MAG Drawing Review Checklist

Project: _____

Revised 7nov22/Eff. 2/6/2023

Checked	Citation	Description	Comments/Action by	Sheet(s)
1	R7-6-205(A)	A school district shall ensure a school site has Safe Access, Parking, Drainage and Security to accommodate a school facility that complies with – The minimum gross Sq. Ft. requirements established in A.R.S. §41-5711(C), for the number of students at the school facility.	Architect, Civil, District	
2	R7-6-205(B)	Safe Access - Student drop-off and a pedestrian pathway through a designated point of entry without crossing vehicular traffic or by crossing vehicular traffic at a designated crosswalk.	Architect Note: If permanent stripping is not possible prior to student occupancy, temporary traffic cones & signage shall be provided.	
3	R7-6-205(C)	A school site provides adequate parking by having an all-weather surface area to accommodate (1) parking space per staff FTE and (1) visitor parking space per (100) students. A school site that is unable to provide adequate parking may have the sufficiency – determined by the board – w/ criteria: 1) Street parking around the school facility 2) Nearby parking lots 3) Public transit 4) Staff drives daily 5) Daily visitors	Architect, Civil, District Note: Due to zero emission (electric vehicles and buses) use, the District may want to provide infrastructure and/or charging stations with bollard protection.	
4	R7-6-205(D)	Drainage – consistent w/ drainage and floodplain management standards of the jurisdiction.	Civil	
5	R7-6-205(E)	Security - Fence or wall at play/physical education area for preschool children w/ disabilities, kindergarten - through grade six. If unable to provide adequate security may have the sufficiency – determined by the board – w/ criteria: A) Amount of vehicular traffic B) Hazardous or natural barriers C) Animal nuisance D) Visibility outdoor play/physical education area. 2) The emergency response plan required under A.R.S. § 15-341(A.31) has been developed.	Architect, Civil, District Note: Fencing around the entire campus perimeter may be required to promote single point of entries. District is responsible for these costs. Has the District submitted their Emergency Response Plan to the local police & Fire Dept.?	
6	R7-6-210(A)(1)	Classroom space: 32 SF per children preschool (with disabilities), kindergarten through grade three.	Architect	
7	R7-6-	Classroom space: 28 SF per student grades	Architect	

	210(A)(2)	four through six.		
8	R7-6-210(A)(3)	Classroom space: 26 SF per student grades seven and eight.	Architect	
9	R7-6-210(A)(4)	Classroom space: 25 SF per student grades nine through twelve.	Architect	
10	R7-6-210(B)	Classroom and general / specialty classroom is measured from interior wall to interior wall and is the space required for teaching.	Architect	
11	R7-6-211(1)	Each general or specialty classroom shall have a work space per student (surface and seat).	Architect	
12	R7-6-211(2)	Have at least one non-electronic or electronic, (3') x (5') mounted or retractable surface, erasable, suitable for projection and display.	Architect	
13	R7-6-211(3)	Storage for classroom materials.	Architect	
14	R7-6-211(4)	Secure storage for student records – may be stored electronically.	Architect	
15	R7-6-212(1)	Fifty foot-candles in classrooms if incandescent, halogen or fluorescent bulbs.	Electrical Engineer	
16	R7-6-212(2)	Thirty foot-candles of light if the light is provided by LED (light emitting diode) bulbs.	Electrical Engineer	
17	R7-6-213(A)	A school facility shall have an HVAC or other system capable of maintaining a temperature between 68° and 82° F under normal conditions with an occupied classroom.	Mechanical Engineer	
18	R7-6-214	Classroom(s) Acoustics: sustained background sound level of less than 55 decibels.	Mechanical Engineer, Architect Are high exposed ceilings designed & acoustical panels deleted? Are there exposed concrete floors in the classrooms?	
19	R7-6-215	Classroom(s) Air Quality: the CO2 level shall not exceed 700 PPM above the ambient CO2 level.	Mechanical Engineer Note: ambient measurement taken outdoors and compared to indoor classroom measurement, variance shall not exceed 700 PPM	
20	R7-6-216	Measuring Classroom Comfort: Complies w/ R7-6-212 through R7-6-215: 1) Measured at a work surface in (+/-) center of classroom under normal conditions and 2) Random sample of 10% of classroom space in each building	Architect	
21	R7-6-220(A)	A school facility shall have a learning and technology center with space for students to access electronic and hard-copy research and reading materials. The learning and technology center shall include space for reading, listening, and	Architect	

		viewing materials.		
22	R7-6-220(B)	For an elementary school facility the learning and technology center shall have space equal to the lesser of 1000 square feet or the square footage equal to 20 square feet per student for 10 percent of the student body.	Architect	
23	R7-6-220(C)	For a middle or junior high or high school facility that serves at least 150 students, the learning and technology center shall have space equal to the lesser of 1200 square feet or the square footage equal to 20 square feet per student for 10 percent of the student body.	Architect	
24	R7-6-221(A)(1)	One work surface and seat for every 20 students, minimum of 15, maximum of 75;	Architect	
25	R7-6-221(A)(2)	One Multi-Media display.	Architect, District	
26	R7-6-221(A)(3)	Projection equipment and projection surface.	Architect, District	
27	R7-6-221(A)(4)	Ten books per student.	Architect, District Note: If hard or soft copies of books are not available due to supply chain/vendor delivery issues at the time of occupancy, the SFOB requires a written plan from the district to provide a temporary alternative.	
28	R7-6-221(A)(5)	An electronic or hard copy of each: Almanac, Encyclopedia, Atlas and Unabridged Dictionary.	Architect, District	
29	R7-6-221(B)	If a hard-copy almanac, encyclopedia, or atlas is used, each shall have a publication date of 2015 or later.	Architect, District	
30	R7-6-225	Cafeteria: shall have a covered space, in which students are able to eat within the school site, outside of classrooms.	Architect	
31	R7-6-226(A)	A school facility shall have space, fixtures, and equipment sufficient for receiving, storing, preparing, and serving food to students. The food service fixtures and equipment shall be in or accessible to the cafeteria space.	Architect, District	
32	R7-6-226(B)	A School Facility shall ensure food service fixtures and equipment comply with county health codes.	Architect	
33	R7-6-227(A)	Kitchen equipment as required: (1) 3 compartment sink (1) double-stack oven or a warming oven (1) dishwasher - if reusable dishes / silverware (1) hot-food holding appliance (1) range with hood (1) refrigerator	Architect, District	

		(1) freezer (1) milk refrigerator		
34	R7-6-227(B)	An alternative may be substituted for any item in (A) if enables to receive, store, prepare and serve food to students.	Architect, District	
35	R7-6-227(C)	A school facility that receives, stores and serves food prepared off the school site may substitute equipment required for a warming kitchen for the items in (A).	Architect, District	
36	R7-6-230	Multiuse Space: Capable for student assembly – space shall be: 1) Large Enough to accommodate 1/3 of the student body 2) Same size or larger than average classroom	Architect	
37	R7-6-235	Technology: A school facility shall provide at least (1) network connected multimedia device for every student. A multimedia device is a computer, tablet or other smart device w/ internet access capable of presenting multimedia content.	Architect, District	
38	R7-6-245(A)	Science Facilities: Grades 5 through 12 shall have classroom Sq. Ft. for delivery of practical instruction in science. 1) Grades 5 through 8 no classroom Sq. Ft. is required other than in R7-6-210 2) Grades 9 through 12, 4 SF per student, space shall not be smaller than the average classroom and may be used for other instruction when not needed for instruction in science.	Architect	
39	R7-6-245(B)	Grades 5 through 12 shall have the science fixtures and equipment per R7-6-246.	Architect, District	
40	R7-6-246(A)	Equipment List for: Grades 9 through 12 shall have the following science-facility fixtures equipment: (1) demonstration table with non-corrosive surface per 250 students (6) laboratory stations with non-corrosive surface per 250 students (1) fume hood (1) chemical storage unit per 1,000 students (1) eyewash or safety shower station per 250 students (1) microscope per 25 students, minimum of 12 or ½ the number of students in grades 9 through 12 divided by 25, whichever is fewer (1) refrigerator	Architect, District	
41	R7-6-246(B)	Grades 5 through 12 shall have: (1) sink per 250 students (1) microscope per 25 students, minimum of 12 or ½ of the number of students in grades 5 through 12 divided by 25, whichever is fewer (1) balance per 250 students	Architect, District	
42	R7-6-247(A)	Arts Facilities: Career and Technical Education Facilities: Grades 7 through 12 shall have space for art	Architect, District	

		education programs including visual, music, and performing arts and career and technical education programs.		
43	R7-6-247(B)	Grades 7 through 12 shall have 4 SF per student of space for art and/or career and technical education space. The space shall not be smaller than the average classroom and may be used for other instruction when not needed for instruction in the arts or career and technical education.	Architect, District	
44	R7-6-247(C)	Kindergarten through sixth grades may deliver art education in classroom SF per R7-6-210. Education in performing arts may be delivered in multi use space, gymnasium or cafeteria	Architect, District	
45	R7-6-249(A)	A school facility shall have classroom square footage for indoor physical education activity and a comprehensive health program established in compliance with the academic standards prescribed by the State Board of Education.	Architect, District	
46	R7-6-249(B)	Physical education indoor space shall be: 1) No more than 50 students, at least 1,600 SF in a single space. 2) 51-125 students, at least 2,600 SF in a single space. 3) 126 to 600 students, at least 5,100 SF at least w/ (1) space at least 2,600 SF in a single space. 4) More than 600 students, at least 7,500 SF which may include space that also serves as a cafeteria.	Architect	
47	R7-6-249(C)	The classroom square footage designated in subsection (B) may have more than one function including the comprehensive health program.	Architect	
48	R7-6-250(A)	Equipment for Physical Education Activity: shall have: A school facility shall have one hardscape equivalent in size to an outdoor basketball court per 300 students to a maximum of three hardscapes.	Architect, District	
49	R7-6-250(B)	A school facility with students in grades seven through 12 shall have a sports field appropriate for softball, hardball, football, track, soccer, or other sports.	Architect, District	
50	R7-6-255(A)	If parents are invited to assist with school activities, a school facility shall include a work space large enough to accommodate the number of parents expected to assist with school activities at one time.	Architect, District	
51	R7-6-255(B)	Parent Work Space: The parent work space	Architect, District	

		may be in multiple locations throughout the school facility and may have more than one function.		
52	R7-6-256	Two-way Internal Communication System: Such as a telephone, between a central location and each general and specialty classroom, the learning and technology center and the cafeteria.	Architect, Electrical Engineer	
53	R7-6-257	Fire alarm system as required by the State Fire Marshall.	Architect, Electrical Engineer	
54	R7-6-258(A)	Administrative space shall be: • Administrator 150 SF. • General administrative purposes a space between 150 SF and 1.5 SF per student, as reasonable for the size of the anticipated student body, is required.	Architect	
55	R7-6-258(B)	Isolated sick student area is required: • Accessible to a restroom • Minimum 1 cot per 200 students, 4 cots maximum.	Architect Note: If all of the required cots cannot be housed in the nursing station, a written plan/map shall be created by the District and included in the school's emergency response plan.	
56	R7-6-258(C)	Faculty work space required: A space between 150 SF and (1) SF per student, as reasonable for the size of the anticipated student body, is required. The faculty work space may be in multiple locations throughout the school facility and have more than one function.	Architect, District	
57	R7-6-265(A)	Building Systems: As required under A.R.S. § 41-5702(L), building systems in a school facility shall be in working order and properly maintained. A building system is considered to be in working order and being maintained if: 1. The system is operated as intended; 2. The system is maintained according to manufacturer's instructions; 3. Newly manufactured or refurbished replacement parts are available; 4. The system supports the gross square footage of the school facility; and 5. Components of the system present no imminent danger of personal injury.	Architect, District	
58	R7-6-265(B)	Building systems required under A.R.S. § 41-5702(L), to be in working order and	Architect	

		maintained include, but are not limited to, roof, plumbing, telephone, electrical, and HVAC systems. Additionally, under this Chapter, building systems including, but not limited to the following shall be in working order and properly maintained: fire alarm, two-way internal communication, network cabling, and security systems.		
59	R7-6-270	Building Structural Soundness: As required under A.R.S. §41-5711(B)(4), all buildings of a school facility shall be structurally sound. A building of a school facility is considered structurally sound if the building passes a structural assessment by a Professional Engineer.	Architect, Structural Engineer	
60	R7-6-271(1)	Exterior envelope: a. Walls and roofs are constructed of materials requiring minimal maintenance, including painting. b. Walls, roof, doors and windows are weather tight under normal conditions with routine upkeep. c. Building structural systems support the loads imposed on them.	Architect	
61	R7-6-271(2)	Interior surface: a. Structurally sound. b. Capable of supporting a finish. c. Capable of continuing in its intended use, with normal maintenance and repair. d. Has appropriate blocking for support of attached elements.	Architect, Structural Engineer	
62	R7-6-271(3)	Interior finish: a. Free of exposed lead paint. b. Free of friable asbestos. c. Capable of continuing in its intended use, with normal maintenance and repair.	Architect	
63	R7-6-275	Minimum gross square footage Each school district shall have sufficient school facilities, which comply with minimum school facility guidelines established in this Article, to meet the minimum adequate gross square footage requirements for the district as determined by law.		
64	R7-6-276	Assessment of Minimum Gross Square Footage A. Computation of the gross square footage of a school facility may be by measurement or by		

		calculation based on architectural plan documents. B. The gross square footage of a school facility equals all space within the facility excluding space used for district administrative purposes. C. The gross square footage of a district shall equal the sum of the gross square footage of each school facility in the district. D. The minimum gross square footage of a district equals the sum of the products of the students in each grade for preschool students with disabilities or kindergarten multiplied by the minimum adequate gross square footage requirements per applicable to the district for such grade or program. E. For the purpose of assessment of minimum gross square footage, the number of students in all grades and kindergarten shall be evenly distributed across all grades and kindergarten served by the district.		
65	R7-6-285	Guideline Exception: The Board may grant an exception from any of the guidelines, in this Chapter. To obtain an exception, the governing board of the school district shall submit a written request to the Board. The Board shall grant an exception if it determines the intent of the guideline is capable of being met by the school district in an alternative manner. If the Board grants the exception, the Board shall deem the school district meets the guideline and is not eligible for state funding to meet the guideline.	Architect, District, SFOB	
66	A.R.S. §34-451	Comcheck for envelope, HVAC, electrical required.	Mechanical Engineer	
67	A.R.S. §34-451	Complies with ASHRAE 90.1.	Mechanical Engineer	
68	Davis-Bacon	Verify specifications are correct.	Architect	
69	Design-Bid-Build	Include a “reject all” clause in bidding instructions.	District Note: This clause may be required if the bids or CMAR cannot provide work within the funds allocated by the SFOB.	
70	ASHRAE 62.1	Provide outside air calculations.	Mechanical Engineer	
71	ASHRAE 62.1 Table B-2	Low VOC on all applicable materials (finishes and adhesives).	Architect	
72	ASHRAE 62.1 §5.4	Air stream surface mold resistance within the first 10’-0” of the duct from the HVAC unit.	Mechanical Engineer	
73	ASHRAE 62.1	Submit 62MZCalc Spreadsheet(s) from user’s manual.	Mechanical Engineer	
74	A.R.S. §15-156	No application of diisocyanates while building is occupied by student or teacher (foam roof).	Architect	

75	Policy	SFOB Project Number on all sheets and documents.	Architect	
76	Policy	All drawings at same level of completion.	Architect	
77	Policy	Roofing system submittal at DD.	Architect	
78	Policy	Provide requirements for Adjacent Ways Validation (i.e. single drawing and schedule of values).	Architect	
79	Policy	Composite site plan in a single file.	Architect	
80	Policy	HVAC in MDF or IDF rooms to be cooling only.	Mechanical Engineer	
81	Policy	Soil remediation (if required).	Architect, Civil	
82	Policy	Verify if existing utilities are adequate for additional space: • Water supply • Waste / septic system • Gas supply • Electrical service	Mechanical Engineer, Electrical Engineer	
83	Recommend	Rilem tubes test all exterior walls, including back of parapets or District Guideline exception form showing warranty & upgraded sealer criteria	Architect, Contractor Note: A letter from the coating contractor shall be provided as a required closeout document.	
84	EO 2005-05	Provide scorecard (not certification) showing that this project meets LEED Silver Design version #2	Architect Note: This scorecard shall be provided as a required closeout document in PayAppinator.	
85	Recommend	Provide waterless urinals as required by LEED Silver Design version #2	Architect & Plumbing Eng.	
86	Recommend	Landscaping sprinklers main water lines minimum 10'-0" from face of building / foundation	Architect, District, Mechanical Engineer Note: Provide this requirement on the drawings	
87	Recommend	If any of the Minimum Adequacy Guideline requirements are excluded from the scope of work of the design disciplines then the SFOB must be notified as part of the review process.	Architect, District	
88	Recommend	Provide drinking water fountains with lead filters to reduce lead in drinking water.	Mechanical Eng. Note: Suggest bottle filling (touch free)	
89	Recommend	Security fencing for 7-12 grade levels needs to be defined by the District and reviewed by the SFOB.	Architect, District, SFOB	
90	SFOB Performance Specification	The Architects and/or Engineers hired by the Districts shall utilize the SFOB Performance Specifications to modify their specifications.	Architect, Engineer	

	Policy XI			
91	Recommend	The Architect hired by the District shall provide to the SFOB their P-Lines (PDF) or equal depicting gross square footage as required by A.R.S. 41-5711.(Paragraph E, Item #4)	Architect Note: Submit by the 4th required CD phase meeting.	
92	Recommend	The Architect shall request from the Contractor the As-built Drawings & Specifications for final review. All project closeout documents are required by the SFOB for final financial closeout.	Architect	
93	Recommend	As part of the District's contractor's quality control procedures, mockups are required to demonstrate the Architect's design intent for the District's approval prior to the contractor's scheduled work activities. If this process does not include the District's prior approval, the Architect or Contractor may be found responsible for added costs.	Architect i.e.: standard floor sealing vs. polish concrete sealing for floor slabs	
94	Recommend	Each project requires Special Inspections typically by a 3rd party. Has this project included a quote for these inspections? These inspections include Geotech & Special Inspections and Material Testing services.	Architect Note: These costs can be paid via SFOB soft costs.	
95	Recommend	Is this project phased? If so, how does this affect the District's occupancy? How many phases are expected? Will special procurement schedules be implemented early to purchase long lead items? How many GMP's are required?	Architect, Contractor, District Note: Phasing needs to include life safety items prior to occupancy.	
96 ☐	ADOA	Surplus property is first made available to organizations that meet eligibility requirements as established by Federal Property Management Regulations and the Arizona Administrative Code.	District Note: SFOB recommends the District to consider supplies & furniture offered by the Surplus Property Management Office of the Arizona Department of Administration (ADOA).	
97 ☐	SFOB	This MAG Drawing Review Checklist is used by the SFOB NC Project Manager during their final walk through after a C of O is issued.	SFOB Note: The District needs to provide the SFOB occupied & unoccupied new classrooms so that classroom measurements can be made to verify MAG compliance. See line items #15-20 mentioned above.	