Benefits Through Partnership:

Improving Water Quality, Storage and Infrastructure

Southwest Lehigh Weirs (A.B.S.O.R.B)

Tuesday, Feb. 21, 2017

Creation and Governance

- In 1958, East County Water Control District (ECWCD), was created as a Chapter 298 District.

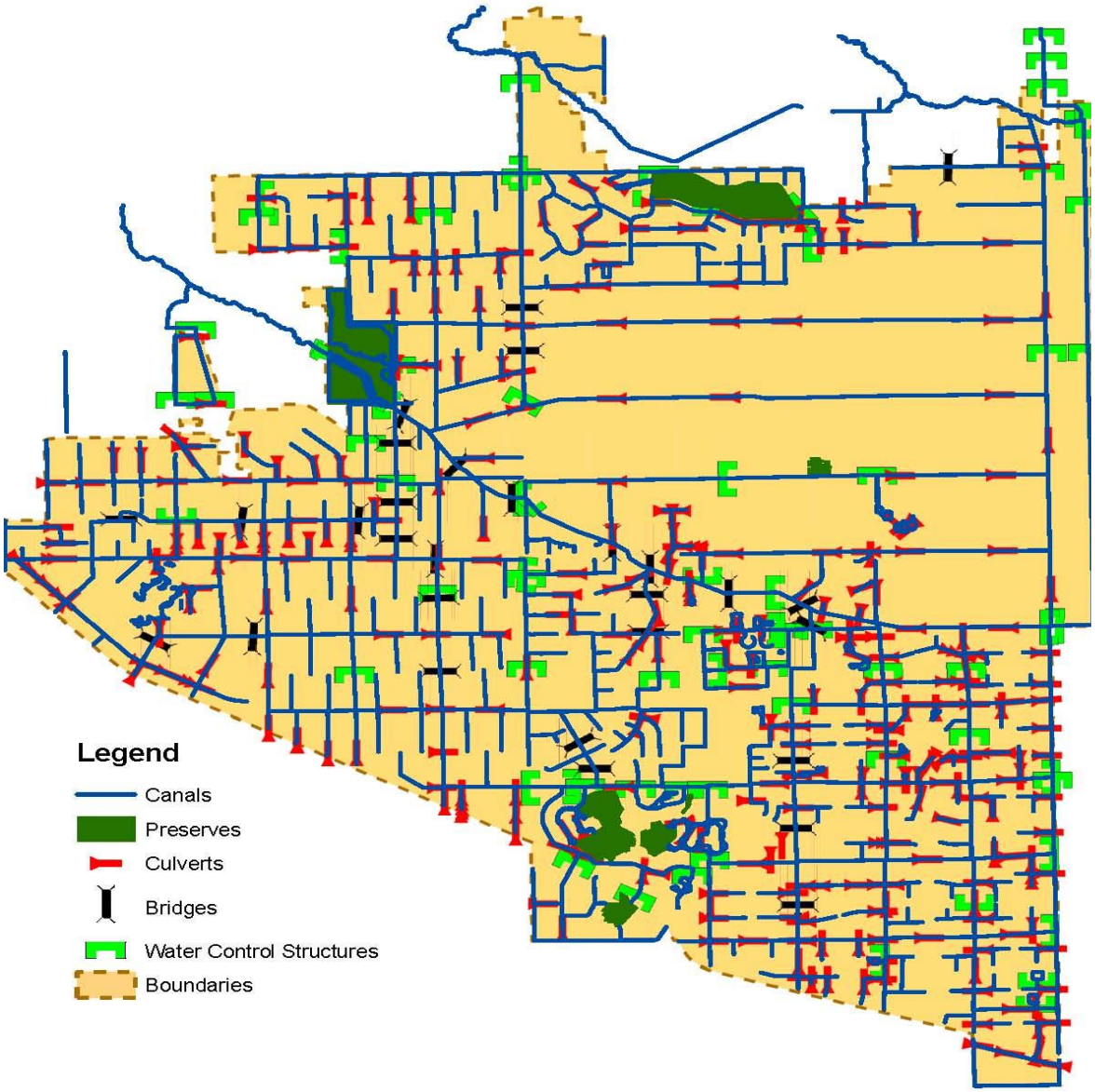
- June 2015, ECWCD transitioned to Lehigh Acres MSID is a multi-county Chapter 189 District created by the state:

  - To provide drainage and flood control;
  - Conservation and mitigation;
  - Irrigation;
  - Navigation;
  - And limited parks services to Lehigh Acres and western Hendry.
  - Legislative Action included the potential of five additional powers.

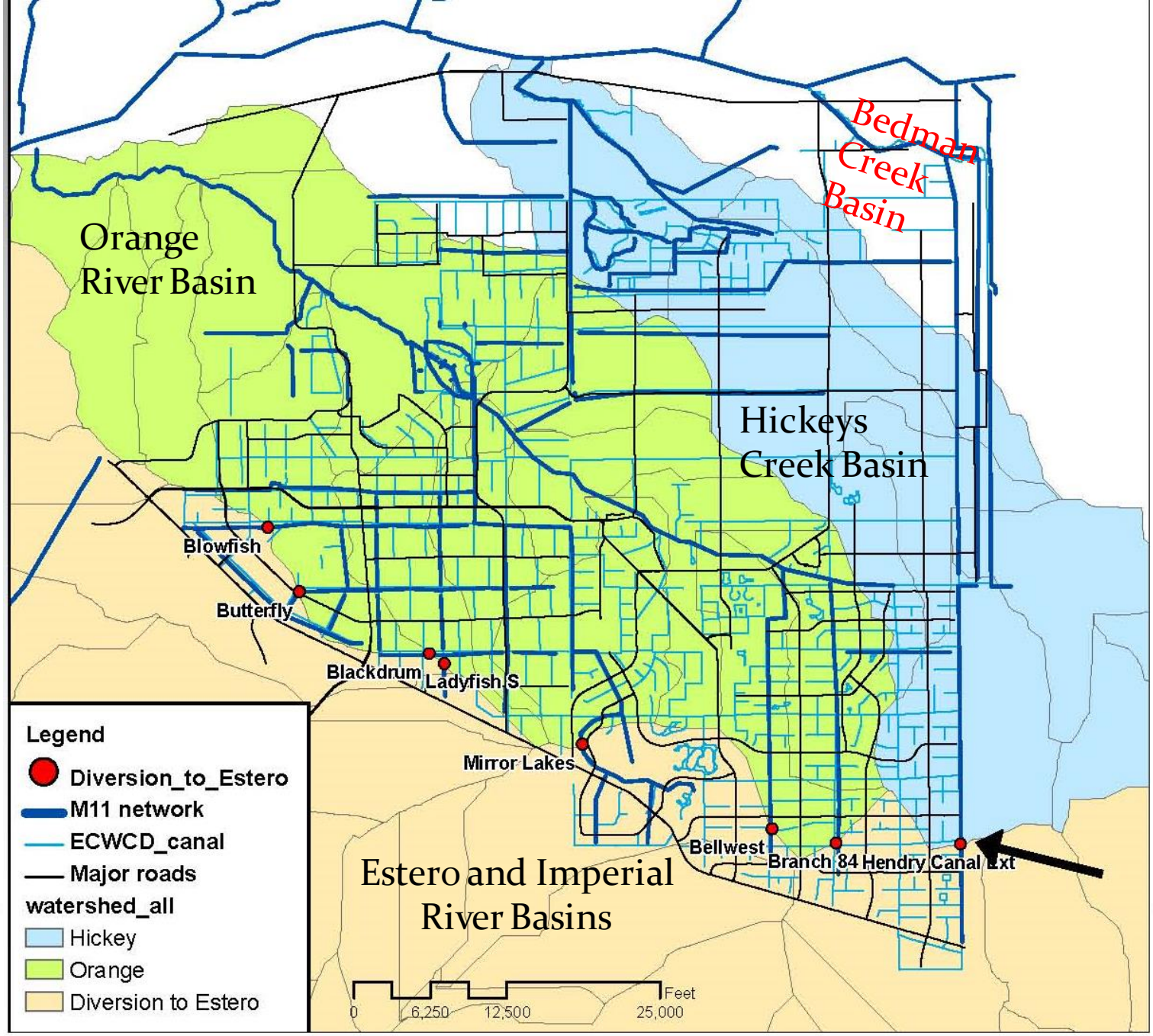
Manages and Maintains 70,000 acres of land in a 110-square-mile area

- Lehigh Acres MSID's current operating budget is $5.5 million a year

LEHIGH ACRES MUNICIPAL SERVICES IMPROVEMENT DISTRICT



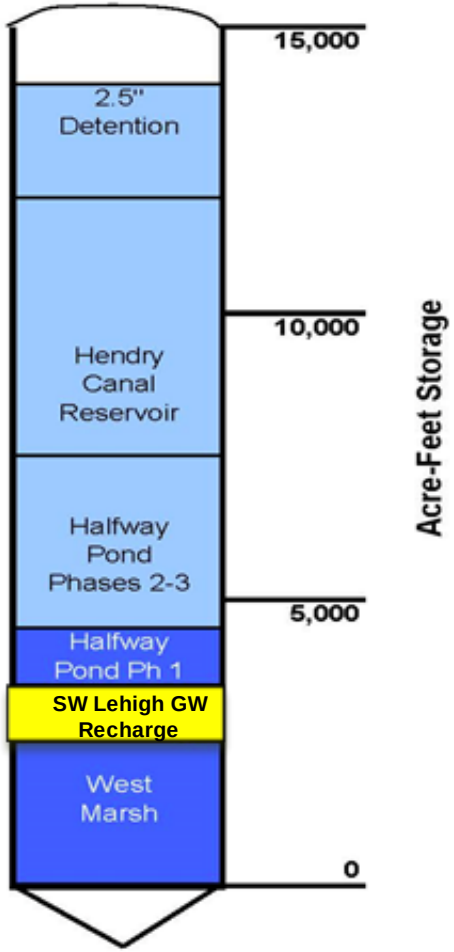
- 311 miles of canals
- 20 lakes
- 360 culvert crossings
- 22 bridges
- 91 water control structures;
  - 30 Automated and Telemetrized
  - 12 sites with water levels/rainfall only
- 1298 preserve acres, including the 598


Bedman Creek Basin
Orange River Basin
Hickeys Creek Basin
Blowfish
Butterfly
Blackdrum
Ladyfish S
Mirror Lakes
Bellwest
Branch 84 Hendry Canal Ext
Estero and Imperial River Basins
Legend
Diversion_to_Estero
M11 network
ECWCD_canal
Major roads
watershed_all
Hickey
Orange
Diversion to Estero
0
6,250
12,500
25,000
Feet

A 2004 Modeling Study conducted by ADA Engineering showed:

- Simulated full build-out on our 120,000 lots
- Simulated a 100 year storm across our District.
- Resulted in a shortfall of 15,000 acre-feet; 4 square miles, 4 feet deep.
- Identified a crucial need for water storage.
- Identified a limited number of large parcels available for water storage and quality projects

Approximate 100-Year Storage Needed for Full Build-out



Component	Unit Ac-ft	Cumulative Ac-ft
Detention	2,292	14,120
Hendry Reservoir	4200	11,828
Halfway Pond Ph 2-3	3000	7,628
Halfway Pond Ph 1	1,000	4,628
GW Recharge	800	3,628
West Marsh	2,628	2,628

Note that the West Marsh volume shown is for the total Harns Marsh System

Southwest Lehigh

Location: South of Lee Blvd & East of Gunnery, North of SR82

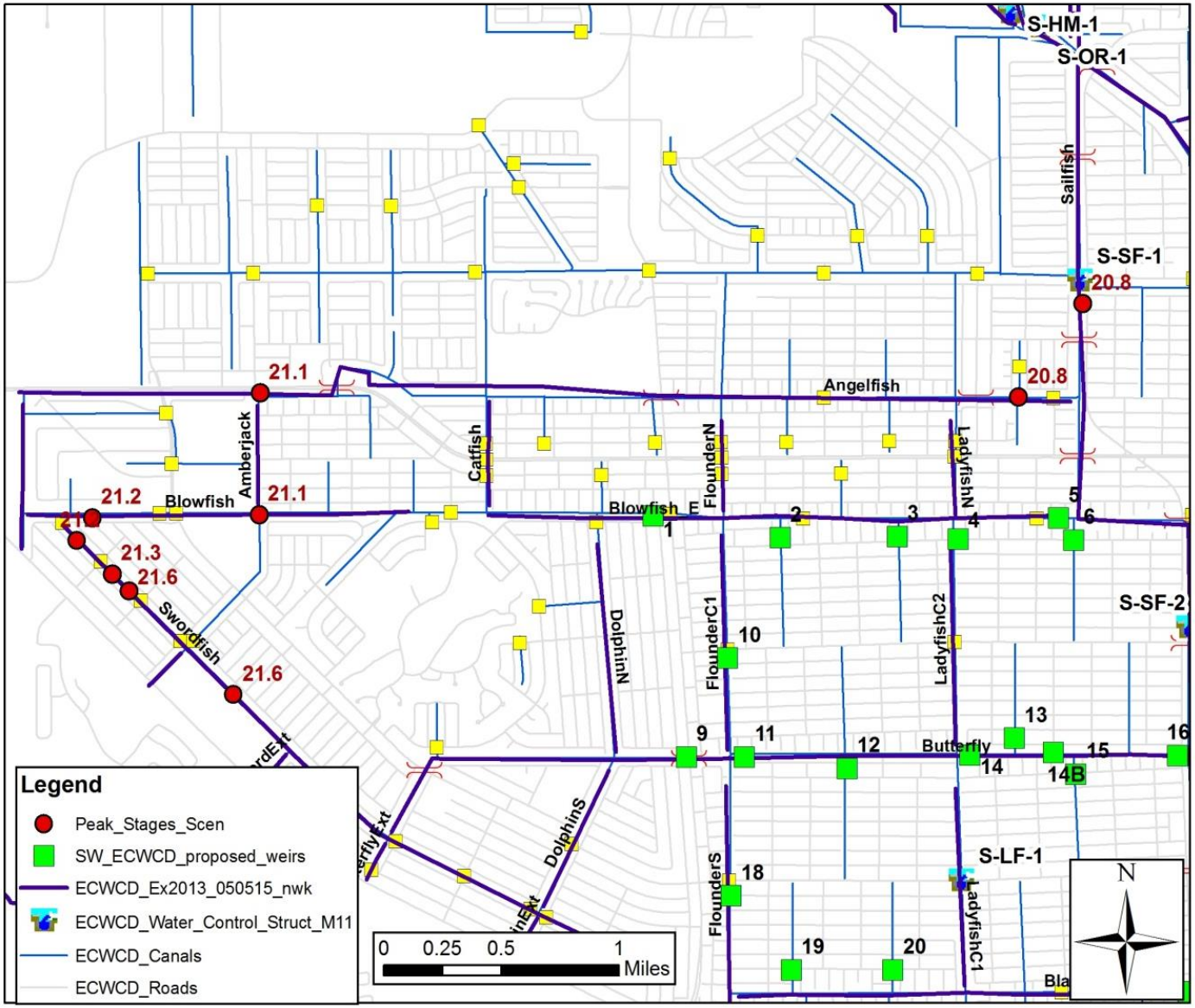
Storage Capacity: Estimated 800+/- acre feet (Orange River Basin)

Current Status:
Construction 80% Complete

Partners: SFWMD, FDOT, LDOT, FDEP TMDL Grant

Engineers: Quattrone and Associations/ RHT Engineering

Project Area



Project Benefits

- Intergovernmental Partnerships

Project Funding

FDEP TMDL Water Quality Restoration Grant Program: $1.22 million

SWFMD (preliminary study) : $57,590

CIBR Grant (Community Budget Issue Request – Florida Legislature) Administered by FDEP (design): $160,500

CIBR Grant Matching Funds by LA-MSID (design) : $80,250

LA-MSID (through FDOT Partnership): $1.9 million

Project Total: $3,418,340 million

Project Benefits

- Crucial step to making tangible improvements in the health of the Caloosahatchee River and Estuary (Tidal and Estuarial Basins)

- Improved water quality and aquifer recharge and increased storage for the Orange River Basin.

Photo credit saltchef.com

Project Benefits

- The Southwest Lehigh Weirs project will:
  - Increase canal control elevations
  - And local groundwater levels

  Results achieved by:

  - Constructing 25 weirs within an approximately ten square mile area in southwest Lehigh Acres.

Project Benefits

- Will increase stormwater storage of at least 800 acre-feet depending on the severity of the storm event.

- The additional water stored and its nutrients/pollution will be removed from the Orange River and the Caloosahatchee River

- An estimated rate of 888 kg/yr of Nitrogen and 87 kg/yr of phosphorus annually, etc.

- The Bleeder Gate on each structure will be able to recreate storage for an additional storm event.

- Wet Season/Dry Season Control – Allows the District to go into the Dry Season with an increased control elevation and a considerable amount of water in its canal system

Partnership Benefits

FDOT

Lehigh Acres MSID's and FDOT formed mutually-beneficial agreement that has:

- Helped speed up the timeframe for SR82 road construction as well as for Lehigh Acres MSID's capital projects;
- Has eliminated the need for roadside retention ponds along the project and saved FDOT several million dollars;
- Has allowed Lehigh Acres MSID to be proactive in solving infrastructure needs;
- Has provided the ability to construct crucial stormwater projects without imposing an assessment increase on local ratepayers.

Partnership Benefits

Community/ Intergovernmental Benefits

Potential for more community connectivity in roadways:

- LA-MSID staff methodically lined the 25 structures up with County road ends
- This proactive approach sets a foundation for future road openings
  - Currently most of these neighborhoods only have one point of ingress/egress
  - This would provide a cost-effective method for Lee County to open additional access points, improve EMS response times and form an intergovernmental partnership.

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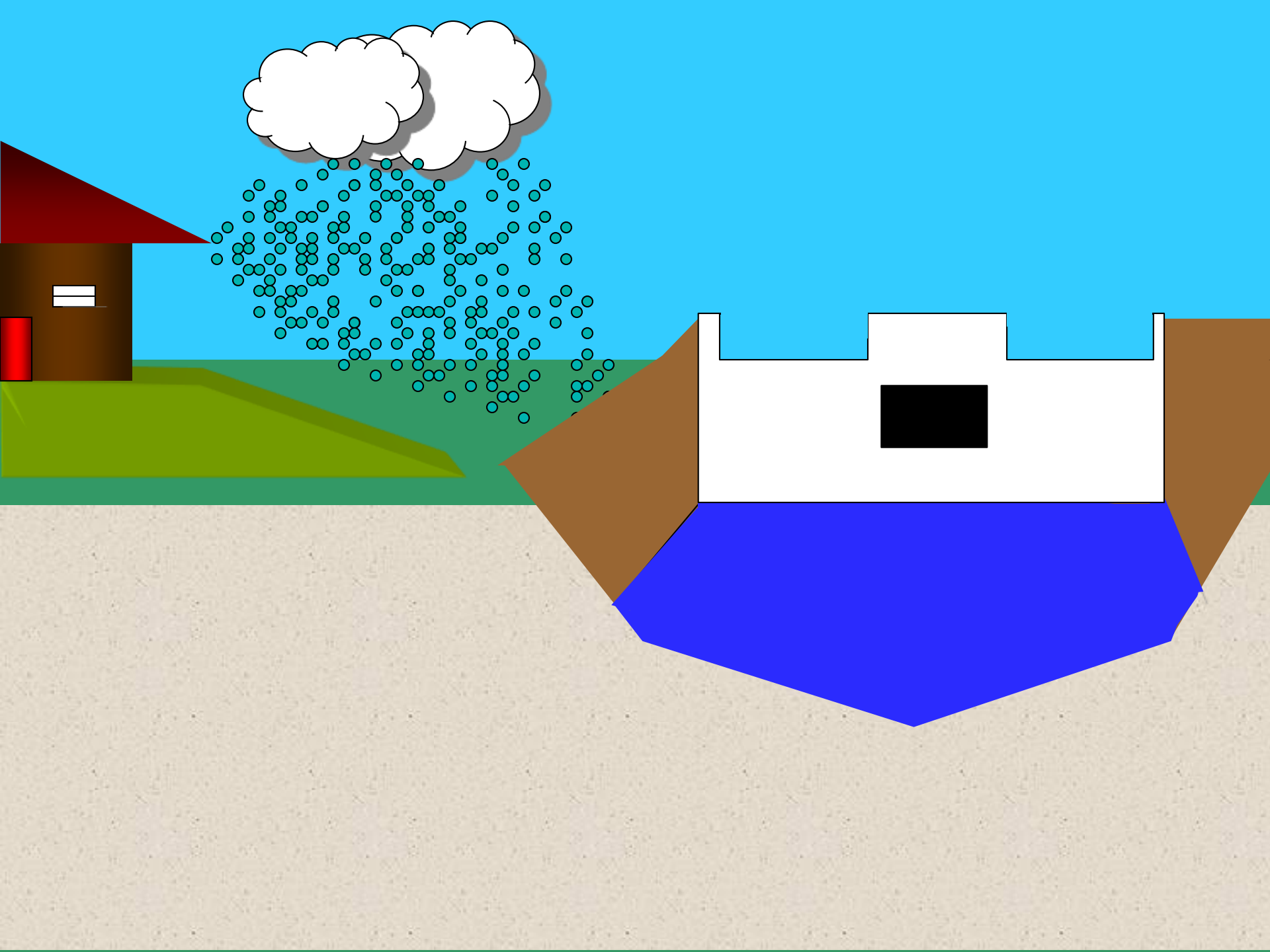

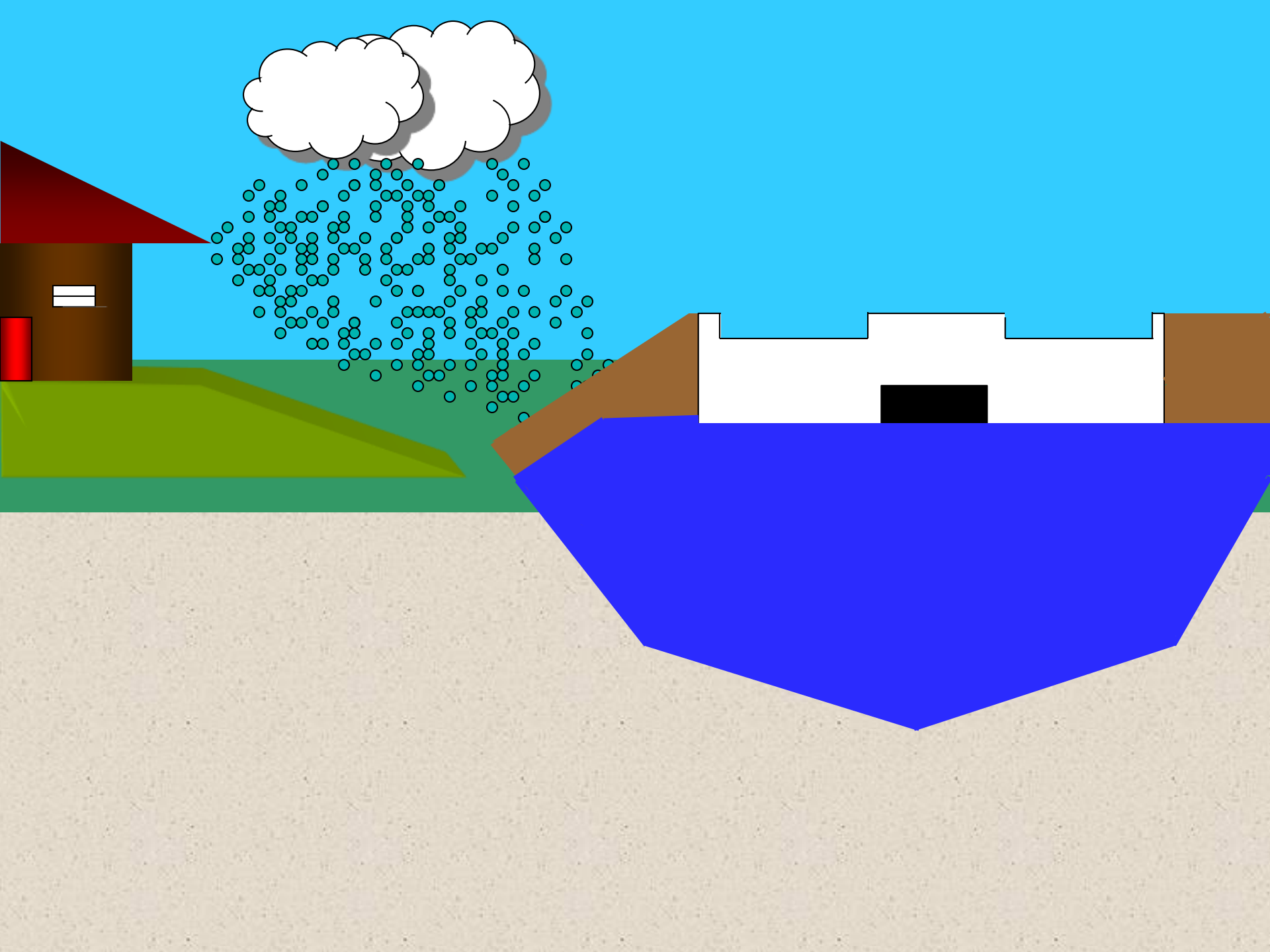

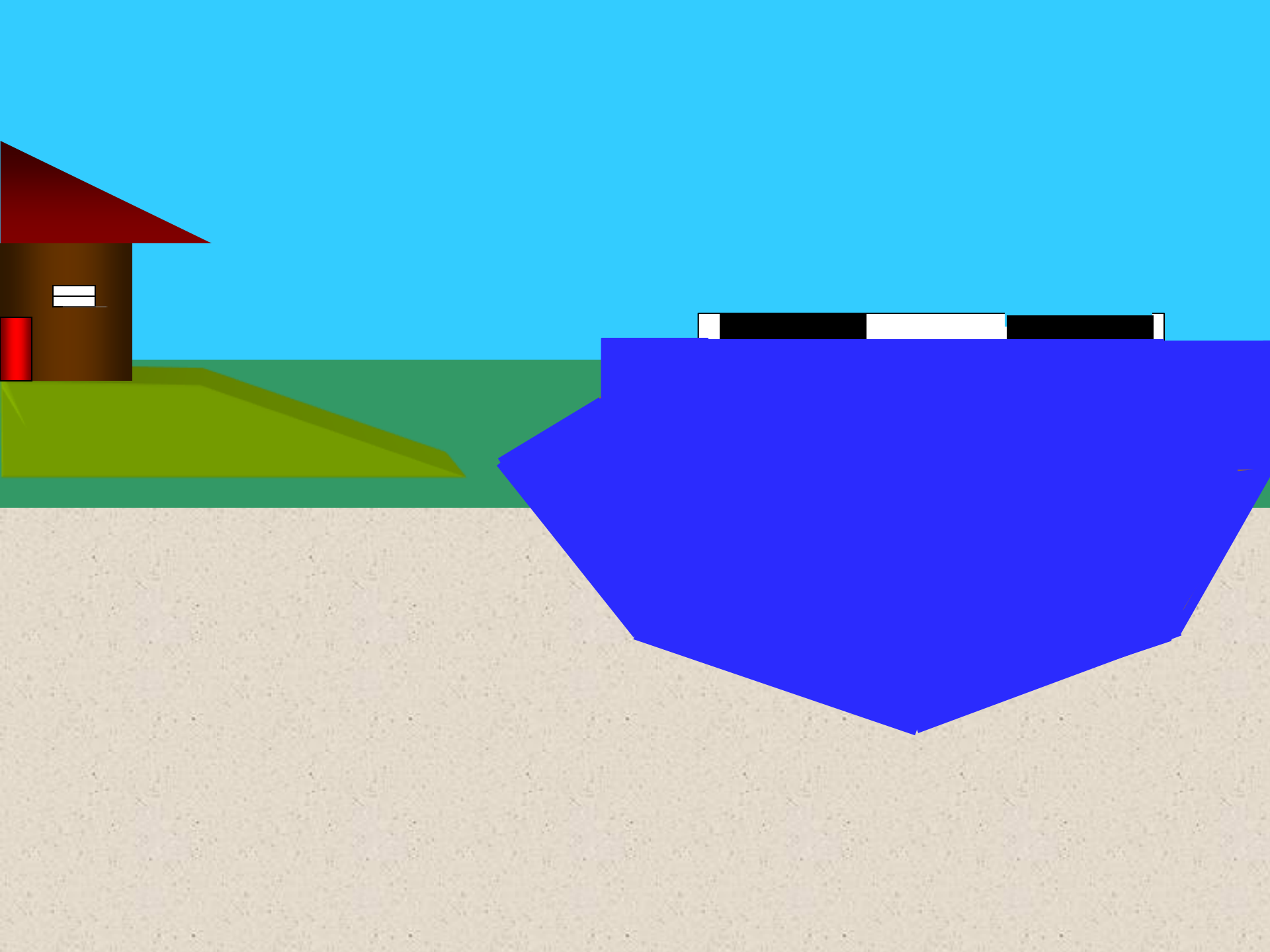

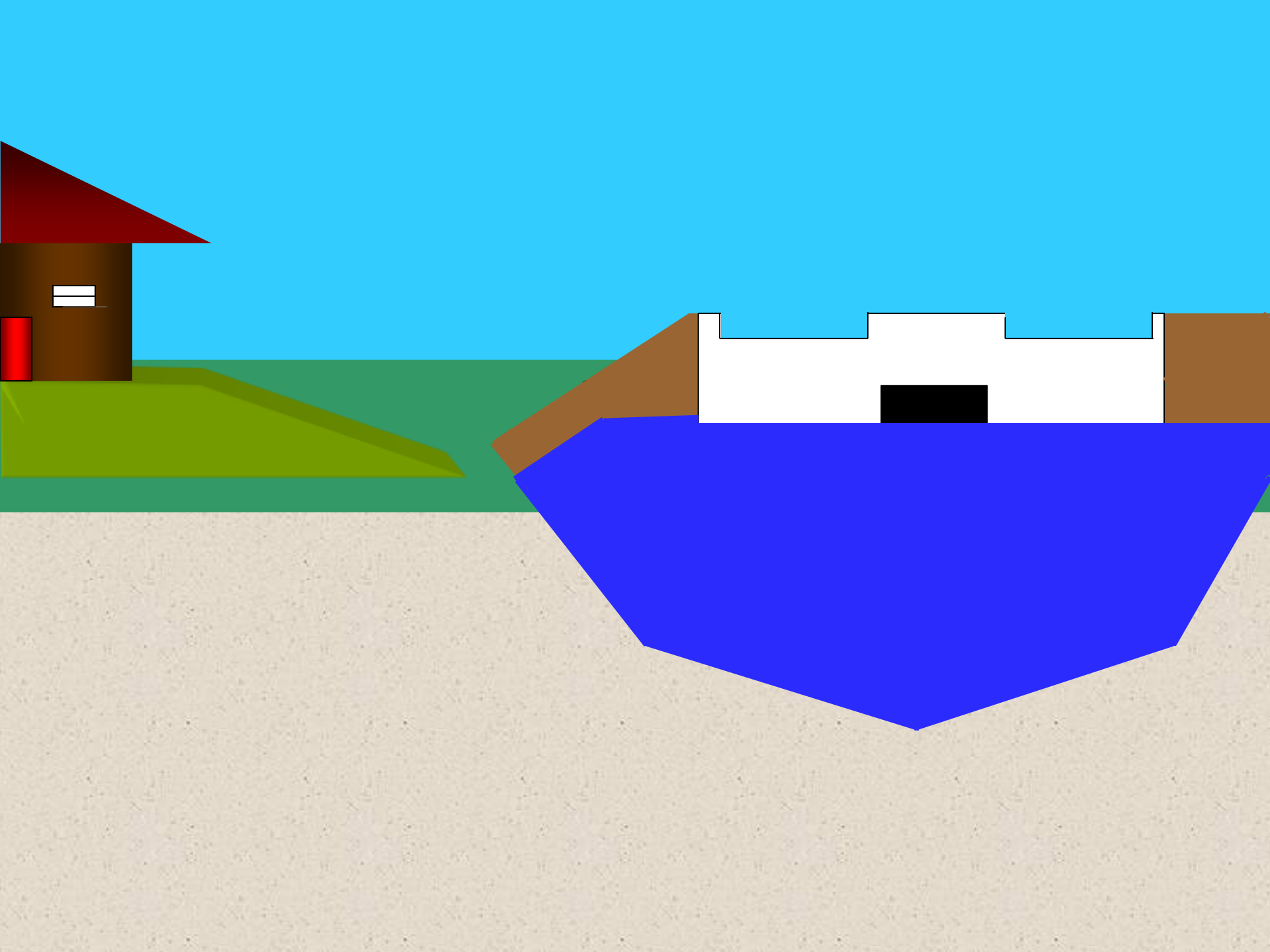

Thank You

David E. Lindsay, District Manager– dlindsay@la-msid.com

Lehigh Acres MSID
601 East County Lane
Lehigh Acres, FL 33936
(p) 239-368-0044
(f) 239-368-5412
www.la-msid.com