

Vrooman Road Purpose and Need

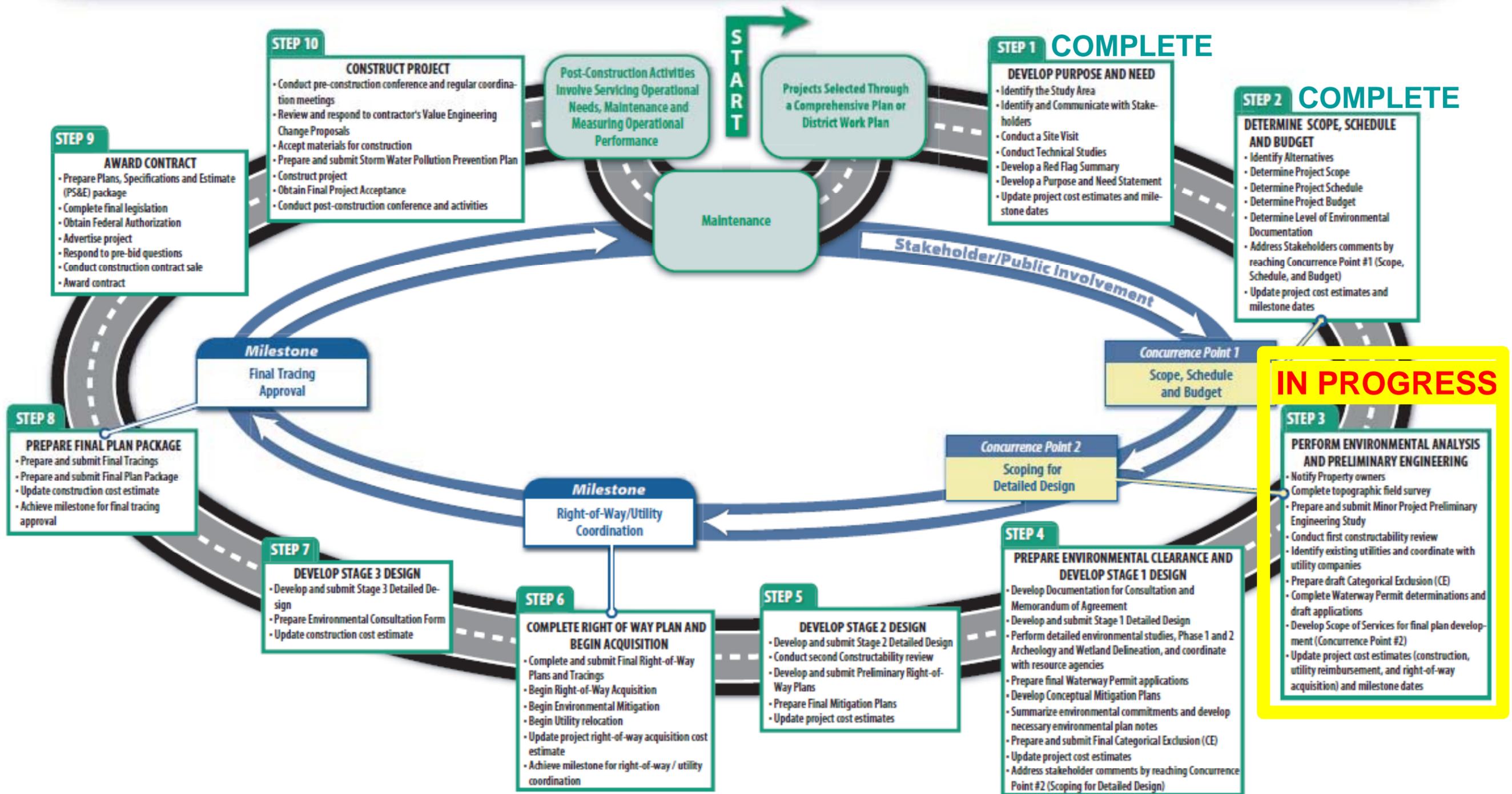


- The purpose of this project is to replace the existing, structurally-deficient and functionally-obsolete Vrooman Road Bridge (SFN 4337107) over the Grand River, that regularly closes during flood events with a bridge and roadway facility that meets current design standards and improves existing geometrics correcting existing roadway geometric deficiencies, while providing a safe, efficient route.
- The existing Vrooman Road Bridge (SFN 4337107) is a structurally-deficient and functionally-obsolete bridge that regularly closes during flood events. The existing roadway approaches to the bridge are characterized by numerous geometric deficiencies, which can be directly linked to high accident rates at various points along the roadway. The existing Vrooman Road and SR-84 intersection is characterized by numerous geometric deficiencies, which can be directly linked to high accident rates at the intersection.

Vrooman Road Bridge



Ohio Department of Transportation Project Development Process (PDP) for Minor Projects



Previous Project Stakeholder Meetings, Alternative Evaluations, and Documentation



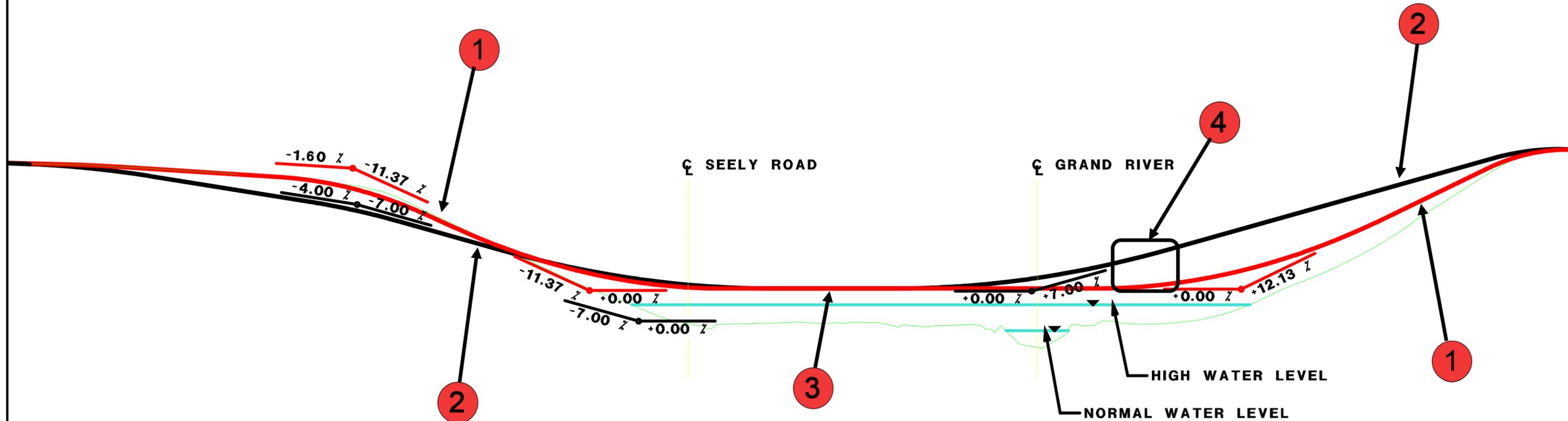
Concept Number	Concept Description	January 21, 2004	February 11, 2004	March 31, 2004	June 9, 2004	July 7, 2004	July 28, 2004	February 16, 2005	September 21, 2005	December 12, 2005	January 30, 2007	May 1, 2008
		SCM-1 Describe Process and Define Project Problem	SCM-2 Refine Purpose and Need and Identify Concepts	SCM-3 Refine Identified Concepts and Identify Associated Impacts	SCM-4 Prepare for Public Meeting and Review Alternatives	Public Meeting	SCM-5 Review Input from Public Meeting and Refine Alternatives	SCM-6 Review Refined Alternatives and Identify Preferred Alternative	ODOT OES Coordination Meeting	Draft Planning Study	Planning Study Revision 1	Planning Study Revision 2
1	No - Build	No concepts identified during this meeting	Concept identified	Concept advanced	Concept advanced	Concept presented as Alternative E	Concept advanced as Alternative E	Alternative E "No-Build"	Alternative E "No-Build"	Does not satisfy Purpose and Need. Alternative eliminated from further consideration.		
2	Replace bridge in existing location and elevation.	No concepts identified during this meeting	Concept identified	Concept advanced	Concept advanced	Concept presented as Alternative D	Concept advanced as Alternative D	Alternative D replace existing	Alternative D replace existing	Does not satisfy Purpose and Need. Alternative eliminated from further consideration.		
3	Realign Vrooman to address geometric deficiencies	No concepts identified during this meeting	Concept identified	Concept B sweeping curved bridge to Madison	Concept eliminated from further consideration. Similar to Concept A with substantially higher negative impacts.							
				Concept C tightly curved bridge to Madison	Concept eliminated from further consideration. Concept does not satisfy elements of Purpose and Need Statement.							
				Concept D low level bridge to Madison	Concept advanced as Alternative C	Concept presented as Alternative C	Concept advanced as Alternative C	Alternative C low level bridge to Madison	Alternative C low level bridge to Madison	Does not satisfy primary elements of Purpose and Need. Alternative eliminated from further consideration.		
4	Realign Vrooman to connect with Lane	No concepts identified during this meeting	Concept identified	Concept E high level bridge to Lane	Concept combined with Concept F advanced as Alternative D	Concept advanced as Alternative B						
5	Vacate Vrooman SR-84 to Seeley	No concepts identified during this meeting	Concept identified	Concept eliminated from further consideration. Concept does not satisfy elements of Purpose and Need Statement.								
6	Relocate Vrooman / I-90 Interchange	No concepts identified during this meeting	Concept identified	Concept eliminated from further consideration. Concept does not satisfy elements of Purpose and Need Statement. New interchange would have major environmental impacts.								
7	High Level bridge to Lane or Madison	No concepts identified during this meeting	Concept identified	Concept A high level bridge to Madison	Concept advanced as Alternative A	Concept presented as Alternative A	Concept advanced as Alternative A	Alternative A high level bridge to Madison	Alternative A high level bridge to Madison	Satisfies all Elements of Purpose and Need		
8	High Level bridge to Lane or Madison	No concepts identified during this meeting	Concept identified	Concept F high level bridge to Lane	Concept combined with Concept E advanced as Alternative D	Concept presented as Alternative B	Concept advanced as Alternative B	Alternative B high level bridge to Lane	Alternative B high level bridge to Lane	Satisfies all Elements of Purpose and Need. Identified as "Preferred Alternative".		
9	Improve Vrooman from SR-84 to IR-90 to design criteria	No concepts identified during this meeting	Design principal incorporated in all advanced concepts									
10	Reroute Vrooman east, not to Lane	No concepts identified during this meeting	Concept identified	Concept eliminated from further consideration. Essentially identical to Concepts E and F with increased environmental impacts. Also similar to Concept G.								
11	ODOT "Alternative 5"	No concepts identified during this meeting	Concept identified	Concept G	Concept eliminated from further consideration because of major environmental impacts as a result of extensive new right of way needs, especially park lands.							
12	Modify Grand River to address flooding (spillway)	No concepts identified during this meeting	Concept identified	Concept eliminated from further consideration because of major environmental impacts. Cannot construct dam or spillway in Scenic River.								



SCM – "x" = "Stakeholder Committee Meetings"

Planning Study – Alternative C Profile

Areas of Concern



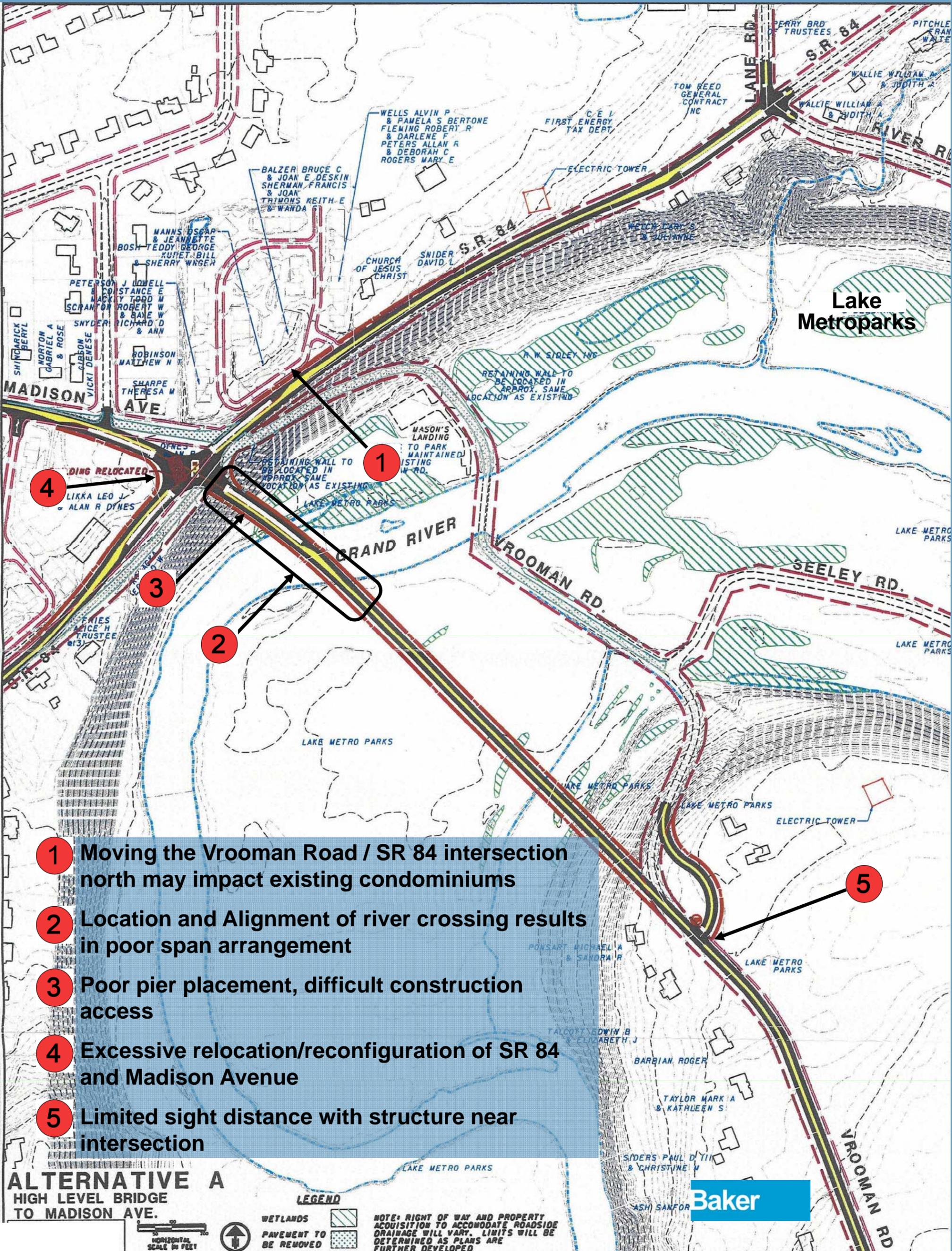
- 1 Existing grade violates design criterion
- 2 Proposed grade satisfies design criterion but remain steep slopes
- 3 Low point in profile results in drainage issues
- 4 Proposed profile prevents access to Mason's Landing Park
- 5 Increased noise levels resulting from stopping and starting on grade

LEGEND

- EXISTING GROUNDLINE PROFILE
- EXISTING PROFILE ALONG VROOMAN ROAD
- PROPOSED PROFILE USING MAXIMUM ALLOWABLE GRADES

Planning Study - Alternative A

Areas of Concern



- 1 Moving the Vrooman Road / SR 84 intersection north may impact existing condominiums
- 2 Location and Alignment of river crossing results in poor span arrangement
- 3 Poor pier placement, difficult construction access
- 4 Excessive relocation/reconfiguration of SR 84 and Madison Avenue
- 5 Limited sight distance with structure near intersection

ALTERNATIVE A
HIGH LEVEL BRIDGE
TO MADISON AVE.



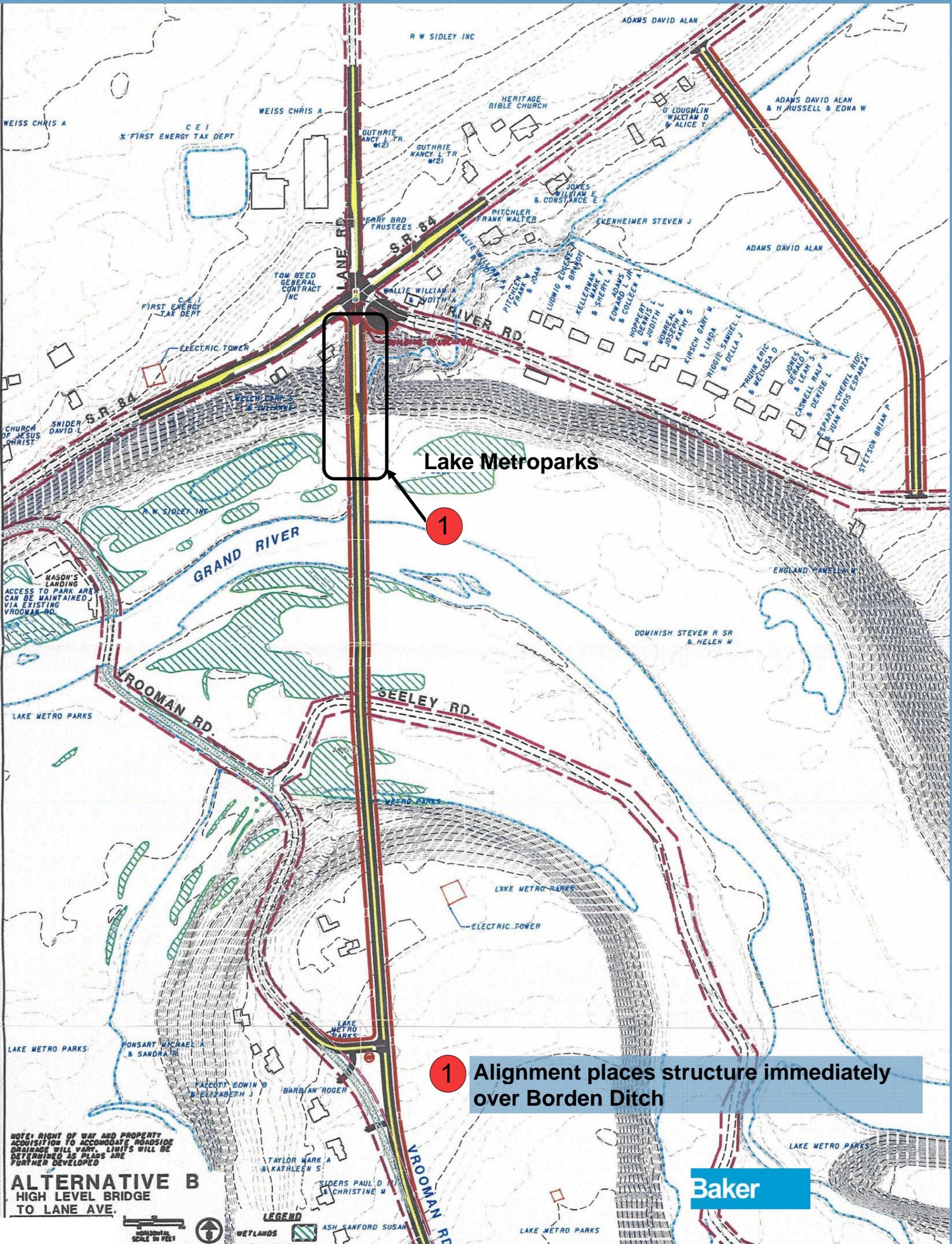
LEGEND

- WETLANDS
- PAVEMENT TO BE REMOVED

NOTE: RIGHT OF WAY AND PROPERTY ACQUISITION TO ACCOMMODATE ROADSIDE DRAINAGE WILL VARY. LIMITS WILL BE DETERMINED AS PLANS ARE FURTHER DEVELOPED



Planning Study - Alternative B Areas of Concern



Lake Metroparks

1

1

Alignment places structure immediately over Borden Ditch

ALTERNATIVE B
HIGH LEVEL BRIDGE
TO LANE AVE.

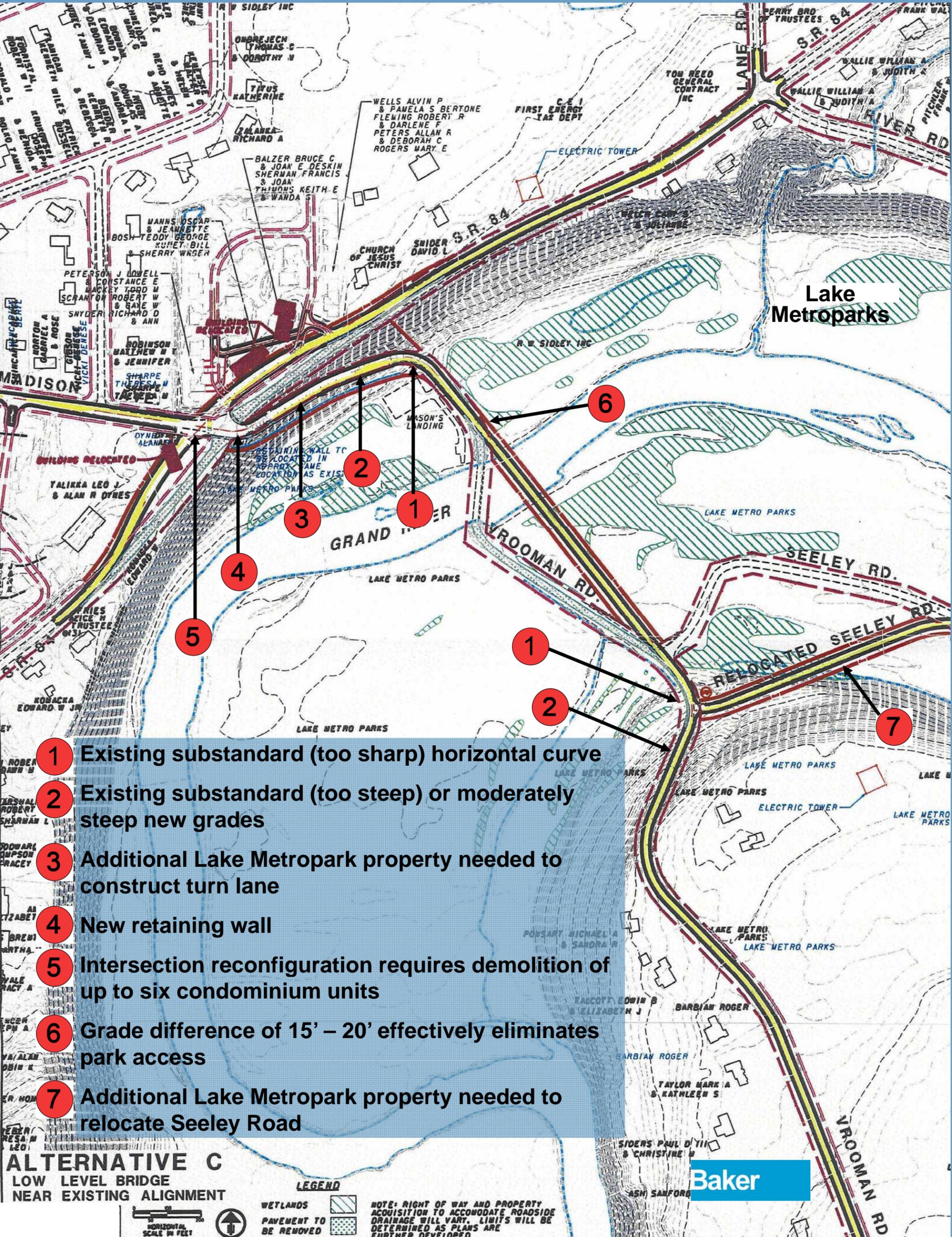
NOTE: RIGHT OF WAY AND PROPERTY ACQUISITION TO ACCOMMODATE ROADSIDE DRAINAGE WILL VARY. LIMITS WILL BE DETERMINED AS PLANS ARE FURTHER DEVELOPED

LEGEND
WETLANDS
SCALE 1" = 100'

Baker

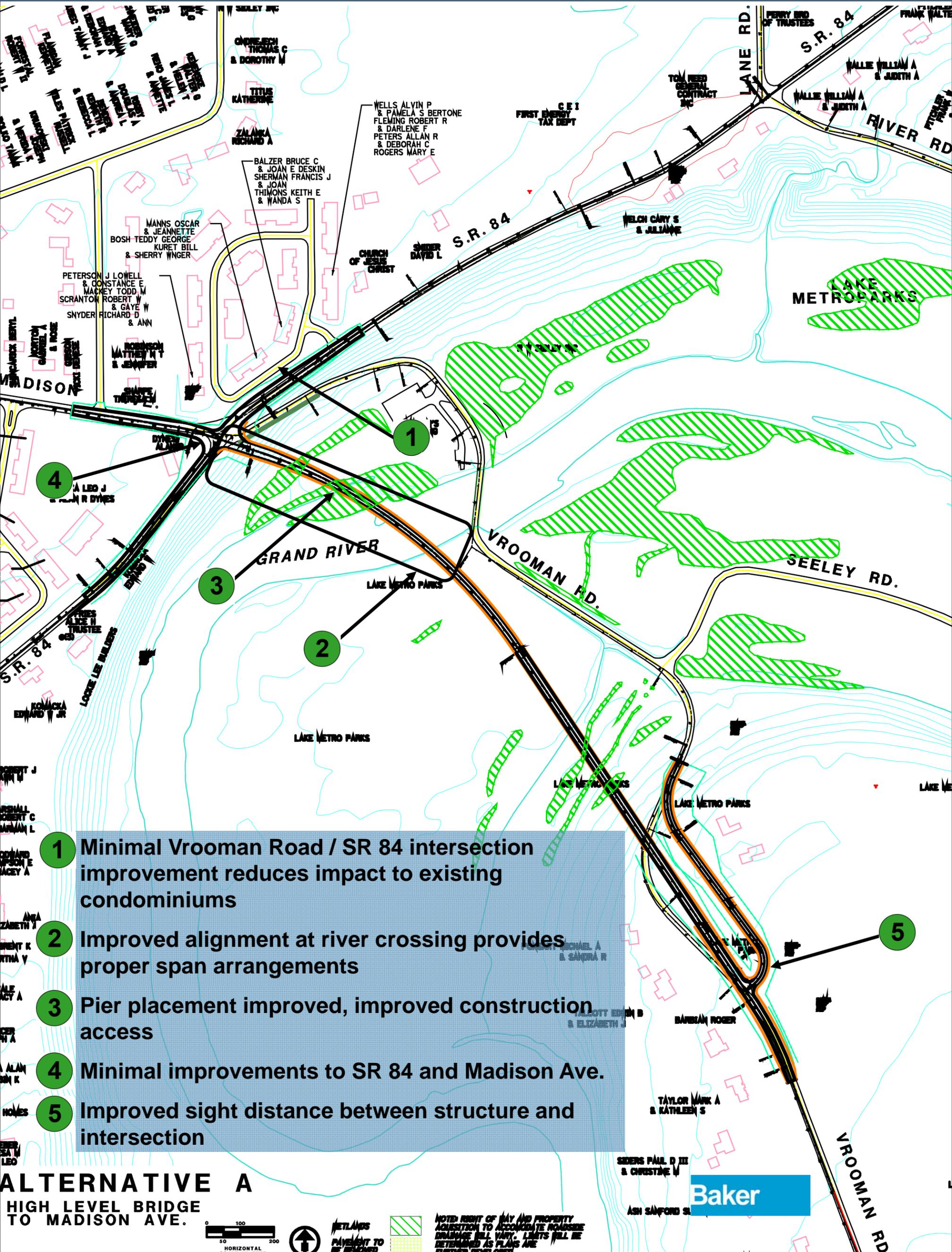
Planning Study - Alternative C

Areas of Concern



- 1** Existing substandard (too sharp) horizontal curve
- 2** Existing substandard (too steep) or moderately steep new grades
- 3** Additional Lake Metropark property needed to construct turn lane
- 4** New retaining wall
- 5** Intersection reconfiguration requires demolition of up to six condominium units
- 6** Grade difference of 15' – 20' effectively eliminates park access
- 7** Additional Lake Metropark property needed to relocate Seeley Road

Preliminary Engineering Study – Revised Alternative A



- 1** Minimal Vrooman Road / SR 84 intersection improvement reduces impact to existing condominiums
- 2** Improved alignment at river crossing provides proper span arrangements
- 3** Pier placement improved, improved construction access
- 4** Minimal improvements to SR 84 and Madison Ave.
- 5** Improved sight distance between structure and intersection

ALTERNATIVE A

HIGH LEVEL BRIDGE TO MADISON AVE.



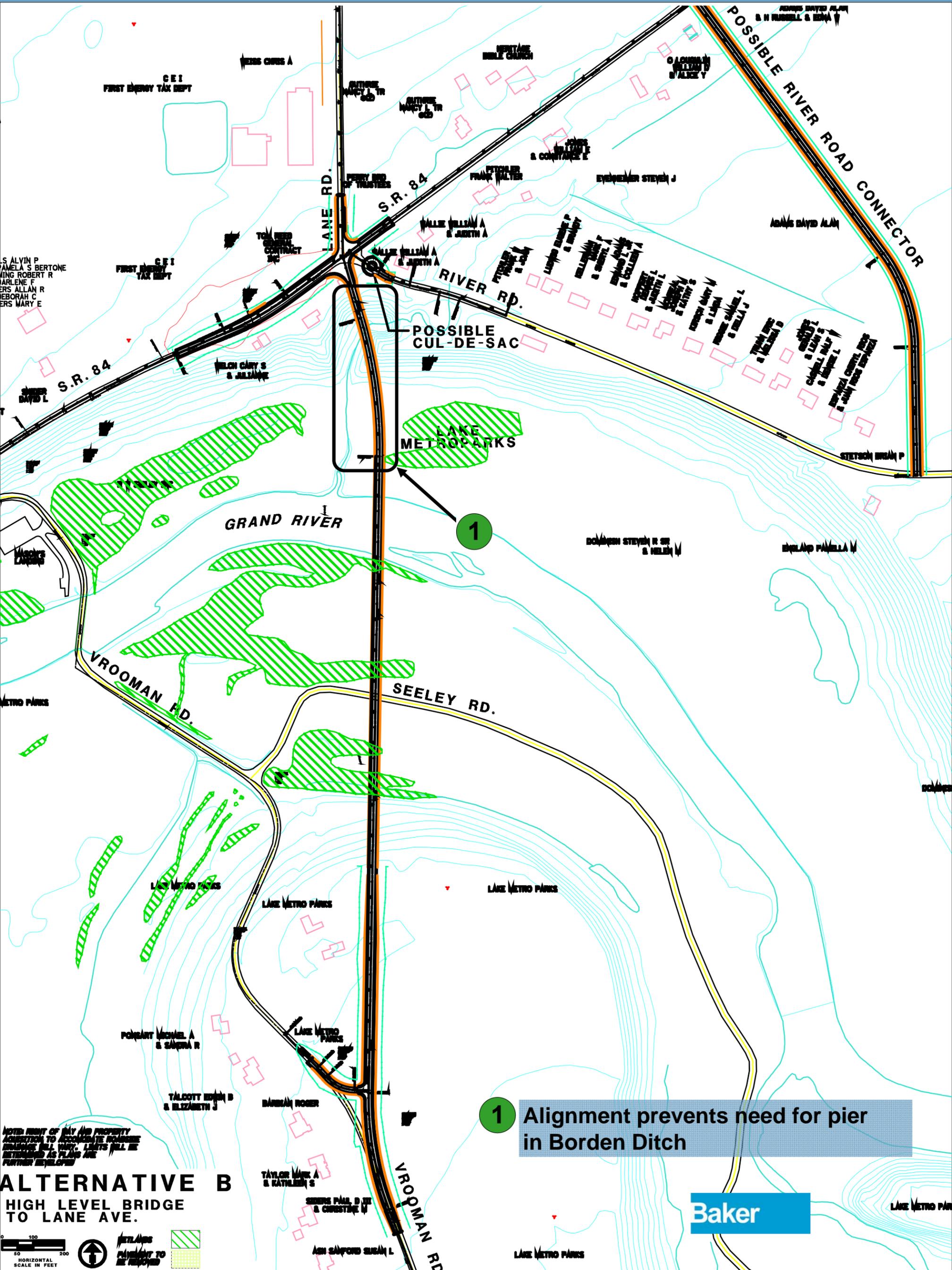
WETLANDS PAYMENT TO BE REMOVED



NOTE: RIGHT OF WAY AND PROPERTY ACQUISITION TO ACCOMMODATE ROADSIDE DRAINAGE WILL VARY. LIMITS WILL BE DETERMINED AS PLANS ARE FURTHER DEVELOPED

Baker

Preliminary Engineering Study – Revised Alternative B



1 Alignment prevents need for pier in Borden Ditch

ALTERNATIVE B
HIGH LEVEL BRIDGE TO LANE AVE.



HORIZONTAL SCALE IN FEET
 WETLANDS PAVEMENT TO BE REMOVED

Vrooman Road Environmental Constraints

