

# CITY OF FRONTENAC GEYER ROAD



## EASTERN SIDEWALK STUDY FOR PHASE 1 ROADWAY IMPROVEMENTS

Prepared By:



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## ***GEYER ROAD IMPROVEMENTS-PH. 1 EASTERN SIDEWALK STUDY***

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# SIDEWALK STUDY & REPORT

## Introduction

The City of Frontenac has contracted with the Lochmueller Group to prepare construction documents for Phase 1 of the Geyer Road Improvements, a City project that is partially funded through East-West Gateway's STP Program, and that is reviewed and approved by MoDOT. The current plans prepared by the Lochmueller Group, dated 02/14/22 and labeled as "Preliminary" reflect roadway improvements from Steeplechase Lane to Clayton Road. It is understood that the sidewalk options considered by the City include a 6' wide sidewalk immediately behind the proposed back of curb, or a 5' wide sidewalk with a 2' wide lawn space between the walk and curb.

These "Preliminary" plans show a proposed concrete sidewalk along the west side of the project, and generally constructed at the back edge of the new curb and gutter that will also be constructed. However, the City has not yet made a final decision to construct a 6' wide sidewalk that abuts the back edge of the new curb and gutter, or to construct a 5' wide sidewalk that is separated by a 2' wide grass strip between the walk and the back edge of the curb.

With the new sidewalk to be constructed on only one side of the roadway, the final location of the walk has become a controversial issue due to the many landscaping areas, established trees and vegetation, ornamental entrance monuments and mailboxes, and decorative concrete driveways on both sides of the street. Because of the sensitivity of the impacts, the City has authorized Weis Design Group (WDG) to investigate, and provide a "second opinion" regarding the most practical location for the proposed sidewalk, along with the cost differential associated with constructing the new sidewalk on the east side of Geyer Road. In addition to the differential cost, the City would like to identify any increased, or decreased impacts on the surrounding properties should the walk be constructed on the east side of the roadway.

## Investigation

With plans in hand, WDG began looking at the extent of work required, and the associated impacts to the eastern side of the project, which include:

- Excavation
- Clearing of trees/bushes/vegetation
- Side-street reconstruction
- Driveway reconstruction
- Entrance monuments
- Mailboxes
- Landscaping features
- Utilities/Power Poles
- Existing Right-Of-Way and Easements

It should be noted that the several utility services (electric, telephone, and communications) for the area are provided via overhead lines and utility poles generally located behind the eastern edge of the pavement. The location of the power poles seems to vary between 3' and 8' as measured off the east edge of the pavement. It is clear that one or more of the utility companies have made, and will continue to make efforts to trim the many mature trees away from the overhead lines. It is understood that the construction cost of utility pole relocations will not be incurred by the City, and is therefore excluded from the cost analysis/comparison. The cost, however, of the easements and tree clearing necessary for that pole relocation has been suggested by Ameren to be provided by the City of Frontenac (TBD). Typically, the timeframe to relocate approximately 20-25 power poles will take 6-9 months after final plans are approved and easements are acquired.

## Site Investigation Results & Observations (for walk on east side of Geyer Rd.)

The assessment of the cost differential found that the construction of a sidewalk on the east side would be approximately \$100,325.00 more than the west side. This cost difference is strictly based off of the preliminary plans given to Weis Design Group by the City of Frontenac and Lochmueller Group. The plans show a 6ft wide concrete sidewalk along the back of curb. But, repeated discussions have indicated that this will be a 5ft sidewalk with a 2ft buffer.

The issues of impact differential were found to be:

- Additional excavation and/or proposed retaining wall (lawn elevations on east side are generally higher than lawns on the west side).
- Should the City opt for a sidewalk on the east side, numerous utility poles will need to be relocated further east. This shift of poles and/or overhead lines will increase the removal of trees and vegetation.
- Constructing the sidewalk with a 2' wide lawn space will further increase the excavation needed, will push the relocated utility poles further east, will necessitate more tree and vegetation removal, will conflict with entrance monuments and landscaping, and will, in all likelihood, necessitate the need for additional easements. It should be noted that in rare instances, property owners have resisted the maintenance of a lawn space between the sidewalk and curb, which causes the municipality to expend time and effort to perform the maintenance/grass mowing.
- The Arborist's new report along the east side has been determined that approximately 6 trees will be require removal for the sidewalk construction as opposed to a total of 9 trees along the west side.

## Conclusions

This analysis was based on the preliminary plans sent to Weis Design Group by the City of Frontenac and Lochmueller Group. To create a fair assessment, WDG compared the cost of installing a 6ft wide concrete sidewalk along the back of curb on the west side to installing the same configuration on the east side (as seen on the most recent preliminary plans received). This configuration of the sidewalk is reflected in the cost estimate comparison.

Towards the end of the analysis, Weis Design Group received additional information regarding the configuration of the sidewalks. The residents and the City of Frontenac agreed to have a 5ft wide concrete sidewalk with a 2ft buffer along the back of curb. It is to be mentioned that the disturbed area will increase with this configuration whether the sidewalk goes on the west side or east side. Even then, the encroachment of 1ft on the east side into some of the residential back yards may increase the cost of the retaining wall (Exact cost of a 5ft wide sidewalk with a 2ft buffer not included in cost estimate). After further review of the Right-of-Way Plans for the east side with additional easements required, Arborists assessment of the east side, preliminary plans provided and cost estimate results, the recommended location for the sidewalk would be the west side.

## Notes

Based upon recent bidding prices, we feel the “unit pricing” shown on the Lochmueller Group’s cost estimate for concrete sidewalk, concrete curb ramps, and concrete driveway approaches might be low. However, in our comparison of eastside-located walk, and the Westside-located sidewalk, we used the same unit pricing as Lochmueller Group.

Additionally, the tree removal is not only related to the power poles and their potential relocation. The proposed storm sewer lines could have effects on surrounding tree roots and possibly harm the trees themselves. Excavation for the lines and the associated grading in residential backyards could also serve as potential spot tree removal. This needs to be considered when cut and fill numbers are calculated on the east side of the street whether the sidewalk is installed at that location or not.

WEST SIDE CONCRETE NUMBERS (ORIGINAL)					
ITEM NUMBER	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	EXTENDED PRICE
	RELOCATE EXISTING MAILBOX	EA	\$300.00	19	\$5,700.00
608-50.07	PAVED APPROACH (7")	SY	\$65.00	687	\$44,655.00
608-60.00	CONCRETE SIDEWALK	SY	\$35.00	2336	\$81,760.00
608-60.07	CONCRETE SIDEWALK, CURB RAMP (7" THICK)	SY	\$200.00	111	\$22,200.00
608-60.98	TRUNCATED DOMES FOR CURB RAMPS (NEW CONSTRUCTION)	SF	\$16.00	205	\$3,280.00
703-90.15	MODULAR BLOCK WALL (H<4')	S.F.	\$45.00	540	\$24,300.00
	REMOVAL OF LARGE DIAMETER TREES*	EA	\$4,000.00	9	\$36,000.00
			WEST SIDE TOTAL (ORIGINAL)		\$217,895.00
*TREE REMOVAL PRICE PER EACH HAS BEEN BASED ON WDG'S LATEST BID PRICES RECEIVED IN THE LAST YEAR. TREE REMOVAL SHOWN ARE NECESSARY TO SIDEWALK CONSTRUCTION ONLY*					

EAST SIDE CONCRETE NUMBERS					
ITEM NUMBER	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	EXTENDED PRICE
	RELOCATE EXISTING MAILBOX	EA	\$300.00	19	\$5,700.00
	POTENTIAL RELOCATION OF STONE STRUCTURES OR ENTRANCE FENCES	LS	\$50,000.00	1	\$50,000.00
	PAVED APPROACH (7")	SY	\$65.00	687	\$44,655.00
	MODULAR BLOCK WALL (H<4') (2.5FT EXPOSED/ 1 FT BURIED)	SF	\$45.00	1925	\$86,625.00
	CONCRETE SIDEWALK	SY	\$35.00	2336	\$81,760.00
	CONCRETE SIDEWALK, CURB RAMP (7" THICK)	SY	\$200.00	111	\$22,200.00
	TRUNCATED DOMES FOR CURB RAMPS (NEW CONSTRUCTION)	SF	\$16.00	205	\$3,280.00
	REMOVAL OF LARGE DIAMETER TREES	EA	\$4,000.00	6	\$24,000.00
			EAST SIDE TOTAL		\$318,220.00
*THIS COST ESTIMATE COMPARISON DOES NOT INCLUDE THE ADDITIONAL PERMAMENT AND TEMPORARY SLOPE LICENSE EASEMENTS NEEDED WITH THE AREAS THAT WOULD REQUIRE GRADING AS OPPOSED TO RETAINING WALL*					
*THIS COST ESTIMATE DOES NOT INCLUDE THE COST OF EASEMENT PREPARATION/AQUISTITION FOR THE RELOCATION OF THE POWER POLES*					
*AMEREN HAS INDICATED THAT THE CITY IS RESPONSIBLE FOR CLEARING THE AREA PRIOR TO THE POLE RELOCATION. THIS WOULD ADD APPROXIMATELY \$50,000.00 TO THE COST OF THE TREE REMOVAL AND PRUNING ON THE EAST SIDE*					

INCREASE IF SIDEWALK WAS ON THE EAST SIDE **\$100,325.00**



EXHIBIT #1

POWERPOLE TO  
BE RELOCATED  
FOR SIDEWALK

DECORATIVE FENCE  
POSSIBLE RELOCATION  
(TO BE MOVED  
FURTHER BACK)

STORM SEWER  
MANHOLE TO BE  
RELOCATED FOR  
SIDEWALK

6 FT WIDE EAST  
SIDE SIDEWALK  
OR 5FT  
SIDEWALK WITH  
2FT BUFFER

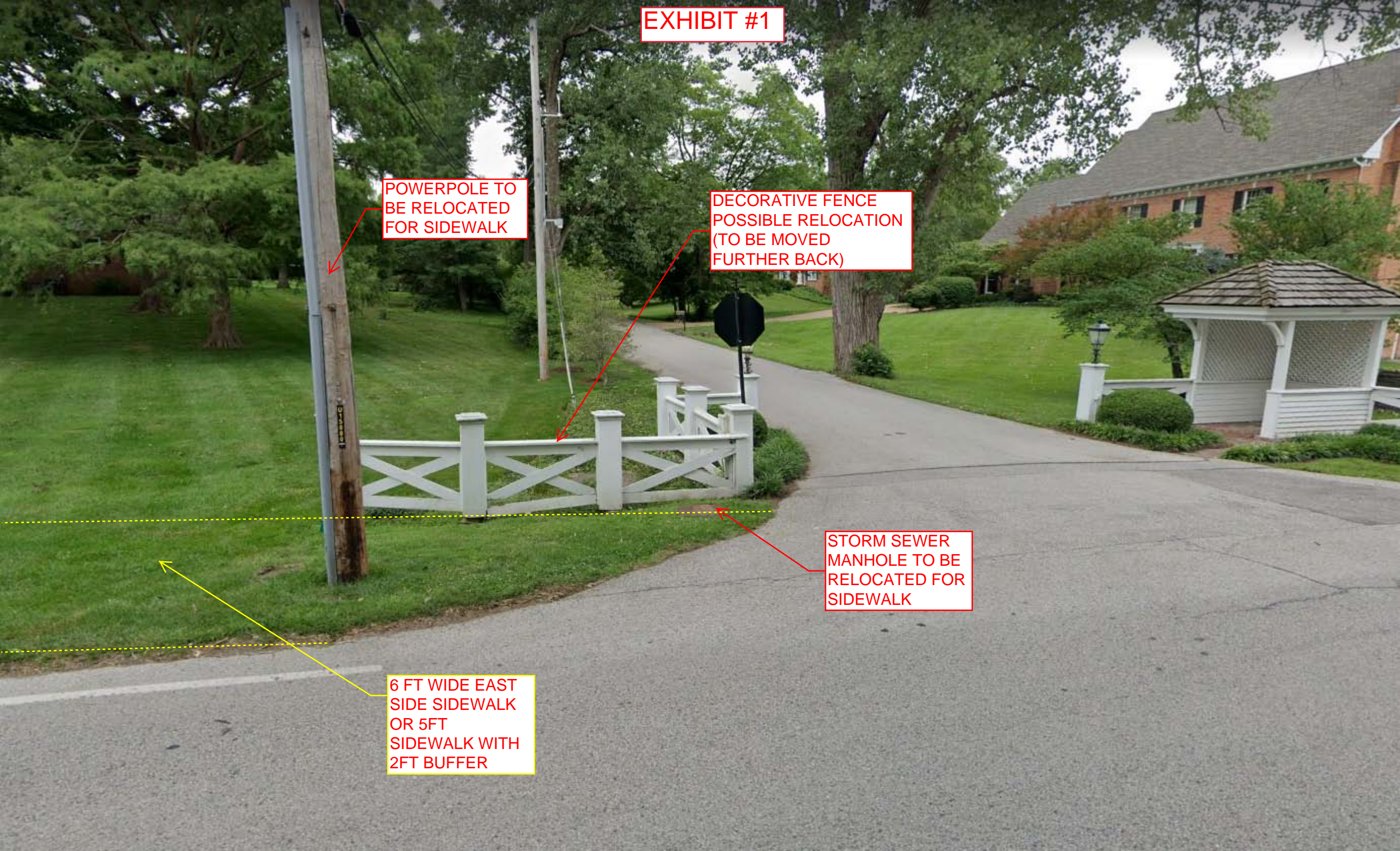




EXHIBIT #2

POWERPOLES  
TO BE  
RELOCATED FOR  
SIDEWALK

VARIOUS TREES  
TO BE REMOVED

STONE  
MONUMENT/  
MAILBOX TO BE  
RELOCATED

CONCRETE APRON  
INTERGRATED INTO  
SIDEWALK

6 FT WIDE EAST  
CONCRETE SIDEWALK  
ALONG BACK OF CURB  
OR 5FT WIDE  
SIDEWALKWITH 2FT  
BUFFER

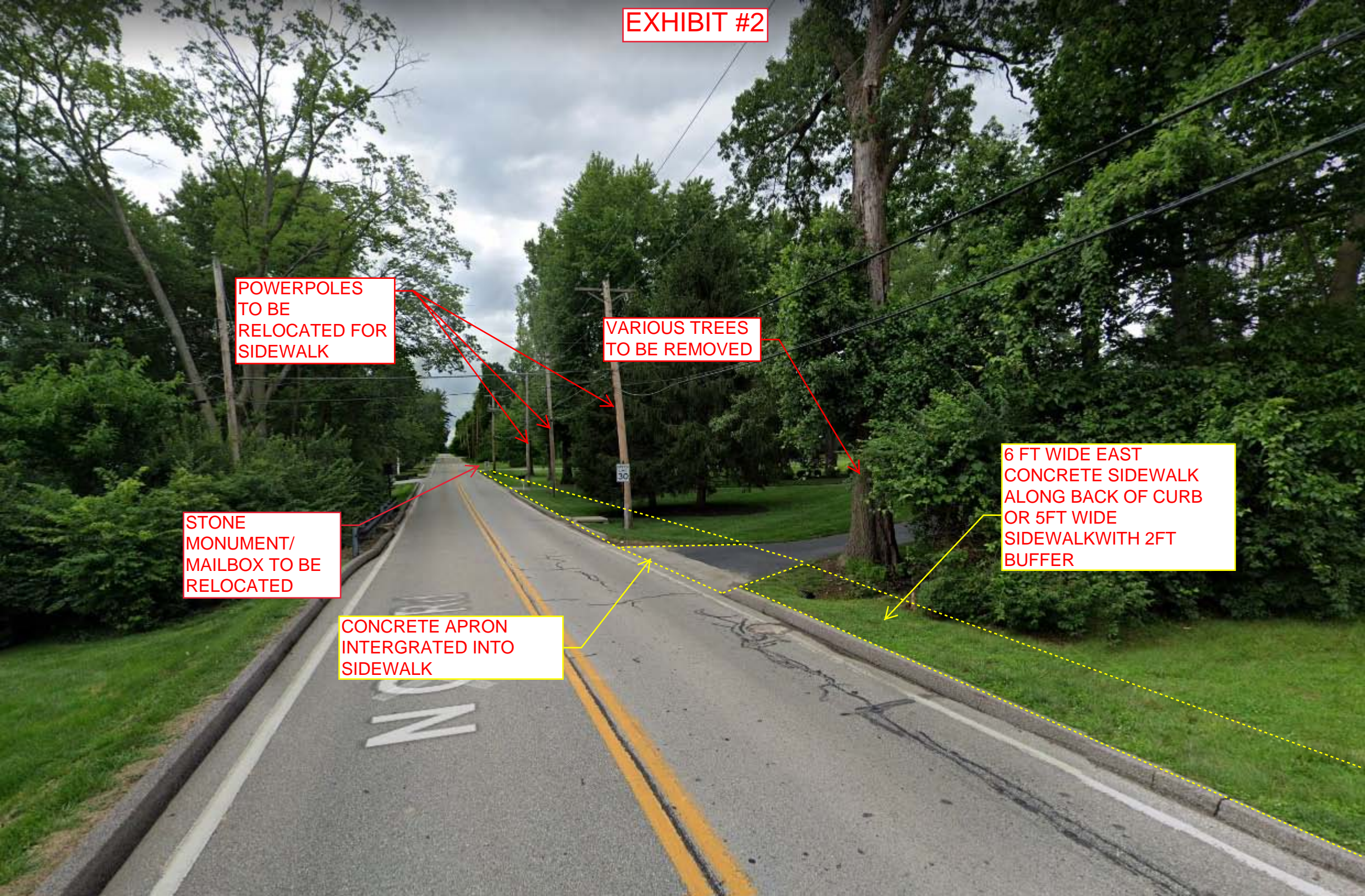




EXHIBIT #3

POWER POLES  
TO BE  
RELOCATED FOR  
SIDEWALK

TREE LINE TO BE  
REMOVED AND/OR  
CUT BACK FOR  
POWER POLE  
RELOCATION

PROPOSED 6FT  
WIDE SIDEWALK  
ALONG BACK OF  
CURB OR 5FT  
SIDEWALK WITH  
2FT BUFFER

FILL IN EXISTING  
DITCH FOR  
SIDEWALK AND  
STORM SEWER  
LINES

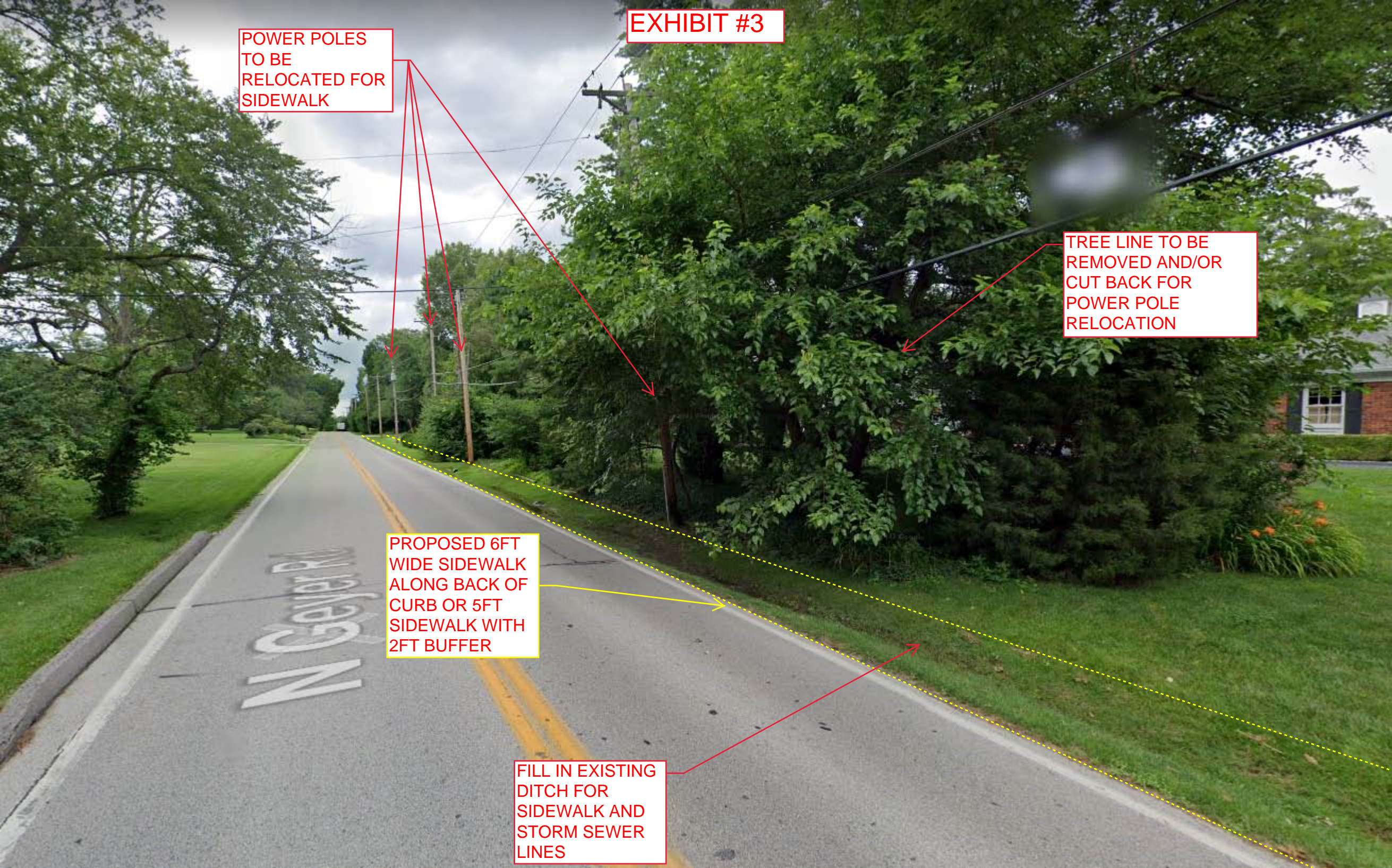




EXHIBIT #4

POWER POLES  
TO BE  
RELOCATED FOR  
SIDEWALK

6 FT WIDE  
SIDEWALK  
ALONG BACK OF  
CURB OR 5FT  
SIDEWALK WITH  
2FT BUFFER

DITCH TO BE  
FILLED FOR  
SIDEWALK AND  
STORM SEWER  
LINE

RETAINING WALL  
(2.5FT AVERAGE)

TREES TO BE  
REMOVED FOR  
SIDEWALK AND  
RETAINING WALL

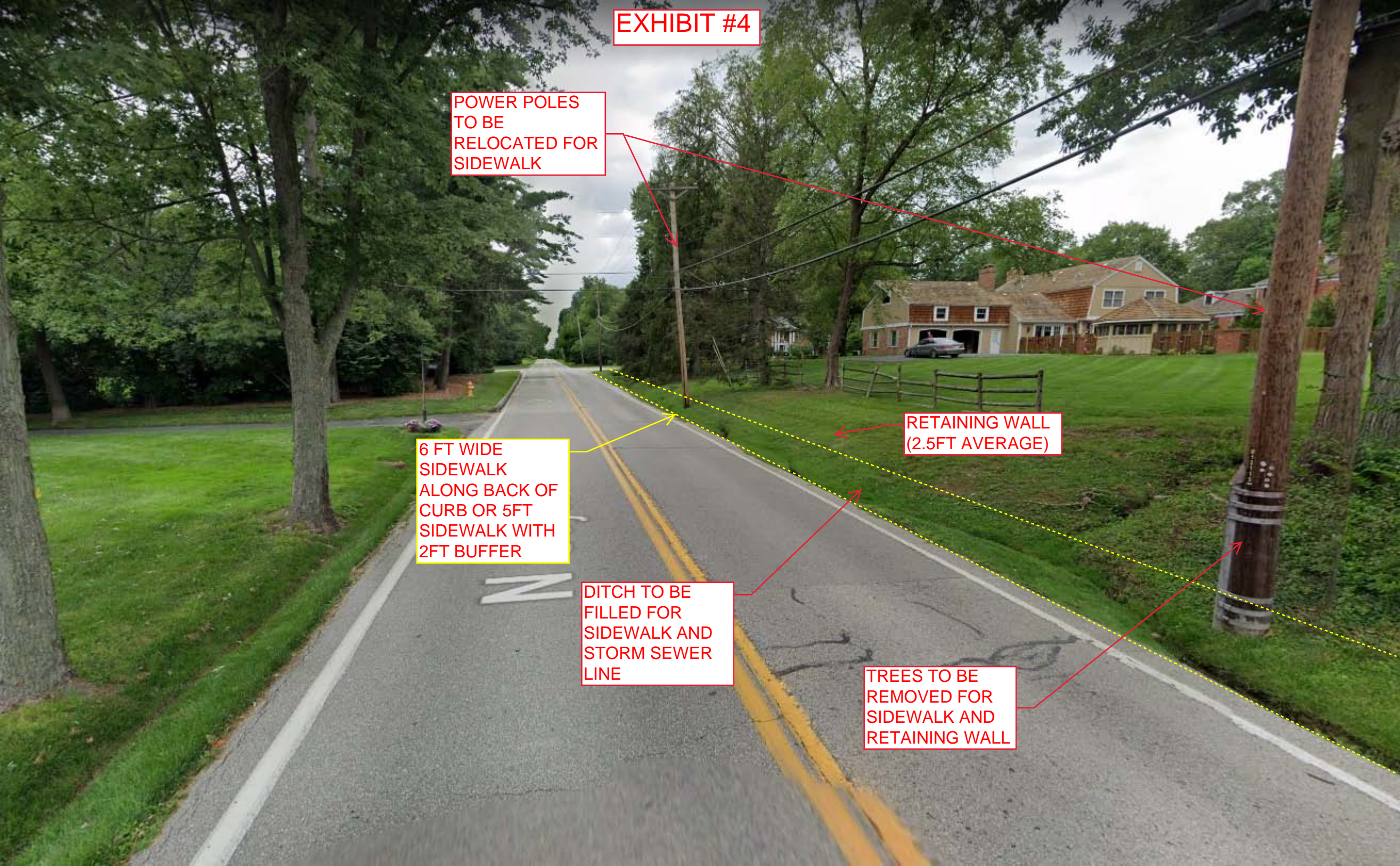




EXHIBIT #5

STONE MONUMENT/MAILBOX TO BE RELOCATED

POWER POLES TO BE RELOCATED FOR SIDEWALK

STONE MONUMENTS AND LANDSCAPING TO BE EITHER RELOCATED OR SHORTENED FOR SIDEWALK

TREE LINE TO BE REMOVED FOR THE POWER POLES TO BE RELOCATED

6FT WIDE SIDEWALK ALONG BACK OF CURB OR 5FT SIDEWALK WITH 2FT BUFFER

