EL MONTE UNION HIGH SCHOOL DISTRICT

Purchasing Department

3537 JOHNSON AVENUE, EL MONTE, CA 91731

Phone: (626) 444-9005

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April 26, 2023

TO	:	All Bidders
FROM	:	El Monte Union High School District
BID #	:	2022-23(B8)
PROJECT	:	Mountain View HS Modernization Project
SUBJECT	:	Addendum No. 6

The following changes, omissions, and/or additions to the Project Manual and/or Drawings shall apply to proposals made for and to the execution of the various parts of the work affected thereby, and all other conditions shall remain the same.

Careful note of the Addendum shall be taken by all parties of interest so that the proper allowances may be made in strict accordance with the Addendum, and that all trades shall be fully advised in the performance of the work which will be required of them.

Bidder shall acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

In case of conflict between Drawings, Project Manual, and this Addendum, this Addendum shall govern.

REVISIONS TO BIDDING REQUIREMENTS

1. The bid submission due date and time has been changed as follows:

WEDNESDAY, MAY 3, 2023 AT 10:00 AM.

RESPONSE TO BID RFI

1. Questions and Answers attached.

CHANGES TO DRAWINGS AND SPECIFICATIONS

1. LPA Architects Addendum No. C issued April 26, 2023 attached.

ATTACHMENTS

1. RFI Questions and Answers_Printed 4.25.23
2. LPA Architects Addendum C_Issued April 26, 2023

END OF ADDENDUM 6

TELACU Construction Management

Printed on Tue Apr 25, 2023 at 05:01 pm PDT

Job #: 22-109 El Monte USD - Mountain View High School
2900 Parkway Drive
El Monte, California 91732

RFI LOG

#	Subject	Status	Responsible Contractor	Received From	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Code	Cost Impact
Pre-Bid-38	Addendum Pre Bid RFI: Low Voltage Questions	Closed		None	Grandy, Stephen (... Mehta, Nicole (LP...	04/24/2023	Stephen Grandy	05/04/2023	04/25/23					
	Q: Stephen Grandy Sent Mon Apr 24, 2023 at 12:12 pm PDT See attachment for questions. FW_ RFI's for Mountain View High School Modernization - El Monte Union High School District.msg													
	A: Nicole Mehta (LPA Inc.) Responded Tue Apr 25, 2023 at 04:52 pm PDT See attached response. el_monte_usd_-_mountain_view_high_school-rfi#pre-bid-38_pre bid RFI Low voltage questions.pdf													
Pre-Bid-37	Addendum Pre Bid RFI: On page TEK 3.01 - Detail #4 refers to the requirements of an Assistive Listening System.	Closed		None	Grandy, Stephen (... Mehta, Nicole (LP...	04/24/2023	Stephen Grandy	05/04/2023	04/25/23					
	Q: Stephen Grandy Sent Mon Apr 24, 2023 at 12:07 pm PDT On page TEK 3.01 - Detail #4 refers to the requirements of an Assistive Listening System. Where are these systems required so we can figure on how many receivers are required for the location? Mountain View HS - RFC #10.pdf													
	A: Nicole Mehta (LPA Inc.) Responded Tue Apr 25, 2023 at 01:33 pm PDT Provide assisted listening system receivers for all assembly areas, such as classrooms and conference rooms that have signage type J per signage schedule on sheet A10.31 and A10.32. The number of required receivers is determined by percentages noted on sign J detail on 15/A10.41. This is four percent of occupants in each room. The number of occupants are found on code analysis sheets. Twenty-five percent minimum of receivers provided, but no fewer than two, shall be hearing-aid compatible. el_monte_usd_-_mountain_view_high_school-rfi#pre-bid-37-addendum_pre_bid_rfi__on_page_tek_3.01_-_detail_#4_refers_to_the_requirements_of_an_assistive_lis...-2023042.pdf													
Pre-Bid-36	Addendum Pre Bid RFI: On addendum #2 - Pre-Bid question #30 for spec section 281000	Closed		None	Grandy, Stephen (... Mehta, Nicole (LP...	04/24/2023	Stephen Grandy	05/04/2023	04/25/23					
	Q: Stephen Grandy Sent Mon Apr 24, 2023 at 12:06 pm PDT On addendum #2 - Pre-Bid question #30 for spec section 281000 the answer is access control system is to be Verkada per the District standard. Addendum #3 issued a new door schedule is still noting Schage for the door readers. Are we to ignore the Schalge readers in the door schedule? Also, on the plans it shows (210) Verkada card readers and (6) wireless Verkada readers. The door schedule from addendum #3 notes (258) Schlage wireless card readers - (3) different types. What is the correct count of card readers? Mountain View HS - RFC #9.pdf													
	A: Nicole Mehta (LPA Inc.) Responded Tue Apr 25, 2023 at 01:38 pm PDT The access controllers (gateways) are to be Verkada per district standard. These integrate with the Schlage door readers per the door schedule. Per district direction, all access control system devices including locksets will now be owner furnished, contractor installed. The District will coordinate configuration of the equipment. See forthcoming addendum for this change and updated hardware spec. el_monte_usd_-_mountain_view_high_school-rfi#pre-bid-36-addendum_pre_bid_rfi__on_addendum_#2_-_pre-bid_question_#30_for_spec_section_281000-202304242108.pdf													

#	Subject	Status	Responsible Contractor	Received From	Assignee	Date Initiated	RFI Manager	Due Date	Closed Date	Ball In Court	Location	Schedule Impact	Cost Code	Cost Impact
Pre-Bid-35	Addendum Pre Bid RFI: On addendum #2 - Pre-Bid question #28 for spec section 273000	Closed		None	Grandy, Stephen (... Mehta, Nicole (LP...	04/24/2023	Stephen Grandy	05/04/2023	04/25/23					
	Q: Stephen Grandy Sent Mon Apr 24, 2023 at 12:04 pm PDT On addendum #2 - Pre-Bid question #28 for spec section 273000 the answer is to match existing campus Rauland system & devices. What are the existing speaker and clock part numbers? The spec calls for a Valcom speaker with a digital clock. Mountain View HS - RFC #8.pdf													
	A: Nicole Mehta (LPA Inc.) Responded Tue Apr 25, 2023 at 04:48 pm PDT Provide 8" dia full range analog speaker compatible with Rauland Telecenter ICS system. Complete with surface mounting box and/or flush ceiling application per plans including grill. Homerun 2C#16 to existing speaker terminal cabinet. Existing campus clocks to be battery powered 12" diameter stand alone. EMUSD MVHS-rfi#pre-bid-35-addendum_pre_bid_rfi__on_addendum_#2_-_pre-bid_question_#28_for_spec_section_273000-202304242109 - SO Response 2023-04-25.pdf													
Pre-Bid-34	Addendum Pre Bid RFI: On addendum #2 - Pre-Bid question #9 for spec section 28 16 00	Closed		None	Grandy, Stephen (... Mehta, Nicole (LP...	04/24/2023	Stephen Grandy	05/04/2023	04/25/23					
	Q: Stephen Grandy Sent Mon Apr 24, 2023 at 12:01 pm PDT On addendum #2 - Pre-Bid question #9 for spec section 28 16 00 the answer is "existing campus intrusion detection system & devices to remain, and be protected in place". Then it says, "Contractor shall remove and reinstall devices to allow for improvements associated with other trades". What devices are these and how many? Mountain View HS - RFC #7.pdf													
	A: Nicole Mehta (LPA Inc.) Responded Tue Apr 25, 2023 at 04:56 pm PDT As intrusion system is protect in place, specifics are not indicated on drawings. Contractor shall estimate (1) set of door contacts and wiring per exterior door, and (1) wall or ceiling mounted intrusion detector occupancy sensor per room with exterior door and/or glazing. EMUSD-rfi#pre-bid-34-addendum_pre_bid_rfi__on_addendum_#2_-_pre-bid_question_#9_for_spec_section_28_16_00_-202304242109 0 - SO Response 2023-04-25.pdf													
Pre-Bid-33	Addendum Pre Bid RFI: Spec Section 07 21 00 Thermal Insulation	Closed		None	Grandy, Stephen (...	04/18/2023	Stephen Grandy	04/28/2023	04/18/23					
	Q: Stephen Grandy Sent Tue Apr 18, 2023 at 12:21 pm PDT ADD#2 was released today. Where are the insulation specs that are supposed to be attached? FW_ _Purchasing_ BID # 2022-23(B8)_ Mountain View HS Modernization Project_ Addendum No_ 2.msg													
	A: Stephen Grandy (TELACU Construction Management) Responded Tue Apr 18, 2023 at 12:22 pm PDT Spec section to be included in Addendum #3. FW_ _Purchasing_ BID # 2022-23(B8)_ Mountain View HS Modernization Project_ Addendum No_ 2.msg Spec Section 072100.pdf													
Pre-Bid-32	Addendum Pre Bid RFI: Supplementary Special Conditions & LPA Addendum	Closed		None	Grandy, Stephen (...	04/18/2023	Stephen Grandy	04/28/2023	04/18/23					

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April 26, 2023

Addendum No. C
To the contract documents for MOUNTAIN VIEW HIGH SCHOOL MODERNIZATION, DSA No. 03-122209
For the EL MONTE UNION HIGH SCHOOL DISTRICT
LPA Project No.: 3015410

NOTICE TO BIDDERS

This addendum forms a part of the contract and modifies the original DSA approved documents dated 04/25/2023. It is intended that all work affected by the following modifications shall conform to related provisions and general conditions of the Contract of the original drawings and specifications. Modify the following items wherever appearing in any drawings or sections of the specifications. Acknowledge receipt of Addendum No. C in the space provided on the Bid Form. Failure to do so may subject to disqualification.

General Items

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Item No. 1 Access control system for campus exterior doors and gates shall be controlled via existing District Verkada control platform system. Contractor shall provide all boxes, conduit pathways (interior and exterior,) fiber/copper cabling (for connection of lockset gateways to Verkada door controllers, and Verkada door controllers to campus network via nearest building network IDF) for complete systems connectivity. All access control devices and equipment shall be owner furnished, contractor installed. Contractor to coordinate locations of boxes and pathway requirements with owner and with Verkada manufacturer instructions for connectivity and per spec 281000. Reference Addendum C site plan TE1.01 for system general notes, door locations, quantity of gateways, site pathways, terminal cabinets and boxes, and Verkada system door controllers. Engage Gateway for locksets and Verkada door controller to be 1:1 per plan notes.

Item No. 2 Geotechnical Report; July 20, 2022 from John R. Byerly Incorporated

Item No. 3 Geotechnical Supplemental Information; September 29, 2022 from John R. Byerly Incorporated

Changes to Specifications

Item No. 4 Refer to specification section 116833- Athletic Field Equipment. 2.04.A. Steel Pipe columns; The sizes of the columns were removed and the Contractor is to refer to SportsField Specialties sheets for more information.

Item No. 5 Refer to spec section 116833- Athletic Field Equipment – 2.04.C Concrete: PSI information was removed. Contractor is to refer to SportsField Specialties sheets information.

Item No. 6 Refer to specification section 323113- Chain Link Fences and Gates – 2.01.E Ready-mixed concrete. Reference to Structural sheet S0.01 added for additional information.

Item No. 7 Refer to specification section 323113 Chain Link Fences and Gates- 2.02.C Gate Posts: Additional information added to clarify sizes of gate posts.

Item No. 8 Refer to specification section 323113- Chain Link Fences and Gates – 2.02.F Fabric: Fabric was adjusted to be 9 gage, 0.0143 inch thick.

Item No. 9 Replaced door hardware sets in spec section 087100 – Door Hardware

Changes to Drawings

Item No. 10 **Sheet C0.01– Demolition Plan**
Updated Geotechnical Information.

Item No. 11 **Sheet L0.01– Landscape Notes & Schedules**
(a) Updated Gate types, detail references, hardware groups, panic device use, and hinge type.

Item No. 12 **Sheet L1.02 – Materials Plan**
(a) Updated gate type

Item No. 13 **Sheet L2.05– Layout Plan**
(a) Added notation stating that Netting poles are to be installed per dimensions on this sheet. Reference Elevations and SportsField Specialties sheet for more information.

Item No. 14 **Sheet L3.01– Enlargement Plan**
(a) Clarification on gate/fence location on detail 05.

Item No. 15 **Sheet L3.02– Enlargement Plan**
(a) Clarification on gate type on detail 06.

Item No. 16 **Sheet AH-1.11 – Demo Floor Plan**
Demolished existing door (E)334E.

Item No. 17 **Sheet AH-2.11 – Reconstruction Floor Plan**
Provide new uneven door 334E.

Item No. 18 **Sheet AK-1.11 – Demo Floor Plan**
Demolished existing door (E)378 and (E)382.

Item No. 19 **Sheet AK-2.11 – Reconstruction Floor Plan**
Provide new 378 and 382.

Item No. 20 **Sheet A6.01 – Door Schedule**
Updated door schedule per revised door hardware sets.

Item No. 21 **Sheet A6.02 – Door Schedule**
Updated door schedule per revised door hardware sets.

Item No. 22 **Sheet TE1.01 – Low Voltage Site Plan**
Added general note 3 to clarify location/quantity of gateways and door controllers. See Item No. 1 of this narrative for more information.

Drawings and Documents Issued

The following drawings and documents are issued as Addendum No. C and are to be included in the Contract Documents.

1 General Documents
Geotechnical Report 7/20/2022
Geotechnical Supplemental Information 9/29/2022

2 Specs
116833, 323113, 087100

3 Drawings
Sheet : C0.01, L0.01, L1.02, L2.05, L3.01, L3.02, AH-1.11, AH-2.11, AK-1.11, AK-2.11, A6.01, A6.02, TE1.01

End of Addendum No. C

John R. Byerly
INCORPORATED

GEOTECHNICAL INVESTIGATION

PROPOSED STEEL LUNCH SHELTER,
BASEBALL FIELD NETTING POLES, AND FIRE LANE

MOUNTAIN VIEW HIGH SCHOOL

EL MONTE, CALIFORNIA

EL MONTE UNION HIGH SCHOOL DISTRICT

GEOTECHNICAL ENGINEERS • TESTING AND INSPECTION
2257 South Lilac Ave., Bloomington, CA 92316-2903
Bloomington (909) 877-1324 Riverside (909) 783-1910 Fax (909) 877-5210

John R. Byerly
INCORPORATED

GEOTECHNICAL INVESTIGATION

JULY 20, 2022

PROPOSED STEEL LUNCH SHELTER,
BASEBALL FIELD NETTING POLES, AND FIRE LANE

MOUNTAIN VIEW HIGH SCHOOL

2900 PARKWAY DRIVE

EL MONTE, CALIFORNIA

CLIENT:

EL MONTE UNION HIGH SCHOOL DISTRICT

3537 JOHNSON AVENUE

EL MONTE, CALIFORNIA 91731

ATTENTION: MS. NORMA MACIAS

RPT. NO.: 7439
FILE NO.: S-14488

DISTRIBUTION:
(1) CLIENT
(1) LPA, INC., ATTN. NICOLE MEHTA

GEOTECHNICAL ENGINEERS • TESTING AND INSPECTION
2257 South Lilac Ave., Bloomington, CA 92316-2903
Bloomington (909) 877-1324 Riverside (909) 783-1910 Fax (909) 877-5210

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(7) Percent Passing No. 200 Sieve

(8) Subgrade Test Results

(9) Liquefaction Analysis

(10) Geologic Hazards Report

INTRODUCTION

During May through July of 2022, an investigation of the soil conditions underlying the site of the proposed improvements at Mountain View High School was conducted by this firm. The purpose of our investigation was to evaluate the surface and subsurface conditions at the site with respect to safe and economical foundation types, vertical and lateral bearing values, liquefaction and seismic settlement potential, and site preparation. Included in the recommendations are the seismic design parameters as required by the 2019 edition of the California Building Code and ASCE Standard 7-16. Recommendations are also provided for the design of portland cement concrete pavement for a new fire lane. Our consulting engineering geologist, Terra Geosciences, has evaluated the geologic conditions attendant to the site as required by the California Geological Survey. The geologic hazards report is presented as Enclosure 10. Our geotechnical investigation, together with our conclusions and recommendations, is discussed in detail in the following report.

This report has been prepared for the exclusive use of the El Monte Union High School District and their design consultants for specific application to the project described herein. Should the project be modified, the conclusions and recommendations presented in this report should be reviewed by the geotechnical engineer. Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with generally accepted engineering principles and practices. This warranty is in lieu of all other warranties, express or implied.

PROJECT DESCRIPTION

The proposed improvements will consist of a steel-frame lunch shelter, field netting poles, and a fire lane. The lunch shelter will be located in an existing lawn area west of Building H and will be supported by either conventional shallow, isolated and continuous footings, or drilled piers. An existing portland cement concrete (PCC) sidewalk, also west of Building H, will be removed and replaced with new PCC designed to support fire truck loading. New field netting poles 50 feet in height are proposed on two perimeters of the existing baseball and softball fields in the northeastern corner of the school property. The poles will be supported by deep foundations. Springfield Specialties, Inc. will assist in the design of the deep foundations. Small seat walls 18 inches in height are also planned. The new structures will exert relatively light foundation loads on the underlying

soils. Based on the site topography, minimal cuts and fills will be required for site development, and major slope and retaining wall construction is not proposed. The site configuration and proposed development are illustrated on Enclosure 1.

SITE CONDITIONS

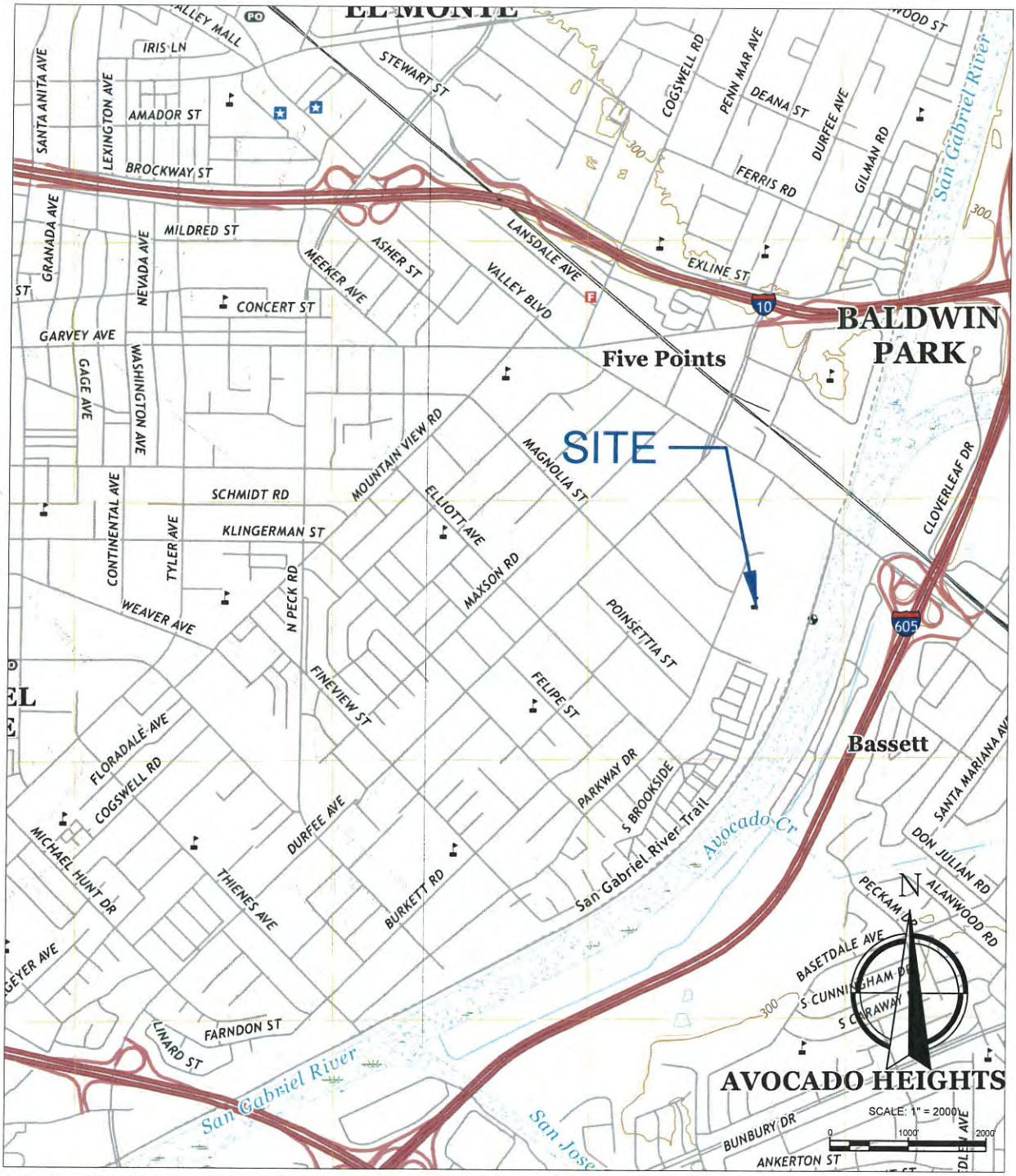
The existing Mountain View High School is located on the east side of Parkway Drive, north of Magnolia Street, in the city of El Monte. An Index Map showing the general vicinity of the site is presented on the following page. The coordinates of the site are latitude 34.05331° N and longitude -118.01129° W (WGS 1984 coordinates). The high school property contains buildings, and hardscape, parking, playfield, and landscape areas. The proposed lunch shelter will be located in an existing lawn area west of Building H. Existing portland cement concrete (PCC) also west of Building H will be removed and replaced with new concrete. The netting poles will be situated in turf or pavement areas adjacent to the baseball and softball fields.

The San Gabriel River Trail and San Gabriel River border the eastern perimeter of the high school. Undeveloped property is situated across Valley Boulevard north of the high school, and the remaining surrounding properties are occupied by residential structures. The site is relatively planar and slopes downward to the southeast at an average gradient of less than one percent.

FIELD AND LABORATORY INVESTIGATION

The soils underlying or adjacent to the proposed improvements were explored by means of seven test borings drilled with a truck-mounted flight-auger to a maximum depth of 51.5 feet below the existing ground surface. The approximate locations of the test borings are indicated on Enclosure 1. The soils encountered were examined and visually classified by one of our field engineers. A summary of the soil classifications appears as Enclosure 2. The exploration logs show subsurface conditions at the dates and locations indicated, and may not be representative of other locations and times. The stratification lines presented on the logs represent the approximate boundaries between soil types, and the transitions may be gradual. A hollow-stem auger with an outside diameter of 7.9 inches was utilized. The inside diameter of the auger was 4.3 inches.

INDEX MAP



SOURCE DOCUMENTS: USGS EL MONTE QUADRANGLE, CALIFORNIA, 7.5 MINUTE SERIES, 2018

TOWNSHIP AND RANGE: SECTION 26, T1S, R11W

LATITUDE: 34.0533° N

LONGITUDE: 118.0113° W

John R. Byerly INCORPORATED

Rpt. No.: 7439
File No.: S-14488

Bulk and relatively undisturbed samples were obtained at selected levels within the explorations and delivered to our laboratory for testing and evaluation. The driving energy or blow counts required to advance the sampler at each sample interval were noted. Relatively undisturbed soil samples were recovered at various intervals in the borings with a California sampler. The California sampler was a 2.9-inch outside diameter, 2.5-inch inside diameter, split-barrel sampler lined with brass tubes. The sampler was 18 inches long. The sampler conformed to the requirements of ASTM D 3550. A 140-pound automatic trip hammer was lifted hydraulically and was dropped 30 inches for each blow. Standard penetration tests were performed as Borings 2 and 5 were advanced. The standard penetration test blow counts are shown on the logs for these borings. Standard penetration testing was performed with a 2.0-inch outside diameter, 1.5-inch inside diameter, split-barrel sampler. The sampler was 18 inches long and is machined to fit liners. The sampler was unlined and conformed to the requirements of ASTM D 1586. A 140-pound automatic trip hammer was lifted hydraulically and was dropped 30 inches for each blow. An efficiency value of 1.0 was assumed for the automatic trip hammer.

Included in our laboratory testing were moisture/density determinations on all undisturbed samples. Optimum moisture content/maximum dry density relationships were established for typical soil types so that the relative compaction of the subsoils could be determined. Consolidation and direct shear testing were conducted on selected samples to evaluate the compressibility characteristics and strength parameters, respectively, of the soil. Atterberg limits testing was conducted on selected samples to measure the plasticity of the soil for liquefaction analysis. The percent passing the No. 200 sieve was determined for two samples to assist in the liquefaction evaluation. The moisture/density data are presented on the boring logs presented in Enclosure 2. The maximum density and consolidation test results appear on Enclosures 3 and 4, respectively. The results of the direct shear testing are presented on Enclosure 5. The results of the Atterberg limits testing and percent passing the No. 200 sieve are shown on Enclosures 6 and 7, respectively. A composite sample of potential subgrade soil was tested for gradation, sand equivalent and "R" value for pavement design purposes. The subgrade test results appear on Enclosure 8. Chemical testing, comprised of pH, soluble sulfate, chloride, redox potential and resistivity testing was also performed. These test results are presented in the "Chemical Test Results" section of this report.

SOIL CONDITIONS

All the borings except Borings 3, 5 and 6 were drilled in areas occupied by asphalt concrete pavement. In our explorations the pavement ranged in thickness from 2 to 4 inches. Aggregate base with a thickness of 3 inches was encountered below the pavement in Boring 7. Undocumented fill consisting of dense silty sands with a trace of gravel was encountered in Boring 6 to a depth of 2 feet. The natural soils encountered in our test borings consisted of loose to dense silty sands and sands with varying amounts of gravel and an occasional trace of clay, and soft to hard clayey silts and sandy silts. Portions of the near-surface soils have a relatively high moisture content. Neither bedrock nor ground water was encountered in our test borings. The near-surface soils encountered in our test borings are generally granular, non-plastic materials and are considered to have a very low expansion potential in accordance with ASTM D4829.

LIQUEFACTION AND DYNAMIC SETTLEMENT

Liquefaction is a phenomenon that occurs when a soil undergoes a transformation from a solid state to a liquefied condition due to the effects of increased pore-water pressure. Loose saturated soils with particle sizes in the medium sand to silt range are particularly susceptible to liquefaction when subjected to seismic ground shaking. Affected soils lose all strength during liquefaction, and foundation failure can occur.

Free ground water was not encountered in our test borings. Based on ground water data, our consulting engineering geologist estimates that the shallowest historic depth to ground water is expected to have been about 5 feet below existing grade. This is the value used in our liquefaction analysis.

It is anticipated that major earthquake ground shaking will occur during the lifetime of the proposed development from the Whittier segment of the Elsinore fault, located approximately 3.9 miles to the west of the site. This fault would create the most significant earthshaking event. Based on an earthquake magnitude of 7.8, a peak horizontal ground acceleration of 0.77g is assigned to the site. To evaluate the potential for liquefaction and seismically induced settlement of the subsoils, the soils were analyzed for relative density. The most effective measurement of relative density of sands with respect to liquefaction and seismic settlement potential is standard penetration resistance. Standard penetration tests were performed as Borings 2 and 5 were advanced.

The SPT sampler is machined to fit liners, therefore a correction factor of 1.0 may not be appropriate. Using the information presented in Table 3 of Page 73 of the publication by Idriss and Boulanger (Soil Liquefaction During Earthquakes, Idriss and Boulanger, MNO-12, 2008) and subsequent to review of the $(N1)_{60}$ values, a Cs value of 1.3 was used in our analysis.

Plasticity index data presented in Enclosure 6 reveal that the soils tested in Boring 2 at 10.5 feet and in Boring 5 at 35 feet have plasticity indexes of 16.8 and 16.1, respectively. These soils consisted of clayey silts. Based on these test results, it is our opinion that the soils between 8 feet and 13 feet in Boring 2, and in Boring 5 between 35 feet and 42 feet will behave as clays, and are not readily susceptible to liquefaction.

The standard penetration data provided input for the LiquefyPro Version 4.3 program for liquefaction and seismically induced settlement potential. As indicated in Special Publication 117A (Revised), "Guidelines for Evaluating and Mitigating Seismic Hazards in California, March 2009," a safety factor of 1.3 was used in this analysis. The soils in the vicinity of Borings 5 and 6 will be overexcavated and replaced as engineered fill to a depth of 8 feet below existing grade. The upper 12 inches of exposed soils in the bottom of the excavation will be processed and densified to a relative compaction of at least 90 percent (ASTM D1557). Therefore, for the liquefaction analysis for Boring 5, the engineered fill soils above a depth of 9 feet have an assumed N-value of 30.

The results of this evaluation are shown on Enclosure 9 and reveal a potential for liquefaction in the depth range of 10 to 11 feet and the depth range of 33 to 35 feet in Boring 5. We do not expect surface disturbance from liquefaction in these thin soil strata. The analysis also indicates total potential dynamic settlement values of 0.44 inch and 0.70 inch in Borings 2 and 5, respectively. The total settlement will occur over a large area and will not affect local buried utilities. Within a structural area, we would estimate the differential dynamic settlement would be about one-half the total. Since these are relatively small values, it is our opinion that liquefaction-induced settlement need not be a consideration in the design of the improvements.

LATERAL SPREAD

As shown on Enclosure 9, all the $(N1)_{60}$ values in Boring 2 are greater than 15. In Boring 5, only the $(N1)_{60}$ values above a depth of 8.5 feet are less than 15. Based on these values, it is our opinion that lateral spread should not be a consideration in the development of the project.

SEISMIC SHEAR-WAVE SURVEY

One 184-foot-long seismic line was performed within the southwestern quadrant of the existing high school property. The results of the seismic shear-wave survey conducted by Terra Geosciences revealed that the average shear-wave velocity ("weighted average") in the upper 100 feet (V_{100}) of the subject survey area is 1,033.2 feet per second (314.9 meters/sec). The report states that: "This average velocity classifies the underlying soils to that of Site Class "D" (Stiff Soil), which has a velocity range from 600 to 1,200 feet/second (ASCE, 2017; Table 20.3-1)." The report also states that: "The "weighted average" velocity is computed from a formula that is used by the ASCE (2017; Section 20.4, Equation 20.4-1) to determine the average shear-wave velocity for the upper 100 feet of the subsurface (V_{100})." Lastly, the report states that: "The shear-wave model displays these calculated layers and associated velocities (feet/second) to a depth of 184 feet where locally sampled." The shear-wave survey is presented as "Appendix A" in the geologic hazards report by Terra Geosciences, Enclosure 10.

CONCLUSIONS

Any undocumented fill encountered during earthwork operations should be overexcavated and replaced as engineered fill. Portions of the natural soils were relatively compressible to a maximum depth of 8 feet. In order to provide uniform soil conditions for structural support, if the lunch shelter is supported by a shallow foundation system, overexcavation and recompaction of portions of the near-surface soils are recommended in this area. The netting poles and possibly the lunch shelter will be supported by drilled piers. Due to the presence of loose and soft soils, caving of excavation sidewalls may occur during construction. The use of casing may be required during construction. Recommendations for foundation design are provided below for soils with a very low expansion potential. Subsequent to remedial grading, the new structures may be safely founded on conventional continuous and isolated footings or on drilled piers. Detailed recommendations are provided below.

RECOMMENDATIONS

SHALLOW FOUNDATION DESIGN

Where the site is prepared as recommended, the proposed lunch shelter may be founded on conventional continuous and isolated footings. Footings should be at least 18 inches deep and should be designed for a maximum safe soil bearing pressure of 2,000 pounds per square foot for dead plus live loads. This value may be increased by one-third for wind and seismic loading.

Continuous footings should be reinforced with at least four No. 4 bars, two placed near the top and two near the bottom of the footings. This recommendation for foundation reinforcement is based on geotechnical considerations. Structural design may require additional foundation reinforcement.

For footings thus designed and constructed, we would anticipate a maximum settlement of less than 1 inch and a maximum differential settlement slope of 1:850.

DEEP FOUNDATION DESIGN FOR NETTING POLES AND LUNCH SHELTER

The proposed netting poles will be supported by a deep foundation system comprised of drilled piers. The project is in the conceptual design stage at this time, so the anticipated pier depth and diameter are not currently known. For support of the netting poles, assuming a ground water level of 5 feet below grade, the following table presents the pier depth, associated allowable frictional resistance and allowable lateral earth pressure that may be used for that specific depth:

EMBEDMENT DEPTH (ft.)	ALLOWABLE FRICTIONAL RESISTANCE (psf)	ALLOWABLE LATERAL EARTH PRESSURE (pcf)
10	108	150
12	121	140
14	134	132
16	146	127
18	159	122
20	172	119

Assuming a ground water level of 5 feet below grade, for support of the lunch shelter the following table presents the pier depth, the associated allowable frictional resistance and allowable lateral earth pressure that may be used for that specific depth:

EMBEDMENT DEPTH (ft.)	ALLOWABLE FRICTIONAL RESISTANCE (psf)	ALLOWABLE LATERAL EARTH PRESSURE (pcf)
6	88	204
10	112	154

The frictional resistance values may be increased by one-third for wind or seismic loading. Lateral load capacity of the pier footings may be computed using any accepted pole footing formula. The lateral earth pressure should not exceed a maximum of 3,000 pounds per square foot.

CAVING POTENTIAL

Due to the relatively high moisture content of some of the near-surface soils and the presence of loose granular soils and soft cohesive soils, caving of the pier sidewalls may occur during the footing excavation process. It may be prudent to have casing available should sidewall caving occur.

SEISMIC DESIGN PARAMETERS

The development of the seismic ground motion parameters is described in detail in the geologic hazards report prepared on our behalf by Terra Geosciences. In summary, the California Building Code and the ASCE Standard 7-16 coefficients and factors are provided in the following table:

Factor or Coefficient	***Value***
Latitude	34.05331° N
Longitude	-118.01129° W
S_S	1.776g
S_1	0.641g
F_a	1.0
F_v	1.7

Factor or Coefficient	*Value*
S_{MS}	1.771g
S_{M1}	1.318g
S_{DS}	1.180g
S_{D1}	0.880g
PGA	0.77g
T_L	8 seconds
Site Class	D

LATERAL LOADING

Backfill within 6 feet of any retaining walls should consist of granular soil exhibiting a very low expansion potential (expansion index less than 21). For a level backfill surface and cantilever retaining wall conditions, we recommend an active earth pressure of 35 pounds per square foot per foot of depth, exclusive of surcharge loads. For braced walls with level backfill surface conditions, we recommend an at-rest earth pressure of 60 pounds per square foot per foot of depth, exclusive of surcharge loads. For shallow footings, resistance to lateral loads will be provided by passive earth pressure and basal friction. For footings bearing against compacted fill, passive earth pressure may be considered to develop at a rate of 300 pounds per square foot per foot of depth. Basal friction may be computed at 0.35 times the normal dead load. The resistance from basal friction and passive earth pressure may be combined directly without reduction. A backdrain system or weep holes should be provided to prevent buildup of hydrostatic pressure behind retaining walls. The allowable lateral resistance may be increased by one-third for wind and seismic loading.

SITE PREPARATION

We assume that the site will be prepared in accordance with the California Building Code or the current City of El Monte Grading Ordinance. The recommendations presented below are to establish additional grading criteria. These recommendations should be considered preliminary and are subject to modification or expansion based on a geotechnical review of the project foundation and grading plans.

- All areas to be graded should be stripped of organic matter, man-made obstructions and other deleterious materials. Underground utilities should be removed and relocated or abandoned. All cavities created during site clearing should be cleaned of loose and disturbed soil, shaped to provide access for construction equipment, and backfilled with fill placed and compacted as described below.

- Existing undocumented fill encountered during earthwork operations should be removed from lunch shelter, pavement and hardscape areas. Deleterious material should be separated from the removed fill and hauled from the site. The excavated fill should be stockpiled pending replacement or be placed in previously prepared areas.

- Overexcavation

    - Lunch shelter – Subsequent to removal of any undocumented fill, the natural soils below and within 8 feet of the bottom of the floor-slab and footings should be overexcavated to a depth of 8 feet below existing grade. The soils exposed in the bottom of the excavations should be evaluated by a representative of the geotechnical engineer.

    - Seat walls – Subsequent to removal of any undocumented fill, the natural soils below the bottom of the seat walls should be scarified to a depth of 8 inches below existing grade or 8 inches below the bottom of the seat wall footings, whichever is deeper. The scarified soils should be moisture conditioned to at least the optimum moisture content and densified to a relative compaction of at least 90 percent (ASTM D1557).

    - Limits of overexcavation – The overexcavation should extend beyond the perimeter of the footings supporting the lunch shelter a horizontal distance at least equal to the depth of overexcavation below the bottom of the foundation elements or 5 feet, whichever is greater.

    - Fire lane and hardscape areas – Undocumented fill should be removed below the proposed fire lane and hardscape areas. The natural soils below these areas should be scarified to a depth of 8 inches below existing grade or 8 inches below

proposed finished grade, whichever is deeper. Finished grade is defined as the top of the subgrade. The scarified soils should be moisture conditioned to at least the optimum moisture content. Below the hardscape areas and fire lane, the upper 8 inches of soil should be densified to a relative compaction of at least 90 percent and 95 percent, respectively (ASTM D1557).

- Approved subexcavated surfaces and all other surfaces to receive fill should be scarified to a minimum depth of 12 inches, moisture conditioned to at least the optimum moisture content and densified to a relative compaction of at least 90 percent (ASTM D1557).

- The on-site soils should provide adequate quality fill material below the lunch shelter, seat walls, and pavement and hardscape areas provided they are free from significant organic matter and other deleterious materials, and are at acceptable moisture contents. Asphalt and portland cement concrete removed during site clearing may be pulverized into fragments not exceeding 3 inches in greatest dimension and incorporated into the fill at all levels. Import fill should be inorganic, granular, non-expansive soil free from rocks or lumps greater than 8 inches in maximum dimension, and should exhibit a very low expansion potential (expansion index less than 21), negligible sulfate content (less than 1,000 ppm soluble sulfate by weight), and low corrosion potential. Prior to bringing import fill to the site, the contractor should obtain certification to verify that the proposed import meets the State of California Department of Toxic Substance Control (DTSC) environmental standards. Proposed import should be sampled at the source and tested by this firm for expansion index, soluble sulfate content, and corrosion potential.

- All fill should be placed in 8-inch or less lifts, moisture conditioned to at least the optimum moisture content and densified to a minimum relative compaction of 90 percent (ASTM D1557).

- The surface of the site should be graded to provide positive drainage away from the structures. Drainage should be directed to established swales and then to appropriate drainage structures to minimize the possibility of erosion. Water should not be allowed to pond adjacent to footings.

SHRINKAGE AND SUBSIDENCE

Volume change in going from cut to fill conditions is anticipated where near-surface grading will occur. Assuming the fill will be compacted to an average relative compaction of 93 percent, an average cut-fill shrinkage of 10 to 15 percent is estimated. Further volume loss will occur through subsidence during preparation of the natural ground surface. Although the contractor's methods and equipment utilized in preparing the natural ground will have a significant effect on the amount of natural ground subsidence that will occur, our experience indicates as much as 0.10 to 0.15 foot of subsidence in areas prepared to receive fill should be anticipated. These values are exclusive of losses due to stripping or removal of subsurface obstructions.

PORTLAND CEMENT CONCRETE PAVEMENT

A representative sample of near-surface soil at the site has been tested for relevant subgrade properties. It is our understanding that the maximum weight of an 80,000-pound tandem-axle fire truck is 68 kips. In conjunction with the test data shown on Enclosure 8, we recommend the PCC pavement be at least 8 inches in thickness in areas accommodating fire truck traffic. The PCC may be placed directly on the compacted subgrade soil.

For hardscape areas to receive only pedestrian traffic, we recommend the PCC pavement be at least 3.5 inches in thickness and be placed directly on the compacted subgrade soil.

Portland cement concrete should be proportioned for a maximum slump of 4 inches and to achieve a minimum compressive strength of 3,000 psi at 28 days. If additional workability is desired, a plasticizing or water-reducing admixture should be utilized in lieu of increasing the water content. Control joints for the 3.5-inch-thick pavement should be spaced no more than 10.5 feet on-center each way. Control joints for the pavement 8 inches in thickness should be spaced no more than 24 feet on-center each way. Control joints should be established either by hand groovers, plastic inserts, or saw-cutting as soon as the concrete can be cut without dislodging aggregate. Cutting the control joints the day after the concrete pour will likely result in uncontrolled shrinkage cracks. Concrete should not be placed in hot and windy weather. Water curing should commence immediately after the final finishing and should continue for at least 7 days.

The above designs are preliminary and for estimating purposes only. We recommend that during the process of rough grading, observation and additional testing of the actual subgrade soils should be performed. Final pavement design sections can then be determined. The foregoing pavement sections assume that utility trench backfill below all proposed pavement areas will be compacted to at least 90 percent relative compaction. Prior to the placement of concrete, we recommend that the final subgrade surface be scarified to a depth of at least 8 inches and moisture conditioned to near the optimum moisture content. Below the hardscape areas and fire lane, the upper 8 inches of soil should be densified to a relative compaction of at least 90 percent and 95 percent, respectively (ASTM D1557). The preparation of the subgrade should be monitored by a representative of the geotechnical engineer.

CHEMICAL TEST RESULTS

The chemical test results from a sample taken from Boring 3 between a depth of 5 feet and 10 feet are shown on the following table:

Analysis	Result	Units
Saturated Resistivity	11200	ohm-cm
Chloride	ND (Not Detected)	ppm
Sulfate	60	ppm
pH	8.0	pH units
Redox Potential	214	mV

The chemical test results from a sample taken from Boring 5 between the ground surface and a depth of 5 feet are shown on the following table:

Analysis	Result	Units
Saturated Resistivity	7300	ohm-cm
Chloride	ND (Not Detected)	ppm
Sulfate	10	ppm
pH	7.8	pH units
Redox Potential	200	mV

The soil tested exhibited negligible soluble sulfate content; therefore, sulfate-resistant concrete will not be required for this project. The results of the corrosivity testing indicate that the soils tested are not detrimentally corrosive to buried ferrous-metal pipes.

PREVIOUS EARTHQUAKE IMPACT ON EXISTING STRUCTURES

Some of the existing buildings on the school property were observed by our field engineer during the exploration phase of the investigation. There did not appear to be evidence of ground failure or structural damage to buildings due to previous earthquakes in the immediate area.

FLOODING POTENTIAL

Our consulting geologist has indicated that the property is situated within the limits of a dam inundation area for the Santa Fe Dam and Reservoir, located 4.5 miles to the northeast. The flooding potential should be evaluated by the project civil engineer.

STORMWATER INFILTRATION BASIN

It is our understanding that a stormwater infiltration basin is being considered for construction on the property. Our consulting engineering geologist estimates that an historic high ground water depth at the site is approximately 5 feet below existing grade. The guidelines from Los Angeles County for the design of stormwater infiltration systems recommends that "The invert of stormwater infiltration shall be at least 10 feet above the design groundwater elevation." Therefore, the civil engineer could design a retention system that does not rely on infiltration, such as bioswales, that utilize special soil medium for filtration before collecting the filtered runoff and disposing into a storm drain system. This should be reviewed with and approved by Los Angeles County before proceeding with the design.

FOUNDATION AND GRADING PLAN REVIEW

The project foundation and grading plans should be reviewed by the geotechnical engineer. Additional recommendations may be required at that time.

CONSTRUCTION OBSERVATIONS

All grading operations, including the preparation of the natural ground surface, should be observed and compaction tests performed by this firm. No fill should be placed on any prepared surface until that surface has been evaluated by the representative of the geotechnical engineer. The footing excavations for the lunch shelter and netting poles should be evaluated by a representative of the geotechnical engineer prior to placement of forms or reinforcing steel.

The conclusions and recommendations presented in this report are based upon the field and laboratory investigation described herein and represent our best engineering judgment. Should conditions be encountered in the field that appear different from those described in this report, we should be contacted immediately in order that appropriate recommendations might be prepared.

Respectfully submitted,

JOHN R. BYERLY, INC.

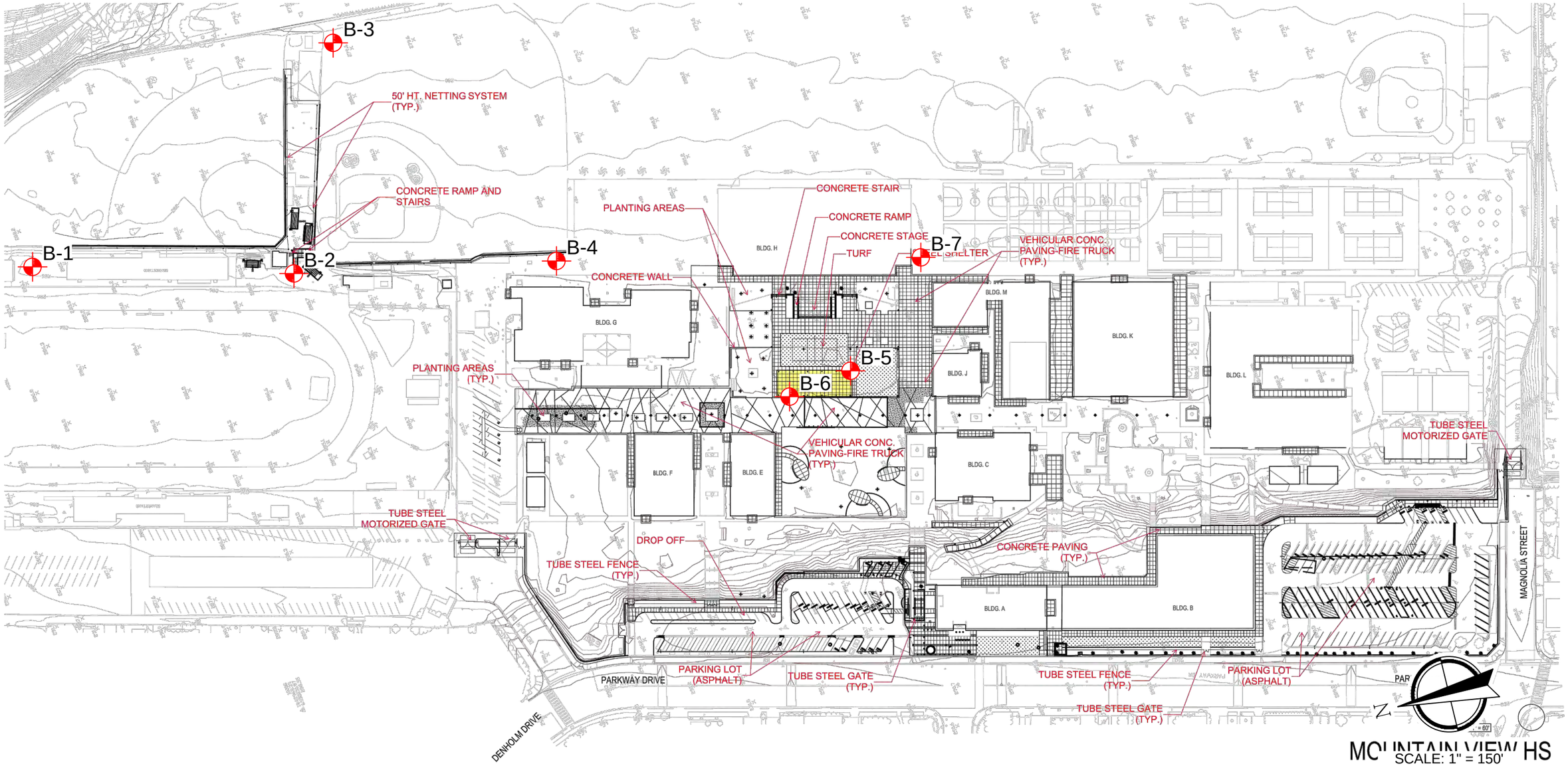
John R. Byerly, Geotechnical Engineer
President

JRB:GSF:jet

Enclosures:
(1) Plot Plan
(2) Test Boring Logs
(3) Maximum Density Determinations
(4) Consolidation Test Results
(5) Direct Shear Test Data
(6) Plasticity Index Test Results
(7) Percent Passing No. 200 Sieve
(8) Subgrade Test Results
(9) Liquefaction Analysis
(10) Geologic Hazards Report

LEGEND

APPROX. BORING LOCATION

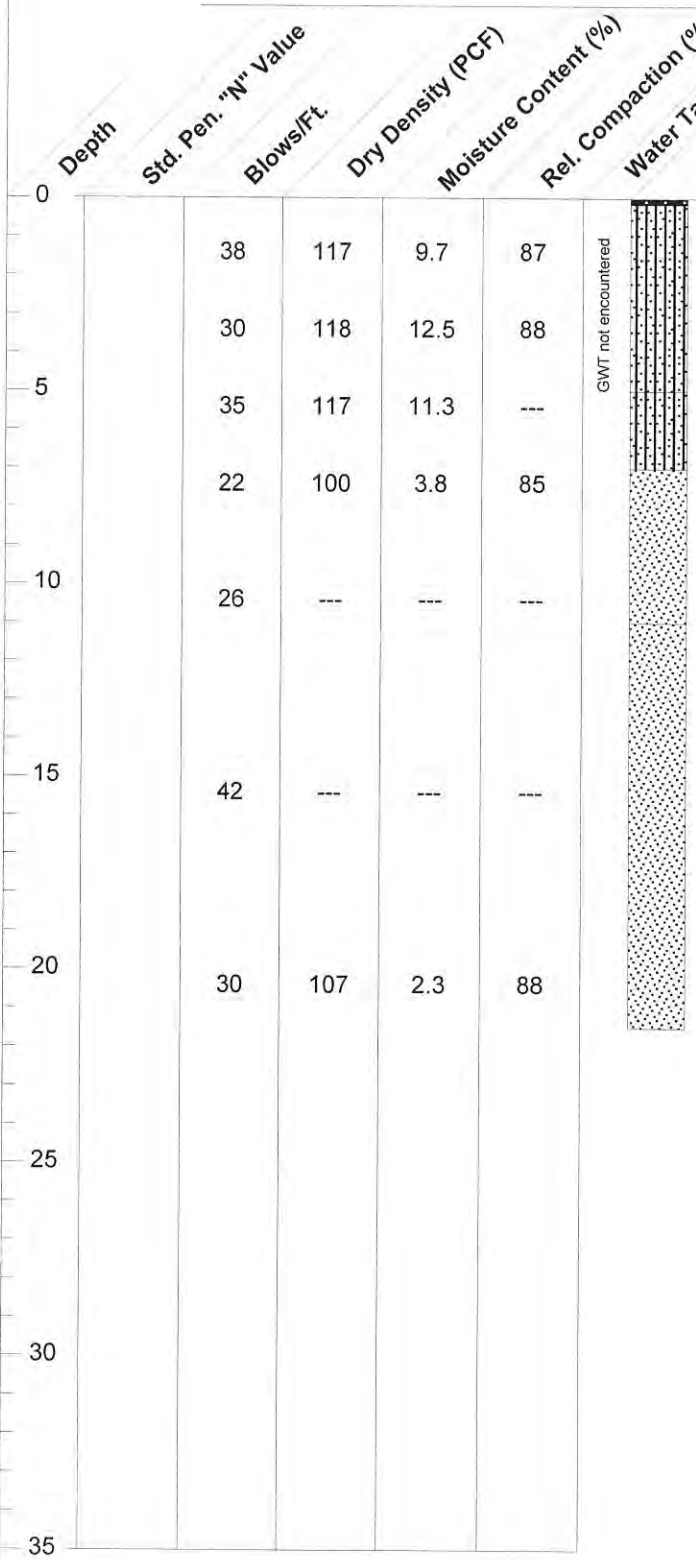


SOURCE DOCUMENT: SITE PLAN

John R. Byerly INCORPORATED	GEOTECHNICAL INVESTIGATION	MOUNTAIN VIEW HIGH SCHOOL 2900 PARKWAY DRIVE EL MONTE, CALIFORNIA	Enclosure 1 Rpt. No.: 7439 File No.: S-14488

B-1

Boring Date: 5/07/22
Surface Elevation:
Drilling Method: Limited-Access Track Rig



SM	2.0 inches of asphalt concrete, no base Yellow-brown silty fine to coarse sand with a trace of gravel, moist and medium dense
SM	Dark gray-brown silty fine to coarse sand, moist and medium dense
SP	Light gray fine to medium sand, damp and medium dense
SP	Gray-brown fine to coarse sand with gravel, dry and medium dense

Total Depth at 21.5 Feet
No Free Ground Water Encountered

SuperLog CivilTech Software, USA www.civiltech.com File: C:\Superlog4\PROJECTS\S-14488 (Rpt. No. 7439).log Date: 7/21/2022

LOG OF BORING

John R. Byerly, Inc.

Mountain View High School
El Monte, California

Enclosure 2, Page 1
Rpt. No.: 7439
File No.: S-14488

B-2

Boring Date: 5/07/22
Surface Elevation:
Drilling Method: Limited-Access Track Rig

Depth	Std. Pen. "N" Value Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table		
0						SM	2.0 inches of asphalt concrete, no base
	42	112	12.0	---			Yellow-brown silty fine to coarse sand with a trace of clay, moist and dense
	48	110	18.0	---			- becoming wet at 3.0 feet
5	31	102	5.8	87		SP	Gray-brown fine to medium sand, damp and medium dense
	18						
						ML	Gray-brown clayey silt, saturated and soft
10	5	77	40.0	---			
	12						- becoming stiff at 11.5 feet
						SP	Light gray-brown fine to coarse sand with gravel, dry and medium dense
15	20	107	2.2	88			
	27						
20	30	106	2.7	87			
	38						- becoming dense at 21.5 feet
25	41	121	4.7	---		SP	Gray-brown fine to coarse sand with a trace of silt, damp and dense
	30						
30	43	122	5.2	---			
	36						
35							

GWT not encountered

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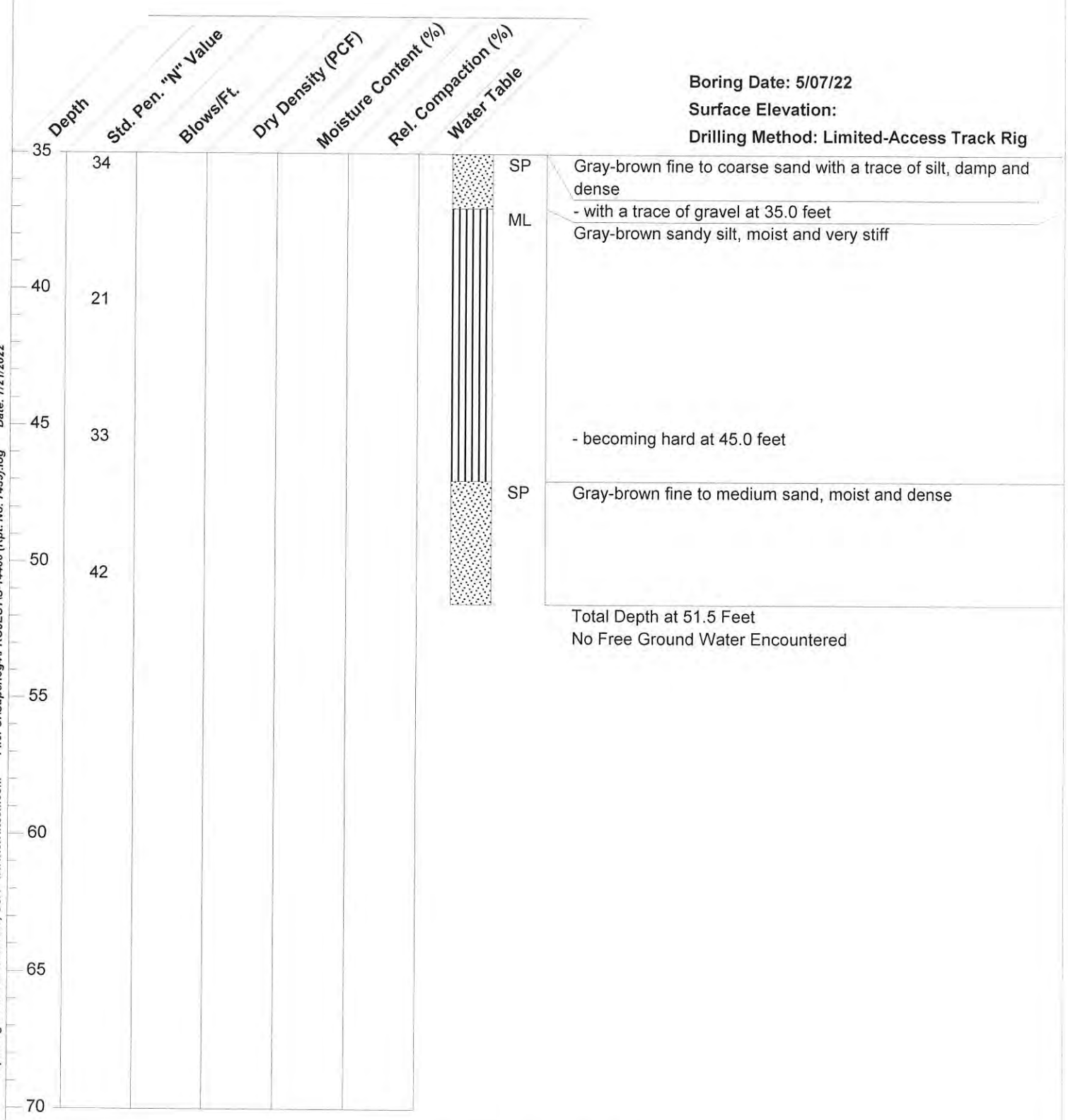
LOG OF BORING

B-2



Boring Date: 5/07/22
Surface Elevation:
Drilling Method: Limited-Access Track Rig

SuperLog CivilTech Software, USA www.civiltech.com File: C:\Superlog4\PROJECTS-14488 (Rpt. No. 7439).log Date: 7/21/2022

LOG OF BORING

B-3

Boring Date: 5/07/22
Surface Elevation:
Drilling Method: Limited-Access Track Rig

Depth	Std. Pen. "N" Value Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table		
0	14	111	8.3	82	GWT not encountered	SM	Gray-brown silty fine to coarse sand with a trace of gravel, moist and loose
	6	108	6.4	80			- becoming damp at 3.5 feet
5	4	102	5.7	78		SP	Gray-brown fine to medium sand with a trace of clay and gravel, damp and loose
	18	100	6.9	85		SP	Gray-brown fine to medium sand, damp and medium dense
10	31	106	3.7	87		SP	Gray-brown fine to coarse sand with gravel, damp and medium dense
15	28	104	8.0	89		SP	Gray-brown fine to medium sand, moist and medium dense
20	38	107	15.9	88		SP	Gray fine to coarse sand with gravel, moist and medium dense
						ML	Gray-brown sandy silt, wet and very stiff
25	30	97	29.5	---			
30							
35							

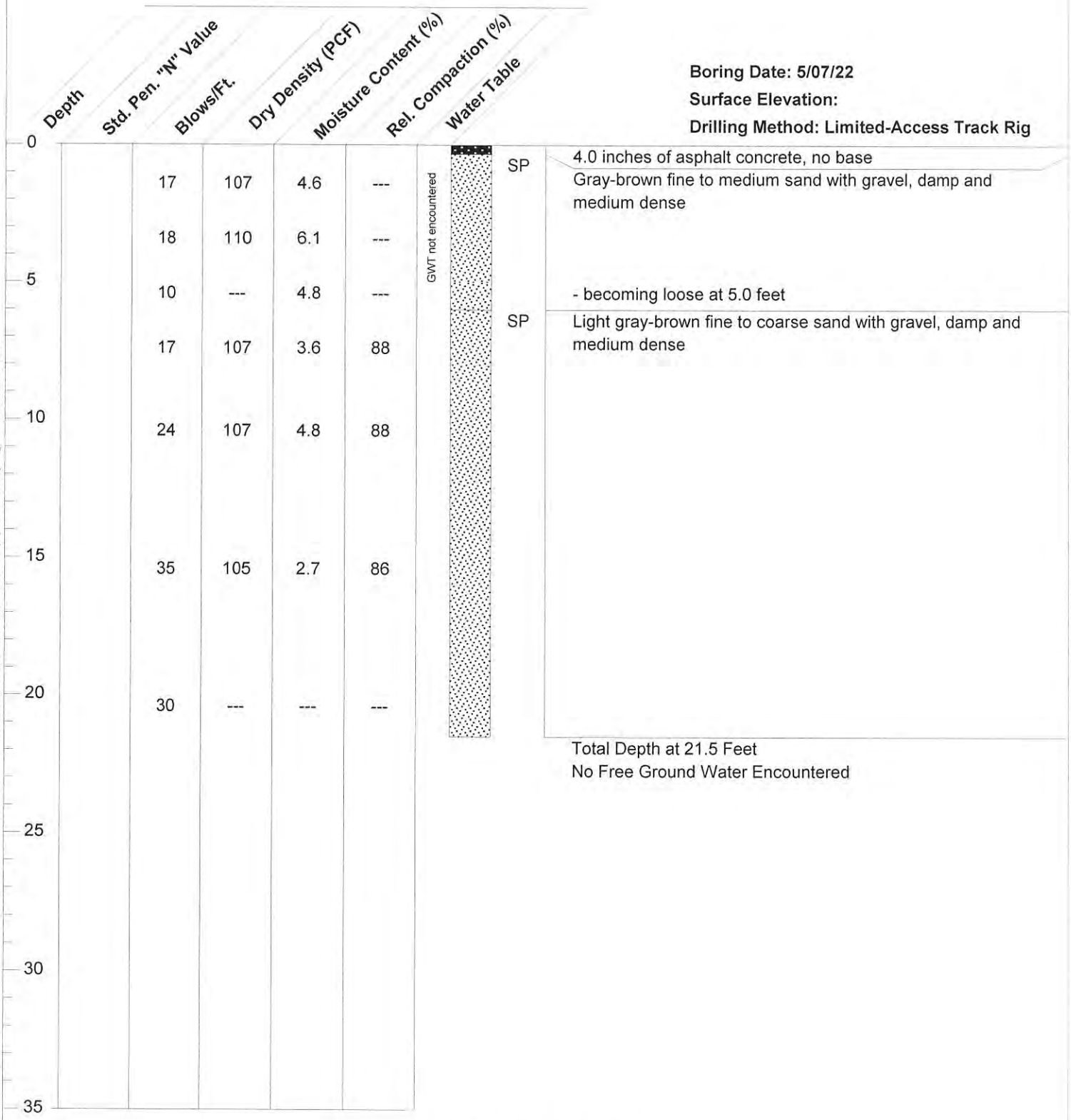
Total Depth at 26.5 Feet
No Free Ground Water Encountered

SuperLog CivilTech Software, USA www.civiltech.com File: C:\Superlog4\PROJECTS-14488 (Rpt. No. 7439).log Date: 7/21/2022

LOG OF BORING

B-4

Boring Date: 5/07/22
Surface Elevation:
Drilling Method: Limited-Access Track Rig



Total Depth at 21.5 Feet
No Free Ground Water Encountered

SuperLog CivilTech Software, USA www.civiltech.com File: C:\Superlog4\PROJECTS-14488 (Rpt. No. 7439).log Date: 7/21/2022

LOG OF BORING

John R. Byerly, Inc.	**Mountain View High School** **El Monte, California**	**Enclosure 2, Page 5** **Rpt. No.: 7439** **File No.: S-14488**

B-5

Boring Date: 5/07/22
Surface Elevation:
Drilling Method: Limited-Access Track Rig

Depth	Std. Pen. "N" Value	Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table		
0		22	119	5.7	88	GWT not encountered	SM	Gray-brown silty fine to medium sand with gravel, damp and medium dense
		23	105	3.3	---		SP	Light gray-brown fine to coarse sand with a trace of gravel, damp and medium dense
5	5	8	96	14.9	---		ML	Gray-brown sandy silt, moist and medium stiff
							SP	Gray-brown fine to medium sand with a trace of gravel, moist and medium dense
10	19	14	110	12.9	---			
							SP	Light gray fine to coarse sand with gravel, damp and medium dense
15	36	39	107	3.0	88			- becoming dense at 16.5 feet
20	31	50/8"	---	2.5	---			
25	28	38	114	3.0	93			- becoming medium dense with a seam of sandy silt at 26.0 feet
							SP	Light gray fine to medium sand, moist and medium dense
30	28	40	104	8.0	89			
35								

SuperLog CivilTech Software, USA www.civiltech.com File: C:\Superlog4\PROJECTS-14488 (Rpt. No. 7439).log Date: 7/21/2022

LOG OF BORING

B-5

Boring Date: 5/07/22
Surface Elevation:
Drilling Method: Limited-Access Track Rig

ML	Blue-gray clayey silt, moist and stiff
	- becoming very stiff at 40.0 feet
SP	Light gray-brown fine to medium sand, moist and dense

Total Depth at 51.5 Feet
No Free Ground Water Encountered

SuperLog CivilTech Software, USA www.civiltech.com File: C:\Superlog4\PROJECTS-14488 (Rpt. No. 7439).log Date: 7/21/2022

LOG OF BORING

B-6

Boring Date: 5/07/22
Surface Elevation:
Drilling Method: Limited-Access Track Rig

Depth	Std. Pen. "N" Value Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table		
0	50/10"	120	6.3	--	GWT not encountered	SM	Gray-brown silty fine to medium sand with a trace of gravel, damp and dense (UNDOCUMENTED FILL)
	40	109	9.8	89		SM	Dark gray fine to coarse sand with gravel, moist and medium dense (NATURAL GROUND)
5	25	107	3.3	88			- becoming damp at 5.0 feet
	6	98	15.6	---		ML	Gray-brown sandy silt, moist to wet and medium stiff
						SP	Orange-brown fine to medium sand, moist and loose to medium dense
10	10	100	9.5	85			
						SP	Light gray fine to coarse sand with gravel, damp and medium dense
15	19	---	---	---			
20	50/9"	111	3.3	91			- becoming dense at 20.0 feet
							Total Depth at 21.3 Feet No Free Ground Water Encountered
25							
30							
35							

SuperLog CivilTech Software, USA www.civiltech.com File: C:\Superlog4\PROJECTS-14488 (Rpt. No. 7439).log Date: 7/21/2022

LOG OF BORING

B-7

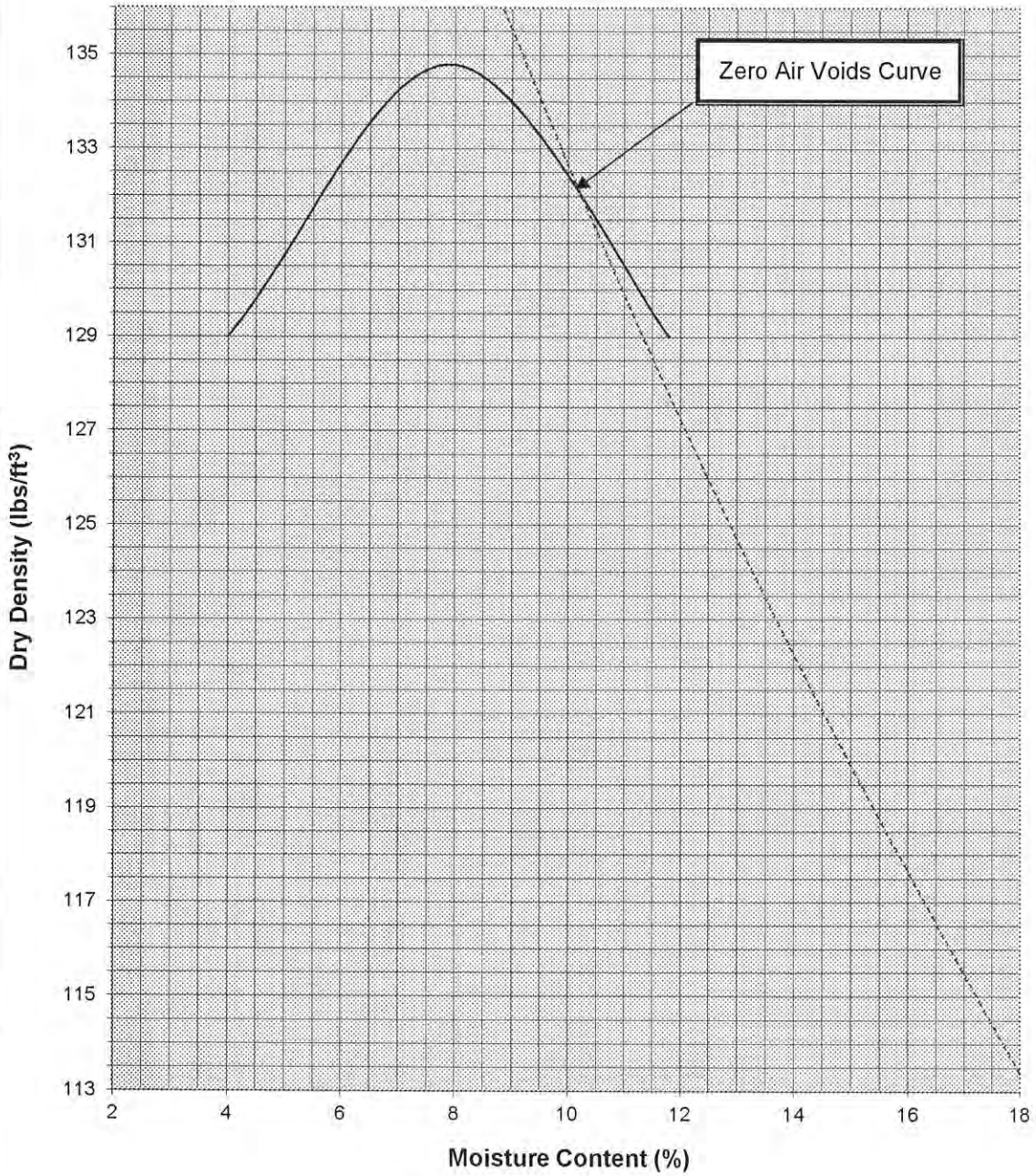
Boring Date: 5/07/22
Surface Elevation:
Drilling Method: Limited-Access Track Rig

Depth	Std. Pen. "N" Value Blows/Ft.	Dry Density (PCF)	Moisture Content (%)	Rel. Compaction (%)	Water Table		
0	43	122	5.4	90	GWT not encountered	SM	3.0 inches of asphalt concrete over 3.0 inches of aggregate base
							Gray-brown siilty fine to medium sand with gravel, damp and dense
	50	124	8.7	92			- becoming moist at 3.0 feet
5	35	100	6.3	85		SP	Light gray-brown fine to medium sand, damp and medium dense
							Total Depth at 6.5 Feet
							No Free Ground Water Encountered
10							
15							
20							
25							
30							
35							

SuperLog CivilTech Software, USA www.civiltech.com File: C:\Superlog4\PROJECTS-14488 (Rpt. No. 7439).log Date: 7/21/2022

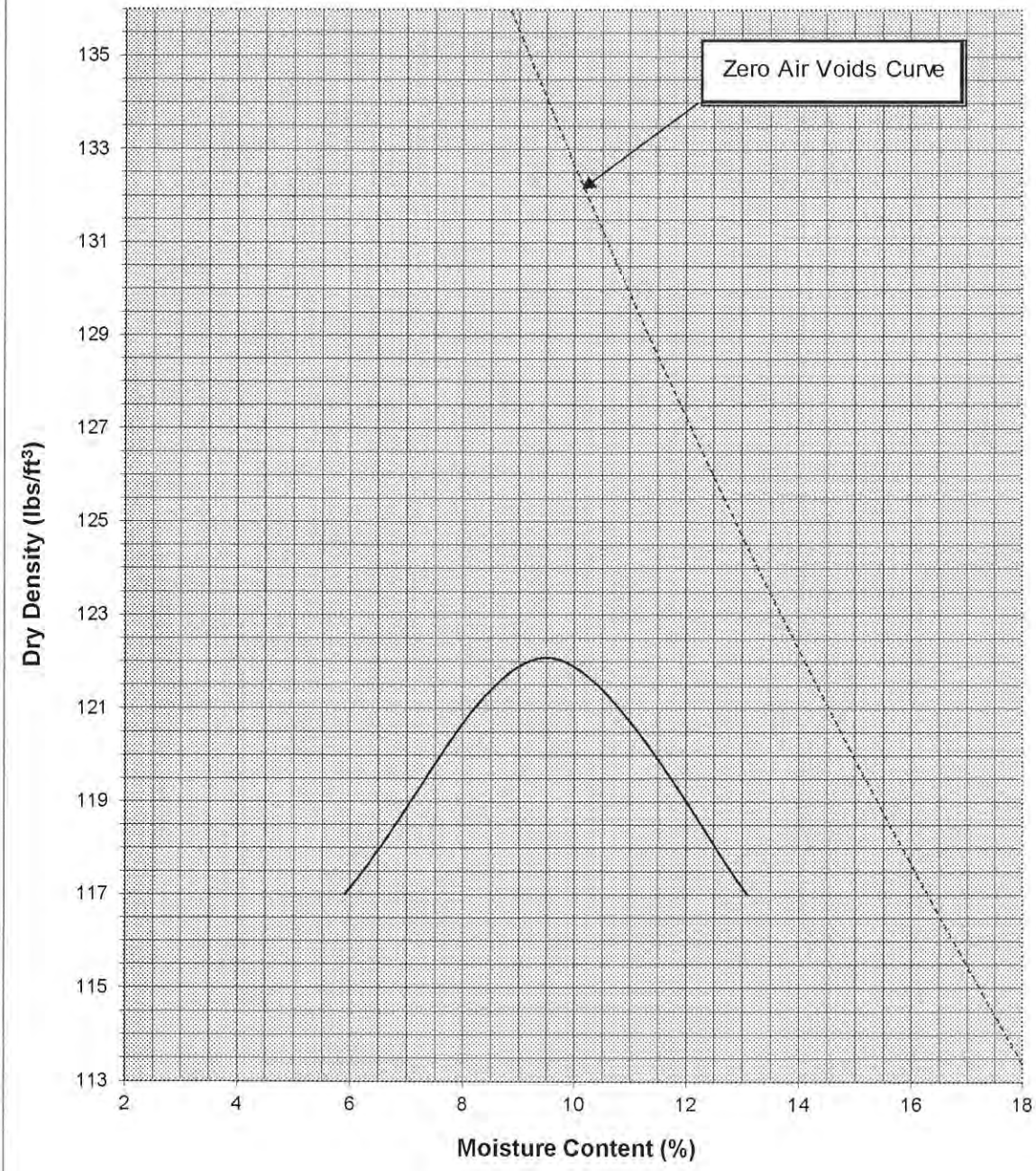
LOG OF BORING

Moisture/Density Relationship
ASTM D1557 (Method A)



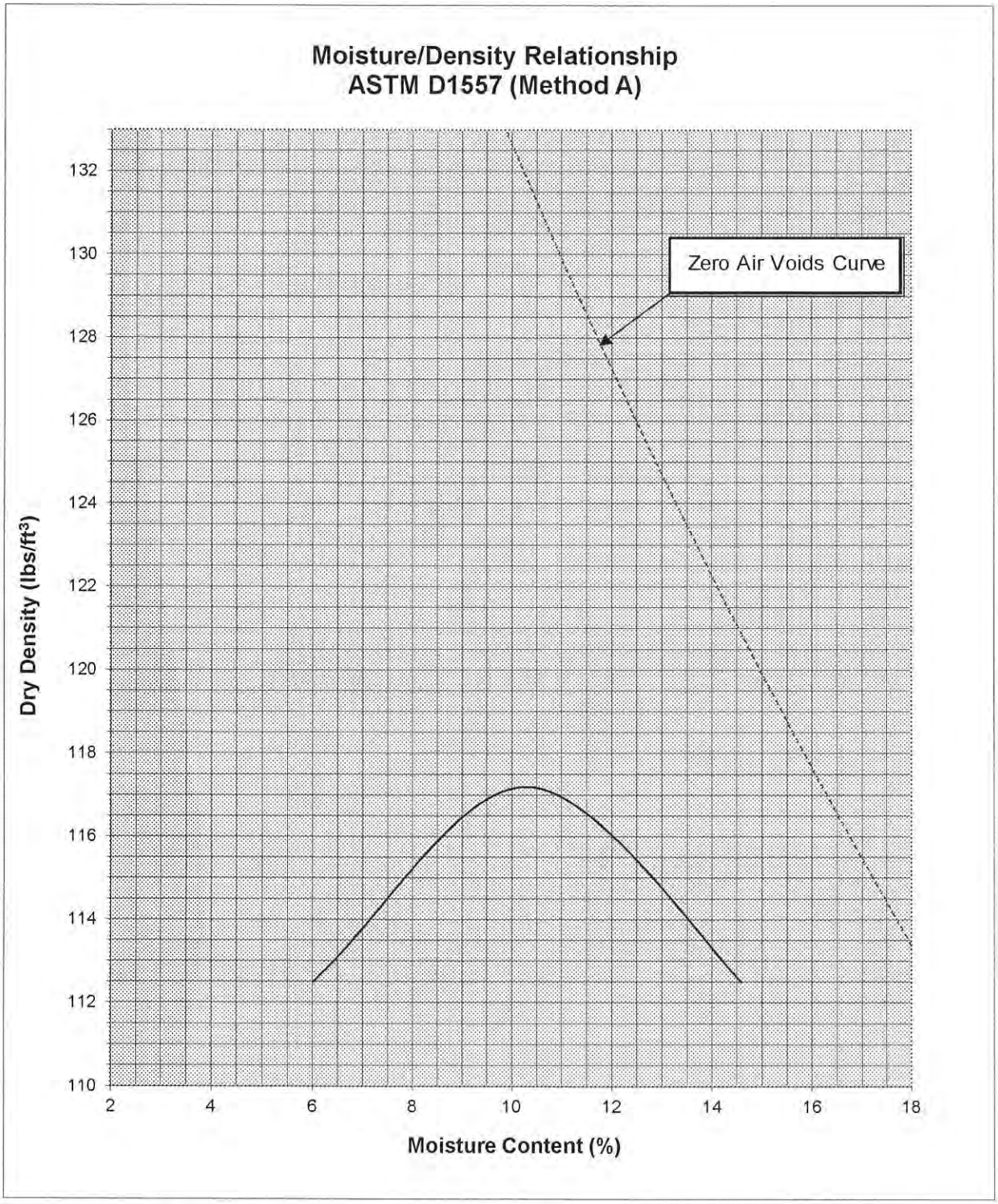
Boring No.	B-1
Depth (ft.)	3.5
Optimum Moisture (%)	7.9
Maximum Dry Density (pcf)	134.8
Soil Classification	Yellow-brown silty fine to coarse sand with a trace of gravel (SM)

Moisture/Density Relationship
ASTM D1557 (Method A)



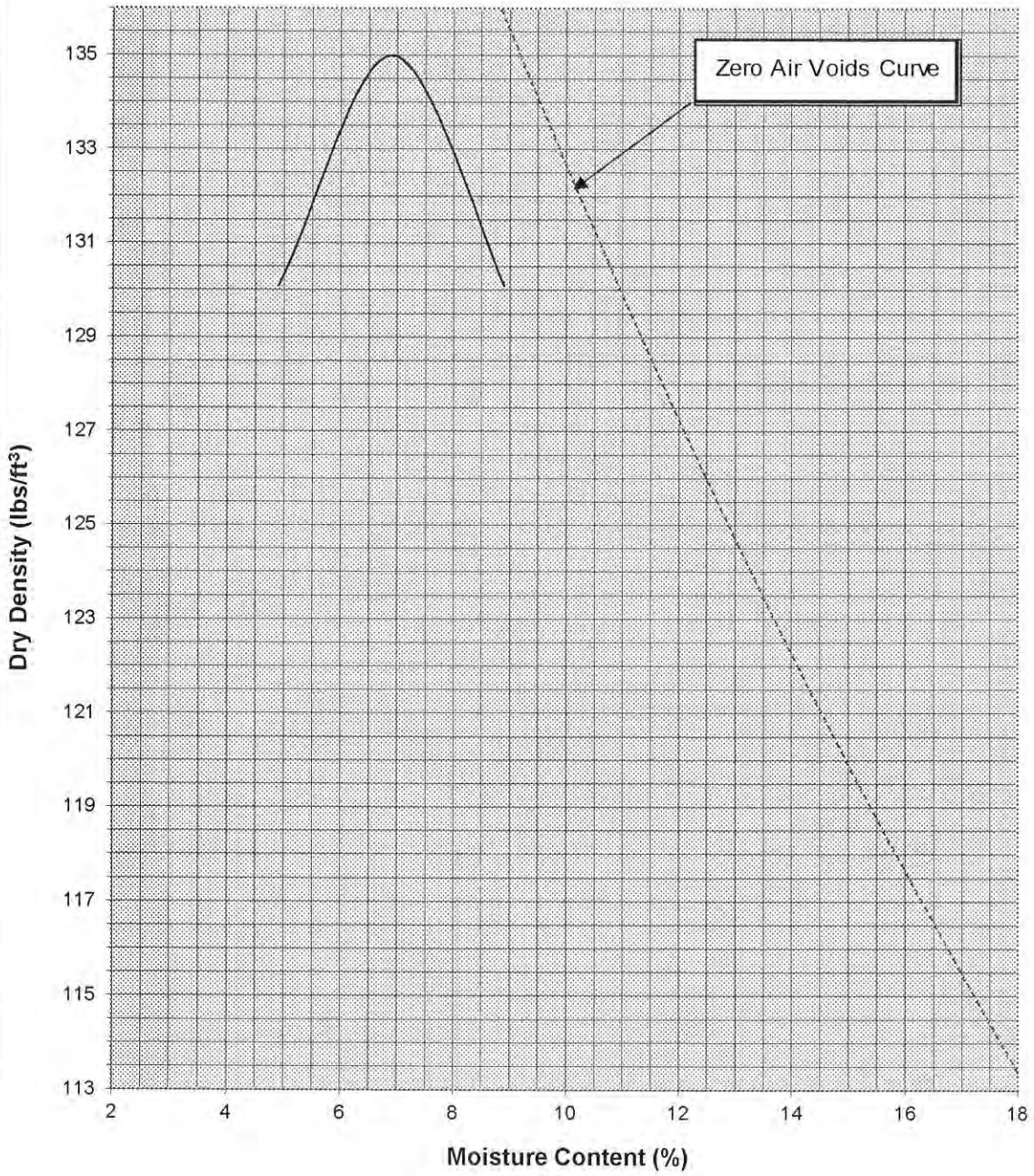
Boring No.	B-4
Depth (ft.)	7.5
Optimum Moisture (%)	9.5
Maximum Dry Density (pcf)	122.1
Soil Classification	Light gray-brown fine to coarse sand with gravel (SP)

Moisture/Density Relationship
ASTM D1557 (Method A)



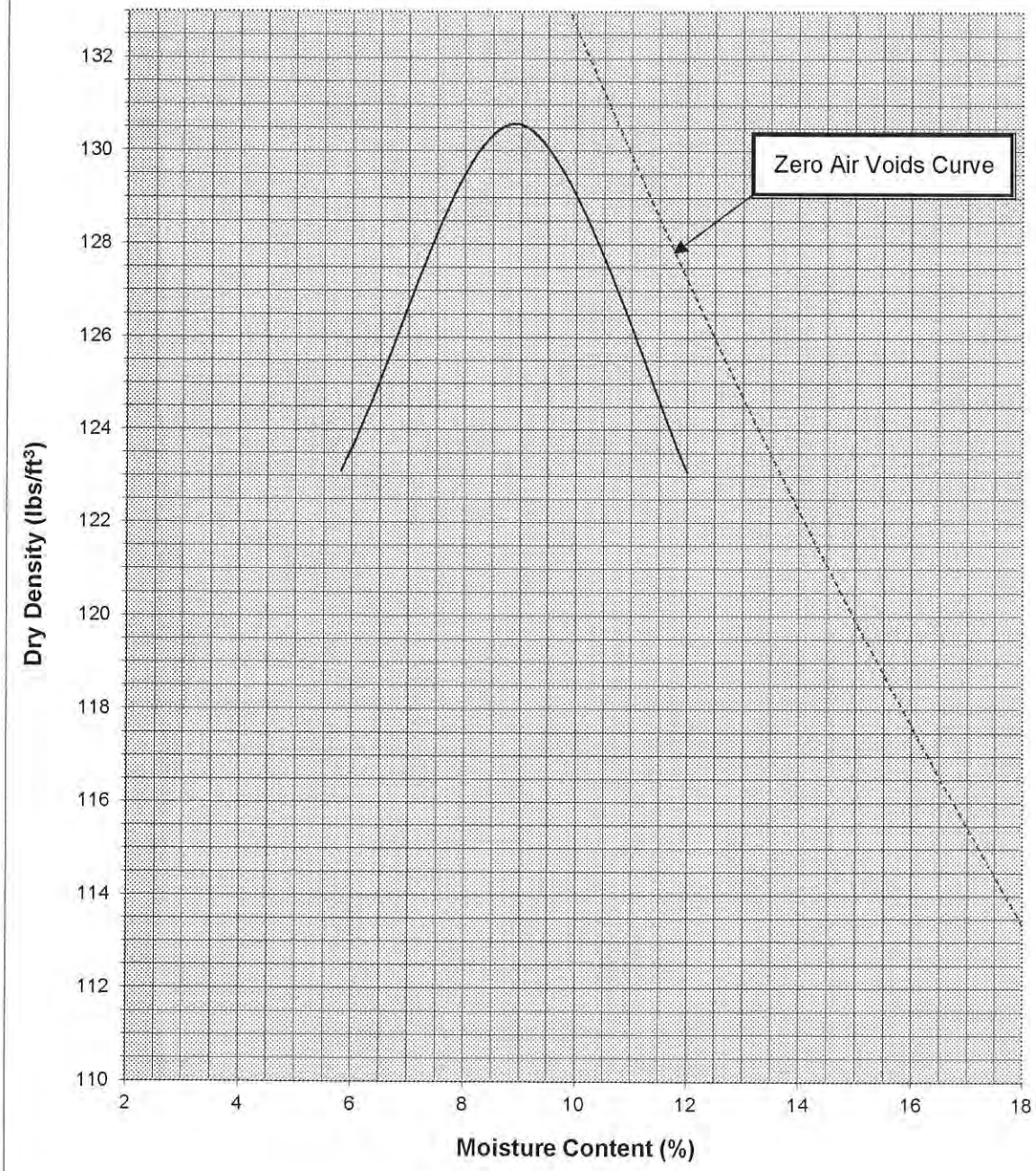
Boring No.	B-2
Depth (ft.)	5.5
Optimum Moisture (%)	10.3
Maximum Dry Density (pcf)	117.2
Soil Classification	Gray-brown fine to medium sand (SP)

Moisture/Density Relationship
ASTM D1557 (Method A)



Boring No.	B-7
Depth (ft.)	1.5
Optimum Moisture (%)	6.9
Maximum Dry Density (pcf)	135.0
Soil Classification	Gray-brown silty fine to medium sand with gravel (SM)

Moisture/Density Relationship
ASTM D1557 (Method A)



Boring No.	B-3
Depth (ft.)	5.5
Optimum Moisture (%)	8.9
Maximum Dry Density (pcf)	130.6
Soil Classification	Gray-brown fine to medium with a trace of clay and gravel (SP)

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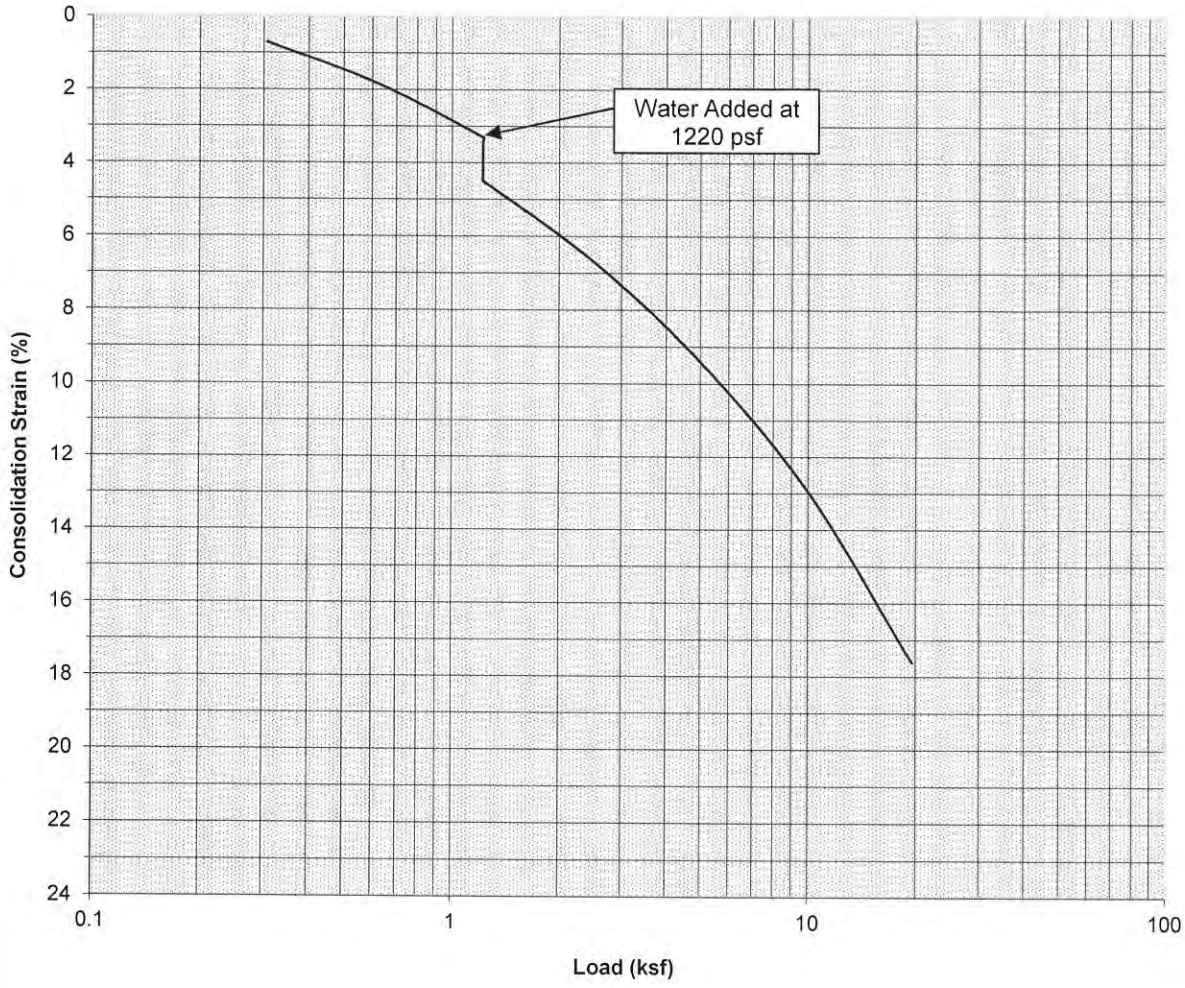
Consolidation Test Results

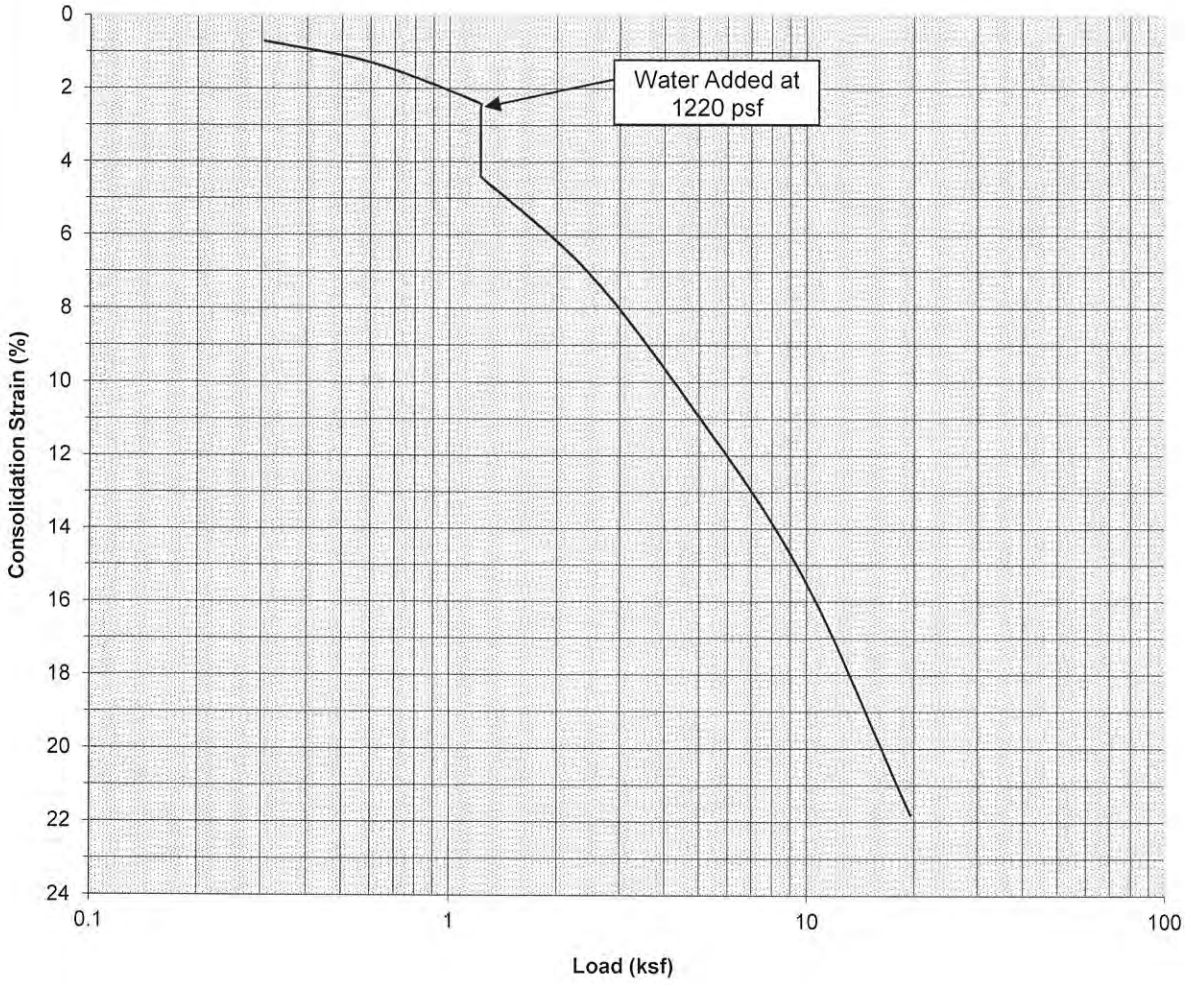


Classification: ML

Boring Number:	B-5	Initial Moisture Content (%)	14.9
Depth (ft)	5.5	Final Moisture Content (%)	33.4
Specimen Diameter (in)	2.4	Initial Dry Density (pcf)	96
Specimen Thickness (in)	1.0		

GEOTECHNICAL ENGINEERS • TESTING AND INSPECTION
2257 South Lilac Ave., Bloomington, CA 92316-2907
Bloomington(909) 877-1324 Riverside (909) 783-1910 Fax (909) 877-5210

Consolidation Test Results



Classification: ML

Boring Number:	B-6	Initial Moisture Content (%)	15.6
Depth (ft)	7.5	Final Moisture Content (%)	29.0
Specimen Diameter (in)	2.4	Initial Dry Density (pcf)	98
Specimen Thickness (in)	1.0		

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John R. Byerly
INCORPORATED

DIRECT SHEAR TESTS

Test Boring No.	Depth of Sample (Ft.)	Angle of Internal Friction (°)	Cohesion (PSF)
B-2	10.5	28	100
B-3	3.5	31	50
B-4	7.5	33	0
B-5	5.5	29	50

Enclosure 5
Rpt. No.: 7439
File No.: S-14488

John R. Byerly
INCORPORATED

PLASTIC INDEX TESTS

Test Boring No.	Depth of Sample (Feet)	Liquid Limit (%)	Plastic Limit (%)	Plastic Index
B-2	10.5	36.0	19.2	16.8
B-5	35.0	32.3	16.2	16.1

Enclosure 6
Rpt. No.: 7439
File No.: S-14488

John R. Byerly
INCORPORATED

GRADATION TEST RESULTS

PROJECT: Mountain View High School **DATE:** July 19, 2022

Test Boring No.	Depth (ft.)	Percent Passing No. 200 Sieve
B-2	26.5	4.4
B-2	40.0	80.2
B-5	6.5	71.6

Enclosure 7
Rpt. No.: 7439
File No.: S-14488

RESULTS OF SUBGRADE SOIL TESTS

California Department of Transportation Test Methods 202, 217, & 301
ASTM Designations C136 and D2419

PROJECT: Mountain View High School

Sample No.	Location	Percent Passing Sieve Size: 3"	2½"	2"	1½"	1"	3/4"	1/2"	3/8"	No. 4	No. 8	No. 16	No. 30	No. 50	No. 100	No. 200	Sand Equiv.
1	B-5 at 0-5'				100	99	98	96	95	91	88	83	74	55	28	15	26
2	B-7 at 0-5'				100	98	96	92	89	83	78	73	63	45	28	18	19

STABILOMETER "R" VALUE

Sample No.		2	
Moisture Content (%)	8.5	9.0	9.4
Dry Density (lbs./cu. ft.)	124.7	124.1	123.6
Exudation Pressure (psi)	568	451	139
Expansion Pressure (psf)	0.00	0.00	0.00
"R" Value	78	73	61
"R" Value at 300 PSI Exudation		63	

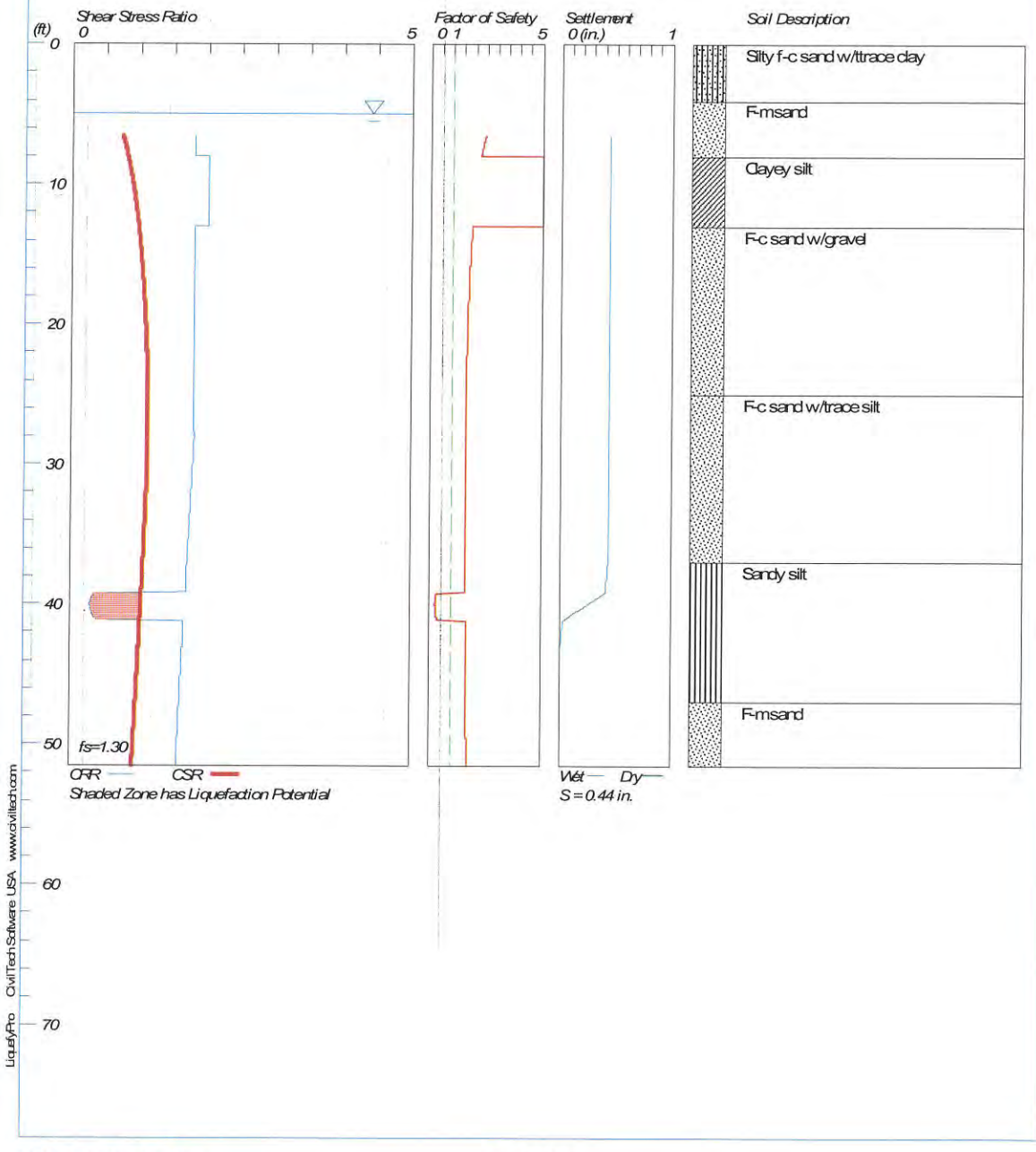
Enclosure 8
Rpt. No.: 7439
File No.: S-14488

LIQUEFACTION ANALYSIS

MOUNTAIN VIEW HS - LUNCH SHELTER, FIELD NETTING POLES, & FIRE LANES

Hole No.=B-2 Water Depth=5.0 ft Surface Elev.=284 feet AMSL

Magnitude=7.8
Acceleration=0.77g



John R. Byerly, Inc.

S-14488

****

LIQUEFACTION ANALYSIS CALCULATION SHEET

Version 4.3

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****

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Input File Name: T:\Liquefy4\S-14488.2.liq
Title: MOUNTAIN VIEW HS - LUNCH SHELTER, FIELD NETTING POLES, & FIRE LANES
Subtitle: S-14488

Surface Elev.=284 feet AMSL
Hole No.=B-2
Depth of Hole= 51.5 ft
Water Table during Earthquake= 5.0 ft
Water Table during In-Situ Testing= 60.0 ft
Max. Acceleration= 0.77 g
Earthquake Magnitude= 7.8
User defined factor of safty (applied to CSR) User fs=1.3
fs=user, Plot one CSR (fs=user)

Hammer Energy Ratio, Ce=1
Borehole Diameter, Cb=1.15
Sampeling Method, Cs=1.3
SPT Fines Correction Method: Stark/Olson et al.*
Settlement Analysis Method: Ishihara / Yoshimine*
Fines Correction for Liquefaction: Stark/Olson et al.*
Fine Correction for Settlement: Post-Liq. Correction *
Average Input Data: Smooth*
* Recommended Options

Input Data:

Depth ft	SPT	Gamma pcf	Fines %
6.5	18.0	108.0	1.0
11.5	12.0	108.0	NoLiq
16.5	27.0	109.0	1.0
21.5	38.0	109.0	1.0
26.5	30.0	127.0	4.0
31.5	36.0	128.0	4.0
35.0	34.0	128.0	4.0
40.0	21.0	130.0	82.0
45.0	33.0	135.0	82.0
50.0	42.0	135.0	1.0

Output Results:
Settlement of saturated sands=0.44 in.
Settlement of dry sands=0.00 in.
Total settlement of saturated and dry sands=0.44 in.
Differential Settlement=0.222 to 0.293 in.

Depth ft	CRRm	CSRfs w/fs	F.S.	S_sat. in.	S_dry in.	S_all in.

6.50	1.81	0.74	2.45	0.44	0.00	0.44
7.50	1.81	0.79	2.28	0.44	0.00	0.44
8.50	2.00	0.84	5.00	0.44	0.00	0.44
9.50	2.00	0.88	5.00	0.44	0.00	0.44
10.50	2.00	0.91	5.00	0.44	0.00	0.44
11.50	2.00	0.94	5.00	0.44	0.00	0.44
12.50	2.00	0.97	5.00	0.44	0.00	0.44
13.50	1.81	0.99	1.83	0.44	0.00	0.44
14.50	1.81	1.01	1.79	0.44	0.00	0.44
15.50	1.81	1.03	1.76	0.44	0.00	0.44
16.50	1.81	1.05	1.73	0.44	0.00	0.44
17.50	1.81	1.06	1.70	0.44	0.00	0.44
18.50	1.81	1.07	1.68	0.44	0.00	0.44
19.50	1.81	1.09	1.66	0.44	0.00	0.44
20.50	1.81	1.10	1.65	0.44	0.00	0.44
21.50	1.81	1.11	1.63	0.44	0.00	0.44
22.50	1.81	1.12	1.62	0.44	0.00	0.44
23.50	1.81	1.12	1.61	0.44	0.00	0.44
24.50	1.81	1.13	1.61	0.44	0.00	0.44
25.50	1.81	1.13	1.60	0.44	0.00	0.44
26.50	1.81	1.13	1.60	0.44	0.00	0.44
27.50	1.81	1.13	1.60	0.44	0.00	0.44
28.50	1.81	1.13	1.60	0.44	0.00	0.44
29.50	1.80	1.13	1.59	0.44	0.00	0.44
30.50	1.79	1.12	1.59	0.44	0.00	0.44
31.50	1.78	1.12	1.59	0.44	0.00	0.44
32.50	1.76	1.11	1.59	0.44	0.00	0.44
33.50	1.75	1.10	1.59	0.44	0.00	0.44
34.50	1.74	1.09	1.60	0.44	0.00	0.44
35.50	1.73	1.08	1.60	0.44	0.00	0.44
36.50	1.72	1.07	1.60	0.44	0.00	0.44
37.50	1.71	1.06	1.61	0.43	0.00	0.43
38.50	1.70	1.06	1.61	0.42	0.00	0.42
39.50	0.32	1.05	0.31*	0.35	0.00	0.35
40.50	0.31	1.04	0.30*	0.16	0.00	0.16
41.50	1.67	1.03	1.63	0.02	0.00	0.02
42.50	1.66	1.02	1.63	0.01	0.00	0.01
43.50	1.65	1.01	1.64	0.00	0.00	0.00
44.50	1.64	1.00	1.64	0.00	0.00	0.00
45.50	1.63	0.99	1.65	0.00	0.00	0.00
46.50	1.62	0.98	1.66	0.00	0.00	0.00
47.50	1.61	0.97	1.67	0.00	0.00	0.00
48.50	1.60	0.96	1.68	0.00	0.00	0.00
49.50	1.59	0.95	1.68	0.00	0.00	0.00
50.50	1.58	0.93	1.69	0.00	0.00	0.00
51.50	1.57	0.92	1.70	0.00	0.00	0.00

* F.S.<1, Liquefaction Potential Zone
(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units Depth = ft, Stress or Pressure = tsf (atm), Unit Weight = pcf, Settlement = in.

CRRm Cyclic resistance ratio from soils
CSRfs Cyclic stress ratio induced by a given earthquake (with user request factor of safety)
F.S. Factor of Safety against liquefaction, F.S.=CRRm/CSRfs
S_sat Settlement from saturated sands
S_dry Settlement from dry sands
S_all Total settlement from saturated and dry sands
NoLiq No-Liquefy Soils

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LIQUEFACTION ANALYSIS CALCULATION SHEET

Version 4.3

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****

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Input File Name: T:\Liquefy4\S-14488.2.liq
Title: MOUNTAIN VIEW HS - LUNCH SHELTER, FIELD NETTING POLES, & FIRE LANES
Subtitle: S-14488

Input Data:

Surface Elev.=284 feet AMSL
Hole No.=B-2
Depth of Hole=51.5 ft
Water Table during Earthquake= 5.0 ft
Water Table during In-Situ Testing= 60.0 ft
Max. Acceleration=0.77 g
Earthquake Magnitude=7.8
User defined factor of safty (applied to CSR) User fs=1.3
fs=user, Plot one CSR (fs=user)

Hammer Energy Ratio, Ce=1
Borehole Diameter, Cb=1.15
Sampeling Method, Cs=1.3
SPT Fines Correction Method: Stark/Olson et al.*
Settlement Analysis Method: Ishihara / Yoshimine*
Fines Correction for Liquefaction: Stark/Olson et al.*
Fine Correction for Settlement: Post-Liq. Correction *
Average Input Data: Smooth*
* Recommended Options

Depth ft	SPT	Gamma pcf	Fines %
6.5	18.0	108.0	1.0
11.5	12.0	108.0	NoLiq
16.5	27.0	109.0	1.0
21.5	38.0	109.0	1.0
26.5	30.0	127.0	4.0
31.5	36.0	128.0	4.0
35.0	34.0	128.0	4.0
40.0	21.0	130.0	82.0
45.0	33.0	135.0	82.0
50.0	42.0	135.0	1.0

Output Results: (Interval = 1.00 ft)

CSR Calculation:

Depth ft	gamma pcf	sigma tsf	gamma' pcf	sigma' tsf	rd	CSR	fs (user)	CSRfs w/fs

6.50	108.0	0.351	45.6	0.304	0.98	0.57	1.3	0.74
7.50	108.0	0.405	45.6	0.327	0.98	0.61	1.3	0.79
8.50	108.0	0.459	45.6	0.350	0.98	0.64	1.3	0.84
9.50	108.0	0.513	45.6	0.373	0.98	0.67	1.3	0.88
10.50	108.0	0.567	45.6	0.395	0.98	0.70	1.3	0.91
11.50	108.0	0.621	45.6	0.418	0.97	0.72	1.3	0.94
12.50	108.2	0.675	45.8	0.441	0.97	0.74	1.3	0.97
13.50	108.4	0.729	46.0	0.464	0.97	0.76	1.3	0.99
14.50	108.6	0.783	46.2	0.487	0.97	0.78	1.3	1.01
15.50	108.8	0.838	46.4	0.510	0.96	0.79	1.3	1.03
16.50	109.0	0.892	46.6	0.533	0.96	0.80	1.3	1.05
17.50	109.0	0.947	46.6	0.557	0.96	0.82	1.3	1.06
18.50	109.0	1.001	46.6	0.580	0.96	0.83	1.3	1.07
19.50	109.0	1.056	46.6	0.603	0.95	0.84	1.3	1.09
20.50	109.0	1.110	46.6	0.627	0.95	0.84	1.3	1.10
21.50	109.0	1.165	46.6	0.650	0.95	0.85	1.3	1.11
22.50	112.6	1.220	50.2	0.674	0.95	0.86	1.3	1.12
23.50	116.2	1.277	53.8	0.700	0.95	0.86	1.3	1.12
24.50	119.8	1.336	57.4	0.728	0.94	0.87	1.3	1.13
25.50	123.4	1.397	61.0	0.757	0.94	0.87	1.3	1.13
26.50	127.0	1.460	64.6	0.789	0.94	0.87	1.3	1.13
27.50	127.2	1.523	64.8	0.821	0.94	0.87	1.3	1.13
28.50	127.4	1.587	65.0	0.854	0.93	0.87	1.3	1.13
29.50	127.6	1.650	65.2	0.886	0.93	0.87	1.3	1.13
30.50	127.8	1.714	65.4	0.919	0.93	0.86	1.3	1.12
31.50	128.0	1.778	65.6	0.951	0.92	0.86	1.3	1.12
32.50	128.0	1.842	65.6	0.984	0.91	0.85	1.3	1.11
33.50	128.0	1.906	65.6	1.017	0.90	0.85	1.3	1.10
34.50	128.0	1.970	65.6	1.050	0.89	0.84	1.3	1.09
35.50	128.2	2.034	65.8	1.083	0.89	0.83	1.3	1.08
36.50	128.6	2.098	66.2	1.116	0.88	0.83	1.3	1.07
37.50	129.0	2.163	66.6	1.149	0.87	0.82	1.3	1.06
38.50	129.4	2.227	67.0	1.182	0.86	0.81	1.3	1.06
39.50	129.8	2.292	67.4	1.216	0.85	0.80	1.3	1.05
40.50	130.5	2.357	68.1	1.250	0.84	0.80	1.3	1.04
41.50	131.5	2.423	69.1	1.284	0.84	0.79	1.3	1.03
42.50	132.5	2.489	70.1	1.319	0.83	0.78	1.3	1.02
43.50	133.5	2.555	71.1	1.354	0.82	0.77	1.3	1.01
44.50	134.5	2.622	72.1	1.390	0.81	0.77	1.3	1.00
45.50	135.0	2.690	72.6	1.426	0.80	0.76	1.3	0.99
46.50	135.0	2.757	72.6	1.462	0.80	0.75	1.3	0.98
47.50	135.0	2.825	72.6	1.499	0.79	0.74	1.3	0.97
48.50	135.0	2.892	72.6	1.535	0.78	0.73	1.3	0.96
49.50	135.0	2.960	72.6	1.571	0.77	0.73	1.3	0.95
50.50	135.0	3.027	72.6	1.608	0.76	0.72	1.3	0.93
51.50	135.0	3.095	72.6	1.644	0.75	0.71	1.3	0.92

CSR is based on water table at 5.0 during earthquake

CRR Calculation from SPT or BPT data:

(N1)60f	Depth ft	SPT	Cebs	Cr	sigma'	Cn	(N1)60	Fines %	d(N1)60
CRR7.5									
–	6.50	18.00	1.49	0.75	0.351	1.69	34.07	1.0	0.00
34.07	2.00								
	7.50	16.80	1.49	0.75	0.405	1.57	29.60	21.0	3.84
33.44	2.00								
	8.50	15.60	1.49	0.85	0.459	1.48	29.26	NoLiq	7.20
36.46	2.00								
	9.50	14.40	1.49	0.85	0.513	1.40	25.55	NoLiq	7.20

32.75	2.00								
	10.50	13.20	1.49	0.85	0.567	1.33	22.28	NoLiq	7.20
29.48	0.40								
	11.50	12.00	1.49	0.85	0.621	1.27	19.35	NoLiq	7.20
26.55	0.31								
	12.50	15.00	1.49	0.85	0.675	1.22	23.20	NoLiq	7.20
30.40	2.00								
	13.50	18.00	1.49	0.85	0.729	1.17	26.79	61.0	7.20
33.99	2.00								
	14.50	21.00	1.49	0.85	0.783	1.13	30.15	41.0	7.20
37.35	2.00								
	15.50	24.00	1.49	0.95	0.838	1.09	37.24	21.0	3.84
41.08	2.00								
	16.50	27.00	1.49	0.95	0.892	1.06	40.60	1.0	0.00
40.60	2.00								
	17.50	29.20	1.49	0.95	0.947	1.03	42.62	1.0	0.00
42.62	2.00								
	18.50	31.40	1.49	0.95	1.001	1.00	44.57	1.0	0.00
44.57	2.00								
	19.50	33.60	1.49	0.95	1.056	0.97	46.44	1.0	0.00
46.44	2.00								
	20.50	35.80	1.49	0.95	1.110	0.95	48.25	1.0	0.00
48.25	2.00								
	21.50	38.00	1.49	0.95	1.165	0.93	50.01	1.0	0.00
50.01	2.00								
	22.50	36.40	1.49	0.95	1.220	0.91	46.80	1.6	0.00
46.80	2.00								
	23.50	34.80	1.49	0.95	1.277	0.88	43.73	2.2	0.00
43.73	2.00								
	24.50	33.20	1.49	0.95	1.336	0.87	40.79	2.8	0.00
40.79	2.00								
	25.50	31.60	1.49	0.95	1.397	0.85	37.97	3.4	0.00
37.97	2.00								
	26.50	30.00	1.49	0.95	1.460	0.83	35.27	4.0	0.00
35.27	2.00								
	27.50	31.20	1.49	0.95	1.523	0.81	35.91	4.0	0.00
35.91	2.00								
	28.50	32.40	1.49	1.00	1.587	0.79	38.45	4.0	0.00
38.45	2.00								
	29.50	33.60	1.49	1.00	1.650	0.78	39.10	4.0	0.00
39.10	2.00								
	30.50	34.80	1.49	1.00	1.714	0.76	39.74	4.0	0.00
39.74	2.00								
	31.50	36.00	1.49	1.00	1.778	0.75	40.36	4.0	0.00
40.36	2.00								
	32.50	35.43	1.49	1.00	1.842	0.74	39.02	4.0	0.00
39.02	2.00								
	33.50	34.86	1.49	1.00	1.906	0.72	37.74	4.0	0.00
37.74	2.00								
	34.50	34.29	1.49	1.00	1.970	0.71	36.52	4.0	0.00
36.52	2.00								
	35.50	32.70	1.49	1.00	2.034	0.70	34.28	11.8	1.63
35.91	2.00								
	36.50	30.10	1.49	1.00	2.098	0.69	31.06	27.4	5.37
36.44	2.00								
	37.50	27.50	1.49	1.00	2.163	0.68	27.96	43.0	7.20
35.16	2.00								
	38.50	24.90	1.49	1.00	2.227	0.67	24.94	58.6	7.20
32.14	2.00								
	39.50	22.30	1.49	1.00	2.292	0.66	22.02	74.2	7.20
29.22	0.38								
	40.50	22.20	1.49	1.00	2.357	0.65	21.62	82.0	7.20
28.82	0.37								

41.50	24.60	1.49	1.00	2.423	0.64	23.63	82.0	7.20
30.83	2.00							
42.50	27.00	1.49	1.00	2.489	0.63	25.59	82.0	7.20
32.79	2.00							
43.50	29.40	1.49	1.00	2.555	0.63	27.50	82.0	7.20
34.70	2.00							
44.50	31.80	1.49	1.00	2.622	0.62	29.36	82.0	7.20
36.56	2.00							
45.50	33.90	1.49	1.00	2.690	0.61	30.90	73.9	7.20
38.10	2.00							
46.50	35.70	1.49	1.00	2.757	0.60	32.14	57.7	7.20
39.34	2.00							
47.50	37.50	1.49	1.00	2.825	0.59	33.36	41.5	7.20
40.56	2.00							
48.50	39.30	1.49	1.00	2.892	0.59	34.55	25.3	4.87
39.42	2.00							
49.50	41.10	1.49	1.00	2.960	0.58	35.72	9.1	0.99
36.70	2.00							
50.50	42.00	1.49	1.00	3.027	0.57	36.09	1.0	0.00
36.09	2.00							
51.50	42.00	1.49	1.00	3.095	0.57	35.69	1.0	0.00
35.69	2.00							

CRR is based on water table at 60.0 during In-Situ Testing

Factor of Safety, - Earthquake Magnitude= 7.8:

Depth ft	sigC' tsf	CRR7.5 tsf	Ksigma	CRRv	MSF	CRRm	CSRfs w/fs	F.S. CRRm/CSRfs
6.50	0.23	2.00	1.00	2.00	0.90	1.81	0.74	2.45
7.50	0.26	2.00	1.00	2.00	0.90	1.81	0.79	2.28
8.50	0.30	2.00	1.00	2.00	0.90	2.00	0.84	5.00
9.50	0.33	2.00	1.00	2.00	0.90	2.00	0.88	5.00
10.50	0.37	0.40	1.00	0.40	0.90	2.00	0.91	5.00
11.50	0.40	0.31	1.00	0.31	0.90	2.00	0.94	5.00
12.50	0.44	2.00	1.00	2.00	0.90	2.00	0.97	5.00
13.50	0.47	2.00	1.00	2.00	0.90	1.81	0.99	1.83
14.50	0.51	2.00	1.00	2.00	0.90	1.81	1.01	1.79
15.50	0.54	2.00	1.00	2.00	0.90	1.81	1.03	1.76
16.50	0.58	2.00	1.00	2.00	0.90	1.81	1.05	1.73
17.50	0.62	2.00	1.00	2.00	0.90	1.81	1.06	1.70
18.50	0.65	2.00	1.00	2.00	0.90	1.81	1.07	1.68
19.50	0.69	2.00	1.00	2.00	0.90	1.81	1.09	1.66
20.50	0.72	2.00	1.00	2.00	0.90	1.81	1.10	1.65
21.50	0.76	2.00	1.00	2.00	0.90	1.81	1.11	1.63
22.50	0.79	2.00	1.00	2.00	0.90	1.81	1.12	1.62
23.50	0.83	2.00	1.00	2.00	0.90	1.81	1.12	1.61
24.50	0.87	2.00	1.00	2.00	0.90	1.81	1.13	1.61
25.50	0.91	2.00	1.00	2.00	0.90	1.81	1.13	1.60
26.50	0.95	2.00	1.00	2.00	0.90	1.81	1.13	1.60
27.50	0.99	2.00	1.00	2.00	0.90	1.81	1.13	1.60
28.50	1.03	2.00	1.00	2.00	0.90	1.81	1.13	1.60
29.50	1.07	2.00	0.99	1.99	0.90	1.80	1.13	1.59
30.50	1.11	2.00	0.99	1.98	0.90	1.79	1.12	1.59
31.50	1.16	2.00	0.98	1.96	0.90	1.78	1.12	1.59
32.50	1.20	2.00	0.98	1.95	0.90	1.76	1.11	1.59
33.50	1.24	2.00	0.97	1.94	0.90	1.75	1.10	1.59
34.50	1.28	2.00	0.96	1.93	0.90	1.74	1.09	1.60
35.50	1.32	2.00	0.96	1.91	0.90	1.73	1.08	1.60
36.50	1.36	2.00	0.95	1.90	0.90	1.72	1.07	1.60
37.50	1.41	2.00	0.95	1.89	0.90	1.71	1.06	1.61

38.50	1.45	2.00	0.94	1.88	0.90	1.70	1.06	1.61
39.50	1.49	0.38	0.93	0.36	0.90	0.32	1.05	0.31 *
40.50	1.53	0.37	0.93	0.34	0.90	0.31	1.04	0.30 *
41.50	1.57	2.00	0.92	1.85	0.90	1.67	1.03	1.63
42.50	1.62	2.00	0.92	1.83	0.90	1.66	1.02	1.63
43.50	1.66	2.00	0.91	1.82	0.90	1.65	1.01	1.64
44.50	1.70	2.00	0.91	1.81	0.90	1.64	1.00	1.64
45.50	1.75	2.00	0.90	1.80	0.90	1.63	0.99	1.65
46.50	1.79	2.00	0.90	1.79	0.90	1.62	0.98	1.66
47.50	1.84	2.00	0.89	1.78	0.90	1.61	0.97	1.67
48.50	1.88	2.00	0.89	1.77	0.90	1.60	0.96	1.68
49.50	1.92	2.00	0.88	1.76	0.90	1.59	0.95	1.68
50.50	1.97	2.00	0.88	1.75	0.90	1.58	0.93	1.69
51.50	2.01	2.00	0.87	1.74	0.90	1.57	0.92	1.70

* F.S.<1: Liquefaction Potential Zone. (If above water table: F.S.=5)
(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

CPT convert to SPT for Settlement Analysis:
Fines Correction for Settlement Analysis:

Depth ft	Ic	qc/N60	qc1 tsf	(N1)60	Fines %	d(N1)60	(N1)60s
6.50	-	-	-	34.07	1.0	0.10	34.16
7.50	-	-	-	29.60	21.0	1.87	31.47
8.50	-	-	-	29.26	NoLiq	0.00	29.26
9.50	-	-	-	25.55	NoLiq	0.00	25.55
10.50	-	-	-	22.28	NoLiq	0.00	22.28
11.50	-	-	-	19.35	NoLiq	0.00	19.35
12.50	-	-	-	23.20	NoLiq	0.00	23.20
13.50	-	-	-	26.79	61.0	4.45	31.24
14.50	-	-	-	30.15	41.0	3.32	33.47
15.50	-	-	-	37.24	21.0	1.87	39.11
16.50	-	-	-	40.60	1.0	0.10	40.69
17.50	-	-	-	42.62	1.0	0.10	42.72
18.50	-	-	-	44.57	1.0	0.10	44.67
19.50	-	-	-	46.44	1.0	0.10	46.54
20.50	-	-	-	48.25	1.0	0.10	48.35
21.50	-	-	-	50.01	1.0	0.10	50.10
22.50	-	-	-	46.80	1.6	0.15	46.96
23.50	-	-	-	43.73	2.2	0.21	43.95
24.50	-	-	-	40.79	2.8	0.27	41.06
25.50	-	-	-	37.97	3.4	0.33	38.30
26.50	-	-	-	35.27	4.0	0.38	35.65
27.50	-	-	-	35.91	4.0	0.38	36.29
28.50	-	-	-	38.45	4.0	0.38	38.84
29.50	-	-	-	39.10	4.0	0.38	39.48
30.50	-	-	-	39.74	4.0	0.38	40.12
31.50	-	-	-	40.36	4.0	0.38	40.74
32.50	-	-	-	39.02	4.0	0.38	39.41
33.50	-	-	-	37.74	4.0	0.38	38.13
34.50	-	-	-	36.52	4.0	0.38	36.90
35.50	-	-	-	34.28	11.8	1.09	35.37
36.50	-	-	-	31.06	27.4	2.37	33.43
37.50	-	-	-	27.96	43.0	3.45	31.40
38.50	-	-	-	24.94	58.6	4.33	29.28
39.50	-	-	-	22.02	74.2	5.02	27.04
40.50	-	-	-	21.62	82.0	5.29	26.91
41.50	-	-	-	23.63	82.0	5.29	28.92
42.50	-	-	-	25.59	82.0	5.29	30.88
43.50	-	-	-	27.50	82.0	5.29	32.79
44.50	-	-	-	29.36	82.0	5.29	34.65

45.50	-	-	-	30.90	73.9	5.01	35.91
46.50	-	-	-	32.14	57.7	4.29	36.43
47.50	-	-	-	33.36	41.5	3.35	36.71
48.50	-	-	-	34.55	25.3	2.21	36.76
49.50	-	-	-	35.72	9.1	0.85	36.57
50.50	-	-	-	36.09	1.0	0.10	36.19
51.50	-	-	-	35.69	1.0	0.10	35.79

Settlement of Saturated Sands:
Settlement Analysis Method: Ishihara / Yoshimine*

Depth ft	CSRfs w/fs	F.S.	Fines %	(N1)60s	Dr %	ec %	dsz in.	dsv in.	S in.
51.45	0.93	1.70	1.0	35.81	100.00	0.000	0.000	0.000	0.000
50.50	0.93	1.69	1.0	36.19	100.00	0.000	0.000	0.000	0.000
49.50	0.95	1.68	9.1	36.57	100.00	0.000	0.000	0.000	0.000
48.50	0.96	1.68	25.3	36.76	100.00	0.000	0.000	0.000	0.000
47.50	0.97	1.67	41.5	36.71	100.00	0.000	0.000	0.000	0.000
46.50	0.98	1.66	57.7	36.43	100.00	0.000	0.000	0.000	0.000
45.50	0.99	1.65	73.9	35.91	100.00	0.000	0.000	0.000	0.000
44.50	1.00	1.64	82.0	34.65	100.00	0.000	0.000	0.000	0.000
43.50	1.01	1.64	82.0	32.79	96.73	0.037	0.000	0.002	0.002
42.50	1.02	1.63	82.0	30.88	92.08	0.090	0.001	0.008	0.009
41.50	1.03	1.63	82.0	28.92	87.67	0.119	0.001	0.013	0.023
40.50	1.04	0.30	82.0	26.91	83.47	1.599	0.010	0.134	0.157
39.50	1.05	0.31	74.2	27.04	83.74	1.588	0.010	0.197	0.353
38.50	1.06	1.61	58.6	29.28	88.44	0.123	0.001	0.066	0.420
37.50	1.06	1.61	43.0	31.40	93.32	0.081	0.000	0.013	0.433
36.50	1.07	1.60	27.4	33.43	98.39	0.020	0.000	0.006	0.438
35.50	1.08	1.60	11.8	35.37	100.00	0.000	0.000	0.000	0.439
34.50	1.09	1.60	4.0	36.90	100.00	0.000	0.000	0.000	0.439
33.50	1.10	1.59	4.0	38.13	100.00	0.000	0.000	0.000	0.439
32.50	1.11	1.59	4.0	39.41	100.00	0.000	0.000	0.000	0.439
31.50	1.12	1.59	4.0	40.74	100.00	0.000	0.000	0.000	0.439
30.50	1.12	1.59	4.0	40.12	100.00	0.000	0.000	0.000	0.439
29.50	1.13	1.59	4.0	39.48	100.00	0.000	0.000	0.000	0.439
28.50	1.13	1.60	4.0	38.84	100.00	0.000	0.000	0.000	

0.439									
	27.50	1.13	1.60	4.0	36.29	100.00	0.000	0.000	0.000
0.439									
	26.50	1.13	1.60	4.0	35.65	100.00	0.000	0.000	0.000
0.439									
	25.50	1.13	1.60	3.4	38.30	100.00	0.000	0.000	0.000
0.439									
	24.50	1.13	1.61	2.8	41.06	100.00	0.000	0.000	0.000
0.439									
	23.50	1.12	1.61	2.2	43.95	100.00	0.000	0.000	0.000
0.439									
	22.50	1.12	1.62	1.6	46.96	100.00	0.000	0.000	0.000
0.439									
	21.50	1.11	1.63	1.0	50.10	100.00	0.000	0.000	0.000
0.439									
	20.50	1.10	1.65	1.0	48.35	100.00	0.000	0.000	0.000
0.439									
	19.50	1.09	1.66	1.0	46.54	100.00	0.000	0.000	0.000
0.439									
	18.50	1.07	1.68	1.0	44.67	100.00	0.000	0.000	0.000
0.439									
	17.50	1.06	1.70	1.0	42.72	100.00	0.000	0.000	0.000
0.439									
	16.50	1.05	1.73	1.0	40.69	100.00	0.000	0.000	0.000
0.439									
	15.50	1.03	1.76	21.0	39.11	100.00	0.000	0.000	0.000
0.439									
	14.50	1.01	1.79	41.0	33.47	98.49	0.010	0.000	0.000
0.439									
	13.50	0.99	1.83	61.0	31.24	92.92	0.038	0.000	0.003
0.442									
	12.50	0.97	5.00	NoLiq	23.20	76.34	0.000	0.000	0.003
0.445									
	11.50	0.94	5.00	NoLiq	19.35	69.37	0.000	0.000	0.000
0.445									
	10.50	0.91	5.00	NoLiq	22.28	74.65	0.000	0.000	0.000
0.445									
	9.50	0.88	5.00	NoLiq	25.55	80.77	0.000	0.000	0.000
0.445									
	8.50	0.84	5.00	NoLiq	29.26	88.41	0.000	0.000	0.000
0.445									
	7.50	0.79	2.28	21.0	31.47	93.47	0.000	0.000	0.000
0.445									
	6.50	0.74	2.45	1.0	34.16	100.00	0.000	0.000	0.000
0.445									

Settlement of Saturated Sands=0.445 in.
dsz is per each segment: dz=0.05 ft
dsv is per each print interval: dv=1 ft
S is cumulated settlement at this depth

Settlement of Dry Sands:

Depth	sigma'	sigC'	(N1)60s	CSRfs	Gmax	g*Ge/Gm	g_eff	ec7.5	Cec	ec
dsz	dsv	S								
ft	tsf	tsf		w/fs	tsf			%		%
in.	in.	in.								

Settlement of Dry Sands=0.000 in.
dsz is per each segment: dz=0.05 ft
dsv is per each print interval: dv=1 ft
S is cumulated settlement at this depth

Total Settlement of Saturated and Dry Sands=0.445 in.
Differential Settlement=0.222 to 0.293 in.

Units Depth = ft, Stress or Pressure = tsf (atm), Unit Weight = pcf, Settlement = in.

SPT	Field data from Standard Penetration Test (SPT)
BPT	Field data from Becker Penetration Test (BPT)
qc	Field data from Cone Penetration Test (CPT)
fc	Friction from CPT testing
Gamma	Total unit weight of soil
Gamma'	Effective unit weight of soil
Fines	Fines content [%]
D50	Mean grain size
Dr	Relative Density
sigma	Total vertical stress [tsf]
sigma'	Effective vertical stress [tsf]
sigC'	Effective confining pressure [tsf]
rd	Stress reduction coefficient
CSR	Cyclic stress ratio induced by earthquake
fs	User request factor of safety, apply to CSR
w/fs	With user request factor of safety inside
CSRfs	CSR with User request factor of safety
CRR7.5	Cyclic resistance ratio (M=7.5)
Ksigma	Overburden stress correction factor for CRR7.5
CRRv	CRR after overburden stress correction, CRRv=CRR7.5 * Ksigma
MSF	Magnitude scaling factor for CRR (M=7.5)
CRRm	After magnitude scaling correction CRRm=CRRv * MSF
F.S.	Factor of Safety against liquefaction F.S.=CRRm/CSRfs
Cebs	Energy Ratio, Borehole Dia., and Sample Method Corrections
Cr	Rod Length Corrections
Cn	Overburden Pressure Correction
(N1)60	SPT after corrections, (N1)60=SPT * Cr * Cn * Cebs
d(N1)60	Fines correction of SPT
(N1)60f	(N1)60 after fines corrections, (N1)60f=(N1)60 + d(N1)60
Cq	Overburden stress correction factor
qc1	CPT after Overburden stress correction
dqc1	Fines correction of CPT
qc1f	CPT after Fines and Overburden correction, qc1f=qc1 + dqc1
qc1n	CPT after normalization in Robertson's method
Kc	Fine correction factor in Robertson's Method
qc1f	CPT after Fines correction in Robertson's Method
Ic	Soil type index in Suzuki's and Robertson's Methods
(N1)60s	(N1)60 after seattlement fines corrections
ec	Volumetric strain for saturated sands
ds	Settlement in each Segment dz
dz	Segment for calculation, dz=0.050 ft
Gmax	Shear Modulus at low strain
g_eff	gamma_eff, Effective shear Strain
g*Ge/Gm	gamma_eff * G_eff/G_max, Strain-modulus ratio
ec7.5	Volumetric Strain for magnitude=7.5
Cec	Magnitude correction factor for any magnitude
ec	Volumetric strain for dry sands, ec=Cec * ec7.5
NoLiq	No-Liquefy Soils

References:

NCEER Workshop on Evaluation of Liquefaction Resistance of Soils. Youd, T.L., and Idriss, I.M., eds., Technical Report NCEER 97-0022.

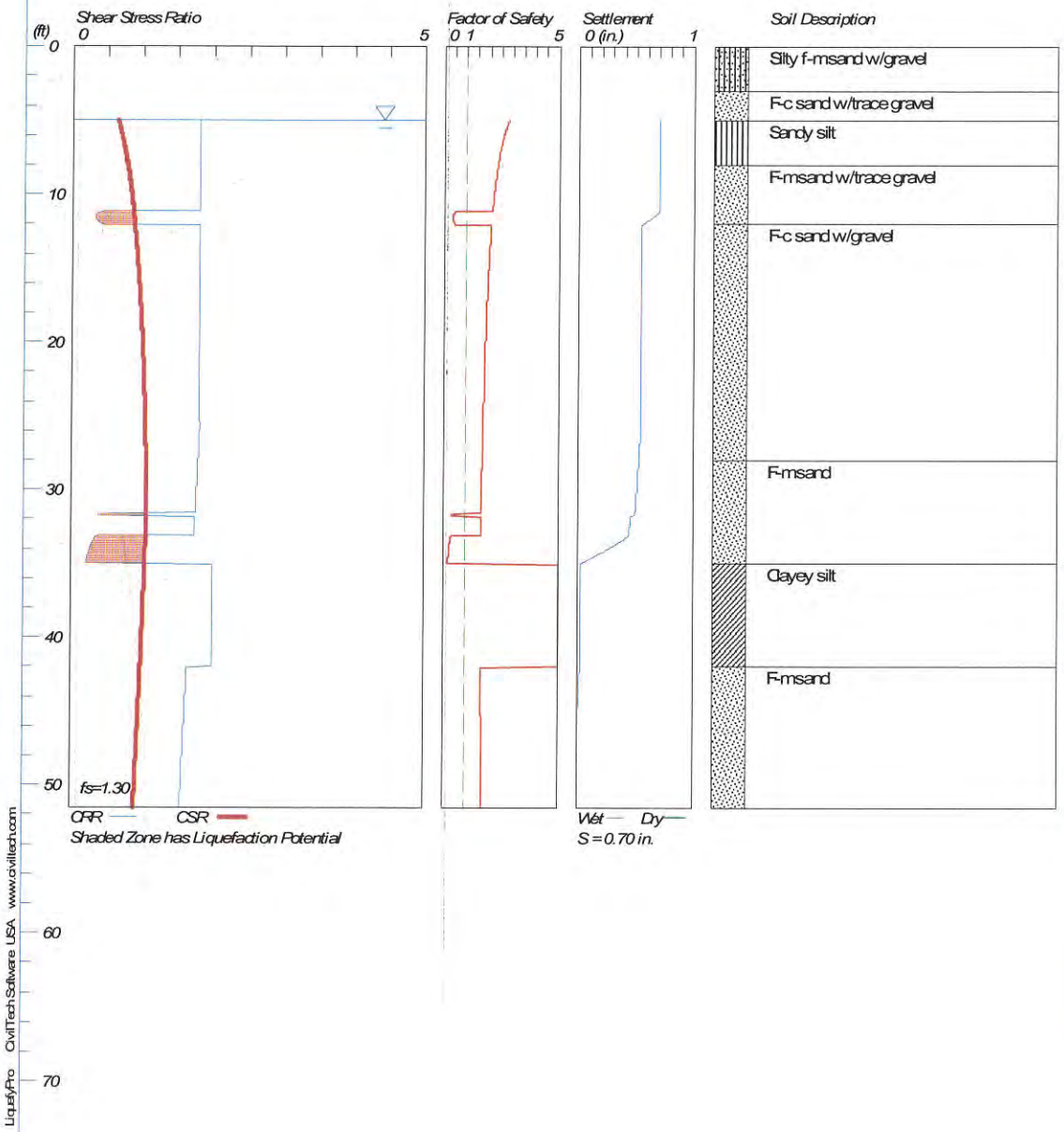
SP117. Southern California Earthquake Center. Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction in California. University of Southern California. March 1999.

LIQUEFACTION ANALYSIS

MOUNTAIN VIEW HS - LUNCH SHELTER, FIELD NETTING POLES, & FIRE LANES

Hole No.=B-5 Water Depth=5.0 ft Surface Elev.=278 feet AMSL

Magnitude=7.8
Acceleration=0.77g



John R. Byerly, Inc.

S-14488

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LIQUEFACTION ANALYSIS CALCULATION SHEET

Version 4.3

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****

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Input File Name: T:\Liquefy4\S-14488.5.liq
Title: MOUNTAIN VIEW HS - LUNCH SHELTER, FIELD NETTING POLES, & FIRE LANES
Subtitle: S-14488

Surface Elev.=278 feet AMSL
Hole No.=B-5
Depth of Hole= 51.5 ft
Water Table during Earthquake= 5.0 ft
Water Table during In-Situ Testing= 60.0 ft
Max. Acceleration= 0.77 g
Earthquake Magnitude= 7.8
User defined factor of safty (applied to CSR) User fs=1.3
fs=user, Plot one CSR (fs=user)

Hammer Energy Ratio, Ce=1
Borehole Diameter, Cb=1.15
Sampeling Method, Cs=1.3
SPT Fines Correction Method: Stark/Olson et al.*
Settlement Analysis Method: Ishihara / Yoshimine*
Fines Correction for Liquefaction: Stark/Olson et al.*
Fine Correction for Settlement: Post-Liq. Correction *
Average Input Data: Smooth*
* Recommended Options

Input Data:

Depth ft	SPT	Gamma pcf	Fines %
5.0	30.0	130.0	72.0
8.0	30.0	130.0	1.0
11.5	19.0	124.0	1.0
16.5	36.0	110.0	1.0
21.5	31.0	114.0	1.0
26.5	28.0	117.0	1.0
31.5	28.0	112.0	1.0
35.0	14.0	125.0	NoLiq
40.0	24.0	130.0	NoLiq
45.0	36.0	135.0	1.0
50.0	42.0	135.0	1.0

Output Results:
Settlement of saturated sands=0.70 in.
Settlement of dry sands=0.00 in.
Total settlement of saturated and dry sands=0.70 in.
Differential Settlement=0.350 to 0.462 in.

Depth	CRRm	CSRfs	F.S.	S_sat.	S_dry	S_all

ft		w/fs		in.	in.	in.
5.00	1.81	0.64	2.81	0.70	0.00	0.70
6.00	1.81	0.70	2.59	0.70	0.00	0.70
7.00	1.81	0.74	2.44	0.70	0.00	0.70
8.00	1.81	0.78	2.32	0.70	0.00	0.70
9.00	1.81	0.81	2.23	0.70	0.00	0.70
10.00	1.81	0.84	2.16	0.70	0.00	0.70
11.00	1.81	0.86	2.10	0.70	0.00	0.70
12.00	0.40	0.88	0.45*	0.56	0.00	0.56
13.00	1.81	0.90	2.01	0.54	0.00	0.54
14.00	1.81	0.92	1.97	0.54	0.00	0.54
15.00	1.81	0.93	1.93	0.54	0.00	0.54
16.00	1.81	0.95	1.90	0.54	0.00	0.54
17.00	1.81	0.96	1.87	0.54	0.00	0.54
18.00	1.81	0.98	1.85	0.54	0.00	0.54
19.00	1.81	0.99	1.83	0.54	0.00	0.54
20.00	1.81	1.00	1.81	0.54	0.00	0.54
21.00	1.81	1.01	1.79	0.54	0.00	0.54
22.00	1.81	1.02	1.77	0.54	0.00	0.54
23.00	1.81	1.03	1.76	0.54	0.00	0.54
24.00	1.81	1.03	1.75	0.54	0.00	0.54
25.00	1.81	1.04	1.74	0.54	0.00	0.54
26.00	1.81	1.05	1.73	0.54	0.00	0.54
27.00	1.80	1.05	1.71	0.53	0.00	0.53
28.00	1.79	1.06	1.70	0.52	0.00	0.52
29.00	1.78	1.06	1.68	0.52	0.00	0.52
30.00	1.77	1.07	1.66	0.51	0.00	0.51
31.00	1.76	1.06	1.66	0.50	0.00	0.50
32.00	1.75	1.06	1.65	0.45	0.00	0.45
33.00	1.74	1.06	1.65	0.44	0.00	0.44
34.00	0.26	1.05	0.25*	0.26	0.00	0.26
35.00	0.20	1.04	0.19*	0.02	0.00	0.02
36.00	2.00	1.04	5.00	0.02	0.00	0.02
37.00	2.00	1.03	5.00	0.02	0.00	0.02
38.00	2.00	1.02	5.00	0.02	0.00	0.02
39.00	2.00	1.02	5.00	0.02	0.00	0.02
40.00	2.00	1.01	5.00	0.02	0.00	0.02
41.00	2.00	1.00	5.00	0.02	0.00	0.02
42.00	2.00	0.99	5.00	0.02	0.00	0.02
43.00	1.64	0.98	1.67	0.01	0.00	0.01
44.00	1.63	0.97	1.68	0.01	0.00	0.01
45.00	1.62	0.96	1.68	0.00	0.00	0.00
46.00	1.61	0.95	1.69	0.00	0.00	0.00
47.00	1.60	0.94	1.70	0.00	0.00	0.00
48.00	1.59	0.93	1.70	0.00	0.00	0.00
49.00	1.58	0.93	1.71	0.00	0.00	0.00
50.00	1.58	0.92	1.72	0.00	0.00	0.00
51.00	1.57	0.91	1.73	0.00	0.00	0.00

* F.S.<1, Liquefaction Potential Zone
(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

Units Depth = ft, Stress or Pressure = tsf (atm), Unit Weight = pcf, Settlement = in.

CRRm Cyclic resistance ratio from soils
CSRfs Cyclic stress ratio induced by a given earthquake (with user request factor of safety)
F.S. Factor of Safety against liquefaction, F.S.=CRRm/CSRfs
S_sat Settlement from saturated sands
S_dry Settlement from dry sands

S_all	Total settlement from saturated and dry sands
NoLiq	No-Liquefy Soils

****

LIQUEFACTION ANALYSIS CALCULATION SHEET

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Input File Name: T:\Liquefy4\S-14488.5.liq
Title: MOUNTAIN VIEW HS - LUNCH SHELTER, FIELD NETTING POLES, & FIRE LANES
Subtitle: S-14488

Input Data:

Surface Elev.=278 feet AMSL
Hole No.=B-5
Depth of Hole=51.5 ft
Water Table during Earthquake= 5.0 ft
Water Table during In-Situ Testing= 60.0 ft
Max. Acceleration=0.77 g
Earthquake Magnitude=7.8
User defined factor of safty (applied to CSR) User fs=1.3
fs=user, Plot one CSR (fs=user)

Hammer Energy Ratio, Ce=1
Borehole Diameter, Cb=1.15
Sampeling Method, Cs=1.3
SPT Fines Correction Method: Stark/Olson et al.*
Settlement Analysis Method: Ishihara / Yoshimine*
Fines Correction for Liquefaction: Stark/Olson et al.*
Fine Correction for Settlement: Post-Liq. Correction *
Average Input Data: Smooth*
* Recommended Options

Depth ft	SPT	Gamma pcf	Fines %
5.0	30.0	130.0	72.0
8.0	30.0	130.0	1.0
11.5	19.0	124.0	1.0
16.5	36.0	110.0	1.0
21.5	31.0	114.0	1.0
26.5	28.0	117.0	1.0
31.5	28.0	112.0	1.0
35.0	14.0	125.0	NoLiq
40.0	24.0	130.0	NoLiq
45.0	36.0	135.0	1.0
50.0	42.0	135.0	1.0

Output Results: (Interval = 1.00 ft)

CSR Calculation:

Depth ft	gamma pcf	sigma tsf	gamma' pcf	sigma' tsf	rd	CSR	fs (user)	CSRfs w/fs

5.00	67.6	0.325	67.6	0.325	0.99	0.49	1.3	0.64
6.00	130.0	0.390	67.6	0.359	0.99	0.54	1.3	0.70
7.00	130.0	0.455	67.6	0.393	0.98	0.57	1.3	0.74
8.00	130.0	0.520	67.6	0.426	0.98	0.60	1.3	0.78
9.00	128.3	0.585	65.9	0.460	0.98	0.62	1.3	0.81
10.00	126.6	0.648	64.2	0.492	0.98	0.64	1.3	0.84
11.00	124.9	0.711	62.5	0.524	0.97	0.66	1.3	0.86
12.00	122.6	0.773	60.2	0.555	0.97	0.68	1.3	0.88
13.00	119.8	0.834	57.4	0.584	0.97	0.69	1.3	0.90
14.00	117.0	0.893	54.6	0.612	0.97	0.71	1.3	0.92
15.00	114.2	0.951	51.8	0.639	0.97	0.72	1.3	0.93
16.00	111.4	1.007	49.0	0.664	0.96	0.73	1.3	0.95
17.00	110.4	1.063	48.0	0.688	0.96	0.74	1.3	0.96
18.00	111.2	1.118	48.8	0.712	0.96	0.75	1.3	0.98
19.00	112.0	1.174	49.6	0.737	0.96	0.76	1.3	0.99
20.00	112.8	1.230	50.4	0.762	0.95	0.77	1.3	1.00
21.00	113.6	1.287	51.2	0.787	0.95	0.78	1.3	1.01
22.00	114.3	1.343	51.9	0.813	0.95	0.78	1.3	1.02
23.00	114.9	1.401	52.5	0.839	0.95	0.79	1.3	1.03
24.00	115.5	1.458	53.1	0.866	0.94	0.80	1.3	1.03
25.00	116.1	1.516	53.7	0.892	0.94	0.80	1.3	1.04
26.00	116.7	1.574	54.3	0.919	0.94	0.81	1.3	1.05
27.00	116.5	1.633	54.1	0.946	0.94	0.81	1.3	1.05
28.00	115.5	1.691	53.1	0.973	0.93	0.81	1.3	1.06
29.00	114.5	1.748	52.1	1.000	0.93	0.82	1.3	1.06
30.00	113.5	1.805	51.1	1.025	0.93	0.82	1.3	1.07
31.00	112.5	1.862	50.1	1.051	0.92	0.82	1.3	1.06
32.00	113.9	1.918	51.5	1.076	0.91	0.82	1.3	1.06
33.00	117.6	1.976	55.2	1.102	0.91	0.81	1.3	1.06
34.00	121.3	2.036	58.9	1.131	0.90	0.81	1.3	1.05
35.00	125.0	2.097	62.6	1.161	0.89	0.80	1.3	1.04
36.00	126.0	2.160	63.6	1.193	0.88	0.80	1.3	1.04
37.00	127.0	2.223	64.6	1.225	0.87	0.79	1.3	1.03
38.00	128.0	2.287	65.6	1.257	0.86	0.79	1.3	1.02
39.00	129.0	2.351	66.6	1.290	0.86	0.78	1.3	1.02
40.00	130.0	2.416	67.6	1.324	0.85	0.77	1.3	1.01
41.00	131.0	2.481	68.6	1.358	0.84	0.77	1.3	1.00
42.00	132.0	2.547	69.6	1.392	0.83	0.76	1.3	0.99
43.00	133.0	2.613	70.6	1.427	0.82	0.76	1.3	0.98
44.00	134.0	2.680	71.6	1.463	0.82	0.75	1.3	0.97
45.00	135.0	2.747	72.6	1.499	0.81	0.74	1.3	0.96
46.00	135.0	2.815	72.6	1.535	0.80	0.73	1.3	0.95
47.00	135.0	2.882	72.6	1.572	0.79	0.73	1.3	0.94
48.00	135.0	2.950	72.6	1.608	0.78	0.72	1.3	0.93
49.00	135.0	3.017	72.6	1.644	0.78	0.71	1.3	0.93
50.00	135.0	3.085	72.6	1.681	0.77	0.70	1.3	0.92
51.00	135.0	3.152	72.6	1.717	0.76	0.70	1.3	0.91

CSR is based on water table at 5.0 during earthquake

CRR Calculation from SPT or BPT data:

(N1)60f	Depth ft	SPT	Cebs	Cr	sigma'	Cn	(N1)60	Fines %	d(N1)60	CRR7.5
	5.00	30.00	1.49	0.75	0.325	1.70	57.18	72.0	7.20	
64.38	2.00									
	6.00	30.00	1.49	0.75	0.390	1.60	53.86	48.3	7.20	
61.06	2.00									
	7.00	30.00	1.49	0.75	0.455	1.48	49.87	24.7	4.72	

54.59	2.00								
	8.00	30.00	1.49	0.75	0.520	1.39	46.65	1.0	0.00
46.65	2.00								
	9.00	26.86	1.49	0.85	0.585	1.31	44.64	1.0	0.00
44.64	2.00								
	10.00	23.71	1.49	0.85	0.648	1.24	37.43	1.0	0.00
37.43	2.00								
	11.00	20.57	1.49	0.85	0.711	1.19	31.00	1.0	0.00
31.00	2.00								
	12.00	20.70	1.49	0.85	0.773	1.14	29.92	1.0	0.00
29.92	0.44								
	13.00	24.10	1.49	0.85	0.834	1.10	33.54	1.0	0.00
33.54	2.00								
	14.00	27.50	1.49	0.85	0.893	1.06	36.98	1.0	0.00
36.98	2.00								
	15.00	30.90	1.49	0.95	0.951	1.03	45.01	1.0	0.00
45.01	2.00								
	16.00	34.30	1.49	0.95	1.007	1.00	48.54	1.0	0.00
48.54	2.00								
	17.00	35.50	1.49	0.95	1.063	0.97	48.91	1.0	0.00
48.91	2.00								
	18.00	34.50	1.49	0.95	1.118	0.95	46.34	1.0	0.00
46.34	2.00								
	19.00	33.50	1.49	0.95	1.174	0.92	43.92	1.0	0.00
43.92	2.00								
	20.00	32.50	1.49	0.95	1.230	0.90	41.62	1.0	0.00
41.62	2.00								
	21.00	31.50	1.49	0.95	1.287	0.88	39.44	1.0	0.00
39.44	2.00								
	22.00	30.70	1.49	0.95	1.343	0.86	37.62	1.0	0.00
37.62	2.00								
	23.00	30.10	1.49	0.95	1.401	0.84	36.12	1.0	0.00
36.12	2.00								
	24.00	29.50	1.49	0.95	1.458	0.83	34.69	1.0	0.00
34.69	2.00								
	25.00	28.90	1.49	0.95	1.516	0.81	33.33	1.0	0.00
33.33	2.00								
	26.00	28.30	1.49	0.95	1.574	0.80	32.03	1.0	0.00
32.03	2.00								
	27.00	28.00	1.49	0.95	1.633	0.78	31.12	1.0	0.00
31.12	2.00								
	28.00	28.00	1.49	1.00	1.691	0.77	32.19	1.0	0.00
32.19	2.00								
	29.00	28.00	1.49	1.00	1.748	0.76	31.66	1.0	0.00
31.66	2.00								
	30.00	28.00	1.49	1.00	1.805	0.74	31.15	1.0	0.00
31.15	2.00								
	31.00	28.00	1.49	1.00	1.862	0.73	30.68	1.0	0.00
30.68	2.00								
	32.00	26.00	1.49	1.00	1.918	0.72	28.07	15.3	2.47
30.53	2.00								
	33.00	22.00	1.49	1.00	1.976	0.71	23.40	43.9	7.20
30.60	2.00								
	34.00	18.00	1.49	1.00	2.036	0.70	18.86	72.4	7.20
26.06	0.30								
	35.00	14.00	1.49	1.00	2.097	0.69	14.45	NoLiq	7.20
21.65	0.24								
	36.00	16.00	1.49	1.00	2.160	0.68	16.28	NoLiq	7.20
23.48	0.26								
	37.00	18.00	1.49	1.00	2.223	0.67	18.05	NoLiq	7.20
25.25	0.29								
	38.00	20.00	1.49	1.00	2.287	0.66	19.77	NoLiq	7.20
26.97	0.32								

	39.00	22.00	1.49	1.00	2.351	0.65	21.45	NoLiq	7.20
28.65	0.36								
	40.00	24.00	1.49	1.00	2.416	0.64	23.08	NoLiq	7.20
30.28	2.00								
	41.00	26.40	1.49	1.00	2.481	0.63	25.06	NoLiq	7.20
32.26	2.00								
	42.00	28.80	1.49	1.00	2.547	0.63	26.98	NoLiq	7.20
34.18	2.00								
	43.00	31.20	1.49	1.00	2.613	0.62	28.85	41.0	7.20
36.05	2.00								
	44.00	33.60	1.49	1.00	2.680	0.61	30.68	21.0	3.84
34.53	2.00								
	45.00	36.00	1.49	1.00	2.747	0.60	32.47	1.0	0.00
32.47	2.00								
	46.00	37.20	1.49	1.00	2.815	0.60	33.15	1.0	0.00
33.15	2.00								
	47.00	38.40	1.49	1.00	2.882	0.59	33.82	1.0	0.00
33.82	2.00								
	48.00	39.60	1.49	1.00	2.950	0.58	34.47	1.0	0.00
34.47	2.00								
	49.00	40.80	1.49	1.00	3.017	0.58	35.12	1.0	0.00
35.12	2.00								
	50.00	42.00	1.49	1.00	3.085	0.57	35.75	1.0	0.00
35.75	2.00								
	51.00	42.00	1.49	1.00	3.152	0.56	35.37	1.0	0.00
35.37	2.00								

CRR is based on water table at 60.0 during In-Situ Testing

Factor of Safety, - Earthquake Magnitude= 7.8:

Depth ft	sigC' tsf	CRR7.5 tsf	Ksigma	CRRv	MSF	CRRm	CSRfs w/fs	F.S. CRRm/CSRfs
5.00	0.21	2.00	1.00	2.00	0.90	1.81	0.64	2.81
6.00	0.25	2.00	1.00	2.00	0.90	1.81	0.70	2.59
7.00	0.30	2.00	1.00	2.00	0.90	1.81	0.74	2.44
8.00	0.34	2.00	1.00	2.00	0.90	1.81	0.78	2.32
9.00	0.38	2.00	1.00	2.00	0.90	1.81	0.81	2.23
10.00	0.42	2.00	1.00	2.00	0.90	1.81	0.84	2.16
11.00	0.46	2.00	1.00	2.00	0.90	1.81	0.86	2.10
12.00	0.50	0.44	1.00	0.44	0.90	0.40	0.88	0.45 *
13.00	0.54	2.00	1.00	2.00	0.90	1.81	0.90	2.01
14.00	0.58	2.00	1.00	2.00	0.90	1.81	0.92	1.97
15.00	0.62	2.00	1.00	2.00	0.90	1.81	0.93	1.93
16.00	0.65	2.00	1.00	2.00	0.90	1.81	0.95	1.90
17.00	0.69	2.00	1.00	2.00	0.90	1.81	0.96	1.87
18.00	0.73	2.00	1.00	2.00	0.90	1.81	0.98	1.85
19.00	0.76	2.00	1.00	2.00	0.90	1.81	0.99	1.83
20.00	0.80	2.00	1.00	2.00	0.90	1.81	1.00	1.81
21.00	0.84	2.00	1.00	2.00	0.90	1.81	1.01	1.79
22.00	0.87	2.00	1.00	2.00	0.90	1.81	1.02	1.77
23.00	0.91	2.00	1.00	2.00	0.90	1.81	1.03	1.76
24.00	0.95	2.00	1.00	2.00	0.90	1.81	1.03	1.75
25.00	0.99	2.00	1.00	2.00	0.90	1.81	1.04	1.74
26.00	1.02	2.00	1.00	2.00	0.90	1.81	1.05	1.73
27.00	1.06	2.00	1.00	1.99	0.90	1.80	1.05	1.71
28.00	1.10	2.00	0.99	1.98	0.90	1.79	1.06	1.70
29.00	1.14	2.00	0.98	1.97	0.90	1.78	1.06	1.68
30.00	1.17	2.00	0.98	1.96	0.90	1.77	1.07	1.66
31.00	1.21	2.00	0.97	1.95	0.90	1.76	1.06	1.66
32.00	1.25	2.00	0.97	1.94	0.90	1.75	1.06	1.65

33.00	1.28	2.00	0.96	1.93	0.90	1.74	1.06	1.65
34.00	1.32	0.30	0.96	0.29	0.90	0.26	1.05	0.25 *
35.00	1.36	0.24	0.95	0.22	0.90	0.20	1.04	0.19 *
36.00	1.40	0.26	0.95	0.25	0.90	2.00	1.04	5.00
37.00	1.45	0.29	0.94	0.27	0.90	2.00	1.03	5.00
38.00	1.49	0.32	0.93	0.30	0.90	2.00	1.02	5.00
39.00	1.53	0.36	0.93	0.34	0.90	2.00	1.02	5.00
40.00	1.57	2.00	0.92	1.85	0.90	2.00	1.01	5.00
41.00	1.61	2.00	0.92	1.84	0.90	2.00	1.00	5.00
42.00	1.66	2.00	0.91	1.83	0.90	2.00	0.99	5.00
43.00	1.70	2.00	0.91	1.81	0.90	1.64	0.98	1.67
44.00	1.74	2.00	0.90	1.80	0.90	1.63	0.97	1.68
45.00	1.79	2.00	0.90	1.79	0.90	1.62	0.96	1.68
46.00	1.83	2.00	0.89	1.78	0.90	1.61	0.95	1.69
47.00	1.87	2.00	0.89	1.77	0.90	1.60	0.94	1.70
48.00	1.92	2.00	0.88	1.76	0.90	1.59	0.93	1.70
49.00	1.96	2.00	0.88	1.75	0.90	1.58	0.93	1.71
50.00	2.00	2.00	0.87	1.74	0.90	1.58	0.92	1.72
51.00	2.05	2.00	0.87	1.73	0.90	1.57	0.91	1.73

* F.S.<1: Liquefaction Potential Zone. (If above water table: F.S.=5)
(F.S. is limited to 5, CRR is limited to 2, CSR is limited to 2)

CPT convert to SPT for Settlement Analysis:
Fines Correction for Settlement Analysis:

Depth ft	Ic	qc/N60	qc1 tsf	(N1)60	Fines %	d(N1)60	(N1)60s
5.00	-	-	-	57.18	72.0	4.94	62.12
6.00	-	-	-	53.86	48.3	3.77	57.64
7.00	-	-	-	49.87	24.7	2.16	52.03
8.00	-	-	-	46.65	1.0	0.10	46.74
9.00	-	-	-	44.64	1.0	0.10	44.73
10.00	-	-	-	37.43	1.0	0.10	37.52
11.00	-	-	-	31.00	1.0	0.10	31.09
12.00	-	-	-	29.92	1.0	0.10	30.01
13.00	-	-	-	33.54	1.0	0.10	33.64
14.00	-	-	-	36.98	1.0	0.10	37.08
15.00	-	-	-	45.01	1.0	0.10	45.10
16.00	-	-	-	48.54	1.0	0.10	48.63
17.00	-	-	-	48.91	1.0	0.10	49.01
18.00	-	-	-	46.34	1.0	0.10	46.44
19.00	-	-	-	43.92	1.0	0.10	44.01
20.00	-	-	-	41.62	1.0	0.10	41.72
21.00	-	-	-	39.44	1.0	0.10	39.54
22.00	-	-	-	37.62	1.0	0.10	37.71
23.00	-	-	-	36.12	1.0	0.10	36.22
24.00	-	-	-	34.69	1.0	0.10	34.79
25.00	-	-	-	33.33	1.0	0.10	33.43
26.00	-	-	-	32.03	1.0	0.10	32.13
27.00	-	-	-	31.12	1.0	0.10	31.22
28.00	-	-	-	32.19	1.0	0.10	32.29
29.00	-	-	-	31.66	1.0	0.10	31.75
30.00	-	-	-	31.15	1.0	0.10	31.25
31.00	-	-	-	30.68	1.0	0.10	30.77
32.00	-	-	-	28.07	15.3	1.40	29.46
33.00	-	-	-	23.40	43.9	3.50	26.90
34.00	-	-	-	18.86	72.4	4.95	23.81
35.00	-	-	-	14.45	NoLiq	0.00	14.45
36.00	-	-	-	16.28	NoLiq	0.00	16.28
37.00	-	-	-	18.05	NoLiq	0.00	18.05
38.00	-	-	-	19.77	NoLiq	0.00	19.77

39.00	-	-	-	21.45	NoLiq	0.00	21.45
40.00	-	-	-	23.08	NoLiq	0.00	23.08
41.00	-	-	-	25.06	NoLiq	0.00	25.06
42.00	-	-	-	26.98	NoLiq	0.00	26.98
43.00	-	-	-	28.85	41.0	3.32	32.18
44.00	-	-	-	30.68	21.0	1.87	32.55
45.00	-	-	-	32.47	1.0	0.10	32.57
46.00	-	-	-	33.15	1.0	0.10	33.25
47.00	-	-	-	33.82	1.0	0.10	33.91
48.00	-	-	-	34.47	1.0	0.10	34.57
49.00	-	-	-	35.12	1.0	0.10	35.21
50.00	-	-	-	35.75	1.0	0.10	35.85
51.00	-	-	-	35.37	1.0	0.10	35.46

Settlement of Saturated Sands:
Settlement Analysis Method: Ishihara / Yoshimine*

Depth ft	CSRfs w/fs	F.S.	Fines %	(N1)60s	Dr %	ec %	dsz in.	dsv in.	S in.
51.45	0.90	1.73	1.0	35.29	100.00	0.000	0.000	0.000	0.000
51.00	0.91	1.73	1.0	35.46	100.00	0.000	0.000	0.000	0.000
50.00	0.92	1.72	1.0	35.85	100.00	0.000	0.000	0.000	0.000
49.00	0.93	1.71	1.0	35.21	100.00	0.000	0.000	0.000	0.000
48.00	0.93	1.70	1.0	34.57	100.00	0.000	0.000	0.000	0.000
47.00	0.94	1.70	1.0	33.91	99.66	0.003	0.000	0.000	0.000
46.00	0.95	1.69	1.0	33.25	97.90	0.020	0.000	0.001	0.001
45.00	0.96	1.68	1.0	32.57	96.18	0.037	0.000	0.003	0.005
44.00	0.97	1.68	21.0	32.55	96.14	0.038	0.000	0.004	0.009
43.00	0.98	1.67	41.0	32.18	95.19	0.049	0.000	0.005	0.015
42.00	0.99	5.00	NoLiq	26.98	83.61	0.000	0.000	0.007	0.021
41.00	1.00	5.00	NoLiq	25.06	79.83	0.000	0.000	0.000	0.021
40.00	1.01	5.00	NoLiq	23.08	76.13	0.000	0.000	0.000	0.021
39.00	1.02	5.00	NoLiq	21.45	73.15	0.000	0.000	0.000	0.021
38.00	1.02	5.00	NoLiq	19.77	70.13	0.000	0.000	0.000	0.021
37.00	1.03	5.00	NoLiq	18.05	67.00	0.000	0.000	0.000	0.021
36.00	1.04	5.00	NoLiq	16.28	63.72	0.000	0.000	0.000	0.021
35.00	1.04	0.19	NoLiq	14.45	60.20	2.792	0.000	0.000	0.021
34.00	1.05	0.25	72.4	23.81	77.48	1.859	0.011	0.240	0.261
33.00	1.06	1.65	43.9	26.90	83.45	0.119	0.001	0.179	0.440
32.00	1.06	1.65	15.3	29.46	88.85	0.109	0.001	0.014	

0.454	31.00	1.06	1.66	1.0	30.77	91.83	0.086	0.001	0.047
0.501	30.00	1.07	1.66	1.0	31.25	92.95	0.074	0.000	0.010
0.510	29.00	1.06	1.68	1.0	31.75	94.16	0.058	0.000	0.008
0.518	28.00	1.06	1.70	1.0	32.29	95.48	0.043	0.000	0.006
0.524	27.00	1.05	1.71	1.0	31.22	92.88	0.063	0.000	0.008
0.532	26.00	1.05	1.73	1.0	32.13	95.08	0.041	0.000	0.006
0.538	25.00	1.04	1.74	1.0	33.43	98.38	0.013	0.000	0.003
0.542	24.00	1.03	1.75	1.0	34.79	100.00	0.000	0.000	0.000
0.542	23.00	1.03	1.76	1.0	36.22	100.00	0.000	0.000	0.000
0.542	22.00	1.02	1.77	1.0	37.71	100.00	0.000	0.000	0.000
0.542	21.00	1.01	1.79	1.0	39.54	100.00	0.000	0.000	0.000
0.542	20.00	1.00	1.81	1.0	41.72	100.00	0.000	0.000	0.000
0.542	19.00	0.99	1.83	1.0	44.01	100.00	0.000	0.000	0.000
0.542	18.00	0.98	1.85	1.0	46.44	100.00	0.000	0.000	0.000
0.542	17.00	0.96	1.87	1.0	49.01	100.00	0.000	0.000	0.000
0.542	16.00	0.95	1.90	1.0	48.63	100.00	0.000	0.000	0.000
0.542	15.00	0.93	1.93	1.0	45.10	100.00	0.000	0.000	0.000
0.542	14.00	0.92	1.97	1.0	37.08	100.00	0.000	0.000	0.000
0.542	13.00	0.90	2.01	1.0	33.64	98.92	0.000	0.000	0.000
0.557	12.00	0.88	0.45	1.0	30.01	90.09	1.297	0.008	0.015
0.700	11.00	0.86	2.10	1.0	31.09	92.58	0.000	0.000	0.143
0.700	10.00	0.84	2.16	1.0	37.52	100.00	0.000	0.000	0.000
0.700	9.00	0.81	2.23	1.0	44.73	100.00	0.000	0.000	0.000
0.700	8.00	0.78	2.32	1.0	46.74	100.00	0.000	0.000	0.000
0.700	7.00	0.74	2.44	24.7	52.03	100.00	0.000	0.000	0.000
0.700	6.00	0.70	2.59	48.3	57.64	100.00	0.000	0.000	0.000
0.700	5.00	0.64	2.81	72.0	62.12	100.00	0.000	0.000	0.000

Settlement of Saturated Sands=0.700 in.
dsz is per each segment: dz=0.05 ft
dsv is per each print interval: dv=1 ft
S is cumulated settlement at this depth

Settlement of Dry Sands:

ec	Depth dsz ft in.	sigma' dsv tsf in.	sigC' S tsf in.	(N1)60s	CSRfs w/fs	Gmax tsf	g*Ge/Gm	g_eff	ec7.5 %	Cec %
	5.00	0.33	2.07	0.00	0.64	734.5	4.5E-4	0.0000	0.0000	0.00
0.0000	0.0E0	0.000	0.000							

Settlement of Dry Sands=0.000 in.
dsz is per each segment: dz=0.05 ft
dsv is per each print interval: dv=1 ft
S is cumulated settlement at this depth

Total Settlement of Saturated and Dry Sands=0.700 in.
Differential Settlement=0.350 to 0.462 in.

Units Depth = ft, Stress or Pressure = tsf (atm), Unit Weight = pcf, Settlement = in.

SPT	Field data from Standard Penetration Test (SPT)
BPT	Field data from Becker Penetration Test (BPT)
qc	Field data from Cone Penetration Test (CPT)
fc	Friction from CPT testing
Gamma	Total unit weight of soil
Gamma'	Effective unit weight of soil
Fines	Fines content [%]
D50	Mean grain size
Dr	Relative Density
sigma	Total vertical stress [tsf]
sigma'	Effective vertical stress [tsf]
sigC'	Effective confining pressure [tsf]
rd	Stress reduction coefficient
CSR	Cyclic stress ratio induced by earthquake
fs	User request factor of safety, apply to CSR
w/fs	With user request factor of safety inside
CSRfs	CSR with User request factor of safety
CRR7.5	Cyclic resistance ratio (M=7.5)
Ksigma	Overburden stress correction factor for CRR7.5
CRRv	CRR after overburden stress correction, CRRv=CRR7.5 * Ksigma
MSF	Magnitude scaling factor for CRR (M=7.5)
CRRm	After magnitude scaling correction CRRm=CRRv * MSF
F.S.	Factor of Safety against liquefaction F.S.=CRRm/CSRfs
Cebs	Energy Ratio, Borehole Dia., and Sample Method Corrections
Cr	Rod Length Corrections
Cn	Overburden Pressure Correction
(N1)60	SPT after corrections, (N1)60=SPT * Cr * Cn * Cebs
d(N1)60	Fines correction of SPT
(N1)60f	(N1)60 after fines corrections, (N1)60f=(N1)60 + d(N1)60
Cq	Overburden stress correction factor
qc1	CPT after Overburden stress correction
dqc1	Fines correction of CPT
qc1f	CPT after Fines and Overburden correction, qc1f=qc1 + dqc1
qc1n	CPT after normalization in Robertson's method
Kc	Fine correction factor in Robertson's Method
qc1f	CPT after Fines correction in Robertson's Method
Ic	Soil type index in Suzuki's and Robertson's Methods
(N1)60s	(N1)60 after seattlement fines corrections

ec	Volumetric strain for saturated sands
ds	Settlement in each Segment dz
dz	Segment for calculation, dz=0.050 ft
Gmax	Shear Modulus at low strain
g_eff	gamma_eff, Effective shear Strain
g*Ge/Gm	gamma_eff * G_eff/G_max, Strain-modulus ratio
ec7.5	Volumetric Strain for magnitude=7.5
Cec	Magnitude correction factor for any magnitude
ec	Volumetric strain for dry sands, ec=Cec * ec7.5
NoLiq	No-Liquefy Soils

References:

NCEER Workshop on Evaluation of Liquefaction Resistance of Soils. Youd, T.L., and Idriss, I.M., eds., Technical Report NCEER 97-0022.

SP117. Southern California Earthquake Center. Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction in California. University of Southern California. March 1999.

TERRA GEOSCIENCES

GEOLOGIC HAZARDS REPORT

PROPOSED LUNCH SHELTER, FIELD NETTING POLES, AND FIRE LANES

MOUNTAIN VIEW HIGH SCHOOL

2900 PARKWAY DRIVE, EL MONTE, CALIFORNIA

Project No. 292414-4

May 31, 2022

Prepared for:

John R. Byerly, Inc.
2257 South Lilac Avenue
Bloomington, CA 92316

John R. Byerly, Inc.
2257 South Lilac Avenue
Bloomington, CA 92316

Attention: Mr. John R. Byerly

Regarding: Geologic Hazards Report
Proposed Lunch Shelter, Field Netting Poles, and Fire Lanes
Mountain View High School
2900 Parkway Drive, El Monte, California
JRB File No. S-14488

INTRODUCTION

At your request, this firm has prepared a geologic hazards report for the proposed steel lunch shelter, baseball field netting poles, and fire lanes, located within the Mountain View High School campus, City of El Monte, California, as referenced above. The purpose of this study was to evaluate the existing geologic conditions of the property and any corresponding potential geologic and/or seismic hazards, with respect to the proposed development from a geologic standpoint.

The scope of services provided for this evaluation included the following:

- ***Review of available published and unpublished geologic/seismic data in our files pertinent to the site, including our previous studies this firm has prepared for the subject school site, along with the provided site-specific boring logs.***
- ***Field reconnaissance of the site, including performing a seismic surface-wave survey by a licensed State of California Professional Geophysicist that included one traverse for shear-wave velocity analysis purposes***
- ***Evaluation of the local and regional tectonic setting and historical seismic activity, including performing a site-specific CBC ground motion analysis.***
- ***Preparation of this report presenting our findings, conclusions, and recommendations from a geologic standpoint.***

Accompanying Maps, Illustrations, and Appendices

Plate 1 - Regional Geologic Map
Plate 2 - Seismic Hazards Zone Map
Plate 3 - Google™ Earth Imagery Map
Plate 4 - Seismic Line Location Map
Appendix A - Shear-Wave Survey
Appendix B - Site-Specific Ground Motion Analysis
Appendix C - References

PROJECT SUMMARY

Our firm previously performed a geologic hazard study of a project within the campus during December 2021 that has since been discontinued. Therefore, due to the proximity of our previous work with respect to the current proposed development, the data obtained from our shear-wave survey and ground motion hazard analysis are considered to be pertinent to this project. Since this report will be appended into the geotechnical report prepared by John R. Byerly, Inc. (JRB), some descriptive sections such as site description, proposed development, etc., have been purposely omitted as they are described in detail in the main geotechnical report.

This report has been prepared utilizing the suggested "Checklist for the Review of Engineering Geology and Seismology Reports for California Public Schools, Hospitals, and Essential Services Buildings" (CGS Note 48, 2019), along with the Geologic portion of the "*Factors to Be Included in the Geological and Environmental Hazards Report*," which is included as Appendix H of the "School Site Selection and Approval Guide," prepared by the School Facility Planning Division, California Department of Education (2021), and the Geohazard Reports requirements outlined by the DSA (2021).

No grading plans were available for this evaluation, and no subsurface exploration was performed by this firm. Only a field reconnaissance and a review of available geologic and geotechnical data in our files were undertaken, along with our previous geologic reports prepared for this site by our firm (Terra Geosciences, 2000, 2009, & 2013). This review also included the provided exploratory boring logs prepared by JRB (2021 and 2022).

GEOLOGIC SETTING

The subject property is located in southwestern California, within a natural geomorphic province known as the Peninsular Ranges. The Peninsular Ranges is generally characterized by steep elongated ranges and valleys that trend northwesterly. The northern end of this province includes the Los Angeles Basin, which is a northwest-trending alluvial lowland plain about 50 miles long and 20 miles wide. The Los Angeles Basin is, in turn, comprised of several structural blocks or subdivisions which are separated by major zones of faulting or flexures in the basement rock.

More specifically, the site is included within the Northeastern Block, which is a triangular-shaped wedge approximately 35 miles long from northwest to southeast. This block is generally bounded by the Cucamonga Fault to the north, the Whittier Fault to the southwest, and the Chino Fault to the east. The block contains a very thick (as much as 13,000 feet) sequence of Miocene volcanic and sedimentary rock, as partially exposed in the San Jose and Puente Hills. Regionally, the site is located within the southern portion of the San Gabriel Valley, which is bounded on the north by the San Gabriel Mountains. The San Gabriel Valley is a broad piedmont plain that slopes downward from the base of the San Gabriel Mountains to Whittier Narrows, the lowest

point of the area. In the San Gabriel Valley, there is as much as 6,000 feet of Quaternary age sedimentary rocks. These deposits have accumulated generally as flood and fan deposits originating from the San Gabriel Mountains. The depth of these alluvial deposits locally is not known.

Locally, the subject study area is shown to be underlain by Quaternary age (Holocene and late Pleistocene?) unconsolidated wash deposits comprised of sand, silt, gravel, and boulders (Yerkes and Campbell, 2005), as shown on Plate 1 (map symbol Qyw). These surficial materials are in turn presumably underlain by progressively older alluvial deposits at depth. Subsurface exploratory boring excavations performed by JRB (2021 & 2022) indicate the site locally to be underlain by unconsolidated alluvial deposits consisting of predominantly interbedded medium dense to dense fine- to coarse-grained sands, fine- to medium-grained sand, silty sands, sandy silts, and silts, along with scattered gravels throughout, to a depth of at least 51 feet. Artificial fill materials of unknown thickness, character, and composition may be present along local areas from previous site grading.

FAULTING

There are at least forty-four major late Quaternary active/potentially active faults that are located within a 100-kilometer (62-mile) radius of the subject school site (Blake, 1989-2000a). Of these, there are no known active faults that traverse the site based on available published literature, nor was there any surficial geomorphic features that are suggestive of faulting. The subject site is not located within a State of California "Alquist-Priolo Earthquake Fault Zone" for fault rupture hazard (California Geological Survey, 2018).

The nearest mapped (zoned) “active” fault by the State of California is for the East Montebello Fault, located approximately 3.9± miles to the west (C.D.M.G., 1991). This fault (zoned in 1991) is 1½± miles in length and is believed to be the northwestern-most extension of the active Whittier Fault Zone (Yeats, 2004) and also is located along the epicenter of the October 1, 1987 M5.9 Whittier Narrows Earthquake.

The Whittier Fault is a 38 kilometer long right-lateral, strike-slip fault with an estimated maximum moment magnitude of M_W 6.9, and an associated slip-rate of 2.5 ±1 mm/year (Cao et al., 2003 and Petersen et al., 2008). The "maximum moment” (M_W/M_{MAX}) earthquake is the maximum earthquake that is specific to that source based on estimated rupture dimensions for that segment of the design fault.

However, for seismic design purposes, we are considering that a cascading effect of rupture will occur along the entire length of the Elsinore Fault Zone (which includes the Whittier, Glen Ivy, Temecula, Julian, and Coyote Mountain Faults segments collectively) rather than just the Whittier segment. Based on the recently published rupture-model data (Petersen et al., 2008), the total rupture area of these combined faults is 3,841.7 square kilometers and has an associated Maximum Moment Magnitude (M_W) of 7.8.

GROUNDWATER

The site lies within the southwest boundaries of the Main San Gabriel Groundwater Basin (California Department of Water Resources, 2004), where subsurface flow is directed southerly through the Whittler Narrows to the southeast of the site. The San Gabriel Groundwater Basin is bounded on the northwest by the Raymond Fault, the bedrock of the San Gabriel Mountains to the north, the bedrock high between San Dimas and La Verne on the east, and the low hills on the southern periphery of the valley. This basin receives the majority of groundwater as runoff and deep percolation from the San Gabriel Mountains to the north. The water-bearing sediments in this basin are predominantly comprised of unconsolidated to semi-consolidated alluvium that has been derived predominantly as outwash from the San Gabriel Mountains to the north.

Based on seismic hazard mapping performed by the California Division of Mines and Geology (1999), the subject school site is shown to be located within the boundary of a liquefaction hazard zone indicating that groundwater has been historically as shallow as 40± feet in depth, as shown on Plate 2. In addition, data presented by the California Department of Water Resources (1966), indicates that groundwater has been historically 30± feet deep in 1933, rising up to a shallow depth of 5± feet in 1945, and then falling to a depth of 50± feet in 1960. According to the California Division of Mines and Geology (1998), historic high groundwater levels are locally shown to be as shallow as 5± to 10± feet.

It was noted that groundwater was not encountered within any of the exploratory excavations performed by JRB (2021 & 2022) to a depth of at least 51-feet locally. However, during previous subsurface exploratory work performed by JRB (2013) groundwater was encountered at a depth of 29± feet within the subject school site boundaries.

GROUND MOTION ANALYSIS

According to California Geological Survey Note 48 (CGS, 2019), a site-specific ground motion analysis is required for the subject site (CBC, 2019, Section 1613A and also as required by ASCE 7-16, Chapter 21), the detailed results of which are presented within Appendix B. Additionally, a seismic shear-wave survey was conducted for this study by our firm as presented within Appendix A of this report, for purposes of determining the Site Classification and V_{S30} input values for the ground motion analysis.

Geographically, the project area is generally located at Latitude 34.05331 and Longitude -118.01129 (World Geodetic System of 1984 coordinates). The mapped spectral acceleration parameters, coefficients, and other related seismic parameters, were evaluated using the OSHPD Seismic Design Maps (OSHPD, 2022) and the California Building Code criteria (CBC, 2019), with the site-specific ground motion analysis being performed following Section 21 of the ASCE 7-16 Standard (2017). The results of this site-specific analysis have been summarized and are tabulated below:

TABLE 1 – SUMMARY OF SEISMIC DESIGN PARAMETERS

Factor or Coefficient	Value
S_S	**1.776g**
S_1	**0.641g**
F_a	**1.0**
F_v	**1.7**
S_{DS}	**1.180g**
S_{D1}	**0.880g**
S_{MS}	**1.771g**
S_{M1}	**1.318g**
T_L	**8 Seconds**
MCE_G PGA	**0.77g**
Shear-Wave Velocity (V100)	**1,033.2 ft/sec**
Site Classification	**D**
Risk Category	**III**

FLOODING

According to the Federal Emergency Management Agency, the subject site is not located within the boundaries of a 100-year flood (Community Panel No. 06037C1670F, August 26, 2008). The site is shown to be located within "Zone X," which is defined as "Areas determined to be outside the 0.2% annual chance floodplain." However, during peak periods of rainfall heavy runoff could be anticipated and should be properly evaluated by the project civil engineer.

HISTORIC SEISMICITY

A computerized search, based on Southern California historical earthquake catalogs, has been performed using the programs EQSEARCH (Blake, 1989-2021) and the ANSS Comprehensive Earthquake Catalog (U.S.G.S., 2022a). The following table and discussion summarize the known historic seismic events (≥M4.0) that have been estimated and/or recorded during this time period of 1800 to May 2022 within a 100-kilometer (62-mile) radius of the site.

TABLE 2 - HISTORIC SEISMIC EVENTS; 1800-2022 (100-kilometer radius)

Richter Magnitude (M)	No. of Events
4.0 - 4.9	416
5.0 - 5.9	45
6.0 - 6.9	15
7.0 - 7.9	1
8.0+	0

It should be noted that pre-instrumental seismic events (generally before 1932) have been estimated from isoseismal maps (Toppozada, et al., 1981 and 1982). These data have been compiled generally based on the reported intensities throughout the region, thus focusing in on the most likely epicentral location. Instrumentation beyond 1932 has greatly increased the accuracy of locating earthquake epicenters.

A summary of the historic earthquake data is as follows:

- The closest recorded notable earthquake epicenter (magnitude 4.0 or greater) is the M4.7 event that occurred on February 11, 1988, located approximately 2½ miles to the northwest.

- The nearest estimated significant historic earthquake epicenter (pre-1932) was approximately four miles to the southeast (December 25, 1903, M5.0).

- The nearest recorded significant historic earthquake epicenter was approximately three miles west of the site (Whittier Narrows Earthquake, M5.9), which occurred on October 1, 1987.

- The largest estimated historical earthquake magnitude within a 62-mile radius of the site is a M7.0 event of September 24, 1827 (approximately 57miles west).

- The largest recorded historical earthquake was the M6.7 Northridge event, located approximately 32 miles to the northwest (January 17, 1994).

- The largest estimated ground acceleration estimated to have been experienced at the site was 0.303g which resulted from the M5.9 event of October 1, 1987, located approximately three miles west-northwest of the site (Whittier Narrows Earthquake).

An Earthquake Epicenter Map which includes magnitudes 4.0 and greater within a 100-kilometer radius (blue circle) of the site (blue dot in center) has been included below as Figure 1. This map was prepared using the ANSS Comprehensive Earthquake Catalog (U.S.G.S., 2022a) of instrumentally recorded events from the period of 1932 to May 2022, in turn overlain on Google™ Earth imagery (2022).

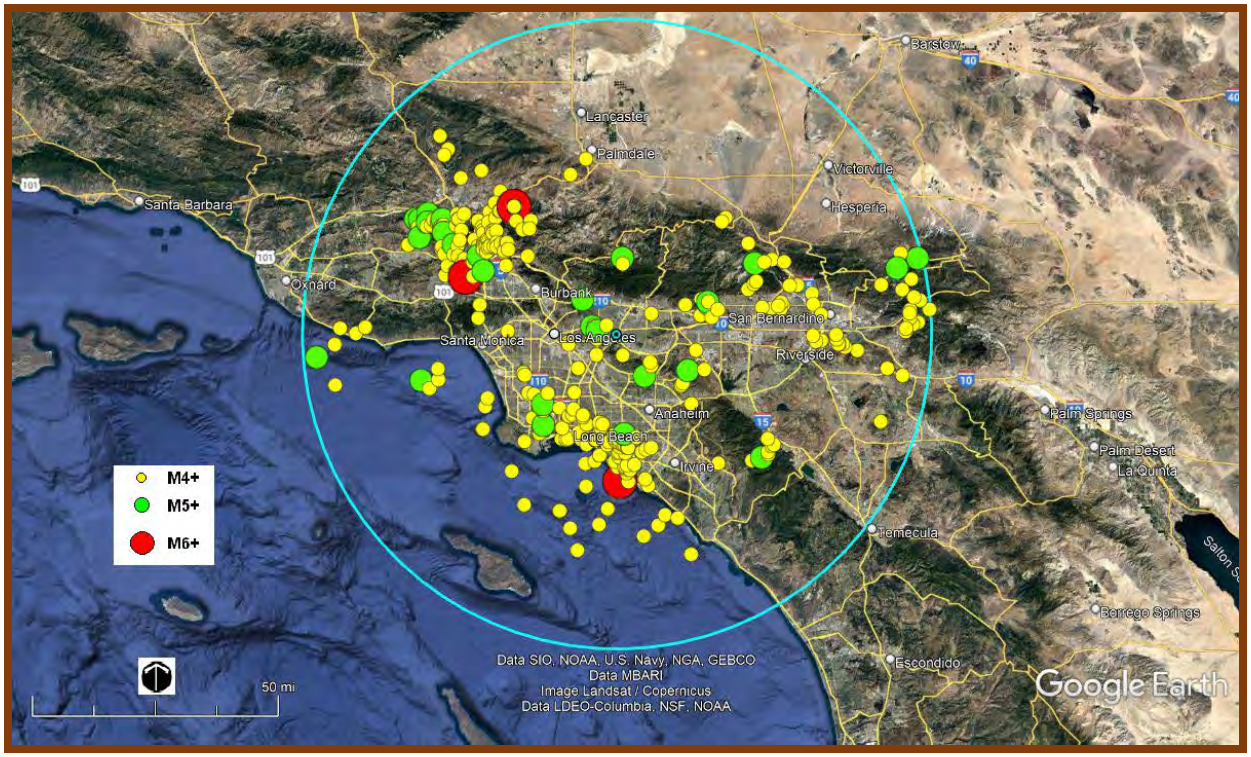


FIGURE 1- Earthquake Epicenter Map; M4.0+ (1932 to present) within a 100-km radius.

SECONDARY SEISMIC HAZARDS

Secondary permanent or transient seismic hazards that are generally associated with severe ground shaking during an earthquake include ground rupture, liquefaction, seiches or tsunamis, flooding (water storage facility failure), ground lurching/lateral spreading, landsliding, rockfalls, and seismically-induced settlement. These hazards are discussed below.

Ground Rupture-

Ground rupture is generally considered most likely to occur along pre-existing faults. Since no known active faults are believed to traverse the subject site, the probability of ground rupture is considered very low.

Ground Lurching/Lateral Spreading-

Ground lurching is the horizontal movement of soil, sediments, or fill located on relatively steep embankments or scarps as a result of seismic activity, forming irregular ground surface cracks. The potential for lateral spreading or lurching is highest in areas underlain by soft, saturated materials, especially where bordered by steep banks or adjacent hard ground. The eastern portion of the school campus is located along an embankment of the San Gabriel River channel and therefore the potential for lateral spreading and/or ground lurching appears to be at least low to moderate.

Flooding (Water Storage Facility Failure)-

The subject school site is shown to be located within the limits of dam inundation for the Santa Fe Dam and Reservoir, located approximately 4½ miles to the northeast. According to the City of El Monte (2011), the site is located within the "Army Corps of Engineers Dam Inundation Areas" (Figure PHS-2, Flooding Hazards) in the event of catastrophic failure of this dam. The associated overbank depth is estimated to be around two feet. Since the integrity of this dam is not known, the potential for flooding at the site should be considered a possibility.

Seismically-Induced Settlement-

Seismically-induced settlement generally occurs within areas of loose, granular soils. Since the site is underlain by predominantly unconsolidated medium-dense to dense and very stiff fine- to coarse-grained alluvial sediments, based on the subsurface data and SPT blow counts obtained in the exploratory borings performed by JRB (2021 & 2022), the potential for seismically-induced settlement is considered low to moderate.

Liquefaction-

In general, liquefaction is a phenomenon that occurs where there is a loss of strength or stiffness in the soils from repeated disturbances of saturated cohesionless soil that can result in the settlement of buildings, ground failures, or other related hazards. The main factors contributing to this phenomenon are: 1) cohesionless, granular soils having relatively low densities (usually of Holocene age); 2) shallow groundwater (generally less than 40 feet); and 3) moderate-high seismic ground shaking. Due to the shallow historic groundwater levels (as shallow as 5± feet in depth), moderate-high seismic potentials, and the overlying unconsolidated alluvial deposits (based on the exploratory boring data), a potential for liquefaction may exist. It should be noted that the California Division of Mines and Geology (1999) indicates the subject school site to be located within a zone of potential liquefaction, as shown on the Seismic hazards Map, Plate 2. In addition, the City of El Monte (2011) also indicates the site to be located within "Areas Susceptible to Liquefaction" (Figure PHS-1, Liquefaction Hazards).

Tsunamis-

Based on the far distance of large, open bodies of water and the elevation of the site with respect to sea level, the possibility of seiches/tsunamis is considered nil. Additionally, mapping by the California Geological Survey (2014) does not indicate the site to be located within a tsunami inundation zone.

Landsliding-

Due to the relatively low-lying relief of the site, landsliding due to seismic shaking is considered nil.

Rockfalls-

Since no large rock outcrops are present at or adjacent to the site, the possibility of rockfalls during seismic shaking is nil.

OTHER GEOLOGIC HAZARDS

There are other potential geologic hazards not necessarily associated with seismic activity that occur statewide. These hazards include; natural hazardous materials (such as methane gas, hydrogen-sulfide gas, and tar seeps); Radon-222 gas (EPA, 1993); naturally occurring asbestos; volcanic hazards (Martin, 1982); and regional subsidence. Of these hazards, there are none that appear to impact the site.

CONCLUSIONS AND RECOMMENDATIONS

General:

Based on our review of available pertinent published and unpublished geologic/seismic literature (including the site-specific boring log data), the proposed site improvements appear to be feasible from a geologic standpoint, providing our recommendations are considered during planning and construction.

Conclusions:

1. Based on available published geologic data and review of the provided boring logs, the site is underlain by Quaternary age unconsolidated wash deposits comprised of sand, silt, gravel, and boulders. Subsurface exploration by JRB indicates the site to be underlain by interbedded medium dense to dense fine- to coarse-grained sands, fine- to medium-grained sands, silty sands, sandy silts, and silts, along with scattered gravels throughout, to a depth of at least 51 feet.

2. Based on subsurface exploration by JRB in 2013, groundwater was locally encountered at a depth of 29± feet, although was not encountered during subsurface exploration for this study locally to a depth of at least 51-feet. Data provided by various sources indicate that historic groundwater levels have been as shallow as 5± feet, which should be used as a minimum water table depth for liquefaction analysis.

3. Based on our literature research, no active faults are known to traverse the subject site. The nearest mapped active fault is the East Montebello Fault (northern Whittier Fault Zone), which is located approximately 3.9± miles to the west.

4. At this time, secondary seismic hazards associated with seismically induced settlement, ground lurching/lateral spreading, liquefaction, and flooding (water storage facility failure) appear to be potentials based on available data. There are no other permanent or transient secondary seismic hazards that are expected to occur within the project study area based on our study and review of available published literature.

5. The primary geologic hazard that exists at the site is that of ground shaking, which accounts for nearly all earthquake losses. Moderate to severe ground shaking could be anticipated during the life of the proposed construction.

Recommendations:

1. It is recommended that all structures be designed to at least meet the current California Building Code provisions in the latest 2019 CBC edition and the ASCE Standard 7-16, where applicable. However, it should be noted that the building code is intended as a minimum construction design and is often the maximum level to which structures are designed. It is the responsibility of both the property owner and project structural engineer to determine the risk factors with respect to using CBC minimum design values for the proposed facilities. When considering that a cascading rupture event could occur along the entire length of the Elsinore Fault Zone (which includes all five segments), the resulting maximum moment magnitude earthquake is estimated to be M_W7.8, which should be used for seismic design purposes.

2. The potential for seismically induced settlement, ground lurching/lateral spreading, and liquefaction should be properly evaluated by the project Geotechnical Engineer. Any appropriate site-specific mitigation measures should be implemented as recommended, if warranted.

3. The potential for flooding, due to inundation from catastrophic dam failure, should be evaluated by the appropriate design professional. Any appropriate site-specific mitigation measures should be implemented as recommended, if warranted.

CLOSURE

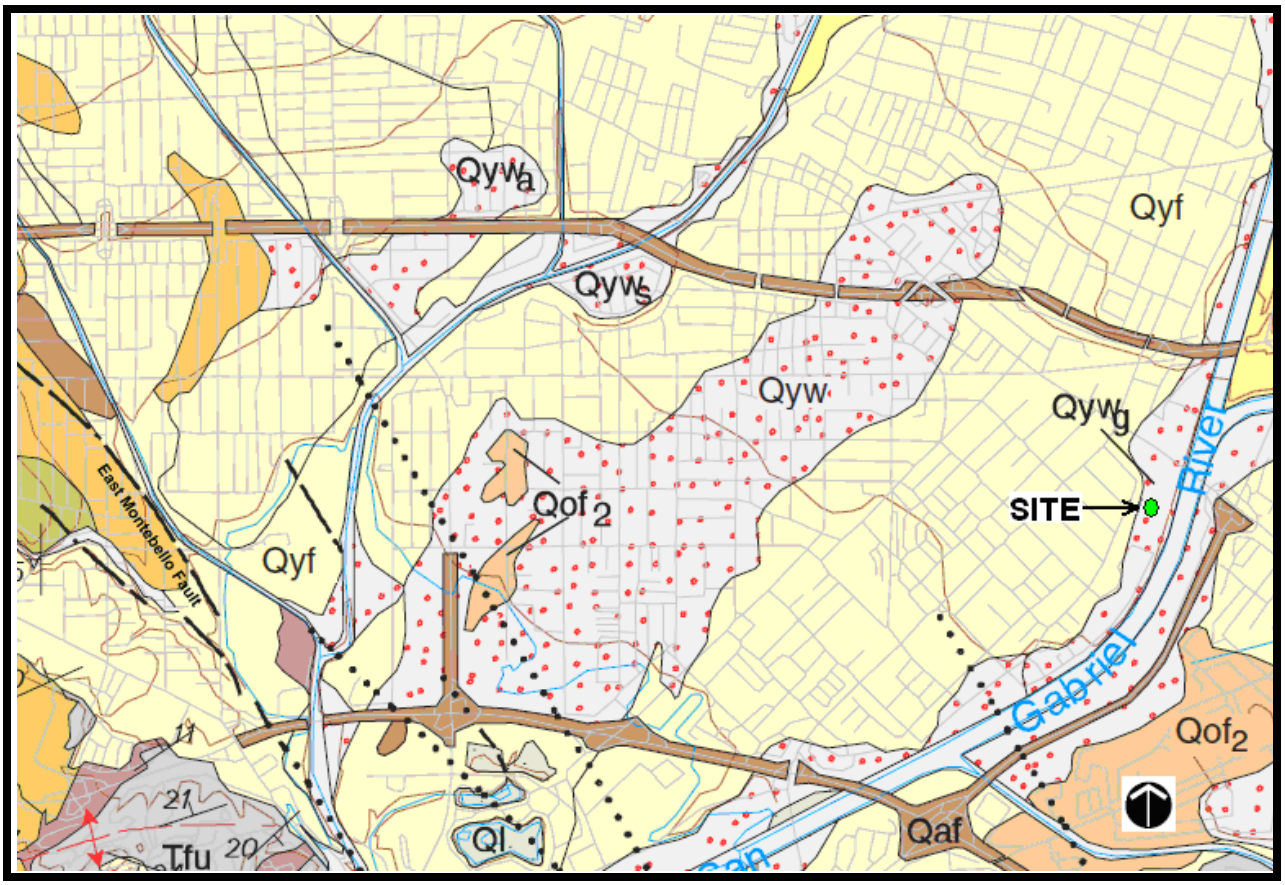
Our conclusions and recommendations are based on an interpretation of available existing geologic/seismic data. No subsurface exploration was performed by this firm for this evaluation. We make no warranty, either express or implied. Should conditions be encountered at a later date or more information becomes available that appear to be different than those indicated in this report, we reserve the right to reevaluate our conclusions and recommendations and provide appropriate mitigation measures, if warranted. If this report is not understood, it is the responsibility of the owner, contractor, engineer, and/or governmental agency, etc., to contact this office for further clarification.

Respectfully submitted,
TERRA GEOSCIENCES

Donn C. Schwartzkopf
Certified Engineering Geologist
CEG 1459

Professional Geophysicist
PGP 1002

REGIONAL GEOLOGIC MAP



BASE MAP: Yerkes and Campbell, 2005, U.S.G.S. Open-File Report 2005-1019, Scale 1: 24,000.

PARTIAL LEGEND

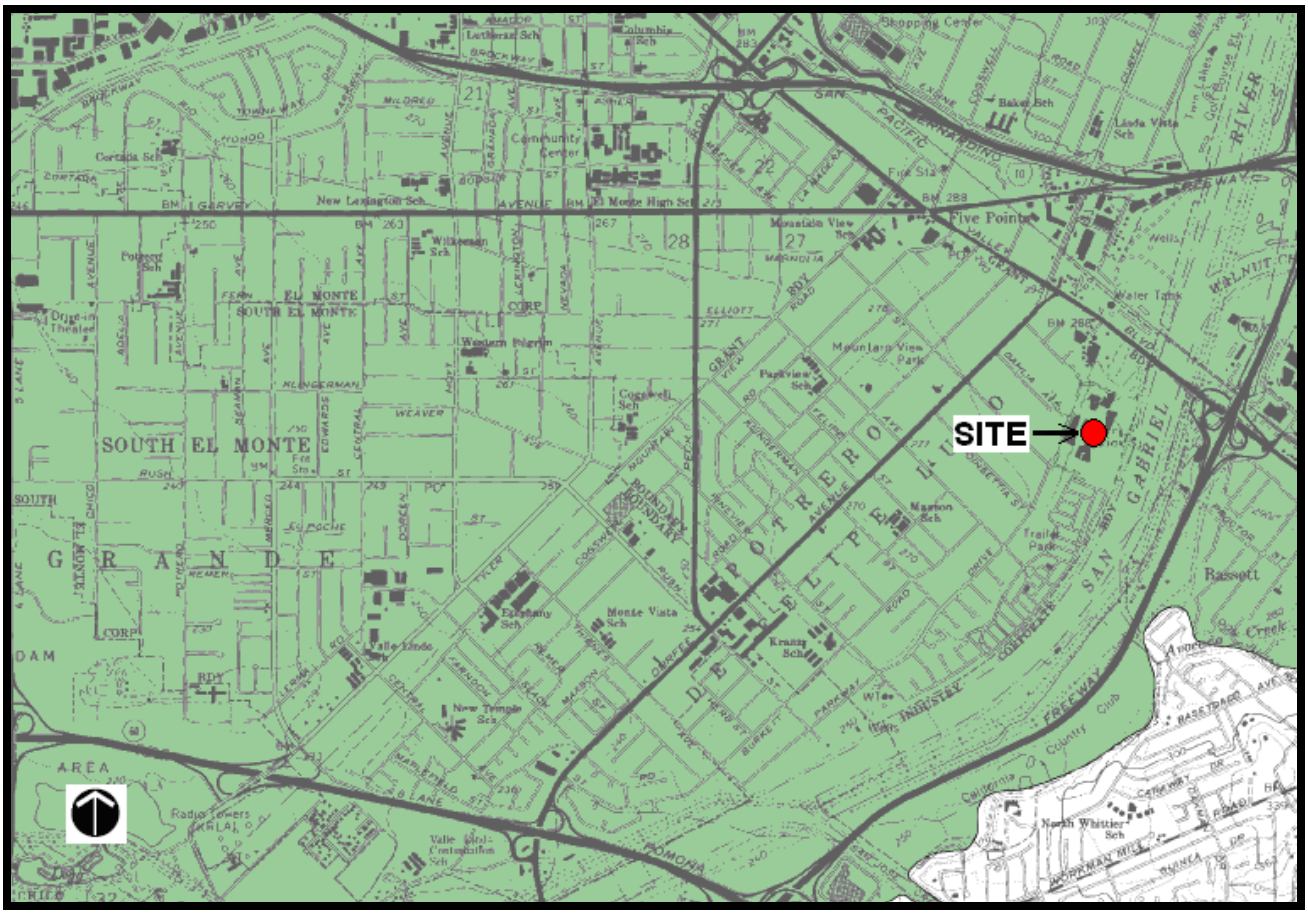
Qyw$_a$	**YOUNG WASH DEPOSITS**	Unconsolidated sand, silt, gravel and boulders (Holocene and late Pleistocene?).
Qyf	**YOUNG FAN DEPOSITS**	Unconsolidated alluvial gravel, sand, and silt, (Holocene and late Pleistocene).
Qof$_2$	**OLD FAN DEPOSITS**	Slightly to moderately consolidated silt, sand, and gravel (late to middle Pleistocene).
———	**GEOLOGIC CONTACT**	Solid where well to approximately located, dashed where poorly located or inferred.
▬ ▬ ·····	**FAULT**	Solid where accurately located, dashed where approximate, dotted where concealed.

PROJECT NO. 292414-4

PLATE 1

Rpt. No.: 7439
File No.: S-14488

SEISMIC HAZARDS ZONE MAP



BASE MAP: C.D.M.G., 1999, El Monte 7.5' Seismic Hazard Zones Map, Scale 1: 24,000.

PROPOSED BUILDING "K" SEISMIC UPGRADE

MOUNTAIN VIEW HIGH SCHOOL

CITY OF EL MONTE, LOS ANGELES COUNTY, CALIFORNIA

LEGEND

Liquefaction

Areas where historical occurrence of liquefaction, or local geological, geotechnical and ground-water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

PROJECT NO. 292414-4

PLATE 2

Rpt. No.: 7439
File No.: S-14488

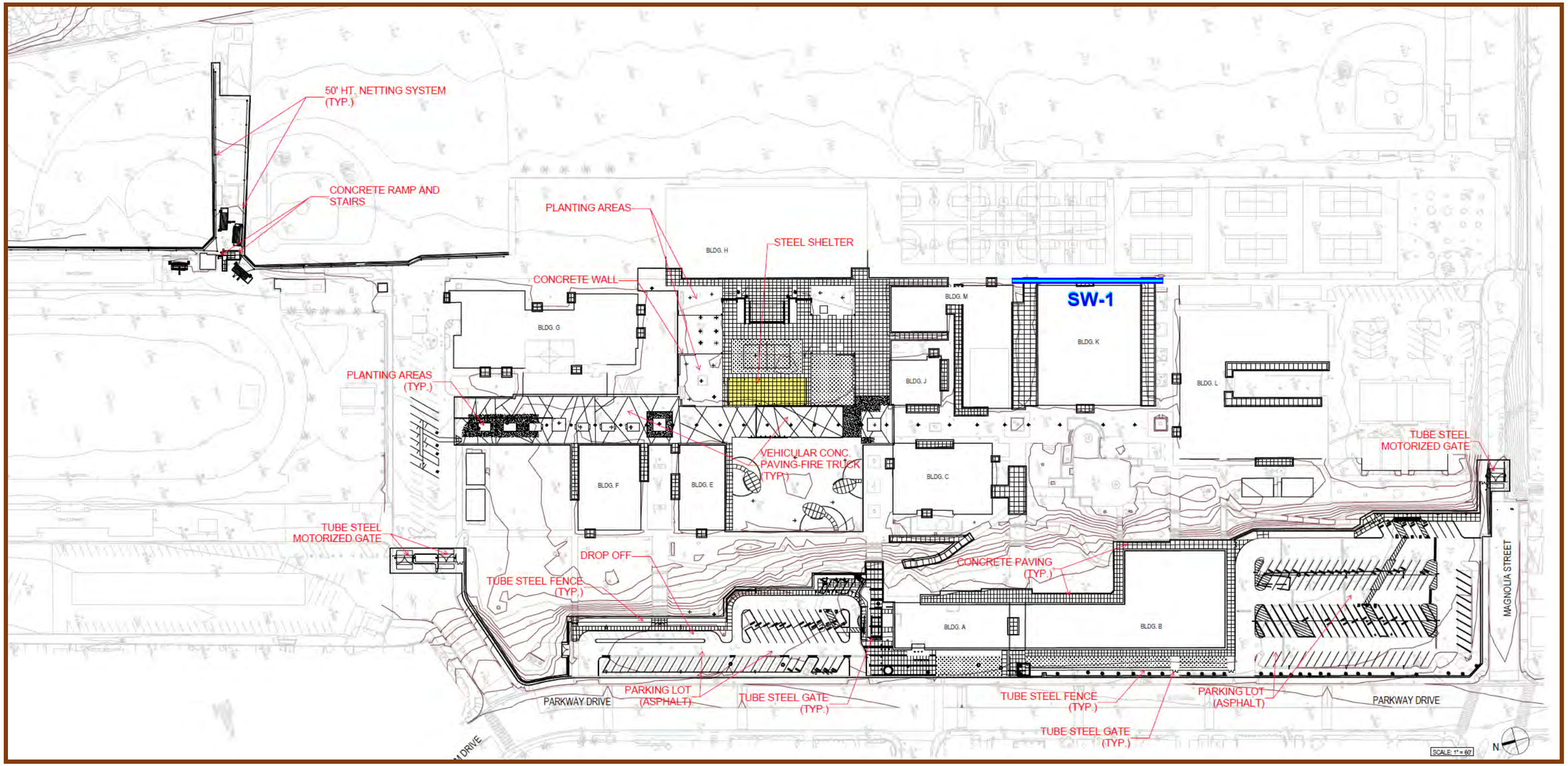
GOOGLE™ EARTH IMAGERY MAP

Base Map: Google™ Earth imagery (2022); **Seismic Line SW-1 indicated by blue line; Approximate school boundaries outlined in red.**

PROJECT NO. 292414-4

PLATE 3

SEISMIC LINE LOCATION MAP



Base Map: Provided 80-scale "Site Plan"; Shear-Wave traverse SW-1 shown as blue line.

PROJECT NO. 292414-4

PLATE 4

Enclosure 10 Page 1
Rpt. No.: 7439
File No.: S-14488

APPENDIX A

SHEAR-WAVE SURVEY

SHEAR-WAVE SURVEY

Methodology

The fundamental premise of this survey uses the fact that the Earth is always in motion at various seismic frequencies. These relatively constant vibrations of the Earth's surface are called microtremors, which are very small with respect to amplitude and are generally referred to as background "noise" that contain abundant surface waves. These microtremors are caused by both human activity (i.e., cultural noise, traffic, factories, etc.) and natural phenomenon (i.e., wind, wave motion, rain, atmospheric pressure, etc.) which have now become regarded as useful signal information. Although these signals are generally very weak, the recording, amplification, and processing of these surface waves has greatly improved by the use of technologically improved seismic recording instrumentation and recently developed computer software. For this application, we are mainly concerned with the Rayleigh wave portion of the seismic signals, which is also referred to as "ground roll" since the Rayleigh wave is the dominant component of ground roll.

For the purposes of this study, there are two ways that the surface waves were recorded, one being "active" and the other being "passive." Active means that seismic energy is intentionally generated at a specific location relative to the survey spread and recording begins when the source energy is imparted into the ground (i.e., MASW survey technique). Passive surveying, also called "microtremor surveying," is where the seismograph records ambient background vibrations (i.e., MAM survey technique), with the ideal vibration sources being at a constant level. Longer wavelength surface waves (longer-period and lower-frequency) travel deeper and thus contain more information about deeper velocity structure and are generally obtained with passive survey information. Shorter wavelength (shorter-period and higher-frequency) surface waves travel shallower and thus contain more information about shallower velocity structure and are generally collected with the use of active sources. For the most part, higher frequency active source surface waves will resolve the shallower velocity structure and lower frequency passive source surface waves will better resolve the deeper velocity structure. Therefore, the combination of both of these surveying techniques provides a more accurate depiction of the subsurface velocity structure.

The assemblage of the data that is gathered from these surface wave surveys results in development of a dispersion curve. Dispersion, or the change in phase velocity of the seismic waves with frequency, is the fundamental property utilized in the analysis of surface wave methods. The fundamental assumption of these survey methods is that the signal wavefront is planar, stable, and isotropic (coming from all directions) making it independent of source locations and for analytical purposes uses the spatial autocorrelation method (SPAC). The SPAC method is based on theories that are able to detect "signals" from background "noise" (Okada, 2003). The shear wave velocity (V_S) can then be calculated by mathematical inversion of the dispersive phase velocity of the surface waves which can be significant in the presence of velocity layering, which is common in the near-surface environment.

Field Procedures

One seismic shear-wave survey traverse (SW-1) was performed within the project site area, as approximated on the Google™ Earth Imagery Map (see Plate 3) and the Seismic Line Location Map (see Plate 4) for reference. For data collection, the field survey employed a twenty-four channel Geometrics StrataVisor™ NZXP model signal-enhancement refraction seismograph. This survey employed both active (MASW) and passive (MAM) source methods to ensure that both quality shallow and deeper shear-wave velocity information was recorded (Park et al., 2005). Both the MASW and MAM survey lines used the same linear geometry array that consisted of a 184-foot-long spread using a series of twenty-four 4.5-Hz geophones that were spaced at regular eight-foot intervals. For the MASW survey, the ground vibrations were recorded using a one second record length at a sampling rate of 0.5-milliseconds. Two seismic records were obtained using a 30-foot offset from the beginning and the end of the survey line, utilizing a 16-pound sledge-hammer as the energy source to produce the seismic waves. Each of these shot points used multiple shots (stacking) to improve the signal to noise ratio of the data.

The MAM survey did not require the introduction of any artificial seismic sources and only background ambient noise was recorded. The ambient ground vibrations were recorded using a thirty-two second record length at a two-millisecond sampling rate with 20 separate seismic records being obtained for quality control purposes. The seismic-wave forms and associated frequency spectrum that were displayed on the seismograph screen were used to assess the recorded seismic wave data for quality control purposes in the field. The acceptable records were digitally recorded on the in-board seismograph computer and subsequently transferred to a flash drive so that they could be subsequently transferred to our office computer for analysis.

Data Processing

For analysis and presentation of the shear-wave profile and supportive illustrations, this study used the SeisImager/SW™ computer software program developed by Geometrics, Inc. (2009). Both the active (MASW) and passive (MAM) survey results were combined for this analysis (Park et al., 2005). The combined results maximize the resolution and overall depth range in order to obtain one high resolution V_S curve over the entire sampled depth range. These methods economically and efficiently estimate one-dimensional subsurface shear-wave velocities using data collected from standard primary-wave (P-wave) refraction surveys, however, it should be noted that surface waves by their physical nature cannot resolve relatively abrupt or small-scale velocity anomalies.

Processing of the data proceeded by calculating the dispersion curve from the input data which subsequently created an initial shear-wave model based on the observed data. This initial model was then inverted in order to converge on the best fit of the initial model and the observed data, creating the final shear-wave model (Seismic Line SW-1) as presented within this appendix.

Data Analysis

Data acquisition went very smoothly and the quality was considered to be good. Analysis revealed that the average shear-wave velocity ("weighted average") in the upper 100 feet of the subject survey area is **1,033.2** feet per second (314.9 meters/sec) as shown on the shear-wave model for Seismic Line SW-1, as presented within this appendix. This average velocity classifies the underlying soils to that of Site Class "**D**" (Stiff Soil), which has a velocity range from 600 to 1,200 ft/sec (ASCE, 2017; Table 20.3-1).

The "weighted average" velocity is computed from a formula that is used by the ASCE (2017; Section 20.4, Equation 20.4-1) to determine the average shear-wave velocity for the upper 100 feet of the subsurface (V100) and is as follows:

$$V100' = 100/[(t1/v1) + (t2/v2) + ...+ (tn/vn)]$$

Where t1, t2, t3,...,tn, are the thicknesses for layers 1, 2, 3,...n, up to 100 feet, and v1, v2, v3,...,vn, are the seismic velocities (feet/second) for layers 1, 2, 3,...n. The shear-wave model displays these calculated layers and associated velocities (feet/second) to a depth of 184 feet where locally sampled. The associated Dispersion Curves (for both the active and passive methods) which show the data quality and picks, along with the resultant combined dispersion curve model are also included within this appendix for reference purposes.

Limitations

This survey was performed using "state of the art" geophysical equipment, techniques, and computer software. We make no warranty, either expressed or implied. It should be understood that when using these theoretical geophysical principles and techniques, sources of error are possible in both the data obtained and in the interpretation. Compared with traditional borehole shear-wave surveys of which use vertical body waves, the sources of error (if present) using horizontal surface waves for this project are not believed to be greater than 15 percent.

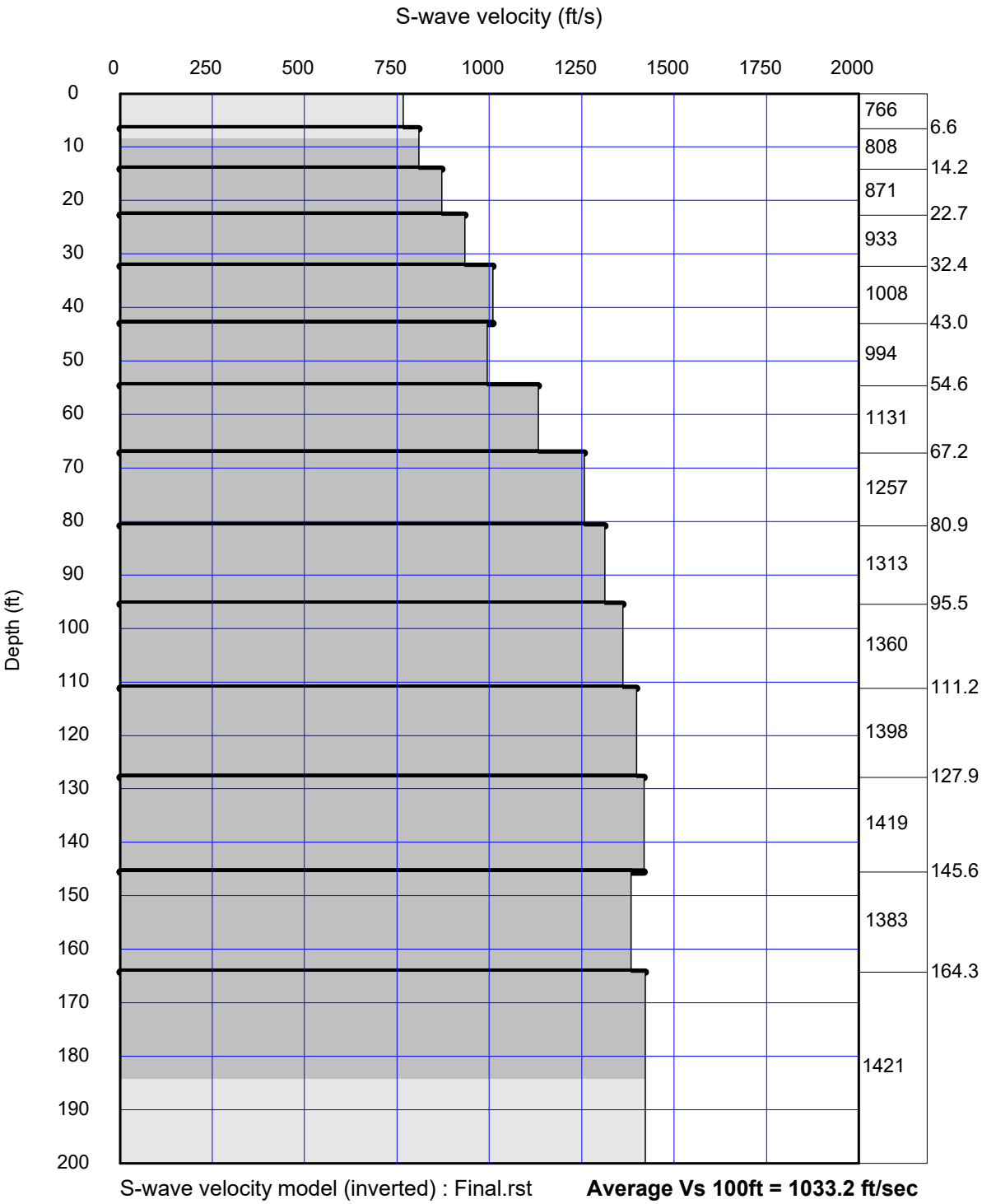
SURVEY LINE PHOTOGRAPHS

View looking northeast along Seismic Line SW-1.

View looking southwest along Seismic Line SW-1.

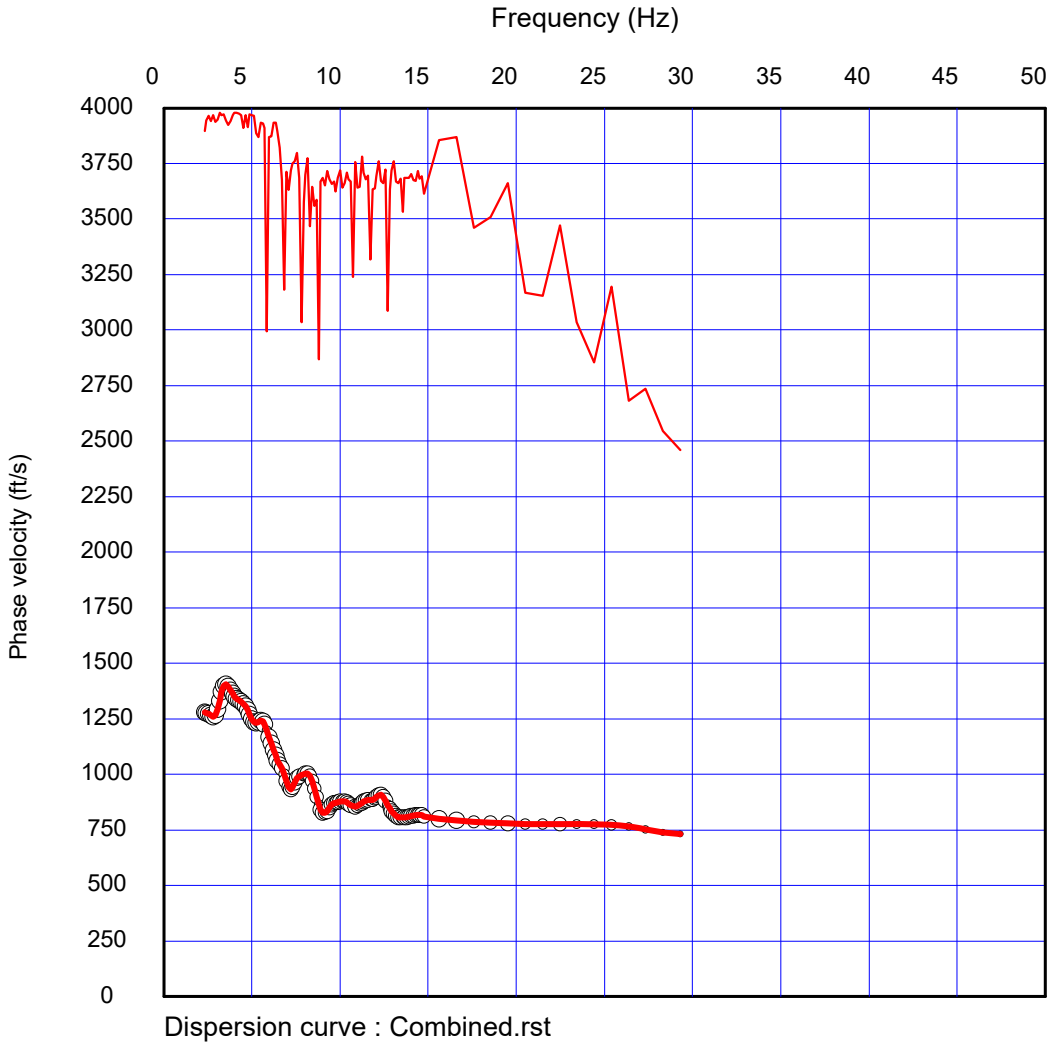
SEISMIC LINE SW-1

SHEAR-WAVE MODEL



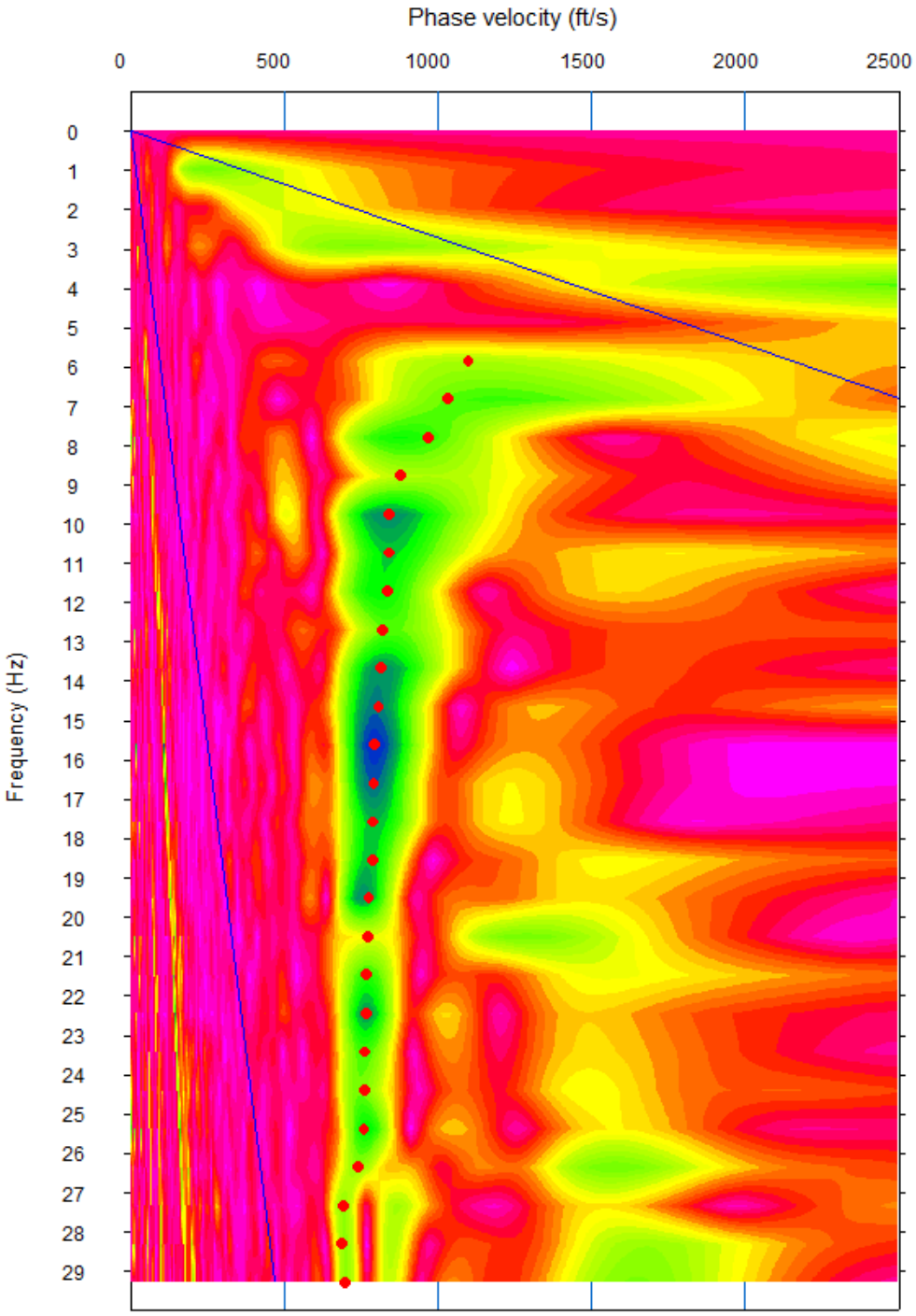
S-wave velocity model (inverted) : Final.rst **Average Vs 100ft = 1033.2 ft/sec**

SEISMIC LINE SW-1



COMBINED DISPERSION CURVE

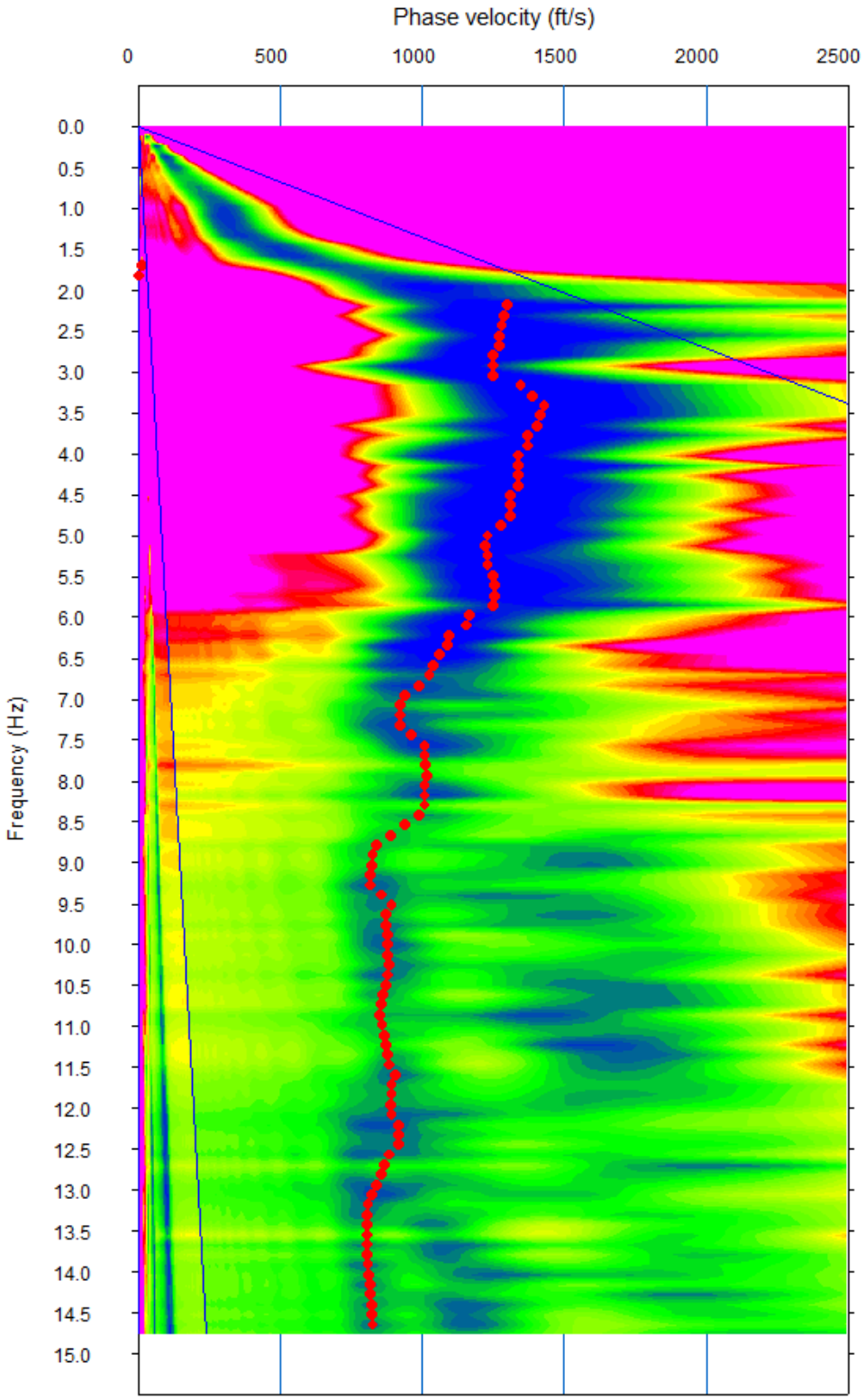
SEISMIC LINE SW-1



Dispersion curve : Active.dat

ACTIVE DISPERSION CURVE

SEISMIC LINE SW-1



Dispersion curve : Passive.dat

PASSIVE DISPERSION CURVE

APPENDIX B

SITE-SPECIFIC GROUND MOTION ANALYSIS

SITE-SPECIFIC GROUND MOTION ANALYSIS

A detailed summary of the site-specific ground motion analysis, which follows Section 21 of the ASCE Standard 7-16 (2017) and the 2019 California Building Code is presented below, with the Seismic Design Parameters Summary included within this appendix following the summary text.

- **Mapped Spectral Acceleration Parameters (CBC 1613A.2.1)-**

  Based on maps prepared by the U.S.G.S (Risk-Adjusted Maximum Considered Earthquake (MCE_R) Ground Motion Parameter for the Conterminous United States for the 0.2 and 1-second Spectral Response Acceleration (5% of Critical Damping; Site Class B/C), a value of **1.776g** for the 0.2 second period (S_s) and **0.641g** for the 1.0 second period (S_1) was calculated (ASCE 7-16 Figures 22-1, 22-2 and CBC 1613A.2.1).

- **Site Classification (CBC 1613A.2.2 & ASCE 7-16 Chapter 20)-**

  Based on the site-specific measured shear-wave value of 1,033.2 feet/second (314.9 m/sec), the soil profile type used should be Site Class **"D."** This Class is defined as having the upper 100 feet (30 meters) of the subsurface being underlain by "Stiff Soil" with average shear-wave velocities of 600 to 1,200 feet/second (180 to 360 meters/second), as detailed within Appendix A.

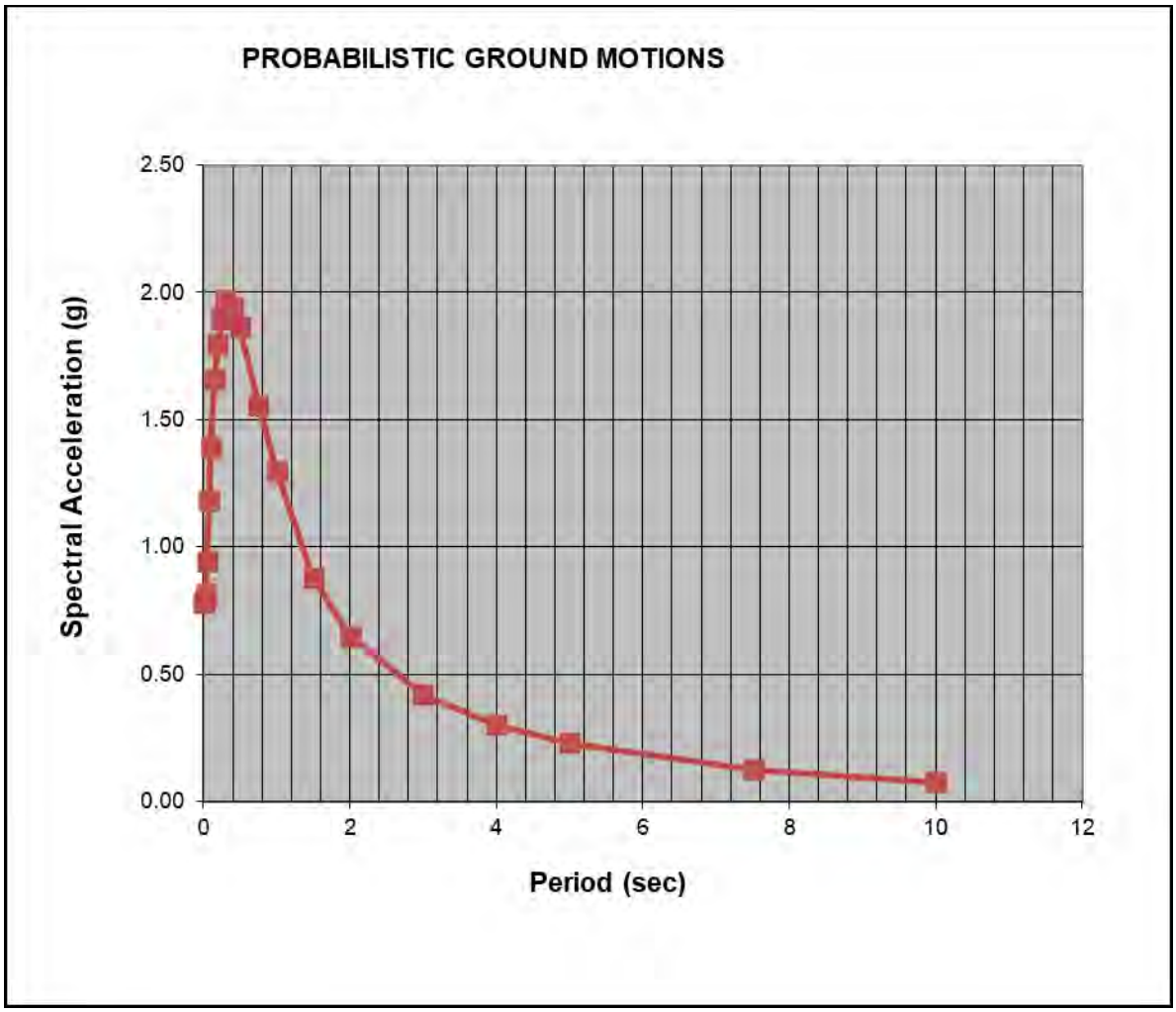
- **Site Coefficients (CBC 1613A.2.3)-**

  Based on CBC Tables 1613A.2.3(1) and 1613A.2.3(2), the site coefficient $\mathbf{F_a = 1.0}$ and $\mathbf{F_v = 1.7}$, respectively.

- **Probabilistic (MCE_R) Ground Motions (ASCE 7 Section 21.2.1)-**

  Per Section 21.2.1.1 (**Method 1**), the probabilistic MCE spectral accelerations shall be taken as the spectral response accelerations in the direction of maximum response represented by a five percent damped acceleration response spectrum that is expected to achieve a one percent probability of collapse within a 50-year period.

  The probabilistic analysis included the use of the Open Seismic Hazard Analysis (OpenSHA). The selected Earthquake Rupture Forecast (ERF) was UCERF3 along with a Probability of Exceedance of 2% in 50 Years. The average of four Next Generation Attenuation West-2 Relations (2014 NGA) were utilized to produce a response spectrum. These included Chiou & Youngs (2014), Abrahamsom et al. (2014), Campbell & Bozorgnia (2014), Boore et al. (2014), and Campbell & Bozorgnia (2014). The Probabilistic Risk Targeted Response Spectrum was determined as the product of the ordinates of the probabilistic response spectrum and the applicable risk coefficient (C_R). These values were then modified to produce a spectrum based upon the maximum rotated components of ground motion. The resulting MCE_R Response Spectrum is indicated below:



- **Deterministic Spectral Response Analyses (ASCE 7 Section 21.2.2)-**

  The deterministic MCE_R response acceleration at each period shall be calculated as an 84th-percentile 5 percent damped spectral response acceleration in the direction of maximum horizontal response computed at that period. The largest such acceleration calculated for the characteristic earthquakes on all known active faults within the region shall be used. Analyses were conducted using the average of four Next Generation Attenuation West-2 Relations (2014 NGA), including Chiou & Youngs (2014), Abrahamsom et al. (2014), Boore et al. (2014), and Campbell & Bozorgnia (2014).

  Based on our review of the Fault Section Database within the Uniform California Earthquake Rupture Forecast (UCERF 3; Field et al., 2013) and the location of the nearest and largest regional fault with respect to the subject site, the Whittier Fault, located 3.9± miles to the southwest, was used for this analysis. This fault is the northern segment of the Elsinore Fault Zone of which this analysis includes consideration of a cascading rupture event that includes all five primary individual segments along the length of the entire fault zone, which results in a design moment magnitude earthquake of M_w7.8.

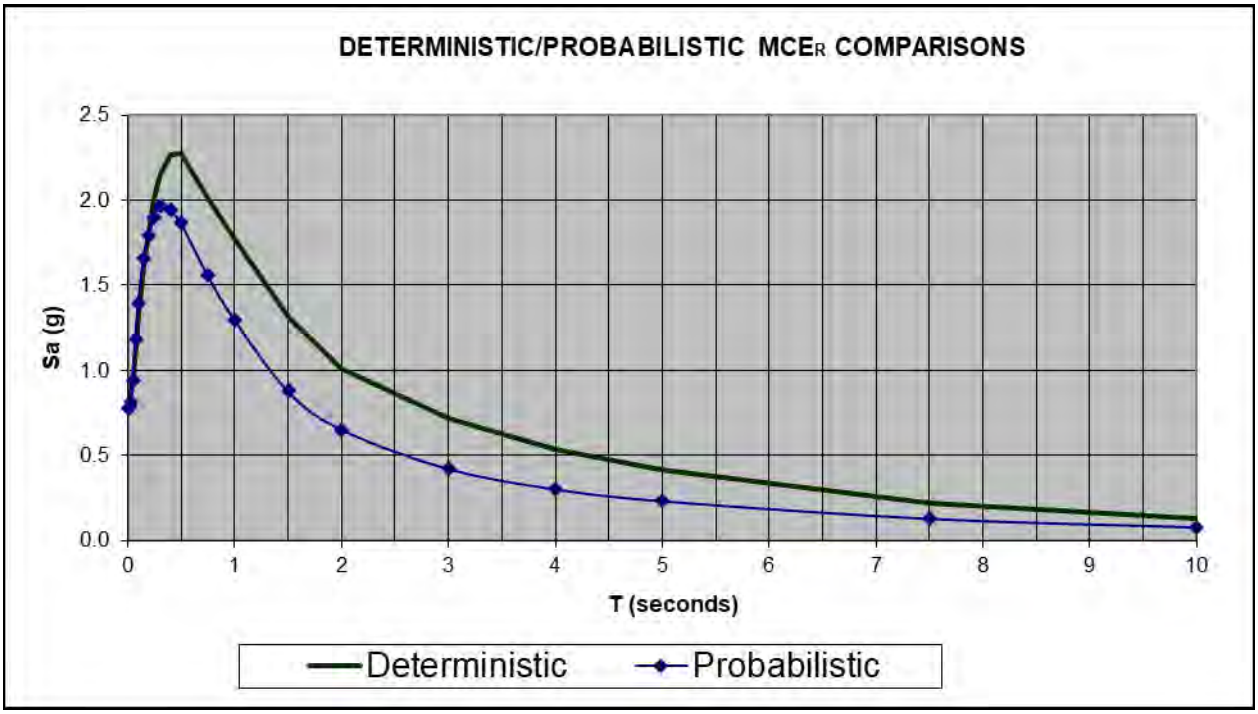
- **Site Specific MCE_R (ASCE 7 Section 21.2.3)-**

  The site-specific MCE_R spectral response acceleration at any period, S_{aM}, shall be taken as the lesser of the spectral response accelerations from the probabilistic ground motions of Section 21.2.1 and the deterministic ground motions of Section 21.2.2. The deterministic ground motions were compared with the probabilistic ground motions that were determined in accordance with Section 21.2.1. These results are tabulated below:

Comparison of Deterministic MCE_R Values with Probabilistic MCE_R Values - Section 21.2.3

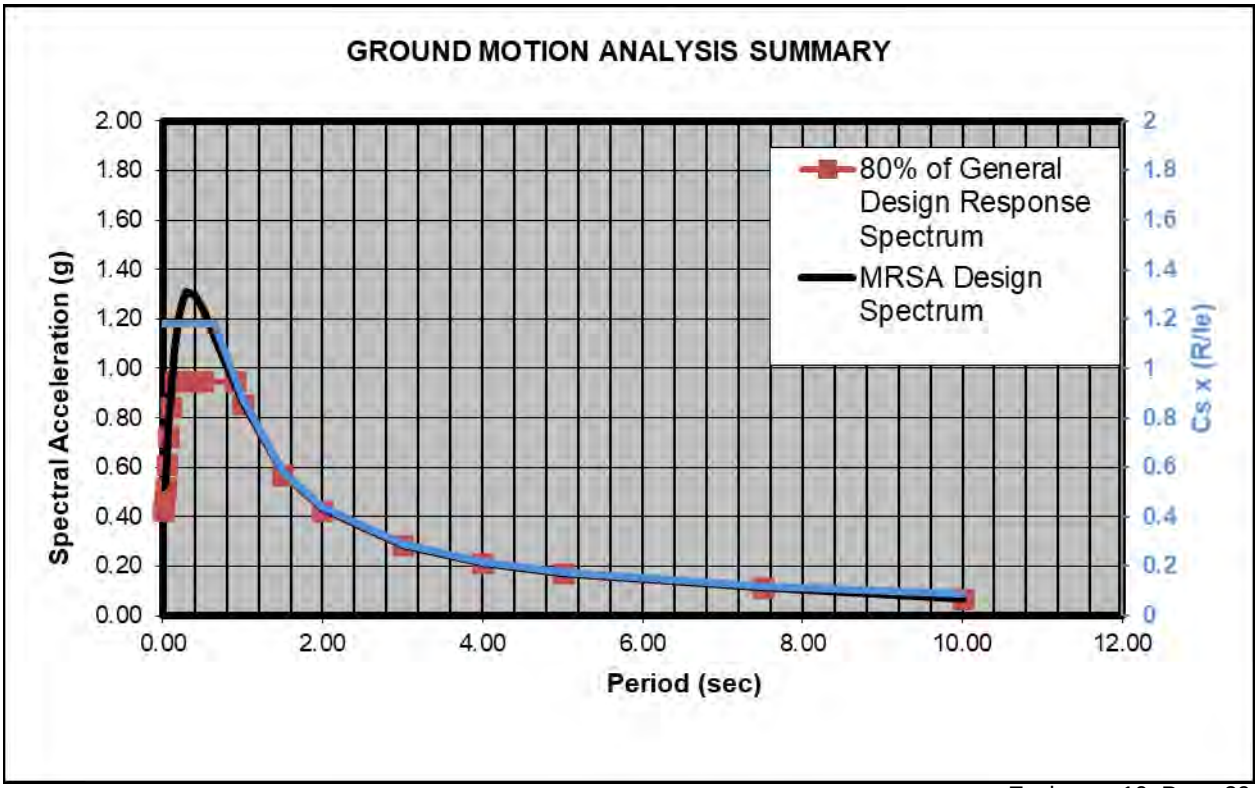
Period	Deterministic	Probabilistic	Lower Value (Site Specific MCE_R)	Governing Method	
T	MCE_R	MCE_R			
0.010	0.85	0.78	0.78	Probabilistic Governs	
0.020	0.86	0.78	0.78	Probabilistic Governs	
0.030	0.87	0.81	0.81	Probabilistic Governs	
0.050	0.97	0.94	0.94	Probabilistic Governs	
0.075	1.15	1.18	1.15	Deterministic Governs	
0.100	1.33	1.39	1.33	Deterministic Governs	
0.150	1.62	1.66	1.62	Deterministic Governs	
0.200	1.82	1.80	1.80	Probabilistic Governs	
0.250	2.01	1.90	1.90	Probabilistic Governs	
0.300	2.15	1.97	1.97	Probabilistic Governs	
0.400	2.27	1.94	1.94	Probabilistic Governs	
0.500	2.27	1.87	1.87	Probabilistic Governs	
0.750	2.01	1.56	1.56	Probabilistic Governs	
1.000	1.77	1.30	1.30	Probabilistic Governs	
1.500	1.31	0.88	0.88	Probabilistic Governs	
2.000	1.01	0.65	0.65	Probabilistic Governs	
3.000	0.71	0.42	0.42	Probabilistic Governs	
4.000	0.54	0.30	0.30	Probabilistic Governs	
5.000	0.42	0.23	0.23	Probabilistic Governs	
7.500	0.22	0.13	0.13	Probabilistic Governs	
10.000	0.13	0.08	0.08	Probabilistic Governs	

These comparisons are plotted in the following diagram:



- **Design Response Spectrum (ASCE 7 Section 21.3)-**

  In accordance with Section 21.3, the Design Response Spectrum was developed by the following equation: $S_a = 2/3S_{aM}$, where S_{aM} is the MCE_R spectral response acceleration obtained from Section 21.1 or 21.2. The design spectral response acceleration shall not be taken less than 80 percent of S_a. These are plotted and compared with 80% of the CBC Spectrum values in the following diagram:



- **Design Acceleration Parameters (ASCE 7 Section 21.4)-**

  Where the site-specific procedure is used to determine the design ground motion in accordance with Section 21.3, the parameter S_{DS} shall obtained from the site-specific spectra at a period of 0.2 s, except that it shall not be taken less than 90 percent of the peak spectral acceleration, S_a, at any period larger than 0.2 s. The parameter S_{D1} shall be taken as the greater of the products of Sa * T for periods between 1 and 5 seconds. The parameters S_{MS}, and S_{M1} shall be taken as 1.5 times S_{DS} and S_{D1}, respectively. The values so obtained shall not be less than 80 percent of the values determined in accordance with Section 11.4.4 for S_{MS}, and S_{M1} and Section 11.4.5 for S_{DS} and S_{D1}.

- **Site Specific Design Parameters -**

  For the 0.2 second period (S_{DS}), a value of 1.18g was computed, based upon the average spectral accelerations. The maximum average acceleration for any period exceeding 0.2 seconds was 1.31g occurring at T=0.30 seconds. This was multiplied by 0.9 to produce a value of 1.18g making this the applicable value. A value of 0.88g was calculated for S_{D1} at a period of 1 second (ASCE 7-16, 21.4). For the MCE_R 0.2 second period, a value of 1.771g (S_{MS}) was computed, along with a value of 1.318g (S_{M1}) for the MCE_R 1.0 second period was also calculated (ASCE 7-16, 21.2.3).

- **Site-Specific MCE_G Peak Ground Accelerations (ASCE 7 Section 21.5)-**

  The probabilistic geometric mean peak ground acceleration (2 percent probability of exceedance within a 50-year period) was calculated as 0.81g. The deterministic geometric mean peak ground acceleration (largest 84th percentile geometric mean peak ground acceleration for characteristic earthquakes on all known active faults within the site region) was calculated as 0.77g. The site-specific MCE_G peak ground acceleration was calculated to be **0.77g**, which was determined by using the lesser of the probabilistic (0.81g) or the deterministic (0.77g) geometric mean peak ground accelerations, but not taken as less than 80 percent of PGA_M (i.e., 0.83g x 0.80 = 0.67g).

SEISMIC DESIGN PARAMETERS SUMMARY

Project: Mountain View High School
Project #: 292414-3
Date: 12/5/21

Lattitude: 34.05331
Longitude: -118.01129

CALIFORNIA BUILDING CODE CHAPTER 16/ASCE7-16

Mapped Acceleration Parameters per ASCE 7-16, Chapter 22

S_s=	1.776	Figure 22-1
S_1=	0.641	Figure 22-2

Site Class per Table 20.3-1

Site Class=	D - Stiff Soil

Site Coefficients per ASCE 7-16 CHAPTER 11

F_a=	1	Table 11.4-1	=	1.00	For Site Specific Analysis per ASCE7-16 21.3
F_v=	1.70	Table 11.4-2	=	2.50	For Site Specific Analysis per ASCE7-16 21.3

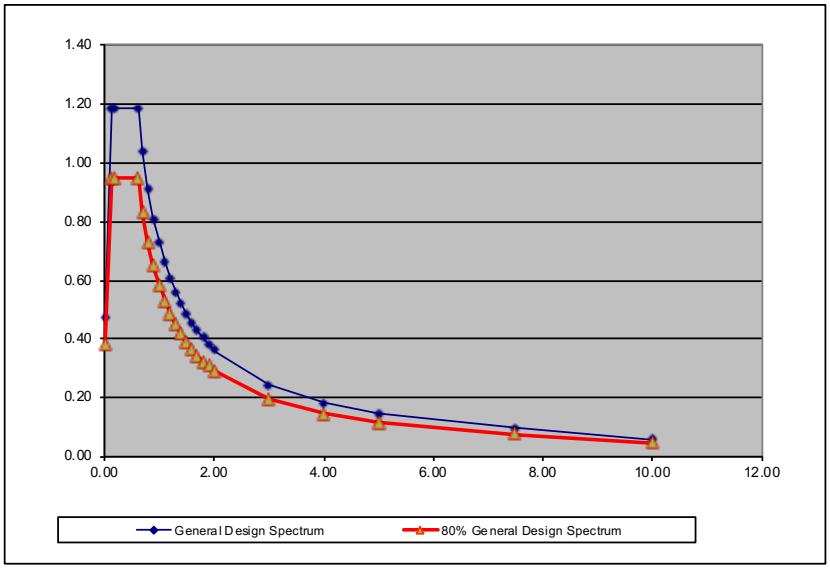
Mapped Design Spectral Response Acceleration Parameters

S_{Ms}=	1.776	Equation 11.4-1		1.776	For Site Specific Analysis per ASCE7-16 21.3
S_{M1}=	1.090	Equation 11.4-2		1.603	For Site Specific Analysis per ASCE7-16 21.3

S_{DS}=	1.184	Equation 11.4-3	
S_{D1}=	0.726	Equation 11.4-4	

T_0=	0.123	sec	
T_S=	0.614	sec	
T_L=	8	sec	From Fig 22-12
PGA	0.759	g	
F_{PGA}=	1.1		From Table 11.8-1
C_{RS}=	0.905		Figure 22-17
C_{R1}=	0.9		Figure 22-18

Period (T)	Sa (ASCE7-16 - 11.4.6)	80% General Design Spectrum
0.01	0.47	0.380
0.12	1.18	0.947
0.20	1.18	0.947
0.61	1.18	0.947
0.70	1.04	0.830
0.80	0.91	0.726
0.90	0.81	0.646
1.00	0.73	0.581
1.10	0.66	0.528
1.20	0.61	0.484
1.30	0.56	0.447
1.40	0.52	0.415
1.50	0.48	0.387
1.60	0.45	0.363
1.70	0.43	0.342
1.80	0.40	0.323
1.90	0.38	0.306
2.00	0.36	0.291
3.00	0.24	0.194
4.00	0.18	0.145
5.00	0.15	0.116
7.50	0.10	0.077
10.00	0.06	0.046



ASCE 7-16 - RISK-TARGETED MAXIMUM CONSIDERED EARTHQUAKE GROUND MOTION ANALYSIS

Use Maximum Rotated Horizontal Component?* (Y/N) y

Presented data are the average of Chiou & Youngs (2014), Abrahamson et. al. (2014) , Boore et. al (2014) and Campbell & Bozorgnia (2014) NGA West-2 Relationships

Field, E.H., T.H. Jordan, and C.A. Cornell (2003), OpenSHA: A Developing Community-Modeling Environment for Seismic Hazard Analysis, Seismological Research Letters, 74, no. 4, p. 406-419.

Earthquake Rupture Forecast - UCERF3 Single Branch ERF, Fault Model 3.1

PROBABILISTIC MCER per 21.2.1.1 **Method 1**

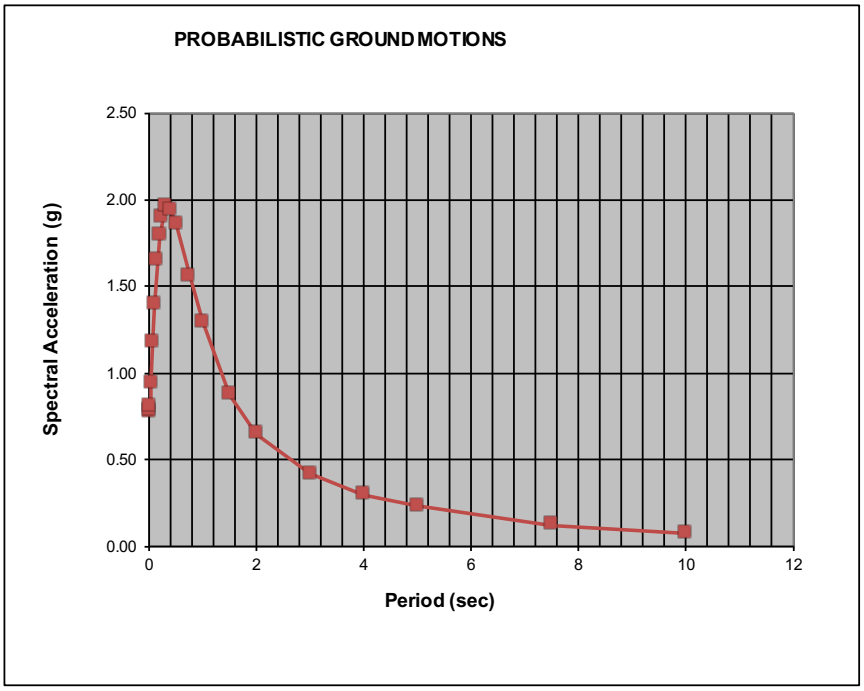
Risk Coefficients taken from Figures 22-18 and 22-19 of ASCE 7-16

OpenSHA data

2% Probability Of Exceedance in 50 years

Maximum Rotated Horizontal Component determined per ASCE7-16 Ssection 21.2

T	Sa 2% in 50	MCER
0.01	0.86	0.78
0.02	0.87	0.78
0.03	0.90	0.81
0.05	1.04	0.94
0.08	1.31	1.18
0.10	1.54	1.39
0.15	1.83	1.66
0.20	1.98	1.80
0.25	2.10	1.90
0.30	2.18	1.97
0.40	2.15	1.94
0.50	2.07	1.87
0.75	1.73	1.56
1.00	1.44	1.30
1.50	0.98	0.88
2.00	0.72	0.65
3.00	0.47	0.42
4.00	0.33	0.30
5.00	0.26	0.23
7.50	0.14	0.13
10.00	0.09	0.08



S_s=	1.98	1.80
S_1=	1.44	1.30
PGA	0.81 g	

Risk Coefficients:			
C_{RS}	0.905	Figure 22-18	Get from Mapped Values
C_{R1}	0.9	Figure 22-19	
Fa=	1	Table 11.4-1	Per ASCE7-16 - 21.2.3
Is $Sa_{(max)}$<1.2XFa?		NO	If "YES", Probabilistic Spectrum prevails

DETERMINISTIC MCE per 21.2.2

Input Parameters		Elsinore Fault Zone
Fault		
M	= Moment magnitude	7.8
R_{RUP}	= Closest distance to coseismic rupture (km)	6.3
R_{JB}	= Closest distance to surface projection of coseismic rupture (km)	6.3
Rx	= Horizontal distance to top edge of rupture measured perpendicular to strike (km)	6.3
U	= Unspecified Faulting Flag (Boore et.al.)	0
F_{RV}	= Reverse-faulting factor: 0 for strike slip, normal, normal-oblique; 1 for reverse, reverse-oblique and thrust	0
F_{NM}	= Normal-faulting factor: 0 for strike slip, reverse, reverse-oblique and thrust; 1 for normal and normal-oblique	0
F_{HW}	= Hanging-wall factor: 1 for site on down-dip side of top of rupture; 0 otherwise, used in AS08 and CY08	0
Z_{TOR}	= Depth to top of coseismic rupture (km)	0
δ	= Average dip of rupture plane (degrees)	90
V_{S30}	= Average shear-wave velocity in top 30m of site profile	314.9
$F_{Measured}$		1
$Z_{1.0}$	= Depth to Shear Wave Velocity of 1.0 km/sec (km)	0.4
$Z_{2.5}$	= Depth to Shear Wave Velocity of 2.5 km/sec (km)	4.15
Site Class		D
W (km)	= Fault rupture width (km)	14.6
F_{AS}	= 0 for mainshock; 1 for aftershock	0
σ	=Standard Deviation	1

Deterministic Summary - Section 21.2.2 (Supplement 1)

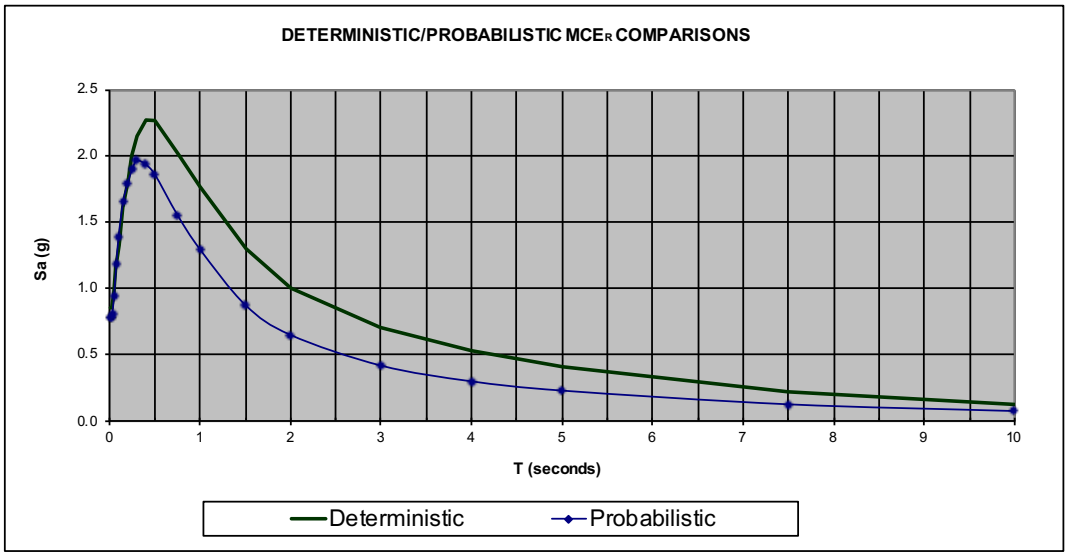
T	Median S_a (Average)	*Corrected* S_a (per ASCE7-16)*	*Scaled $S_{a(Average)}$*
0.010	0.77	0.85	0.85
0.020	0.78	0.86	0.86
0.030	0.79	0.87	0.87
0.050	0.88	0.97	0.97
0.075	1.05	1.15	1.15
0.100	1.21	1.33	1.33
0.150	1.47	1.62	1.62
0.200	1.65	1.82	1.82
0.250	1.81	2.01	2.01
0.300	1.91	2.15	2.15
0.400	1.97	2.27	2.27
0.500	1.93	2.27	2.27
0.750	1.63	2.01	2.01
1.000	1.36	1.77	1.77
1.500	0.99	1.31	1.31
2.000	0.75	1.01	1.01
3.000	0.51	0.71	0.71
4.000	0.37	0.54	0.54
5.000	0.28	0.42	0.42
7.500	0.15	0.22	0.22
10.000	0.08	0.13	0.13
PGA	0.77		0.77 g
Max Sa=	2.27		
Fa =	1.00	Per ASCE7-16 21.2.2	
1.5XFa=	1.5		
Scaling Factor=	1.00		

* Correction is the adjustment for Maximum Rotated Value if Applicable

SITE SPECIFIC MCE_R - Compare Deterministic MCE_R Values (S_a) with Probabilistic MCE_R Values (S_a) per 21.2.3

Presented data are the average of Chiou & Youngs (2014), Abrahamson et. al. (2014) , Boore et. al (2014) and Campbell & Bozorgnia (2014) NGA West-2 Relationships

Period	Deterministic	Probabilistic	Lower Value (Site Specific MCE_R)	Governing Method
T	MCE_R	MCE_R		
0.010	0.85	0.78	0.78	Probabilistic Governs
0.020	0.86	0.78	0.78	Probabilistic Governs
0.030	0.87	0.81	0.81	Probabilistic Governs
0.050	0.97	0.94	0.94	Probabilistic Governs
0.075	1.15	1.18	1.15	Deterministic Governs
0.100	1.33	1.39	1.33	Deterministic Governs
0.150	1.62	1.66	1.62	Deterministic Governs
0.200	1.82	1.80	1.80	Probabilistic Governs
0.250	2.01	1.90	1.90	Probabilistic Governs
0.300	2.15	1.97	1.97	Probabilistic Governs
0.400	2.27	1.94	1.94	Probabilistic Governs
0.500	2.27	1.87	1.87	Probabilistic Governs
0.750	2.01	1.56	1.56	Probabilistic Governs
1.000	1.77	1.30	1.30	Probabilistic Governs
1.500	1.31	0.88	0.88	Probabilistic Governs
2.000	1.01	0.65	0.65	Probabilistic Governs
3.000	0.71	0.42	0.42	Probabilistic Governs
4.000	0.54	0.30	0.30	Probabilistic Governs
5.000	0.42	0.23	0.23	Probabilistic Governs
7.500	0.22	0.13	0.13	Probabilistic Governs
10.000	0.13	0.08	0.08	Probabilistic Governs



DESIGN RESPONSE SPECTRUM per Section 21.3

DESIGN ACCELERATION PARAMETERS per Section 21.4 (MRSA)

Period	2/3*MCE_R	80% General Design Response Spectrum (per ASCE 7-16 Figure 11.4-1)	Design Response Spectrum	TXSa
0.01	0.52	0.43	0.52	
0.02	0.52	0.47	0.52	
0.03	0.54	0.52	0.54	
0.05	0.63	0.61	0.63	
0.08	0.77	0.73	0.77	
0.10	0.89	0.84	0.89	
0.15	1.08	0.95	1.08	
0.20	1.20	0.95	1.20	
0.25	1.27	0.95	1.27	
0.30	1.31	0.95	1.31	
0.40	1.29	0.95	1.29	
0.50	1.24	0.95	1.24	
0.75	1.04	0.95	1.04	
1.00	0.87	0.85	0.87	0.87
1.50	0.59	0.57	0.59	0.88
2.00	0.43	0.43	0.43	0.87
3.00	0.28	0.28	0.28	0.85
4.00	0.20	0.21	0.21	0.85
5.00	0.15	0.17	0.17	0.85
7.50	0.08	0.11	0.11	
10.00	0.05	0.07	0.07	

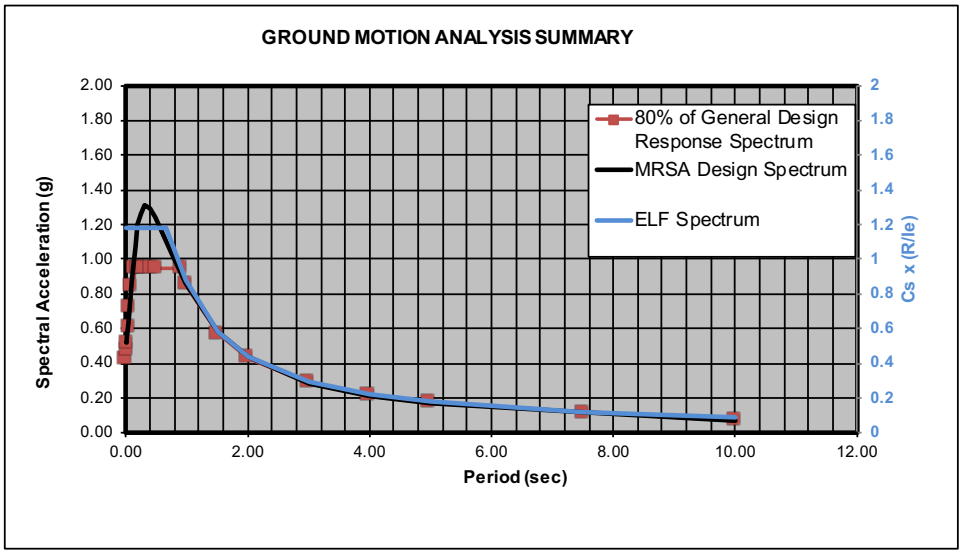
Highest value of S_a for any period exceeding 0.2 sec.=	1.31
90%of Highest Value =	1.18
80% of Mapped S_{DS}=	0.95
Maximum TSa from T=1s-5s =	0.88
80% of Mapped S_{D1}=	0.58

S_{DS}=	1.18
S_{D1}=	0.88
T_S =	0.74

S_{MS}=	1.771
S_{M1}=	1.318

PGA Determination:

Site Coefficient F_{PGA}=	1.1	
Mapped PGA=	0.76	Figure 22-7
PGA_M =	0.83	g
Deterministic PGA =	0.77	g
Probabilistic PGA =	0.81	g
Lesser of Deterministic/Probabilistic =	0.77	g
80% of $PGA_{M=}$	0.67	g
MCE_G PGA=	0.77	g



APPENDIX C

REFERENCES

REFERENCES

American Society of Civil Engineers (ASCE), 2017, Minimum Design Loads and Associated Criteria for Buildings and other Structures, ASCE Standard 7-16, 889pp.

Blake, T.F. 1989-2000a, EQFAULT, A computer program for the deterministic prediction of peak horizontal acceleration from digitized California faults, Version 2.03, revised 1993.

Blake, T.F. 1989-2021, EQSEARCH, A computer program for the estimation of peak horizontal acceleration from Southern California Historical Earthquake Catalog, Version 3.00b.

Boore, D.M., Joyner, W.B., and Fumal, T.E., 1997, Equations for Estimating Horizontal Response Spectra and Peak Acceleration from Western North American Earthquakes: A Summary of Recent Work, *in*, Seismological Research Letters, Volume 68, pp. 128-153.

California Building Standards Commission (CBSC), 2019, 2019 California Building Code, California Code of Regulations, Title 24, Part 2, Volume 2 of 2.

California Department of Education, 2021, School Site Selection and Approval Guide, Appendix H, Factors to be Included in a Geological and Environmental Hazards Report.

California Department of Water Resources (DWR), 1966, Planned Urbanization of Ground Water Basins, San Gabriel Valley, Appendix A: Geohydrology.

California Department of Water Resources, 2004, San Gabriel Groundwater Basin, California's Groundwater, DWR Bulletin 118, 6 pp.

California Department of Water Resources (C.D.W.R.), 2022a, California Dam Inundation Maps, https://fmds.water.ca.gov/maps/damim/.

California Department of Water Resources (C.D.W.R.), 2022b, California Statewide Groundwater Elevation Monitoring System (CASGEM) Online System-Public Portal, https://www.casgem.water.ca.gov/OSS/(S(55ycplfqqslsga0raytn2oln))/Public/ApplicationHome.aspx

California Division of Mines & Geology (C.D.M.G.), 1986, "Guidelines to Geo-logic/Seismic Reports," Note No. 42.

California Division of Mines & Geology (C.D.M.G.), 1996, Probabilistic Seismic Hazard Assessment for the State of California, C.D.M.G. Open File Report 96-08.

California Division of Mines & Geology (C.D.M.G.), 1998, Seismic Hazard Report for the El Monte 7.5-Minute Quadrangle, Los Angeles County, California, Seismic Hazard Report 024, 59 pp.

California Division of the State Architect (DSA), 2021, Geohazard Reports Requirements: 2019 CBC, IR A-4, 7 pp.

California Geological Survey (C.G.S.), 2013, Guidelines for Preparing Geological Reports for Regional-Scale Environmental and resource Management Planning, CGS Note 52.

California Geological Survey (C.G.S.), 2008, Guidelines for Evaluating and Mitigating Seismic Hazards, in California C.D.M.G. Special Publication 117.

California Geological Survey (C.G.S.), 2018, Earthquake Fault Zones: A Guide for Government Agencies, Property Owners/Developers, and Geoscience Practitioners for Assessing Fault Rupture Hazards in California, CGS Special Publication 42, 93 pp.

California Geological Survey (C.G.S), 2019, Checklist for the Review of Engineering Geology and Seismology Reports for California Public Schools, Hospitals, and Essential Services Buildings, Note 48, November 2019, 2 pp.

California's Office of Statewide Health Planning and Development (OSHPD), 2022, OSHPD Seismic Design Maps Tool web application, https://seismicmaps.org/.

California State Board for Geologists and Geophysicists, 1998, Department of Consumer Affairs, Guidelines for Geophysical Reports for Environmental and Engineering Geology, 5 pp.

Cao, T., Bryant, W.A., Rowshandel, B., Branum, D., and Wills, C.J., 2003, The Revised 2002 California Probabilistic Seismic Hazard Maps, California Geological Survey.

City of El Monte School District, 2004, Local Hazard Mitigation Plan, 166 pp.

El Monte, City of, 2011, City of El Monte General Plan, 449 pp.

Field, E.H., et al., 2013, Uniform California Earthquake Rupture Forecast, Version 3 (UCERF3)—The Time-Independent Model, U.S.G.S. Open-File Report 2103-1165, CGS Special Report 228, and Southern California Earthquake Center Publication 1792.

Geometrics, Inc., 2016, SeisImager/SW Analysis of Surface Waves, Pickwin Version 5.2.1.3. and WaveEq Version 4.0.1.0.

Google™ Earth, 2022, http://earth.google.com/, Version 7.3.4.8248 (64-bit).

John R. Byerly, Inc. (JRB), 2013, Geotechnical Investigation, Mountain View High School, Proposed Cafeteria, 2900 Parkway Drive, El Monte, California, File No. S-13442, Report No. 1567, dated October 21, 2013.

John R. Byerly, Inc. (JRB), 2021, Exploratory Boring Logs B-1 and B-2, File No. 14445, dated December 4, 2021.

John R. Byerly, Inc. (JRB), 2022, Exploratory Boring Logs B-1 through B-7, File No. 14488, dated May 7, 2022.

Larson, R., and Slosson, J., 1992, The Role of Seismic Hazard Evaluation in Engineering Reports, in Engineering Geology Practice in Southern California, AEG Special Publication No. 4, pp. 191-194.

Los Angeles County Department of Regional Planning, (2008), Draft General Plan, Safety Element, http://planning.lacounty.gov/assets/upl/project/gp_web-ch08.pdf.

Louie, J.N., 2001, Faster, Better: Shear-Wave Velocity to 100 Meters Depth from Refraction Microtremor Arrays, *in,* Bulletin of the Seismological Society of America, Volume 91, pp. 347-364.

Martin, R.C., and Davis, J.F., 1982, Status of Volcanic Prediction and Emergency Response Capabilities in Volcanic Hazard Zones of California, C.D.M.G. Special Publication 63.

Okada, H., 2003, The Microtremor Survey Method, Society of Exploration Geophysicists, Geophysical Monograph Series Number 12, 135 pp.

Park, C.B, Milner, R.D., Rynden, N., Xia, J., and Ivanov, J., 2005, Combined use of Active and Passive Surface Waves, *in*, Journal of Environmental and Engineering Geophysics, Volume 10, Issue 3, pp. 323-334.

Petersen, M.D. et al., 2008, Documentation for the 2008 Update of the United States National Seismic Hazard Maps, United States Geological Survey Open-File Report 2008-1128.

Sydnor, R.H., 2004, Engineering Geology and Seismology for Public School and Hospitals; to Accompany California Geological Survey Note 48 Checklist, 264 pp.

Terra Geosciences, 2000, Geoseismic Evaluation, Mountain View High School, 2900 Parkway Drive, El Monte, California, Project No. 201185-1, dated February 2, 2000.

Terra Geosciences, 2009, Geoseismic Evaluation, Proposed Multi-Purpose Building, Mountain View High School, 2900 Parkway Drive, El Monte, California, Project No. 292414-1, dated September 18, 2009.

Terra Geosciences, 2013, Geologic Hazards Report, Proposed Cafeteria Building, Mountain View High School, 2900 Parkway Drive, El Monte, California, Project No. 292414-2, dated October 2, 2013.

Toppozada, T.R., et al., 1981, Preparation of Isoseismal Maps and Summaries of Reported Effects for pre-1900 California Earthquakes, C.D.M.G. Open File Report 81-11.

Toppozada, T.R., and Parke, D.L., 1982, Areas Damaged by California Earthquakes, 1900 - 1949, C.D.M.G. Open File Report 82-17.

United States Environmental Protection Agency (EPA), 1993, EPA's Map of Radon Zones, California, Manual 402-R-93-025, 78 pp.

United States Geological Survey (U.S.G.S.), 2021, Hazard Spectrum Application, Version 1.5.2 (http://opensha.org).

United States Geological Survey (U.S.G.S.), 2022a, ANSS Comprehensive Earthquake Catalog (ComCat), https://earthquake.usgs.gov/data/comcat/.

United States Geological Survey (U.S.G.S.), 2022b, Quaternary Faults and Folds in the U.S. database, https://earthquake.usgs.gov/static/lfs/nshm/qfaults/qfaults.kmz.

United States Geological Survey (U.S.G.S.), 2022c, National Water Information Service: Web Interface, Groundwater Levels for the Nation, updated March 2022 http://nwis.waterdata.usgs.gov/nwis/gwlevels?.

Welsh, James L., 1986, Ground Water Management in the Central and West Coast Basins of Los Angeles Counties, *in*, Hydrology of Southern California, Geological Society of America Volume and Guide Book, Field Trip No. 17, pp. 43-50.

Yerkes, R.F., et al., 1965, Geology of the Los Angeles Basin, California, - An Introduction, U.S.G.S. Professional Paper 420-A.

Xia, J., Miller, R.D., and Park, C.B., 1999, Estimation of Near-Surface Shear-Wave Velocity by Inversion of Rayleigh Wave: Geophysics, v. 64, p.691-700.

Ziony, J.I., and Yerkes, R.F., 1985, Evaluating Earthquake and Surface Faulting Potential, in Evaluating Earthquake Hazards in the Los Angeles Region, U.S.G.S. Professional Paper 1360.

MAPS UTILIZED

California Division of Mines & Geology (C.D.M.G.), 1969, Geologic Map of California, Los Angeles Sheet, Scale 1: 250,000.

California Division of Mines and Geology (C.D.M.G.), 1991, El Monte 7½' Quadrangle, Earthquake Fault Zone Map, Scale 1" = 2,000'.

California Division of Mines & Geology (C.D.M.G.), 1999, Official Map of Seismic Hazard Zones, El Monte 7½' Quadrangle, Scale 1:24,000.

California Geological Survey (C.G.S.), 2012, Geologic Compilation of Quaternary Surficial Deposits in Southern California, Los Angeles 30' X 60' Quadrangle, CGS Special Report 217, Plate 9, Scale 1: 100,000.

California Geological Survey (C.G.S.), 2017, Earthquake Zone of Required Investigation, El Monte Quadrangle, Earthquake Fault Zones (2017) and Seismic Hazard Zones (1999), Scale 1:24,000.

California Geological Survey, 2014, Tsunami Inundation Maps, California Department of Conservation, http://www.quake.ca.gov/gmaps/tsunami/tsunami_maps.htm.

Dibblee, T.W., Jr., 1999, Geologic Map of the El Monte and Baldwin Park Quadrangles, Los Angele County, California, Dibblee Geologic Foundation Map #69, Scale 1:24,000.

Federal Emergency Management Agency (FEMA), 2008, Community Panel No. 06037C1670F, August 26, 2008, Scale 1: 24000.

Gutierrez, C., Bryant, W.A., Saucedo, G., and Wills, C., 2010, 2010 Fault Activity Map of California, Scale 1: 750,000, California Geological Survey, Geologic Data Map No. 6. Scale 1:750,000.

Jennings, C.W., 1994, Fault Activity Map of California and Adjacent Areas, Scale 1: 750,000, C.D.M.G. Geologic Data Map No. 8.

Morton, D.M. and Cox, B.F., 2001, Geologic Map of the Riverside East 7.5' Quadrangle, California, U.S.G.S. Open-File Report 01-452, Scale 1: 24,000.

Schoellhamer, J. E., et al., 1954, Geology of the Los Angeles Basin, C.D.M.G. Bulletin 170, Part II, Chapter 5, Plate 1, Scale 1:62,500.

Tan, S.S., 2000, Digital Geologic Map of the El Monte 7.5' Quadrangle, Los Angeles County, California, C.D.M.G. Open-File Report 98-12, Scale 1:24,000.

Toppozada, T.R., Branum, D., Petersen, M., Hallstrom, C., Cramer, C., and Reichle, M., 2000, Epicenters of and Areas Damaged by M≥5 California Earthquakes, 1800 - 1999, C.D.M.G. Map Sheet 49.

Yerkes, R.F. and Campbell, R.H., 2005, Preliminary Geologic Map of the Los Angeles 30' by 60' Quadrangle, Southern California, U.S.G.S Open-File Report 2005-1019, Scale 1:100,000.

Ziony, J.I., and Jones, L.M., 1989, Map Showing Late Quaternary Faults and 1978-1984 Seismicity of the Los Angeles Region, California, U.S.G.S. Miscellaneous Field Studies Map MF-1964.

John R. Byerly
INCORPORATED

September 29, 2022

El Monte Union High School District
3537 Johnson Avenue
El Monte, California 91731

Rpt. No.: 7510
File No.: S-14488

Attention: Ms. Norma Macias

Project: Proposed Steel Lunch Shelter, Baseball Field Lighting Poles and Fire Lane, Mountain View High School, 2900 Parkway Drive, El Monte, California

Subject: Response to LPA Questions

References: (a) Geotechnical Investigation, Proposed Steel Lunch Shelter, Baseball Field Lighting Poles, and Fire Lane, Mountain View High School, 2900 Parkway Drive, El Monte, California; John R. Byerly, Inc., Rpt. No. 7439, July 20, 2022

(b) email from LPA Design Studios, Mountain View High School LPA Geotech Report Questions – File No. S-14488, September 26, 2022 with attached questions

Ladies and Gentlemen:

The referenced geotechnical investigation presents earthwork, foundation design, and portland cement concrete pavement design recommendations for the proposed improvements that will be constructed at the existing Mountain View High School in the city of El Monte. Reference (b) is an email that was received from LPA Design Studios that poses three questions. The questions and responses are itemized below:

1. *Provide asphalt pavement section recommendations for vehicular parking and vehicular drive aisles use.*

In the referenced geotechnical investigation, an R-Value of 63 was determined for portland cement concrete pavement design. For asphalt concrete pavement design, a Traffic Index of 5.0 was assumed for new parking lots and drive areas for conventional vehicular traffic, and a Traffic Index of 6.0 was assumed for areas accommodating bus, and heavier truck traffic and fire lanes. In conjunction with the test data presented in the referenced report, we believe the sections presented on the following table should provide durable pavement:

Asphalt Concrete Pavement

Location	TI	"R" Value	Thickness (Inches) Asphalt Concrete	Aggregate Base
Conventional Passenger Vehicles	5.0	63	2.5	4.0
Fire Lane, Bus, and Heavier Traffic Areas	6.0	63	3.0	4.0

The above designs are preliminary and for estimating purposes only. We recommend that during the process of rough grading, observation and additional testing of the actual subgrade soils should be performed. Final pavement design sections can then be determined. The foregoing pavement sections assume that utility trench backfill below all proposed pavement areas will be compacted to at least 90 percent relative compaction. Any undocumented fill encountered during earthwork operations should be overexcavated and replaced as engineered fill in compliance with the recommendations presented in the referenced report. Prior to the placement of aggregate base, we recommend that the final subgrade surface be scarified to a depth of at least 8 inches, moisture conditioned to near the optimum moisture content, and compacted to a minimum relative compaction of 90 percent (ASTM D1557). Aggregate base should be densified to at least 95 percent relative compaction. Suggested specifications for aggregate base material are presented on Enclosure 1. The preparation of the subgrade and compaction of the aggregate base should be monitored by a representative of the geotechnical engineer.

2. *Provide recommendations for reinforcement of each concrete pavement type, if required.*

Since the subgrade soils are relatively granular and assuming the structural and site preparation recommendations presented in the referenced geotechnical investigation are adhered to, it is our opinion that reinforcement is not geotechnically required in portland cement concrete pavement. The design engineer may wish to include some level of reinforcement to minimize the width of shrinkage cracks.

3. *Is a back drain system still recommended when the higher side of the retaining wall is concrete? (See attachment 1).*

Attachment 1 illustrates a subdrain system behind a concrete retaining wall. It is our understanding that a paved parking lot will be constructed on the soil that is retained behind the wall. In order to prevent a build-up of hydrostatic pressure behind retaining walls, it is recommended that a subdrain system be implemented. A copy of Attachment 1 that illustrates the subdrain detail is presented in Enclosure 2.

We appreciate this opportunity to be of service. Should there be any questions, please contact our office.

Respectfully submitted,

JOHN R. BYERLY, INC.

John R. Byerly, Geotechnical Engineer
President

JRB:GSF:jet

Enclosures: (1) Specifications for Aggregate Base
(2) LPA Questions on Geotech's Report
(3) Attachment 1

John R. Byerly
INCORPORATED

SUGGESTED SPECIFICATIONS FOR CLASS II BASE

Sieve Size	Percent Finer Than
1 Inch	100
3/4 Inch	90 - 100
No. 4	35 - 60
No. 30	10 - 30
No. 200	2 - 9
Sand Equivalent (Minimum)	25
"R" Value (minimum) at 300 psi Exudation	78

Enclosure 1
Rpt. No.: 7510
File No.: S-14488

LPA

IRVINE • SACRAMENTO • SAN DIEGO • SAN JOSE • DALLAS • SAN ANTONIO

September 26, 2022

LPA Questions on Geotech's Report
John R. Byerly Inc.
Geotechnical Investigation Report dated July 20, 2022

CIVIL

1. Provide asphalt pavement section recommendations for vehicular parking and vehicular drive aisles use.

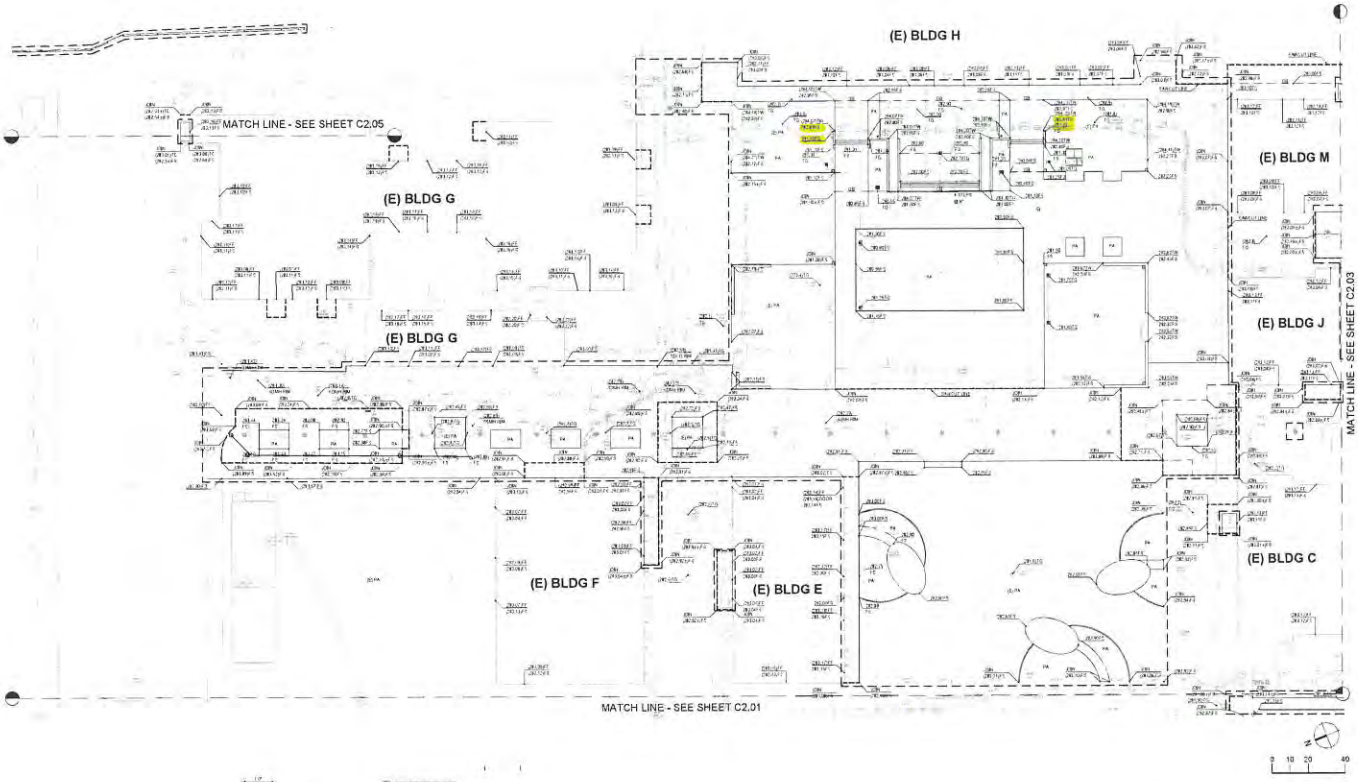
2. Provide recommendations for reinforcement of each concrete pavement type, if required.

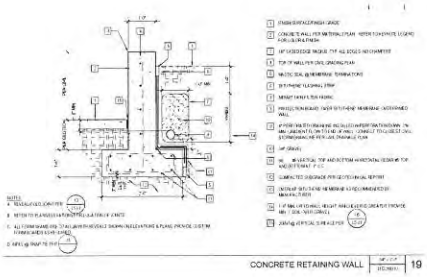
3. Is a back drain system still recommended when the higher side of the retaining wall is concrete? (See attachment 1)

LATERAL LOADING

Backfill within 6 feet of any retaining walls should consist of granular soil exhibiting a very low expansion potential (expansion index less than 21). For a level backfill surface and cantilever retaining wall conditions, we recommend an active earth pressure of 35 pounds per square foot per foot of depth, exclusive of surcharge loads. For braced walls with level backfill surface conditions, we recommend an at-rest earth pressure of 60 pounds per square foot per foot of depth, exclusive of surcharge loads. For shallow footings, resistance to lateral loads will be provided by passive earth pressure and basal friction. For footings bearing against compacted fill, passive earth pressure may be considered to develop at a rate of 300 pounds per square foot per foot of depth. Basal friction may be computed at 0.35 times the normal dead load. The resistance from basal friction and passive earth pressure may be combined directly without reduction. A backdrain system or weep holes should be provided to prevent buildup of hydrostatic pressure behind retaining walls. The allowable lateral resistance may be increased by one-third for wind and seismic loading.

Enclosure 2
Rpt. No.: 7510
File No.: S-14488





CONCRETE RETAINING WALL | 19

ATTACHMENT 1

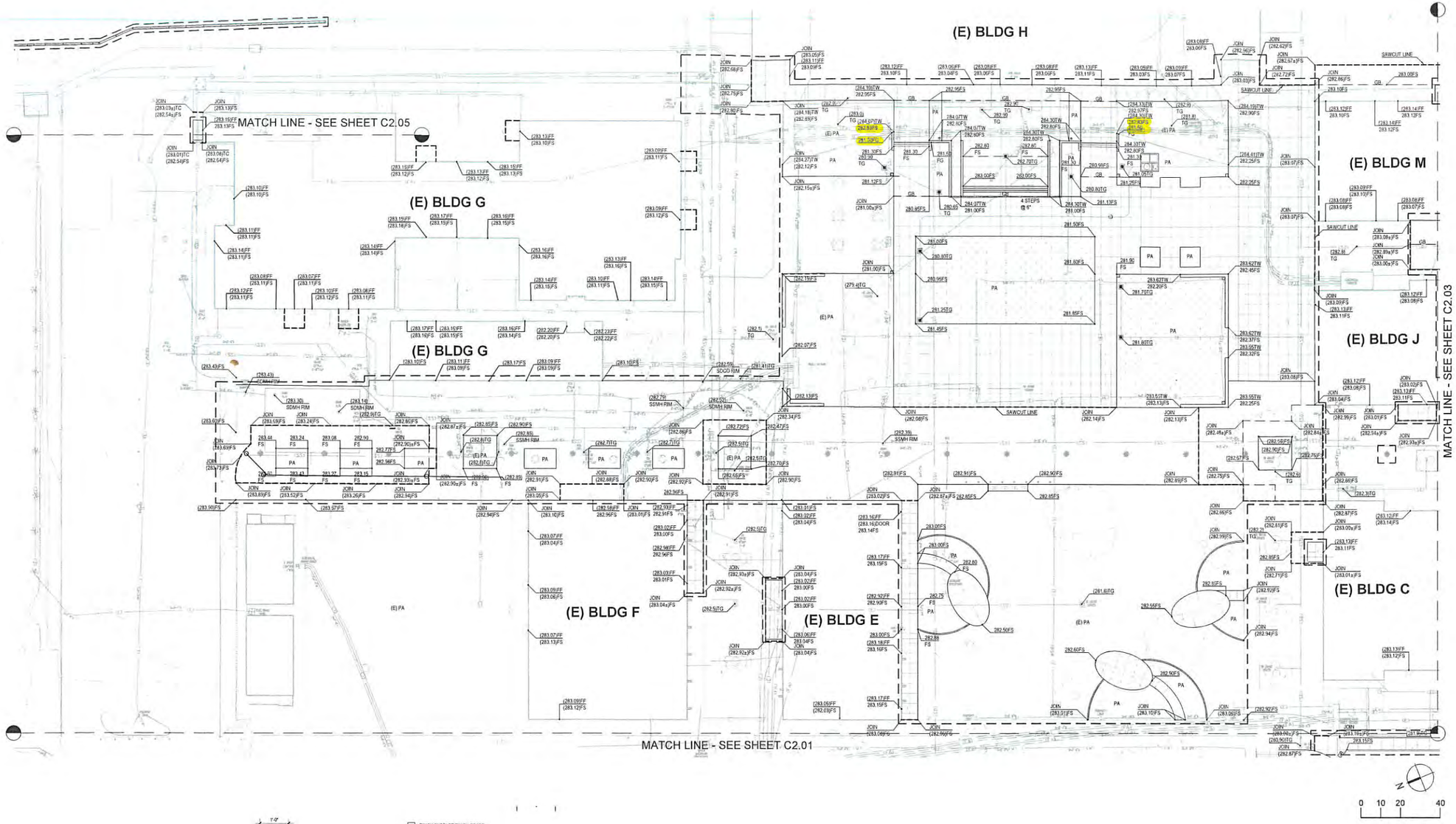
LPA

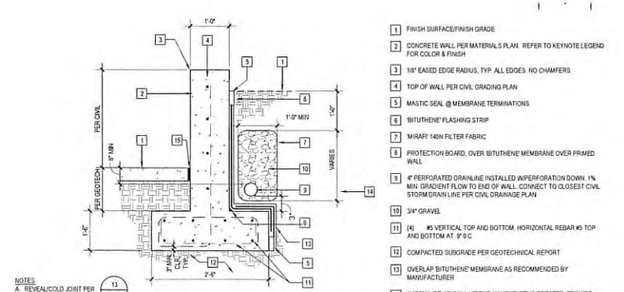
MOUNTAIN VIEW HIGH SCHOOL
MODERNIZATION
2900 PARKWAY DRIVE
EL MONTE, CA 91732
Developed for
EL MONTE SCHOOL DISTRICT

GRADING PLAN

C2.04

Enclosure 3
Rpt. No.: 7510
File No.: S-14488





NOTES:
A. REVEAL/COLD JOINT PER (13 / LS.01)
B. REFER TO PLANS/ELEVATIONS FOR LOCATION OF JOINTS
C. ALL FORM SEAMS ARE TO ALIGN WITH REVEALS SHOWN ON ELEVATIONS & PLANS. PROVIDE CUSTOM FORM BOARDS AS REQUIRED
D. INFILL @ SNAP TIE PER (15 / -)

1. FINISH SURFACE/FINISH GRADE
2. CONCRETE WALL PER MATERIALS PLAN. REFER TO KEYNOTE LEGEND FOR COLOR & FINISH
3. 1/8" EASED EDGE RADIUS, TYP. ALL EDGES. NO CHAMFERS
4. TOP OF WALL PER CIVIL GRADING PLAN
5. MASTIC SEAL @ MEMBRANE TERMINATIONS
6. 'BITUTHENE' FLASHING STRIP
7. 'MIRAFI 140N FILTER FABRIC
8. PROTECTION BOARD, OVER 'BITUTHENE' MEMBRANE OVER PRIMED WALL
9. 4" PERFORATED DRAINLINE INSTALLED W/PERFORATION DOWN. 1% MIN. GRADIENT FLOW TO END OF WALL. CONNECT TO CLOSEST CIVIL STORM DRAIN LINE PER CIVIL DRAINAGE PLAN
10. 3/4" GRAVEL
11. (4) #5 VERTICAL TOP AND BOTTOM, HORIZONTAL REBAR #5 TOP AND BOTTOM AT 9" O.C.
12. COMPACTED SUBGRADE PER GEOTECHNICAL REPORT
13. OVERLAP 'BITUTHENE' MEMBRANE AS RECOMMENDED BY MANUFACTURER
14. 1'-0" MIN. OR 1/3 WALL HEIGHT, WHICHEVER IS GREATER. PROVIDE MIN. 1' SOIL OVER GRAVEL
15. JOINT @ VERTICAL SURFACE PER (05 / LS.01)

GB
TOS
TOE

CONCRETE RETAINING WALL | 3/4" = 1'-0" | DT32WD10 | 19

ATTACHMENT 1

LPA
ARCHITECTURE ENGINEERING INTERIORS
LANDSCAPE ARCHITECTURE PLANNING
949-261-1001 Office
949-250-1190 Fax
LPADesignStudios.com
5301 California Avenue, Suite 100
Irvine, California 92617

MOUNTAIN VIEW HIGH SCHOOL MODERNIZATION
2900 PARKWAY DRIVE
EL MONTE, CA 91732
Developed for
EL MONTE SCHOOL DISTRICT

Revision	Date

Submittal	Date
100% SCHEMATIC DESIGN	08/13/2021
100% DESIGN DEVELOPMENT	12/10/2021

Job Number	30154.10
Date Published	12/10/21
Checked By	KS
Scale	AS SHOWN

GRADING PLAN

C2.04

SECTION 116833
ATHLETIC FIELD EQUIPMENT

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Baseball and softball field equipment.

1.02 RELATED REQUIREMENTS

A. Section 033000 - Cast-in-Place Concrete: Footings for field equipment.

B. Section 312200 - Grading: Shaping subgrade to specified grade levels; removal of excess soil and rocks.

1.03 ABBREVIATIONS

A. NFHS - National Federation of State High School Associations; www.nfhs.com and www.nfhs.org.

B. U.S. CPSC - United States Consumer Product Safety Commission; www.cpsc.gov.

1.04 REFERENCE STANDARDS

A. ASTM A135/A135M - Standard Specification for Electric-Resistance-Welded Steel Pipe 2009 (Reapproved 2014).

B. ASTM A500/A500M - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes 2018.

C. ASTM A513/A513M - Standard Specification for Electric-Resistance-Welded Carbon and Alloy Steel Mechanical Tubing 2018.

D. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete 2018.

E. ASTM D3363 - Standard Test Method for Film Hardness by Pencil Test 2005, with Editorial Revision (2012).

1.05 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meetings: Convene a meeting one week before starting this work to discuss coordination between various installers.
   1. Require attendance by personnel responsible for grading and installers of athletic field equipment, footings, and adjacent work.
   2. Include representatives of Contractor.
   3. Notify Architect at least two weeks prior to meeting.

1.06 SUBMITTALS

A. Product Data: Provide athletic field equipment manufacturer's product data indicating materials of construction, compliance with specified standards, installation procedures, and necessary safety limitations.

B. Shop Drawings: Submit detailed scale drawings showing athletic field equipment and perimeter layout.
   1. Indicate locations and dimensions of footings and anchorage points.
   2. Identify mounting elevations in relation to fixed survey point on site, and subgrade elevation.
   3. Indicate location of underground utilities, storm drainage system, and irrigation system.
   4. Indicate location of related construction such as walkways and roadways, fences, _____, and site furnishings.

C. Maintenance Data: Submit manufacturer's recommended maintenance instructions and list of replaceable parts for each athletic field equipment item, along with supplier's address and phone number.

D. Installer's Qualification Statement.

E. Warranty: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.07 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than ten years of documented experience.

B. Installer Qualifications: Company specializing in performing work of the type specified and with at least five years of documented experience

1.08 DELIVERY, STORAGE, AND HANDLING

A. Deliver, handle, and store equipment on project site in accordance with manufacturer's recommendations.

B. Store materials in a dry, covered area, and elevated above grade.

1.09 WARRANTY

A. See Section 017800 - Closeout Submittals, for additional warranty requirements.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Athletic Field Equipment:
   1. Sportsfield Specialties, (888) 975-3343

2.02 ATHLETIC FIELD EQUIPMENT - GENERAL

A. High School Sports: Provide equipment that complies with NFHS requirements.

B. Coordinate field grading as required for proper placement and arrangement of equipment, refer to Section 312200 for additional information.

C. Safety and Warning Signage: Provide signage as indicated on drawings and required by authorities having jurisdiction.

2.03 BASEBALL AND SOFTBALL FIELD EQUIPMENT

A. Manufacturers:
   1. Sportsfield Specialties, (888) 975-3343.

B. Netting System:
   1. Type: Tension system
   2. Height: 50 feet

2.04 MATERIALS

A. Steel Pipe columns
   1. Height: 50 feet
   2. Refer to SportsField Specialties sheets for more information

C

B. Powder Coating for Steel: Electrostatically applied and oven cured polyester powder over electrostatic zinc coating. Color: Black

C. Concrete: ASTM C94/C94M ready mix concrete;

C

   1. Refer to SportsField Specialties sheets for more information.

PART 3 EXECUTION

3.01 VERIFICATION OF CONDITIONS

A. Verify that athletic field equipment area has been graded to subgrade elevations required and that excess soil, rocks, and debris has been removed as necessary for installation of footings.

3.02 PREPARATION

A. Stake location of athletic field equipment elements, including necessary athletic field perimeters, surfacing, access and egress points, hard surfaces, walls, fences, _____, and/or structures.

B. Stake layout of athletic field equipment perimeter in accordance with approved shop drawings before starting any work.
   1. Verify that athletic field perimeters do not overlap hard surfaces, whether currently installed or not.
   2. Verify that athletic fields are free of obstructions.
   3. If conflicts or obstructions are found, notify Architect.
   4. Do not proceed with this work until revised drawings have been provided, showing corrected layout, and that any obstructions have been removed or corrections to layout have been made.

3.03 INSTALLATION

A. Install athletic field equipment in accordance with manufacturer's instructions, and rules and regulations of specified athletic association indicated for this work.

B. Install athletic field equipment without sharp points, edges, or protrusions; entanglement hazards or pinch, crush, or shear points.

C. Install safety and warning signage, as follows, in accordance with indicated requirements.

3.04 CLEANING

A. Clean athletic field equipment of construction materials, dirt, stains, filings, and blemishes due to shipment or installation; clean in accordance with manufacturer's instructions, using cleaning agents as recommended by manufacturer.

B. Clean athletic field area of excess construction materials, debris, and waste.

C. Remove excess and waste material and dispose of off-site in accordance with requirements of authorities having jurisdiction.

3.05 PROTECTION

A. Protect installed products until Date of Substantial Completion.

B. Replace damaged products before Date of Substantial Completion.

END OF SECTION

SECTION 323113
CHAIN LINK FENCES AND GATES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Posts, rails, and frames.

B. Wire fabric.

1.02 RELATED REQUIREMENTS

A. Section 033000 - Cast-in-Place Concrete: Concrete anchorage for posts.

B. Section 337900 - Site Grounding.

1.03 REFERENCE STANDARDS

A. ASTM A123/A123M - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products 2015.

B. ASTM A153/A153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware 2009.

C. ASTM A392 - Standard Specification for Zinc-Coated Steel Chain-Link Fence Fabric 2011a (Reapproved 2022).

D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process 2015.

E. ASTM C94/C94M - Standard Specification for Ready-Mixed Concrete 2022a.

F. ASTM F567 - Standard Practice for Installation of Chain-Link Fence 2014a (Reapproved 2019).

G. ASTM F1043 - Standard Specification for Strength and Protective Coatings on Steel Industrial Fence Framework 2014.

H. ASTM F1083 - Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures 2013.

I. CLFMI CLF-PM0610 - Product Manual 2017.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on fabric, posts, rails, accessories, fittings and hardware.

C. Shop Drawings: Indicate in plan layout and elevation, spacing of components, post foundation dimensions, hardware anchorage, and schedule of components.

D. Field Inspection Records: Provide installation inspection records that include post settings, framework, fabric, fittings and accessories, gates, and workmanship.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than five years of documented experience.

B. Fence Installer: Company with demonstrated successful experience installing similar projects and products, with not less than five years of documented experience.

1.06 WARRANTY

A. See Section 017800 - Closeout Submittals, for additional warranty requirements.

B. Correct defective Work within a one year period after Date of Substantial Completion.

PART 2 PRODUCTS

2.01 MATERIALS

A. Posts, Rails, and Frames:

B. ASTM A1011/A1011M, Designation SS; hot-rolled steel strip, cold formed to pipe configuration, longitudinally welded construction, minimum yield strength of 50 ksi; zinc coating conforming to ASTM F1043 and ASTM F1083.

C. Wire Fabric:

D. ASTM A392 zinc coated steel chain link fabric.

E. Ready-mixed, complying with ASTM C94/C94M; normal Portland cement, Refer to Structural Sheet S0.01 for strength, cement type, water-cement ratio and other information. C

2.02 COMPONENTS

A. Line Posts: 3.5 inch diameter.

B. Corner and Terminal Posts: 4.0 inch diameter.

C. Gate Posts: 4.0 inch diameter(4' width and smaller) and 6.0 inch diameter(6' width and wider). Refer to details. C

D. Top and Brace Rail: 1.66 inch diameter, plain end, sleeve coupled.

E. Bottom Rail: 1.66 inch diameter, plain end, sleeve coupled.

F. Fabric: 2 inch diamond mesh interwoven wire, 9 gage, 0.1483 inch thick, top selvage knuckle end closed, bottom selvage twisted tight. C

G. Tension Band: 3/8 inch thick steel.

H. Tension Strap: 3/8 inch thick steel.

I. Tie Wire: Aluminum alloy steel wire.

2.03 ACCESSORIES/HARDWARE

A. Caps: Cast steel galvanized; sized to post diameter, set screw retainer.

B. Fittings: Sleeves, bands, clips, rail ends, tension bars, fasteners and fittings; steel.

2.04 FINISHES

A. Components and Fabric: Vinyl coated over coating of 1.8 ounces per square foot galvanizing.

B. Hardware: Hot-dip galvanized to weight required by ASTM A153/A153M.

C. Accessories: Same finish as framing.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install framework, fabric, accessories and gates in accordance with ASTM F567.

B. Place fabric on outside of posts and rails.

C. Set intermediate posts plumb , in concrete footings with top of footing 2 inches above finish grade. Slope top of concrete for water runoff.

D. Line Post Footing Depth Below Finish Grade: ASTM F 567.

E. Corner, Gate and Terminal Post Footing Depth Below Finish Grade: ASTM F 567.

F. Brace each gate and corner post to adjacent line post with horizontal center brace rail _____. Install brace rail one bay from end and gate posts.

G. Provide top rail through line post tops and splice with 6 inch long rail sleeves.

H. Install center brace rail on corner gate leaves.

I. Do not stretch fabric until concrete foundation has cured 28 days.

J. Stretch fabric between terminal posts or at intervals of 100 feet maximum, whichever is less.

K. Position bottom of fabric 2 inches above finished grade.

L. Fasten fabric to top rail, line posts, braces, and bottom tension wire with tie wire at maximum 15 inches on centers.

M. Attach fabric to end, corner, and gate posts with tension bars and tension bar clips.

N. Do not attach the hinged side of gate to building wall; provide gate posts.

O. Install hardware and gate with fabric _____ to match fence.

P. Provide concrete center drop to footing depth and drop rod retainers at center of double gate openings.

3.02 TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch.

B. Maximum Offset From True Position: 1 inch.

C. Do not infringe on adjacent property lines.

3.03 CLEANING

A. Clean jobsite of excess materials; scatter excess material from post hole excavations uniformly away from posts. Remove excess material if required.

B. Clean fence with mild household detergent and clean water rinse well.

C. Remove mortar from exposed posts and other fencing material using a 10 percent solution of muriatic acid followed immediately by several rinses with clean water.

END OF SECTION

SECTION 08 71 00 – DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:

1. Mechanical and electrified door hardware for:

    a. Swinging doors.

2. Electronic access control system components, including:

    a. Electronic access control devices.

3. Field verification, preparation and modification of existing doors and frames to receive new door hardware.

B. Exclusions: Unless specifically listed in hardware sets, hardware is not specified in this section for:

1. Windows
2. Cabinets (casework), including locks in cabinets
3. Signage
4. Toilet accessories
5. Overhead doors

C. Related Sections:

1. Division 01 Section “Alternates” for alternates affecting this section.
2. Division 07 Section “Joint Sealants” for sealant requirements applicable to threshold installation specified in this section.
3. Division 09 sections for touchup finishing or refinishing of existing openings modified by this section.
4. Division 13 Section “Radiation Protection” for requirements for lead-lining for door hardware at openings indicated to receive radiation protection.
5. Division 26 sections for connections to electrical power system and for low-voltage wiring.
6. Division 28 sections for coordination with other components of electronic access control system.

1.3 REFERENCES

A. UL - Underwriters Laboratories

1. UL 10B - Fire Test of Door Assemblies
2. UL 10C - Positive Pressure Test of Fire Door Assemblies
3. UL 1784 - Air Leakage Tests of Door Assemblies
4. UL 305 - Panic Hardware

B. ANSI - American National Standards Institute

1. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties

C. California Code of Regulations

1. Title 24: California Building Standards Code

1.4 SUBMITTALS

A. General:

1. Submit in accordance with Conditions of Contract and Division 01 requirements.
2. Highlight, encircle, or otherwise specifically identify on submittals deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.
3. Prior to forwarding submittal, comply with procedures for verifying existing door and frame compatibility for new hardware, as specified in PART 3, “EXAMINATION” article, herein.

B. Action Submittals:

1. Product Data: Product data including manufacturers’ technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:

a. Wiring Diagrams: For power, signal, and control wiring and including:
1) Details of interface of electrified door hardware and building safety and security systems.
2) Schematic diagram of systems that interface with electrified door hardware.
3) Point-to-point wiring.
4) Risers.

3. Samples for Verification: If requested by Architect, submit production sample or sample installations of each type of exposed hardware unit in finish indicated, and tagged with full description for coordination with schedule.

a. Samples will be returned to supplier in like-new condition. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.

4. Door Hardware Schedule: Submit schedule with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule as published by the Door and Hardware Institute. Indicate complete designations of each item required for each door or opening, include:

    a. Door Index; include door number, heading number, and Architects hardware set number.
    b. Opening Lock Function Spreadsheet: List locking device and function for each opening.
    c. Type, style, function, size, and finish of each hardware item.
    d. Name and manufacturer of each item.
    e. Fastenings and other pertinent information.
    f. Location of each hardware set cross-referenced to indications on Drawings.
    g. Explanation of all abbreviations, symbols, and codes contained in schedule.
    h. Mounting locations for hardware.
    i. Door and frame sizes and materials.
    j. Name and phone number for local manufacturer's representative for each product.
    k. Operational Description of openings with any electrified hardware (locks, exits, electromagnetic locks, electric strikes, automatic operators, door position switches, magnetic holders or closer/holder units, and access control components). Operational description should include how door will operate on egress, ingress, and fire and smoke alarm connection.
        1) Submittal Sequence: Submit door hardware schedule concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work that is critical in Project construction schedule.

5. Key Schedule:

    a. After Keying Conference, provide keying schedule listing levels of keying as well as explanation of key system's function, key symbols used and door numbers controlled.
    b. Use ANSI/BHMA A156.28 “Recommended Practices for Keying Systems” as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
    c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
    d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
    e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion.
        1) Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.

    f. Prepare key schedule by or under supervision of supplier, detailing Owner’s final keying instructions for locks.

6. Templates: After final approval of hardware schedule, provide templates for doors, frames and other work specified to be factory prepared for door hardware installation.

C. Informational Submittals:

1. Qualification Data: For Supplier and Installer.
2. Product Certificates for electrified door hardware, signed by manufacturer:

a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.

3. Certificates of Compliance:

a. Certificates of compliance for fire-rated hardware and installation instructions if requested by Architect or Authority Having Jurisdiction.
b. Installer Training Meeting Certification: Letter of compliance, signed by Contractor, attesting to completion of installer training meeting specified in “QUALITY ASSURANCE” article, herein.
c. Electrified Hardware Coordination Conference Certification: Letter of compliance, signed by Contractor, attesting to completion of electrified hardware coordination conference, specified in “QUALITY ASSURANCE” article, herein.

4. Product Test Reports: For compliance with accessibility requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by qualified testing agency, for door hardware on doors located in accessible routes.
5. Warranty: Special warranty specified in this Section.

D. Closeout Submittals:

1. Operations and Maintenance Data : Provide in accordance with Division 01 and include:

a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
b. Catalog pages for each product.
c. Name, address, and phone number of local representatives for each manufacturer.
d. Parts list for each product.
e. Final approved hardware schedule edited to reflect conditions as-installed.
f. Final keying schedule
g. Copies of floor plans with keying nomenclature
h. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.
i. Copy of warranties including appropriate reference numbers for manufacturers to identify project.

1.5 QUALITY ASSURANCE

A. Product Substitutions: Comply with product requirements stated in Division 01 and as specified herein.

1. Where specific manufacturer’s product is named and accompanied by “No Substitute,” including make or model number or other designation, provide product specified. (Note: Certain products have been selected for their unique characteristics and particular project suitability.)

a. Where no additional products or manufacturers are listed in product category, requirements for “No Substitute” govern product selection.

2. Where products indicate “acceptable manufacturers” or “acceptable manufacturers and products”, provide product from specified manufacturers, subject to compliance with specified requirements and “Single Source Responsibility” requirements stated herein.

B. Supplier Qualifications and Responsibilities: Recognized architectural hardware supplier with record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project.

1. Warehousing Facilities: In Project's vicinity.
2. Scheduling Responsibility: Preparation of door hardware and keying schedules.
3. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
4. Coordination Responsibility: Coordinate installation of electronic security hardware with Architect and electrical engineers and provide installation and technical data to Architect and other related subcontractors.

a. Upon completion of electronic security hardware installation, inspect and verify that all components are working properly.

C. Installer Qualifications: Qualified tradesmen, skilled in application of commercial grade hardware with record of successful in-service performance for installing door hardware similar in quantity, type, and quality to that indicated for this Project.

D. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

1. Provide electrified door hardware from same manufacturer as mechanical door hardware, unless otherwise indicated.
2. Manufacturers that perform electrical modifications and that are listed by testing and inspecting agency acceptable to authorities having jurisdiction are acceptable.

E. Fire-Rated Door Openings: Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction. Provide only items of door hardware that are listed and are identical to products tested by Underwriters Laboratories, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.

F. Smoke- and Draft-Control Door Assemblies: Where smoke- and draft-control door assemblies are required, provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105.

1. Air Leakage Rate: Maximum air leakage of 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) at tested pressure differential of 0.3-inch wg (75 Pa) of water.

G. Electrified Door Hardware: Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.

H. Means of Egress Doors: Latches do not require more than 5 lbf (67 N) to release latch. Locks do not require use of key, tool, or special knowledge for operation.

I. Accessibility Requirements: For door hardware on doors in an accessible route, comply with governing accessibility regulations cited in “REFERENCES” article, herein.

1. Provide operating devices that do not require tight grasping, pinching, or twisting of wrist and that operate with force of not more than 5 lbf (22.2 N).
2. Maximum opening-force requirements:

a. Interior, Non-Fire-Rated Hinged Doors: 5 lbf (22.2 N) applied perpendicular to door.
b. Sliding or Folding Doors: 5 lbf (22.2 N) applied parallel to door at latch.
c. Fire Doors: Minimum opening force allowable by authorities having jurisdiction.

3. Bevel raised thresholds with slope of not more than 1:2. Provide thresholds not more than 1/2 inch (13 mm) high.
4. Adjust door closer sweep periods so that, from open position of 70 degrees, door will take at least 3 seconds to move to 3 inches (75 mm) from latch, measured to leading edge of door.

J. Keying Conference: Conduct conference at Project site to comply with requirements in Division 01.

1. Attendees: Owner, Contractor, Architect, Installer, **Owner's Security Consultant,** and Supplier.
2. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:

a. Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
b. Preliminary key system schematic diagram.
c. Requirements for key control system.
d. Requirements for access control.
e. Address for delivery of keys.

K. Pre-installation Conference: Conduct conference at Project site to comply with requirements in Division 01.

1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Inspect and discuss preparatory work performed by other trades.
3. Inspect and discuss electrical roughing-in for electrified door hardware.
4. Review sequence of operation for each type of electrified door hardware.
5. Review required testing, inspecting, and certifying procedures.

L. Coordination Conferences:

1. Installation Coordination Conference: Prior to hardware installation, schedule and hold meeting to review questions or concerns related to proper installation and adjustment of door hardware.

a. Attendees: Door hardware supplier, door hardware installer, Contractor.
b. After meeting, provide letter of compliance to Architect, indicating when meeting was held and who was in attendance.

2. Electrified Hardware Coordination Conference: Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.

a. Attendees: electrified door hardware supplier, doors and frames supplier, electrified door hardware installer, electrical subcontractor, Owner, **Owner's security consultant,** Architect and Contractor.
b. After meeting, provide letter of compliance to Architect, indicating when coordination conference was held and who was in attendance.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site.

B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.

1. Deliver each article of hardware in manufacturer's original packaging.

C. Project Conditions:

1. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.
2. Provide secure lock-up for door hardware delivered to Project, but not yet installed. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

D. Protection and Damage:

1. Promptly replace products damaged during shipping.
2. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work.
3. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.

E. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

F. Deliver keys **and permanent cores** to Owner by registered mail or overnight package service.

1.7 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete. Concrete, reinforcement, and formwork requirements are specified in Division 03.

B. Installation Templates: Distribute for doors, frames, and other work specified to be factory prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.

E. Existing Openings: Where hardware components are scheduled for application to existing construction or where modifications to existing door hardware are required, field verify existing conditions and coordinate installation of door hardware to suit opening conditions and to provide proper door operation.

F. Direct shipments not permitted, unless approved by Contractor.

1.8 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Years from date of Substantial Completion, for durations indicated.

a. Closers:
1) Mechanical: 10 years. **30 years for LCN 4000**

b. Exit Devices:
1) Mechanical: 3 years.
2) Electrified: 1 year.

c. Locksets:
1) Mechanical: 3 years
2) Electrified: 1 year.

d. Continuous Hinges: Lifetime warranty.
e. Key Blanks: Lifetime

2. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.

1.9 REGULATORY REQUIREMENTS**:**

A. Locate latching hardware between 34 inches to 44 inches above the finished floor, per 2019 California Building Code, Section 11B-404.2.7.

1. Panic hardware: locate between 36 inches to 44 inches above the finished floor.

B. Handles, pull, latches, locks, other operable parts**:**

1. Readily openable from egress side with one hand and without tight grasping, tight pinching, or twisting of the wrist to operate. 2019 California Building Code Section 11B-309.4.
2. Force required to activate the operable parts: 5.0 pounds maximum, per 2019 California Building Code Section 11B-309.4.

C. Adjust doors to open with not more than 5.0-pounds pressure to open at exterior doors and 5.0-pounds at interior doors. As allowed per 2019 California Building Code Section 11B-404.2.9, local authority may increase the allowable pressure for fire doors to achieve positive latching, but not to exceed 15-pounds.

1. Exception: exterior doors' pressure-to-open may be increased to 8.5-pounds if: at a single location, and one of a bank of eight leafs or fraction of eight, and one leaf of this bank is fitted with a low- or high-energy operator.

D. Adjust door closer sweep periods so that from an open position of 90 degrees, the door will take at least 5 seconds to move to a point 12 degrees from the latch, measured to the landing side of the door, per 2019 California Building Code Section 11B-404.2.8.

1. Spring hinges: adjust for 1.5 seconds minimum for 70 degrees to fully-closed.

E. Smooth surfaces at bottom 10 inches of push sides of doors, facilitating push-open with wheelchair footrests, per 2019 California Building Code Section 11B-404.2.10.

1. Applied kickplates and armor plates: bevel the left and right edges; free of sharp or abrasive edges.
2. Tempered glass doors without stiles: bottom rail may be less than 10 inches if top leading edge is tapered 60 degrees minimum.

F. Door opening clear width no less than 32 inches, measured from face of frame stop, or edge of inactive leaf of pair of doors, to door face with door opened to 90 degrees. Hardware projection not a factor in clear width if located above 30 inches and below 80 inches, and the hardware projects no more than 4 inches. 2019 California Building Code Section 11B-404.2.3.

1. Exception: In alterations, a projection of 5/8 inch (15.9 mm) maximum into the required clear width shall be permitted for the latch side stop.
2. Door closers and overhead stops: not less than 78 inches above the finished floor or ground, per 2019 California Building Code 11B-307.4.

G. Thresholds**:** floor or landing no more than 0.50 inches below the top of the threshold of the doorway, per 2019 California Building Code Section 11B-404.2.5. Vertical rise no more than 0.25 inches, change in level between 0.25 inches and 0.50 inches**:** beveled to slope no greater than 1**:**2 (50 percent slope). 2019 California Building Code Section 11B-303.2 & ~.3.

H. Floor stops**:** Do not locate in path of travel. Locate no more than 4 inches from walls, per DSA Policy #99-08 (Access).

I. Pairs of doors with independently-activated hardware both leafs**:** limit swing of right-hand or right-hand-reverse leaf to 90 degrees to protect persons reading wall-mounted tactile signage, per 2019 California Building Code Section 11B-703.4.2.

J. Door and door hardware encroachment**:** when door is swung fully-open into means-of-egress path, the doo may not encroach/project more than 7 inches into the required exit width, with the exception of door release hardware such as lockset levers or panic hardware. These hardware items must be located no less than 34-inches and no more than 44-inches above the floor/ground. 2019 California Building Code, Section 1005.7.1.

K. In I-2 occupancies, latch release hardware is not permitted to project in the required exit width, regardless of its mounting height, per 2019 California Building Code, Section 1005.7.1 at Exception 1.

1.10 MAINTENANCE

A. Extra Materials:

B. Maintenance Tools:

1. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.
2.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Where “No Substitute” is noted, submittals and substitution requests for other products will not be considered.

B. Approval of manufacturers and/or products other than those listed as “Scheduled Manufacturer” or “Acceptable Manufacturer” in the individual article for the product category shall be in accordance with QUALITY ASSURANCE article, herein.

C. Approval of products from manufacturers indicated in “Acceptable Manufacturers” is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer’s product.

D. Hand of Door: Drawings show direction of slide, swing, or hand of each door leaf. Furnish each item of hardware for proper installation and operation of door movement as shown.

E. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

2.2 MATERIALS

A. Fasteners

1. Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation.
2. Furnish screws for installation with each hardware item. Finish exposed (exposed under any condition) screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
3. Provide concealed fasteners for hardware units exposed when door is closed except when no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work unless thru-bolts are required to fasten hardware securely. Review door specification and advise Architect if thru-bolts are required.
4. Install hardware with fasteners provided by hardware manufacturer.

B. Modification and Preparation of Existing Doors: Where existing door hardware is indicated to be removed and reinstalled.

1. Provide necessary fillers, Dutchmen, reinforcements, and fasteners, compatible with existing materials, as required for mounting new opening hardware and to cover existing door and frame preparations.
2. Use materials which match materials of adjacent modified areas.
3. When modifying existing fire-rated openings, provide materials permitted by NFPA 80 as required to maintain fire-rating.

C. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.

1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

D. Cable and Connectors: Hardwired Electronic Access Control Lockset and Exit Device Trim:

1. Data: 24AWG, 4 conductor shielded, Belden 9843, 9841 or comparable.
2. DC Power: 18 AWG, 2 conductor, Belden 8760 or comparable.
3. Provide type of data and DC power cabling required by access control device manufacturer for this installation.
4. Where scheduled in the hardware sets, provide each item of electrified hardware and wire harnesses with sufficient number and wire gauge with standardized Molex plug connectors to accommodate electric function of specified hardware. Provide Molex connectors that plug directly into connectors from harnesses, electric locking and power transfer devices. Provide through-door wire harness for each electrified locking device installed in a door and wire harness for each electrified hinge, electrified continuous hinge, electrified pivot, and electric power transfer for connection to power supplies.

2.3 HINGES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Ives 5BB series
2. Acceptable Manufacturers and Products: Hager BB series, McKinney TA/T4A series, Stanley FBB Series

B. Requirements:

1. Provide five-knuckle ball bearing hinges conforming to ANSI/BHMA A156.1.
2. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:

    a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
    b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high

3. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:

    a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
    b. Interior: Heavy weight, steel, 5 inches (127 mm) high

4. 2 inches or thicker doors:

    a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
    b. Interior: Heavy weight, steel, 5 inches (127 mm) high

5. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
6. Where new hinges are specified for existing doors or existing frames, provide new hinges of identical size to hinge preparation present in existing door or existing frame.
7. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:

    a. Steel Hinges: Steel pins
    b. Non-Ferrous Hinges: Stainless steel pins
    c. Out-Swinging Exterior Doors: Non-removable pins
    d. Out-Swinging Interior Lockable Doors: Non-removable pins
    e. Interior Non-lockable Doors: Non-rising pins

8. Width of hinges: 4-1/2 inches (114 mm) at 1-3/4 inch (44 mm) thick doors, and 5 inches (127 mm) at 2 inches (51 mm) or thicker doors. Adjust hinge width as required for door, frame, and wall conditions to allow proper degree of opening.
9. Doors 36 inches (914 mm) wide or less furnish hinges 4-1/2 inches (114 mm) high; doors greater than 36 inches (914 mm) wide furnish hinges 5 inches (127 mm) high, heavy weight or standard weight as specified.
10. Provide hinges with electrified options as scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component.
11. Provide mortar guard for each electrified hinge specified.

2.4 CONTINUOUS HINGES

A. Aluminum Geared

1. Manufacturers:

   a. Scheduled Manufacturer: Ives.
   b. Acceptable Manufacturers: Markar, Stanley.

2. Requirements:

   a. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
   b. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum, with 0.25-inch (6 mm) diameter Teflon coated stainless steel hinge pin.
   c. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
   d. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
   e. On fire-rated doors, provide aluminum geared continuous hinges that are classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
   f. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware.
   g. Install hinges with fasteners supplied by manufacturer.
   h. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

2.5 FLUSH BOLTS

A. Manufacturers:

1. Scheduled Manufacturer: Ives
2. Acceptable Manufacturers: Rockwood, Trimco

B. Requirements:

1. Provide automatic, constant latching, and manual flush bolts with forged bronze or stainless steel face plates, extruded brass levers, and with wrought brass guides and strikes. Provide 12 inch (305 mm) steel or brass rods at doors up to 90 inches (2286 mm) in height. For doors over 90 inches (2286 mm) in height increase top rods by 6 inches (152 mm) for each additional 6 inches (152 mm) of door height. Provide dust-proof strikes at each bottom flush bolt.

2.6 COORDINATORS

A. Manufacturers:

1. Scheduled Manufacturer: Ives
2. Acceptable Manufacturers: Rockwood, Trimco

B. Requirements:

1. Where pairs of doors are equipped with automatic flush bolts, an astragal, or other hardware that requires synchronized closing of the doors, provide bar-type coordinating device, surface applied to underside of stop at frame head.
2. Provide filler bar of correct length for unit to span entire width of opening, and appropriate brackets for parallel arm door closers and surface vertical rod exit device strikes. Factory-prep coordinators for vertical rod devices if required.

2.7 MORTISE LOCKS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Schlage L9000 series

B. Requirements:

1. Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1 Operational, Grade 1 Security, and manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance. Provide lock case that is multi-function and field reversible for handing without opening case. Cylinders: Refer to “KEYING” article, herein.
2. Provide locks with standard 2-3/4 inches (70 mm) backset with full 3/4 inch (19 mm) throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1 inch (25 mm) throw, constructed of stainless steel.
3. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
4. Provide electrified options as scheduled in the hardware sets. Where scheduled, provide a request to exit (RX) switch that is actuated with rotation of inside lever.
5. Provide motor based electrified locksets with electrified options as scheduled in the hardware sets and comply with the following requirements:

    a. Universal input voltage – single chassis accepts 12 or 24V DC to allow for changes in the field without changing lock chassis.
    b. Fail Safe/Fail Secure – changing mode between electrically locked (fail safe) and electrically unlocked (fail secure) is field selectable without opening the lock case
    c. Low maximum current draw – maximum 0.4 amps to allow for multiple locks on a single power supply.

d. Low holding current – maximum 0.01 amps to produce minimal heat, eliminate “hot levers” in electrically locked applications, and to provide reliable operation in wood doors that provide minimal ventilation and air flow.
e. Request to Exit Switch (RX) –
   1) Modular Design – provide electrified locks capable of using, adding, or changing a modular RX switch without opening the lock case.
   2) Monitoring – where scheduled, provide a request to exit (RX) switch that detects rotation of the inside lever.

f. Connections – provide quick-connect Molex system standard.
g. UL Listed – 3 hour fire door

6. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses and external lever spring cages. Provide thru-bolted levers with 2-piece spindles.

   a. Lever Design: Schlage **06A**.
   b. Tactile Warning (Knurling): Where required by authority having jurisdiction. Provide on levers on exterior (secure side) of doors serving rooms considered to be hazardous.

2.8 CYLINDRICAL LOCKS – GRADE 1

A. Manufacturers and Products:

   1. Scheduled Manufacturer and Product: Schlage ND Series

B. Requirements:

   1. Provide cylindrical locks conforming to the following standards and requirements:

      a. ANSI/BHMA A156.2 Series 4000, Grade 1.
      b. UL 10C for 4’-0” x 10’-0” 3-hour fire door.

   2. Cylinders: Refer to “KEYING” article, herein.
   3. Provide cylindrical locksets exceeding the ANSI/BHMA A156.2 Grade 1 performance standards for strength, security, and durability in the categories below:

      a. Abusive Locked Lever Torque Test – minimum 3,100 inch-pounds without gaining access
      b. Cycle life - tested to minimum 10 million cycles per ANSI/BHMA A156.2 Cycle Test with no visible lever sag or use of performance aids such as set screws or spacers.

   4. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with 1/2 inch latch throw. Provide proper latch throw for UL listing at pairs.
   5. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.
   6. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
   7. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
   8. Provide electrified options as scheduled in the hardware sets.
   9. Lever Trim: Solid cast levers without plastic inserts, and wrought roses on both sides.

      a. Lever Design: Schlage Rhodes.

b. Tactile Warning (Knurling): Where required by authority having jurisdiction. Provide on levers on exterior (secure side) of doors serving rooms considered to be hazardous.

2.9 AUXILIARY LOCKS

A. Deadlocks:

1. Manufacturers and Products:

a. Scheduled Manufacturer and Product: Schlage L9000 series

2. Requirements:

a. Provide mortise deadlock series conforming to ANSI/BHMA A156 and function as specified. Cylinders: Refer to “KEYING” article, herein.
b. Provide deadlocks with standard 2-3/4 inches (70 mm) backset. Provide deadbolt with full 1 inch (25 mm) throw, constructed of stainless steel.
c. Provide manufacturer’s standard strike.

B. Deadbolts:

1. Manufacturers and Products:

a. Scheduled Manufacturer and Product: Schlage B600 series
b. Acceptable Manufacturers and Products: Arrow N series, Best T series, Corbin-Russwin DL3000 series, Falcon D100 series, Sargent 480 series.

2. Requirements:

a. Provide deadbolt series conforming to ANSI/BHMA A156 and function as specified. Cylinders: Refer to “KEYING” article, herein.
b. Provide deadbolts with standard 2-3/4 inches (70 mm) backset. Provide 2-3/8 inches (60 mm) where noted or if door or frame detail requires. Provide deadbolt with full 1 inch (25 mm) throw, constructed of steel alloy.
c. Provide manufacturer’s standard strike.

2.10 EXIT DEVICES:

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Von Duprin 99/33 series

B. Requirements:

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1, and UL listed for Panic Exit or Fire Exit Hardware. Cylinders: Refer to “KEYING” article, herein.
2. Provide touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
3. Touchpad: Extend minimum of one half of door width. Match exit device finish, stainless steel for US26, US26D, US28, US32, and US32D finishes; and for all other finishes, provide compatible finish to exit device. No plastic inserts are allowed in touchpads.

4. Provide exit devices with dead-latching feature for security and for future addition of alarm kits and/or other electrified requirements.
5. Provide flush end caps for exit devices.
6. Provide exit devices with manufacturer's approved strikes.
7. Provide exit devices cut to door width and height. Install exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.
8. Mount mechanism case flush on face of doors, or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
9. Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion, provide type that can be removed by use of a keyed cylinder, which is self-locking when re-installed.
10. Where lever handles are specified as outside trim for exit devices, provide heavy-duty lever trims with forged or cast escutcheon plates. Provide vandal-resistant levers that will travel to 90-degree down position when more than 35 pounds of torque are applied, and which can easily be re-set.

    a. Lever Style: Match lever style of locksets.
    b. Tactile Warning (Knurling): Where required by authority having jurisdiction. Provide on levers on exterior (secure side) of doors serving rooms considered to be hazardous.

11. Provide UL labeled fire exit hardware for fire rated openings.
12. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
13. Provide electrified options as scheduled.

2.11 ELECTRONIC ACCESS CONTROL LOCKSETS AND EXIT DEVICE TRIM

A. See Division 28:

2.12 CYLINDERS:

A. Requirements:

1. Provide permanent interchangeable Small format interchangeable core SFIC. cylinders, compliant with ANSI/BHMA A156.5; latest revision, Section 12, Grade 1; permanent cylinders; cylinder face finished to match lockset, manufacturer's series as indicated. Refer to "KEYING" article, herein.
2. Replaceable Construction Cores. OPTION if using temporary construction cores in IC core cylinder in either F/S or S/F.

    a. Provide temporary construction cores replaceable by permanent cores, furnished in accordance with the following requirements.
        1) 3 construction control keys
        2) 12 construction change (day) keys.

    b. Owner or Owner's Representative will replace temporary construction cores with permanent cores.

2.13 KEYING

A. Provide cylinders/cores keyed into Owner's existing factory registered keying system, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.

B. Manufacturer:

1. Best Lock Co. Provide permanent cores keyed int the existing key system

C. Requirements:

1. Provide permanent cylinders/cores keyed by the manufacturer according to the following key system.

a. Master Keying system as directed by the Owner.
b. Option: No Master Keying: Cylinders/cores only operated by change (day) keys.

2. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements shall be cause for replacement of cylinders/cores involved at no additional cost to Owner.
3. Provide keys with the following features:

a. Material: Nickel silver; minimum thickness of .107-inch (2.3mm)

4. Identification:

a. Mark permanent cylinders/cores and keys with applicable blind code per DHI publication "Keying Systems and Nomenclature" for identification. Blind code marks shall not include actual key cuts.
b. Identification stamping provisions must be approved by the Architect and Owner.
c. Stamp cylinders/cores and keys with Owner's unique key system facility code as established by the manufacturer; key symbol and embossed or stamped with "DO NOT DUPLICATE".
d. Failure to comply with stamping requirements shall be cause for replacement of keys involved at no additional cost to Owner.
e. Forward permanent cylinders/cores to Owner, separately from keys, by means as directed by Owner.

5. Quantity: Furnish in the following quantities.

a. Change (Day) Keys: 3 per cylinder/core.
b. Option for LFIC or SFIC: Permanent Control Keys: 3.
c. Master Keys: 6.

2.14 DOOR CLOSERS OPTION:

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: LCN 4040XP series.
2. Acceptable Manufacturers and Products: No Substitute.

B. Requirements:

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
2. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
3. Cylinder Body: 1-1/2 inch (38 mm) diameter with 3/4 inch (19 mm) diameter double heat-treated pinion journal.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
7. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers.
8. Pressure Relief Valve (PRV) Technology: Not permitted.
9. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117, or has special rust inhibitor (SRI).
10. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.15 DOOR TRIM

A. Manufacturers:

1. Scheduled Manufacturer: Ives
2. Acceptable Manufacturers: Rockwood, Trimco

B. Requirements:

1. Provide push plates 4 inches (102 mm) wide by 16 inches (406 mm) high by 0.050 inch (1 mm) thick and beveled 4 edges. Where width of door stile prevents use of 4 inches (102 mm) wide plate, adjust width to fit.
2. Provide push bars of solid bar stock, diameter and length as scheduled. Provide push bars of sufficient length to span from center to center of each stile. Where required, mount back to back with pull.
3. Provide offset pulls of solid bar stock, diameter and length as scheduled. Where required, mount back to back with push bar.
4. Provide flush pulls as scheduled. Where required, provide back-to-back mounted model.
5. Provide pulls of solid bar stock, diameter and length as scheduled. Where required, mount back to back with push bar.
6. Provide pull plates 4 inches (102 mm) wide by 16 inches (406 mm) high by 0.050 inch (1 mm) thick, beveled 4 edges, and prepped for pull. Where width of door stile prevents use of 4 inches (102 mm) wide plate, adjust width to fit.
7. Provide wire pulls of solid bar stock, diameter and length as scheduled.
8. Provide decorative pulls as scheduled. Where required, mount back to back with pull.

2.16 PROTECTION PLATES

A. Manufacturers:

1. Scheduled Manufacturer: Ives
2. Acceptable Manufacturers: Rockwood, Trimco

B. Requirements:

1. Provide kick plates, mop plates, and armor plates minimum of 0.050 inch (1 mm) thick, beveled four edges as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
2. Sizes of plates:

a. Kick Plates: 10 inches (254 mm) high by 2 inches (51 mm) less width of door on single doors, 1 inch (25 mm) less width of door on pairs
b. Mop Plates: 4 inches (102 mm) high by 2 inches (51 mm) less width of door on single doors, 1 inch (25 mm) less width of door on pairs
c. Armor Plates: 36 inches (914 mm) high by 2 inches (51 mm) less width of door on single doors, 1 inch (25 mm) less width of door on pairs

2.17 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:

1. Scheduled Manufacturers: Glynn-Johnson
2. Acceptable Manufacturers: Rixson, Sargent

B. Requirements:

1. Provide heavy duty concealed mounted overhead stop or holder as specified for exterior and interior vestibule single acting doors.
2. Provide heavy duty concealed mounted overhead stop or holder as specified for double acting doors.
3. Provide heavy or medium duty and concealed or surface mounted overhead stop or holder for interior doors as specified. Provide medium duty surface mounted overhead stop for interior doors and at any door that swings more than 140 degrees before striking wall, open against equipment, casework, sidelights, and where conditions do not allow wall stop or floor stop presents tripping hazard.
4. Where overhead holders are specified provide friction type at doors without closer and positive type at doors with closer.

2.18 DOOR STOPS AND HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer: Ives
2. Acceptable Manufacturers: Rockwood, Trimco

B. Provide door stops at each door leaf:

1. Provide wall stops wherever possible. Provide convex type where mortise type locks are used and concave type where cylindrical type locks are used.
2. Where a wall stop cannot be used, provide universal floor stops for low or high rise options.

3. Where wall or floor stop cannot be used, provide medium duty surface mounted overhead stop.

2.19 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING

A. Manufacturers:

1. Scheduled Manufacturer: Zero International
2. Acceptable Manufacturers: National Guard, Pemko

B. Requirements:

1. Provide thresholds, weather-stripping (including door sweeps, seals, and astragals) and gasketing systems (including smoke, sound, and light) as specified and per architectural details. Match finish of other items.
2. Size of thresholds:

   a. Saddle Thresholds: 1/2 inch (13 mm) high by jamb width by door width
   b. Bumper Seal Thresholds: 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width

3. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.

2.20 SILENCERS

A. Manufacturers:

1. Scheduled Manufacturer: Ives
2. Acceptable Manufacturers: Rockwood, Trimco

B. Requirements:

1. Provide "push-in" type silencers for hollow metal or wood frames.
2. Provide one silencer per 30 inches (762 mm) of height on each single frame, and two for each pair frame.
3. Omit where gasketing is specified.

2.21 LATCH PROTECTORS

A. Manufacturers:

1. Scheduled Manufacturer: Ives
2. Acceptable Manufacturers: Rockwood, Trimco

B. Provide stainless steel latch protectors of type required to function with specified lock.

2.22 COAT HOOKS

A. Manufacturers:

1. Scheduled Manufacturer: Ives.
2. Acceptable Manufacturers: Rockwood, Trimco

B. Provide coat hooks as specified.

2.23 FINISHES

A. Finish: BHMA 626/652 (US26D); except:

1. Hinges at Exterior Doors: BHMA 630 (US32D)
2. Continuous Hinges: BHMA 630 (US32D)
3. Continuous Hinges: BHMA 628 (US28)
4. Push Plates, Pulls, and Push Bars: BHMA 630 (US32D)
5. Protection Plates: BHMA 630 (US32D)
6. Overhead Stops and Holders: BHMA 630 (US32D)
7. Door Closers: Powder Coat to Match
8. Wall Stops: BHMA 630 (US32D)
9. Latch Protectors: BHMA 630 (US32D)
10. Weatherstripping: Clear Anodized Aluminum
11. Thresholds: Mill Finish Aluminum

PART 3 - EXECUTION

3.1 EXAMINATION

A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Existing Door and Frame Compatibility: Field verify existing doors and frames receiving new hardware and existing conditions receiving new openings. Verify that new hardware is compatible with existing door and frame preparation and existing conditions.

C. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Where on-site modification of doors and frames is required:

1. Carefully remove existing door hardware and components being reused. Clean, protect, tag, and store in accordance with storage and handling requirements specified herein.
2. Field modify and prepare existing door and frame for new hardware being installed.
3. When modifications are exposed to view, use concealed fasteners, when possible.
4. Prepare hardware locations and reinstall in accordance with installation requirements for new door hardware and with:

a. Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.
b. Wood Doors: DHI WDHS.5 "Recommended Hardware Reinforcement Locations for Mineral Core Wood Flush Doors."
c. Doors in rated assemblies: NFPA 80 for restrictions on on-site door hardware preparation.

3.3 INSTALLATION

A. Mounting Heights: Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
2. Custom Steel Doors and Frames: HMMA 831.
3. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."

B. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.

C. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.

D. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

E. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

F. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.

G. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated or one hinge for every 30 inches (750 mm) of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.

H. Intermediate Offset Pivots: Where offset pivots are indicated, provide intermediate offset pivots in quantities indicated in door hardware schedule but not fewer than one intermediate offset pivot per door and one additional intermediate offset pivot for every 30 inches (750 mm) of door height greater than 90 inches (2286 mm).

I. Lock Cylinders: Install construction cores to secure building and areas during construction period.

1. Replace construction cores with permanent cores as indicated in keying section.

J. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.

K. Door Closers: Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Closers shall not be visible in corridors, lobbies and other public spaces unless approved by Architect.

L. Closer/Holders: Mount closer/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.

M. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."

N. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.

O. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

P. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

Q. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

3.4 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

1. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

B. Occupancy Adjustment: Approximately three months after date of Substantial Completion, Installer shall examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors, door hardware, and electrified door hardware.

3.5 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items as necessary to restore proper function and finish.

C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.6 DEMONSTRATION

A. Provide training for Owner's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes. Refer to Division 01 Section "Demonstration and Training."

3.7 DOOR HARDWARE SCHEDULE

A. Locksets, exit devices, and other hardware items are referenced in the following hardware sets for series, type and function. Refer to the above-specifications for special features, options, cylinders/keying, and other requirements.

B. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

C. Hardware Sets:

Hardware Group No. 01

For use on Door #(s):
(E) 271A (E) 271B (E) 271C

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
8	EA	HINGE	5BB1HW 5 X 4.5 NRP			630	IVE
1	EA	REMOVABLE MULLION	KR4954			689	VON
1	EA	AD-993 IPB RETROFIT KIT	47385857/47385858 AS REQ			626	VON
1	EA	PANIC HARDWARE	LD-PA-AX-98-EO			626	VON
1	EA	PANIC HARDWARE	LD-PA-AX-98-EO			626	VON
1	EA	MULLION STABILIZER	154			SP28	VON
1	EA	* ELEC EXIT DEVICE TRIM	AD-400-993R-50-MT-RHO-B 4AA BATTERY			626	SCE
1	EA	SFIC MORTISE CYL. HOUSING	80-102			626	SCH
2	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
2	EA	SURFACE CLOSER	4040XP SCUSH			689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS			630	IVE
1	EA	RAIN DRIP	142AA - OMIT IF SHELTERED			BK	ZER
1	SET	GASKETING	50AA-S			AA	ZER
1	EA	MULLION SEAL	8780NBK PSA			BK	ZER
2	EA	DOOR SWEEP	39A			A	ZER
1	EA	THRESHOLD	102A OR PER SILL DETAIL			A	ZER
1	EA	* DOOR CONTACT	679-05HM/WD AS REQ			BLK	SCE

* = OWNER FURNISHED, CONTRACTOR INSTALLED

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

PANEL INTERFACE MODULE (PIM) TO BE PROVIDED BY DIV 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

THE GC IS TO CONDUCT A KEYING MEETING WITH THE OWNER AND HARDWARE SUPPLIER TO SET UP MASTER KEY SYSTEM

Hardware Group No. 02

For use on Door #(s):

(E)245	(E)247A	(E)247B	(E)248A	(E)248B	(E)347
(E)348	(E)350A	(E)350B	(E)362A	(E)501A	(E)501B
(E)502A	(E)502B	(E)503A	(E)503B	(E)504A	(E)504B
(E)505A	(E)505B	(E)506A	(E)506B	(E)507A	(E)507B
(E)508A	(E)508B	(E)513A	(E)513B	(E) 101A	(E) 132A
(E) 132B	(E)332B	245A			

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP			630	IVE
1	EA	AD-993 IPB RETROFIT KIT	47385857/47385858 AS REQ			626	VON
1	EA	PANIC HARDWARE	LD-PA-AX-98-EO			626	VON
1	EA	* ELEC EXIT DEVICE TRIM	AD-400-993R-50-MT-RHO-B 4AA BATTERY			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP EDA			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	EA	RAIN DRIP	142AA - OMIT IF SHELTERED			BK	ZER
1	SET	GASKETING	50AA-S			AA	ZER
1	EA	DOOR SWEEP	39A			A	ZER
1	EA	THRESHOLD	102A OR PER SILL DETAIL			A	ZER

* = OWNER FURNISHED, CONTRACTOR INSTALLED

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

PANEL INTERFACE MODULE (PIM) TO BE PROVIDED BY DIV 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

Hardware Group No. 02A

For use on Door #(s):
244A

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP			630	IVE
1	EA	AD-993 IPB RETROFIT KIT	47385857/47385858 AS REQ			626	VON
1	EA	PANIC HARDWARE	LD-PA-AX-98-EO			626	VON
1	EA	* ELEC EXIT DEVICE TRIM	AD-400-993R-50-MT-RHO-B 4AA BATTERY			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP EDA			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	EA	RAIN DRIP	142AA - OMIT IF SHELTERED			BK	ZER
1	EA	GASKETING	188SBK PSA			BK	ZER

* = OWNER FURNISHED, CONTRACTOR INSTALLED

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

PANEL INTERFACE MODULE (PIM) TO BE PROVIDED BY DIV 28

Hardware Group No. 02B

For use on Door #(s):
(E) 110A (E) 110B

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
4	EA	HINGE	5BB1HW 5 X 4.5 NRP			630	IVE
1	EA	AD-993 IPB RETROFIT KIT	47385857/47385858 AS REQ			626	VON
1	EA	PANIC HARDWARE	LD-PA-AX-98-EO			626	VON
1	EA	* ELEC EXIT DEVICE TRIM	AD-400-993R-50-MT-RHO-B 4AA BATTERY			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP EDA			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	EA	RAIN DRIP	142AA - OMIT IF SHELTERED			BK	ZER
1	SET	GASKETING	50AA-S			AA	ZER
1	EA	DOOR SWEEP	39A			A	ZER
1	EA	THRESHOLD	102A OR PER SILL DETAIL			A	ZER

* = OWNER FURNISHED, CONTRACTOR INSTALLED

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

PANEL INTERFACE MODULE (PIM) TO BE PROVIDED BY DIV 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

Hardware Group No. 02C

For use on Door #(s):
(E)370 (E)371 (E)372B (E)373 (E)376

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5			652	IVE
1	EA	AD-993 IPB RETROFIT KIT	47385857/47385858 AS REQ			626	VON
1	EA	FIRE EXIT HARDWARE	PA-AX-98-EO-F			626	VON
1	EA	* ELEC EXIT DEVICE TRIM	AD-400-993R-50-MT-RHO-B 4AA BATTERY			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ TBSRT			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	SET	GASKETING	50AA-S			AA	ZER

* = OWNER FURNISHED, CONTRACTOR INSTALLED

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

PANEL INTERFACE MODULE (PIM) TO BE PROVIDED BY DIV 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

BALANCE OF EXISTING HARDWARE TO REMAIN.

Hardware Group No. 04

For use on Door #(s):

(E)293B	(E)364	(E)403	(E) 108	(E) 109	(E) 114
(E) 115	(E) 116	(E) 119A	(E) 120	(E) 124A	(E) 143
(E) 145A	(E) 270A	(E) 272	(E) 277B		

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
4	EA	HINGE	5BB1 4.5 X 4.5 NRP			630	IVE
1	EA	STOREROOM MORT LOCK W/LED INDICATOR	LEBMS-ADDHD-06 BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	FLOOR STOP	FS18S/L AS REQ			BLK	IVE
1	EA	RAIN DRIP	142AA - OMIT IF SHELTERED			BK	ZER
1	SET	GASKETING	50AA-S			AA	ZER
1	EA	DOOR SWEEP	39A			A	ZER
1	EA	THRESHOLD	102A OR PER SILL DETAIL			A	ZER

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

LOCKS AND GATEWAYS TO BE PROVIDED DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

Hardware Group No. 04A

For use on Door #(s):

(E)290B	(E)290C	(E)291A	(E)291B	(E)292A	(E)292B
(E)293A	(E)295A	(E)301B	(E)302B	(E)351	(E)385C
(E)386	(E)387B	(E)388A	(E)388B	(E)390A	(E)390B
(E)391B	(E)392A	(E)392B	(E)418	(E)422	

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP			630	IVE
1	EA	STOREROOM MORT LOCK W/LED INDICATOR	LEBMS-ADDHD-06 BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	FLOOR STOP	FS18S/L AS REQ			BLK	IVE
1	EA	RAIN DRIP	142AA - OMIT IF SHELTERED			BK	ZER
1	SET	GASKETING	50AA-S			AA	ZER
1	EA	DOOR SWEEP	39A			A	ZER
1	EA	THRESHOLD	102A OR PER SILL DETAIL			A	ZER

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

LOCKS AND GATEWAYS TO BE PROVIDED DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

Hardware Group No. 04B

For use on Door #(s):
(E) 122B (E) 274C

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
4	EA	HINGE	5BB1 5 X 4.5			630	IVE
1	EA	STOREROOM MORT LOCK W/LED INDICATOR	LEBMS-ADDHD-06 BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	FLOOR STOP	FS18S/L AS REQ			BLK	IVE
1	EA	RAIN DRIP	142AA - OMIT IF SHELTERED			BK	ZER
1	SET	GASKETING	50AA-S			AA	ZER
1	EA	DOOR SWEEP	39A			A	ZER
1	EA	THRESHOLD	102A OR PER SILL DETAIL			A	ZER

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

LOCKS AND GATEWAYS TO BE PROVIDED DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

Hardware Group No. 04C

For use on Door #(s):
(E) 107

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
4	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	EA	STOREROOM MORT LOCK W/LED INDICATOR	LEBMS-ADDHD-06 BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	SET	GASKETING	50AA-S			AA	ZER
1	EA	DOOR SWEEP	39A			A	ZER
1	EA	THRESHOLD	102A OR PER SILL DETAIL			A	ZER

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

LOCKS AND GATEWAYS TO BE PROVIDED DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

Hardware Group No. 05

For use on Door #(s):

(E)301A (E)302A (E)304 (E)306A (E)441 (E) 105A
(E) 111A (E) 336B (E) 337C

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
6	EA	HINGE	5BB1HW 5 X 4.5 NRP			630	IVE
1	SET	CONST LATCHING BOLT	FB51P			630	IVE
1	EA	DUST PROOF STRIKE	DP1 OR DP2 AS REQ'D			626	IVE
1	EA	STOREROOM MORT LOCK W/LED INDICATOR	LEBMS-ADDHD-06 BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	COORDINATOR	COR X FL X MB			628	IVE
2	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS			630	IVE
2	EA	FLOOR STOP	FS18S/L AS REQ			BLK	IVE
1	EA	RAIN DRIP	142AA - OMIT IF SHELTERED			BK	ZER
1	SET	GASKETING	50AA-S			AA	ZER
2	EA	DOOR SWEEP	39A			A	ZER
1	EA	ASTRAGAL	43SP			SP	ZER
1	EA	THRESHOLD	102A OR PER SILL DETAIL			A	ZER

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

Hardware Group No. 06

For use on Door #(s):

(E)201A	(E)201B	(E)201C	(E)358A	(E)358B	(E) 101B
(E) 101C	(E) 101D	(E) 128	(E) 131	(E) 136A	(E) 136B
(E) 136C	(E) 136D	(E) 325A	(E) 325B	(E) 338A	(E) 338B

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP			630	IVE
1	EA	REMOVABLE MULLION	KR4954			689	VON
1	EA	AD-993 IPB RETROFIT KIT	47385857/47385858 AS REQ			626	VON
1	EA	PANIC HARDWARE	LD-PA-AX-98-EO			626	VON
1	EA	PANIC HARDWARE	LD-PA-AX-98-EO			626	VON
1	EA	MULLION STABILIZER	154			SP28	VON
1	EA	* ELEC EXIT DEVICE TRIM	AD-400-993R-50-MT-RHO-B 4AA BATTERY			626	SCE
2	EA	SFIC MORTISE CYL. HOUSING	80-102			626	SCH
2	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
2	EA	SURFACE CLOSER	4040XP SCUSH			689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS			630	IVE
1	EA	RAIN DRIP	142AA - OMIT IF SHELTERED			BK	ZER
1	SET	GASKETING	50AA-S			AA	ZER
1	EA	MULLION SEAL	8780NBK PSA			BK	ZER
2	EA	DOOR SWEEP	39A			A	ZER
1	EA	THRESHOLD	102A OR PER SILL DETAIL			A	ZER
2	EA	* DOOR CONTACT	679-05HM/WD AS REQ			BLK	SCE

* = OWNER FURNISHED, CONTRACTOR INSTALLED

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

PANEL INTERFACE MODULE (PIM) TO BE PROVIDED BY DIV 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

Hardware Group No. 07

For use on Door #(s):

(E)240	(E)246	(E)249	(E)250	(E)251	(E)251A
(E)252	(E)253	(E)254	(E)255	(E)308	(E)309
(E)310	(E)349	(E)360A	(E)361A	(E)363A	(E)365A
(E)365B	(E)366A	(E)366B	(E)509A	(E)510A	(E)510B
(E)511A	(E)512A	(E)512B	(E)514	(E)515	(E)516
(E) 101A	(E) 106	(E) 335	(E) 340C1	(E) 341A	

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP			630	IVE
1	EA	STOREROOM MORT LOCK W/LED INDICATOR	LEBMS-ADDHD-06 BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	RAIN DRIP	142AA - OMIT IF SHELTERED			BK	ZER
1	SET	GASKETING	50AA-S			AA	ZER
1	EA	DOOR SWEEP	39A			A	ZER
1	EA	THRESHOLD	102A OR PER SILL DETAIL			A	ZER

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

Hardware Group No. 08

For use on Door #(s):
(E)338A (E) 334B (E) 334C (E) 334D (E) 334F

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
6	EA	HINGE	5BB1HW 5 X 4.5 NRP			630	IVE
1	EA	REMOVABLE MULLION	KR4954			689	VON
1	EA	AD-993 IPB RETROFIT KIT	47385857/47385858 AS REQ			626	VON
1	EA	PANIC HARDWARE	LD-PA-AX-98-EO			626	VON
1	EA	PANIC HARDWARE	LD-PA-AX-98-EO			626	VON
1	EA	MULLION STABILIZER	154			SP28	VON
1	EA	* ELEC EXIT DEVICE TRIM	AD-400-993R-50-MT-RHO-B 4AA BATTERY			626	SCE
2	EA	SFIC MORTISE CYL. HOUSING	80-102			626	SCH
2	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
2	EA	SURFACE CLOSER	4040XP SCUSH			689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS			630	IVE
1	EA	RAIN DRIP	142AA - OMIT IF SHELTERED			BK	ZER
1	SET	GASKETING	50AA-S			AA	ZER
1	EA	MULLION SEAL	8780NBK PSA			BK	ZER
2	EA	DOOR SWEEP	39A			A	ZER
1	EA	THRESHOLD	102A OR PER SILL DETAIL			A	ZER
1	EA	* DOOR CONTACT	679-05HM/WD AS REQ			BLK	SCE

* = OWNER FURNISHED, CONTRACTOR INSTALLED

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

PANEL INTERFACE MODULE (PIM) TO BE PROVIDED BY DIV 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

Hardware Group No. 09

For use on Door #(s):
(E)387A (E)388C (E)391A (E)402 (E)519 (E) 336A
(E) 337B

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5 NRP			630	IVE
1	SET	CONST LATCHING BOLT	FB51P			630	IVE
1	EA	DUST PROOF STRIKE	DP1 OR DP2 AS REQ'D			626	IVE
1	EA	STOREROOM MORT LOCK W/LED INDICATOR	LEBMS-ADDHD-06 BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	COORDINATOR	COR X FL X MB			628	IVE
2	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS			630	IVE
2	EA	FLOOR STOP	FS18S/L AS REQ			BLK	IVE
1	EA	RAIN DRIP	142AA - OMIT IF SHELTERED			BK	ZER
1	SET	GASKETING	50AA-S			AA	ZER
2	EA	DOOR SWEEP	39A			A	ZER
1	EA	ASTRAGAL	43SP			SP	ZER
1	EA	THRESHOLD	102A OR PER SILL DETAIL			A	ZER

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

Hardware Group No. 09A

For use on Door #(s):
(E)385B

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	SET	CONST LATCHING BOLT	FB51P			630	IVE
1	EA	DUST PROOF STRIKE	DP1 OR DP2 AS REQ'D			626	IVE
1	EA	STOREROOM MORT LOCK W/LED INDICATOR	LEBMS-ADDHD-06 BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	COORDINATOR	COR X FL X MB			628	IVE
2	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS			630	IVE
2	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	SET	GASKETING	50AA-S			AA	ZER
2	EA	DOOR SWEEP	39A			A	ZER
1	EA	ASTRAGAL	43SP			SP	ZER
1	EA	THRESHOLD	102A OR PER SILL DETAIL			A	ZER

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

Hardware Group No. 10

For use on Door #(s):
114

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
4	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	EA	* WIRELESS ELECTRONIC LOCK	NDEBHD RHO BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	GASKETING	188SBK PSA			BK	ZER

* = OWNER FURNISHED, CONTRACTOR INSTALLED

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

Hardware Group No. 10A

For use on Door #(s):

(E)321	(E)322	(E)383	(E)384	(E)395	(E)396
(E)397	(E)398	(E)399	(E)400	(E)404	(E)405
(E)406	(E)407				

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	EA	* WIRELESS ELECTRONIC LOCK	NDEBHD RHO BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	LOCK GUARD	LG1			630	IVE
1	EA	SURFACE CLOSER	4040XP SCUSH			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	GASKETING	188SBK PSA			BK	ZER

* = OWNER FURNISHED, CONTRACTOR INSTALLED

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

Hardware Group No. 11

For use on Door #(s):
(E)385A (E)414 (E)415 (E)416 (E)417 (E)432

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
4	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	EA	* WIRELESS ELECTRONIC LOCK	NDEBHD RHO BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	EA	GASKETING	188SBK PSA			BK	ZER

* = OWNER FURNISHED, CONTRACTOR INSTALLED

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

Hardware Group No. 12

For use on Door #(s):

(E)202	(E)203	(E)204	(E)205	(E)206	(E)241
(E)251B	(E)257	(E)258	(E)259	(E)260	(E)262
(E)263	(E)265	(E)511B	(E)511C	(E) 113	(E) 116
(E) 119	(E) 121	(E) 128	(E) 129	(E) 135	(E) 136
(E) 137	(E) 138A	(E) 138B	(E) 139	(E) 140	(E) 141
(E) 142	(E) 340A	(E) 340B	(E) 340C2	375A	

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	EA	* WIRELESS ELECTRONIC LOCK	NDEBHD RHO BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	EA	GASKETING	188SBK PSA			BK	ZER

* = OWNER FURNISHED, CONTRACTOR INSTALLED

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

Hardware Group No. 12F

For use on Door #(s):
(E)378 (E)382

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	EA	* WIRELESS ELECTRONIC LOCK	NDEBHD RHO BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ TBSRT			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	EA	GASKETING	188SBK PSA			BK	ZER

* = OWNER FURNISHED, CONTRACTOR INSTALLED

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

Hardware Group No. 12M

For use on Door #(s):
(E)256 (E)374A (E)379 (E)380 (E)381 377A
377B

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	EA	STOREROOM MORT LOCK W/LED INDICATOR	LEBMS-ADDHD-06 BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	EA	GASKETING	188SBK PSA			BK	ZER

* = OWNER FURNISHED, CONTRACTOR INSTALLED

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

Hardware Group No. 14

For use on Door #(s):
(E) 117

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5			630	IVE
1	SET	CONST LATCHING BOLT	FB51P			630	IVE
1	EA	DUST PROOF STRIKE	DP1 OR DP2 AS REQ'D			626	IVE
1	EA	* WIRELESS ELECTRONIC LOCK	NDEBHD RHO BATTERY OPERATED		✓	626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	COORDINATOR	COR X FL X MB			628	IVE
2	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS			630	IVE
2	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	EA	GASKETING	188SBK PSA			BK	ZER
1	EA	ASTRAGAL	383AA			AA	ZER

* = OWNER FURNISHED, CONTRACTOR INSTALLED

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

Hardware Group No. 14A

For use on Door #(s):
334E

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5			652	IVE
1	SET	CONST LATCHING BOLT	FB51P			630	IVE
1	EA	DUST PROOF STRIKE	DP1 OR DP2 AS REQ'D			626	IVE
1	EA	* WIRELESS ELECTRONIC LOCK	NDEBHD RHO BATTERY OPERATED		✓	626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	COORDINATOR	COR X FL X MB			628	IVE
2	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS			630	IVE
2	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	EA	GASKETING	188SBK PSA			BK	ZER
1	EA	ASTRAGAL	383AA			AA	ZER

* = OWNER FURNISHED, CONTRACTOR INSTALLED

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

Hardware Group No. 15

For use on Door #(s):
(E)298

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
6	EA	HINGE	5BB1HW 5 X 4.5			652	IVE
1	EA	PANIC HARDWARE	LD-PA-AX-9949-EO-LBL			626	VON
1	EA	PANIC HARDWARE	LD-PA-AX-9949-EO-LBL			626	VON
1	EA	* ELEC EXIT DEVICE TRIM	AD-400-993R-70-MT-RHO-B 4AA BATTERY			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
2	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS			630	IVE
2	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	EA	GASKETING	188SBK PSA			BK	ZER
1	EA	* DOOR CONTACT	679-05HM/WD AS REQ			BLK	SCE

* = OWNER FURNISHED, CONTRACTOR INSTALLED

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

PANEL INTERFACE MODULE (PIM) TO BE PROVIDED BY DIV 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

Hardware Group No. 16

For use on Door #(s):
(E)351A 103A

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
1	EA	CONT. HINGE	112XY			628	IVE
1	EA	* WIRELESS ELECTRONIC LOCK	NDEBHD RHO BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
1	EA	MOUNTING PLATE	4040-18			689	LCN
1	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1		SEALS	BY DOOR MANUFACTURER				B/O

* = OWNER FURNISHED, CONTRACTOR INSTALLED

5 INCH STILES REQUIRED FOR HARDWARE SPECIFIED

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

Hardware Group No. 17

For use on Door #(s):
(E) 102A (E) 102B (E) 104 (E) 110A

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
1	EA	CONT. HINGE	112XY			628	IVE
1	EA	STOREROOM MORT LOCK W/LED INDICATOR	LEBMS-ADDHD-06 BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
1	EA	MOUNTING PLATE	4040-18			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	FLOOR STOP	FS18S/L AS REQ			BLK	IVE
1		SEALS	BY DOOR MANUFACTURER				B/O
1	EA	DOOR SWEEP	39A			A	ZER
1	EA	THRESHOLD	102A OR PER SILL DETAIL			A	ZER

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

5 INCH MINIMUM STILES REQUIRED FOR HARDWARE SPECIFIED

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

Hardware Group No. 19

For use on Door #(s):
108A 108B

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
1	EA	CONT. HINGE	112XY			628	IVE
1	EA	AD-993 IPB RETROFIT KIT	47385857/47385858 AS REQ			626	VON
1	EA	PANIC HARDWARE	LD-PA-AX-98-EO			626	VON
1	EA	* ELEC EXIT DEVICE TRIM	AD-400-993R-50-MT-RHO-B 4AA BATTERY			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP EDA			689	LCN
1	EA	MOUNTING PLATE	4040-18			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	FLOOR STOP	FS18S/L AS REQ			BLK	IVE
1		SEALS	BY DOOR MANUFACTURER				B/O
1	EA	DOOR SWEEP	39A			A	ZER
1	EA	THRESHOLD	102A OR PER SILL DETAIL			A	ZER

* = OWNER FURNISHED, CONTRACTOR INSTALLED

5 INCH MINIMUM STILES REQUIRED FOR HARDWARE SPECIFIED

WIDE DOOR REQUIRES 4FT EXIT DEVICE

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

PANEL INTERFACE MODULE (PIM) TO BE PROVIDED BY DIV 28

Hardware Group No. 20

For use on Door #(s):
106C 132C

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	EA	PUSH PLATE	8200 8" X 16"			630	IVE
1	EA	PULL PLATE	8302 6" 4" X 16"			630	IVE
1	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	EA	GASKETING	188SBK PSA			BK	ZER

Hardware Group No. 21

For use on Door #(s):
(E)207

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
8	EA	HINGE	5BB1HW 5 X 4.5 NRP			630	IVE
1	SET	CONST LATCHING BOLT	FB51P			630	IVE
1	EA	DUST PROOF STRIKE	DP1 OR DP2 AS REQ'D			626	IVE
1	EA	STOREROOM MORT LOCK W/LED INDICATOR	LEBMS-ADDHD-06 BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	COORDINATOR	COR X FL X MB			628	IVE
2	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS			630	IVE
2	EA	FLOOR STOP	FS18S/L AS REQ			BLK	IVE
1	EA	RAIN DRIP	142AA - OMIT IF SHELTERED			BK	ZER
1	SET	GASKETING	50AA-S			AA	ZER
2	EA	DOOR SWEEP	39A			A	ZER
1	EA	ASTRAGAL	43SP			SP	ZER
1	EA	THRESHOLD	102A OR PER SILL DETAIL			A	ZER

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIV 28

Hardware Group No. 22

For use on Door #(s):
(E)517 (E)518

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP			630	IVE
1	EA	STOREROOM MORT LOCK W/LED INDICATOR	LEBMS-ADDHD-06 BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	EA	RAIN DRIP	142AA - OMIT IF SHELTERED			BK	ZER
1	SET	GASKETING	50AA-S			AA	ZER
1	EA	DOOR SWEEP	39A			A	ZER
1	EA	THRESHOLD	102A OR PER SILL DETAIL			A	ZER

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIV 28

Hardware Group No. 23

For use on Door #(s):
(E)244 372A

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5			652	IVE
1	EA	AD-993 IPB RETROFIT KIT	47385857/47385858 AS REQ			626	VON
1	EA	FIRE EXIT HARDWARE	PA-AX-99-EO-F			626	VON
1	EA	* ELEC EXIT DEVICE TRIM	AD-400-993R-50-MT-RHO-B 4AA BATTERY			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP EDA TBSRT			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	EA	GASKETING	188SBK PSA			BK	ZER

* = OWNER FURNISHED, CONTRACTOR INSTALLED

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

PANEL INTERFACE MODULE (PIM) TO BE PROVIDED BY DIV 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

Hardware Group No. 29

For use on Door #(s):
246A 247C 252A 254A 256A 257A
262A 369C

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	EA	CLASSROOM SECURITY	L9071HD 06A			626	SCH
2	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	EA	GASKETING	188SBK PSA			BK	ZER

Hardware Group No. 30

For use on Door #(s):

(E) 101B	(E) 110B	(E) 122	(E) 123	(E) 124	(E) 130
(E) 131	(E) 133	(E) 134	(E) 144A	(E) 146	(E) 147
342A	342B	342C			

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	EA	* WIRELESS ELECTRONIC LOCK	NDEBHD RHO BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	EA	GASKETING	188SBK PSA			BK	ZER

* = OWNER FURNISHED, CONTRACTOR INSTALLED

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

Hardware Group No. 30A

For use on Door #(s):
102

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	EA	* WIRELESS ELECTRONIC LOCK	NDEBHD RHO BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1		SEALS	BY ALUMINUM FRAME MANUFACTURER				B/O

* = OWNER FURNISHED, CONTRACTOR INSTALLED

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

Hardware Group No. 32

For use on Door #(s):
360B 363B

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	EA	CLASSROOM SECURITY	L9071HD 06A			626	SCH
2	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	EA	GASKETING	188SBK PSA			BK	ZER

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

Hardware Group No. 33

For use on Door #(s):
106A 106B

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5 NRP			630	IVE
1	EA	REMOVABLE MULLION	KR4954			689	VON
1	EA	AD-993 IPB RETROFIT KIT	47385857/47385858 AS REQ			626	VON
1	EA	PANIC HARDWARE	LD-PA-AX-98-EO			626	VON
1	EA	PANIC HARDWARE	LD-PA-AX-98-EO			626	VON
1	EA	MULLION STABILIZER	154			SP28	VON
1	EA	* ELEC EXIT DEVICE TRIM	AD-400-993R-50-MT-RHO-B 4AA BATTERY			626	SCE
1	EA	SFIC MORTISE CYL. HOUSING	80-102			626	SCH
2	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
2	EA	SURFACE CLOSER	4040XP SCUSH			689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS			630	IVE
1	EA	RAIN DRIP	142AA - OMIT IF SHELTERED			BK	ZER
1	SET	GASKETING	50AA-S			AA	ZER
1	EA	MULLION SEAL	8780NBK PSA			BK	ZER
2	EA	DOOR SWEEP	39A			A	ZER
1	EA	THRESHOLD	102A OR PER SILL DETAIL			A	ZER
1	EA	* DOOR CONTACT	679-05HM/WD AS REQ			BLK	SCE

* = OWNER FURNISHED, CONTRACTOR INSTALLED

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

PANEL INTERFACE MODULE (PIM) TO BE PROVIDED BY DIV 28

Hardware Group No. 34

For use on Door #(s):
367 368A 368B

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP			630	IVE
1	EA	STOREROOM MORT LOCK W/LED INDICATOR	LEBMS-ADDHD-06 BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	RAIN DRIP	142AA - OMIT IF SHELTERED			BK	ZER
1	SET	GASKETING	50AA-S			AA	ZER
1	EA	DOOR SWEEP	39A			A	ZER
1	EA	THRESHOLD	102A OR PER SILL DETAIL			A	ZER

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

Hardware Group No. 35

For use on Door #(s):
118 144B 145B 341B 342 342D

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	EA	* WIRELESS ELECTRONIC LOCK	NDEBHD RHO BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	EA	GASKETING	188SBK PSA			BK	ZER

* = OWNER FURNISHED, CONTRACTOR INSTALLED

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

Hardware Group No. 35A

For use on Door #(s):
369B

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	EA	* WIRELESS ELECTRONIC LOCK	NDEBHD RHO BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH TBSRT			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	EA	GASKETING	188SBK PSA			BK	ZER

* = OWNER FURNISHED, CONTRACTOR INSTALLED

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

Hardware Group No. 35F

For use on Door #(s):
366C 368C 369A 372C 374B 375

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	EA	* WIRELESS ELECTRONIC LOCK	NDEBHD RHO BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ TBSRT			689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS			630	IVE
1	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	EA	GASKETING	188SBK PSA			BK	ZER

* = OWNER FURNISHED, CONTRACTOR INSTALLED

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

Hardware Group No. 37

For use on Door #(s):
339A 344

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5			652	IVE
1	EA	CONST LATCHING BOLT	FB61T			630	IVE
1	EA	* WIRELESS ELECTRONIC LOCK	NDEBHD RHO BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	COORDINATOR	COR X FL X MB			628	IVE
2	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS			630	IVE
2	EA	STOP	WS406/407CCV OR FS439 AS REQ			630	IVE
1	EA	GASKETING	188SBK PSA			BK	ZER
1	EA	ASTRAGAL	383AA			AA	ZER

* = OWNER FURNISHED, CONTRACTOR INSTALLED

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIVISION 28

Hardware Group No. 38

For use on Door #(s):
(E)359

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
8	EA	HINGE	5BB1HW 5 X 4.5 NRP			630	IVE
1	EA	CONST LATCHING BOLT	FB61T			630	IVE
1	EA	STOREROOM MORT LOCK W/LED INDICATOR	LEBMS-ADDHD-06 BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	COORDINATOR	COR X FL X MB			628	IVE
2	EA	SURFACE CLOSER	4040XP REG OR PA AS REQ			689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS			630	IVE
2	EA	FLOOR STOP	FS18S/L AS REQ			BLK	IVE
1	EA	RAIN DRIP	142AA - OMIT IF SHELTERED			BK	ZER
1	SET	GASKETING	50AA-S			AA	ZER
2	EA	DOOR SWEEP	39A			A	ZER
1	EA	ASTRAGAL	43SP			SP	ZER
1	EA	THRESHOLD	102A OR PER SILL DETAIL			A	ZER

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

LOCKS AND GATEWAYS TO BE PROVIDED IN DIV 28

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIV 28

Hardware Group No. 39

For use on Door #(s):
G-3 G-4 G-5 G-6 G-14

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
	EA	GATE HINGES/PIVOTS (QUANTITY AS REQ)	BY GATE FABRICATOR				B/O
2	EA	HYDRAULIC GATE CLOSER	BY GATE FABRICATOR				B/O
1	EA	CANE BOLT	BY GATE MANUFACTURER			626	B/O
1	EA	STOREROOM MORT LOCK W/LED INDICATOR	LEBMS-ADDHD-06 BATTERY OPERATED			626	SCE
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
1	EA	MORTISE GATE BOX (WELDED)	BY GATE FABRICATOR				
2	EA	FLOOR STOP	FS18S/L AS REQ			BLK	IVE
			BALANCE OF HARDWARE BY GATE FABRICATOR				

PIVOTS, WELDED SECURITY SCREEN, AND WELDED PLATE FOR PANIC HARDWARE BY GATE FABRICATOR

TRIM SHOWN HERE FOR REFERENCE AND TEMPLATING ONLY. IT IS SPECIFIED AND SUPPLIED IN DIV 28

PIM TO BE PROVIDED BY DIV 28

WELDED MOUNTING PLATES FOR HARDWARE BY GATE FABRICATOR.

CONFIRM HARDWARE WITH GATE FABRICATOR PRIOR TO ORDERING.

Hardware Group No. 40

For use on Door #(s):
G-1 G-2 G-8 G-9 G-10 G-11
G-12 G-13

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
	EA	GATE HINGES/PIVOTS (QUANTITY AS REQ)	BY GATE FABRICATOR				B/O
2	EA	HYDRAULIC GATE CLOSER	BY GATE FABRICATOR				B/O
1	EA	CENTER POST	BY GATE FABRICATOR				
1	EA	AD-993 IPB RETROFIT KIT	47385857/47385858 AS REQ		✓	626	VON
1	EA	PANIC HARDWARE	LD-PA-AX-98-EO-WH			630	VON
1	EA	PANIC HARDWARE	LD-PA-AX-98-EO-WH			630	VON
1	EA	* ELEC EXIT DEVICE TRIM	AD-400-993R-50-MT-RHO-B 4AA BATTERY		✓	626	SCE
1	EA	SFIC MORTISE CYL. HOUSING	80-102			626	SCH
1	EA	SFIC EVEREST CORE	80-037 EV29 R			626	SCH
2	EA	KICK PLATE	PROVIDE 10" SMOOTH SURFACE ON PUSH SIDE			630	IVE
2	EA	FLOOR STOP	FS18S/L AS REQ			BLK	IVE
1	EA	* DOOR CONTACT	679-05HM/WD AS REQ		✓	BLK	SCE
1			BALANCE OF HARDWARE BY GATE FABRICATOR				

* = OWNER FURNISHED, CONTRACTOR INSTALLED

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

PANEL INTERFACE MODULE (PIM) TO BE PROVIDED BY DIV 28

FIELD VERIFY HARDWARE SPECIFIED WILL FIT IN EXISTING PREPS PRIOR TO ORDERING

WELDED MOUNTING PLATES FOR HARDWARE BY GATE FABRICATOR.

CONFIRM HARDWARE WITH GATE FABRICATOR PRIOR TO ORDERING.

Hardware Group No. 41

For use on Door #(s):
G-7 G-16 G-17

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
1	EA	PADLOCK HASP	BY GATE SUPPLIER				B/O
1	EA	PADLOCK	(SFIC COMPATIBLE)				BYO
1	EA		BALANCE OF HARDWARE BY GATE MANUFACTURER				

Hardware Group No. 41A

For use on Door #(s):
G-15

QTY		DESCRIPTION	CATALOG NUMBER			FINISH	MFR
1	EA	TRANSPONDER/READER	BY DIV 28		✓		BYO
1			HARDWARE BY GATE MANUFACTURER				
	EA	NOTE	MOTORIZED GATE				

COORDINATE: ACCESS CONTROL, WIRING, CONDUIT, POWER.
TRANSPONDER AND READER TO ALLOW AUTHORIED VEHICLES TO PASS THROUGH MOTORIZED GATE.

END OF SECTION 08 71 00

ABBREVIATIONS

AB	AGGREGATE BASE	MH	MANHOLE
AC	ASPHALT CONCRETE PAVEMENT	MIN	MINIMUM
AE	ACCESS EASEMENT	MOC	MIDDLE OF CURVATURE
ASPH	ASPHALT PAVING	N	NORTH
BC	BEGIN CURVATURE	NG	NATURAL GRADE
BCR	BEGIN CURB RETURN	NTS	NOT TO SCALE
BFP	BACK FLOW PREVENTER	OC	ON CENTER
BI	BOX INLET	(P)	PROPOSED, NEW
BM	BENCHMARK	PA	PLANTING AREA
BOP	BOTTOM OF PIPE	PBC	PULL BOX CABLE
BOR	BOTTOM OF RAMP	PBE	PULL BOX ELECTRIC
BS	BOTTOM OF STAIRS	PBT	PULL BOX TELEPHONE
BVC	BEGIN VERTICAL CURVATURE	PBW	PULL BOX WATER
BW	BOTTOM OF WALL	PCC	POINT OF COMPOUND CURVATURE
C&G	CURB AND GUTTER	PE	PEDESTRIAN EASEMENT
C/L,CL	CENTER LINE	PI	POINT OF INTERSECTION
CB	CATCH BASIN	PIVC	POINT OF INTERSECTION VERTICAL CURVATURE
CONST	CONSTRUCT		
CR	CURB RETURN	PL	PROPERTY LINE
CT	COURT	POC	POINT OF CONNECTION
CUL	CULVERT	PP	POWER POLE
DI	DROP INLET	PRC	POINT OF REVERSE CURVATURE
DIP	DUCTILE IRON PIPE	PVC	POLYVINYL CHLORIDE
DW	DOMESTIC WATER	PVMT	PAVEMENT
D/W	DRIVEWAY	R	RADIUS
SDMH	STORM DRAIN MANHOLE	RCP	REINFORCED CONCRETE PIPE
DE	DRAINAGE EASEMENT	RIM	TOP RIM OF STRUCTURE
DR	DRIVE	ROW	HIGHWAY EASEMENT
(E)	EXISTING	RT	RIGHT
E	EAST	RW	RECLAIMED WATER
EC	END CURVATURE	R/W	RIGHT OF WAY
ECR	END CURB RETURN	S	SOUTH OR SLOPE
EG	EXISTING GRADE	SBE	SETBACK EASEMENT
ELEV	ELEVATION	SCO	SANITARY SEWER CLEANOUT
EOC	EDGE OF CONCRETE	SD	STORM DRAIN
EP	EDGE OF PAVEMENT	SF	SQUARE FEET
ESMT	EASEMENT	SHT	SHEET
EVC	END OF VERTICAL CURVATURE	STA	STATION
FF	FINISHED FLOOR	SMH	SANITARY SEWER MANHOLE
FFE	FINISHED FLOOR ELEVATION	SWPPP	STORM WATER POLLUTION PREVENTION PLAN
FG	FINISHED GRADE		
FH	FIRE HYDRANT	S/W	SIDEWALK
FL	FLOWLINE	T	TANGENT
FS	FINISHED SURFACE	TB	TOP OF BERM
FW	FIRE PROTECTION SERVICE WATER	TBC	TOP BACK OF CURB
GB	GRADE BREAK	TBW	TOP BACK OF WALK
GFL	GUTTER FLOWLINE	TC	TOP OF CURB
GSL	LIMITS OF GRAVITY SEWER	TG	TOP OF GRATE
GR	GRATE	TOE	TOE OF SLOPE
GV	GAS VALVE	TOP	TOP OF PIPE
HB	HOSE BIB	TOR	TOP OF RAMP
HP	HIGH POINT	TOS	TOP OF SLOPE
ICV	IRRIGATION CONTROL VALVE	TP	TOP OF PLANTER
INTX	POINT OF INTERSECTION	TS	TOP OF STAIRS
INV	INVERT	TW	TOP OF WALL
JP	JOINT POLE	TYP	TYPICAL
LE	LANDSCAPE EASEMENT	TP	TELEPHONE POLE
LF	LINEAR FEET	UNO	UNLESS NOTED OTHERWISE
LIP	LIP OF GUTTER	VC	VERTICAL CURVATURE
LP	LOW POINT	W	WEST
LT	LEFT	WM	WATER MAIN
MAX	MAXIMUM	WV	WATER VALVE

LEGEND

SYMBOL	DESCRIPTION
RD	ROOF DRAIN P.O.C 5' FROM BUILDING
G	GAS P.O.C 5' FROM BUILDING
F	FIRE WATER P.O.C 5' FROM BUILDING
W	DOMESTIC WATER P.O.C 5' FROM BUILDING
SS	SANITARY SEWER P.O.C 5' FROM BUILDING
D	STORM DRAIN MANHOLE
S	SANITARY SEWER MANHOLE
	DRAIN INLET
AD	AREA DRAIN
	TRENCH DRAIN
	CLEANOUT
	BLOW OFF
	FIRE HYDRANT
	VALVE
	POST INDICATOR VALVE (PIV)/CHECK VALVE (CHK VLV)/FIRE DEPARTMENT CONNECTION (FDC)
	CHECK VALVE (CHK VLV)
	FIRE DEPARTMENT CONNECTION (FDC)
	DOUBLE DETECTOR CHECK (DBL CHK)
	REDUCED PRESSURE (BFP)
	POST INDICATOR VALVE (PIV)
	THRUST BLOCK
	BENDS, TEE AND CROSS
M	WATER METER

LINE TYPE	DESCRIPTION
	APPROXIMATE PROJECT LIMITS
	RIGHT OF WAY/ PROPERTY LINE
	FENCE
	REMOVE EXISTING UTILITY
S S	EXISTING SEWER LINE
W W	EXISTING WATER LINE
SD SD	EXISTING STORM DRAIN LINE
FW FW	EXISTING DEDICATED PRIVATE FIRE SERVICE
G G	EXISTING NATURAL GAS SERVICE
E E	EXISTING ELECTRICAL LINE / CONDUIT
T T	EXISTING TELECOMMUNICATIONS LINE / CONDUIT
XXLF X"SS S=X.XXX	SANITARY SEWER LINE
XXLF X"SD S=X.XXX	STORM DRAIN LINE (≤8" DIAMETER)
XXLF X"SD S=X.XXX	STORM DRAIN LINE (>8" DIAMETER)
GB	GRADE BREAK LINE
	FLOW LINE
	DAYLIGHT LINE

GENERAL EROSION AND SEDIMENT CONTROL NOTES

1. CONTRACTOR SHALL ENSURE THAT THE CONSTRUCTION SITE IS PREPARED PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL HAVE ALL EROSION AND SEDIMENT CONTROL MEASURES IN PLACE AT ALL TIMES DURING CONSTRUCTION.
2. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE STABILIZED.
3. THIS PLAN MAY NOT COVER ALL THE SITUATIONS THAT ARISE DURING CONSTRUCTION DUE TO UNANTICIPATED FIELD CONDITIONS.
4. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED BEFORE AND AFTER ALL STORMS TO ENSURE MEASURES ARE FUNCTIONING PROPERLY.
5. CONTRACTOR SHALL MAINTAIN A LOG AT THE SITE OF ALL INSPECTIONS OR MAINTENANCE OF BMPS, AS WELL AS, ANY CORRECTIVE CHANGES TO THE BMPS OR EROSION AND SEDIMENT CONTROL PLAN.
6. IN AREAS WHERE SOIL IS EXPOSED, PROMPT REPLANTING WITH NATIVE COMPATIBLE, DROUGHT-RESISTANT VEGETATION SHALL BE PERFORMED. NO AREAS WILL BE LEFT EXPOSED OVER THE WINTER SEASON.
7. THE CONTRACTOR SHALL INSTALL THE STABILIZED CONSTRUCTION ENTRANCE PRIOR TO COMMENCEMENT OF GRADING. LOCATION OF THE ENTRANCE MAY BE ADJUSTED BY THE CONTRACTOR TO FACILITATE GRADING OPERATIONS. ALL CONSTRUCTION TRAFFIC ENTERING THE PAVED ROAD MUST CROSS THE STABILIZED CONSTRUCTION ENTRANCE.
8. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE SWEPT AT THE END OF EACH WORKING DAY OR MORE OFTEN AS NECESSARY.
9. CONTRACTOR SHALL PLACE GRAVEL/SAND BAGS AROUND ALL NEW DRAINAGE STRUCTURE OPENINGS IMMEDIATELY AFTER THE STRUCTURE OPENING IS CONSTRUCTED. THESE GRAVEL/SAND BAGS SHALL BE MAINTAINED AND REMAIN IN PLACE UNTIL CONSTRUCTION IS COMPLETED.
10. CONTRACTOR SHALL IMPLEMENT HOUSEKEEPING PRACTICES AS FOLLOWS:
   - A. SOLID WASTE MANAGEMENT: PROVIDE DESIGNATED WASTE COLLECTION AREAS AND CONTAINERS. ARRANGE FOR REGULAR REMOVAL AND DISPOSAL. CLEAR SITE OF TRASH INCLUDING ORGANIC DEBRIS, PACKAGING MATERIALS, SCRAP OR SURPLUS BUILDING MATERIALS AND DOMESTIC WASTE DAILY.
   - B. MATERIAL DELIVERY AND STORAGE: PROVIDE A DESIGNATED MATERIAL STORAGE AREA WITH SECONDARY CONTAINMENT SUCH AS BERMING. STORE MATERIAL ON PALLETS AND PROVIDE COVERING FOR SOLUBLE MATERIALS. RELOCATE STORAGE AREA INTO BUILDING SHELL WHEN POSSIBLE. INSPECT AREA WEEKLY.
   - C. CONCRETE WASTE: PROVIDE A DESIGNATED AREA FOR A TEMPORARY PIT TO BE USED FOR CONCRETE TRUCK WASH-OUT. CONCRETE WASHOUT CANNOT BE WITHIN 50' MINIMUM OF DRAIN INLETS. DISPOSE OF HARDENED CONCRETE OFFSITE. AT NO TIME SHALL A CONCRETE TRUCK DUMP ITS WASTE AND CLEAN ITS TRUCK INTO THE STORM DRAINS VIA CURB AND GUTTER. INSPECT DAILY TO CONTROL RUNOFF, AND WEEKLY FOR REMOVAL OF HARDENED CONCRETE.
   - D. PAINT AND PAINTING SUPPLIES: PROVIDE INSTRUCTION TO EMPLOYEES AND SUBCONTRACTORS REGARDING REDUCTION OF POLLUTANTS INCLUDING MATERIAL STORAGE, USE, AND CLEAN UP. INSPECT SITE WEEKLY FOR EVIDENCE OF IMPROPER DISPOSAL.
   - E. VEHICLE FUELING, MAINTENANCE AND CLEANING: PROVIDE A DESIGNATED FUELING AREA WITH SECONDARY CONTAINMENT SUCH AS BERMING. DO NOT ALLOW MOBILE FUELING OF EQUIPMENT. PROVIDE EQUIPMENT WITH DRIP PANS. RESTRICT ONSITE MAINTENANCE AND CLEANING OF EQUIPMENT TO A MINIMUM. INSPECT AREA WEEKLY.
   - F. HAZARDOUS WASTE MANAGEMENT: PREVENT THE DISCHARGE OF POLLUTANTS FROM HAZARDOUS WASTES TO THE DRAINAGE SYSTEM THROUGH PROPER MATERIAL USE, WASTE DISPOSAL AND TRAINING OF EMPLOYEES. HAZARDOUS WASTE PRODUCTS COMMONLY FOUND ON-SITE INCLUDE BUT ARE NOT LIMITED TO PAINTS & SOLVENTS, PETROLEUM PRODUCTS, FERTILIZERS, HERBICIDES & PESTICIDES, SOIL STABILIZERS, STABILIZATION PRODUCTS, ASPHALT PRODUCTS AND CONCRETE CURING PRODUCTS.
11. CONTRACTOR SHALL HYDROSEED ALL GRADED SLOPES. NATIVE SEED MIX SHALL BE 20% LANA PUBESCENT WHEAT GRASS, 40% BLANDO BROME, AND 40% ANNUAL RYE GRASS AND SHALL BE APPLIED AT A RATE OF 200 POUNDS PER ACRE. SOIL BINDING AGENT SHALL BE VERDYOL, SENTINEL, OR EQUAL, APPLIED AT A RATE OF 110 POUNDS PER ACRE. MULCH SHALL BE SILVER-FIBER, CONWED, OR EQUAL, APPLIED AT A RATE OF 1,000 POUNDS PER ACRE. FERTILIZER SHALL BE AGRI-FORM 16-7-12, BEST 16-6-8, OR EQUAL, APPLIED AT A RATE OF 500 POUNDS PER ACRE. THE CONTRACTOR SHALL WATER SEEDED AREAS OR RESEED AS NECESSARY TO ENSURE SUFFICIENT PLANT DEVELOPMENT FOR EROSION CONTROL.
12. NO GRADING SHALL BE DONE UNTIL SITE- AND SEASON-SPECIFIC SOIL LOSS AND HOUSEKEEPING STORMWATER BMPs HAVE BEEN APPROVED BY THE INSPECTOR. THE CONTRACTOR SHOULD EMPLOY THE DESIGN BMPs AND ANY OTHERS NEEDED AS SITUATIONS ARISE. CONTRACTOR SHOULD CONDUCT SITE INSPECTIONS BEFORE, DURING AND AFTER EACH EXTENDED STORM EVENT TO IDENTIFY CONDITIONS THAT MAY CONTRIBUTE TO EROSION AND SEDIMENT PROBLEMS OR ANY OTHER POLLUTANT DISCHARGES. IF ADDITIONAL CONTROL MEASURES ARE NEEDED, CONTRACTOR SHOULD IMPLEMENT THEM IMMEDIATELY.

POLLUTION PREVENTION NOTES

IN ORDER TO MEET THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PROGRAM FOR CONSTRUCTION, CONSTRUCTION CONTRACTORS SHALL INSTALL AND MAINTAIN APPROPRIATE BEST MANAGEMENT PRACTICES (BMPS), AS SHOWN IN THE EROSION CONTROL PLAN AND IN ACCORDANCE WITH THE SWPPP (STORM WATER POLLUTION PREVENTION PLAN), ON ALL CONSTRUCTION PROJECTS. BMPS SHALL BE INSTALLED IN ACCORDANCE WITH INDUSTRY RECOMMENDED STANDARDS, AND/OR IN ACCORDANCE WITH ANY GENERAL CONSTRUCTION PERMIT ISSUED BY THE STATE FOR THE PROJECT TO PREVENT ANY DISCHARGES FROM THE PROJECT SITE OR INTO ANY STORM DRAIN FACILITIES. ALL SEDIMENTS, CONSTRUCTION MATERIALS, DEBRIS AND WASTES, AND OTHER POLLUTANTS MUST BE RETAINED ON SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES, WIND, OR VEHICLE TRACKING. UNDER DIRECTION OF THE ENGINEER OF RECORD, EROSION AND/OR SEDIMENT CONTROL DEVICES SHALL BE MODIFIED AS NEEDED AS THE PROJECT PROGRESSES TO ENSURE EFFECTIVENESS.

BMP MAINTENANCE NOTES

1. FOLLOWING OWNER ACCEPTANCE OF CONSTRUCTION WORK, POST CONSTRUCTION BEST MANAGEMENT PRACTICE (BMP) MEASURES SHALL BE MAINTAINED BY THE PROPERTY OWNER, INCLUDING BUT NOT LIMITED TO:
   - 1.1. ANNUAL INSPECTION, REPLACEMENT, AND/OR SEDIMENTATION REMOVAL OF VEGETATED SWALES, TREATMENT PONDS, AND OTHER SURFACE STORMWATER TREATMENT MEASURES AS REQUIRED WITH AN INCREASED FREQUENCY BASED ON SITE CONDITIONS.
   - 1.2. MAINTENANCE SERVICE AGREEMENT(S) OF STORMWATER TREATMENT VAULTS, INLETS, MANHOLES, AND OTHER DEVICES BASED ON MANUFACTURES' RECOMMENDATIONS AND FREQUENCY.
   - 1.3. ANNUAL INSPECTION OF PERMEABLE PAVEMENT AND REMOVAL OF SEDIMENT AS NEEDED.
   - 1.4. ANNUAL INSPECTION OF STORMWATER INLETS AND MAINTENANCE AS REQUIRED TO CLEAR GRATES AND INLETS OF DEBRIS.
   - 1.5. THE PROJECT STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND WATER QUALITY MANAGEMENT PLAN (WQMP) MAY CONTAIN ADDITIONAL OR MORE STRINGENT MAINTENANCE REQUIREMENTS.
2. BMP DETAILS MAY BE FOUND IN APPENDIX H OF THE PROJECT SWPPP DOCUMENT. BMP DETAILS PER CALIFORNIA STORMWATER QUALITY ASSOCIATION (CASQA) AND ARE AVAILABLE AT www.casqa.org.
3. FOR PROJECTS GREATER THAN 1 ACRE: THE CONTRACTOR SHALL VERIFY THE STATUS OF THE SWPPP/NOI/WDID PRIOR TO EARTHMOVING ACTIVITIES. A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE PREPARED AND A NOTICE OF INTENT (NOI) SHALL BE FILED WITH THE STATE WATER RESOURCES CONTROL BOARD (SWRCB) IN ACCORDANCE WITH THE REQUIREMENTS OF CALIFORNIA GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY (PERMIT NO. CAS000002) FOR ALL OPERATIONS ASSOCIATED WITH THESE PLANS. THE CONTRACTOR SHALL KEEP A COPY OF THE SWPPP ON SITE AND AVAILABLE FOR REVIEW.

AREA SUMMARY

TOTAL DISTURBED AREA = 6.9± ACRES

DEMOLITION NOTES

1. THE INTENT OF THE DEMOLITION PLAN IS TO DESCRIBE IN GENERAL THE DEMOLITION AREAS AFFECTED BY THE PROJECT CONSTRUCTION. IT IS NOT INTENDED AS A DETAILED DESCRIPTION OF EXISTING ITEMS OR ELEMENTS TO BE REMOVED. THE CONTRACTOR SHALL VISIT THE SITE AND REVIEW ANY AVAILABLE RECORD DOCUMENTS TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS AND SHOULD INCLUDE THE REMOVAL OF ALL ITEMS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ONE SHALL BE BINDING AS IF REQUIRED BY ALL TO THE EXTENT THAT IT IS REASONABLY INFERABLE FROM THEM AS BEING NECESSARY TO PRODUCE THE INTENDED RESULTS.
2. REMOVE EXISTING BUILDINGS, FOUNDATIONS AND SERVICE UTILITIES AS INDICATED ON PLANS. CAP ALL UTILITIES AT APPROPRIATE POINTS. ALL EXISTING ELECTRICAL / TELEPHONE / CATV UTILITIES SHALL BE REMOVED AS INDICATED OR BACK TO THE POINT WHERE THE SPECIFIC UTILITY SYSTEM ENTERS THE WORK AREA. COORDINATE DEMOLITION OF ALL UTILITIES WITH THE OWNER. ALL UTILITIES CONNECTED TO EXISTING BUILDINGS TO REMAIN SHALL CONTINUE TO BE OPERATIONAL DURING THE DEMOLITION PROCESS. DOMESTIC AND FIRE SERVICE WATER AND NATURAL GAS SHALL BE REMOVED TO A POINT OUTSIDE THE PERIMETER OF PROPOSED NEW CONSTRUCTION TO EXISTING VALVES OR SIMILAR SHUT-OFF DEVICES. IF A SHUT-OFF DEVICE IS NOT REASONABLY ADJACENT TO THE PERIMETER OF THE PROPOSED NEW CONSTRUCTION, PROVIDE A SHUT-OFF DEVICE IN BELOW-GRADE YARD BOX. CONFIRM LOCATION OF NEW DEVICES WITH OWNER PRIOR TO INSTALLATION. SANITARY SEWER AND STORM DRAINAGE SHALL BE CAPPED TO A POINT OUTSIDE THE PERIMETER OF THE PROPOSED NEW CONSTRUCTION. OTHER UTILITIES NOT SPECIFICALLY IDENTIFIED IN THESE DOCUMENTS AND NOT ANTICIPATED FOR REUSE SHALL BE REMOVED IN ENTIRETY.
3. FOR ALL EXISTING MATERIALS THAT CAN BE SALVAGED, OWNER HAS FIRST RIGHT OF REFUSAL FOR REMOVED ITEMS THAT MAY HAVE RESIDUAL COMMERCIAL OR HISTORIC VALUE INCLUDING BACKFLOW, GLASS, CORNER STONES, TIME CAPSULES, LIGHT STANDARDS, SIGNS, FENCING, BENCHES, WATER FOUNTAINS, TRASH CONTAINERS, ETC. SHALL REMAIN AS PROPERTY OF THE OWNER. ALL ITEMS TO BE SALVAGED FOR REUSE/REINSTALLATION MUST MEET CURRENT CODE REQUIREMENTS. COORDINATE ITEMS TO BE RETAINED WITH OWNER AND REMOVE FROM CONSTRUCTION SITE TO A LOCATION APPROVED BY OWNER. REMOVED MATERIALS, NOT INDICATED OR DIRECTED TO BE SALVAGED FOR THE OWNER'S BENEFIT ARE DEBRIS AND BECOME THE CONTRACTOR'S PROPERTY UPON REMOVAL.
4. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY SEARCH OF THE AVAILABLE RECORDS AND FIELD SURVEYS. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT, UTILITY COMPANIES, AND/OR FIELD VERIFY AND LOCATE ALL UTILITIES BEFORE PROCEEDING WITH WORK. THE CONTRACTOR IS ALSO REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. NOTIFY THE ENGINEER IF ADDITIONAL UTILITIES ARE LOCATED OR IF CONFLICTS ARE FOUND WITH EXISTING CONDITIONS.
5. ALL TREES TO BE REMOVED SHALL BE MARKED BY CONTRACTOR AND APPROVED FOR REMOVAL BY THE OWNER OR OWNER'S REPRESENTATIVE PRIOR TO REMOVING OR CUTTING TREE(S). EXISTING ROOTS SHALL BE GRINDED TO A DEPTH OF APPROXIMATELY 3-FEET. USE CAUTION WHILE GRINDING WHEN EXISTING UTILITIES ARE IN CLOSE PROXIMITY TO TREES. ALL TREES TO REMAIN WITHIN THE LIMIT OF WORK SHALL BE PROTECTED AND MAINTAINED PER SPECIFICATIONS AND DETAILS.
6. SAWCUT EXISTING CONCRETE AND ASPHALT TO AN EXISTING CONTROL JOINT WHERE POSSIBLE, AT MINIMUM TO A NEAT-STRAIGHT LINE. ALL DEBRIS SHALL BE HAULED OFFSITE TO A LEGAL DUMPING SITE OR SALVAGED FOR REUSE ON PROJECT AS NOTED.
7. WORK WITHIN CITY, COUNTY, OR STATE RIGHT-OF-WAY REQUIRES A SEPARATE ENCROACHMENT PERMIT WHICH THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING PRIOR TO STARTING WORK WITHIN RIGHT-OF-WAY.
8. CONTRACTOR TO COORDINATE UTILITY DEMOLITION WITH DRAINAGE AND UTILITY WORK SHOWN IN THIS PLAN SET. ALL UTILITY SHUTDOWNS SHALL BE COORDINATED PER PROJECT SPECIFICATIONS.
9. EXISTING DRY UTILITIES SHOWN FOR DEMOLITION ARE SHOWN FOR COORDINATION ONLY. REFER TO OTHER DISCIPLINES FOR LIMITS AND DETAILS OF DEMOLITION.
10. THE CONTRACTOR SHALL RECYCLE CONSTRUCTION DEBRIS, ASPHALT, AND CONCRETE GENERATED FROM REMOVALS REQUIRED TO CONSTRUCT THE PROJECT. THE CONTRACTOR IS OBLIGATED, UNDER THIS CONTRACT, TO RECYCLE THE WASTE MATERIAL THROUGH AN APPROVED RECYCLING PLANT.
11. A LIST OF FACILITIES THAT ACCEPT CONSTRUCTION & DEMOLITION DEBRIS CAN BE FOUND ON THE CALRECYCLE WEBSITE AT: HTTPS://WWW.CALRECYCLE.CA.GOV/CONDEMO
12. CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING BUILDING FINISHES DURING DEMOLITION. ANY FINISH THAT IS DAMAGED DURING DEMOLITION SHALL BE REPAIRED OR REPLACED IN-KIND OR BETTER.

GENERAL NOTES TO CONTRACTOR

1. THE CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITY OWNERS FOR LOCATION, REMOVAL, AND/OR RELOCATION OF ANY UTILITY SERVICES AFFECTED BY CONSTRUCTION. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONARY MEASURES TO PROTECT UNDERGROUND OR OVERHEAD STRUCTURES WHETHER OR NOT THEY ARE SHOWN ON THESE DRAWINGS.
2. THE CONTRACTOR SHALL NOTIFY THE PROJECT INSPECTOR AND THE RESPECTIVE UTILITY OWNERS AND OTHER AGENCIES AT LEAST TWO WORKING DAYS PRIOR TO START OF CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXPOSING, VERIFYING LOCATIONS (BOTH HORIZONTAL AND VERTICAL), AND MAINTAINING ALL EXISTING UNDERGROUND UTILITIES, BOTH SHOWN ON THE PLANS AND/OR NOT SHOWN ON THE PLANS DURING CONSTRUCTION. REPAIR DAMAGED UTILITIES TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL LOCATE EXISTING UNDERGROUND UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS BECAUSE OF LOCATIONS OF EXISTING FACILITIES AND SHALL REPORT ALL DISCREPANCIES TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
4. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES AND/OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. APPROVAL OF THESE PLANS DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OR COMPLETENESS OF THE LOCATION OR THE EXISTENCE, OR NON-EXISTENCE OF ANY UTILITY AND/OR STRUCTURE WITHIN THE LIMITS OF THIS PROJECT. THE CONTRACTOR IS REQUIRED TO TAKE ALL DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES OF RECORD AND/OR NOT OF RECORD SHOWN OR NOT SHOWN AND ANY OTHER LINE(S) OR STRUCTURE(S) NOT SHOWN ON THESE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF, AND/OR DAMAGE TO THESE LINE(S) AND/OR STRUCTURE(S).
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY SHORING AT PROPOSED BUILDING FOUNDATIONS, FOOTINGS, AND WALLS TO PROTECT EXISTING UTILITIES IN PLACE.
6. UNAUTHORIZED CHANGES AND USES - CAUTION: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.
7. THE CONTRACTOR SHALL MAINTAIN THE EXISTING ACCESSIBLE ROUTE CLEAR OR PROVIDE AN ALTERNATE ACCESSIBLE ROUTE OF TRAVEL DURING DEMOLITION AND/OR CONSTRUCTION.
8. THE CONTRACTOR SHALL MAINTAIN THE EXISTING FIRE EXITS AND STAIRS CLEAR AND USABLE OR PROVIDE ALTERNATE FIRE EXITS DURING DEMOLITION AND/OR CONSTRUCTION.

EARTHWORK NOTES

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE GRADING PLANS AND SOILS REPORT THOROUGHLY PRIOR TO SITE MOBILIZATION. IT IS ALSO THE GRADING CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CIVIL AND SOILS ENGINEERS IF ONSITE DISCREPANCIES ARE OBSERVED THAT WOULD AFFECT THE EARTHWORK QUANTITIES.
2. THE EXISTING TOPOGRAPHY AS DELINEATED ON THESE DRAWINGS SHALL BE UTILIZED AS THE BASIS FOR ALL EARTHWORK COMPUTATIONS. SAID TOPOGRAPHY SHALL BE PRESUMED TO BE ACCEPTABLE TO ALL INTERESTED PARTIES UNLESS A DEVIATION IS FOUND PRIOR TO THE START OF GRADING IN ANY SPECIFIC AREAS. ANY DEVIATION SO DETERMINED SHALL BE PROMPTLY TRANSMITTED TO ALL INTERESTED PARTIES.
3. THE CONTRACTOR IS REQUIRED TO ESTIMATE THE QUANTITIES OF GRADING WORK TO BE DONE AND INCLUDE ALL COSTS THEREFROM WITH HIS BID, AS NO ADDITIONAL ALLOWANCE WILL BE MADE WITHOUT PRIOR CONSENT FROM THE OWNER.
4. OVER-EXCAVATION AND/OR EXCESS BACKFILLING OR DUPLICATION OF GRADING ACTIVITIES IS NOT A BASIS FOR ADDITIONAL COMPENSATION. THIS ALSO APPLIES WHERE MATERIAL IS TO BE REMOVED AND REPLACED TO REDUCE MOISTURE CONTENT.
5. OFF-SITE DISPOSAL OF EXCAVATION MATERIAL IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE INCLUDED IN THE BID. THE CONTRACTOR SHALL HOLD THE OWNER AND ENGINEER HARMLESS AS A RESULT OF ANY CLAIMS ARISING FROM THE ACTIONS ENROUTE OR AWAY FROM THE SITE.
6. EARTH VOLUMES SHOWN HEREON ARE ESTIMATES BASED UPON THE GEOTECHNICAL ANALYSIS PERFORMED BY THE NAMED SOILS ENGINEER AND TOPOGRAPHIC SURVEY OF THE EXISTING GROUND SURFACE AT THE TIME OF PLAN PREPARATION. EARTHWORK VOLUMES ARE COMPUTED BY METHODS COMMONLY USED IN STANDARD ENGINEERING PRACTICE, AND ARE INTENDED FOR USE IN ESTABLISHING GOVERNING AGENCY FEES. ACTUAL FIELD CONDITIONS MAY VARY FROM OBSERVED OR MEASURED CONDITIONS AT THE TIME OF PLAN PREPARATION. EARTHWORK QUANTITIES MAY VARY AS A RESULT.
7. ANY EXPORT OR IMPORT REQUIRED TO BALANCE THE SITE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. PAVEMENT AND SUBGRADE RECOMMENDATIONS RELATED TO OVER-EXCAVATION, PAVEMENT SUBGRADE, ETC., PER GEOTECHNICAL REPORT.

EARTHWORK QUANTITIES

APPROXIMATE CUT: 145 CY

APPROXIMATE FILL: 525 CY

NOTE:
EARTHWORK QUANTITIES INDICATED ARE FOR REFERENCE ONLY (NOT FOR BID OR PAYMENT). THE CONTRACTOR IS RESPONSIBLE FOR ACTUAL QUANTITIES.

HAUL ROUTE TO BE DETERMINED AT PRE-GRADE MEETING AND ALL NECESSARY PERMITS SHALL BE OBTAINED BY THE GENERAL CONTRACTOR

GEOTECHNICAL INFORMATION

FOR SITE PREPARATION, OVEREXCAVATION, FOUNDATION RECOMMENDATIONS, PAVEMENT, SUBGRADE, AND GRADATION REQUIREMENTS SEE GEOTECHNICAL INVESTIGATION REPORT ENTITLED:

"GEOTECHNICAL INVESTIGATION
PROPOSED STEEL LUNCH SHELTER,
BASEBALL FIELD NETTING POLES, AND FIRE LANE
MOUNTAIN VIEW HIGH SCHOOL
EL MONTE, CALIFORNIA
EL MONTE UNION HIGH SCHOOL DISTRICT"

PREPARED BY: JOHN R. BYERLY INC.
2257 SOUTH LILAC AVENUE
BLOOMINGTON, CALIFORNIA 92316
909-877-1324

REPORT NO: 7439
DATED: JULY 20, 2022

AND

REPORT NO: 7510
DATED: SEPTEMBER 29, 2022

C

BENCHMARK

THE ELEVATIONS SHOWN HEREON ARE BASED UPON THE LOS ANGELES COUNTY PUBLIC WORKS BENCH MARK No. SG5577, RIVERA QUAD 2013 ADJUSTMENT, ELEVATION= 289.180 FEET, (NAVD 88).

DATUM STATEMENT

THE BEARINGS SHOWN HEREON ARE BASED ON THE BEARING BETWEEN POINT NO. 10008 AND POINT NO. 10011, BEING N21°25'54"E, AS DERIVED BY REAL TIME NETWORK MEASUREMENT BASED UPON THE CALIFORNIA COORDINATE SYSTEM 1983 (CCS83), ZONE V, NORTH AMERICAN DATUM OF 1983 (NA2011, EPOCH 2018.750).

STATION	NORTHING	EASTING
10008	1842968.331	6558210.971
10011	1841282.66	6557549.29

FIRE PROTECTION SYSTEM NOTES

1. PRIOR TO INSTALLATION, ALL PLANS AND SPECIFICATIONS SHALL BE APPROVED BY GOVERNING AGENCY.
2. INSPECTIONS ARE REQUIRED: 1) PRIOR TO POURING THRUST BLOCKS, 2) FOR HYDROSTATIC TESTING, AND 3) FOR FLUSH.
3. INSTALLATION, INSPECTION, AND TESTING SHALL CONFORM TO 2016 NFPA 13 AND 2016 NFPA 24.
4. PRIVATE FIRE HYDRANTS SHALL BE APPROVED WET BARREL STYLE WITH A MINIMUM OF ONE 2½" AND ONE 4" OUTLET. THE 4" OUTLET SHALL FACE THE FIRE DEPARTMENT ACCESS ROAD. ALL OUTLETS SHALL BE PROVIDED WITH NATIONAL STANDARD THREADS (NST).
5. FIRE HYDRANT SUPPLY PIPING SHALL BE A MINIMUM OF SIX INCHES IN DIAMETER. THE LOWEST OPERATING NUT SHALL BE MINIMUM OF 18" ABOVE GRADE AND THE FIRE HYDRANT FLANGE SHALL BE A MINIMUM OF 2" ABOVE GRADE.
6. FIRE HYDRANTS SHALL BE A MINIMUM OF 40 FEET FROM ALL STRUCTURES. A KEYED GATE VALVE SHALL BE PROVIDED FOR EACH FIRE HYDRANT IN AN ACCESSIBLE LOCATION. VALVES SHALL NOT BE LOCATED IN PARKING STALLS.
7. ALL PIPES SHALL BE APPROVED FOR USE IN FIRE SERVICE SYSTEMS (CLASS 900 DR-18 MINIMUM). CLASS 900 DR-14 PIPES SHALL BE USED WHERE THE PRESSURES MAY EXCEED 150 PSI.
8. ALL FERROUS PIPE AND FITTINGS SHALL BE PROTECTED WITH LOOSE 8-MIL POLYETHYLENE TUBE. THE ENDS OF THE TUBE AND ANY SPLICES MADE FOR T's OR OTHER PIPING COMPONENTS SHALL BE SEALED WITH 2" TAPE, APPROVED FOR UNDERGROUND USE. ALL BOLT JOINTS SHALL BE CLEANED AND THOROUGHLY COATED WITH ASPHALT OR OTHER CORROSION RETARDING MATERIAL AFTER ASSEMBLY AND PRIOR TO POLY-TUBE INSTALLATION.
9. A BED OF CLEAN FILL SAND SHALL BE PROVIDED ABOVE AND BELOW THE PIPE, A MINIMUM OF 12" ABOVE AND 6" BELOW.
10. ALL BOLTS USED FOR UNDERGROUND CONNECTIONS SHALL BE STAINLESS STEEL.
11. A MINIMUM OF 30" OF COVER, FROM FINISHED GRADE TO THE TOP OF THE PIPE SHALL BE PROVIDED. WHEN SURFACE LOADS ARE EXPECTED, A MINIMUM OF 36" COVER SHALL BE PROVIDED.
12. THRUST BLOCKS, OR OTHER APPROVED METHOD OF THRUST RESTRAINT, SHALL BE PROVIDED WHEREVER PIPE CHANGES DIRECTION.
13. THE TRENCH SHALL BE EXCAVATED FOR THRUST BLOCKS AND INSPECTED PRIOR TO POUR. ALL CORROSION PROTECTION SHALL BE IN PLACE.
14. A HYDROSTATIC TEST (200 PSI FOR TWO HOURS OR 50 PSI OVER MAXIMUM STATIC PRESSURE, WHICHEVER IS GREATER) SHALL BE PERFORMED. BACKFILL BETWEEN THE JOINTS TO PREVENT MOVEMENT OF THE PIPE.
15. THE SYSTEM SHALL BE THOROUGHLY FLUSHED BEFORE CONNECTION IS MADE TO OVERHEAD PIPING. FLOW SHALL BE THROUGH A MINIMUM 4" HOSE PIPE.
16. PRIVATE HYDRANTS, SPRINKLER CONTROL VALVES, DETECTOR CHECK ASSEMBLIES, POST INDICATING VALVES AND FIRE DEPARTMENT CONNECTIONS SHALL BE PAINTED OSHA RED, UNLESS NOTED OTHERWISE.
17. THE CONTROL VALVES SHALL BE LOCKED IN THE OPEN POSITION. VALVES SHALL BE MONITORED IF THEY SERVE 6 OR MORE SPRINKLER HEADS.

FIRE WATER GENERAL NOTES:

1. FIRE WATER PIPE, FITTINGS, AND APPURTENANCES SHALL COMPLY WITH NFPA 24 INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
   - 1.1. FIRE DEPARTMENT CONNECTIONS (FDC) SHALL BE PER NFPA 24-5.9.
   - 1.2. FDC LOCATION AND SIGNAGE SHALL BE PER NFPA 24-5.9.5.

IMPORTANT NOTICE

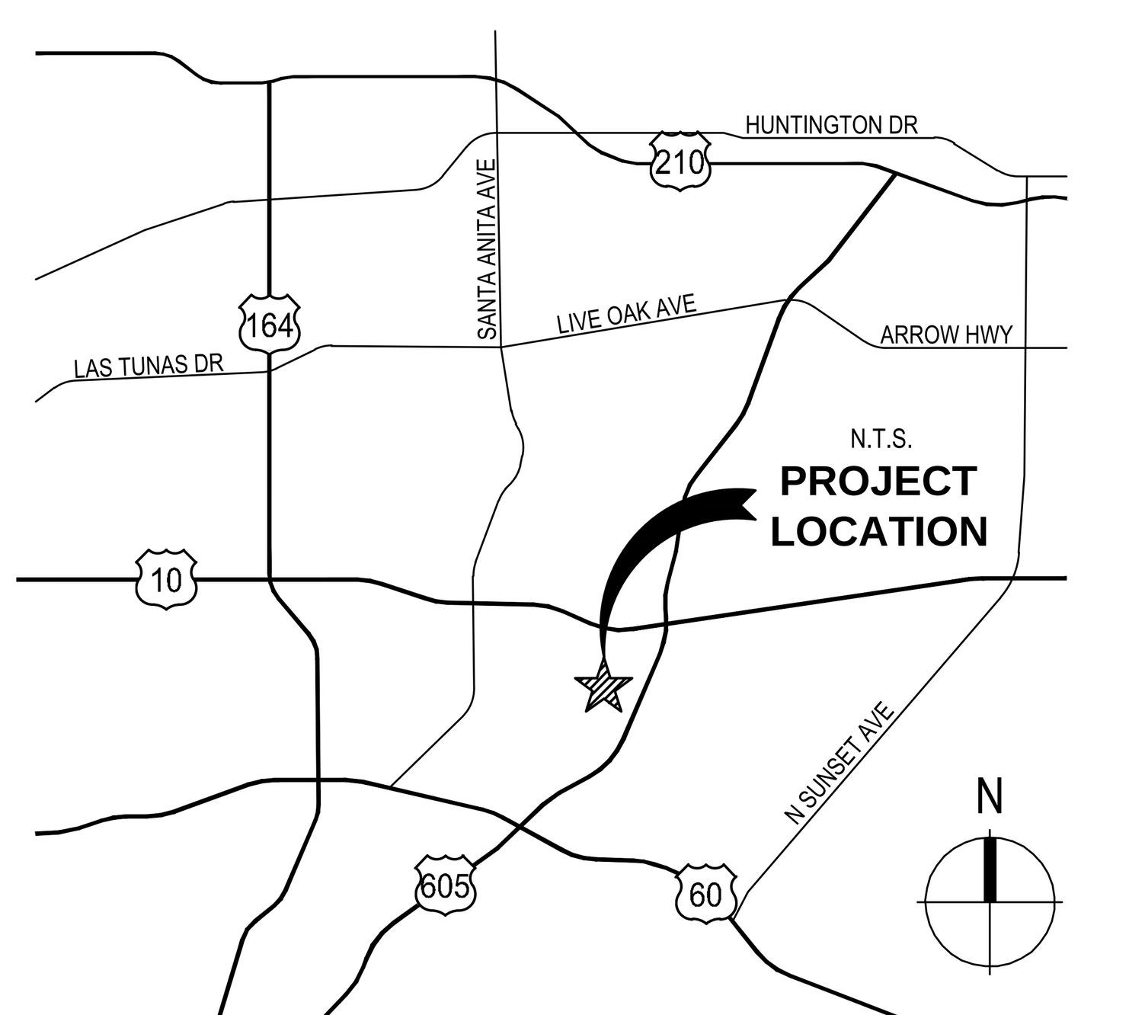
1. ALL ASBESTOS CEMENT PIPE TO BE REMOVED SHALL BE SNAPPED, ENCAPSULATED, AND DISPOSED OF PER LOCAL, STATE, AND FEDERAL REGULATIONS.
2. DOMESTIC WATER SERVICE AND FIRE PROTECTION SHALL BE MAINTAINED DURING CONSTRUCTION. PROVIDE BYPASS LINES DURING CONSTRUCTION INCLUDING TIE-IN. COORDINATE ALL SHUT DOWNS OF WATER AND POWER WITH OWNER PRIOR TO CONSTRUCTION.
3. PURSUANT TO CALIFORNIA ASSEMBLY BILL 1953 ALL PIPE, FITTINGS, AND FIXTURES INTENDED TO CONVEY OR DISPENSE WATER FOR HUMAN CONSUMPTION THROUGH DRINKING WATER OR COOKING SHALL BE "LEAD FREE" AS OF JANUARY 1, 2010.

DEDICATED FIRE ACCESS

PORTIONS OF DEMOLITION MAY REQUIRE BLOCKING AND/OR OBSTRUCTING THROUGH ACCESS TO EMERGENCY / FIRE ACCESS VEHICLES. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE A FIRE WATCH SPECIALIST SERVICE FOR THE DURATION OF TIME THAT EMERGENCY / FIRE ACCESS VEHICLES ARE BLOCKED AND/OR OBSTRUCTED DURING CONSTRUCTION UNLESS EQUIVALENT ALTERNATE MEASURES ARE TAKEN TO ENSURE CONTINUOUS ACCESS TO EMERGENCY / FIRE ACCESS VEHICLES. CONTRACTOR TO COORDINATE THROUGH ACCESS TO EMERGENCY / FIRE ACCESS VEHICLES WITH THE LOCAL FIRE AUTHORITY HAVING JURISDICTION.

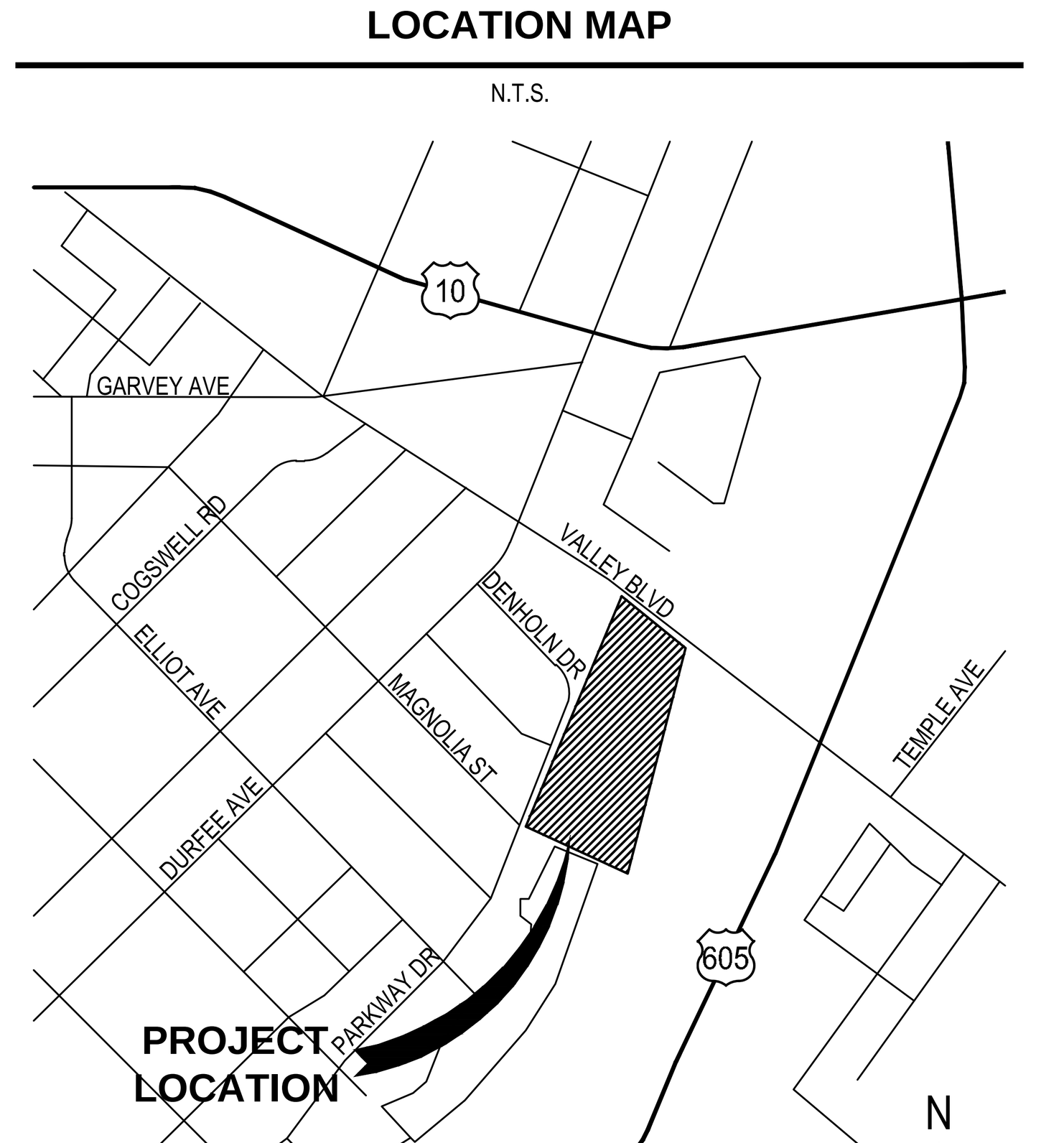
VICINITY MAP

N.T.S.



LOCATION MAP

N.T.S.



CIVIL SHEET INDEX

DIG ALERT NOTICE

PURSUANT TO THE CALIFORNIA GOVERNMENT CODE SECTION 4216, NO EXCAVATION PERMIT IS VALID UNLESS DIG ALERT HAS BEEN CONTACTED AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF EXCAVATION AND AN INQUIRY IDENTIFICATION NUMBER HAS BEEN ISSUED.

INQUIRY ID# ____________

DIGALERT® 811 Know what's below. Call 811 before you dig.

LPA

ARCHITECTURE ENGINEERING INTERIORS LANDSCAPE ARCHITECTURE PLANNING

949-261-1001 Office
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5301 California Avenue,
Suite 100
Irvine, California 92617

REGISTERED PROFESSIONAL ENGINEER KATHEREEN M. SHINKAI R.C.E. 68369 EXP. 9-30-23 CIVIL STATE OF CALIFORNIA

MOUNTAIN VIEW HIGH SCHOOL MODERNIZATION

2900 PARKWAY DRIVE
EL MONTE, CA 91732

Developed for
EL MONTE SCHOOL DISTRICT

Revision	Date
C ADDENDUM C	04/25/2023

Submittal	Date
100% SCHEMATIC DESIGN	08/13/2021
100% DESIGN DEVELOPMENT	12/10/2021
DSA SUBMITTAL	04/28/2022
DSA BACKCHECK	10/31/2022

Job Number	30154.10
Date Published	10/31/22
Checked By	KS
Scale	AS SHOWN

TITLE SHEET

C0.01

ABBREVIATIONS

&	AND
∠	ANGLE
@	AT
<	LESS THAN
>	GREATER THAN
℄	CENTERLINE
Ø	DIAMETER OR ROUND
#	POUND OR NUMBER
ADJ.	ADJACENT
AGGR.	AGGREGATE
AL.	ALUMINUM
AMT.	AMOUNT
APPROX.	APPROXIMATE
ARCH.	ARCHITECTURAL
AC.	ASPHALT
ACC.	ACCESSIBLE
B.C.R.	BEGINNING OF CURVE RADIUS
B.O.C.	BACK OF CURB
B.O.W.	BOTTOM OF WALL
B.O.S.	BOTTOM OF SLOPE
BLDG.	BUILDING
BLK.	BLOCK
C.E.	CIVIL ENGINEER
C.I.P.	CAST IN PLACE
C.J.	CONTROL JOINT
CLKG.	CAULKING
CMU.	CONCRETE MASONRY UNIT
CONC.	CONCRETE
CONSTR.	CONSTRUCTION
CONT.	CONTINUOUS
CTR.	CENTER
D.A.	DISABLED ACCESS
DET.	DETAIL
DIA.	DIAMETER
DIM.	DIMENSION
DN.	DOWN
DWGS.	DRAWINGS
E.J.	EXPANSION JOINT
EL.	ELEVATION
ELEC.	ELECTRICAL
EQ.	EQUAL
EXP.	EXPANSION
EXT.	EXTERIOR
F.G.	FINISH GRADE
F.S.	FINISH SURFACE
F.O.B.	FACE OF BUILDING
F.O.C.	FACE OF CURB
F.O.W.	FACE OF WALL
GA.	GAUGE
GALV.	GALVANIZED
GND.	GROUND
GR.	GRADE
HDG	HOT DIPPED GALVANIZED
HDR	HEADER
HT.	HEIGHT
LT.	LIGHT
MAX.	MAXIMUM
MET.	METAL
MFR.	MANUFACTURER
MIN.	MINIMUM
MTD.	MOUNTED
MTL.	MATERIAL
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
O.C.E.W.	ON CENTER EACH WAY
O.D.	OUTSIDE DIAMETER (DIM.)
PA	PLANTING AREA
PRCST.	PRECAST
P.I.P.	POURED IN PLACE
P.O.B.	POINT OF BEGINNING
P.O.T.	POINT OF TANGENCY
P.T.D.F.	PRESSURE TREATED DOUGLAS FIR
QTY	QUANTITY
R.	RISER
RAD.	RADIUS
REINF.	REINFORCED
REQ.	REQUIRED
SCHED.	SCHEDULE
SHT.	SHEET
S.J.	SCORE JOINT
SPEC.	SPECIFICATION
S.S.	STAINLESS STEEL
STD.	STANDARD
STRL.	STRUCTURAL
T.	TREAD
T.C.	TOP OF CURB
T.O.B.	TOP OF BASE
T.O.H.	TOP OF HEADER
T.O.S.	TOP OF SLOPE
T.O.W.	TOP OF WALL
TYP.	TYPICAL
TBS.	TO BE SELECTED
U.O.N.	UNLESS OTHERWISE NOTED
VEG.	VEGETATION
VERT.	VERTICAL
W/	WITH
W/O	WITHOUT

MANUFACTURER'S LIST

ROOT BARRIER: DEEP ROOT - 101 MONTGOMERY STREET, SUITE 2850. SAN FRANCISCO, CA 94010. CONTACT: PETE VOSKES (800) 458-7668

FILTER FABRIC: MIRAFI - 22672 LAMBERT STREET SUITE 602. LAKE FOREST, CA. CONTACT: JIM OR JOSH (800) 423-9923

SPORTSFIELD SPECIALTIES - 41155 STATE HWY 10 DELHI, NEW YORK, 13753. CONTACT: ALEX FLETCHER (607) 746-1436

TRUNCATED DOMES: WAUSAU TILE - 13315 NETLEY PLACE, CHINO, CA 91710. CONTACT: GINGER WELLS (909) 628-4296

BIKE RACK: LANDSCAPE FORMS - 7800 E. MICHIGAN AVE. KALAMAZOO, MI 49048. CONTACT: TRENT WALKER (818) 541-6691

BENCH: LANDSCAPE FORMS - 7800 E. MICHIGAN AVE. KALAMAZOO, MI 49048. CONTACT: TRENT WALKER (818) 541-6691

TRASH/RECYCLING RECEPTACLES: LANDSCAPE FORMS - 7800 E. MICHIGAN AVE. KALAMAZOO, MI 49048. CONTACT: TRENT WALKER (818) 541-6691

TREE GRATE: IRONSMITH - CONTACT: LARRY (818) 761-0655

SPORTS EQUIPMENT LEGEND

DESC.	MANUF.	MODEL #	COLOR	FINISH/PTRN.	DET.	QTY.
50'H NETTING TENSIONED W/ DYNEEMA	SPORTSFIELD SPECIALTIES	TNTBBUC BSSNUC	HARDWARE: BLACK NET: 1.75" BLACK	POWDER COAT	03,04/ L5.08	AS SHOWN
20' H STORMGUARD 'X'	SPORTSFIELD SPECIALTIES	BSS-CUSTOM	HARDWARE: BLACK	POWDER COAT	13/ L5.08	AS SHOWN
50' H TIEBACK SYSTEM	SPORTSFIELD SPECIALTIES	TNTBBUC	HARDWARE: BLACK	POWDER COAT	-	AS SHOWN

PLANTING NOTES

1. REFER TO CIVIL ENGINEER'S DRAWINGS FOR UTILITY LOCATIONS, TREE SUBDRAINAGE STUBOUTS, (IF REQUIRED), AND FINAL GRADING. IF ACTUAL SITE CONDITIONS VARY FROM WHAT IS SHOWN ON THE LANDSCAPE ARCHITECT'S DRAWINGS, THE CONTRACTOR SHALL CONTACT THE OWNER'S AUTHORIZED REPRESENTATIVE AND LANDSCAPE ARCHITECT FOR DIRECTION AS TO HOW TO PROCEED.
2. VERIFY LOCATIONS OF ALL PERTINENT EXISTING AND PROPOSED SITE IMPROVEMENTS. IF ANY PART OF THIS PLAN CANNOT BE FOLLOWED DUE TO SITE CONDITIONS, CONTACT THE LANDSCAPE ARCHITECT FOR INSTRUCTION PRIOR TO COMMENCING WORK.
3. EXACT LOCATIONS OF PLANT MATERIALS SHALL BE REVIEWED BY THE LANDSCAPE ARCHITECT IN THE FIELD PRIOR TO INSTALLATION. LANDSCAPE ARCHITECT RESERVES THE RIGHT TO ADJUST PLANTS TO EXACT LOCATION IN FIELD.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL PLANT COUNTS AND SQUARE FOOTAGES. QUANTITIES SHOWN ON PLANS TAKE PRECEDENCE OVER WRITTEN QUANTITIES IN "PLANTING LEGEND."
5. PROVIDE MATCHING FORMS AND SIZES FOR ALL PLANT MATERIALS WITHIN EACH SPECIES AND SIZE DESIGNATED ON THE DRAWINGS.
6. PRUNE NEWLY PLANTED TREES ONLY AS DIRECTED BY LANDSCAPE ARCHITECT.
7. ALIGNED AND EQUALLY SPACED, IN ALL DIRECTIONS, ALL SHRUBS TO BE AS DESIGNATED PER THESE NOTES AND DRAWINGS.
8. FINISH GRADES OF ALL TURF AREAS (EXCLUDING SYNTHETIC TURF) SHALL BE (1") BELOW ADJACENT CURB OR PAVEMENT. FINISH GRADES OF ALL SHRUB AND MULCHED AREAS SHALL BE (2.5") BELOW ADJACENT CURB, PAVEMENT OR HEADER.
9. CONTRACTOR SHALL SUBMIT FOR APPROVAL COLOR PHOTOS OF ALL SHRUBS AND GROUNDCOVER. PHOTOS SHOULD INCLUDE A PERSON FOR SCALE PURPOSES, PHOTOS SHALL BE OF THE ACTUAL PLANT MATERIAL TO BE USED ON THE PROJECT. ALL PLANT MATERIAL SHALL BE OF A QUALITY AS DETERMINED BY THE LANDSCAPE ARCHITECT. MATERIAL FOUND UNSUITABLE FOR THE DESIGN OR SPECIFICATION INTENT WILL BE REJECTED.
10. PROVIDE A (3") LAYER OF BARK MULCH AT PROPOSED SHRUB AND GROUNDCOVER PLANTING AREAS, AND 3" OF PEA GRAVEL MULCH AT BIOFILTRATION AREAS, SLOPES WITH JUTE MESH SHALL NOT BE MULCHED.
11. CONTRACTOR SHALL CONDUCT AGRICULTURAL SUITABILITY AND FERTILITY SOILS TESTING PER SOIL PREPARATION SPECIFICATION. ANALYSIS SHALL INCLUDE RECOMMENDATIONS FOR SOIL PREPARATION AND BACKFILL MIX AS WELL AS RECOMMENDATIONS FOR POST MAINTENANCE FERTILIZATION. SUBMIT SOILS ANALYSES AND SAMPLES OF AMENDMENTS TO LANDSCAPE ARCHITECT FOR REVIEW PRIOR TO SOIL PREPARATION. ADDITIONAL LABORATORY TESTING IS REQUIRED TO DETERMINE THE SOILS WERE AMENDED PROPERLY AND THE SOIL IS SUITABLE FOR PLANTING PRIOR TO PROCEEDING WITH PLANTING OPERATIONS.
12. QUANTITIES LISTED ON PLANT LEGEND ARE PER SHEET. CONTRACTOR MUST VERIFY QUANTITIES GIVEN ON THE PLANS WITH ACTUAL QUANTITIES SHOWN.
13. LANDSCAPE MAINTENANCE PERIOD IS 90 DAYS. SEE ADDITIONAL REQUIREMENTS FOR ESTABLISHMENT IN THE SPECIFICATIONS.
14. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

EXISTING IRRIGATION NOTES

1. CONTRACTOR SHALL MAINTAIN EXISTING MAINLINES IN WORKING ORDER. COORDINATE ALL INTERRUPTIONS OF OPERATION OF THE EXISTING IRRIGATION TO A MINIMUM. COORDINATE ALL INTERRUPTIONS WITH THE DISTRICT'S REPRESENTATIVE. COORDINATE ALL MAINLINE SERVICE DISRUPTIONS WITH THE DISTRICT 72 HOURS PRIOR TO PROPOSED INTERRUPTION.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXISTING IRRIGATION EQUIPMENT DAMAGED DURING CONSTRUCTION AND IF DAMAGED, SHALL REPLACE WITH SAME MANUFACTURER AND MODEL.
3. ANY EXISTING IRRIGATION CONTROL VALVES CONNECTED TO EXISTING CONTROLLERS SHALL BE RECONNECTED TO EXISTING CONTROLLER. CONFIRM PROPER CONTROLLER OPERATION AND INSTALLATION WITH DISTRICT'S AUTHORIZED REPRESENTATIVE PRIOR TO STARTING WORK AND UPON COMPLETION OF WORK.
4. CONTRACTOR SHALL CONFIRM THE EXISTING CONTROLLER MAKE AND MODEL AND SHALL CONFIRM THAT SAID CONTROLLER HAS ADEQUATE OPEN STATIONS TO OPERATE ANY ADJUSTED AND ALL PROPOSED IRRIGATION SYSTEM MODIFICATIONS. NOTIFY DISTRICT'S AUTHORIZED REPRESENTATIVE SHOULD ANY DISCREPANCIES BE NOTED.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR / MODIFICATION / REROUTING OF ALL ADJACENT IRRIGATION SYSTEM EQUIPMENT THAT IS AFFECTED BY NEW CONSTRUCTION IMPROVEMENTS. CONTRACTOR SHALL REPAIR SAID SYSTEMS TO A LIKE NEW MANNER, PROVIDING NO LESS THAN 100% OF HEAD RADIUS COVERAGE IN ALL AREAS WITH SYSTEM LAYOUT AS APPROVED BY DISTRICT'S AUTHORIZE REPRESENTATIVE. CONTRACTOR SHALL CONFIRM ALL AREAS REQUIRING MODIFICATION WITH DISTRICT'S AUTHORIZED REPRESENTATIVE PRIOR TO BIDDING WORK AND PRIOR TO STARTING WORK. REPAIR SAID SYSTEMS TO A LIKE NEW MANNER PER DISTRICT'S REQUIREMENTS.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE REMOVAL AND DISPOSAL OF ALL EXISTING IRRIGATION EQUIPMENT AFFECTED BY THE NEW CONSTRUCTION IMPROVEMENTS, IF NECESSARY. CONTRACTOR SHALL VERIFY ALL EQUIPMENT TO BE REMOVED AND DISPOSED OF IN FIELD PRIOR TO BIDDING WORK AND PRIOR TO STARTING WORK.
7. CONTRACTOR SHALL FIELD VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO BIDDING WORK AND AGAIN PRIOR TO STARTING WORK. VERIFICATION SHALL BE DOCUMENTED AND DELIVERED TO DISTRICT'S REPRESENTATIVE.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PLACEMENT OF ALL SCH 40 PVC SLEEVING UNDER PAVING, WALLS AND CURBS AT NO LESS THAN 24" BELOW GRADE AND NO LESS THAN 2X DIAMETER OF IRRIGATION PIPE IN AREAS WHERE PIPE CROSSING WILL OCCUR. WHEN PIPE SIZE IS NOT AVAILABLE USE 6" SLEEVING MATERIAL. CONFIRM CROSSINGS WITH DISTRICT'S REPRESENTATIVE PRIOR TO PAVING AND HARDSCAPE CONSTRUCTION.
9. EXISTING IRRIGATION IN ADJACENT AREAS SHALL BE PROTECTED IN PLACE FOR CONTINUED USE. CONTRACTOR SHALL VERIFY THE EXTENT OF THE EXISTING SYSTEMS AND MAKE ADJUSTMENTS TO CAP OFF OR MODIFY THE EXISTING SYSTEMS TO MEET THE NEW LANDSCAPE CONDITION AS NECESSARY.
10. CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING WITHIN THE DRIPLINE OF EXISTING TREES. NO MECHANICAL TRENCHING WITHIN THE DRIPLINE OF THE EXISTING TREE WILL BE ALLOWED. AIR SPADE SHALL BE UTILIZED FOR ALL TRENCHING WITHIN THE DRIPLINE OF TREES. CONTRACTOR SHALL REFER TO ARBORIST REPORT FOR ADDITIONAL PRECAUTIONS REQUIRED FOR THE EXISTING TREES. VERIFY ALL LAYOUT IN FIELD WITH DISTRICT'S AUTHORIZED REPRESENTATIVE.

LAYOUT AND MATERIALS NOTES

1. THE CONTRACTOR SHALL LAYOUT AND FIELD VERIFY ALL DIMENSIONS OF CURBS, DRIVEWAY, PLANTERS, WALKS, SLOPES AND RELATED WORK PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE.
2. VERIFY LOCATIONS OF ALL PERTINENT EXISTING AND PROPOSED SITE IMPROVEMENTS. IF ANY PART OF THIS PLAN CANNOT BE FOLLOWED DUE TO SITE CONDITIONS, CONTACT THE LANDSCAPE ARCHITECT FOR INSTRUCTION PRIOR TO COMMENCING WORK.
3. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE.
4. THIS DRAWING INCLUDES THE LOCATION OF AREA DRAINS FOR REFERENCE. REFER TO RELATED CIVIL ENGINEER'S DRAWINGS FOR CONSTRUCTION DETAILS AND UTILITY CONNECTIONS.
5. REFER TO ELECTRICAL ENGINEER'S DRAWINGS FOR LIGHT FIXTURE SCHEDULE AND CIRCUITRY AS NECESSARY.
6. REFER TO SOIL ENGINEER'S GEOTECHNICAL REPORT FOR SUB-BASE MATERIALS AND COMPACTION.
7. WHERE DIMENSIONS ARE CALLED AS "EQUAL", ALL REFERENCED ITEMS SHALL BE SPACED EQUALLY, MEASURED TO THEIR CENTERLINES.
8. ALL MEASUREMENTS ARE TO FACE OF WALL, CURB OR OTHER FIXED SITE IMPROVEMENT, UON. DIMENSIONS TO CENTERLINES AS INDICATED.
9. INSTALL ALL INTERSECTING ELEMENTS AT 90 DEGREES TO EACH OTHER UNLESS OTHERWISE NOTED. REFER TO CIVIL ENGINEERING DRAWINGS FOR COORDINATES, POINT OF BEGINNING, REFERENCE LINES OR BENCHMARKS.

LANDSCAPE GRADING AND DRAINAGE

1. REFER TO CIVIL ENGINEER'S GRADING PLANS FOR SITE GRADING, DRAINAGE, AND UTILITY LOCATIONS. IF ACTUAL SITE CONDITIONS VARY FROM WHAT IS SHOWN ON THE LANDSCAPE ARCHITECT'S DRAWINGS, THE CONTRACTOR SHALL CONTACT THE OWNER'S AUTHORIZED REPRESENTATIVE AND LANDSCAPE ARCHITECT FOR DIRECTION AS TO HOW TO PROCEED.
2. REFER TO CIVIL ENGINEER'S DRAWINGS FOR SUBDRAINAGE POINT OF IN CONNECTION TO STORM DRAIN.
3. THE CONTRACTOR SHALL REQUEST OBSERVATION AS REQUIRED 48 HOURS ADVANCE OF PERFORMING WORK.
4. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (800)227-2600 48 HOURS PRIOR TO ANY EXCAVATION.
5. ALL GRADING OPERATIONS SHALL CONFORM TO APPENDIX J OF THE CALIFORNIA BUILDING CODE.
6. FIELD VERIFY EXISTING UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION AND ELEVATION IN THE FIELD PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION.
7. NO CHANGE IN CONTRACT PRICE WILL BE ALLOWED FOR ACTUAL OR CLAIMED DISCREPANCY BETWEEN EXISTING GRADE AND THOSE SHOWN ON PLANS AFTER CONTRACTOR HAS ACCEPTED EXISTING GRADES AND MOVED ONTO THE SITE.
8. ALL PROPOSED GRADES ARE TO MEET AND BLEND IN WITH EXISTING GRADING AT PROJECT LIMIT AND EXISTING SIDEWALK. PRECISE ELEVATIONS INDICATED ON PLANS TO BE VERIFIED IN FIELD TO AS-BUILT CONDITION.
9. THE DEBRIS CREATED BY LANDSCAPE GRADING OPERATIONS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE LEGALLY DISPOSED OF OFF-SITE.
10. FINAL LANDSCAPE GRADING SHALL BE REVIEWED BY THE LANDSCAPE ARCHITECT IN THE FIELD PRIOR TO INSTALLATION OF PLANTING.
11. PER THE SPECIFICATIONS PLANTING AREAS SHALL HAVE SUITABLE SOIL PRIOR TO PLANTING. THE CONTRACTOR MUST REMOVE CONSTRUCTION DEBRIS, ROCKS LARGER THAN 1", DELETERIOUS MATERIAL, AND ANY OVERBUILD OF BUILDING FOUNDATIONS, PAVEMNT FLATWORK, OR OTHER FOOTINGS.

TREE PRESERVATION NOTES

1. AFTER AWARD OF THE PROJECT THE CONTRACTOR SHALL CONTACT DISTRICT'S CONSULTING ARBORIST AND SUBMIT CONSTRUCTION ACCESS AND STAGING PLAN FOR THEIR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION OPERATIONS. COPY OF APPROVED PLANS WITH APPROVED DATE AND STAMP SHALL BE SUBMITTED TO LANDSCAPE ARCHITECT.
2. AFTER AWARD OF THE PROJECT THE CONTRACTOR SHALL CONTACT DISTRICT'S CONSULTING ARBORIST FOR WATERING AND MAINTENANCE SCHEDULE FOR IMPLEMENTATION DURING CONSTRUCTION. THIS INCLUDES BUT NOT LIMITED TO FEEDING, ROOT-PRUNING, AND IRRIGATION ISSUES.
3. CONTRACTOR SHALL CONTACT DISTRICT'S CONSULTING ARBORIST FOR SUPERVISION AND DIRECTION IN PRUNING ALL EXISTING TREES DESIGNATED TO REMAIN DURING CONSTRUCTION.
4. WATERING OF EXISTING TREES SHALL BE DIRECTED BY DISTRICT'S CONSULTING ARBORIST. IF NO WATER IS AVAILABLE, POTABLE WATER SHALL BE TRUCKED IN.
5. CONSTRUCTION DUST SHALL BE WASHED OFF WITH WATER AT WEEKLY INTERVALS.
6. ROOTS DAMAGED DURING CONSTRUCTION MUST BE CLEANLY CUT WITH A SAW, NOT RIPPED WITH GRADING EQUIPMENT, UNDER THE DIRECTION OF THE CONSULTING ARBORIST.
7. PROVIDE PROPER AERATION FACILITIES WHEN PAVING WITHIN THE DRIPLINE OF TREES PER SPECIFICATIONS.
8. UNDERGROUND UTILITY LINE, PIPELINE TRENCHING AND IRRIGATION LINES SHALL BE TRENCHED BY HAND.
9. REFER TO SPECIFICATION 015639 FOR ADDITIONAL REQUIREMENTS.
10. CONTRACTOR RESPONSIBLE FOR VALUE OF EXISTING TREES, AS DETERMINED BY DISTRICT OR DISTRICT REPRESENTATIVE.

GATE SCHEDULE

GATE NUMBER	GATE TYPE	OPENING WIDTH	OPENING HEIGHT	GATE PANEL MATERIAL	GATE PANEL FINISH	GATE FRAME MATERIAL	GATE FRAME FINISH	DETAILS	KNOX BOX	HARDWARE GROUP	PANIC HARDWARE	ELECTRONIC LOCK	ACCESSIBLE SIGNAGE	HINGE TYPE
G-1	A	6' - 0"	6' - 0"	TS	BLACK	TS	BLACK	03/L5.02	-	40	YES	YES	YES	AUTO CLOSER
G-2	A	6' - 0"	6' - 0"	TS	BLACK	TS	BLACK	03/L5.02	-	40	YES	YES	YES	AUTO CLOSER
G-3	B	6' - 0"	6' - 0"	TS	BLACK	TS	BLACK	17/L5.03	-	39	-	YES	-	180°HEAVY DUTY
G-4	B	6' - 0"	6' - 0"	TS	BLACK	TS	BLACK	17/L5.03	-	39	-	YES	-	180°HEAVY DUTY
G-5	B	6' - 0"	6' - 0"	TS	BLACK	TS	BLACK	17/L5.03	-	39	-	YES	-	180°HEAVY DUTY
G-6	B	6' - 0"	6' - 0"	TS	BLACK	TS	BLACK	17/L5.03	-	39	-	YES	-	180°HEAVY DUTY
G-7	C	14' - 0"	6' - 0"	TS	BLACK	TS	BLACK	09/L5.02	-	41	-	-	-	180°HEAVY DUTY W/ WHEEL
G-8	B	6' - 0"	6' - 0"	TS	BLACK	TS	BLACK	03/L5.02	-	40	YES	YES	-	AUTO CLOSER
G-9	A	6' - 0"	6' - 0"	TS	BLACK	TS	BLACK	03/L5.02	-	40	YES	YES	-	AUTO CLOSER
G-10	A	6' - 0"	6' - 0"	TS	BLACK	TS	BLACK	03/L5.02	-	40	YES	YES	-	AUTO CLOSER
G-11	A	6' - 0"	6' - 0"	TS	BLACK	TS	BLACK	03/L5.02	-	40	YES	YES	-	180°HEAVY DUTY
G-12	A	6' - 0"	6' - 0"	TS	BLACK	TS	BLACK	03/L5.03	-	40	YES	YES	YES	AUTO CLOSER
G-13	A	6' - 0"	6' - 0"	TS	BLACK	TS	BLACK	17/L5.03	-	40	YES	YES	-	180°HEAVY DUTY
G-14	B	6' - 0"	6' - 0"	TS	BLACK	TS	BLACK	17/L5.03	-	39	-	YES	-	180°HEAVY DUTY
G-15	D	20' - 0"	6' - 0"	TS	BLACK	TS	BLACK	01/L5.03	YES	41/41A	-	-	-	180°HEAVY DUTY
G-16	D	20' - 0"	6' - 0"	TS	BLACK	TS	BLACK	01/L5.03	YES	41/41A	-	-	-	180°HEAVY DUTY
G-17	D	20' - 0"	6' - 0"	TS	BLACK	TS	BLACK	01/L5.03	YES	41/41A	-	-	-	180°HEAVY DUTY

GENERAL NOTES

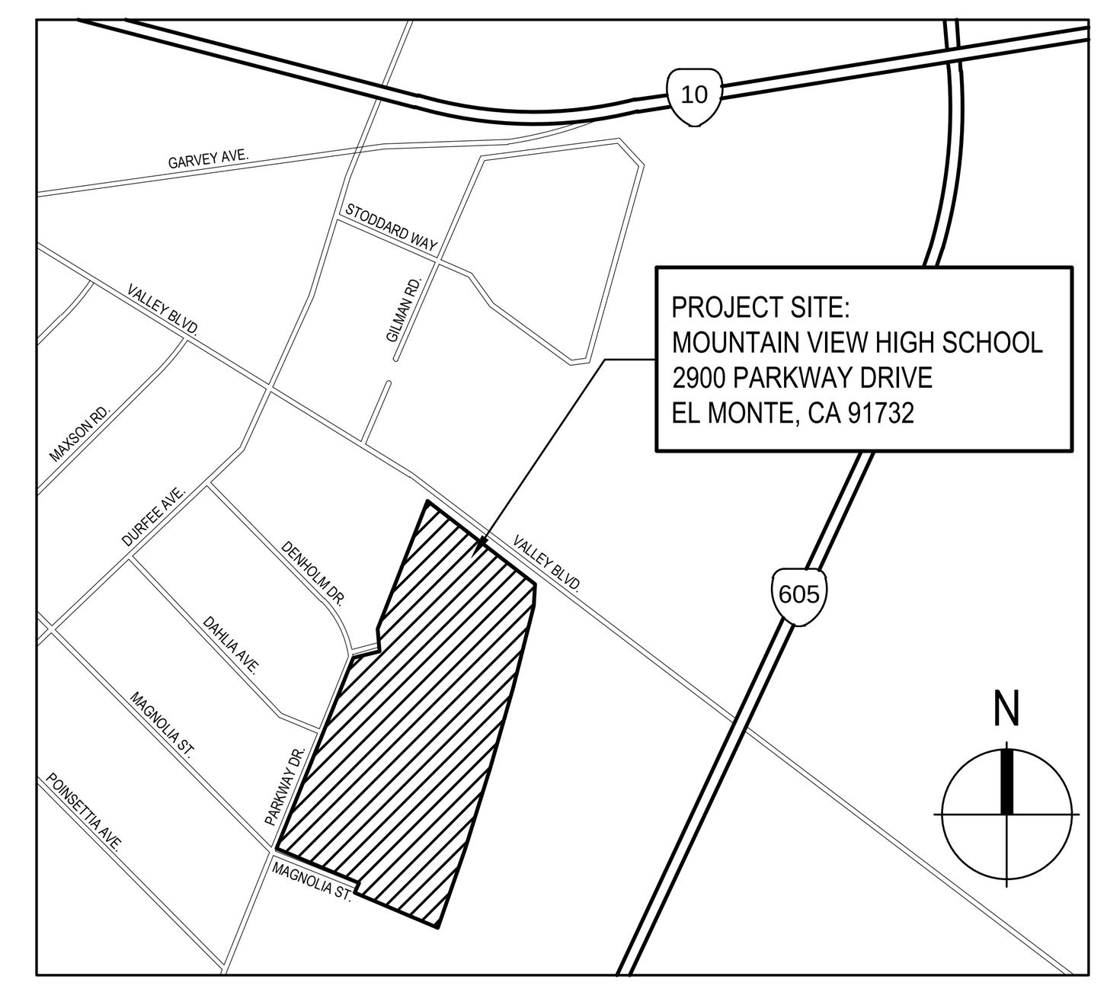
1. BASE INFORMATION INCLUDING THE LOCATION OF PROPERTY LINES, EASEMENTS, BUILDINGS, ROADS AND CURBS HAVE BEEN TAKEN FROM THE CIVIL ENGINEER'S DRAWINGS. REFER TO CIVIL ENGINEER'S DRAWINGS FOR ADDITIONAL INFORMATION.
2. REFER TO THE CIVIL ENGINEER'S DRAWINGS FOR PROPOSED UTILITY INFORMATION INCLUDING STORM DRAIN, WATER, AND ELECTRICAL.
3. REFER TO CITY AND/OR COUNTY STANDARD PLANS AND SPECIFICATIONS WHERE APPLICABLE.
4. VERIFY SITE INFORMATION, INCLUDING PROPERTY LINES, EXISTING ABOVE GROUND AND BELOW GROUND UTILITIES AND STRUCTURES, AND OTHER INFORMATION AFFECTING THE SCOPE OF WORK INCLUDED ON THESE DRAWINGS. IF ACTUAL SITE CONDITIONS VARY FROM WHAT IS SHOWN ON THE LANDSCAPE ARCHITECT'S DRAWINGS, THE CONTRACTOR SHALL CONTACT THE OWNER'S AUTHORIZED REPRESENTATIVE AND THE LANDSCAPE ARCHITECT FOR DIRECTION ON HOW TO PROCEED.
5. EXCAVATION IN THE VICINITY OF UTILITIES AND EXISTING MATERIALS SHALL BE UNDERTAKEN WITH CARE. THE CONTRACTOR BEARS FULL RESPONSIBILITY FOR THIS WORK. ANY DAMAGE CAUSED BY ANY PERSON, VEHICLE, EQUIPMENT, OR TOOL RELATED TO THE EXECUTION OF THE CONTRACT SHALL BE REPAIRED IMMEDIATELY AT NO EXPENSE TO THE OWNER.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION REQUIRED TO ACCOMPLISH ALL CONSTRUCTION OPERATIONS. ALL PIPING, CONDUIT, SLEEVES, ETC., SHALL BE SET IN PLACE PRIOR TO INSTALLATION OF CONSTRUCTION ITEMS.
7. CONTRACTOR SHALL BE RESPONSIBLE TO CONSULT WITH SITE SUPERINTENDENT, APPROPRIATE AGENCIES AND PLANS, FOR THE LOCATIONS OF ALL UNDER-GROUND UTILITIES, PIPES AND STRUCTURES. CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR ANY COST INCURRED DUE TO DAMAGE OF SAID UTILITIES.
8. CONTRACTOR SHALL NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS, AREA DISCREPANCIES AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATIONS.
9. CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT OF ANY EXISTING MATERIALS THAT ARE DAMAGED DURING CONSTRUCTION.
10. PRIOR TO INSTALLATION OF ANY CONSTRUCTION ITEM, FORMS WITH STEEL IN PLACE AND COMPACTED SUBGRADE COMPLETE, SHALL BE OBSERVED AND REVIEWED BY THE LANDSCAPE ARCHITECT.
11. ALL WALLS AND WALKS SHOULD HAVE SMOOTH, CONTINUOUS CURVES AS INDICATED ON PLANS.
12. ALL PROPERTY LINES, EASEMENTS, LOT LINES, AND TOP OF SLOPE LINES SHALL BE VERIFIED PRIOR TO COMMENCING WORK.
13. ALL ELECTRICAL JUNCTION BOXES FOR LIGHTS SHALL BE IN PLANTING AREAS AND LOCATION REVIEWED BY THE LANDSCAPE ARCHITECT. STAKE LOCATION PRIOR TO INSTALLATION.
14. SEE CIVIL ENGINEER'S DRAWINGS FOR FLEXIBLE AND RIGID PAVEMENT.
15. REFER TO CIVIL ENGINEER'S DRAWINGS FOR ELEVATIONS AND LOCATION OF DRAINAGE STRUCTURES PRIOR TO INSTALLATION OF WALKS, FOOTINGS AND OTHER STRUCTURES.
16. REFER TO GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION. IF NOTES ON THE PLANS DIFFER FROM THE GEOTECHNICAL REPORT, PROVIDE THE MOST STRINGENT REQUIREMENT.
17. RAISE ALL VAULTS/UTILITIES BOXES TO GRADE WITHIN LIMITS OF WORK. FIELD VERIFY PRIOR TO BID.

FENCE AND GATE NOTES

1. SUBMIT SHOP DRAWINGS TO LANDSCAPE ARCHITECT OF ALL FENCE AND GATE COMPONENTS INCLUDING PLANS, ELEVATIONS AND DETAILS AS NECESSARY FOR COMPLETE INSTALLATION.
2. FOR LOCATIONS OF FENCES, POSTS, AND GATES SEE PLANS AND ELEVATIONS.
3. SUBMIT SAMPLES OF ALL COMPONENTS AND MATERIALS TO LANDSCAPE ARCHITECT FOR REVIEW PRIOR TO FABRICATION.
4. GATE HARDWARE FINISH AND COLOR TO MATCH GATE/FENCE.
5. ANY COMPONENTS REQUIRED FOR A COMPLETE FENCE/GATE SYSTEM, BUT NOT SHOWN, SHOULD BE CONSIDERED A PART OF THESE DRAWINGS AND INCLUDED IN THE FINAL INSTALLED SYSTEM.
6. CONTRACTOR TO VERIFY ALL ATTACHMENTS AND DIMENSIONS, INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
7. FENCES AND GATES SHALL BE CONSTRUCTED SHALL NOT HAVE OPENINGS THAT ALLOW PASSAGE OF A 4" DIAMETER SPHERE THOUGH ANY VOIDS. TOP, BOTTOM, AND SIDE TIE-IN LOCATIONS MUST MEET HEAD ENTRAPMENT CODE SIMILAR TO CBC 1015.4.

SHEET INDEX

VICINITY MAP



SITE FURNISHINGS LEGEND

SYM.	DESC.	MANUF.	MODEL #	COLOR	FINISH/PTRN.	QTY.	DTL
	BIKE RACK	DERO	ROLLING RACK (7 BIKES) 'RR3H'	SILVER	POWERCOATED	6 EA	21/ L5.06
	SKATEBOARD RACK	BOARDLOCH	BRUTE 12 DOUBLE-SIDED	GRAY	POWERCOATED	2 EA	17/ L5.06
	VOLLEYBALL NETTING AND POST	BISON ATHLETIC	SBV210 SLEEVE VB21 SLEEVE CAP SBV500A POST W/ WINCH SBV08 NET ABC52 POST PAD	SILVER BRASS SILVER BLACK PURPLE PAD/ ATHLETIC GOLD LETTERING	ALUMINUM BRASS ALUMINUM NYLON VINYL	2 EA 2 EA 2 EA 1 EA 2 EA	17/ L5.05
●	STAINLESS STEEL BOLLARD	RELIANCE FOUNDRY	R-9460 WITHOUT REFLECTIVE TAPE	BUFFED NO.06	SATIN SURFACED FINISH	11 EA	20/ L5.01
	OUTDOOR RATED NEMA BOX	MODEL, COLOR AND FINISH PER LOW VOLTAGE DRAWINGS				7 EA	23/ L5.01

NOTES:
1. ALL SITE FURNISHINGS ARE TO BE PROVIDED BY THE CONTRACTOR.
2. QUANTITIES ARE AS SHOWN PER PLAN AND SHOULD BE VERIFIED BY THE CONTRACTOR.

ELECTRICAL / LIGHTING LEGEND

SYM.	DESCRIPTION	DETAIL REF.	COMMENTS
	PEDESTRIAN POLE LIGHT - SINGLE	15/ L5.01 + 09/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	PEDESTRIAN POLE LIGHT W/ BANNER ATTACHMENTS	15/ L5.01 + 09/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	EVENT POLE (DOUBLE AND SINGLE)	15/ L5.01 + 09/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	PEDESTRIAN POLE LIGHT - DOUBLE	15/ L5.01 + 09/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	GFI ELECTRICAL OUTLET		SEE ELEC. PLANS FOR MODEL # AND COLOR.
	FLAGPOLE IN-GRADE UPLIGHT	09/ L5.06 + 16/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	PARKING LOT POLE LIGHT (SINGLE AND DOUBLE)	05/ L5.06 + 10/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	TREE UPLIGHT	05/ L5.06 + 12/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	GROUND MOUNTED LINEAR	24/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	OUTDOOR RATED NEMA ENCLOSURE	25/ L5.01	SEE LOW VOLTAGE PLANS FOR MODEL # AND COLOR.

KEYNOTES

KEY NOTE	DESCRIPTION	DET/ SHT	COLOR / FINISH
01	CONCRETE PAVING	01/ L5.01	NATURAL GRAY/ TOPCAST 03
02	CONCRETE ACCENT PAVING BAND	11/ L5.01	NATURAL GRAY/ TOPCAST 25
03	RESURFACE CONC. W/ COLORED PAVEMENT COATING SYSTEM	SEE SPEC	STREETBOND: SR SANDSTONE
04	CONCRETE PAVING AT LIGHT POLE	16/ L5.01	NATURAL GRAY/ TOPCAST 03
05	6" W. CONCRETE BAND	09/ L5.01	NATURAL GRAY/ MEDIUM BROOM
06	CONCRETE VERTICAL CURB	14/ L5.01	NATURAL GRAY/ MEDIUM BROOM
07	CONCRETE STAIR	09/ L5.04	NATURAL GRAY/ MEDIUM BROOM
08	CONCRETE RAMP	04/ L5.04	NATURAL GRAY/ MEDIUM BROOM
09	HANDRAIL AT RAMP	04/ L5.04	GALVANIZED STEEL/ MATTE FINISH
10	HANDRAIL AT STAIRS	01/ L5.04	GALVANIZED STEEL/ MATTE FINISH
11	CONCRETE BAND AT FENCE	19/ L5.01	NATURAL GRAY/ MEDIUM BROOM
12	CONCRETE RETAINING CURB AT FENCE	18/ L5.02	NATURAL GRAY/ SMOOTH TOP; LT SANDBLAST VERT. SURFACES
13	CONCRETE FREESTANDING WALL	20/ L5.02	NATURAL GRAY/ SMOOTH TOP; LT SANDBLAST VERT. SURFACES
14	CONCRETE RETAINING WALL	19/ L5.02	NATURAL GRAY/ SMOOTH TOP; LT SANDBLAST VERT. SURFACES
15	6' H. TUBE STEEL FENCE	01/ L5.02	AMERISTAR: MONTAGE II - 2 RAIL, 'MAJESTIC' / BLACK
16	6' H. DOUBLE PED. TUBE STEEL GATE WITH PANIC HARDWARE	03/ L5.02	AMERISTAR: MONTAGE II - 2 RAIL, 'MAJESTIC' / BLACK
17	MOTORIZED VEHICULAR SWING GATE	01/ L5.03	BLACK / POWDERCOAT
18	MANUAL VEHICULAR SWING GATE	09/ L5.02	BLACK / POWDERCOAT
19	FREESTANDING SIGNAGE AT BLDG A	10/ L5.06	COLOR TO MATCH PANTONE 2685 / POWERCOAT
20	FREESTANDING SIGNAGE ON PEDESTAL	03/ L5.06	COLOR TO MATCH PANTONE 2685 / POWERCOAT
21	8' H. CHAINLINK FENCE	02/ L5.03	BLACK VINYL COATED; UNLESS NOTED OTHERWISE
22	50' H. TENSIONED NETTING SYSTEM	01/ L5.05	SEE SPORTS EQUIPMENT LEGEND
23	6' H. DOUBLE PED. TUBE STEEL GATE	17/ L5.03	BLACK / POWDERCOAT
24	PHOTOEYE	04/ L5.03	AVAILABLE THRU. HYSECURITY
25	VEHICULAR GATE OPENER	01/ L5.03	HYSECURITY SWINGSMART DC 20
26	DUAL POST GOOSENECK POST FOR VEHICULAR CARD READER	13/ L5.03	BLACK AVAILABLE THRU. DOORKING
27	LOOP SENSOR		AVAILABLE THRU. HYSECURITY
28	GUARDRAIL	14/ L5.04	GALVANIZED STEEL/ MATTE FINISH
29	STEEL BOLLARD	20/ L5.01	STAINLESS STEEL
30	BARRIER BOLLARD	24/ L5.01	GALVANIZED STEEL
31	CONCRETE CHEEKWALL AT STAIR	17/ L5.04	NATURAL GRAY/ MEDIUM BROOM
32	TRUNCATED DOME PAVERS	17,18/ L5.01	COLOR: FEDERAL YELLOW (A-40) MANUF: WAUSAU TILE ADA-2 TECTURA PAVER 12X12
33	REMOVABLE VOLLEYBALL POST	17/ L5.05	SEE SITE FURNISHINGS LEGEND
34	LUNCH SHELTER (35' X 100')		REFER TO POLIGON- 'MONOSLOPE' PC DRAWINGS
35	8' H. CHAINLINK VEH. DOUBLE GATE	17 L5.07	BLACK VINYL COATED; UNLESS NOTED OTHERWISE
36	8' H. CHAINLINK PED. SINGLE GATE	01/ L5.07	BLACK VINYL COATED; UNLESS NOTED OTHERWISE
37	COMBINED FOOTING AT EVENT POLE AND RETAINING WALL	11/ L5.03	
38	PAINTED TIMELINE MARKER BAND WITH LETTERING	01/ L5.08	STREETBOND BAND: SMOKY MAUVE LETTERING: KHAKI
39	CUSTOM THERMOPLASTIC LOGO	ALL/ L5.08	REFER TO DETAIL
40	CUSTOM THERMOPLASTIC LETTERING	-/ -	LETTERING: PANTONE 2685

REFERENCE KEYNOTES

KEY NOTE	DESCRIPTION	DET REF
A	(E) TREE	SALVAGE AND RELOCATE
B	(E) FLAGPOLE	SALVAGE AND RELOCATED FLAGPOLE AT "SIM" CONDITION; 22/L5.05 SIM
C	(E) BOOK DROP	SALVAGE AND RELOCATE
D	(E) PLAQUE	SALVAGE AND RELOCATE
E	(E) AC PAVING	PROTECT IN PLACE
F	(E) CONCRETE CURB W/ CURB AND GUTTER	PROTECT IN PLACE
G	(E) CONCRETE PAVING	PROTECT IN PLACE
H	(E) CONCRETE STAIRS, RAMP, AND HANDRAILS	PROTECT IN PLACE
J	(E) FENCE	PROTECT IN PLACE
K	(E) VEHICULAR CHARGING STATION	PROTECT IN PLACE
L	(E) WHEEL STOPS	PROTECT IN PLACE
M	(E) ELECTRICAL ENCLOSURE	PROTECT IN PLACE
N	(E) PLANTER	PROTECT IN PLACE
P	(E) DRINKING FOUNTAIN	PROTECT IN PLACE
Q	(E) DRAIN	PROTECT IN PLACE
R	(E) RETAINING WALL	PROTECT IN PLACE
S	CONCRETE CURB AND GUTTER	PER CIVIL
T	ADA AND EV PARKING SIGNAGE	PER CIVIL
U	PAVEMENT STRIPING	PER CIVIL
V	ACCESSIBLE PARKING STALL	PER CIVIL
W	TRENCH DRAIN	PER CIVIL
Y	WHEEL STOP	PER CIVIL
Z	CONCRETE CURB RAMP (1:12 MAX)	PER CIVIL
AA	A.C. PAVING	PER CIVIL
AB	VEHICULAR DUAL CARD READER	PER LOW VOLTAGE

SITE SYMBOLS LEGEND

SYM.	DESC.	SYM.	DESC.	DET.
	FIRE HYDRANT (PER CIVIL)		SAWCUT JOINT	02/ L5.01
	DRAIN INLET (PER CIVIL)		EXPANSION JOINTS	02,04/ L5.01
	AREA DRAIN (PER CIVIL)		PROPERTY LINE/ RIGHT OF WAY	
CO	CLEAN OUT (PER CIVIL)		LIMIT OF WORK	
D	STORM DRAIN MANHOLE (PER CIVIL)	T.O.S.	TOP OF SLOPE	
S	SANITARY SEWER MANHOLE (PER CIVIL)	B.O.S.	TOE (BOTTOM) OF SLOPE	
	(E) REDUCED PRESSURE BFP (PER CIVIL)	FOC	FACE OF CURB	
	PIV/CHECK VALVE/FDC (PER CIVIL)	BOC	BACK OF CURB	
PB	ELECTRICAL PULL BOX (PER ELEC.)	PA	PLANTING AREA	
	QUICK COUPLER VALVE (PER IRRIG.)		ALIGN	
	COM BOX (PER ELEC.)		DOWN SLOPE DIRECTION OF RAMP	
+	(E) TREE TO REMAIN; PROTECT IN PLACE		CONFORM	

NOTES:
1. UTILITIES SHOWN ARE FOR REFERENCE ONLY. SEE CIVIL DWGS FOR DETAILS AND EXACT LOCATIONS.
2. FINAL LOCATIONS TO BE REVIEWED BY LANDSCAPE ARCHITECT.

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MOUNTAIN VIEW HIGH SCHOOL MODERNIZATION
2900 PARKWAY DRIVE
EL MONTE CA, 91732
Developed for
EL MONTE UNION H.S. DISTRICT

Revision	Date
A ADDENDUM A	03/20/2023
C ADDENDUM C	04/24/2023

Submittal	Date
100% SCHEMATIC DESIGN	08/13/2021
100% DESIGN DEVELOPMENT	12/10/2021
DSA SUBMITTAL	04/28/2022
DSA BACKCHECK	10/31/2022

Job Number	30154.10
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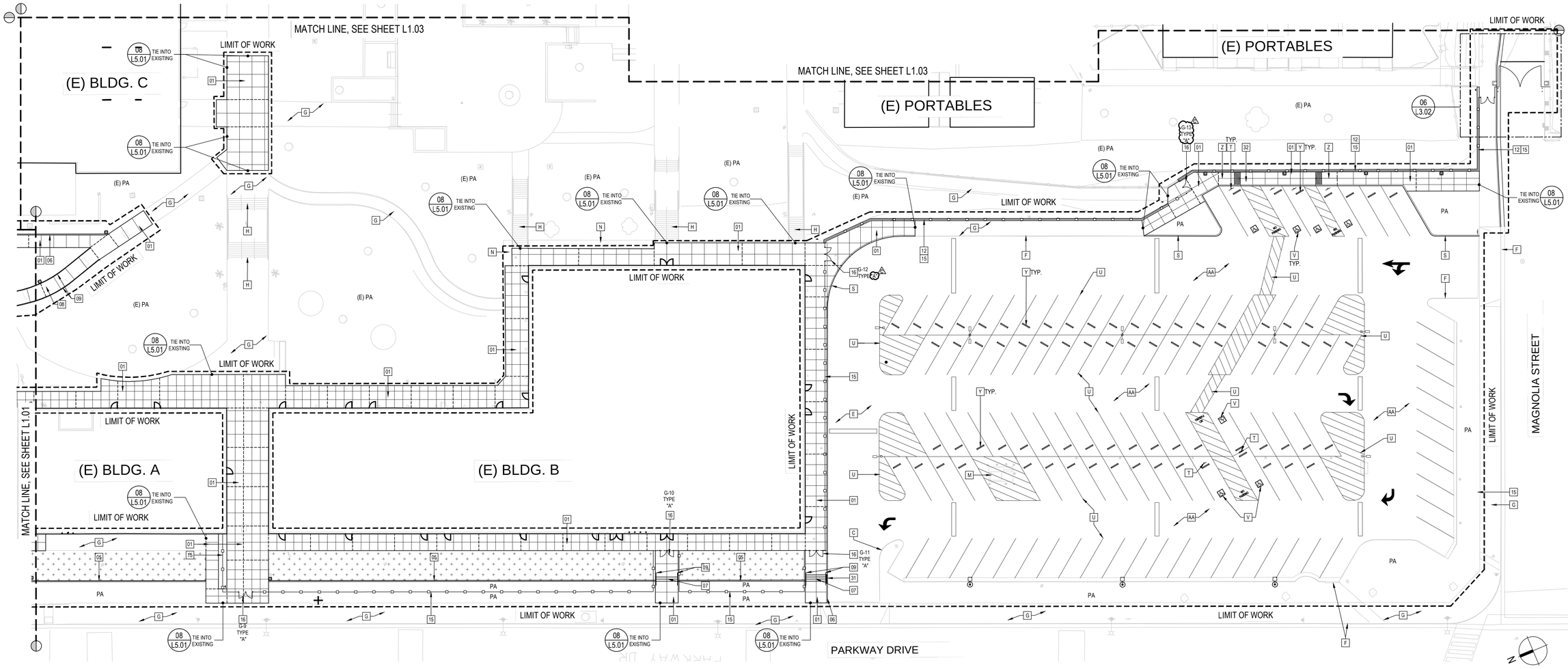
Checked By	JY, DC, BS
Scale	1"=20'-0"

LANDSCAPE NOTES & SCHEDULES

L0.01



SITE SYMBOLS LEGEND

SYM.	DESC.	SYM.	DESC.	DET.
	FIRE HYDRANT (PER CIVIL)		SAWCUT JOINT	02/ L5.01
	DRAIN INLET (PER CIVIL)		EXPANSION JOINTS	02.04/ L5.01
	AREA DRAIN (PER CIVIL)		PROPERTY LINE/ RIGHT OF WAY	
	CLEAN OUT (PER CIVIL)		LIMIT OF WORK	
	STORM DRAIN MANHOLE (PER CIVIL)	T.O.S.	TOP OF SLOPE	
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PB	ELECTRICAL PULL BOX (PER ELEC.)	PA	PLANTING AREA	
	QUICK COUPLER VALVE (PER IRRIG.)		ALIGN	
	COM BOX (PER ELEC.)		DOWN SLOPE DIRECTION OF RAMP	
	(E) TREE TO REMAIN; PROTECT IN PLACE		CONFORM	

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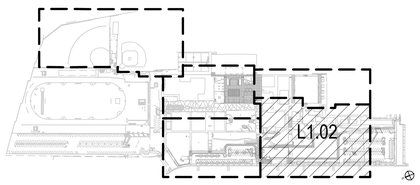
KEY MAP



ELECTRICAL / LIGHTING LEGEND

SYM.	DESCRIPTION	DETAIL REF.	COMMENTS
	PEDESTRIAN POLE LIGHT - SINGLE	15/ L5.01 + 09/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	PEDESTRIAN POLE LIGHT W/ BANNER ATTACHMENTS	15/ L5.01 + 09/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	EVENT POLE (DOUBLE AND SINGLE)	15/ L5.01 + 09/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	PEDESTRIAN POLE LIGHT - DOUBLE	15/ L5.01 + 09/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	GFI ELECTRICAL OUTLET		SEE ELEC. PLANS FOR MODEL # AND COLOR.
	FLAGPOLE IN-GRADE UPLIGHT	09/ L5.06 + 16/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	PARKING LOT POLE LIGHT (SINGLE AND DOUBLE)	05/ L5.06 + 10/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	TREE UPLIGHT	05/ L5.06 + 12/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	GROUND MOUNTED LINEAR	24/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	OUTDOOR RATED NEMA ENCLOSURE	25/ L5.01	SEE LOW VOLTAGE PLANS FOR MODEL # AND COLOR.

REFERENCE KEYNOTES

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D	(E) PLAQUE	SALVAGE AND RELOCATE
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F	(E) CONCRETE CURB W/ CURB AND GUTTER	PROTECT IN PLACE
G	(E) CONCRETE PAVING	PROTECT IN PLACE
H	(E) CONCRETE STAIRS, RAMP, AND HANDRAILS	PROTECT IN PLACE
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Z	CONCRETE CURB RAMP (1:12 MAX)	PER CIVIL
AA	A.C. PAVING	PER CIVIL
AB	VEHICULAR DUAL CARD READER	PER LOW VOLTAGE

KEYNOTES

KEY NOTE	DESCRIPTION	DET/ SHT	COLOR / FINISH
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35	8' H. CHAINLINK VEH. DOUBLE GATE	17 L5.07	BLACK VINYL COATED; UNLESS NOTED OTHERWISE
36	8' H. CHAINLINK PED. SINGLE GATE	01/ L5.07	BLACK VINYL COATED; UNLESS NOTED OTHERWISE
37	COMBINED FOOTING AT EVENT POLE AND RETAINING WALL	11/ L5.03	
38	PAINTED TIMELINE MARKER BAND WITH LETTERING	01/ L5.08	STREETBOND BAND: SMOKY MAUVE LETTERING: KHAKI
39	CUSTOM THERMOPLASTIC LOGO	ALL/ L5.08	REFER TO DETAIL
40	CUSTOM THERMOPLASTIC LETTERING	-/ -	LETTERING: PANTONE 2685

KEYNOTES

KEY NOTE	DESCRIPTION	DET/ SHT	COLOR / FINISH
01	CONCRETE PAVING	01/ L5.01	NATURAL GRAY/ TOPCAST 03
02	CONCRETE ACCENT PAVING BAND	11/ L5.01	NATURAL GRAY/ TOPCAST 25
03	RESURFACE CONC. W/ COLORED PAVEMENT COATING SYSTEM	SEE SPEC	STREETBOND: SR SANDSTONE
04	CONCRETE PAVING AT LIGHT POLE	16/ L5.01	NATURAL GRAY/ TOPCAST 03
05	6" W. CONCRETE BAND	09/ L5.01	NATURAL GRAY/ MEDIUM BROOM
06	CONCRETE VERTICAL CURB	14/ L5.01	NATURAL GRAY/ MEDIUM BROOM
07	CONCRETE STAIR	09/ L5.04	NATURAL GRAY/ MEDIUM BROOM
08	CONCRETE RAMP	04/ L5.04	NATURAL GRAY/ MEDIUM BROOM
09	HANDRAIL AT RAMP	04/ L5.04	GALVANIZED STEEL/ MATTE FINISH
10	HANDRAIL AT STAIRS	01/ L5.04	GALVANIZED STEEL/ MATTE FINISH
11	CONCRETE BAND AT FENCE	19/ L5.01	NATURAL GRAY/ MEDIUM BROOM
12	CONCRETE RETAINING CURB AT FENCE	18/ L5.02	NATURAL GRAY/ SMOOTH TOP; LT SANDBLAST VERT. SURFACES
13	CONCRETE FREESTANDING WALL	20/ L5.02	NATURAL GRAY/ SMOOTH TOP; LT SANDBLAST VERT. SURFACES
14	CONCRETE RETAINING WALL	19/ L5.02	NATURAL GRAY/ SMOOTH TOP; LT SANDBLAST VERT. SURFACES
15	6' H. TUBE STEEL FENCE	01/ L5.02	AMERISTAR: MONTAGE II - 2 RAIL, 'MAJESTIC' / BLACK
16	6' H. DOUBLE PED. TUBE STEEL GATE WITH PANIC HARDWARE	03/ L5.02	AMERISTAR: MONTAGE II - 2 RAIL, 'MAJESTIC' / BLACK
17	MOTORIZED VEHICULAR SWING GATE	01/ L5.03	BLACK / POWDERCOAT
18	MANUAL VEHICULAR SWING GATE	09/ L5.02	BLACK / POWDERCOAT
19	FREESTANDING SIGNAGE AT BLDG A	10/ L5.06	COLOR TO MATCH PANTONE 2685 / POWERCOAT
20	FREESTANDING SIGNAGE ON PEDESTAL	03/ L5.06	COLOR TO MATCH PANTONE 2685 / POWERCOAT
21	8' H. CHAINLINK FENCE	02/ L5.03	BLACK VINYL COATED; UNLESS NOTED OTHERWISE
22	50' H. TENSIONED NETTING SYSTEM	01/ L5.05	SEE SPORTS EQUIPMENT LEGEND
23	6' H. DOUBLE PED. TUBE STEEL GATE	17/ L5.03	BLACK / POWDERCOAT
24	PHOTOEYE	04/ L5.03	AVAILABLE THRU. HYSECURITY
25	VEHICULAR GATE OPENER	01/ L5.03	HYSECURITY SWINGSMART DC 20
26	DUAL POST GOOSENECK POST FOR VEHICULAR CARD READER	13/ L5.03	BLACK AVAILABLE THRU. DOORKING
27	LOOP SENSOR		AVAILABLE THRU. HYSECURITY
28	GUARDRAIL	14/ L5.04	GALVANIZED STEEL/ MATTE FINISH
29	STEEL BOLLARD	20/ L5.01	STAINLESS STEEL
30	BARRIER BOLLARD	24/ L5.01	GALVANIZED STEEL
31	CONCRETE CHEEKWALL AT STAIR	17/ L5.04	NATURAL GRAY/ MEDIUM BROOM
32	TRUNCATED DOME PAVERS	17,18/ L5.01	COLOR: FEDERAL YELLOW (A-40) MANUF: WAUSAU TILE ADA-2 TECTURA PAVER 12X12
33	REMOVABLE VOLLEYBALL POST	17/ L5.05	SEE SITE FURNISHINGS LEGEND

MATERIALS PLAN | 1" = 20'-0" | 03

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Revision	Date
1 ADDENDUM A	03/20/2023
2 ADDENDUM C	04/24/2023

Submittal	Date
100% SCHEMATIC DESIGN	08/13/2021
100% DESIGN DEVELOPMENT	12/10/2021
DSA SUBMITTAL	04/28/2022
DSA BACKCHECK	10/31/2022

MOUNTAIN VIEW HIGH SCHOOL MODERNIZATION
2900 PARKWAY DRIVE
EL MONTE CA, 91732
Developed for EL MONTE UNION H.S. DISTRICT

Job Number	30154.10
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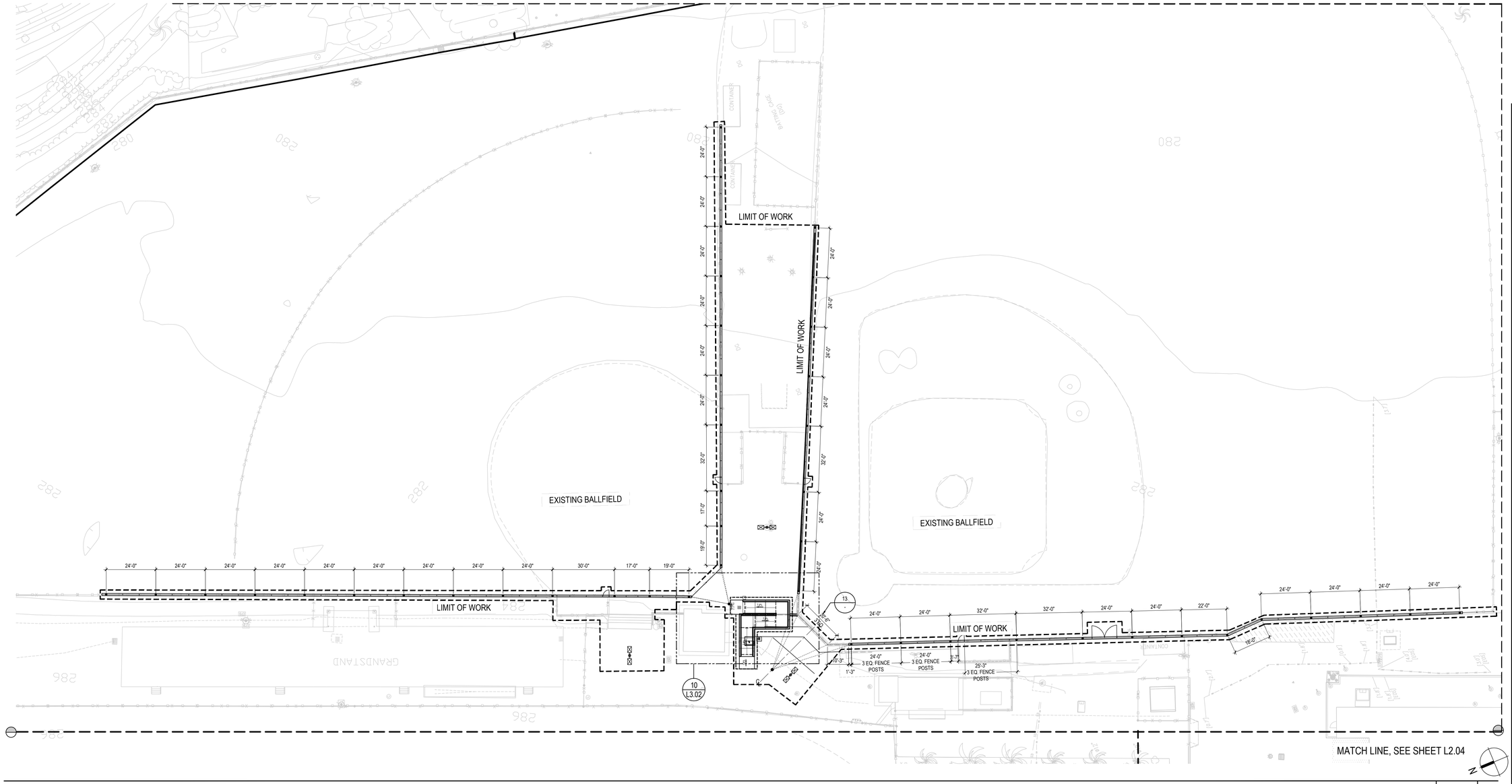
Scale	1"=20'-0"

MATERIALS PLAN

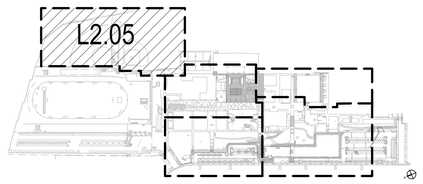
L1.02



LAYOUT PLAN | 1" = 20'-0" | 02

NETTING POLE DIM. LAYOUT IS NOTED ON THIS PLAN,
FOR ADDITIONAL INFORMATION SEE ELEVATIONS L4.02 AND L4.03,
AND SHEETS SFS-1 TO SFS-3

KEY MAP



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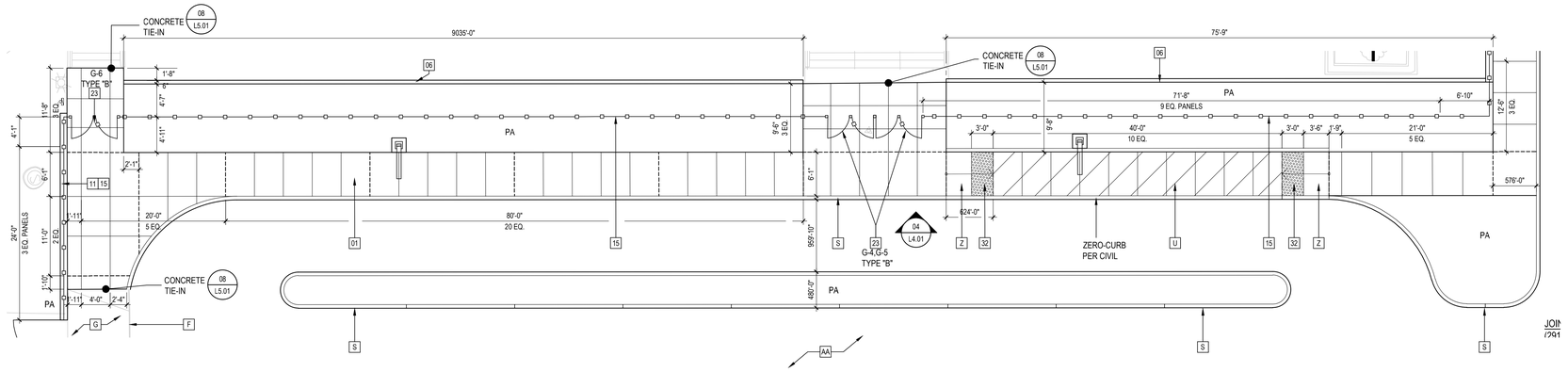
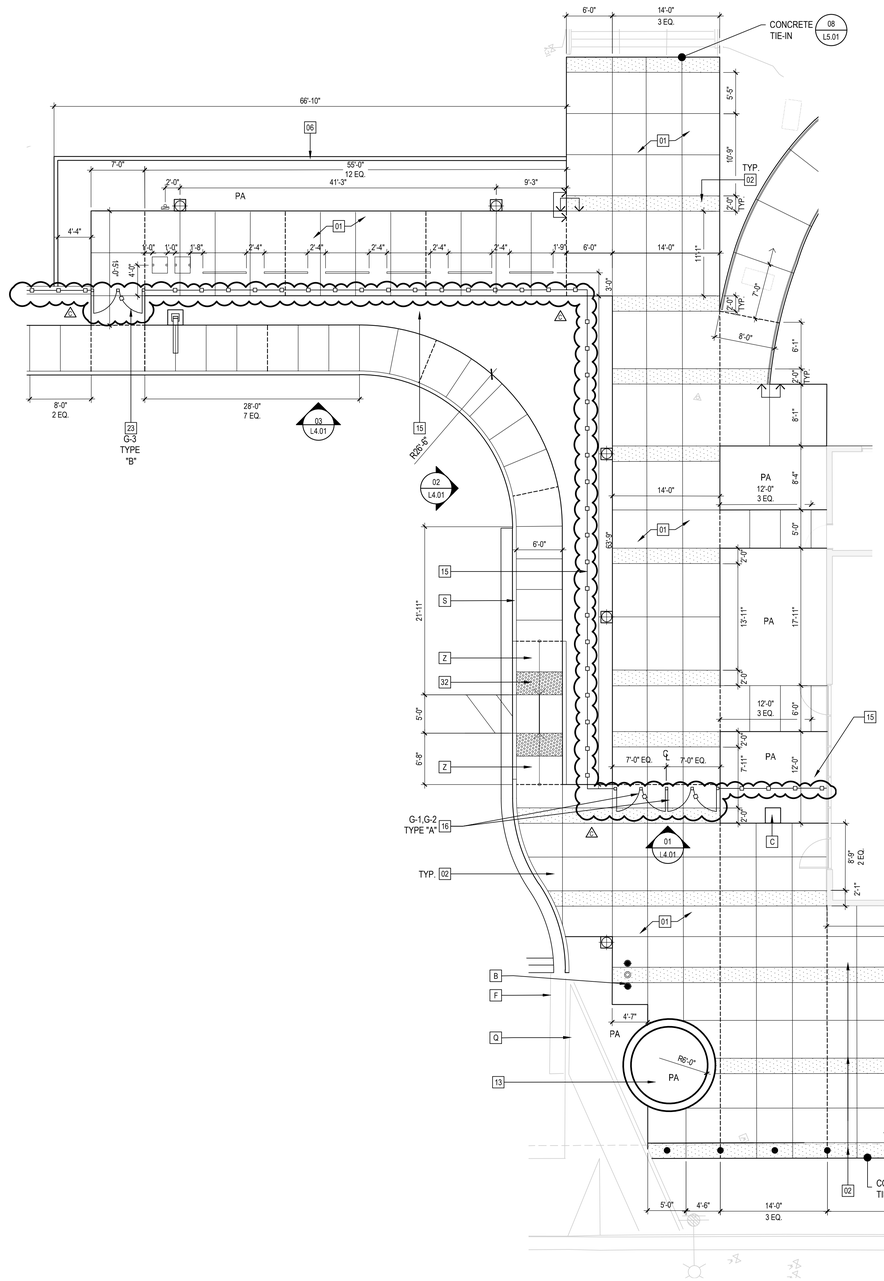
LAYOUT PLAN

L2.05



PARENT DROP-OFF ENLARGEMENT | 1/8" = 1'-0" | 08



(E) BUILDING A

SCHOOL ENTRY ENLARGEMENT | 1/8" = 1'-0" | 05

ELECTRICAL / LIGHTING LEGEND

SYM.	DESCRIPTION	DETAIL REF.	COMMENTS
	PEDESTRIAN POLE LIGHT - SINGLE	15/ L5.01 + 09/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	PEDESTRIAN POLE LIGHT W/ BANNER ATTACHMENTS	15/ L5.01 + 09/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	EVENT POLE (DOUBLE AND SINGLE)	15/ L5.01 + 09/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	PEDESTRIAN POLE LIGHT - DOUBLE	15/ L5.01 + 09/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	GFI ELECTRICAL OUTLET		SEE ELEC. PLANS FOR MODEL # AND COLOR.
	FLAGPOLE IN-GRADE UPLIGHT	09/ L5.06 + 16/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	PARKING LOT POLE LIGHT (SINGLE AND DOUBLE)	05/ L5.06 + 10/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	TREE UPLIGHT	05/ L5.06 + 12/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	GROUND MOUNTED LINEAR	24/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
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KEYNOTES

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U	PAVEMENT STRIPING	PER CIVIL
V	ACCESSIBLE PARKING STALL	PER CIVIL
W	TRENCH DRAIN	PER CIVIL
Y	WHEEL STOP	PER CIVIL
Z	CONCRETE CURB RAMP (1:12 MAX)	PER CIVIL
AA	A.C. PAVING	PER CIVIL
AB	VEHICULAR DUAL CARD READER	PER LOW VOLTAGE

SITE SYMBOLS LEGEND

SYM.	DESC.	SYM.	DESC.	DET.
	FIRE HYDRANT (PER CIVIL)		SAWCUT JOINT	02/ L5.01
	DRAIN INLET (PER CIVIL)		EXPANSION JOINTS	02,04/ L5.01
	AREA DRAIN (PER CIVIL)		PROPERTY LINE/ RIGHT OF WAY	
CO	CLEAN OUT (PER CIVIL)		LIMIT OF WORK	
D	STORM DRAIN MANHOLE (PER CIVIL)	T.O.S.	TOP OF SLOPE	
S	SANITARY SEWER MANHOLE (PER CIVIL)	B.O.S.	TOE (BOTTOM) OF SLOPE	
	(E) REDUCED PRESSURE BFP (PER CIVIL)	FOC	FACE OF CURB	
	PIV/CHECK VALVE/FDC (PER CIVIL)	BOC	BACK OF CURB	
PB	ELECTRICAL PULL BOX (PER ELEC.)	PA	PLANTING AREA	
	QUICK COUPLER VALVE (PER IRRIG.)		ALIGN	
	COM BOX (PER ELEC.)		DOWN SLOPE DIRECTION OF RAMP	
	(E) TREE TO REMAIN; PROTECT IN PLACE		CONFORM	

NOTES:
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2. FINAL LOCATIONS TO BE REVIEWED BY LANDSCAPE ARCHITECT.

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MOUNTAIN VIEW HIGH SCHOOL MODERNIZATION
2900 PARKWAY DRIVE
EL MONTE CA, 91732
Developed for
EL MONTE UNION H.S. DISTRICT

Revision	Date
1 ADDENDUM A	03/20/2023

Submittal	Date
100% SCHEMATIC DESIGN	08/13/2021
100% DESIGN DEVELOPMENT	12/16/2021
DSA SUBMITTAL	04/28/2022
DSA BACKCHECK	10/31/2022

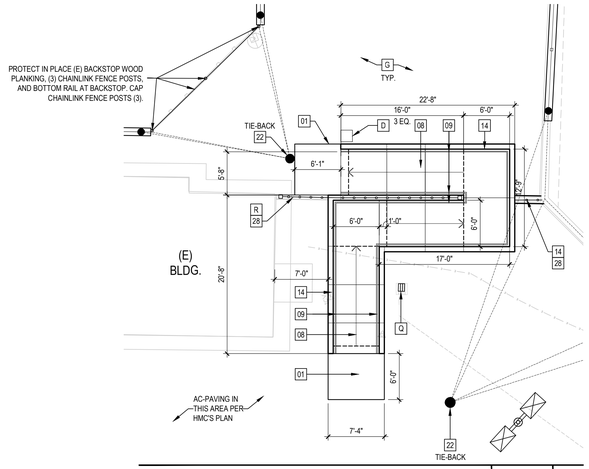
Job Number	30154.10
Date Published	04/24/2023
Checked By	JY, DC, BS
Scale	AS SHOWN

ENLARGEMENT PLAN

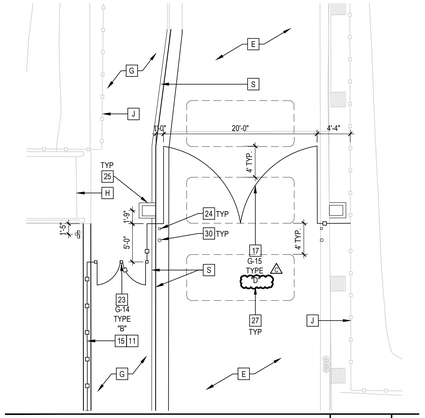
L3.01

ELECTRICAL / LIGHTING LEGEND

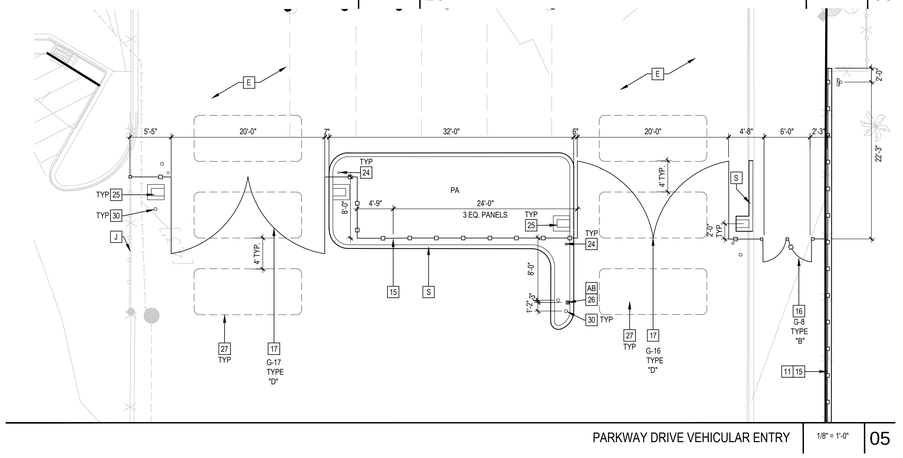
SYM.	DESCRIPTION	DETAIL REF.	COMMENTS
	PEDESTRIAN POLE LIGHT - SINGLE	15/ L5.01 * 09/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	PEDESTRIAN POLE LIGHT W/ BANNER ATTACHMENTS	15/ L5.01 * 09/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	EVENT POLE (DOUBLE AND SINGLE)	15/ L5.01 * 09/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	PEDESTRIAN POLE LIGHT - DOUBLE	15/ L5.01 * 09/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	GFI ELECTRICAL OUTLET		SEE ELEC. PLANS FOR MODEL # AND COLOR.
	FLAGPOLE IN-GRADE UPLIGHT	09/ L5.06 * 16/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	PARKING LOT POLE LIGHT (SINGLE AND DOUBLE)	05/ L5.06 * 10/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	TREE UPLIGHT	05/ L5.06 * 12/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	GROUND MOUNTED LINEAR	24/ E7.01	SEE ELEC. PLANS FOR MODEL # AND COLOR.
	OUTDOOR RATED NEMA ENCLOSURE	25/ L5.01	SEE LOW VOLTAGE PLANS FOR MODEL # AND COLOR.



BASEBALL/SOFTBALL FIELD RAMP | 1/8" = 1'-0" | 10



DENHOLM DRIVE VEHICULAR ENTRY | 1/8" = 1'-0" | 06



PARKWAY DRIVE VEHICULAR ENTRY | 1/8" = 1'-0" | 05

KEYNOTES

KEY NOTE	DESCRIPTION	DET/ SHT	COLOR / FINISH
01	CONCRETE PAVING	01/ L5.01	NATURAL GRAY/ TOPCAST 03
02	CONCRETE ACCENT PAVING BAND	11/ L5.01	NATURAL GRAY/ TOPCAST 25
03	RESURFACE CONC. W/ COLORED PAVEMENT COATING SYSTEM	SEE SPEC	STREETBOND: SR SANDSTONE
04	CONCRETE PAVING AT LIGHT POLE	16/ L5.01	NATURAL GRAY/ TOPCAST 03
05	6" W. CONCRETE BAND	09/ L5.01	NATURAL GRAY/ MEDIUM BROOM
06	CONCRETE VERTICAL CURB	14/ L5.01	NATURAL GRAY/ MEDIUM BROOM
07	CONCRETE STAIR	09/ L5.04	NATURAL GRAY/ MEDIUM BROOM
08	CONCRETE RAMP	04/ L5.04	NATURAL GRAY/ MEDIUM BROOM
09	HANDRAIL AT RAMP	04/ L5.04	GALVANIZED STEEL/ MATTE FINISH
10	HANDRAIL AT STAIRS	01/ L5.04	GALVANIZED STEEL/ MATTE FINISH
11	CONCRETE BAND AT FENCE	19/ L5.01	NATURAL GRAY/ MEDIUM BROOM
12	CONCRETE RETAINING CURB AT FENCE	18/ L5.02	NATURAL GRAY/ SMOOTH TOP; LT SANDBLAST VERT. SURFACES
13	CONCRETE FREESTANDING WALL	20/ L5.02	NATURAL GRAY/ SMOOTH TOP; LT SANDBLAST VERT. SURFACES
14	CONCRETE RETAINING WALL	19/ L5.02	NATURAL GRAY/ SMOOTH TOP; LT SANDBLAST VERT. SURFACES
15	6' H. TUBE STEEL FENCE	01/ L5.02	AMERISTAR: MONTAGE II - 2 RAIL, 'MAJESTIC' / BLACK
16	6' H. DOUBLE PED. TUBE STEEL GATE WITH PANIC HARDWARE	03/ L5.02	AMERISTAR: MONTAGE II - 2 RAIL, 'MAJESTIC' / BLACK
17	MOTORIZED VEHICULAR SWING GATE	01/ L5.03	BLACK / POWDERCOAT
18	MANUAL VEHICULAR SWING GATE	09/ L5.02	BLACK / POWDERCOAT
19	FREESTANDING SIGNAGE AT BLDG A	10/ L5.06	COLOR TO MATCH PANTONE 2685 / POWERCOAT
20	FREESTANDING SIGNAGE ON PEDESTAL	03/ L5.06	COLOR TO MATCH PANTONE 2685 / POWERCOAT
21	8' H. CHAINLINK FENCE	02/ L5.03	BLACK VINYL COATED; UNLESS NOTED OTHERWISE
22	50' H. TENSIONED NETTING SYSTEM	01/ L5.05	SEE SPORTS EQUIPMENT LEGEND
23	6' H. DOUBLE PED. TUBE STEEL GATE	17/ L5.03	BLACK / POWDERCOAT
24	PHOTOEYE	04/ L5.03	AVAILABLE THRU. HYSECURITY
25	VEHICULAR GATE OPENER	01/ L5.03	HYSECURITY SWINGSMART DC 20
26	DUAL POST GOOSENECK POST FOR VEHICULAR CARD READER	13/ L5.03	BLACK AVAILABLE THRU. DOORKING
27	LOOP SENSOR		AVAILABLE THRU. HYSECURITY
28	GUARDRAIL	14/ L5.04	GALVANIZED STEEL/ MATTE FINISH
29	STEEL BOLLARD	20/ L5.01	STAINLESS STEEL
30	BARRIER BOLLARD	24/ L5.01	GALVANIZED STEEL
31	CONCRETE CHEEKWALL AT STAIR	17/ L5.04	NATURAL GRAY/ MEDIUM BROOM
32	TRUNCATED DOME PAVERS	17,18/ L5.01	COLOR: FEDERAL YELLOW (A-40) MANUF: WAUSAU TILE ADA-2 TECTURA PAVER 12X12
33	REMOVABLE VOLLEYBALL POST	17/ L5.05	SEE SITE FURNISHINGS LEGEND
34	LUNCH SHELTER (35' X 100')		REFER TO POLIGON- "MONOSLOPE" PC DRAWINGS
35	8' H. CHAINLINK VEH. DOUBLE GATE	17 L5.07	BLACK VINYL COATED; UNLESS NOTED OTHERWISE
36	8' H. CHAINLINK PED. SINGLE GATE	01/ L5.07	BLACK VINYL COATED; UNLESS NOTED OTHERWISE
37	COMBINED FOOTING AT EVENT POLE AND RETAINING WALL	11/ L5.03	
38	PAINTED TIMELINE MARKER BAND WITH LETTERING	01/ L5.08	STREETBOND BAND: SMOKY MAUVE LETTERING: KHAKI
39	CUSTOM THERMOPLASTIC LOGO	ALL/ L5.08	REFER TO DETAIL
40	CUSTOM THERMOPLASTIC LETTERING	-/ -	LETTERING: PANTONE 2685

REFERENCE KEYNOTES

KEY NOTE	DESCRIPTION	DET REF.
A	(E) TREE	SALVAGE AND RELOCATE
B	(E) FLAGPOLE	SALVAGE AND RELOCATED FLAGPOLE AT "SIM" CONDITION; 22/L5.05 SIM
C	(E) BOOK DROP	SALVAGE AND RELOCATE
D	(E) PLAQUE	SALVAGE AND RELOCATE
E	(E) AC PAVING	PROTECT IN PLACE
F	(E) CONCRETE CURB W/ CURB AND GUTTER	PROTECT IN PLACE
G	(E) CONCRETE PAVING	PROTECT IN PLACE
H	(E) CONCRETE STAIRS, RAMP, AND HANDRAILS	PROTECT IN PLACE
J	(E) FENCE	PROTECT IN PLACE
K	(E) VEHICULAR CHARGING STATION	PROTECT IN PLACE
L	(E) WHEEL STOPS	PROTECT IN PLACE
M	(E) ELECTRICAL ENCLOSURE	PROTECT IN PLACE
N	(E) PLANTER	PROTECT IN PLACE
P	(E) DRINKING FOUNTAIN	PROTECT IN PLACE
Q	(E) DRAIN	PROTECT IN PLACE
R	(E) RETAINING WALL	PROTECT IN PLACE
S	CONCRETE CURB AND GUTTER	PER CIVIL
T	ADA AND EV PARKING SIGNAGE	PER CIVIL
U	PAVEMENT STRIPING	PER CIVIL
V	ACCESSIBLE PARKING STALL	PER CIVIL
W	TRENCH DRAIN	PER CIVIL
Y	WHEEL STOP	PER CIVIL
Z	CONCRETE CURB RAMP (1:12 MAX)	PER CIVIL
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CO	CLEAN OUT (PER CIVIL)		LIMIT OF WORK	
	STORM DRAIN MANHOLE (PER CIVIL)	T.O.S.	TOP OF SLOPE	
S	SANITARY SEWER MANHOLE (PER CIVIL)	B.O.S.	TOE (BOTTOM) OF SLOPE	
	(E) REDUCED PRESSURE BFP (PER CIVIL)	FOC	FACE OF CURB	
	PIV/CHECK VALVE/FDC (PER CIVIL)	BOC	BACK OF CURB	
PB	ELECTRICAL PULL BOX (PER ELEC.)	PA	PLANTING AREA	
	QUICK COUPLER VALVE (PER IRRIG.)		ALIGN	
	COM BOX (PER ELEC.)		DOWN SLOPE DIRECTION OF RAMP	
	(E) TREE TO REMAIN; PROTECT IN PLACE		CONFORM	

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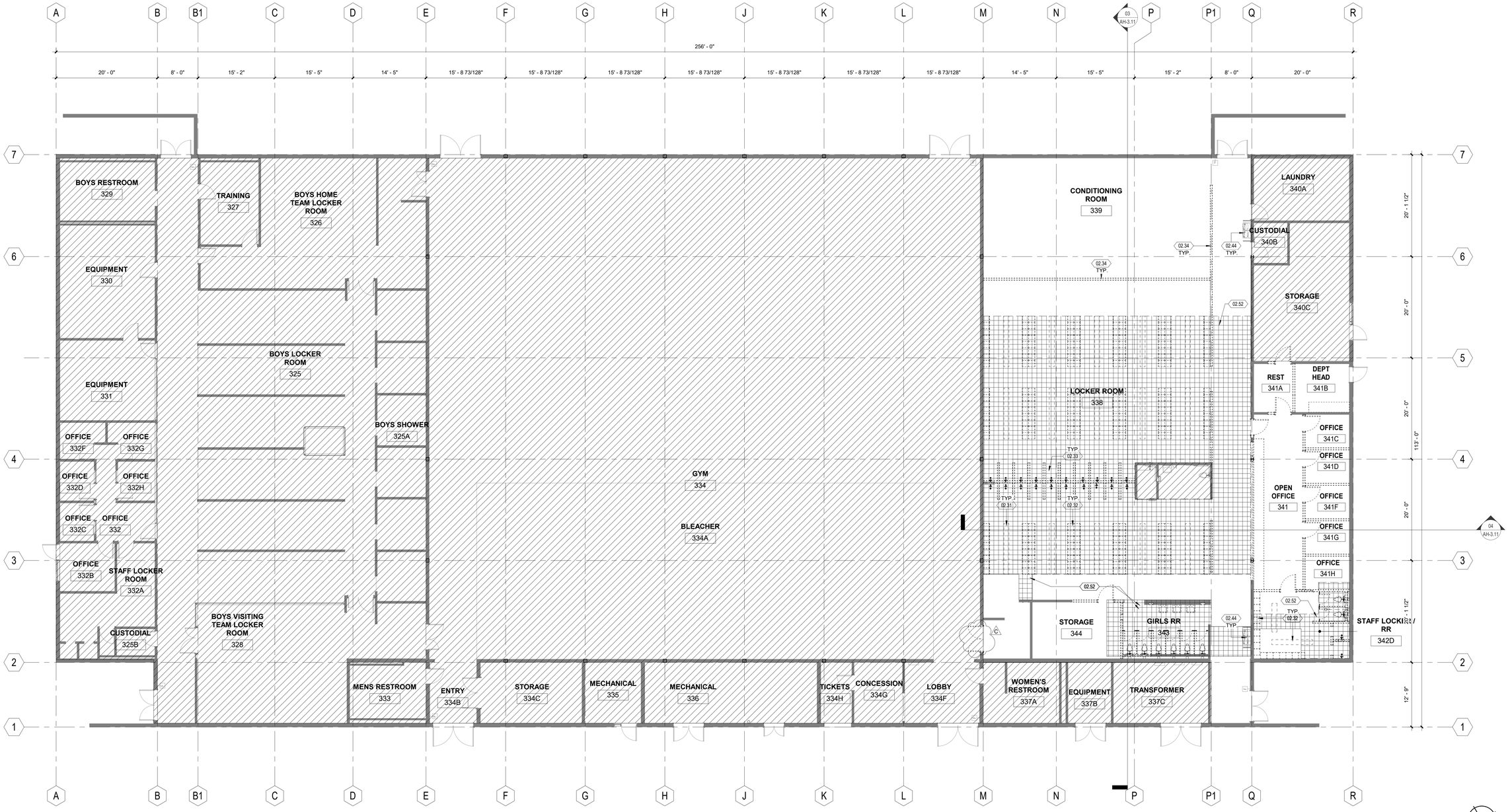
Scale	AS SHOWN

ENLARGEMENT PLAN

L3.02



BUILDING H - DEMO FLOOR PLAN 1/8" = 1'-0" 02

KEYNOTES

02.31	DEMO ALL (E) LOCKER BENCHES
02.32	DEMO ALL (E) LOCKERS & CONCRETE CURBS. SMOOTH AND PATCH CONCRETE AT CURB LOCATIONS TO BE FLUSH WITH ADJACENT CONCRETE FLOOR.
02.33	DEMO (E) SHOWERS & SHOWER ASSEMBLIES
02.34	DEMO (E) CHAIN LINK FENCE
02.44	(E) DRINKING FOUNTAIN AND RAILING TO REMAIN, PROTECT IN PLACE
02.52	DEMO (E) CONCRETE SLAB TO MAKE WAY FOR (N) UTILITY CONNECTIONS, THEN POUR (N) CONCRETE FOR FLOORING

LEGEND

SA2U — **WALL TYPE.** LETTER INDICATES WALL TYPE. SEE A9.0X SERIES.

STUD SIZE. NUMBER INDICATES STUD SIZE. SEE A9.0X SERIES. REFER TO S0.91 FOR INTERIOR STUD WALL SCHEDULE

EXISTING WALL

DEMOLISH EXISTING WALL.

(E) DOOR TO REMAIN: PROTECT IN PLACE. SEE DOOR SCHEDULE FOR REPAINT AND HARDWARE REPLACEMENT

(E) DOOR & DOOR HARDWARE TO BE REMOVED, PROTECT DOOR FRAME IN PLACE, U.N.O. PATCH & REPAIR (E) FRAMES AS NECESSARY AND REPAINT (E) FRAME PER DOOR SCHEDULE

(E) CASEWORK / EQUIPMENT TO REMAIN IN PLACE

(E) CASEWORK/ SHELVING TO BE DEMOLISHED. PATCH ALL VOIDS AT FLOOR TO BE LEVEL W/ ADJACENT SURFACE

(N) CASEWORK

DEMO (E) FINISH FLOOR ASSEMBLY AND PREP FOR NEW FLOOR FINISH PER FLOOR PLAN

SAW CUT AREA ON (E) CONCRETE FLOOR SLAB FOR UTILITY ACCESS/ INSTALLATION AND PREP FOR CONCRETE INFILL AND FOR NEW FLOOR FINISH PER FINISH FLOOR PLAN

NO WORK, EXSITING TO REMAIN PROTECT IN PLACE U.N.O.

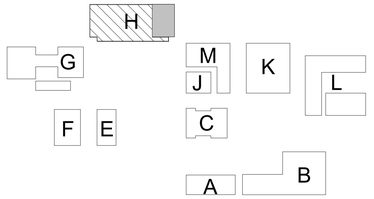
? TYP ? — DEMO KEYNOTE

KEYNOTE

DEMO GENERAL NOTES

1. NO DEMOLITION SALVAGE WORK SHALL PROCEED UNTIL A HAZARDOUS MATERIALS ABATEMENT PLAN HAS BEEN PROVIDEEED BY OWNER AND MATERIALS IDENTIFIED IN THE PLAN HAVE BEEN ABATED PER THE ABATMENT PLAN.
2. EXISTING MATERIALS THAT HAVE BEEN DAMAGED AS THE RESULT OF THE DEMOLITION SHALL BE RESTORED TO LIKE-NEW CONDITION OR REPLACED WITH NEW MATERIALS THAT MEET THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS.
3. AFTER DEMOLITION HAS OCCURED, EXISTING SURFACES SHALL BE PREPARED FOR NEW CONSTUCTION.
4. PROTECT EXISTING CONSTRUCTION NOT INDICATED TO BE DEMOLISHED
5. CLEAN ALL SURFACES AND AREAS OF DUST, DIRT, AND DEBRIS CAUSED BY THE DEMOLITION OPERATIONS, RETURN ADJACENT AREAS TO CONDITION EXISTING BEFORE START OF DEMOLITION.
6. DO NOT DISTURB (E) CONCRETE SLAB WHILE DEMOLISHING FLOORING, U.N.O.
7. SIGNAGE TO REMAIN IN PLACE, U.N.O.
8. AT DEMOLISHED DOORS WITH FLOORS CLOSER, REMOVE FLOOR CLOSER, AND FILL VOID WITH CONCRETE. SURFACE SHALL BE FLUSH AND HAVE SIMILAR FINISH TO ADJACENT SURFACE.
9. REMOVE ALL (E) FURNISHINGS THAT ARE NOT PERMENTLY ATTACHED TO THE STRUCTURE.
10. REMOVE AND DISPOSE / RECYCLE ALL (E) CASEWORK & DISPLAY CASES, U.N.O.
11. REMOVE ALL FLOOR FINISHES (U.N.O.) AND PREP FOR NEW FINISHES PER FINISH PLANS AND INTERIOR ELEVATIONS
12. ELECTRICAL CONTRACTOR TO REMOVE ALL ELECTRICAL AND DATA DEVICES BACK TO SOURCE FOR WALLS BEING DEMOLISHED. CIRCUIT BREAKER AT SOURCE PANEL TO REMAIN AND BE SWITCHED TO SPARE IF NOT FEEDING ANY OTHER LOADS. UPDATE CIRCUIT DIRECTORY UPON COMPLETION OF DEMOLITION

KEY PLAN



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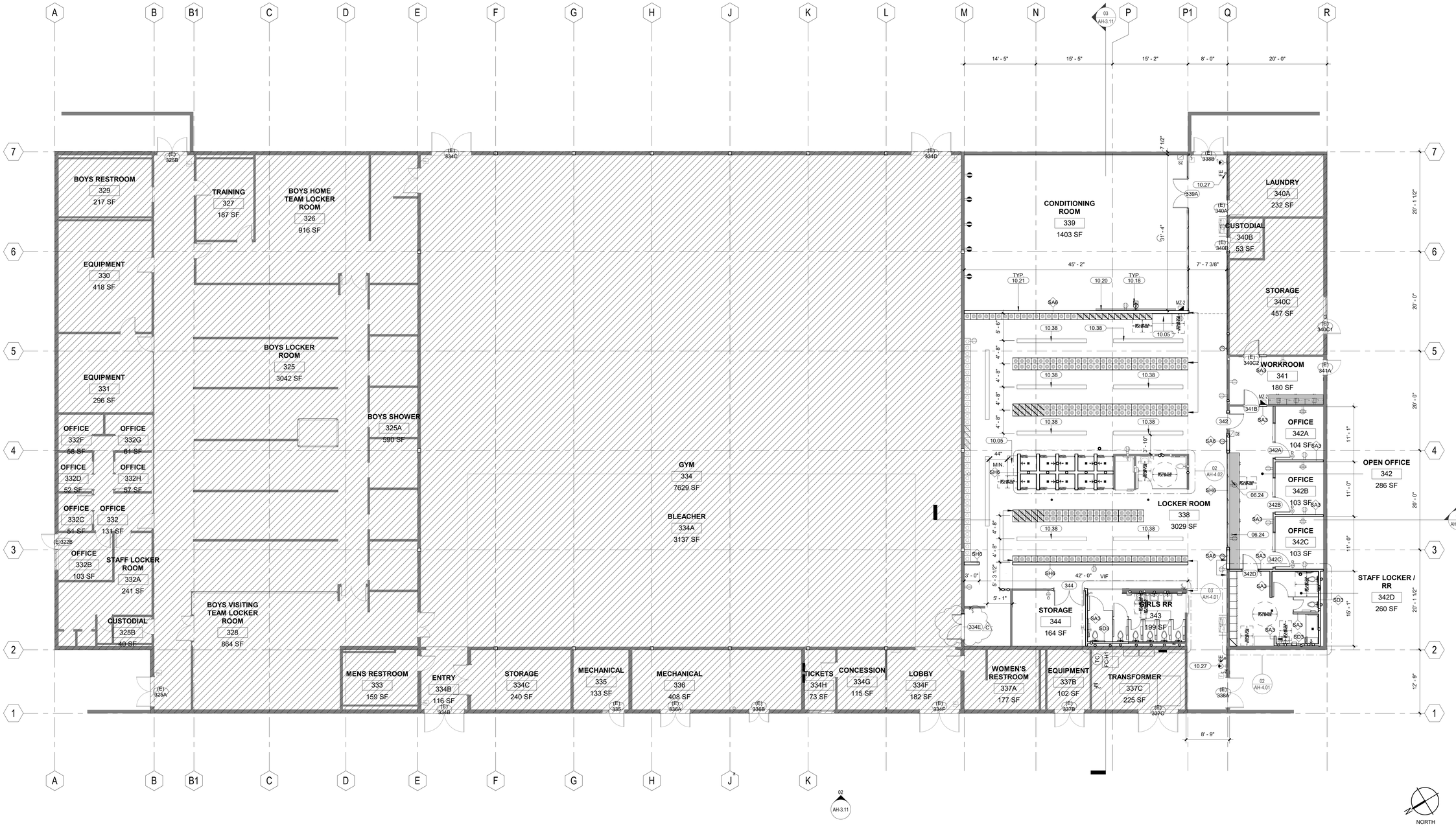
DEMO FLOOR PLAN

AH-1.11



BUILDING H - RECONSTRUCTION FLOOR PLAN 1/8" = 1'-0" 02

LOCKER SCHEDULE

GIRLS LOCKER ROOM 338 (3-TIER)

SYMBOL	DESCRIPTION	TOTAL UNITS	TOTAL LOCKERS
	6' HIGH LOCKERS WITH (3) COMPARTMENTS, SEE DETAIL 13/A9.71	180	604
	ACCESSIBLE 6' HIGH LOCKERS WITH (3) COMPARTMENTS, SEE DETAIL 13/A9.71	(32)*	32
		212	**636**
PER SECTION 11B-222 OF THE 2019 CBC 636 X 0.05 = 31.8			(32 ACCESSIBLE LOCKERS REQUIRED) **(32 ACCESSIBLE LOCKERS PROVIDED)**

GIRLS LOCKER ROOM 338 (2-TIER)

SYMBOL	DESCRIPTION	TOTAL UNITS	TOTAL LOCKERS
	6' HIGH LOCKERS WITH (2) COMPARTMENTS, SEE DETAIL 17/A9.71	32	68
	ACCESSIBLE 6' HIGH LOCKERS WITH (2) COMPARTMENTS, SEE DETAIL 17/A9.71	(4)*	4
		36	**72**
PER SECTION 11B-222 OF THE 2019 CBC 72 X 0.05 = 3.6			(4 ACCESSIBLE LOCKERS REQUIRED) **(4 ACCESSIBLE LOCKERS PROVIDED)**

WOMENS STAFF LOCKER ROOM 342D (1-TIER)

SYMBOL	DESCRIPTION	TOTAL UNITS	TOTAL LOCKERS
	6' HIGH LOCKERS WITH (1) COMPARTMENTS, SEE DETAIL 21/A9.71	9	9
	ACCESSIBLE 6' HIGH LOCKERS WITH (1) COMPARTMENTS, SEE DETAIL 21/A9.71	(1)*	1
		10	**10**
PER SECTION 11B-222 OF THE 2019 CBC 10 X 0.05 = 0.5			(1 ACCESSIBLE LOCKERS REQUIRED) **(1 ACCESSIBLE LOCKERS PROVIDED)**

*(1) ACCESSIBLE LOCKER EACH UNIT

REFER TO INTERIOR ELEVATIONS FOR ADDITIONAL INFORMATION.

KEYNOTES

06.24	**GROMMET WHERE OUTLET LOCATIONS OCCUR**
10.05	**SOLID PHENOLIC ACCESSIBLE BENCH, RE: 16/A9.71**
10.18	**WALL-MOUNTED PROJECTOR SCREEN RE: 05/A9.71**
10.20	**4'H X 16'W MARKER BOARD RE: 05/A9.61**
10.21	**FRAMELESS MIRROR RE: 04/A9.71**
10.27	**(N) BRACKET-MOUNTED FIRE EXTINGUISHER. RE: 06/A9.71**
10.38	**PEDESTAL LOCKER BENCH, RE: DETAIL 20/A9.71 FOR ANCHORAGE**

LEGEND

SA2U — **WALL TYPE.** LETTER INDICATES WALL TYPE. SEE A9.01 AND A9.02.

STUD SIZE. NUMBER INDICATES STUD SIZE. SEE SEE A9.01 AND A9.02. REFER TO S0.91 FOR INTERIOR STUD WALL SCHEDULE

EXISTING WALL

NEW METAL STUD WALL CONSTRUCTION

(E) DOOR TO REMAIN; PROTECT IN PLACE. SEE DOOR SCHEDULE FOR REPAINT AND HARDWARE REPLACEMENT

(N) DOOR. SEE DOOR SCHEDULE

(N) CASEWORK

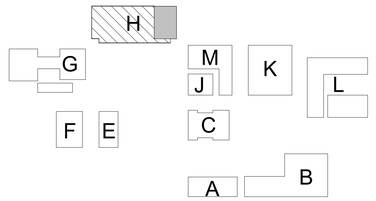
NO WORK, EXSITING TO REMAIN PROTECT IN PLACE U.N.O.

? — KEYNOTE

GENERAL NOTES

1. EXTERIOR WALL DIMENSIONS ARE TO FACE OF FINISH, U.N.O. INTERIOR WALL DIMENSIONS ARE TO FACE OF FINISH UNLESS IT IS LOCATED ON GRID LINE OR U.N.O. IF IT IS LOCATED ON A GRID LINE, INTERIOR WALL DIMENSIONS ARE TO CENTER OF WALL, DOORS ARE DIMENSIONED FROM ROUGH OPENING, U.N.O.
2. AT ALL WET LOCATIONS INCLUDING TOILET ROOMS, USE MOISTURE RESISTANT GYP. BOARD AT EXPOSED AREAS AND CEMETITIOUS TILE BACKER BOARD BEHIND TILE.
3. PATCH ALL SURFACES AND PROVIDE FINISH TO MATCH ADJACENT AS REQUIRED FOR ALL DEMOLITION AND INSTALLATION WORK. IN CASE OF WALL PANEL REPLACEMENT ENTIRE MASONITE OR DRYWALL PANEL IS TO BE REPLACED.
4. PROVIDE ACOUSTIC BATT INSULATION FULL HEIGHT AT ALL PROPOSED INTERIOR METAL/ WOOD STUD CONSTRUCTION WALLS, FULL STUD DEPTH.
5. LOCATE DOORS MINIMUM 4" FROM ADJACENT WALL, TYP.
6. ALL FIRE EXTINGUISHERS SHALL BE FM APPROVED & SHALL BEAR THE FM SEAL OF APPROVAL.
7. PROVIDE HW PIPE INSULATION BENEATH SINKS/LAVATORIES.
8. FOR LOCKER SCHEDULE, REFER TO PLAN AH-2.11.

KEY PLAN



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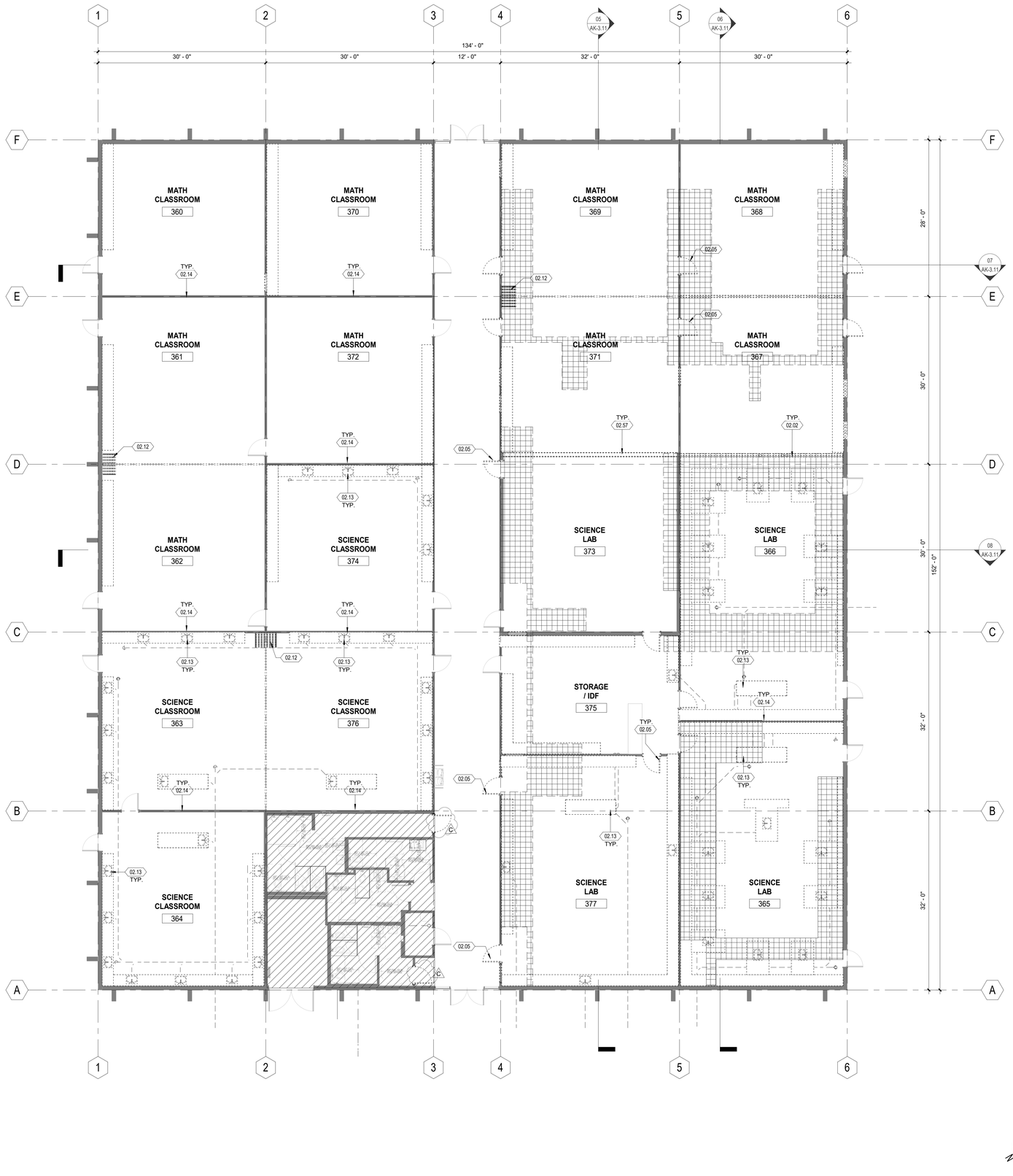
RECONSTRUCTION FLOOR PLAN

AH-2.11



NORTH

BUILDING K - DEMO FLOOR PLAN | 1/8" = 1'-0" | 05

KEYNOTES

02.02	DEMO (E) WOOD FRAMED PARTITION WALL
02.05	DEMO (E) DOOR AND FRAME
02.12	DEMO (E) OPERABLE PARTITION WALL & TRACK SYSTEM
02.13	DEMO (E) SINK & SINK ASSEMBLY
02.14	DEMO PORTION OF THE GYPSUM BOARD TO STUDS FOR INSTALLATION OF NEW ELECTRICAL BOX AND A/V FOR (N) WALL MOUNTED TV
02.57	DEMO (E) MASONRY WALL

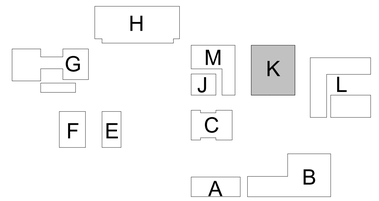
LEGEND

- EXISTING WALL
- DEMOLISH EXISTING WALL.
- EXISTING MASONRY WALL CONSTRUCTION
- (E) DOOR TO REMAIN; PROTECT IN PLACE. SEE DOOR SCHEDULE FOR REPAINT AND HARDWARE REPLACEMENT
- (E) DOOR & DOOR HARDWARE TO BE REMOVED. PROTECT DOOR FRAME IN PLACE, U.N.O. PATCH & REPAIR (E) FRAMES AS NECESSARY AND REPAINT (E) FRAME PER DOOR SCHEDULE
- (E) CASEWORK/ SHELVING TO BE DEMOLISHED. PATCH ALL VOIDS AT FLOOR TO BE LEVEL W/ ADJACENT SURFACE
- DEMO (E) FINISH FLOOR ASSEMBLY AND PREP FOR NEW FLOOR FINISH PER FLOOR PLAN
- SAW CUT AREA ON (E) CONCRETE FLOOR FOR UTLIITY ACCESS/ INSTALLATION AND PREP CONCRETE INFILL AND FOR NEW FLOOR FINISH PER FINISH FLOOR PLAN
- NO WORK / EXISTING TO REMAIN / PROTECT IN PLACE U.N.O.
- DEMO KEYNOTE

DEMO GENERAL NOTES

1. NO DEMOLITION SALVAGE WORK SHALL PROCEED UNTIL A HAZARDOUS MATERIALS ABATEMENT PLAN HAS BEEN PROVIDEEED BY OWNER AND MATERIALS IDENTIFIED IN THE PLAN HAVE BEEN ABATED PER THE ABATMENT PLAN.
2. EXISTING MATERIALS THAT HAVE BEEN DAMAGED AS THE RESULT OF THE DEMOLITION SHALL BE RESTORED TO LIKE-NEW CONDITION OR REPLACED WITH NEW MATERIALS THAT MEET THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS.
3. AFTER DEMOLITION HAS OCCURED, EXISTING SURFACES SHALL BE PREPARED FOR NEW CONSTUCTION.
4. PROTECT EXISTING CONSTRUCTION NOT INDICATED TO BE DEMOLISHED
5. CLEAN ALL SURFACES AND AREAS OF DUST, DIRT, AND DEBRIS CAUSED BY THE DEMOLITION OPERATIONS, RETURN ADJACENT AREAS TO CONDITION EXISTING BEFORE START OF DEMOLITION.
6. DO NOT DISTURB (E) CONCRETE SLAB WHILE DEMOLISHING FLOORING, U.N.O.
7. SIGNAGE TO REMAIN IN PLACE, U.N.O.
8. AT DEMOLISHED DOORS WITH FLOORS CLOSER, REMOVE FLOOR CLOSER, AND FILL VOID WITH CONCRETE. SURFACE SHALL BE FLUSH AND HAVE SIMILIAR FINISH TO ADJACENT SURFACE.
9. REMOVE ALL (E) FURNISHINGS THAT ARE NOT PERMENTLY ATTACHED TO THE STRUCTURE.
10. REMOVE AND DISPOSE / RECYCLE ALL (E) CASEWORK & DISPLAY CASES, U.N.O.
11. REMOVE ALL FLOOR FINISHES (U.N.O.) AND PREP FOR NEW FINISHES PER FINISH PLANS AND INTERIOR ELEVATIONS
12. ELECTRICAL CONTRACTOR TO REMOVE ALL ELECTRICAL AND DATA DEVICES BACK TO SOURCE FOR WALLS BEING DEMOLISHED. CIRCUIT BREAKER AT SOURCE PANEL TO REMAIN AND BE SWITCHED TO SPARE IF NOT FEEDING ANY OTHER LOADS. UPDATE CIRCUIT DIRECTORY UPON COMPLETION OF DEMOLITION

KEY PLAN



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MOUNTAIN VIEW HS MODERNIZATION
2900 PARKWAY DR, EL MONTE, CA 91732

Developed for
EL MONTE UNION HIGH SCHOOL DISTRICT

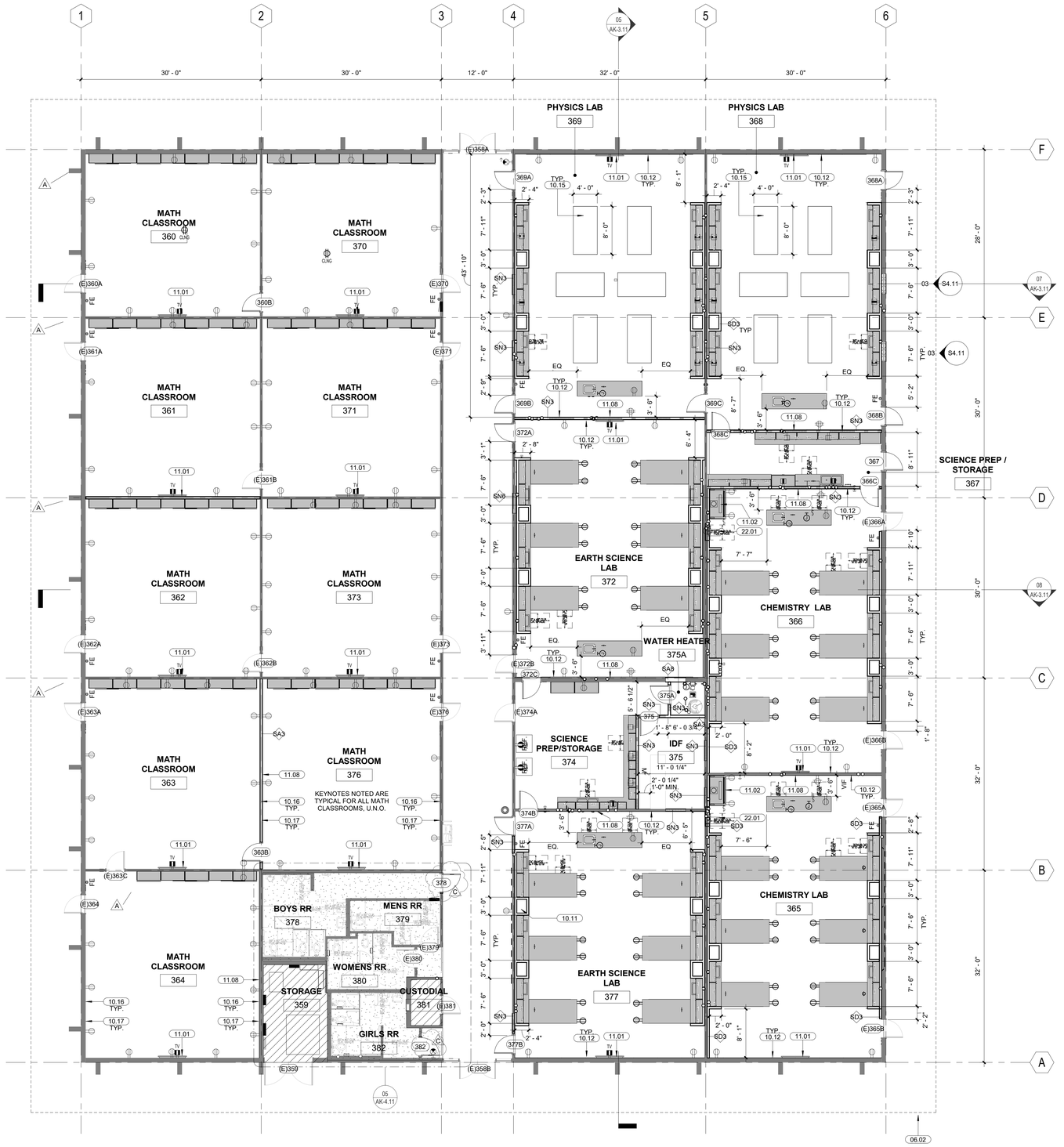
Revision	Date
C ADDENDUM C	04/25/2023

Submittal	Date
100% SCHEMATIC DESIGN	08/13/2021
100% DESIGN DEVELOPMENT	12/10/2021
DSA SUBMITTAL	04/28/2022
DSA BACKCHECK	10/31/2022

Job Number	3015410
Date Published	04/28/2022
Checked By	Checker
Scale	1/8" = 1'-0"

DEMO FLOOR PLAN

AK-1.11



BUILDING K - RECONSTRUCTION FLOOR PLAN | 1/8" = 1'-0" | 05

KEYNOTES

06.02	LINE OF (E) ROOF ABOVE
10.11	FULL HEIGHT GLASS MARKERBOARD RE: 11/A9.61
10.12	FULL HEIGHT MARKERBOARD WITH TACKBOARD ABOVE RE: 07/A9.61
10.15	MOVEABLE LAB TABLES WITH CASTERS, WOOD BASE, AND EPOXY COUNTERTOP. RE: SPECIFICATIONS
10.16	FULL HEIGHT MARKERBOARD. RE: 07/A9.61
10.17	TACKBOARD. RE: 09/A9.61
11.01	NEW WALL-MOUNTED TV RE: 09/A9.71
11.02	FUME HOOD AND FINISHING ACCESSORIES RE: STRUCTURAL AND MECHANICAL DWGS
11.08	WALL-MOUNTED PROJECTOR SCREEN. RE: 01/A9.71 FOR BACKING DETAIL
22.01	EYE WASH STATION RE: PLUMBING DWGS

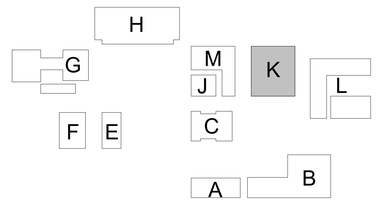
LEGEND

- **WALL TYPE.** LETTER INDICATES WALL TYPE. SEE A9.01 AND A9.02.
- **STUD SIZE.** NUMBER INDICATES STUD SIZE. SEE A9.01 AND A9.02. REFER TO S0.91 FOR INTERIOR STUD WALL SCHEDULE
- EXISTING WALL
- NEW METAL STUD WALL CONSTRUCTION
- MASONRY WALL CONSTRUCTION SEE 3/S4.11 FOR INFILL DETAILS
- (E) DOOR TO REMAIN; PROTECT IN PLACE. SEE DOOR SCHEDULE FOR REPAINT AND HARDWARE REPLACEMENT
- (N) DOOR
- (N) CASEWORK
- NO WORK, EXSITING TO REMAIN PROTECT IN PLACE U.N.O.
- (E) FLOORING TO BE CLEANED, SEE FINISH GENERAL NOTE 8.
- KEYNOTE

GENERAL NOTES

1. EXTERIOR WALL DIMENSIONS ARE TO FACE OF FINISH, U.N.O. INTERIOR WALL DIMENSIONS ARE TO FACE OF FINISH UNLESS IT IS LOCATED ON GRID LINE OR U.N.O. IF IT IS LOCATED ON A GRID LINE, INTERIOR WALL DIMENSIONS ARE TO CENTER OF WALL, DOORS ARE DIMENSIONED FROM ROUGH OPENING, U.N.O.
2. AT ALL WET LOCATIONS INCLUDING TOILET ROOMS, USE MOISTURE RESISTANT GYP. BOARD AT EXPOSED AREAS AND CEMETITIOUS TILE BACKER BOARD BEHIND TILE.
3. PATCH ALL SURFACES AND PROVIDE FINISH TO MATCH ADJACENT AS REQUIRED FOR ALL DEMOLITION AND INSTALLATION WORK. IN CASE OF WALL PANEL REPLACEMENT ENTIRE MASONITE OR DRYWALL PANEL IS TO BE REPLACED.
4. PROVIDE ACOUSTIC BATT INSULATION FULL HEIGHT AT ALL PROPOSED INTERIOR METAL/ WOOD STUD CONSTRUCTION WALLS, FULL STUD DEPTH.
5. LOCATE DOORS MINIMUM 4" FROM ADJACENT WALL, TYP.
6. ALL FIRE EXTINGUISHERS SHALL BE FM APPROVED & SHALL BEAR THE FM SEAL OF APPROVAL.
7. PROVIDE HW PIPE INSULATION BENEATH SINKS.
8. ALL EXISTING RESTROOM WALL AND FLOOR TILES TO REMAIN AND BE PROTECTED IN PLACE. TILES TO BE PROPERLY CLEANED, REFER TO SPECS FOR CLEANING METHOD. PREP FOR NEW PAINT WHERE PAINT CURRENTLY OCCURS.

KEY PLAN



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RECONSTRUCTION FLOOR PLAN

AK-2.11

DOOR SCHEDULE BUILDING H

DOOR NUMBER	DOOR TYPE	DETAILS: HEAD	DETAILS: JAMB	DETAILS: JAMB	DETAILS: THRESHOLD	OPENING: WIDTH	OPENING: HEIGHT	DOOR PANEL: THICKNESS	DOOR PANEL: CORE	DOOR PANEL: MATERIAL	DOOR PANEL: FINISH	DOOR FRAME: MATERIAL	DOOR FRAME: FINISH	HARDWARE GROUP	Fire Rating	REMARKS
(E)322B	G					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E) 325A	H					6' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	06		PH
(E) 325B	A					6' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	06		PH
(E) 334B	H					8' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	08		PH
(E) 334C	H					8' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	08		PH
(E) 334D	H					8' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	08		PH
(E) 334F	H					8' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	08		PH
(E) 335	B					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E) 336A	H					6' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	09		
(E) 336B	H					4' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	05		
(E) 337B	H					6' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	09		
(E) 337C	H					8' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	05		
(E) 338A	H					6' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	06		PH
(E) 338B	A					6' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	06		PH
(E) 340A	B					3' - 0"	7' - 0"	1 3/4"	HC	HM	PT	HM	PT	12		
(E) 340B	B					3' - 0"	7' - 0"	1 3/4"	HC	HM	PT	HM	PT	12		
(E) 340C1	G					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E) 340C2	B					3' - 0"	7' - 0"	1 3/4"	HC	HM	PT	HM	PT	12		
(E) 341A	C					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
334E	J					5' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	14A	45MIN	
339A	C	02/A8.52	02/A8.52	02/A8.52	01/A9.61	5' - 10"	7' - 0"	1 3/4"	GL	AL	FF	AL	PT	36		
341B	B	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	HC	HM	PT	HM	PT	35		
342	B	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	HC	HM	PT	HM	PT	35		
342A	F	04/A8.51	03/A8.51	02/A8.51	01/A9.61	3' - 0"	7' - 0"	1 1/2"	HC	HM	PT	HM	PT	30		4' SIDELIGHT
342B	F	04/A8.51	03/A8.51	02/A8.51	01/A9.61	3' - 0"	7' - 0"	1 1/2"	HC	HM	PT	HM	PT	30		4' SIDELIGHT
342C	F	04/A8.51	03/A8.51	02/A8.51	01/A9.61	3' - 0"	7' - 0"	1 1/2"	HC	HM	PT	HM	PT	30		4' SIDELIGHT
342D	B	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	HC	HM	PT	HM	PT	35		
344	A	04/A8.51	03/A8.51	03/A8.51	01/A9.61	6' - 0"	7' - 0"	1 1/2"	HC	HM	PT	HM	PT	37		

DOOR SCHEDULE BUILDING J

DOOR NUMBER	DOOR TYPE	OPENING: WIDTH	OPENING: HEIGHT	DOOR PANEL: THICKNESS	DOOR PANEL: CORE	DOOR PANEL: MATERIAL	DOOR PANEL: FINISH	DOOR FRAME: MATERIAL	DOOR FRAME: FINISH	HARDWARE GROUP	REMARKS
(E)347	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)348	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)349	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07	
(E)350A	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)350B	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)351	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	04A	
(E)351A	D	3' - 0"	7' - 0"	1 3/4"	GL	WD1	PT	HM	PT	16	

DOOR SCHEDULE BUILDING K

DOOR NUMBER	DOOR TYPE	DETAILS: HEAD	DETAILS: JAMB	DETAILS: JAMB	DETAILS: THRESHOLD	OPENING: WIDTH	OPENING: HEIGHT	DOOR PANEL: THICKNESS	DOOR PANEL: CORE	DOOR PANEL: MATERIAL	DOOR PANEL: FINISH	DOOR FRAME: MATERIAL	DOOR FRAME: FINISH	HARDWARE GROUP	FIRE RATING	REMARKS
(E)358A	C					6' - 0"	7' - 11"	1 3/4"	GL	AL	PT	AL	PT	06		PH
(E)358B	C					6' - 0"	7' - 11"	1 3/4"	GL	AL	PT	AL	PT	06		PH
(E)359	A					8' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	38		
(E)360A	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E)361A	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E)361B	G					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	32		
(E)362A	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E)362B	G					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	32		
(E)363A	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E)363C	G					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	32		
(E)364	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	04		
(E)365A	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E)365B	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E)366A	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E)366B	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E)370	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	02C	45MIN	
(E)371	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	02C	45MIN	
(E)372B	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	02C	45MIN	
(E)373	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	02C	45MIN	
(E)374A	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12M	45MIN	
(E)376	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	02C	45MIN	
(E)379	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12M	45MIN	
(E)380	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12M	45MIN	
(E)381	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12M	45MIN	
360B	G	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	32		
363B	G	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	32		
366C	G	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	35F	45MIN	
367	E	12/A8.51	10/A8.51	10/A8.51	09/A8.51	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	34		
368A	E	12/A8.51	10/A8.51	10/A8.51	09/A8.51	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	34		
368B	E	12/A8.51	10/A8.51	10/A8.51	09/A8.51	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	34		
368C	G	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	35F	45MIN	
369A	B	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	35F	45MIN	
369B	B	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	35A	45MIN	
369C	G	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	29	45MIN	
372A	B	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	35F	45MIN	
372C	G	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	35F	45MIN	
374B	G	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	35F	45MIN	
375	B	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	35F	45MIN	
375A	B	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	45MIN	
377A	B	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12M	45MIN	
377B	B	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12M	45MIN	
378	B	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12F	45MIN	
382	B	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12F	45MIN	

DOOR SCHEDULE BUILDING C

DOOR NUMBER	DOOR TYPE	OPENING: WIDTH	OPENING: HEIGHT	DOOR PANEL: THICKNESS	DOOR PANEL: CORE	DOOR PANEL: MATERIAL	DOOR PANEL: FINISH	DOOR FRAME: MATERIAL	DOOR FRAME: FINISH	HARDWARE GROUP	REMARKS
(E) 270A	B	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	04	
(E) 271A	C	5' - 0"	7' - 11"	1 3/4"	GL	AL	FF	AL	FF	01	
(E) 271B	C	5' - 0"	7' - 11"	1 3/4"	GL	AL	FF	AL	FF	01	
(E) 271C	C	5' - 0"	7' - 11"	1 3/4"	GL	AL	FF	AL	FF	01	
(E) 272	B	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	04	
(E) 274C	B	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	04B	
(E) 277B	B	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	04	

DOOR SCHEDULE BUILDING EF

DOOR NUMBER	DOOR TYPE	OPENING: WIDTH	OPENING: HEIGHT	DOOR PANEL: THICKNESS	DOOR PANEL: CORE	DOOR PANEL: MATERIAL	DOOR PANEL: FINISH	DOOR FRAME: MATERIAL	DOOR FRAME: FINISH	HARDWARE GROUP	REMARKS
(E)290B	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	04A	
(E)290C	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	04A	
(E)291A	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	04A	
(E)291B	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	04A	
(E)292A	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	04A	
(E)292B	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	04A	
(E)293A	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	04A	
(E)293B	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	04	
(E)295A	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	04A	
(E)298	H	8' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	15	
(E)301A	H	8' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	05	
(E)301B	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	04A	
(E)302A	H	8' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	05	
(E)302B	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	04A	
(E)304	H	8' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	05	
(E)306A	H	8' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	05	
(E)308	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07	
(E)309	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07	
(E)310	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07	

DOOR SCHEDULE BUILDING G

DOOR NUMBER	DOOR TYPE	OPENING: WIDTH	OPENING: HEIGHT	DOOR PANEL: THICKNESS	DOOR PANEL: CORE	DOOR PANEL: MATERIAL	DOOR PANEL: FINISH	DOOR FRAME: MATERIAL	DOOR FRAME: FINISH	HARDWARE GROUP	Fire Rating	REMARKS
(E) 101A	B	3' - 0"	7' - 0"	1 3/4"	HC	HM	PT	HM	PT	02		PH
(E) 101B	A	6' - 0"	7' - 0"	1 3/4"	GL	HM	PT	HM	PT	06		PH
(E) 101C	A	6' - 0"	7' - 0"	1 3/4"	GL	HM	PT	HM	PT	06		PH
(E) 101D	B	6' - 0"	7' - 0"	1 3/4"	HC	HM	PT	HM	PT	06		PH
(E) 102A	D	3' - 0"	7' - 0"	1 3/4"	HC	HM	PT	HM	PT	17	45 MIN	
(E) 102B	D	3' - 0"	7' - 0"	1 3/4"	HC	HM	PT	HM	PT	17	45 MIN	
(E) 104	D	3' - 0"	7' - 0"	1 3/4"	HC	HM	PT	HM	PT	17	45 MIN	
(E) 105A	A	6' - 0"	7' - 0"	1 3/4"	HC	HM	PT	HM	PT	05	45 MIN	
(E) 106	B	3' - 0"	9' - 0"	1 3/4"	HC	HM	PT	HM	PT	07		
(E) 107	B	3' - 0"	9' - 0"	1 3/4"	HC	HM	PT	HM	PT	04C		
(E) 108	B	3' - 0"	9' - 0"	1 3/4"	HC	HM	PT	HM	PT	04		
(E) 109	B	3' - 0"	9' - 0"	1 3/4"	HC	HM	PT	HM	PT	04		
(E) 110A	B	4' - 0"	9' - 0"	1 3/4"	HC	HM	PT	HM	PT	02B		PH
(E) 110B	B	4' - 0"	9' - 0"	1 3/4"	HC	HM	PT	HM	PT	02B		PH
(E) 111A	B	6' - 0"	7' - 0"	1 3/4"	HC	HM	PT	HM	PT	05		
(E) 114	B	3' - 0"	9' - 0"	1 3/4"	HC	HM	PT	HM	PT	04		
(E) 115	B	3' - 0"	9' - 0"	1 3/4"	HC	HM	PT	HM	PT	04		
(E) 116	B	3' - 0"	9' - 0"	1 3/4"	HC	HM	PT	HM	PT	04		
(E) 119A	B	3' - 0"	9' - 0"	1 3/4"	HC	HM	PT	HM	PT	04		
(E) 120	B	3' - 0"	9' - 0"	1 3/4"	HC	HM	PT	HM	PT	04		
(E) 122B	B	4' - 0"	9' - 0"	1 3/4"	HC	HM	PT	HM	PT	04B		
(E) 124A	B	3' - 0"	9' - 0"	1 3/4"	HC	HM	PT	HM	PT	04		
(E) 128	B	6' - 0"	7' - 0"	1 3/4"	HC	HM	PT	HM	PT	06		PH
(E) 131	B	6' - 0"	7' - 0"	1 3/4"	HC	HM	PT	HM	PT	06		PH
(E) 136A	B	6' - 0"	7' - 0"	1 3/4"	HC	HM	PT	HM	PT	06		PH
(E) 136B	B	6' - 0"	7' - 0"	1 3/4"	HC	HM	PT	HM	PT	06		PH
(E) 136C	B	6' - 0"	7' - 0"	1 3/4"	HC	HM	PT	HM	PT	06		PH
(E) 136D	B	6' - 0"	7' - 0"	1 3/4"	HC	HM	PT	HM	PT	06		PH

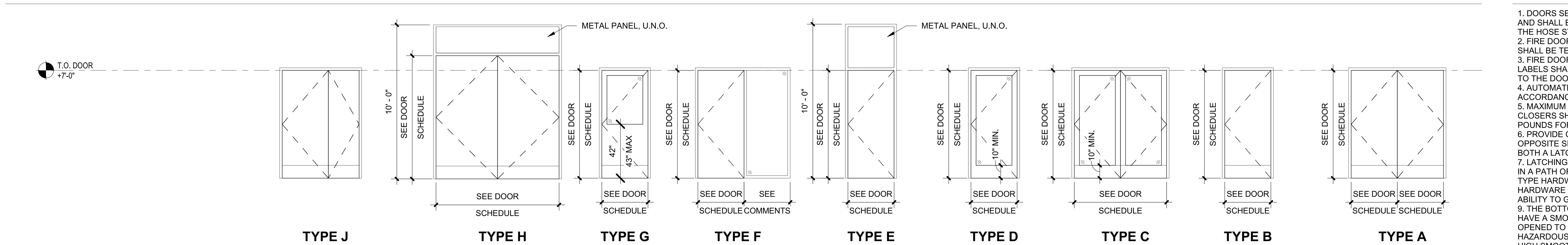
DOOR SCHEDULE BUILDING A

DOOR NUMBER	DOOR TYPE	DETAILS: HEAD	DETAILS: JAMB	DETAILS: JAMB	DETAILS: THRESHOLD	OPENING: WIDTH	OPENING: HEIGHT	DOOR PANEL: THICKNESS	DOOR PANEL: CORE	DOOR PANEL: MATERIAL	DOOR PANEL: FINISH	DOOR FRAME: MATERIAL	DOOR FRAME: FINISH	HARDWARE GROUP	REMARKS
(E) 101A	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07	
(E) 101B	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	30	
(E) 103B	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	(E)	
(E) 110A	D					3' - 0"	7' - 0"	1 3/4"	GL	AL	FF	AL	FF	17	
(E) 110B	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	30	
(E) 113	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	
(E) 116	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	
(E) 117	A					6' - 0"	7' - 0"	1 1/2"	HC	HM	PT	HM	PT	14	
(E) 119	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	
(E) 121	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	
(E) 122	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	30	
(E) 123	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	30	
(E) 124	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	30	
(E) 128	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	
(E) 129	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	
(E) 130	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	30	
(E) 131	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	30	
(E) 132A	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	
(E) 132B	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	
(E) 133	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	30	
(E) 134	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	30	
(E) 135	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	
(E) 136	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	
(E) 137	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	
(E) 138A	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	
(E) 138B	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	
(E) 139	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	
(E) 140	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	
(E) 141	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	
(E) 142	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	
(E) 143	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	04	
(E) 144A	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	30	
(E) 145A	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	04	
(E) 146	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	30	
(E) 147	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	30	
102	F	04/A8.52	03/A8.52	02/A8.52	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	AL	FF	30A	3' SIDELIGHT
103A	D	04/A8.52	03/A8.52	02/A8.52	01/A9.61	3' - 0"	7' - 0"	1 3/4"	GL	AL	FF	AL	FF	16	
106A	C	12/A8.52	11/A8.52	10/A8.52	09/A8.52	6' - 0"	7' - 0"	1 3/4"	GL	AL	FF	AL	FF	33	
106B	C	12/A8.52	11/A8.52	10/A8.52	09/A8.52	6' - 0"	7' - 0"	1 3/4"	GL	AL	FF	AL	FF	33	
106C	B	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	20	NO CLOSER OR LATCH
108A	D	12/A8.52	11/A8.52	10/A8.52	09/A8.52	3' - 10"	7' - 0"	1 3/4"	GL	AL	FF	AL	FF	07	
108B	D	12/A8.52	11/A8.52	10/A8.52	09/A8.52	3' - 10"	7' - 0"	1 3/4"	GL	AL	FF	AL	FF	07	
114	B	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	10	
118	B	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	35	
132C	B	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	20	NO CLOSER OR LATCH
144B	B	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	35	
145B	B	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	35	

DOOR SCHEDULE BUILDING B

DOOR NUMBER	DOOR TYPE	DETAILS: HEAD	DETAILS: JAMB	DETAILS: JAMB	DETAILS: THRESHOLD	OPENING: WIDTH	OPENING: HEIGHT	DOOR PANEL: THICKNESS	DOOR PANEL: CORE	DOOR PANEL: MATERIAL	DOOR PANEL: FINISH	DOOR FRAME: MATERIAL	DOOR FRAME: FINISH	HARDWARE GROUP	Fire Rating	REMARKS
(E)201A	C					6' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	06		PH
(E)201B	C					6' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	06		PH
(E)201C	C					6' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	06		PH
(E)202	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	20MIN	
(E)203	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	20MIN	
(E)204	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	20MIN	
(E)205	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	20MIN	
(E)206	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	20MIN	
(E)207	H					8' - 0"	8' - 0"	1 3/4"	HCI	HM	PT	HM	PT	21		
(E)240	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E)241	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	20MIN	
(E)244	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	23	20MIN	PH
(E)245	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02		PH
(E)246	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E)247A	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02		PH
(E)247B	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02		PH
(E)248A	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02		PH
(E)248B	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02		PH
(E)249	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E)250	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E)251	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E)251A	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E)251B	G					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12		
(E)252	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E)253	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E)254	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E)255	E					3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07		
(E)256	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	20MIN	
(E)257	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	20MIN	
(E)258	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	20MIN	
(E)259	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	20MIN	
(E)260	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	20MIN	
(E)262	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	20MIN	
(E)263	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	20MIN	
(E)265	B					3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	12	20MIN	
244A	G	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	23		PH
245A	E	12/A8.51	10/A8.51	10/A8.51	09/A8.51	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02		PH
246A	G	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	29		
247C	G	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	29		
252A	G	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	29		
254A	G	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	29		
256A	G	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	29		
257A	G	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	29		
262A	G	04/A8.51	03/A8.51	03/A8.51	01/A9.61	3' - 0"	7' - 0"	1 3/4"	SC	WD1	PT	HM	PT	29		

DOOR TYPES



ABBREVIATIONS

CORE

GL = 1/4" GLASS (T = TEMPERED)
SC = SOLID CORE
HC = HOLLOW CORE
HCI = HOLLOW CORE INSULATED

DOOR PANEL FINISH

PT = PAINT (SEMI-GLOSS)
FF = FACTORY FINISH
PL = PLASTIC LAMINATE
ST =STAIN

DOOR FRAME FINISH

PT = PAINT
FF = FACTORY FINISH

CLOSER

OH = OVERHEAD
FLR = FLOOR
C-OH = CONCEALED OVERHEAD

DOOR PANEL MATERIAL

AL = ALUMINUM
WD = WOOD
HM = HOLLOW METAL

DOOR FRAME MATERIAL

AL = ALUMINUM
HM = HOLLOW METAL

REMARKS

PH = PANIC HARDWARE
HO = HOLD OPEN
CR = CARD READER
BG = BULLET-RESISTANT GLASS

DOOR NOTES

1. DOORS SERVING EXIT ENCLOSURES SHALL COMPLY WITH CBC 715.4, 715.4.1 AND SHALL BE TESTED IN ACCORDANCE WITH NFPA 252 OR UL 10C WITHOUT THE HOSE STREAM TEST.
2. FIRE DOOR ASSEMBLIES WITH SIDE HINGED AND PIVOTED SWINGING DOORS SHALL BE TESTED IN ACCORDANCE WITH NFPA 252 OR UL 10C.
3. FIRE DOOR ASSEMBLIES SHALL BE LABELED BY AN APPROVED AGENCY. THE LABELS SHALL COMPLY WITH NFPA 80, AND SHALL BE PERMANENTLY AFFIXED TO THE DOOR OR FRAME.
4. AUTOMATIC-CLOSING FIRE DOOR ASSEMBLIES SHALL BE SELF-CLOSING IN ACCORDANCE WITH NFPA 80.
5. MAXIMUM EFFORT TO OPERATE EXTERIOR OR INTERIOR DOORS WITH CLOSERS SHALL NOT EXCEED 5 POUNDS. THIS MAY BE INCREASED TO 15 POUNDS FOR FIRE RATED DOORS.
6. PROVIDE CLEAR SPACE OF 12" PAST STRIKE EDGE OF THE DOOR ON THE OPPOSITE SIDE WHICH THE DOOR SWINGS IF THE DOOR IS EQUIPPED WITH BOTH A LATCH AND A CLOSER.
7. LATCHING AND LOCKING DOORS THAT ARE HAND ACTIVATED AND WHICH ARE IN A PATH OF TRAVEL SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER TYPE HARDWARE, BY PANIC BARS, PUSH-PULL ACTIVATING BARS, OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE OPENING HARDWARE.
9. THE BOTTOM 10" OF ALL DOORS EXCEPT AUTOMATIC AND SLIDING SHALL HAVE A SMOOTH, UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED TO A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION. WHERE NARROW FRAME DOORS ARE USED, A 10" HIGH SMOOTH PANEL SHALL BE INSTALLED ON THE PUSH SIDE OF THE DOOR, WHICH WILL ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION.
10. POWER OPERATED DOORS SHALL BE CAPABLE OF BEING OPENED MANUALLY TO PERMIT MEANS OF EGRESS TRAVEL OR CLOSED WHERE NECESSARY TO SAFEGUARD MEANS OF EGRESS. THE FORCES REQUIRED TO OPEN THESE DOORS MANUALLY SHALL NOT EXCEED THOSE SPECIFIED IN CBC SECTION 1010.1.3, EXCEPT THAT THE FORCE TO SET THE DOOR IN MOTION SHALL NOT EXCEED 50 POUNDS. THE DOOR SHALL BE CAPABLE OF SWINGING FROM ANY POSITION TO THE FULL WIDTH OF THE OPENING IN WHICH SUCH DOOR IS INSTALLED WHEN A FORCE IS APPLIED TO THE DOOR ON THE SIDE FROM WHICH EGRESS IS MADE. FULL-POWER-OPERATED DOORS SHALL COMPLY WITH BHMA A156.10. POWER-ASSISTED AND LOW-ENERGY DOORS SHALL COMPLY WITH BMHA A156.19. (CBC SECTION 1010.1.4.2)
11. DOOR HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERATING DEVICES SHALL BE INSTALLED 34" MINIMUM AND 44" MAXIMUM ABOVE THE FINISHED FLOOR.
12. FOR DOOR HARDWARE SETS, REFER TO SCHEDULE AND SPECIFICATION SECTION 087100.
13. IF ELECTRICAL ROOM HAS EQUIPMENT RATED AT 1200 AMPERES OR MORE; IS OVER SIX FEET WIDE; AND CONTAINS OVERCURRENT, SWITCHING OR CONTROL DEVICES, DOOR SHALL SWING IN THE DIRECTION OF EGRESS TRAVEL AND BE EQUIPPED WITH PANIC OR FIRE EXIT HARDWARE.
14. EXTERIOR DOOR SURFACES AND CLADDINGS TO BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIALS.
16. FIRE DOORS SHALL BE LABELED PER CBC 716.5.7.1.
17. FOR TYPICAL DEVICE INSTALLATION SEE G0.32.
18. FOR TYPICAL DOOR CLEARANCES SEE G0.32.
19. SAFETY GLAZING USED IN THE HAZARDOUS LOCATIONS INDICATED SHALL BE TESTED IN ACCORDANCE WITH CPSC CFR PART 1201 AND SHALL BE IDENTIFIED BY A MANUFACTURER'S DESIGNATION SPECIFYING WHO APPLIED THE DESIGNATION, THE MANUFACTURER OR INSTALLER, AND THE SAFETY GLAZING STANDARD WITH WHICH IT COMPLIES. (CBC 2406.2, CBC 2406.3)
20. FLOORS OR LANDINGS ON EITHER SIDE OF A DOOR SHALL BE AT THE SAME ELEVATION AND SHALL BE LEVEL EXCEPT EXTERIOR LANDINGS MAY HAVE A MAXIMUM 2 PERCENT SLOPE (CBC 1010.1.5). THRESHOLDS AT A DOORWAY SHALL NOT EXCEED 1/2 INCH ABOVE GRADE.
21. EXCEPT AS SPECIFICALLY PERMITTED BY CBC 1010.1.9, EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE (CBC 1010.1.9).
22. FOR DOOR LEADING TO FIRE RISER ROOM, PROVIDE 2" HIGH VINYL STICKER LETTERING TO READ "FIRE RISER INSIDE" ON DOOR PANEL. FONT TO BE ARIAL, COLOR TO BE "RED FIRE" (RAL 3000).MIN.
23. ALL DOORS LABELED WITH (E) BEFORE DOOR NUMBER WILL HAVE DOOR HARDWARE CHANGE ONLY.

LPA

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NOT FOR REGULATORY APPROVAL, PERMITTING OR CONSTRUCTION

MOUNTAIN VIEW HS MODERNIZATION
2900 PARKWAY DR, EL MONTE, CA 91732

Developed for
EL MONTE UNION HIGH SCHOOL DISTRICT

Revision		Date
B	ADDENDUM B	04/17/2023
C	ADDENDUM C	04/26/2023

Submittal	Date
100% SCHEMATIC DESIGN	08/13/2021
100% DESIGN DEVELOPMENT	12/10/2021
DSA SUBMITTAL	04/28/2022
DSA BACKCHECK	10/31/2022

Job Number	3015410
Date Published	04/28/2022
Checked By	Checker
Scale	1/4" = 1'-0"

DOOR SCHEDULE

A6.01

DOOR SCHEDULE BUILDING L

DOOR NUMBER	DOOR TYPE	OPENING		DOOR PANEL				DOOR FRAME			REMARKS
		WIDTH	HEIGHT	THICKNESS	CORE	MATERIAL	FINISH	MATERIAL	FINISH	HARDWARE GROUP	
(E)385A	E	3' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	04A	
(E)385B	J	5' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	09A	
(E)385C	E	3' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	04A	
(E)386	E	3' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	04A	
(E)387A	H	6' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	09	
(E)387B	E	3' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	04A	
(E)388A	E	3' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	04A	
(E)388B	E	3' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	04A	
(E)388C	H	6' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	09	
(E)390A	E	3' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	04A	
(E)390B	E	3' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	04A	
(E)391A	H	6' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	09	
(E)391B	E	3' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	04A	
(E)392A	E	3' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	04A	
(E)392B	E	3' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	04A	
(E)402	H	6' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	09	
(E)403	E	3' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	04	
(E)414	E	3' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	04	
(E)415	E	3' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	04	
(E)416	E	3' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	04	
(E)417	E	3' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	04	
(E)418	E	3' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	04A	
(E)422	E	3' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	04A	
(E)432	E	3' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	04	
(E)441	H	6' - 0"	7' - 0"	1 1/2"	HCI	HM	PT	HM	PT	05	

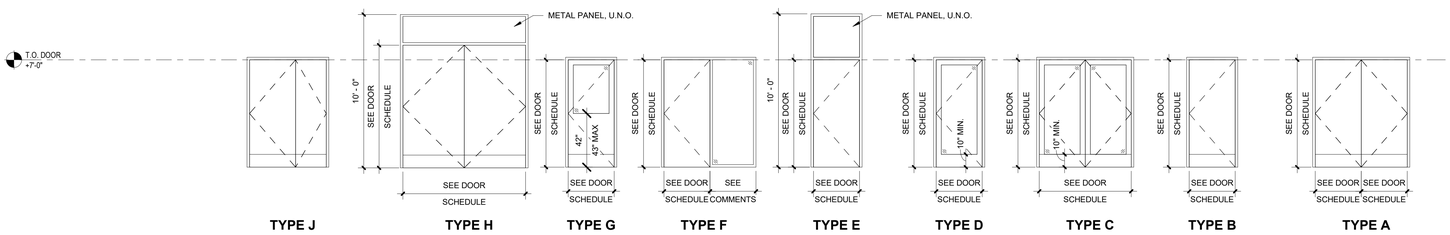
DOOR SCHEDULE BUILDING M

DOOR NUMBER	DOOR TYPE	OPENING		DOOR PANEL				DOOR FRAME			REMARKS
		WIDTH	HEIGHT	THICKNESS	CORE	MATERIAL	FINISH	MATERIAL	FINISH	HARDWARE GROUP	
(E)501A	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)501B	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)502A	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)502B	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)503A	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)503B	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)504A	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)504B	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)505A	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)505B	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)506A	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)506B	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)507A	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)507B	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)508A	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)508B	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)509A	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07	
(E)510A	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07	
(E)510B	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07	
(E)511A	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07	
(E)511B	B	3' - 0"	7' - 0"	1 1/2"	HC	HM	PT	HM	PT	12	
(E)511C	B	3' - 0"	7' - 0"	1 1/2"	HC	HM	PT	HM	PT	12	
(E)512A	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07	
(E)512B	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07	
(E)513A	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)513B	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	02	PH
(E)514	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07	
(E)515	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07	
(E)516	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	07	
(E)517	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	22	
(E)518	E	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	22	
(E)519	H	6' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	09	

DOOR SCHEDULE PORTABLES

DOOR NUMBER	DOOR TYPE	OPENING		DOOR PANEL				DOOR FRAME			REMARKS
		WIDTH	HEIGHT	THICKNESS	CORE	MATERIAL	FINISH	MATERIAL	FINISH	HARDWARE GROUP	
(E)321	B	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	10A	
(E)322	B	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	10A	
(E)383	B	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	10A	
(E)384	B	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	10A	
(E)395	B	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	10A	
(E)396	B	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	10A	
(E)397	B	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	10A	
(E)398	B	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	10A	
(E)399	B	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	10A	
(E)400	B	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	10A	
(E)404	B	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	10A	
(E)405	B	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	10A	
(E)406	B	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	10A	
(E)407	B	3' - 0"	7' - 0"	1 3/4"	HCI	HM	PT	HM	PT	10A	

DOOR TYPES



ABBREVIATIONS

CORE
- GL = 1/4" GLASS (T = TEMPERED)
- SC = SOLID CORE
- HC = HOLLOW CORE
- HCI = HOLLOW CORE INSULATED

DOOR PANEL FINISH
- PT = PAINT (SEMI-GLOSS)
- FF = FACTORY FINISH
- PL = PLASTIC LAMINATE
- ST =STAIN

DOOR FRAME FINISH
- PT = PAINT
- FF = FACTORY FINISH

CLOSER
- OH = OVERHEAD
- FLR = FLOOR
- C-OH = CONCEALED OVERHEAD

DOOR PANEL MATERIAL
- AL = ALUMINUM
- WD = WOOD
- HM = HOLLOW METAL

DOOR FRAME MATERIAL
- AL = ALUMINUM
- HM = HOLLOW METAL

REMARKS
- PH = PANIC HARDWARE
- HO = HOLD OPEN
- CR = CARD READER
- BG = BULLET-RESISTANT GLASS

DOOR NOTES

1. DOORS SERVING EXIT ENCLOSURES SHALL COMPLY WITH CBC 715.4. 715.4.1 AND SHALL BE TESTED IN ACCORDANCE WITH NFPA 252 OR UL 10C WITHOUT THE HOSE STREAM TEST.
2. FIRE DOOR ASSEMBLIES WITH SIDE HINGED AND PIVOTED SWINGING DOORS SHALL BE TESTED IN ACCORDANCE WITH NFPA 252 OR UL 10C.
3. FIRE DOOR ASSEMBLIES SHALL BE LABELED BY AN APPROVED AGENCY. THE LABELS SHALL COMPLY WITH NFPA 80, AND SHALL BE PERMANENTLY AFFIXED TO THE DOOR OR FRAME.
4. AUTOMATIC-CLOSING FIRE DOOR ASSEMBLIES SHALL BE SELF-CLOSING IN ACCORDANCE WITH NFPA 80.
5. MAXIMUM EFFORT TO OPERATE EXTERIOR OR INTERIOR DOORS WITH CLOSERS SHALL NOT EXCEED 5 POUNDS. THIS MAY BE INCREASED TO 15 POUNDS FOR FIRE RATED DOORS.
6. PROVIDE CLEAR SPACE OF 12" PAST STRIKE EDGE OF THE DOOR ON THE OPPOSITE SIDE WHICH THE DOOR SWINGS IF THE DOOR IS EQUIPPED WITH BOTH A LATCH AND A CLOSER.
7. LATCHING AND LOCKING DOORS THAT ARE HAND ACTIVATED AND WHICH ARE IN A PATH OF TRAVEL SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER TYPE HARDWARE. BY PANIC BARS, PUSH-PULL ACTIVATING BARS, OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE OPENING HARDWARE.
9. THE BOTTOM 10" OF ALL DOORS EXCEPT AUTOMATIC AND SLIDING SHALL HAVE A SMOOTH, UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED TO A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION. WHERE NARROW FRAME DOORS ARE USED, A 10" HIGH SMOOTH PANEL SHALL BE INSTALLED ON THE PUSH SIDE OF THE DOOR, WHICH WILL ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION.
10. POWER OPERATED DOORS SHALL BE CAPABLE OF BEING OPENED MANUALLY TO PERMIT MEANS OF EGRESS TRAVEL OR CLOSED WHERE NECESSARY TO SAFEGUARD MEANS OF EGRESS. THE FORCES REQUIRED TO OPEN THESE DOORS MANUALLY SHALL NOT EXCEED THOSE SPECIFIED IN CBC SECTION 1010.1.3, EXCEPT THAT THE FORCE TO SET THE DOOR IN MOTION SHALL NOT EXCEED 50 POUNDS. THE DOOR SHALL BE CAPABLE OF SWINGING FROM ANY POSITION TO THE FULL WIDTH OF THE OPENING IN WHICH SUCH DOOR IS INSTALLED WHEN A FORCE IS APPLIED TO THE DOOR ON THE SIDE FROM WHICH EGRESS IS MADE. FULL-POWER-OPERATED DOORS SHALL COMPLY WITH BHMA A156.10. POWER-ASSISTED AND LOW-ENERGY DOORS SHALL COMPLY WITH BMHA A156.19. (CBC SECTION 1010.1.4.2)
11. DOOR HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERATING DEVICES SHALL BE INSTALLED 34" MINIMUM AND 44" MAXIMUM ABOVE THE FINISHED FLOOR.
12. FOR DOOR HARDWARE SETS, REFER TO SCHEDULE AND SPECIFICATION SECTION 087100.
13. IF ELECTRICAL ROOM HAS EQUIPMENT RATED AT 1200 AMPERES OR MORE; IS OVER SIX FEET WIDE; AND CONTAINS OVERCURRENT, SWITCHING OR CONTROL DEVICES, DOOR SHALL SWING IN THE DIRECTION OF EGRESS TRAVEL AND BE EQUIPPED WITH PANIC OR FIRE EXIT HARDWARE.
14. EXTERIOR DOOR SURFACES AND CLADDINGS TO BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIALS.
16. FIRE DOORS SHALL BE LABELED PER CBC 716.5.7.1.
17. FOR TYPICAL DEVICE INSTALLATION SEE G0.32.
18. FOR TYPICAL DOOR CLEARANCES SEE G0.32.
19. SAFETY GLAZING USED IN THE HAZARDOUS LOCATIONS INDICATED SHALL BE TESTED IN ACCORDANCE WITH CPSC CFR PART 1201 AND SHALL BE IDENTIFIED BY A MANUFACTURER'S DESIGNATION SPECIFYING WHO APPLIED THE DESIGNATION, THE MANUFACTURER OR INSTALLER, AND THE SAFETY GLAZING STANDARD WITH WHICH IT COMPLIES. (CBC 2406.2, CBC 2406.3)
20. FLOORS OR LANDINGS ON EITHER SIDE OF A DOOR SHALL BE AT THE SAME ELEVATION AND SHALL BE LEVEL EXCEPT EXTERIOR LANDINGS MAY HAVE A MAXIMUM 2 PERCENT SLOPE (CBC 1010.1.5). THRESHOLDS AT A DOORWAY SHALL NOT EXCEED 1/2 INCH ABOVE GRADE.
21. EXCEPT AS SPECIFICALLY PERMITTED BY CBC 1010.1.9, EGRESS DOORS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE (CBC 1010.1.9).
22. FOR DOOR LEADING TO FIRE RISER ROOM, PROVIDE 2" HIGH VINYL STICKER LETTERING TO READ "FIRE RISER INSIDE" ON DOOR PANEL. FONT TO BE ARIAL, COLOR TO BE "RED FIRE" (RAL 3000).MIN.
23. ALL DOORS LABELED WITH (E) BEFORE DOOR NUMBER WILL HAVE DOOR HARDWARE CHANGE ONLY.

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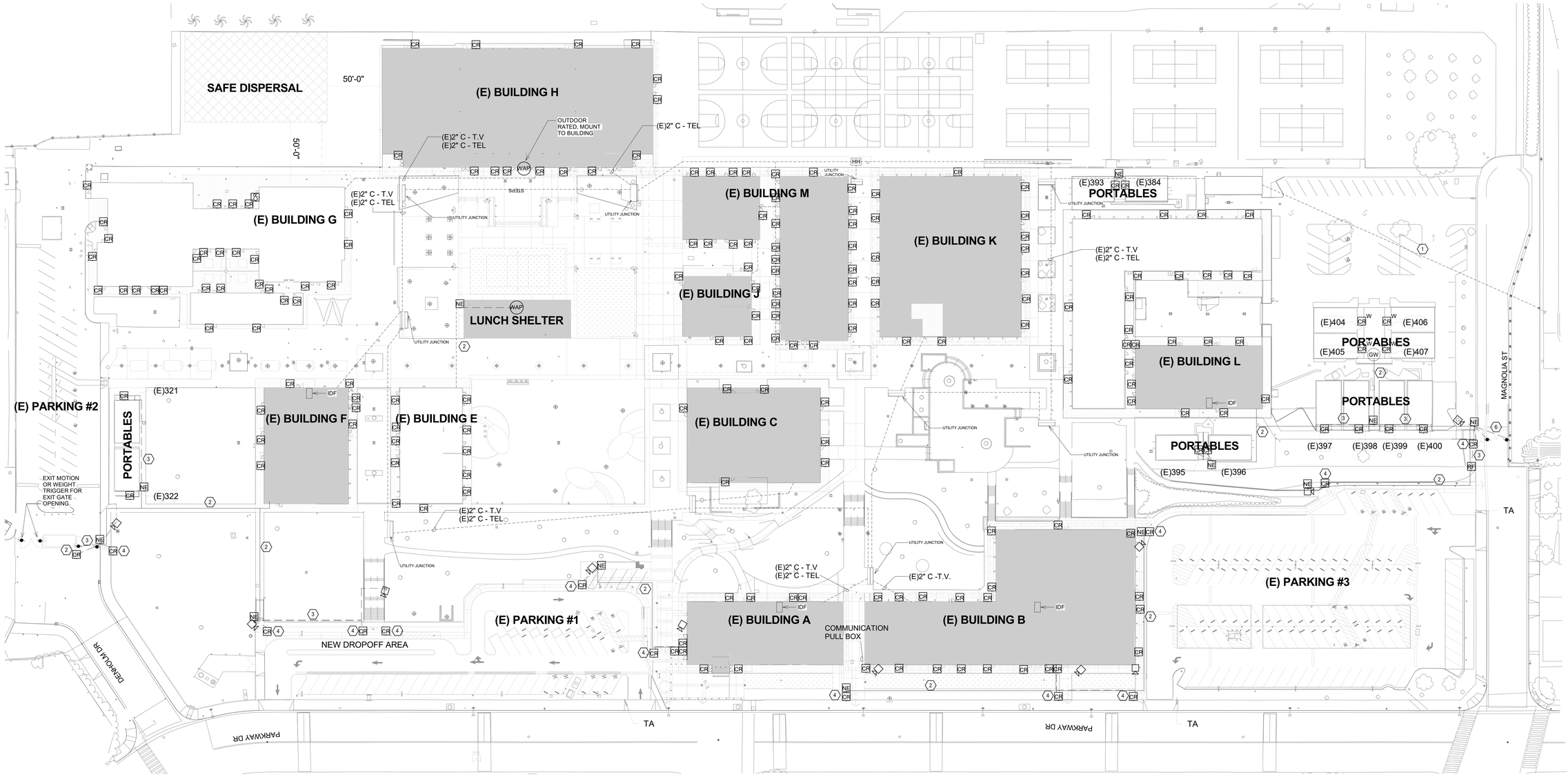


1 TE1.01 LOW VOLTAGE SITE PLAN
1" = 40'-0"

GENERAL NOTES:

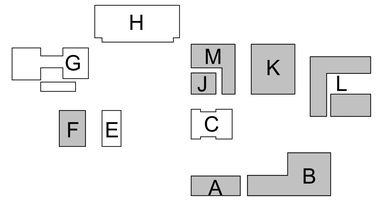
1. DATA CONDUIT AND J-BOXES ARE SHOWN IN THEIR APPROXIMATE LOCATION. CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR ACTUAL LOCATIONS AND CONFIRM FILL CAPACITY.
2. WIRELESS ACCESS POINTS (WAP) MUST BE OUTDOOR RATED.
3. THE ENGAGED GATEWAYS AND DOOR CONTROL ARE ONE WIRELESS CONTROL TO ONE HARDWIRE CONTROL USING RS485 CABLING CONNECTION (SEE MANUFACTURE INSTRUCTIONS FOR INSTALLATION). THE FOLLOWING QUANTITIES ARE REQUIRED FOR ACCESS CONTROL CARD READERS CONTROLS:
   - A. BUILDING A - 4 ENGAGED GATEWAYS (PIM 400-485) AND DOOR CONTROLLER (VERKADA AC41).
   - B. BUILDING B - 10 ENGAGED GATEWAYS (PIM 400-485) AND DOOR CONTROLLER (VERKADA AC41).
   - C. BUILDING E - 5 ENGAGED GATEWAYS (PIM 400-485) AND DOOR CONTROLLER (VERKADA AC41).
   - D. BUILDING F - 3 ENGAGED GATEWAYS (PIM 400-485) AND DOOR CONTROLLER (VERKADA AC41).
   - E. BUILDING G - 10 ENGAGED GATEWAYS (PIM 400-485) AND DOOR CONTROLLER (VERKADA AC41).
   - F. BUILDING H - 6 ENGAGED GATEWAYS (PIM 400-485) AND DOOR CONTROLLER (VERKADA AC41).
   - G. BUILDING J - 3 ENGAGED GATEWAYS (PIM 400-485) AND DOOR CONTROLLER (VERKADA AC41).
   - H. BUILDING K - 6 ENGAGED GATEWAYS (PIM 400-485) AND DOOR CONTROLLER (VERKADA AC41).
   - I. BUILDING L - 9 ENGAGED GATEWAYS (PIM 400-485) AND DOOR CONTROLLER (VERKADA AC41).
   - J. BUILDING M - 11 ENGAGED GATEWAYS (PIM 400-485) AND DOOR CONTROLLER (VERKADA AC41). QUANTITY COVERS BOTH THE LARGE AND SMALL BUILDING.
   - K. PORTABLE BUILDINGS - 5 ENGAGED GATEWAYS (PIM 400-485) AND DOOR CONTROLLER (VERKADA AC41).

KEY NOTES:

1. INCOMING SERVICES CONDUIT
2. 6 STRAND SM FIBER IN 2" CONDUIT
3. CAT6 CABLE IN 1" CONDUIT TO DEVICES
4. PEDESTRIAN GATE - PROVIDE CARD READER, CONTACT AND CONNECTION TO ELECTRIFIED HARDWARE
5. VEHICULAR GATE PEDESTAL - PROVIDE PEDESTAL SIZED FOR CARD READER
6. UTILIZE 2ND DOOR OPTION ON SINGLE DOOR CONTROLLER TO OPERATE SWING GATE FOR VEHICLE

SYMBOL LIST:

- CR / CR X — CARD READER; W: WIRELESS
- NE — 17.53" X 15.3" X 6.67" ALTRONIX (NETWAY4E1WPX) VANDAL PROOF NEMA ENCLOSURE: 4 CAT6
- RF — RFID RECEIVER FOR AUTOMATED ACTIVATION OF GATE FROM VEHICLE TAG
- HH — HAND HOLE BOX
- 90 DEGREE SECURITY CAMERA
- WAP — WIRELESS ACCESS POINT (OUTDOOR RATED)
- GW — ENGAGE GATEWAY
- T.V. AND/OR TEL DATA IN 2" CONDUIT (DEFINED IN ELECTRICAL'S SITE PLAN)
- 6 STRAND FIBER IN 2" CONDUIT
- CAT6 CABLE IN 1" CONDUIT



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LOW VOLTAGE SITE PLAN

TE1.01