Statement of Structural Tests and Special Inspections

National Park Service (NPS) - Denver Service Center (DSC) | 8-22-24

Park: PIRO - Pictured Rocks National Lakeshore

Project Management Information System (PMIS) Number: 226930

Project Name: Munising Falls - Trail Rehabilitation

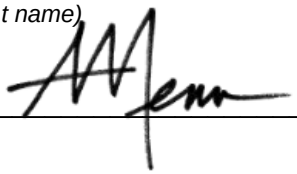
Structural Engineering Firm: TYLin | Silman Structural Solutions

This Statement of Structural Tests and Special Inspections is being submitted as required by Chapter 17 of the **2024 International Building Code** (IBC 2024). It includes the following:

1. Seismic requirements
2. Wind requirements
3. Qualification Requirements for Inspectors and Testing Technicians
4. Listing of Required Structural Tests and Special Inspections

The Construction Contractor's Quality Control Supervisor will provide copies of all special inspection reports and associated documentation to the Contracting Officer (CO). The Construction Contractor will be required to correct all deficiencies discovered in the Special Inspection and Structural Testing program.

Prepared By: Albert Mena
(Type or print name)

Signature:  Date: 06/23/2025

Stamped by Professional Engineer (PE) or Structural Engineer (SE)

Seismic and Wind Requirements

Seismic Requirements, IBC 2024 Section 1704.3

Description of seismic-force-resisting system and designated seismic systems subject to special inspections:

Elevated boardwalk frame and cantilevered foundations.
Not applicable, reference IBC-24 Section 1705.13 exceptions. Per ASCE 7-22, seismic parameters dictate Seismic Design Category A. Therefore, per ASCE 7-22 Section 11.7, seismic design requirements need only comply with Section 1.4.

Wind Requirements, IBC 2024 Section 1704.3

Description of wind-force-resisting system and designated wind systems subject to special inspections:

Elevated boardwalk frame and cantilevered foundations.
Not applicable, reference IBC-24 Section 1705.12. Per ASCE 7-22, basic wind speed V is less than 140 mph.

Instructions:

1. Under Listing of Required Structural Tests and Special Inspections:
    a. **Required?** - Place an **X** for all Special Inspections and Tests required for this project.
    b. **Required Qualifications** - Provide qualifications for the special inspector, using the Qualification Requirements for Inspector and Testing Technicians list below, for all required Structural Tests and Special Inspections.
    c. **Continuous** - If marked with an **X**, continuous special inspection shall be as defined in Chapter 2, IBC 2024.
    d. **Periodic** - If marked with an **X**, provide the minimum number of tests, i.e. 20% of all field welds, or the amount of work to be inspected (e.g. 10% of all wall surfaces).
2. Attach completed Statement of Structural Tests and Special Inspections to the end of NPS DSC Division 1 Specifications **Section 01 40 00 Quality Requirements**.

Qualification Requirements for Inspectors and Testing Technicians

PE/SE	Structural Engineer – licensed PE or SE specializing in the design of buildings and structures
PE/GE	Geotechnical Engineer – licensed PE specializing in soil mechanics and foundations
EIT	Engineer-In-Training – graduate engineer who has passed the Fundamentals of engineering examination

American Concrete Institute (ACI) Certification

ACI-CCSI	Concrete Construction Special Inspector
ACI-LTT	Concrete Laboratory Testing Technician Level 1 or 2
ACI-STT	Concrete Strength Testing Technician
ACI-FTT	Concrete Field Testing Technician – Grade I

American Society of Non-Destructive Testing (ASNT) Certification

Non-Destructive Testing Technician – Level II or III

American Welding Society (AWS) Certification

AWS-CWI	Certified Welding Inspector

Exterior Design Institute (EDI) Certification

EDI-EIFS	Certified EIFS inspector

International Code Council (ICC) Certification

ICC-PCSI	Prestressed Concrete Special Inspector
ICC-RCSI	Reinforced Concrete Special Inspector
ICC-SSI	Soils Special Inspector
ICC-SFSI	Spray-applied Fireproofing Special Inspector
ICC-SMSI	Structural Masonry Special Inspector
ICC-SSBSI	Structural Steel and Bolting Special Inspector
ICC-SWSI	Structural Welding Special Inspector

National Institute for Certification in Engineering Technologies (NICET) Certification

NICET-CT	Concrete Technician – Levels I, II, III and IV
NICET-GET	Geotechnical Engineering Technician - Levels I, II, III and IV
NICET-ST	Soils Technician - Levels I, II, III and IV

Other

Listing of Required Structural Tests and Special Inspections

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	Structural Steel (IBC 2024 Section 1705.2; American Institute of Steel Construction: AISC 360-22 Chapter N, AISC 341-22 Chapter J)				
	Prior to Welding (AISC 360-22 Table C-N5.4-1)				
X	1. Welder qualification records and continuity records.	**EIT**	X		
X	2. Welding procedure specifications (WPS) available.	**EIT**	X		
X	3. Manufacturer certifications for welding consumables available.	**EIT**	X		
X	4. Material identification (type/grade).	**EIT**		X	25% of welds
	5. Welder identification system.			X	25% of welds
X	6. Fit-up of groove welds (including joint geometry).	**EIT**			
	a. Joint preparation.			X	100% of welds
	b. Dimensions (alignment, root opening, root face, bevel).			X	100% of welds
	c. Cleanliness (condition of steel surfaces).			X	100% of welds
	d. Tacking (tack weld quality and location).			X	100% of welds
	e. Backing type and fit (if applicable).			X	100% of welds
X	7. Fit-up of CJP (complete joint penetration) groove welds of HSS (hollow structural sections) T-, Y- and K-joints without backing (including joint geometry).	**EIT**			
	a. Joint preparation.				
	b. Dimensions (alignment, root opening, root face, bevel).				
	c. Cleanliness (condition of steel surfaces).				
	d. Tacking (tack weld quality and location).				

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
X	8. Configuration and finish of access holes.	**EIT**		X	25% of welds
X	9. Fit-up of fillet welds.				
	a. Dimensions (alignment, gaps at root).	**EIT**		X	25% of welds
	b. Cleanliness (condition of steel surfaces).			X	25% of welds
	c. Tacking (tack weld quality and location).			X	25% of welds
	10. Check welding equipment.			X	25% of welding days
	During Welding (AISC 360-22 Table C-N5.4-2)				
	1. Control and handling of welding consumables				
	a. Packaging.			X	25% of welding days
	b. Exposure control.			X	25% of welding days
	2. No welding over cracked tack welds.			X	25% of welds
	3. Environmental conditions.				
	a. Wind speed within limits.			X	daily
	b. Precipitation and temperature.			X	daily
	4. WPS followed.				
	a. Settings on welding equipment.			X	25% of welding days
	b. Travel speed.			X	25% of welding days
	c. Selected welding materials.			X	25% of welding days
	d. Shielding gas type/flow rate.			X	25% of welding days

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	e. Preheat applied.			X	25% of welding days
	f. Interpass temperature maintained (minimum/maximum).			X	25% of welding days
	g. Proper position (F, V, H, OH).			X	25% of welding days
	h. Intermix of filler metals avoided unless approved (AISC 341-22 Section J7).			X	25% of welding days
	5. Use of qualified welders.		X		
	6. Welding techniques.				
	a. Interpass and final cleaning.			X	25% of welds
	b. Each pass within profile limitations.			X	25% of welds
	c. Each pass meets quality requirements.			X	25% of welds
	7. Placement and installation of headed stud anchors.		X		
	After Welding (AISC 360-22 Table C-N5.4-3)				
	1. Welds cleaned.			X	100% of welds
	2. Size, length and location of welds.		X		
	3. Welds meet visual acceptance criteria.				
	a. Crack prohibition.		X		
	b. Weld/base-metal fusion.		X		
	c. Crater cross section.		X		
	d. Weld profiles.		X		
	e. Weld size.		X		
	f. Undercut.		X		
	g. Porosity.		X		

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	4. Arc strikes.		X		
	5. k-area.		X		
	6. Weld access holes in rolled heavy shapes and built-up heavy shapes.		X		
	7. Backing removed and weld tabs removed (if required).		X		
	8. Repair activities.		X		
	9. Document acceptance or rejection of welded joint or member.		X		
	10. No prohibited welds have been added without the approval of the EOR (Engineer of Record).		X		
	11. Placement of reinforcing or contouring fillet welds (if required) (AISC 341-22 Table J7.1).		X		
	Nondestructive Testing (AISC 360-22 Section N5 and AISC 341-22 Section J7)				
	1. Risk Category II Structures - Perform Ultrasonic Testing on 10% of CJP groove welds in butt, T- and corner joints subject to transversely applied tension loading, in materials 5/16 inch thick or greater.			X	
	2. Risk Category III or IV Structures - Perform Ultrasonic Testing on all CJP groove welds subject to transversely applied tension loading in butt, T- and corner joints, in materials 5/16 inch thick or greater.		X		
	3. Access Holes - Perform Magnetic Particle Testing or Liquid Penetrant Testing when the flange thickness exceeds 1.5 inches for rolled shapes, or when the web thickness exceeds 1.5 inches for built-up shapes.		X		
	4. Welded Joints Subject to Fatigue - Perform testing per AISC 360-22 Section N5c.		X		
	Nondestructive Testing (AISC 341-22 Section J7)				
	Column Splice and Column to Base Plate PJP Groove Weld (AISC 341-22 Section J7 2b)				

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	1. Perform Ultrasonic Testing on 100% of PJP (partial-joint-penetration) groove welds in column splices and column to base plate welds.		X		
	2. CJP Groove weld.		X		
	3. Lamellar tearing.		X		
	4. Beam cope and access hole.		X		
	5. Reduced beam section repair.		X		
	6. Weld tab removal.		X		
	Prior to Bolting (AISC 360-22 Table C-N5.6-1)				
	These inspections are not required for snug-tight joints.				
X	1. Manufacturer's certifications available for fastener materials.	**EIT**	X		
X	2. Fasteners marked in accordance with ASTM requirements.	**EIT**		X	25% of bolts
X	3. Correct fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane).	**EIT**		X	25% of bolts
	4. Correct bolting procedure selected for joint detail.			X	25% of bolts
	5. Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements.			X	25% of bolts
	6. Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used.			X	25% of bolts
	7. Protected storage provided for bolts, nuts, washers and other fastener components.			X	25% of bolts
	During Bolting (AISC 360-22 Table C-N5.6-2)				
	These inspections are not required for snug-tight joints.				
	These inspections are not required for pretensioned joints and slip-critical joints, when the installer is using the turn-of-nut method with matchmarking				

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	techniques, the direct-tension-indicator method, or the twist-off-type tension control bolt method.				
X	1. Fastener assemblies, of suitable condition, placed in all holes and washers (if required) are positioned as required.			X	25% of bolts
	2. Joint brought to the snug-tight condition prior to the pretensioning operation.			X	25% of bolts
	3. Fastener component not turned by the wrench prevented from rotating.			X	25% of bolts
	4. Fasteners are pretensioned in accordance with the RCSC (Resource Council on Structural Connections) Specification, progressing systematically from the most rigid point toward the free edges.			X	25% of bolts
	After Bolting (AISC 360-22 Table C-N5.6-3)				
	Document acceptance or rejection of bolted connections.		X		
X	**Galvanized Structural Steel Main Members** (AISC 360-22 Table C-N5.6-3)				
	Inspect per AISC 360-22 Section N5.7.			X	
	Other Inspection Tasks (AISC 360-22 Section N5.8 and AISC 341-22 Section J9)				
X	1. Verify compliance of fabricated steel with the details shown on the approved shop drawings.			X	100% of details
X	2. Verify compliance of the erected steel frame with the details shown on the approved erection drawings, including braces, stiffeners, member locations and joint details.			X	100% of details
X	3. Anchor rods and other embedments support structural steel.				
	a. Verify the diameter, grade, type and length of the anchor rod or embedded item.			X	100% of details
	b. Verify the extent or depth of embedment into the concrete.			X	100% of details
	4. RBS (reduce beam section) requirements, if applicable. (AISC 341-22)				

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	a. Contour and finish.			X	100% of details
	b. Dimensional tolerances.			X	100% of details
	5. Protected zone - no holes or unapproved attachments made by fabricator or erector, as applicable. (AISC 341-22)			X	100% of details
	Inspection of H-Piles (AISC 341-22 Section J11)				
	1. Protected zone - no holes or unapproved attachments made by the responsible contractor, as applicable. (AISC 341-22 Table J11.1)			X	
	Structural Stainless Steel (IBC 2024 1705.2.2)				
	1. Special inspections and nondestructive testing in accordance with AISC 370-21.			X	
	Cold-formed Steel Deck (IBC 2024 1705.2.3)				
	2. Special inspections in accordance with QA/QC-2022 Standard for Quality control (QC) and Quality assurance (QA) for Installation of Steel Deck.	**EIT**		X	
	Open-Web Steel Joists and Joist Girders (IBC 2024 Table 1705.2.4)				
	1. Installation of open-web steel joists and joist girders.				
	a. End connections - welding or bolted.			X	
	b. Bridging - horizontal or diagonal.				
	1. Standard bridging.			X	
	2. Bridging that differs from the SJI (Steel Joist Institute) specifications listed in Section 2207.1.			X	
	Inspection of Composite Structures Prior to Concrete Placement (AISC 341Table J10.1)				
	1. Material identification of reinforcing steel (Type/Grade).			X	100% of bars

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	2. Determination of carbon equivalent for reinforcing steel other than ASTM A706.			X	100% of bars
	3. Proper reinforcing steel size, spacing and orientation.			X	100% of bars
	4. Reinforcing steel has not been rebent in the field.			X	100% of bars
	5. Reinforcing steel has been tied and supported as required.			X	100% of bars
	6. Required reinforcing steel clearances have been provided.			X	100% of bars
	7. Composite member has required size.			X	25% of members
	Inspection of Composite Structures During Concrete Placement (AISC 341-22 Table J10.2)				
	1. Concrete: Material identification (mix design, compressive strength, maximum large aggregate size, maximum slump).			X	Reference specification section 033000
	2. Limits on water added at the truck or pump.			X	100% of pours
	3. Proper placement techniques to limit segregation.			X	100% of pours
	Inspection of Composite Structures After Concrete Placement (AISC 341-22 Table J10)				
	1. Achievement of minimum specified concrete compressive.			X	Reference specification section 033000
	Cold-formed Steel Trusses Spanning 60-feet or Greater (IBC 2024 Section 1705.2.45)				
	1. Verify temporary installation restraint/bracing installed in accordance with the approved shop drawings.			X	
	2. Verify permanent individual truss member restraint/bracing installed in accordance with the approved shop drawings.			X	
	Metal Building Systems (IBC 2024 Section 1705.2.6 - Inspect per Structural Steel requirements above as applicable plus requirements in IBC 2024 Table 1705.2.6)				

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	1. Installation of rafter/beam flange braces and column flange braces.			X	
	2. Installation of purlins and girts, including specified lapping.			X	
	3. Purlin and girt restraint/bridging/bracing.			X	
	4. Installation of X-bracing, tightened to remove any sag.			X	
	Concrete Construction (IBC 2024 Section 1705.3)				
X	1. Inspect reinforcing steel, including prestressing tendons, and verify placement.	**ACI-CCSI**		X	100% of bars
	2. Inspection of reinforcing steel welding				
	a. Verify weldability of reinforcing bars other than ASTM A706.			X	
	b. Inspect welding of reinforcement for special moment frames, boundary elements of special structural walls and coupling beams.		X		
	c. Inspect welded reinforcement splices.		X		
	d. Inspect welding of primary tension reinforcement in corbels.		X		
	e. Inspect single pass fillet welds, maximum 5/16 inch.			X	100% of welds
	f. Inspect all other welds.			X	100% of welds
	3. Inspection of anchors cast in concrete.			X	100% of anchors
X	4. Inspection of anchors post-installed in hardened concrete members.	**ACI-CCSI**			
	a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension load.		X		
	b. Mechanical anchors and adhesive anchors not defined in 4a.			X	100% of anchors
X	5. Verify use of approved design mix.	**ACI-CCSI**		X	100% of pours

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	6. Prior to placement fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	**ACI-CCSI**	X		
	7. Inspect concrete and shotcrete placement for proper application techniques.	**ACI-CCSI**	X		
	8. Inspect for maintenance of specified curing temperature and techniques.	**ACI-CCSI**		X	daily
	9. Inspection of prestressed concrete:				
	a. Application of prestressing forces.		X		
	b. Grouting of bonded prestressing tendons in the seismic-force-resisting system.		X		
	10. Erection of precast structural members.			X	
	11. For precast concrete diaphragm connections or reinforcement at joints classified as moderate or high deformability elements (MDE or HDE) in structures assigned to Seismic Design Category C, D, E, or F, inspect such connections and reinforcement in the field for:				
	a. Installation of the embedded parts.		X		
	b. Completion of the continuity of reinforcement across joints.		X		
	c. Completion of connections in the field.		X		
	12. Inspect installation tolerances of precast concrete diaphragm connections for compliance with ACI 550.5 (American Concrete Institute).			X	
	13. Verification of in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	**ACI-CCSI**		X	
X	14. Inspection formwork for shape, location and dimensions of the concrete member being formed.	**ACI-CCSI**		X	100% of pours
	Masonry Construction (IBC 2024 Section 1705.4)				

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	1. Inspect masonry construction in accordance with IBC 2024 Section 1705.4 and TMS 402-22 and TMS 602-22 (The Masonry Society).				
	Level 1 Quality Assurance				
	Verification Requirements:				
	1. Prior to construction, verification of compliance of submittals.			X	
	Level 2 Quality Assurance				
	Verification Requirements:				
	1. Prior to construction, verification of compliance submittals.			X	
	2. Prior to construction, verification of f'_m and f'_{AAC} except where specifically exempted by the code.			X	
	3. During construction, verification of slump flow and Visual Stability Index (VSI) when self-consolidating grout is delivered to the project site in accordance with TMS 602-22 Specification Article 1.5 & 1.6.3.			X	
	Inspection Tasks:				
	1. As masonry construction begins, verify the following are in compliance:				
	a. Proportions of site-prepared mortar.			X	
	b. Grade and size of prestressing tendons and anchorages.			X	
	c. Grade, type and size or reinforcement, connectors, anchor bolts, and prestressing tendons and anchorages.			X	
	d. Prestressing technique.			X	
	e. Properties of thin-bed mortar for AAC (autoclaved aerated concrete) masonry.		X	X	Continuous inspection is required for the first 5000 square feet of AAC masonry.

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
					Periodic inspection is required after the first 5000 square feet of AAC masonry.
	f. Sample panel construction.			X	
	2. Prior to grouting, verify the following are in compliance:				
	a. Grout space.			X	
	b. Placement of prestressing tendons and anchorages.			X	
	c. Placement of reinforcement, connectors, and anchor bolts.			X	
	d. Proportions of site-prepared grout and prestressing grout for bonded tendons.			X	
	3. Verify the compliance of the following during construction:				
	a. Materials and procedures with the approved submittals.			X	
	b. Placement of masonry units and mortar joint construction.			X	
	c. Size and location of structural members.			X	
	d. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction.			X	
	e. Welding of reinforcement.		X		
	f. Preparation, construction and protection of masonry during cold weather (temperature below 40 degrees Fahrenheit) or hot weather (temperature above 90 degrees Fahrenheit).			X	
	g. Application and measurement of prestressing force.		X		

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	h. Placement of grout and prestressing grout for bonded tendons is in compliance.		X		
	i. Placement of AAC masonry units and construction of thin-bed mortar joints.		X	X	Continuous inspection is required for the first 5000 square feet of AAC masonry. Periodic inspection is required after the first 5000 square feet of AAC masonry.
	4. Observe preparation of grout specimens, mortar specimens and/or prisms.			X	
	Level 3 Quality Assurance				
	Verification Requirements:				
	1. Prior to construction, verification of compliance of submittals.			X	100% of masonry
	2. Prior to construction, verification of f'_m and f'_{AAC} except where specifically exempted by the Code.			X	100% of masonry
	3. During construction, verification of Slump flow and Visual Stability Index (VSI) when self-consolidating grout is delivered to the project site in accordance with TMS 602-22 Specification Article 1.5 & 1.6.3.			X	100% of masonry
	4. During construction, verification of f'_m and f'_{AAC} for every 5000 square feet.			X	
	5. During construction, verification of proportions of materials as delivered to the project site for premixed or preblended mortar, prestressing grout, and grout other than self-consolidating grout.			X	
	Inspection Tasks:				
	1. As masonry construction begins, verify the following are in compliance:				

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	a. Proportions of site-prepared mortar.			X	100% of mortar and grout
	b. Grade and size of reinforcement, connectors, anchor bolts, and prestressing tendons and anchorages.			X	100% of reinforcement and anchors
	c. Grade, type and size or reinforcement, connectors, anchor bolts, and prestressing tendons and anchorages.			X	100% of reinforcement and anchors
	d. Prestressing technique.			X	
	e. Properties of thin-bed mortar for AAC (autoclaved aerated concrete) masonry.		X		
	f. Sample panel construction.		X		
	2. Prior to grouting, verify the following are in compliance:				
	a. Grout space		X		100% of mortar and grout
	b. Placement of prestressing tendons and anchorages.			X	100% of reinforcement and anchors
	c. Placement of reinforcement, connectors, and anchor bolts.		X		100% of reinforcement and anchors
	d. Proportions of site-prepared grout and prestressing grout for bonded tendons.			X	100% of mortar and grout
	3. Verify compliance of the following during construction:				
	a. Materials and procedures with the approved submittals.			X	
	b. Placement of masonry units and mortar joint construction.			X	25% of masonry placement
	c. Size and location of structural members.			X	100% of structural elements

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	d. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction.		X		
	e. Welding of reinforcement.		X		
	f. Preparation, construction and protection of masonry during cold weather (temperature below 40 degrees Fahrenheit) or hot weather (temperature above 90 degrees Fahrenheit).			X	100% of masonry
	g. Application and measurement of prestressing force.		X		
	h. Placement of grout and prestressing grout for bonded tendons is in compliance.		X		
	i. Placement of AAC masonry units and construction of thin-bed mortar joints.		X		
	4. Observe preparation of grout specimens, mortar specimens and/or prisms.		X		
	Wood Construction (IBC 2024 Section 1705.5)				
	1. Inspect prefabricated wood structural elements in accordance with Section 1704.2.5.			X	
	2. High load diaphragms:				
	a. Verify sheathing grade and thickness.			X	
	b. Verify nominal size of framing members at adjoining panel edges.			X	
	c. Verify nail or staple diameter and length.			X	
	d. Verify number of fastener lines.			X	
	e. Verify spacing between fasteners in each line and at panel edges.			X	
	3. Shearwalls:				
	a. Verify sheathing grade and thickness.			X	

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	b. Verify nominal size of framing members at adjoining panel edges.			X	
	c. Verify nail or staple diameter and length.			X	
	d. Verify number of fastener lines.			X	
	e. Verify spacing between fasteners in each line and at panel edges.			X	
	f. Location and size of holdowns.			X	
	4. Verify nailing, bolting, anchoring and fastening of:				
	a. Drag struts and collectors.			X	
	b. Braces.			X	
	c. Hold-downs.			X	
	5. Metal-plate-connected wood trusses spanning 60 feet or greater:				
	a. Verify temporary installation restraint/bracing installed in accordance with the approved shop drawings.			X	
	b. Verify permanent individual truss member restraint/bracing installed in accordance with the approved shop drawings.			X	
	Mass Timber Construction (IBC 2024 Section 1705.5.3) Mass timber elements in Types IV-A, IV-B and IV-C:				
	1. Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.			X	
	2. Inspect erection of mass timber construction.			X	
	3. Inspection of connections where installation methods are required to meet design loads.			X	
	4. Threaded fasteners:				
	a. Verify use of proper installation equipment.			X	

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	b. Verify use of pre-drilled holes where required.			X	
	c. Inspect screws, including diameter, length, head type, spacing, installation angle and depth.			X	
	5. Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X		
	6. Adhesive anchors not defined in preceding cell.			X	
	7. Bolted connections.			X	
	8. Concealed connections.			X	
	Soils (IBC 2024 Section 1705.6)				
X	1. Verify materials below shallow foundations are adequate to achieve the required bearing capacity.	**ICC-SSI**		X	100% of materials
X	2. Verify excavations are extended to proper depth and have reached proper material.	**ICC-SSI**		X	100% of excavations
X	3. Perform classification and testing of compacted fill materials.	**ICC-SSI**		X	100% of materials
X	4. During fill placement, verify use of proper materials and procedure in accordance with the provisions of the approved geotechnical report. Verify densities and lift thicknesses during placement and compaction of compacted fill.	**ICC-SSI**	X		
X	5. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.	**ICC-SSI**		X	100% of excavations
	Driven Deep Foundation Elements (IBC 2024 Section 1705.7)				
	1. Verify element materials, sizes and lengths comply with the requirements.		X		
	2. Determine capacities of test elements and conduct additional load tests when required. Refer to project specifications.		X		

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	3. Inspect driving operations and maintain complete and accurate records for each element.		X		
	4. Verify element locations and plumbness.		X		
	a. Verify type and size of hammer.		X		
	b. Record number of blows per foot of penetration.		X		
	c. Determine required penetration to achieve specified capacity.		X		
	d. Record pile tip and butt elevations.		X		
	e. Document any damage to any foundation element.		X		
	5. For steel piling, perform additional inspection in accordance with Section 1705.2 and AISC 341-16, Table J10.1.				
	6. For concrete elements and concrete-filled elements, perform additional inspections in accordance with Section 1705.3.				
	7. For specialty elements, perform additional inspections as determined by the registered design professional in responsible charge as required in the project specifications.				
	Cast-in-Place Deep Foundation (IBC 2024 Section 1705.8)				
X	1. Inspect drilling operations and maintain complete and accurate records for each element.		X		100% of micropiles
X	2. Verify element locations and plumbness.		X		
	a. Verify element diameter.		X		100% of micropiles
	b. Verify bell diameter (if applicable).		X		
	c. Verify element lengths.		X		100% of micropiles

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	d. Verify embedment depth into bedrock (if applicable).		X		100% of micropiles
	e. Verify adequate end-bearing strata capacity.		X		100% of micropiles
	f. Record concrete or grout volumes.		X		
X	3. For concrete elements, perform tests and additional inspections in accordance with Section 1705.3.				100% of micropiles
	Helical Piles (IBC 2024 Section 1705.10)				
	1. Verify pile locations.		X		
	a. Verify installation equipment used.		X		
	b. Verify pile dimensions.		X		
	c. Verify tip elevations.		X		
	d. Verify final depth.		X		
	e. Verify final installation torque.		X		
	f. Other data as required by the project specifications.		X		
	Fabricated Items (IBC 2024 Section 1705.11)				
X	1. Inspect fabricated items in accordance with Section 1704.2.5.		X		
	Wind Resistance (IBC 2024 Section 1705.12)				
	1. Provide inspections when required by Section 1705.12.				
	Seismic Resistance (IBC 2024 Section 1705.13)				
	1. Provide inspections when required by Section 1705.13.				

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	Testing and Qualification for Seismic Resistance (IBC 2024 Section 1705.14)				
	1. Test and qualify seismic resistance in accordance with IBC 2024 Section 1705.14 and the project specifications.				
	Sprayed Fire-Resistive Materials (IBC 2024 Section 1705.15)				
	1. Inspect sprayed fire-resistant materials in accordance with IBC 2024 Section 1705.15 and the project specifications.				
	Intumescent Fire-Resistive Materials (IBC 2024 Section 1705.16)				
	1. Perform inspections in accordance with AWCI 12-B (Association of the Wall and Ceiling Industry) and IBC 2024 Section 1705.16.			X	
	Exterior Insulation and Finish Systems (EIFS) (IBC 2024 Section 1705.17)				
	1. Perform inspections in accordance with project specifications and IBC 2024 Section 1705.17.			X	
	Fire-Resistant Penetrations and Joints (IBC 2024 Section 1705.18)				
	1. Perform inspections in accordance with project specifications and IBC 2024 Section 1705.18.			X	
	Smoke Control (IBC 2024 Section 1705.19)				
	1. Perform testing in accordance with project specifications and IBC 2024 Section 1705.19.				
	Sealing of Mass Timber (IBC 2024 Section 1705.20)				

Required?	Structural Test or Special Inspection	Required Qualifications	Continuous	Periodic	Frequency of Periodic Test or Inspection
	1. Perform testing in accordance with project specifications and IBC 2024 Section 1705.20.				