

A/E REVIEW CHECKLIST

PLUMBING/FIRE PROTECTION/SANITARY

☑Reviewers should - Use Checklists when reviewing any type of VA construction project for the following disciplines:

- Site and Landscape,
- Architectural,
- Structural,
- Plumbing, Fire Protection, and Sanitary,
- Heating, Ventilating, and Air Conditioning (HVAC),
- Steam Generation,
- Steam Distribution,
- Incineration/Solid Waste, and
- Electrical.

☑Reviewers should - Insure that A/E Submission Instructions (PG-18-15) for Schematic, Design Development, and Construction Documents are followed for various types of VA construction projects.

☑Reviewers should - Insure that every VA construction project is in compliance with all life safety issues.

☑Reviewers should - Be aware that these checklists are not all-inclusive but only provide minimum review items.

A/E CHECKLIST

TITLE _____ **PROJECT NO.** _____
LOCATION _____ **DATE** _____
REVIEWED BY _____
ORGANIZATION _____

GENERAL INFORMATION FOR REVIEWERS	
PLUMBING/FIRE PROTECTION/SANITARY REVIEWS	
The reviewer should be thoroughly familiar with the following VA standards before conducting a design review. These are available on <i>Internet/Intranet</i> : http://www.va.gov/facmgt/standard/va_gov.htm http://vawww.va.gov/facmgt/standard/va_gov.htm	
1.	DESIGN MANUALS (PG-18-10)
2.	MASTER CONSTRUCTION SPECIFICATIONS (PG-18-1)
3.	STANDARD DETAILS (PG-18-4) (Available in AutoCADD 2000 Format)
4.	DESIGN AND CONSTRUCTION PROCEDURES (formerly Construction Standards) (H-18-3) (Policies defining the minimum level of excellence in the design of VA facilities)
5.	DESIGN GUIDES (PG-18-12) (Graphic information on specific programs in the design development of VA facilities)
6.	DESIGN ALERTS (These alerts are issued on a regular basis for design and construction related issues)
7.	A/E QUALITY ALERTS (These alerts are issued to guard against common and repeat design errors)
8.	A/E SUBMISSION INSTRUCTIONS, PROGRAM GUIDE, PG-18-15
9.	TECHNICAL SUMMARIES (The summaries of HVAC design requirements for special and critical areas)
10.	NATIONAL CAD STANDARD
11.	VA NATIONAL CAD STANDARD APPLICATION GUIDE

A/E CHECKLIST

TITLE _____ **PROJECT NO.** _____
LOCATION _____ **DATE** _____
REVIEWED BY _____
ORGANIZATION _____

SCHEMATIC 1		
PLUMBING REVIEW		
NO.	ITEM	COMMENTS/ YES/NO/NA
1	Have A/E Submission Requirements (PG-18-15) for this review been met? If not, list omissions below.	
2	Is non-structural seismic, hurricane, or major flood protection necessary?	
3	Coordinate drawings with other disciplines	

SCHEMATIC 1		
FIRE PROTECTION REVIEW (Related to Plumbing/Sanitary Engineering)		
NO.	ITEM	COMMENTS/ YES/NO/NA
	No requirements.	

SCHEMATIC 1		
SANITARY REVIEW		
NO.	ITEM	COMMENTS/ YES/NO/NA
1	Have A/E Submission Requirements (PG-18-15) for this review been met? If not, list omissions below.	
2	Is seismic, hurricane, or major flood protection necessary?	
3	Coordinate drawings with other disciplines	

A/E CHECKLIST

TITLE _____ **PROJECT NO.** _____
LOCATION _____ **DATE** _____
REVIEWED BY _____
ORGANIZATION _____

SCHEMATIC 2		
PLUMBING REVIEW		
NO.	ITEM	COMMENTS/ YES/NO/NA
1	Have A/E Submission Requirements (PG-18-15) for this review been met? If not, list omissions below.	
2	Were previous VA comments satisfied?	
3	Have drawings been prepared in compliance with VA Design & Construction Procedures?	
4	Have correct plumbing fixtures been located where required?	
5	Coordinate drawings with other disciplines	

SCHEMATIC 2		
FIRE PROTECTION REVIEW		
(Related to Plumbing/Sanitary Engineering)		
NO.	ITEM	COMMENTS/ YES/NO/NA
1	Have A/E Submission Requirements (PG-18-15) for this review been met? If not, list omissions below.	
2	Were previous VA comments satisfied?	
3	Have drawings been prepared in compliance with VA Design & Construction Procedures and Design Manuals?	
4	Coordinate drawings with other disciplines	

A/E CHECKLIST

TITLE _____ **PROJECT NO.** _____
LOCATION _____ **DATE** _____
REVIEWED BY _____
ORGANIZATION _____

SCHEMATIC 2		
SANITARY REVIEW		
NO.	ITEM	COMMENTS/ YES/NO/NA
1	Have A/E Submission Requirements (PG-18-15) for this review been met? If not, list omissions below.	
2	Were previous VA comments satisfied?	
3	Have drawings been prepared in compliance with VA Design & Construction Procedures & Design Manuals?	
4	Is seismic, hurricane, or major flood protection necessary?	
5	Coordinate drawings with other disciplines	

A/E CHECKLIST

TITLE _____ **PROJECT NO.** _____
LOCATION _____ **DATE** _____
REVIEWED BY _____
ORGANIZATION _____

DESIGN DEVELOPMENT 1		
PLUMBING REVIEW		
NO.	ITEM	COMMENTS/ YES/NO/NA
1	Have A/E Submission Requirements (PG-18-15) for this review been met? If not, list omissions at bottom of page 3.	
2	Were previous VA comments satisfied?	
3	Have drawings been prepared in compliance with VA Design & Construction Procedures?	
4	Have correct plumbing fixtures been located where required?	
5	Coordinate drawings with other disciplines	

DESIGN DEVELOPMENT 1		
FIRE PROTECTION REVIEW		
(Related to Plumbing/Sanitary Engineering)		
NO.	ITEM	COMMENTS/ YES/NO/NA
1	Have A/E Submission Requirements (PG-18-15) for this review been met? If not, list omissions below.	
2	Were previous VA comments satisfied?	
3	Have drawings been prepared in compliance with VA Design & Construction Procedures and Design Manuals?	
4	Coordinate drawings with other disciplines	

A/E CHECKLIST

TITLE _____ **PROJECT NO.** _____
LOCATION _____ **DATE** _____
REVIEWED BY _____
ORGANIZATION _____

DESIGN DEVELOPMENT 1		
SANITARY REVIEW		
NO.	ITEM	COMMENTS/ YES/NO/NA
1	Have A/E Submission Requirements (PG-18-15) for this review been met? If not, list omissions at bottom of this sheet.	
2	Were previous VA comments satisfied?	
3	Have drawings been prepared in compliance with VA Design & Construction Procedures & Design Manuals?	
4	Coordinate drawings with other disciplines	

A/E CHECKLIST

TITLE _____ **PROJECT NO.** _____
LOCATION _____ **DATE** _____
REVIEWED BY _____
ORGANIZATION _____

DESIGN DEVELOPMENT 2		
PLUMBING REVIEW		
NO.	ITEM	COMMENTS/ YES/NO/NA
1	Have A/E Submission Requirements (PG-18-15) for this review been met? If not, list omissions at bottom of page 2.	
2	Were previous VA comments satisfied?	
3	Have drawings been prepared in compliance with VA Design & Construction Procedures?	
4	Have design calculations been submitted for the following equipment:	
	a. Medical air compressors & receivers	
	b. Laboratory air compressors & receivers	
	c. Dental air compressors & receivers	
	d. Vacuum pumps & receivers	
	e. Hot water heaters, accumulator, & circulating pump	
	f. Fire, sump, & jockey pumps	
	g. Water treatment equipment	
5	Have piping and fixture locations been coordinated with architectural and structural drawings?	
6	Have adequate number of isolation shut-off valves been provided for the following piping systems?	
	a. Water	
	b. Fuel Gas	
	c. Medical Gases	
7	Are emergency eye wash/showers provided where chemicals and other hazardous materials are handled?	
8	Have room names and numbers been provided for floor plans?	
9	Coordinate drawings with other disciplines	

A/E CHECKLIST

TITLE _____ **PROJECT NO.** _____
LOCATION _____ **DATE** _____
REVIEWED BY _____
ORGANIZATION _____

DESIGN DEVELOPMENT 2		
FIRE PROTECTION REVIEW (Related to Plumbing/Sanitary Engineering)		
NO.	ITEM	COMMENTS/ YES/NO/NA
1	Have A/E Submission Requirements (PG-18-15) for this review been met? If not, list omissions below.	
2	Were previous VA comments satisfied?	
3	Have drawings been prepared in compliance with VA Design & Construction Procedures and Design Manuals?	
4	Have smoke and fire partitions been indicated on drawings?	
5	Are shut-off valves and drains provided at base of fire standpipes?	
6	Have calculations been provided for fire supply lines and fire standpipes?	
7	Coordinate drawings with other disciplines	

A/E CHECKLIST

TITLE _____ **PROJECT NO.** _____
LOCATION _____ **DATE** _____
REVIEWED BY _____
ORGANIZATION _____

DESIGN DEVELOPMENT 2		
SANITARY REVIEW		
NO.	ITEM	COMMENTS/ YES/NO/NA
1	Have A/E Submission Requirements (PG-18-15) for this review been met? If not, list omissions below.	
2	Were previous VA comments satisfied?	
3	Have drawings been prepared in compliance with VA Design & Construction Procedures & Design Manuals?	
4	Have design calculations been submitted for the following systems:	
	a. Sanitary sewerage	
	b. Storm Drainage	
	c. Water	
	d. Irrigation	
	e. Fuel Gas	
	f. Water treatment	
	g. Sewage treatment	
	h. Water storage	
	i. Cathodic protection	
5	Are sanitary drawings coordinated with plumbing, electrical site, steam site, and landscape drawings?	
6	Coordinate drawings with other disciplines	

A/E CHECKLIST

TITLE _____ **PROJECT NO.** _____
LOCATION _____ **DATE** _____
REVIEWED BY _____
ORGANIZATION _____

CONSTRUCTION DOCUMENTS 1		
PLUMBING REVIEW		
NO.	ITEM	COMMENTS/ YES/NO/NA
1	Have A/E Submission Requirements (PG-18-15) for this review been met? If not, list omissions at bottom of page 3.	
2	Were previous VA comments satisfied?	
3	Have drawings been prepared in compliance with VA Design & Construction Procedures?	
4	Have design calculations been submitted for the following systems:	
	a. Soil, waste, & vent	
	b. Roof drainage	
	c. Domestic cold water	
	d. Domestic hot water & return	
	e. Hot water generation	
	f. Reagent grade water	
	g. Fuel gas	
	h. Oxygen	
	i. Vacuum	
	j. Medical air	
	k. Nitrous Oxide	
	l. Nitrogen	
	m. Laboratory air	
	n. Laboratory vacuum	
	o. Dental air	
	p. Oral Evacuation	
	q. Shop air	
	r. Therapeutic pool	
5	Do drawings indicate locations, sizes, & capacities of:	
	a. Medical air compressors & receivers	
	b. Laboratory air compressors & receivers	
	c. Dental air compressors & receivers	
	d. Vacuum pumps & receivers	

A/E CHECKLIST

TITLE _____ **PROJECT NO.** _____
LOCATION _____ **DATE** _____
REVIEWED BY _____
ORGANIZATION _____

CONSTRUCTION DOCUMENTS 1		
PLUMBING REVIEW		
NO.	ITEM	COMMENTS/ YES/NO/NA
5 (cont.)	e. Hot water heaters, accumulator, & circulating pump	
	f. Fire, sump, & jockey pumps	
	g. Water treatment equipment	
6	Do plumbing fixture numbers agree with those provided in contract specifications?	
7	Have correct plumbing fixtures been located where required?	
8	Has adequate wall space been provided for piping to serve wall-hung fixtures and back-to-back fixtures?	
9	Has location, size, and invert or centerline elevations of sanitary and storm sewers, water and fuel gas lines been coordinated with civil/sanitary engineer?	
10	Do "P" numbers provided for plumbing fixtures on drawings match those indicated in specifications?	
11	Have piping and fixture locations been coordinated with architectural and structural drawings?	
12	Has freeze protection been considered for water piping?	
13	Are floor drains correctly located and sized?	
14	Are roof drains correctly located and sized?	
15	Has location and number of cylinders of nitrous oxide manifold been indicated?	
16	Has location and number of cylinders of inside oxygen manifold been indicated?	
17	Has exterior oxygen storage pad been indicated?	
18	Has location of medical gas alarm panels been shown?	
19	Have pressure failure switches for oxygen, nitrous oxide, vacuum, and compressed air systems been indicated and coordinated with electrical?	
20	Are fuel oil tanks for emergency generators provided?	
21	Have balancing valves been provided in the domestic hot water system?	

A/E CHECKLIST

TITLE _____ **PROJECT NO.** _____
LOCATION _____ **DATE** _____
REVIEWED BY _____
ORGANIZATION _____

CONSTRUCTION DOCUMENTS 1		
PLUMBING REVIEW		
NO.	ITEM	COMMENTS/ YES/NO/NA
22	Are emergency eye wash/showers provided where chemicals and other hazardous materials are handled?	
23	Have room names and numbers been provided for floor plans?	
24	Have floor numbers, floor heights, and plumbing fixture numbers been shown on all riser diagrams?	
25	Have adequate number of isolation shut-off valves been provided for the following piping systems?	
	a. Water	
	b. Fuel Gas	
	c. Medical Gases	
26	Are water heaters that serve patients and staff protected with temperature relief valves to limit discharge to 130 degrees F?	
27	Have backflow prevention valves been installed in potable and non-potable water distribution systems	
28	Are acid waste and vent piping and neutralization/dilution tanks necessary?	
29	Are all plumbing items provided in specifications?	
30	Has type, speed, horsepower, and capacity of pumps and compressors been provided on drawings?	
31	Have necessary details been provided?	
32	Have riser diagrams been provided for the following systems?	
	a. Soil, waste , & vent	
	b. Cold water	
	c. Hot water & return	
	d. Reagent grade water	
	e. Oxygen	
	f. Medical air	
	g. Vacuum	
	h. Dental air	
	i. Oral evacuation	

A/E CHECKLIST

TITLE _____ **PROJECT NO.** _____
LOCATION _____ **DATE** _____
REVIEWED BY _____
ORGANIZATION _____

CONSTRUCTION DOCUMENTS 1		
PLUMBING REVIEW		
NO.	ITEM	COMMENTS/ YES/NO/NA
32 (cont.)	j. Shop air	
	k. Fuel gas	
	l. Nitrous oxide	
	m. Nitrogen	
	n. Roof drainage	
33	Coordinate drawings with other disciplines	

A/E CHECKLIST

TITLE _____ **PROJECT NO.** _____
LOCATION _____ **DATE** _____
REVIEWED BY _____
ORGANIZATION _____

CONSTRUCTION DOCUMENTS 1		
FIRE PROTECTION REVIEW (Related to Plumbing/Sanitary Engineering)		
NO.	ITEM	COMMENTS/ YES/NO/NA
1	Have A/E Submission Requirements (PG-18-15) for this review been met? If not, list omissions below.	
2	Were previous VA comments satisfied?	
3	Have drawings been prepared in compliance with VA Design & Construction Procedures and Design Manuals?	
4	Have smoke and fire partitions been indicated on drawings?	
5	Have fire densities been indicated on drawings	
6	Have fire supply lines and fire standpipes been indicated?	
7	Are shut-off valves and drains provided at base of fire standpipes?	
8	Are all fire protection items provided in specifications?	
9	Coordinate drawings with other disciplines	

A/E CHECKLIST

TITLE _____ **PROJECT NO.** _____
LOCATION _____ **DATE** _____
REVIEWED BY _____
ORGANIZATION _____

CONSTRUCTION DOCUMENTS 1		
SANITARY REVIEW		
NO.	ITEM	COMMENTS/ YES/NO/NA
1	Have A/E Submission Requirements (PG-18-15) for this review been met? If not, list omissions at bottom of this sheet.	
2	Were previous VA comments satisfied?	
3	Have drawings been prepared in compliance with VA Design & Construction Procedures & Design Manuals?	
4	Have design calculations been submitted for the following systems:	
	a. Sanitary sewerage	
	b. Storm Drainage	
	c. Water	
	d. Irrigation	
	e. Fuel Gas	
	f. Water treatment	
	g. Sewage treatment	
	h. Water storage	
	i. Cathodic protection	
5	Are sanitary drawings coordinated with plumbing, electrical site, steam site, and landscape drawings?	
6	Coordinate drawings with other disciplines	