

A/E REVIEW CHECKLIST

STRUCTURAL

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	
STRUCTURAL REVIEWS	
<p>The reviewer should be thoroughly familiar with the following VA standards before conducting a design review. These are available on <i>Internet/Intranet</i>:</p> <p>http://www.va.gov/facmgt/standard/va_gov.htm http://vawww.va.gov/facmgt/standard/va_gov.htm</p>	
1.	DESIGN MANUALS (PG-18-10)
2.	MASTER CONSTRUCTION SPECIFICATIONS (PG-18-1)
3.	STANDARD DETAILS (PG-18-4) (available in AutoCAD 2000)
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.	VA NCS APPLICATION GUIDE
11.	NCS (NATIONAL CADD STANDARD)

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SCHEMATIC & DESIGN DEVELOPMENT		
STRUCTURAL REVIEW		
NO.	ITEM	COMMENTS/ YES/NO/NA
1	Building Code & Design Criteria	
2	Selected Structural System	
	a. Steel/Concrete/Other	
	b. Bay Size	
	c. High Stress Elements (if any)	
3	Lateral Load Resisting System	
4	Design Calculations (manually for all typical members) - Results obtained by computers shall be spot checked manually	
5	Framing Plan for each floor and roof	
6	Tentative sizes of columns, beams and slabs in major areas	
7	Plans correlated with architectural and mechanical features	
8	Typical sections and details to define construction features	
9	Detail at exterior walls	
10	Existing Utilities' Interference	
11	Detail at the interface of existing building (if applicable)	
12	Reviewed A/E Quality Alert of Structural, Design Development Phase	

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FINAL CONSTRUCTION DOCUMENTS		
STRUCTURAL REVIEW		
NO.	ITEM	COMMENTS/ YES/NO/NA
1	Percent Complete	
	a. Drawings	
	b. Specifications	
	c. Calculations	
2	Drawings (Spot Check) Comply with VA NCS Application Guide	
	a. Dimensions	
	b. Size of Beams	
	c. Size of Columns & Base Plates	
	d. Size of Steel Decking (Type & Properties)	
	e. Size of Floor Slab	
	d. Floor Depressions	
	g. Floor & Roof Openings	
	f. Elevation of Top of Beams	
	g. Composite beam/girder reaction shown	
	h. Shear Walls & Braced Bents Location	
	i. Expansion Joint Detail (Special attention in seismic. areas)	
	j. Construction Joints & Control Joints	
	k. Orientation of Columns	
	l. Grade Beam Detail	
	m. Typical Footing (Size & Detail, including Elevation)	
	n. Pile Cap (Detail including Cut-off Elevation)	
	o. Total Linear Feet of Piles/Caissons	
	p. Caisson (Detail including Elevation, Top & Bottom)	
	q. Rock Elevation (Assure classification with Soil Report)	
r. Estimate of Quantity of Rock Excavation		
s. Water Proofing Detail		
t. Design Parameters (Floor Live Load, Wind, Seismic, & Soil Bearing Pressure)		

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FINAL CONSTRUCTION DOCUMENTS		
STRUCTURAL REVIEW		
NO.	ITEM	COMMENTS/ YES/NO/NA
3	Special Details & Notes (Spot Check)	
	a. Grades of Steel, Types of Concrete	
	b. Schedules (Footing, Grade Beam, Column, etc.) complete	
	c. Reinforcing Details (conform with ACI, including seismic details)	
	d. Spacing of bars allow vibrating concrete	
	e. Connection Details	
	f. Sleeve Details	
	g. Shelf Angle Detail	
	h. Fireproofing Details	
	i. Pre-cast Panel Design & Details	
	j. Masonry Wall Anchorage	
	k. Boring Logs	
	l. Structural General Notes	
	m. Special Load Areas Identified	
	p. Cumulative Loads on Columns	
4	Calculations (Spot Check)	
	a. Framed Slab	
	b. Beam (Unbraced Length)	
	c. Column (KL/R)	
	d. Base Plate	
	f. Foundation (coordinate with Geotechnical Report)	
	g. Other Design Considerations (L.L. Reduction, Continuity)	
	h. Deflection (Short & Long Term)	
	i. Drift	
	j. Non-structural Elements Anchorage	
	k. Lateral Load Analysis	

FINAL CONSTRUCTION DOCUMENTS

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STRUCTURAL REVIEW		
NO.	ITEM	COMMENTS/ YES/NO/NA
5	Computer Application	
	a. Computer output summarized for primary load resisting members	
	b. Computer Program Documentation	
6	Reviewed A/E Quality Alert of Structural, Contract Document Phase	
7	Insure that that all review issues have been resolved, and the project files contain information on how each issue was finalized	
8	Insure that the project files contain a final set of structural calculations for future reference	
9	All structural drawings and calculations to show evidence that they have been done and checked by professional structural engineer listed under key personnel in the A/E contract	