installer's Qualification Statement.
- H. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.
- I. Maintenance Materials: Furnish the following for District's use in maintenance of project.



1. See Section 01 60 00 - Product Requirements, for additional provisions.
2. Extra Carpet Tiles: Quantity equal to 5 percent of total installed of each color and pattern installed.

#### **1.05 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: Company specializing in manufacturing specified carpet tile with minimum three years documented experience.
- B. Installer Qualifications: Company specializing in installing carpet tile with minimum three years documented experience and approved by carpet tile manufacturer.

#### **1.06 FIELD CONDITIONS**

- A. Store materials in area of installation for minimum period of 24 hours prior to installation.
  1. Store inside, in well ventilated area, protected from weather, moisture and soiling. Store rolls flat, not standing on end.
- B. Maintain minimum 70 degrees F ambient temperature 24 hours prior to, during and 24 hours after installation.
- C. Deliver carpet materials in original mill protective wrapping with mill register numbers and tags attached.
- D. Ventilate installation area during installation and for 72 hours after installation.

#### **1.07 WARRANTY**

- A. Carpet Warranty: Provide 10-year Commercial Limited Warranty.
- B. Extended Warranty: Provide extended warranty covering edge raveling, delamination and wear exceeding 10 percent of face yarn weight for a period of 15 years after "Notice of Completion".

### **PART 2 PRODUCTS**

#### **2.01 REGULATORY REQUIREMENTS**

- A. All products used for flooring installation shall comply with flammability and smoke classifications for various locations of installation. Comply with applicable requirements of California Building Code (CBC) Chapter 8.
- B. Provide glue-down installation conforming to CBC Section 11B-302.2.
  1. Carpet shall be securely attached and shall have a firm cushion. pad, or backing or no cushion or pad.
    - a. Carpet shall have level loop, textured loop, level cut or level cut/uncut pile texture.
    - b. Pile height shall be 1/2 inch maximum.
  2. Exposed edges shall be fastened to floor surfaces and shall have trim on the entire length.
    - a. Carpet edges shall comply with CBC Section 11B-303.
- C. Comply with CalGreen Building Standards: All installed carpeting shall be low VOC emissions listed. Certified as Low Emission by one of the following:
  1. Carpet and Rug Institute's Green Label Plus Program. CalGreen 5.504.4.4.1



2. Compliant with the VOC emission limits and testing requirements specified in the California Department of Public Health's "Standard Method for the Testing and Evaluation Chambers", Version 1.1, February 2010 or Specification 01350. CalGreen 5.504.4.4.2.
3. NSF/ANSI 140 at Gold level or higher. CalGreen 5.504.4.4.3
4. SCS Floorscore; [www.scs-certified.com](http://www.scs-certified.com). CalGreen 5.504.4.4.4.
5. Compliant with the Collaborative for High Performance Schools California (CA-CHPS) Criteria Interpretation for EQ 7.0 and EQ 7.1 (formerly EQ 2.2) dated July 2012 and listed in the CHPS High Performance Product Database; [www.chps.net/manual/lem\\_table.htm](http://www.chps.net/manual/lem_table.htm). CalGreen 5.504.4.4.5.

## **2.02 MATERIALS**

- A. Tile Carpeting: Tufted, Textured Loop, manufactured in one color dye lot.
  1. Product: Drift Tile, The Park Collection manufactured by Shaw Industries.
  2. Tile Size: 9 by 36 inch, nominal.
  3. Thickness: 0.265 inch.
  4. Color: As indicated on Drawings.
  5. Pattern: Linear.
  6. Critical Radiant Flux: Minimum of 0.45 watts/sq cm, when tested in accordance with ASTM E648 or NFPA 253.
  7. Surface Flammability Ignition: Pass ASTM D2859 (the "pill test").
  8. VOC Content: Comply with Section 01 61 16.
  9. VOC Content: Provide CRI (GLP) certified product.
  10. Maximum Electrostatic Charge: 3.5 Kv. at 20 percent relative humidity, AATCC Test Method 134.
  11. Gauge: 1/12 inch.
  12. Stitches: 10 per inch.
  13. Light Fastness:  $\geq 4.0$  at 80 Hours, AATCC Test Method 16.

## **2.03 ACCESSORIES**

- A. Subfloor Filler: White premix latex; type recommended by flooring material manufacturer.
- B. Edge Strips: Rubber, color as selected by Architect.
- C. Adhesives:
  1. Compatible with materials being adhered; maximum VOC content as specified in Section 01 61 16.
- D. Carpet Tile Adhesive: Recommended by carpet tile manufacturer; releasable type.
  1. Water-resistant, non-staining and nonflammable type as recommended by carpet manufacturer to be compatible with backing materials.



## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Verify that subfloor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive carpet tile.
  - 1. Maximum variation of 1/8-inch in 10 ft
- B. Verify that subfloor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to subfloor surfaces.
- C. Cementitious Subfloor Surfaces: Verify that substrates are ready for flooring installation by testing for moisture and alkalinity (pH).
  - 1. Test in accordance with Section 09 05 61.
  - 2. Obtain instructions if test results are not within limits recommended by flooring material manufacturer and adhesive materials manufacturer.
  - 3. Follow moisture and alkalinity remediation procedures in Section 09 05 61.
- D. Carpet Verification: Verify carpet match before cutting or placement to ensure minimal variation between dye lots.
- E. Verify that required floor-mounted utilities are in correct location.

### **3.02 PREPARATION**

- A. Prepare floor substrates for installation of flooring in accordance with Section 09 05 61.

### **3.03 INSTALLATION**

- A. Starting installation constitutes acceptance of subfloor conditions.
- B. Install carpet tile in accordance with manufacturer's instructions and CRI 104 (Commercial).
- C. Blend carpet from different cartons to ensure minimal variation in color match.
- D. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.
- E. Lay carpet tile in square pattern, with pile direction parallel to next unit, set parallel to building lines.
  - 1. Locate change of color or pattern between rooms under door centerline.
- F. Locate change of color or pattern between rooms under door centerline.
- G. Fully adhere carpet tile to substrate.
- H. Trim carpet tile neatly at walls and around interruptions.
  - 1. Edges: Run carpet under open bottom items and all cabinets and install tight to walls. Neatly trim and secure edge of carpet adjacent to door jambs where no base occurs.
- I. Complete installation of edge strips, concealing exposed edges.
- J. Carpet Finishing: Brush all seams and trim protruding pile tufts level. Remove excess adhesive on the carpet surface and thoroughly vacuum entire area. Leave room clean and ready for use.



### **3.04 PROTECTION**

- A. Cover carpet during construction period with reinforced kraft paper when construction traffic is required to cross carpeted areas.
- B. Remove and replace damaged or improperly installed carpet.

### **3.05 CLEANING**

- A. Remove excess adhesive without damage, from floor, base, and wall surfaces.
- B. Clean and vacuum carpet surfaces.
  - 1. Vacuum and remove all stains from carpet to satisfaction of District and in accordance with cleaning specified in Section 01 70 00 - Execution and Closeout Requirements.

**END OF SECTION**







## **SECTION 32 33 00**

### **SITE FURNISHINGS**

#### **PART 1 GENERAL**

##### **1.01 SUMMARY**

- A. This Section includes the following:
  - 1. Composite Wood Seat Top in CIP Concrete Seat Wall
  - 2. Bicycle racks.
  - 3. Trash and Recycling receptacles.
  - 4. Bollards
  - 5. Skateboard Deterrents
  - 6. Drinking Fountains
  - 7. Tables and Chairs
  - 8. Tree Grates
- B. Related Sections include the following:
  - 1. Division 03 Section "Landscape Architectural Concrete" for CIP concrete seat walls, installation of pipe sleeves, anchor bolts, formed voids in concrete footings.
  - 2. Division 31 Section "Earth Moving" for excavation for installation of concrete footings.

##### **1.02 SUBMITTALS**

- A. Product Data: For each type of product indicated.
- B. Samples for Initial Selection: For units with factory-applied color finishes.
- C. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below.
  - 1. Size: Not less than 6-inch- (152-mm-) long linear components and 4-inch- (102-mm-) square sheet components.
- D. Product Schedule: For site furnishings. Use same designations indicated on Drawings.
- E. Material Certificates: For site furnishings, signed by manufacturers.
  - 1. Composite Wood/ Recycled plastic lumber
- F. Maintenance Data: For site furnishings to include in maintenance manuals.

##### **1.03 QUALITY ASSURANCE**

- A. Source Limitations: Obtain each type of site furnishing(s) through one source from a single manufacturer.

##### **1.04 EXTRA MATERIALS**

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Bench Replacement Slats: No fewer than [two] full-size units for each size indicated.



2. Trash Receptacle Inner Containers: [2] full-size units for each size indicated.
3. Anchors: For each product specified.

## **PART 2 PRODUCTS**

### **2.01 MATERIALS**

- A. Aluminum: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated; free of surface blemishes and complying with the following:
  1. Rolled or Cold-Finished Bars, Rods, and Wire: ASTM B 211 (ASTM B 211M).
  2. Extruded Bars, Rods, Wire, Profiles, and Tubes: ASTM B 221 (ASTM B 221M).
  3. Structural Pipe and Tube: ASTM B 429.
  4. Sheet and Plate: ASTM B 209 (ASTM B 209M).
  5. Castings: ASTM B 26/B 26M.
- B. Steel and Iron: Free of surface blemishes and complying with the following:
  1. Plates, Shapes, and Bars: ASTM A 36/A 36M.
  2. Steel Pipe: Standard-weight steel pipe complying with ASTM A 53, or electric-resistance-welded pipe complying with ASTM A 135.
  3. Tubing: Cold-formed steel tubing complying with ASTM A 500.
  4. Mechanical Tubing: Cold-rolled, electric-resistance-welded carbon or alloy steel tubing complying with ASTM A 513, or steel tubing fabricated from steel complying with ASTM A 1011/A 1011M and complying with dimensional tolerances in ASTM A 500; zinc coated internally and externally.
  5. Sheet: Commercial steel sheet complying with ASTM A 1011/A 1011M.
  6. Expanded Metal: Carbon-steel sheets, deburred after expansion, and complying with ASTM F 1267.
  7. Malleable-Iron Castings: ASTM A 47/A 47M, grade as recommended by fabricator for type of use intended.
  8. Gray-Iron Castings: ASTM A 48/A 48M, Class 200.
- C. Stainless Steel: Free of surface blemishes and complying with the following:
  1. Sheet, Strip, Plate, and Flat Bars: ASTM A 666.
  2. Pipe: Schedule 40 steel pipe complying with ASTM A 312/A 312M.
  3. Tubing: ASTM A 554.
- D. Fiberglass: Multiple laminations of glass-fiber-reinforced polyester resin with UV-light stable, colorfast, nonfading, weather- and stain-resistant, colored polyester gel coat, and manufacturer's standard finish.
- E. Plastic: Color impregnated, color and UV-light stabilized, and mold resistant.
  1. Polyethylene: Fabricated from virgin plastic HDPE resin.



2. Recycled Polyethylene: Fabricated from not less than [96 percent recycled, purified, fractional-melt plastic resin] with not less than [90 percent recycled postconsumer waste by weight] HDPE.
- F. Anchors, Fasteners, Fittings, and Hardware: [Stainless steel] [Manufacturer's standard, corrosion-resistant-coated or non-corrodible materials]; commercial quality [, tamperproof, vandal and theft resistant][, concealed, recessed, and capped or plugged].
  1. Antitheft Hold-Down Brackets: For securing site furnishings to substrate; as indicated on the Drawings.
- G. Non-shrink, Nonmetallic Grout: Premixed, factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107; recommended in writing by manufacturer, for exterior applications.
- H. Erosion-Resistant Anchoring Cement: Factory-packaged, non-shrink, non-staining, hydraulic-controlled expansion cement formulation for mixing with potable water at Project site to create pourable anchoring, patching, and grouting compound; resistant to erosion from water exposure without needing protection by a sealer or waterproof coating; recommended in writing by manufacturer, for exterior applications.
- I. Galvanizing: Where indicated for steel and iron components, provide the following protective zinc coating applied to components after fabrication:
  1. Zinc-Coated Tubing: External, zinc with organic overcoat, consisting of a minimum of 0.9 oz./sq. ft. (0.27 kg/sq. m) of zinc after welding, a chromate conversion coating, and a clear, polymer film. Internal, same as external or consisting of 81 percent zinc pigmented coating, not less than 0.3 mil (0.0076 mm) thick.
  2. Hot-Dip Galvanizing: According to ASTM A 123/A 123M, ASTM A 153/A 153M, or ASTM A 924/A 924M.

## 2.02 COMPOSITE WOOD SEAT TOP

1

- A. See plans for model number, finish and quantity (no known equal).
- B. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings by the following manufacturer:
  1. Columbia Cascade Company/ Timberform, 1-800/547-1940

## 2.03 TRASH AND RECYCLING RECEPTACLES

1

- A. See plans for model number, finish, lid options, coatings and quantity (no known equal).
- B. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings by the following manufacturer:
  1. Forms and Surfaces, 1-800-451-0410
- C. Owner Furnished, Owner Installed

## 2.04 BICYCLE RACK

- A. Per Drawings

## 2.05 SKATEBOARD DETERRENTS

1

- A. See plans for model number, finish, lid options, coatings and quantity (no known equal).



1

- B. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings by the following manufacturer:

- 1. Skatestoppers, (619) 447-6374

#### **2.06 DRINKING FOUNTAIN AND BOTTLE FILLER**

- A. See plans for model number, finish and quantity (no known equal).
- B. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings by the following manufacturer:

- 1. Most Dependable Fountains, (901) 867-0039

#### **2.07 BASKETBALL HOOP SYSTEM**

- A. See plans for model number, finish and quantity (no known equal).
- B. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings by the following manufacturer:

- 1. Steelcraft, (800) 371-4766

#### **2.08 TABLES AND CHAIRS**

1

- A. Owner Furnished, Owner Installed

#### **2.09 FABRICATION**

- A. Metal Components: Form to required shapes and sizes with true, consistent curves, lines, and angles. Separate metals from dissimilar materials to prevent electrolytic action.
- B. Welded Connections: Weld connections continuously. Weld solid members with full-length, full-penetration welds and hollow members with full-circumference welds. At exposed connections, finish surfaces smooth and blended so no roughness or unevenness shows after finishing and welded surface matches contours of adjoining surfaces.
- C. Pipes and Tubes: Form simple and compound curves by bending members in jigs to produce uniform curvature for each repetitive configuration required; maintain cylindrical cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of handrail and railing components.
- D. Exposed Surfaces: Polished, sanded, or otherwise finished; all surfaces smooth, free of burrs, barbs, splinters, and sharpness; all edges and ends rolled, rounded, or capped.
- E. Factory Assembly: Assemble components in the factory to greatest extent possible to minimize field assembly. Clearly mark units for assembly in the field.

#### **2.10 ANTI GRAFFITI COATING**

- A. Unless otherwise specified in the drawings or indicated by the landscape architect, all site furnishings shall receive Anti-Graffiti Coating, either manufacturer applied or contractor applied per the manufacturer's instructions and requirements.
- B. Basis-of-Design Product: Subject to compliance with requirements, provide the product by the following manufacturer:
  - 1. Graffiti Solutions System by GSS Coatings, LLC, GSSCC-100 Clear Flat, or GSSCC-200 Pigmented Flat installed by a certified applicator, or approved equal. Refer to manufacturer's recommendations for undercoat requirements based on material being



coated. GSS Base coatings GSS-500 Aqualock Water Repellent and GSS-307 Base Coat as determined by Architect and GSS Coatings recommendations.

- a. GSS Coatings LLC, 702-860-3455, contact Mike Macris
- b. If proposed equal is not pre-approved thirty (30) days prior to bid, then it will not be considered or accepted under any circumstances.

C. System Performance: Provide anti-graffiti coating system complying with the following:

1. Permanent coating system. Coatings shall not require re application regardless of number of graffiti taggings during the life of the 10 year performance warranty period.
2. Show no signs of deterioration or change of appearance after graffiti removal during the warranty period. No ghosting staining or shadowing.
3. Capability of removing 100% of all types of paint and graffiti materials from treated surfaces without damaging the coating or the substrate.
4. Upon graffiti removal, no evidence of graffiti shall remain.
5. Capable of withstanding a minimum of 120 cleaning cycles over the same area without measurable coating deterioration.
6. Shall not increase dirt pick-up of substrate.
7. Meet the following test results for the following chemicals:
  - a. MEK No effect after 5 days
  - b. Carboxylic Acid No effect after 5 days
  - c. 75% Phosphoric Acid No effect after 5 days
  - d. 37% HCL 3 hours blister
  - e. 50% Sulfuric Acid No effect after 5 days
  - f. 20% NIT 68 hours blister g.
  - g. Finish Sheen <5° on Gardner Gloss Meter
  - h. ASTM B 117 and ASTM D 714 (salt spray minimum acceptable of 8000 hours.
  - i. ASTM D 530 (hardness)
  - j. ASTM D 412 (tensile strength and elongation)
  - k. ASTM D 522 (pass 3/8 inch mandral)
  - l. ASTM 968 (abrasion test)
  - m. ASTM E 96 (vapor transmission)
  - n. Water clear, non-yellowing, free of waxes and urethanes.
  - o. Shall allow moisture vapor transmission

D. Application: Per manufacture recommendations.

E. Mock-up area to be completed and approved prior to application to remaining substrate.

F. VOC Classification: Provide materials that comply with the South Coast Air Quality Management District's VOC classification.

G. Graffiti Remover: GSS-400 Erasol®; Non-flammable, biodegradable, with a pH 7 - 8.5 and recyclable, allowing graffiti removal without the use of blasting equipment, hot water, or high pressure wash equipment. Furnish GSS-400 Erasol® graffiti removal materials in quantities described below.

1. Quantity: One full case (12, 16 ounce bottles).



- H. Warranty: 10 Year System Performance Warranty: Provide written warranty signed by manufacturer that exhibits defects in materials or workmanship. Defects are defined to include failure to withstand complete graffiti removal, ghosting, shadowing, chemical staining, yellowing, and normal environmental effects. Refer to GSS Coatings, LLC 10 Year Warranty. To obtain warranty service the purchaser must contact GSS Coatings, LLC in writing.
  - 1. Warranty process to per GSS Coatings Warranty Procedures to include testing of treated substrates via Skype or FACETIME with GSS Coatings, LLC
  - 2. Warranty period: 10 years from date of completion.

## **2.11 FINISHES, GENERAL**

- A. Comply with NAAMM's "Metal Finishes Manual for Landscape Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

## **2.12 ALUMINUM FINISHES**

- A. Baked-Enamel, Powder-Coat Finish: Manufacturer's standard, baked, polyester, powder-coat finish complying with finish manufacturer's written instructions for surface preparation, including pretreatment, application, baking, and minimum dry film thickness.

## **2.13 STEEL AND GALVANIZED STEEL FINISHES**

- A. Baked-Enamel, Powder-Coat Finish: Manufacturer's standard, baked, polyester, powder-coat finish complying with finish manufacturer's written instructions for surface preparation, including pretreatment, application, baking, and minimum dry film thickness.
- B. PVC Finish: Manufacturer's standard, UV-light stabilized, mold-resistant, slip-resistant, matte-textured, dipped or sprayed-on, PVC-plastisol finish, with flame retardant added; complying with coating manufacturer's written instructions for pretreatment, application, and minimum dry film thickness.

## **2.14 IRON FINISHES**

- A. Baked-Enamel, Powder-Coat Finish: Manufacturer's standard, baked, polyester, powder-coat finish complying with finish manufacturer's written instructions for surface preparation, including pretreatment, application, baking, and minimum dry film thickness.

## **2.15 STAINLESS-STEEL FINISHES**

- A. Remove tool and die marks and stretch lines or blend into finish.
- B. Grind and polish surfaces to produce uniform, directionally textured, polished finish indicated, free of cross scratches. Run grain with long dimension of each piece.



## **PART 3 EXECUTION**

### **3.01 EXAMINATION**

- A. Examine areas and conditions, with Installer present, for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance.
  - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

### **3.02 INSTALLATION, GENERAL**

- A. Comply with manufacturer's written installation instructions unless more stringent requirements are indicated. Complete field assembly of site furnishings where required.
- B. Unless otherwise indicated, install site furnishings after landscaping and paving have been completed.
- C. Install site furnishings level, plumb, true, and [securely anchored] [positioned] at locations indicated on Drawings.
- D. Post Setting: Set cast-in support posts in concrete footing with smooth top, shaped to shed water. Protect portion of posts above footing from concrete splatter. Verify that posts are set plumb or at correct angle and are aligned and at correct height and spacing. Hold posts in position during placement and finishing operations until concrete is sufficiently cured.
- E. Posts Set into Voids in Concrete: Form or core-drill holes for installing posts in concrete to depth recommended in writing by manufacturer of site furnishings and 3/4 inch (19 mm) larger than OD of post. Clean holes of loose material, insert posts, and fill annular space between post and concrete with [non-shrink, nonmetallic grout] [or] [anchoring cement], mixed and placed to comply with anchoring material manufacturer's written instructions, with top smoothed and shaped to shed water.
- F. Pipe Sleeves: Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with [non-shrink, nonmetallic grout] [or] [anchoring cement], mixed and placed to comply with anchoring material manufacturer's written instructions, with top smoothed and shaped to shed water.

### **3.03 ANTI GRAFFITI COATING**

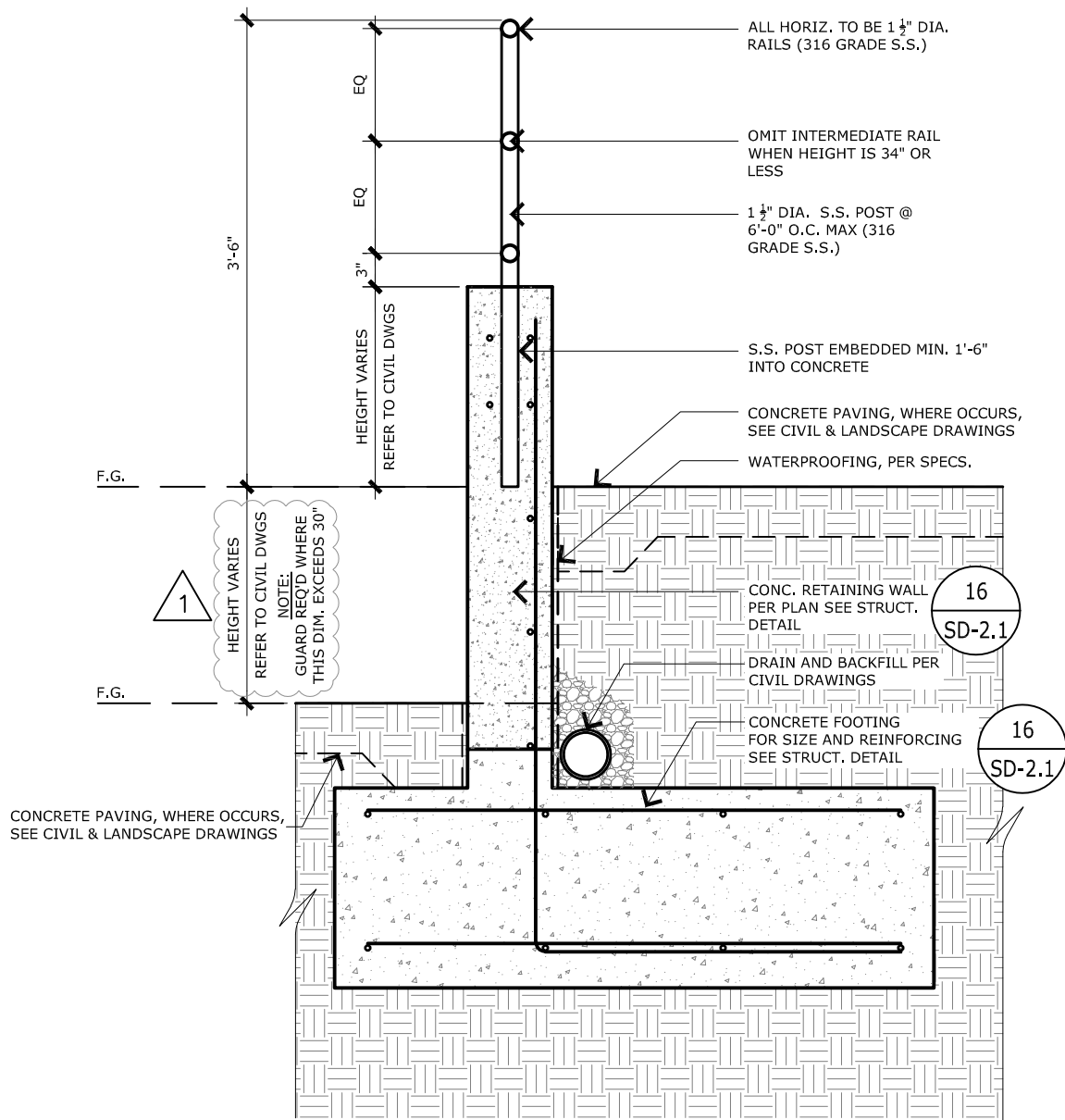
- A. Apply the water repellant and anti-graffiti undercoating(s) and finish coating(s) per the manufacturer's written instructions. An airless sprayer shall be used for all surfaces and applications, unless otherwise recommended by the manufacturer. Test a small area before applying to the entire surface.

### **3.04 CLEANING**

- A. After completing site furnishing installation, inspect components. Remove spots, dirt, and debris. Repair damaged finishes to match original finish or replace component.

## **END OF SECTION**





## GUARDRAIL @ RETAINING WALL

27

## REFERENCE ASD-1.0

# PACIFIC HIGH SCHOOL

**MODERNIZATION**  
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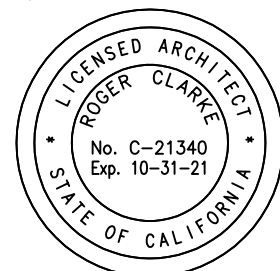
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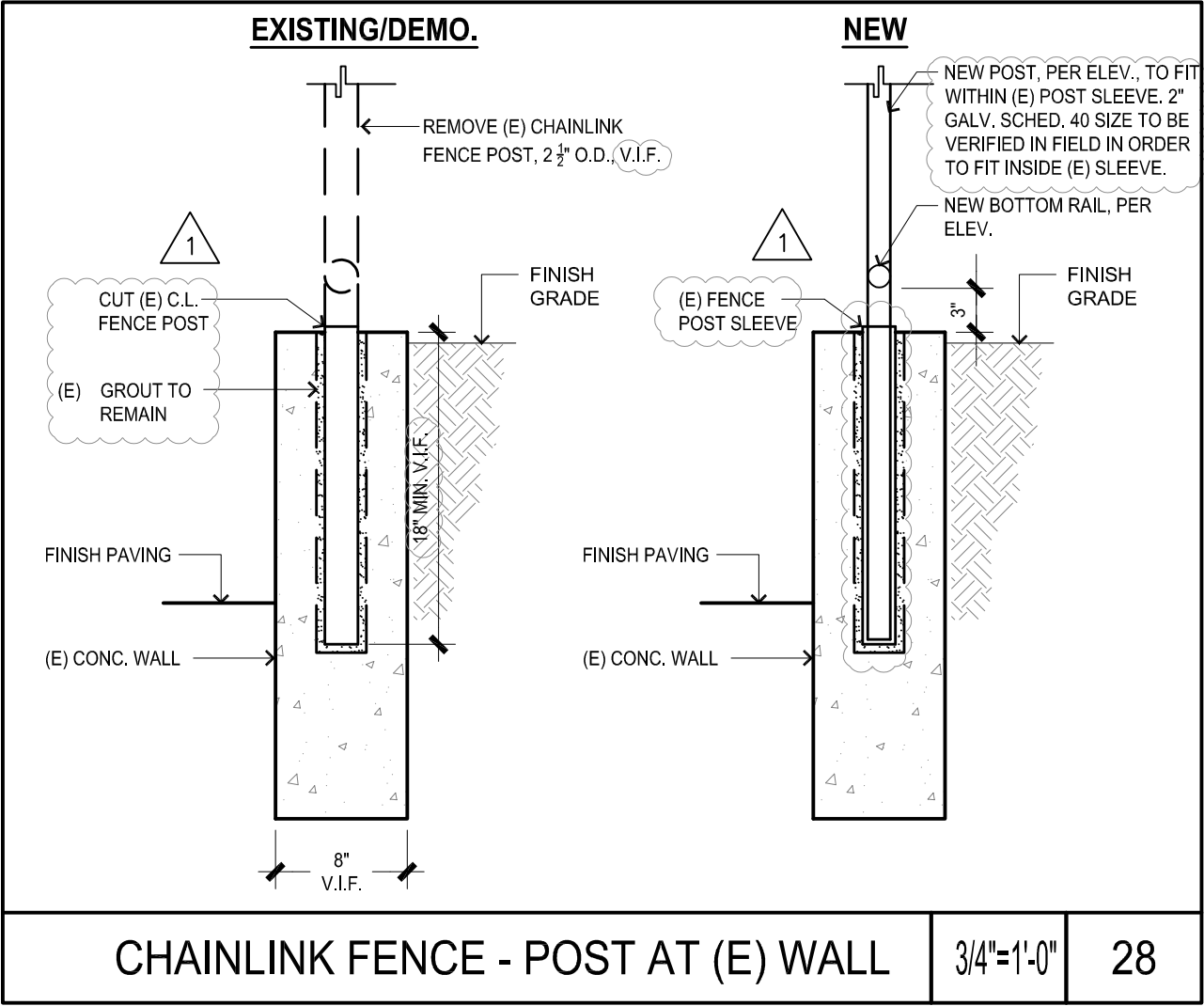
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Description 1

Scale 1

REFERENCE ASD-1.0

PACIFIC HIGH SCHOOL

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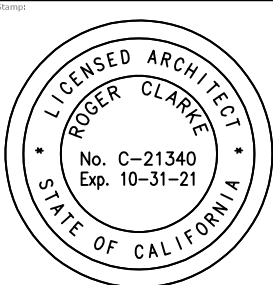
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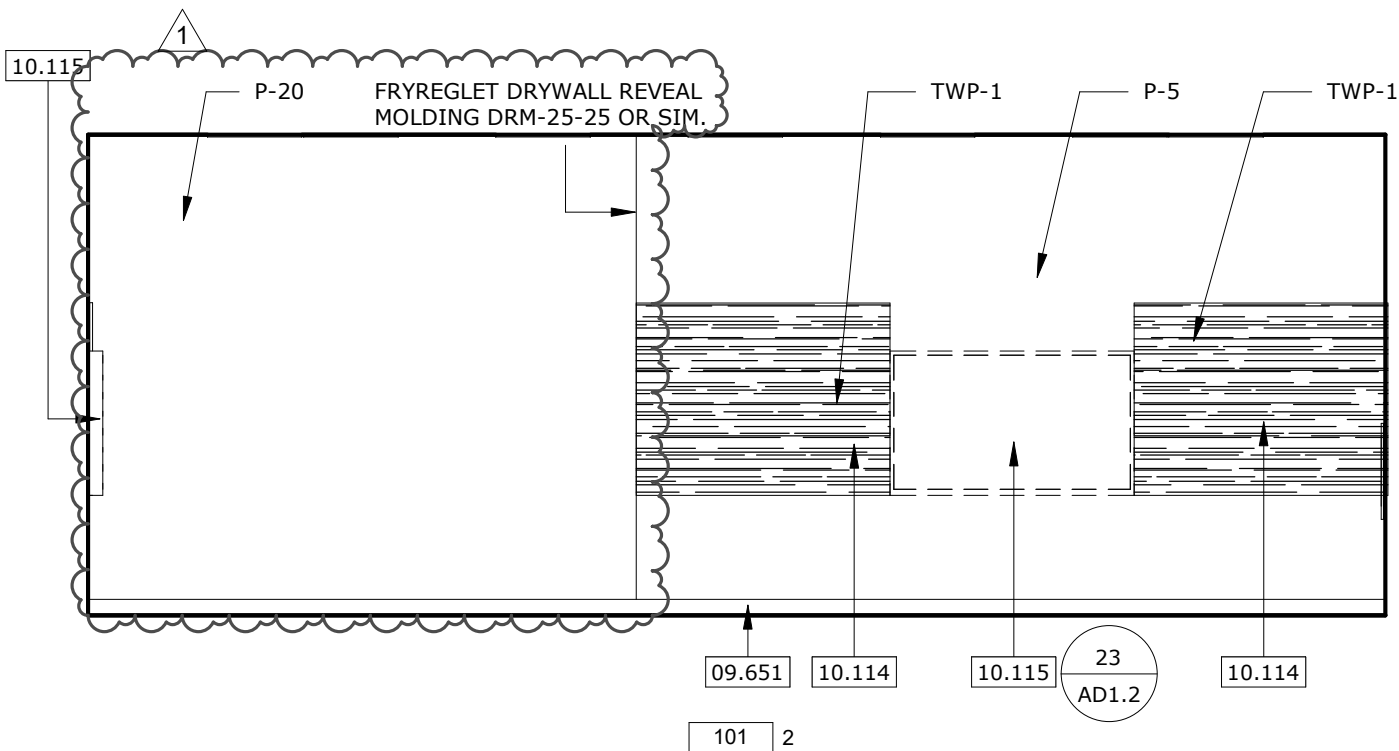
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Date: 12-01-2020  
Project #: 1-78-21

ASK-1.2



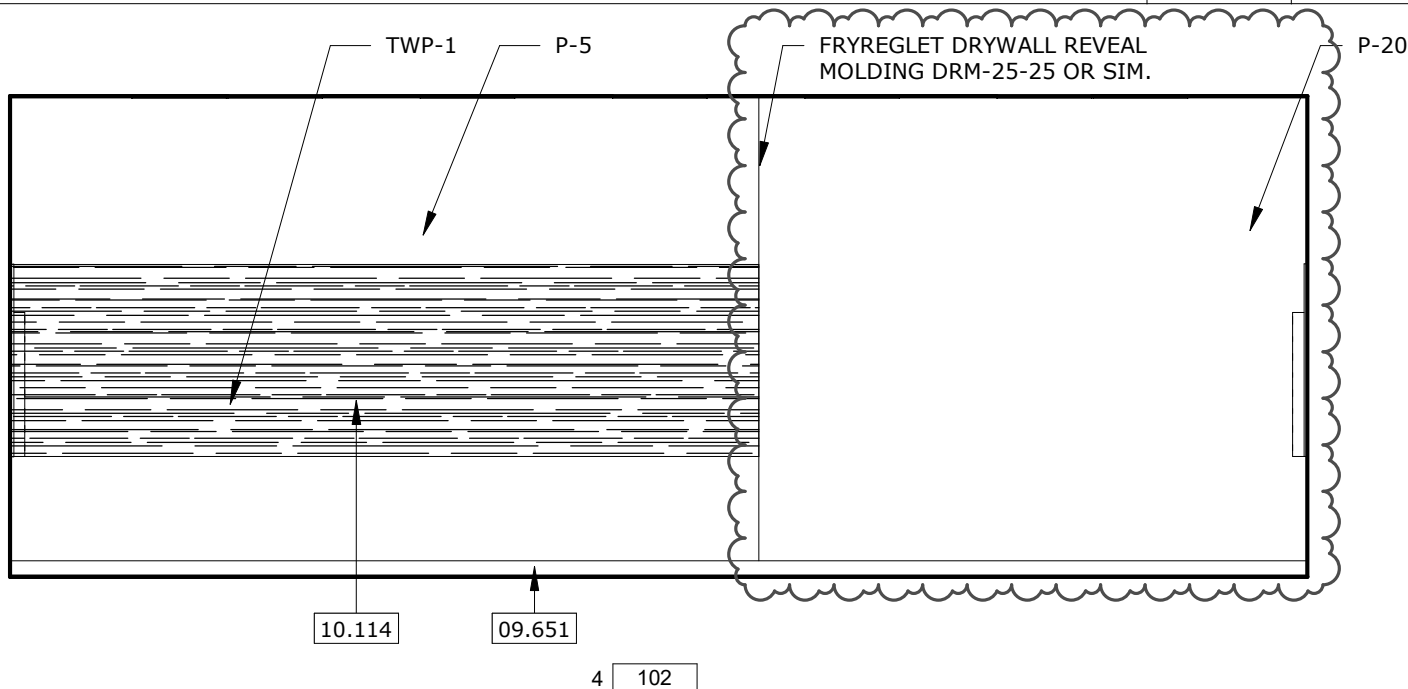




## CLASSROOM #101 - INTERIOR ELEV.

SCALE:  
1/4" = 1'-0"

1



## CLASSROOM #102 - INTERIOR ELEV

SCALE:  
1/4" = 1'-0"

2

REFERENCE A1-7.2

1/4" = 1'-0"

# PACIFIC HIGH SCHOOL

PACIFIC HIGH SCHOOL MODERNIZATION  
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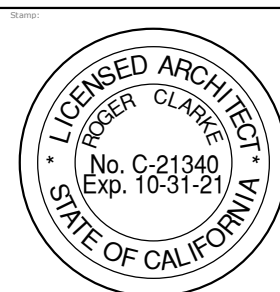
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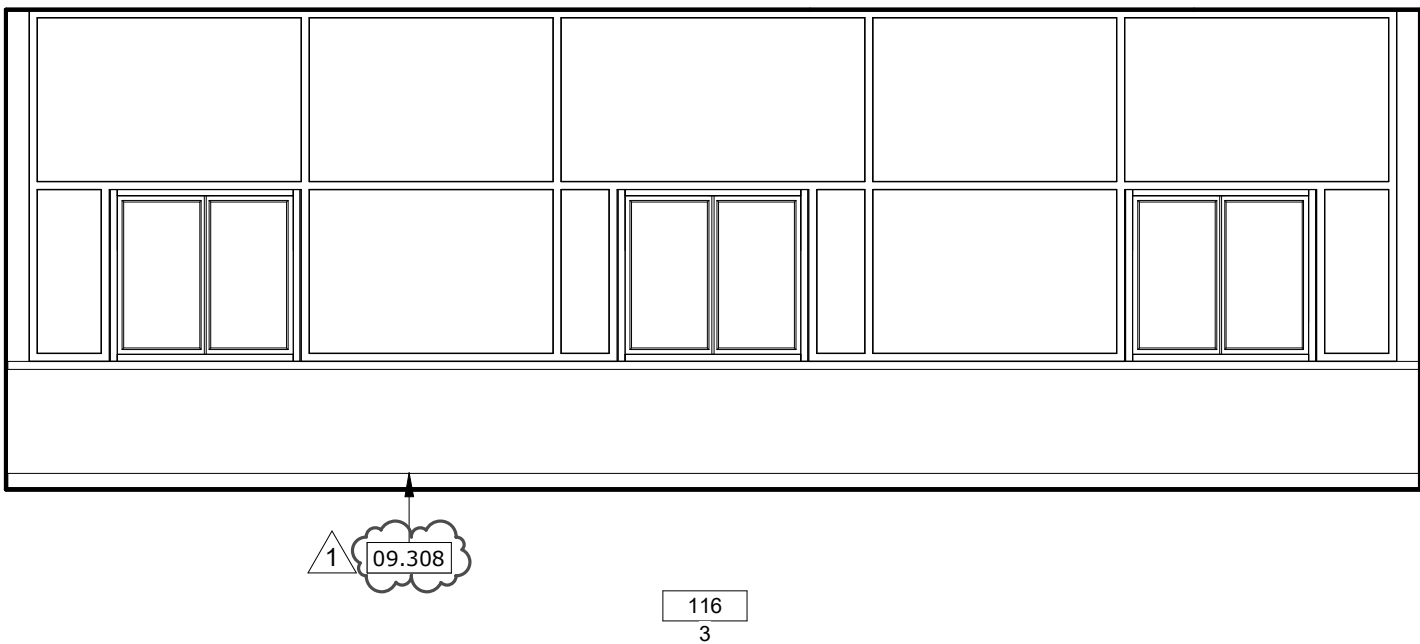
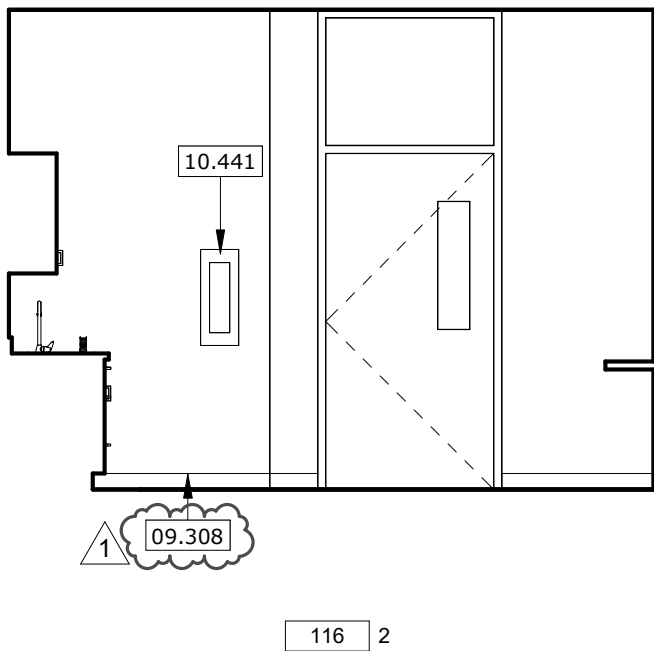
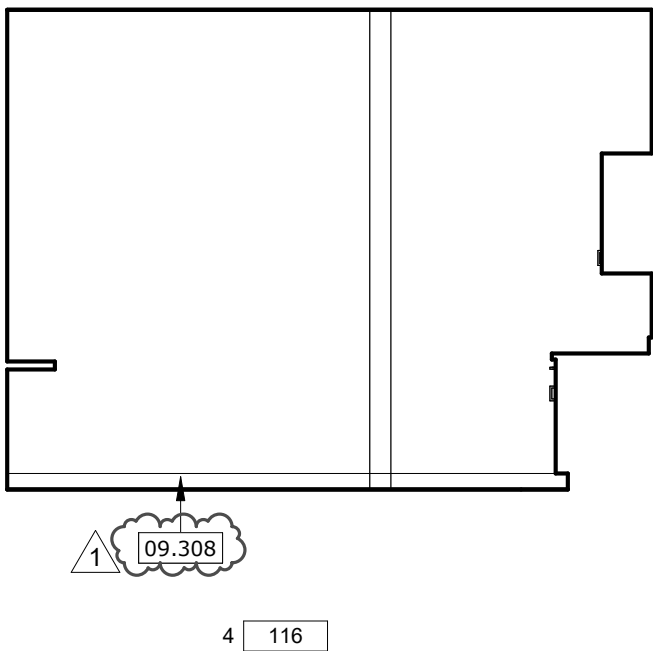
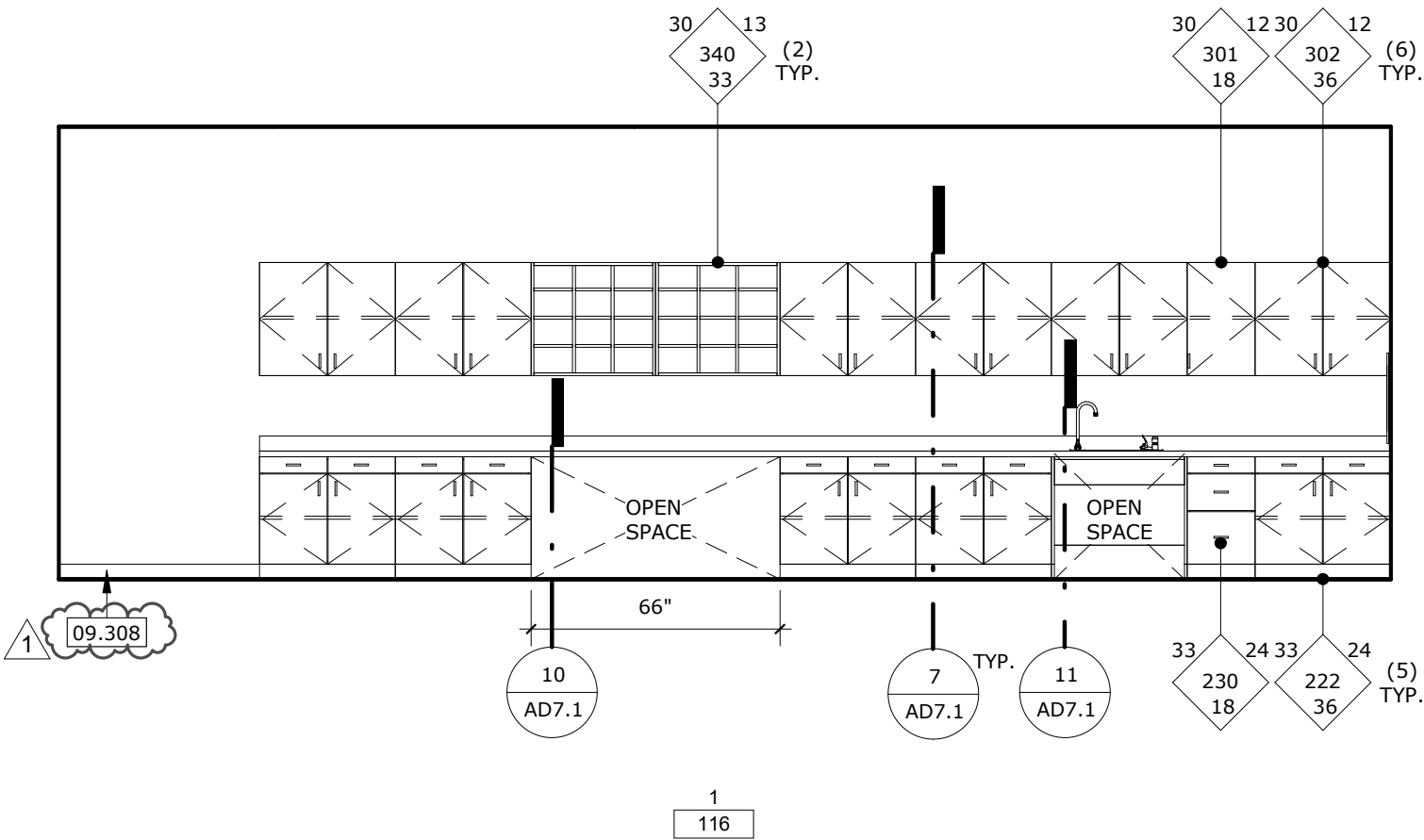
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**ASK-1.3**







NUTRITION #116 - INTERIOR ELEVATIONS

SCALE:  
1/4" = 1'-0"

2

REFERENCE SHEET A1-7.5

1/4" = 1'-0"

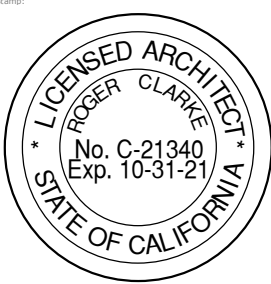
PACIFIC HIGH SCHOOL

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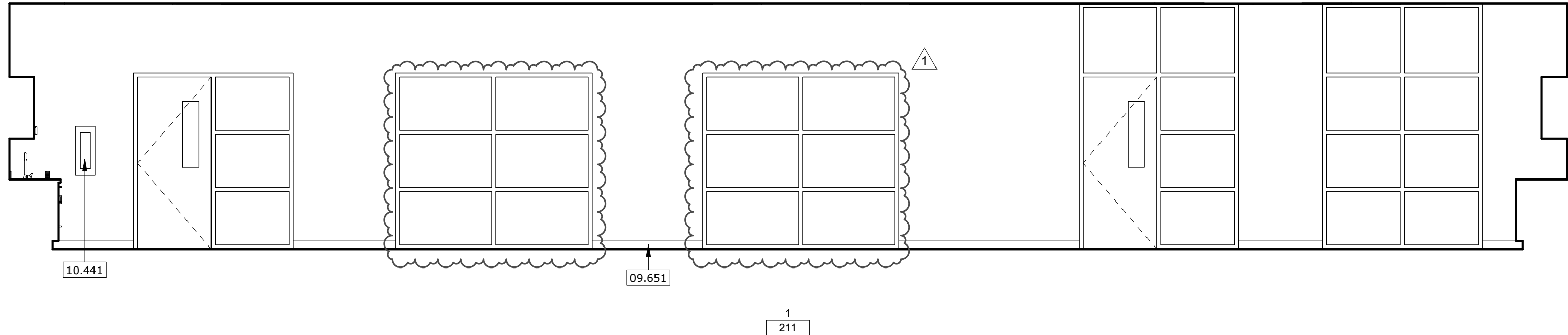
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Date:  
Project #: 1-78-21  
Sheet #:



ASK-1.4



KEYNOTES	
09.651	RESILIENT BASE
10.112	MARKERBOARD
10.114	TACKABLE WALL PANEL SYSTEM
10.115	WALL MOUNTED TELEVISION, O.F.C.I. SHALL HAVE 4" MAX. PROJECTION FROM F.O.F. WHEN MOUNTED ALONG PATH OF TRAVEL
10.441	FIRE EXTINGUISHER CABINET
11.522	WALL MOUNTED SHORT-THROW PROJECTOR, O.F.O.I.



REFERENCE 2/A2-7.4		CLASSROOM #211 - INTERIOR ELEVATIONS	SCALE: 1/4" = 1'-0"	2
			1/4" = 1'-0"	

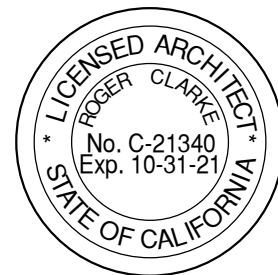
## PACIFIC HIGH SCHOOL

PACIFIC HIGH SCHOOL MODERNIZATION  
SAN BERNARDINO CITY UNIFIED SCHOOL

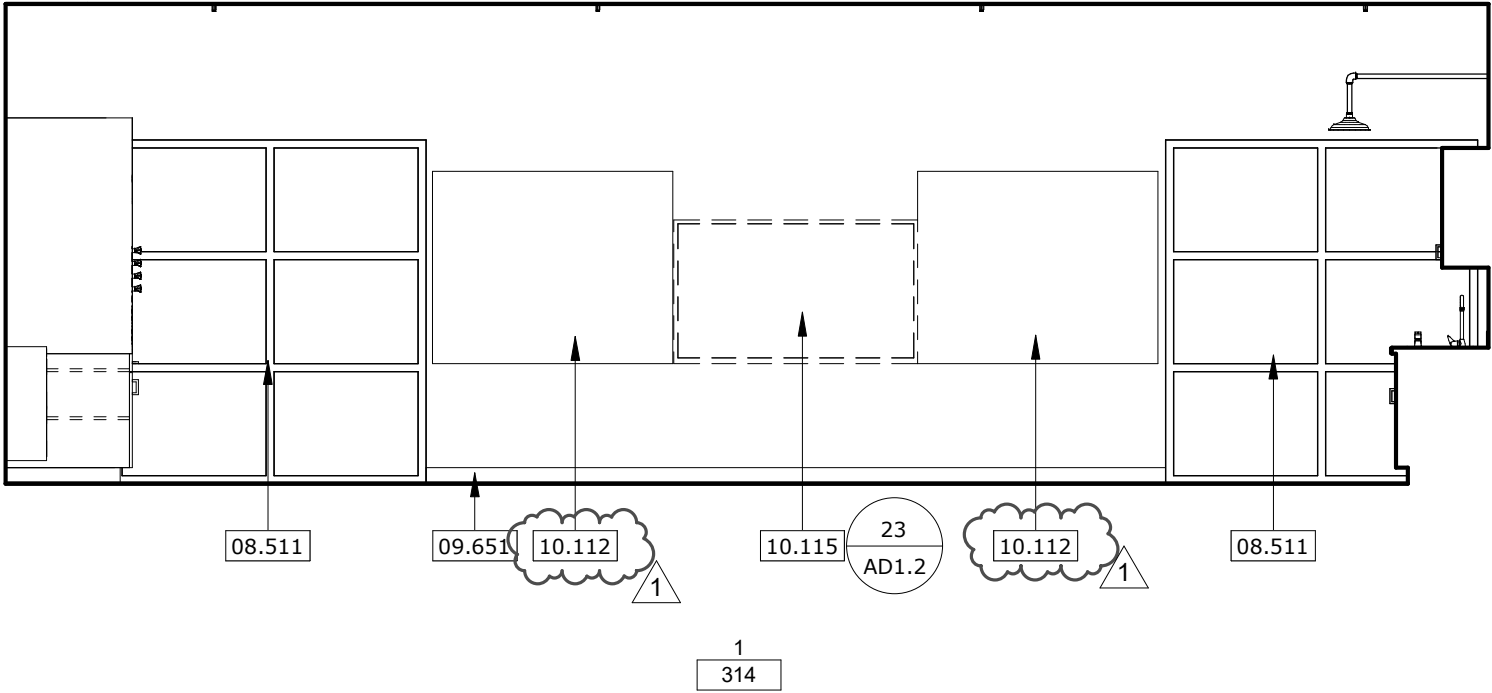
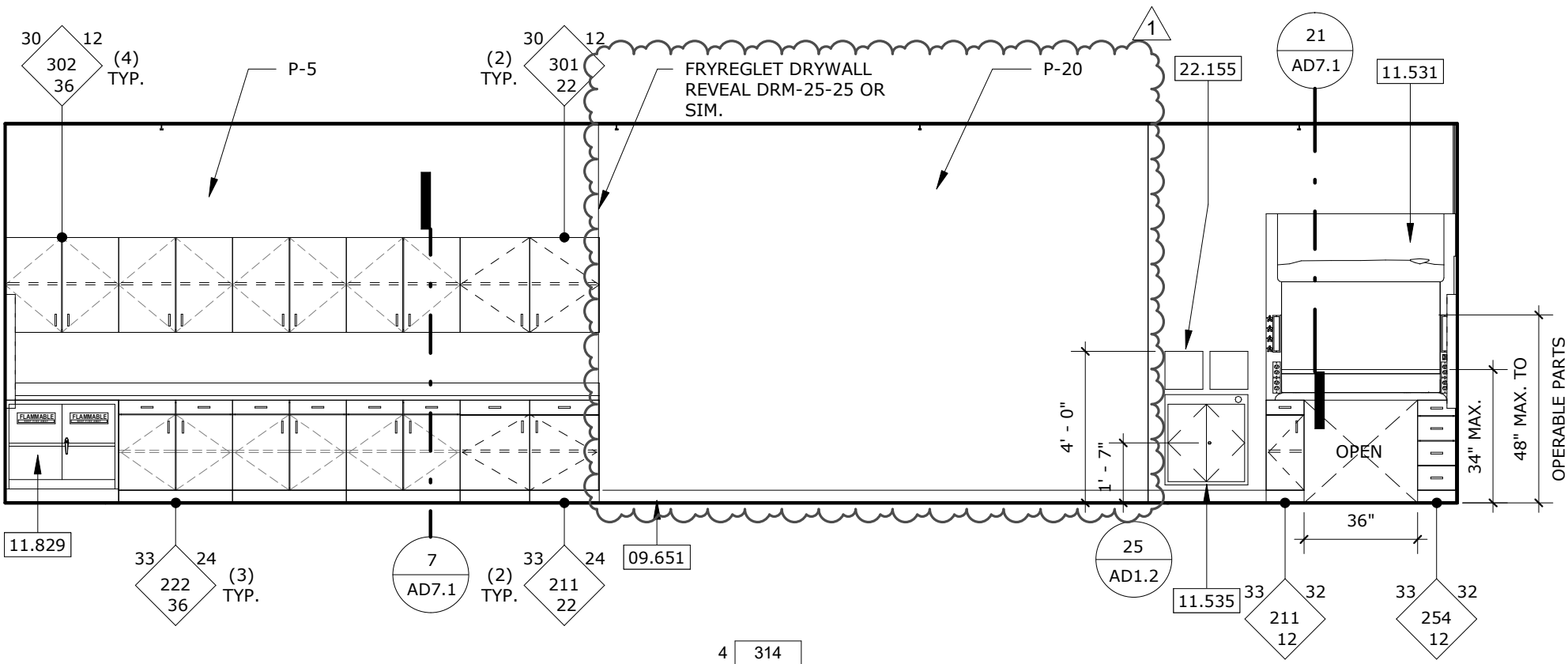
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Date:  
Project #: 1-78-21  
Sheet #: ASK-1.5

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## KEYNOTES

- 08.511 WINDOW SYSTEM, PER SCHED.  
09.651 RESILIENT BASE  
10.112 MARKERBOARD  
10.114 TACKABLE WALL PANEL SYSTEM  
10.115 WALL MOUNTED TELEVISION, O.F.C.I. SHALL HAVE 4" MAX. PROJECTION FROM F.O.F.  
10.441 FIRE EXTINGUISHER CABINET  
11.522 WALL MOUNTED SHORT-THROW PROJECTOR, O.F.O.I.  
11.531 LABORATORY FUME HOOD  
11.535 SAFETY GOGGLE STORAGE/SANITIZER CABINET  
11.829 FLAMMABLE STORAGE CABINET, SELF-CLOSING, O.F.O.I. SEE SPEC SECTION 11 53 00  
22.153 GAS CONTROL PANEL PER PLUMBING DWGS. 48" MAX. A.F.F. TO OPERABLE PARTS  
22.154 EMERGENCY GAS SHUT-OFF PER PLUMBING DWGS. 48" MAX. A.F.F. TO OPERABLE PARTS  
22.155 UTILITY ACCESS PANEL W/ SHUT-OFF PER PLUMBING DWGS. 48" MAX. A.F.F. TO OPERABLE PARTS. PAINT PANEL TO MATCH ADJACENT WALL FINISH.  
22.452 COMBINATION EMERGENCY SHOWER & EYE WASH STATION PER PLUMBING DWGS.

## SCIENCE LAB #314 - INTERIOR ELEVATIONS

SCALE:  
1/4" = 1'-0"

1

REFERENCE 1/A3-7.5

1/4" = 1'-0"

## PACIFIC HIGH SCHOOL

PACIFIC HIGH SCHOOL MODERNIZATION  
SAN BERNARDINO CITY UNIFIED SCHOOL

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5751 PALMER WAY, SUITE C, CARLSBAD CALIFORNIA 92010 (760) 438 5899

RUHNAU  
CLARKE  
ARCHITECTS

DSA APN #: 04-118035

DSA File #: 36-H7

Date:

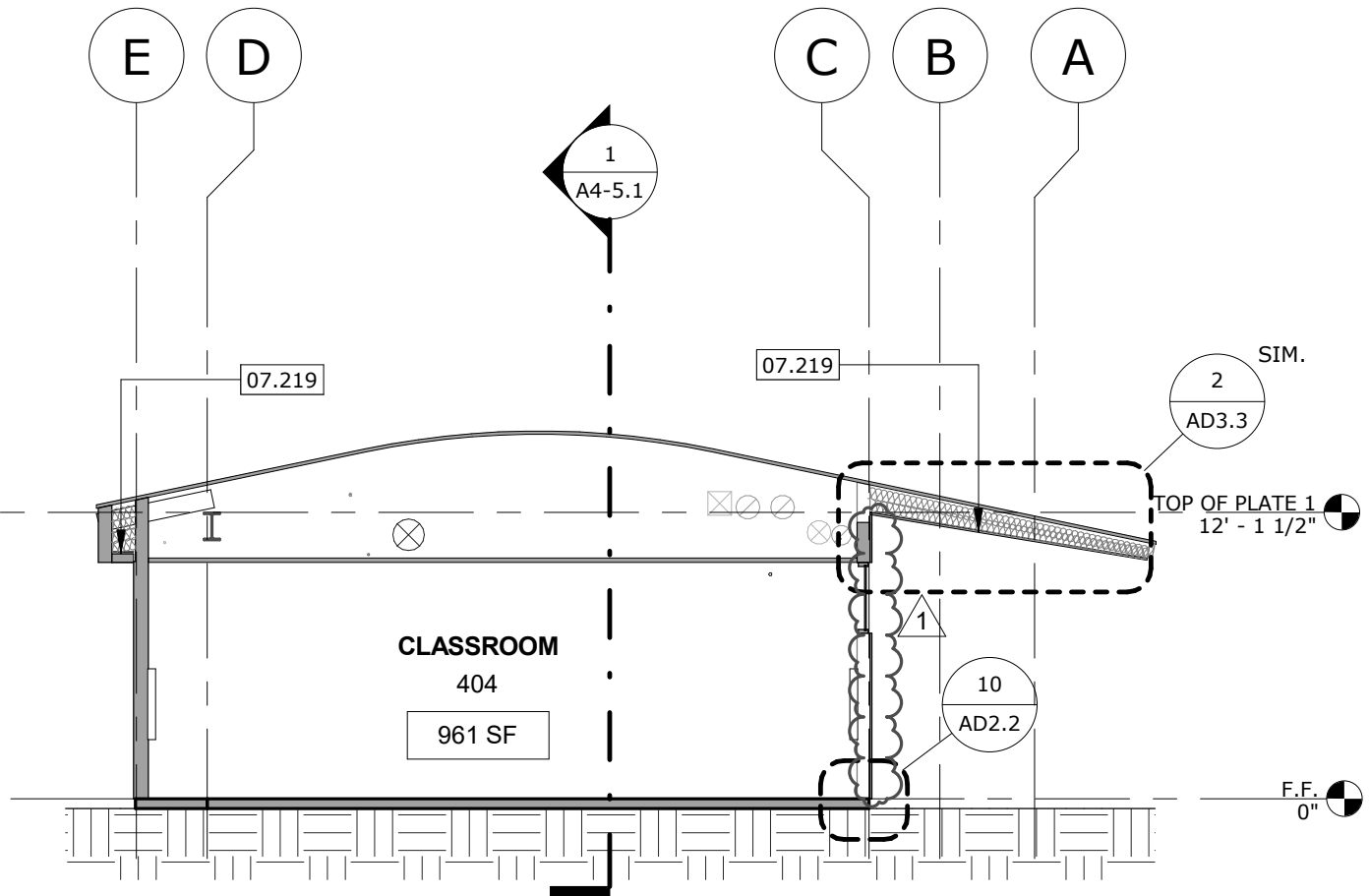
Project #: 1-78-21

Sheet #:

ASK-1.6







# BUILDING SECTION

SCALE:  
1/8" = 1'-0"

4

REFERENCE 4/A4-5.1

1/8" = 1'-0"

## PACIFIC HIGH SCHOOL

PACIFIC HIGH SCHOOL MODERNIZATION  
SAN BERNARDINO CITY UNIFIED

12/4/2020 4:39:20 PM

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RUHNAU  
CLARKE  
ARCHITECTS

DSA APN #:  
04-118035

DSA File #:  
36-H7

Date:

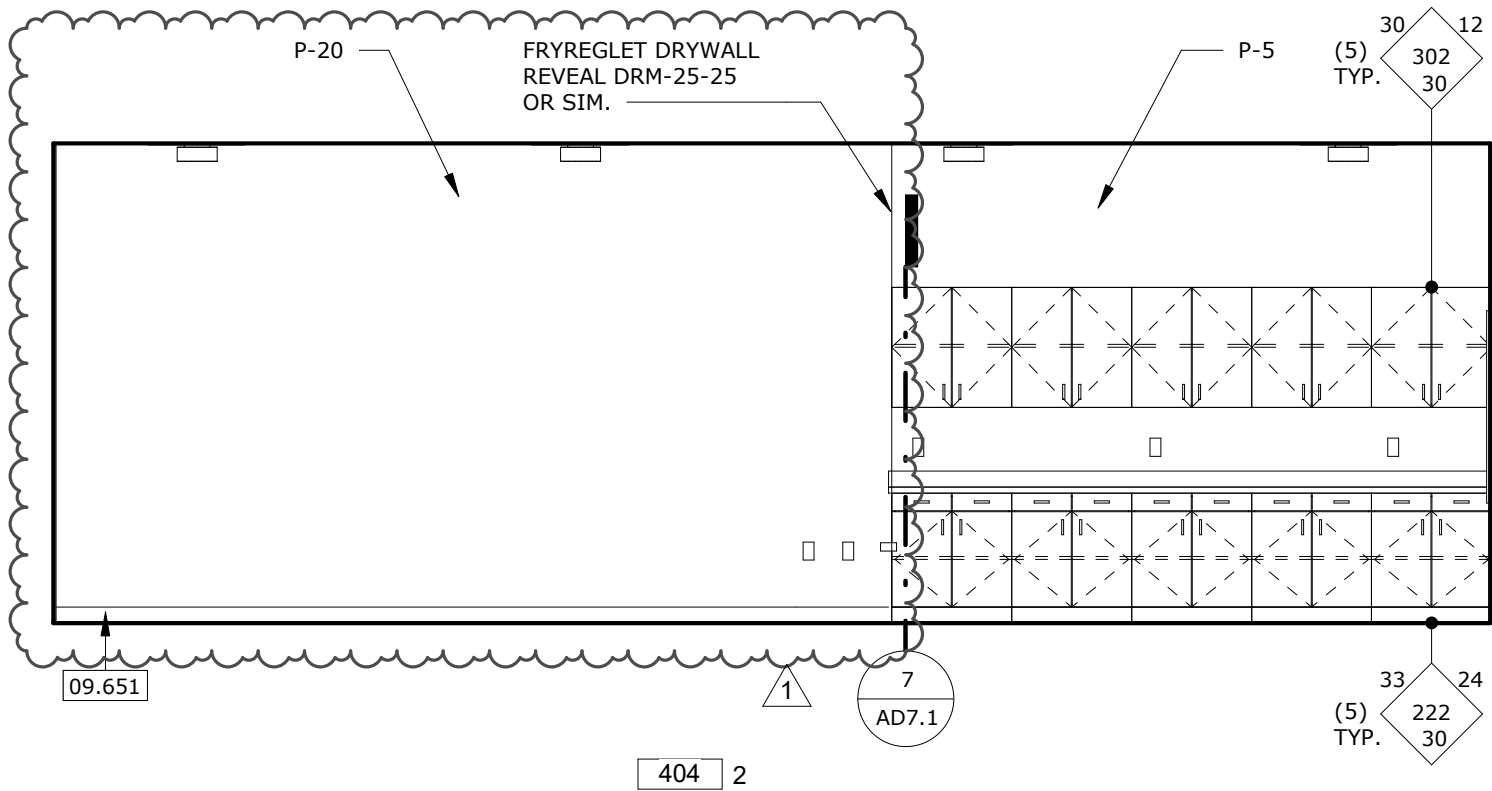
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1-78-21

Sheet #:  
**ASK-1.7**

Stamp:



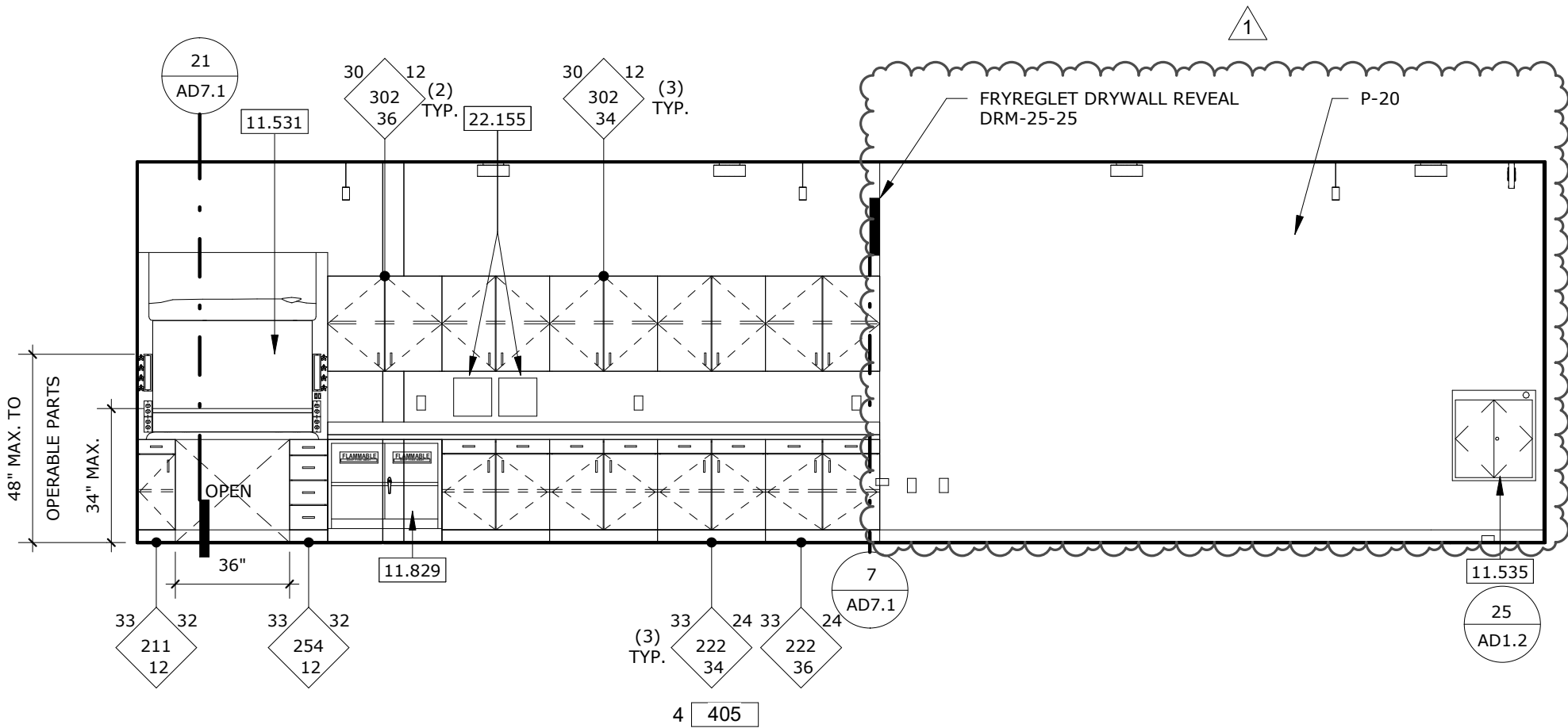




CLASSROOM #404 - INTERIOR ELEVATIONS

SCALE:  
1/4" = 1'-0"

1



SCIENCE LAB #405 - INTERIOR ELEVATIONS

SCALE:  
1/4" = 1'-0"

2

KEYNOTES

- 08.511 WINDOW SYSTEM, PER SCHED.
- 09.651 RESILIENT BASE
- 10.112 MARKERBOARD
- 10.114 TACKABLE WALL PANEL SYSTEM
- 10.115 WALL MOUNTED TELEVISION, O.F.C.I. SHALL HAVE 4" MAX. PROJECTION FROM F.O.F. WHEN MOUNTED ALONG PATH OF TRAVEL 1
- 10.441 FIRE EXTINGUISHER CABINET
- 11.522 WALL MOUNTED SHORT-THROW PROJECTOR, O.F.O.I.
- 11.531 LABORATORY FUME HOOD
- 11.535 SAFETY GOGGLE STORAGE/SANITIZER CABINET
- 11.829 FLAMMABLE STORAGE CABINET, SELF-CLOSING, O.F.O.I. SEE SPEC SECTION 11 53 00
- 22.153 GAS CONTROL PANEL PER PLUMBING DWGS. 48" MAX. A.F.F. TO OPERABLE PARTS
- 22.154 EMERGENCY GAS SHUT-OFF PER PLUMBING DWGS. 48" MAX. A.F.F. TO OPERABLE PARTS
- 22.155 UTILITY ACCESS PANEL W/ SHUT-OFF PER PLUMBING DWGS. 48" MAX. A.F.F. TO OPERABLE PARTS. PAINT PANEL TO MATCH ADJACENT WALL FINISH.
- 22.452 COMBINATION EMERGENCY SHOWER & EYE WASH STATION PER PLUMBING DWGS.

REFERENCE 1 & 2 /A4-7.2

1/4" = 1'-0"

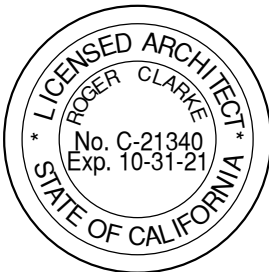
PACIFIC HIGH SCHOOL

PACIFIC HIGH SCHOOL MODERNIZATION  
SAN BERNARDINO CITY UNIFIED

RUHNAUCLARKE.COM  
3775 TENTH STREET, RIVERSIDE CALIFORNIA 92501 (951) 684 4664  
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ARCHITECTS

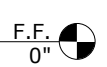
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DSA File #: 36-H7  
Date: 1-78-21  
Project #: 1-78-21  
Sheet #: ASK-1.8





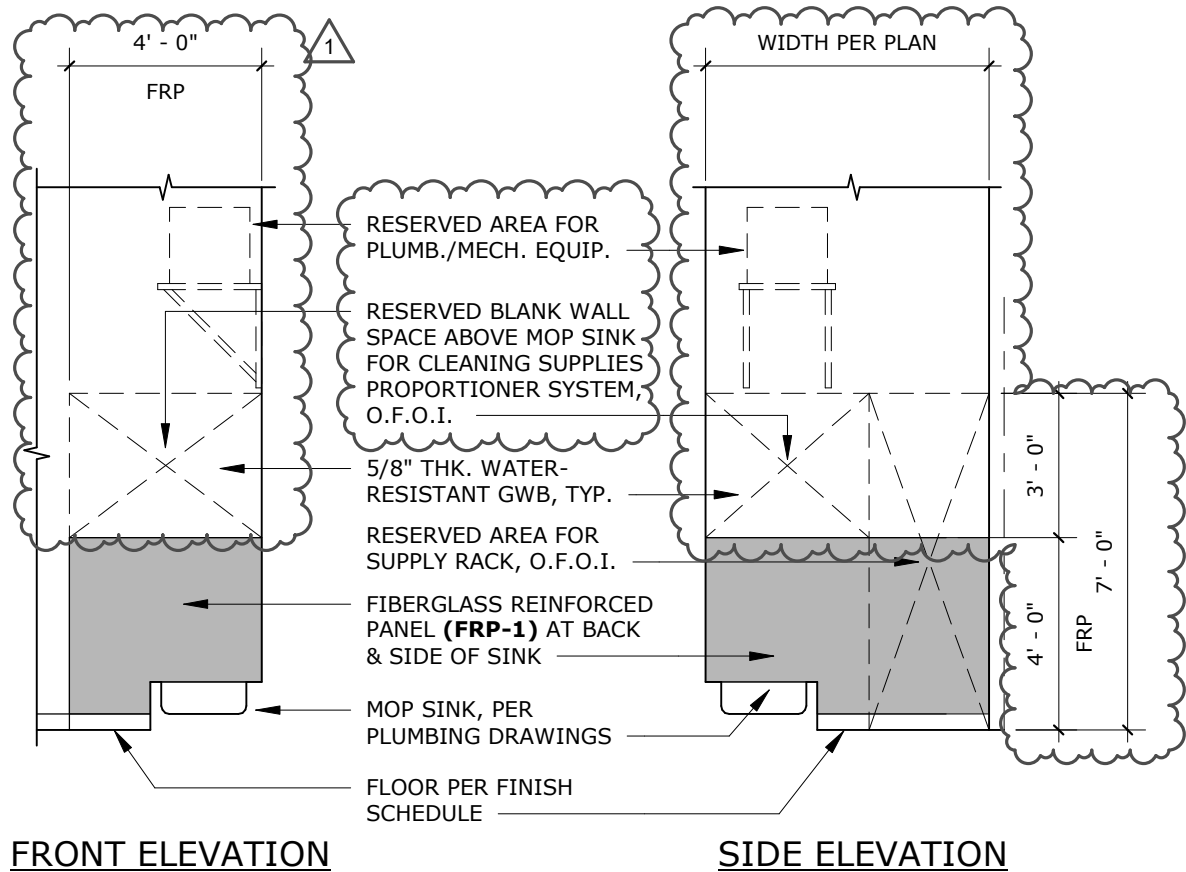


7



4





## CUSTODIAN ROOM

SCALE:  
1/4" = 1'-0"

4

REFERENCE 4/AD1.2

1/4" = 1'-0"

# PACIFIC HIGH SCHOOL

PACIFIC HIGH SCHOOL MODERNIZATION  
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

11/25/2020 2:34:07 PM

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CLARKE  
ARCHITECTS

DSA APN #:  
04-118035

DSA File #:  
36-H7

Date:

Project #:  
1-78-21

Sheet #:  
**ASK-1.10**

Stamp:



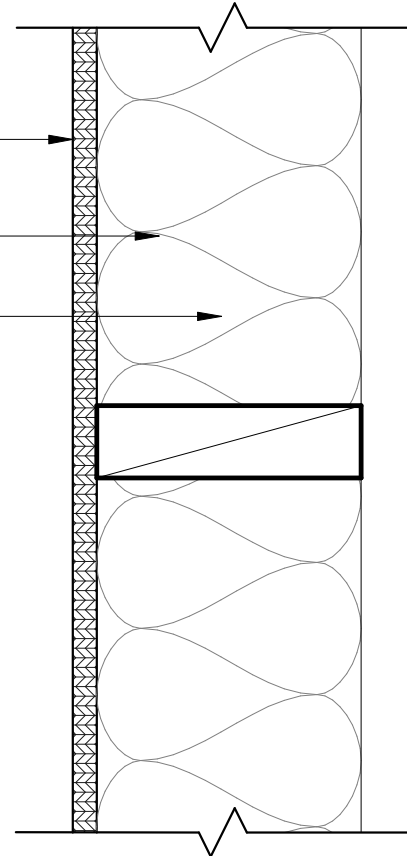


## EXTERIOR

PLYWOOD SHEATHING

WOOD STUD FRAMING,  
VERIFY WITH PLANS IF  
NEW OR EXISTING

THERMAL BATT INSULATION  
IN STUD CAVITY



WALL TYPE "D8"

SCALE:

3" = 1'-0"

25

REFERENCE 25/AD2.1

3" = 1'-0"

# PACIFIC HIGH SCHOOL

PACIFIC HIGH SCHOOL MODERNIZATION  
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

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ARCHITECTS

DSA APN #: 04-118035

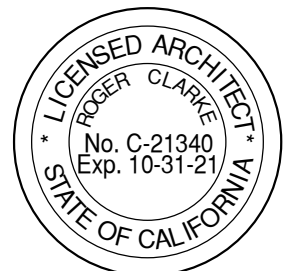
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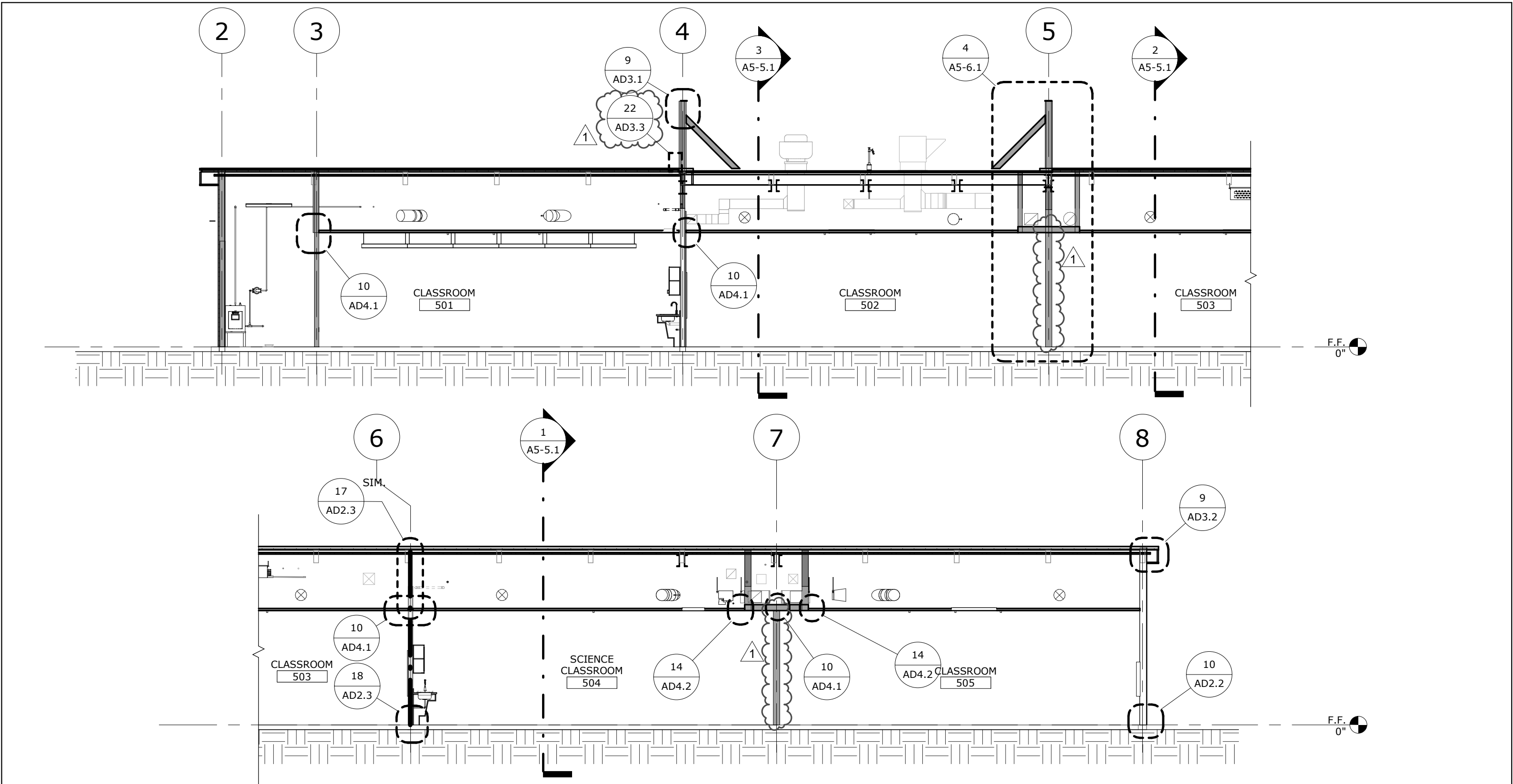
Project #: 1-78-21

Sheet #: **ASK-1.11**

Stamp:







REFERENCE 4/A5-5.1

1/8" = 1'-0"

# PACIFIC HIGH SCHOOL

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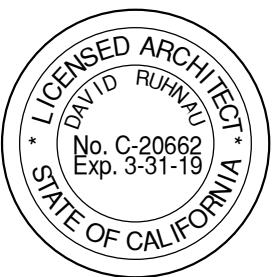
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CLARKE  
ARCHITECTS

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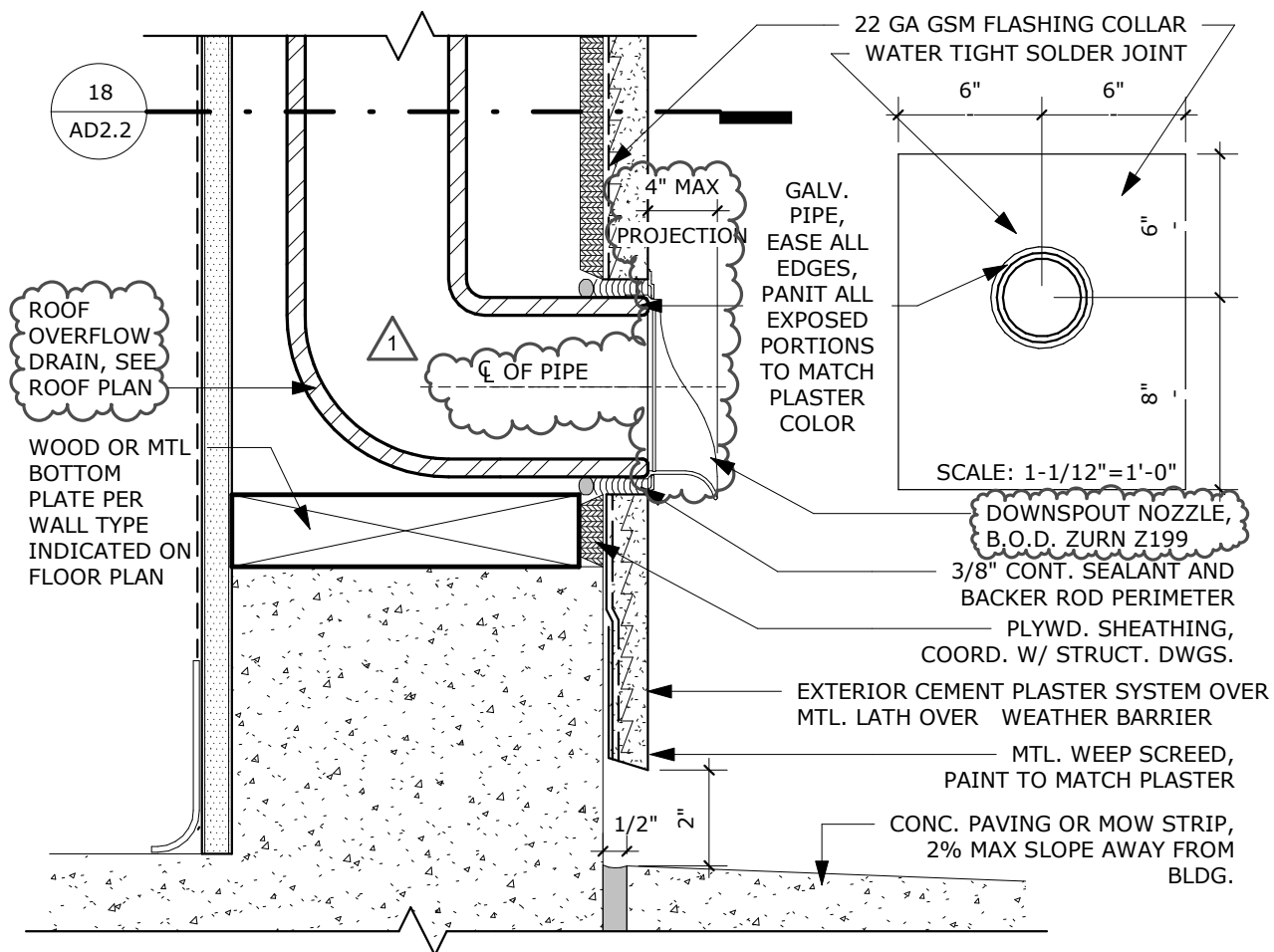
DSA File #:  
36-H7

Date:  
Project #:  
1-78-21

Sheet #:  
**ASK-1.12**







OVRFLW DRAIN NOZZLE@WALL

SCALE:

3" = 1'-0"

19

REFERENCE 19/AD2.2

3" = 1'-0"

PACIFIC HIGH SCHOOL

PACIFIC HIGH SCHOOL MODERNIZATION  
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

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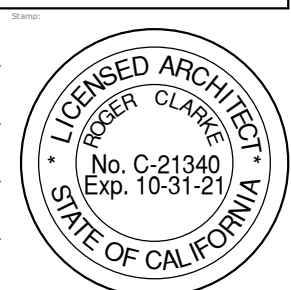
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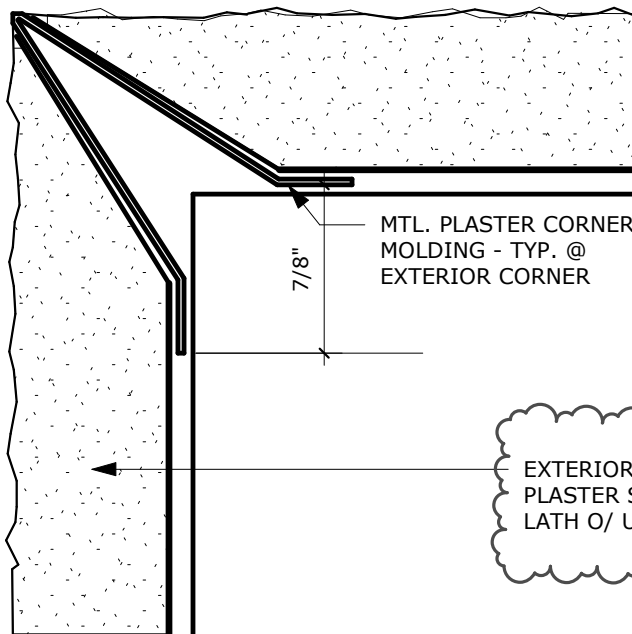
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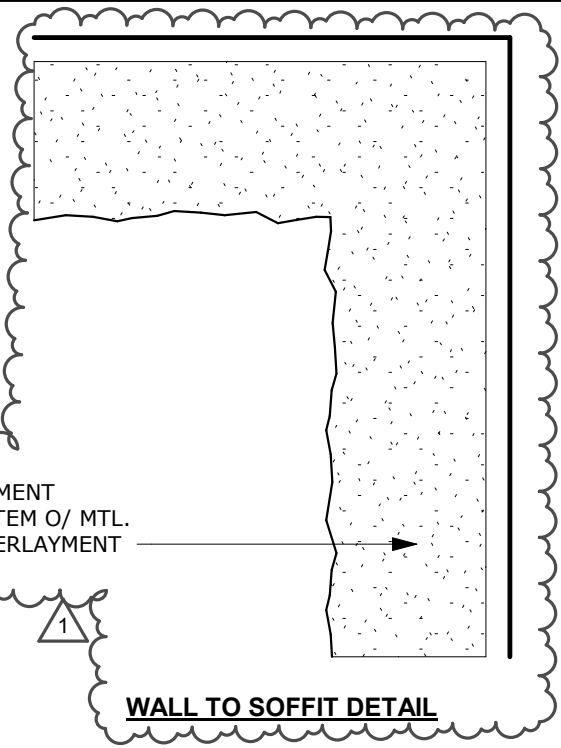
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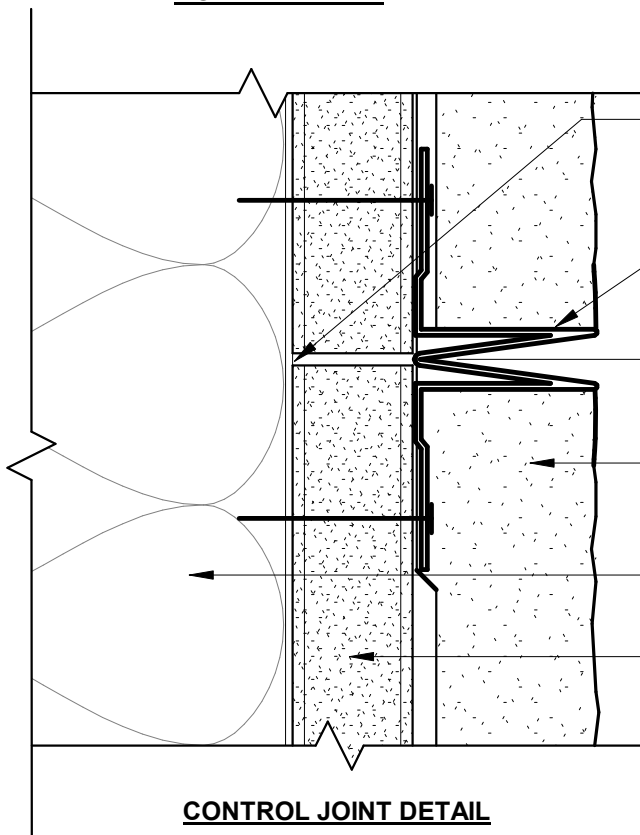




**CORNER DETAIL**



**WALL TO SOFFIT DETAIL**

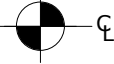


**CONTROL JOINT DETAIL**

STUD BACKING, PER  
STRUC'L DET.

20	8
S0-2.5	S0-2.7
@METAL STUD	@WOOD STUD

CONTROL JOINT SCREED AS  
MFR'D BY KEENE XJ 15-3 OR  
APPROVED EQUIVALENT  
JOINT HEIGHT PER  
EXT. ELEVATIONS



EXTERIOR CEMENT PLASTER  
SYSTEM O/ MTL. LATH &  
UNDERLAYMENT

THERMAL BATT INSUL.  
IN STUDY CAVITY

EXTERIOR GYPSUM SHEATHING  
(OR PLYWOOD WHERE REQ'D BY  
STRUCT. DWGS.)

# TYP. PLASTER DETAILS

SCALE:  
12" = 1'-0"

27

REFERENCE 27/AD2.2

12" = 1'-0"

## PACIFIC HIGH SCHOOL

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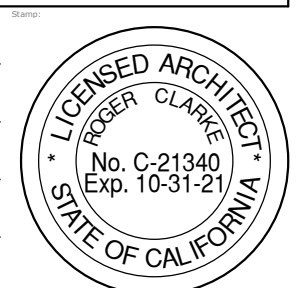
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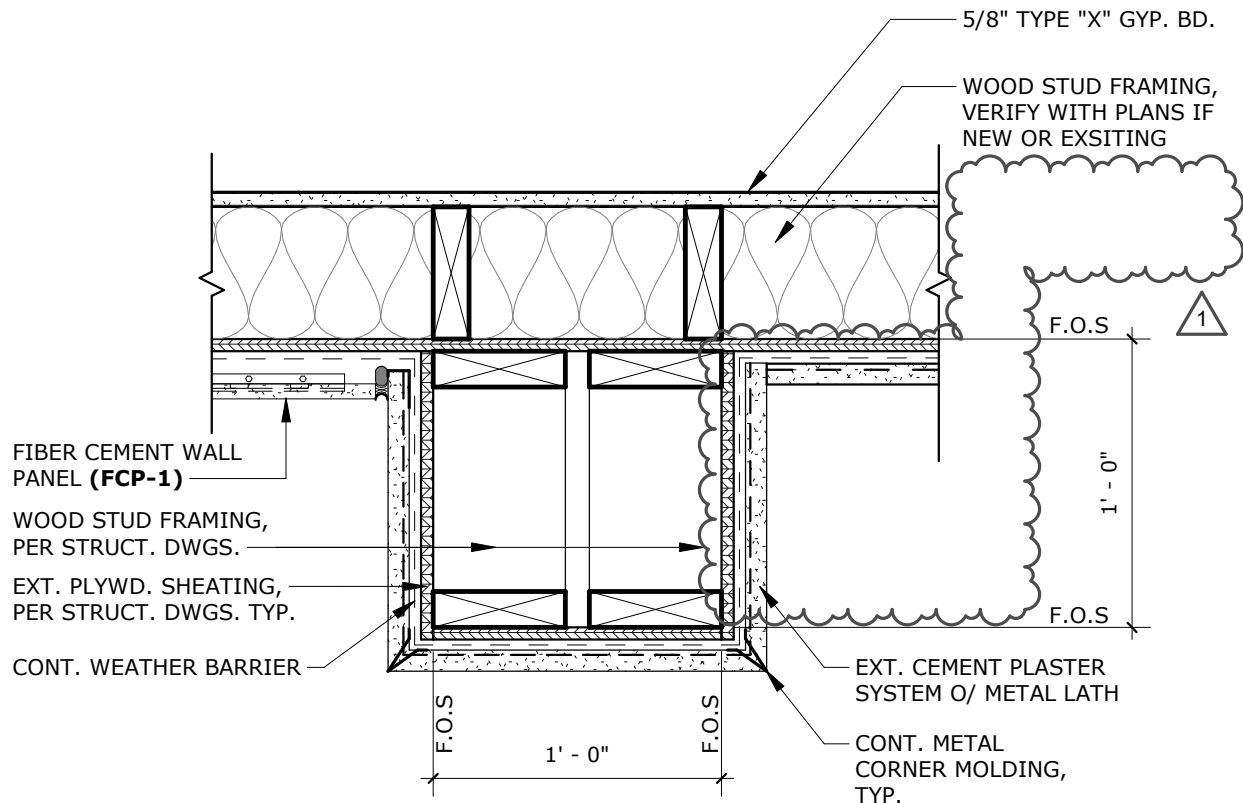
Date:

Project #:  
1-78-21

Sheet #:  
**ASK-1.14**







**NOTE:**  
FOR MORE INFO.,  
SEE STRUCT. DET.



**PLAN VIEW**

# WALL DETAIL

SCALE:  
1 1/2" = 1'-0"

4

REFERENCE 4/AD2.3

1 1/2" = 1'-0"

## PACIFIC HIGH SCHOOL

PACIFIC HIGH SCHOOL MODERNIZATION  
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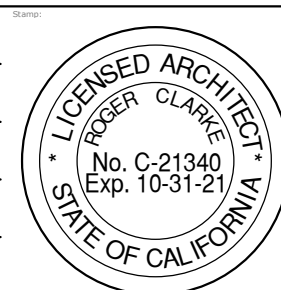
RUHNAU  
CLARKE  
ARCHITECTS

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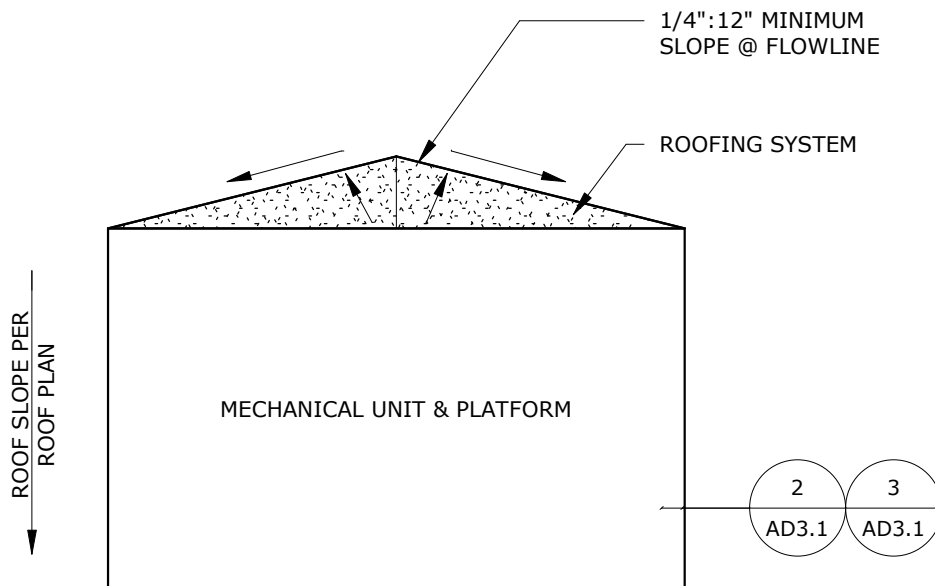
DSA File #:  
36-H7

Date:  
1-78-21

Project #:  
ASK-1.15







**NOTE:**  
ALL ROOF CRICKETS SHALL BE SHAPED WITH TAPERED BOARD INSULATION,  
REFER TO SPEC SECTION 07 54 00.



**CRICKET @ MECH. CURB (TYP.)**

SCALE:  
1 1/2" = 1'-0"

**1**

**REFERENCE 1/AD3.1**

**1 1/2" = 1'-0"**

**PACIFIC HIGH SCHOOL**

**PACIFIC HIGH SCHOOL MODERNIZATION  
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT**

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ARCHITECTS

DSA APN #:  
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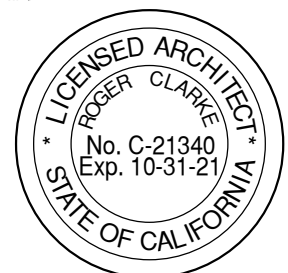
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36-H7

Date:

Project #:  
1-78-21

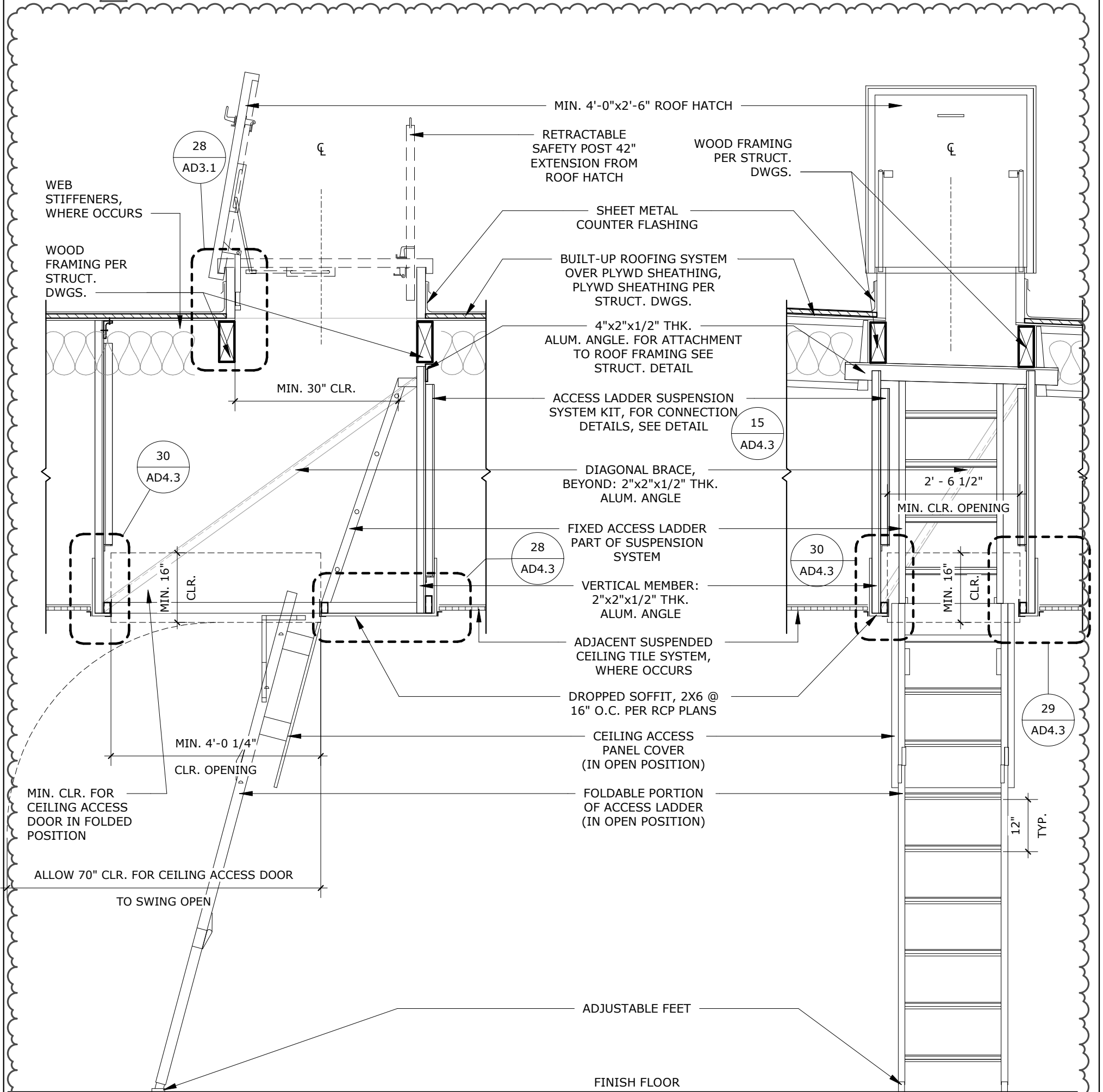
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**ASK-1.16**

Stamp:





1



LONGITUDINAL SECTION

CROSS SECTION

# ROOF ACCESS LADDER-CLASSROOM

SCALE:  
1/2" = 1'-0"

25

REFERENCE 25/AD3.1

1/2" = 1'-0"

PACIFIC HIGH SCHOOL

PACIFIC HIGH SCHOOL MODERNIZATION  
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

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CLARKE  
ARCHITECTS

DGA APN #: 04-118035  
DGA File #: 36-H7  
Date: 1-78-21  
Sheet #: **ASK-1.17**





1

3/4" THK. HARDWOOD EDGE  
(WALNUT) W/ CLEAR SEALER

3/4" THK. PLYWD. SUB-TOP  
OR BUILT-UP EDGE,  
WHERE OCCURS

P-LAM. COUNTERTOP

P-LAM. BASE  
CABINET BODY

P-LAM. BASE CABINET  
DOOR OR DRAWER

$R\frac{1}{4}"$

$1\frac{1}{2}"$

1"

A

3MM T-MOLDING EDGE, COLOR TO MATCH  
ADJACENT COUNTERTOP P-LAM

3/4" THK. PLYWD. SUB-TOP  
OR BUILT-UP EDGE,  
WHERE OCCURS

P-LAM. COUNTERTOP

P-LAM. BASE  
CABINET BODY

P-LAM. BASE CABINET  
DOOR OR DRAWER  
(WHERE OCCURS)

$1\frac{1}{2}"$

B

## COUNTERTOP EDGE

SCALE:

3" = 1'-0"

1

REFERENCE 1/AD7.1

3" = 1'-0"

# PACIFIC HIGH SCHOOL

PACIFIC HIGH SCHOOL MODERNIZATION  
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

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CLARKE  
ARCHITECTS

DSA APN #:  
04-118035

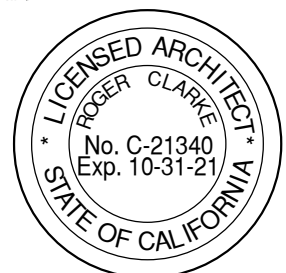
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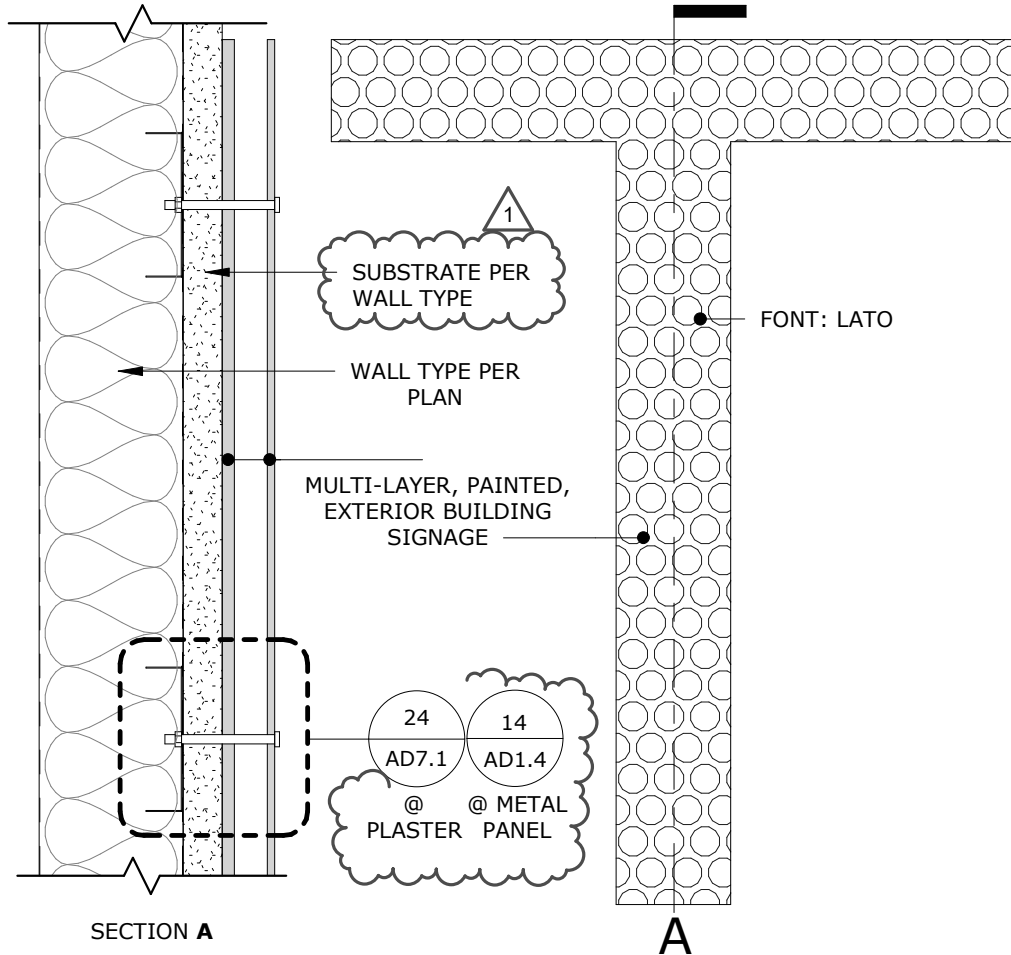
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1-78-21

Sheet #:  
**ASK-1.19**

Stamp:







# BUILDING SIGNAGE

SCALE:  
1 1/2" = 1'-0"

23

REFERENCE 23/AD7.1

1 1/2" = 1'-0"

## PACIFIC HIGH SCHOOL

PACIFIC HIGH SCHOOL MODERNIZATION  
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

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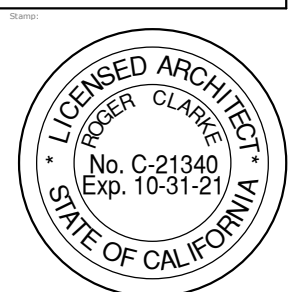
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36-H7

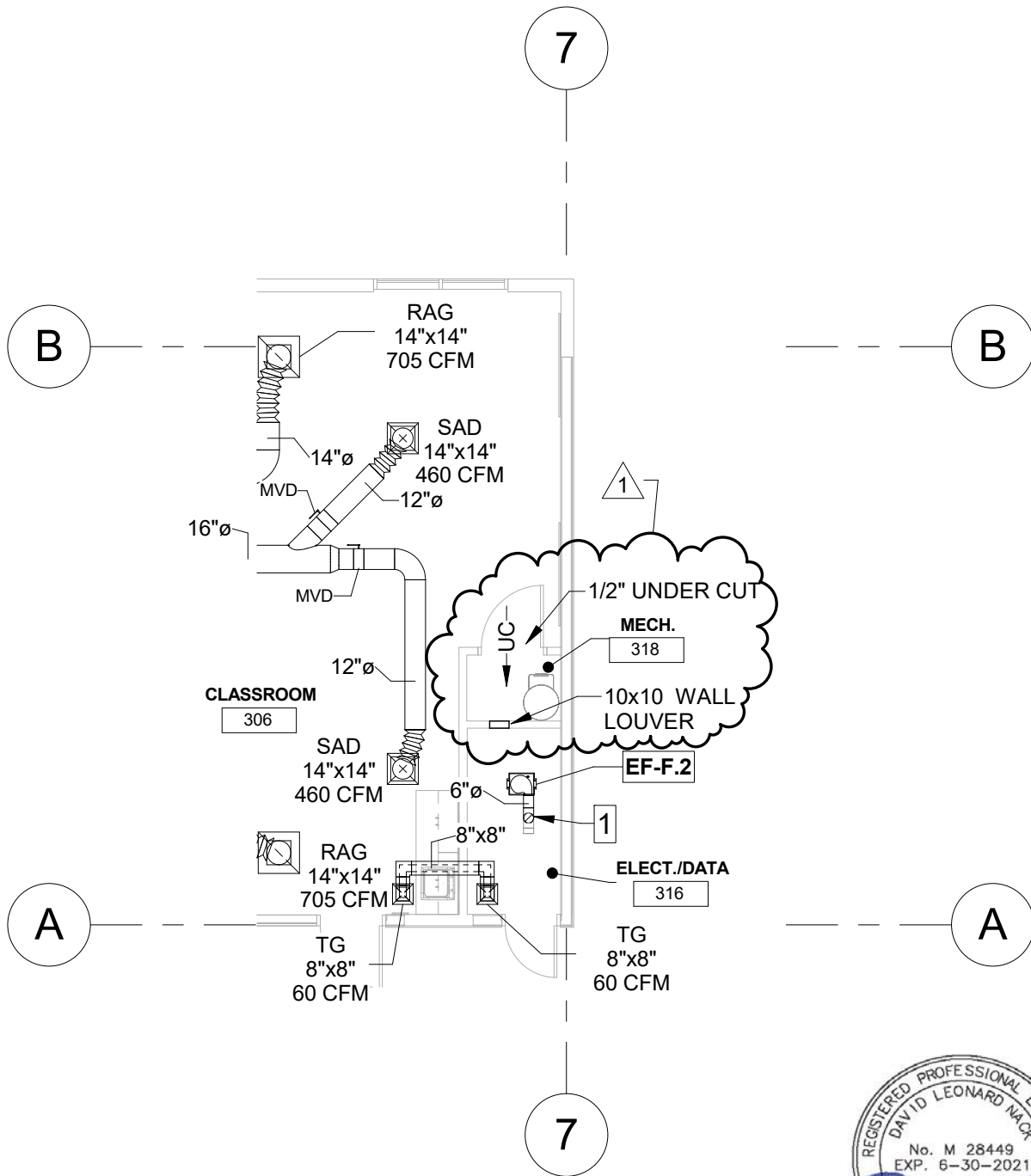
Date:

Project #:  
1-78-21

Sheet #:  
**ASK-1.20**







MECHANICAL ROOM 318 HVAC (REFERENCE 2/M3-1.1)

1/8" = 1'-0"

# MODERNIZATION PACIFIC HIGH SCHOOL

1020 PACIFIC ST SAN BERNARDINO, CA 92404  
SAN BERNARDINO CITY UNIFIED

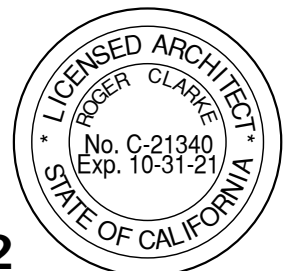
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3775 TENTH STREET, RIVERSIDE CALIFORNIA 92501 (951) 684 4664  
5751 PALMER WAY, SUITE C, CARLSBAD CALIFORNIA 92010 (760) 438 5899

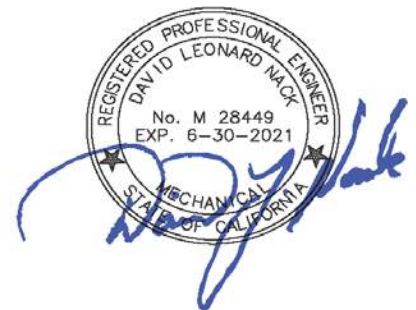
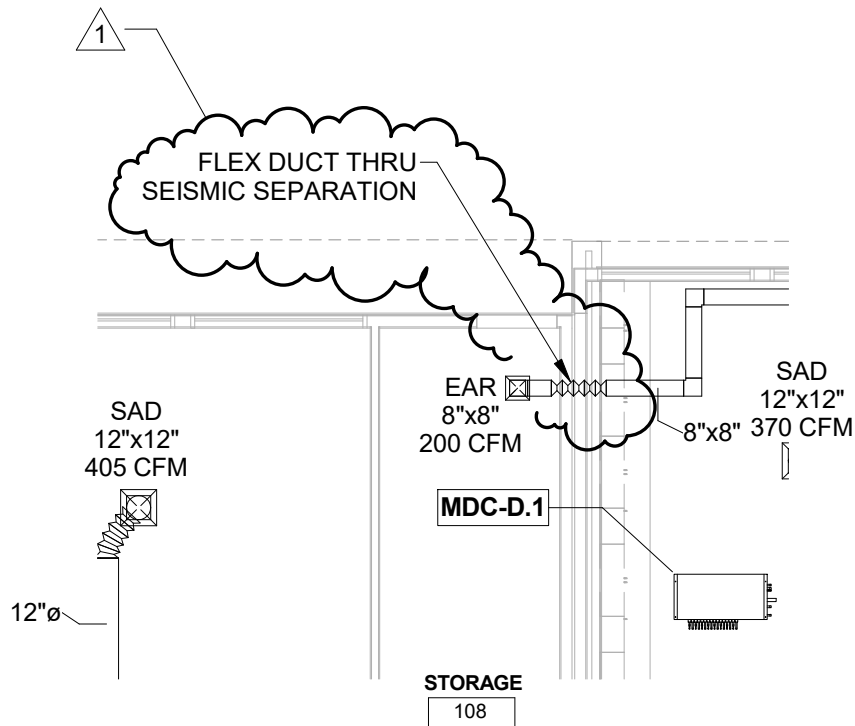
RUHNAU  
CLARKE  
ARCHITECTS

DSA APN #: 04-118035  
DSA File #: 36-H7  
Date: 11-29-2020  
Project #: 17821  
Sheet #:

MSK-01.02







STORAGE 108 FLEX DUCT (REFERENCE 2/M1-1.1)

1/8" = 1'-0"

# PACIFIC HIGH SCHOOL MODERNIZATION

1020 PACIFIC ST SAN BERNARDINO, CA 92404  
SAN BERNARDINO CITY UNIFIED SCHOOL

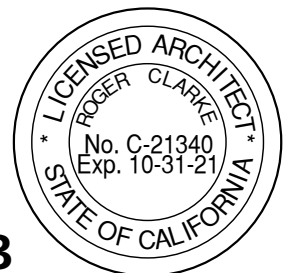
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RUHNAUCLARKE.COM  
3775 TENTH STREET, RIVERSIDE CALIFORNIA 92501 (951) 684 4664  
5751 PALMER WAY, SUITE C, CARLSBAD CALIFORNIA 92010 (760) 438 5899

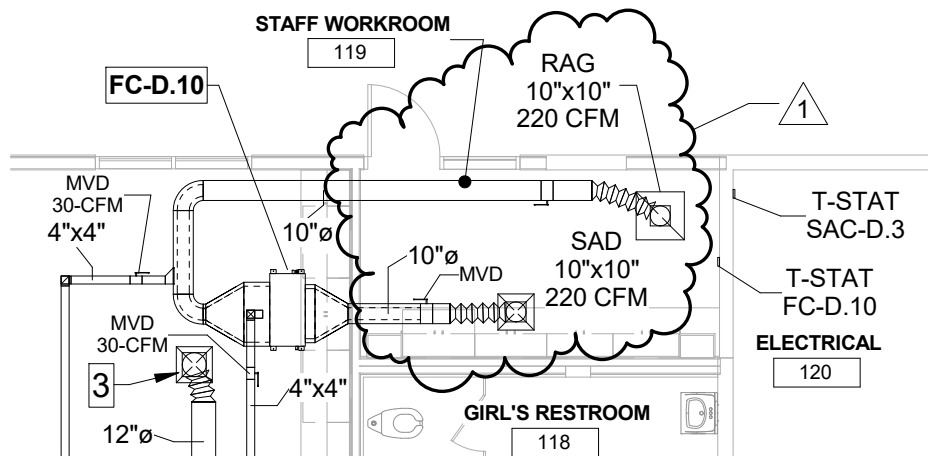
RUHNAU  
CLARKE  
ARCHITECTS

DSA APN #: 04-118035  
DSA File #: 36-H7  
Date: 11-25-2020  
Project #: 1-78-21  
Sheet #:

**MSK-01.03**







STAFF WORKROOM 119 HVAC (REFERENCE 2/M1-1.2)

1/8" = 1'-0"

# PACIFIC HIGH SCHOOL MODERNIZATION

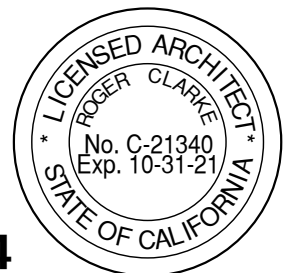
1020 PACIFIC ST SAN BERNARDINO, CA 92404  
SAN BERNARDINO CITY UNIFIED SCHOOL

RUHNAUCLARKE.COM  
3775 TENTH STREET, RIVERSIDE CALIFORNIA 92501(951) 684 4664  
5751 PALMER WAY, SUITE C, CARLSBAD CALIFORNIA 92010(760) 438 5899



DSA APN #: 04-118035  
DSA File #: 36-H7  
Date: 11-25-2020  
Project #: 1-78-21  
Sheet #:

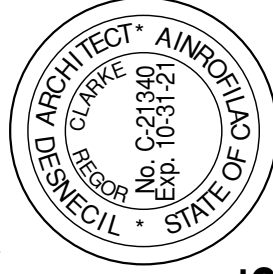
**MSK-01.04**







MSK-01.05





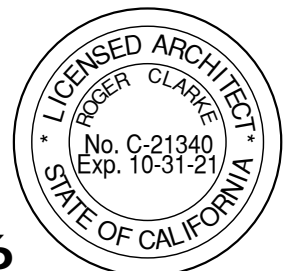

$$1/8'' = 1'-0''$$

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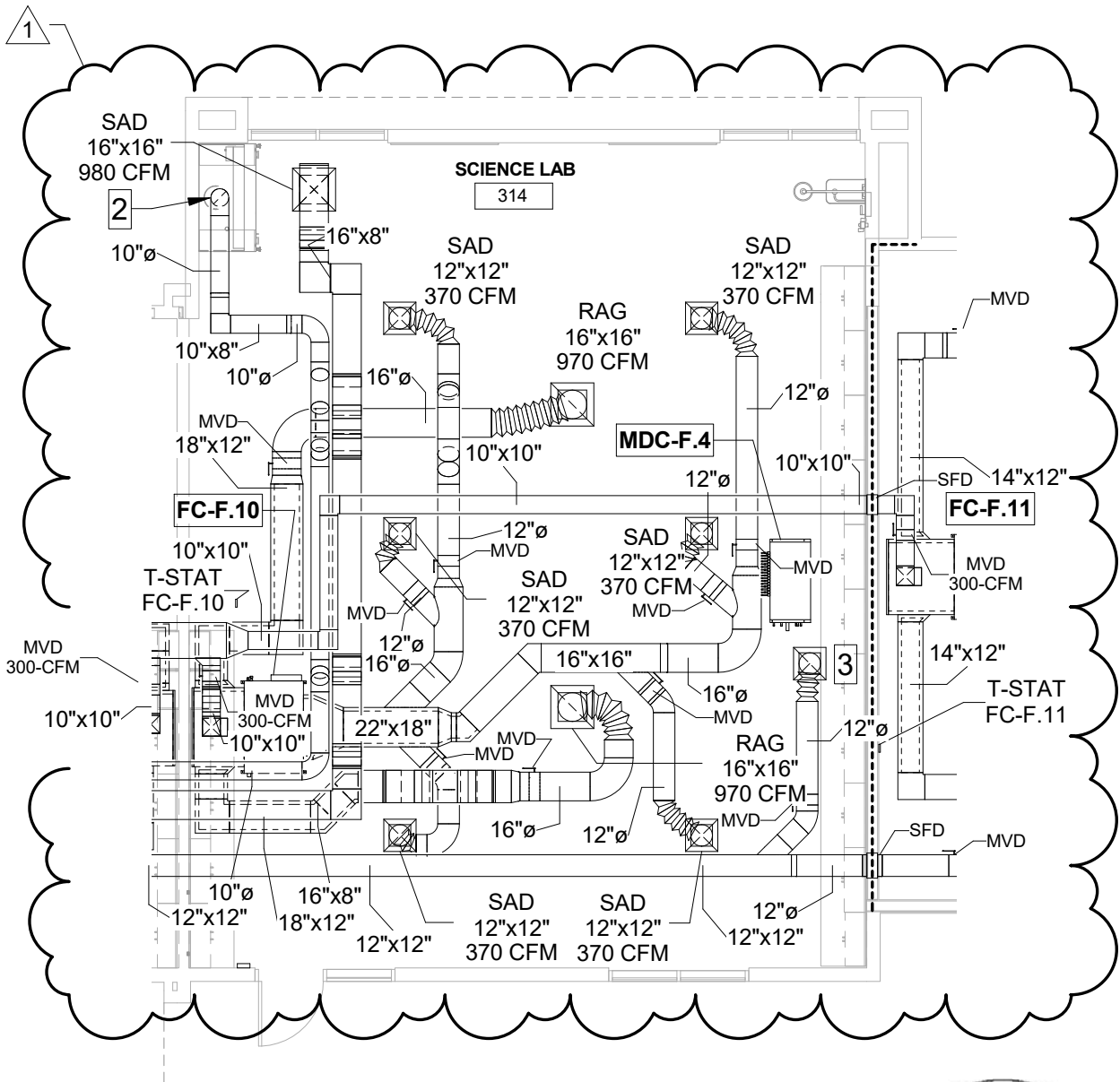
RUHNAU  
CLARK  
ARCHITECTS

Sheet #: **MSK-01.06**

Stamp







SCIENCE LAB 314 DIFFUSER/GRILLES (REFERENCE 2/M3-1.2)

1/8" = 1'-0"

## MODERNIZATION PACIFIC HIGH SCHOOL

1020 PACIFIC ST SAN BERNARDINO, CA 92404  
SAN BERNARDINO CITY UNIFIED

12/2/2020 11:49:08 AM

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3775 TENTH STREET, RIVERSIDE CALIFORNIA 92501(951) 684 4664  
5751 PALMER WAY, SUITE C, CARLSBAD CALIFORNIA 92010(760) 438 5899

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ARCHITECTS

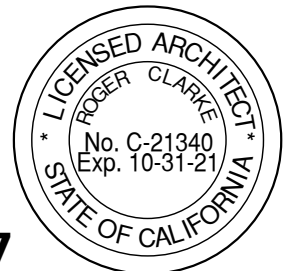
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DSA File #: 36-H7

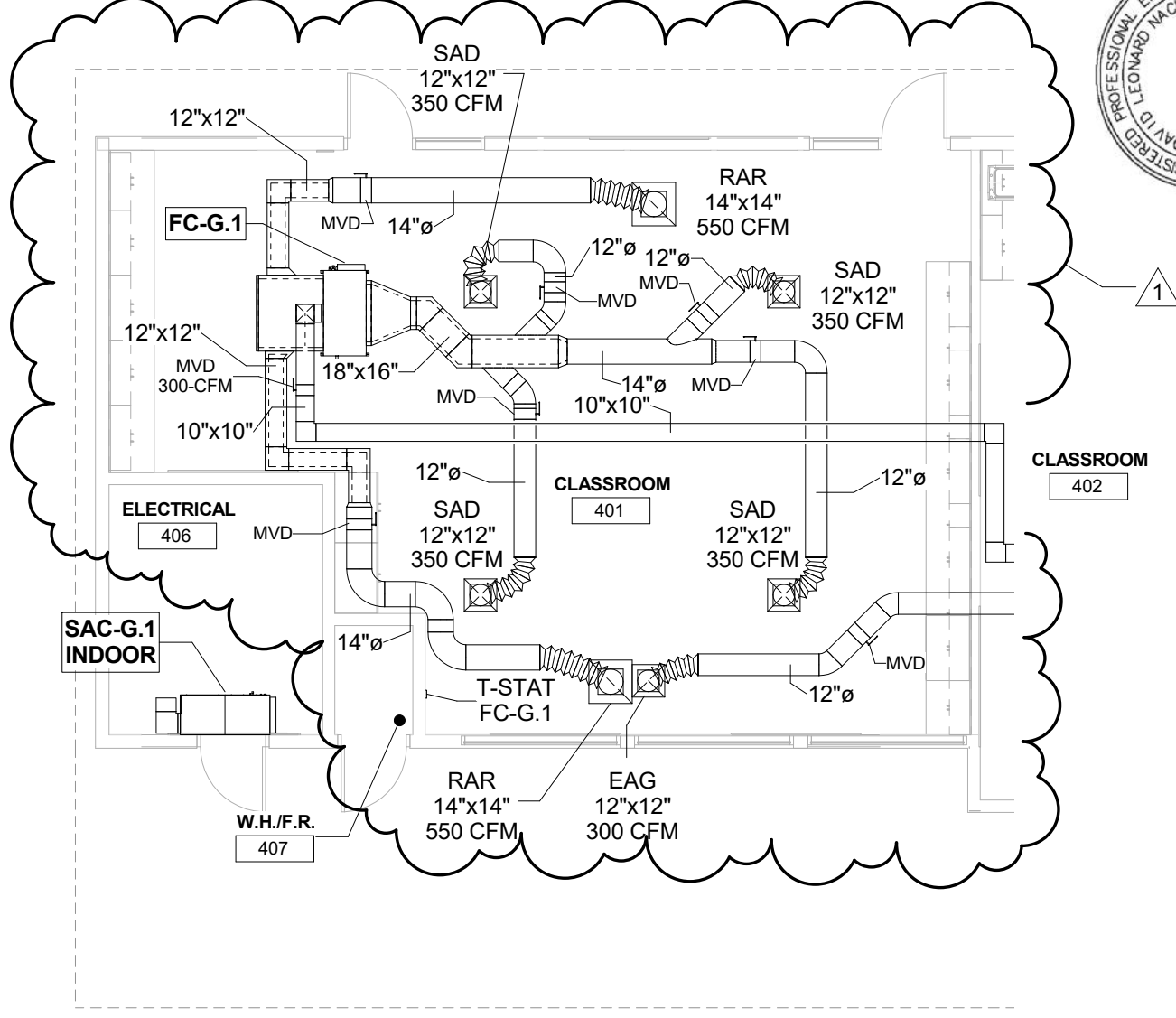
Date: 12-2-2020

Project #: 17821

Sheet #: **MSK-01.07**







CLASSROOM 401 DIFFUSER/GRILLES (REFERENCE 2/M4-1.1)

1/8" = 1'-0"

## PACIFIC HIGH SCHOOL MODERNIZATION

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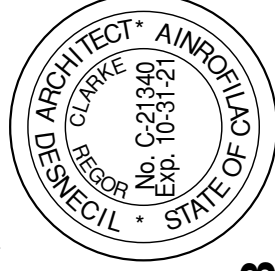
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DATE  
12-2-2020

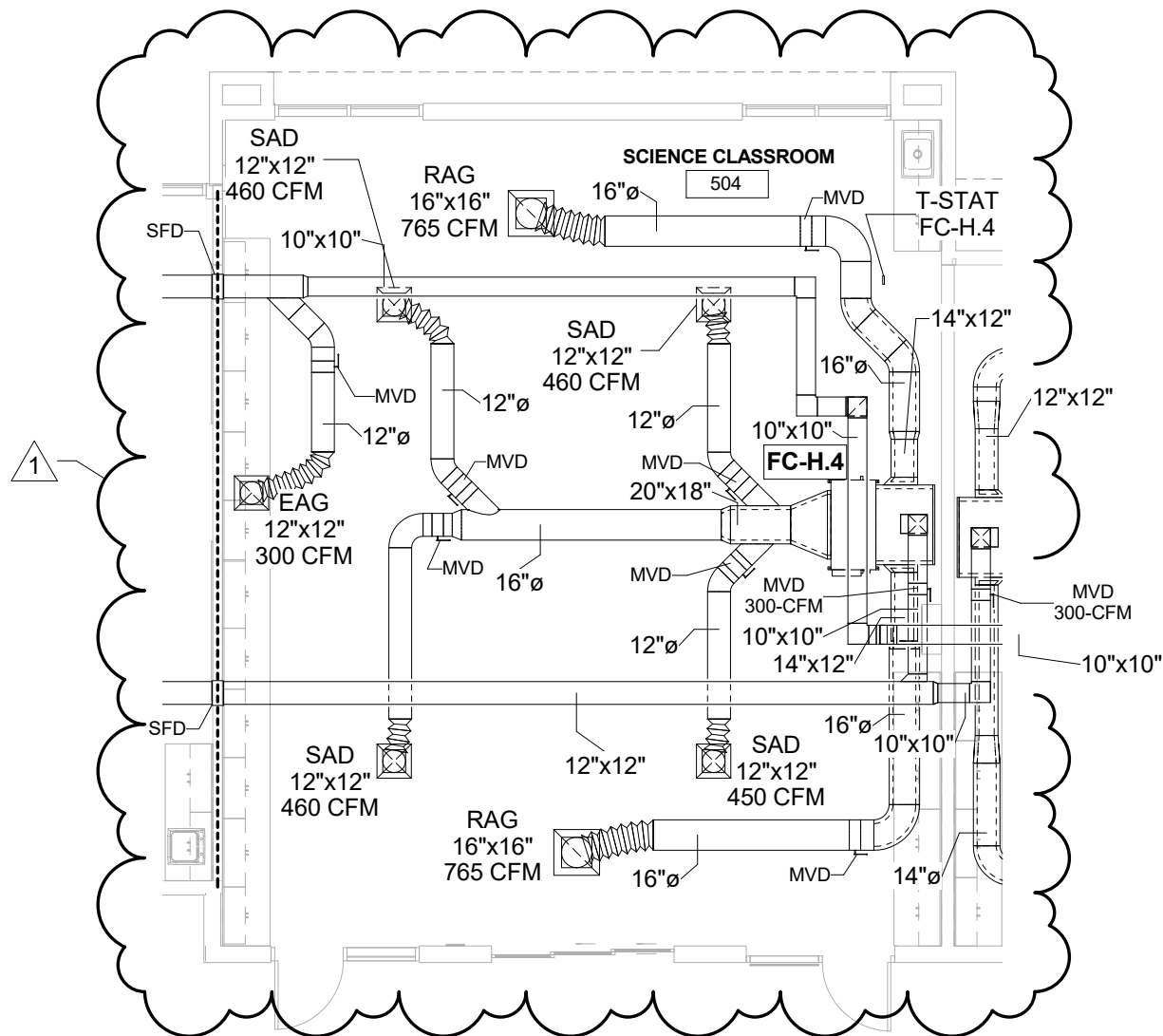
PROJECT #  
1-78-21

SHEET #

**MSK-01.08**







**SCIENCE CLASSROOM 504 DIFFUSER/GRILLES (REFERENCE 2/M5-1.1)**

**1/8" = 1'-0"**

# PACIFIC HIGH SCHOOL MODERNIZATION

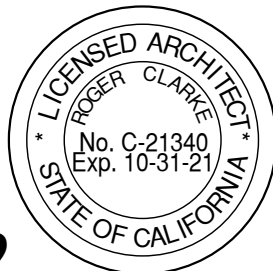
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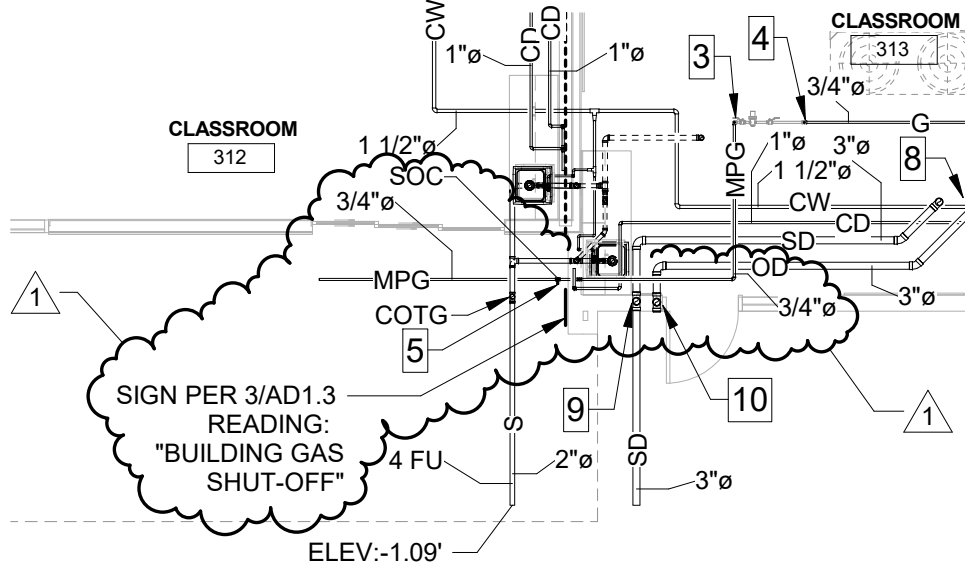
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DSA APN #: 04-118035  
DSA File #: 36-H7  
Date: 12-3-2020  
Project #: 1-78-21  
Sheet #:

**MSK-01.09**







11/29/2020 11:36:08 AM

REVISED MPG PIPING (REFERENCE 2/P3-1.2)

Scale:

1/8" = 1'-0"

DSA APP # 04-118035

DSA Title # 36-H7

Date: 11-29-2020

Project # 17821

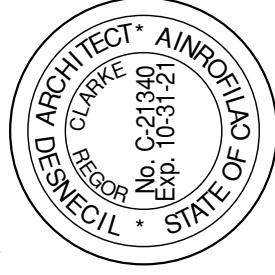
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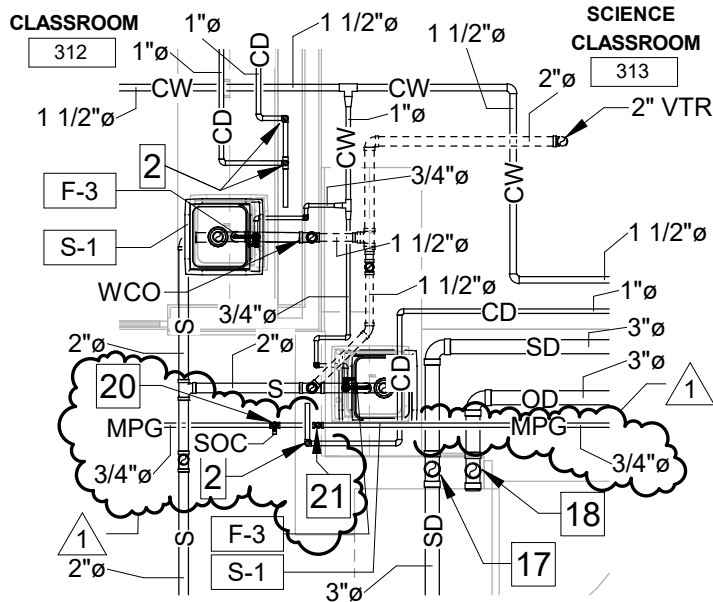
# MODERNIZATION PACIFIC HIGH SCHOOL

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PSK-01.01







20. MPG UP FROM BELOW GRADE WITH SOC.  
 21. MPG UP IN WALL TO ABOVE CEILING.



REVISED MPG PIPING ENLARGED PLAN (REFERENCE P3-1.3)

1/4" = 1'-0"

MODERNIZATION PACIFIC HIGH SCHOOL

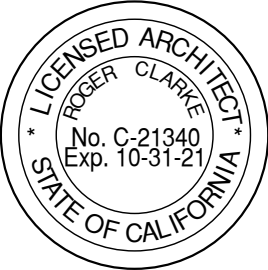
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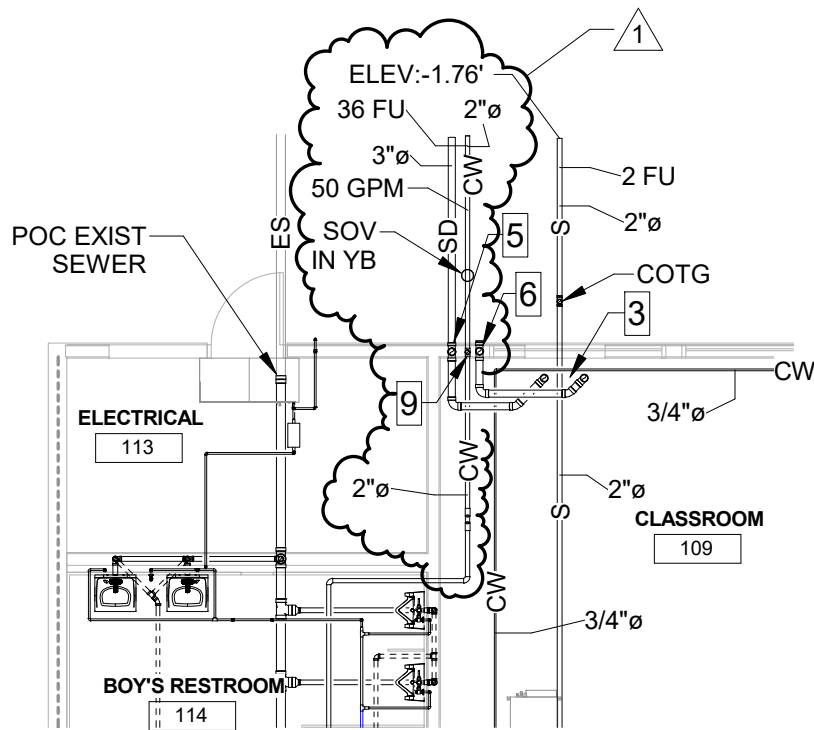


DSA APN #: 04-118035  
 DSA File #: 36-H7  
 Date: 11-29-2020  
 Project #: 17821  
 Sheet #:

PSK-01.02







9. CW UP IN WALL TO ABOVE CEILING.



**BUILDING D-EAST CW PIPE REVISION (REFERENCE 2/P1-1.2)**

**1/8" = 1'-0"**

# **PACIFIC HIGH SCHOOL MODERNIZATION**

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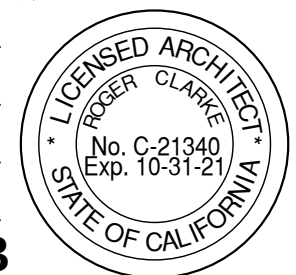
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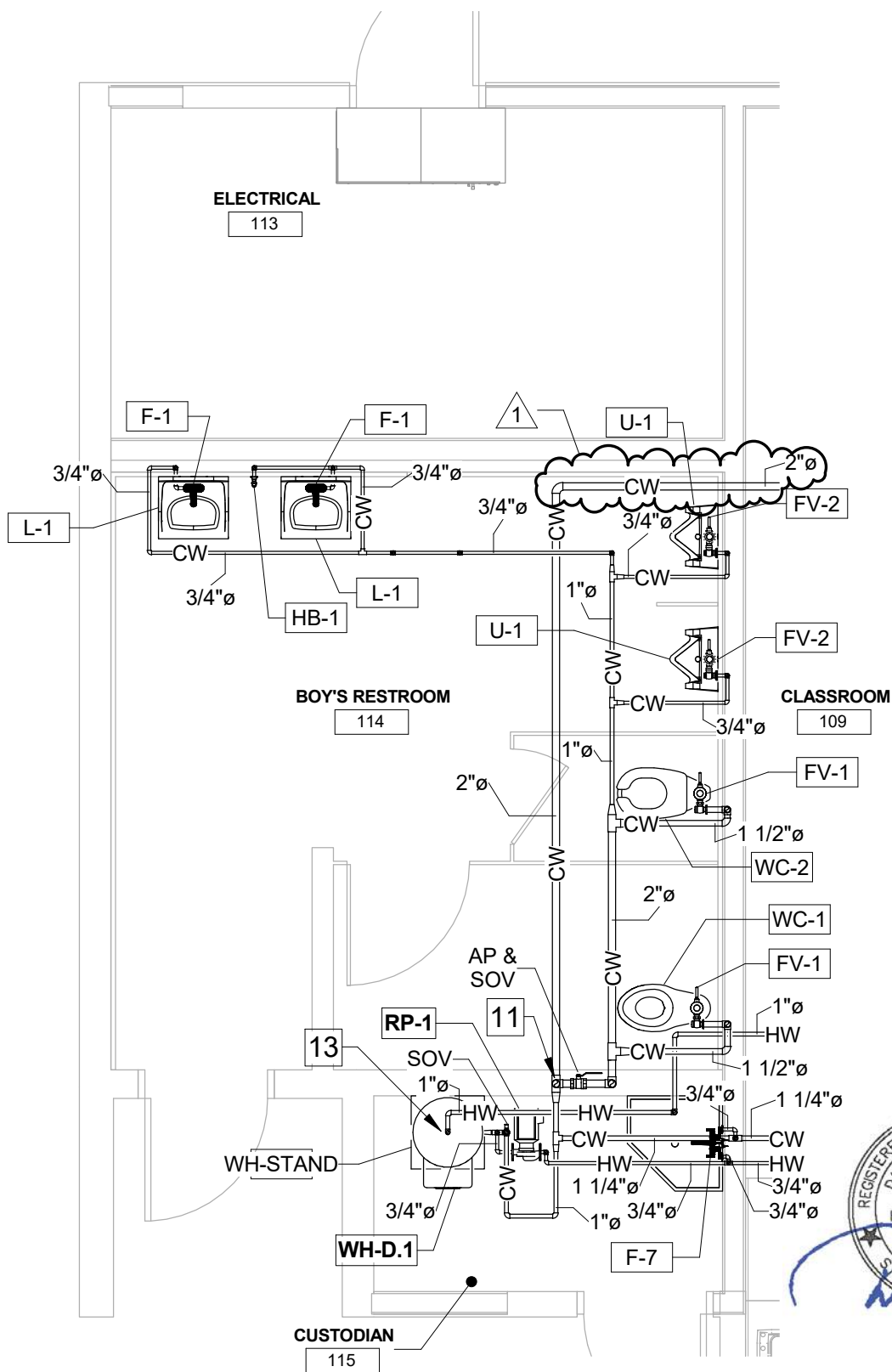
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CLARKE  
ARCHITECTS**

DSA APN #: 04-118035  
DSA File #: 36-H7  
Date: 11-25-2020  
Project #: 1-78-21  
Sheet #:

**PSK-01.03**







BOY'S 114 CW PIPE REVISION (REFERENCE 6/P1-1.3)

1/4" = 1'-0"

# PACIFIC HIGH SCHOOL MODERNIZATION

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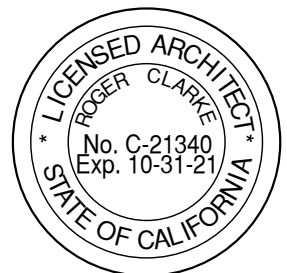
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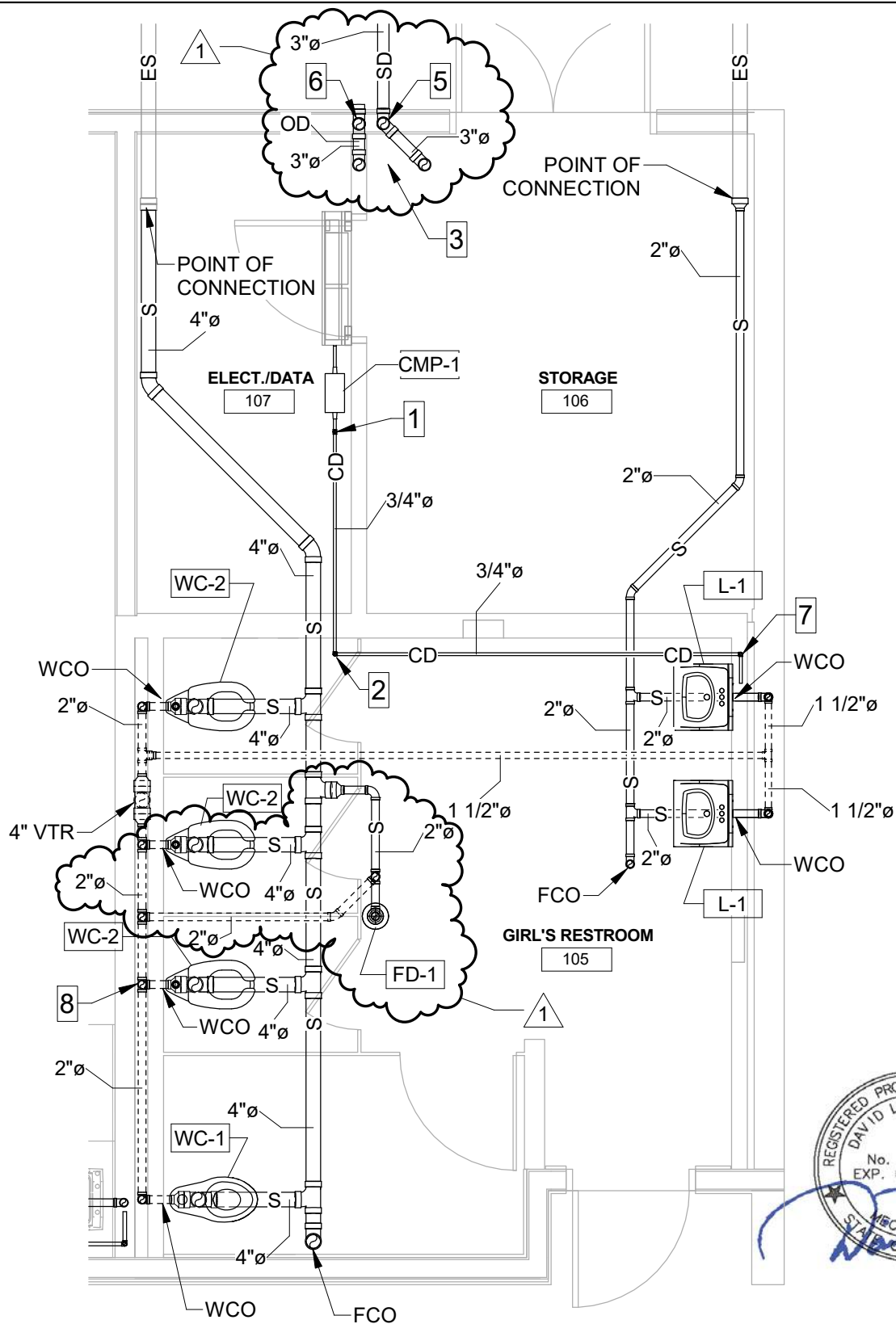
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DSA APN #: 04-118035  
DSA File #: 36-H7  
Date: 11-25-2020  
Project #: 1-78-21  
Sheet #:

PSK-01.04







GIRLS 105 SD AND FLOOR DRAIN REVISION (REFERENCE 8/P1-1.3)

1/4" = 1'-0"

# PACIFIC HIGH SCHOOL MODERNIZATION

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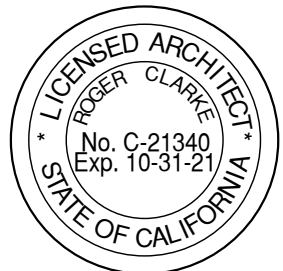
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04-118035

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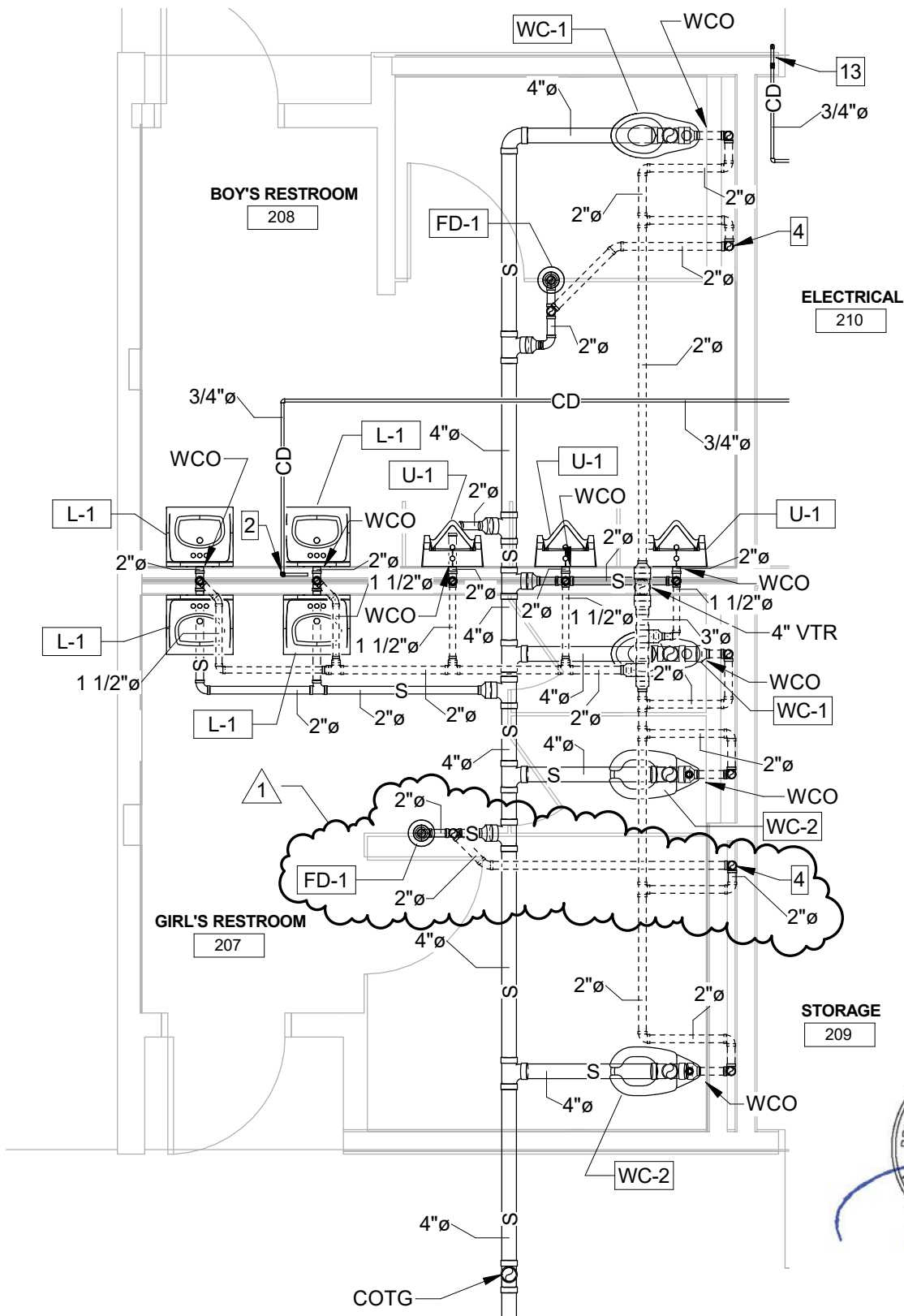
Date:  
11-25-2020

Project #:  
1-78-21

Sheet #:  
**PSK-01.05**







RESTROOMS 207 & 208 - FLOOR DRAIN REVISION (REFERENCE 1/P2-1.3)

1/4" = 1'-0"

# PACIFIC HIGH SCHOOL MODERNIZATION

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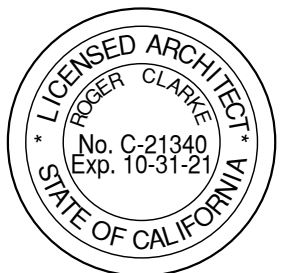
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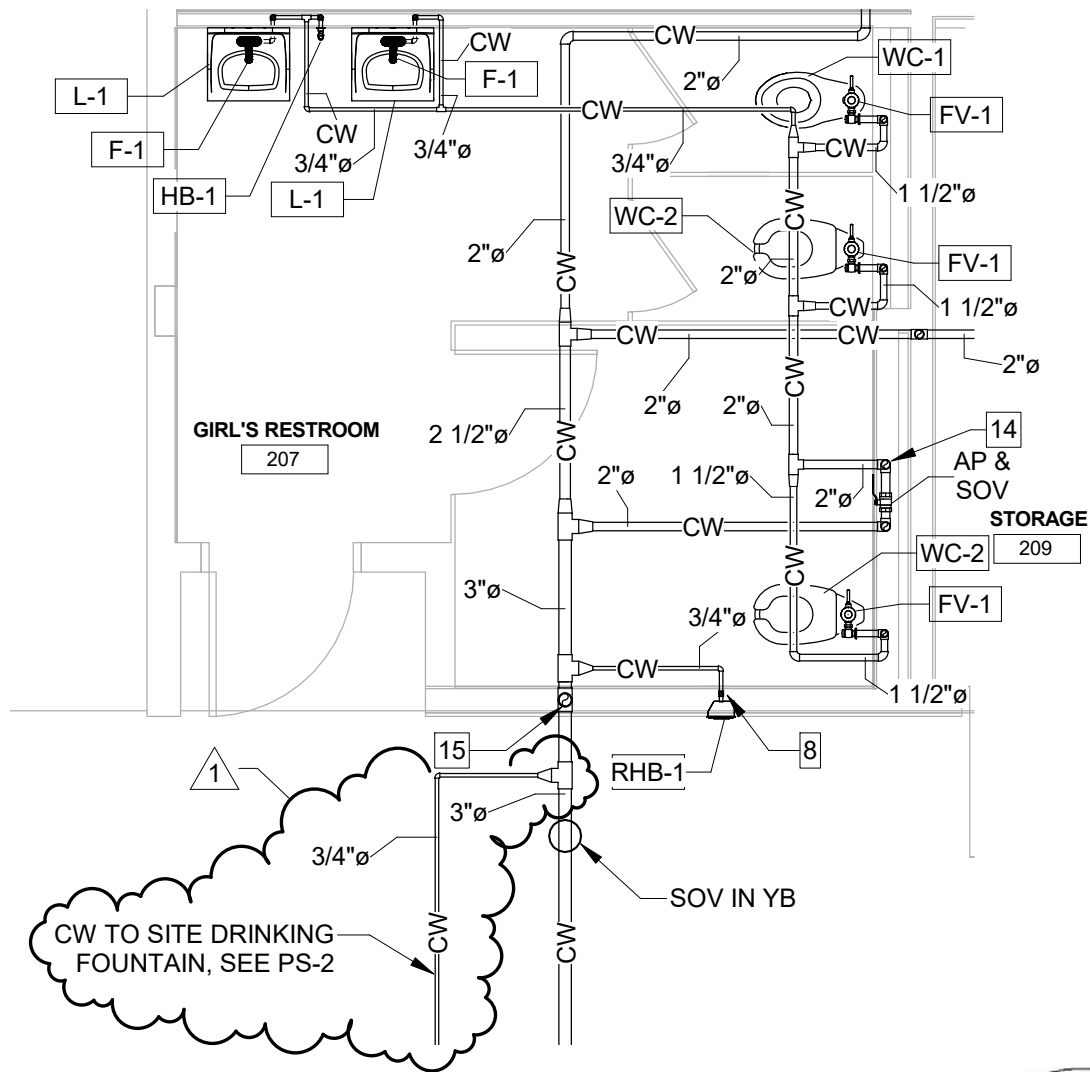
Project #:  
17-8-21

Sheet #:  
**PSK-01.06**

Stamp:







**SITE DRINKING FOUNTAIN WATER (REFERENCE 2/P2-1.2)**

**1/4" = 1'-0"**

# **PACIFIC HIGH SCHOOL MODERNIZATION**

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SAN BERNARDINO CITY UNIFIED SCHOOL**

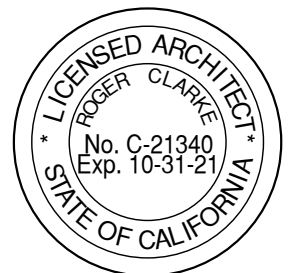
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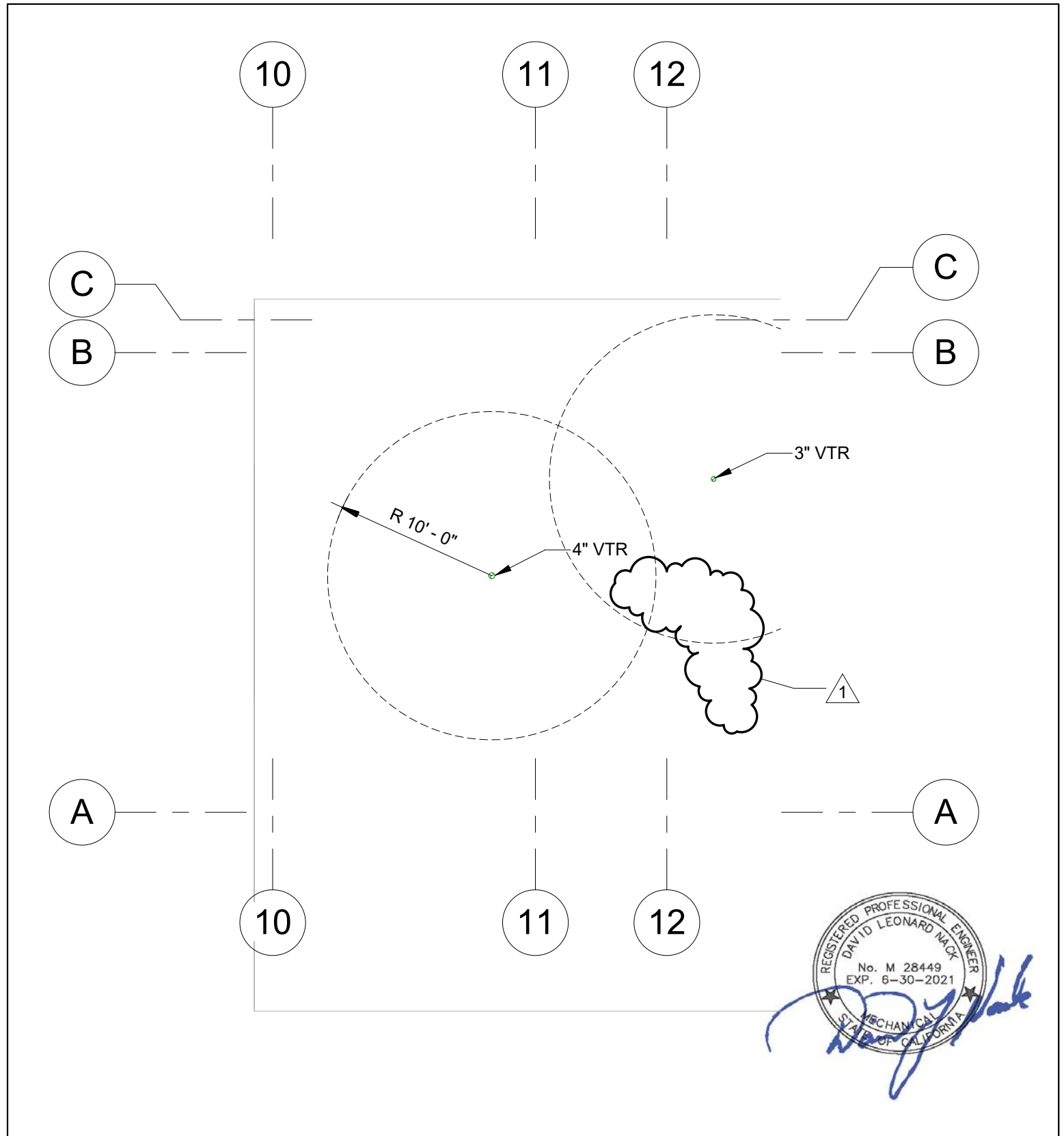
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ARCHITECTS**

DSA APN #:  
**04-118035**  
DSA File #:  
**36-H7**  
Date:  
**11-25-2020**  
Project #:  
**17-8-21**

**PSK-01.07**







UNIDENTIFIED PIPE ON ROOF (REFERENCE 3/P2-1.2)

1/8" = 1'-0"

# PACIFIC HIGH SCHOOL MODERNIZATION

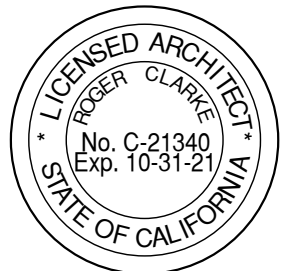
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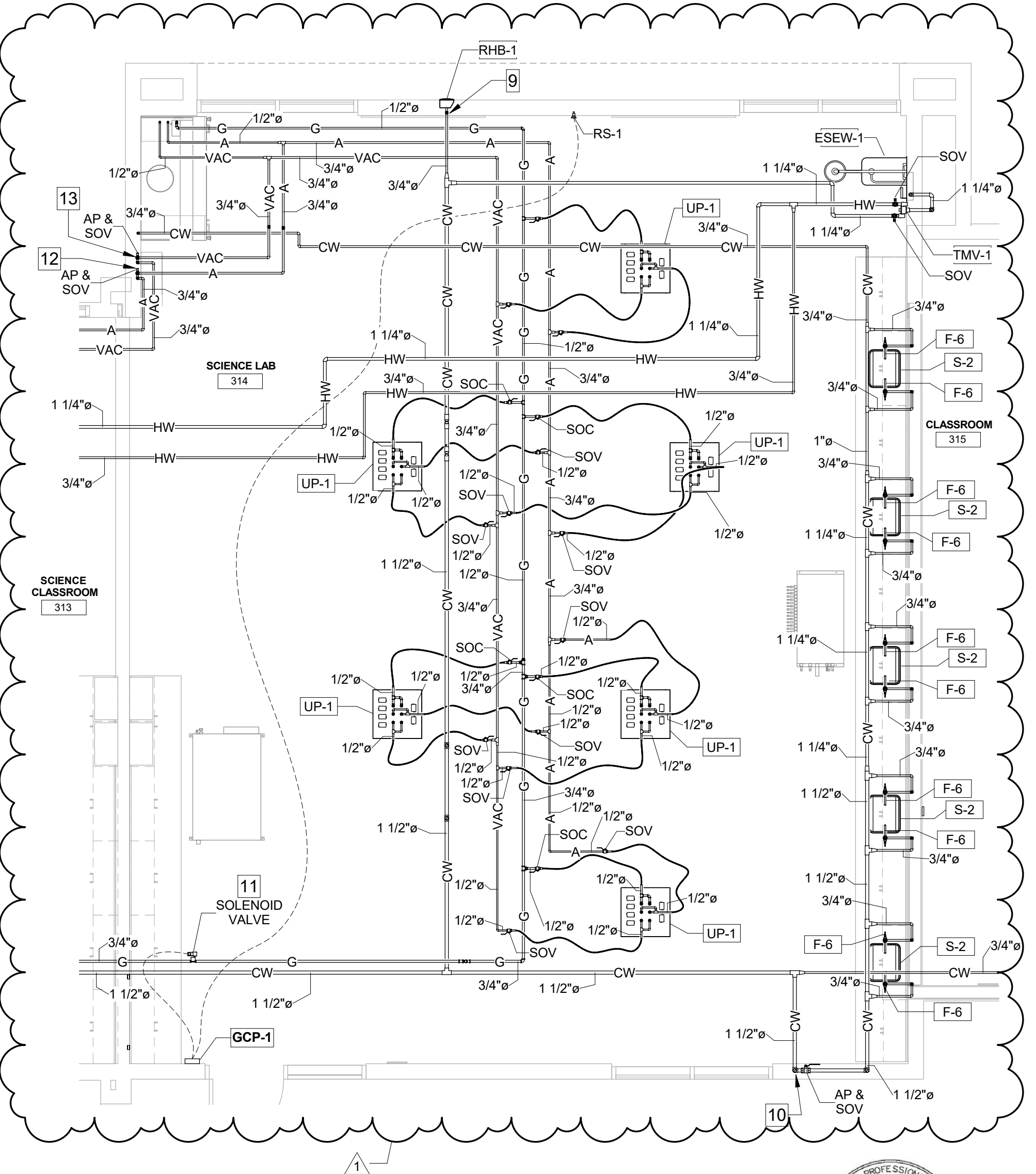
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 ARCHITECTS

DSA APN #: 04-118035  
 DSA File #: 36-H7  
 Date: 11-25-2020  
 Project #: 17-8-21

PSK-01.08







SCIENCE LAB 314 UTILITY PANELS (REFERENCE 7/P3-1.3)

1/4" = 1'-0"

# MODERNIZATION PACIFIC HIGH SCHOOL

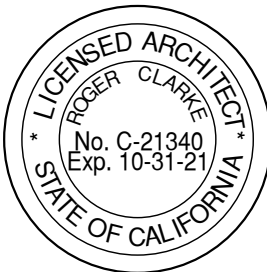
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DSA APN #	04-118035
DSA File #	36-H7
Date:	12-2-2020
Project #	17821
Sheet #	

PSK-01.09





1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE CALIFORNIA BUILDING CODE, AND THE GEOTECHNICAL INVESTIGATION PREPARED BY CONVERSE CONSULTANTS, DATED DECEMBER 6, 2018. ALL CONSTRUCTION MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (APWA GREEN BOOK), LATEST EDITION AND AMENDMENTS. WHENEVER SPECIAL REQUIREMENTS CONFLICT ON ANY SUBJECT MATTER, THE ENGINEER OF RECORD AND/OR HIS REPRESENTATIVE WILL DETERMINE WHICH SPECIAL REQUIREMENT AND/OR CODE WILL GOVERN.

- 18 ALL EXISTING DRAINAGE CONDITIONS ON THE PROJECT SITE MUST CONTINUE TO FUNCTION, ESPECIALLY WITH REGARD TO THE PROTECTION OF ADJACENT PROPERTY AND PUBLIC HIGHWAYS. ANY PROPOSED CHANGES MUST BE USED TO PREVENT ALLOWING PROPERTIES DURING THE GRADING PROJECT IN ALL CASES. THE CONTRACTOR AND/OR DEVELOPER SHALL BE HELD LIABLE FOR ANY DAMAGE DUE IN CONNECTION WITH THE GRADING, DRAINAGE OR EROSION CONTROL WORK.
- 19 ANY WATER MESSAGES SHALL BE ABANDONED IN COMPLIANCE WITH THE COUNTY STANDARDS AND IN ACCORDANCE WITH THE STATE DEPARTMENT OF WATER RESOURCES.
- 20 ANY EXISTING SEWERS, CESSPOOLS, AND SEPTIC TANKS OR OTHER SEWAGE DISPOSAL FACILITIES SHALL BE GRADED TO MEET THE CITY OF LOS ANGELES PLUMBING CODE AND TO THE APPROVAL OF THE GEOTECHNICAL ENGINEER AND GRADING INSPECTOR.
- 21 EROSION SOILS MUST GO TO A LEGAL DUMP SITE OR TO A PERMITTED SITE APPROVED BY THE LOCAL AGENTS OF THE CALIFORNIA DEPARTMENT OF CONSERVATION.
- 22 PERMISSION IS REQUIRED FROM THE ADJACENT PROPERTY OWNERS WHENEVER WORK IS PROPOSED ACROSS THEIR PROPERTY.
- 23 ANY DIRT ROADS OR CONSTRUCTION MATERIAL MAY BE TRACKED OR CLOPPED WITHIN THE PUBLIC RIGHT-OF-WAY DURING THE TRANSPORTATION OF SAND/MATERIAL OR EQUIPMENT ASSOCIATED WITH THE PROJECT SHALL BE KEPT CLEAN OR REMOVED DAY.

FOR TO INSTALLATION, ALL PLANS AND SPECIFICATION SHALL BE APPROVED BY USA. REFER TO DSA R14 A-25 FOR DESIGN, INSTALLATION AND MAINTENANCE GENERAL REQUIREMENTS.

INSPECTIONS ARE REQUIRED: 1) PRIOR TO POURING TRUCK BLOCKS, 2) FOR HYDROSTATIC TESTING AND 3) FOR CURING.

INSTALLATION, INSPECTION, AND TESTING SHALL CONFORM TO TAPFA 13 AND TAPFA 24 & 2016 AND TAPFA 24 CFC.

PRIVATE FIRE HYDRANTS SHALL BE APPROVED WET BARREL STYLE WITH A MINIMUM OF ONE 1-1/2" AND ONE 4" INCH. THE 4" OUTLET SHALL BE FACE THE FIRE DEPARTMENT ACCESS ROAD, ALL OUTLETS SHALL BE PROVIDED WITH A MINIMUM 1/2" NPT TUBING.

FIRE HYDRANT SUPPLY PIPING SHALL BE MINIMUM 6" IN DIAMETER. LATERALS SHALL BE MINIMUM 6" IN DIAMETER. THE LOWEST OPERATING HOSE OUTLET SHALL BE A MINIMUM OF 8" ABOVE GRADE AND THE 4" OUTLET SHALL BE A MINIMUM OF 12" ABOVE GRADE.

HYDROSTATIC TESTING SHALL BE A MINIMUM OF 400PSI FOR 15 MINUTES.

ALL WATER PIPES 7" AND SMALLER SHALL BE SCHEDULE 80 PER ASTM D-1784 WITH SOLVENT WELD JOINTS. ALL WATER PIPES 8" AND LARGER SHALL BE CLASS 150 DUCTILE IRON.

WATER AND SEWER MAINS CROSSINGS SHALL BE IN ACCORDANCE WITH STATE AND COUNTY HEALTH DEPARTMENT REGULATIONS. WATER SERVICE LINES AND SEWER LATERALS SHALL NOT BE IN THE SAME TRENCH. WATER AND SEWER LINES CANNOT SHARE A TEN FOOT MINIMUM HORIZONTAL CLEARANCE. WATER AND SEWER LATERALS SHALL BE SEPARATELY TRENCHED AND SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF UNDER 18" MINIMUM WHEN WATER LINES CROSS UNDER SEWER LATERALS. ALL CROSSINGS SHALL BE NOT ACHIEVED. SEWER SHALL BE REDUCED IN CONCRETE TO EACH SIDE OF CROSSING.

MINIMUM WATER LINE COVER FROM FINISH GRADE TO TOP OF PIPE SHALL BE 36" OF COVER. MINIMUM WATER LINE COVER FROM FINISH GRADE TO BOTTOM OF PIPE SHALL BE 48" OF COVER. MINIMUM SEWER LINES HAVE A MINIMUM COVER OF 36" DUCTON. TRAFFIC AREAS AND A MINIMUM COVER OF 36" DUCTON.

THE INSPECTOR OF RECORD SHALL BE RESPONSIBLE FOR OBTAINING COMPACT TESTS FOR ALL TRENCH BACKFILL AND SUBMIT THEM TO THE CONSTRUCTION MANAGER FOR APPROVAL. ALL BEDDING SHALL BE APPROVED BY THE INSPECTOR OF RECORD.

WATER SERVICE CONNECTIONS TO THE BUILDINGS SHALL BE INSTALLED BY THE BUILDING PLUMBING CONTRACTOR.

20. ALL CHANGES IN HORIZONTAL ALIGNMENT OF SEWER PIPE SHALL BE ACCOMPLISHED BY USE OF MANUFACTURED FITTINGS AND ELBOWS, AND WHERE ADDITIONALLY NECESSARY, PIPE JOINT DEFLECTIONS WITHIN ALLOWABLE LIMITS PER THE PRODUCT SPECIFICATIONS.

ALL SLOPES IN THE DIRECTION OF TRAVEL SHOWN ON THIS PLAN WERE DESIGNED BELOW THE MAXIMUM ALLOWABLE GRADIES BY THE AMERICANS WITH DISABILITIES ACT ACCESS GUIDE (ADAAG OR CBA) IN ORDER TO PROVIDE ACCESS TO ALL AREAS OF THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZE THEMSELVES WITH THE ADAAGS AND CBA AND IN THE EVENT THAT A DESIGN QUESTION ARISES, THE CONTRACTOR SHALL CONSULT WITH THE DESIGNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLANS, WORK SHALL CEASE AND THE DESIGN ENGINEER SHALL BE NOTIFIED SO THAT AN ACCEPTABLE SOLUTION CAN BE DEVELOPED.

THE CONTRACTOR IS ADVISED TO CAREFULLY CHECK ALL PASSES OF WORK RELATING TO ACCESSIBILITY FOR THIS PROJECT. SINCE THE CODE DOES NOT ALLOW FOR A CONSTRUCTION TOLERANCE, ANY CONSTRUCTION THAT EXCEEDS MAXIMUM OR MINIMUM DIMENSIONS AND SLOPES AS CALLED OUT BY CBA OR ADAAG SHALL BE REJECTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SLOPE OF ALL AREAS OF THE PROJECT.

AS WITH THE CIVIL ENGINEER OR SURVEYOR CONTRACT, THE EXACT METHODS OR MEASURES USED BY THE GENERAL CONTRACTOR OR THEIR SUB-CONTRACTORS DURING THE GRADING AND CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCEPTANCE OF ADAAG RELATED ITEMS OF THIS PROJECT BY THE INSPECTING AUTHORITY OR OTHER AGENCIES.

COMPLIANCE WITH THE CONSTRUCTION REQUIREMENTS FOR ACCESSIBILITY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND HIS SUB-CONTRACTORS.

ALL CONTRACTORS AND SUBCONTRACTORS PERFORMING WORK SHOWN ON OR RELATED TO THESE PLANS SHALL CONDUCT THEIR OPERATIONS SO THAT ALL EMPLOYEES ARE PROVIDED A SAFE PLACE TO WORK AND THE PUBLIC IS PROTECTED. ALL CONTRACTORS AND SUBCONTRACTORS SHALL COMPLY WITH THE "OCCUPATIONAL SAFETY AND HEALTH REGULATIONS" OF THE U.S. DEPARTMENT OF LABOR AND THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS "CONSTRUCTION SAFETY ORDERS." THE CIVIL ENGINEER SHALL NOT BE RESPONSIBLE IN ANY WAY FOR THE CONTRACTORS AND SUBCONTRACTORS COMPLIANCE WITH SAID REGULATIONS AND ORDERS.

CONTRACTOR FURTHER AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB-SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE CIVIL ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

THE EXISTENCE AND APPROXIMATE LOCATIONS OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. THE CIVIL ENGINEER ASSUMES NO LIABILITY AS TO THE EXACT LOCATION OF SAID LINES NOR FOR UTILITY OR IRRIGATION LINES WHOSE LOCATIONS ARE NOT SHOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL UTILITY AND IRRIGATION COMPANIES PRIOR TO WORK OR EXCAVATION TO DETERMINE THE EXACT LOCATIONS OF ALL LINES AFFECTING THIS WORK, WHETHER OR NOT SHOWN HEREON, AND FOR ANY DAMAGE OR PROTECTION TO THESE LINES.

SHEET No.	DESCRIPTION	No.
C-1.1	TITLE SHEET	1
C-2.1	PRECISE GRADING PLAN	2
C-2.2	PRECISE GRADING PLAN	3
C-2.3	PRECISE GRADING PLAN	4
C-2.4	PRECISE GRADING PLAN	5
C-2.5	PRECISE GRADING PLAN	6
C-3.1	COMPOSITE UTILITY DEMO PLAN	7
C-3.2	COMPOSITE UTILITY DEMO PLAN	8
C-3.3	COMPOSITE UTILITY DEMO PLAN	9
C-3.4	COMPOSITE UTILITY DEMO PLAN	10
C-3.5	COMPOSITE UTILITY PLAN	11
C-3.6	COMPOSITE UTILITY PLAN	12
C-3.7	COMPOSITE UTILITY PLAN	13
C-3.8	COMPOSITE UTILITY PLAN	14
C-3.9	COMPOSITE UTILITY PLAN	15
C-4.1	HORIZONTAL CONTROL PLAN	16
C-4.2	HORIZONTAL CONTROL PLAN	17
C-4.3	HORIZONTAL CONTROL PLAN	18
C-4.4	HORIZONTAL CONTROL PLAN	19
C-4.5	HORIZONTAL CONTROL PLAN	20
C-5.1	DETAIL SHEET	21
C-5.2	DETAIL SHEET	22

PROTECT IN PLACE SPECIFIED ITEM

ADD/ EXISTING ITEM TO PROPOSED FINISHED GRADE

REMOVE/ EXISTING SPECIFIED ITEM PER APPROPRIATE CONSULTANTS PLAN

JOIN PROPOSED SURFACE TO EXISTING SURFACE DETAIL "C" ON SHEET C-5.1 WITH FLUSH TRANSIST MATCH GRADE. DOWELING FOR PCC ONLY

SAWCUT, REMOVE AND DISPOS OF EXISTING AC PAVEMENT

SAWCUT, REMOVE AND DISPOS OF PCC SURFACE

GRIND AND REMOVE EXISTING ASPHALT SURFACE 1" MINIMUM

SEE UTILITY PLAN FOR IDENTIFICATION OF UTILITY

CONSTRUCT 4" OVER CRUSHED AGGREGATE BASE COMPACTED TO 95% RELATIVE COMPACTION, A SUBGRADE COMPACTED TO 95% RELATIVE COMPACTION, FINAL PAVEMENT STRUCTURE SHALL BE BASED R-VALUE TESTING PERFORMED ON A REPRESENTATIVE SAMPLE, SAMPLE COLLECTED WHEN SUB-GRADE ELEVATION IS 4" BELOW FINISH GRADE

CONSTRUCT 4" OVER 1" CRUSHED AGGREGATE BASE COMPACTED TO 95% RELATIVE COMPACTION, A SUBGRADE COMPACTED TO 95% RELATIVE COMPACTION, FINAL PAVEMENT STRUCTURE SHALL BE BASED R-VALUE TESTING PERFORMED ON A REPRESENTATIVE SAMPLE, SAMPLE COLLECTED WHEN SUB-GRADE ELEVATION IS 4" BELOW FINISH GRADE

CONSTRUCT 4" OVER 200-2500 WITH #4 BARS @ 6" O.C. BOTHWAYS, OVER 12" SUBGRADE COMPACTED MINIMUM 95% RELATIVE COMPACTION WITH THICKENED EDGE PER DETAIL "D" ON SHEET C-5.1 SCORING, TEXTURE AND FINISH PER ARCHITECT'S PLANS AND SPECIFICATIONS

CONSTRUCT 9" PCC OVER 200-2500 COMPACTED TO MINIMUM 95% RELATIVE COMPACTION, WITH #4 BARS @ BOTHWAYS, OVER 12" SUBGRADE COMPACTED TO MINIMUM 95% RELATIVE COMPACTION WITH THICKENED EDGE PER DETAIL "D" ON SHEET C-5.1 SCORING, TEXTURE, COLOR AND FINISH PER ARCHITECT'S PLANS AND SPECIFICATIONS

CONSTRUCT LANDSCAPE CURB PER ARCHITECT'S PLANS AND SPECIFICATIONS

CONSTRUCT 1 PCC VOTCH PER DETAIL "D" ON SHEET C-5.1

CONSTRUCT 12" CURB ONLY PER DETAIL "D" ON SHEET C-5.1

CONSTRUCT SEATWALL PER ARCHITECT'S PLANS AND SPECIFICATIONS

CONSTRUCT CAST IN PLACE RETAINING WALL PER STRUCTURAL ENGINEER'S DETAILS

CONSTRUCT REDWOOD HEADER PER DETAIL "E" ON SHEET C-5.1

FURNISH AND INSTALL DRINKING FOUNTAIN PER ARCHITECT'S PLANS AND SPECIFICATIONS

CONSTRUCT UTILITY TRENCH PER DETAIL "C" ON SHEET C-5.1, CONTRACTOR TO REPLACE AND MATCH EXISTING SURFACE IN KIND AFTER UTILITY INSTALLATION, SEE UTILITY PLAN FOR UTILITY UTILITY INSTALLATION

FURNISH AND INSTALL SITE FENCING, RAILING, GATES PER ARCHITECT'S PLANS AND SPECIFICATIONS

PAINT, APPLY ACCESSIBLE SIGNING / STRIPING / PAVEMENT MARKINGS PER ARCHITECT'S PLANS AND SPECIFICATIONS

CONSTRUCT STAIRS/RAMP/STEPS PER ARCHITECT'S PLANS AND SPECIFICATIONS

CONSTRUCT A-14 CURB PER SPWPC STD. PLAN 102-0 ON SHEET C-5.1

CONSTRUCT CURB/SEWER DETAIL "B" ON SHEET C-5.1

CONSTRUCT "F" OR "I" CURB TRANSITION PER DETAIL "D" ON SHEET C-5.1

FURNISH INSTALL LIGHT FIXTURE PER ARCHITECT'S PLANS AND SPECIFICATIONS

- 50 FURNISH AND INSTALL 4" REDUCED PRESSURE BACKFLOW DEVICE (FBCO 1986 OR APPROVED EQUIV) ON SHEET C-5.2
- 51 FURNISH & INSTALL 1" SCHEDULE 80 WATER LINE
- 52 FURNISH & INSTALL 1-1/2" SCHEDULE 80 WATER LINE
- 53 FURNISH & INSTALL 2" SCHEDULE 80 WATER LINE
- 54 FURNISH & INSTALL 2-1/2" SCHEDULE 80 WATER LINE
- 55 FURNISH & INSTALL 3" SCHEDULE 80 WATER LINE
- 56 FURNISH & INSTALL 4" CLASS 235 DR-18 C900 WATER LINE
- 57 FURNISH & INSTALL 6" CLASS 235 DR-18 C900 WATER LINE
- 58 CONNECT TO EXISTING WATER LINE
- 59 CUT AND CAP EXISTING WATER LINE
- 60 CONSTRUCT THRUST BLOCK PER DETAIL "H" ON SHEET C-5.1

- 60 FURNISH & INSTALL 1" CLASS 235 DR-18 C900 PVC WATER LINE
- 61 CONNECT TO EXISTING WATER LINE
- 62 FURNISH & INSTALL 1" CLASS 235 DR-18 C900 PVC WATER LINE
- 63 CONSTRUCT THROUGH BLOCK PER DETAIL "7" ON SHEET C-5.1
- 64 FURNISH & INSTALL FIVE HYDRANT ASSEMBLY (JONES 400 OR APPROVED EQUAL) ON SHEET C-5.2
- 65 FURNISH & INSTALL 6" GATE VALVE (MUELLER REGISTRE WEDGE JIP OR APPROVED EQUAL) ON SHEET C-5.1
- 66 FURNISH & INSTALL STANDPIPE INLET PER DETAIL "7" ON SHEET C-5.1
- 67 FURNISH & INSTALL STANDPIPE OUTLET PER DETAIL "1" ON SHEET C-5.1
- 68 FURNISH & INSTALL 2" PIV (MUELLER A-2808 OR APPROVED EQUAL) ON SHEET C-5.2
- 69 FURNISH & INSTALL FIVE FIRE DEPARTMENT CONNECTION (CROKER 6816 OR C.I.V. APPROVED EQUAL) ON SHEET C-5.1
- 70 FURNISH & INSTALL CLIENT WATER CREDIT VALVE (CWA, SERIES 580 OR APPROVED EQUAL) ON SHEET C-5.2

- 71 FURNISH & INSTALL 4" SDR 35 PVC SEWER LINE
- 72 FURNISH & INSTALL 6" SDR 35 PVC SEWER LINE
- 73 CONSTRUCT PVC SEWER/STORM DRAIN CLEANSOUT PER DETAIL "I" ON SHEET C-5.1
- 74 CONNECT TO EXISTING SEWER LINE. CONTRACTOR TO FIELD VERIFY THE VERTICAL AND HORIZONTAL LOCATION AND CONTACT EPC ENGINEERS WITH RESULTS FOR VERIFICATION TO PROCEED PRIOR TO ANY CONSTRUCTION.
- 75 CONNECT TO EXISTING SEWER
- 76 CUT AND CAP EXISTING SEWER LINE
- STORM DRAIN**
- 78 FURNISH & INSTALL 4" SDR 35 PVC STORM DRAIN PIPE
- 79 FURNISH & INSTALL 6" SDR 35 PVC STORM DRAIN PIPE
- 80 FURNISH & INSTALL 8" SDR 35 PVC STORM DRAIN PIPE
- 81 FURNISH & INSTALL 12" SDR 35 PVC STORM DRAIN PIPE
- 82 NOTE NOT USED
- 83 FURNISH & INSTALL 12" X 12" PREFABRICATED CATCH BASIN (AR C81B2 OR APPROVED EQUAL) PER DETAIL ON SHEET C-6.1
- 84 FURNISH & INSTALL 18" X 18" PREFABRICATED CATCH BASIN (AR C81B8 OR APPROVED EQUAL) PER DETAIL ON SHEET C-6.1
- 85 FURNISH & INSTALL 24" X 24" PREFABRICATED CATCH BASIN (AR C82B4 OR APPROVED EQUAL) PER DETAIL ON SHEET C-6.1

89 CONSTRUCT PVC SEWER/STORM DRAIN CLEANOUT PER DETAIL "I" ON SHEET C-5.1

90 FURNISH & INSTALL 18" RCP STORM DRAIN PIPE

91 CUT AND CAP EXISTING STORM DRAIN LINE

92 CONSTRUCT RETAINING WALL SUBDRAIN PER DETAIL "G" ON SHEET C-5.1

93 CONNECT TO EXISTING STORM DRAIN

100	REMOVE/RELOCATE SPECIFIED ITEM PER APPROPRIATE CONSULTANTS PLAN
101	REMOVE EXISTING SPECIFIED UTILITY LINE
102	REMOVE EXISTING SPECIFIED ITEM



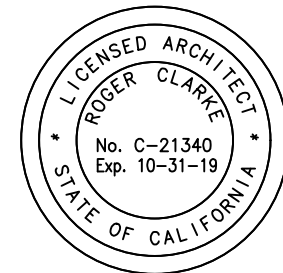
AC	ASPHALT CONCRETE		FIRE HYDRANT
ADA	AMERICAN DISABILITY ACT		MANHOLE AS NOTED
ABD	BACKFLOW DEVICE		POWER POLE
CLF	CHAIN LINK FENCE		TREE
CC	CLEAN OUT		SIGN
CONC	CONCRETE		CONTROL POINT
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY		DRAIN BOX
ELEC	ELECTRIC		EDGE OF PAVEMENT
EDC	EDGE OF CONCRETE		EDGE OF CONCRETE
EP	EDGE OF PAVEMENT		PROPOSED STORM DRAIN
FF	FINISHED FLOOR		PROPOSED SEWER LINE
FG	FINISHED GROUND		PROPOSED FIRE LINE
FH	FIRE HYDRANT		PROPOSED WATER LINE
FL	FLOWLINE		CHANGE IN AC/PC THICKNESS
FD	FIRE DEPARTMENT CONNECTION		GRADING BREAK/BIDGE
FS	FINISHED SURFACE		EXISTING EDGE OF CONCRETE
HP	HIGH POINT		PROPOSED RETAINING WALL
IE	INVERT (SD)		EXISTING WALL
IN	INVERT (SEWER)		EXISTING WATER LINE
IPC	PORTLAND CEMENT CEMENT		EXISTING STORM DRAIN
PC	POST INDICATOR VALVE		EXISTING FIRE LINE
PW	POWER POLE		EXISTING WATER LINE
RF	UTILITY		EXISTING ELECTRIC LINE
SH	SHOULDER		EXISTING GAS LINE
TC	TOP OF CURB		GRIND AND OVERLAY
TG	TOP OF FOOTING		GRIND AND OVERLAY
TOE	TOE OF BRIDGE		GRIND AND OVERLAY
TOE	TOE OF SLOPE		GRIND AND OVERLAY
TOE	TOE OF RAMP		GRIND AND OVERLAY
TW	TOP OF WALL		GRIND AND OVERLAY
UTL	UTILITY		GRIND AND OVERLAY
WM	WATER METER		GRIND AND OVERLAY
WV	WATER VALVE		GRIND AND OVERLAY
	PROPOSED AC PAVEMENT		PROPOSED AC PAVEMENT
	PROPOSED PCC SURFACE		PROPOSED PCC SURFACE
	GRIND AND OVERLAY		GRIND AND OVERLAY







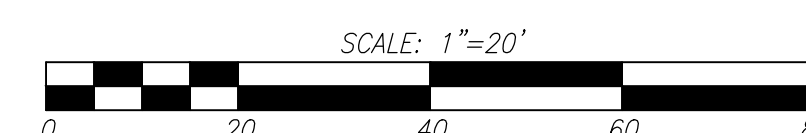




AGENCY APPROVAL  
File No: 36-H7 A-04-118033



- 1) PROTECT IN PLACE SPECIFIED ITEM
- 2) ADJUST EXISTING ITEM TO PROPOSED FINISHED GRADE
- 3) REMOVE/RELOCATE SPECIFIED ITEM PER APPROPRIATE CONSULTANTS PLAN
- 4) JON PROPOSED SURFACE TO EXISTING SURFACE PER DETAIL "A" ON SHEET C-5.1 WITH FLUSH TRIMMING. MATCH GRADE OVERLAP PER DETAIL "B" ON SHEET C-5.1
- 5) SAWCUT, REMOVE AND DISPOSE OF EXISTING AC PAVEMENT
- 6) SAWCUT, REMOVE AND DISPOSE OF PC/C SURFACE
- 7) GRIND AND OVERLAY EXISTING ASPHALT SURFACE TO 1" MINIMUM
- 8) SEE SITE UTILITY PLAN FOR IDENTIFICATION OF OBJECT
- 9) CONSTRUCT 4" AC OVER 8" CRUSHED AGGREGATE BASE COMPACTED TO 98% RELATIVE COMPACTION, AND 12" SUBGRADE COMPACTED TO EXISTING SUBGRADE. FINAL PAVEMENT SECTION SHOULD BE BASED UPON R-VALUE TESTING PERFORMED ON A REPRESENTATIVE SOIL SAMPLE COLLECTED WHEN SUB-GRADE ELEVATION IS ACHIEVED
- 10) CONSTRUCT 4" AC OVER 12" CRUSHED AGGREGATE BASE COMPACTED TO 98% RELATIVE COMPACTION, AND 12" SUBGRADE COMPACTED TO EXISTING SUBGRADE. FINAL PAVEMENT SECTION SHOULD BE BASED UPON R-VALUE TESTING PERFORMED ON A REPRESENTATIVE SOIL SAMPLE COLLECTED WHEN SUB-GRADE ELEVATION IS ACHIEVED
- 11) CONSTRUCT 4" PC/C (2000) WITH BARS #5 @ 12" O.C. BOTHWAYS OVER 12" SUBGRADE COMPACTED TO MINIMUM 95% RELATIVE COMPACTION WITH THICKENED EDGE PER DETAIL "D" ON SHEET C-5.1 SCORING PATTERNS, COLORS AND FINISH PER ARCHITECT'S PLANS AND SPECIFICATIONS
- 12) CONSTRUCT 4" GRC OVER 12" SUBGRADE COMPACTED TO MINIMUM 95% RELATIVE COMPACTION WITH BARS #5 @ 12" O.C. BOTHWAYS OVER 12" SUBGRADE COMPACTED TO MINIMUM 95% RELATIVE COMPACTION WITH THICKENED EDGE PER DETAIL "D" ON SHEET C-5.1 SCORING PATTERNS, COLORS AND FINISH PER ARCHITECT'S PLANS AND SPECIFICATIONS
- 13) CONSTRUCT UNIFORM CURB HEIGHT PER ARCHITECT'S PLANS AND SPECIFICATIONS
- 14) CONSTRUCT 12" CURB V-DITCH PER DETAIL "D" ON SHEET C-5.1
- 15) CONSTRUCT 12" CURB ONLY PER DETAIL "D" ON SHEET C-5.1
- 16) CONSTRUCT SEATHALL PER ARCHITECT'S PLANS AND SPECIFICATIONS
- 17) CONSTRUCT CAST IN PLACE RETAINING WALL PER STRUCTURAL ENGINEER'S DETAILS
- 18) CONSTRUCT REDWOOD HEADER PER DETAIL "E" ON SHEET C-5.1
- 19) FINISH AND INSTALL DRIVING FOUNTAIN PER ARCHITECT'S PLANS AND SPECIFICATIONS
- 20) FINISH AND INSTALL UTILITY TRENCH PER DETAIL "H" ON SHEET C-5.1. CONTRACTOR TO REPLACE AND MATCH EXISTING IN PLACE UNDISTURBED UTILITY INSTALLATION. SEE UTILITY PLAN FOR UTILITY LINE INSTALLATION
- 21) CONSTRUCT MOWSTRIP PER ARCHITECT'S PLANS AND SPECIFICATIONS
- 22) FINISH AND INSTALL SITE FENCING /RAILING /GATES PER ARCHITECT'S PLANS AND SPECIFICATIONS
- 23) PAINT /APPLY ACCESSIBLE SIGNING /STRIPPING /PAVEMENT MARKINGS PER ARCHITECT'S PLANS AND SPECIFICATIONS
- 24) CONSTRUCT 4" GRC OVER 12" SUBGRADE COMPACTED TO MINIMUM 95% RELATIVE COMPACTION WITH THICKENED EDGE PER DETAIL "D" ON SHEET C-5.1
- 25) CONSTRUCT 4" PC/C (2000) WITH BARS #5 @ 12" O.C. BOTHWAYS OVER 12" SUBGRADE COMPACTED TO MINIMUM 95% RELATIVE COMPACTION WITH THICKENED EDGE PER DETAIL "D" ON SHEET C-5.1
- 26) FINISH AND INSTALL FLOURE PER ARCHITECT'S PLANS AND SPECIFICATIONS

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**Call 2 Working Days  
Before You Dig!  
811**

**MATCHLINE - SEE SHEET C-2.1**

**MATCHLINE - SEE SHEET C-2.4**

PROJECT No. : 1-78-21  
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SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

## PRECISE GRADING PLAN

## C-2.2

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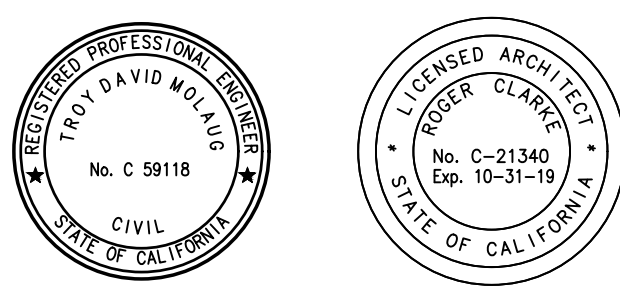
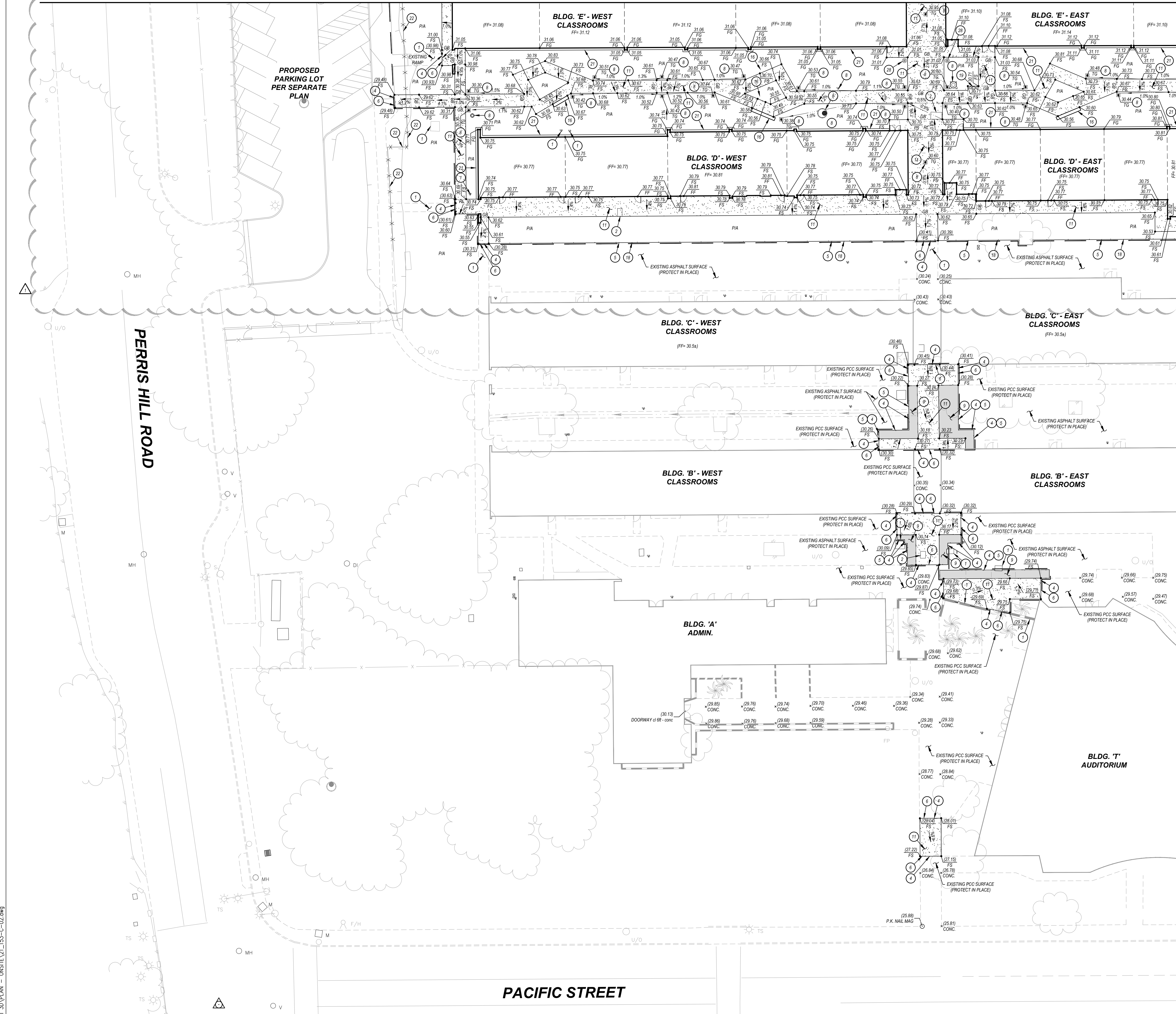
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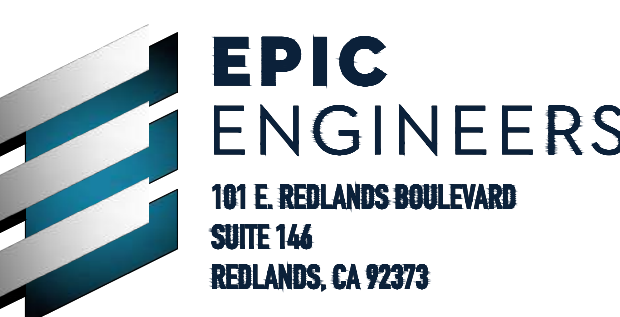
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95	12/7/2020	REVISED PER COMMENTS	
96	12/7/2020	REVISED PER COMMENTS	
97	12/7/2020	REVISED PER COMMENTS	
98	12/7/2020	REVISED PER COMMENTS	
99	12/7/2020	REVISED PER COMMENTS	
100	12/7/2020	REVISED PER COMMENTS	

MATCHLINE - SEE SHEET C-2.1



STAMPS

AGENCY APPROVAL  
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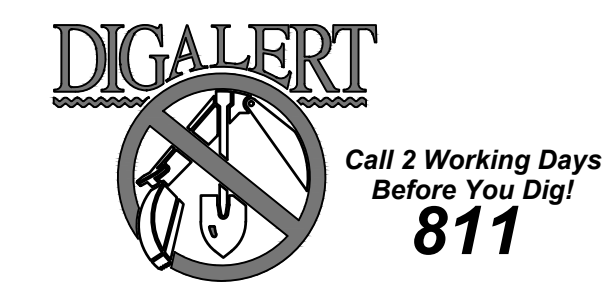


RUHNAU  
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ARCHITECTS

GRADING CONSTRUCTION NOTES

1. PROTECT IN PLACE SPECIFIED ITEM
2. ADJUST EXISTING ITEM TO PROPOSED FINISHED GRADE
3. REMOVE/RELOCATE SPECIFIED ITEM PER APPROPRIATE CONSULTANTS PLAN
4. JOIN PROPOSED SURFACE TO EXISTING SURFACE PER DETAIL "A" ON SHEET C-5.1 WITH FLUSH TRANSITION
5. MATCH GRADE DOWELING FOR PCC ONLY
6. SAWCUT, REMOVE AND DISPOSE OF EXISTING AC PAVEMENT
7. SAWCUT, REMOVE AND DISPOSE OF PCC SURFACE
8. GRIND AND OVERLAY EXISTING ASPHALT SURFACE 0.12" MINIMUM
9. SEE SITE UTILITY PLAN FOR IDENTIFICATION OF OBJECT
10. CONSTRUCT 4" AC OVER 8" CRUSHED AGGREGATE BASE COMPACTED TO 95% RELATIVE COMPACTION, AND 12" SUBGRADE COMPACTED TO 95% RELATIVE COMPACTION. FINAL PAVEMENT SECTION SHOULD BE BASED UPON R-VALUE TESTING PERFORMED ON A REPRESENTATIVE SOIL SAMPLE COLLECTED WHEN SUB-GRADE ELEVATION IS ACHIEVED
11. CONSTRUCT 6" AC OVER 12" CRUSHED AGGREGATE BASE COMPACTED TO 95% RELATIVE COMPACTION, AND 12" SUBGRADE COMPACTED TO 95% RELATIVE COMPACTION. FINAL PAVEMENT SECTION SHOULD BE BASED UPON R-VALUE TESTING PERFORMED ON A REPRESENTATIVE SOIL SAMPLE COLLECTED WHEN SUB-GRADE ELEVATION IS ACHIEVED
12. CONSTRUCT 4" PCC (3000-2500) WITH #4 BARS 18" O.C. BOTH WAYS, OVER 12" SUBGRADE COMPACTED TO MINIMUM 95% RELATIVE COMPACTION WITH THICKENED EDGE PER DETAIL "B" ON SHEET C-5.1 SCORING PATTERNS, COLOR AND FINISH PER ARCHITECT'S PLANS AND SPECIFICATIONS
13. CONSTRUCT 4" PCC (3000-2500) COMPACTED TO MINIMUM 95% RELATIVE COMPACTION, WITH #4 BARS 18" O.C. BOTH WAYS, OVER 12" SUBGRADE COMPACTED TO MINIMUM 95% RELATIVE COMPACTION, WITH THICKENED EDGE PER DETAIL "B" ON SHEET C-5.1 SCORING PATTERNS, COLOR AND FINISH PER ARCHITECT'S PLANS AND SPECIFICATIONS
14. CONSTRUCT LANDSCAPE CURB PER ARCHITECT'S PLANS AND SPECIFICATIONS
15. CONSTRUCT 12" CURB ON 4" VOTCH PER DETAIL "D" ON SHEET C-5.1
16. CONSTRUCT 12" CURB ON 4" VOTCH PER DETAIL "D" ON SHEET C-5.1
17. CONSTRUCT SEATWALL PER ARCHITECT'S PLANS AND SPECIFICATIONS
18. CONSTRUCT CAST IN PLACE RETAINING WALL PER STRUCTURAL ENGINEER'S DETAILS
19. CONSTRUCT REDWOOD HEADER PER DETAIL "E" ON SHEET C-5.1
20. FURNISH AND INSTALL DRINKING FOUNTAIN PER ARCHITECT'S PLANS AND SPECIFICATIONS
21. CONSTRUCT UTILITY TRENCH PER DETAIL "F" ON SHEET C-5.1. CONTRACTOR TO REPLACE AND MATCH EXISTING SURFACE IN KIND AFTER UTILITY LINE INSTALLATION. SEE UTILITY PLAN FOR UTILITY LINE INSTALLATION.
22. CONSTRUCT MOWSTRIP PER ARCHITECT'S PLANS AND SPECIFICATIONS
23. FURNISH AND INSTALL SITE FENCING / RAILING / GATES PER ARCHITECT'S PLANS AND SPECIFICATIONS
24. PAINT / APPLY ACCESSIBLE SIGNING / STRIPING / PAVEMENT MARKINGS PER ARCHITECT'S PLANS AND SPECIFICATIONS
25. CONSTRUCT STAIRS / HANDRAILS PER ARCHITECT'S PLANS AND SPECIFICATIONS
26. CONSTRUCT A1-6 CURB PER SPWPC STD. PLAN 120-2 ON SHEET C-5.2
27. CONSTRUCT 6" CURB PER DETAIL "C" ON SHEET C-5.1
28. CONSTRUCT 6" OR 8" CURB TRANSITION PER DETAIL "D" ON SHEET C-5.1
29. FURNISH INSTALL LIGHT FIXTURE PER ARCHITECT'S PLANS AND SPECIFICATIONS

LEGEND:	
AC	ASPHALT CONCRETE
ADA	AMERICAN DISABILITIES ACT
BFD	BACK FLOW DEVICE
CLF	CHAIN LINK FENCE
CO	CLEAN OUT
CONC	CONCRETE
DDCA	DOUBLE CHECK DETECTOR ASSEMBLY
ELEC	ELECTRIC
EDC	EDGE OF CONCRETE
EP	EDGE OF PAVEMENT
FF	FINISHED FLOOR
FG	FINISHED GROUND
FH	FIRE HYDRANT
FL	FLOWLINE
FDC	FIRE DEPARTMENT CONNECTION
FS	FINISHED SURFACE
HP	HIGH POINT
IE	INVERT (SD)
INV	INVERT (SEWER)
PCC	PORTLAND CEMENT CEMENT
PIV	POST INDICATOR VALVE
RP	POWER POLE
SW	SIDEWALK
TB	TOP OF BERM
TC	TOP OF CURB
TF	TOP OF FOOTING
TOE	TOE OF SLOPE
TP	TOP OF PAVEMENT
TW	TOP OF WALL
UTL	UTILITY
WM	WATER METER
WV	WATER VALVE
	PROPOSED AC PAVEMENT
	PROPOSED PCC SURFACE
	GRIND AND OVERLAY
	FIRE HYDRANT
	MANHOLE AS NOTED
	POWER POLE
	SIGN
	TREE
	CONTROL POINT
	DRAIN BOX
	EDGE OF PAVEMENT
	EXISTING FLOWLINE
	EDGE OF CONCRETE
	PROPOSED STORM DRAIN
	PROPOSED SEWER LINE
	PROPOSED FIRE LINE
	PROPOSED WATER LINE
	CHANGE IN ASPCC THICKNESS
	GRADE BREAK/ROSE LINE
	EXISTING EDGE OF CONCRETE
	PROPOSED RETAINING WALL
	EXISTING WALL
	EXISTING STORM DRAIN
	EXISTING SEWER LINE
	EXISTING FIRE LINE
	EXISTING WATER LINE
	EXISTING ELECTRIC LINE
	EXISTING GAS LINE



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MODERNIZATION  
PACIFIC HIGH SCHOOL  
1020 PACIFIC STREET SAN BERNARDINO, CA 92404  
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

PRECISE GRADING PLAN

C-2.3



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MODERNIZATION  
1020 PACIFIC STREET SAN BERNARDINO, CA 92404  
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

PRECISE GRADING PLAN

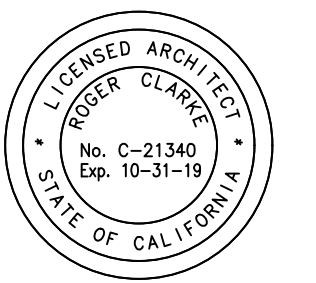
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1-78-21

MATCHLINE - SEE SHEET C-2.3

MATCHLINE - SEE SHEET C-2.2

MATCHLINE - SEE SHEET C-2.5



STAMPS

AGENCY APPROVAL  
PROJECT NO. 36-017 / A-004-118035

**EPIC ENGINEERS**  
101 E. REDLANDS BOULEVARD  
SUITE 144  
REDLANDS, CA 92373

**RUHNAU CLARKE ARCHITECTS**

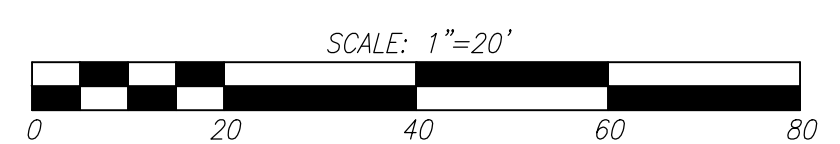
CONSULTANT BRANDING

### GRADING CONSTRUCTION NOTES

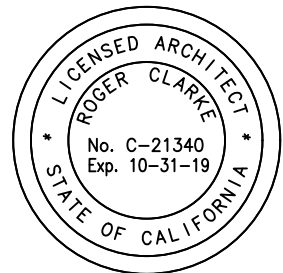
1. PREPARE IN PLACE SPECIFIED TBM
2. ADJUST EXISTING ITEM TO PROPOSED FINISHED GRADE
3. REMOVE/RELOCATE SPECIFIED ITEM PER APPROPRIATE CONSULTANTS PLAN
4. JOIN PROPOSED SURFACE TO EXISTING SURFACE PER DETAIL "A" ON SHEET C-5.1 WITH FLUSH TRANSITION. MATCH GRADE, DOWELING FOR PCC ONLY
5. SAWCUT, REMOVE AND DISPOSE OF EXISTING AC PAVEMENT
6. SAWCUT, REMOVE AND DISPOSE OF PCC SURFACE
7. GRIND AND OVERLAY EXISTING ASPHALT SURFACE 0.12" MINIMUM
8. SEE SITE UTILITY PLAN FOR IDENTIFICATION OF OBJECT
9. CONSTRUCT 4" AC OVER 8" CRUSHED AGGREGATE BASE COMPACTED TO 90% RELATIVE COMPACTION, AND 12" SUBGRADE COMPACTED TO 90% RELATIVE COMPACTION. FINAL PAVEMENT SECTION SHOULD BE BASED UPON R-VALUE TESTING PERFORMED ON A REPRESENTATIVE SOIL SAMPLE COLLECTED WHEN SUB-GRADE ELEVATION IS ACHIEVED
10. CONSTRUCT 6" AC OVER 12" CRUSHED AGGREGATE BASE COMPACTED TO 90% RELATIVE COMPACTION, AND 12" SUBGRADE COMPACTED TO 90% RELATIVE COMPACTION. FINAL PAVEMENT SECTION SHOULD BE BASED UPON R-VALUE TESTING PERFORMED ON A REPRESENTATIVE SOIL SAMPLE COLLECTED WHEN SUB-GRADE ELEVATION IS ACHIEVED
11. CONSTRUCT 4" PCC (50A-C-2500) WITH #4 BARS 18" O.C. BOTH WAYS, OVER 12" SUBGRADE COMPACTED TO MINIMUM 90% RELATIVE COMPACTION WITH THICKENED EDGE PER DETAIL "B" ON SHEET C-5.1 SCORING PATTERNS, COLOR AND FINISH PER ARCHITECT'S PLANS AND SPECIFICATIONS
12. CONSTRUCT 6" PCC (50A-C-3000) COMPACTED TO MINIMUM 90% RELATIVE COMPACTION, WITH #4 BARS 18" O.C. BOTH WAYS, OVER 12" SUBGRADE COMPACTED TO MINIMUM 90% RELATIVE COMPACTION WITH THICKENED EDGE PER DETAIL "B" ON SHEET C-5.1 SCORING PATTERNS, COLOR AND FINISH PER ARCHITECT'S PLANS AND SPECIFICATIONS
13. CONSTRUCT 12" CURB ON 12" SUBGRADE PER DETAIL "C" ON SHEET C-5.1
14. CONSTRUCT SEATWALL PER ARCHITECT'S PLANS AND SPECIFICATIONS
15. CONSTRUCT CAST IN PLACE RETAINING WALL PER STRUCTURAL ENGINEER'S DETAILS
16. CONSTRUCT REDWOOD HEADER PER DETAIL "E" ON SHEET C-5.1
17. FURNISH AND INSTALL DRINKING FOUNTAIN PER ARCHITECT'S PLANS AND SPECIFICATIONS
18. CONSTRUCT UTILITY TRENCH PER DETAIL "F" ON SHEET C-5.1. CONTRACTOR TO REPLACE AND MATCH EXISTING SURFACE IN KIND AFTER UTILITY LINE INSTALLATION. SEE UTILITY PLAN FOR UTILITY LINE INSTALLATION.
19. CONSTRUCT MOISTURE STRIP PER ARCHITECT'S PLANS AND SPECIFICATIONS
20. FURNISH AND INSTALL SITE FENCING / RAILING / GATES PER ARCHITECT'S PLANS AND SPECIFICATIONS
21. PAINT / APPLY ACCESSIBLE SIGNING / STRIPING / PAVEMENT MARKINGS PER ARCHITECT'S PLANS AND SPECIFICATIONS
22. CONSTRUCT STAIRS / RAMP PER ARCHITECT'S PLANS AND SPECIFICATIONS
23. CONSTRUCT A1.6 CURB PER SPWPC STD. PLAN 120.2 ON SHEET C-5.2
24. CONSTRUCT 6" PCC (50A-C-2500) WITH #4 BARS 18" O.C. BOTH WAYS, OVER 12" SUBGRADE COMPACTED TO MINIMUM 90% RELATIVE COMPACTION WITH THICKENED EDGE PER DETAIL "B" ON SHEET C-5.1
25. FURNISH INSTALL LIGHT FIXTURE PER ARCHITECT'S PLANS AND SPECIFICATIONS

### LEGEND:

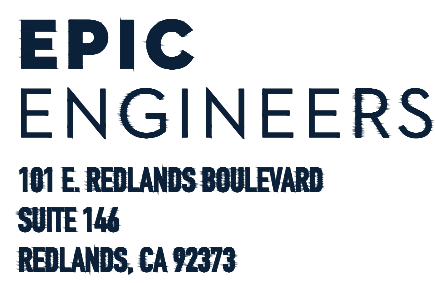
AC	ASPHALT CONCRETE	FI	FIRE HYDRANT
ADA	AMERICAN DISABILITIES ACT	FM	MANHOLE AS NOTED
BFD	BACK FLOW DEVICE	FP	POWER POLE
CLF	CHAIN LINK FENCE	HP	SIGN
CO	CLEAN OUT	IE	TREE
CONC	CONCRETE	IP	CONTROL POINT
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY	IN	DRAIN BOX
ELEC	ELECTRIC	IN	EDGE OF PAVEMENT
EDC	EDGE OF CONCRETE	IN	EXISTING FLOWLINE
EP	EDGE OF PAVEMENT	IN	EDGE OF CONCRETE
FF	FINISHED FLOOR	IN	PROPOSED STORM DRAIN
FG	FINISHED GROUND	IN	PROPOSED SEWER LINE
FI	FIRE HYDRANT	IN	PROPOSED FIRE LINE
FL	FLOWLINE	IN	PROPOSED WATER LINE
FDC	FIRE DEPARTMENT CONNECTION	IN	CHANGE IN ASPCC THICKNESS
FS	FINISHED SURFACE	IN	CHANCE BREAK/GRASS LINE
HP	HIGH POINT	IN	EXISTING EDGE OF CONCRETE
IE	INVERT (SD)	IN	EXISTING RETAINING WALL
IN	INVERT (SEWER)	IN	EXISTING WALL
PCC	PORTLAND CONCRETE CEMENT	IN	EXISTING STORM DRAIN
PIV	POST INDICATOR VALVE	IN	EXISTING SEWER LINE
PP	POWER POLE	IN	EXISTING FIRE LINE
SW	SIDEWALK	IN	EXISTING WATER LINE
TB	TOP OF BERM	IN	EXISTING ELECTRIC LINE
TC	TOP OF CURB	IN	EXISTING GAS LINE
TF	TOP OF FOOTING	IN	
TP	TOP OF PAVEMENT	IN	
TOE	TOE OF SLOPE	IN	
TP	TOP OF PAVEMENT	IN	
TV	TOP OF WALL	IN	
UTL	UTILITY	IN	
WM	WATER METER	IN	
WV	WATER VALVE	IN	
	PROPOSED AC PAVEMENT		
	PROPOSED PCC SURFACE		
	GRIND AND OVERLAY		







AGENCY APPROVAL  
File No: 36-H7 A#04-118035



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17. PROTECT IN PLACE SPECIFIED ITEM
18. ADJUST EXISTING ITEM TO PROPOSED FINISHING GRADE
19. REMOVE/LOCATE SPECIFIED ITEM PER APPROPRIATE CONSULTANTS PLAN
20. NEW PROPOSED SURFACE TO EXISTING SURFACE PER DETAIL "A" ON SHEET C-1 WITH FLUSH TRIMMATION MATCH GRADE. DOWELING FOR PCC ONLY
21. SAWCUT, REMOVE AND DISPOSE OF EXISTING AC PAVEMENT
22. PCC OF PCC SURFACE
23. GRIND AND OVERLAY EXISTING ASPHALT SURFACE 0.12 MINIMUM
24. SEE SITE UTILITY PLAN FOR IDENTIFICATION OF OBJECT
25. CONSTRUCT 1" AC OVER 4" CRUSHED AGGREGATE BASE COMPACTED TO 95% RELATIVE COMPACTION AND 12" SUBGRADE COMPACTED TO 95% RELATIVE COMPACTION. FINAL PAVEMENT STRUCTURE SHOULD BE BASED UPON R VALUE TESTS PERFORMED ON A REPRESENTATIVE SOIL SAMPLE COLLECTED WHEN SUB-GRADE ELEVATION IS REVEALED
26. CONSTRUCT 1" AC OVER 4" CRUSHED AGGREGATE BASE COMPACTED TO 95% RELATIVE COMPACTION AND 12" SUBGRADE COMPACTED TO 95% RELATIVE COMPACTION. FINAL PAVEMENT STRUCTURE SHOULD BE BASED UPON R VALUE TESTS PERFORMED ON A REPRESENTATIVE SOIL SAMPLE COLLECTED WHEN SUB-GRADE ELEVATION IS REVEALED
27. CONSTRUCT 4" PCC (250-250) WITH #4 BARS 18" ON CROWNED EVERY 18" OVER 12" SUBGRADE COMPACTED TO MINIMUM 95% RELATIVE COMPACTION. THICKENED EDGE PER DETAIL "B" ON SHEET C-1.1 SCORING PATTERNS, COLOR AND FINISH PER ARCHITECTS PLANS AND SPECIFICATIONS
28. CONSTRUCT 1" PCC (660-1350) COMPACTED TO MINIMUM 95% RELATIVE COMPACTION WITH #4 BARS 18" ON CROWNED EVERY 18" OVER 12" SUBGRADE COMPACTED TO MINIMUM 95% RELATIVE COMPACTION. WITH THICKENED EDGE PER DETAIL "B" ON SHEET C-1.1 SCORING PATTERNS, COLOR AND FINISH PER ARCHITECTS PLANS AND SPECIFICATIONS
29. CONSTRUCT UNMODIFIED CURB PER ARCHITECTS PLANS AND SPECIFICATIONS
30. CONSTRUCT 1" PCC VOTCH PER DETAIL "C" ON SHEET C-5.1
31. CONSTRUCT 12" CURB ONLY PER DETAIL "C" ON SHEET C-5.1
32. CONSTRUCT SEASALT PER ARCHITECTS PLANS AND SPECIFICATIONS
33. CONSTRUCT CAST IN PLACE RETAINING WALL PER STRUCTURAL ENGINEERS DETAILS
34. CONSTRUCT REDWOOD HEADER PER DETAIL "E" ON SHEET C-5.1
35. FURNISH AND INSTALL DRAINING FOUNTAIN PER ARCHITECTS PLANS AND SPECIFICATIONS
36. CONSTRUCT UTILITY TRENCH PER DETAIL "F" ON SHEET C-5.1. CONTRACTOR TO REPLACE AND MATCH EXISTING SURFACE IN KIND AFTER UTILITY LINE INSTALLATION. SEE UTILITY PLAN FOR UTILITY LINE INSTALLATION
37. CONSTRUCT MONITORP PER ARCHITECTS PLANS AND SPECIFICATIONS
38. FURNISH AND INSTALL SITE FENCING /RAILING / GATES PER ARCHITECTS PLANS AND SPECIFICATIONS
39. PAINT APPLY ACCESSIBLE SIGNING / STRIPING / PAVEMENT MARKINGS PER ARCHITECTS PLANS AND SPECIFICATIONS
40. CONSTRUCT STRIPSTRIPS / THROGHS PER ARCHITECTS PLANS AND SPECIFICATIONS
41. CONSTRUCT A1-4 CURB PER SPWPC. SLD PLAN 120.2 ON SHEET C-5.2
42. CONSTRUCT C1 CURB PER DETAIL "A" ON SHEET C-5.1
43. CONSTRUCT "F" OR "C" CURB TRANSITION PER DETAIL "D" ON SHEET C-5.1
44. FURNISH LIGHT LUMINAIRE FOR ARCHITECTS PLANS AND SPECIFICATIONS

[illegible]

**MATCHLINE - SEE SHEET C-2.4**

CONTRACTOR TO OBTAIN ENCROACHMENT PERMIT -  
PRIOR TO CONSTRUCTION OF ANY WORK WITHIN THE  
PUBLIC RIGHT OF WAY

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MODERNIZATION**  
PACIFIC HIGH SCHOOL  
1020 PACIFIC STREET SAN BERNARDINO, CA 92404  
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

## PRECISE GRADING PLAN

# C-2.5

1.78.21



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PROJECT No. : 1-78-21  
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1020 PACIFIC STREET SAN BERNARDINO, CA 92404  
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

COMPOSITE  
UTILITY DEMO PLAN

C-3.1

#### UTILITY CONSTRUCTION NOTES

##### DOMESTIC WATER

SHEET C-3.2  
FURNISH AND INSTALL 6" REDUCED PRESSURE BACKFLOW DEVICE (FBCO LF866 OR APPROVED EQUAL) ON

- FURNISH & INSTALL 1" SCHEDULE 80 WATER LINE
- FURNISH & INSTALL 1-1/2" SCHEDULE 80 WATER LINE
- FURNISH & INSTALL 2" SCHEDULE 80 WATER LINE
- FURNISH & INSTALL 2-1/2" SCHEDULE 80 WATER LINE
- FURNISH & INSTALL 3" SCHEDULE 80 WATER LINE
- FURNISH & INSTALL 4" CLASS 225 DR-18 C900 WATER LINE
- FURNISH & INSTALL 6" CLASS 225 DR-18 C900 WATER LINE
- CONNECT TO EXISTING WATER LINE
- CUT AND CAP EXISTING WATER LINE
- CONSTRUCT THRUST BLOCK PER DETAIL "Y" ON SHEET C-5.1

##### FIRE

- FURNISH & INSTALL 6" CLASS 225 DR-18 C900 PVC WATER LINE
- CONNECT TO EXISTING WATER LINE
- FURNISH & INSTALL 10" CLASS 225 DR-18 C900 PVC WATER LINE
- CONSTRUCT THRUST BLOCK PER DETAIL "Y" ON SHEET C-5.1
- FURNISH & INSTALL FIRE HYDRANT ASSEMBLY (JONES 4080 AR OR APPROVED EQUAL) ON SHEET C-5.2
- FURNISH & INSTALL 6" GATE VALVE (MUELLER RESILIENT WEDGE IFP OR APPROVED EQUAL) ON SHEET C-5.2
- FURNISH & INSTALL STANDPIPE INLET PER DETAIL "X" ON SHEET C-5.1
- FURNISH & INSTALL STANDPIPE OUTLET PER DETAIL "L" ON SHEET C-5.1
- FURNISH & INSTALL 6" PIV (MUELLER A-208X OR APPROVED EQUAL) ON SHEET C-5.2
- FURNISH AND INSTALL FIRE DEPARTMENT CONNECTION (CROWER 6510 OR CIVIL ENGINEER APPROVED EQUAL) & FURNISH & INSTALL SILENT WAFER CHECK VALVE (CLA-VAL SERIES 580 OR APPROVED EQUAL) ON SHEET C-5.2

##### SEWER

- FURNISH & INSTALL 4" SDR 35 PVC SEWER LINE
- FURNISH & INSTALL 6" SDR 35 PVC SEWER LINE
- CONSTRUCT PVC SEWER/STORM DRAIN CLEANOUT PER DETAIL "Y" ON SHEET C-5.1
- CONNECT TO EXISTING SEWER LINE. CONTRACTOR TO FIELD VERIFY THE VERTICAL AND HORIZONTAL LOCATION AND CONTACT EPIC ENGINEERS WITH RESULTS FOR VERIFICATION TO PROCEED PRIOR TO ANY CONSTRUCTION.
- CONNECT TO EXISTING SEWER
- CUT AND CAP EXISTING SEWER LINE

##### STORM DRAIN

- FURNISH & INSTALL 4" SDR 35 PVC STORM DRAIN PIPE
- FURNISH & INSTALL 6" SDR 35 PVC STORM DRAIN PIPE
- FURNISH & INSTALL 8" SDR 35 PVC STORM DRAIN PIPE
- FURNISH & INSTALL 12" SDR 35 PVC STORM DRAIN PIPE
- NOTE NOT USED
- FURNISH & INSTALL 12" X 12" PREFABRICATED CATCH BASIN (JAR CB1212 OR APPROVED EQUAL) PER DETAIL "J" ON SHEET C-5.1
- FURNISH & INSTALL 18" X 18" PREFABRICATED CATCH BASIN (JAR CB1818 OR APPROVED EQUAL) PER DETAIL "J" ON SHEET C-5.1
- FURNISH & INSTALL 24" X 24" PREFABRICATED CATCH BASIN (JAR CB2424 OR APPROVED EQUAL) PER DETAIL "J" ON SHEET C-5.1
- CONSTRUCT STORM DRAIN MANHOLE PER SPWAC 2009 ED. STD. PLAN 321-2 ON SHEET C-5.2
- CONSTRUCT PVC SEWER/STORM DRAIN CLEANOUT PER DETAIL "Y" ON SHEET C-5.1
- FURNISH & INSTALL 18" RCP STORM DRAIN PIPE
- CUT AND CAP EXISTING STORM DRAIN LINE
- CONSTRUCT RETAINING WALL SUBDRAIN PER DETAIL "G" ON SHEET C-5.1
- CONNECT TO EXISTING STORM DRAIN

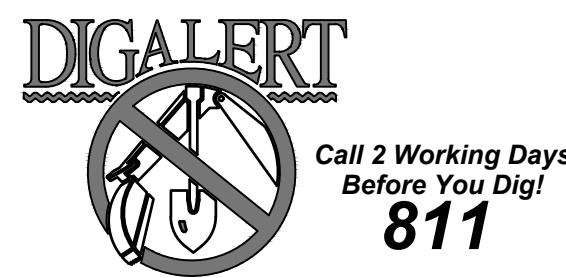
##### MISC.

- REMOVE/RELOCATE SPECIFIED ITEM PER APPROPRIATE CONSULTANTS PLAN
- REMOVE EXISTING SPECIFIED UTILITY LINE
- REMOVE EXISTING SPECIFIED ITEM

#### LEGEND

IE	INVERT (STORM DRAIN)	→	DIRECTION OF SLOPE
INV	INVERT (SEWER)	—	EDGE OF PAVEMENT
POC	POINT OF CONNECTION	—	FLOWLINE
SD	STORM DRAIN	—	PROPOSED STORM DRAIN
SWR	SEWER	—	PROPOSED SEWER LINE
TG	TOP OF GRATE	—	PROPOSED WATER LINE
WTR	WATER	—	PROPOSED FIRE LINE
⊗	FIRE HYDRANT	—	CHANGE IN ACPCC THICKNESS
⊙	MANHOLE	—	PROPOSED RETAINING WALL
⊕	POWER POLE	—	EXISTING STORM DRAIN
⊖	SIGN	—	EXISTING SEWER LINE
⊗	TREE	—	EXISTING FIRE LINE
⊕	CONTROL POINT	—	EXISTING WATER LINE
⊖	DRAIN BOX	—	EXISTING ELECTRIC LINE
⊗	POST INDICATOR VALVE	—	EXISTING GAS LINE
⊙	CLEANOUT	++++	DEMO EXISTING UTILITY LINE
⊕	DOUBLE DETECTOR CHECK		
⊖	FIRE DEPARTMENT CONNECTION		

SCALE: 1"=20'  
0 20 40 60 80



MATCHLINE - SEE SHEET C-3.2

MATCHLINE - SEE SHEET C-3.3

PROPOSED DIESEL  
TECH BUILDING  
PER SEPARATE A#

BLDG. 'H' - EAST  
CLASSROOMS  
(FF=35.61)

BLDG. 'G' - EAST  
CLASSROOMS  
(FF=34.69)

BLDG. 'F' - WEST  
CLASSROOMS  
(FF=32.94)

BLDG. 'F' - EAST  
CLASSROOMS  
(FF=32.90)

BLDG. 'E' - WEST CLASSROOMS  
(FF=31.08)

BLDG. 'E' - EAST CLASSROOMS  
(FF=31.10)

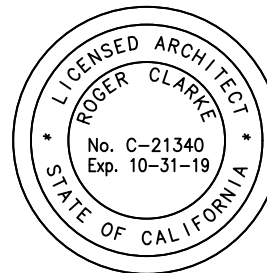
PERRIS HILL ROAD



MATCHLINE - SEE SHEET C-3.1



MATCHLINE - SEE SHEET C-3.4



**EPIC ENGINEERS**  
101 E. REDLANDS BOULEVARD  
SUITE 144  
REDLANDS, CA 92373

**RUHNAU CLARKE**  
ARCHITECTS

#### UTILITY CONSTRUCTION NOTES

##### DOMESTIC WATER

1. FURNISH AND INSTALL 6" REDUCED PRESSURE BACKFLOW DEVICE (FEBCO LF866 OR APPROVED EQUAL) ON SHEET C-3.2
2. FURNISH & INSTALL 1" SCHEDULE 80 WATER LINE
3. FURNISH & INSTALL 1-1/2" SCHEDULE 80 WATER LINE
4. FURNISH & INSTALL 2" SCHEDULE 80 WATER LINE
5. FURNISH & INSTALL 2-1/2" SCHEDULE 80 WATER LINE
6. FURNISH & INSTALL 3" SCHEDULE 80 WATER LINE
7. FURNISH & INSTALL 4" CLASS 225 DR-18 C900 WATER LINE
8. FURNISH & INSTALL 6" CLASS 225 DR-18 C900 WATER LINE
9. CONNECT TO EXISTING WATER LINE
10. CUT AND CAP EXISTING WATER LINE
11. CONSTRUCT THRUST BLOCK PER DETAIL "Y" ON SHEET C-5.1

##### FIRE

12. FURNISH & INSTALL 6" CLASS 225 DR-18 C900 PVC WATER LINE
13. CONNECT TO EXISTING WATER LINE
14. FURNISH & INSTALL 10" CLASS 225 DR-18 C900 PVC WATER LINE
15. CONSTRUCT THRUST BLOCK PER DETAIL "Y" ON SHEET C-5.1
16. FURNISH & INSTALL FIRE HYDRANT ASSEMBLY (JONES 4000 AR OR APPROVED EQUAL) ON SHEET C-5.2
17. FURNISH & INSTALL 6" GATE VALVE (MUELLER RESILIENT WEDGE IFP OR APPROVED EQUAL) ON SHEET C-5.2
18. FURNISH & INSTALL STANDPIPE INLET PER DETAIL "X" ON SHEET C-5.1
19. FURNISH & INSTALL STANDPIPE OUTLET PER DETAIL "L" ON SHEET C-5.1
20. FURNISH & INSTALL 6" PIV (MUELLER 4-200X OR APPROVED EQUAL) ON SHEET C-5.2
21. FURNISH AND INSTALL FIRE DEPARTMENT CONNECTION (CROWER 6510 OR CIVIL ENGINEER APPROVED EQUAL) & FURNISH & INSTALL SILENT WAFER CHECK VALVE (CLA-VAL SERIES 580 OR APPROVED EQUAL) ON SHEET C-5.2

##### SEWER

22. FURNISH & INSTALL 4" SDR 35 PVC SEWER LINE
23. FURNISH & INSTALL 6" SDR 35 PVC SEWER LINE
24. CONSTRUCT PVC SEWER/STORM DRAIN CLEANOUT PER DETAIL "Y" ON SHEET C-5.1
25. CONNECT TO EXISTING SEWER LINE. CONTRACTOR TO FIELD VERIFY THE VERTICAL AND HORIZONTAL LOCATION AND CONTACT EPIC ENGINEERS WITH RESULTS FOR VERIFICATION TO PROCEED PRIOR TO ANY CONSTRUCTION.
26. CONNECT TO EXISTING SEWER
27. CUT AND CAP EXISTING SEWER LINE

##### STORM DRAIN

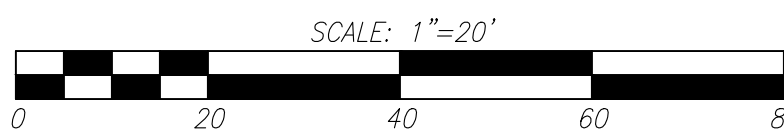
28. FURNISH & INSTALL 4" SDR 35 PVC STORM DRAIN PIPE
29. FURNISH & INSTALL 6" SDR 35 PVC STORM DRAIN PIPE
30. FURNISH & INSTALL 8" SDR 35 PVC STORM DRAIN PIPE
31. FURNISH & INSTALL 12" SDR 35 PVC STORM DRAIN PIPE
32. NOTE NOT USED
33. FURNISH & INSTALL 12" X 12" PREFABRICATED CATCH BASIN (JAR CB1212 OR APPROVED EQUAL) PER DETAIL "J" ON SHEET C-5.1
34. FURNISH & INSTALL 18" X 18" PREFABRICATED CATCH BASIN (JAR CB1818 OR APPROVED EQUAL) PER DETAIL "J" ON SHEET C-5.1
35. FURNISH & INSTALL 24" X 24" PREFABRICATED CATCH BASIN (JAR CB2424 OR APPROVED EQUAL) PER DETAIL "J" ON SHEET C-5.1
36. CONSTRUCT STORM DRAIN MANHOLE PER SP94C 2009 ED. STD. PLAN 321-2 ON SHEET C-5.2
37. CONSTRUCT PVC SEWER/STORM DRAIN CLEANOUT PER DETAIL "Y" ON SHEET C-5.1
38. FURNISH & INSTALL 18" RCP STORM DRAIN PIPE
39. CUT AND CAP EXISTING STORM DRAIN LINE
40. CONSTRUCT RETAINING WALL SUBDRAIN PER DETAIL "G" ON SHEET C-5.1
41. CONNECT TO EXISTING STORM DRAIN

##### MISC.

42. REMOVE/RELOCATE SPECIFIED ITEM PER APPROPRIATE CONSULTANTS PLAN
43. REMOVE EXISTING SPECIFIED UTILITY LINE
44. REMOVE EXISTING SPECIFIED ITEM

#### LEGEND

IE	INVERT (STORM DRAIN)		DIRECTION OF SLOPE
INV	INVERT (SEWER)		EDGE OF PAVEMENT
POC	POINT OF CONNECTION		FLOWLINE
SD	STORM DRAIN		PROPOSED STORM DRAIN
SWR	SEWER		PROPOSED SEWER LINE
TG	TOP OF GRATE		PROPOSED WATER LINE
WTR	WATER		PROPOSED FIRE LINE
	FIRE HYDRANT		CHANGE IN ACPCC THICKNESS
	MANHOLE		PROPOSED RETAINING WALL
	POWER POLE		EXISTING STORM DRAIN
	SIGN		EXISTING SEWER LINE
	TREE		EXISTING FIRE LINE
	CONTROL POINT		EXISTING WATER LINE
	DRAIN BOX		EXISTING ELECTRIC LINE
	POST INDICATOR VALVE		EXISTING GAS LINE
	CLEANOUT		DEMO EXISTING UTILITY LINE
	DOUBLE DETECTOR CHECK		
	FIRE DEPARTMENT CONNECTION		



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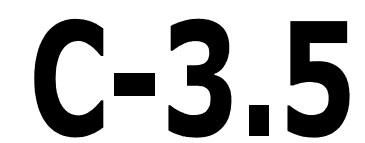
3775 TENTH STREET, RIVERSIDE CALIFORNIA 92501 (951) 584-4654 / 5753 PALMER WAY, SUITE C, CARLSBAD CALIFORNIA 92010 (760) 438-5899

**PACIFIC HIGH SCHOOL MODERNIZATION**  
1020 PACIFIC STREET SAN BERNARDINO, CA 92404  
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

COMPOSITE  
UTILITY DEMO PLAN

**C-3.2**







J:\21153 - school pacific hs modernization\Civil\DWG\PLAN - ON SITE\21\_153-C-03.dwg

MATCHLINE - SEE SHEET C-3.5

MATCHLINE - SEE SHEET C-3.8

PROJECT No. : 1-78-21

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ISSUE No. 100	DATE 12/04/20

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PACIFIC HIGH SCHOOL  
MODERNIZATION  
1020 PACIFIC STREET SAN BERNARDINO, CA 92404  
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

COMPOSITE UTILITY PLAN

C-3.6

### UTILITY CONSTRUCTION NOTES

#### DOMESTIC WATER

FURNISH AND INSTALL 6" REDUCED PRESSURE BACKFLOW DEVICE (FEBCO LF866 OR APPROVED EQUAL) ON SHEET C-3.2

- FURNISH AND INSTALL 1" SCHEDULE 80 WATER LINE
- FURNISH AND INSTALL 1 1/2" SCHEDULE 80 WATER LINE
- FURNISH AND INSTALL 2" SCHEDULE 80 WATER LINE
- FURNISH AND INSTALL 2 1/2" SCHEDULE 80 WATER LINE
- FURNISH AND INSTALL 3" SCHEDULE 80 WATER LINE
- FURNISH AND INSTALL 4" CLASS 225 DR-18 C900 WATER LINE
- FURNISH AND INSTALL 6" CLASS 225 DR-18 C900 WATER LINE
- CONNECT TO EXISTING WATER LINE
- CUT AND CAP EXISTING WATER LINE
- CONSTRUCT THRUST BLOCK PER DETAIL "N" ON SHEET C-5.1

#### FIRE

- FURNISH AND INSTALL 6" CLASS 225 DR-18 C900 PVC WATER LINE
- CONNECT TO EXISTING WATER LINE
- FURNISH AND INSTALL 10" CLASS 225 DR-18 C900 PVC WATER LINE
- CONSTRUCT THRUST BLOCK PER DETAIL "N" ON SHEET C-5.1
- FURNISH AND INSTALL FIRE HYDRANT ASSEMBLY (JONES 4000 AR OR APPROVED EQUAL) ON SHEET C-5.2
- FURNISH AND INSTALL 6" GATE VALVE (MUELLER RESILIENT WEDGE IFP OR APPROVED EQUAL) ON SHEET C-5.2
- FURNISH AND INSTALL STANDPIPE INLET PER DETAIL "K" ON SHEET C-5.1
- FURNISH AND INSTALL STANDPIPE OUTLET PER DETAIL "L" ON SHEET C-5.1
- FURNISH AND INSTALL 6" PIV (MUELLER A-200K OR APPROVED EQUAL) ON SHEET C-5.2
- FURNISH AND INSTALL FIRE DEPARTMENT CONNECTION (CROWER 6510 OR CIVIL ENGINEER APPROVED EQUAL) AND FURNISH AND INSTALL SILENT WAFER CHECK VALVE (CLA-VAL SERIES 580 OR APPROVED EQUAL) ON SHEET C-5.2

#### SEWER

- FURNISH AND INSTALL 4" SDR 35 PVC SEWER LINE
- FURNISH AND INSTALL 6" SDR 35 PVC SEWER LINE
- CONSTRUCT PVC SEWER/STORM DRAIN CLEANOUT PER DETAIL "O" ON SHEET C-5.1
- CONNECT TO EXISTING SEWER LINE. CONTRACTOR TO FIELD VERIFY THE VERTICAL AND HORIZONTAL LOCATION AND CONTACT EPIC ENGINEERS WITH RESULTS FOR VERIFICATION TO PROCEED PRIOR TO ANY CONSTRUCTION.
- CONNECT TO EXISTING SEWER
- CUT AND CAP EXISTING SEWER LINE

#### STORM DRAIN

- FURNISH AND INSTALL 4" SDR 35 PVC STORM DRAIN PIPE
- FURNISH AND INSTALL 6" SDR 35 PVC STORM DRAIN PIPE
- FURNISH AND INSTALL 8" SDR 35 PVC STORM DRAIN PIPE
- FURNISH AND INSTALL 12" SDR 35 PVC STORM DRAIN PIPE
- NOTE NOT USED
- FURNISH AND INSTALL 12" X 12" PREFABRICATED CATCH BASIN (JAR CB1212 OR APPROVED EQUAL) PER DETAIL "J" ON SHEET C-5.1
- FURNISH AND INSTALL 18" X 18" PREFABRICATED CATCH BASIN (JAR CB1818 OR APPROVED EQUAL) PER DETAIL "J" ON SHEET C-5.1
- FURNISH AND INSTALL 24" X 24" PREFABRICATED CATCH BASIN (JAR CB2424 OR APPROVED EQUAL) PER DETAIL "J" ON SHEET C-5.1
- CONSTRUCT STORM DRAIN MANHOLE PER SP94C 2009 ED. STD. PLAN 321-2 ON SHEET C-5.2
- CONSTRUCT PVC SEWER/STORM DRAIN CLEANOUT PER DETAIL "O" ON SHEET C-5.1
- FURNISH AND INSTALL 18" RCP STORM DRAIN PIPE
- CUT AND CAP EXISTING STORM DRAIN LINE
- CONSTRUCT RETAINING WALL SUBDRAIN PER DETAIL "G" ON SHEET C-5.1
- CONNECT TO EXISTING STORM DRAIN

#### MISC.

- REMOVE/RELOCATE SPECIFIED ITEM PER APPROPRIATE CONSULTANTS PLAN
- REMOVE EXISTING SPECIFIED UTILITY LINE
- REMOVE EXISTING SPECIFIED ITEM

#### LEGEND

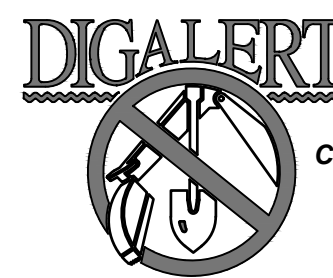
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INV	INVERT (SEWER)	→	EDGE OF PAVEMENT
POC	POINT OF CONNECTION	→	FLOWLINE
SD	STORM DRAIN	→	PROPOSED STORM DRAIN
SWR	SEWER	→	PROPOSED SEWER LINE
TG	TOP OF GRATE	→	PROPOSED WATER LINE
WTR	WATER	→	PROPOSED FIRE LINE
⊗	FIRE HYDRANT	→	CHANGE IN ACPCC THICKNESS
⊙	MANHOLE	→	PROPOSED RETAINING WALL
⊙	POWER POLE	→	EXISTING STORM DRAIN
⊙	SIGN	→	EXISTING SEWER LINE
⊙	TREE	→	EXISTING FIRE LINE
⊙	CONTROL POINT	→	EXISTING WATER LINE
⊙	DRAIN BOX	→	EXISTING ELECTRIC LINE
⊙	POST INDICATOR VALVE	→	EXISTING GAS LINE
⊙	CLEANOUT		
⊙	DOUBLE DETECTOR CHECK		
⊙	FIRE DEPARTMENT CONNECTION		

SEE SHEET C-3.5 FOR SEWER LINE DATA TABLES

SEE SHEET C-3.7 FOR WATER LINE DATA TABLES

SEE SHEET C-3.9 FOR STORM DRAIN LINE DATA TABLES

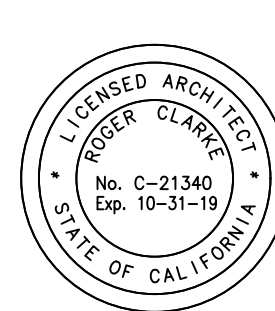
SCALE: 1"=20'



STAMPS



CONSULTANT BRANDING



AGENCY APPROVAL  
DATE: 10-31-19

RUHNAU  
CLARKE  
ARCHITECTS



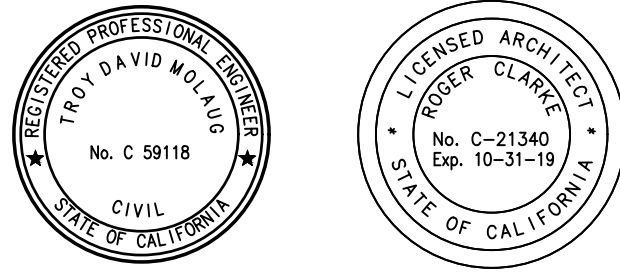
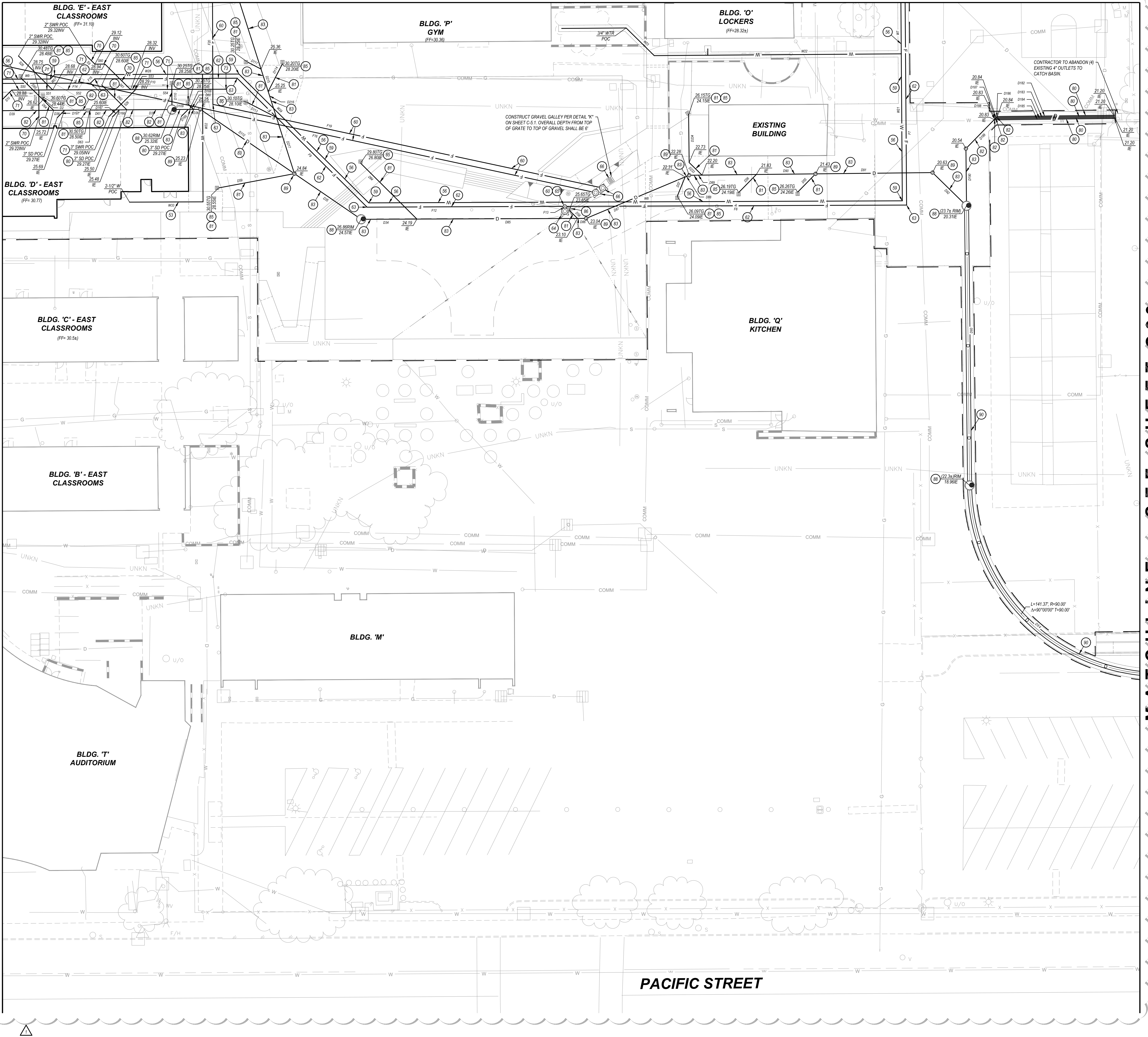




MATCHLINE - SEE SHEET C-3.6

MATCHLINE - SEE SHEET C-3.7

MATCHLINE - SEE SHEET C-3.9



**EPIC ENGINEERS**  
101 E. REDLANDS BOULEVARD  
SUITE 144  
REDLANDS, CA 92373

**RUHNAU CLARKE**  
ARCHITECTS

**UTILITY CONSTRUCTION NOTES**

**DOMESTIC WATER**

- (1) FURNISH AND INSTALL 6" REDUCED PRESSURE BACKFLOW DEVICE (FBCO LF866 OR APPROVED EQUAL) ON SHEET C-3.2
- (2) FURNISH AND INSTALL 1" SCHEDULE 80 WATER LINE
- (3) FURNISH AND INSTALL 1-1/2" SCHEDULE 80 WATER LINE
- (4) FURNISH AND INSTALL 2" SCHEDULE 80 WATER LINE
- (5) FURNISH AND INSTALL 2-1/2" SCHEDULE 80 WATER LINE
- (6) FURNISH AND INSTALL 3" SCHEDULE 80 WATER LINE
- (7) FURNISH AND INSTALL 4" CLASS 225 DR-18 C900 WATER LINE
- (8) FURNISH AND INSTALL 6" CLASS 225 DR-18 C900 WATER LINE
- (9) CONNECT TO EXISTING WATER LINE
- (10) CUT AND CAP EXISTING WATER LINE
- (11) CONSTRUCT THRUST BLOCK PER DETAIL "Y" ON SHEET C-5.1

**FIRE**

- (12) FURNISH AND INSTALL 6" CLASS 225 DR-18 C900 PVC WATER LINE
- (13) CONNECT TO EXISTING WATER LINE
- (14) FURNISH AND INSTALL 10" CLASS 225 DR-18 C900 PVC WATER LINE
- (15) CONSTRUCT THRUST BLOCK PER DETAIL "Y" ON SHEET C-5.1
- (16) FURNISH AND INSTALL FIRE HYDRANT ASSEMBLY (JONES 4000 AR OR APPROVED EQUAL) ON SHEET C-5.2
- (17) FURNISH AND INSTALL 6" GATE VALVE (MUELLER RESILIENT WEDGE IFP OR APPROVED EQUAL) ON SHEET C-5.2
- (18) FURNISH AND INSTALL STANDPIPE INLET PER DETAIL "X" ON SHEET C-5.1
- (19) FURNISH AND INSTALL STANDPIPE OUTLET PER DETAIL "X" ON SHEET C-5.1
- (20) FURNISH AND INSTALL 6" PIV (MUELLER 2-200X OR APPROVED EQUAL) ON SHEET C-5.2
- (21) FURNISH AND INSTALL FIRE DEPARTMENT CONNECTION (CROWER 6510 OR CIVIL ENGINEER APPROVED EQUAL) AND FURNISH AND INSTALL SILENT WAFER CHECK VALVE (CLA-VAL SERIES 580 OR APPROVED EQUAL) ON SHEET C-5.2

**SEWER**

- (22) FURNISH AND INSTALL 4" SDR 35 PVC SEWER LINE
- (23) FURNISH AND INSTALL 6" SDR 35 PVC SEWER LINE
- (24) CONSTRUCT PVC SEWER/STORM DRAIN CLEANOUT PER DETAIL "Y" ON SHEET C-5.1
- (25) CONNECT TO EXISTING SEWER LINE. CONTRACTOR TO FIELD VERIFY THE VERTICAL AND HORIZONTAL LOCATION AND CONTACT EPIC ENGINEERS WITH RESULTS FOR VERIFICATION TO PROCEED PRIOR TO ANY CONSTRUCTION.
- (26) CONNECT TO EXISTING SEWER
- (27) CUT AND CAP EXISTING SEWER LINE

**STORM DRAIN**

- (28) FURNISH AND INSTALL 4" SDR 35 PVC STORM DRAIN PIPE
- (29) FURNISH AND INSTALL 6" SDR 35 PVC STORM DRAIN PIPE
- (30) FURNISH AND INSTALL 8" SDR 35 PVC STORM DRAIN PIPE
- (31) FURNISH AND INSTALL 12" SDR 35 PVC STORM DRAIN PIPE
- (32) NOTE NOT USED
- (33) FURNISH AND INSTALL 12" X 12" PREFABRICATED CATCH BASIN (J&R CB1212 OR APPROVED EQUAL) PER DETAIL "J" ON SHEET C-5.1
- (34) FURNISH AND INSTALL 18" X 18" PREFABRICATED CATCH BASIN (J&R CB1818 OR APPROVED EQUAL) PER DETAIL "J" ON SHEET C-5.1
- (35) FURNISH AND INSTALL 24" X 24" PREFABRICATED CATCH BASIN (J&R CB2424 OR APPROVED EQUAL) PER DETAIL "J" ON SHEET C-5.1
- (36) CONSTRUCT STORM DRAIN MANHOLE PER SP94C 2009 ED. STD. PLAN 321-2 ON SHEET C-5.2
- (37) CONSTRUCT PVC SEWER/STORM DRAIN CLEANOUT PER DETAIL "Y" ON SHEET C-5.1
- (38) FURNISH AND INSTALL 18" RCP STORM DRAIN PIPE
- (39) CUT AND CAP EXISTING STORM DRAIN LINE
- (40) CONSTRUCT RETAINING WALL SUBDRAIN PER DETAIL "Q" ON SHEET C-5.1
- (41) CONNECT TO EXISTING STORM DRAIN

**MISC.**

- (42) REMOVE/RELOCATE SPECIFIED ITEM PER APPROPRIATE CONSULTANTS PLAN
- (43) REMOVE EXISTING SPECIFIED UTILITY LINE
- (44) REMOVE EXISTING SPECIFIED ITEM

**LEGEND**

IE	INVERT (STORM DRAIN)	→	DIRECTION OF SLOPE
INV	INVERT (SEWER)	—	EDGE OF PAVEMENT
POC	POINT OF CONNECTION	—	FLOWLINE
SD	STORM DRAIN	—	PROPOSED STORM DRAIN
SWR	SEWER	—	PROPOSED SEWER LINE
TG	TOP OF GRATE	—	PROPOSED WATER LINE
WTR	WATER	—	PROPOSED FIRE LINE
—	FIRE HYDRANT	—	CHANGE IN ACPCC THICKNESS
—	MANHOLE	—	PROPOSED RETAINING WALL
—	POWER POLE	—	EXISTING STORM DRAIN
—	SIGN	—	EXISTING SEWER LINE
—	TREE	—	EXISTING FIRE LINE
—	CONTROL POINT	—	EXISTING WATER LINE
—	—	—	EXISTING ELECTRIC LINE
—	—	—	EXISTING GAS LINE

SEE SHEET C-3.5 FOR SEWER LINE DATA TABLES  
SEE SHEET C-3.6 FOR FIRE LINE DATA TABLES  
SEE SHEET C-3.7 FOR WATER LINE DATA TABLES  
SEE SHEET C-3.9 FOR STORM DRAIN LINE DATA TABLES

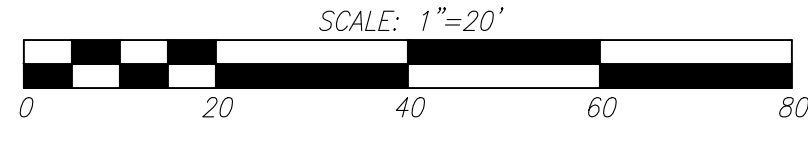
PROJECT No. : 1-78-21	12/4/2020 6:09 PM	DRAWN BY: ADL	CHECKED BY: TWW
ISSUE No. 1	DATE 12/04/20	DESCRIPTION	ADDENDUM #1
ISSUE No. 2	DATE	DESCRIPTION	
ISSUE No. 3	DATE	DESCRIPTION	
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1020 PACIFIC STREET SAN BERNARDINO, CA 92404  
SAN BERNARDINO CITY UNIFIED SCHOOL DISTRICT

COMPOSITE UTILITY PLAN

**C-3.8**



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