B - 10:30 - 12:00

Conventional System Inspection Requirements and Field Standardization
DH4016pg2
OSTDS Construction
Inspection and Final
Approval.
Inspections:

• Inspections are required in order to verify that all rule and statute requirements have been addressed.
• The CHD verifies the permit conditions, including items submitted as existing portions the inspector on-site has not physically approved in previous inspections (for example, a recently-covered mound inspected by another CHD employee).
Conventional System Inspection

Requirements:

- Responsibilities and procedures for conventional system inspection:
  - Who can perform an inspection?
  - What tools are needed?
  - The final inspection form and standardized inspection procedures.
  - Examples of items that arise during an inspection, how are deficiencies corrected, and by whom?
Who can perform an Inspection?

- DOH employees certified per 381.0101, FS.
- Master Septic Tank Contractors registered with the DOH per 64E-6.020, FAC.:
  - Only for System Repairs.
  - Must use form DH4016pg3 – “System Repair Certification.”
- This form is then reviewed by the CHD inspector and used to complete the “Construction Inspection and Final Approval” form (DH4016pg2).
Conventional System Inspection Requirements:

- Responsibilities and procedures for conventional system inspection:
  - Who can perform an inspection?
  - What tools are needed?
  - The final inspection form and standardized inspection procedures.
  - Examples of items that arise during an inspection, how are deficiencies corrected, and by whom?
Tools Required:

- At minimum, the following tools are required in order to properly conduct a standard system inspection:
  - Six-foot Auger.
  - Water Bottle.
  - 100-foot or longer measuring tape.
  - Sharpshooter Shovel.
  - Insulated Probing Rod.
  - Laser Level or Surveyor’s Level with Stadia Rod.
  - Soil Survey of the County.
  - Munsell Soil Color Book.
  - 25-ft x 1-inch stainless steel and self-locking measuring tape.
Conventional System Inspection Requirements:

- Responsibilities and procedures for conventional system inspection:
  - Who can perform an inspection?
  - What tools are needed?
  - The final inspection form and standardized inspection procedures.
  - Examples of items that arise during an inspection, how are deficiencies corrected, and by whom?
Tank Installation

Items [01] – [09]
• [01] Tank Size:
  – From the tank Legend.
• [02] Tank Material:
  – Visually Determined.
• [03] Outlet Device:
  – Verified at outlet end of tank.
• [04] Multi-Chambered [Y/N]:
  – Ensure compliance with 2/3 – 1/5 rule for chamber sizing and total required capacity.
  – Alternative is tanks in series.
• [05] Outlet Filter:
  – Physically remove, inspect, record make and model – verify sizing.
• [06] Legend:
  – Record to verify tank size.
• [07] Watertight:
  – Ensure proper sealing and construction.
• [08] Level:
  – Ensure level from end to end and side-to-side within 0.5” with no pitch upwards. Use floor of tank.
• [09] Depth to Lid:
  – Ensure access will be within 8” of final grade and maximum cover will not exceed tank category.
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Drainfield Installation</td>
</tr>
<tr>
<td>11</td>
<td>Distribution Box</td>
</tr>
<tr>
<td>12</td>
<td>Number of Drainlines</td>
</tr>
<tr>
<td>13</td>
<td>Drainline Separation</td>
</tr>
<tr>
<td>14</td>
<td>Depth of Cover</td>
</tr>
<tr>
<td>15</td>
<td>Elevation Above/Below</td>
</tr>
<tr>
<td>16</td>
<td>System Location</td>
</tr>
<tr>
<td>17</td>
<td>Dosing Pumps</td>
</tr>
<tr>
<td>18</td>
<td>Aggregation Site</td>
</tr>
<tr>
<td>19</td>
<td>Aggregation Excess</td>
</tr>
<tr>
<td>20</td>
<td>Area</td>
</tr>
<tr>
<td>21</td>
<td>Depth</td>
</tr>
</tbody>
</table>

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Items [10] - [21]
• [14] Drainline Slope:
  – Verify drainline slope does not exceed 1 (one) inch in any 10 (ten) feet.

• [15] Depth of Cover:
  – Ensure the bottom of the drainfield will not be deeper than 30” below grade.

• [16] Elevation [Above/Below] BM:
  – Use laser transit to ensure compliance with permit specification.

• [17] System Location:
  – Ensure compliance with the site plan.

• [18] Dosing Pumps:
  – Verify proper installation and float settings. Verify use for sewage effluent. Record # of pumps.

• [19] Aggregate Size:
  – Visually determine whether gradation is adequate. If unable to verify, request bill of lading or require further testing.

• [20] Aggregate: Excessive Fines:
  – Visually determine whether an excessive amount of fine particles are present.

• [21] Aggregate Depth:
  – Probe to ensure sufficient depth of drainfield aggregate.
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Fill / Excavation Approval

Items [22] – [26]
Fill/Excavation Material Items [22] – [26]

- **[22] Fill Amount:**
  - Ensure sufficient fill has been placed on-site to properly construct the above-grade portion of the system.

- **[23] Fill Texture:**
  - Ensure fill is slightly-limited, or (if LPDS) moderately limited – in accordance with permit specifications.
  - If unable to determine, require further analysis.

- **[24] Excavation Depth:**
  - Auger to ensure that the excavated area meets the permit requirements.
  - Ensure the excavated area meets footnote 3 or 4 requirements as appropriate.

- **[25] Area Replaced:**
  - Ensure the area replaced is 2’ longer and wider than the drainfield area, and the drainfield area is centered in this excavation.

- **[26] Replacement Material:**
  - Ensure the material used to replace any unsuitable soils originally found below-grade is in accordance with permit specifications.
  - If unable to determine, require further analysis.
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>[27]</td>
<td>Surface Water</td>
<td>FT</td>
</tr>
<tr>
<td>[28]</td>
<td>Ditches</td>
<td>FT</td>
</tr>
<tr>
<td>[29]</td>
<td>Private Wells</td>
<td>FT</td>
</tr>
<tr>
<td>[30]</td>
<td>Public Wells</td>
<td>FT</td>
</tr>
<tr>
<td>[31]</td>
<td>Irrigation Wells</td>
<td>FT</td>
</tr>
<tr>
<td>[32]</td>
<td>Potable Water Lines</td>
<td>FT</td>
</tr>
<tr>
<td>[33]</td>
<td>Building Foundation</td>
<td>FT</td>
</tr>
<tr>
<td>[34]</td>
<td>Property Lines</td>
<td>FT</td>
</tr>
<tr>
<td>[35]</td>
<td>Other</td>
<td>FT</td>
</tr>
</tbody>
</table>
On Form DH4016pg2

- [27] Surface Water:
  - Measured from the MAFL or MHWL
  - Ensure all surface water bodies are accounted for
- [28] Ditches:
  - Account for all Ditches and ensure they appear on the site plan
- [29] Private Wells:
  - Verify per site plan and site evaluation
- [30] Public Wells:
  - Verify per site plan and site evaluation
- [31] Irrigation Wells:
  - Verify per site plan and site evaluation
- [32] Potable Water Lines:
  - Verify per site plan and site evaluation
- [33] Building Foundation:
  - Verify per site plan and site evaluation
- [34] Property Lines:
  - Verify per site plan and site evaluation
- [35] Other:
  - Ensure all other setbacks required by the permit, site evaluation, and site plan have been met.

All setbacks must be measured in feet, and the actual result recorded on the inspection form.
Filled/Mound System


DRAINFIELD COVER
SHOULDER
SLOPES
STABILIZATION
Notes on Mound Specifications

• As in the example system, mounds are drainfields whose bottom surface is held above native soil by suitable fill.
  – In order to prevent a sanitary nuisance (sewage effluent surfacing and affecting public health or the environment), a 4-foot shoulder area of fill surrounds the drainfield.
  – To keep this structure in place, and prevent erosion, additional fill material and vegetative stabilization is required.
So we’ve added fill to the lot:

• How do we keep the drainfield effluent from spilling out into the environment?
  • We must add shoulder area around the fill already in place.
  • For new conventional systems, 4 feet of shoulder area is required.
So we’ve added fill to the lot:

• How do we keep the drainfield and shoulder area from eroding or falling apart?
  • We must add slopes to hold up the mounded drainfield.
    • At minimum, the slope must be 2:1 (two foot horizontal to one foot vertical).
    • For mounds exceeding 36” in height, slopes must be at least 3:1.

• How tall is our mound?
  • We only measure from natural grade to the top of the fill:
    • This mound is 36 inches tall.

What is the minimum slope required for a 36” tall mound?
To determine the minimum slope required:
• Determine whether the mound exceeds 36 inches in height.
  • This mound is 36 inches tall, so it does not.
• Reference the rule requirement for drainfield slopes [64E-6.009(3)(f)].
  • This section requires at minimum, 2:1 slopes for mounds not exceeding 36 inches in height.
    • This mound requires at minimum, 2:1 slopes.
    • The slopes must be extended out two feet (horizontally) for every 1 foot of mound height.

How do we determine how many feet (horizontally) the slopes must measure?

Grade, 12” above BM

4 Foot Shoulder

36” Mound

36” Fill

+ 24” WSWT separation.

- 6” (WSWT)

+12”

0” (BM)
To calculate the minimum slope required:

• Determine the mound height in feet.
  • This mound is 36 inches tall, so:
    • \(36” / 12” = 3 \text{ feet}\).

• Because the minimum slope requirement (2:1) means we must cover one horizontal foot of area for each vertical foot the mound covers, we multiply the height by 2 to determine how many feet of slope are required.
  • \(3 \times 2 = 6\)
  • 6 feet of slope must be added for a 3 foot tall mound.

How do we keep the slopes from eroding?

Grade, 12” above BM

+ 24” WSWT separation.

3 foot tall Mound

+12”

- 6” (WSWT)

4 Foot Shoulder

6 Horizontal Feet
To keep slopes from eroding, stabilization material must be applied:

- The rule specifies that the required stabilization material depends on the steepness of the slope.
  - For 2:1 slopes, sod (or equivalent) is required.
  - For 3:1 slopes, sod (or equivalent) is required.
    - And if the mound height exceeds 36”, the entire mound must be stabilized with sod (or equivalent).
  - For 5:1 slopes or greater, seed and hay is acceptable.
On Form DH4016pg2

Filled / Mound System

- [36] Drainfield Cover:
  - Ensure fill material is in accordance with permit specifications.

- [37] Shoulders:
  - Ensure shoulders measure at least 4-feet from the edge of the drainfield and is composed of suitable material.
  - Ensure the O-horizon and original vegetation were removed prior to placement of fill material.

- [38] Slopes:
  - Ensure the adequate slopes are in place based on the actual drainfield height.
  - Measure from the outermost edge of the shoulder to the toe of the drainfield slope.
  - Ensure slopes are composed of slightly or moderately limited material.
  - Ensure the O-horizon & vegetation were removed prior to slope construction.

- [39] Stabilization:
  - Ensure the type, quantity, and quality of stabilization material is appropriate for the constructed mound height and slopes. Record the type of stabilization (seed & hay, sod, etc.).
Additional Information

Items [40] – [48]

- [ ] UNOBSTRUCTED AREA
- [ ] STORMWATER RUNOFF
- [ ] ALARMS
- [ ] MAINTENANCE AGREEMENT
- [ ] BUILDING AREA
- [ ] LOCATION CONFORMS WITH SITE PLAN
- [ ] FINAL SITE GRADING
- [ ] CONTRACTOR
- [ ] OTHER
On Form DH4016pg2

Additional Information

[40] Unobstructed Area:
  • Measured area must comply with site plan and meet measured setbacks.

[41] Stormwater Runoff:
  • Installation area and unobstructed area must not be subject to saturation due to stormwater.

[42] Alarms:
  • Visually examine installation.
  • Check function with alarm float.

[43] Maintenance Agreement:
  • Ensure maintenance agreement is in place for ATU and PBTS requirements.

[44] Building Area:
  • Ensure conformity with the approved floor plan.

[45] Location Conforms with Site Plan:
  • Ensure all pertinent features are in place and conform to the approved site plan.

[46] Final Site Grading:
  • Ensure the bottom of drainfield is no deeper than 30” below final grade.

[47] Contractor:
  • Record name of contractor/company.

[48] Other:
  • Record the make, model, and total amount of alternative drainfield units used in the system installation.

Additional Information
Items [40] – [48]
Abandonment

Items [49] – [50]
On Form DH4016pg2

Abandonment Items [49] – [50]

- [49] Tank Pumped:
  - Require pump-out receipt from contractor.
  - Record the date the tank was pumped.

- [50] Tank Crushed & Filled:
  - Confirm that the tank has been crushed or collapsed.
  - Record the date the tank was crushed or collapsed.
  - Confirm that sufficient back-fill material was used.
  - Confirm that there is no sanitary nuisance.
EXPLANATION OF VIOLATIONS / REMARKS:

[

]

DH4016pg2
Explanation of Violations/Remarks
• Explanation of Violations/Remarks:
  – Ensure all violations are explained, using additional sheets as required.
  – Ensure any additional items of note are documented.
<table>
<thead>
<tr>
<th>CONSTRUCTION [APPROVED/DISAPPROVED]:</th>
<th></th>
<th>CHD</th>
<th>DATE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>FINAL SYSTEM [APPROVED/DISAPPROVED]:</td>
<td></td>
<td>CHD</td>
<td>DATE:</td>
</tr>
</tbody>
</table>

DH4016pg2
OSTDS Construction and Final Approval.
On Form DH4016pg2

Construction Approval & Final Approval

- **Construction Approval:**
  - Designate whether the system construction is approved or disapproved.
  - Must be signed and dated by a certified CHD employee.
  - All re-inspections must be recorded on a separate form in EHD, each approved or disapproved in turn.

- **Final Approval:**
  - Record as “disapproved” until all OSTDS rule and statute requirements have been met.
  - All re-inspections must be recorded on a separate form in EHD, each approved or disapproved in turn.
Conventional System Inspection
Requirements

- Responsibilities and procedures for conventional system inspection:
  - Who can perform an inspection?
  - What tools are needed?
  - The final inspection form and standardized inspection procedures.
  - Examples of items that arise during an inspection, how are deficiencies corrected, and by whom?
Corrections to an installation:

• What happens when deficiencies are encountered?
  – How they are corrected?
  – By whom?
  – What are the associated fees?
  – What would void an otherwise viable permit?