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November 15, 2016

Planning, Programs and
Project Management Division
Planning Section

Dear Consulting Party:

The Louisville District, U.S. Army Corps of Engineers (Corps) is continuing its consultation under Section 106 of the National Historic Preservation Act for the Westfield Boulevard Alternative of the Phase 3B/South Warfleigh section of the Indianapolis North Flood Damage Reduction Project in the Marion County, Indiana.

Four historic properties determined eligible for listing to the National Register of Historic Places are recorded within the Area of Potential Effect of the Westfield Boulevard Alternative. They include a corner of the Butler-Fairview Historic District, the Holcomb Gardens segment of the Butler University Historic District, the Indianapolis Central Canal, and a house on 337 Ripple Road.

The Corps examined six alternatives under Section 106 to avoid, minimize or mitigate the adverse effects to historic properties. This process developed measures that avoided the adverse effects to the Butler-Fairview Historic District and the house at 337 Ripple Road through changes to the design of the project. This process also developed measures that minimized the adverse effects to Holcomb Gardens and the Indianapolis Central Canal, but additional measures will be needed to mitigate the remaining adverse effects to these properties. These measures will be captured through the development of a Memorandum of Agreement (MOA).

A copy of our analysis of the Section 106 alternatives and draft MOA are provided with this mailing. The Corps proposes a third consulting parties meeting on November 18, 2016 at the Indianapolis Public Library (4180 N. College Avenue) between 1:00-4:00 pm to discuss these documents prior to finalizing the MOA. Please let us know of your availability. Should you have any questions on the content of this package please contact me via email at keith.a.keeney@usace.army.mil or by telephone at (502) 315-6871. If you are unable to attend, we ask that you provide your comments to me by Friday, December 2, 2016

Sincerely,

Keith A. Keeney
Archaeologist,
Planning Section

The Development and Analysis of Alternatives under Section 106 of the National Historic Preservation Act to avoid, minimize, or mitigate the Adverse Effects to Historic Properties with the Indianapolis North Flood Damage Reduction Project, Marion County, Indiana.

BACKGROUND:

The Indianapolis North Flood Damage Reduction project, here in referred to as “Indy North project”, is a series of earthen levees and concrete I- and T-walls designed to provide flood risk benefits for local residents and businesses in the Broad Ripple, Monon, and Warfleigh neighborhoods of Indianapolis. Two phases of the Indy North project have been completed thus far, specifically the Phase 3A/Warfleigh section and the Phase 3C/Monon-Broad Ripple section. The final portion of the project is Phase 3B/South Warfleigh section which is still ongoing (**Figure 1**).

Through extensive engineering, economic and environmental analysis (U.S. Army Corps of Engineers 2013), it was determined that an alignment designated as the Westfield Boulevard Alternative was the National Economic Development (NED) plan for the federal government to complete the Indy North project (**Figure 2**). The alignment begins at the south end of the Riviera Club property, crosses the Indianapolis Central Canal with a canal gate structure near the intersection of W. Westfield Boulevard and N. Capitol Avenue, turns southwestward running between the Canal and Westfield Boulevard, crosses 52nd Street and terminates on natural high ground belonging to Butler University.

A record of decision was signed on June 27, 2014 supporting the Westfield Boulevard Alternative (U.S. Army Corps of Engineers 2014), but on the condition that compliance with Section 106 of the National Historic Preservation Act be completed prior to the consideration of alternatives and initiation of construction on the project. This document presents the Corps’ consideration of alternatives to avoid, minimize, or mitigate the adverse effects to historic properties identified within the Phase 3B3 segment of the Westfield Boulevard Alternative.

Four historic properties determined eligible for listing to the National Register of Historic Places are recorded within the Area of Potential Effect (APE) for the Westfield Boulevard Alternative. They include a corner of the Butler-Fairview Historic District, the Holcomb Gardens segment of the Butler University Historic District, the Indianapolis Central Canal, and a house at 337 Ripple Road (Terpstra et al. 2014) (**Figure 3**).

Through consultation, assessment and documentation, the Corps also determined that the proposed undertaking had an adverse effect to these historic properties. These adverse effects were visual for Butler-Fairview Historic District and the house at 337 Ripple Road, and physical for the Holcomb Gardens and the Indianapolis Central Canal as the construction of a floodwall and gate structure would the alter the historic setting, location, design, feeling, workmanship, or association with these historic properties. The Indiana State Historic Preservation Office (IN SHPO) concurred with this determination of adverse effect on October 24, 2014 (See attached).

CONSULTATION:

On May 6, 2016, the Corps distributed a Determination of Effect document on the proposed undertaking and initiated consultation. The invited consulting parties included state and local governments, state agencies, historic preservation groups, local businesses and universities, federally-listed Native American tribes, and 56 residents identified within the project's APE.

This invitation was accepted by Butler University, Citizen's Energy Group, the INSHPO, Indiana Landmarks, the Canal Society of Indiana, the City of Indianapolis, the town of Rocky Ripple, the Butler-Tarkington Neighborhood Association, the Rocky Ripple Community Association, Citizens Energy Group and 18 residents within the APE. The Advisory Council on Historic Preservation (ACHP) also became a consulting party to the project on September 14, 2016.

Input and feedback on the project and its adverse effects to historic properties were sought from consulting parties through two face-to-face meetings held at the Indianapolis Public Library (4180 North College Avenue) on July 6, 2016 and August 17, 2016. An opportunity was also given at these times to present proposals to avoid, minimize or mitigate the adverse effects to the identified historic properties.

Many of the participants at these meetings expressed an objection to the Westfield Boulevard Alternative as a whole, favoring instead an alignment that follows the White River. In terms of the historic properties themselves, a few of the participants wanted the project to either avoid the historic properties completely (particularly the Indianapolis Central Canal and Holcomb Gardens) or minimize the adverse effects through design changes to the project. Nearly all of the participants wanted to preserve the "park-like" setting of the neighborhood and historic properties, and maintain accessibility to and between them for recreational purposes. Public safety around the new floodwall was also a concern for the participants.

The Corps presented four historic mitigation proposals at these meeting for consideration. They included:

- National Register nominations for all of the affected historic properties.
- Commission of art and statues along the project.
- Development of a history of the historic properties and surrounding area.
- Development an informational pamphlet of the historic properties.

The property owners of Holcomb Gardens (Butler University) and the Indianapolis Central Canal (Citizens Energy Group) did not support the formal nomination of their properties for listing to the National Register of Historic Places (NRHP). In addition, the participants did not support the commissioning of art and statuary along the project. Thus they were not considered further for historic mitigation on this project.

Several proposals were presented by the participants to preserve the "park-setting", safety, and accessibility of the historic properties. They are enumerated below and in the order of the participants' priorities:

1. Develop a floodwall alignment that does not cross Indianapolis Central Canal.
2. Construct a paved pathway/trail along between Butler University and N. Illinois Street.

3. Place a short I-wall and removable top for the northern 700 feet of the floodwall (the highest segment) adjacent to the canal gate structure, or a full height passive floodwall system, based on cost.
4. Develop a floodwall alignment that avoids the destruction of mature trees.
5. Construct a pedestrian bridge at the canal gate structure.
6. Provide lighting at the canal gate structure.
7. Plant native grasses and bushes along the project.
8. Distribute claims information along with more detailed scopes for the contracts related to the floodwall's construction in case of damages to nearby structures.
9. Use decorative stone and/or rock style form liner for the permanent floodwall.
10. Relocate turtles identified within the canal.
11. Create a median between the north and south bound lanes of Westfield Boulevard and placing the floodwall there.
12. Create a new sign for the town of Rocky Ripple.
13. Include gates with light fixtures.
14. Provide a passive closure at the 52nd Street bridge.
15. Develop a floodwall alignment that does not cross Holcomb Gardens.
16. Include light fixtures along permanent floodwall at Holcomb Gardens.
17. Provide pedestrian openings through the permanent floodwall.
18. Utilize existing levee and high ground when possible.
19. Place floodwall alignment closer to Westfield Boulevard than the canal and place guard rails there for public safety.
20. Realign and connect the portion of the canal towpath affected by the canal gate structure.

Following these meetings, the Corps considered and reviewed six alternatives under Section 106 focusing on alignment and design changes to the project, as well as alignments presented from earlier studies, that would avoid the adverse effects to the historic properties. The Corps also studied the feasibility of all of the above proposals. Specifically, these alternatives were:

- A) A floodwall alignment that either avoids or minimizes the physical adverse effects to the Indianapolis Central Canal.
- B) A floodwall alignment that either avoids or minimizes the physical adverse effects to Holcomb Gardens.
- C) A floodwall alignment that either avoids or minimizes the visual adverse effects to Butler-Fairview Historic District and house at 337 Ripple Road.
- D) The adoption of measures that mitigate for the physical adverse effects to the Indianapolis Central Canal.
- E) The adoption of measures that mitigate for the physical adverse effects to Holcomb Gardens.
- F) The adoption of measures that mitigate for the visual adverse effects to Butler-Fairview Historic District and house at 337 Ripple Road.

The Corps determined that some of the consulting parties proposals could not be integrated into the above Section 106 alternatives, as they were either peripheral to the focus of this consultation on historic properties or were not viable options to avoid, minimize or mitigate the adverse effects caused by the project. They included proposals 5, 6, 8, 10, 11, 12, 13, 14, 16, 18 and 19.

A passive closure at the 52nd street bridges (14) and the utilization of the existing levee and high ground (18) are good suggestions to improve the design of the overall project, and can be adopted if costs allow and if the high ground is suitable to build upon. However, the proposals are not adequate measures to avoid, minimize or mitigate the adverse effects caused by the project to historic properties.

Lighting along the project (6, 13, and 16) are public safety related proposals that can also be considered as options for the project, based on cost. However, they do not avoid, minimize or mitigate adverse effects to the historic properties by the project, and may, in fact, create a new adverse effect that has not been accounted for in the consultation thus far.

The pedestrian bridge over the canal gate structure (5) is an accessibility-related proposal. As a pedestrian bridge already exists near the canal gate structure, a new pedestrian bridge at this location is unnecessary. In addition, such a proposal would be a risk to its operation and public safety, as the controls to the gate would be easily available to the public

While creating a median between the north and south bound lanes of Westfield Boulevard and placing the floodwall there (11) or placing the floodwall closer to W. Westfield Boulevard (19) would help avoid the impact to mature trees along the Indianapolis Central Canal, both proposals would add significant costs to the overall project and still not avoid or minimize the adverse effects to historic properties by the project

A designate area within the alignment for a new sign for the town of Rocky Ripple (12) is not a suitable measure to avoid or minimize adverse effects, and will only be included as part the project to replace any loss of existing signage. The relocation of turtles within the canal (10) was addressed in the Final Supplemental Environmental Impact Statement (FSEIS) and is not relevant to the process of consultation under Section 106 (U.S. Army Corps of Engineers 2013). A copy of FSEIS is available at <http://www.lrl.usace.army.mil/Missions/Civil-Works/Project-Planning/Indianapolis-North>. Lastly, the Corps cannot provide claims information and contractor scopes of work (8) to nearby residents who feel that their property will be affected by the construction of the project.

The remaining proposals (1, 2, 3, 4, 7, 9, 15, 17 and 20) were examined and evaluated as measures to avoid, minimize or mitigate adverse effects caused by the project. They are integrated and discussed in the below alternatives

ALTERNATIVES ANALYSIS:

A) A floodwall alignment that either avoids or minimizes the adverse effects to the Indianapolis Central Canal.

An examination of existing studies related to the Indy North project determined that the City of Indianapolis, the non-federal cost share partner for this project, in 2013 and 2015 studied two different versions of an alignment that avoided crossing of the Indianapolis Central Canal. These alignments were generally referred to as the “Canal West Bank Alignment” (Christopher B. Burke Engineering, LLC. 2013, 2015). A copy of these studies are available at

<http://www.indy.gov/eGov/City/DPW/RebuildIndy/Projects/Pages/IndianapolisNorthLeveeProject.aspx> . Though developed independent of the Indy North project, the alignments were evaluated by the Corps and considered as an alternative to the Westfield Boulevard Alternative.

The Canal West Bank Alignment started at the terminus of the Phase 3B-2 levee and ran parallel to the Indianapolis Central Canal. The downstream terminus of each alignment varied, however. The 2013 version of the alignment ended at natural high ground near 38th Street, while the 2015 version of the alignment ended on artificially created high ground along the canal tow path near Hampton Drive extended (**Figure 4**).

The 2013 version of the alignment extended beyond the limits of the congressionally authorization project, which terminates at Michigan Avenue (**Figure 5**). To change this limit, the Corps would need authorization from Congress. The Corps also determined that 2015 version of the alignment tied into artificially high ground along the canal tow path and was not suitable to provide the necessary flood risk benefits for residents and businesses living upstream.

Additional challenges were also identified for the Canal West Bank Alignment. While the alignment extended the line of protection for the project outside the congressional authorized project area, it also increased the length of the floodwall significantly and its overall costs. The increased costs included, but were not limited to, study costs, compliance and consultation efforts, construction and real estate costs, potential demolition of structures, relocation assistance for affected residents, utility relocations, vegetation removal, borrow material (if needed), additional engineering and design efforts, and construction management. The alignment potentially increased the number of adversely effected historic properties. For these reasons, the alternatives were not considered as a viable Section 106 alternatives to avoid or minimize adverse effects to the Indianapolis Central Canal.

Given these constraints, the Corps has determined that it is infeasible to develop a Section 106 alternative that avoids an adverse effect to the Indianapolis Central Canal and still qualify as a federal project. Rather we, with the help of consulting parties, propose to develop measures that will minimize the adverse effects through design changes or will mitigate the remaining adverse effects. These measures will be agreed to through the signing of a Memorandum of Agreement (MOA). The historic mitigation measures are presented in Alternative D. Proposed design changes to minimize the adverse effects to the canal include:

- Place a short I-wall and removable top for the northern 700 feet of the floodwall (the highest segment) adjacent to the canal gate structure, or a full height passive floodwall system, based on cost.
- Plant native grasses and bushes along the canal.
- Develop a floodwall alignment that avoids damaging the canal and the destruction of mature trees.
- Use decorative stone and/or rock style form liner for the permanent floodwall.
- Use pedestrian openings along the permanent floodwall for accessibility.
- Construct of a paved pathway/trail along between Butler University and canal gate structure to insure connectivity.
- Reconnect the portion of the canal tow path affected by the construction of the canal gate structure.

B) A floodwall alignment that either avoids or minimizes adverse effects to Holcomb Gardens.

A face-to-face information meeting was held on October 13, 2016 at Butler University between university officials and staff, the City of Indianapolis, and the Corps to discuss the floodwall alignment through Holcomb Gardens and its impact on mature trees, a defining characteristic of Holcomb Gardens. Additional comments were gathered on the Butler University's preferred alignment through the gardens and the defined limits of the gardens.

Butler University officials favored an alignment that followed the White River and not the Westfield Boulevard Alternative. Concerning the floodwall alignment through Holcomb Gardens, they favored a path that was adjacent to the Indianapolis Central Canal to the west, rather than to the east by the Westfield Boulevard Alternative.

As defined by Butler University, the limits of Holcomb Garden are 52nd Street to the north, the Indianapolis Central Canal to the west, Garden Road to the south, and a line of locust trees that borders the Butler University ball field and running tract to the east (see **Figure 3**).

An examination of existing studies related to the Indy North project determined that several alternatives were examined as part of the SEIS and a 2009 Value Engineering report of the project that, if implemented, would have avoided crossing Holcomb Gardens, and thus the adverse effect (U.S. Army Corps of Engineers 2013 and Lewis and Zimmerman Associates, Inc. 2009) Specifically, these alternatives included the 56th Street Alternative, the 56th Street Alternative-Illinois Street Variation, the Rocky Ripple Alternative, the CF-9 Alternative and the CF-14 Alternative.

The 56th Street Alternative consisted of approximately 944 linear feet of floodwall between the southern end of the Riviera Club property and high ground along W.56th Street (**Figure 6**). The Illinois Street variation is similar to the 56th Street Alternative but heads north of the Riviera Club property, eastward across N. Illinois Street, the Indianapolis Central Canal and W. Westfield Boulevard, and terminates on high ground just east of a bank (**Figure 7**). Both required the construction of a canal gate structure across the Indianapolis Central Canal near the intersection of W. Westfield Boulevard and N. Capitol Avenue (U.S. Army Corps of Engineers 2013). Neither alternative was selected as the NED plan in the ROD (U.S. Army Corps of Engineers 2014) as they did not provide flood risks benefits downstream of the project including to Butler University and the Butler-Tarkington neighborhood. In addition, the alternatives were not supported by the City of Indianapolis. For these reasons, this alternative was not considered as a viable Section 106 alternative to avoid or minimize adverse effects to Holcomb Gardens.

The Rocky Ripple Alternative was studied during the 1996 General Re-evaluation Report and Environmental Impact Statement, and again during the SEIS (U.S. Army Corps of Engineers 1996, 2013). Its course generally followed the White River from the Riviera Club property, going around the town of Rocky Ripple, across the Indianapolis Central Canal, and terminating on high ground south of Holcomb Gardens (**Figure 8**). This alternative is very close to the alignment preferred by Butler University and the participants of the two consulting parties meetings.

The alternative involved a combination of floodwalls and levees across its length with a canal gate structure across the Indianapolis Central Canal. The alternative also would require the acquisition and demolition of 43 structures (including 22 private residences) and most of the riparian environment along the White River. The alternative was not selected as the preferred plan in the ROD due to its significant taking of property, significant project costs, and potential to affect more historic properties than the Westfield Boulevard Alternative. For these reasons, this alternative was not considered as a viable Section 106 alternative to avoid or minimize adverse effects to Holcomb Gardens.

The CF-9 Alternative of the Corps' 2009 Value Engineering Report is similar to the Westfield Boulevard Alternative, crossing the Indianapolis Central Canal at N. Capitol Avenue and running southward along W. Westfield Boulevard. But rather than crossing into Holcomb Gardens, the alignment would go eastward along 52nd Street to Hinesley Avenue, then head southward to Butler University property terminating at high ground in a parking lot below the football stadium and the Hinkle Field House, a National Historic Landmark (**Figure 9**). The CF-9 Alternative was not selected as a viable alternative for the project as it did not provide additional flood risk benefits to the project versus the cost of the overall project (Lewis & Zimmerman 2009). In addition, the avoidance of adverse effects to Holcomb Gardens by the alternative would create adverse effects for the Hinkle Field House and require consultation with the Secretary of Interior. For these reasons, this alternative was not considered as a viable Section 106 alternative to avoid or minimize adverse effects to Holcomb Gardens.

The CF-14 Alternative of the Corps' 2009 Value Engineering Report is also similar to the Westfield Boulevard Alternative. But rather than going on the eastern border of Holcomb Gardens, it followed the Indianapolis Central Canal to the west (**Figure 10**). Such was expressed as the preferred alignment through the gardens by Butler University during the October 2016 meeting. The CF-14 Alternative was not selected as a viable alternative for the project as it did not provide additional flood risk benefits versus the cost of the overall project (Lewis & Zimmerman 2009). In addition the alignment would not avoid, minimize, or mitigate the adverse effect to Holcomb Garden: it would simply move the adverse effect from the east side of the Holcomb Gardens to the west side. For these reasons, this alternative was not considered as a viable Section 106 alternative to avoid or minimize adverse effects to Holcomb Gardens.

Given these constraints, the Corps has determined that it is infeasible to develop a Section 106 alternative that avoids an adverse effect to the Holcomb Gardens and still qualify as a federal project. Rather, we, with the help of consulting parties, propose to develop measures that will minimize the adverse effects through design changes or that will mitigate the remaining adverse effects. These measures would be agreed to through the signing of a MOA. The historic mitigation measures are presented in Alternative E. Proposed design changes to minimize the adverse effects to the Holcomb Gardens include:

- Develop a floodwall alignment that avoids or minimizes the destruction of mature trees within the gardens.
- Use decorative stone and/or rock style form liner for the permanent floodwall.
- Plant native grasses and bushes along the permanent floodwall and within the Gardens.
- Use pedestrian openings in the permanent floodwall to insure accessibility.

- Construct a paved pathway/trail along between Butler University and canal gate structure to insure connectivity.

C) A wall alignment that either avoids or minimizes the adverse effects to Butler-Fairview Historic District and house at 337 Ripple Road.

Unlike Holcomb Gardens and the Indianapolis Central Canal, which are physically affected by the project through new construction, Butler-Fairview Historic District and house at 337 Ripple Road are affected visually by the project. Thus the Corps developed a Section 106 alternative with measures developed by consulting parties that would avoid the visual effects to historic properties by the project. They include:

- Place a short I-wall and removable top for the northern 700 feet of the floodwall (the highest segment) adjacent to the canal gate structure, or a full height passive floodwall system, based on cost.
- Plant native grasses and bushes along the canal.
- Use decorative stone and/or rock style form liner for the permanent floodwall.

D) The adoption of measures that mitigate for the adverse effects to the Indianapolis Central Canal.

The Corps developed a Section 106 alternative with measures that would mitigate the physical adverse effects to Indianapolis Central Canal by the project. They include:

- Development of a history of the Indianapolis Central Canal.
- Development of an informational pamphlet on the Indianapolis Central Canal.
- Develop and place signage along the Indianapolis Central Canal to explain its history and significance.

E) The adoption of measures that mitigate for the adverse effects to Holcomb Gardens.

The Corps developed a Section 106 alternative with measures that would mitigate the physical adverse effects to Holcomb Gardens by the project. They include:

- Develop a history of Holcomb Gardens.
- Develop an informational pamphlet on the Holcomb Gardens.
- Place tree placards on selected trees within Holcomb Gardens.

F) The adoption of measures that mitigate for the adverse effects to the Butler Fairview Historic District and the house at 337 Ripple Road.

As measures under Alternative C addressed the visual effects to these historic properties, no historic mitigation will be proposed for this alternative.

CONCLUSIONS:

Based on the Corps' analysis of Alternatives A and B, it was determined that no Section 106 alternative could be developed that avoided the adverse effects to Holcomb Gardens and the Indianapolis Central Canal. We proposed design changes to minimize the adverse effects to

historic properties and the historic mitigation measures presented in Alternatives D and E. These measures will be captured through the signing of a MOA. It was also determined that the measures presented in Alternative C were sufficient to avoid the adverse effects to the Butler-Fairview Historic District and house at 337 Ripple Road.

REFERENCES:

Christopher B. Burke Engineering, LLC.

2013 White River Flood Protection Alternatives Feasibility Analysis. Prepared for the City of Indianapolis, September 2013.

2015 Canal West Bank Alignment Analysis. Prepared for the City of Indianapolis, September 2015.

Lewis and Zimmerman Associates, Inc.

2009 Value Engineering Study Report: Indianapolis, White River North Flood Damage Reduction Project, Phase IIIB (P2# 112589), Consolidated City of Indianapolis, Marion County, Indiana. Prepared for the Louisville District, U.S. Army Corps of Engineers, June 8-12, 2009

Terpstra, Doug S., Ross Nelson, and Ulrika S. Zay

2014 Historic Properties Report for the Proposed Indianapolis North Flood Damage Reduction Project, City of Indianapolis, Washington Township, Marion County, Indiana. Prepared by ASC Group, Inc., Indianapolis, Indiana.

U.S. Army Corps of Engineers

1996 Indianapolis North Flood Damage Reduction Feasibility Study, Indianapolis, Indiana, General Reevaluation Report and Final Environmental Impact Statement. Prepared by the Louisville District, September 1996.

2013 Final Supplement Environmental Impact Statement for the White River, Indianapolis North Flood Damage Reduction Project In Marion County, Indiana. Prepared by the Louisville District. April 2013.

2014 Record of Decision on Indianapolis North Flood Damage Reduction Project. Prepared by the Louisville District. Release No. 14-006, 27 June 2014.

Figures

Figure 1. Phases of the White River, Indianapolis North Flood Damage Reduction Project.

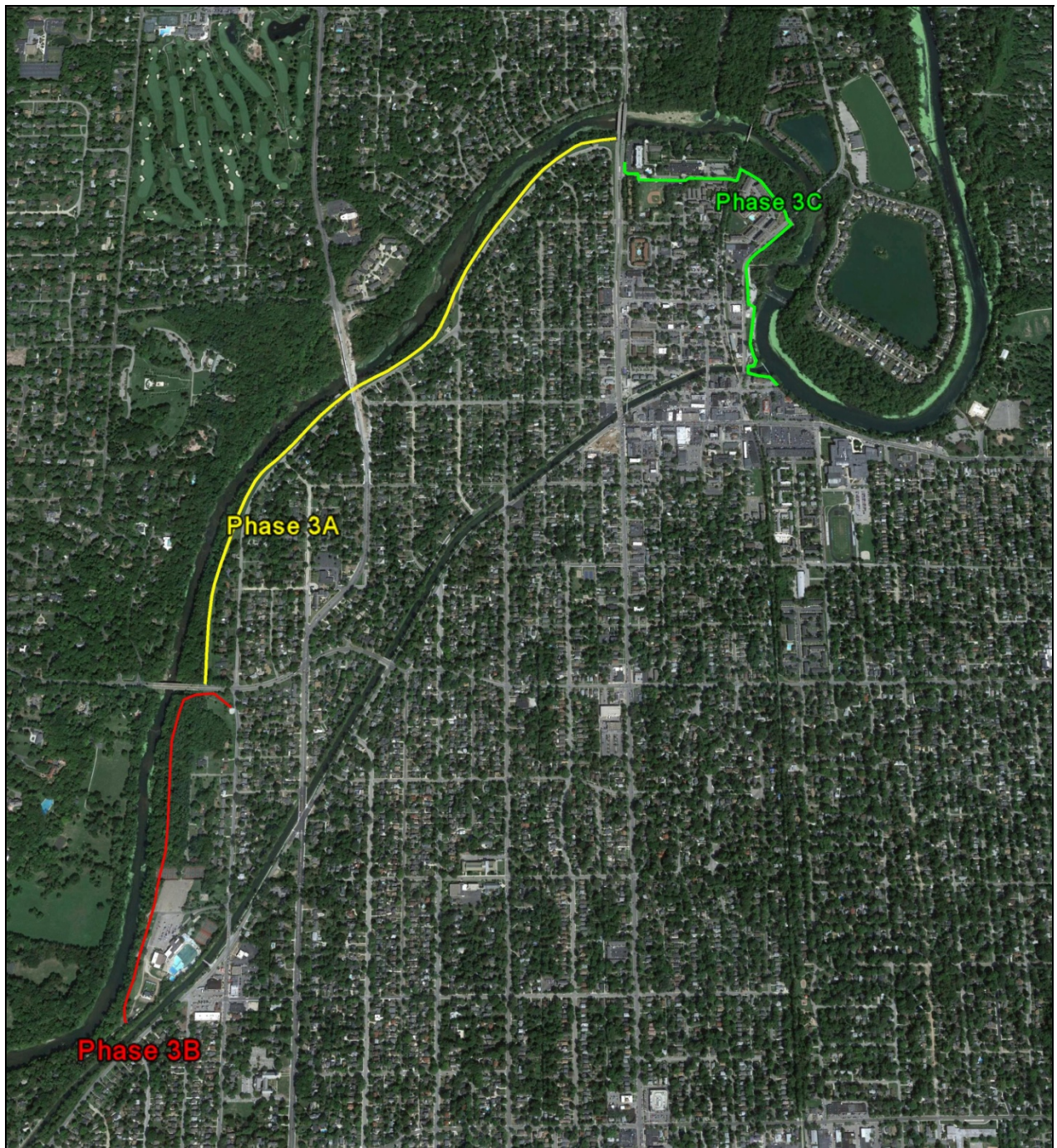


Figure 2. The Westfield Boulevard Alternative.

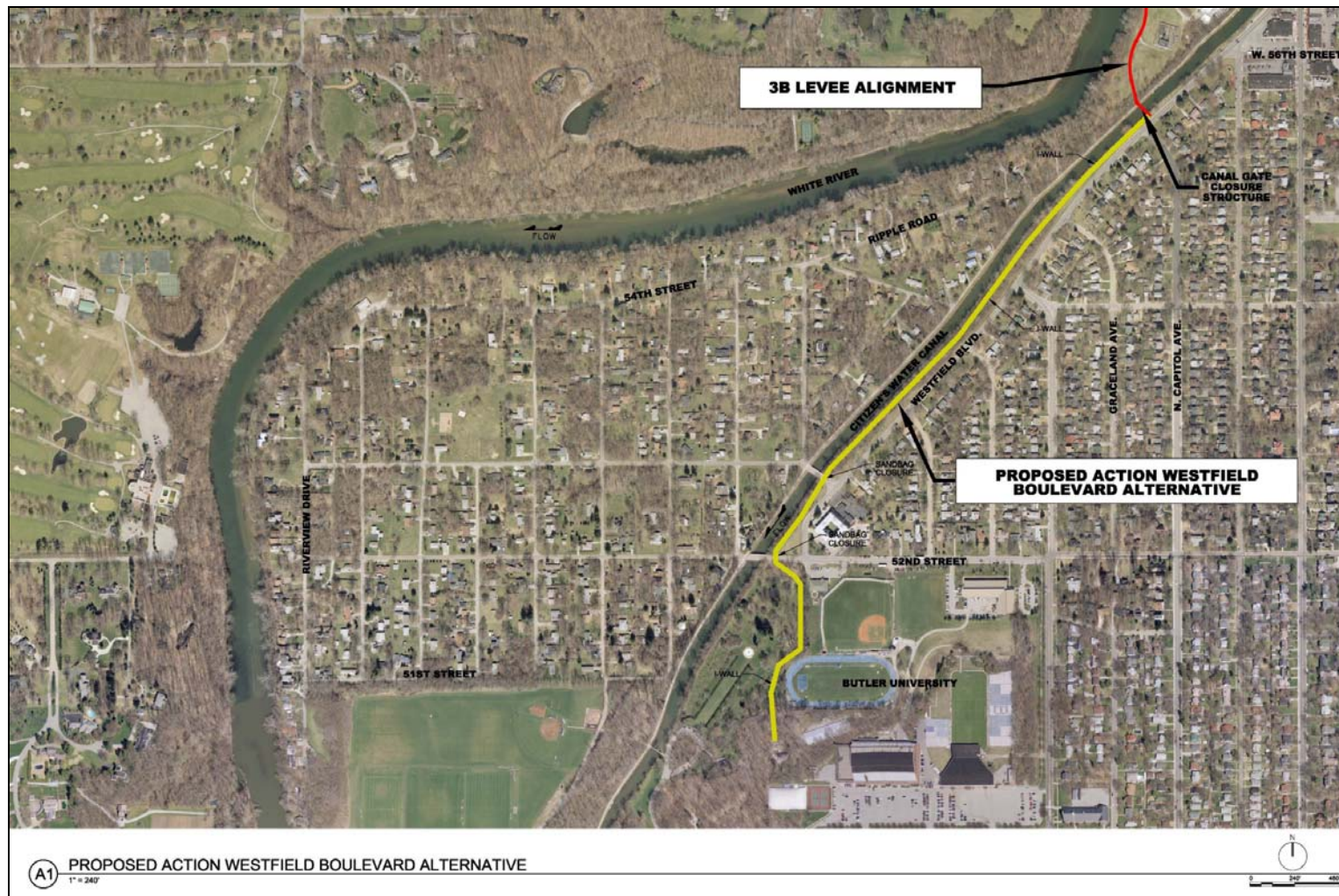


Figure 3. Historic Properties located within the Westfield Boulevard Alternative.

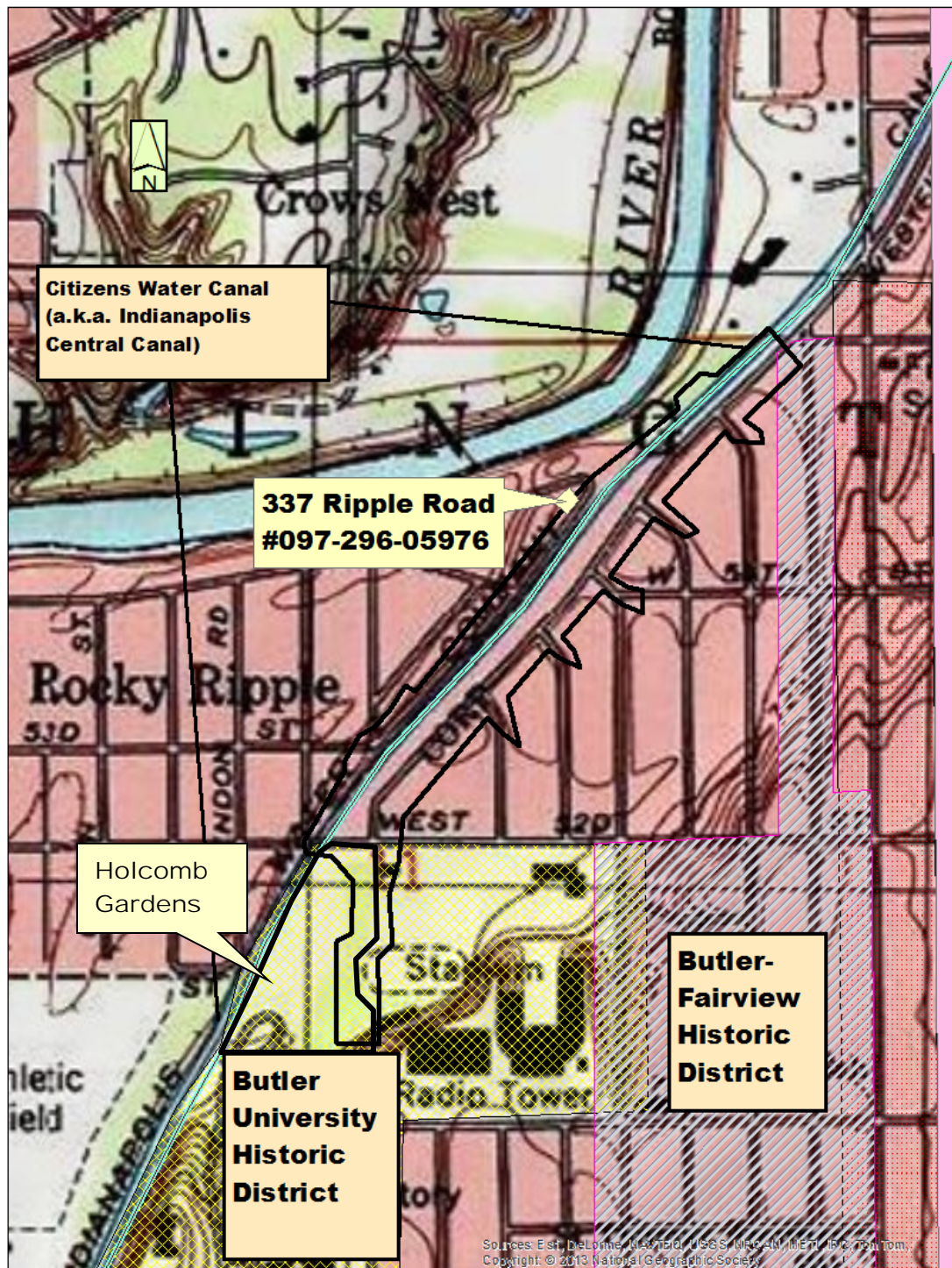


Figure 4. The Canal West Bank Alignment (Borrowed from 2013 Burke Engineering Report).

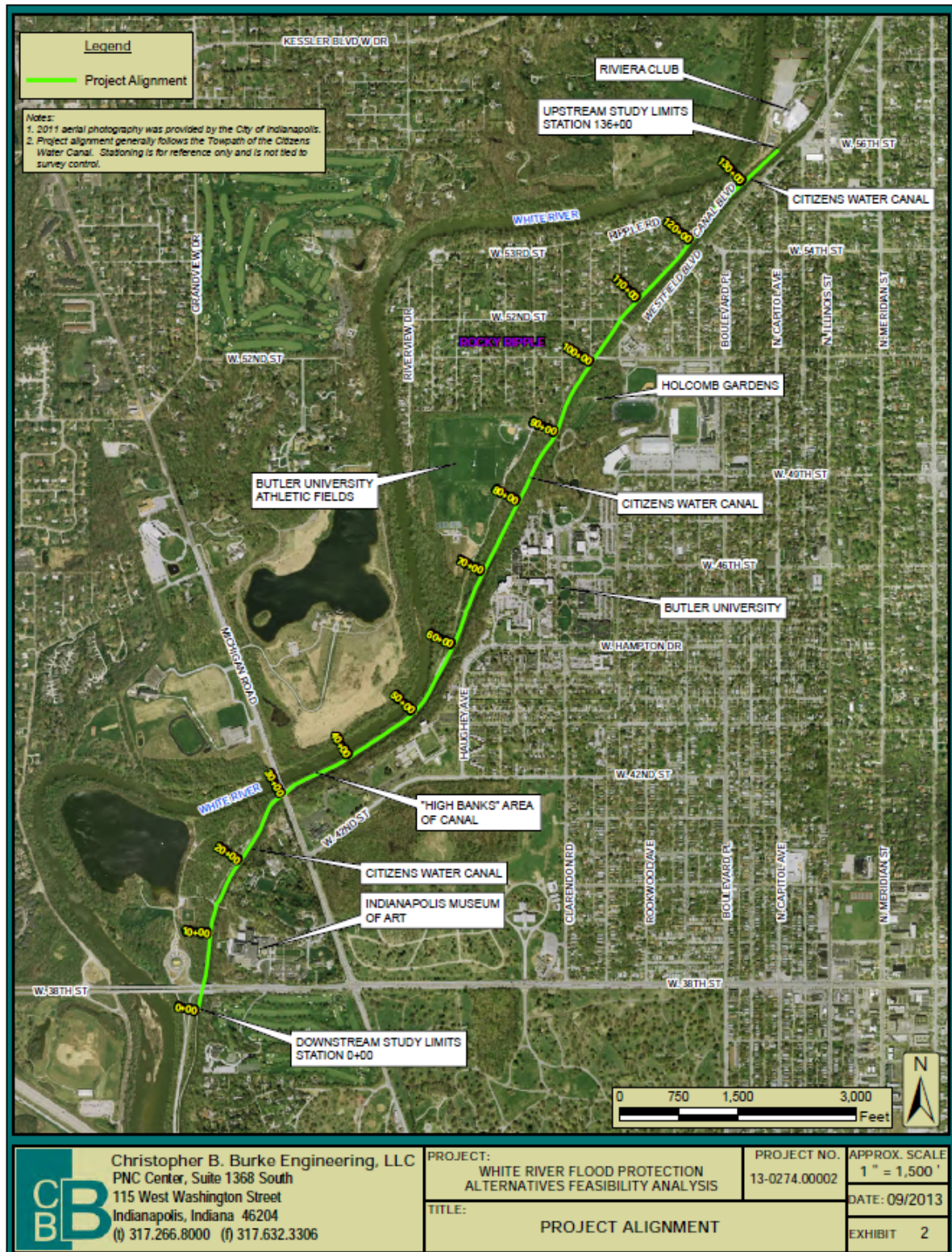


Figure 5. The 1946 Authorized Limits for the White River, Indianapolis North Flood Damage Reduction Project.

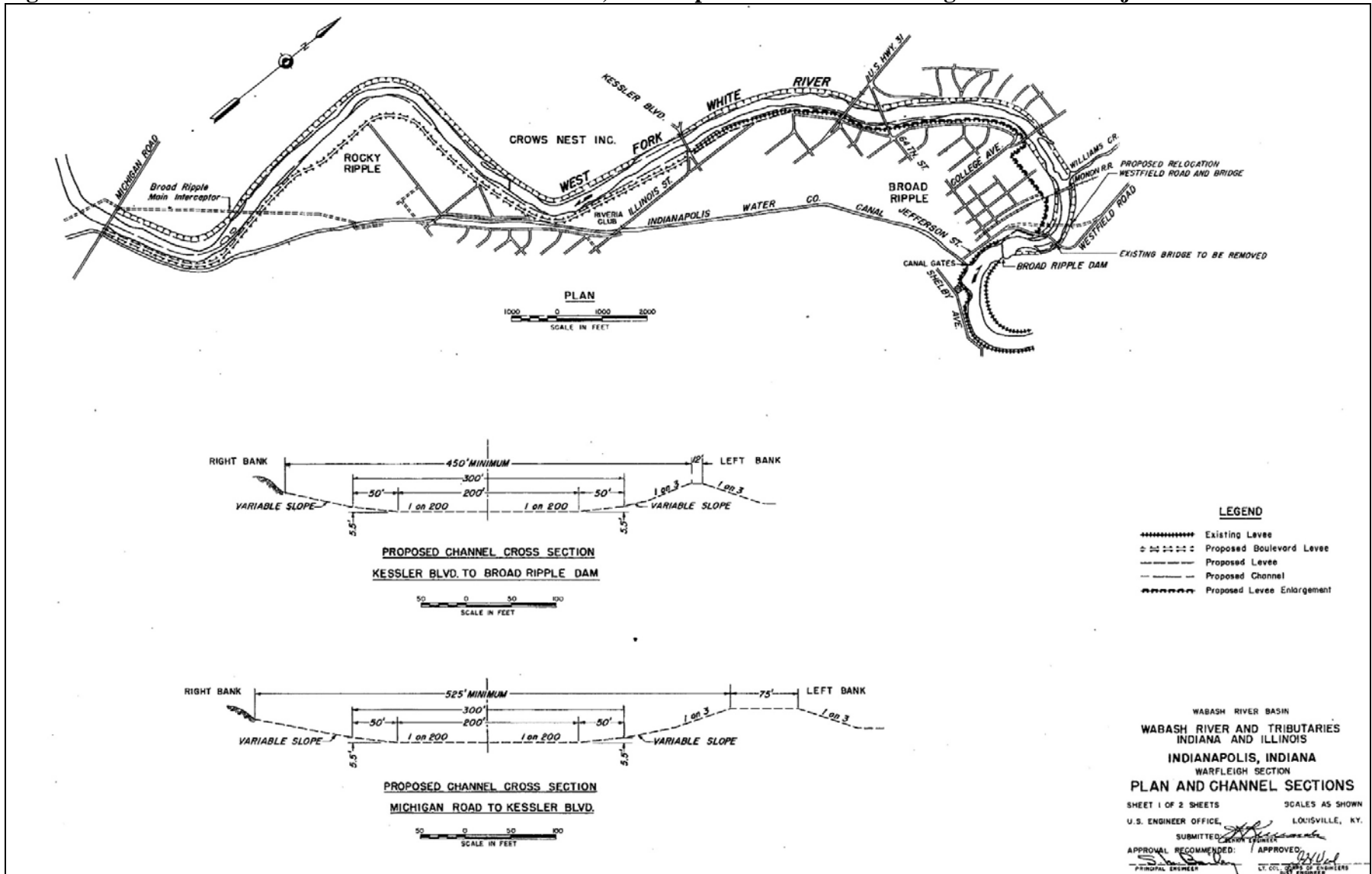


Figure 6. The 56th Street Alternative.

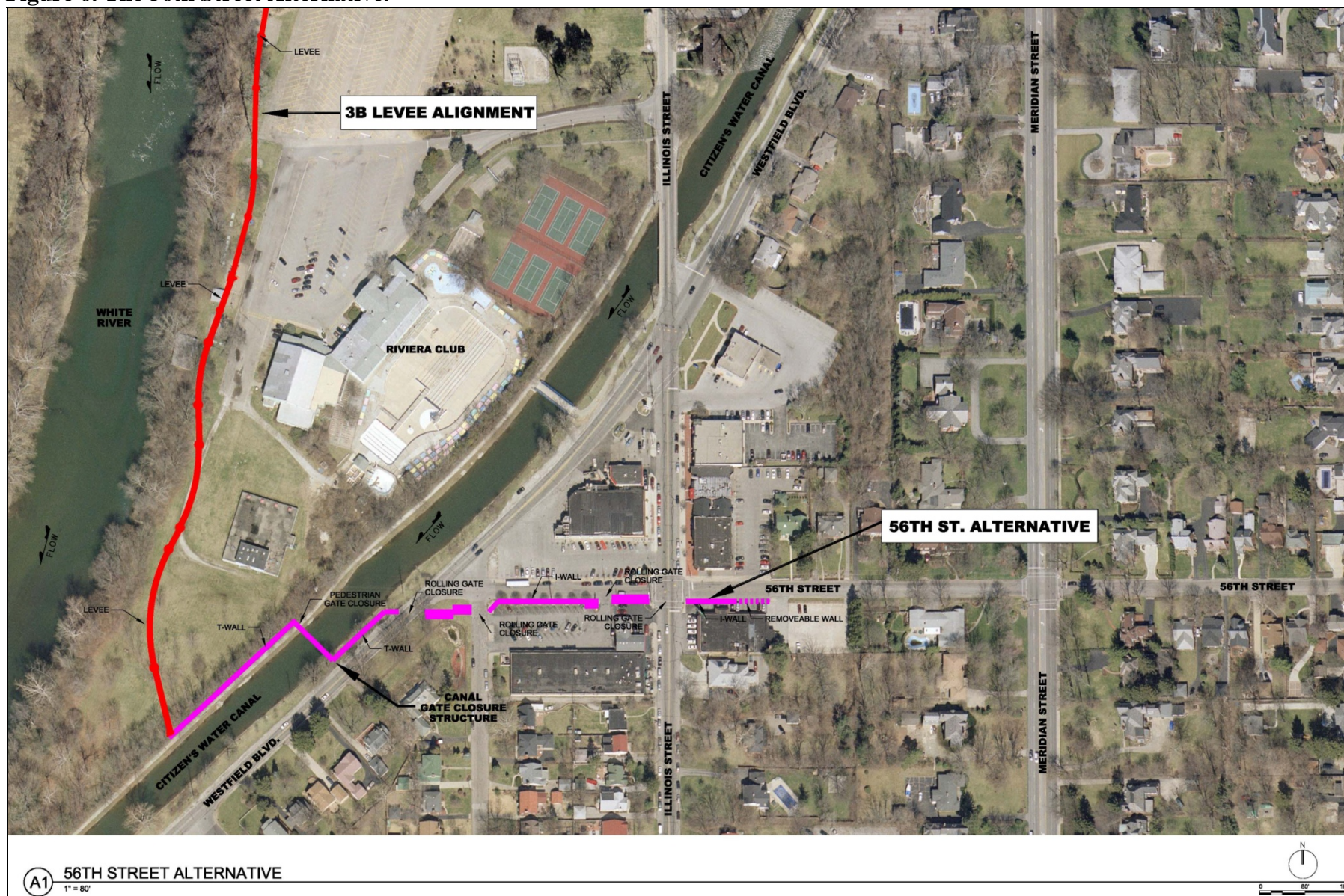


Figure 7. The 56th Street Alternative-Illinois Street Variation.

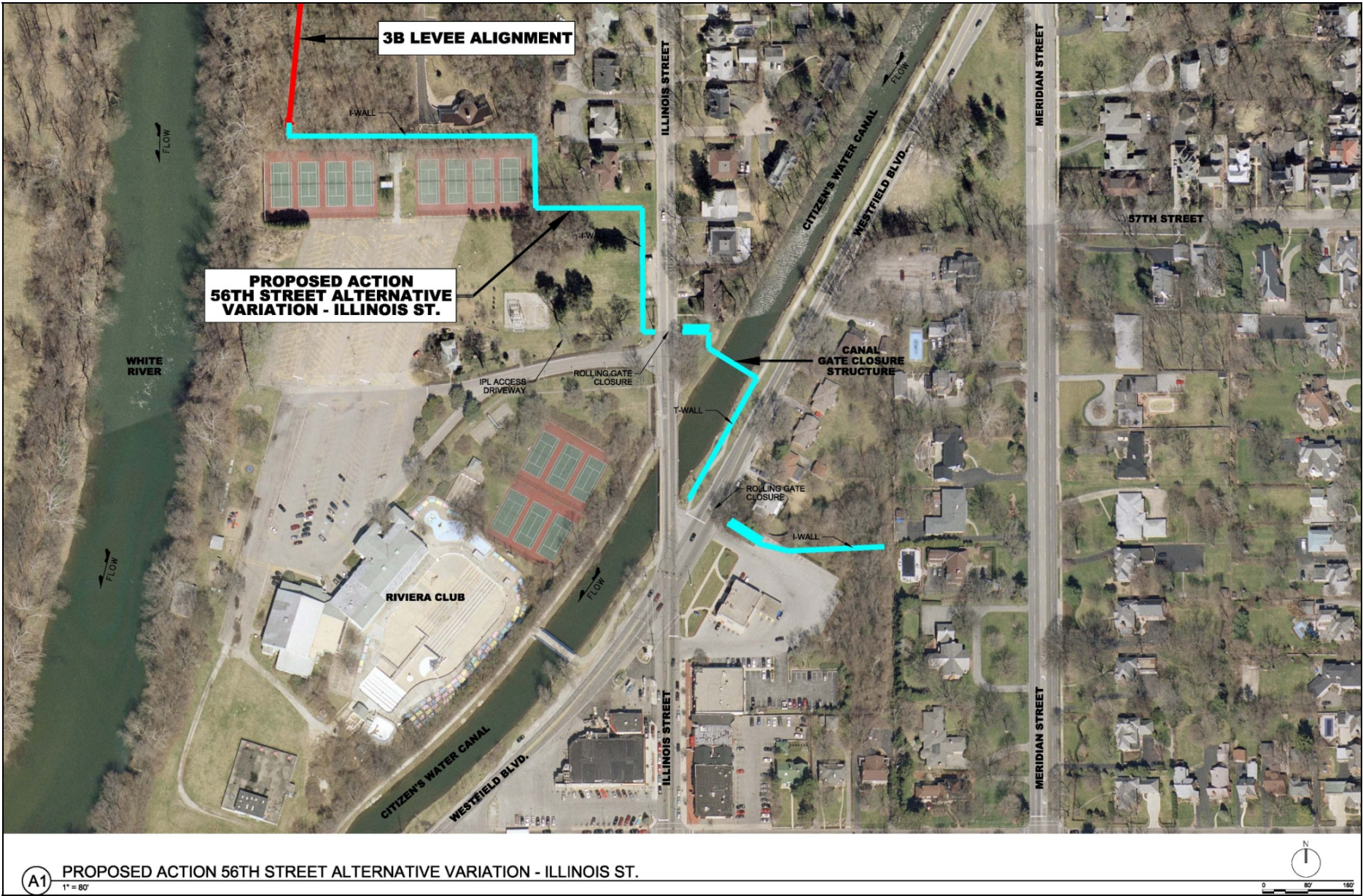


Figure 8. The Rocky Ripple Alternative.

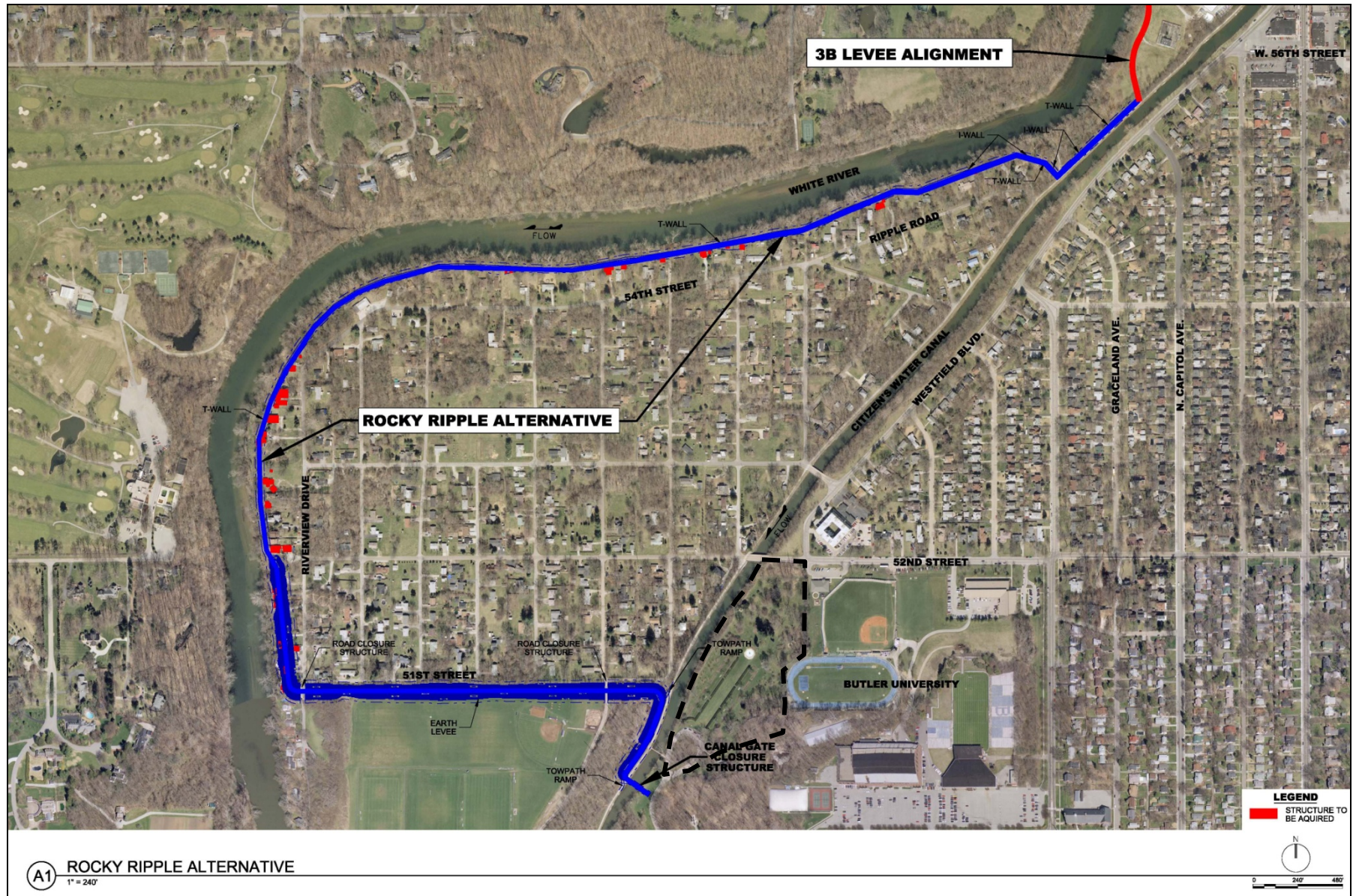


Figure 9. Alternative CF-9.

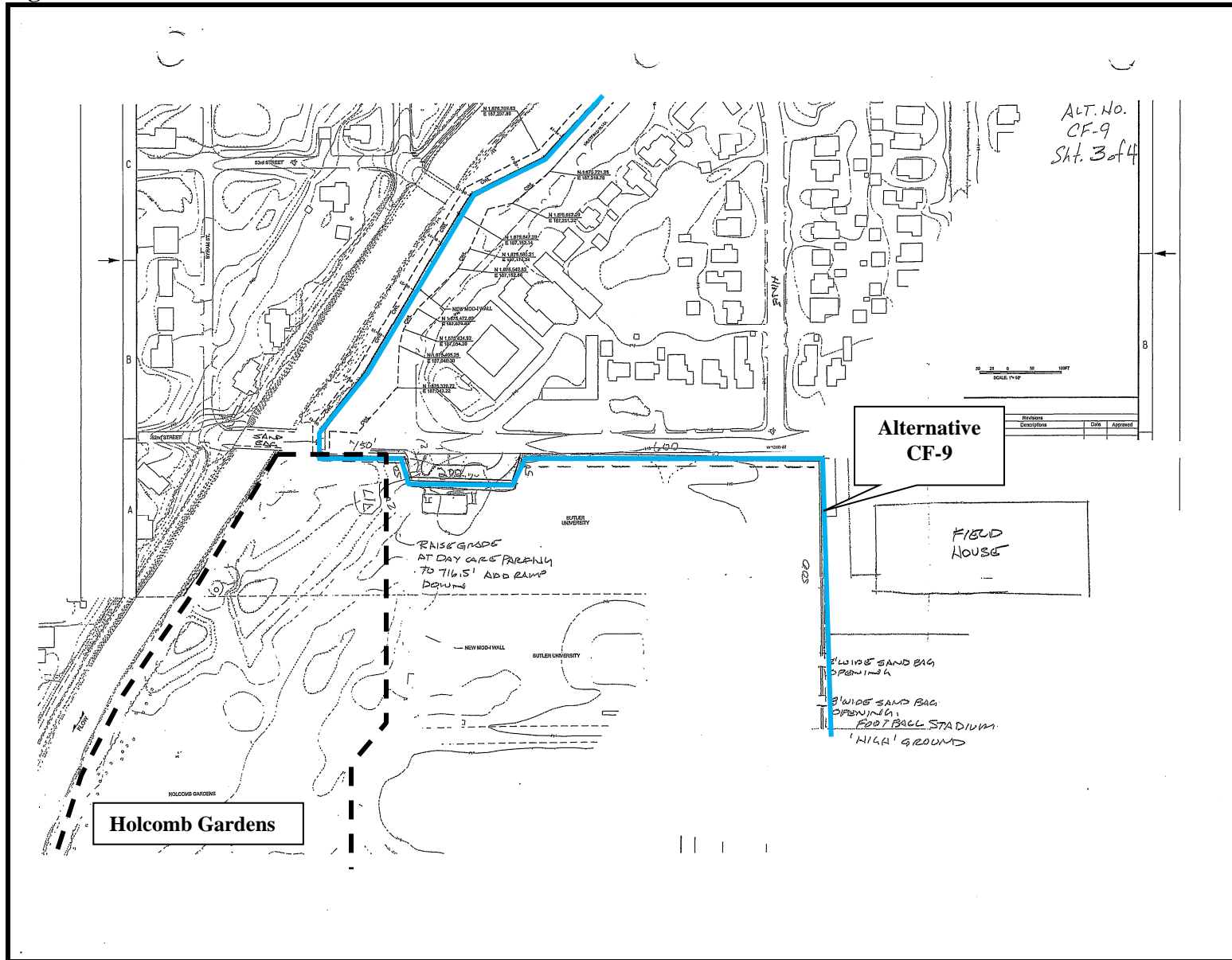


Figure 10. Alternative CF-14.

