

SCHOOL DISTRICT PALM BEACH COUNTY BUILDING CODE SERVICES PLAN REVIEW CHECKLIST -- PLUMBING

3661 Interstate Park Road North Riviera BEACH, FLORIDA 33404 TEL (561) 383-2093 https://fl50010848.schoolwires.net/Page/1555

PROJECT NAME:	DATE	
PROJECT NUMBER:	REVIEWER	

The intent of this checklist is to act as a tool for the District Plan Reviewers to review construction plans and specification of projects submitted for permitting by the Building Department. Architects and Engineers are encouraged to use this document as a tool to prepare construction plans and specifications for District projects.

The codes references in the checklist are Florida Building Code (FBC), District Design Criteria (DDC), Florida Administrative Code (FAC), Florida Statutes (FS), and National Fire Prevention Association Codes (NFPA).

Phase I – Schematic Design (Not Required)				
OK, Comment, or N/A	Item	Code Reference		

Phase II – Design Development (Not Required)			
OK, Comment, or N/A	Item	Code Reference	

PLUMBING- "Phase III" Plans (Final Construction Documents)

General				
OK, Comment, or N/A	Item	Code Reference		
	Plans are signed and sealed	471, 481 FS		
	All documentation listed in design guideline BD-02 is submitted.	Design Guideline BD-02		
	Index represents all sheets submitted, revision numbers and revision dates match those shown on each drawing sheet.	District Requirement		
	Plan content matches the referenced specifications	District Master Specifications		
	Plans comply with the District Design Criteria	District Plumbing Design Criteria		
	Junction boxes, valve boxes, in and near play fields for future portable classrooms.	District Requirement		

No plumbing in elevator shaft or elevator equipment room.					301.6 FBCP	
Openings for	r pipes in the stru	icture are sea	aled and pro	tected.		304.4 FBCP
Sleeves - Pip	pes passing throu	igh concrete	or cinder w	alls and floo	ors shall be	
protected aga	ainst external con	rosion by pr	otective she	athing, wra	pping or	305.1 FBCP
other means.						
Pipes are sup	ported in accord	lance with Ta	able 308.5. (Example be	elow)	
Piping Mater	rial He	orizontal Spa	acing	Vertical	Spacing	308 5 FRCP
PVC		4		1()	500.5 FDC1
Steel		12		1:	5	
Plumbing fix	tures are provid	ed for type o	f occupancy	' in minimu	m numbers	
per table 403	S.1. (Example be	low).				
	Water Closets		Bathtubs/	Drinking		403.1 FBCP
Occupancy	Male Female	Lavatories	Showers	Fountain	other	
Educational	1 per 50	1 per 50	-	1 per 100	1 Service	
					Sınk	

Accessible Plumbing Fixtures				
OK, Comment, or N/A	Item	Code Reference		
	Where required, accessible plumbing facilities and fixtures shall be provided in accordance with the Florida Building Code, Accessibility. Verify that the ADA dimensions shown on architectural plans agree with the water closet lavatory fixture heights on the plumbing fixture schedule.	404.1 FBCP		

Automatic Clothes Washers				
OK, Comment, or N/A	Item	Code Reference		
	The water supply to the clothes washer is protected against backflow	406.1 FBCP		
	The waste from an automatic clothes washer is through an air break into a standpipe in accordance with P 802.4.	406.2 FBCP		

Dishwashing Machines				
OK, Comment, or N/A	Item	Code Reference		
	The water supply to a commercial dishwashing machine is protected against backflow	409.2 FBCP		
	Waste connection from an commercial dishwashing machine is through an air gap or air break into a standpipe or waste receptor in accordance with 802.1.6	409.3 FBCP		

Commercial Food Waste Grinder				
OK, Comment, or N/A	Item	Code Reference		
	Commercial food waste grinders are connected to a minimum 1-1/2" diameter drain and trapped separately from any other fixtures or sink compartments.	416.3 FBCP		

Garbage Can Washer

OK, Comment, or N/A	Item	Code Reference
	The water supply to a garbage can washer is protected against backflow by an air gap or backflow preventer.	417.1 FBCP

Water Heaters				
OK, Comment, or N/A	Item	Code Reference		
	Water heaters are ASME HLW-stamped equipment which classifies them as hot water heaters and not boilers. The HLW stamp precludes operation above 400,000 btuh, 210 deg F, limits fired tank size to under 120 gallons, reduces risk, and does not require regular boiler inspections.	ASME HLW, 69A-51 FAC		
	A drain valve is installed at the bottom of each tank-type water heater and hot water storage tank.	501.3 FBCP		
	The hot water supply for the kitchen shall be sized to provide 140 deg F water to the pot sinks and the dishwasher. The booster heater in the dishwasher shall be capable of producing 180 deg F water for dishwashing.	District Plumbing Design Criteria C.5.b and C.5.c		
	Bottom-fed water heaters and bottom-fed tanks connected to water heaters have a vacuum relief valve.	504.2 FBCP		
	Hot water supplied to hand wash sinks or lavatories in toilet rooms shall be controlled by a mixing valve to limit temperature not to exceed 110 deg F nor be less than 95 deg F.	468.3.5.12 FBCB		
	A separate switch is provided to terminate the energy supplied to electric hot water supply systems. A separate valve shall be provided to shut off the energy fuel supply to all other types of hot water systems.	504.3 FBCP		
	All storage water heaters operating above atmospheric pressure have an approved self-closing (levered) pressure relief valve and temperature relief valve or combination thereof.	504.4 FBCP		
	The outlet of pressure, temperature, or other relief valves shall not be directly connected to the drainage system.	504.6 FBCP		

Water Supply			
OK, Comment, or N/A	Item	Code Reference	
	The water service pipe size is not less than $\frac{3}{4}$ ".	603.1 FBCP	
	The water service pipe and the building sewer are separated by 5' (1524 mm) of undisturbed or compacted earth.	603.2 FBCP	
	The maximum water consumption flow rates and quantities for all plumbing fixtures and fixture fittings are in accordance with Table 604.3.	604.3 FBCP	
	Protection by reduced pressure principle backflow prevention assembly is provided on all non-potable water outlets such as automatic fire sprinklers, standpipe systems and chilled water systems.	608.16.4 FBCP	
	Sillcocks, hose bibbs, wall hydrants, and other openings with a hose connection are protected by an atmospheric-type or pressure-type vacuum breaker or a permanently mounted hose connection vacuum breaker.	608.16.4.2 FBC	

Sanitary Drainage

OK, Comment, or N/A	Item	Code Reference
	The campus is connected to a public sewer or an approved private sewage disposal system.	701.2 FBCP
	The campus is on a separate connection with the sewer for other properties. Where located on the same lot, multiple buildings may connect to a common building sewer that connects to the public sewer.	701.3 FBCP
	The chemical waste that may be detrimental to the public sewer shall be treated in accordance with Section 803.2 before discharging to the sanitary drainage system.	701.5 FBCP
	The drainage system for chemical waste and vent pipes shall be completely separated from the sanitary drainage system and shall be of an approved material resistant to corrosion and degradation for the concentration of chemicals involved.	702.6 FBCP
	Horizontal drainage piping is shown in uniform alignment at uniformslopes, with a minimum slope per table P704.1Size (inches)Horizontal Spacing (inch per foot)2 ½ or less1/43 to 68 or larger1/16	704.1 FBCP

Cleanouts		
OK, Comment,	Item	Code Reference
or N/A		
	Horizontal drains have cleanouts located not more than 100' apart.	708.1.1 FBCP
	Building sewers have cleanouts located not more than 100' apart measured from the upstream entrance of the cleanout	708.1.2 FBCP
	There is a cleanout near the junction of the building drain and the building sewer.	708.1.3 FBCP
	Cleanouts are installed at each change of direction of the building drain or horizontal waste or soil lines greater than 45°. (When more than one change of direction in a run of piping, only one cleanout is required for each 40' of developed length of drainage piping.)	708.1.4 FBCP
	Cleanouts are the same nominal size as the pipe they serve up to 4". Pipes >4" nominal size, the minimum size of the cleanout is 4".	708.1.5 FBCP

Drainage System Sizing			
OK, Comment,	Item	Code Reference	
or N/A			
	The maximum number of drainage fixture units connected to a given size		
	of building sewer, building drain, or horizontal branch meets the	710.1 FBCP	
	requirements of Table 710.1(1).		

Sumps and Ejectors		
OK, Comment,	Item	Code Reference
or N/A		
	Building subdrains that cannot discharge into the public sewer by gravity	710 1 ED CD
	gravity line to the public sewer.	/12.1 FBCP
	There is an accessible gate valve on the discharge side of the check valve	
	the gravity drainage system.	/12.2 FBCP
	The sump pump capacity and head is appropriate for the anticipated use requirements.	712.3.1 FBCP
	The sump pit is not less than 18" in diameter and 24" deep.	712.3.2 FBCP
	The effluent level control is adjustable and maintainable to prevent the	
	effluent in the sump from rising to within 2" of the invert of the gravity	712.3.4 FBCP
	drain inlet into the sump.	

Indirect Waste		
OK, Comment,	Item	Code Reference
or N/A		
	Equipment and fixtures for storage, preparation, and handling of food are discharged through an indirect waste pipe by means of an air gap.	802.1.1 FBCP

Vents			
OK, Comment,	Item	Code Reference	
or N/A			
	Every trap and trapped fixture is vented in accordance with one of the venting methods in this chapter.	901.2.1 FBCP	
	The vent system for a chemical waste system is independent of the sanitary vent system and terminates separately through the roof to the open air.	901.3 FBCP	
	Every sanitary drainage system receiving the discharge of a water closet has a main vent that is either a vent stack or a stack vent running undiminished in size as directly as possible to the open air above the roof.	903.1 FBCP	
	Every dry vent connecting to a horizontal drain is connected above the centerline of the horizontal drainpipe.	905.3 FBCP	
	Every dry vent rises vertically to a minimum of 6" above the flood level rim of the highest trap or trapped fixture being vented.	905.4 FBCP	

Circuit Vent			
OK, Comment, or N/A	Item	Code Reference	
	There is a max of 8 fixtures connected to a horizontal branch drain and each fixture drain connects horizontally to the horizontal branch being circuit vented.	914.1 FBCP	
	The circuit vent connection is between the two most upstream fixture drains to the horizontal branch per 905 and does not receive the discharge of any soil or waste.	914.2 FBCP	

	There is a relief vent for the circuit-vented horizontal branches receiving the discharge of 4 or more water closets and connecting to a drainage stack that receives the discharge of soil or waste from upper horizontal branches.	914.4 FBCP

Combination Drain and Vent System		
OK, Comment,	Item	Code Reference
or N/A		
	Any combination drain and vent systems serve only floor drains, standpipes, sinks, and lavatories.	915.1 FBCP

Traps			
OK, Comment,	Item	Code Reference	
or N/A			
	Each plumbing fixture is separately trapped per the plumbing code.	1002.1 FBCP	
	Each fixture trap shall have a liquid seal of not less than 2 inches and not more than 4 inches.	1002.4 FBCP	

Interceptors and Separators		
OK, Comment, or N/A	Item	Code Reference
	Interceptors and separators are provided to prevent the discharge of oil, grease, sand, and other substances harmful or hazardous to the building drainage system, public sewer, or sewage treatment plant/process.	1003.1 FBCP
	Food waste disposer shall not discharge to grease interceptors.	1003.3.2 FBCP

Storm Drainage		
OK, Comment,	Item	Code Reference
or N/A		
	Storm water does not drain into sanitary sewers.	1101.3 FBCP
	The size of a drainage pipe is not reduced in the direction of flow.	1101.5 FBCP
	The roof is designed for the maximum possible depth of water that will pond as determined by the relative levels of roof deck and overflow weirs, scuppers, edge, or serviceable drains in combination with the deflected structural elements. In determining the max possible depth of water, all primary roof drainage means shall be assumed blocked.	1101.7 FBCP
	Cleanouts are installed in the storm drainage system and comply with the provisions of this code for sanitary drainage pipe cleanouts.	1101.8 FBCP

Size of Conductors, Leaders and Storm Drains			
OK, Comment,	Item	Code Reference	
or N/A		1	
	The size of the vertical conductors and leaders, building storm drains, building storm sewers, and any horizontal branches of such drains or sewers is based on the 100-year hourly rainfall rate in Fig 1106.1 or on other rainfall rates determined from approved local weather data.	1106.1 FBCP	
	The building storm drain, storm sewer, and horizontal branches are sized in accordance with Table 1106.3, based on the slope of pipes.	1106.3	

The roof drains and storm drainage piping sizing is based on ½ the area of any vertical wall that diverts rainwater to the roof added to the projected roof area to size the vertical conductors, leaders, and horizontal storm drainage piping.	1106.4 FBCP

Florida Building Code-Fuel Gas			
OK, Comment,	Item	Code Reference	
or N/A			
	Fuel-fired appliances have the required combustion air supply.	304.1 FBCFG	
	Air for combustion, ventilation, and dilution of flue gases for gas-fired equipment vented by natural draft is sized per FG 304.5.1 and FG 304.5.2.	304.5 FBCFG	
	Proper clearance around appliances is provided.	306.1 FBCFG	
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Florida Building Code- Building Chapter 453			
OK, Comment,	Item	Code Reference	
or N/A			
	The fire alarm system properly shuts off gas and fuel oil supplies.	453.7.8 FBCB	
	 Boiler Rooms: Each boiler room has an out-swinging door opening to the exterior and is separated from the remainder of the building by at least 1-hour fire-rated construction or a separate building at least 60' from other buildings. There is a fire-rated door swinging into the boiler room for any openings into the interior of the building. There is no opening into any corridor or space used by students. 	453.7.8 FBCB	
	Concealed Piping : Piping systems for flammable liquids or gases are not be installed in or above interior corridors or stairwells	453.15.1.1	
	Piping (fluid system) shall not be run where students can access the pipes, or in areas such as on roofs where they can be damaged by routine or periodic maintenance activities.	453.15.1.2	
	Hot Water : Any fixtures with hot water supplied in showers, hand wash sinks, or lavatories in the toilet rooms, are equipped with a mixing valve to limit the temperature not to exceed 110°F.	453.16.6 FBCB	
	Floor Drains : Floor drains are provided in the food serving areas, kitchen area, scullery, garbage and rubbish rooms, and can wash area.	453.16.9.2 FBCB	
	Dousing Shower and Eyewash : Every science room lab or shop where students handle materials or chemicals potentially dangerous to human tissue shall have a dousing shower and eye-wash, with floor drain under the shower/eye wash, for emergency use.	453.16.10	

NFPA - Installation of Sprinkler Systems			
OK, Comment,	Item	Code Reference	
or N/A			
	Level of Protection: Buildings with automatic sprinkler systems have		
	sprinkler coverage in all areas except where specific sections of this	4.1 NFPA 13	
	standard permit omission of the sprinkler coverage.		

Clas	 sifications: Classrooms are light hazard occupancy: 0.10-gpm/sq ft. Kitchen is ordinary hazard group I: 0.15-gpm/sq ft. Storage Areas and Wooden Stages are ordinary hazard group II: 0.20-gpm/sq ft. Emergency Generator Room coverage is: 0.3-gpm/sq ft 	11.2.1.2 NFPA 13 11.4.5.1 NFPA 37
Wat for a wate an al	er Flow Detecting Devices Wet Pipe Systems: The alarm apparatus wet pipe system shall consist of a listed check valve or other listed or flow-detecting alarm device with the necessary attachments to sound arm.	6.9.2.1 NFPA 13
Pres	 A listed pressure gauge conforming to 8.16.3 is shown in each system riser. 	7.1.1.1 NFPA 13
	• Pressure gauges are installed above and below each alarm check valve or riser check valve where such devices are present.	7.1.1.2 NFPA 13
The by an	 maximum floor area on any one floor protected by sprinklers supplied ny one sprinkler system riser or combined system riser is: 1. Light Hazard - 52,000 ft². (4831 m²) 2. Ordinary Hazard - 52,000 ft². (4831 m²) 	8.2.1 NFPA 13
Whe with temp	re maximum ceiling temperatures exceed 100°F (38°C), sprinklers temperature ratings in accordance with the maximum ceiling peratures of Table 6.2.5.1 are used.	8.3.2.2 NFPA 13
Exte type	nded coverage sprinklers are limited to an unobstructed construction consisting of a flat smooth ceiling with a slope not exceeding 1:6.	8.4.3 NFPA 13
The	maximum area of coverage of any sprinkler does not exceed 400 ft ²	8.5.2.2.2 NFPA 13
The	maximum distance between sprinklers is based on the centerline nce between sprinklers on the branch line or on adjacent branch lines.	8.5.3.1.1 NFPA 13
The maxi	distance from sprinklers to walls does not exceed ½ of the allowable imum distance between sprinklers.	8.5.3.2.1 NFPA 13
Drai	n size is at least 2" for systems riser of 4" or more.	8.15.2.4.2 NFPA 13
Loca	al water flow alarms are provided on all sprinkler systems having more 20 sprinklers	8.16.1.1 NFPA 13
A ret wate	tarding device is shown on each alarm check valve using variable or pressure.	8.16.1.2.1 NFPA 13
Each raise fittin STA	n fire department connection to the sprinkler system has a sign with of or engraved letters at least 1" (25.4 mm) in height on a plate or ng reading service design – i.e. AUTOSPKR., OPEN SPRKR., AND NDPIPE.	8.16.2.4.7.1 NFPA 13
Fire	department connections are not connected on the suction side of fire ps	8.16.2.4.8 NFPA 13
A lis	ted check valve is installed in each fire department connection	8.16.2.5.1 NFPA 13
Ther	e are no shutoff valves in the fire department connection piping.	8.16.2.5.2 NFPA 13
A pr the s on th	essure gauge with a connection not less than ¹ / ₄ " (6.4 mm) is shown at ystem main drain, each main drain associated with a floor valve, and ne inlet and outlet side of each pressure reducing valve.	8.16.3.1 NFPA 13
Each drair	a gauge connection is equipped with a shutoff valve and provisions for ning.	8.16.3.2 NFPA 13
The than	required pressure gauges are listed and have a maximum limit not less twice the normal system working pressure at installation points.	8.16.3.3 NFPA 13
Mair wate	n drain test connection is at locations that will permit flow tests of r supplies and connections	8.16.4.1.1 NFPA 13

An alarm test connection is present and not less than 1" (25.4 mm) diameter, terminating in a smooth bore corrosion-resistant orifice, giving a flow equivalent to one sprinkler of a type having the smallest orifice installed on the particular system, to test each water flow alarm device for each system.			8.16.4.2.1 NFPA 13	
The trip test connection is located on the end of the most distant sprinkler pipe in the upper story and has a readily accessible shutoff valve and plug not less than 1" (25.4 mm) with at least one being brass.			8.16.4.3.2 NFPA 13	
The minimum water supply requirements for a hydraulically designed occupancy hazard fire control sprinkler system is determined by adding the hose stream demand from table 11.2.3.1.1 to the water supply sprinklers determined in 11.2.3.1.5.			11.2.3.1.1 NFPA 13	
Hose stream deman Hydraulically calcu Occupancy Light hazard Ordinary hazard Extra hazard For SI units, 1 gpr	d and water supply lated systems: Inside Hose 0, 50, or 100 0, 50, or 100 0, 50, or 100 n = 3.785 L/min	v duration requirem Total Combined Inside and Outside Hose (gpm) 100 250 500	Duration (minutes) 30 60-90 90-120	11.2.3.1.1 NFPA 13
Pumps taking suction from a private fire service main supply sprinklers only, the pump does not have to be sized to accommodate inside and outside hose. Use such hose allowance in evaluating the available water supplies			11.2.3.1.4 NFPA 13	
 When using Figure 11.2.3.1.5, the calculations shall satisfy any single point on the appropriate density/area curve. Example: Light hazard 1500 sq ft. x .10 gpm/sq ft.= 150 Ordinary hazard Class 1 1500 sq ft x .15 gpm/sq ft. = 225 Ordinary hazard Class 2 1500 sq ft x .20 gpm/sq ft. = 300 			11.2.3.2.1.2 NFPA 13	
Capacity: Water supplies are capable of providing the required flow and pressure for the required duration as specified in Chapter 11, Chapter 12, and Chapter 13.				15.1.2 NFPA 13
Piping for the priva	te service main is a	at least 6" (152.4 m	m) in diameter.	15.1.3.1 NFPA 13
The connection bet a suitable transition	ween the system pi piece and is prope	ping and the under orly fastened by an	ground piping has approved device.	15.1.6.1.1 NFPA 13
The fire department connection is located not less than 18: (457 mm) or more than 48" (1219 mm) above the level of the adjoining ground, sidewalk, or grade.			4-3.6 NFPA 14	
All valves controlli sprinklers are listed	ng connections to v indicating valves.	water supplies and	to supply pipes to	6.1.1 NFPA 24
At least one listed post-indicating valve is installed in each water source supply			6.2.1 NFPA 24	
 In a connection serving as one source of supply, a listed indicating valve or post-indicator valve is installed on both sides of all check valves required by 6.2.3.			6.2.5 NFPA 24	
Post Indicator Valv Every connection listed post indica The AHJ may wa required in 6.3.1	es: n from the private in tor valve located to aive the requirement where provisions	fire service main to o control all water s nt for the post indic	a building has a source supplies. cator valve(s)	6.3.1* NFPA 24 6.3.2 NFPA 24

Plumbing

Post indicator valve(s) are 40' or more from the building. If site does not allow a 40' distance, AHJ may approve a closer distance under the conditions in 6.3.3.2.	6.3.3.1 NFPA 24
Post indicator valve(s) are set so the post is 36" above the final grade.	6.3.4.1 NFPA 24
Post indicator valve(s) are protected against mechanical damage as necessary.	6.3.4.2 NFPA 24
If impractical to provide a post-indicator valve, with the approval of the AHJ, the valve(s) may be located in pits.	6.4.1 NFPA 24
Large private fire service main systems have sectional controlling valves at appropriate points to isolate the system in the event of breaks, make repairs, or extend the system.	6.5.1 NFPA 24
Hydrants	
Approved hydrant is indicated with at least 6" connection to the mains.	7.1.1 NFPA 24
A valve is shown at the hydrant connection.	7.1.1.1 NFPA 24
Hydrants are spaced with the Fire AHJ.	7.2.1* NFPA 24
Hydrant is indicated not less than 40' of the building(s) it servers.	7.2.3 NFPA 24
If site does not allow 40' distance, AHJ may approve a closer distance.	7.2.4 NFPA 24
Steel pipe is not indicated for general underground service unless specifically listed for such use.	10.1.2 NFPA 24

	Specifications			
OK, Comment, or N/A	Item	Code Reference		
	Project Specifications match the District Master Specifications or have been revised with approved edits including approved variance requests if necessary.	DDC and DMS		
	Equipment, components, and materials agree with the project specifications.	DDC and DMS		
	Specifications agree with the District Design Criteria.	DDC and DMS		