

Greg Cardinal owns GN Excavating. GN Excavating constructed all the drain fields and installed the stilling tanks, which are 1,500 gallon concrete septic tanks used in most of the low pressure drain fields. GN Excavating was hired by Glenn Rehbein Companies, who was the general contractor responsible for the construction of the TTHA development. Greg came out twice to walk through the development with us and explain how the shared drain field system works and to offer advice on the maintenance of the system. He did this at no expense to TTHA. I, Garry Weisinger, met with him both times and prepared this summary. I also prepared a schematic plan showing the location and types of drain fields and how each lot is connected to each field. This plan is at the end of this document. This walk through occurred in the fall of 2016.

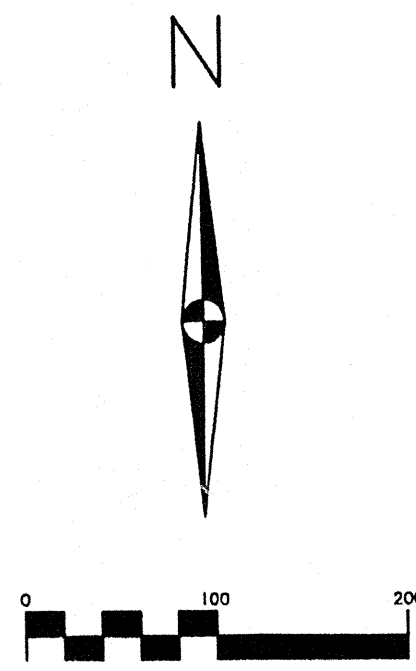
Attendees: Greg Cardinal (GN Excavating), GN Excavating Foreman, Tom Davis (TTHA Board Member), Garry Weisinger (TTHA Septic Committee).

1. The concrete stilling tanks in the drain fields not only slow down the effluent before it enters the drain field, they are also a last line of defense for any solids which might get by the septic tank and lift stations. They need to be pumped when sludge accumulates in the bottom of the tank. The depth of the sludge can be checked to see if they need pumping. They have a manhole in the center of the tank which can be dugout and removed for pumping.
2. A note for homeowners; individual homeowner lift stations should be sized for the length of run and slope of the 2" line to the drain filed when being replaced.
3. Drain fields should be mowed a few times a year.
4. There should be no vehicle or foot traffic on the drain fields in the winter.
5. A note for homeowners; leaking toilets can add a lot of water to the septic system. You can check if your tank is leaking into the toilet bowl by adding food coloring to the water in the tank to see if any leaks into the toilet bowl.
6. A note to homeowners: Water softeners and iron filters can add a lot of water to the septic system. This can be prevented by running the discharge water from the cleaning process somewhere other than your home's septic system.
7. The first drain field we looked at is in Block 1 behind Jim Hoard's house (Lot 10). This field has a stilling tank and serves lots 10, 11, 12. The tank and drain field are functioning properly. This field also appears to serve lot 7 with a gravity connection on the opposite side of the field.
8. The next drain filed we looked at is in Block 1 behind Randall's house (Lot 9). This field has a stilling tank and serves lots 8, 9. The tank and drain field are functioning properly.
9. We opened up the shared lift station next to Scott Johnson's house (lot 11) to show Greg a leaking fitting. Greg turned on the pump so we could watch the leak. The stream of effluent coming out was not significant. Greg thought it might be a leak at a pipe flange seal. He said the cost of fixing the leak would be very expensive and recommended not doing anything at this time.
10. This shared lift station services block 1 lots 9, 10, 11, 12. It pumps water into the stilling tank in the drain field behind Scott's house (lot 11). No problems were seen with the function of the stilling tank and drain field. There is one cracked inspection pipe in this field which will need to be replaced with a new cap. The caps can be purchased at Menards and are 4" schedule 3034. I have a section of 4" pipe which I've purchased for the drain fields.
11. There are two drain fields in the field behind Scott's house. The stilling tank for the second drain field is behind lot 16 and serve lots 14 and 15 along Iris and 16, 17, 18 along Hearthside Lane. No problems were seen with the function of this stilling tank and drain field.
12. The field behind Scott's house with these two drain fields has brush that needs to be removed. The ground is also rough, probably mostly from pocket gophers. It has not been mowed. Greg suggested bringing in a brush hog and clearing the field but it seems simpler and less expensive to do it by hand.

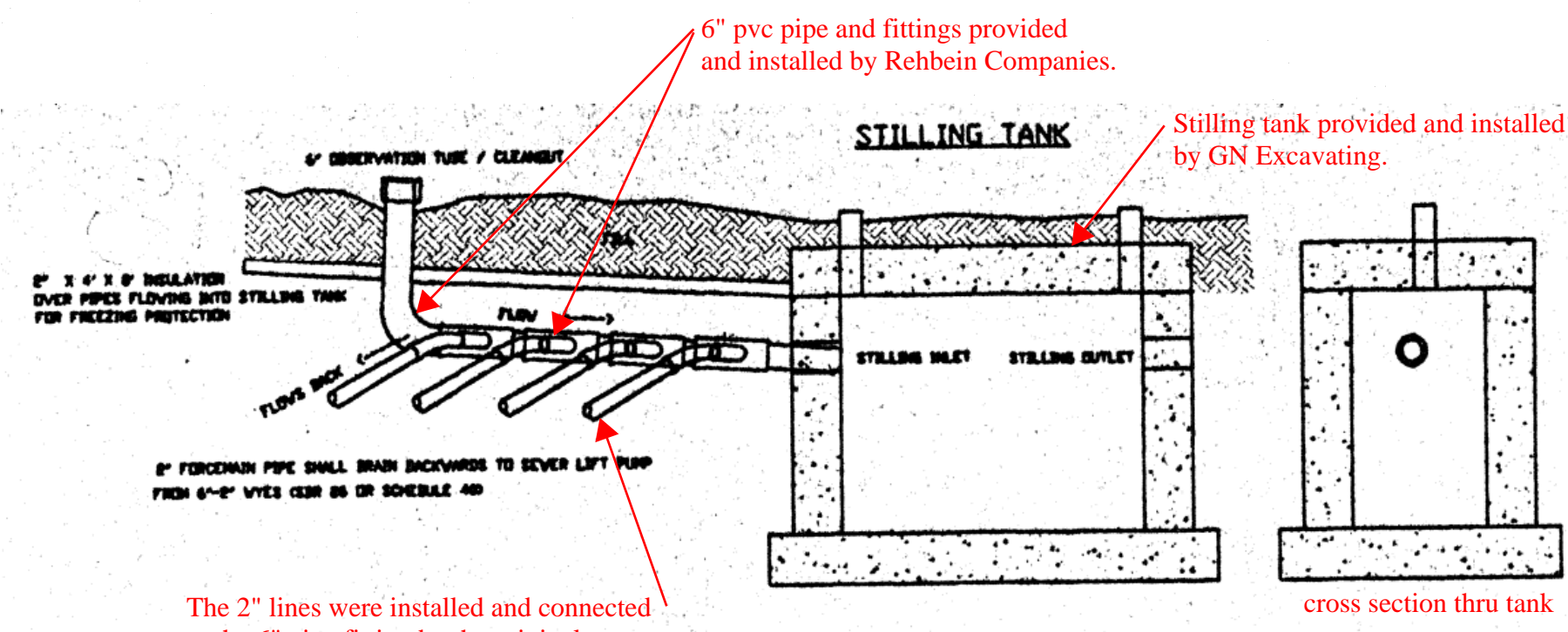
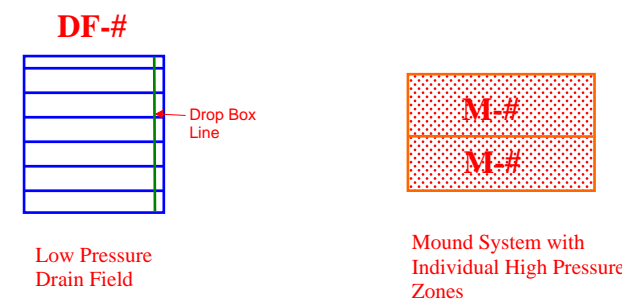
13. Greg suggested at this point that all the drain fields should be mowed during the spring and summer months and then allowed to grow back up in late summer and fall.
14. The next drain field we looked at was behind our house (lot 17). It serves lots 15, 16, & 17. I showed Greg where dirt was entering the stilling tank where the 6" pipe enters the tank. I remember when the house built on lot 16 that there was some damage to the pipe and that it was reburied before it was fixed. Greg suggested that we dig up the pipe and verify that it is not damaged, and that it is resealed where it enters the tank. Other than that the field has been mowed and clear of all brush and is functioning properly.
15. The next field we looked at is behind Joe's house (lot 14) and serves lots 13 & 14. There is no stilling tank in this field. The 2" line from each house connects to the drain field on opposite sides at the high side of the drain field. This field is not mowed but doesn't have any brush on it and is functioning properly.
16. The next field we looked at was behind Larry Erickson's house (lot 18). It serves the shared lift station that is next to Iris and between Larry's house and our house. This lift station is gravity fed from a catch basin next to it in the middle Iris Ave. Lots 13 across the street has a gravity line connected to the catch basin. Lots 7, 8, 13 appears to have a shared gravity line which runs under the street to the catch basin. The drain field does have a stilling tank. The drain field is mostly mowed but there is some brush on the field that will need to be removed.
17. The next field we looked at is behind Ron Hals house (lot 19) and serves lots 18 & 19. It does have a stilling tank. This field is not mowed and does have some brush on it otherwise is functioning properly.
18. The next field we looked at is the mound field in block 2 next to Eric Schoon's house (lot 3) and behind Karen's house (lot 4). This mound has two separate high pressure systems in it. One system serves lot 20 across the street from it and the other serves lot 21 which is also across the street (Heritage Way). The line from lot 20 has heat tape installed in it because it was not originally installed correctly and has a low spot which does not allow the effluent to drain back properly. Greg was called in and dug up this line when it froze and identified the problem. This field has no brush and is mowed. Greg said that all the mound systems need to be clear of all brush and mowed and are much more dependent on evaporation than the low pressure systems. Greg also stressed at this point that it is extremely important that there is no vehicle or foot traffic on any of the drain fields in the winter, especially the mound systems. The mound systems should also not be walked on or mowed while the ground is very wet.
19. The next field we visited is a mound system in block 2 and is behind Karen's (lot 4) and Mikes (lot 5) house. This system also has two systems in it and serves lots 4 & 5. This field is not mowed.
20. The next field we visited is a mound system in block 2 behind Steve's (lot 6) and Jim's (lot 7) house. This system appears to have 3 separate systems in it serving lots 6, 7, 8. This system is not mowed. Steve came out while we were looking at this field and said that he will mow this field starting next spring.
21. The next field we looked at in in block 2 and was further behind Karen's (lot 4) and Eric's (lot 3) house and is a low pressure system. It does have a stilling tank and serves lots 2 & 3. This field is

not mowed but does not have any brush on it. It appears to be functioning properly. Stanley from lot 2 said he would keep this field mowed starting next spring.

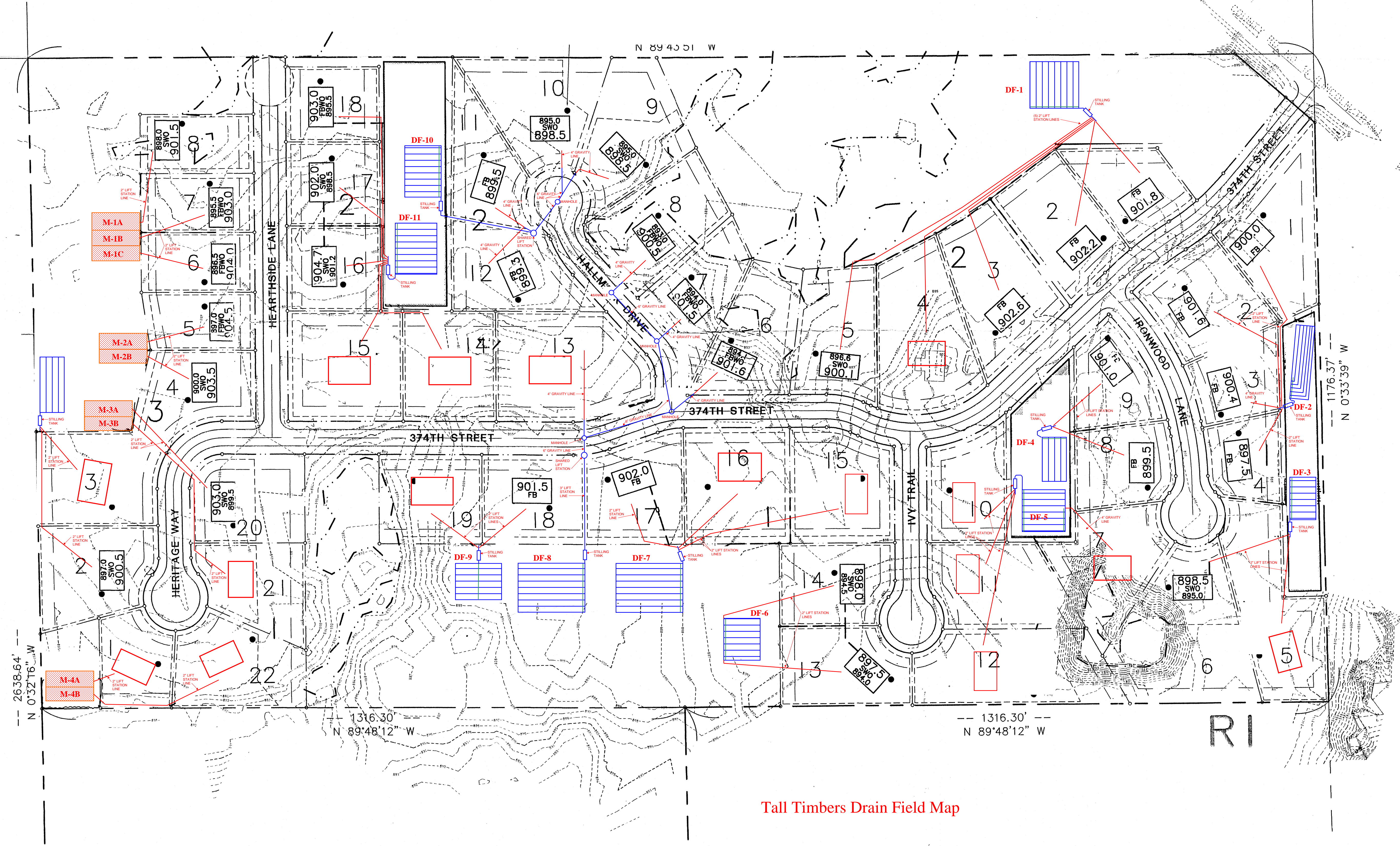
22. The next field we visited was the mound system is in block 2 behind Tim Johnson's (lot 1). This also has two separate systems in it and serves lots 1 & 22. This field was not mowed and had a number of small trees growing on it. Tom Davis said he will cut down the trees and move them to the side. Stanley said he will come and drag the trees away after that and said he will help maintain the field in the future.
23. The last drain fields we looked at were between the houses on Ironwood Lane and highway 14. This field consists of two separate drain fields, each with a stilling tank. The largest drain field serves lots 1, 2, 3 & 4 in Block 1. The 6" pipe before the stilling tank has three 2" pipe connections from lift stations and one 4" gravity flow pipe from lot 3. This drain field was installed diagonally in the field in order to get the required square footage required for the four houses. This drain field is functioning properly. The second drain field serves lots 5 & 6 in Block 1. It runs perpendicular to the property lines and is smaller since it only serves two houses. This drain field is also functioning properly.
24. Greg said that the stilling tanks are all 1,500 gallon concrete tanks and should get pumped since they have been in use for a number of years. He suggested doing a couple of tanks a year to fit our budget, which seems like a good idea. Starting with the tanks which have been in service the longest and serving the most houses is probably a good place to start. According to Greg, the tanks all have a lid in the center which will need to be dug out and removed for pumping.
25. Greg said that by the way the drain fields look at this point that they could continue to function properly for up to another 30 years.



LEGEND



The 2" lines were installed and connected to the 6" pipe fitting by the original homeowners general contractor or their subcontractor.



Tall Timbers Drain Field Map

TALL TIMBERS

NORTH BRANCH, MINNESOTA

DRAWN	WALSH
DATE	11.18.16
SCALE	AS SHOWN
PROJECT	
CHECKED	
APPROVED	