

LAND USE

30 Attachment 5

PHASE I CHECKLIST

Township of Union Carbonate Area District (CAD) investigation program submission requirements: (check if attached)

_____ US Geologic Survey 7 1/2 minute topographic quadrangle maps with the parcel identified.

_____ USDA Soil Conservation Service soil survey map indicating soils present on parcel.

_____ Information from any special reports completed by NJ State Geological Survey, US Geological Survey, or NJ Department of Environmental Protection.

_____ Site plan map at a scale of one inch equals 1,000 feet identifying proposed development site and boundaries of site that are within the CRA and/or CDA as designated on the municipal CAD map.

_____ Aerial photograph print for the proposed site and surrounding area (taken at a minimum scale of one inch equals 1,000 feet obtained during periods of little or no foliage cover).

_____ Location of all known water production wells and well log information within one-half mile of the project. Information sources shall include, at a minimum, the County Health Department and the State DEP.

_____ A project sketch plat at a minimum scale of one inch equals 200 feet with existing surface water bodies location of any existing water production wells, faults, outcrops springs, sinkholes, disappearing streams, and surface water flows.

_____ Written narrative describing proposed activity.

Does the proposed project include the use, storage or manufacturing of toxic or hazardous materials?

_____ no _____ yes

If Yes attach an explanation of the type of activity.

Other published geologic information which applicant deems pertinent. (Information from other geologic investigation programs is on file with the municipal clerk.) Please specify:

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PHASE II CHECKLIST

INSTRUCTIONS

1. In compliance with the Township of Union Land Use Code, applications for development or improvements in the CRD, shall submit a completed Phase II checklist to the municipality if required to do so after the review of Phase I Checklist.
2. Procedure for submission of documents:
 - a. The applicant shall submit the Completed Phase II checklist to the municipal approval authority for distribution to the Township Geologist. Applicants shall also submit the required application fee and escrow.
 - b. The applicant and the approval authority will be advised within 30 days of submission as to completeness of the submission. The Township Geologist may recommend a waiver of some or all of the required investigations as provided in subsections 30-6.9f.4. and 30-6.9f.5. The approval authority shall act on the Township Geologist's completeness review report within 30 days of receipt.
 - c. A permit may be issued to the applicant authorizing commencement of field investigations when the approval authority deems the geologic segment checklists to be complete.
 - d. Phase I and II Checklists may be completed and filed prior to the submission of other required applications at the applicant's option. The Phase II Checklist is to include a detailed outline of the proposed investigation program, including reference to site-specific investigation techniques, equipment, program objectives and remediation techniques.

Proposed investigation program to be conducted in CRD in Township of Union.

1. General Requirements:
 - a. Test borings and test pits are to be used as the primary means of identifying potential geologic hazards. Percussion probes and other geophysical techniques (e.g., seismic refraction and reflection, ground penetrating radar, magnetic, gravity and conductivity) can be used to provide data between test borings and pits.
 - b. Proposed exploration techniques, which are not outlined in this checklist, may be submitted to the Township Geologist for review and possible inclusion in the approved investigation program. Alterations to the planned program can be made during the progress of the field investigation upon request to the Township Geologist if so required by the nature of the encountered subsurface conditions.
2. The intention of the site investigation program is to define the nature and limits of possible design, construction and operating concerns that could result from the existence of carbonate soil and/or rock formations underlying the proposed development site.

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3. List name and address of New Jersey licensed engineer:

List name and address of New Jersey licensed well driller:

List name and address of geologic consultant:

4. Direct Testing Procedures		To Be Completed by Township Geologist		
		Accept	Reject	See Attached
A. TEST BORINGS				
(1)	Number proposed:			
(2)	Depths anticipated: NOTE: If rock encountered is within 40 feet of ground surface, a minimum of 10 feet of rock is to be cored. Rock cores shall be a minimum of 2 inches in diameter, to be obtained by double tube, split barrel coring device or equivalent.			
(3)	Boring techniques to be used:			
	NOTE: Unless approval is authorized, all test borings will be drilled using rotary wash without use of drilling muds. Water losses in borings are to be monitored as to depth and quantities; air loss, drilling speed and rod drops must also be monitored			
(4)	Proposed bore hole grouting technique shall be consistent with N.J.A.C. 7:9-9.1 et seq.			
(5)	Descriptions of proposed monitoring well completions. NOTE: Attach as-built drawing			

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4. Direct Testing Procedures		To Be Completed by Township Geologist		
A. TEST BORINGS		Accept	Reject	See Attached
(6)	Soil and rock sampling to be performed in accordance with ASTM Standards D420, D1586, D1587, and D2113			
(7)	Logging of all test borings or test pits in accordance with the Unified Soil Classification System and in relation to the geologic origin of the constituents of the encountered materials, e.g., light yellow brown silty clay (CH), with occasional angular dolomite fragments, moderately stiff, residual soils, some stained paleo jointing			

Direct Testing Procedures (Cont'd)		To Be Completed by Township Geologist		
B. TEST PITS		Accept	Reject	See Attached
(1)	Number and depth of proposed pits.			
	NOTE: To be acceptable, minimum bottom area of pits shall be 10 square feet and shall encounter rock surface over 50% of pit area.			
(2)	Method of backfill to be employed:			
	NOTE: Test pit backfill shall be composed of excavated material placed in layers and compacted to pre-excavation density, unless authorized otherwise by Township Geologist			

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Direct Testing Procedures (Cont'd)		To Be Completed by Township Geologist		
C. PIEZOMETERS, LYSIMETERS, AND WATER TABLE DATA		Accept	Reject	See Attached
(1)	Number, locations, and types to be used:			
(2)	Other methods to be used: NOTE: These shall be installed and monitored in sufficient locations to identify depth to seasonable high water-table and rate and direction of groundwater flow			

Direct Testing Procedures (Cont'd)		To Be Completed by Township Geologist		
D. GEOCHEMICAL TESTING OF PROPERTIES OF SOILS, ROCKS, AND WATER		Accept	Reject	See Attached
Methods Proposed:				
5. Indirect Testing Procedures				
A.	Percussion Probes			
(1)	Number proposed:			
(2)	Depths anticipated:			
(3)	Measuring techniques to be utilized:			
B.	Geophysical Studies			
(1)	Seismic refraction and reflection; location and number of runs anticipated; equipment to be used:			
(2)	Ground penetrating radar			
(3)	Magnetic, gravity, or conductivity techniques - specify procedures and location surveys.			
C.	Geologic Reconnaissance			
(1)	Factors to be examined - vegetative changes, observable seeps, or groundwater discharge, circular depressions, swales			
Indirect Testing Procedures		To Be Completed by Township Geologist		

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Direct Testing Procedures (Cont'd)		To Be Completed by Township Geologist		
D. GEOCHEMICAL TESTING OF PROPERTIES OF SOILS, ROCKS, AND WATER		Accept	Reject	See Attached
6. Maps, Drawings, and Other Documentation				
A.	Location of site on 1:24,000 scale USGS topographical map (See Phase I Checklist). General site plan showing locations of all field testing procedures, in relation to the planned development at a minimum scale of 1 inch equals 100 feet			
B.	Timetable of proposed field investigation, laboratory testing, test data receipt and final report to the Township. If investigation is to be performed in more than 1 phase, give an estimated schedule of each phase and expected results			
C.	Proposed technical inspection procedures during investigation (continuous supervision of field investigation is strongly recommended).			
D.	Submission of application fees (72- 13) Amount: Date: Future Payments Anticipated:			
E.	Special factors or conditions applicant wishes to bring to the attention of Township Geologist:			
7. Township Geologist Review				
A.	Phase I Checklist completion date:			
B.	Approval of Phase I Checklist			
C.	Phase II Checklist completion date:			
D.	Approval of Phase II Checklist			
E.	Conditions to be imposed on approval:			