



Remediation & Redevelopment Program **April 2019**

Site Investigation Report Preparation Checklist

Wis. Admin. Code § NR 716.15

Purpose

This guidance is offered as an optional tool to help develop and review site investigation reports and identifies the minimum information that should be included in the report under Wis. Admin. Code ch. NR 716. In some cases, Wis. Admin. Code chs. NR 725 and 726 requirements for case closure are provided to assist in preparation of a closure request. Consultants may choose to use this checklist as an outline for preparation of the site investigation report. Use of this checklist is not required. This checklist is meant for use with Wis. Admin. Code ch. NR 716 and site investigation related guidance. For more comprehensive site investigation-related information, visit our webpage at dnr.wi.gov and search: “site investigation”.

Section		Comments	Closure Form
Receipt of Site Investigation Report			
NR 716.15 (1)			
<input type="checkbox"/>	NR 716.15 (1) (a)	Within 60 days after completion of the field investigations and receipt of lab data	
<input type="checkbox"/>	NR 716.15 (1) (b), NR 700.11 (3g)	One paper copy	
<input type="checkbox"/>	NR 716.15 (1) (b), NR 700.11 (3g)	One electronic copy (see RR 690)	
<input type="checkbox"/>	NR 749, NR 700.11 (3r)	Review fee, if DNR review is requested. Use DNR Form 4400-237 to submit report with fees for review.	
Cover Letter			
NR 716.15 (2) (a)			
<input type="checkbox"/>	NR 716.15 (2) (a)	BRRTS #	p. 1
<input type="checkbox"/>	NR 716.15 (2) (a)	Purpose of submittal	
<input type="checkbox"/>	NR 716.15 (2) (a)	Desired action or response by DNR	
Executive Summary			
NR 716.15 (2) (b)			
<input type="checkbox"/>	NR 716.15 (2) (b)	Description of site investigation results	
<input type="checkbox"/>	NR 716.15 (2) (b)	Conclusions	
<input type="checkbox"/>	NR 716.15 (2) (b)	Recommendations for future actions	

<input type="checkbox"/>	NR 716.15 (2) (b)	NR 712.09 certifications		
General Information (Introduction)				
NR 716.15 (2) (c)				
<input type="checkbox"/>	NR 716.15 (2) (c) 1.	Project title (e.g. Site Investigation Report for (site name, location))		
<input type="checkbox"/>	NR 716.01, 716.11 (3), 716.15 (2) (c) 1.	Purpose		
<input type="checkbox"/>	NR 716.15 (2) (c) 2.	RP's name, address, email address and telephone number (May be more than 1 RP – current property owner, lessee, operator, other RP.)		p. 1
<input type="checkbox"/>	NR 716.15 (2) (c) 3.	Consultant's and/or contractor's name, address, email address and telephone number		p. 1
<input type="checkbox"/>	NR 716.15 (2) (c) 4.	Site name and address		p.1
<input type="checkbox"/>	NR 716.15 (2) (c) 4.	Site location – ¼ ¼ section, Township, Range, County		
<input type="checkbox"/>	NR 716.15 (2) (c) 4.	WTM coordinates (and metadata) for the site		p. 1
<input type="checkbox"/>	NR 716.15 (2) (c) 5.	Location map* (see *Visual Aids - Figures)		Att. B.1. a.
<input type="checkbox"/>	NR 716.15 (2) (c) 6.	Site layout map(s)* with:		Att. B.1.a., b.
<input type="checkbox"/>		• property boundaries		B.1.a., b.
<input type="checkbox"/>		• roads/access points		B.1.b.
<input type="checkbox"/>		• surface water features		B.1.b.
<input type="checkbox"/>		• underground utilities (<i>and overhead, as needed</i>)		B.1.b.
<input type="checkbox"/>		• buildings		B.1.b.
<input type="checkbox"/>		• public & private wells		B.1.a.
<input type="checkbox"/>		• land uses on adjacent properties		
<input type="checkbox"/>		• known & potential contamination sources		B.1.b.
<input type="checkbox"/>	NR 716.15 (2) (c) 7.	Geographic position (WTM coordinates) of all properties within or partially within area of contamination, submitted in accordance with NR 716.15 (5) (d)		B.1.a,b · Att. G

Background Information NR 716.15 (2) (d)				Sec. 3
<input type="checkbox"/>	NR 716.15 (2) (d) 1.	Potential cause and date(s) of discharge (time, duration, type, quantity of contaminant(s), etc.)		1.D., E.
<input type="checkbox"/>	NR 716.15 (2) (d) 2.	Previously reported discharges or response actions with dates		1.G.
<input type="checkbox"/>	NR 716.15 (2) (d) 3.	Completed response actions with reference to previous reports		4. A., B.
<input type="checkbox"/>	NR 716.15 (2) (d) 4.	Other info relevant to response actions		4.A, Att. C
Investigation Methods - Descriptions of techniques used to characterize the site or facility NR 716.15 (2) (e)				
<input type="checkbox"/>	NR 716.15 (2) (e)	Procedures used if different from methods described in the work plan or DNR guidance		3.A.i.
<input type="checkbox"/>	NR 716.15 (2) (e)	Soil - Boring and probe methods (e.g. borings, test pits, hand auger)		3.A.i.
<input type="checkbox"/>	NR 716.15 (2) (e)	Groundwater -- Well installation and construction, well development procedures, well & aquifer testing methods		3.A.i. Att. A
<input type="checkbox"/>	NR 716.15 (2) (e)	Sample collection, handling, analytical techniques (all media) and leak detection methods (vapor intrusion)		3.A.i. Att. A
<input type="checkbox"/>	NR 716.15 (2) (e)	Modeling techniques		3.A.i.
Sampling and Analysis Requirements NR 716.13				
<input type="checkbox"/>	NR 716.15 (2) (e)	Investigative procedures varied from that proposed in the work plan or DNR guidance		
<input type="checkbox"/>	NR 716.13 (1), NR 716.15 (2) (e)	<ul style="list-style-type: none"> Analytical methods used and suitability for matrix, type of analyte, regulatory limit and potential interferences in the samples tested 		
<input type="checkbox"/>	NR 716.13 (3)	<ul style="list-style-type: none"> Description of any non-lab methods used 		
<input type="checkbox"/>	NR 716.13 (4)	<ul style="list-style-type: none"> Use of any non-discrete (composite) samples and date of DNR approval 		

<input type="checkbox"/>	NR 716.13 (5), (6)	<ul style="list-style-type: none"> • Holding times, analytical methods, QA/QC procedures used & chain of custody documentation 		
<input type="checkbox"/>	NR 716.15 (3) (c)	<ul style="list-style-type: none"> • Laboratory name, location and date of each sample, analytical methods and tested parameters, method detection limits and analytical results. 		Att. A
<input type="checkbox"/>	NR 716.15 (3) (d)	<ul style="list-style-type: none"> • Evaluation of inconsistencies between lab results and non-laboratory methods and an assessment of whether resampling or additional quality control procedures are needed 		Att. A.
<input type="checkbox"/>	NR 716.13 (7)	<ul style="list-style-type: none"> • Upon DNR request, procedures for sampling and all other routine SI activities, log of all maintenance and calibrations made during field investigation, and field notes of sequence of activities 		
<input type="checkbox"/>	NR 716.13 (13)	<ul style="list-style-type: none"> • If natural attenuation is a potential remedy, results of geochemical indicators and parameters (e.g. DO, nitrates, dissolved Mn, total and ferrous Fe, sulfate, methane, alkalinity, ORP, pH, temperature, conductivity) 		4.I.
<input type="checkbox"/>	NR 716.13 (14)	<ul style="list-style-type: none"> • Status of monitoring well integrity 		E.
<input type="checkbox"/>	NR 716.13 (15)	<ul style="list-style-type: none"> • Water level elevations prior to sampling 		A.6.
<input type="checkbox"/>	NR 716.13 (16)	<ul style="list-style-type: none"> • Public or private water supply well sampling, when appropriate 		
Results				
NR 716.15 (3)				
<input type="checkbox"/>	NR 716.15 (3) (a)	Detailed narrative of results collected during investigation scoping pursuant to NR 716.07:		Sec. 1.
<input type="checkbox"/>	NR 716.07 (1)	<ul style="list-style-type: none"> • History of the site, including uses that may have been associated with hazardous substance discharges 		1.B.
<input type="checkbox"/>	NR 716.07 (2)	<ul style="list-style-type: none"> • Knowledge of the type and amount of contamination 		1.E.

<input type="checkbox"/>	NR 716.07 (3)	<ul style="list-style-type: none"> History of previous discharges or environmental pollution 		1.G.
<input type="checkbox"/>	NR 716.07 (4)	<ul style="list-style-type: none"> Environmental media affected or potentially affected by contamination 		3.A.i.
<input type="checkbox"/>	NR 716.07 (5)	<ul style="list-style-type: none"> Location of the site or facility and its proximity to other sources of contamination 		1.G, H.
<input type="checkbox"/>	NR 716.07 (7), NR 716.11 (5) (b), NR 716.15 (3) (h)	<ul style="list-style-type: none"> Potential or known impacts of contamination to receptors, including buildings and other cultural features, and utilities and other subsurface improvements 		2.B.iv.
<input type="checkbox"/>	NR 716.07 (7), NR 716.11 (5) (b), NR 716.15 (3) (h)	<ul style="list-style-type: none"> Potential or known impacts to public and private water supply wells, including mapping all well locations within a 1,200 foot radius of the outermost edge of contamination 		2.B.iv.
<input type="checkbox"/>	NR 716.07 (11)	<ul style="list-style-type: none"> Any other items, including climatological conditions and background water or soil quality info that may affect the scope or conduct of the investigation 		1.F.
<input type="checkbox"/>	NR 716.07 (12)	<ul style="list-style-type: none"> Hydraulic conductivity of materials where contaminated groundwater is found 		Sec. 2 B. iii
Field Investigation				
NR 716.11 (5)				
<input type="checkbox"/>	NR 716.11 (5)	Evaluation of all the following: (see NR 716.11 (3) for purpose of field investigation)		
<input type="checkbox"/>	NR 716.11 (5) (a)	<ul style="list-style-type: none"> Potential pathways for migration of the contamination, including drainage improvements, utility corridors, sediments, bedrock and permeable material or soil along which vapors, free product or contaminated water may flow 		
<input type="checkbox"/>	NR 716.11 (5) (b)	<ul style="list-style-type: none"> Impacts of contamination upon receptors 		

<input type="checkbox"/>	NR 716.07 (8), NR 716.11 (5) (c)	<ul style="list-style-type: none"> The known or potential impacts of contamination on any resources in NR 716.07(8) identified during scoping process as having the potential to be affected by the contamination. <i>Sensitive habitats or ecosystems, wetlands, resource waters, sites of historical or archeological significance</i> 		Sec. 4
<input type="checkbox"/>	NR 716.07 (12), NR 716.11(3)(c), NR 716.15 (3) (i)	Hydraulic conductivity of materials where contaminated groundwater is found		2.B.iii.
<input type="checkbox"/>	NR 716.11 (3) (d)	Provide an estimate of contaminant mass in the source area/s, along with necessary supporting information. This includes sites involving free product or where natural attenuation is considered for a remedy.		4.I.
<input type="checkbox"/>	NR 716.11 (6), (7)	Management of investigative wastes		
<input type="checkbox"/>	NR 716.15 (3) (b)	A description of the sequence of investigative activities		
<input type="checkbox"/>	NR 716.14, NR 716.15 (3) (c), (g)	All field measurements, observations and sampling data with tabulated results and a map of sampling locations		Att. A
<input type="checkbox"/>	NR 716.15 (3) (g)	Discussion of the contaminants and impacts on each environmental medium		Sec. 3.
<input type="checkbox"/>	NR 716.11 (4)	Sampling data collected beyond property boundaries of the source area to fully define the extent of contamination; and if property owners have refused access, documentation of efforts taken to obtain access from property owner/s for site investigation, <i>when requested by the DNR</i>		
<input type="checkbox"/>	NR 716.14 (2)	Sample result notifications to the DNR and owner of the property from which the samples were collected		
<input type="checkbox"/>	NR 716.07 (9), NR 716.11 (3) (b)	Provide information to permit evaluation of interim or remedial actions and need for pilot study or treatability study(ies)		4.A.

<input type="checkbox"/>	NR 716.07 (10)	Immediate or interim actions taken or in progress		4 B.
Conclusions and Recommendations				
NR 716.15 (3), (6)				
<input type="checkbox"/>	NR 716.15 (6)	Summary of site investigation results		3.A.i.
		Data Interpretations:		Sec. 3
<input type="checkbox"/>	NR 716.15 (3) (h)	<ul style="list-style-type: none"> • characterize geologic and hydrogeologic characteristics 		
<input type="checkbox"/>	NR 716.15 (3) (f)	<ul style="list-style-type: none"> ○ Stratigraphy (soil and rock types, moisture contents, high and low water table elevations, smear zone depth and location, contaminant source location/s) 		Att. B.
<input type="checkbox"/>	NR 716.15 (3) (e)	<ul style="list-style-type: none"> ○ For sites with 3 or more water table observation wells include depth to water table, groundwater flow directions, flow rates and variability 		Att. B.3.
<input type="checkbox"/>	NR 716.11 (3) (a), (4), (5), and NR 716.15 (3) (g), (h)	<ul style="list-style-type: none"> • areal and vertical degree and extent of contamination in all environmental media 		3.A.ii, 3.B., C.
<input type="checkbox"/>	NR 716.11 (5) (e)	<ul style="list-style-type: none"> ○ soil 		3.B.i, ii, iii.
<input type="checkbox"/>	NR 716.11 (5) (f)	<ul style="list-style-type: none"> ○ groundwater 		3.C.i, ii.
<input type="checkbox"/>	NR 716.11 (5) (d)	<ul style="list-style-type: none"> ○ bedrock 		
<input type="checkbox"/>	NR 716.11 (5) (g), (h)	<ul style="list-style-type: none"> ○ vapor (from soil or groundwater) and in indoor air, to assess occupied buildings 		3.D.i, ii.
<input type="checkbox"/>	NR 716.07 (2) (e) 2.	<ul style="list-style-type: none"> ○ surface water 		3.E.i, ii.
<input type="checkbox"/>	NR 716.11 (5) (d)	<ul style="list-style-type: none"> ○ sediment 		3.E.i, ii.
<input type="checkbox"/>	NR 716.15 (6)	Recommendations for further response actions necessary to protect human health and the environment		4, 5

Visual Aids - Figures*			
NR 716.15 (4)			
* Include these figures to clarify and support the results and data interpretations. Include figure number, title, scale, north arrow, and legend; locations and data used to prepare figure (e.g. water elevation and datum or concentration and units); origination date, and figure source (original preparer). Use a distinguishing symbol, such as a dashed line or question mark, to depict inferred or uncertain data. Use national geodetic survey data for all elevations.			
NR 716.15 (4) (a)			
<input type="checkbox"/>	NR 716.15 (4) (b) 1.	Water table map(s) for sites with 3 or more wells depicting water table elevation, groundwater flow, and variations	B.3.c.
<input type="checkbox"/>	NR 716.15 (4) (b) 2.	Potentiometric surface map(s) with 3 or more piezometers depicting water table elevation, groundwater flow, and variations	B.3.c
<input type="checkbox"/>	NR 716.15 (4) (c)	Isoconcentration maps with contaminant concentrations in each environmental medium	B.2.a., b. B. 3.b. B.4.a, b.
<input type="checkbox"/>	NR 716.15 (4) (d) 1., 2.	Cross-sections for sites with 2 or more soil borings indicating contaminant sources, stratigraphy, screened well intervals, screen lengths, water table, confining units, vertical and horizontal extent of contamination in soil and groundwater, highest and lowest water table and piezometric elevations	B.3.a.
Visual Aids - Tables			
NR 716.15 (4) (e)			
Include data tables for all measured data or sampling-derived data. Include table number, title, explanation of footnotes, date of sampling, units of measurement. Distinguish any results that equal or exceed an environmental standard. All visual aids must be legible, referenced in text, and used as needed to support results and interpretations.			
NR 716.15 (4), (e) 1. – 4.			
<input type="checkbox"/>	NR 716.15 (4) (e) 5.	Soil – indicate depth (of sample interval) and soil type for soil sample summary tables	A.2.,3
<input type="checkbox"/>	NR 716.15 (4) (e) 6.	Groundwater – indicate each well’s top and bottom screen elevation on groundwater elevation tables	A. 6.
Visual Aids – Photographs (Included only if needed to clarify or support results and conclusions.)			
NR 716.15 (4) (f)			
<input type="checkbox"/>	NR 716.15 (4) (f)	Color photographs of a size to clearly represent the purpose of the photo and labeled with date, orientation, and topic	B.5, D.3.

Visual Aids – Well and Borehole Documentation			
NR 716.15(4)(g)			
<input type="checkbox"/>	NR 716.15 (4) (g) 1.	4400-89 Groundwater Monitoring Well Info	
<input type="checkbox"/>	NR 716.15 (4) (g) 2.	4400-113A Monitoring Well Construction	Att. E
<input type="checkbox"/>	NR 716.15 (4) (g) 3.	4400-113B Monitoring Well Development	Att. E
<input type="checkbox"/>	NR 716.15 (4) (g) 4.	4400-122 Soil Boring Log Information	
<input type="checkbox"/>	NR 716.15 (4) (g) 5.	3300-5B Well/drillhole/borehole abandonment	Att. E
<input type="checkbox"/>	NR 716.15 (4) (h)	WI DOT well construction permits for right-of-way	
<input type="checkbox"/>	NR 726.05 (7) (c)	Well construction variance requests	
Deed and Locational Information for Each Affected Property			
NR 716.15(5)			
<input type="checkbox"/>	NR 716.15 (5) (a)	Most recent deed with legal description* <i>* Under Wis. Adm. Code § NR 726.11 (4) (a): If a buyer has purchased the property under a land contract and has not yet received a deed, a copy of the land contract which includes the legal description may be submitted instead.</i>	Att. G
<input type="checkbox"/>	NR 716.15 (5) (b)	Certified survey map or relevant portion of a recorded plat map for properties where the legal description refers to a certified survey map or a recorded plat map	Att. G
<input type="checkbox"/>	NR 716.15 (5) (c)	Parcel identification number/s for each affected property	Att. G
<input type="checkbox"/>	NR 716.15 (5) (d)	Geographic position (and method for determining)	Att. G

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