



“How I Built My Dam” The Book

The Story of the Dam that never was

By Seth Johnson – Land To House™
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Note 1: Legal stuff

I have written the following story in a way that is happy and upbeat but it is very important to go about building a dam in a legal way. Depending on your location you will have to get permits/license and special permission to install a dam across a waterway. Some places are fine with it as long as all the water that is dammed is then returned to the water way. Also you will be held responsible for safety and maintenance of the dam to ensure that the dam will stay in good working order. You will be required to do scheduled monitoring and checks for structural safety. Also emergency precautions will have to be taken in case of a dam failure. There are several other legal objects that you will have to consider. Before starting a dam for domestic use, stop by your local council and fill out the required paperwork.

Part 1: Boredom Leads to Ideas

It all started one evening as I was sitting on the bed watching Youtube videos. This is a typical thing for me to do right before going to bed. And this evening was the usual, a couple cartoons, and some action/adventure shorts, and then I swap over to alternative energy methods. Solar panels made from parts around the house, water wheels, and wind turbines. You know how it is, one video links to another and you spend more time than you should moving from link to link. After moving my way back to waterpower I stumbled across a little video showing a long screw inside a tube with water flowing down and spinning the screw. The screw turned a motor shaft and that produced electricity. I was instantly interested in this contraption. After a little studying I found out that people are calling this an Archimedes Screw Turbine. This is all it took for me to want one. . . no NEED one.

At this point I started to think about how I could use one of these and where I should put it. The next time that I went to the [Land](#) I walked the [creek](#) and found the Absolut perfect place for a dam that would support the turbine screw. (You must realize that once I get an idea in my head it is pretty much stuck there until I get it done or someone proves to me that it is a bad idea.) A few days later I went to my job and talked to a couple of my co-workers about everyday things and my dam idea came up. Most of the time I feel that my ideas are going in one ear and out the other but this time a couple of them were listening. I asked them if they had any concrete blocks sitting around that they would love to donate to a good cause. One lady said that she had a few sitting around and I could have them. By the end of the work week she had brought all the blocks to me. . . 10 new concrete blocks. YES that was what I needed to complete my dam. (looking back I realize that I was crazy to think that 10 blocks would make a dam. I mean really?) Well after work I make room in the back of my little car and load the 10 blocks for a trip to the land.

From here on out we shall refer to the Land as “Tara”. Why Tara? Well my girlfriend and I watched “Gone with the Wind” and now my Land is forever known as Tara. So I am driving down the road towards Tara and thinking about how my car is sitting high in the front and low in the back. This made me wonder what the load capacity of my car was and if I was going over it. Lets see... 10 blocks at 40 pounds each that’s 400 pounds total.

Not even close to the max load of my car. I mean if the car can hold 5 people that each weighs at least 200 pounds then 400 pounds of blocks must be ok. All right, after some math and lots of singing in the car I arrive at Tara with 400 pounds of concrete blocks.

Part 2: Blocks are heavy

The absolutely perfect place to build a dam is located 30 yards from the closest section of my road. This means that I have to haul all 10 of these blocks by hand ... that's 80 pounds a time... a distance of 30 yards to the creek. If I haul two at a time then I only have to make 5 trips. Not bad. When I get to the creek I set the first load down and realize that I am going to need some gloves for this because my hands are not used to real mans work. Gloves ... yes I do have some in my car. Much better. After a little bit of hauling and resting I finally get all 10 blocks to the creek and set them down next to the water. Its getting late at this point but I just have to set them in the water and see what they look like. It takes all 10 blocks to make one pass across the creek. Well it would seem as though I will need more than 10 blocks to make a 6' tall dam across the creek. I stop here for the night and give myself time to rethink my dam building experience. Or should I say that I give myself a little time to actually think about it in the first place.

A few days later I make a post on [facebook](#) to all my friends that I am looking for some concrete blocks. It did not take long before a friend of mine sends a message saying that she and her husband have some used blocks that I can have as long as I come pick them up. So I get in the car and start the trip out to their house. Now I live in the mountains and everywhere you go it takes forever. But I just happen to be the slowest person in the world. Ok one time I was helping my grandparents during my grandfathers knee surgery and I was the chauffeur home from the hospital. I was driving 30 in a 45 thinking that they did not want to be bounced around. My grandmother turns to me and says: "you know you are only driving 30mph? Speed up!" So yes I drive slowly. It's not everyday that your sweet little grandmother tells you to speed up. One trip to my friend's house takes me about 45min one way. When I get to their house I pull up and see the blocks all stacked up in a row. I open my door and suddenly out of nowhere the dogs arrive and are barking at me and circling the car like a group of sharks would a chunk of meat. Thankfully my friend is home and saves my car and I from certain death and destruction.

I had not seen these friends in some time and I needed to catch up on old times and see the new house that they had built. What a cool house! It was small but very functional. My friend walked with me to the blocks and helped me load them into the back of my little car. We stopped at 20 blocks! That's a total of 800 pounds in the trunk of the car. I feel that I could have put a couple more in there but why risk messing up something for a couple extra blocks. After thanking my friends and saying goodbye I head back to Tara. Now with all this extra weight in the car it takes me over 55min to get back. The fun part was the way that my car was setting with the front end in the air! Look at the road!... Sorry I can't see it right now. All I can see is the sky.

Back on Tara I park as close to the absolutely most perfect place to build a dam as I can. I get my gloves on again and open the back hatch. That's a lot of blocks in a small car. I

start to make the first of the 10 trips needed to carry all those blocks to the creek and realize that the ground is very muddy. Let me stop here for just a moment to talk about the summer of 2013 in the mountains. It has rained a lot. And when I say a lot I mean that we have gotten our yearly rainfall and then some all in less than 3 months! One day it rained 6" and then a few days later it rained another 6". The average yearly rainfall amount is around 43" and that is about what we got in the months of May, June, and July. So... yes the ground was a bit muddy.

Trouncing through the mud with a block in each hand I start the first trip to stack the new blocks with the other 10 that I already had. I almost die with each step as I slip and land on my butt with an extra 80 pounds in hand. Finally I get the first load to the creek and set them down. The creek is up like crazy and I could see where the water had been. But where were the 10 blocks that I had placed there before? A couple of them were exactly where I left them but at least 5 of them were gone. Interesting! I must have block thieves that came in the night and stole 5 of the blocks. That's all that I could think could have possibly happed. O no wait false alarm. There they are just a few feet down the creek. The Very large rain had caused them to wash out and move some 15 feet down into a fallen tree that lay in the water. The power of flowing water is incredible wouldn't you say? To move that much weight that far. I stared at the washed out blocks for a little while and began to think about the absolutely most perfect place in the world to put a dam.



Both sides of the dam looked good and tall and could support the 6' wall that I needed. But then I started to look at where the water would back up when the wall was built. Hmm that was not good. If I were to install a dam wall that was 6' tall the dam water would backup to the road! Actually the dam water would back up under the road and into the other side of the culvert. Pretty sure that would erode the road over time. Well this stinks because the absolutely most perfect place in the world to put a dam had some major issues that just might make it the most absolutely not perfect place to put a dam.

A little discouraged that this was not the place that I wanted to put my dam I just left those blocks where they lay and I walked back to the car. Hmm there seemed to still be 18 blocks in the back of the car. I sure did not want to take them to the creek. It's just way to far to walk and I was not sure that I was going to need them anyway. So with gloves on I unload the blocks about 10' off the road and that was good enough for me. As

always I work late in the afternoon because I don't like getting up early. So by this time it was once again getting dark. Time to head home.

Part 3: Re-Group and Think a Little Ahead

Because that location would not work for a dam I thought that it was time to step back and make some clear choices on the location of the dam. After all the longer that I wait the longer I won't have an Archimedes turbine screw. Time that I went for a little walk around the creek and find the real absolutely most perfect place to put a dam. From now on I shall call this the "dam location". Well maintaining a positive outlook on life I take the road to the lower section of my creek in preparation of walking and looking for the best dam location. As I go I make a mental note "that place would work for a 3' wall", "that place would work for a 2' wall", and so on. It was not until I get to the end of the creek on my land that I find the real dam location!



It was a nice place. Walls on each side of the creek were perfect for a dam to be built between. I had plenty of land behind the dam location that would serve the purpose of dam water backup. This was it. Now before I was not really serious about making a dam but that had all changed. I was ready! I started to do some calculations and getting things set up for building this future micro-hydro power generator. Let's start with the wall length. I got out my grandfathers 100' tape measure and hooked the stupid end to a tree. The smart end I took with me. When I got from one wall to the other my tape measure read 84'. Hmm that's a lot of feet for building a wall. Now your average concrete block is 16" long. So with a little math we find: $84' * 12" = 1008"$ that's the total number of inches that spans the distance between the dam walls. Now that we have found that we can find: $1008" / 16" = 63$ blocks. That is flawless math so don't try to argue. 63 blocks is what I will need to make one level all the way across for the dam. Well I then look at the low spot where the creek actually runs across and see that it is about 3' lower than the other parts of the dam location. What does this mean? The dam wall will need to be 5 blocks high for most of the wall and around 9 blocks high for the low spot. What does this mean in terms of blocks? Well $63 * 5 = 315$ blocks if the wall was going to be the same height across the full distance. But the low place will need another $5 * 4 = 20$ blocks. So all this to say that the total blocks that I will need to make the dam 6' high is 335!

Yes! I did some pre planning before I made the dam. 335 blocks. Hmm how many do I have again? Let's see I have 10 blocks from the co-worker and one carload of 20 so that

means that I have 30 blocks. Well now that is a big difference between what I have and what I need. I might have to find another source of blocks. Well my friends that I contacted on facebook told me that they had a total of around 50 blocks but when I went to their house to get the first load I found that they actually had over 100 blocks. So I made another couple trips to their house and picked through the blocks that did not have cracks and broken places. That was another 40 blocks. This makes a total of 70 blocks. It took my three trips to their house to find that I was not enjoying the drive time. But that's not all that I was not happy with. I was only getting 20 blocks at a time and those blocks were filled to the brim with spiders, crickets, ants, and all manner of other wild creature. These might be nice to have out in the great outdoors but when you start inviting them into the back of your car you are just asking for trouble. For weeks after hauling the blocks I would be attacked by a spider or a marching band of ants.

Now because I had located the real dam location I needed to move the blocks that I already had from the previous trips. I loaded them back into my little car and moved them down the driveway about 100 yards. There was a low spot in the ditch beside the road that was a good place to walk across and stack the blocks. This little pathway was about to see a lot of walking traffic I had a feeling. Because this was to be the location that I placed all the blocks, I decided that I had better take a weed eater to the poison ivy and tall grass. The path looks like an entrance into a new world.



Part 4: Time to Meet “Pee Wee”

Well After doing that math at the new Dam Location I was struck by the realization that I was going to need a lot more blocks than what I had and could get for free. I wanted them for free of course because I am the world's biggest cheapo. But we cant always get what we want for free. A week passed by and I was going about my normal week routine. Just going to my job and then the gym. One day I had to make a trip out to Lowes for some stuff and remembered that I needed to look at blocks. Now remember that I am in the mountains and it takes forever to get anywhere. The closest Lowes is about 30min drive away. When I get there I walk the isles aimlessly for what seems like an eternity. Where are the blocks in Lowes I ask myself? There they are in the glass doors section. Or was it the kitchen sink display department? I waltz over to the stack of all neat, tidy, and new blocks and see a white tag above the pallet. WHAT! \$1.42 for a single new block! That sent me into a small seizure then I stroked out. Lets see I already had 70 blocks and I needed 335 total. That leaves me needing 265 blocks. Ok lets look at what that is going to

cost me: $265 \text{ blocks} * \$1.42 = \$376 + \text{tax}$ so $\$376 * \$0.08 = \$30.80$ so total: \$406.08. Let me tell you what I thought about this new Lowes blocks idea... umm no.

Well my facebook friends with the free blocks told me about a man that worked at the local Ford dealership. His name was Mike. No joke that was his name in real life. It seems that every car dealership is going to have a mike working at any given day. My friends said that he was the man to talk to if I wanted Lots and Lots of concrete blocks that were not going to cost as much as new blocks. So they said that I should call the Ford place and ask for Mike. Well that's just what I did. It was late on a Saturday and I did not think that they were even open but low and behold an older man answers. I asked for Mike and there was silence on the line. Hmm was it something I said? Then the man asks me if I knew where Mike worked. I reached back into the storage shelves of my memory to find the answer to this question. O right my facebook friends told me that he worked in the maintenance department. So that's what I told old man phone answerer. "oh" the man says. He does not work on Saturdays. You will have to call back on Monday. Alright if I must then I must. I wait until Monday and I call back again. This time it is a younger lady that answers the phone. I once again say that I am looking for mike. She had about the same reaction as old man phone answerer. She seemed a little lost. That's when I saved the day and told her that he worked in maintenance. Her tone changed and seemed to be relieved that I had saved the day from certain inescapable awkwardness. She says "Oh Mike from maintenance". . .Gosh people just give the phone to mike.

"This is Mike" says Mike on the other line. Mike was also an older man but he was nice on the phone and I could tell that he had a kind and loving heart. (ok I could not really tell that but it makes for a good story.) I introduce myself and tell Mike that I am friends with my facebook friends. He kind of knows them but I could tell not really. But he was happy to hear that I wanted blocks. He was indeed the man with the blocks. Over 9000! He was selling the blocks at \$0.50 each. That was more like it. Getting three blocks for the price of one was my kind of deal. Lets look into the money math again now that we are saving lots of dollars. $265 \text{ blocks} * \$0.50 = \132.50 and no tax. Well you don't have to tell me what a good deal is. \$406 vs \$132 Oh yes this was looking good!

Mike and I talk about what time would work for us to meet so that I could get the blocks and it would seem that he and I have conflicting schedules. That is bound to happen to a guy that works the weekends every week. You find that normal people have the weekends off and it can mess up gathering times. Mike did not seem to be bothered about not finding a time that we can meet. He was a block salesman and was not about to lose this sale. "There is a man that can meet you at the blocks and help you load them" says mike. "His name is Pee Wee." Hmmm that is an interesting name. (I found out that his name was not really Pee Wee but that everyone and his brother called him that so I did not want to be left out of the "everyone" category) Mike gives me the phone number to reach Pee Wee and tells me that he and Pee Wee are neighbors and he is always ready to help with blocks.

I wait until the next day to give Mr. Pee Wee a call. The phone rings and I hear an older man answer. "mmm yHello". The voice that answered had a very mountain accent. I ask

if this was Pee Wee all the while feeling a little embarrassed to be asking an older man if his name was Pee Wee. He said that it was. After a little conversation about the weather and politics and how well his red truck was sounding after he had replaced the transmission we get down to business. I said that I had been on the phone with Mike in maintenance from the Ford dealership. He knew who I was talking about and that made me feel better about calling this stranger. I said that I was looking to get some blocks from him and I wanted to know if there was a day and time that worked best for him. He told me that he was an old man and that he did not go many places so anytime that I wanted to meet would be good with him. Well in that case I had time and I told him that I would be over that evening at four.

At four sharp I make my way up the road to the place that I was to meet Pee Wee. Let's see, Mike told me that I would pass a metal barn with a blue roof. There it is. I turn at the metal barn and go to the end of the road. Hmmm this does not look like the place to get blocks. O well just keep driving. Is that banjo music I hear!? . . . I turn around and get out of there. Aint nobody got time for that. So the metal barn with the blue roof was the wrong one. I kept driving down the original road before I turned off and . . . O there we go the road split and I head up the top road and see the real metal barn with the blue roof. I pull off to the left between two large trucks. There he is it's Pee Wee.

He was a normal sized older man, grey hair and wrinkled skin. His glasses had a lens missing and the frame was broken. I guess he did not need that lens but it sure made him look like a "Pee Wee". Ok so I pull in between these two large trucks and then backed up to the blocks. Wow now that's a lot of blocks. I had not expected to see that many blocks. Pee Wee had taken about 20 blocks from the large stacks and set them close to the place that I could park. I step out of the car and say hi to Mr. Pee Wee. Now he was a talker even more than my mother and she could talk to a brick wall.

Mr. Pee Wee was a little disappointed to see that I had driven a small car to get his blocks but I assured him that I would be bringing a truck next time. We talked about his grandchildren, the weather and how much rain we had gotten that month, we talked about the president, and we talked about how to build a retaining wall that will drain water properly. Finally after what seemed like a year I was able to get the 20 blocks in the car. I gave Pee Wee his money and started sneaking slowly back to the drivers seat. I could tell from this little experience that every time I pick up blocks from Mr. Pee Wee I would be spending a lot of time trying to escape his talkative grasp. Well from the drivers seat of my car I tell Pee Wee that I would be back to get lots more blocks but first I would have to find a truck.

As I had done several times before I take the blocks in the back of my little car to Tara and I drop them off in the other world path neatly stacked four high. Yes the blocks from Pee Wee were just as heavy as the ones from my Facebook friends. It would seem that no matter where you get your blocks 40 pounds will still be 40 pounds. Ok this would be my last trip hauling blocks in the back of my little car because I was so tired of the bugs that haunted me for a week afterwards.

Part 5: Truck time

I still needed lots and lots of blocks and I was done hauling them in the car. So I needed to find some way to get a truck. I called up my long time friend Ethan and asked him if he was using his little truck. This truck he purchased for \$1000 and it was beat up. I mean it looked like it had seen a lot of action in the war or someone had driven it off a cliff. Non the less I needed a truck and did not care what it looked like. Well my friend answers his phone and I ask him if I can use the truck. He was fine with that but his last question to me was: “you can drive a stick right?” well darn. I can drive one but it requires a lot of stalling and messing up gears and then mechanic bills. . . I might have to take it over to Mike in maintenance. I thanked my friend for letting me use his truck but I was unable to take it because I did not really know how to drive it.

Next plan. Lets see. Oh right my neighbor across the street has a large truck. I should stop right now to tell you about my neighbor. He has everything. He used to be a contractor for a company in Florida that built ocean front condos. Now, his large supply of everything did not just come from building stuff. He is the luckiest man on the planet for finding good deals and being in the right place at the right time. Do you need a snow blower? What color would you like that it in? Battery operated saw? Yes he has that too. One time on a job the crew that was painting just got up and left the state leaving all the equipment behind and they never came back. After lots of phone calls they just told my neighbor that they were not coming back and he could keep all the 40 foot ladders and scaffolding and all that amazing stuff that painters have. So anyway he has what I need all the time. And what makes him awesome is that he is up for loaning anything at any time.

Its this neighbor that I go to ask for his truck. I walk over to his house and wade through his 5 beagles that bark all night and day. And I knock on the door. He answers and I ask him for his truck. As long as I put some gas in it he is cool with my taking it for some blocks. We have to go unhook a trailer from the truck so that I can take it. Now I have driven trucks in my day a few times but I had forgotten just how bad those extra large work trucks are on gas! When I left the house I had approximately 6 gallons in the tank. The drive to get the blocks was around 22 miles. That means that I had to use 1.5 gallons of gas to get to the blocks. So I take the trip out to get the blocks and realize that I am going to have to put some gas in this beast to even get back to tara.

As I am on my way I give Pee Wee a call and tell him when I am going to be there. We talk about how to eat seafood, the weather that week, and the clay dirt that is behind his grandfathers house. I of course did not care about any of this I just wanted to get some blocks. I arrive at the block pile behind the barn with the blue roof and back this monster truck to the pile of blocks. Pee Wee comes racing up on his six wheeler and parks close to the blocks. He has his granddaughter with him this time. We started loading blocks into the back of the truck. Pee Wee would bring them from the pile to the base of the truck and I would take them and stack them neatly in the bed. As we worked he went on and on about his family and how they were bringing up his grandchildren. He was not happy with what they got away with. I went into “Guy Mode” and just nodded my head

and said “oh yes I see” and “yes children need a spanking every now and then”. We made it to 60 blocks and I said that would be good for this trip. Mostly because that was all the money that I had brought with me even though the truck could hold a few more blocks. Just as before I thanked Pee Wee and started heading back to the front seat.

That was a lot of blocks but much better than only carrying 20 at a time. I made the way back toward Tara and stopped to fill the truck up with gas. \$15 that should do it. Wow I soon found out that when you are hauling an extra $40 \times 60 = 2,400$ pounds on the back of a truck your gas millage goes down just a tad. \$15 was not even close to what I needed to haul those blocks. I had to put more in before I returned the truck. I make it back to tara and put the blocks in the new magical world entrance.

Over the next couple weeks I make several more trips to see Pee Wee and get more blocks. The bad thing is that he hurt his shoulder and back making some sort of knife in his workshop. This left me loading all the blocks on my own from then on out. Now do you remember that I once said that blocks were heavy? Well after you start moving 60 at a time you find that they are ... still as heavy as when you first started. But you do get used to them after a bit. I had made all but one last trip to get the blocks. Each time that I went I would pick up 60 blocks at a time until the last time that I went. I decided that I would get 80 blocks into the back of the truck. Do you know how heavy 80 blocks is? Well $80 \times 40 = 3,200$ pounds. Lets just say that the truck was a tad low to the ground. And the gas millage was very very bad. So there I was pulling up to the pile of blocks and I got a phone call. Pee Wee was on the other end of the call. He said that he had to go to the hospital for his lung asbestos checkup. Apparently he had spent a couple days in a building removing insulation that he did not know would be killing him. So I was left to my own to load the blocks. I began to load them when the heavens opened and let out one of those rains that wash out bridges and floods homes. The summer had brought over 40 inches of rain and I think at least 20 inches of that was from that one day. I loaded 80 blocks into the back of the truck in the pouring rain. By the time that I was finished it had reached 7pm. Then I had to go and get gas in the truck and make my way to tara to unload the blocks in the pouring rain. By the time that I got the last block unloaded I it was close to 9:30. But that was the last of the blocks.



Part 6: Level line that will chop your head off

Now that I had what seemed like a million blocks stacked up in a nice row it was time to start getting the dam started. I took a trip to Ace hardware and spent \$10 on a level line that should only cost \$3. I don't know why I shop at Ace because they are always more expensive on everything. I took this line and tied one end to a rock and placed it at the location of one end of the future dam. The other end of the line I took to the other end of the dam location. I used a level to place on the line and make sure that I had it level. I then tied the level line to a tree at the point that allowed it to be level. Not sure that makes sense at all but what I am trying to say is that I wanted to have a guideline to help me stay in a straight and level line.



With the line tight and level the height of the dam would be 7 foot at the top block. Now that is the top block, not the level that the water would actually be at. The Level line was nice and tight and seemed to be secure. I know that I have to have it to keep my blocks in a straight row as I build but let me tell you it sure gets in the way to have a string across the walking path. This is especially true when you make 100's of trips to work on the other end of the dam and have to slip under the tight line. If you are lazy . . . not saying that I am or anything but . . . if you are lazy and you just don't feel like ducking under the line and you decide to just walk along and let the line rub you on the shoulder or neck . . . well ok don't do that. I only tried that one time. Letting a tight cord line rub on the skin for 40 feet will start to get a little warm and slice your body in half. I had to live the rest of my life in two body sections, a head and a body.

So what is the purpose of installing a tight level line across the path of the dam you might ask? Well my "o yes that is straight" internal sensor is faulty and I need a guide to help me as I build the dam. I learned in this dam build that I am not good at looking across a distance and determining where level happens. I stand in one spot and look out at what I think is straight and find an object that is at eye level. Turns out that is a poor way to find level. Using this level and line technique actually finds level. The line stays straight so as blocks are placed they will be along the same path. Or at least that is what I was hoping would happen when I strung up that line. . . . as it turns out you also have to actually pay attention to the line when you start putting down blocks.

Part 7: Fence posts - they get short fast

Alright the tight line is installed and I know exactly where the dam location is. Its time to get started building this dam. I should stop here to say that I am a little unsure of just what to do to get started. Most of my projects in life have been small and easy to start and finish. (well I do have an issue with finishing them) This one on the other hand had no set rules on how to start. And actually I have no idea what I am doing. Hate to admit that but this time its true. I know that I need some sort of support to keep my 1 million blocks from tumbling over when they are installed but what could I use? Rebar! Yes that is what I need.

Time to make another trip to lowes. Yes that means that I will have to make the long trip there and spend 3 hours looking at all the stuff that I want and cant afford. I hop in the car and take off. When I get there I head to the last isle that has all the expensive concrete bocks and concrete related items. There they are! Rebar (or is it rebars) all lined up in little wooden boxes. Hmm it would seem as though lowes only has two sizes of rebar 1/2" and 3/8". Then they have several lengths 2 foot, 4 foot, and 10 foot. (later I find they also have 20 foot outside but aint nobody got time for that. Or the car space.) I pull out a section of 3/8" x 4' for the low price of \$2.68. This is not going to work because when I set this into the ground it will lose at least 2 feet. Alright move along to the 10 foot sections. If I set this into the ground 2 or 3 feet I will have 7 or 8 feet above ground. This seems like a little to long. I guess that I can always cut the 10 foot section into the length that I want. Gosh no that wont work. I am lazy when it comes to doing work that I don't have to do. Well that means that rebar is out as a support. I actually felt a little sad because I always wanted to work with rebar. As a child I thought that it was really fun and could make a very serious sword.

Now what can I use? Ah Ha fence posts. That was the answer. They are already the length that I need. Where are they in Lowes? I had never seen them before. I start looking. Not on the isle with the rebar and concrete. Next I move through the wood and then the kitchen cabinets and then to the hardware, and plumping, electrical. Must be in the lawn and garden isle. No not there either. Oh wait, outside! Sorry about that I was just seeing if you were paying attention. When I find the fence posts I start looking at the sizes. There was a 10 foot section but that would just get me back to the point that I was with the rebar. There was a 7 foot section. That is a good size because if I set them in the ground 2 feet I will have a 5 foot section for the dam. Then there is a 5 foot section. That would also do well for the part of the dam that was above the creek level. The price was \$4.50 for the 5 foot section and \$5.30 for the 7 foot sections.

That price was a tad bit high but I had driven a long way to be there so I needed to get something so I could go ahead and start. So I got three of each size. The next day I decided that I was going to need a fence post driver so I made a trip to my next door neighbor who has everything you could every want. I knock on his door and he answers. Soon we were both looking around his garage for the homemade fence post driver. I guess that the down side to having everything is that you have to look through everything

to find what you want. Eventually he finds it under a pile of old chain length fence. I thank him again and take the trip to Tara.

With fence posts and driver I walk to the dam location and look at the tight level line. At this point I realize that I am about to start the dam for real. It was a little daunting but I manage to work through that. How shall I start this fence post driving experience? Well no better way to start then just place a post in the ground and drive it in. So that is what I am going to do. I make sure that I am under the level line and place a 5 foot post in the ground. I grab the homemade fence post driver and I set it on the post. The driver has to weigh at least 35 pounds. I bring it up to about 6 inches from the top of the post and I slam it down to drive the post. You know what that was actually easier than I thought. The ground was so soft from all the rain that we have had in the past few months that the post drove 2 feet into the ground with only 5 slams of the driver. Now it is time for the second one.

Each concrete block is 16 inches long so the fence post supports will need to be 16 inches apart so that they will allow the hole in the block to fit the next post. I just happen to have a tape measure in the car that I can use to make sure that I have the distance right between the posts. Since I did not have a lot of posts to work with this first time I measure out 16 inches and drive the next fence post and then the next. That was all the short posts that I had purchased. This was looking good. I stepped back to admire my work. Hmmm that was a rather poor excuse of a straight line. I had only installed three posts and already messed up. If this was a sign for what was to come with this dam I might be in for a tough time. Well I grab the middle post that was so out of line and give it a pull. Alright . . . that was just a test to see how well they would come up. Ha not at all. OK I really wanted to pull that post up and start over in a better line but that was not happening. It was just going to have to stay there and I would work around it. Time to move to the next posts. These are the longer ones. Because they were so much longer I thought that they would be best placed in the creek. So that is where they went.



Installing fence posts was rather painless and I actually enjoyed it. They were well placed and stable. The ground was a little sandy and that helped to drive them quickly. I had all the posts driven and kind of wished that I had gotten more. The next day I head out to the local feed and seed store in my town to see if they had fence posts that were reasonably priced. The five foot ones were \$5 so a little more than at say, Lowes and Home Depot but I was ok with the price as long as I did not have to drive a million miles to get them. Normally I head over to ACE to see what they have things priced at just so I can be mad at them for being so over priced. But this time I just got them and did not ask any

questions. I just assumed that the price for a single post would be around \$15 at Ace. At the feed and seed store they had a bundle of five posts so I got two of these. That's \$50. Could have saved \$10 if I had gotten them at Lowes or Home Depot but it's a long drive that would have cost at least that in gas. . . And every time I go to Lowes I end up getting things that I don't need.

Alright back to Tara. I haul the ten fence posts out of the back of the car and take them to the dam location. O rats I left the tape measure at the house. That's alright I have several posts set in the ground that are the right distance so I can just use a stick to measure. Snap! This one will do. I start placing the posts in the ground with my neighbor's driver. After a couple posts I step back to look at the work that I had been doing and I realize that I had measured the posts from the top of the previous and the base was off by a good 4 inches. Well darn. I tugged and pulled on them until they were standing as upright as I could get them. I was driving post after post with no problems getting about two feet in the ground when all of a sudden and with no warning I slammed down the driver and BAM nothing happened. I had hit my first rock. Now I am not sure if you have ever tried to dig in these here mountains but let me tell you there are lots and lots of rocks. You cant dig down more than six inches without hitting a rock. So I was actually amazed that I had not struck a rock before this. After trying several spots close to the desired place I just gave up and figured that I just did not need this post.

After I had gotten all of those posts in the ground I figured I had better stop there in that direction because some of the post were getting a little out of order. Especially when I started using sticks to measure the 16 inches. Seems as though the sticks turned out to be more like 18 inches as I went through them. When I measured the first stick at 16" it worked well but then I set it down and it was lost forever and the next sticks became longer and longer. The next step was to get more posts that were much taller so that I could place them into the creek. I found these posts at lowes. They were 8 foot tall. Perfect height but they were not the solid metal that the others had been. These were a thin metal that was in a "U" shape. O well these would have to do because there weren't any others that were this tall. Now the creek bed was nothing but rock! It took me some working to get these posts into the creek but after a few minuets of pounding away at the driver I was able to get all the tall posts into the creek. At this point I had started to think that driving posts was a little less fun than when I started. Time to move to something else and come back to fence post supports later.



Part 8: That first bag of concrete

It was time to get to the part that I was actually dreading. This was mixing and putting down concrete. Of all the things that I have done in my life I had never mixed and put out concrete. Youtube here I come. I looked up how to mix concrete and how to put it out and I looked up all the different types of concrete. There are so many types out there. You can get basic concrete with nothing added and you can get gravel added and then there's masonry create that is very fine and can hold blocks well. So basically I needed all the help that I could get. After several videos I came to the conclusion that what I needed was ready mix sack create with gravel added. These bags came in several sizes from 40 to 80 pounds. Well it was time to go and get some of these bags and try this out.

I made a trip out to lowes and went straight to the concrete isle. Well first I found one of the blue carts that have four wheels that all swivel separately with a mind of their own. You know the ones I am talking about. When you are going down the glass door isle the cart jumps from your hands and smashes everything in site. Ok the concrete isle. There was the concrete all stacked in neat rows. I went to the yellow bags and picked up one and set it on the cart then I went to the hospital for hernia surgery. O goodness that was a heavy bag. Who knew that 80 pounds was really that heavy? I decided to get three bags of concrete because I did not think that my car needed to haul much more than that up the mountain to Tara. While I was on the isle with the concrete I found a trowel for laying the concrete when I had it mixed. I went for the cheapest one that I could find because I did not even know if I would need it.

Now during my research on how to pour concrete I found that forms needed to be made to support the concrete when it was poured out. Most of the forms that I saw being used were out of wood and that is what I thought that I would use. After getting the concrete I head on over to the wood section of lowes. You know there sure are a lot of cuts and types of board in lowes. I spent a good 10min looking at all the boards and at the price. Pine was the cheapest at \$7 for a 6' section. I guess that I could afford that. I would need to get at least two boards to make the forms that I would need. Because if a concrete block is 16" long then three of them would be 48" and that is 4'. So I can use the four feet on the boards and then cut the extra off for the end caps. This was going through my mind when all of a sudden I look down on the bottom shelf and see compressed board. It was designed for making shelves so it was already in 4' sections. The best part was that they were only \$3 a piece. I would need three of them though to make the end caps. But I am all about saving money.

Now still at lowes I start thinking about how I am going to get the water diverted when it is time to dam across the moving water. Large PVC pipe is what I come up with. I will sink 4" PVC into concrete and then somehow divert the water long enough to compete the dam across the moving water. That means that it is time to take a trip over to the plumbing section of lowes. This is my favorite section but also the one that gets me into the most trouble because I spend way to much time and money. There it is. The 4" PVC. Now I can spend \$10 on a cute precut section of 4' or I can spend \$15 on a full sized 10' section that I can use for all the pipe in the dam. That's a no brainer. I place my new 10'

section on the cart. Now I will need some end caps. Threaded flush plugs, is what they are actually called. I wanted the threaded ones so that I can pull them off if I ever need to drain the water from the dam. There they are for \$2.11. I get three of them for each section that I planned to install into the creek. I also needed the smooth non threaded side to glue to the pipe. Found those and loaded them onto the cart.

That's all that I need! I head to the checkout and get my new items. When I walk to the door I find that there is a monster rain happening! Imagine that in the summer of 2013 when we already had 40" over normal. I hear that concrete is not really meant to get wet unless you want it to set up in the bag. So I leave my stuff setting out in the open for all to look at and think about stealing and I go get the car. First I place the concrete into the trunk and then the pvc connectors. Then I find a nice place to hold the compressed board. Not a problem. Now my little car is a hatch back and the window opens on the back allowing lots of room for long cargo. I stick the 4" x 10' pipe into the window and tape it with duct tape so that it would not go anywhere. Then I pull the window down and rope it to the hook on the trunk floor so that it will stay mostly down. Well that's all the stuff in the car now I just have to worry about the monster rain that will likely be filling the back of the car by the time that I make it up the mountain.

I make my way back to the mountains from lowes with my concrete and my wood for forms and the pipe. Everything was slightly wet from a mist that drifted into the back from the wet tires. I just hope that little bit of moisture was not enough to make the concrete start setting up. I just don't have any experience with concrete.

Now that I am back home I unload the pipe that had been duct taped into the car. The tape had held well. I use a hacksaw to cut the 10' pipe into two sections of 3' and one section of 4'. That way I did not waste any of the pipe. I set these sections aside and started looking for the pipe glue that I just knew that I had. After looking for what seemed like forever I found the bottles of primer and pvc cement. I used a shop rag to clean off the particles of pipe off the end that had been made by the hacksaw. Then I used the purple primer to coat one end of each pipe fully and the inside of the threaded connectors along with fully coating the side of my hand. Next I used the pipe cement to glue a threaded connector onto the end of each pipe. That was done! No big deal. Like I said I spend lots of time in the lowes plumbing section so I know all about pipe connecting.

In the garage I find a few screws and a power drill then I take the wood from the car. Two screws on each side should do it to hold a form together. I take a saw and cut one of the three 4' board in half and then cut that in half leaving me with two sections of 1'. These I use for the ends of the form and I use the 4' sections as the sidepieces. I place the screws on the ends and I snug them firmly into place. The form seems to be rather sturdy and everyone knows that compressed wood is heavy. That takes care of the large form. I figure that I can make 4' sections with the form by using 3 blocks at a time then I can make another form for the parts of the dam that don't need a concrete block. So with this in mind I start looking around and find a few small pieces of 1 x 4 lying around. I grab these up and screw them together also. Nice.... Well kind of. The small form was only

half of a box but that's all the wood I could find. Time to take what I have and head out for some real work.

Back on Tara, I back the car to the path and put on my gloves in preparation for the 30-yard walk to the dam location with my new bags of concrete. Take a deep breath. That was easy. HA I think that I actually died of a heart attack twice during that hike. Adding an extra 80 pounds to the body is crazy. I now have a better understanding of people who are carrying an extra couple pounds. I would like to take this moment to say: start eating right and exercise. This was the first of many many bags of concrete that I would be taking on this journey.

I walk back to the car and take the forms that I just made and set them in the location under the level line. The large form I would have to mix and pour concrete then place the three blocks then pour more concrete around the sides to lock everything in place. I had better start with a smaller pour for my very first attempt at pouring concrete. I place the small form close to the water and level it out as best I can. I put the 4" pipe into a notch that I had made in the small form. I figured that the concrete would mold to that pipe and make a good waterproof connection.

It was time to mix the very first bag. Hmm I had not thought this out as much as I should have. How should I mix this stuff? Luckily I have a mattock in the back of my car. That takes care of that problem now what should I mix this in? Also in the back of my car I have a five gallon bucket. Let me just stop here to say that I have lots of stuff in the back of my car. And not just in the very back but in the back seats and even spilling over into the passengers seat. Things like water bottles and food wrappers are the norm but then there are all the tools! Screwdrivers, socket set, and a few hammers. Then I have several plumbing parts and just a large selection of random stuff. I mean you never know what you will need when you are out in the woods. Yes a 5 gallon bucket was in the back of the car. I also took a liter bottle with me so that I could mix the concrete with the proper amount of water.

I pick up my hernia with the water bottle and bucket and take them to the place I dropped the concrete. Lets see now. I looked on the back of the concrete bag and found the instructions for mixing. Add 3.5 liters of water to a machine mixer or other mixing object. I bet that means a wheel burrow to bad I don't have one of those. I take the water bottle down to the creek and scoop up a full liter of water. It's a good thing that I am building this dam over a creek so that I have all this water right at my disposal. I dump the water into the 5 gallon bucket and go to get more water. Two, three, and a half, that's all the water that I need to mix this bag of concrete. Next I turn to the concrete and rip off the top of the bag. A gray puff of smoke comes billowing out and fills the air along with my eyes and lungs. (not really) (be sure to wear safety gear when you mix concrete) I pick up the bag and start to pour it into the bucket. This was not working as I had hoped.

Well I put about half of the bag in and decided that I would give mixing a try. I reach for the mattock and stick it into the bucket or at least try to. The mattock was much too wide to fit into the bucket. That stinks now I am going to have a bucket that is full of hard

concrete if I don't mix and pour that fast. What to use? Oh look there is a rebar stick. I grab the rebar and place it into the bucket and start to stir the concrete. This was not going to be pretty. Mixing concrete in a 5 gallon bucket with a stick of rebar is on the top 5 list of things that I won't do again. After some time I am able to get all 80 pounds of concrete in the bucket and half mixed. Alright that's all the time that I want to take on mixing this concrete. I take the bucket to the little form that I had made and pour out the concrete. PLOP. Not what I was expecting. The concrete on the top of the bucket had mixed well with the water and seemed very smooth and easy to pour but the concrete on the bottom of the bucket was still dry powder. I did my best to get the concrete mixed on in the form but it was not as effective as if I had it in a bucket.

It did not take long to realize that this was not going to work. What I needed was a wheel burrow. It was a few days later that I found the answer to my problem. I once again found myself at Lowes looking through all the awesome stuff that I don't have the money for when I found a black plastic tub that was made just for mixing concrete. The price was only \$ 5 so I figured that it beat the price of a wheel burrow. While I am here I might as well get some more fence posts.

Part 9: It must need more water

With my new mixing tub I was ready to get this dam built for sure. I haul another bag of concrete to the dam location and set it down on the ground. Once again I fill the water bottle and place the 3.5 liters into the tub. I rip the top of the concrete bag and start pouring the fluffy gray dust into the tub. This is so much better than using a 5 gallon bucket. If you are faced with the circumstance of either mixing concrete in a bucket or not mixing at all, then just go home and watch TV, because mixing in a bucket is just not worth it. Ok the contents of the bag was now in the tub. I grab the mattock and start mixing by moving the concrete back and forth from the top of the tub to the bottom. Let me tell you what I found out. The back of the concrete bag is wrong because there is no way that this little bit of water is going to mix all this concrete. I keep mixing and mixing until my hands are blistered and bleeding. That's it I am adding more water. I walk back to the creek and scoop up another liter of water.

That's better. Much better. I start mixing again and then realize that I have put way too much water in the tub. When you are mixing concrete you can adjust the amount of water that is added but you better be careful because if you add too much it gets soupy very fast. That's exactly what happened to me. This was a mess. But it sure was better than the bucket. I reach for the trowel and start scooping up concrete and placing it into the form that I had built.

Let me stop here to give you a little story. As I am writing this book I hear my girlfriend sigh a heavy sigh of disgust because she is doing her biology homework. She says "let me write your book and you can do my homework" I look at her and say "ok, what did you do when you poured the third bag of concrete"? And this is what my 90 pound girlfriend said:

I picked up the bag and slung it across my shoulder and headed to the dam place. Ok actually I pushed it across the ground until I finally got there and that took hours. Then I picked up the bag and poured it into the concrete mixing box. I walked over to the river, ocean, creek whatever it is and I scooped up water with my hands and poured it into the box. That took 40 trips. That was still not enough water so I had to spit in the box. It took 30 spits to get just enough to mix the concrete. Then I take my spatula and get some concrete on there and splat it on the ground. Then I get a 40 pound block and throw it on the ground then I get another one and throw it on the ground. Wahla it's done! Damn that's a beautiful dam.

And that's how my girlfriend made the dam. I am just sad that I cant show you all the animated hand waving and over exaggerated verbage. I love her for sure but her methods for making a dam just take to long and sadly she had to do her own bio homework.

Ok back to the pour of concrete. I had the small form set up by the water and a block close by that I would set into the concrete once it had been poured. I start plopping the concrete onto the ground and when it was about 2" deep I set the block into the middle of the mound. Alright that was easy. Next I pour the rest of the concrete into the form around the block. Success! This was my first real bag of concrete ever. Sure it was very soupy and ran out of the bottom of the form but it did dry just fine in the end. Now that I am a pro at mixing and pouring concrete I think that it is time to move on to the larger form. I grab another bag from the car and pour the water into the mixing tub. This time I just add 3.7 liters and that seems to be the perfect ratio. After looking on the bag again I see that you can add more or less water depending on the amount of fluidity. I start mixing and then place this concrete into the form on the ground. Then I haul three blocks to the form and set them in the concrete. The fence posts that I had driven into the ground were not exactly 16" as I had hoped so placing the blocks in the correct place was not as easy as I had envisioned. Now it was time for another bag of concrete. Looks like each of these large forms will need two bags of concrete. This was the routine that I used for the rest of the base forms. It did not take very long to have 12 blocks down on the ground for the base of the dam.



When I set two blocks down I had to go back and pour concrete between them to fill the gaps and to secure the blocks together. Because I had only purchased one set of wood for the form I could only set up three blocks at a time. This was alright though because in this early stage of my concrete knowledge I did not need to do more than 2 bags. I

continue to place the form out and get the base of the dam started. It took me several weeks to get to this point because I only work on Tara Monday, Tuesday, and Thursday.



Part 10: laying pipe

After working on the forms for some time and making 5 of them I figured that I was now good enough with concrete that I could attempt to work with the concrete in the smaller forms next to the water again. I had left the smaller wooden form close to the waters edge so that I could find it later when I needed it. I set it up in the dirt besides the creek and made sure that it was secured in place. I then took yet another bag of concrete and put it besides the form. The mixing spot close to the water was not as nice as the one before because it slopped down to the water. This meant that I would have to hold the black mixing tub with my leg while I mixed the concrete. To help keep the tub from falling into the water I also placed a few small rocks under it and that worked well. Now with my professional concrete mixing skills I get another bag ready. The small form that I have in the dirt has a hole in it on two sides that I made so that it would support the 4" PVC pipe to carry water from one side of the creek to the other. I get my pipe and place it into the hole in the form. Then I start plopping concrete into the form. It takes two bags to fill the thing up. Once I get the concrete all around the pipe and to the top of the form I stop and realize that concrete has spilled out of the side of the form. It was not bad and actually seemed to make a better seal with the ground so I left it that way. That was easier than I thought it would be. I let that set up for a day and the next time I installed another pipe and one section without a pipe. Things were moving along nicely until... I reached the creek.



Part 11: Playing in the water

Have you ever tried to stop a creek that is flowing at 100 gallons per minute? That's a lot of water! 100gpm, that's 6,000 gallons per hour and 144,000 gallons a day. Yes a lot of water indeed. How does one start a project like this? Well I thought that I would try and cut the water off from half the creek at a time and install the pipes that I needed then divert the water later into the pipes to finish the job on the other side. Good plan. But how would I get that much water to stop flowing on half the creek? After doing a little brainstorming I came up with an idea. I went to the car and found that I had an old shower curtain that I had used to paint on. I also found a large black garbage bag. Plastic was my friend in this case. I took the bag and curtain to the creek and then I got two concrete blocks and brought them to the water. I set the blocks into the water in a way that they were parallel to the concrete form I had made the time before. Then I set the curtain on the blocks and stuffed the end of it into the water. All around the curtain I placed rocks so that it was submerged and water started to be diverted from the normal path. Once rocks were all the way around the curtain and blocks I used the black garbage bag to set into the water a little up the creek and placed the end on the curtain to stop even more water from reaching the place that I was going to put the new form. BAM the creek was diverted and the ground started to dry some. I let the ground finish drying for some time and then poured the new concrete with a 4" pipe. The water stayed away from the form well and the concrete set up without any issues.



That worked so well that I knew that was the plan of action for the next section. Time to make a plastic run at the local store that has everything aka walmart. The China of North America. Going on a trip to get plastic would also give me time to let the concrete dry some before I move the form and start a new one. Walmart is a lot closer to Tara then Lowes. I was able to get there in less than 15min. At Walmart I go right to the dairy section between the eggs and the axil grease to look for the large rolls of painters plastic. Yes there they are below the vitamins. (I always have a hard time finding stuff in that store.) Nice! 3.5mil black plastic just what I need. I get a 25x10 foot bag and head out of that store. Back on Tara I pull the old bag and curtain and concrete blocks from the creek and set them aside. I unroll the new thicker and stronger plastic and set it out on the ground next to the creek. I take a look at it for a little bit and then set it on top of the water. To divert the creek into the pipes that I already had set into concrete I would have to attach the plastic to the pipe somehow. Whenever someone says: "I need to attach something" what they really mean is "Where is the duct tape?" I have at least three rolls

in my car. I go to the car and get some and return to the water. I place the plastic under the pipes and start to curve it around so that it makes a very tight fit. Then I take tape and tightly secure the plastic to the pipe so that water cant get around.



Once the plastic was secured to the pipes I placed the other end into the creek so that water started to run onto it. I had to take several rocks to place on the plastic to keep it from floating up and washing out. The tape held well and the water started to flow out of the pipes.



Once the water was diverted out of the creek bed I had to do more adjustments to the number of rocks on the plastic so that the flow of the creek outside of the plastic slowed to almost nothing. With the water stopped I let the ground sit and dry for a day so that I could start setting the concrete across the last section of the creek. The next day I pulled the form from the previous section and set it up in the new location. Then I set up another section of pipe in the form. I mixed yet another bag of concrete and set it in the form. The ground was still a little wet from the small amount of the creek that was getting around the plastic. But it did not make too much of a difference in setting up. Once that concrete had set up I then pulled out the large form and set it up on top of the full creek bed. It took four bags of concrete but I filled the box. That gave me a full block height worth of concrete.



Once the concrete had finished doing, whatever concrete does as it sets up, I moved the wooden form and set it on the hill. The water seems to have stopped flowing from the creek and was now coming out of the pipes. That was just what I wanted. Now that the creek was officially dammed I needed to finish building the wall up.

I stepped back and took a look at how the dam was coming along. My skills of concrete pouring are a little poor and needed some improvement. What would I use to keep the water from coming out of the wall when it was finished? Dirt...?

Part 12: Adding to that wall

Before I work on making this dam waterproof I need to finish making the dam. Back to work pouring concrete and placing it in the form. The first section of blocks on the new dam concrete was placed rather nicely without any real issues. The next row however was not so easy. The metal fence posts that were sunk in the concrete had apparently slipped out of place when I had poured the base concrete. This meant that the angle of the poles was more and more out of line as they went up. It took a lot of muscle to pull them back to the right place and get the blocks to go down them. And really they just bent from the bottom so that weakened them some. I worked placing the blocks one on top of the other until I had a nice little wall finished. I was surprised to find that blocks are easy to place when you start getting into a groove. It was no problem to place 10 blocks in less than 30 minutes. Since this was the first real project that I have done with blocks and concrete I thought that this was a good speed. That is until I looked at my neighbor's new house and realized that he built two block foundations in less than a week. That's crazy! Anyway I got the wall to four blocks tall the full length of the wall in no time. The worst part was getting the blocks from the pile to the wall. Those things had not lost any weight and in fact I thought that the blocks had actually gained weight. They must be at least 55 pounds each now.

Now let me say that building a wall gets tough when you don't take the time to make it level and even. I thought that I would save some time by not pouring the base foundation or dig it out or cut the roots.... Just say no to skipping the foundation. It seems like the foundation is the most important thing in the whole project. If you mess up here or just don't do it then your wall is going to be bad. . . very bad. So yes I did not take the time that I needed in foundation work. By the time that I got to the second row in the wall I was having issues with gaps in the wall. The space between some blocks was over 4

inches while other spaces were less than 1/2 inch. And as the wall went up to the third and fourth row the gaps got worse. To “fix” this I started to fill the inside of the wall with rocks and concrete. Not sure just how well this was going to hold up but I decided to keep going. I mean when you don’t know what you are doing you might as well just keep up the good work.

Another thing that I am learning as I go ... the hard way. When you build a dam you should not use the ready mix concrete with gravel and sand mixed in already. The aggregate in these bags is very large and does not make a very good connection to the blocks. Sadly I used this in every one of the blocks that I have stacked so far. By this time I have stacked around 40 blocks.

Part 13: Check out them Pipes

Now that I have a significant number of blocks set I step back and take a look at the wall that I have built. Dam. That’s a nice Dam. I walk up to my dam and take a look at its structure. That has to be the finest dam construction for at least a 1 mile radius. After admiring this fine addition to modern construction I started to look at the dam in a more practical way. This would never hold water. It was too loosely built and was not strong enough to hold back any amount of water. What would I need to do to make this very strong? There was only one answer to that question. I would need to pile dirt on each side of the dam to make it wide and strong. This kind of defeats the point of laying the blocks but its what I have to do. I walk over to the creek and take a look at the wall that is holding back the water. I look at the water that is coming out of the pipes and think to myself.... To place a lot of dirt next to the wall I will need to extend the length of these pipes so that the dirt does not cover them. You know what this mean? Lowes trip! I head out to one of my favorite stores to get what I need to make the extensions. Since I have a new roof rack on my car I was able to get the pipe without having the windows down with straps or by having the back hatch open. A ten foot pipe was nothing for my roof rack.



The parts that I purchased were simple. A couple threaded drain caps and connectors and a pipe. I measured that I would need around five feet for each of the pipes that are in the water. So I measure the pipe and then start cutting with a hacksaw. Have you ever tried to make a straight cut with a hacksaw? Its physically impossible. No matter how hard you try there will always be a slope to the left. Trust me I have tested this out over and over

and it turns up the same results every time. Well I cut down the pipe into the needed length. Then I get out my PVC cement and primer and start coating the pipe with the purple goo.



After all of the parts were coated with purple primer including both of my hands and the side of my leg, I get out the cement. This stuff really does dry fast so I knew that I had to be fast. Fast is something that I never have been, as you well know by now. Have you ever looked at yourself on video and come to the painful realization that you are very slow? Slower than you should be at your young age? Anyway. So I glue the threaded end caps to the pipe and make sure that they are on there well.



Now that the pipes are all together it time to take them to the creek. I used a stick to make sure that the pipes already in the water were clear of leaves and debris then I screw the new pipes onto the old ones. Because these pipes are full of water I had to use a few large rocks to prop up the pipes.



That looks good. Should have room for the water to exit the dam when the dam is not holding the water. That will give me the extra distance to allow me to place the dirt next to the wall and still have a way to drain the dam.

Part 14: Dam Dirt

At this point in my dam journey the weather is starting to get cold and the leaves are turning colors. The time of pouring concrete has ended for the year. The bag says that the concrete can't be poured if the nights get down below the 50's. So I have to retire the old mixing pan and trowel. This leaves room for other dam things though. I can dig dirt in this weather and not get nearly as hot because it's in the mid 60's in the day. Now the problem is where can I get this dirt? I start looking around Tara and don't see any dump trucks full of fresh ready to pour dirt. What I do see is a small hill close to the dam location that I can pull dirt from. One problem is that I don't have a spade or wheelbarrow. You know what this means it's time to make another trip to Lowes. I hop in the car and make the long trip to Lowes to get my new tools. Did you know that you can spend a lot of money at Lowes? Not sure if I have mentioned that before. It's true you can spend more money than you have in a hurry. I make my way over to the shovels and spades and start looking at the selection. I can spend \$50 or \$15. Hmmm. Yes I went with the \$15. The spade has a foot pedal on it that allows for better foot surface area. Seems like this will get the job done. Not as fast as using a backhoe or bulldozer but I don't have the \$80,000 that it takes to buy one of those. Next I head out to the wheelbarrow section and start looking at those. Again you can spend a lot of money on those too. Should I go with the \$300 double tire rubber grip model or \$35 for the old timey wooden handle and single tire? That was a no brainer. So I buy and load my \$35 wheelbarrow and \$15 spade into the car and head back out the Tara. As I drive along I start thinking about growing up and childhood and how I always called a spade a shovel. The digging apparatus that has a flat blade is called a shovel and the one that has a curved blade is called a spade. It's hard to break those old habits.

With my spade and wheelbarrow I get back to the little hill of dirt that I was going to move for my support wall. As I start looking at the hill I realize that there was a good many small trees sticking out of it that would be in the way of digging. I go back to the car and get my old faithful branch clippers and make short work of all these little trees. Next I look to see how I am going to get the dirt to the block wall. There are a few fallen trees that will need to be cleared out of the way. I went to the car and pulled out the chainsaw and cleared the fallen stuff on the ground and moved it out of the way. Now I can get to the dirt and make the trip to the wall. I put away my clippers and chainsaw and get the spade and wheelbarrow. Now it's time to start digging in this amazing soil and get that wall supported. I set the wheelbarrow up in the direction toward the wall and sink my spade deep into the rich loose mountain soil. HA not. The mountain soil that I have on my land is so thickly packed with rocks that I did not make it more than two inches before I had hit a rock the size of Texas. In fact you can't dig in this soil more than 2 inches in any direction without hitting a rock. I worked for a moment to get this large rock out of the way and sink my spade into the ground again. BAM I hit another rock. Well this was not turning out to be as easy as I would like it to have been. I know what I need. I set down my spade and head back to the car. When I return I have my mattock. This is the tool that I have been using all along to stir the concrete and to dig out the places for the dam. I use the spike on the opposite side of the mattock to break up the soil so that I can find and remove the rocks. The more that I dig the more I realize that I am

going to be here doing this a lot. After what seems like a lifetime I finally get enough dirt in the wheelbarrow to make a trip to the wall. All I have to say is who got this cheap wheelbarrow? It works but it has an issue with tipping over and its not very strong. With every bump I lose some dirt and I think that by the time that I reach the wall I will have no dirt left. I get to the dam wall and turn up the wheelbarrow and dump the contents out. Its amazing how little the single dump of the wheelbarrow filled. At this rate it will take 20,000 wheelbarrows full to cover the wall. I have enough daylight left to make two more trips of dirt. Very little of the wall has been covered by this time. It was enough dirt to cover the last little bit of water that was still flowing from under the dam. I walked over the dirt several times to make sure that the dirt was well packed down. This seemed to stop the water from flowing. It was exciting to see that the water had stopped completely. My hard work was paying off at last.



Part 15: Dam to no Dam

This is the part of the story that is both sad but also exciting. After hauling three wheelbarrows full of dirt that I had to do back breaking work to dig, I started to look at the work that I had done. I was not exactly pleased with the dam in its current state. I had cut corners with my concrete laying because I got in a hurry. Also I learned that I was using the wrong type of concrete to lay blocks together. I started to look at the many many trees that were in the dam location and how nice they looked growing there. These trees must have been there for over 100 years. How could I think about killing these trees just because I wanted to install a pond? The longer I stood and looked at the situation the more I realized that I did not want to build a dam here. Now I know what you are thinking. “You started this dam to install some means of micro hydro power generating system.” Well not to worry I am still going to do that! The skills that I have started to learn in attempting to build this dam I will continue to improve. Now to make the waterfall that I need to achieve my micro hydro projects I am going to install a flume. A flume is a wooden trough that carries water. Look for the “How I built a Flume” ebook for the Flume step-by-step plans. (If you are early in looking for the ebook you might not find it just yet because I might not have written it.)

Part 16: Conclusion

This dam build attempt was fun but much too involved for me to complete. I hope that you have enjoyed reading about my dam fun! For a much more serious read head over to <http://www.landtohouse.com> and look for the Flume ebook in the “water related” section of the site. This ebook has large color photos that help guide you step-by-step through the process of building a Flume. Hope to see you there.

About the Author:



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I am an Engineer from East Tennessee State University. I have always enjoyed working with my hands. Tinkering with electronics, making fun videos, and building water pumps are just a couple things that occupy my time. I enjoy learning about alternative energy and getting back to a more simple way of life.

Thank you for reading my Land To House – “How I Built My Dam” book!

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