



INFRASTRUCTURE AND FACILITIES ASSESSMENT

Diamond Valley Elementary School
Alpine County Unified School District

September 19, 2019

Submitted by

HMRARCHITECTS

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EXECUTIVE SUMMARY

The Alpine County Unified School District is prioritizing scope detailed in their facilities plan and funded by a local bond. Items under discussion center on the Diamond Valley campus and are specific to the following:

1. Ongoing electrical outages in the four original classrooms (DV1, DV2, DV3 and DV4) and the Staff Room (DV14).
2. Upgrade Non-Compliant Student Restrooms to current Accessibility Standards (RR3, RR4, RR5 and RR6).
3. Aging mechanical equipment.
4. Fire suppression at kitchen hood.
5. Uncertified projects.

HMR and its consultants have visited the campus, reviewed available documents and in the following report provide findings and recommendations for consideration by the District for each item above.

ACCESS COMPLIANCE AND DIVISION OF THE STATE ARCHITECT (DSA)

Access Compliance:

During the survey HMR walked the building and site and noted several items that were out of compliance. HMR's observations were general. For a full compliance assessment, a Certified Access Specialist (CAsp) report is recommended. The following are specific items noted:

1. The slopes at the accessible parking and loading zone exceed the 2% maximum in every direction. This is in part due to a storm drain inlet.
2. The curb ramp from the accessible loading zone to the sidewalk has a large crack creating an elevation change. The curb ramp also lacks detectable warning mats.
3. The sidewalk from the curb ramp to the main entry walk is in poor shape with cracks and spalled concrete.
4. The intersection of the walk from the accessible parking and the main walk is out of compliance for slope. The intersection is considered a landing where there is a change in direction requiring 2% maximum slope in all directions.
5. The main entry walk has two risers from the parking lot. There is no accessible path of travel to the right of way.
6. The staff and student restrooms are not accessible. Restroom RR8 and RR7 were converted to single use restrooms, but do not have the required clearances to meet the current California Building Code. The remaining restrooms do not show any indication of renovations since they were built in 1973 and lack accessibility upgrades.
7. Most doors have knob style hardware instead of lever hardware.

DSA Requirements

DSA Interpretative Regulation IR A-10 provides clarification for when alteration or reconstruction projects are required to be submitted to DSA for review and approval. Any alteration or renovation project below the estimated construction cost of \$106,412 is not required to be submitted and approved by DSA. Projects valued between \$106,412 and \$239,427 are not required to be submitted and approved by DSA if they meet certain structural and access compliance criteria. In addition, the California Building Code (CBC) has provisions that limits costs for access compliance work in existing buildings for projects below a certain valuation. DSA IR A-22 also provides a list of items eligible for exemption. DSA IR A-22 (rev 08/25/15) and IR A-10 (rev 01/07/19) can be found in Appendix A.

UNCERTIFIED PROJECTS

On the Diamond Valley campus are a number of buildings lacking DSA certification. In Appendix C is a color coded site plan showing the buildings in question. The buildings shown in orange have been DSA approved, but are not certified. Buildings in red are non-conforming buildings without DSA approval. The lack of certification for these buildings is a concern for the District Board Members who have personal liability for uncertified projects.

Buildings C, E, J and H are DSA approved, but not certified. The District can opt to go through the certification process to make them available for K-12 use or designate these as non-school buildings. This is dependent on the District's program needs. Costs will vary depending on the extent of work required to clear the items with DSA.

Building D is a non-conforming building. By process of elimination it is believed that the DSA number for this building is 02-1000062. Per DSA the project was reviewed, but there is no record of the project being approved. The recommendation is to remove students and staff from this building and designate its use as other than K-12 education such as adult education or administrative functions. In addition there needs to be a barrier - such as a fence - to prevent students from being in proximity to the buildings.

Building F is also a non-conforming building. The recommendation made for D also applies, however its location adjacent to the Gym exit doors and fire lane makes it difficult to separate from the students without making site or building alterations. The building will be difficult to certify because of the lack of documentation. It was constructed by Modtech, Inc. in 1997. The tags have serial numbers, but not DSA numbers. Modtech has since gone out of business. Global Modular bought out some of Modtech and has been contacted for information on this building to see if there is a path to DSA certification. So far we have not received information from Global. For this reason, the Board may want to consider having this building removed or relocated.

WISH LIST PROJECTS

The District wishes to also make some improvements in the Gym. The first item is to install wall padding under both basketball hoops to improve safety. HMR is proposing wood backed 2 foot by 6 foot gym wall padding panels for a minimum length of 20 feet. Information sheets are in Appendix B. According to the cost estimate, this project cost is well below the threshold valuation in IR A-10 to submit to DSA. The District could move ahead with this work without needing access upgrades for DSA approval.

$(\$12,465 + 4,173 \text{ (O\&P, Bonds)}) = \$16,638$

The second item is to replace the Gym flooring. For cost estimating purposes HMR is proposing a 6.2 mm thick (approximately .25 inches) flooring designed for multi-purpose facilities that has resistance to furniture and rolling loads. The Gym area is 9,400 sf. Information sheets are in Appendix B. According to the cost estimate, this project cost will exceed the maximum allowable cost to be exempt from DSA review and approval, however it would be an Access Only review. An Access Only review is generally less costly and time consuming, but does require an accessible path of travel to the area of alteration from accessible parking and to accessible restrooms per CBC 11B-202.4.

$(\$214,811 + 70,888 \text{ (O\&P, Bonds)}) = \$285,700$

SITE SECURITY

To provide for additional security the District is proposing to install approximately 1,100 linear feet of perimeter chain link fencing to include two vehicle gates and two pedestrian gates. Fire department access will require a Knox lock on one of the vehicle gates. See the site plan in Appendix C. Per DSA IR A-22, an open mesh (chain link) fence less than 35 feet in height is exempt from DSA approval, unless the gates are on an accessible path of travel. If gates are part of the accessible route then it would require an Access Only review, but not trigger the CBC 11B-202.4 requirements. The review would be limited to the fencing and the gates.

$(\$129,115 + 42,608 \text{ (O\&P, Bond)}) = \$171,723$

MECHANICAL FINDINGS AND RECOMMENDATIONS

EXISTING CONDITIONS - MECHANICAL

Building A is currently heated by hot water via an oil fired boiler, distribution pumps and associated piping. The boiler is located in the northwest corner of Building A in room DV18. The boiler is a Bryan Boiler, Model AB250, with an input capacity of 2,500,000 Btu/h, and an output capacity of 2,000,000 Btu/h. Heated water is circulated throughout the building with heating water pumps located in the Boiler Room DV18.

The spaces within the building are heated and ventilated with air handlers located in the attic spaces or exposed overhead in storage rooms. The units are multi-zone which allow temperature control in different spaces. The multi-zone unit incorporates a hot deck and a ventilation deck. The air is mixed with dampers that control the temperature within the spaces. Each of the multi-zone units incorporate outside air dampers and return air dampers allowing ventilation of the space.

The majority of the spaces do not incorporate cooling with the exception of the computer laboratory and the library area. The computer area incorporates two mini-split systems which are wall hung and exposed within the space. The library has been retrofitted with a packaged rooftop unit and new duct work that has been installed in the existing soffit space. The multi-zone units appear to be in working condition with the exception of the economizer dampers that could use replacement.

The incorporation of cooling into the existing multi-zone units is not achievable due to the configuration of the units and available space. The multi-zone units appear to be in good condition, however, the units have all exceeded their useful life.

The Kitchen DV17 is currently served by a single evaporative cooler located on the roof. The main cook line has a Type I hood that does not meet current code due to the configuration of the hood in relation to the cooking surface.

The restrooms are all exhausted either by utilizing ceiling exhaust fans or rooftop exhaust fans.

MECHANICAL FINDINGS AND RECOMMENDATIONS cont.

MECHANICAL RECOMMENDATIONS

Due to the configuration of the existing multi-zone unit, it would not be feasible to add cooling to the existing units. The units have exceeded their useful life, and a central boiler hydronic system is expensive to operate. The recommendation is to install gas/electric rooftop units that incorporate heating and cooling to each of the spaces. We propose locating units above each of the spaces served by the Multi-zone units. New supply air duct work and return air duct work would drop and intercept the existing duct work minimizing ceiling work. The new units would utilize LPG as the heating source versus fuel oil. The LPG tank can be located in the same location as the fuel oil tank and the gas distribution system can be run on the roof to each of the units. Condensate from the units terminate at existing roof drain locations. The use of individual units will be more efficient than operating a fuel oil boiler, associated pumps, and piping. The existing multi-zone units can be abandoned in place or removed depending on budget allowances.

The recommendation in the Kitchen is to replace the hood with a larger model that meets the minimum clearance requirements of 6 inches larger than the equipment below on each open side and the front. A larger hood will require increased make-up air therefore the evaporative cooler would be replaced and sized accordingly. In addition, the hood requires an ansul fire suppression system. This is also a scope of work that is less than the IR A-10 amount requiring DSA approval.

$(\$25,000 + 8,250 \text{ (O\&P, Bond)}) = \$33,250$

The restroom exhaust is currently adequate, however, if the restrooms are remodeled it would be recommended to replace the fan at that time.

Changes to the mechanical system may trigger a fire alarm upgrade.

$(\$338,442 + 111,685 \text{ (O\&P, Bond)}) = \$450,127$

PLUMBING FINDINGS AND RECOMMENDATIONS

EXISTING CONDITIONS - PLUMBING

The plumbing system consists of 4 inch sanitary sewer lines exiting the south end of the site terminating to septic tanks, then the leach field. The lines have been recently scoped and appear to be in good condition. The domestic water enters in the front of the building. Available documentation shows a 3 inch domestic cold water service. The domestic hot water production is produced by an electric water heater located in the boiler room. The hot water is distributed to all fixtures including the kitchen and returned utilizing a return pump.

According to the cost estimate, the project costs for either mechanical or plumbing would require DSA approval and accessibility upgrades.

PLUMBING RECOMMENDATIONS

If the mechanical system is converted to LPG, it is recommended that the water heater be converted to LPG as well.

ELECTRICAL FINDINGS AND RECOMMENDATIONS

EXISTING CONDITIONS - POWER

The main switchboard (MSB) is located on the west side of the school in the Mechanical/Boiler Room DV18. Just outside the room is the utility company transformer and a shed with an emergency generator. The MSB is a two section Westinghouse Switchboard manufactured and installed when the school was built in 1973 and is in working condition. The utility company, Sierra Pacific Power (SPP Co), meter number #198884 is located in the second section above the distribution breakers. The service is fed with 120/208 volt, 3 phase, 4 wires, with a main circuit breaker rated for 800 amps.

Below the main circuit breaker are eight spaces for circuit breakers to feed electrical panels throughout the campus. Seven of the spaces have circuit breakers leaving one space for future needs. The existing seven circuit breakers serve Panel A, Panel B, Panel C, Panel EM, Panel K, the water heater and the emergency generator. The Mechanical/Boiler Room DV18 is also home to the automatic transfer switch (ATS), a 119 gallon electric water heater, and a boiler with associated controls and pumps. The one remaining space in the MSB will accommodate up to a 400 amp, 3 phase circuit breaker.

The electrical panels are spread out in the main campus building. Panel A is fed with 200 amps, from the MSB, and located in Nurse Room DV5.1 just off the Administration Office DV5. Located next to Panel A is Emergency Panel EMA. Panel EMA is fed with 100 amps from Emergency Panel EM located in Storage Room DV15. These panels are manufactured by Westinghouse and flush mounted in the wall. Each of these panels are in working condition and have space for future circuit breakers.

Panel A is missing half of its circuit directory, but per the as-built plans from 1973, Panel A is providing power to the Office Areas DV5, DV5.1, DV5.2, DV5.3, DV6; Library DV7; offices DV8, DV9, DV9.1; restrooms RR1, RR2, RR3, RR4, RR5 and RR6; and Classrooms DV1, DV2, DV3 and DV4. Panel EMA is providing emergency power to the same areas to allow the campus to function during a power outage and using the emergency generator. Panel EMA has (10) existing spaces for future circuit breakers.

Electrical panel B is fed with 200 amps, from the MSB, and located in Room DV15 located directly behind the MSB. Located next to Panel B is Emergency Panel EM. Panel EM is fed with 200 amps from the MSB and connected to the ATS. These panels are manufactured by Westinghouse and flush mounted in the wall. Each of these panels are in working condition and have space for future circuit breakers. Panel B is providing power to the Multipurpose/Gymnasium DV16, the Storage Rooms DV15, DV15.1, DV15.2, DV15.3 and Mechanical/Boiler Room DV18. Panel EM is providing emergency power to the same areas as Panel B, to allow the campus to function during a power outage and using the emergency generator.

Electrical Panel K is fed with 200 amps, from the MSB, and located in the Kitchen DV17. This panel is manufactured by Westinghouse and flush mounted in the wall. Panel K is in working condition and has no additional space for future circuit breakers. Panel K is providing power to the Kitchen and its equipment.

ELECTRICAL FINDINGS AND RECOMMENDATIONS cont.

EXISTING CONDITIONS - POWER cont.

Electrical panel C is fed with 400 amps, from the MSB, and located in the Janitors Closet across from the Staff Room DV14. The panel is manufactured by Square D, flush mounted in wall and was installed as part of the 1979 building addition. The panel has two distribution breaker spaces at the top of the panel, with one space being available for a future breaker and one space with a 225 amp, 3 pole circuit breaker that feeds electrical Panel D in Storage DV11.1. There is also one distribution breaker space available for a future breaker at the bottom of the panel. The panel is in working condition. Panel C is providing power to Classrooms DV10, DV13 and the Staff Room DV14. Per the panel schedule on the 1979 drawings there are nine spare 20 amp, single pole circuits. To verify the spare circuit breakers, the door and cover will need to be removed.

Electrical Panel D is fed with 225 amps, from electrical Panel C, and located in Storage Room DV11.1. Storage Room DV11.1 is located inside Classroom DV11. The panel is manufactured by Square D, flush mounted in wall and was installed as part of the 1979 building addition. Panel D is in working condition and has seven single pole spaces for future circuit breakers. There are also six 20 amp, single pole and two 50 amp, two pole spare circuit breakers not being used. Panel D is providing power to Classrooms DV11 and DV12 on the west side of the building.

The ATS is located in the Mechanical /Boiler Room DV18, to the left of the MSB and switches power over to the generator during a power outage. The nameplate on the ATS is mislabeled and calls out for the service to be 277/480 volt, 3 phase, 4 wire. The MSB service as noted above is 120/208 volt, 3 phase, 4 wire. We recommend the school district contact the manufacturer and get a new updated nameplate.

ELECTRICAL FINDINGS AND RECOMMENDATIONS cont.

REPORTED POWER ISSUES & FINDINGS

We visited Classrooms DV1, DV2, DV2, DV4 and were informed that circuit breakers are being tripped causing the power to go out. While in these rooms, it was noted that a receptacle plug strip, with a minimum of 6 receptacles, had been installed in each of the four classrooms Classrooms DV1, DV2, DV2, DV4 and are being served by four 20 amp, single pole circuit breakers. Circuit A-2 is serving the three floor outlets along the dividing walls between the classrooms. Circuit A-4 is serving the Hallway and the west wall of Classrooms DV2 and DV3. Circuit A-6 is serving the south walls of Classrooms DV3 and DV4 as well as the east wall of DV4. Circuit A-8 is serving the north walls of Classrooms DV1 and DV2 as well as the east wall of DV2. These circuits are shown on the original 1973 as-built plans.

We also visited Classrooms DV10, DV11, DV12 and DV13 that were constructed in 1979. Classrooms DV10 and DV13 are shown to be circuited to Panel C, circuits 13 & 15. Each of these circuits is serving four duplex receptacles, with two duplex receptacles in each room per circuit. Since the 1979 plans, Classroom DV10 has been converted into a computer lab with new receptacle plug strips around the room and two new mechanical HVAC mini-split systems. The receptacle plug strips appear to be powered by the existing receptacle circuits in the room from Panel C. However, the 1973 plans show (2) ¾" conduits from Panel EMA for the classrooms built in 1979 and panel EMA has handwritten references to computers at several circuits. The circuits feeding the computer lab need to be verified to confirm if they are coming from Panel C or Panel EMA. The two HVAC mini-split systems are circuited from panel C and labeled AC X2 on the panel.

Lastly, we visited the Staff Room DV14 that was built in 1979. The as-built plans for the Staff Room DV14 show the room is being served by three 20 amp, single pole circuit breakers in Panel C. Two of these circuits serve dedicated receptacles above the counter on the east wall and provide power to a microwave and coffee machine. The other circuit is feeding the one duplex receptacles on each of the north, south and west walls. While in the Staff Room, it was observed that there is a receptacle plug strip, with eight single receptacles, connected to the existing receptacle circuit on the north wall. Plugged into the strip on was a microwave, toaster oven, 4 slice toaster, coffee machine, two blenders and walkie talkie chargers. On the south wall is a full size copier/printer that is also on the same circuit as the appliances on the north wall.

ELECTRICAL FINDINGS AND RECOMMENDATIONS cont.

POWER RECOMMENDATIONS

At Classrooms DV1, DV2, DV3 and DV4, we recommend installing two additional circuits in each classroom. One circuit for each room would come from panel A and one circuit from panel EMA. The circuit from panel A would feed the plug strip and the circuit from panel EM would be dedicated to portable heater or any other load that would need to have power during a power outage. A 20 amp, single pole circuit breaker, to match the existing panel manufacturer, would need to be installed in each panel for the new circuits. With the plug strip being fed with its own circuit, a duplex receptacle could be reinstalled in the junction box currently feeding the plug strip. It is also recommended to replace the existing plug strips and provide new two compartment surface raceway that will accommodate both receptacles and data outlets.

For Computer Lab Classroom DV10, there should be a minimum of two to three additional circuits brought from Panel C. Once spare breakers are verified in Panel C or Panel EMA, two to three circuits can be routed to Classroom DV10 in new two compartment surface raceway that will accommodate both receptacles and data outlets. The data outlets could be routed in the new surface raceway and the existing outlets in surface raceway could be removed to clean up the amount of surface raceway drops in the room.

For Classroom DV13, we recommend a minimum of two additional circuits be brought to this room. One circuit from panel C spare breaker and one circuit from panel EMA. A 20 amp, single pole circuit breaker, to match the existing panel manufacturer, would need to be installed in panel EMA for the new circuit.

Panel C is full of circuit breakers as noted above, but the circuit directory is calling out nine of the breakers as spare. The front cover/door of Panel C will need to be removed to verify which circuit breakers are spare before any additional circuits can be routed to panel C. Assuming there are no spare circuit breakers, then a 100 amp, 3 pole circuit breaker shall be installed in one of the distribution spaces in Panel C to service a new subpanel to serve additional circuits in Classrooms DV10 and DV13 as well as the Staff Room DV14.

For Staff Room DV14, there should be a minimum of four additional circuits brought to this room. Three circuits shall be routed from panel C to the Staff Room DV14 and routed in new two compartment surface raceway on the north wall. These three circuits will be dedicated, GFI receptacles to serve three appliances at a time. The fourth circuit brought to the Staff Room DV14, would be a dedicated circuit for power to the copier/printer and routed in single compartment surface raceway.

According to the cost estimate, the cost to extend circuits as described above is below the threshold valuation in IR A-10 and exempt from DSA review. The District could move ahead with this work without needing access upgrades for DSA approval.

(\$66,844 + 22,058 (O&P, Bond) = \$88,903)

ELECTRICAL FINDINGS AND RECOMMENDATIONS cont.

EXISTING CONDITIONS AND RECOMMENDATIONS - LIGHTING

The lighting for the campus is in working condition. We were informed by the District that the interior lighting throughout the campus had been updated to LED. There appeared to be no new controls for the LED light fixtures and we had to use the existing light switches on the wall to turn on the lights. To help with energy savings, occupancy sensors that shut the lights off after a predetermined time limit of no activity in the room are recommended.

EXISTING CONDITIONS AND RECOMMENDATIONS - FIRE ALARM

The fire alarm is a manually operated system original to the campus. The recommendation is to upgrade to an automatic system. Changes to the mechanical system may trigger a fire alarm upgrade.

SUMMARY

In closing, the existing 800 amp, 120/208 volt, electrical system is in working condition with an existing generator for backup power when power goes out. The interior lighting has been upgraded to LED. It is recommended that the Classrooms and Staff Room be provided additional power to eliminate tripping circuit breakers. The mechanical recommendation to replace the multi-zone unit with rooftop units would decrease power usage, but the capacity of the MSB and panels will need to be verified if the mechanical modernization scope moves forward. Also, as the MSB and panels age, the corresponding circuit breakers will become harder to find. In the future, it would be good to replace the MSB and panels with new so that circuit breakers are readily available for replacement as required, however, all are currently functioning. The District should consider installing lighting controls and upgrading the fire alarm system.

SILVA COST CONSULTING, INC.

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Diamond Valley ES Improvements

Markleeville, CA

Schematic Design Cost Estimate

September 19, 2019

Prepared for:

HMR Architects

2130 21st Street

Sacramento, CA 95818

SILVA COST CONSULTING, INC.

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September 19, 2019

Kim Demongey

HMR Architects

2130 21st Street
Sacramento, CA 95818

Reference: **Diamond Valley ES Improvements**

Subject: **DRAFT Schematic Design Cost Estimate**

Dear Kim,

Thank you for the opportunity to provide you with this Cost Estimate for the above referenced project. The estimate is broken up into several sections as follows:

The narrative portion, which lists:

- The information used in preparing the estimate
- The estimate qualifications and assumptions
- The exclusions to the estimate

The estimate portion, which contains:

- The Project Summary (which summarizes the estimate items in the estimate)
 - The Estimate Summary (which summarizes the various sections for each item)
 - The Estimate Detail (which lists the line items and unit prices for the estimate)

Once again I would like to thank you for this opportunity to offer my services. Please review the attached estimate and comment. Feel free to call me at 916-444-1130 should you have any questions, comments or concerns. Thank you.

Sincerely,

SILVA COST CONSULTING, INC.

Javier Silva
Principal

ITEMS USED IN PREPARING THE ESTIMATE

Specifications:	None	
Reports:	Executive Summary, prepared by HMR Architects	
Civil Drawings:	None	
Landscape Drawings:	None	
Architectural Drawings:	Site Plan, Floor Plan, prepared by HMR Architects	8/16/2019
Structural Drawings:	None	
Mechanical Drawings:	None	
Plumbing Drawings:	None	
Electrical Drawings:	None	

ESTIMATE QUALIFICATIONS

- The project is located in Markleeville, CA.
- The estimate was priced using prevailing wage rates.
- The delivery method for this project is Design-Bid-Build.
If the delivery method changes, then this estimate is null and void.
- Start date of construction is assumed to be in the summer of 2020.
- Construction duration is assumed to be 6 months.
- The project will be done in one continuous phase.
- Work areas are to be un-occupied during construction.
- Work to be performed during normal business hours, 8 hours per day, 40 hours per week
- We include a design contingency of 15%.
- The estimate is escalated 5.77%.
- Due to the nature of construction pricing this estimate is deemed to be accurate for a period of 90 days. After 90 days, please contact us to see if the estimate needs a pricing update.

ITEMS SPECIFICALLY EXCLUDED FROM THE ESTIMATE

- Fees for architectural, structural, civil, mechanical, electrical, or other design fees.
- Permit fees, or inspection fees.
- Utility hook up fees.
- Premiums for overtime work.
- Off-site work.
- Site utilities.
- Hazardous materials abatement.
- Structural upgrades.
- Erosion control.
- Site Metals
- Landscaping And Irrigation
- Playground Equipment & Markings
- Site Furnishings
- Site Structures
- Storm Drainage
- Water Distribution
- Sanitary Sewerage
- Gas Distribution
- Site Mechanical Piping
- Site Electrical
- Masonry
- Metals
- Rough Carpentry
- Finish Carpentry
- Equipment
- Furnishings
- Special Construction
- Conveying
- Fire Suppression
- Communications
- Electronic Safety & Security
- Items not specifically shown in estimate.

PREFACE TO THE ESTIMATE

The estimate hereunder has been compiled from drawings and specifications (if available) believed to be an accurate portrayal of the project as drawn and indicated by the architect and/or engineers. If said drawings and specifications are incomplete, the project cost engineer has included those items as would usually appear in final drawings and specifications for a complete project in a manner ordinarily prudent under the circumstances. Specialty items unknown to the cost engineer will not normally be included unless communicated through the architect and/or engineer.

The user is cautioned that changes in the scope of the project or the drawings and specifications after the estimate has been submitted can cause cost changes and the cost engineer should be notified for appropriate addenda to be issued to the estimate.

The estimate has also been adjusted for geographical location based on local material and labor rates as well as local construction practice.

Estimates based on a competitive bid situation, involving 4 or more bidders with 4 sub bids per trade, is considered a normalized estimate. Costs may increase or decrease significantly depending on the actual number of bidders. Use the following percentages as a guide:

1 bid	+15% to +40%
2-3 bids	+5% to +15%
4-5 bids	+5% to -5%
6-7 bids	-5% to -15%
7+ bids	-15% or more

PROJECT SUMMARY				
PROJECT:	Diamond Valley ES Improvements		DATE:	9/19/2019
LEVEL:	DRAFT Schematic Design		ESTIMATOR:	Javier Silva
CLIENT:	HMR Architects		SCHEDULE:	6 Months
ITEM NO.	ITEM DESCRIPTION	AREA (SF)	ITEM COST	\$/SF
1	School Improvements	32,582	4,221,388	130
2				
3				
	TOTAL CONSTRUCTION COST:	32,582	4,221,388	130
ALT. NO.	ALTERNATE DESCRIPTION	AREA (SF)	ALT COST	\$/SF
1				
2				
3				
	TOTAL ALTERNATES COST:			

ESTIMATE DETAIL					
PROJECT:	Diamond Valley ES Improvements			DATE:	9/19/2019
LEVEL:	DRAFT Schematic Design			ESTIMATOR:	Javier Silva
CLIENT:	HMR Architects			SCHEDULE:	6 Months
LOCATION:	School Improvements			AREA (SF):	32,582
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
1.0	SITEWORK		\$/SF:	5.44	177,320
2.0	DEMOLITION		\$/SF:		
3.0	CONCRETE		\$/SF:	0.43	14,010
4.0	MASONRY		\$/SF:		
5.0	METALS		\$/SF:		
6.R	ROUGH CARPENTRY		\$/SF:	1.00	32,582
6.F	FINISH CARPENTRY		\$/SF:		
7.0	THERMAL & MOISTURE PROTECTION		\$/SF:	0.10	3,258
8.0	OPENINGS		\$/SF:	2.17	70,634
9.0	FINISHES		\$/SF:	12.33	401,628
10.0	SPECIALTIES		\$/SF:	1.64	53,391
11.0	EQUIPMENT		\$/SF:	0.77	25,000
12.0	FURNISHINGS		\$/SF:		
13.0	SPECIAL CONSTRUCTION		\$/SF:		
14.0	CONVEYING		\$/SF:		
21.0	FIRE SUPPRESSION		\$/SF:		
22.0	PLUMBING		\$/SF:	9.49	309,061
23.0	MECHANICAL		\$/SF:	40.00	1,303,288
26.0	ELECTRICAL		\$/SF:	4.55	148,298
27.0	COMMUNICATIONS		\$/SF:		
28.0	ELECTRONIC SAFETY & SECURITY		\$/SF:	10.39	338,442
	SUBTOTAL				2,876,912
	GENERAL CONDITIONS			10.4%	300,000
	BONDS & INSURANCE			2.0%	63,538
	OVERHEAD AND PROFIT			7.1%	230,072
	DESIGN CONTINGENCY			15.0%	520,578
	ESCALATION			5.8%	230,287
	TOTAL CONSTRUCTION COST				4,221,388
				TOTAL \$/SF:	129.56

ESTIMATE DETAIL					
PROJECT:	Diamond Valley ES Improvements			DATE:	9/19/2019
LEVEL:	DRAFT Schematic Design			ESTIMATOR:	Javier Silva
CLIENT:	HMR Architects			SCHEDULE:	6 Months
LOCATION:	School Improvements			AREA (SF):	32,582
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
1.0	SITEWORK				
	Relocate accessible parking and loading zone	1	ls	2,500.00	2,500
	Remove step and install curb cut with truncated domes	500	sf	91.41	45,705
	CL fencing	1,100	lf	103.87	114,261
	Pedestrian gates	2	ea	934.87	1,870
	Vehicular gates	2	pr	6,232.44	12,465
	Knox box	1	ea	519.37	519
	Subtotal Sitework		\$/SF:	5.44	177,320
2.0	DEMOLITION				
	See individual sections below for demo				
	Subtotal Demolition		\$/SF:		
3.0	CONCRETE				
	Remove/replace slab at restroom remodel, allow	270	sf	51.94	14,010
	Subtotal Concrete		\$/SF:	0.43	14,010
6.R	ROUGH CARPENTRY				
	Rough carpentry allowance	32,582	sf	1.00	32,582
	Subtotal Rough Carpentry		\$/SF:	1.00	32,582
7.0	THERMAL & MOISTURE PROTECTION				
	Sealants and caulking	32,582	sf	0.10	3,258
	Subtotal Thermal & Moisture Protection		\$/SF:	0.10	3,258
8.0	OPENINGS				
	Remove/replace non compliant door hardware	68	ea	1,038.74	70,634
	Subtotal Openings		\$/SF:	2.17	70,634
9.0	FINISHES				
	Remove/replace gym flooring	9,400	sf	22.85	214,811

ESTIMATE DETAIL					
PROJECT:	Diamond Valley ES Improvements			DATE:	9/19/2019
LEVEL:	DRAFT Schematic Design			ESTIMATOR:	Javier Silva
CLIENT:	HMR Architects			SCHEDULE:	6 Months
LOCATION:	School Improvements			AREA (SF):	32,582
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
	Wall padding	240	sf	51.94	12,465
	Restroom floor finish (CT or epoxy)	1,079	sf	31.16	33,624
	Restroom wall base (CT or epoxy)	391	lf	15.58	6,098
	Restroom wall wainscot (CT)	3,131	sf	31.16	97,565
	Restroom paint ceilings	1,079	sf	4.15	4,483
	Miscellaneous patching and repairing due to hvac work	32,582	sf	1.00	32,582
	Subtotal Finishes		\$/SF:	12.33	401,628
10.0	SPECIALTIES				
	ADA toilet partitions	6	ea	2,596.85	15,581
	Toilet partitions	5	ea	2,077.48	10,387
	Grab bars	8	ea	727.12	5,817
	Toilet accessories per sink/stall	26	ea	830.99	21,606
	Subtotal Specialties		\$/SF:	1.64	53,391
11.0	EQUIPMENT				
	Kitchen hood & ansul system	1	ea	25,000.00	25,000
	Subtotal Equipment		\$/SF:	0.77	25,000
21.0	FIRE SUPPRESSION				
	see division 11				
	Subtotal Fire Suppression		\$/SF:		
22.0	PLUMBING				
	Remove/replace:				
	Water closet	13	ea	2,596.85	33,759
	Lavatory	13	ea	2,285.23	29,708
	Urinal	6	ea	2,181.35	13,088
	Pipe modifications	32	ea	1,038.74	33,240
	LPG system	32,582	sf	5.00	162,910
	Condensate drain pipe	1	ls	25,968.49	25,968
	Replace electric water heater with LPG type	1	ea	10,387.40	10,387
	Subtotal Plumbing		\$/SF:	9.49	309,061

ESTIMATE DETAIL					
PROJECT:	Diamond Valley ES Improvements			DATE:	9/19/2019
LEVEL:	DRAFT Schematic Design			ESTIMATOR:	Javier Silva
CLIENT:	HMR Architects			SCHEDULE:	6 Months
LOCATION:	School Improvements			AREA (SF):	32,582
ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL AMOUNT
23.0	MECHANICAL				
	Remove/replace entire hvac system, incl. controls	32,582	sf	40.00	1,303,288
	Subtotal Mechanical		\$/SF:	40.00	1,303,288
26.0	ELECTRICAL				
	20A circuits, incl. circuit breakers	11	ea	4,362.71	47,990
	Duplex receptacle	1	ea	259.68	260
	GFI receptacles	3	ea	311.62	935
	Two compartment raceway	4	ea	4,154.96	16,620
	100A circuit breaker	1	ea	1,038.74	1,039
	Mechanical power	32,582	sf	2.50	81,455
	Subtotal Electrical		\$/SF:	4.55	148,298
28.0	ELECTRONIC SAFETY & SECURITY				
	Fire alarm system upgrades (full replacement)	32,582	sf	10.39	338,442
	Subtotal Electronic Safety & Security		\$/SF:	10.39	338,442

APPENDIX A

DSA INTERPRETIVE REGULATIONS

ALTERATION AND RECONSTRUCTION PROJECTS—DSA APPROVAL EXEMPTION

Disciplines:	Structural	History:	Revised 01/07/19	Revised 02/04/15	Revised 11/03/10
	Fire & Life Safety		Revised 01/26/18	Revised 04/30/14	Revised 07/02/09
	Access Compliance		Revised 06/30/16	Revised 05/15/13	Revised 12/08/08
			Revised 02/12/16	Revised 02/22/13	Revised 03/17/08
				Revised 01/24/12	Revised 05/29/07
				Revised 03/10/11	Issued 11/16/05

Division of the State Architect (DSA) documents referenced within this publication are available on the [DSA Forms](#) webpage.

PURPOSE: The purpose of this Interpretation of Regulations (IR) is to clarify when plans and specifications for alteration or reconstruction projects governed by California Education Code Sections 17295 and 81133 are required to be submitted to DSA for review and approval, and to make the annual adjustment to the construction cost thresholds cited in the California Education Code sections.

1. EXCEPTIONS:

- 1.1 DSA review and approval is not required for alteration or reconstruction projects to school buildings governed by the Field Act with an estimated construction cost of \$106,412, or less, for 2018 and 2019.
- 1.2 DSA review and approval is not required for alteration or reconstruction projects to school buildings governed by the Field Act with an estimated construction cost greater than \$106,412, but not in excess of \$239,427, for 2018 and 2019 when all of the following conditions are met:
 - 1.2.1 A California-registered structural engineer shall examine the project and prepare a written statement certifying that the project does not contain any work of a structural nature. The statement must attest that the work does not cause any alteration or reconstruction of structural elements nor trigger structural rehabilitation per Title 24, Part 1, Section 4-309(c). This statement shall bear the signature and stamp or seal of the structural engineer and shall be filed with the appropriate DSA regional office.
 - 1.2.2 The design professional in responsible charge of the project shall prepare a statement certifying that the plans and specifications (1) contain no work that is regulated by the accessibility standards of Title 24, (2) contain no work that triggers accessibility upgrades to existing buildings or facilities, and (3) meet all applicable fire and life safety standards. This statement shall bear the signature and stamp or seal of the design professional and shall be filed with the appropriate DSA regional office.
 - 1.2.3 Within 10 days of the project completion, a DSA-certified project inspector shall sign and submit a verified report (*DSA 999: Inspection Verified Report for Projects Exempt from DSA Approval*) to DSA indicating that the completed project is in conformance with the plans and specifications.

2. VOLUNTARY SUBMITTAL: This interpretation does not preclude a design professional or school district from choosing to submit plans and specifications with the appropriate fee to DSA for review, even when the project is exempted from DSA plan review requirements as outlined herein.

3. REQUIREMENT TO COMPLY: Projects not requiring DSA approval (i.e., exempt projects) shall comply with all currently effective design, construction, and inspection provisions of the California Code of Regulations, Title 24, as adopted by DSA. **When authorizing construction of exempt projects described in this interpretation, the school district assumes responsibility to ensure compliance with all code provisions.**

ALTERATION AND RECONSTRUCTION PROJECTS — DSA APPROVAL EXEMPTION

4. DEFINITION: For this interpretation, “design professional in responsible charge” or “design professional” shall be the architect, structural engineer, or professional engineer (e.g., mechanical engineer for mechanical-only projects; electrical engineer for electrical-only projects), licensed to practice in California, who is responsible for the completion of the project design work.

5. ANNUAL ADJUSTMENT OF COST THRESHOLDS: Construction cost thresholds cited in this interpretation are based on 2017-2018 values of \$103,300 and \$232,425, and are adjusted annually per the California Education Code. Annual adjustments are calculated using the first January issue of *Engineering News-Record’s U.S. 20 City Construction Cost Index*.

6. PROJECT COST DETERMINATION: For purposes of this interpretation, the estimated construction cost shall be determined at the completion of project design. For the purpose of determining estimated project cost, the scope of the project shall be limited to construction on one site only.

In accordance with Education Code Section 17280, the estimated construction cost used in determining exemption from DSA review shall not include the cost of air-conditioning equipment¹ and insulation materials², and installation cost of such equipment and materials when such installation does not cause structural alterations³ to a school building (i.e., affects primary or secondary framing members). In cases where such installation causes structural alterations to a school building, the provisions of Title 24, Part 1, Section 4-309 will apply and the project may require DSA review and approval.

7. SUBDIVISION OF PROJECTS PROHIBITED: Construction projects shall not be subdivided for the purpose of obtaining exemption from DSA review and approval.

¹ For purposes of this provision, air conditioning (AC) equipment includes heating, ventilation, and air conditioning (HVAC), AC units, heating units, or ventilation units, and does not include ductwork or utility services (i.e., electrical and/or gas service) to the equipment.

² For purposes of this provision, insulation materials must be of the same type as previously installed in accordance with building standards.

³ For purposes of this provision, the exclusion of HVAC-related cost is valid only when a determination of no structural alteration is made by a California-registered structural engineer in accordance with requirements of Section 1.2.1 of this IR.

REFERENCES:

California Code of Regulations (CCR) Title 24
Part 1, California Building Standards Administrative Code
Sections 4-306, 4-308, 4-309, 4-315, 4-336, 4-406 and 5-102
California Education Code, Sections 17295 and 81133

This IR is intended for use by DSA staff and by design professionals to promote statewide consistency for review and approval of plans and specifications as well as construction oversight of projects within the jurisdiction of DSA, which includes State of California public schools (K–12), community colleges and state-owned or state-leased essential services buildings. This IR indicates an acceptable method for achieving compliance with applicable codes and regulations, although other methods proposed by design professionals may be considered by DSA.

This IR is subject to revision at any time. Please check DSA's website for currently effective IRs. Only IRs listed on the webpage at www.dgs.ca.gov/dsa/publications at the time of project application submittal to DSA are considered applicable.

CONSTRUCTION PROJECTS AND ITEMS EXEMPT FROM DSA REVIEW

Disciplines:	All Disciplines	History:	Revised 08/25/15 Revised 06/16/15 Revised 11/24/14	Revised in its entirety 08/14/14 Revised 03/22/13 Issued 08/15/08
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Division of the State Architect (DSA) documents referenced within this publication are available on the [DSA Forms](#) or [DSA Publications](#) webpages.

PURPOSE: The purpose of this Interpretation of Regulations (IR) is to clarify when plans and specifications for small construction projects on existing public school sites are required to be submitted to DSA for review, approval, and construction oversight.

INTERPRETATION:

1. CALIFORNIA BUILDING STANDARDS CODE COMPLIANCE:

- 1.1 The following does not require DSA structural and fire and life safety approval. However, this work shall comply with all currently effective design, construction, and inspection provisions of the California Code of Regulations (CCR), Title 24, as amended by DSA. Inspection shall be performed by a DSA certified project inspector.
 - Maintenance work per Section 4-315, Part 1, California Administration Code (CAC) and defined in Section 4-314 Part 1, CAC.
- 1.2 The following do not require DSA structural and fire and life safety approval and are exempt from the Field Act. However, this work shall comply with all currently effective design, construction, and inspection provisions of the CCR, Title 24, as adopted by the California Building Standards Commission.
 - Structures or items not considered a school building per Section 4-314, Part 1, CAC.
 - Non-school structures per Section 4-310, Part 1, CAC and maintenance of those structures.

When authorizing construction of exempt projects described in this interpretation, the school district assumes responsibility to assure compliance with all code provisions. Architects and engineers providing project design must be licensed as required by the rules governing the licensing of architects and engineers. See Business and Professions Code Sections 6735 and 5535 through 5538.

It is not mandatory to obtain DSA concurrence that a project is exempt. However, written concurrence may be requested in accordance with DSA procedure *PR 14-02: Exempt Concurrence*.

2. ACCESS COMPLIANCE REQUIREMENTS: All projects, whether governed by the Field Act or not, shall comply with all applicable accessibility provisions of the CCR, Title 24. Some projects that are exempt from DSA structural and fire and life safety approval, including non-school structures per Section 4-310, Part 1, CAC, are required to be submitted to DSA for review and approval by the access compliance section per Government Code Sections 4450-4461. See Appendix A for project types that fall into this category.

3. CONSTRUCTION PROJECTS AND ITEMS ELIGIBLE FOR EXEMPTION:

See Appendix A for a list of construction projects and items eligible for exemption from DSA structural safety, fire and life safety, and/or access compliance review and approval.

CONSTRUCTION PROJECTS AND ITEMS EXEMPT FROM DSA REVIEW

Checkmarks in Appendix A are used to indicate whether an item is or is not eligible for exemption from review by one or more disciplines. Footnotes clarify any special conditions under which an item is or is not eligible for exemption.

3.1 Items listed in Appendix A are exempt only when complying with one of the following:

- a. The item(s) constitutes the entire scope of a project.
- b. The item(s) is part of a set of plans for a larger school project, and both of the following are provided:
 1. A note on the construction documents stating the item(s) is “not part of the DSA approval.” Without this note, DSA will treat this item(s) as described in Section 5.
 2. A letter by the school district board, superintendent, or facilities director acknowledging the item will not be approved or certified by DSA.

3.2 For projects in which the scope of work consists entirely of exempt structures or items not considered a school building or maintenance listed in Appendix A, the estimated construction costs limitations per Sections 4-308 and 4-309(a), Part 1, CAC (see also IR A-10) will not apply.

4. EXEMPT RECONSTRUCTION AND ALTERATIONS: In addition to projects listed in Appendix A, projects involving alterations or repairs to existing approved school buildings may be exempt from DSA review and approval based on the estimated construction costs. Refer to *IR A-10: Alteration and Reconstruction Projects – DSA Approval Exemption*.

For exempt alteration or reconstruction projects constructed in accordance with Section 4-309(a), Part 1, CCR, form *DSA 999: Inspection Verified Report for Projects Exempt From DSA Approval* will be required.

5. VOLUNTARY SUBMITTAL: This interpretation does not preclude a school district from choosing to submit plans and specifications for exempt projects, with the appropriate fee, to DSA for review. Voluntary submittal of an exempt project or item will trigger full DSA plan review for code conformance and construction oversight, including inspections and materials testing.

6. PROJECT INSPECTION REQUIREMENTS: Exempt projects not submitted to DSA or projects consisting of access compliance work only, DSA will not supervise nor certify the construction, and the reporting requirements for certification of construction per Part 1, CCR will not be required to be submitted to DSA.

This IR is intended for use by DSA staff and by design professionals to promote statewide consistency for review and approval of plans and specifications as well as construction oversight of projects within the jurisdiction of DSA, which includes State of California public schools (K–12), community colleges and state-owned or state-leased essential services buildings. This IR indicates an acceptable method for achieving compliance with applicable codes and regulations, although other methods proposed by design professionals may be considered by DSA.

This IR is subject to revision at any time. Please check DSA's website for currently effective IRs. Only IRs listed on the webpage at www.dgs.ca.gov/dsa/publications at the time of project application submittal to DSA are considered applicable.

CONSTRUCTION PROJECTS AND ITEMS EXEMPT FROM DSA REVIEW**Appendix A—Construction Projects and Items Eligible for Exemption**

Project Description	Exempt from SS Review		Exempt from AC Review		Exempt from FLS Review	
	No	Yes	No	Yes	No	Yes
1. Cell or antenna towers and poles less than 35 ft. tall (lighting poles, flag poles, poles supporting open mesh fences, etc.) not in designated fire lane(s).		✓		✓ ¹		✓
2. Cell or antenna towers and poles greater than 35 ft. above grade not in designated fire lane(s).	✓ ⁶			✓	✓	
3. Soil retaining walls less than four feet tall without surcharge or a sloping backfill.		✓		✓ ¹		✓
4. Baseball dugouts less than 250 sq.ft. of floor area with lightweight roof construction and soil retaining walls less than four feet tall without surcharge or a sloping backfill (if applicable).		✓	✓ ²			✓
5. Ball walls or yard walls less than six feet above grade, not in a designated fire lane.		✓		✓ ¹		✓
6. Free standing signs, scrolling message signs, scoreboards, or solid clad fences of which the apex is less than eight feet above the highest adjacent grade.		✓		✓ ^{1, 4}		✓
7. Bleachers and grandstands five rows of seats or less with the first row starting at ground level.		✓	✓ ²			✓
8. Ancillary accessory facilities to athletic fields (one-story, not over 250 sq.ft., used for equipment storage, toilets, snack bar, ticket booths, etc.).		✓	✓ ²			✓
9. Playhouses less than 250 sq.ft. of floor area and playground equipment of any size.		✓	✓ ³			✓
10. Open-mesh baseball backstops less than 35 ft. in height for cantilevered pole systems.		✓ ⁷	✓ ³			✓ ⁷
11. Open-mesh fences less than 35 ft. in height or ornamental and security fencing with spaced rails and pickets less than eight feet in height.		✓ ⁷		✓ ⁴		✓ ⁷
12. New or replacement of sidewalks.		✓	✓			✓
13. Landscaping.		✓	✓ ⁴			✓
14. Replacement in-kind of mechanical, electrical, or plumbing units. ¹⁶		✓ ⁹		✓ ¹³		✓ ⁹
15. Cosmetic maintenance work such as painting, wallpapering, etc., as defined in Title 24, Part 1, Section 4-314. ¹⁶		✓		✓ ¹⁵		✓

CONSTRUCTION PROJECTS AND ITEMS EXEMPT FROM DSA REVIEW

Project Description	Exempt from SS Review		Exempt from AC Review		Exempt from FLS Review	
	No	Yes	No	Yes	No	Yes
16. Installation of synthetic (artificial turf) play fields or running tracks.		✓	✓			✓
17. Installation of new parking areas not involving fire lane(s).		✓	✓			✓
18. Installation of new surfacing over existing parking areas (such as asphalt overlays).		✓	✓ ⁵			✓
19. Removal and replacement of existing parking area surfacing. ¹⁶		✓	✓ ⁵			✓
20. Installation of seal-coating at existing parking areas (including new striping), or normal maintenance such as restriping or the filling of potholes and cracks. ¹⁶		✓		✓		✓
21. Batting cages with open-mesh sidewalls and loose netting roof: batting cages consisting of cantilever poles with loose netting sidewalls and roofs.		✓	✓ ³			✓
22. Reroofing with in-kind roof or replacing with light-weight, non-metal, non-tile roof, and insulation system. ¹⁶		✓ ¹⁰		✓ ¹¹		✓
23. Weatherization/caulking. ¹⁶		✓		✓ ¹¹		✓
24. Window replacement (glazing only—not rated or requiring frame replacement). ¹⁶		✓		✓ ¹¹		✓
25. Window shading devices—window screens (applied to glazing only), and solar shading devices requiring no structural attachment. ¹⁶		✓		✓ ¹¹		✓
26. Energy Management Systems.		✓		✓ ¹³		✓
27. Lighting upgrade: re-lamping, ballast replacement, fixture replacement. ¹⁶		✓		✓ ¹³		✓
28. Water-heating upgrades, not including solar thermal installations on roofs. ¹⁶		✓		✓ ¹³		✓
29. Solar tubes or small skylight installations for which no structural framing member is altered or penetrations of fire rated assemblies.		✓ ¹⁴	✓ ¹²			✓
30. Fire alarm systems: Includes new systems and replacements or alterations to existing systems.		✓		✓	✓ ⁸	

Notes:

1. No height limit for access compliance exemption.
2. Required for all, no exception.
3. Playground structures must comply with Chapter 11B, Section 11B-1008 Play Structures of the 2013 CBC and may also trigger path of travel upgrade requirements under Chapter 11B, Section 11B-202.4.
4. Required if accessible path of travel is impacted. Required if the fence or gate crosses any accessible route of travel. Gates for pedestrian use on an accessible route of travel are required to comply with applicable accessibility requirements; installation of fencing and/or gates does not trigger other CBC, Section 11B-202.4 requirements.
5. US Department of Justice has issued guidance that resurfacing of parking facilities is an alteration. Restriping, as a maintenance activity, may require access review if accessible parking spaces are impacted.

CONSTRUCTION PROJECTS AND ITEMS EXEMPT FROM DSA REVIEW

6. For any component, regardless of size, type, or cost, added to an existing tower, the tower and the component connection to the tower will require DSA structural and fire and life safety review. The cost exemptions of IR A-10 do not apply since this work is an addition and not an alteration. Installation of additional cellular equipment or replacement of existing cellular equipment mounted at grade will require DSA review unless the equipment is confined within an enclosed (fenced) area previously approved and certified by DSA for cell tower equipment, and the equipment is located a minimum distance from the fence equal to the height of the structure.
7. If open-mesh fences or backstops greater than eight feet are clad with windscreens, slats, signs, or similar attachments, DSA structural and fire and life safety review will be required.
8. AC review will be provided by the DSA FLS staff as part of the FLS review process. AC review fees are not required.
9. Mechanical, electrical, and plumbing unit replacement in-kind includes any or all units on a building when all of the following requirements are met:
 - Each new unit must be of equal or lesser weight to the existing unit being replaced, and weigh no greater than 2000 lbs.
 - Each new unit must be placed in the same location as the existing unit.
 - Each new unit must be placed without requiring alteration to the existing structural framing or altering existing supporting curb or platform. Exception: Adaptive metal curbs may be utilized provided the applied combined gravity plus lateral forces to the structure are not increased.
 - Each new unit must be placed without requiring alteration to the existing ceiling.
 - Each new unit must be placed without requiring replacement of ductwork, grilles, electrical components, etc.
10. Weight of new roof covering and insulation is not to exceed the weight of the removed existing roof covering and insulation. Changes in roofing systems are limited to lightweight non-metal, non-tile roof and insulation systems. Applications of an in-kind second roofing layer may be exempt provided the additional layer does not exceed the weight of the original roofing material.
11. Considered normal maintenance which does not affect the "usability of the building," this construction falls under CBC Section 11B-202.4 Exception 7.
12. Considered an Alteration per CBC Chapter 2 Section 202, this construction is not exempt from the requirements of CBC Section 11B-202.4.
13. Under the definition of "Alteration" in Chapter 2 Section 202 of the CBC, this work is considered "changes to mechanical and electrical systems" that is not an alteration for purposes of accessibility. It also falls under CBC Section 11B-202.4 Exception 7 and does not trigger path of travel upgrade requirements unless usability (read "accessibility") of the facility is affected.
14. The installation of solar tubes or small skylights (2 ft x 2 ft max) in which no structural framing member is altered shall be exempt unless the number of solar tubes or skylights would cause more than 5% of the roof diaphragm to be removed.
15. Changing or replacement of floor coverings is an alteration for purposes of accessibility and in addition to meeting accessibility requirements may trigger path of travel upgrades in accordance with Chapter 11B Section 11B-202.4.
16. Items are considered maintenance and shall be exempt subject to the provisions of Section 1.1 of this Interpretation.

APPENDIX B

PRODUCT CUTSHEETS

WALL PADS

Draper EcoVision™ Wall Pads are both GREENGUARD® Gold Certified and meet or exceed the requirements of ASTM F 2440-11, Standard specification for indoor wall padding.

Only Draper offers a full line of wall pads that provide maximum player protection and that are manufactured using materials that contribute to a safer and healthier indoor environment for school age children. All Draper wall pads meet ASTM F2440-11 standard specification for indoor wall padding and have been certified to meet the strictest indoor air quality standards, GREENGUARD® Gold. Wall pads should be installed on rigid surfaces that are within ten feet of activity areas.



Draper wall pads are constructed with urea-formaldehyde free oriented strand backer boards bonded to high IFD flexible foam cushioning materials. Foam is available in a variety of thickness to meet any project specification. Pads are fully wrapped with attractive and durable 14 oz. vinyl-coated polyester covering enhanced by a leather-like emboss pattern. Pads can be made in virtually any shape or size to cover corners, columns, beams, doors and stages. Pads can be provided with a variety of attachment methods.



EcoVision™ Standard Pads

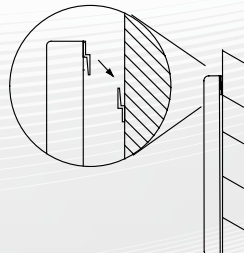
Provide maximum impact protection for activity areas, meet ASTM F2440-11 standard specification and are GreenGuard Children and Schools Certified.

EcoVision™ Class-A Flame Retardant Pads

Same impact protection, GreenGuard Children and Schools certified materials, and the added benefit of enhanced flame resistance. These pads have been tested as a singular unit and given a Class-A rating in accordance with ASTM-E84 and NFPA 255 test procedures. Draper Class-A pads also meet the requirements of NFPA 286 standard methods of fire test for evaluation contribution of wall and ceiling finish to room fire growth.

Mounting options available:

- “Z”–Clips at the top and bottom for wall mounting pads. Edges of pad are flush with the wood backer. Eliminates 1” lip
- “Z”–Clip at top and 1” nailing strip at the bottom
- Channel System: channel attaches to wall clips; trims out top and bottom lip; remove single pads as needed for repair



Wall Pad Photos: (Top) University of Kentucky Women's Gym, Lexington, KY. Architect: Sherman Carter Barnhart, Lexington, KY. Photography: Kenneth Hayden, Louisville, KY. (2nd from top) Aurora Christian Schools, Aurora, IL. Architect: Aspen Group, Frankfort, IL. (2nd from bottom) Mount Comfort Elementary School, Greenfield, IN. Architect: Schmidt Associates, Indianapolis, IN. Photography: Wayne Williams, Indianapolis, IN. (Bottom) Batavia High School, Batavia, IL. Architect: Arcon Associates, Lombard, IL. Photography: Rick Sistos, Itasca, IL.

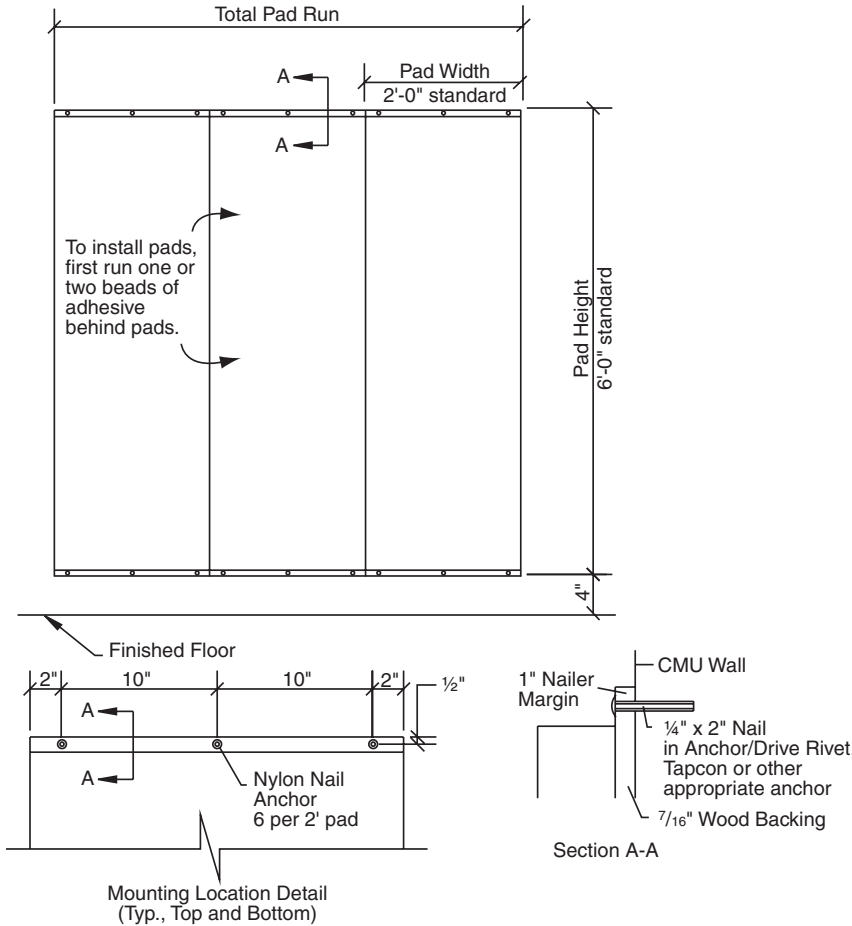
Dimensions, drawings, specifications and color options available at: www.draperinc.com/go/WallPad.htm

EcoVision™ Wall Pads

Installation
Instructions

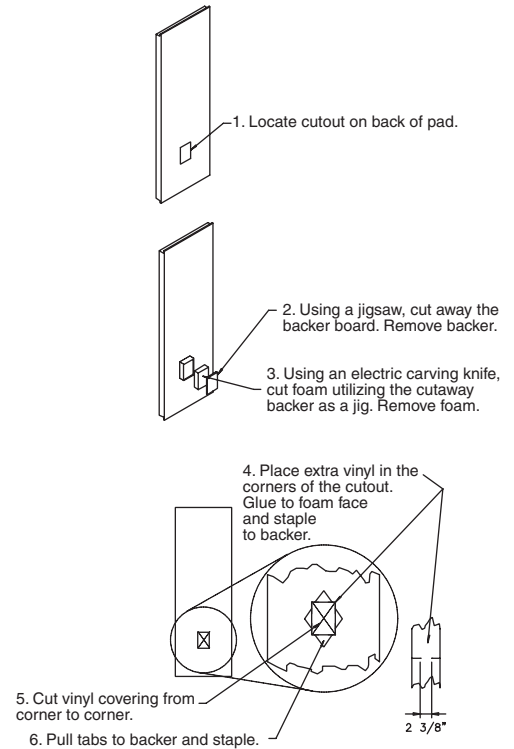
by **DRAPER**

Direct Mount Installation

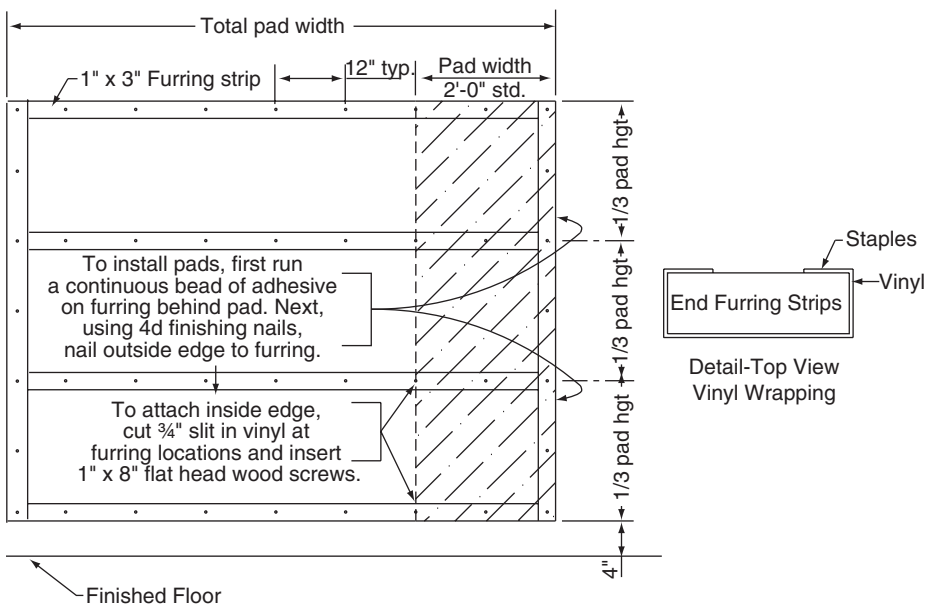


Part of the Draper
EcoVision™ range
of products

Cutout Instructions For all Draper wall pads



Installation with optional furring strips



To install furring:

- ① Wrap both end furring strips with vinyl identical to pads before attaching to wall (see detail).
- ② Drill 3/16" hole through wood and 3/4" into wall. Insert 3/16" x 3/4" plastic anchor and #6 x 1 1/2" wood screw.
Alternate: 4d cut nail—1 1/2" must hit mortar joint.
Optional method: Power actuated tool—Use 1 1/2" x 9/64" fastener and #3 power load.
- ③ Run continuous bead of high quality industrial adhesive on back side of all furring strips before attaching to wall.

DRAPER

411 S. Pearl St., Spiceland, IN 47385 USA ■ 765-987-7999
www.draperinc.com ■ fax 765-987-7142

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Z-Clip Installation

Note: Below instructions are for wall pads with Z-clips at top and bottom. Modify and skip steps as necessary if Z-clips are only used at one end of pad.
Note: Z-clips are normally supplied in 72" sections to attach to walls and 20" section to attach to backs of pads. 4" sections may be used for L-pads, C-pads or narrow pads. Installer may need to cut Z-clips to fit exact field conditions

- ① Draw or strike a line on the wall between 7¼" and 9¼" up from the finished floor. The bottom of the pad will be 4" to 6" above finished floor using above measurements. Consult Draper's drawing or the Architect/GC to verify distance pads should be installed above finished floor.
- ② Line up the bottom Z-clip's lower edge with line on wall. Make sure this Z-clip is open to the top (see Fig. 1). Drill and anchor Z-clip to wall using appropriate anchors supplied by installer. Spacing and type of fasteners is dependent on the type of wall structure.
- ③ Measure up the wall from line made in step 1 the height of the wall pad (typically 6') minus 7¼" and mark another line parallel to the bottom line.
- ④ Align the bottom edge of the top Z-clip with the upper line and anchor as indicated in step 2.
- ⑤ On the back of the pad, mark a line 3" from the bottom. Make sure this Z-clip is open to the bottom as shown in figure 1.
- ⑥ Attach Z-clip to wood backer using only the factory supplied #10 x ½" wood screws. Use caution not to strip the wood backer when driving the screws, especially if installing with a drill or screw gun.

Note: Draper recommends applying a small amount (dime size) of construction adhesive next to each screw, to eliminate the possibility of the Z-clip coming off the pad if a screw comes loose.

- ⑥ Attach top Z-clip by lining up top edge with an installer-scored line 3" below top of pad.
 - ⑦ Attach top Z-clip as described in step 6.
 - ⑧ Slide wall pad panel into place by mating the Z-clips.
- Note: For pads 7' or taller, Draper recommends the use of third Z-clip located in the middle of the pad.*

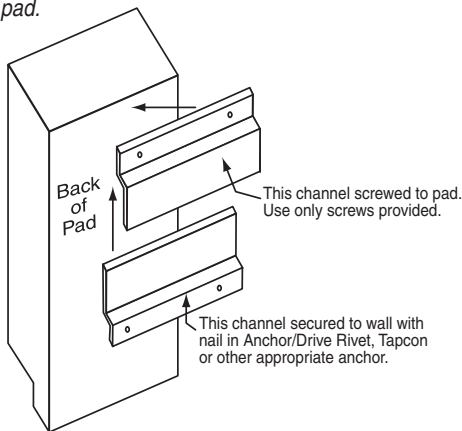


Figure 1

Wall Pad Channel System Assembly

- ① Draw or strike a chalk line on the wall, between 4' and 6' up from the floor.
- ② Line up the "J" channel with the bottom edge on the line (see Fig. 2). Drill and anchor the channel to the wall with an appropriate fastener (provided by installer). Spacing and type of fastener is dependent on the type of wall structure. A groove is provided in the channel to aid in drilling holes.
- ③ Measure up the height of the pad minus 2½" from the bottom line, and make another line parallel to the bottom lines.
- ④ Locate the "Z" channel on the top line (see Fig. 2) and anchor to the wall with an appropriate fastener (provided by installer). Spacing and type of fastener is dependent on the type of wall structure.

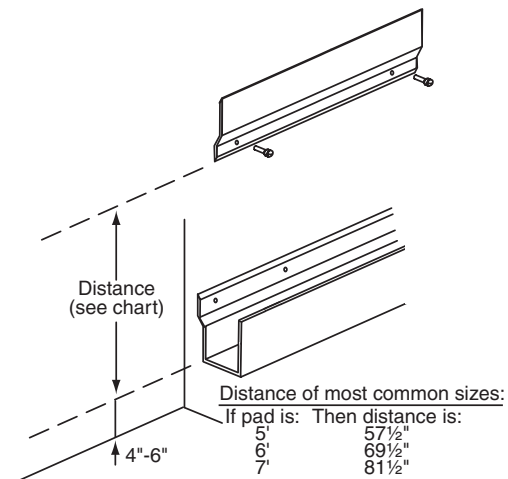


Figure 2

Slide each panel section into the bottom channel completely. Make sure the pads butt up against one another. Slip the "J" channel over the pads (see Fig. 3) and secure it down in the "Z" channel.

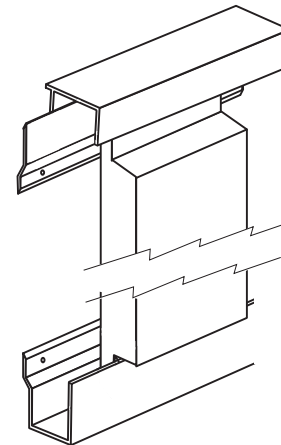


Figure 3

Recommended Corner Pad with Channel System Installation

Cut "L" Channel and bend (see Fig. 4).

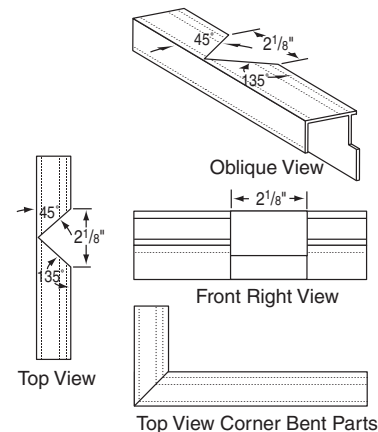


Figure 4

TARAFLEX® MULTI-USE 6.2

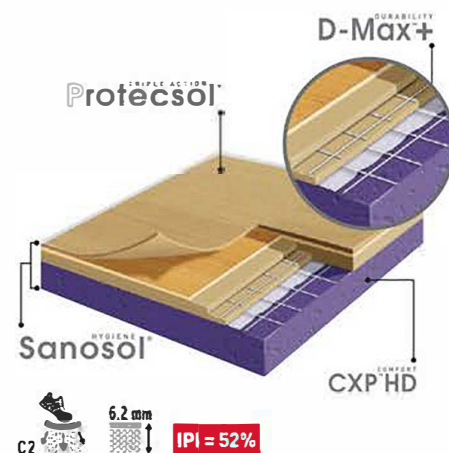
DESIGNED FOR MULTI-USE ACTIVITIES

Taraflex® Multi-Use 6.2 offers superior resistance to furniture and rolling loads found in multi-use gyms, while providing properties like shock absorption and comfort for athletes, so there's no need to compromise

- ▶ ASTM F2772 Class 2: $\geq 22\%$ - $< 34\%$ shock absorption
- ▶ Ball bounce: $\geq 96\%$
- ▶ Impact Protection Index (IPI): 52%
- ▶ Featuring Taraflex® Triple Strength Fiberglass: **D-Max+**
 - ▶ Up to 40% improved indentation resistance and recovery to table and chairs*
 - ▶ Superior dimensional stability to rolling load typically found in multipurpose rooms

- ▶ Exclusive wood designs

*Tested according to ASTM F 970 1250 lbf comparing Taraflex® Multi-Use 6.2 to Taraflex® Sport M Plus in 0.000 mm



8068
Wood Chocolate

8840
Wood Black

6375
Oak Design

3708
Wood Gray

4331
Wood Natural




4453
Wood Blue

6381
Maple Design

TARAFLEX® MULTI-USE 6.2

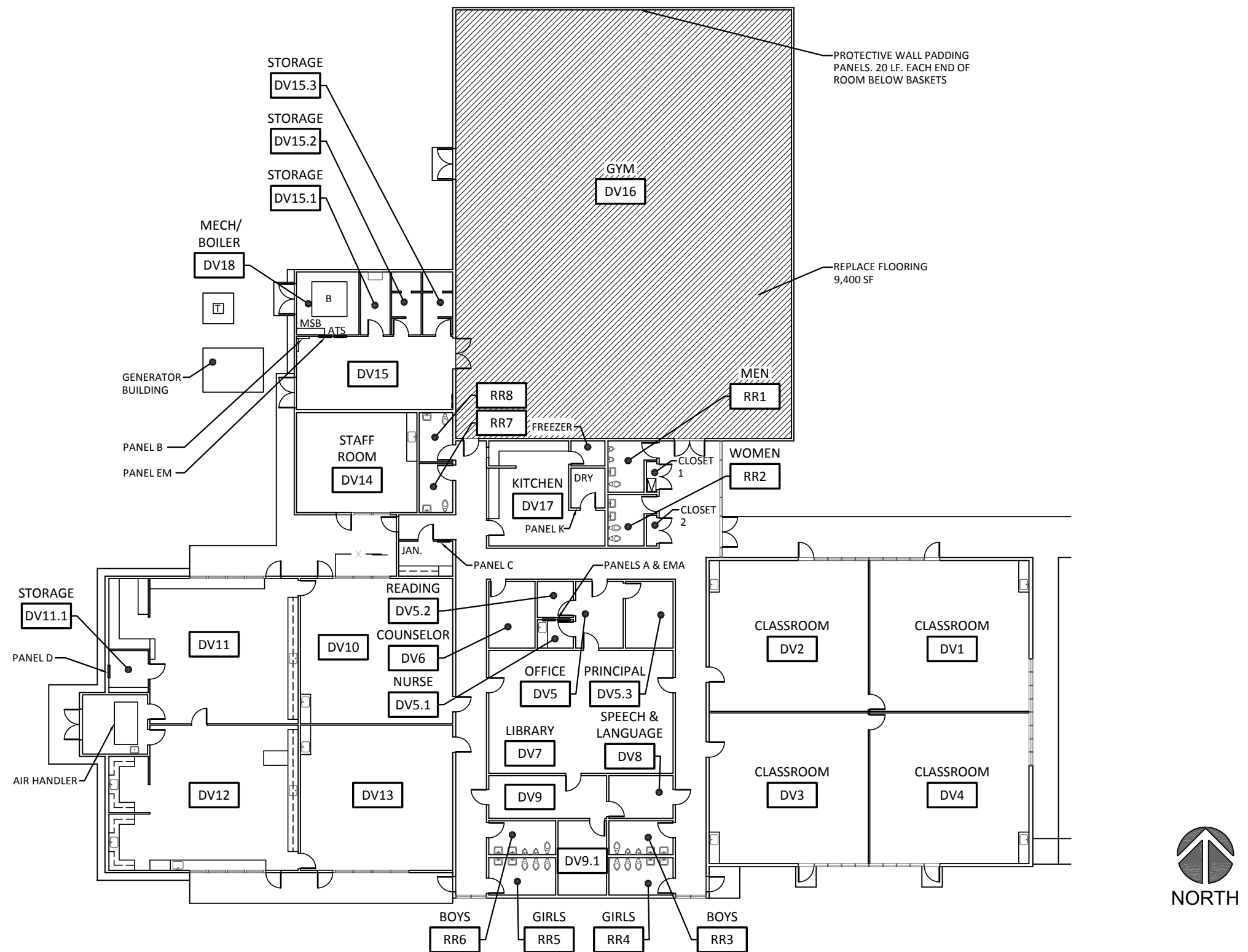
DESIGNED FOR MULTI-USE ACTIVITIES

COMFORT DURABILITY DURABILITY
CXP^{HD} D-Max[™] D-Max⁺
TRIPLE ACTION[®] HYGIENE[®]
Protectsol[™] Sanosol[™]

DESCRIPTION	STANDARDS	REQUIREMENTS	WOOD DESIGNS	SOLID COLORS
PRODUCT DESCRIPTION				
Wearlayer	-	-	100% Pure Vinyl	
Surface Complex	-	-	D-Max ^{DURABILITY} / D-Max+ ^{DURABILITY}	
Foam Backing	-	-	CXP ^{COMFORT} HD	
Total Thickness	-	-	0.244" (6.2 mm)	
Wearlayer Thickness	-	-	0.08" (2.1 mm)	
Weight	-	-	0.86 lb/ft² (4.2 kg/m²)	
Roll Width	-	-	4' 11" (1.5 m)	
Roll Length	-	-	67'3" (20.5 m)	
SPORT PROPERTIES				
Sport Properties	ASTM F2772	Class 1	Class 2	
Safety	ASTM F2772	≥ 10%	≥22% - <33%	
Vertical Deformation	ASTM F2772	≤ 0.12" (≤ 3 mm)	≤ 0.078" (≤ 2 mm)	
Sliding Effect	ASTM F2772	80 - 110	80 - 110	
Ball Rebound	ASTM F2772	≥ 90%	≥ 96%	
Impact Protection Index (IPI)	IPI	-	52%	
Anti-Friction Burns	-	-	ProtecSol ^{TRIPLE ACTION}	
TECHNICAL CHARACTERISTICS				
Chemical Product Resistance	ASTM D543	-	Excellent	
Static Load (175 psi)	ASTM F970	-	<0.005" (<0.13 mm)	
Static Load (250 psi)	ASTM F970	-	<0.015" (<0.4 mm)	
Resistance to a Rolling Load	EN 1569	≥ 1500 N	≥ 1500 N	
Fire Rating	ASTM E648	Class 1	Class 1	
ENVIRONMENT HEALTH & SAFETY				
Ease of Maintenance	-	-	ProtecSol ^{TRIPLE ACTION} / No wax for life	
Restriction Use of Harmful Chemicals	MRc4 LEED v4	-	Complies with REACH	
Antimicrobial Treatment	ISO 22196	-	Sanosol ^{HYGIENE} : Inhibits spread of bacteria at 99.9%	
Allergen Free	-	-	OK	
Indoor Air Quality	EQc2 LEED v4	-	Floorscore™	
Recycled Content	MRc3 LEED v4		20%	
INSTALLATION METHOD				
Full-Spread Adhesive	ASTM F2170 (F1869)	≤ 80% RH (≤ 5 lb)		
Moisture Mitigation System	ASTM F2170 (F1869)	≤ 92% RH (≤ 10 lb)	ISOLSPORT	
Dry-Tex™ System	ASTM F2170 (F1869)	≤ 100% RH (≤ 25 lb)		
Eco-Fit™ System	-	-		
WARRANTY	15-year limited manufacturer warranty when installed in accordance with Gerflor's installation instructions			

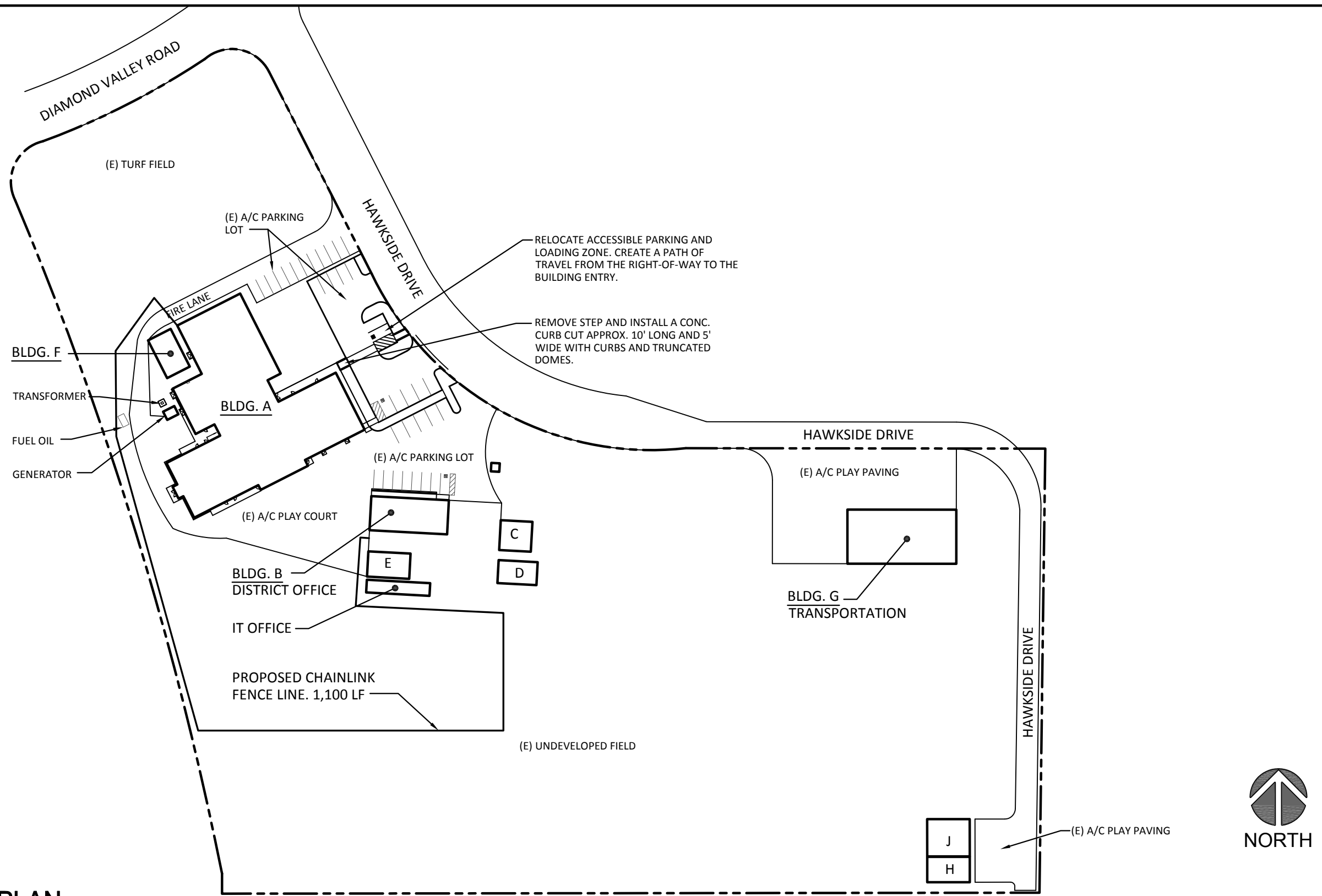
APPENDIX C

FLOOR AND SITE PLANS



1
A1 OVERALL FLOOR PLAN

SCALE: N.T.S.



1
AS1

OVERALL SITE PLAN

SCALE: N.T.S.



HMRARCHITECTS

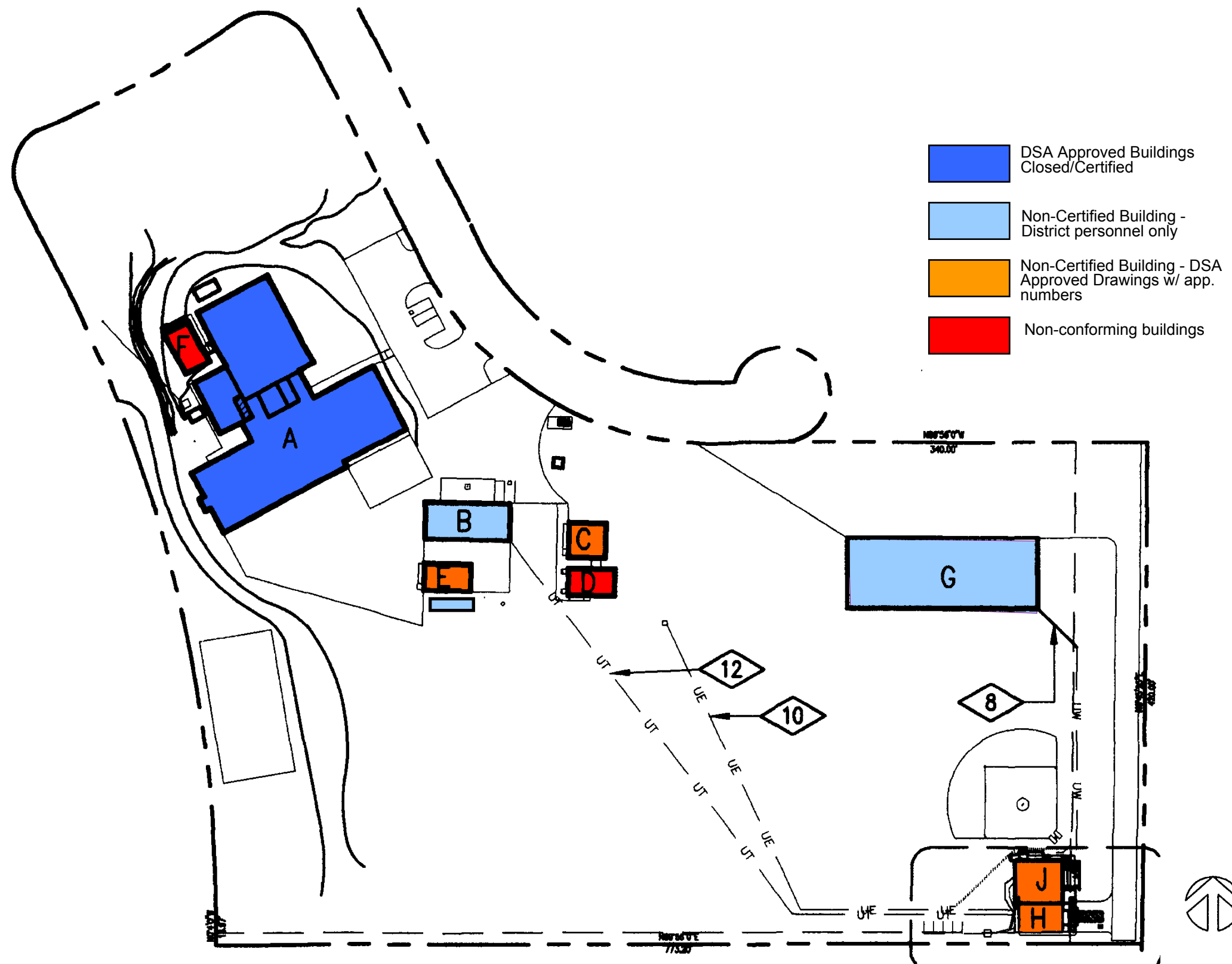
2130 21st Street
Sacramento, CA 95818
T 916 736 2724

DIAMOND VALLEY ELEMENTARY SCHOOL
35 HAWKSIDE DRIVE
MARKLEEVILLE, CA 96120

JOB NO : 19040
DATE : 09-19-2019
ISSUED AS :

SHEET NO :

AS1



BUILDING DATA

BUILDING A	D.S.A. APPL. # OCCUPANCY: CONSTRUCTION: AREA:	35776 & 42064 A2.1 & E1 TYPE V-1HR & V-NR 20,774.70 S.F.
BUILDING B Not Certified	D.S.A. APPL. # OCCUPANCY: CONSTRUCTION: AREA:	UNAPPROVED B TYPE V-NR 2,304.00 S.F.
BUILDING C Not Certified	D.S.A. APPL. # OCCUPANCY: CONSTRUCTION: AREA:	50618 E-1 TYPE V-NR 960 S.F.
BUILDING D Not DSA Approved	D.S.A. APPL. # OCCUPANCY: CONSTRUCTION: AREA:	02-100062 E1 TYPE V-NR 960 S.F.
BUILDING E Not Certified	D.S.A. APPL. # OCCUPANCY: CONSTRUCTION: AREA:	68866 E1 TYPE V-NR 960 S.F.
BUILDING F Not DSA Approved	D.S.A. APPL. # OCCUPANCY: CONSTRUCTION: AREA:	N/A E1 TYPE V-NR 960 S.F.
BUILDING G	D.S.A. APPL. # OCCUPANCY: CONSTRUCTION: AREA:	UNAPPROVED S3 TYPE V-NR N/A
BUILDING H Not Certified	D.S.A. APPL. # OCCUPANCY: CONSTRUCTION: AREA:	102513 E1 TYPE V-NR 960 S.F.
BUILDING J Not Certified	D.S.A. APPL. # OCCUPANCY: CONSTRUCTION: AREA:	02-106280 E1 TYPE V-NR 1410 S.F.