



Roadway Presentation



Outline

- Community Crossings Matching Grant Program
- Roadway Details and Specifics
- Clear Lake's 2022 Application and Projects



Fountain Beach

Todd Thurber

- Bachelors of Science in Civil Engineering (Purdue Fort Wayne)
- 15 years experience
 - 13 years with DLZ, 2 years with INDOT
- LTAP AMP/PASER Trained
- Specialize in working with Towns
 - Roads
 - Water
 - Sanitary
 - Storm
- We (DLZ) have been working with Clear Lake since about 2006



COMMUNITY CROSSINGS MATCHING GRANT

- Community Crossings Matching Grant (CCMG)
- Managed by INDOT
- Program started in 2016
- Provides funding to Cities, Towns and Counties to make improvements to local roads and bridges
- Cities and Towns with a population under 10,000 receive funds based on a project at 75% grant and 25% match by the municipality
- Currently INDOT does not see the program ending



Penner Drive

- INDOT accepts applications twice a year – January and July
- Can receive up to \$1 million per calendar year
- Clear Lake previous CCMG awards
 - 2018/2019 - Fountain Beach
 - 2019/2020 – Penner Dr
 - 2019/2020 – Lakeside Ct Culvert
 - 2020/2021 – WCLD Culvert
 - 2020/2021 – Clear Lake Cove

The logo features a stylized graphic of a road crossing with a bridge, composed of colorful lines in red, green, and blue. To the right of the graphic, the text "COMMUNITY CROSSINGS" is written in a bold, blue, sans-serif font, with "MATCHING GRANT" in a smaller, black, sans-serif font below it.

COMMUNITY CROSSINGS

MATCHING GRANT

- Grant Process:
 - Must complete Pavement Asset Management Plan (PASER rating of roads) by December 1st of the previous year, and submitted to LTAP
 - Applications open in January or July
- Application
 - Select Roads
 - Fill out Application
 - Detailed Cost Estimate per Road
 - Town Commitment Letter
 - AMP Approval Letter
- Awards announced approx. 3-4 months after application



- Selection of Roads
 - Town can select any road that is in most need to rehabilitation
 - Collaboration with Town Superintendent
 - Generally, want select roads with some of the lower PASER ratings, based on pavement condition and proper storm water management
- Current Application Status:
 - Submitted on August 30th
 - Waiting on INDOT to Announce Awards
 - Anticipated sometime in November



General Roadway Specifics



West Clear Lake Dr (Near Lakeview)



Quiet Harbor

Roadway Lifespan

- Average Lifespan (dependent on many factors)
 - 15 – 20 years (Expected)
 - Clear Lake Roads: 8 – 10 years

Factors That Contribute to Roadway Deterioration

(In order of Importance)

- Drainage, Drainage, Drainage
 - Inadequate Storm Water Removal
- Insufficient Asphalt Thickness and Stone Subgrade
- Weight and Size of Vehicle Traffic
- Not Upkeeping on Routine Maintenance
- Winter Weather

Roadway Rating System

PASER Rating

- Accepted by INDOT
- Developed by University of Wisconsin
- Includes Visual Inspection of Roadway
 - LTAP Certified Inspector
 - Rating 1 – 10
 - (1: Complete Failure, 10: New Road)

PASER RATING	CONDITION
1 - 4	Poor
5 - 7	Fair
8 - 10	Good



Pavement Core Samples

- Determines Existing Asphalt Thickness
- Type and Thickness of Subgrade

Roadway Rating System (PASER Rating Examples)



PASER RATING – 3

Alligator Cracking, Transverse Cracking, Longitudinal Cracking

Indicates Structural (Base) Failure

Roadway Rating System (PASER Rating Examples)



PASER RATING – 5

Transverse Cracking, Longitudinal Cracking
Indicates Pavement Aging and Slight Breakdown

Roadway Rating System (PASER Rating Examples)



PASER RATING – 7

Longitudinal Cracking, Slight Rutting

Indicates Start of Pavement Aging and Slight Surface Breakdown

Roadway Rating System (PASER Rating Examples)



PASER RATING – 9

Roadway Recently Repaved
Proper Structural Components

Clear Lake
Pavement
Asset
Management
Plan
(PASER
Rating 2022)

Roadway	From	To	Length In Miles	Width In Feet	# Lanes	Surface Type	Rating System	2022 Rating	2021 Rating	2018 *	2017 *	Date Rated
Buck Point Drive	Outer Drive	South Clear Lake Drive	0.279	20	2	asphalt	PASER	7	8	9	9	2022
Chapel Drive	Outer Drive	South Clear Lake Drive	0.109	17	2	asphalt	PASER	7	7	9	9	2022
Clear Lake Cove	South Clear Lake Drive	Dead End	0.143	16	2	asphalt	PASER	8	8	3	3	2022
East Clear Lake Drive	South Clear Lake Drive	572 East Clear Lake Drive	0.701	20	2	asphalt	PASER	5	7	9	8	2022
East Clear Lake Drive	572 East Clear Lake Drive	520 East Clear Lake Drive	0.201	20	2	asphalt	PASER	5	7	10	4	2022
East Clear Lake Drive	520 East Clear Lake Drive	Sand Point Road	0.100	20	2	asphalt	PASER	5	6	6	6	2022
East Clear Lake Drive	Sand Point Road	384 East Clear Lake Drive	0.600	20	2	asphalt	PASER	7	7	9	3	2022
East Clear Lake Drive	384 East Clear Lake Drive	356 East Clear Lake Drive	0.100	20	2	asphalt	PASER	4	6	6	6	2022
East Clear Lake Drive	356 East Clear Lake Drive	Maple Street	0.201	18	2	asphalt	PASER	5	7	10	6	2022
East Clear Lake Drive	Maple Street	Lakeview Drive	0.131	18	2	asphalt	PASER	5	7	7	7	2022
Elm Street	South Clear Lake Drive	South Clear Lake Drive	0.063	16	2	asphalt	PASER	4	4	4	4	2022
Fountain Beach Drive	South Clear Lake Drive	State Road 120	0.217	14	2	asphalt	PASER	7	7	2	3	2022
Gecowets Drive	State Road 120	South Clear Lake Drive	0.220	14	2	asphalt	PASER	5	7	7	7	2022
Joann Court	Penner Drive	Cul-de-sac	0.059	17	2	asphalt	PASER	7	8	8	8	2022
John Court	Penner Drive	Cul-de-sac	0.042	17	2	asphalt	PASER	7	8	9	9	2022
Lakeside Court	South Clear Lake Drive	East Clear Lake Drive	0.150	18	2	asphalt	PASER	6	8	9	9	2022
Lakeview Drive	Town Limits	132 Lakeview Drive	0.325	22	2	asphalt	PASER	3	3	6	4	2022
Lakeview Drive	132 Lakeview Drive	West Clear Lake Drive	0.167	22	2	asphalt	PASER	3	3	5	6	2022
Lakeview Drive	West Clear Lake Drive	Town Limits	0.463	21	2	asphalt	PASER	3	3	5	5	2022
Maple Street	East Clear Lake Drive	Dead End	0.055	10	1	gravel	PASER	1	3	3	3	2022
Outer Drive	Buck Point Drive	South Clear Lake Drive	0.390	20	2	asphalt	PASER	4	6	6	7	2022
Paradise Point	South Clear Lake Drive	Dead End	0.084	12	1	asphalt	PASER	7	7	9	9	2022
Penner Drive	West Clear Lake Drive	Penny Court	0.271	20	2	asphalt	PASER	4	4	7	7	2022
Penner Drive	Penny Court	Lakeview Drive	0.209	20	2	asphalt	PASER	8	8	3	3	2022
Penny Court	Penner Drive	Cul-de-sac	0.043	18	2	asphalt	PASER	5	6	6	7	2022
Point Park Drive	East Clear Lake Drive	East Clear Lake Drive	0.282	20	2	asphalt	PASER	6	7	8	8	2022
Powhattan Court	Penner Drive	Cul-de-sac	0.060	24	2	asphalt	PASER	5	6	6	6	2022
Prospect Street	Dead End	Dead End	0.165	13	1	asphalt	PASER	6	6	9	9	2022
Quiet Harbor Drive	CR 700 E	CR 700 E	0.162	18	2	asphalt	PASER	3	3	3	3	2022
Rieke Drive	Town Limits	West Clear Lake Drive	0.337	16	2	asphalt	PASER	5	6	6	7	2022
Sand Point Road	East Clear Lake Drive	Town Limits	0.119	22	2	asphalt	PASER	3	4	5	6	2022
South Clear Lake Drive	Fountain Beach Drive	891 South Clear Lake Dr	0.125	18	2	asphalt	PASER	5	7	8	8	2022
South Clear Lake Drive	891 South Clear Lake Dr	770 South Clear Lake Dr	0.500	18	2	asphalt	PASER	4	8	9	8	2022
South Clear Lake Drive	770 South Clear Lake Dr	Buck Point Drive	0.146	18	2	asphalt	PASER	4	7	7	8	2022
South Clear Lake Drive	Buck Point Drive	Terrace Drive	0.271	18	2	asphalt	PASER	4	7	7	8	2022
South Clear Lake Drive	Terrace Drive	East Clear Lake Drive	0.141	20	2	asphalt	PASER	5	6	7	8	2022
South Clear Lake Drive	CR 700 E	Clear Lake Cove	0.114	16	2	asphalt	PASER	7	7	10	2	2022
South Clear Lake Drive	Clear Lake Cove	Gecowets Drive	0.188	17	2	asphalt	PASER	7	7	10	2	2022
South Clear Lake Drive	Gecowets Drive	Elm Street	0.234	17	2	asphalt	PASER	4	6	6	6	2022
South Clear Lake Drive	Elm Street	Paradise Point	0.086	17	2	asphalt	PASER	4	7	9	9	2022
Terrace Drive	Outer Drive	South Clear Lake Drive	0.126	16	2	asphalt	PASER	7	8	9	9	2022
West Clear Lake Drive	Penner Drive	Bridge	0.345	19	2	asphalt	PASER	7	7	9	2	2022
West Clear Lake Drive	Bridge	Lakeview Drive	0.125	19	2	asphalt	PASER	3	5	5	3	2022
West Clear Lake Drive	Penner Drive	192 West Clear Lake Dr	0.299	18	2	asphalt	PASER	7	7	9	9	2022
West Clear Lake Drive	192 West Clear Lake Dr	Bridge	0.400	18	2	asphalt	PASER	7	7	8	8	2022
West Clear Lake Drive	Bridge	82 West Clear Lake Dr	0.059	18	2	asphalt	PASER	5	6	6	6	2022
West Clear Lake Drive	82 West Clear Lake Dr	CR 700 E	0.381	18	2	asphalt	PASER	5	7	7	8	2022

* 2017 & 2018 Not Rated by DLZ

CLEAR LAKE, INDIANA
STEUBEN COUNTY

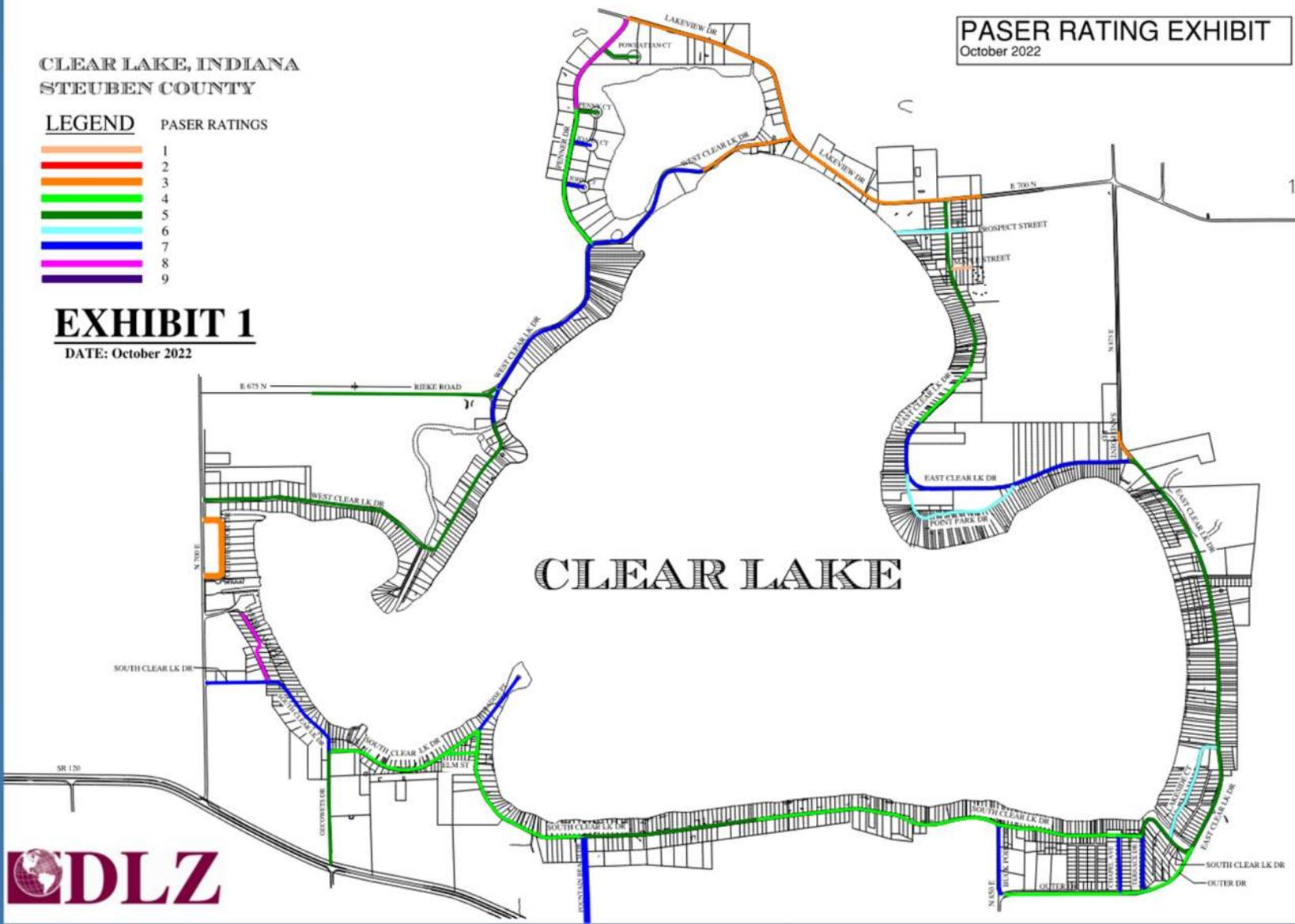
LEGEND PASER RATINGS

Orange	1
Red	2
Yellow	3
Light Green	4
Green	5
Light Blue	6
Blue	7
Purple	8
Dark Purple	9

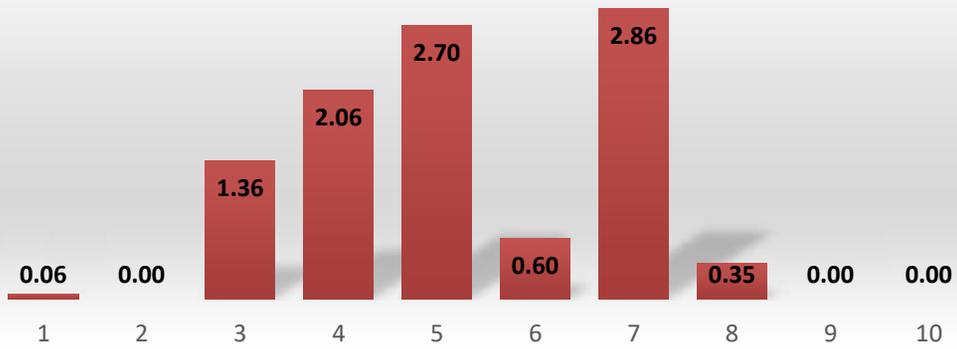
EXHIBIT 1

DATE: October 2022

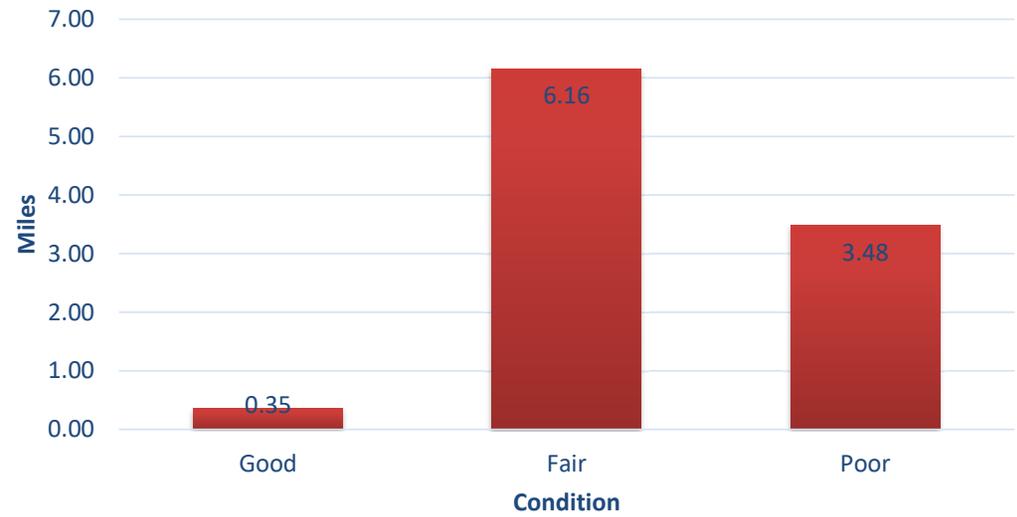
PASER RATING EXHIBIT
October 2022



PASER Rating by Miles



Good, Fair, Poor by Miles



5 Year Plan

Road Project	Preliminary Scope/costs	Initial PASER Rating	CCMG Application	Construction Completed	Notes:
Fountain Beach	March 2017	2	2018-2	December 2019	
Penner Drive	April 2019	3	2019-2	May 2021	
Culvert Replacement (Lakeside Ct)	April 2019	N/A	2019-2	May 2021	
Clear Lake Cove	April 2019	3	2020-1	December 2021	
Culvert Replacment (WCLD)	April 2019	N/A	2020-1	December 2021	
Quiet Harbor	April 2019	3	2022-2	*2023	
WCLD (Bridge to Lakeview)	May 2022	3	2022-2	*2023	
WCLD (CR 700 to Sunset Bay)	May 2022/June 2019	5	2022-2	*2023	This includes 22 WCLD which was initially started in 2019
Lakeview Drive	October 2022	3	**2023-2	**2024	**Part of 5 Year Plan
Sandpoint Rd	October 2022	3	**2023-2	**2024	**Part of 5 Year Plan
SCLD (Gecowets to ECLD)	October 2022	4	**2024-2	**2025	**Part of 5 Year Plan
Outer Dr (Buck Point to SCLD)	October 2022	4	**2024-2	**2025	**Part of 5 Year Plan
ECLD (SCLD to Sandpoint)	October 2022	5	**2025-2	**2026	**Part of 5 Year Plan
Culvert Replacement (WCLD by Yacht Club)	October 2022	N/A	**2025-2	**2026	**Part of 5 Year Plan
ECLD (Point Park to Lakeview)	October 2022	4	**2026-2	**2027	**Part of 5 Year Plan
					** 5 year projects are assumed to be used with up to \$1,000,000 Community Crossings Grant match

Pavement Coring



- Pavement Core Drilling involves taking a representative sample to assess the material quality and thickness of asphalt layer and subgrade.
- Allows us to see possible reasons for the pavement failure
- Generally, like to see 5-6" Asphalt on 8-12" of #53 Stone
- For Perspective, a state highway has closer 12" of asphalt



CLEAR LAKE, INDIANA
STEUBEN COUNTY

LEGEND

- 2023 PROPOSED STREET & DRAINAGE IMPROVEMENTS
- PROPOSED STREET & DRAINAGE IMPROVEMENTS (FUTURE - NEXT 5 YEARS, ASSUMING CCMG GRANT)
- PAVEMENT CORE LOCATIONS

EXHIBIT 1

DATE: June 2021

PAVEMENT CORE LOCATION MAP

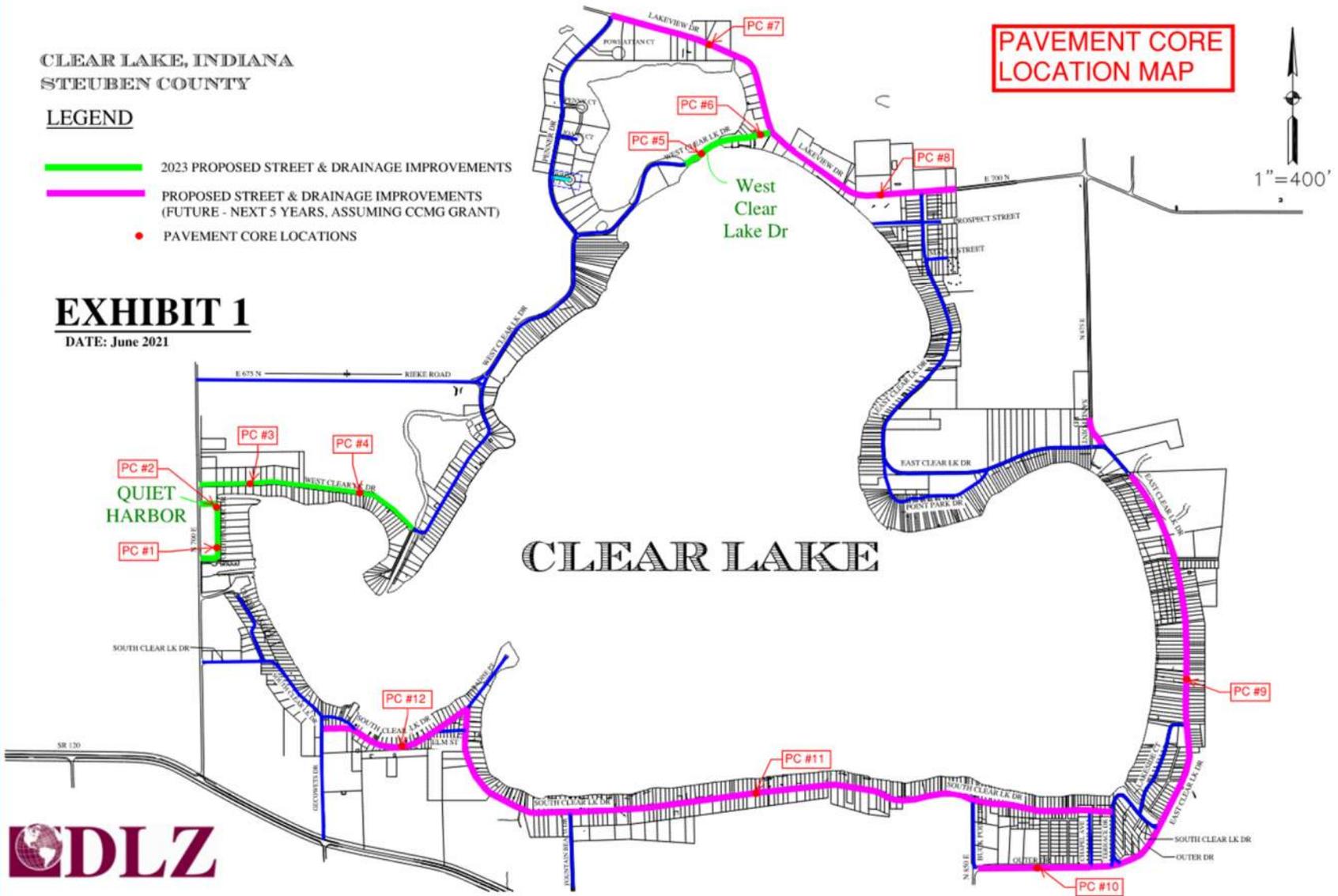
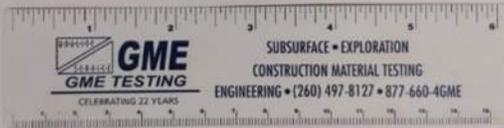


Table 1: Approximate Thickness of Pavement at Core Locations

Street Name	Coring Number	Average Pavement Core Thickness, inches <i>(Figures 1.1 through 1.6 Show approximate Core Locations)</i>		
		Total Asphalt Pavement Thickness	Aggregate Thickness	Remarks
Quiet Harbor	PC-1	±2.4	±10.5	Brown, Sandy Gravel Product
Quiet Harbor	PC-2	±2.6	±11.25	Brown, Sandy Gravel Product
West Clear Lake Dr	PC-3	±5.1	±3	Brown, Sandy Gravel Product
West Clear Lake Dr	PC-4	±4.2	±12	Brown, Sandy Gravel Product
West Clear Lake Dr	PC-5	±7.9	±57	Brown, Fine Sand
West Clear Lake Dr	PC-6	±4.1	±14	Brown, Sandy Gravel Product
Lakeview Dr	PC-7	±4.8	±53	Brown, Fine Sand
Lakeview Dr	PC-8	±4.2	±10	Brown, Sandy Gravel Product
East Clear Lake Dr	PC-9	±2.7	±15	Brown, Sandy Gravel Product
Outer Dr	PC-10	±4	±7	Brown, Sandy Gravel Product
South Clear Lake Dr	PC-11	±3.8	±16	Brown, Sandy Gravel Product
South Clear Lake Dr	PC-12	±6	±7	Brown, Sandy Gravel Product

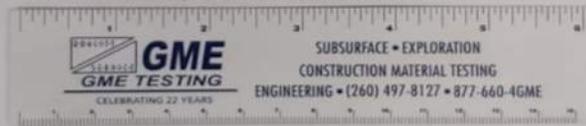


C22-101495

Town of Clear Lake
Pavement Cores

PC-1

Quiet Harbor
2.4" +/- Asphalt

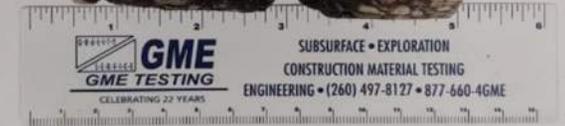


C22-101495

Town of Clear Lake
Pavement Cores

PC-4

West Clear Lake Dr
(West of Sunset Bay Ct)
4.2" +/- Asphalt

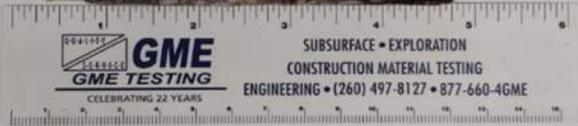


C22-101495

Town of Clear Lake
Pavement Cores

PC-6

West Clear Lake Dr
(West of Lakeview Dr)
4.1" +/- Asphalt

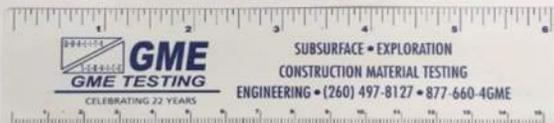


C22-101495

Town of Clear Lake
Pavement Cores

PC-8

Lakeview Dr
4.2" +/- Asphalt

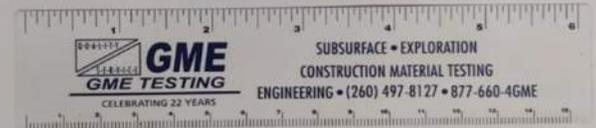


C22-101495

Town of Clear Lake
Pavement Cores

PC-10

Outer Dr
4.0" +/- Asphalt



C22-101495

Town of Clear Lake
Pavement Cores

PC-11

South Clear Lake Dr
3.8" +/- Asphalt

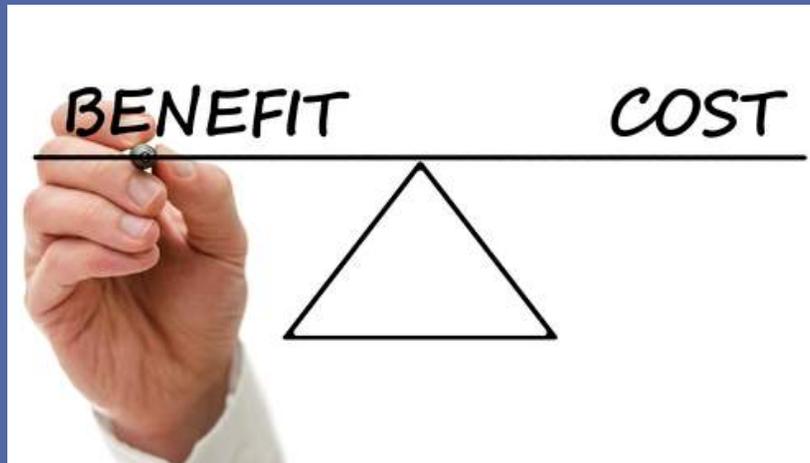
Observed Issues



Thin Asphalt

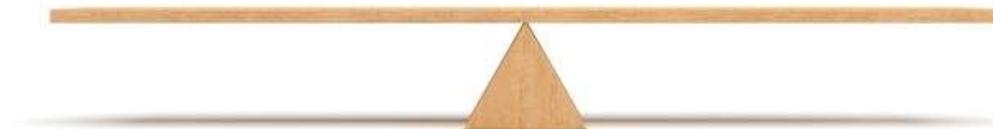


Sandy Subgrade



- Simple Fixes – Just Mill and Resurface
- Lower Initial Cost
- Not Addressing Drainage
- May Redo Same Road Every 4 - 7 years
- More Upkeep

- Address All Issues – Full Reconstruction, Drainage, Etc
- More Initial Cost
- Long Term Solution
- Closer to Achieving the 15 - 20 year Lifespan
- Less Future Maintenance



For Example:

Simple Fix

Mill and Resurface – 7 year Lifespan
(No Drainage, No Subgrade Repair)

Year 1 - \$150,000 (Mill and Resurface)

Year 3 – \$5,000 (Crack Seal)

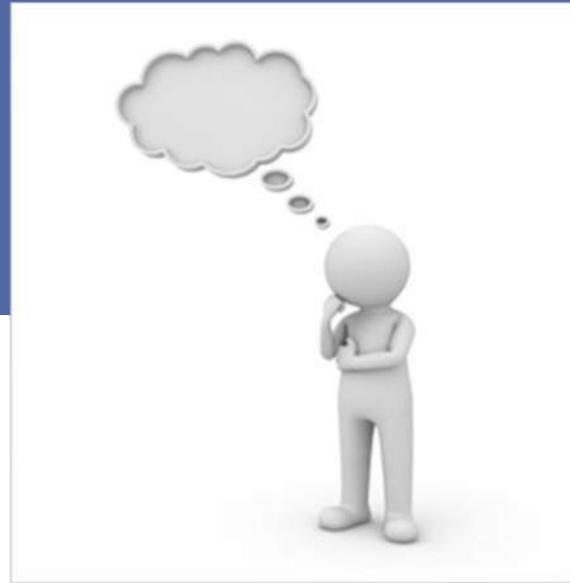
Year 7 - \$225,000

Year 10 – \$5,000 (Crack Seal)

Year 14 - \$300,000

Year 17 – \$5,000 (Crack Seal)

Total Spent - \$690,000



Complete Fix

Full Reconstruction – 20 year Lifespan
(Drainage Improvements, New Subgrade,
New 6" of Asphalt)

Year 1 - \$500,000

Year 10 - \$5,000 (Crack Seal)

Year 15 - \$5,000 (Crack Seal)

Total Spent - \$510,000



2022 Application / 2023 Road Improvement Projects



Quiet Harbor



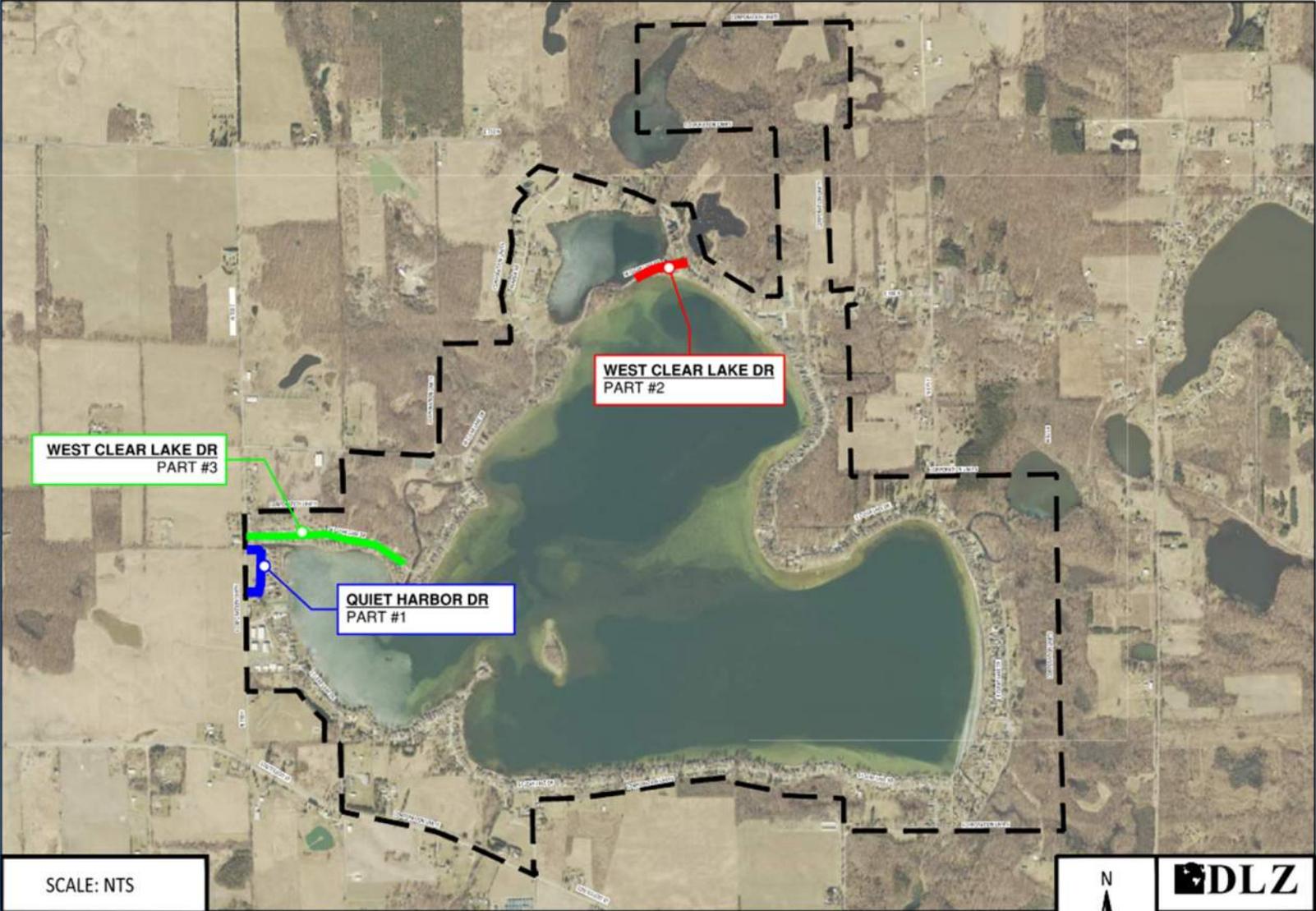
**West Clear Lake Dr
(Bridge to Lakeview)**



**West Clear Lake Dr
(CR 700 to Sunset Bay Ct)**

For the Application:

- High-Level Assessment and Evaluation of the Roads Being Considered
- Detailed estimate is Generated
- Not a Final Design but a Detailed Concept



SCALE: NTS

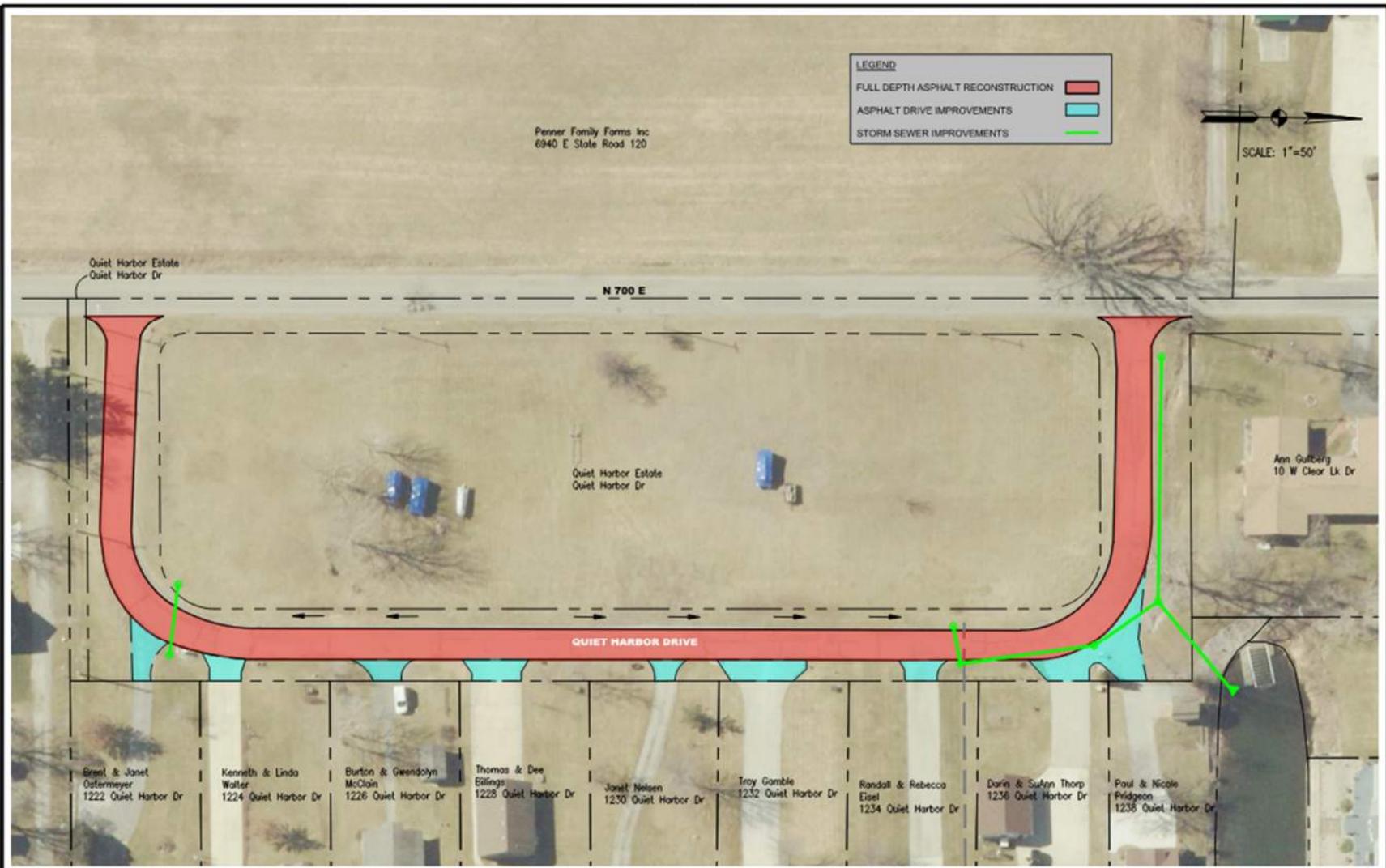
AUGUST 2022

TOWN OF CLEAR LAKE, INDIANA

2022 COMMUNITY CROSSINGS EXHIBIT



MAP



QUIET HARBOR

Additional Storm Inlets/Pipe & to pick up County Drainage off CR 700

Crowned Roadway

6" Asphalt on 12" Stone

Generally, Driveways sit above Road

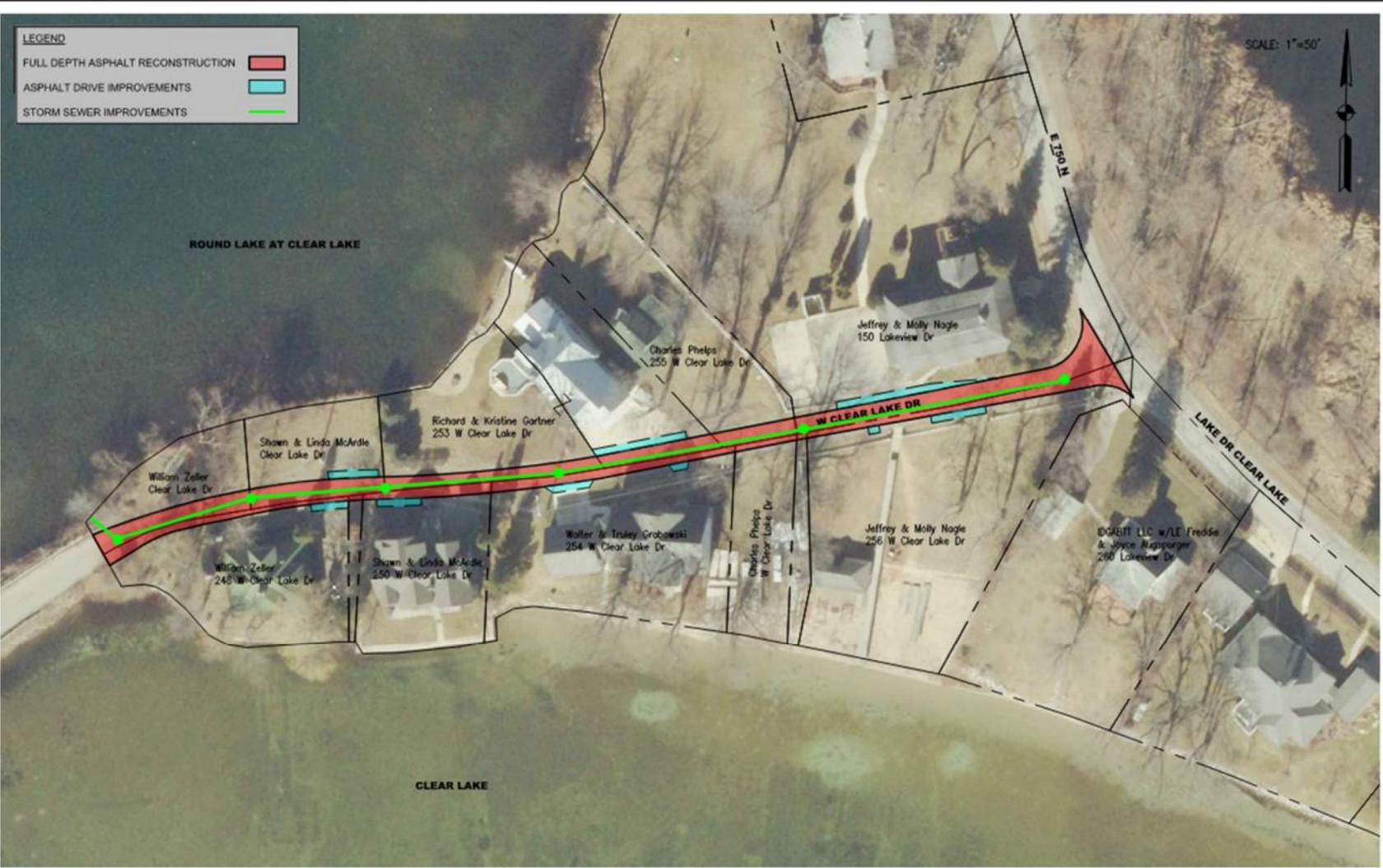
1"-1.5"



CLEAR LAKE INDIANA
TOWN OF CLEAR LAKE
2023 STREET IMPROVEMENTS
PROJECT #1
QUIET HARBOR DRIVE

NOT FOR CONSTRUCTION

SHEET
OF
DRAWING NUMBER
Q HARBOR



WCLD

**New Inlets
and Pipe to
Get Storm
Water off
Road**

**Inverted
Crowned
Roadway**

**6" Asphalt on
12" Stone**

**Generally,
Driveways sit
above Road**

1"-1.5"



CLEAR LAKE
TOWN OF CLEAR LAKE
2023 STREET IMPROVEMENTS
INDIANA
PROJECT #2
WEST CLEAR LAKE DRIVE

NOT FOR CONSTRUCTION

SHEET
OF
DRAWING NUMBER
W CLR LK



WCLD

**New Outfall
Pipe at 22
WCLD - High
Level Storm
Sewer Design**

**Crowned
Roadway**

**6" Asphalt on
12" Stone**

**Generally,
Driveways sit
above Road**

1"-1.5"



CLEAR LAKE
TOWN OF CLEAR LAKE
2023 STREET IMPROVEMENTS
INDIANA

PROJECT #3
WEST CLEAR LAKE DRIVE

NOT FOR CONSTRUCTION

SHEET
OF
DRAWING NUMBER
W CLR LK 2

NEXT STEPS



- Award Notice – November 2022
- If Awarded and Approved to Proceed:
 - Survey Roadways (Nov. – Dec. 2022)
 - Final Design/Permits (Dec. 2022 – Jan. 2023)
 - Bid Projects (Feb. 2023)
 - Award and Sign Contracts (Feb 2023)
 - Receive CCMG Funds – (Early Summer 2023)
 - Construction (Summer – Fall 2023)



Questions?