

Fill Material Guidance for SRP Sites

Change Log from Version 3.0 (August 2015) to Version 4.0 (October 2021)

Change Number	Document Section	e-Page Number	Change Made
1	General	n/a	References to standards and screening levels updated throughout guidance to reflect newly adopted terminology from the 2021 soil remediation standards.
2	Cover page	1	New document date
3	Cover page	1	Changed from Version 3.0 to Version 4.0
4	Table of Contents	2	Section 3.2 title changed from "Limitation to Only SRP Sites" to "Limitations of Technical Guidance Application"
5	Table of Contents	2	Section 3.4 title changed from "Pre-approval for Excess Filling" to "Fill Volume that Exceeds Original Grade"
6	Table of Contents	2	Section 3.6 Clean Fill removed
7	Table of Contents	2	Section title changed from "Free Liquids Prohibition" to "Free Product/Free Liquids Restrictions"
8	Table of Contents	2	Section 3.11 Presumptive Remedies removed
9	Table of Contents	2	Section on Local Community and Municipal Acceptance added
10	Table of Contents	2	Section 4.3 title change from "75th Percentile Evaluation of Receiving Site Area of Concern" to "Application of 75th Percentile Evaluation in Receiving Site Area of Concern"
11	Table of Contents	2	Section 4.7 changed to "Material Considerations" with sub sections added for each material (formerly 4.7- 4.15)
12	Table of Contents	2	Section on "Other Requirements" added with "Engineering Institutional Controls" and "Tracking and Record Keeping" added as sub-sections
13	Table of Contents	3	Subsections on "Pre-approval evaluation criteria for alternative fill that exceeds 75th percentile requirement and original grade" added to "Pre-Approval Process for Alternative Fill" (Section 4.9)
14	Table of Contents	3	Subsections on "Composite Sampling" and "Sampling Frequency Modifications" added to Section 5.1
15	Table of Contents	3	Section on "Movement of On-Site Alternative Fill without Department Pre-Approval" added

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16	Table of Contents	3	Section on "Movement of Alternative Fill that Requires Prior Written Approval from the Department" added
17	Table of Contents	3	Section on Exceptions to 75th percentile and Historic Fill (formerly Section 5.2 and 5.3) changed to Section 5.4 Exceptions to 75th Percentile and Movement of Historic Fill at SRP Redevelopment.
18	Table of Contents	3	Section 7.4 title changed from "Licensed quarry/mine material certification" to "Quarry/mine material certification"
19	Table of Contents	3	Section 7.5 title changed from "Quarry/mine material without certification or license" to "Evaluation of Quarry/mine materials without certification or authorization"
20	Table of Contents	3	Section 7.6 title changed from "Options for testing" to "Analytical data considerations for certified quarry material"
21	Table of Contents	5	Basis for Alternative Fill use (formerly Appendix A) removed.
22	Table of Contents	5	Determining the 75th percentile (formerly Appendix B) replaced with Appendix A Statistical Calculations
23	Table of Contents	5	Fill Use Plan (formerly Appendix C) moved to Appendix B.
24	Table of Contents	5	Appendix C on Departmental Evaluation of Pre-approval Proposals added.
25	Table of Contents	5	Glossary (formerly Appendix D) moved to Appendix E.
26	Table of Contents	5	Appendix D on Composite Sampling Example added.
27	Table of Contents	5	Acronyms (formerly Appendix E) moved to Appendix F.
28	Table of Contents	5	Note: Page numbers updated.
29	1.0 - 2nd paragraph	6	Language added linking the Tech Rules and the pre-approval process where alternative fill is required.
30	1.0 - 3rd paragraph	6	Date of last Fill Guidance was updated.
31	1	6	List of Fill Committee members updated.

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Change Number	Document Section	e-Page Number	Change Made
32	2.0 - 2nd bullet	7	Language added to emphasize the Department's policy for minimizing alternative fill for remediation purposes.
33	2.0 -6th bullet	7	Language added that mentions the pre-approval process
34	2.0 - 2nd paragraph	7	Language added that the Department anticipates that many complex issues will be addressed through the pre-approval process. Information leading to the Department's fill contacts are provided.
35	2.0 - 3rd paragraph	7	Language that describes where the Fill Guidance applies to (2015) is removed since it is covered in various specific sections. A sentence is added that states the updated guidance does not supersede any federal, state or local laws, regulations and guidance.
36	3.0 -general	8	Language changed from "licensed" quarry/mine material to "authorized".
37	3.2	8	Title changed from "Limitation to Only SRP Sites" to "Limitation of Technical Guidance Application"
38	3.2	8	Language added to clarify that this Fill Guidance does not apply to landfills.
39	3.3	8	Text has been added to clarify that fill material brought to a site after an RAO has been issued is subject to this guidance and SRP regulations.
40	3.3	8	Language added restating the Department's intent that alternative fill should not make contamination at a site worse than existing conditions and new alternative fill material brought to a site after the completion of a remedial action raises a new discharge concern.
41	3.3	8	Paragraph added that advises investigators to consider other permits/approvals, like soil erosion and sediment controls, and land use regulation, to ensure human health and environment protectiveness. Professional Engineer certifications are recommended for complex sites.
42	3.3	8	Paragraph added that advises that large volumes of alternative fill should not be stockpiled for longer than the projected remediation schedule.
43	3.4	9	Title changed from "Pre-approval for Excess Filling" to "Fill Volume that Exceeds Original Grade"

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44	3.4	9	Clarifying statements added to emphasize that the quantity of fill required for remediation is not considered excess fill and technical justification for alternative fill above original grade is required.
45	3.4	9	The general bullets that describe where filling is routinely employed in remediation are removed and replaced with bullets detailing the conditions where the Department will consider the use of alternative fill above pre-remediation topography.
46	3.5	10	Sentence removed that references the basis for alternative fill and Appendix A.
47	3.5 - 1st bullet	10	Language of "stringent soil remediation standards (SRS), criteria, screening levels" replaced with "stringent of the soil ingestion/dermal, soil inhalation, and migration to groundwater standards".
48	3.6	10	Language changed from "the investigator will be making the determination" to "the investigator may be proposing the importation". References to other sections and Appendix B are included.
49	3.7	10	Language of "Department's Ecological Evaluation Technical Guidance" added as a reference for compliance.
50	3.8	10	Title changed from "Free Liquids Prohibition" to "Free Product/Free Liquids Restrictions"
51	3.8	10	Section is changed to include the definitions of free product and free liquids, as defined in the Technical Rules.
52	3.9 - 1st bullet	11	Language added that LSRP approval is needed as a condition for using fill without obtaining a CAO/BUD. Clarifying language that fill placed on a landfill requires separate approval.
53	3.9 - 1st bullet	11	The term "soil" in this bullet is replaced with "soil and fill recyclable material as defined at P.L.2019, c.397 (Dirty Dirt Legislation)".
54	3.9 - 2nd bullet	11	Bullet added to document that an LSRP or case manager is authorized to approve the use of alternative fill provided that the regulations of the Tech Rules and this guidance document are met. Further clarification added that written approval should be given to the supplier of the fill material for use by the transporter.

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Change Number	Document Section	e-Page Number	Change Made
55	3.9 - 4th bullet	12	Updated language for non-soil material is provided. This paragraph has been modified to identify where a CAO/BUD is needed for materials that are non-soil, as well as materials that do not meet the definition of soils and fill recyclable materials. It also addresses the issue of materials that exceed the migration to groundwater standards.
56	3.9 - bullets	12	Former bullet 4 describing materials produced by a Class B recycling center is removed and information can be found in Section 4.7.6.
57	3.9 - 5th bullet	12	Text modified to clarify that SRP pre-approval will be required pursuant to N.J.A.C. 7:26E-5.2(b) 1, 2, 3.
58	3.11	12	Section on local and municipal acceptance added, which encourages the investigator to communicate with local officials early in the process to identify potential local concerns and details for applicable ARRCs. Also, clarification that documentation of public notification requirements was met have been added.
59	3.11	12	Language in first paragraph has been modified to better distinguish between regulatory requirements and Departmental recommendations.
60	3.11	13	Paragraph eliminated from draft regarding Site Plan approval.
61	4.2	14	Second paragraph describing concept of grouping PAHs with same health endpoint moved to Appendix C.
62	4.2	14	Section 4.3 title change from "75th Percentile Evaluation of Receiving Site Area of Concern" to "Application of 75th Percentile Evaluation in Receiving Site Area of Concern"
63	4.3	15	Clarification added to Steps 1 and 4 identifying discrete samples and existing data.
64	4.3	15	Step 6 added to clarify a discrete sample of donor material with maximum concentration is value needed for comparison to receiving site criteria.
65	4.4	15	Language added to inform investigator about data plot summary and outlier analysis; Appendix A
66	4.4	16	Details about how to calculate 95th percent UCL have been moved to Appendix A
67	4.4	16	Language added that states that use of 95%UCL requires pre-approval as per N.J.A.C. 7:26E-5.2(c)

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68	4.5.1	17	Language added to clarify the two exceptions where composite samples may be used instead of discrete to supplement discrete sampling frequencies.
69	4.5.1	17	The procedure to utilize composite sampling is provided in steps 1-6 have been added to section; composite results to be compared to arithmetic mean of receiving AOC data; cites Appendix D for example.
70	4.5.1	17	5 bullets added that describe considerations for using composite data.
71	4.5.2	20	3rd bullet revised to include pH
72	4.6	21	Section title revised to Migration to Groundwater to be consistent with Soil Remediation Standards (adopted 5/18/2021) terminology. IGW criteria terminology throughout guidance was changed to MGW standards.
73	4.6	21	Language added to clarify that MGW evaluation applies to donor material in both the saturated and unsaturated zones.
74	4.6.2	22	Language added to note that development of a site-specific migration to ground water standards requires submission of an Alternative or New Remediation Standard Form.
75	4.6.2	22	Language added to inform investigator about using various methods to develop site-specific MGW standards.
76	4.6.3	23	Text added to describe use of SPLP for crushed concrete and brick materials as it relates to the MGW pathway.
77	4.7	23	Material Section added with Sections 4.8 through 4.16 in 2015 Fill Guidance now sub-sections 4.7.1 through 4.7.9
78	4.7.1	23	Added language to state that hazardous waste may not be used as (N.J.A.C. 7:26E-5.2(f) as fill material and a variance from the above is not allowed (N.J.A.C. 7:26E-1.7(b)8).
79	4.7.1	23	Added language to state that elevated concentrations may need TCLP testing.
80	4.7.2	23	Section updated to reflect pre-approval requirements related to N.J.A.C. 5.2(b).

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81	4.7.3	24	PCB restriction section updated to reflect TSCA requirements that prohibit importation of off-site alternative fill that contain PCBs 1ppm or greater.
82	4.7.4	24	4.7.4 Dredge Material section heading was formerly 4.10 Sediment
83	4.7.6	25	Language added to address existing concrete and block located on a site and related sampling requirements.
84	4.7.7	26	Radiation section revised to indicate if field screening results are above background, then donor material should not be used without analytical results and consultation with BIR. A link to a map showing potential higher radon-in-air map was provided (first bullet).
85	4.7.9.	27	Asphalt millings section revised to address asphalt millings legislation and clarifies uses needing SRP or Solid Waste approvals. Subsection 4.7.9.2 added to clarify use as alternative fill.
86	4.9	29	Language change to note that pre-approval requirements are associated with revisions to N.J.A.C. 7:26E 5.2 (c)
87	4.9	29	Language added to note that the pre-approval process at N.J.A.C. 7:26E-5.2(c) cannot be varied from pursuant to N.J.A.C. 7:26E-1.7(b)7
88	4.9	30	Steps 1-4 added to describe pre-approval process.
89	4.9	30	Step 3 language references public notification requirements in accordance with ARRCs at N.J.A.C. 7:26C-1.7(i) & (k)
90	4.9.1 - 4.9.3	31	Sub-sections added to discuss DEP evaluation criteria for Like-On-Like, 75th percentile, and fill that exceeds original grade.
91	4.9.3	31	Section expanded to provide higher level of detail regarding public notification, PE certifications, semi-annual reporting, ARRCs requirements, remediation funding, etc.
92	4.9.4	34	Bullets initially added on draft version to include description of key information as part of the proposed remedial action. Bullet removed from draft version that included identification of wetlands and transition areas and Letters of Interpretation.

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93	5	36	Language added as introduction and to include definition of on-site material.
94	5.1	36	Language changed to clarify that all AOCs must be delineated prior to fill movement.
95	5.1	36	Language changed to indicate that Department may allow exemptions to 75th percentile and like-on-like requirements per Section 5.3
96	5.1	36	Added language that prohibits use of hazardous material as fill at the site.
97	5.1.1	36	Insertion of Composite Sampling approach to characterize donor material from on-site sources
98	5.1.2	37	Insertion of Sampling Frequency Modifications for on-site sources to mimic existing language in Section 4.5.2 for off-site sources of donor material.
99	5.2	38	Title of section changed/new section added: Movement of On-Site Alternative Fill without Department Pre-Approval
100	5.2 - 1st paragraph	38	Added language that movement of fill material per N.J.A.C. 7:26E-5.2(d)1 does not require pre-approval
101	5.2 - 2nd paragraph	38	Added conditions for allowing exceptions to like-on-like and 75th percentile requirements
102	5.3	38	Title of section changed/new section added: Movement of Alternative Fill that Requires Prior Written Approval from the Department
103	5.3 - 1st paragraph	38	Language added to indicate that movement of alternative fill to a clean area of the site is prohibited, and that exceptions to like-on-like and 75th percentile requirements should be submitted via written request to the Department
104	5.3 - 2nd paragraph	38	Conditions added for the movement of on-site donor material that does not meet the 75th percentile and/or like-on-like requirement(s)
105	5.4	39	Title of section changed to Exceptions for 75th Percentile and Movement of Historic Fill at SRP Redevelopment Sites
106	5.4	39	Language added in first paragraph to clarify sampling frequency and which analyses should be utilized when characterizing historic fill



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107	5.4	39	Addition of first bullet to indicate the like-on-like and 75th percentile requirements should be met for historic fill movement/placement in receiving AOCs
108	5.5	39	Addition of section Materials Considerations - informs investigators that contents of Section 4.7 also apply to on-site fill
109	6.1 - 1st paragraph	40	Addition of last sentence to clarify that there is no certification for clean fill and that clean fill must be sampled per Section 6 of guidance
110	6.1 - 3rd paragraph	40	Third paragraph eliminated - addressed in Section 3.9
111	6.2 - 1st paragraph	40	Added "or at the donor source location" to fifth sentence
112	6.2 - 3rd paragraph	40	Added "(based on site review)" to second sentence
113	6.2 - 3rd paragraph	40	Added last sentence to clarify that carcinogenic PAHs may not be grouped as allowed for alternative fill
114	6.2.1	41	Title of section changed to Composite Sampling
115	6.2.1	41	Section expanded to include conditions for use of more recent composite sampling data and collection requirements
116	6.2.2	42	Section expanded to indicate that further reductions from reduced sampling frequency require justification and that the Department be consulted prior to further reduction.
117	6.2.2	44	Reference to sampling for hexavalent chromium and conducting SPLP tests eliminated from bullet 3
118	6.2.2	44	Last bullet of section eliminated
119	6.3 - 2nd paragraph	45	"TENORM" substituted for "radiation" in first sentence.
120	6.3 - 2nd paragraph	45	Added language in last sentence of paragraph for consultation with BER
121	6.4 - 2nd paragraph	45	Second sentence added to clarify that >1% ACM should not be used as clean fill
122	6.4 - 3rd paragraph	45	Third paragraph inserted to clarify that <1% ACM in donor material may not be a reliable indicator of the absence of asbestos

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123	6.5	46	Title of section updated to Migration to Ground Water Evaluation. Impact to Ground Water updated to Migration to Ground Water throughout section
124	6.5 - 1st paragraph	46	Paragraph updated to include link to SPLP guidance as well as SPLP methodology and ARS information
125	6.6	46	First sentence eliminated
126	6.7	46	First and second sentences updated to reflect that recycled concrete is not subject to the recycled concrete guidance from the Department's DSHW but is subject to like-on-like and 75th percentile requirements, and the technical guidance. Reference to sampling recycled concrete using recycled concrete guidance eliminated.
127	6.7	46	Third and fourth sentences address that Class B recyclables are no longer considered clean fill by DSHW based on Legacy Landfill Law
128	6.7	46	Second paragraph deleted
129	7	49	Section heading changed from Licensed to Authorized to more accurately describe the credential issued to the quarry/mine. This wording change was also applied to the rest of the section
130	7.6	50	Section heading change from "Options for testing" to "Analytical data considerations for certified quarry materials".
131	Appendix A - 2nd subsection	56	Title changed to "Discussion of the Selection of the 75th Percentile at Receiving Areas of Concern"
132	Appendix A - 2nd subsection, 3rd paragraph	56	Paragraph added advocating for an evaluation of high concentration outliers and the possible bias and impact on the dataset.
133	Appendix A	56	Language of "critical value" replaced with "decision statistic" for better clarification.
134	Appendix A - 3rd subsection	57	New subsection provides information and example for calculating an 95UCL of the mean at the receiving AOC.
135	Appendix B - 1st paragraph	63	Tech rule reference updated to 7:26E-5.2(h) from 7:26E-5.2(g).

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Change Number	Document Section	e-Page Number	Change Made
136	Appendix B - 1st paragraph	63	Fill Use Plan requirements that are to be submitted with an RAR, if not available at the time of FUP submission, are now specified with an asterisk.
137	Appendix B - 1.2	63	Language change from "persons" to "entities".
138	Appendix B - 1.4	63	Language of "or imported" removed.
139	Appendix B - 1.5	63	Language updated to "receiving site" for better clarification.
140	Appendix B - 1.8	63	Language updated to include the donor site future use.
141	Appendix B - 1.9	63	Language removed requiring discussion of performance, effectiveness, and reliability of the proposed fill.
142	Appendix B - 1.10	63	Requirement of tracking and QC requirements for all shipments removed and changed to a documentation description.
143	Appendix B - 1.11	63	Former 1.11-1.13 requirements removed and replaced with former 2.6/former 3.2.
144	Appendix B - 2.1	63	Language simplified to convey the like-on-like principle.
145	Appendix B - 2.2	64	Language updated to include the 95% UCL alternative.
146	Appendix B - 2.3	64	Requirement added for composite sampling compliance.
147	Appendix B - 2.4	64	Former 2.3 moved to 2.4
148	Appendix B - 2.5	64	Former 2.4 moved to 2.5
149	Appendix B - 2.6	64	Former 2.5 moved to 2.6
150	Appendix B - 2.7	64	Requirement added for documentation to support the FEMA 100yr flood elevation
151	Appendix B - 3.2	64	Requirement added for composite sampling compliance
152	Appendix B - 4.0 - 4.1	64	Additional requirement added for licensed quarry/mine material

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153	Appendix B - checklist	65	To help ensure that the information needed to perform a FUP review is submitted, a FUP checklist was added
154	Appendix C	66	New appendix on Department Evaluation and Pre-Approval Proposals added to inform guidance users how the Department intends to conduct fill evaluations. This Appendix is offered in question/answer format.
155	Appendix D	74	An example for incorporating composite sampling is provided.
156	Appendix F	80	IGW - Impact to ground water updated to MGW - migration to ground water
157	Appendix F	80	RFS - Remediation Funding Source added