

Can you *Really* Escape 'The Man'?

AKA Build Off-Grid

Possible Approaches & Installations

- Well (w/ wind turbine/solar) 



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- Rainwater Capture

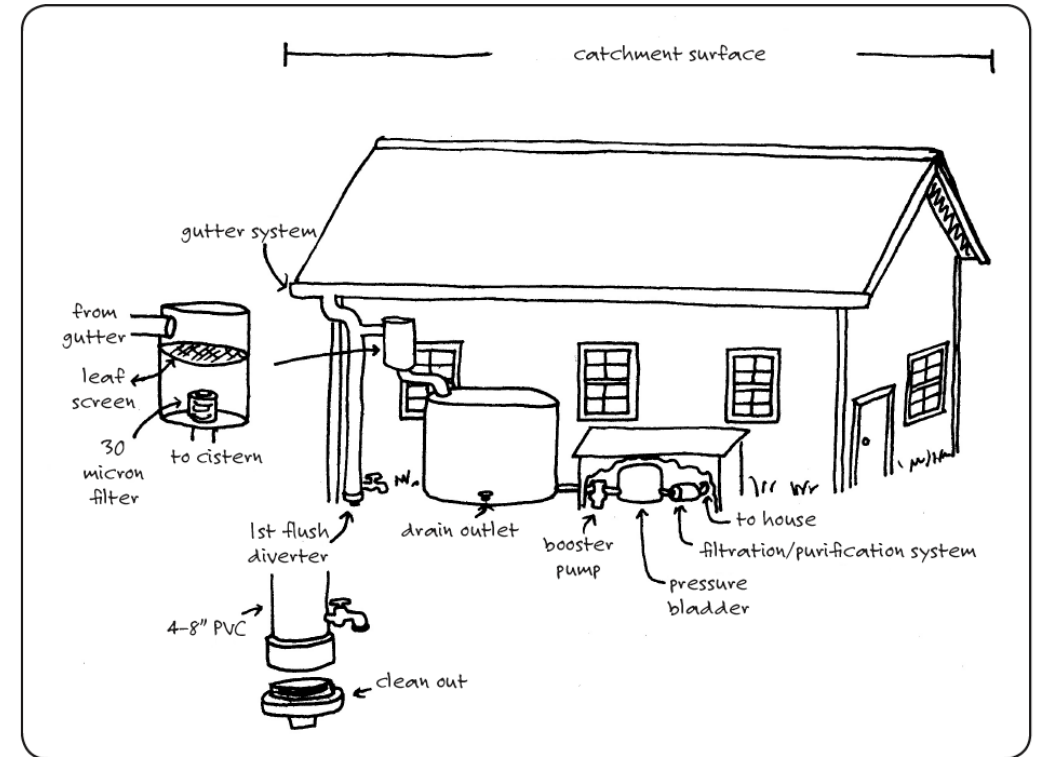
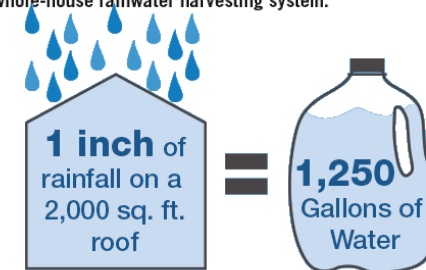
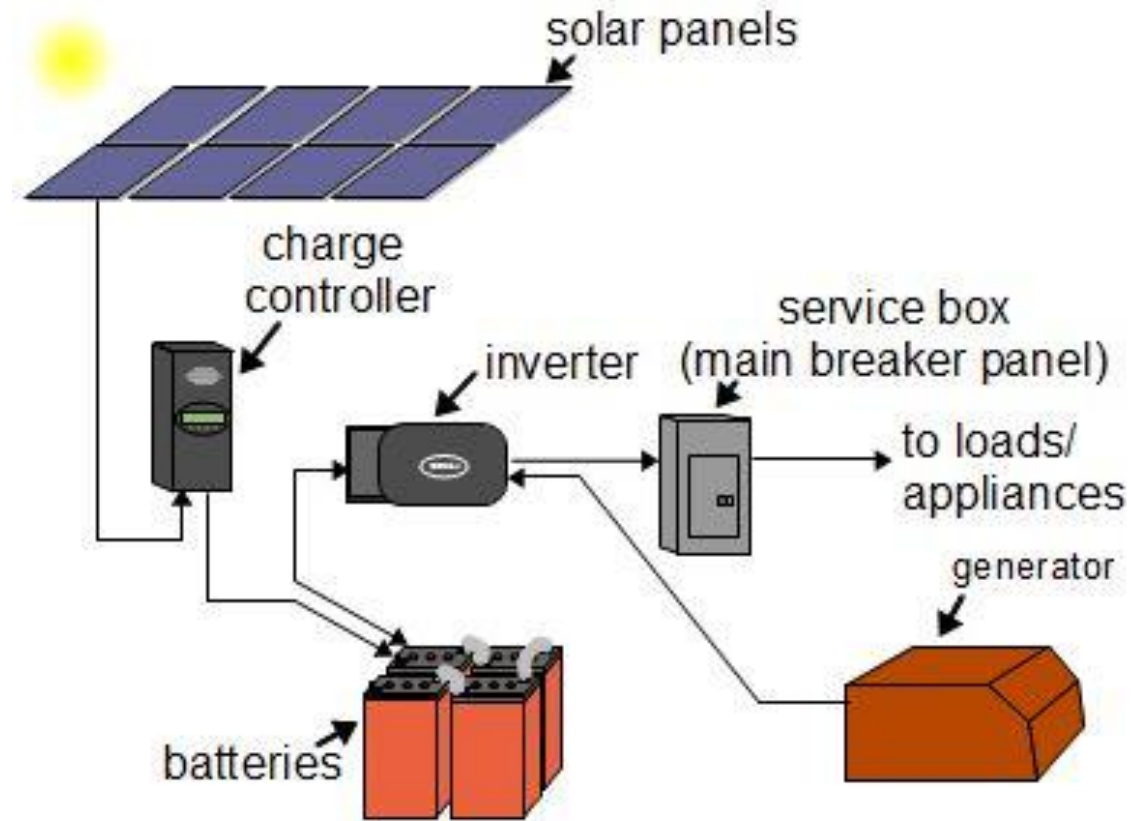


FIG. 8.2. Typical components of a whole-house rainwater harvesting system.



Possible Approaches & Installations

- Well (w/ wind turbine/solar)
- Rainwater Capture
- Solar Panels



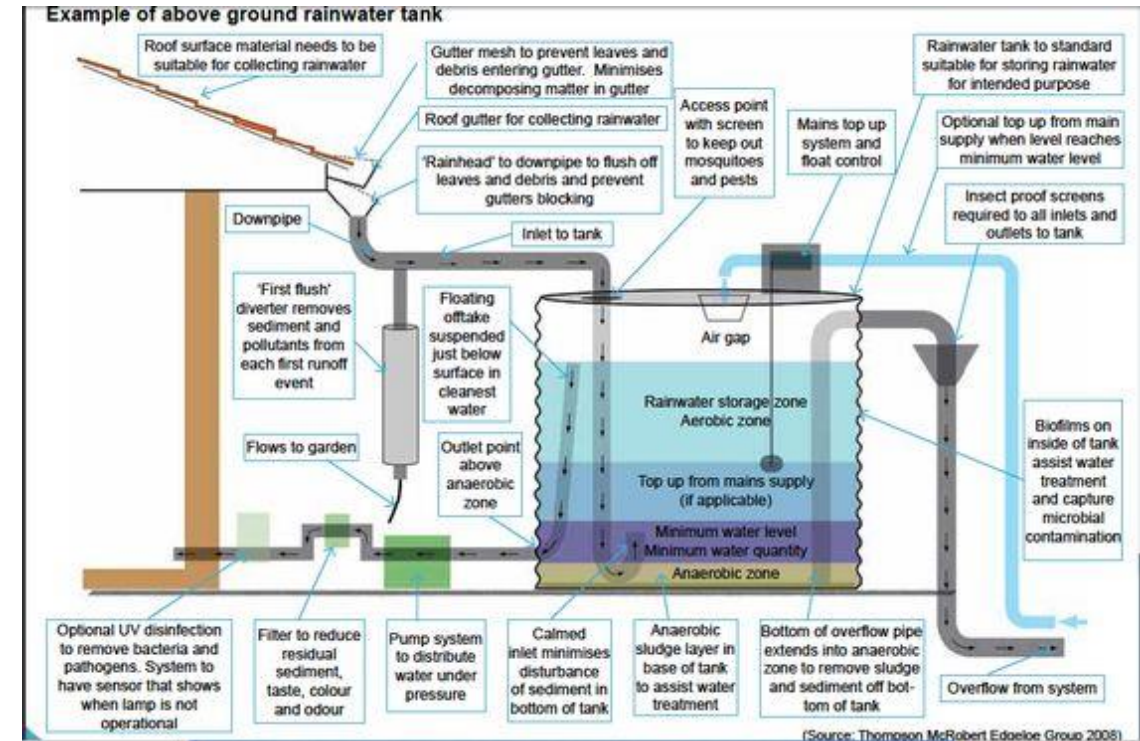
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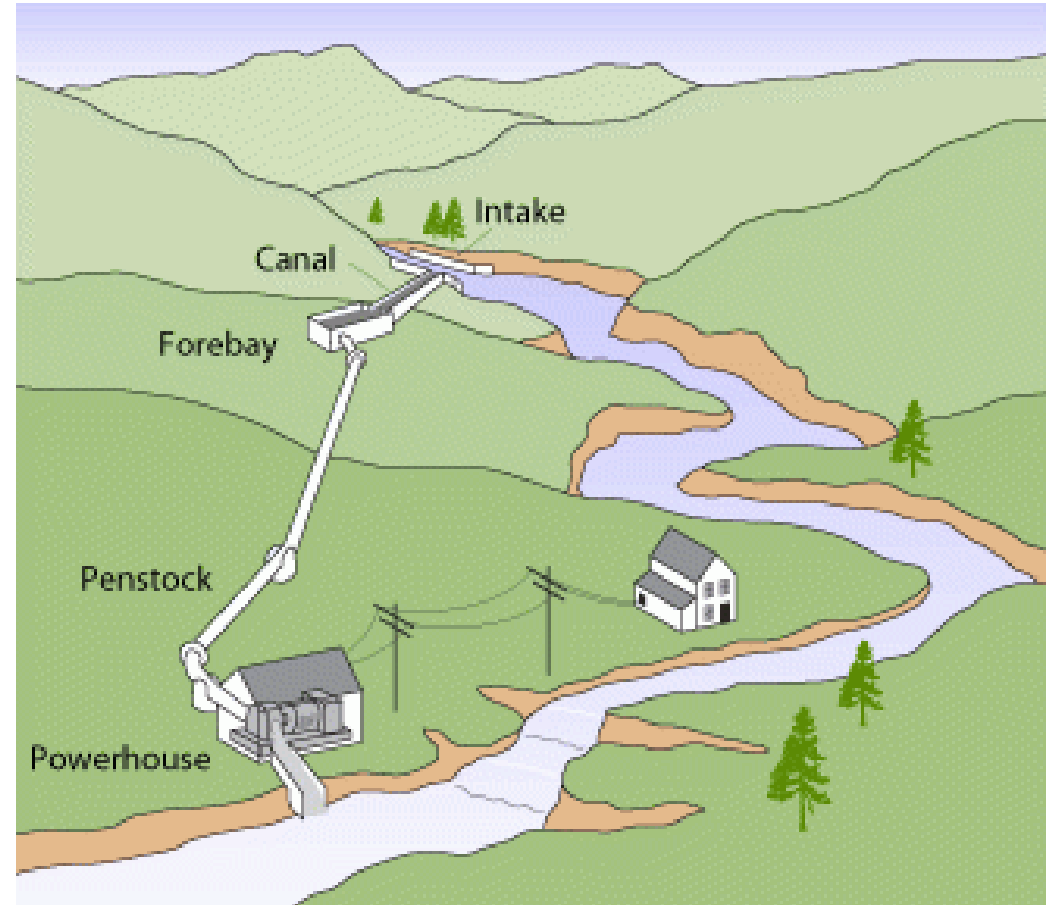
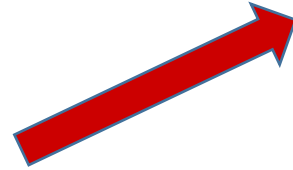
Possible Approaches & Installations

- Well (w/ wind turbine/solar)
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- Wind Turbine(s)
- Water Purification



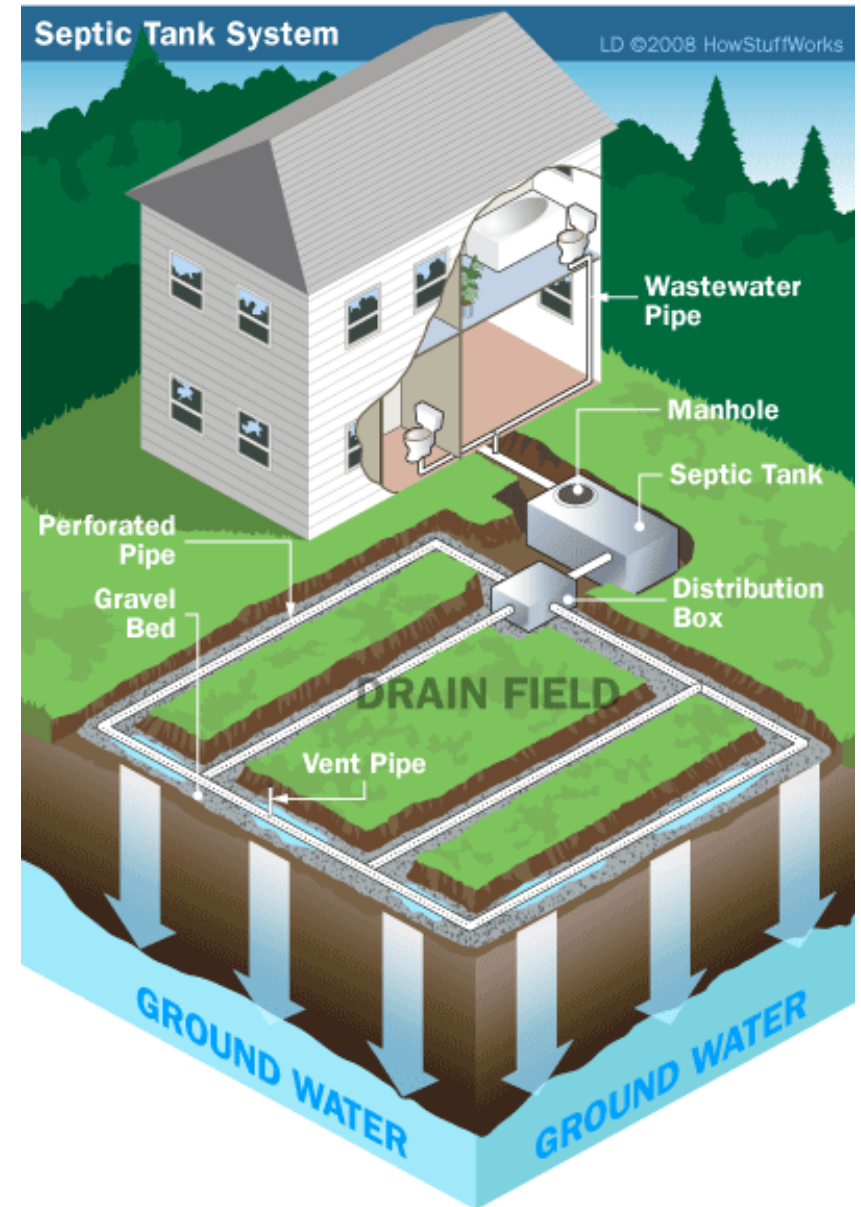
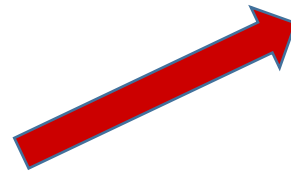
Possible Approaches & Installations

- Well (w/ wind turbine/solar)
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- Solar Panels
- Wind Turbine(s)
- Water Purification
- Hydro-Electric Generation



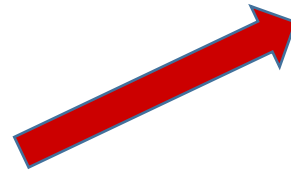
Possible Approaches & Installations

- Well (w/ wind turbine/solar)
- Rainwater Capture
- Solar Panels
- Wind Turbine(s)
- Water Purification
- Hydro-Electric Generation
- Septic System



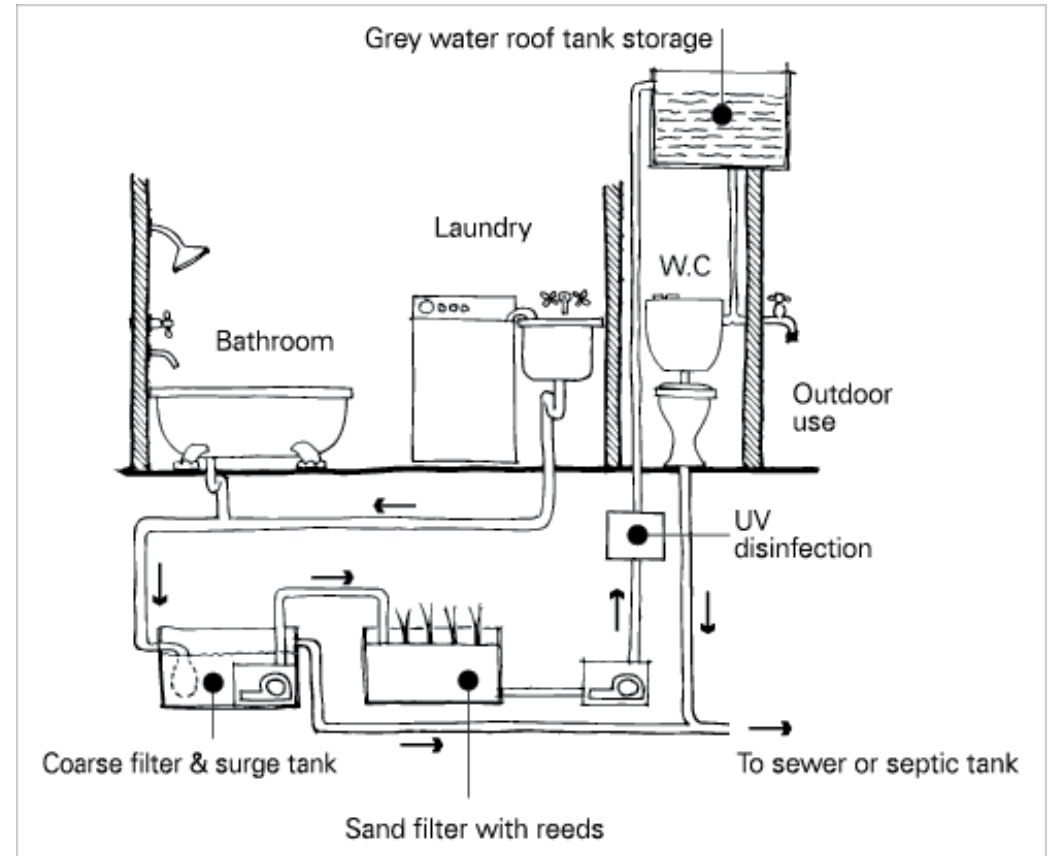
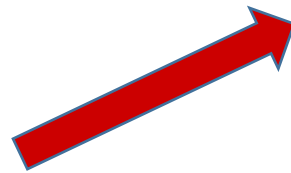
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- Fuel Storage



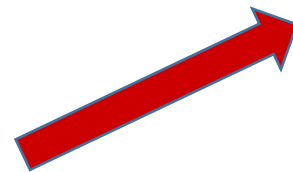
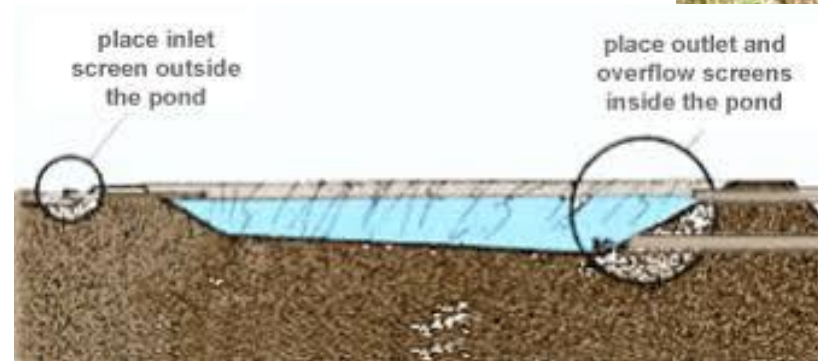
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- Septic System
- Fuel Storage
- Grey Water System
- Pond/Wetland



At a macro level, what can the bulk of these approaches & installations be categorized as?

- Plumbing
 - Well
 - Rainwater Capture
 - Water Purification
 - Septic System
 - Grey Water System
 - Fuel Storage
 - Pond/Wetland
- Electrical
 - Wind Powered Well Head
 - Solar Backup on Well Head
 - Wind Turbines
 - Solar Panels
 - Hydro-Electric
 - Battery Storage

BUT...

Which installations require a
permit to install?

The short answer... it depends.

Case Study – Vinton County, Ohio

- No res/comm building codes or permits (with exceptions)
 - Meaning, the onus is on the home/business owner and general contractor to ensure that the installer (framer, plumber, electrician, etc.) is licensed, bonded, and insured
- Eyebrows would be raised at the wind turbine well head w/ solar back-up approach
- Generalized ‘mind your own business’ approach to buildings and property use
- **Exceptions: Permits req’d for wells and septic systems**

So that leaves us with...

Hydro-Electric Generation

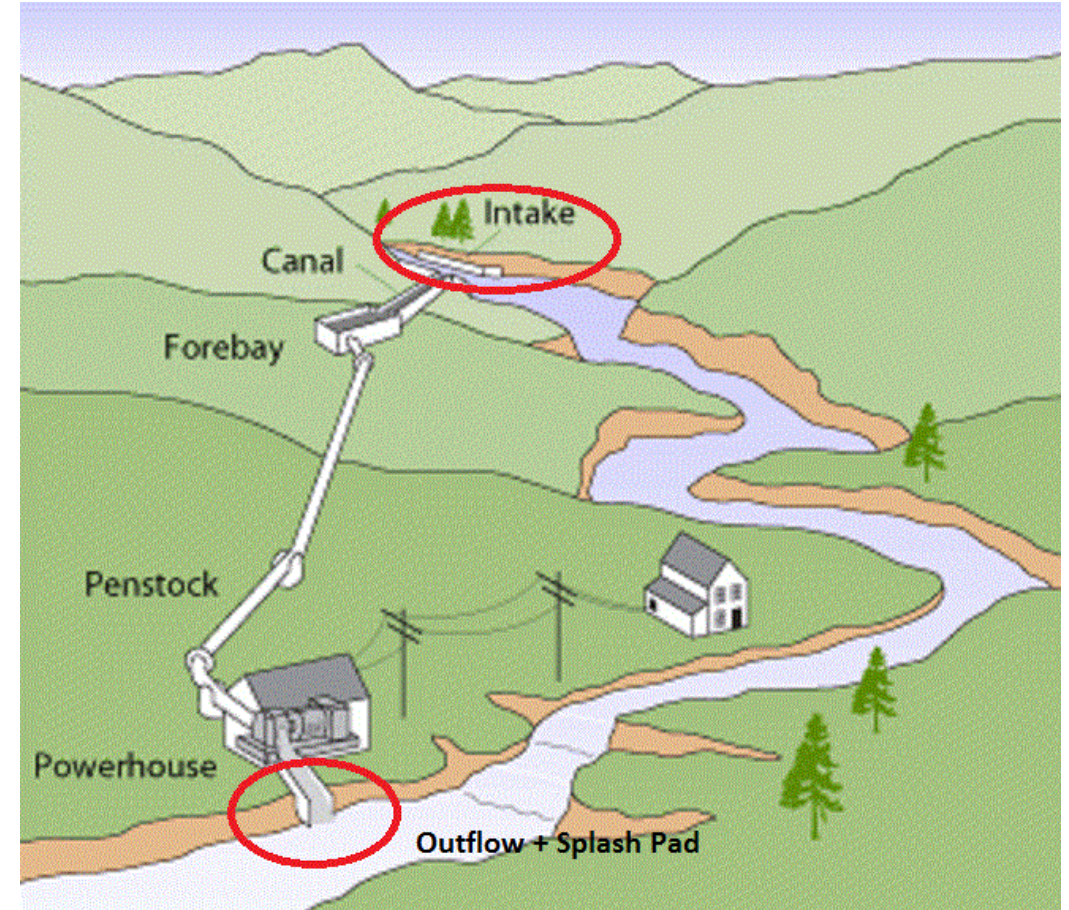
Fuel Storage

Pond/Wetland

CONGRATULATIONS!
HERE COMES 'THE MAN'!!

Hydro-Electric Generation

- U.S. Army Corps of Engineers (USACE)
- Section 404 of the Clean Water Act (CWA) would govern this installation (if required)
- Nationwide Permit 7 (NWP) + Pre-Construction Notification (if required)
- Primary concerns for this minor installation:
 - Intake
 - Outflow
 - Specifically the outflow splash pad designed to mitigate erosion as water re-enters the water body



Fuel Storage

- RCRA, Ohio Fire Code, and BUSTR would govern this installation (UST or AST)
 - RCRA - 42 U.S.C. § 6991 et seq. + 40 C.F.R. Part 280
 - Ohio Fire Code (permitting) - OAC 1301:7-7-01
 - BUSTR – O.R.C. 3737.87-3737.99 + OAC 1301:7-9-01 to -20, for ‘regulated’ substances
- HOW TO AVOID ‘THE MAN’
 - Beyond the permit and final installation inspection, all post-installation checks, paper work, reports, etc. can be avoided by installing tanks below the minimum threshold of 1,100 gallons



Pond/Wetland

The “What-If” Game...

SCENARIO

- What if I install a pond containing an earthen spillway?
- What if I install an overflow pipe?
- What if I create a wetland?
- What if I install an overflow pipe

INSPECTION

REGULATION

NO

NO

POSSIBLY

MAYBE

YES

DEPENDS

YES

MAYBE

Pond/Wetland

Why the ambiguity?

- The short answer: the Case Study is looking at scenarios for private residential rural land which leads to flexibility
- The USACE, CWA, Ohio EPA all are in play for this installation
- In ALL scenarios, the USACE and Ohio EPA want to know what you're planning BEFORE you implement
- Depending on the scenario, state/federal entities would require a PTI
- Scenarios involving the high impacts to land use, especially total acreage, could require Nationwide Permit #27
- No scenario would invoke NPDES regulations

Conclusions

- Private, rural, residential landowners have greater flexibility when it comes to EPA rules, regs, and laws than commercial urban developers
- If you know and understand the rules of the 'The Man', you can avoid 'The Man' on the back end by playing nice with 'The Man' on the front end
- Just like the 'calling before you dig' slogan, checking with Ohio EPA and/or the USACE before moving your first shovel of dirt can save you a lot of time, energy, and money in the long run