

The following checklists are designed to assist quality assurance (QA) inspectors in performing inspections of construction of NRCS projects. The checklists may not include every item that must be inspected to verify compliance with the applicable contract requirements. Checklists should be completed as the work progresses or at milestones during the contract performance period. Maintain completed checklists at the jobsite with the inspection records, and submit them to the contracting officer's representative (COR)/government representative (GR) along with the job diary after work is completed. Document in the job diary when each checklist is completed.

Each checklist is designated NEH 645 CL #.#. The first number corresponds to the NEH 645 chapter to which the checklist is directly associated. The second number corresponds to the number of the checklist(s).

Appendix A

Inspection Checklists

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NEH 645 CL 3.1 Quality Assurance Inspection Checklist

This checklist is intended to be a guide for an NRCS QA inspector in preparation for and in performance of the inspection of construction of NRCS projects. It may not address all items required of the QA inspector, and some parts of the checklist may not be applicable to a particular project.

Project Name: _____ Project #: _____

Location: _____ Date: _____

Field Inspector: _____

Work Inspected: _____

No.	Task	Completed		
		Yes	No	NA
Prior to contract award				
1	Review appointment letter and fully understand responsibilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Review QA plan and prepare equipment and supplies needed to conduct tests and inspect work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Review the contract and seek clarification from COR/GR for items not completely understood.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Begin the job diary at the initial site showing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Mark changes on field copies of bid schedule, drawings, and specifications as per contract addendum or amendment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Obtain current copy of reference standards needed to perform inspection duties.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prior to beginning construction				
7	Make diary entry at the preconstruction conference.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Photograph pre-work site conditions such as ingress/egress road and all structures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Verify existence of an approved safety officer and safety plan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	Review safety checklist with contractor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	See that the contractor conducts a safety meeting prior to the start of work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	Verify at least one person from each foreman's work crew has a current first-aid card.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	Verify that all postings required by the contract (EEO posters, emergency contact information, NPDES permit notice, etc.) are maintained and are legible and visible to all contractor personnel.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	Verify all known cultural resources and properties of historical significance are identified and protected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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No.	Task	Completed		
		Yes	No	NA
15	Verify SWPPP will be implemented at beginning of work and other NPDES requirements are addressed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	Verify sanitation facilities are operational.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17	Verify the specified hard hat sign is prominently displayed at site entrances.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	Verify utilities and existing works are identified and protected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	Verify utility owners are notified as applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	Verify contractor has a notice-to-proceed prior to beginning any work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
During construction				
21	Recognize and immediately report, to the COR/GR, potential cultural resources and properties that may be of historical significance whenever such resources or properties will be disturbed by construction activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22	Verify and document that all erosion and pollution control requirements are carried out in accordance with contract requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23	Verify and document that all safety and sanitary requirements are maintained in accordance with the contract.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24	Verify and document that the contractor has done everything possible to identify and protect all utilities that exist in the general work area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25	Schedule government/owner performed surveys with COR/GR to ensure that contractor's production is not impeded by lack of surveys.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26	Determine that satisfactory material samples and certifications have been furnished and materials are approved by COR/GR before incorporated into the work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27	Perform tests to verify the adequacy of the contractor's quality control system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28	See that the work is performed in accordance with the terms and conditions of the contract.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29	Maintain a field copy of drawings and specifications showing all changes (as-built plans).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30	Notify the contractor if work does not meet contract requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31	Notify the COR/GR if unsatisfactory work is not immediately corrected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32	Document noncompliance and all related correspondence.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33	Verify contractor compliance with minimum wage rate requirements where applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34	Maintain an accurate and complete chronological record of the project in the job diary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35	Support the job diary with photographic documentation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36	Keep track of work accomplished, review contractor's invoices, and inform COR/GR of discrepancies between record of work accomplished and invoices.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37	Where allowed and when authorized, issue suspend and resume work orders on behalf of the CO.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38	Immediately report disputes, differing site conditions, and unusual occurrences to the COR/GR.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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No.	Task	Completed		
		Yes	No	NA
39	On Federal contracts, if delegated authority by the CO, suspend the contractor's right to proceed if there is imminent danger to the health or safety of the public or government personnel; if not delegated authority, notify COR/GR immediately.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40	Elevate questions, issues, and concerns to the COR/GR whenever an answer is unknown or disputes cannot be resolved.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41	Schedule check-prior-to-final inspection with COR/GR and prepare a list of items remaining to be accomplished to be reviewed during the inspection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42	When final surveys are the responsibility of the government/owner, schedule final surveys to document completion of work and provide data for as-built plans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43	Verify that all items listed during the check-prior-to-final inspection are completed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44	Verify that all temporary erosion control measures are removed as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
45	Schedule the final inspection with COR/GR and prepare a list of items remaining to be accomplished to be reviewed during the inspection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
46	Ensure that all remaining items are completed prior to contractor demobilization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
47	Oversee and document contractor demobilization.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
48	Complete and submit field copy of as-built plans to the COR/GR.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
49	Ensure that all photo documentation is submitted to the COR/GR.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
50	Submit all job diaries to the COR/GR.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: _____

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NEH 645 CL 4.1 Construction Safety Checklist

This checklist is intended to be used as a guide for periodically assessing safety on construction projects. Its use is optional. It may not address all potential hazards that could exist, and some parts of this checklist may not be applicable to a particular project. Results of safety assessments should be shared with the contractor's supervisory personnel.

Project Name: _____ Project #: _____

Location: _____ Date: _____

Work Period: _____ A.M./P.M. to _____ A.M./P.M.

Field Inspector: _____

Work Inspected: _____

Fill out sections I and II at start of project. Complete sections I and II again only when a factor has changed.

I. General requirements

Written safety program received (date): _____

Preconstruction safety meeting held (date): _____

Safety supervisor: _____ Alternate: _____

Scheduled weekly safety (tailgate) meeting (day/time): _____

No.	Inspection item	Yes	No	NA
1	Contractor requires subcontractors to comply with all safety requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Communications and transportation facilities available at jobsite to handle injury situations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	New employees given safety instructions for their jobs and the jobsite.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: _____

II. Contractor's employees with first aid training certification (Red Cross, Bureau of Mines or equivalent):

Name: _____ Title: _____

Name: _____ Title: _____

Name: _____ Title: _____

III. Technical requirements

No.	Inspection item	Yes	No	NA
1. Medical services and first aid				
1.1	Phone numbers of offsite medical attention and ambulance service posted outside first aid facility and all jobsite offices. (OSHA 1926.50(f) and NRCS OSHA Supplement)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Locations of first aid kits and other medical supplies posted conspicuously on signs outside first aid facility and all jobsite offices. (NRCS OSHA Supplement)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Complete first aid kits available, compliant with ANSI Z308.1-1998 Type III. Minimum of 1 kit per 25 employees. (OSHA 1926.50(d)(1) and (2) and NRCS OSHA Supplement)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	Employee with a valid certificate in first aid is assigned during each work shift. (OSHA 1926.50(c))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5	At least one stretcher and two blankets available at jobsite.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Sanitation				
2.1	Potable water supply available at jobsite. (OSHA 1926.51(a))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Potable water dispensers clearly marked; each equipped with tight cover and tap. (OSHA 1926.51(a)(2))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	No common drinking cups. (OSHA 1926.51(a)(4))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	Waste receptacles available for disposable cups and other litter; if single service cups are supplied. (OSHA 1926.51(a)(5))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5	Electrolyte supplements available as needed. (NRCS OSHA Supplement)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.6	Adequate toilets provided at jobsite. Number of toilets and urinals required are listed in OSHA 1926.51(c), table D-1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Head protection				
3.1	Hard hats worn by all persons entering any part of jobsite. (NRCS OSHA Supplement)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Hard hat area signs, 3- by 4-foot minimum size, erected at all jobsite access locations. (NRCS OSHA Supplement)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Noise exposure				
4.1	Ear protection devices worn when noise exceeds allowable exposure. (OSHA 1926.101)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Illumination				
5.1	Worksites, offices, shops, and storage areas lighted as required. (OSHA 1926.56)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Eye and face protection				
6.1	Eye and face protection provided for hazardous jobs. (OSHA 1926.102)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	Goggles or other protective equipment kept clean and in good repair. (OSHA 1926.102(a)(4))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
7. Respiratory protection				
7.1	Respirators are worn when dust concentrations exceed safe hygienic levels. (OSHA 1910.134)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	Employees protected from other hazardous concentrations. (OSHA 1910.134)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3	Respirators kept clean and in good condition. Respirators inspected regularly. (OSHA 1910.134)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Fall protection (OSHA 1926 Subpart M)				
8.1	Employees protected by safety belts and lines when working on steep slopes or unguarded heights. (NRCS OSHA Supplement)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.2	Employees working on surfaces 6 feet or higher with an unprotected side or edge are protected from falling. (OSHA 1926.501(b)(1))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Working over or near water				
9.1	U.S. Coast Guard-approved life jackets or vests worn by employees if there is danger of drowning. (OSHA 1926.106(a))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2	Protective equipment inspected for defects that would alter the buoyancy and strength. (OSHA 1926.106(b))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.3	Ring buoys and 90-foot lifelines readily available for rescue operations. (OSHA 1926.106(c))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Fire protection				
10.1	Fire extinguisher with 10B rating required within 50 feet when more than 5 gallons of combustible liquid are used. (OSHA 1926.150(c)(1)(vi))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.2	Portable extinguishers serviced and maintained. (OSHA 1926.150(c)(1)(viii))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.3	Fire extinguishers have been listed or approved by a nationally recognized testing laboratory. (OSHA 1926.150(c)(1)(ix))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Fire prevention				
11.1	Combustion engine exhaust kept clear of combustible materials. (OSHA 1926.151(a)(2))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.2	Signs posted at and around operations having fire hazards, "NO SMOKING OR OPEN FLAME." (OSHA 1926.151(a)(3))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.3	Storage area kept free of weeds, grass, and other combustible materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.4	Materials stored indoors are handled and piled in ways that minimize fire hazard. (OSHA 1926.151(d)(3))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Flammable and combustible liquids				
12.1	Metal safety cans (smaller than 5-gal capacity) used to store or handle flammable liquids. (OSHA 1926.152(a)(1))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2	Storage of flammable liquids in open room or trailer limited to 25 gallons.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.3	Storage of liquids in any one cabinet limited to 60 gallons flammable and 120 gallons combustible. (OSHA 1926.152(b)(3))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.4	Cabinet containing such liquids labeled conspicuously, "FLAMMABLE—KEEP FIRE AWAY." (OSHA 1926.152(b)(2)(iii))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.5	Outdoor portable storage tanks positioned at least 20 feet away from any building. (OSHA 1926.152(c)(4)(i))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.6	Portable storage tanks equipped with vents. (OSHA 1926.152(i)(2)(iv)(A))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.7	Containers, tanks, and hoses interconnected (bonded) electrically when transferring liquids. (OSHA 1926.152(e)(2))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
12. Flammable and combustible liquids—continued				
12.8	Dispensing devices and nozzles for flammable liquids shall be of an approved type. (OSHA 1926.152(e)(5))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.9	Flammable liquids kept in closed containers when stored. (OSHA 1926.152(f)(1))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.10	Portable fire extinguishers with 20 BC rating required within 75 feet of refueling truck or station. (OSHA 1926.152(g)(11))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.11	Motors of all equipment shut off during refueling. (OSHA 1926.152(g)(10))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.12	Sign at refueling area posted conspicuously, "NO SMOKING OR OPEN FLAME WITHIN 50 FT." (OSHA 1926.152(g)(8))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Temporary heating devices				
13.1	Adequate fresh air provided to ensure personnel safety. (OSHA 1926.154(a)(2))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.2	Solid noncombustible material used to support heating units. Material extends 2 feet beyond each side of heater. (OSHA 1926.154(b)(3))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.3	Minimum 10-foot clearance provided in temporary job enclosures between heater and combustible coverings. (OSHA 1926.154(b)(4))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.4	Oil-fired heaters equipped with safety oil stop for protection during possible flame out. (OSHA 1926.154(e)(1))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Signs, signals, and barricades				
14.1	Barricades erected and legible traffic signs posted at hazardous locations. (OSHA 1926.200(b)(1)); (Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.2	Signs posted and barricades installed to prevent public access.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.3	Nighttime signs and barricades lighted or reflectorized.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.4	Flaggers used when working conditions warrant.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.5	Red flags or sign paddles 18-inches square used by flaggers to make hand signals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.6	Reflectorized safety vests or coats worn by flaggers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.7	Detour signs posted on streets and highways. Sign types and placement meet State and local regulations and codes. (OSHA 1926.200(g)(2))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Material handling, storage, use, and disposal				
15.1	Storage areas kept approximately level, well arranged, and free of flammable materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2	Construction material stacked, racked, or blocked to prevent movement. (OSHA 1926.250(a)(1))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.3	Lifelines with safety belts used by workers entering hoppers or tanks. (OSHA 1926.250(b)(2))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.4	Excess material not stored on scaffolds or runways. (OSHA 1926.250(b)(5))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.5	All nails removed from used lumber. (OSHA 1926.250(b)(8)(i))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.6	Material to be handled by crane stored in area clear of overhead power lines.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Rigging equipment for material handling				
16.1	Equipment inspected before use and during material handling. (OSHA 1926.251(a)(1))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.2	Equipment is adequate to handle loads. (OSHA 1926.251(a)(2))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16.3	Tagged equipment (determined by the contractor to be defective) removed or replaced.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
17. Chains				
17.1	Steel alloy chains identified by size, grade, and capacity. (OSHA 1926.251(b)(1))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.2	Hooks, rings, and other attachments not shop-made. Capacity of hooks, rings, and other attachments at least as great as chain capacity. (OSHA 1926.251(b)(3))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17.3	Hoisting hooks equipped with safety keepers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Wire rope				
18.1	Eye splices made with at least three full tucks. (OSHA 1926.251(c)(4)(i))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.2	Protruding splice ends covered or blunted. (OSHA 1926.251(c)(2))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.3	Hoisting or pulling liner made of one continuous rope with no knots or splices. (OSHA 1926.251(c)(4)(ii))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.4	Wire rope replaced when 10% of strands are broken in any length that equals 8 diameters of the rope. (OSHA 1926.251(c)(4)(iv))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.5	U-bolt clips are correct size and spaced properly. (OSHA 1926.251(c)(4)(iv))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18.6	U-section attached to dead-end rope. (OSHA 1926.251(c)(5)(i))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Fiber rope				
19.1	Fiber rope rings meet requirements. (OSHA 1926.251(d)(1))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.2	Repairs made with splices; knots prohibited. (OSHA 1926.251(d)(2)(v))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.3	Coding for manufacturer, type of material, and capacity of rating shown on synthetic webbing. (OSHA 1926.251(e)(1))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19.4	Shackles and hooks meet requirements. (OSHA 1926.251(f))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Waste material disposal				
20.1	Scrap lumber, waste, and rubbish removed as work progresses. (OSHA 1926.252(c))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20.2	Solvent waste, oily rags, and flammable material stored in covered metal containers until removed from jobsite. (OSHA 1926.252(e))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Power and hand tools				
21.1	Power tools equipped with guards (as manufactured) over all exposed moving parts. (OSHA 1926.300(b)(1))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.2	Handheld power tools equipped with pressure control switches. (OSHA 1926.300(d)(3))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.3	Goggles and other protective equipment worn by workers as required. (OSHA 1926.300(c))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.4	Tools with mushroomed heads or defective handles prohibited. (OSHA 1926.301(c) and (d))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21.5	Electric-powered tools double insulated or grounded with 3-wire conductors.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Grinders				
22.1	Machines equipped with guards and tool rests. (OSHA 1926.303(b))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22.2	Grinding wheels checked for cracks and defects. (OSHA 1926.303(c)(7))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22.3	Grinder spindles operated at safe speeds.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Gas welding and cutting				
24.1	Gas cylinders meet U.S. Department of Transportation requirements. (49 CFR-178-C) and (OSHA 1926.350(c)(2))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
24. Gas welding and cutting—continued				
24.2	Hose lines distinguished either by color (such as, fuel is red, oxygen is green) or by surface texture. Oxygen and fuel lines shall not be interchangeable (OSHA 1926.350(f)(1))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.3	Cylinders placed upright when stored or in use, chained to prevent overturning, and capped tightly when not in use. (OSHA 1926.350(a))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.4	Cylinders kept upright when moved (tilt and roll on bottom edge) and anchored to pallet before hoisting. (OSHA 1926.350(a)(3))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.5	Cylinders protected from excessive heat or cold and from electric currents.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.6	Defective gauges, regulators, valves, and hoses repaired or replaced.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.7	Friction lighters used to ignite gas torches. Matches prohibited. (OSHA 1926.350(g)(3))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.8	Welding and cutting done only by authorized operators.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24.9	Goggles or shields worn by welders and helpers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Arc welding and cutting				
25.1	Handgrips and jaws insulated for maximum ground voltage. (OSHA 1926.351(a)(2))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25.2	Cables and connectors rubber covered. Splices not made within 10 feet of electrode holders. (OSHA 1926.351(b)(2))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25.3	Framer of welding units grounded with 3-wire conductors or with separate wires at source. (OSHA 1926.351(c)(5))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25.4	Protective eye shields used by welders and helpers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25.5	Other workers near arc protected by screens or goggles. (OSHA 1926.353(d)(1)(ii))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25.6	Precautions taken to prevent fires. Fire extinguisher is available. (OSHA 1926.352(a))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Electrical				
26.1	Hot circuits de-energized or equipped with guards before starting work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26.2	Hot voltage circuits equipped with guards. Signs posted, "DANGER-HIGH VOLTAGE." (OSHA 1926.404(d)(2)(ii))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. Grounding and bonding				
27.1	Portable plug-in equipment double insulated or grounded with 3-wire conductors. (OSHA 1926.404(f)(3))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27.2	Metal parts and frames of fixed equipment grounded. (OSHA 1926.404(f)(3))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27.3	Hand lamps equipped with handles. Guard attached to each handle. (OSHA 1926.405(j)(1)(iii)(B))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27.4	Extension cords kept clear of walkways, sharp corners, and projections.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27.5	Worn or frayed electric conductors not permitted.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27.6	Fuses or circuit breakers provided for overcurrent protection. (OSHA 1926.404(e)(1)(vi))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Ladders (OSHA 1926.1053)				
28.1	Ladders provided for access to work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28.2	Ladders meet requirements of OSHA 1926.1053.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28.3	Portable ladders set on solid bare ground. Space around top and bottom of each ladder kept clear.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
28. Ladders (OSHA 1926.1053)—continued				
28.4	Portable ladders tied or blocked to prevent movement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28.5	Minimum dimensions of job-made wooden ladders are: 2- by 4-inch side rails, 16 feet long, 3/4- by 3-inch cleats 18 to 23 inches long, and 12 inches between cleats. Rails notched to fit cleats, or fill blocks used to secure cleats.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28.6	Length between supports (base and top landing) of job-made ladders does not exceed 30 feet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28.7	Top of each ladder extends at least 36 inches above top landing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. Scaffolding				
29.1	Guardrails, sides, and ends installed on all platforms that are 45 inches wide or less and built more than 4 feet aboveground or adjoining surfaces and on all platforms built more than 10 feet aboveground or adjoining surfaces.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.2	Guardrail dimensions are 2- by 4-inch rails installed 42 inches above floor, 1- by 6-inch intermediate rail, 4-inch-high toeboard, and 2- by 4-inch supports at 8-foot spacing. (OSHA 1926.451(b)(4))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.3	Platform planking extended at least 6 inches over supports. Planking overlapped 12 inches or anchored.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.4	Ladders provided for access.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.5	Overhead protection provided in hazardous areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.6	Platform surfaces kept clean so workers are not in danger of tripping.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.7	Design and construction of wooden scaffolds meet requirements. (OSHA 1926.451)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.8	Metal tube and coupler scaffolds meet requirements. Scaffolds erected as specified by manufacturers. Expected loading meets minimum safety factor. (OSHA 1926.451)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29.9	Metal scaffolds installed plumb and level, and anchored to structure. Maximum scaffold dimensions are 30 feet horizontal by 26 feet vertical.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. Floor and wall openings and stairways				
30.1	Floor openings covered on all sides except at entrances protected by covers or guardrails. (OSHA 1910.23(a)(1))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.2	Guardrails built if wall openings are less than 3 feet above floors, and drops are more than 4 feet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.3	Toeboards built if wall openings are more than 3 inches above floors.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.4	Guardrails built along open-sided floors that are 6 feet or more aboveground.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.5	Handrails built along stairways that have at least four risers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.6	Handrails placed 30 to 34 inches above the top of each riser. Raised handrail built along open side of stairs and landings. (OSHA 1910.23(e)(2))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.7	Smooth surfaces of handrail material positioned on top and sides. Handrail mounted at least 3 inches from sidewalls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30.8	Stairs interrupted every 12 feet (vertical distance) with 30-inch landing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. Conveyor				
31.1	Operators' stations equipped with start and stop controls. (OSHA 1926.555(a)(2))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31.2	Warning signal included in conveyor equipment. Signals tested before conveyors are started. (OSHA 1926.555(a)(1))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31.3	Access ladders, platforms, and walkways with guardrails and handrails provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
31. Conveyor—continued				
31.4	All moving parts properly guarded. (OSHA 1926.555(a)(4))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31.5	Screen installed to protect workers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31.6	Conveyors locked out and tagged during repairs. (OSHA 1926.555(a)(7))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. Motor vehicles and mechanized equipment				
32.1	Lights or reflectorized barricades placed around equipment parked adjacent to highways or streets. (OSHA 1926.600(a)(1))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32.2	Safety tire cages used when inflating tires on split or lock-type rims. (OSHA 1926.600(a)(2))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32.3	Before repairs are started, controls set in neutral, brakes set, and motor shut off. (OSHA 1926.600(a)(3)(i))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32.4	Blocking and cribbing provided to prevent movement of equipment during repairs. (OSHA 1926.600(a)(3)(ii))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32.5	Safety precautions to be taken with all parked equipment include: setting brakes, chocking wheels, and fully lowered blades, buckets, and dump beds. (OSHA 1926.600(a)(3)(i))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32.6	Special caution taken in changing and charging batteries to prevent acid contact with eyes and skin.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32.7	Passengers transported only in cabs or vehicles. Mounting and dismounting from moving vehicles not allowed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. Pile driving equipment				
33.1	Boilers, compressors, and piping systems maintained in good condition. Equipment has protective guards. (OSHA 1926.603(a)(1))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.2	Stop block positioned in leads to prevent hammer from striking head block. (OSHA 1926.603(a)(4))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.3	Safety block inserted in leads to support hammer when workers are below hammer. (OSHA 1926.603(a)(5))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.4	Cable guards installed across head block sheaves. (OSHA 1926.603(a)(6))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.5	Fixed leads equipped with rings for attaching safety belt lanyards. (OSHA 1926.603(a)(8))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.6	Work platforms and leads protected by guardrails.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.7	Safety chains (1/2-in-diameter) attached at steam and air hose connections and to hammers. (OSHA 1926.603(a)(10))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.8	Steam and air lines equipped with two controls—one has quick-action capability and is at operator's station. (OSHA 1926.603(a)(11))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.9	Guys, outriggers, and counter balances installed to stabilize equipment. (OSHA 1926.603(a)(12))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.10	Piles secured to hoisting lines for placement in leads.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.11	Employees kept clear of area when piles are hoisted. (OSHA 1926.603(c)(4))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.12	Pile driving operations stopped during cutoff of adjacent piles if within a distance equal to two times the length of the longest pile.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.13	Pit walls sloped or sheet piling placed, and braced before each pile is driven.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33.14	Only authorized personnel allowed in work area during driving operations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. Excavations, trenching, and shoring				
34.1	Walkways and runways kept clear of excavated material. (OSHA 1926.651(a))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
34. Excavations, trenching, and shoring—continued				
34.2	Walkway planks placed parallel to length of walk, closely spaced, fastened to prevent displacement, and cleaned if slick conditions will prevail. (OSHA 1926.651(c)(1)(ii))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.3	Reflectorized vests worn by flagmen and others exposed to traffic. (OSHA 1926.651(d))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.4	Personnel not permitted under loads being handled by power equipment. (OSHA 1926.651(e))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.5	Truck and other haul-unit operators kept clear of units during loading (exception allowed if cab is braced and shielded).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.6	Wells, pits, and shafts covered or barricaded to protect all personnel.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.7	Underground utilities located and staked before excavation. (OSHA 1926.651(b)(2))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.8	Utilities left in place are protected by barricade, shoring, or suspension. (OSHA 1926.651(b)(4))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.9	Excavations sloped to stable angles or shored and braced.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.10	Cribbing and shoring installed in accordance with design performed by licensed engineer. (OSHA 1926.652(b)(4)(i))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.11	Excavated material placed and other material stored at least 2 feet from excavation edges.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.12	When work is done below hazardous rock slopes, workers and equipment protected by scaling slopes as necessary to minimize danger, bolting rocks and affixing wire mesh after scaling, and placing timber or wire mesh barricades.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.13	Scalers equipped with safety belts or boatswain chairs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.14	Scalers' lifelines tied to at least two secure objects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.15	Workers not permitted to work one above the other in rock material.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.16	Rock removed from top downward on steep slopes. Access to slope is from top only.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.17	Sides of steep excavations shored and braced when heavy equipment operated close to excavation edges.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.18	Dust controlled to acceptable levels.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.19	Guardrails built along walkways over excavations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.20	Workers in trenches 5 feet deep or more protected with shields or by sloping or shoring and bracing excavation banks. (OSHA 1926.652(a)(1))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.21	Trench bracing and shoring installed during excavation: cross braces or jacks placed horizontally, spaced vertically, and secured to prevent unintended movement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.22	Trench supports removed from bottom upward. Ropes used to remove jacks in unstable soil.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.23	Ventilation provides adequate oxygen and applicable specified atmospheric conditions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34.24	Ladders or steps installed no more than 25 feet apart in trenches more than 4 feet deep.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. Concrete, concrete forms, and shoring				
35.1	Excavations sloped or shored so forms and concrete materials can be installed safely. (OSHA 1926.652(a))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.2	Work platforms provided or safety belts worn by workers when reinforcing steel is placed in walls, piers, and columns. (OSHA 1926.501(b)(5))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
35. Concrete, concrete forms, and shoring—continued				
35.3	Work not allowed above unprotected vertical-protruding reinforcing steel. (OSHA 1926.701(b))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.4	Vertical steel is guyed or supported to prevent collapse. (OSHA 1926.703(d)(1))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.5	Wire mesh rolls are secured at both ends to prevent recoiling.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.6	Access points at all work areas accessed for safety by contractor before concrete placing begins.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.7	Silos and bulk storage bins for concrete built with tapered bottoms and equipped with vibrators to start flow. (OSHA 1926.702(a)(1))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.8	Bull float handles made of nonconductive material. (OSHA 1926.702(h))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.9	Powered concrete trowels equipped with hand-release shutoff switches. (OSHA 1926.702(c))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.10	Handles on concrete buggies do not extend beyond wheels. (OSHA 1926.702(d))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.11	When pump-creting is used, hose lines and discharge pipe are supported and joints and connectors are protected with safety chains or by other positive methods.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.12	Cranes used to position concrete buckets. Crane cable equipped with safety hook. (OSHA 1910.179)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.13	Personnel prohibited from riding concrete buckets for any purpose.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.14	Placing and vibrating crews not allowed under suspended buckets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.15	Wheels chocked and brakes set on concrete trucks when discharging on slopes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.16	Protective eye and face equipment worn by workers placing pneumatically applied concrete.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.17	Forms and shoring material are free of splits, rots, cuts, or other defects.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.18	Forms installed that will support all concrete loads safely. (OSHA 1926.703(a)(1))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.19	Nails and other accessories removed from stripped forms before stockpiling. (OSHA 1926.25(a))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.20	Slings fastened securely to gang forms if forms moved by crane.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.21	Workers vacated from lower levels before forms are released and moved.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.22	Personnel not permitted to ride forms being raised or moved.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.23	Face helmets, goggles, or airline hoods worn by sand blasting crews. (OSHA 1910.94(a)(1)(iii); 1926.57(f)(1)(ii); 1926.57(f)(2)(i))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.24	Eye protection worn by finishers doing chipping or grinding repairs. (OSHA 1926.28(a))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.25	Concrete heating units and accessories meet safety requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.26	Heating units placed to provide safe clearance from enclosure frames and coverings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35.27	Concrete enclosures lighted and ventilated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36. Blasting and the use of explosives				
36.1	Only authorized personnel permitted to handle or use explosives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.2	Blasting personnel required to furnish evidence of competency in handling and using explosives. (OSHA 1926.901(c))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.3	Smoking, matches, open flame, sparks, firearms, and other heat-producing devices prohibited near storage magazines and during transport and use of explosives. (OSHA 1926.904(c))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
36. Blasting and the use of explosives—continued				
36.4	All explosives stored in locked magazines when not being used. (27 CFR Part 55, Subpart K)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.5	Storage magazines ventilated. Magazines are fire resistant, weatherproof, and bullet resistant. (27 CFR Part 55, Subpart K)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.6	Contractors maintain inventory and use records of all explosives. (27 CFR Part 55, Subpart K)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.7	Appropriate authorities notified of loss or theft or of entry into magazines. (27 CFR Part 55.30, Subpart C)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.8	Explosives transported to jobsite in original containers. (OSHA 1926.903(q))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.9	Blasting caps not transported in same vehicle with other explosives. (OSHA 1926.903(p))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.10	Signs, flags, and barricades erected and other precautions taken to ensure employee and public safety. (OSHA 1926.909(c))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.11	Blasting operations restricted to daylight hours.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.12	All personnel removed from blasting areas during electrical storms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.13	Warning signs, 4-inch red letters on white backgrounds, reading “BLASTING AREA—RADIO TRANSMITTING PROHIBITED,” posted on all roads within 1,000 feet of blasting areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.14	Radio transmitters prohibited within 100 feet of electric blasting caps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.15	Empty explosive boxes and paper wrappings destroyed by burning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.16	Utility companies and owners or operators of adjacent properties notified before blasting; necessary precautions taken to prevent property damage.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36.17	All blasts fired electrically except in areas of extraneous electric currents. (OSHA 1926.906(e))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. Transporting explosives				
37.1	No other material, including blasting caps, transported with explosives. (OSHA 1926.903(p))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37.2	Vehicles are in good condition, and floors are tight with no exposed spark-producing metal.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37.3	Warning signs, 4-inch red letters on white backgrounds, reading “EXPLOSIVES,” posted on front, rear, and sides of vehicles. (OSHA 1926.902(h))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37.4	Charged extinguisher with 10 ABC rating carried with each vehicle.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37.5	Vehicles not repaired or serviced in shops while carrying explosives or caps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. Loading and wiring				
38.1	Drill holes are sufficiently large to permit free insertion of cartridges of explosives. (OSHA 1926.905(b))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38.2	Tamping sticks made of wood or other nonmetallic material. (OSHA 1926.905(c))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38.3	Drilling or heavy equipment prohibited within 50 feet of loaded holes. (OSHA 1926.905(h))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38.4	Explosives loaded only in holes to be fired in next round of blasting. (OSHA 1926.905(d))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38.5	Blasting wires kept clear of energized electric conduits or wiring. (OSHA 1926.905(j))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38.6	Blasting cap wires kept short-circuited until connected for firing. (OSHA 1926.906(a))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
38. Loading and wiring—continued				
38.7	Caps for single blast determined to be all of same style and manufacture. (OSHA 1926.906(c))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38.8	Connecting and lead wires are well insulated and have adequate capacity. (OSHA 1926.906(f))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38.9	Number of connected caps does not exceed rated capacity of blasting machines. (OSHA 1926.906(o))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38.10	Blasting galvanometers used to test circuits to charged holes. (OSHA 1926.906(q))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38.11	Adequate audible warning signals given before and after firing. (OSHA 1926.909(b))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39. Inspection after firing				
39.1	Firing lines disconnected from blasting machines immediately after firing. (OSHA 1926.906(t))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39.2	All wires traced and checked for misfires by the blasting foreman. (OSHA 1926.911(a))	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39.3	If misfires occur, all employees evacuated from blasting areas and kept away for 1 hour.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. Blasting agents				
40.1	Blasting agents handled and stored properly (OSHA 1910.109)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40.2	Containers kept dry. Storage areas kept well ventilated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40.3	Workers instructed to evacuate all people from jobsite if there is fire.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41. Field mixing of fuel-sensitized ammonium nitrate				
41.1	Mixing areas kept clean and free of spilled fuel oil and ammonium nitrate or other explosive materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41.2	Ammonium nitrate stored away from fuel oils.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41.3	High volatility fuels such as gasoline not used for mixing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41.4	Maximum of 8 percent fuel oil used in blasting agents.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41.5	Smoking prohibited in mixing areas. Signs posted: "NO SMOKING."	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41.6	Mixing equipment grounded and bonded.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41.7	Vertical holes loaded by pouring the premixed agent into holes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41.8	Safety precautions observed for wiring and shooting (same precautions taken for conventional explosives).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41.9	Maximum of 1 day's production of field-mixed ammonium nitrate blasting agent permitted in or near mixing area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: _____

NEH 645 CL 5.1 Construction Surveying Checklist

This checklist is intended to be a guide for an NRCS QA inspector in preparation for and in performance of the inspection of construction surveying for NRCS engineering projects. It may not address all items required of the QA inspector, and some parts of the checklist may not be applicable to a particular project.

Project Name: _____ Project #: _____

Location: _____ Date: _____

Work Period: _____ A.M./P.M. to _____ A.M./P.M.

QA Inspector: _____

QC Inspector: _____

Surveyor: _____

Items Surveyed (include contract item number where applicable): _____

No.	Inspection item	Yes	No	NA
1. Equipment and materials				
1.1	Equipment and materials are adequate for staking the work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Equipment and materials are adequate for capturing and recording ground line topography if required by the specification.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Electronic data collector is functioning properly and is accurately recording and storing survey data.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	Inspector's surveying equipment and materials are maintained in proper working condition and are adequate for performing staking, checking, and note keeping necessary to inspect the work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Quality of work				
2.1	Stakes are accurately placed and clearly marked to define the work for construction to the specified lines and grades.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Survey detail is adequate to accurately represent the ground line or feature surveyed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Primary control				
3.1	Primary control is available and maintained during the performance of the work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	The proper bench marks and markers are referenced.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	All benchmarks and reference markers established from primary control are accurate within the specified or otherwise acceptable degree of error.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
4. Staking and quantity surveys				
4.1	Submittals that must be submitted prior to surveying have been submitted prior to beginning construction surveying operations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	The surveying plan seems reasonable and is revised, as needed, to align with the current construction schedule.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	The number and location of stakes is adequate to define the work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4	Stakes are legibly marked and the markings are complete and accurate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.5	Stakes are being maintained and promptly replaced by the contractor when damaged.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.6	All quantity surveys necessary for computing final pay quantities are adequate to thoroughly and accurately define the specified pay limits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Checking, interim staking, and interim quantity surveys				
5.1	QC personnel are checking to verify construction to the specified line and grade.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Blue tops are set and maintained to the specified line and grade until no longer needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	Alignment and grade stakes for structures are set, marked, and maintained as required.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	Interim quantity surveys are adequate for estimating quantities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Engineering notes				
6.1	All notes, sketches, and other data are presented as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	All engineering notes are transmitted to the COR/GR within the specified time frame.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. As-built surveys				
7.1	Are made where necessary to document changes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	Document construction to the lines and grades shown on the drawings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3	Represent the as-built conditions including any changes from the original plans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.4	Accurately capture and document the specified pay limits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. As-built records				
8.1	A neat and legible field copy of as-built drawings is maintained.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.2	All changes have been included in the as-built records.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.3	All as-built records are submitted to the engineer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.4	Contractor performed as-built drawings meet specification requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: _____

NEH 645 CL 5.2 Quantity Computations Checklist

This checklist is intended to be a guide for an NRCS QA inspector when performing or inspecting the performance of quantity computations for NRCS engineering projects. It may not address all items required of the QA inspector, and some parts of the checklist may not be applicable to a particular project.

Project name: _____ Project #: _____

Location: _____ Date: _____

Work period: _____ A.M./P.M. to _____ A.M./P.M.

QA inspector: _____

QC inspector: _____

Final computations performed by: Contractor Sponsor NRCS

Items computed (include contract item number where applicable): _____

No.	Inspection item	Yes	No	NA
1. Format				
1.1	The heading contains sufficient information to: <ul style="list-style-type: none"> - fully identify the project and the computations - indicate the name of the person performing the computations and the date performed - indicate the name of the person checking the computations and the date checked 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Sketches, explanations, and references are adequate to explain the computation method.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Computations are broken down into simple steps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	Computations include the four basic parts: 1. Description, 2. Data origin, 3. Pay limits, and 4. Solution.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5	State format is used where applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6	Computations are neat, legible, concise, and well organized.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Units and precision				
2.1	All measurement, computation, and conversion units are shown.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Computation precision is consistent with data precision.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Computation precision is consistent with the accepted practice.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
3. Linear computations				
3.1	Linear measurements are made as specified (based on slope distance or horizontal distance).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Linear computations are consistent with specified measurement and payment method.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Area computations				
4.1	Area measurements are made as specified (based on slope distance or horizontal distance).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	The correct equation or mathematical process is applied to arrive at the answer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Volume computations				
5.1	The specified or otherwise correct equations or mathematical processes are applied to arrive at the answers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Data for computations are representative of the groundline.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	The frequency of surveyed sections complies with specifications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	Curve corrections are made when applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Weight				
6.1	A copy of all delivery tickets for items to be paid on a weight basis are obtained.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	All delivery tickets are submitted to be filed in the contract "quantities" folder.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3	Delivered and installed quantities for each day or reporting period along with cumulative delivered and installed quantities are documented in the job diary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Interim quantities				
7.1	Interim quantities are recorded in a legible and orderly fashion.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	Interim quantity records are kept until the contract has been finalized.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Computations performed by the contractor				
8.1	When quantity computations are to be performed with computer software, survey activities do not begin until software identification, vendor's name, version number, and other pertinent data has been provided to the engineer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.2	All quantity computations are performed and presented in the specified manner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.3	Computations are submitted within the specified time frame.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: _____

NEH 645 CL 6.1 Construction Erosion And Pollution Control Checklist

Use of this checklist as a guide to assess the performance of erosion and pollution control activities is optional. All items required to verify compliance with contract specifications or regulations may not be listed. Some of the listed items need only be checked one time; most items are ongoing and should be checked periodically and after storm events.

Project Name _____ Project no. _____

Location _____ Date _____

Work Period _____ A.M./P.M. to _____ A.M./P.M.

QA Inspector _____

QC Inspector _____

No.	Inspection item	Yes	No	N.A.
1. Permitting Requirements				
1.1	NOIs submittal requirements are met before construction start.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Notice is posted and maintained per CGP requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	SWPPP is implemented and revised as necessary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	Site inspections are conducted and documented as required by the CGP.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5	NOI, SWPPP, inspection reports, and the full text of the CGP are maintained on site readily accessible for audit by the authority.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6	After construction, records are transmitted with other contract documents to be maintained for the specified period.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Best Management Practices				
2.1	BMPs are implemented or installed and maintained in accordance with Construction Specification 5 and the SWPPP.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	BMPs that require periodic sediment removal are being maintained. .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	BMPs that will be permanent are functioning as intended or the responsible engineer has been notified that modifications to them may be needed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	BMPs are modified when necessary to function as intended.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5	Responsible engineer is notified of quantity variations requiring contract modification.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.6	Modifications are in place before beginning significant added work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.7	Temporary BMPs are removed when no longer needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Chemicals				
3.1	Onsite chemicals have been noted and are being managed to reduce their potential for pollution.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Chemicals are being maintained and used in compliance with regulations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	Chemical disposal is in compliance with regulations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	Sanitary facilities are being maintained.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5	Fuel storage and fueling of equipment complies with regulations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.6	Equipment leaking fuel or lubricants is removed from service.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.7	Chemical spills are promptly addressed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3.8	Authorities are notified when a chemical spill occurs that could pollute ground or surface water.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Air Pollution				
4.1	Items of work that could contribute to air pollution comply with specifications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	All permits related to air quality have been obtained by contractor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	Burning is being conducted in a safe manner with precautions taken and measures in place to prevent and arrest unwanted fires.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4	All burning facilities, especially forced-air burning, are positioned to avoid damage to any structure, utilities, fuel storage areas, and equipment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.5	For forced-air burning, blowers are positioned to allow for operation and maintenance for the duration of the burn.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.6	Dust is suppressed in compliance with specifications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.7	Handling of fine particle materials is in a manner to limit dust production.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.8	Filters and dust suppressors are functioning properly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments _____

NEH 645 CL 7.1 Foundation Preparation Checklist

The following checklist provides guidance for examining the quality of foundation preparation. The checklist does not address all of the conditions that may exist related to foundation preparation. The checklist should be used for guidance only as the inspector examines the work and should not be relied upon as a comprehensive list of items to check. Inspectors should also use their own experience and knowledge for guidance on what to examine and look for during inspections. Some items may not be listed. Some listed items may not apply to every project.

Project name: _____ Project #: _____

Location: _____ Date: _____

Work period: _____ A.M./P.M. to _____ A.M./P.M.

QA inspector: _____

QC inspector: _____

Work inspected (include contract item number where applicable): _____

No.	Inspection item	Yes	No	NA
1. Clearing and grubbing				
1.1	The limits for clearing and grubbing are clearly marked.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Surveys are completed prior to clearing and grubbing when necessary for computing quantities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	All materials are removed and disposed of as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	The contractor's operation does not damage adjacent property.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5	The contractor's operation does not damage trees that shall remain.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6	Burning is performed according to local ordinances and job specifications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.7	The timing and rate of clearing conforms to specifications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Structural removal				
2.1	Structural removal limits are clearly identified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	All materials are removed and either salvaged or disposed of as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	The removal operation does not damage adjacent property.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	Burning is performed according to local ordinances and job specifications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Stripping				
3.1	The areas to be stripped are staked per plans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Stripping is performed to the minimum specified limits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
3. Stripping—continued				
3.3	All unsuitable materials are removed and disposed of as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	Surveys are performed as needed for quantity computations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5	The responsible engineer is consulted if there are uncertainties about the suitability of stripped materials for construction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.6	Stripping below the specified lower limits is quantified and paid for as foundation excavation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Scarifying				
4.1	All holes or depressions are filled.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	Materials used to fill holes are compacted as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	The foundation is scarified to the specified extent.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4	Large rocks brought to the surface are removed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Dispersive, collapsible, and soluble materials				
5.1	The foundation and surrounding areas are visually inspected for signs of dispersive, collapsible, or soluble materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Tests to verify the existence of dispersive, collapsible, or soluble materials are conducted when applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	The responsible engineer is contacted whenever the presence of dispersive, collapsible, or soluble materials is suspected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	All dispersive, collapsible, and soluble materials are removed from the foundation to the depth and extent specified or as otherwise directed by the engineer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5	Surveys to quantify the amount of dispersive, collapsible, and soluble materials are completed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.6	Documentation is obtained as necessary to compensate the contractor for added work caused by removal of dispersive, collapsible, and soluble materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Foundation compaction and moisture control				
6.1	The moisture and density of the foundation meets or exceeds the specified requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	Adequate numbers of moisture/density tests are taken to document that specification requirements are met.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	The responsible engineer is consulted if it is necessary to deviate from the specification requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Preparing rock foundations				
7.1	All loose undesirable materials are removed and the foundation surface is cleaned as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	All cracks, crevices, and overhangs are cleaned and concreted or grouted and there are no negative slopes or overhangs remaining on the foundation surface.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3	All loose and weathered materials are removed from the foundation surface.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.4	Subsurface grouting is performed as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.5	The responsible engineer is notified of discrepancies between design and field conditions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.6	The geologist and the responsible engineer are consulted to determine the full extent of documentation needed to adequately document foundation preparation measures and procedures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
8. Cutoff trench				
8.1	The cutoff trench is staked at the specified location and quantity surveys are attained to define the upper limits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.2	The trench is excavated to the specified or modified limits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.3	The trench extends to or into the specific layer of material shown on the drawings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.4	Changes to the lower limits are documented and approved by the responsible engineer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.5	When applicable, lower limits are surveyed for quantity computations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.6	Foundation materials are at the specified moisture and density at the time of backfill placement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.7	Only specified and suitable materials are placed in the cutoff trench.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.8	Materials are placed at the specified moisture and compacted to the specified density.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Foundation drains				
9.1	Foundation drains are staked and drainfill quantity surveys attained.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2	Foundation drains are constructed to the specified limits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.3	Segregation of drainfill materials is prevented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.4	Internal perforated pipes are undamaged, clear of obstructions, and placed at the proper location.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.5	Drainfill materials are compacted to meet specification requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Final foundation preparation				
10.1	All unsuitable materials have been removed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.2	The cutoff trench is installed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.3	Drainage features are installed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.4	Just prior to placing earthfill, the moisture content and density of the foundation meet specification requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.5	All subsurface grouting has been completed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.6	All rock surfaces are cleaned and grouted.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.7	All loose and drummy rock has been removed from the surface	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.8	All negative slopes have been corrected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: _____

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NEH 645 CL 7.2 Removal of Water Checklist

The following checklist provides guidance for examining the quality of implementation of the removal of water plan. The checklist does not address all of the conditions that may exist related to removal of water. The checklist should be used for guidance only as the inspector examines the work, and should not be relied upon as a comprehensive list of items to check. Inspectors should also use their own experience and knowledge for guidance on what to examine and look for during inspections. Some items may not be listed. Some listed items may not apply to every project.

Project name: _____ Project #: _____

Location: _____ Date: _____

Work period: _____ A.M./P.M. to _____ A.M./P.M.

QA inspector: _____

QC inspector: _____

Work inspected (include contract item number where applicable): _____

No.	Inspection item	Yes	No	NA
1. General				
1.1	The accepted plan for removal of water is implemented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Required permits have been obtained prior to beginning work in or around streams or wetlands, including the U.S. Army Corps of Engineer's 404 Permit and EPA or State stormwater permit.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Details of equipment installation and performance of plan are documented in the diary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	Removal of water efforts are adequate to allow the performance of the work as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5	Contractor is made aware of inadequate removal of water efforts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6	Removal of water efforts do not adversely affect the stability of slopes or the foundation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.7	Neither surface or ground water is being polluted by removal of water efforts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.8	Precautions are taken to protect the environmental aspects of the stream or wetlands, including required pollution control measures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.9	Contractor is made aware of concerns of instability and pollution and related discussions with contractor are well documented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.10	Responsible engineer is consulted when contractor's removal of water efforts are inadequate or result in slope instability or pollution.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
1. General—continued				
1.11	Invoiced amounts for removal of water are consistent with documented performance of work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.12	Quantity of pumped water is documented in the diary for each reporting period.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.13	When payment is based on quantity of water pumped, pump accuracy is verified by the contractor and is checked periodically or when accuracy is suspect.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.14	All temporary works for the removal of water are removed and disposed of in a manner that does not adversely impact the permanent structure or the environment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Surface water				
2.1	Dewatering and drainage control systems are correctly installed according to the removal of water plan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Dewatering and drainage control systems are maintained and functioning to allow work to be performed as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	If water pumped from dewatering systems is muddy or contains fine sand, wells are sealed and wellpoints with an adequate filter system are installed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	Backup power and standby pumps are immediately available.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5	Diversion outlets empty in a nonerosive manner into the same drainage way that the water would have reached had it not been diverted.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.6	Dikes and mounds of soil in the borrow area are graded as the work progresses to blend in and avoid leaving shallow areas within the pool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.7	When a dam is being constructed, the top of the dam is maintained as near level as possible to allow flow to uniformly spread across the full width of the dam should the uncompleted dam be overtopped.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.8	Cofferdams are maintained and not repeatedly emptied by breaching and allowing water to flow through the worksite.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.9	Compliance with requirements that diverted surface water must be returned to its original drainage way before leaving the site or owner's property.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.10	Borrow areas are maintained as the work progresses so that dikes are knocked down to avoid leaving shallow areas within the pool.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.11	Emergency outlets are located so that their function will not result in flow being concentrated over any part of the dam.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.12	Embankment is maintained approximately level during construction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.13	All avenues for surface water to enter an internal drainage system are sealed as the work progresses and those that must remain unsealed to facilitate construction are sealed when it appears eminent that a runoff event could result in surface flow or inundation at the opening.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Groundwater				
3.1	Dewatering and drainage control systems are correctly installed according to the removal of water plan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Dewatering and drainage control systems are maintained and functioning to allow work to be performed as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	If water pumped from dewatering systems is muddy or contains fine sand, wells are sealed and wellpoints with an adequate filter system are installed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	Backup power and standby pumps are immediately available.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5	Concrete is not placed on a wet foundation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.6	Standing or flowing water does not come in contact with concrete until it has achieved its initial set.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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No.	Inspection item	Yes	No	NA
4. Erosion, pollution control, and removal of temporary works				
4.1	Required permits have been obtained and, when required, copies are available on the jobsite prior to beginning work in or around streams or wetlands.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	Best management practices (BPMs) are installed and maintained as required by the Stormwater Pollution Prevention Plan (SWPPP).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	Precautions are taken to protect environmentally sensitive streams during stream diversion and associated construction activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4	Water is diverted from slopes and slopes are protected to reduce erosion.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.5	Care is exercised when removing dewatering system filter components to minimize the loss of trapped sediment, debris, and other pollutants.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: _____

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NEH 645 CL 7.3 Excavation Inspection Checklist

Use of this checklist as a guide to assess the performance of erosion and pollution control activities is optional. All items required to verify compliance with contract specifications for regulations may not be listed. Some of the listed items need only be checked on time; most items are ongoing and should be checked periodically and after storm events.

Project Name _____ Project no. _____

Location _____ Date _____

Work Period _____ A.M./P.M. to _____ A.M./P.M.

QA Inspector _____

QC Inspector _____

No.	Inspection item	Yes	No	N.A.
1. Safety				
1.1	Qualifications of equipment operators and the conditions of the excavating equipment comply with safety regulations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Contractor's excavation safety plan has been reviewed and discussed with all employees.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	All employees have been informed of what to do in emergency situations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	Contractor operations comply with OSHA regulations related to excavations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5	Trenching operations are supervised by a competent person.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6	Spoil materials are placed a safe distance from excavation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.7	Confined space air quality is addressed where applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.8	Amount of trench excavated at any one time is limited to no more than can be maintained.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.9	Shoring, trench boxes, and trench access ladders are installed per OSHA requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.10	Consideration is given to changing soil conditions of moisture and freeze/thaw, surcharge loads, equipment operation, and other conditions that may cause excavations to be unstable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Buried utilities				
2.1	An NRCS employee has checked with the land owner, operator, or sponsoring organization to determine if there are underground utilities known to be in the work area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	An NRCS employee has checked for records of known utilities on file in the field office.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	The land owner, operator, sponsoring organization, or prime contractor: _____ called the state one-call number to ascertain the presence of utilities _____ notified the utility owner of the time, place, and type of work to be done _____ requested that the buried utility be located and marked by the utility owner _____ requested that a representative of the utility owner be present during excavation operations _____ notified the excavation contractor of the location of known utilities, and _____ completed, signed, and returned the NRCS-ENG-005 to the NRCS			
2.4	NRCS-ENG-005 and 006 are completed and filed in the local field office or contract file.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. Excavated materials				
3.1	Materials being excavated are properly classified as common, rock, or unclassified excavation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Topsoil has be stockpiled for final grading.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	Excavated materials are used as specified per USCS classification.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	Soils unsuitable for a construction material are disposed of as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5	Changes in excavation limits or class of excavation are documented and addressed in compliance with specifications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.6	Any concerns about excavation operation inefficiency are documented and elevated to the engineer in a timely manner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.7	The engineer is promptly notified when it is anticipated that a change in materials will result in a significant change in the quantity or scope of work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.8	Details and related conversations of any change or added work related to materials is recorded in the job diary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.9	Surveys are made to define the excavation or material class limits needed for adjusting payment quantities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.10	Excavation extends to the specified limits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.11	All changes to excavation limits are documented on the as-built plan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Blasting				
4.1	No blasting materials are transported to the site until the contractor's blasting plan is accepted by the responsible engineer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	The blaster has obtained a blasting permit if required.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	Blasting operations comply with the accepted blasting plan as follows: ___ operations are directed and supervised by the person(s) listed in the blasting plan ___ materials are stored, transported, and handled in accordance with the blasting plan ___ safety measures are implemented according to the blasting plan ___ the depth, direction, spacing, and loading of the holes are consistent with the blasting plan			
4.4	Adjustments are made in the blasting plan to prevent over-blasting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.5	Pre-blast conditions of potentially affected buildings, structures, or are well documented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.6	Monitoring is implemented when specified or planned.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.7	Photo documentation of pre and post-blast conditions are referenced in the job diary and on WS 7.2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.8	All blasting operations and related activities are documented in the job diary and on WS 7.2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. Disposal of excavated materials				
5.1	All suitable materials are used as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Where specified, top soil is salvaged and stockpiled in designated locations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	Excavated unsuitable or surplus materials are disposed of as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	No unsuitable materials remain in areas from which they are to be removed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Borrow areas				
6.1	Borrow areas have been staked or otherwise delineated in the field.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	Borrow areas have been cleared as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3	Provisions are made to dispose of unsuitable borrow materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4	The responsible engineer is notified if it appears borrow area will be inadequate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.5	Where applicable, surveys are obtained for borrow quantity computations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.6	Water content of borrow materials is adjusted, as needed, prior to transporting materials to the fill area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.7	Borrow areas are smoothed and piles of materials cut down to eliminate shallow areas within the pool that could be a boating hazard.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.8	Borrow areas are sloped and graded as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.9	Borrow areas above permanent waterline are covered with topsoil and vegetated or otherwise stabilized as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Final grading				
7.1	Grade stakes are accurately placed and regular grade checks are made.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	Final grading is made to the specified lines and grades.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3	Overexcavation is avoided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.4	Grading is avoided when the soil is too wet, too dry, or frozen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments _____

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NEH 645 CL 8.1 Earthfill and Earth Backfill Inspection Checklist

The following checklist provides guidance for examining the quality of earthfill. The checklist does not address all of the conditions that may exist related to earthfill. The checklist should be used for guidance only as the inspector examines the work, and should not be relied upon as a comprehensive list of items to check. Inspectors should also use their own experience and knowledge for guidance on what to examine and look for during inspections. Some items may not be listed. Some listed items may not apply to every project

Project Name _____ Project # _____

Location _____ Date _____

Work Period _____ A.M./P.M. to _____ A.M./P.M.

QA Inspector _____

QC Inspector _____

Work Inspected (Include contract item number where applicable) _____

No.	Inspection item	Yes	No	NA
1. Materials				
1.1	Materials being used are properly identified and do not differ significantly from those materials specified in design.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Materials are routed to the specified locations in the earthfill.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Frozen materials are not used in any earthfill or earth backfill.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	Moisture content of borrow materials is within the specified range or can be adjusted to comply with specification requirements before compaction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5	Significant changes in materials are promptly reported to the responsible engineer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Foundation preparation				
2.1	The foundation is prepared as specified prior to any placement of materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Surface and subsurface drainage features are in place to control water during earthfill or backfill operations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Clearing and foundation preparation operations comply with safety standards with an emphasis on excavation safety.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Placement and processing				
3.1	Earthfill zones are properly staked.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Earthfill is installed at locations designated in the drawings and specifications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	The foundation and/or embankment surfaces are conditioned for bonding and comply with the specified grades and density.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	Oversize stones, roots, and debris are removed before compaction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5	The type of earthfill materials comply with specification requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
3.6	The top surface of embankment earthfill is maintained approximately horizontal except for a slight slope, as needed, for drainage.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.7	Earthfill or backfill has been placed, moisture adjusted, and processed as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.8	Frozen materials have not been placed; nor have materials been placed on any frozen foundation or fill surface.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Moisture control				
4.1	Foundation moisture is within the specified range.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	Compaction moisture is within the specified range throughout the full depth of the lift.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	Added water is properly incorporated into the earthfill to produce a uniform moisture content throughout the lift thickness.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Compaction				
5.1	Appropriate compaction equipment is being properly used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Compaction equipment is being controlled to provide a systematic and complete coverage of entire area requiring compaction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	For Class A and B compaction, the specified density is attained throughout the full depth of each lift.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	For Class C compaction, the prescribed equipment and method are being consistently applied.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5	Backfill is protected from drying and cracking until permanently covered.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.6	Structural damage is avoided by not over-compacting backfill.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.7	For zoned embankments, all zones are located and configured as specified or as shown on the drawings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Sampling and testing				
6.1	Testing locations are truly representative of the section or area being evaluated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	Areas of suspect compaction effort or areas suspected of being too dry or too wet are tested.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3	Soil samples to be tested are properly protected to prevent loss of moisture.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4	Where undisturbed soil samples are needed for testing, the sample is properly extracted and protected from damage until it is tested.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.5	All tests are performed in strict accordance with the specified test standard and are appropriate for the soils being tested.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.6	A moisture and density correction is made according to ASTM D4718 whenever the soil being tested contains significant amounts of oversize particles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.7	Test location and results are promptly recorded.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Evaluating test results				
7.1	The selected Proctor curve represents the soil or composite soils being tested.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	Test results are reasonable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3	Soils are retested if initial test results are unreasonable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.4	Actions are taken to correct noncompliant work when reasonable test results fail.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.5	Any reworked areas are again tested to verify and document compliance with specifications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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No.	Inspection item	Yes	No	NA
8. Records and reports				
8.1	The method used to select the Proctor curve is noted.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.2	The horizontal and vertical location of tests and the area represented by the test are recorded.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.3	The standard test method is employed and the results are recorded as required by the test method.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.4	Actions or additional testing for verification of test results is documented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.5	Any actions taken to correct non-compliant work are documented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.6	The specific worksheet where test results are recorded is referenced in the job diary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments _____

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NEH 645 CL 8.2 Rockfill Inspection Checklist

The following checklist provides guidance for examining the quality of rockfill. The checklist does not address all of the conditions that may exist related to rockfill. The checklist should be used for guidance only as the inspector examines the work, and should not be relied upon as a comprehensive list of items to check. Inspectors should also use their own experience and knowledge for guidance on what to examine and look for during inspections. Some items may not be listed. Some listed items may not apply to every project

Project Name _____ Project # _____

Location _____ Date _____

Work Period _____ A.M./P.M. to _____ A.M./P.M.

QA Inspector _____

QC Inspector _____

Work Inspected (Include contract item number where applicable) _____

No.	Inspection item	Yes	No	NA
1. Materials				
1.1	Only rockfill materials meeting job specifications are installed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Rockfill materials are routed to the specified locations in the rockfill.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Significant changes in materials are promptly reported to the responsible engineer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Foundation preparation				
2.1	The foundation is prepared as specified prior to any placement of materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Surface and subsurface drainage features are in place to control water during rockfill operations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Clearing and foundation preparation operations comply with safety standards with an emphasis on excavation safety.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Placement				
3.1	Rockfill zones are properly staked.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Rockfill is installed at locations designated in the drawings and specifications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	Prescribed placement methods are followed to produce a competent rockfill.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	Lift thicknesses are appropriate for the material being placed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Moisture control				
4.1	Excessive moisture is avoided if it adversely affects other operations or the placement, processing, and compaction of surrounding earthfill.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Compaction				
5.1	The specified equipment is used and specified method of compaction is strictly followed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Compaction equipment is in good condition and being operated properly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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No.	Inspection item	Yes	No	NA
5.3	Compaction equipment is being controlled to provide systematic and complete coverage of entire area requiring compaction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	The proper sequence of placing and compaction of transition zones is implemented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5	All zones are located and configured as specified or as shown on the drawings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Records and reports				
6.1	The horizontal and vertical locations of non-compliant work limits are recorded.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	Any actions taken to correct non-compliant work are documented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments _____

NEH 645 CL 9.1 Soil-Cement Checklist

The following checklist provides guidance for examining the quality of soil-cement construction. The checklist does not address all of the conditions that may exist related to soil-cement construction. The checklist should be used for guidance only as the inspector examines the work, and should not be relied upon as a comprehensive list of items to check. Inspectors should also use their own experience and knowledge for guidance on what to examine and look for during inspections. Some items may not be listed. Some listed items may not apply to every project.

Project Name _____ Project # _____

Location _____ Date _____

Work Period _____ A.M./P.M. to _____ A.M./P.M.

QA Inspector _____

QC Inspector _____

Work Inspected (Include contract item number where applicable) _____

No.	Inspection item	Yes	No	NA
0. Soil Material Hazards				
0.1	Material hazard datasheets are reviewed by on-site NRCS and contractor personnel prior to handling or working around amendments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.2	Material hazards are addressed in the safety plan, safety meetings, and whenever appropriate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.3	First aid provisions and a plan of action are in place to address illness resulting from exposure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.4	Materials are handled and used in a safe manner to protect workers and the public.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.5	Protective equipment is worn as applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.6	Safety concerns are documented and addressed as soon as they are recognized.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1. Materials				
1.1	Deleterious materials and rock particles larger than the maximum specified are removed before mixing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Soil is of the type specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Gradation and Atterberg limits test data are obtained when specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	For soil with gradation and plasticity markedly different from that specified, test data is provided to show that soil-cement made with these soils is of a quality equal to or exceeding the required quality.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5	Cement meets specified requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6	Cement is stored in a dry and uncontaminated condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.7	Pozzolan, when used, meets specified requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.8	Pozzolan, when used, is stored in a dry and uncontaminated condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
1.9	Water meets specified requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.10	Curing compound meets specified requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.11	Changes in the source of soil, water, cement, pozzolan or curing compound are made known to the Engineer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Equipment				
2.1	Mixing equipment is in place and properly functioning as discussed in the section in this chapter entitled Proportioning and Mixing (Soil-Cement).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Equipment used to transport and apply cementitious materials is covered or enclosed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Application equipment is capable of uniformly applying cementitious materials at the specified rate with little or no dust problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	Compaction equipment is suited for compacting the soil-cement to the planned lift depth.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5	Equipment that is to operate on soil-cement does not leak fluids or mar or loosen surface of compacted soil-cement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Mix Design				
3.1	Materials and mix proportions are in accordance with the job mix.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Other than minor changes in water content, the job mix does not change without the Engineer's concurrence.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Site Preparation				
4.1	The area to receive the remotely mixed soil-cement is shaped to the proper line and grade.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	The subgrade surface is moistened prior to placing remotely mixed soil-cement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	Where in situ soil is used, it is loosened to the specified depth and pulverized.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4	The pulverized in situ soil is graded to the proper line and grade before adding cementitious materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.5	Soil to be mixed with cement is free of deleterious material.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.6	Rock particles larger than the maximum size specified are removed from the soil before mixing in the cementitious material.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Proportioning and Mixing				
5.1	The plant operator exhibits the capability to oversee the proportioning and mixing operation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Equipment is in good condition, has adequate capacity, and hoppers discharge completely.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	Drums are inspected and cleaned periodically and are not overcharged.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	Adequate quantities of all ingredients (soils, cement, pozzolan, and water) are available on site to allow uninterrupted production.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5	Only specified soils are used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.6	Soil moisture is 1 – 2% below optimum when cementitious materials are added.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.7	Soil-cement is mixed immediately after the cement is added.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.8	Mix moisture tests are conducted and water is added to bring moisture of the mixture to within the specified range for compaction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.9	The plant operator visually inspects the mix for uniformity on a continuous basis.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
5.10	Quality control personnel visually inspect the mix for uniformity on a periodic basis.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.11	The mixture has uniform color, moisture, and cement content or uniformity problems are isolated and corrected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.12	Mix uniformity is documented periodically and before and after uniformity problems are corrected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Transporting and Placing				
6.1	Foundation or lift joint preparation is complete as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	Mixture is not contaminated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3	Transport containers do not leak.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4	Haul time does not exceed 30 minutes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.5	Mixture is protected from rainfall or excessive drying from wind and sun.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.6	Equipment does not damage previously placed and compacted soil-cement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.7	Soil-cement is spread in lifts of a uniform thickness resulting in compacted layers of the specified grade and thickness.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.8	Mix is placed in a configuration that limits edge joints.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.9	Thickness of lift does not exceed the depth that can be efficiently mixed and compacted with available equipment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.10	The surface of soil-cement that is more than 2-hours old is treated as specified before being covered by a new layer of soil-cement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.11	Placement does not occur if the air temperature is less than 40oF.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.12	Placement does not occur if the foundation or the soil used to make the soil-cement is frozen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.13	Placement does not occur if the soil-cement cannot be completely compacted and protected before the onset of damaging weather.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.14	Whenever the air temperature is expected to be below 45oF, the planned method of protection is approved by the engineer before soil-cement is placed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.15	Whenever the air temperature is expected to be below 45oF, protection equipment and materials are on-site and ready to be employed as per the approved protection plan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.16	Mix contains specified moisture in preparation for compaction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.17	Moisture adjustments are made without damage to underlying materials or the mixing of foundation materials into the soil-cement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Compaction				
7.1	Sheepsfoot or other deep penetrating compactors are not used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	The soil-cement is compacted to the specified density.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3	Compaction is attained throughout the entire depth of the lift.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.4	Lift thickness is controlled or compaction effort is increased to prevent surface damage caused by over compacting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.5	Raw unmixed soil is not bladed onto the soil-cement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.6	Compaction is accomplished as soon as possible after the soil-cement is placed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Curing				
8.1	Prior to beginning soil-cement placement, curing equipment and materials are on site and ready to be deployed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
8.2	Curing begins immediately after compaction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.3	Curing continues until the soil-cement has been maintained at or above 40oF for 7 days.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.4	Application of curing water does not erode the surface.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.5	Coverings are secured to prevent the movement of air between the soil-cement and the covering.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.6	White or reflective coverings are used during hot weather.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.7	Curing compound conforms to specification requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.8	The entire surface to be cured with curing compound is uniformly covered at or in excess of the manufacturer's recommended rate and the specified rate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.9	Curing compound is not applied to bonding surfaces or areas to be repaired.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.10	The surface is kept continuously moist until curing compound is applied.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.11	All standing water is removed prior to applying the curing compound.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.12	Curing compound is applied in a timely manner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.13	Curing compound is reapplied every 7 days during the curing period when the curing period is extended beyond 7 days.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Protection				
9.1	Soil-cement is protected against erosive rainfall or flowing water.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2	Cold weather plan is implemented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.3	Vehicular traffic is prohibited if it causes damage to the soil-cement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other				
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Note: Items that should be checked may not be listed. Items listed may not apply to every project.)

Comments _____

NEH 645 CL 9.2 Lime-treated Earthfill Checklist

The following checklist provides guidance for examining the quality of lime-treated earthfill construction. The checklist does not address all of the conditions that may exist related to lime-treated earthfill construction. The checklist should be used for guidance only as the inspector examines the work, and should not be relied upon as a comprehensive list of items to check. Inspectors should also use their own experience and knowledge for guidance on what to examine and look for during inspections. Some items may not be listed. Some listed items may not apply to every project.

Project Name _____ Project # _____

Location _____ Date _____

Work Period _____ A.M./P.M. to _____ A.M./P.M.

QA Inspector _____

QC Inspector _____

Work Inspected (Include contract item number where applicable) _____

No.	Inspection item	Yes	No	NA
0. Soil Material Hazards				
0.1	Material hazard datasheets are reviewed by on-site NRCS and contractor personnel prior to handling or working around amendments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.2	Material hazards are addressed in the safety plan, safety meetings, and whenever appropriate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.3	First aid provisions and a plan of action are in place to address illness resulting from exposure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.4	Materials are handled and used in a safe manner to protect workers and the public.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.5	Protective equipment is worn as applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.6	Safety concerns are documented and addressed as soon as they are recognized.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1. Materials				
1.1	Soil is obtained from designated areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Deleterious materials and rock particles larger than the specified maximum allowable size are removed from the soil before mixing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Water conforms to specification requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	Lime complies with the specification and the source and form of lime has been approved by the Engineer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Equipment				
2.1	Mixing equipment is of the type and size specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Mixing equipment is capable of mixing at various depths up to and including the planned lift depth.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Transport equipment is covered or enclosed to avoid dust problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
2.4	Slurry transport vehicles sufficiently agitate the slurry to keep the lime in suspension.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5	Compaction equipment is capable of compacting the lime-treated earthfill to the full planned lift depth.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Mix Design				
3.1	The area to receive the lime is shaped to the specified line and grade.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Topsoil and unsuitable materials are replaced with acceptable material.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	Subgrade is firm enough to support equipment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	Soil moisture adjustments are made as necessary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<i>For Mixing and Curing in a Processing Area:</i>			
3.5	Mixing and curing are conducted at the designated site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.6	The site is stripped of topsoil.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.7	If specified, topsoil is stockpiled to be placed back on the processing area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.8	The area is graded to a relatively smooth and uniform surface.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Lime and Soil Proportioning				
4.1	The planned application rate conforms to the specified rate for the form of lime used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	Tests such as those to test for Atterberg limits and pH are conducted as applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	Application rate adjustments are made based on results of tests for strength, plasticity, or pH, as applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4	Rate adjustments are approved by the Engineer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Lime Application				
5.1	Lime is not applied when the temperature is below 40oF or is expected to drop below 40oF within 24 hours.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Dry lime is not applied in windy conditions that cause dusting problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	Tests are conducted to document that lime is uniformly and evenly applied and spread.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	After spreading, dry lime is sprinkled with water to minimize blowing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5	Caution is taken to avoid exposure to lime dust and steam produced by lime slaking.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.6	Where applicable, slurry is evenly distributed and lime is kept in suspension throughout the distribution process.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Mixing				
6.1	The depth of lift or layer into which the lime is mixed allows for the proper proportioning of lime and soil.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	The depth of the mixture is no greater than can be effectively mixed by the mixing equipment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3	Soil, lime, and water are processed to provide for a uniform mixture without lumps of soil or lime.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4	The water content of the mixture is maintained as specified throughout the mixing process.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.5	The mixture is sealed, as applicable, to prevent evaporation, lime carbonation and excessive wetting from rainfall.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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No.	Inspection item	Yes	No	NA
6.6	The process of mixing the lime, soil, and water is completed within the same workday as it is started.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.7	The mixture is cured as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.8	When specified, material is remixed after curing to break up clods and reduce any non-slaked lime particles to less than the No. 4 sieve size.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Compaction				
7.1	The mixture contains the specified amount of water evenly distributed throughout the lift being compacted.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	The mixture is compacted to the minimum density specified throughout the depth of the lift.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other				
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Note: Items that should be checked may not be listed. Items listed may not apply to every project.)

Comments _____

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NEH 645 CL 9.3 Bentonite-treated Soil Checklist

The following checklist provides guidance for examining the quality of bentonite-treated soil construction. The checklist does not address all of the conditions that may exist related to bentonite-treated soil construction. The checklist should be used for guidance only as the inspector examines the work, and should not be relied upon as a comprehensive list of items to check. Inspectors should also use their own experience and knowledge for guidance on what to examine and look for during inspections. Some items may not be listed. Some listed items may not apply to every project.

Project Name _____ Project # _____

Location _____ Date _____

Work Period _____ A.M./P.M. to _____ A.M./P.M.

QA Inspector _____

QC Inspector _____

Work Inspected (Include contract item number where applicable) _____

No.	Inspection item	Yes	No	NA
0. Soil Material Hazards				
0.1	Material hazard datasheets are reviewed by on-site NRCS and contractor personnel prior to handling or working around amendments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.2	Material hazards are addressed in the safety plan, safety meetings, and whenever appropriate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.3	First aid provisions and a plan of action are in place to address illness resulting from exposure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.4	Materials are handled and used in a safe manner to protect workers and the public.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.5	Protective equipment is worn as applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.6	Safety concerns are documented and addressed as soon as they are recognized.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1. Materials				
1.1	Borrow soils are obtained from designated areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	In-place soils are of the type specified or are replaced with the type specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Deleterious materials and rock particles larger than the lift thickness divided by 10 are removed from the soil before mixing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	No more than 25% of the soil is larger than the #10 sieve.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5	Water is relatively clean and meets specification requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6	When specified, sodium bentonite with a free swell of at least 22 milliliters per 2 grams is used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.7	Bentonite is of the specified form (fine powder or coarse granular) or adjustments are made, as necessary, in the proportioning of bentonite and soil.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
1.8	Bentonite is kept dry until spread.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.9	Bentonite is protected and handled in a manner to prevent blowing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.10	Workers are protected from breathing fine powder bentonite.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Equipment				
2.1	Mixing equipment is of the type and size specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Mixing equipment can be adjusted for various mixing depths.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Mixing equipment is capable of thorough mixing at the planned lift depth.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	Equipment used to transport and distribute bentonite is covered or enclosed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5	Equipment used for spreading is capable of uniformly applying the bentonite at the rate specified with little or no bentonite dust problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Mix Design				
	<i>For In-place Mixing and Curing:</i>			
3.1	The area to receive the bentonite is shaped to the specified line and grade.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Topsoil and unsuitable soils are removed and replaced with acceptable material.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	When specified, the subgrade is made filter-compatible with the soil-bentonite mixture.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	Soil above the subgrade or bottom lift is removed and stockpiled.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5	Oversize particles are removed from soils to be treated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.6	Soil is firm enough to support equipment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.7	Soil to be modified has a moisture content that is 1 to 2 percent below optimum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Additional Responsibilities for Mixing and Curing at a Processing Area</i>			
3.8	Mixing and curing are conducted at the designated processing area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.9	Topsoil is stripped and removed to expose the soil that is to be treated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.10	When specified, topsoil is stockpiled to be placed back on the processing area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.11	The area is graded to a relatively smooth and uniform surface.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Bentonite Application				
4.1	Caution is taken to avoid breathing fine bentonite powder.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	Bentonite is not applied in windy conditions that cause dusting problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	Bentonite is uniformly and evenly applied at the rate specified for the form of bentonite used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4	Where the mixture is transported to the placement site, lift seams are staggered.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Mixing				
5.1	The depth of the mixture allows for the proper proportioning of bentonite and soil.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	The depth of the mixture is no greater than can be effectively mixed by the mixing equipment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	The soil and bentonite are uniformly mixed prior to adding water.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	Water is evenly distributed throughout the mixture to arrive at the specified moisture content for compaction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5	The process is not begun unless the entire process from bentonite application through compaction can be completed within the same day.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
6. Transporting and Placing				
6.1	Compaction is accomplished as soon as practicable after incorporating the bentonite and water.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	Deep penetrating compaction equipment is not used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3	The lift thickness is conducive to attaining the specified density throughout the full lift depth.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4	The mixture is compacted to the minimum density specified throughout the depth of the lift.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.5	On slopes that are steeper than 4H:1V, the compactor is cabled to a dozer or other equipment to prevent slippage.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Protective Cover				
7.1	The cover is installed as soon as practicable after completion of the soil-bentonite liner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	The cover is compacted to the specified density.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other				
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Note: Items that should be checked may not be listed. Items listed may not apply to every project.)

Comments _____

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NEH 645 CL 9.4 Dispersant Checklist

The following checklist provides guidance for examining the quality of dispersant construction. The checklist does not address all of the conditions that may exist related to dispersant construction. The checklist should be used for guidance only as the inspector examines the work, and should not be relied upon as a comprehensive list of items to check. Inspectors should also use their own experience and knowledge for guidance on what to examine and look for during inspections. Some items may not be listed. Some listed items may not apply to every project.

Project Name _____ Project # _____

Location _____ Date _____

Work Period _____ A.M./P.M. to _____ A.M./P.M.

QA Inspector _____

QC Inspector _____

Work Inspected (Include contract item number where applicable) _____

No.	Inspection item	Yes	No	NA
0. Soil Material Hazards				
0.1	Material hazard datasheets are reviewed by on-site NRCS and contractor personnel prior to handling or working around amendments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.2	Material hazards are addressed in the safety plan, safety meetings, and whenever appropriate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.3	First aid provisions and a plan of action are in place to address illness resulting from exposure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.4	Materials are handled and used in a safe manner to protect workers and the public.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.5	Protective equipment is worn as applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0.6	Safety concerns are documented and addressed as soon as they are recognized.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1. Materials				
1.1	Borrow soils are obtained from designated areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	In-place soils are of the type specified or are replaced with the type specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Deleterious materials and rock particles larger than the specified allowable maximum particle size are removed from the soil before mixing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	Water is relatively clean and meets specification requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5	The specified type of dispersant is used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6	Dispersant is kept dry until spread.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.7	Dispersant is protected and handled in a manner to prevent blowing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.8	Workers and others are protected from breathing the dispersant.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
2. Equipment				
2.1	Mixing equipment is of the type and size specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Mixing equipment can be adjusted for various mixing depths.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Mixing equipment is capable of thoroughly mixing at the planned lift depth.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	Equipment used to transport and apply fine powder dispersant is covered or enclosed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5	Equipment used for spreading is capable of uniformly applying the dispersant at the rate specified with little or no dispersant dust problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Mix Design				
	<i>For In-place Mixing and Curing:</i>			
3.1	The area to receive the dispersant is shaped to the specified line and grade.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Topsoil and unsuitable soils are removed and replaced with acceptable material.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	When specified, the subgrade is made filter-compatible with the soil-dispersant mixture.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	Soil above the subgrade or bottom lift is removed and stockpiled.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5	Oversize particles are removed from soils to be treated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.6	Soil is firm enough to support equipment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.7	Soil has a moisture content within the range specified for compaction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<i>Additional Responsibilities for Mixing and Curing at a Processing Area</i>			
3.8	Mixing and curing are conducted at the designated processing area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.9	Topsoil is stripped and removed to expose the soil that is to be treated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.10	When specified, topsoil is stockpiled to be placed back on the processing area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.11	The area is graded to a relatively smooth and uniform surface.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Dispersant Application				
4.1	Caution is taken to avoid breathing dispersant.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	Dispersant is not applied in windy conditions that cause dusting problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	Dispersant is uniformly and evenly applied at the rate specified for the type of dispersant used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4	Where the mixture is transported to the placement site, lift seams are staggered.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Mixing				
5.1	The depth of the mixture allows for the proper proportioning of dispersant and soil.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	The depth of the mixture is no greater than can be effectively mixed by the mixing equipment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	The soil and dispersant are uniformly mixed prior to making final moisture adjustment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	Water is evenly distributed throughout the mixture to arrive at the specified moisture content for compaction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5	The process of mixing and compacting the dispersant, soil, and water is completed within the same workday as it is started.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Compaction				
6.1	The lift thickness is conducive to attaining the specified density throughout the full lift depth.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	The mixture is compacted to the minimum density specified throughout the depth of the lift.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
6.3	Deep penetrating compaction equipment walks out of the liner or compaction is finished with less penetrating compaction equipment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4	On slopes that are steeper than 4H:1V, the compactor is cabled to a dozer or other equipment to prevent slippage.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Protective Cover				
7.1	The cover is installed as soon as practicable after completion of the soil-dispersant liner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	The cover is compacted to the specified density.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other				
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(Note: Items that should be checked may not be listed. Items listed may not apply to every project.)

Comments _____

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NEH 645 CL 10.1 Geotextile Inspection Checklist

The following checklist provides guidance for inspection of the proper installation of geotextiles. This checklist does not address all of the conditions that may exist related to these installations and should be used for guidance only as the inspector examines the work. Inspectors should also use their own experience and knowledge for guidance on what to examine and look for during inspections.

Project Name _____ Project no. _____

Location _____ Date _____

Work Period _____ A.M./P.M. to _____ A.M./P.M.

QA Inspector _____

QC Inspector _____

Work inspected (include contract item number where applicable) _____

No.	Inspection item	Yes	No	N.A.
1. General				
1.1	Safe conditions exist when handling and installing geosynthetics.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Only approved materials are delivered and installed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Materials are stored and handled properly and protected from UV exposure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	The subgrade or surface upon which geotextiles are to be installed complies with specified requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5	Joints and seams are installed in the specified manner and tested for leakage where applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6	Geosynthetics are placed and anchored as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.7	All appurtenances are installed at the location and in the manner specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.8	Vents are installed where applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.9	After placement, geosynthetics are covered in the manner specified to avoid lengthy UV exposure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.10	Geosynthetics are not damaged during installation and covering.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.11	Damaged geosynthetics are removed and replaced or repaired according to specification requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Materials—Geotextiles				
2.1	Verifying materials are approved for use by the responsible engineer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Verifying delivered materials are protected by an intact manufacturer's protective cover.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Verifying the label information and the material conforms to the approved material submittal.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	Learning to identify various geotextile materials by look and feel.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5	Verifying the edges of woven geotextiles have a selvedge.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	N.A.
3. Storage and Handling—Geotextile				
3.1	Geotextile rolls are not damaged when moved.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	The protective cover is not damaged when moved.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	Materials are stored in a dry shaded area away from damaging chemicals and excessive heat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	Materials that are not protected from ultraviolet light exposure are not used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5	Damaged materials are not incorporated into the work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.6	Geotextile that is stiff from being wet and freezing is thawed before installation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Surface Preparation—Geotextile				
4.1	The condition of the surface will not be detrimental to the function of the geotextile.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	Holes, rills, or other depressions are eliminated when necessary for the geotextile to function as intended.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	Rocks, clods, roots, and sticks that could prevent geotextile from contacting the surface or could punch a hole in the fabric are removed or avoided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4	Muddy conditions, standing water, or flowing water are eliminated when necessary for the geotextile to function as intended.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.5	The foundation density complies with specification requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Placement—Geotextile				
5.1	The geotextile is in continuous contact with the foundation surface in all locations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Joining of panels meets specification requirements for sewing or lapping as applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	Lap lengths are maintained after installation of cover materials.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	Geotextile is not damaged during installation or covering.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5	Geotextile is properly anchored and secured.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.6	Geotextile is covered to the specified depth and within the specified timeframe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.7	Cushioning of geotextile is provided where specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.8	Specified requirements for limiting vehicular and equipment traffic on the geotextile are followed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments _____

NEH 645 CL 10.2 Geomembranes Inspection Checklist

The following checklist provides guidance for inspection of the proper installation of geomembranes. This checklist does not address all of the conditions that may exist related to these installations and should be used for guidance only as the inspector examines the work. Inspectors should also use their own experience and knowledge for guidance on what to examine and look for during inspections.

Project Name _____ Project no. _____

Location _____ Date _____

Work Period _____ A.M./P.M. to _____ A.M./P.M.

QA Inspector _____

QC Inspector _____

Work inspected (include contract item number where applicable) _____

No.	Inspection item	Yes	No	N.A.
1. General				
1.1	Safe conditions exist when handling and installing geosynthetics.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Only approved materials are delivered and installed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Materials are stored and handled properly and protected from UV exposure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	The subgrade or surface upon which geotextiles are to be installed complies with specified requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5	Joints and seams are installed in the specified manner and tested for leakage where applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6	Geosynthetics are placed and anchored as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.7	All appurtenances are installed at the location and in the manner specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.8	Vents are installed where applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.9	After placement, geosynthetics are covered in the manner specified to avoid lengthy UV exposure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.10	Geosynthetics are not damaged during installation and covering.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.11	Damaged geosynthetics are removed and replaced or repaired according to specification requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Materials—Geomembranes				
2.1	All materials delivered to the site meet the contract requirements, including polymer type, thickness, and other properties, such as reinforcement, texturing, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Appropriate material certifications are provided, including roll number, manufacturer's quality control/quality assurance (MQC/MQA) test data and conformance test data, if required.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Quantities of all materials are sufficient to complete the project.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	All non-conforming materials are removed from the job site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	N.A.
3. Storage and Handling—Geomembranes				
3.1	Materials are handled and stored according to the manufacturer's recommendations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Any damage occurring during off-loading or storage is noted.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	Damaged materials are repaired or replaced.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	All non-conforming materials are removed from the job site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Surgrade Preparation—Geomembranes				
4.1	Subgrade is free of harmful materials, including organics, sticks, rocks larger than 3/8 inch, angular rocks or other sharp objects, standing water, mud, or snow.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	Subgrade is smooth, firm, and unyielding.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	Surface deformations do not exceed 1 inch.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Anchor Trench—Geomembranes				
5.1	Anchor trench is excavated as shown on the drawings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Corners on the anchor trench are rounded and the walls are smooth.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	Backfill material for the anchor trench is as specified and that no unsuitable materials are present.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	Anchor trench backfill material is compacted as specified without damage to geomembrane.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Liner Placement—Geomembranes				
6.1	Geomembrane placement does not begin until the subgrade has been approved by the engineer and a passing test strip has been performed by the installer, unless otherwise specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	Weather conditions are suitable for geomembrane placement, according to the project specifications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3	Only approved materials are incorporated into the work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4	Placement procedures meet the project specifications and do not cause damage to the geomembrane or subgrade.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.5	Defects, blemishes, or damage anywhere in the geomembrane panels are noted and marked for repair.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.6	Geomembrane is placed with the top side up in cases where top and bottom sides are designated by the manufacturer: for example, with some reinforced geomembranes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.7	Geomembrane is placed with adequate slack, but without significant wrinkles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.8	Minimum overlap is provided between adjacent geomembrane panels.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.9	Temporary ballast is placed on the geomembrane to prevent displacement by wind during placement and at end of each day.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.10	Traffic on the geomembrane is limited to the types of vehicles allowed in the project specifications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.11	An as-built sketch is maintained of all panels placed each day.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Trial Seams—Geomembranes				
7.1	Trial seams are performed at the frequency specified in the project specifications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	All materials, methods, equipment, personnel, and conditions for the trial seam are the same as for production seaming.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3	Settings on welding machines are noted for later comparison with settings during production	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.4	All required samples for testing are collected and labeled.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	N.A.
7.5	Samples are of the specified width and length.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.6	Samples are allowed to cure for the specified time period or cool to the specified temperature before testing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.7	Samples are tested at the specified speed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.8	Testing equipment is calibrated as required by the project specifications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.9	Seam strengths for the trial seam meet the specified minimum values.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.10	Results of the seam strength tests are recorded.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Seaming Methods—Geomembranes				
8.1	The correct seaming method for the liner material is used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.2	Seaming is not performed whenever the ambient sheet temperature is outside the specified range.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Seaming Procedures—Geomembranes				
9.1	The specified seaming method and equipment are being used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2	Generators (with adequate extension cords) are in place, fueled, and in good operating condition.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.3	All required materials and supplies are on hand in sufficient quantities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.4	The seaming equipment is calibrated as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.5	The installer has performed a passing trial seam at the specified frequency before production seaming.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.6	The seam overlap before seaming is dry and clean and that adequate overlap is provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.7	The seaming procedure is performed as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.8	All seaming activities are documented, including weather, equipment or personnel problems, and any other factors affecting seam quality.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Repairs—Geomembranes				
10.1	All areas needing repair are identified and marked.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.2	Repairs are performed by the appropriate methods and by qualified personnel.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.3	Areas to be repaired are cleaned and prepared as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.4	Repairs are tested by the appropriate methods of NDST and DST, as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.5	Repair activities are observed and documented, including on as-built sketches.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Appurtenances – Geomembranes				
11.1	All appurtenances are installed as shown on the drawings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.2	Specified materials are used for all pipes, boots, skirts, embed channels, batten strips, and fasteners.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.3	All NDST around appurtenances is observed and documented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.4	Thorough photo documentation is obtained.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Covering (Soil Cover)—Geomembranes				
12.1	Cover soil meets the specified requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2	Minimum cover thickness is maintained.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.3	Specified equipment is used for placing and spreading operations and is operated as specified to avoid damaging the liner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.4	Cover soil is placed and spread such that damage to the liner is avoided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	N.A.
12.5	Signs of possible damage to the liner are investigated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.6	Liner is covered within the maximum time period specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Covering (Concrete Cover)—Geomembranes				
13.1	Concrete cover is installed as shown on the drawings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.2	Forms, reinforcing steel, and concrete are installed in the manner specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.3	Damage to the liner is noted and repaired.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Non-Destructive Seam Testing—Geomembranes				
14.1	100 percent of the total seam length is tested by NDST methods.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.2	Prescribed cooling or curing time is observed before NDST begins.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.3	NDST is performed according to the appropriate ASTM standard, using the specified equipment and procedures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.4	NDST is observed and the results documented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.5	Defective or failed seams are marked for repair.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Destructive Seam Testing—Geomembranes				
15.1	Sampling locations for DST are selected and marked.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2	Samples for DST are taken at the specified frequency and location and meet the specified size requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.3	Sample information, including date, time, location, personnel, and equipment, is fully documented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.4	Prescribed cooling or curing time is observed before performing any field testing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.5	Field testing is observed and the results documented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.6	All parties doing testing receive the specified number of test specimens.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.7	All specimens are appropriately marked, prepared, and packaged for shipping to the testing locations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.8	All specified tests are performed and reported.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.9	DST results are reviewed and appropriate follow-up made.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.10	Failing areas are positively bounded by obtaining passing tests in both directions from the failed area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments _____

NEH 645 CL 10.3 Geosynthetic Clay Liner Inspection Checklist

The following checklist provides guidance for inspection of the proper installation of geosynthetic clay liners. This checklist does not address all of the conditions that may exist related to these installations and should be used for guidance only as the inspector examines the work. Inspectors should also use their own experience and knowledge for guidance on what to examine and look for during inspections.

Project Name _____ Project no. _____

Location _____ Date _____

Work Period _____ A.M./P.M. to _____ A.M./P.M.

QA Inspector _____

QC Inspector _____

Work inspected (include contract item number where applicable) _____

No.	Inspection item	Yes	No	N.A.
1. General				
1.1	Safe conditions exist when handling and installing geosynthetics.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Only approved materials are delivered and installed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Materials are stored and handled properly and protected from UV exposure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	The subgrade or surface upon which geotextiles are to be installed complies with specified requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5	Joints and seams are installed in the specified manner and tested for leakage where applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6	Geosynthetics are placed and anchored as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.7	All appurtenances are installed at the location and in the manner specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.8	Vents are installed where applicable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.9	After placement, geosynthetics are covered in the manner specified to avoid lengthy UV exposure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.10	Geosynthetics are not damaged during installation and covering.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.11	Damaged geosynthetics are removed and replaced or repaired according to specification requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Materials—Geomembranes				
2.1	All GCL materials and supplementary bentonite for seaming meet the contract requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Reinforced and non-reinforced GCLs are clearly identified and stored separately.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Specified materials are used for all pipes, collars, and other components.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Storage and Handling—Geosynthetic Clay Liners				
3.1	GCL materials are off-loaded and handled in a manner that prevents damage to the GCL and meets manufacturer's recommendations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	N.A.
3.2	GCL materials are stored as recommended by the manufacturer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	Any GCL materials that become damaged beyond repair are not used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Surgrade Preparation—Geosynthetic Clay Liner				
4.1	Subgrade is smooth, dry, firm, and unyielding before deployment of the GCL liner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	All unsuitable materials have been removed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	No projections greater than 0.5 inches are present.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Placement—Geosynthetic Clay Liners				
5.1	Proper placement techniques are used and panels are oriented as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	GCL is installed with the proper side against the subgrade.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	Non-reinforced GCL materials are installed only where specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	Subgrade is not damaged during placement operations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5	Sufficient overlap is provided at seams between adjacent GCL panels and that granular bentonite is applied to the overlap area at the specified rate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.6	The anchor trench is installed as shown on the drawings and the trench is backfilled and compacted as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.7	Pipe penetrations and other appurtenances are installed as shown on the drawings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Repairs—Geosynthetic Clay Liners				
6.1	All damaged areas are patched as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	Minimum overlap is provided on all patches and granular bentonite is applied to the overlap at the specified rate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Covers and Protection—Geosynthetic Clay Liners				
7.1	Cover soil meets the specified requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	Cover soil is placed to the minimum depth as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3	At least 12 inches of cover soil is provided in all traffic areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.4	Cover soil is compacted as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.5	Concrete is placed as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Seam Testing—Geosynthetic Clay Liners				
8.1	There is not testing for geosynthetic clay liner seams.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments _____

NEH 645 CL 11.1 Drains and Filters Inspection Checklist

The following checklist provides guidance for inspection of the proper installation of drains and filters. These systems are highly dependent on the material quality, storage and handling, placement, moisture content and compaction of the materials. This checklist does not address all of the conditions that may exist related to these installations and should be used for guidance only as the inspector examines the work. Inspectors should also use their own experience and knowledge for guidance on what to examine and look for during inspections.

Project Name _____ Project no. _____

Location _____ Date _____

Work Period _____ A.M./P.M. to _____ A.M./P.M.

QA Inspector _____

QC Inspector _____

Work inspected (include contract item number where applicable) _____

No.	Inspection item	Yes	No	N.A.
1. Excavation safety				
1.1	The contractor has scouted the area for underground utility markers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	The landowner has been asked about possible underground utilities in the work area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	The contractor has notified the appropriate utility or “one-call” system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	The contractor is complying with the trench depth and sloping requirements of OSHA 1926.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5	Appropriate changes to depth and sloping requirements are made when soil or moisture conditions change.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6	Equipment and stored materials are being kept away from the trench walls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.7	Trench shoring and bracing is complete before allowing personnel access to trenches.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.8	Trench boxes are installed properly and workers are not working outside of the protective limits..	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Materials				
2.1	The gradation and soundness of the drainfill materials has been verified before delivery.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	The drainfill materials are delivered from the approved sources.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Gradation tests are conducted on the drainfill materials in accordance with the specification requirements, contractor’s quality control plan, and NRCS quality assurance plan.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.4	The collector pipe meets all specification requirements for type, size and perforations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.5	The collector pipe is protected from excessive UV radiation during storage.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.6	The geotextile meets all specification requirements and is protected from UV radiation during storage.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	N.A.
3. Base preparation				
3.1	Foundation surface and trenches are clean and free of organic matter, loose soil, foreign substances, and standing water when drainfill is placed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Earth surfaces upon or against which drainfill will be placed have not been scarified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Storage and handling				
4.1	Materials remain uncontaminated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	Materials are being handled in a manner that prevents segregation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Location and placement				
5.1	Work is not started until the specified foundation depths, lines, and grades are attained.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Drainfill is not placed until the subgrade has been inspected and approved by the engineer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.3	Drainfill is not placed over or around pipe or drain tile until the installation of the pipe or tile has been inspected and approved.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	Drainfill is not placed in layers exceeding 12 inches thick before compaction or not more than 8 inches thick if manually controlled compaction equipment is used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5	The material is placed in a manner that does not cause segregation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.6	The material is placed in a manner that ensures continuity and integrity of zones.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.7	Perforations of the collector pipe are correctly oriented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.8	Drainfill is not contaminated with foreign material during placement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.9	Traffic is not allowed to cross over drains at random locations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.10	Equipment crossovers are established and approved before beginning of drainfill placement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.11	Crossovers are cleaned of all contaminated material and inspected by the engineer before placement of additional drainfill material.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.12	Surface runoff is not allowed to enter the filter.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.13	Any damage to the foundation surface or trench sides or bottom occurring during placement is repaired before drainfill placement is continued.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.14	The upper surface of drainfill constructed concurrently with adjacent zones of earthfill is maintained at a minimum elevation of 1 foot above the upper surface of adjacent earthfill.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.15	Drainfill over and around pipe or drain tile is placed to avoid any displacement in line or grade of the pipe or tile.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.16	Drainfill is not placed adjacent to structures until the concrete has attained adequate strength as defined by the specification or approved by the engineer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.17	Geotextile is placed as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.18	Geotextile lap lengths meet specification requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.19	Soil surface is relatively smooth and free of protruding rocks and debris prior to placement of geotextile.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.20	Damaged geotextile materials are repaired or replaced.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	N.A.
6. Moisture control				
6.1	The moisture content of fine drainfill is appropriate for the method of compaction to be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	Fine drainfill in the bulking moisture range is saturated and drained to break the capillary bonds.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3	When additional water is required, it is applied in a manner to avoid excessive wetting to adjacent earthfill.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Compaction				
7.1	Fine drainfill is compacted according to the method specified in the applicable specification.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	The density of the drainfill material meets specification requirements or the specified compaction process is followed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3	Heavy equipment is not operated within 2 feet of any structure and vibrating rollers are not operated within 5 feet of any structure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.4	There is no compaction by means of drop weights operating from cranes, hoists or similar equipment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments _____

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NEH 645 CL 13.1 RCC Construction Checklist

The following checklist provides guidance for examining the quality of RCC construction. The checklist does not address all of the conditions that may exist related to RCC construction. The checklist should be used for guidance only as the inspector examines the work, and should not be relied upon as a comprehensive list of items to check. Inspectors should also use their own experience and knowledge of RCC and conventional concrete for guidance on what to examine and look for during inspections. Some items may not be listed. Some listed items may not apply to every project.

Project Name: _____ Project #: _____

Location: _____ Date: _____

Field Inspector: _____

Work Inspected: _____

No.	Inspection item	Yes	No	NA
1. Materials				
1.1	Types of cement and pozzolan used in the RCC mix is in accordance with the job mix.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Temperature of cement and pozzolan at time of delivery is at or below the specified maximum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Cement and pozzolan are maintained in an uncontaminated dry condition..	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.4	Combined (coarse and fine) aggregate used in the mix is graded in accordance with the job mix.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.5	Quality of the mix water complies with specified requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.6	Admixture is in accordance with the job mix.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Mix design				
2.1	Mix proportions are in accordance with the job mix.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Other than minor reductions in water content, the job mix does not change without the engineer's concurrence.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Test section				
3.1	Contractor's test section plan has been submitted and concurred with by the engineer prior to beginning the test section.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Test section is constructed at the approved location.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.3	Approved job mix is the only mix placed in the test section.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.4	Production roller and special compaction equipment used in the test section meet specified requirements and are the same planned for use during RCC production.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.5	Compaction equipment is operated at normal operating speeds.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
3. Test section—continued				
3.6	For soil foundations, a minimum of two 12-inch lifts are placed below the lift where the AMD is determined.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.7	TAFD is accurately determined for the field mix used in the test section.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.8	Prior to determining the AMD, all RCC is compacted to a density equal to or greater than 96 percent of the TAFD.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.9	AMD is determined as per the process specified in Spec 3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.10	Any modifications to the job mix are concurred with by the engineer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.11	After the AMD is determined, all RCC incorporated into the structure is compacted to the specified density.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.12	Air content and density of the mix are documented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.13	Fifteen cylinders are made from the mix.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.14	Ten cores are made 13 days or more after the RCC is placed in the test section.			
3.15	Curing is demonstrated to conform to Spec 36.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.16	If the test section is not incorporated into the structure, it is disposed of as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.17	All test section operations, including the pre- and post-test section briefings, are well documented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Batching and mixing				
4.1	Plant operator's experience is documented and the operator exhibits the capability to oversee the batching and mixing operation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.2	Batching equipment is in good condition, has adequate capacity, and hoppers discharge completely	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.3	Drums are inspected and cleaned as needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.4	Specified minimum quantities of aggregates are maintained on site during production.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.5	Adequate quantities of all ingredients (aggregates, cement, pozzolan, water, and admixtures) are available on site to allow uninterrupted production.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.6	Only nonsegregated aggregates are introduced into the mixer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.7	Aggregate moisture is monitored and adjustments made to the mix at least once each shift or as needed to comply with job mix moisture requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.8	Drum mixers are not overcharged.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.9	Transit mixers are not used for mixing RCC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.10	Admixtures are metered at the specified rate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.11	Plant operator visually inspects the mix for uniformity on a continuous basis.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.12	Periodic visual inspections for mix uniformity are being made by quality control personnel.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.13	Mix appears uniform or uniformity testing is conducted to verify uniformity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.14	Causes of uniformity are isolated and corrected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.15	Mix uniformity is documented periodically and before and after uniformity problems are corrected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Conveying				
5.1	Consistency or workability of RCC is maintained during conveyance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.2	Belt conveyors are of ample width.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
5. Conveying—continued				
5.3	RCC mixture is protected during conveyance from excessive drying or rain.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.4	Conveyor wipers and brushes are maintained in good working order.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.5	Drop chutes of sufficient length and diameter are provided where necessary to prevent segregation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.6	Free fall is limited to 5 feet or less.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.7	Long, inclined chutes are not used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.8	Hauling equipment does not contaminate or damage recently placed RCC surfaces.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.9	Conveyance time does not exceed the maximum specified time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.10	Critical conveyor components are accessible for machine removal.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Wet Weather				
6.1	There is no mud or standing water on the bonding surface at the time of placement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	Placement ceases if changes in mix consistency indicate a significant increase in mix moisture.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3	Unhardened RCC is protected from erosive high intensity rainfall.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.4	RCC is not placed in rain falling at a rate equal to or greater than 0.1 inch in 20 minutes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Cold Weather				
7.1	RCC is not placed when the air temperature drops below 35 °F or the RCC mix is less than 40 °F.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	When there is potential for cold weather, all materials, labor, and equipment needed for adequate protection are on hand and ready for use prior to beginning placement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.3	RCC temperature is maintained at or above 35 °F for a protection period equal to the curing period plus 7 days.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.4	Air and RCC temperatures are monitored and documented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.5	When required by the specifications, the RCC is insulated if the air temperature is 25 °F cooler than that of the RCC during the protection period.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.6	When specified, the RCC temperature does not drop more than 20 °F within the first 24 hours after insulation is removed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Hot Weather				
8.1	If misters are used for cooling, a fine mist is used to avoid adding too much moisture to the fine aggregate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.2	Mix placement temperature is monitored and documented and RCC is placed at a temperature at or below the maximum specified placement temperature.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.3	All ice added for cooling is melted and distributed throughout the mix before being discharged from the tilting drum or compulsory mixer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8.4	Curing is begun immediately after compaction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Foundation preparation				
9.1	Foundation is excavated or filled to the specified lines and grades.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.2	Density of earthen foundation is uniform and meets specified requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.3	For rock foundations, all grouting is complete and surface irregularities are filled as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
9. Foundation preparation—continued				
9.4	Rock foundations are clean.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.5	Foundation temperature is greater than or equal to 35 °F.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.6	Foundation is moist but free of standing water.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Forming				
10.1	Forms conform to the plan for obtaining vertical surfaces.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.2	Forms are set to the planned line and grade and are well anchored and braced.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.3	Form oil is uniformly applied but not allowed to contact any bonding surface.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.4	Care is taken in the removal and resetting of forms to avoid damage to the previously placed RCC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Spacing and spreading				
11.1	Foundation or lift joint preparation is complete as specified	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.2	Forms are set to specified line and grade, well anchored, and oiled.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.3	Care is taken to prevent damage to previously placed RCC when setting forms or conducting other operational.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.4	Lifts are of a uniform thickness to produce the designed grade within allowable tolerances.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.5	Equipment does not contaminate or damage the lift surface.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.6	Mix is deposited away from forms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.7	Mix is deposited in a manner to limit segregation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.8	Mix is placed as near to its final location as possible.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.9	Mix is spread quickly and in a manner to limit segregation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.10	Mix is placed in a configuration that limits edge joints.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.11	Segregated mix is remixed or wasted.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.12	Tests are conducted to verify and document specification compliance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Compaction				
12.1	Production roller and special compaction equipment meet the specified requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.2	Production roller is used where possible.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.3	Special compaction rollers are only used where absolutely necessary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.4	Lift thickness is controlled to prevent surface damage caused by over compacting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.5	RCC is compacted to the specified density.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.6	Requirement for uniformity of density is met.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12.7	Compaction is accomplished as soon as possible after the RCC is placed, and within the specified time limit.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Joints				
13.1	All transverse edge joints are spaced a minimum of 20 feet apart.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.2	All edge joints are trimmed as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.3	All joints are treated as specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.4	All joints are kept moist and clean.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

No.	Inspection item	Yes	No	NA
13. Joints—continued				
13.5	Specified neat cement grout or bonding mortar is used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.6	Bonding materials are evenly distributed and spread to the specified thickness.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.7	Bonding materials are not disturbed after placement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.8	Bonding materials are not exposed longer than specified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13.9	Bonding materials do not set up or dry out before being covered with RCC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Curing				
14.1	Prior to beginning RCC placement, curing equipment and materials are onsite and ready to be deployed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.2	Curing begins immediately after compaction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.3	Curing continues until the RCC has been maintained at or above 40 °F for 14 days.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.4	Curing of repairs begins immediately after repair completion.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.5	Repair curing continues until the repair has been maintained at or above 40 °F for 7 days.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.6	Application of curing water does not erode the surface.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.7	Coverings are secured to prevent the movement of air between the RCC and the covering.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.8	Only white or reflective coverings are used during hot weather.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.9	Curing compounds are not applied to bonding surfaces or areas to be repaired.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.10	Curing compounds conform to specification requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.11	Surface is kept continuously moist until the curing compound is applied.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.12	All standing water is removed prior to applying the curing compound.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.13	Continuously agitating sprayers are used to apply curing compound.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.14	Manual hand pump sprayers are not used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.15	Curing compound is reapplied every 7 days during the curing period.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14.16	Where curing compound is used, the entire surface is uniformly covered at the specified rate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Protection				
15.1	RCC is protected against erosive rainfall.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.2	RCC is protected from cold weather damage.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.3	Vehicular traffic is prohibited if it causes damage to the RCC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.4	Form removal is accomplished without damage to the RCC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15.5	Flows are diverted from the structure as needed to prevent damage.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments: _____

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