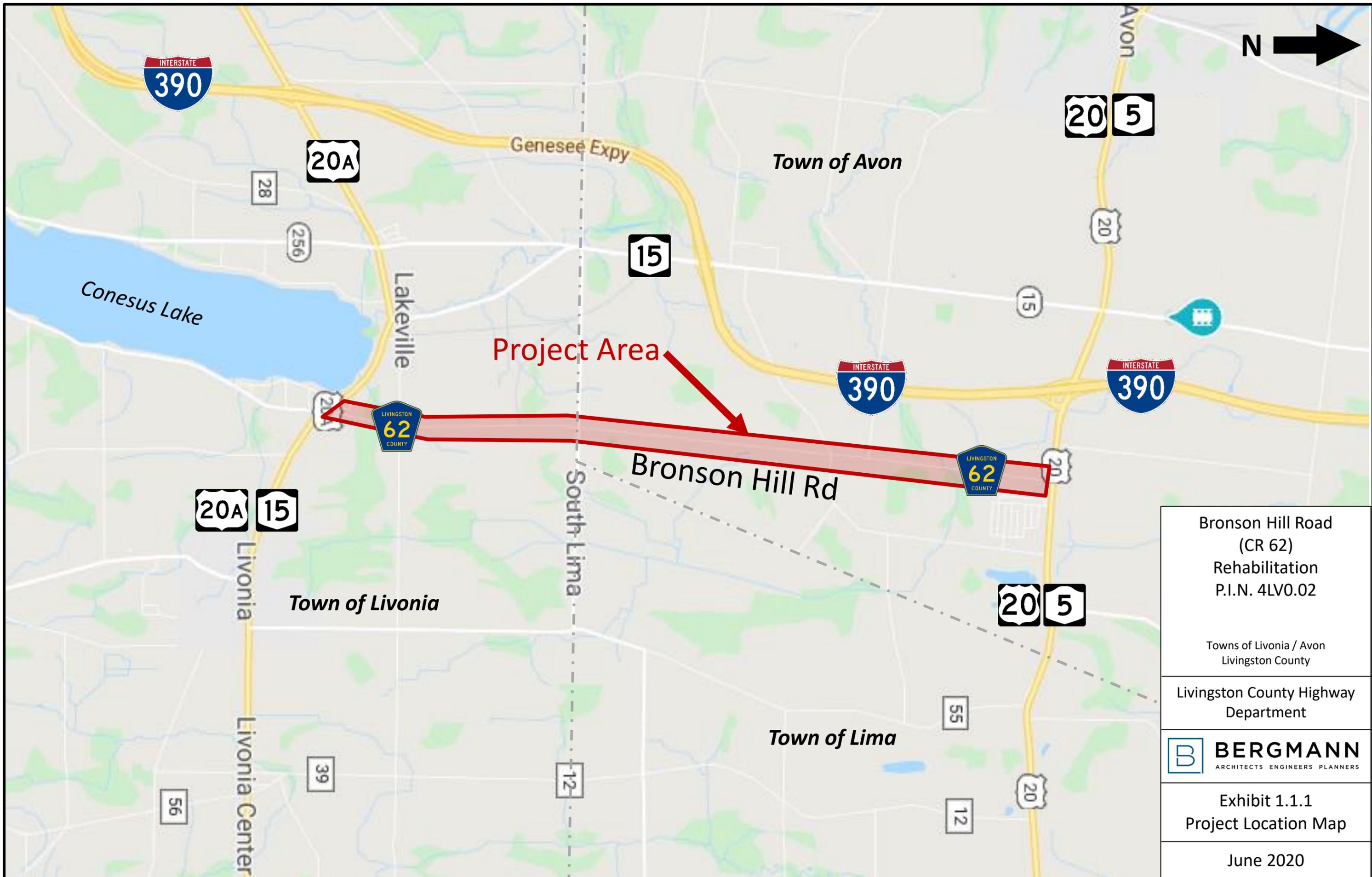
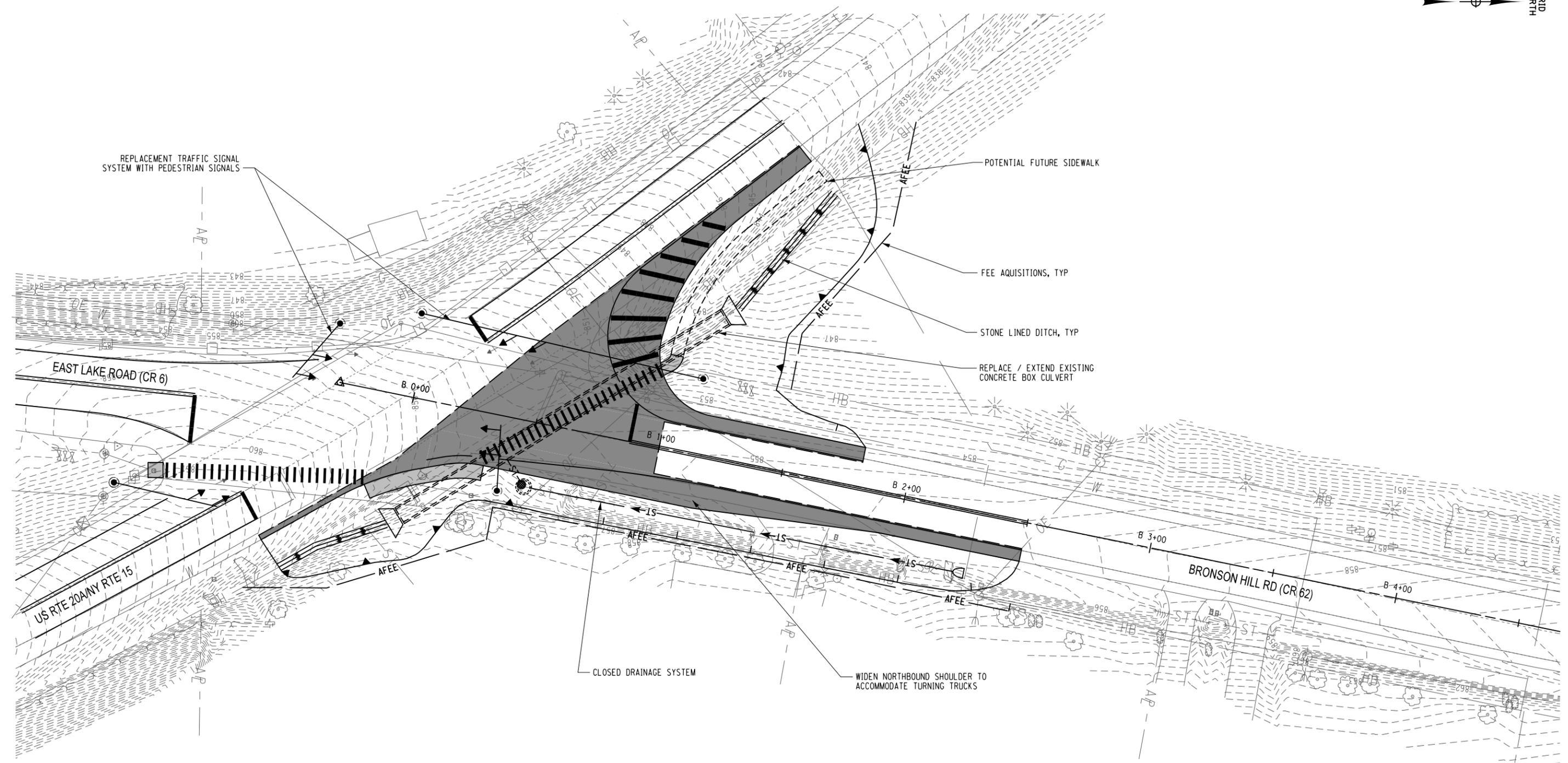


Appendix A:
Maps, Plans, Profiles, & Typical Sections



<p>Bronson Hill Road (CR 62) Rehabilitation P.I.N. 4LV0.02</p> <p>Towns of Livonia / Avon Livingston County</p>	
<p>Livingston County Highway Department</p>	
<p>B BERGMANN ARCHITECTS ENGINEERS PLANNERS</p>	
<p>Exhibit 1.1.1 Project Location Map</p>	
<p>June 2020</p>	



REPLACEMENT TRAFFIC SIGNAL SYSTEM WITH PEDESTRIAN SIGNALS

POTENTIAL FUTURE SIDEWALK

FEE ACQUISITIONS, TYP

STONE LINED DITCH, TYP

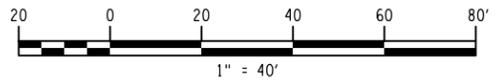
REPLACE / EXTEND EXISTING CONCRETE BOX CULVERT

CLOSED DRAINAGE SYSTEM

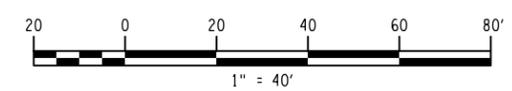
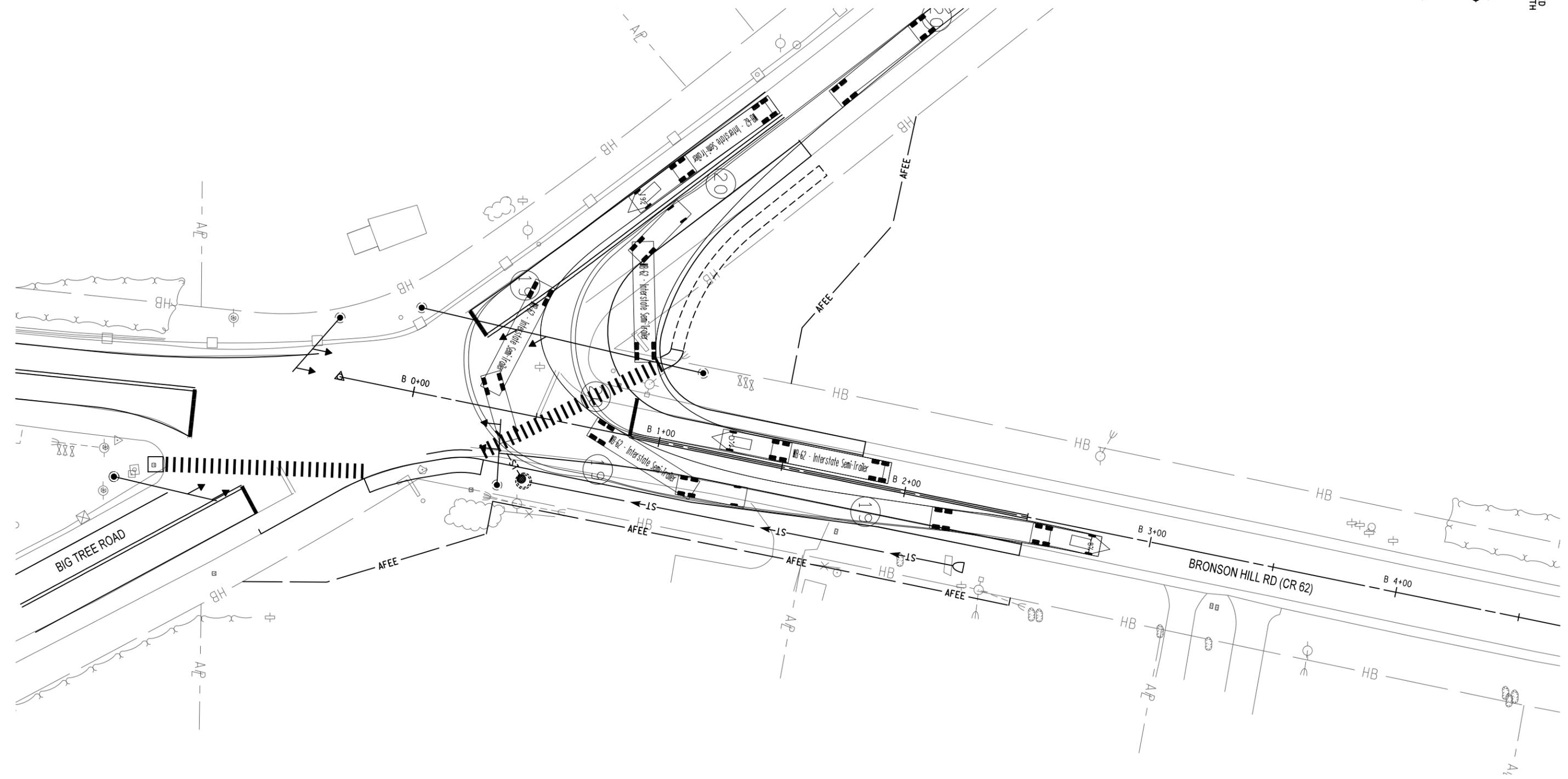
WIDEN NORTHBOUND SHOULDER TO ACCOMMODATE TURNING TRUCKS

LEGEND

- FULL DEPTH RECONSTRUCTION
- CONCRETE SIDEWALK AND ACCESSIBLE LANDINGS



Livingston County Highway Department			
PIN 4LV0.02 Bronson Hill Road (CR 62) Rehabilitation			
Intersection Concept Plan: Bronson Hill Rd (CR 62) at East Lake Rd (CR 6) and US Rte 20A/NYS Rte 15 (Big Tree Rd)			
SHEET NO.	SCALE	DATE	B BERGMANN <small>ARCHITECTS ENGINEERS PLANNERS</small>
1	1"=40'	06/20	



Livingston County Highway Department			
PIN 4LV0.02 Bronson Hill Road (CR 62) Rehabilitation			
Proposed Truck Turning Plan: Bronson Hill Rd (CR 62) at East Lake Rd (CR 6) and US Rte 20A/NYS Rte 15 (Big Tree Rd)			
SHEET NO.	SCALE	DATE	BERGMANN <small>ARCHITECTS ENGINEERS PLANNERS</small>
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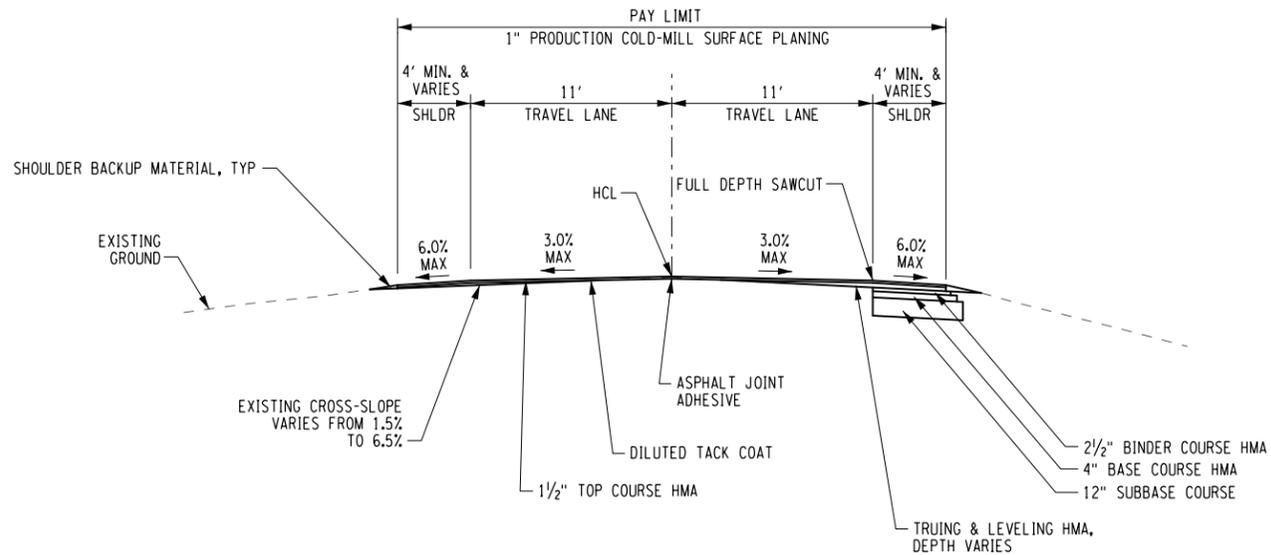
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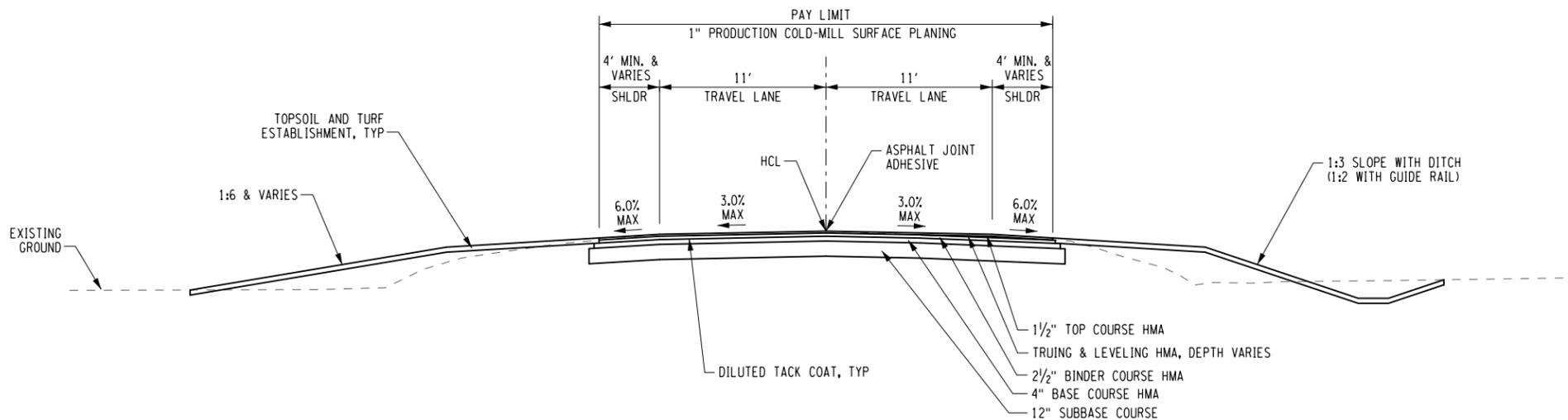
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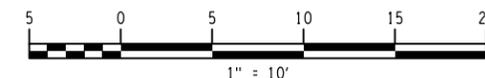
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MILLING & RESURFACING WITH SHOULDER RECONSTRUCTION
 LOCATIONS OF SHOULDER RECONSTRUCTION AS SHOWN ON THE GENERAL PLANS



FULL DEPTH RECONSTRUCTION SECTION
 LOCATIONS OF CROSS CULVERT REPLACEMENT



AFFIX SEAL: ON: _____
 ALTERED BY: ON: _____

PRELIMINARY

AS-BUILT REVISIONS
 DESCRIPTION OF ALTERATIONS:

BRONSON HILL ROAD (CR 62) REHABILITATION

PIN 4LV0.02

CULVERTS

ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED

CONTRACT NUMBER

TOWNS OF AVON AND LIVONIA

JUNE 2020

TYPICAL SECTIONS

DRAWING NO. TS-1
 SHEET NO. 0

COUNTY: LIVINGSTON

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

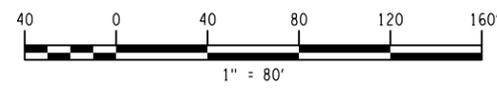
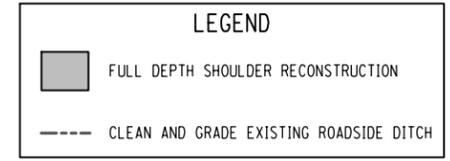
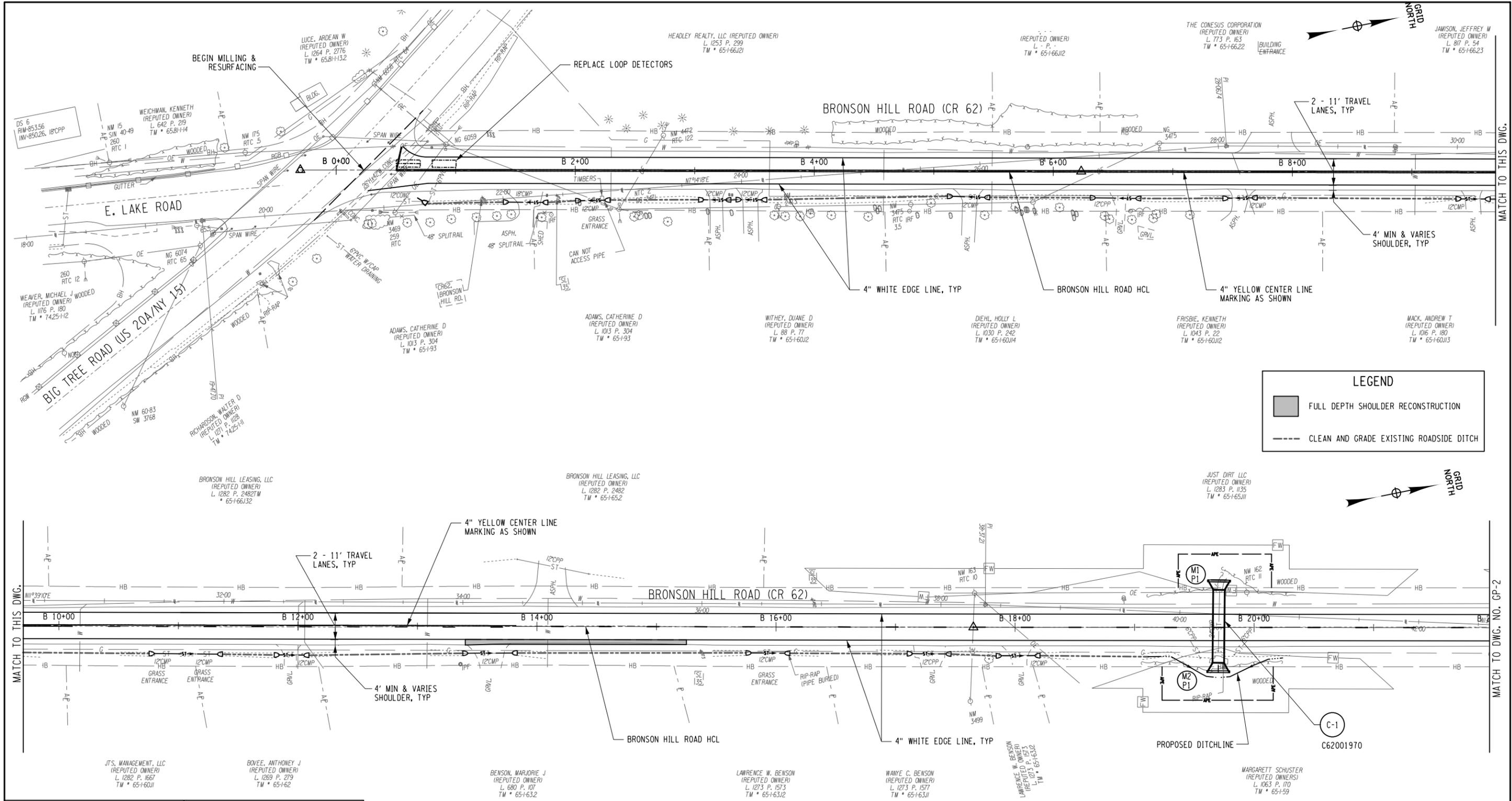


LIVINGSTON COUNTY
 HIGHWAY DEPARTMENT

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PRELIMINARY

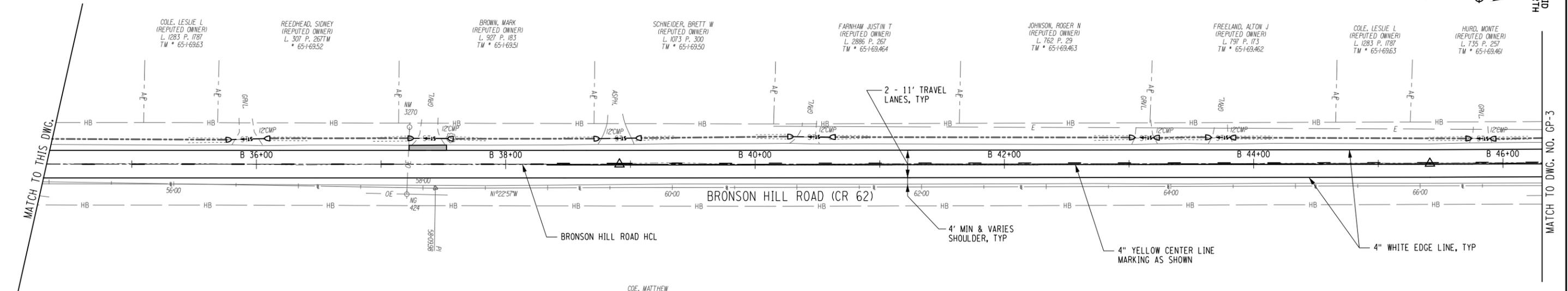
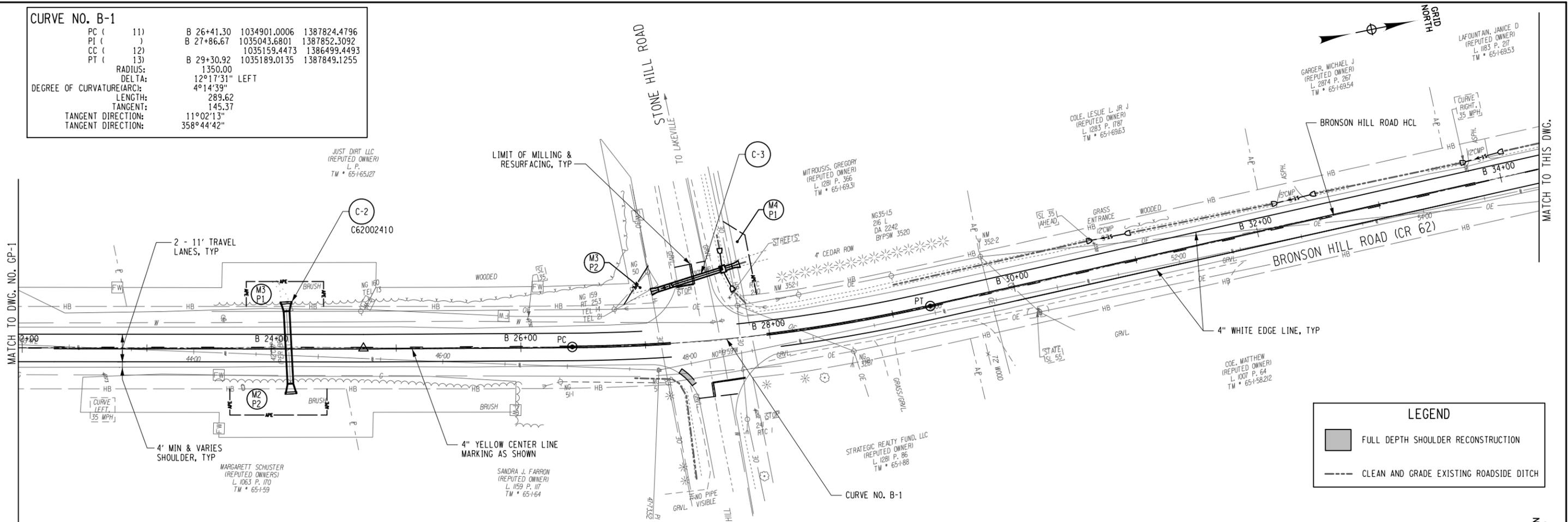
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	COUNTY: LIVINGSTON				SHEET NO. 0

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

B BERGMANN
ARCHITECTS ENGINEERS PLANNERS

LIVINGSTON COUNTY
HIGHWAY DEPARTMENT

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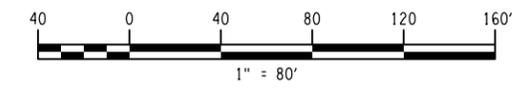
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	CLEAN AND GRADE EXISTING ROADSIDE DITCH

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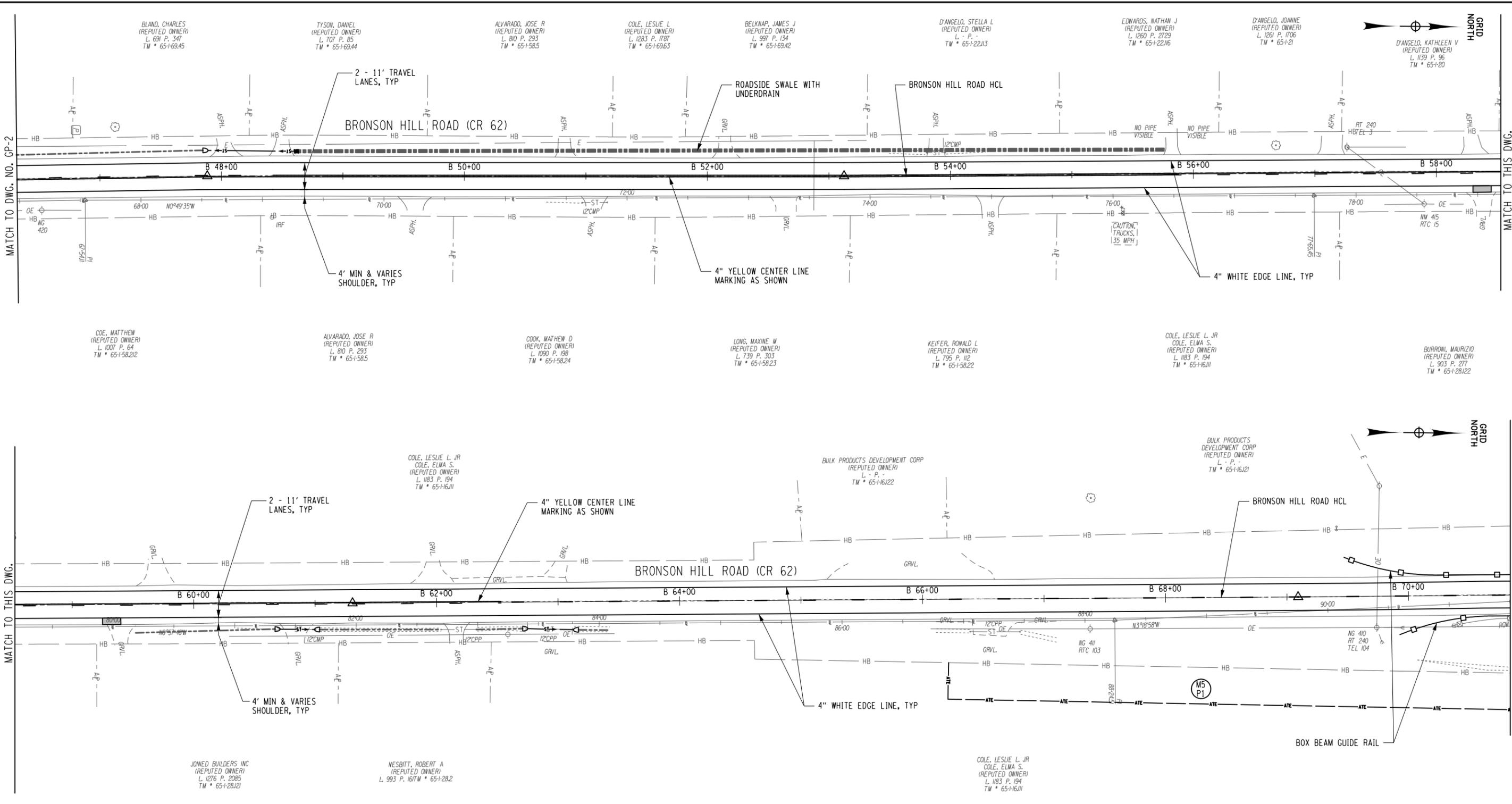
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AFFIX SEAL:
ON:

ALTERED BY:
ON:

PRELIMINARY

LEGEND

- FULL DEPTH SHOULDER RECONSTRUCTION
- CLEAN AND GRADE EXISTING ROADSIDE DITCH

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	TOWNS OF AVON AND LIVONIA
	COUNTY: LIVINGSTON

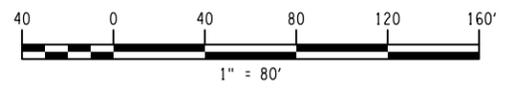
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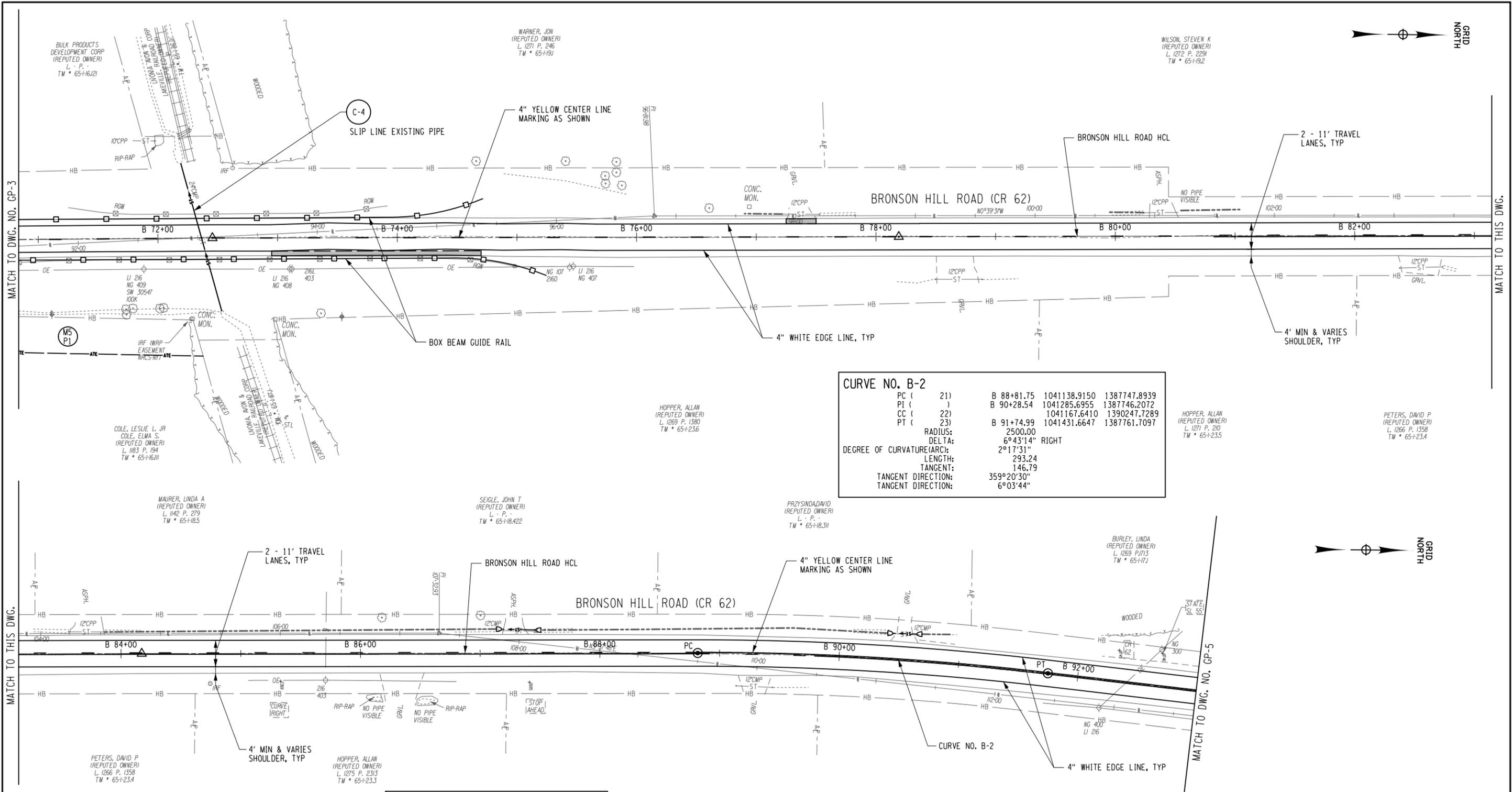
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BERGMANN ARCHITECTS ENGINEERS PLANNERS
 LIVINGSTON COUNTY HIGHWAY DEPARTMENT



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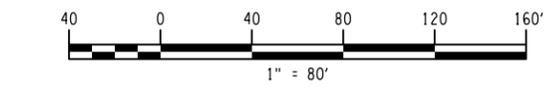
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- FULL DEPTH SHOULDER RECONSTRUCTION
- CLEAN AND GRADE EXISTING ROADSIDE DITCH

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IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.



BERGMANN ARCHITECTS ENGINEERS PLANNERS

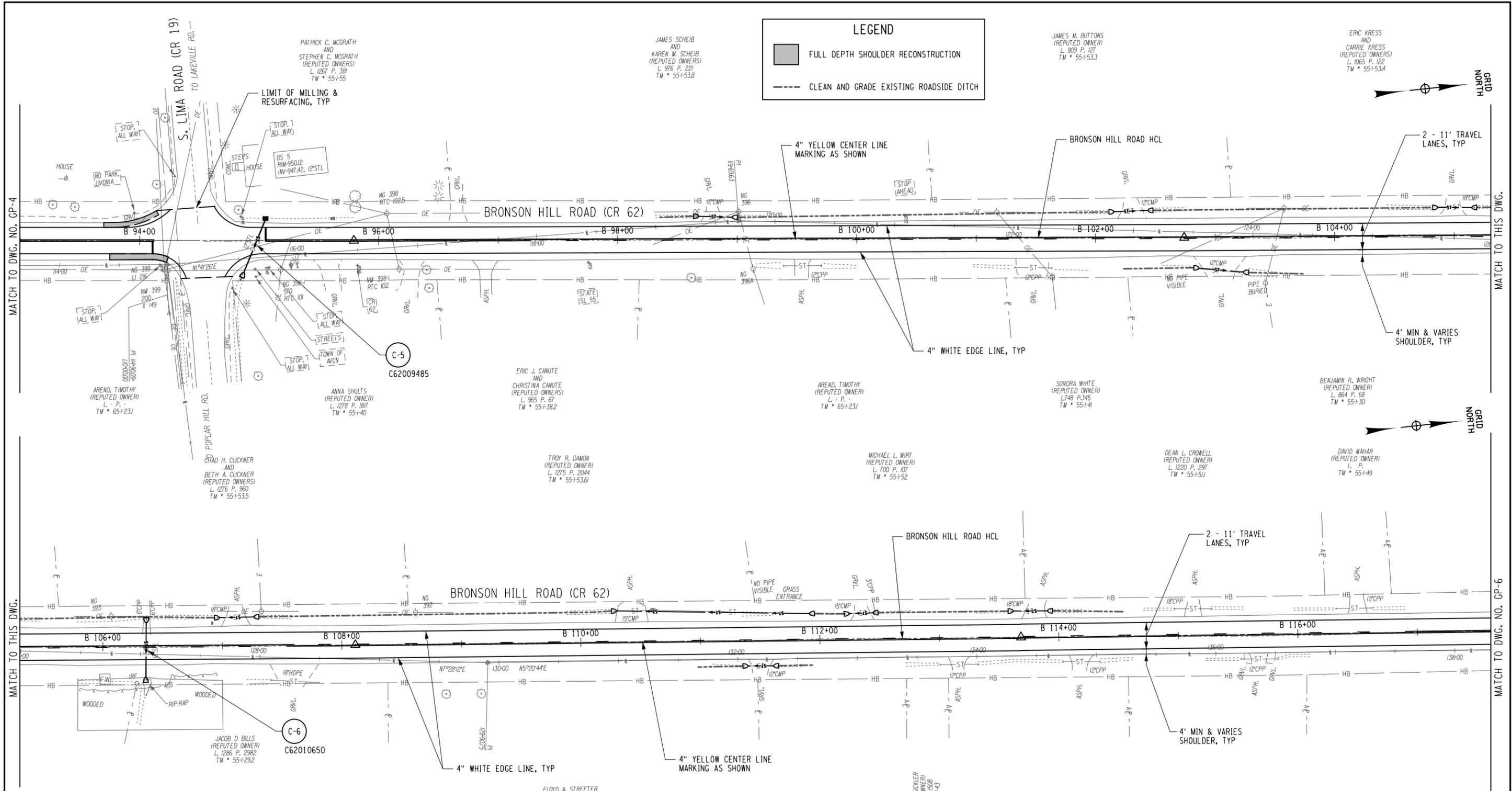
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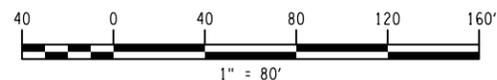
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LEGEND

- FULL DEPTH SHOULDER RECONSTRUCTION
- CLEAN AND GRADE EXISTING ROADSIDE DITCH



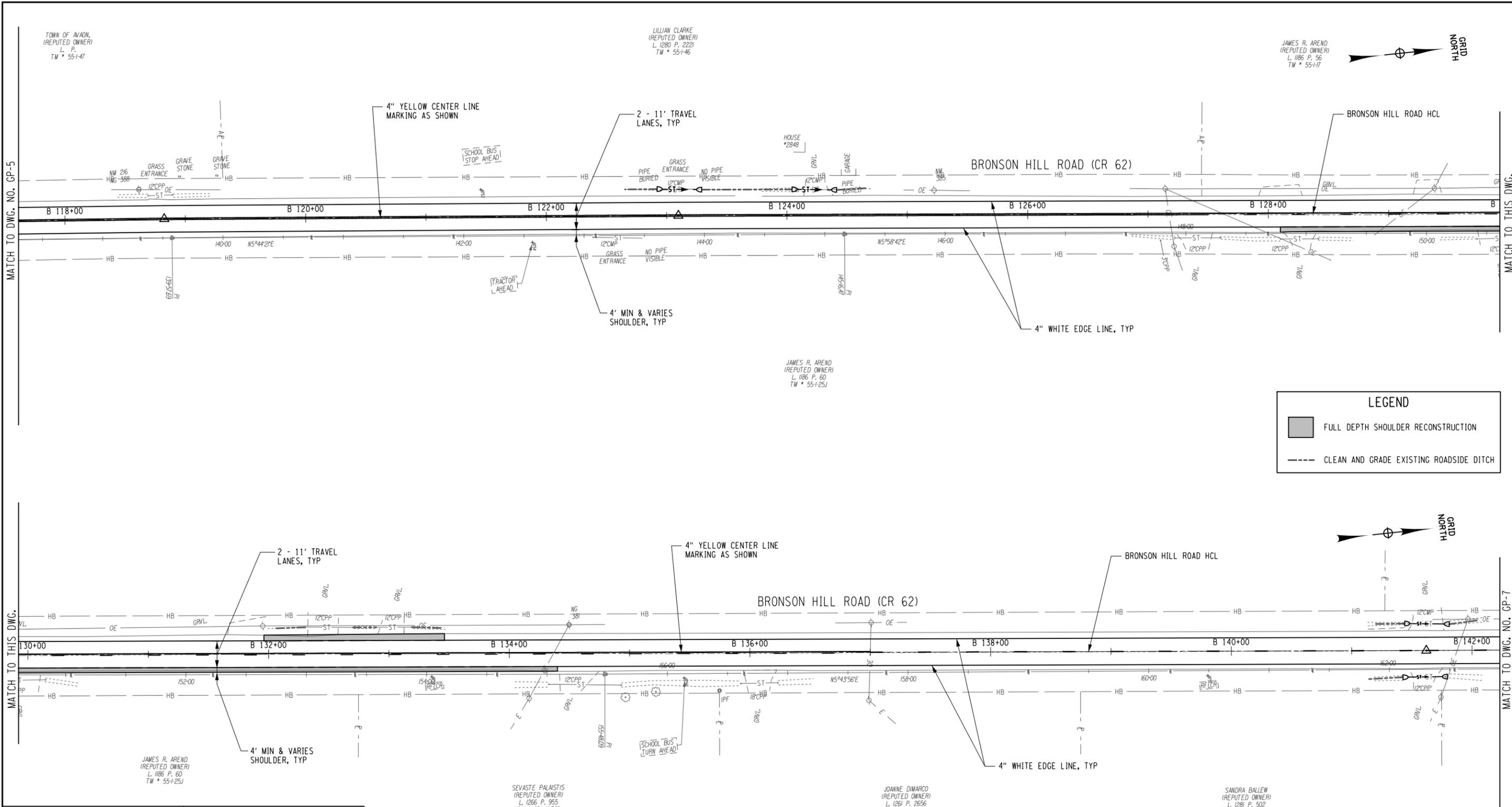
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IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.					
				LIVINGSTON COUNTY HIGHWAY DEPARTMENT	

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LEGEND

- FULL DEPTH SHOULDER RECONSTRUCTION
- CLEAN AND GRADE EXISTING ROADSIDE DITCH

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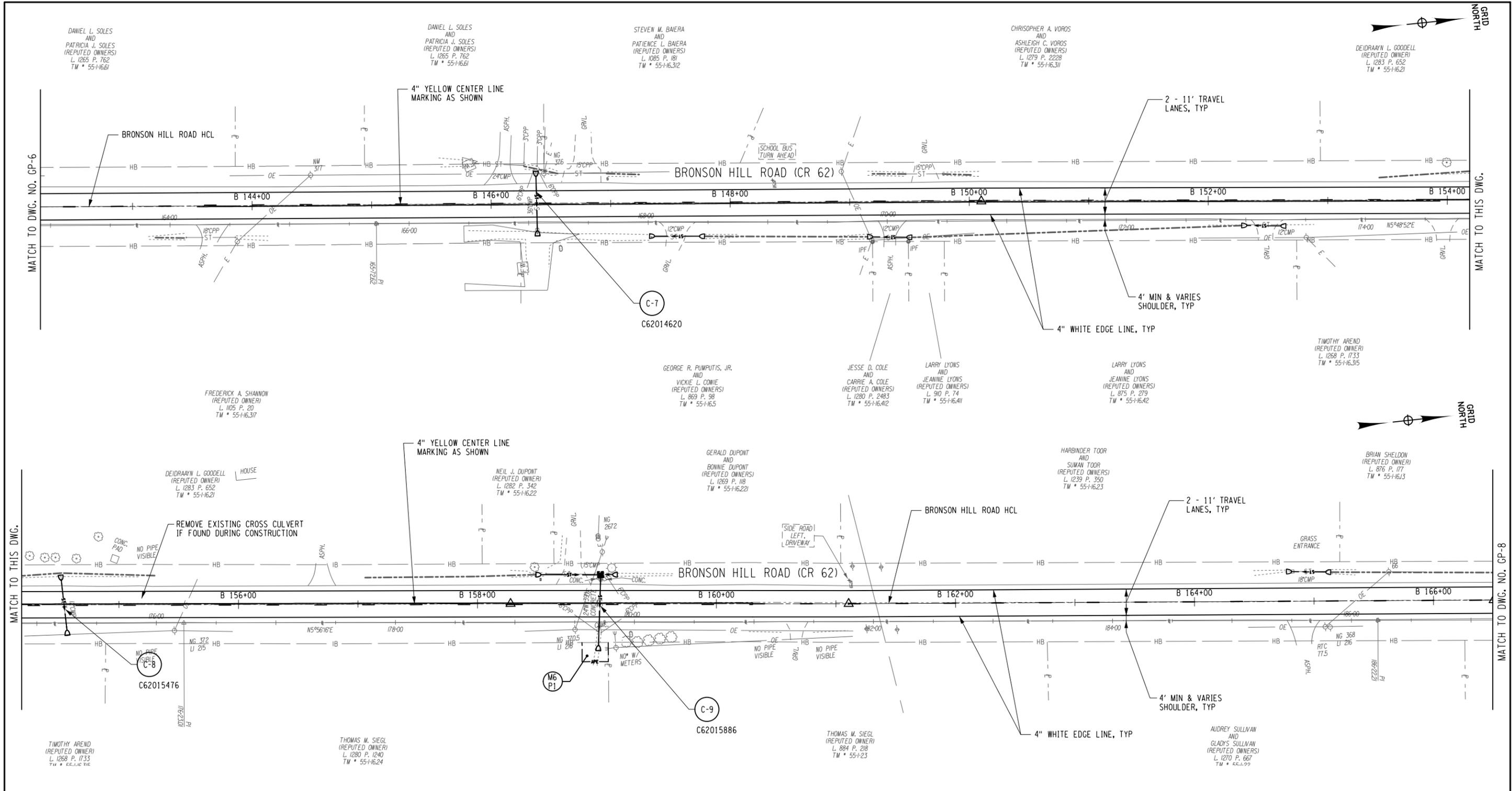
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				LIVINGSTON COUNTY HIGHWAY DEPARTMENT	

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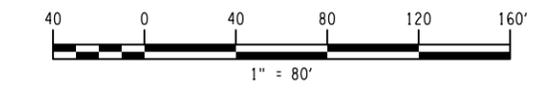


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LEGEND	
	FULL DEPTH SHOULDER RECONSTRUCTION
	CLEAN AND GRADE EXISTING ROADSIDE DITCH

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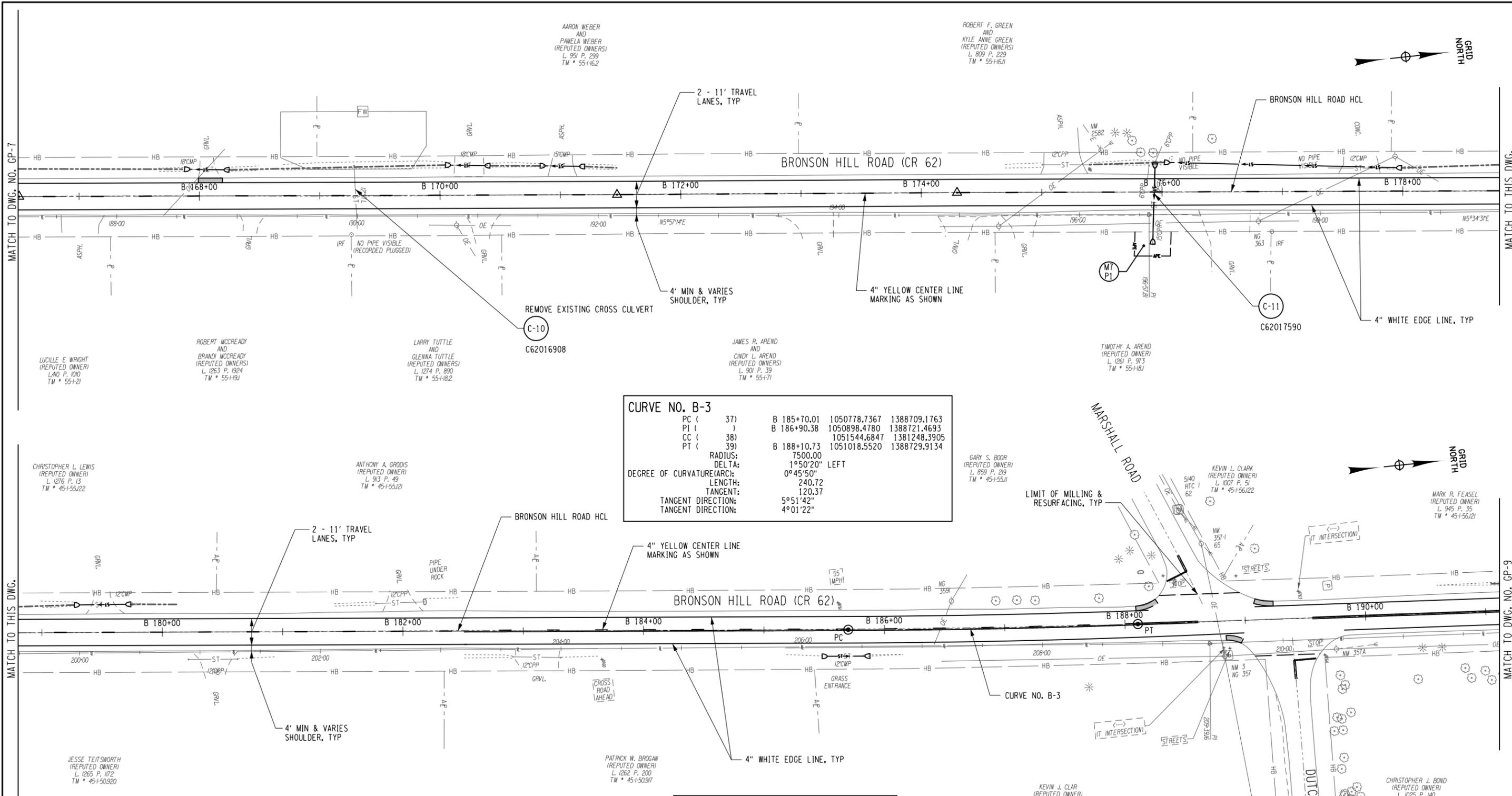
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	BERGMANN ARCHITECTS ENGINEERS PLANNERS	LIVINGSTON COUNTY HIGHWAY DEPARTMENT
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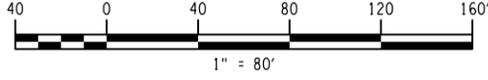
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LEGEND	
	FULL DEPTH SHOULDER RECONSTRUCTION
	CLEAN AND GRADE EXISTING ROADSIDE DITCH



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ALTERED BY: ON: _____

PRELIMINARY

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	BRONSON HILL ROAD (CR 62) REHABILITATION	PIN 4LV0.02	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED	CONTRACT NUMBER
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IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

BERGMANN ARCHITECTS ENGINEERS PLANNERS

LIVINGSTON COUNTY HIGHWAY DEPARTMENT

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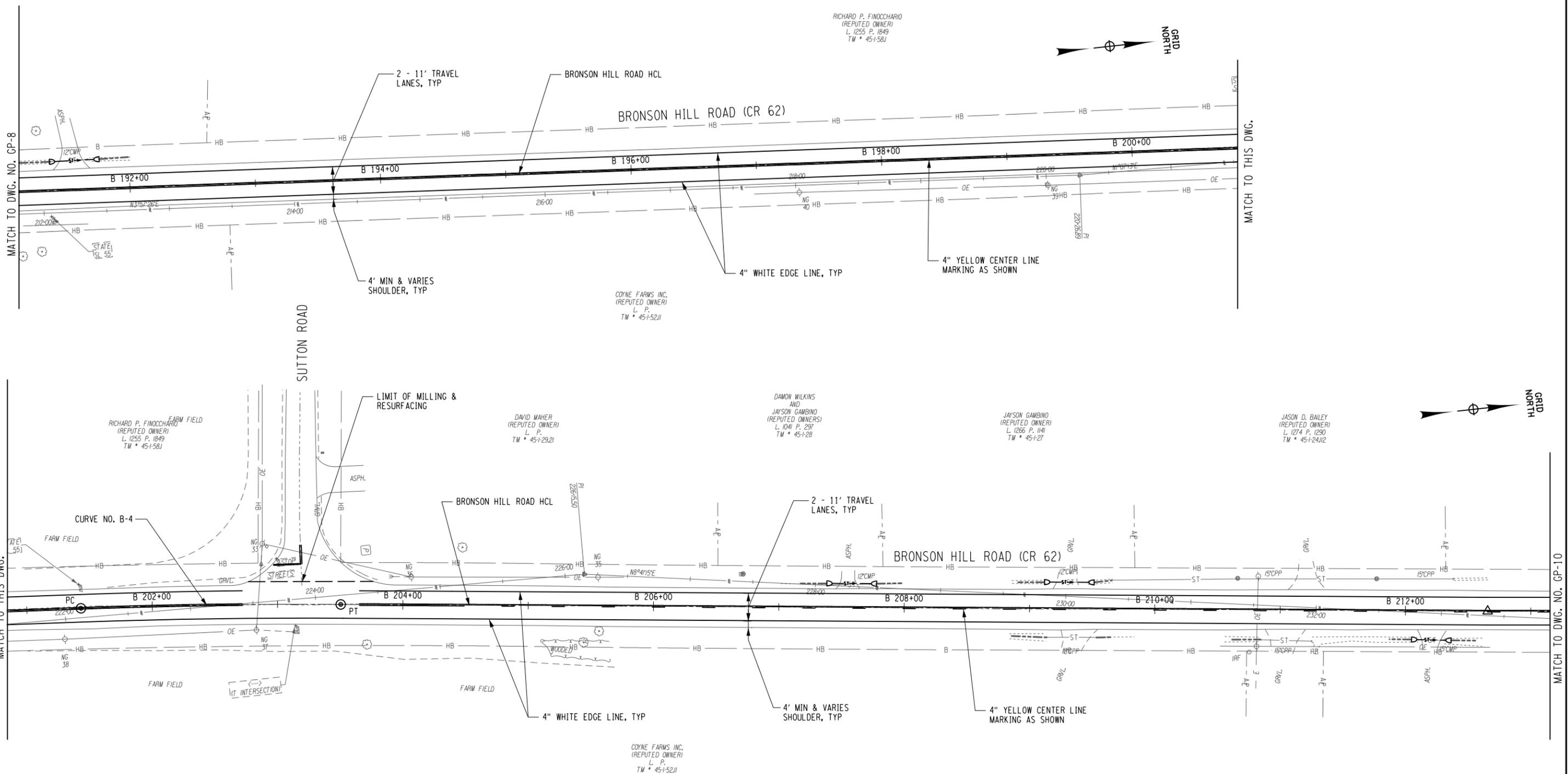
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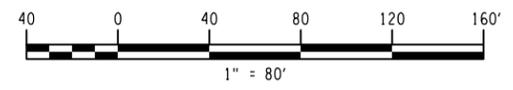
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	CLEAN AND GRADE EXISTING ROADSIDE DITCH

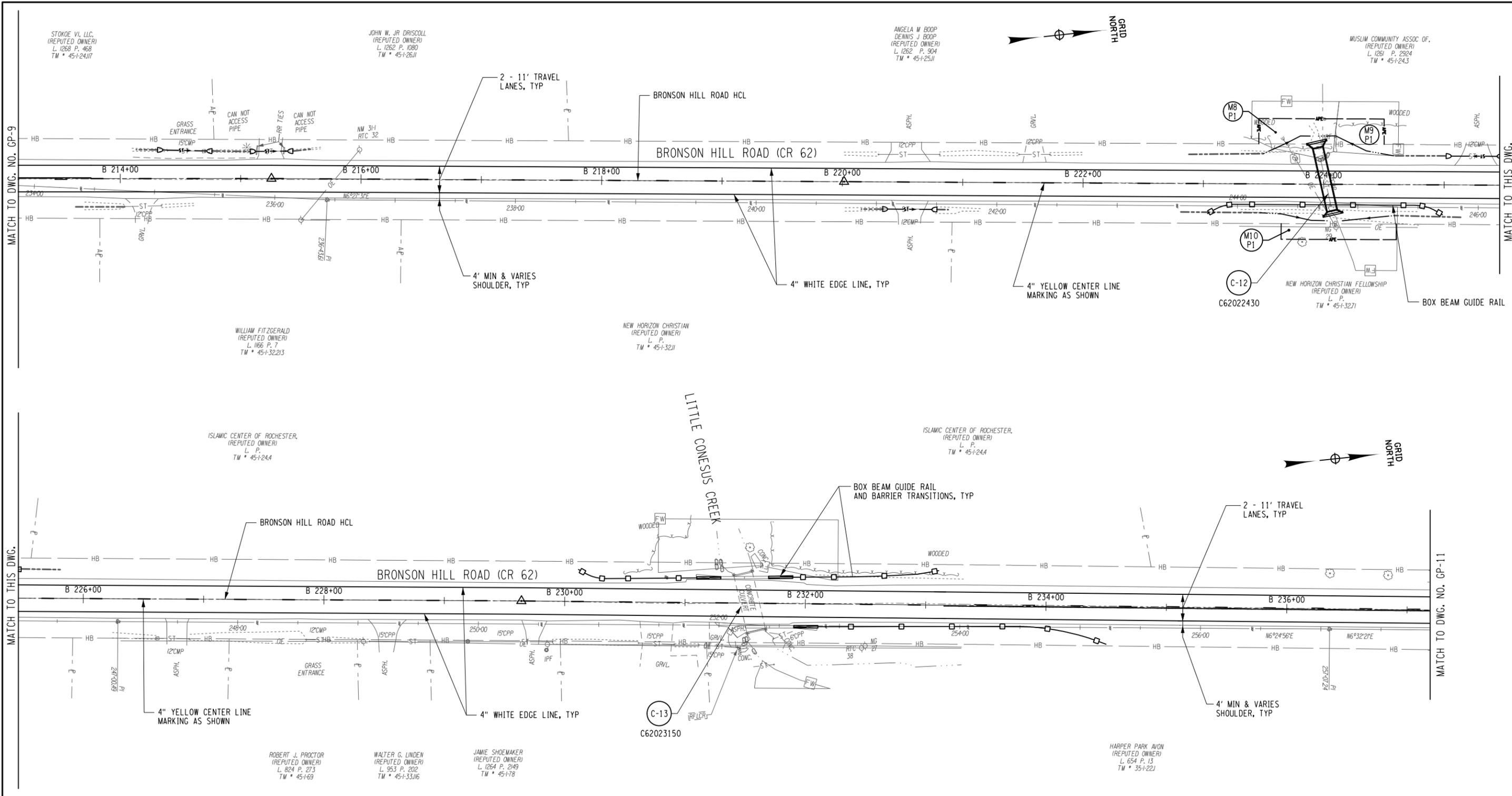
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TANGENT DIRECTION:	4°01'22"		
TANGENT DIRECTION:	6°23'55"		



AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	BRONSON HILL ROAD (CR 62) REHABILITATION	PIN 4LV0.02	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED	CONTRACT NUMBER ---
	TOWNS OF AVON AND LIVONIA	JUNE 2020			
	COUNTY: LIVINGSTON				
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.			GENERAL PLAN		DRAWING NO. GP-9 SHEET NO. 0
			BERGMANN ARCHITECTS ENGINEERS PLANNERS		LIVINGSTON COUNTY HIGHWAY DEPARTMENT

FILE NAME = 4LV002_CPH_GNP_10.dgn
 DATE/TIME = 10-JUL-2020 13:40
 USER = ehajjes

PROJECT MANAGER
 CHECK
 DRAFTING
 CHECK
 DESIGN
 JOB MANAGER
 DESIGN SUPERVISOR



AFFIX SEAL: ON:	ALTERED BY: ON:
PRELIMINARY	

LEGEND

FULL DEPTH SHOULDER RECONSTRUCTION

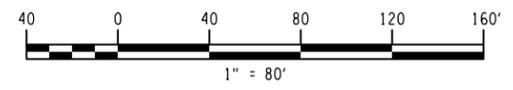
CLEAN AND GRADE EXISTING ROADSIDE DITCH

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	BRONSON HILL ROAD (CR 62) REHABILITATION	PIN 4LV0.02
	TOWNS OF AVON AND LIVONIA	JUNE 2020
	COUNTY: LIVINGSTON	

CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED	CONTRACT NUMBER ---
GENERAL PLAN		DRAWING NO. GP-10 SHEET NO. 0

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BERGMANN ARCHITECTS ENGINEERS PLANNERS
 LIVINGSTON COUNTY HIGHWAY DEPARTMENT



RONALD C. RENE
(REPUTED OWNER)
L. 1279 P. 386
TM * 45-124212

RICHARD R. DOUDT
(REPUTED OWNER)
L. 1446 P. 104
TM * 45-12422

COYNE REALTY LLC.
(REPUTED OWNER)
L. 945 P. 171
TM * 35-115



PROJECT MANAGER

CHECK

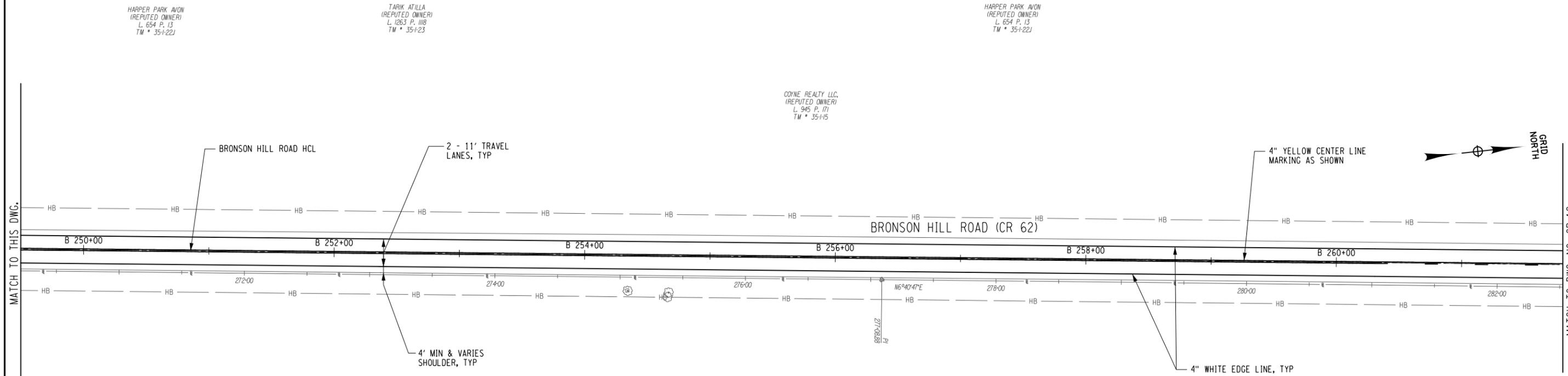
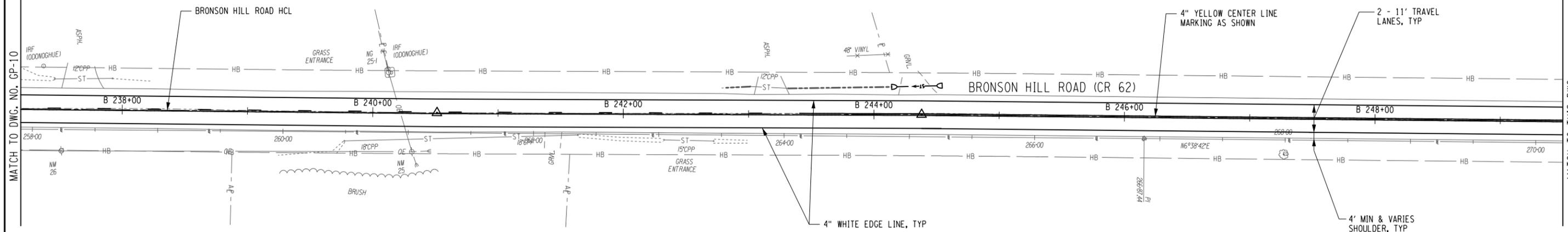
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CHECK

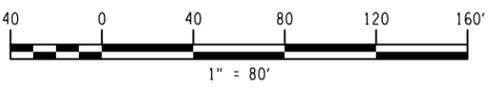
DESIGN

JOB MANAGER

DESIGN SUPERVISOR



LEGEND	
	FULL DEPTH SHOULDER RECONSTRUCTION
	CLEAN AND GRADE EXISTING ROADSIDE DITCH



AFFIX SEAL: ON:	ALTERED BY: ON:
PRELIMINARY	

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	BRONSON HILL ROAD (CR 62) REHABILITATION	PIN 4LV0.02	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED	CONTRACT NUMBER
	TOWNS OF AVON AND LIVONIA	JUNE 2020			---
	COUNTY: LIVINGSTON				
GENERAL PLAN				DRAWING NO. GP-11 SHEET NO. 0	

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

	BERGMANN ARCHITECTS ENGINEERS PLANNERS	LIVINGSTON COUNTY HIGHWAY DEPARTMENT
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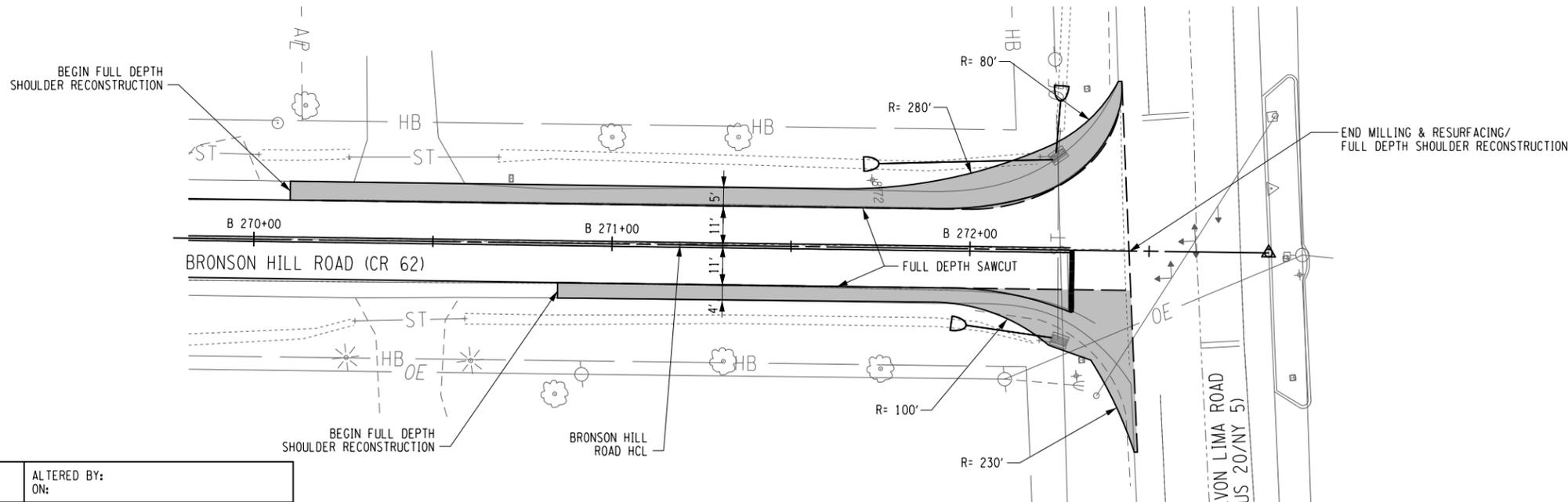
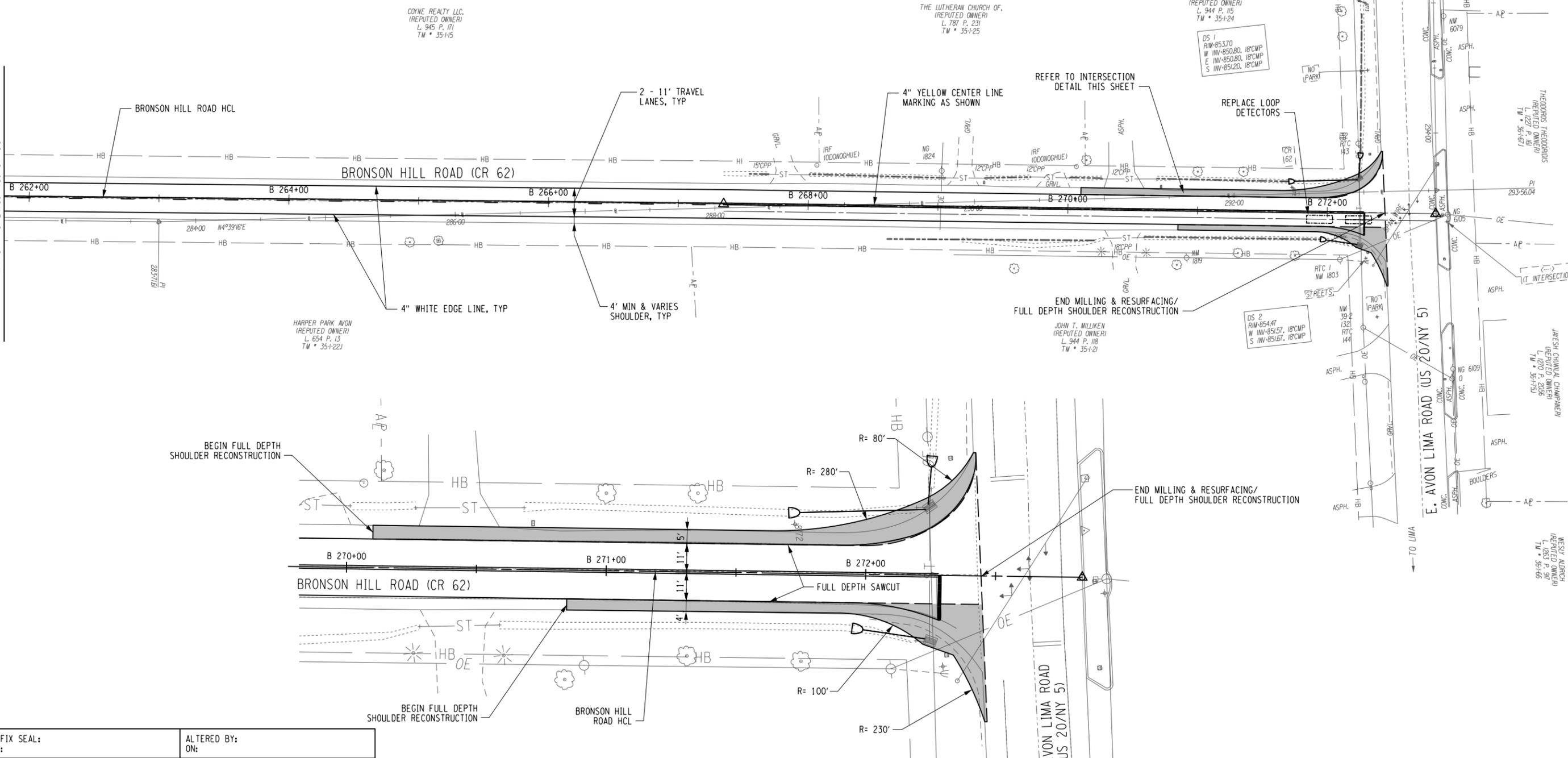
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USER = ehajjes

FILE NAME = 4LV002_CPH_GNP_12.dgn
 DATE/TIME = 10-JUL-2020 13:41
 USER = ehajes

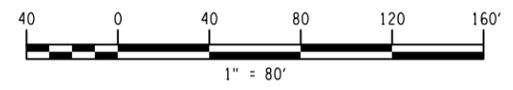
PROJECT MANAGER
 CHECK
 DRAFTING
 CHECK
 DESIGN
 JOB MANAGER
 DESIGN SUPERVISOR

LEGEND

- FULL DEPTH SHOULDER RECONSTRUCTION
- CLEAN AND GRADE EXISTING ROADSIDE DITCH



INTERSECTION BLOW-UP DETAIL
 SCALE: 1"=40'



AFFIX SEAL: ON: _____

ALTERED BY: ON: _____

PRELIMINARY

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	BRONSON HILL ROAD (CR 62) REHABILITATION	PIN 4LV0.02	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED	CONTRACT NUMBER ---
	TOWNS OF AVON AND LIVONIA	JUNE 2020			
	COUNTY: LIVINGSTON				
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.					GENERAL PLAN DRAWING NO. GP-12 SHEET NO. 0
				LIVINGSTON COUNTY HIGHWAY DEPARTMENT	

Appendix B: Environmental Information

Social, Economic and Environmental Resources Checklist			
PIN:4LV0.02	FUNDING TYPE:		
DESCRIPTION: CR 62 (Bronson Hill Rd) Rehabilitation	DATE:May 28, 2020		
	REVISION DATE:		
MUNICIPALITY:Towns of Avon and Livonia	NEPA CLASS:II		
COUNTY:Livingston	SEQRA TYPE:II		
SCOPE:Rehabilitate drainage and pavement along 5.2 miles from US Route 20A / NYS Route 15 to US Route 20 / NYS Route 5 along Bronson Hill Road (CR 62).			
SOCIAL, ECONOMIC AND ENVIRONMENTAL CONSIDERATIONS	IF YES, GO TO IMPACT OR ISSUE; IF NO CHECK BOX BELOW	IMPACT ¹ OR ISSUE?	
	NO	YES	NO
Social			
A. Land Use			
1. Is there potential to affect current land use/zoning?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Is there a lack of consistency with community's comprehensive plan and/or other local or regional planning goals?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Will the project affect any planned or future development?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Neighborhoods and Community Cohesion			
1. Are relocations of homes or businesses proposed or acquisition of community resources anticipated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Is there potential for changes to neighborhood character?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Is there a potential to impact transportation options (e.g., transit, walking, bicycling)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Are there potential changes to travel patterns that could affect neighborhood quality of life?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Will the project divide or isolate portions of the community or generate new development that could affect the current community structure?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. General Social Groups			
1. Are there potential effects to the ability of transit dependent, elderly, or disabled populations to access destinations (particularly local businesses and health care facilities)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Does the project have the potential to disproportionately impact low income or minority populations (Environmental Justice)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Are there alterations to pedestrian facilities that would affect the elderly or disabled such as lengthening pedestrian crossings or providing median refuge?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
D. Community Services			
1. Is there potential to affect access to or use of Schools, Recreation Areas or Places of Worship (e.g., detours, sidewalk removal, addition of curb ramps, crosswalks, pedestrian signals, etc.)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SOCIAL, ECONOMIC AND ENVIRONMENTAL CONSIDERATIONS	IF YES, GO TO IMPACT OR ISSUE; IF NO CHECK BOX BELOW	IMPACT ¹ OR ISSUE?	
	NO	YES	NO
2. Is there potential to affect emergency service response?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Economic			
A. Regional and Local Economies			
1. Is there potential to affect local economic viability (e.g., development potential, tax revenues, employment opportunities, retail sales or public expenditures)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Is there a potential to divert traffic away from businesses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B. Business Districts			
1. Are there potential effects on the viability or character of Business Districts?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Will the project affect transportation options available for patrons getting into or out of the District?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Will sidewalks, bicycling opportunities or transit opportunities to or within the district be affected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Will parking within the district be affected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. Specific Business Impacts			
1. Are effects to specific businesses anticipated? (e.g., sidewalks, bicycling opportunities, or handicapped access to and from businesses)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Will the project affect available transportation options for patrons to businesses?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Will the project affect the ability of businesses to receive deliveries?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Will parking for businesses be affected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental			
1. Are there wetlands within or immediately adjacent to the project limits? <i>See Environmental Procedures Manual (EPM) 4.A.R, Executive Order (EO) 11990 may apply.</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Are there Surface Waters (other than wetlands) within or immediately adjacent to the project limits? <i>lakes, ponds streams or wetlands of any jurisdiction</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Is there a designated Wild or Scenic River within or immediately adjacent to the project limits? (See The Environmental Manual (TEM) 4.4.3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Will the project require a U.S. Coast Guard Bridge Permit? <i>Project area includes a bridge over navigable waters of U.S.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Does the project area contain waters regulated as Navigable by U. S. Army Corps of Engineers? <i>Section 404/10 Individual Permit or NWP 23 may be required</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Is the project in a mapped Flood Zone? <i>TEM section 4.?, EO 11988</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Is the project in or could it affect a designated coastal area? <i>FAN and/or Consistency determination may be required. See TEM 4.6</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Is the project area above a Sole Source Aquifer? <i>See TEM 4.4 Coordination with FHWA and/or EPA may be required.</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SOCIAL, ECONOMIC AND ENVIRONMENTAL CONSIDERATIONS	IF YES, GO TO IMPACT OR ISSUE; IF NO CHECK BOX BELOW	IMPACT ¹ OR ISSUE?	
	NO	YES	NO
9. Will the project involve one (1) acre of ground disturbance (or 5,000 sf in the East of Hudson watershed)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Are federally/state listed endangered species or designated critical habitat indicated for the project county? <i>Coordination with DEC and/or a FHWA determination may be required. See TEM 4.4.9.3</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Is the project in a designated Critical Environmental Area? <i>TEM 4.4.11(SEQR issue)</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Are there any resources protected by Section 106 (or Section 1409) within the project limits or immediate area? See TEM 4.4.12 Appendix G	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Is Native American coordination required outside of Section 106 consultation? <i>The project on or affecting Native American Lands or other areas of interest</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Is there a use, constructive use or temporary occupancy of a 4(f) resource? See SECTION 4(f) POLICY PAPER and contact Area Engineer.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Will the project involve conversion of a 6(f) resource? <i>listed as having Land and Water Conservation funds spent on the resource</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Is there any potential to affect the character of important and possibly significant the visual resources of the project area and its environs? (See PDM Chapter 3.2.2.2)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Will the project convert land protected by the Federal Farmland Protection Act? See TEM 4.4.15	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Will the project acquire active farmland from an Agricultural District? (SEQR issue)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Is the project in a non-attainment area and exceed the CO screening criteria? see EPM Chapter 1 1.1-19 an Air Quality Analysis required	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Is the project in a non-attainment area and exceed the PM screening criteria? see EPM Chapter 1 1.1-19? A hot spot analysis is required	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Is the project a Type I Noise project as per 23 CFR 772? See TEM 4.4.18	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Will the project require the removal of Asbestos Containing Materials? See TEM 4.4.19	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
23. Does the project area contain Contaminated and Hazardous Materials? <i>EPA National Priority List</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
24. Will the project increase the height of towers, construct new towers or other obstructions in a known migratory bird flyway?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NOTES:

¹ The term “impacts” means both positive and negative effects. Both types of effects should be discussed in the body of the report as appropriate.

PREPARED BY (Print Name and Title): James Boggs, Sr. Environmental Specialist, Bergmann

Michael T. Croce, PE, Project Manager
343.494.1234

CERTIFICATION:

I certify that the information provided above is true and accurate.

Architects | Engineers | Planners
250 East 57th Street, Rochester, New York 14604

 Date 7/6/2020

Print Name and Title: Michael T. Croce, PE, Project Manager, Bergmann

Federal Environmental Approval Worksheet

PIN: 4LV0.02	Completed by: Jim Boggs	Date Completed: 5/20/20	FUNDING TYPE: Federal
DESCRIPTION: CR 62 (Bronson Hill Rd) Rehabilitation.			NEPA CLASS: Class II: CE
			SEQR TYPE: Type II
LOCALITY (Village, Town, City): Towns of Avon and Livonia			COUNTY: Liv

Purpose of this Worksheet:

- Implement the Programmatic Agreement Between the Federal Highway Administration, New York Division (FHWA), and the New York State Department of Transportation (NYSDOT) Regarding the Processing of Actions Classified as Categorical Exclusions (CEs) for Federal-Aid Highway Projects (PARCE), executed September 2017.
- Communicate the project National Environmental Policy Act (NEPA) classification and identify whether the FHWA or the NYSDOT (titles identified per [Project Development Manual \(PDM\) Chapter 4, Exhibit 4-2](#)) is making the CE determination.
- Identify any FHWA independent determinations, approvals and/or concurrences required before the CE determination can be made.
- To be included within the Design Approval Document (DAD) in accordance with the documentation requirements in the PARCE.

Categorical Exclusion (CE) - a category of actions which do not individually or cumulatively have a significant effect on the human environment and which have been found to have no such effect in procedures adopted by a Federal agency (40 CFR 1508.4). Actions that do not individually or cumulatively have a significant environmental effect are excluded from the requirement to prepare an Environmental Assessment (EA) or Environmental Impact Statement (EIS) (23 CFR 771.115(b)).

Instructions:

Initial review of the Federal Environmental Approval Worksheet (FEAW) should occur in scoping or early in Design Phase I to identify potential risks. Complete new review of the FEAW periodically, particularly if project parameters or site condition changes result in potential resource impacts. Completion of the FEAW with signature in Step 4 is required prior to Design Approval. See PDM Chapter 4 for additional details.

Step 1A: Unusual Circumstances Threshold Determination – 23 CFR 771.117(b)

Do any, or the potential for any, unusual circumstances exist¹?

- | | |
|---|---|
| • Significant environmental impacts | YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> |
| • Substantial controversy on environmental grounds | YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> |
| • Significant impact on properties protected by Section 4(f) of the DOT Act or Section 106 of the National Historic Preservation Act | YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> |
| • Inconsistencies with any Federal, State, or local law, requirement or administrative determination relating to the environmental aspects of the project | YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> |

If yes to any of the above, contact the Main Office Project Liaison (MOPL) (see PDM Exhibit 4-1). Any project which would normally be classified as a CE but could involve unusual circumstances (or even uncertainty) will require consultation with the Office of Environment (OOE) and subsequently with the FHWA to determine if CE classification is still warranted. If, after consultation with the FHWA, it is determined that the project cannot be progressed as a CE, **skip to step 4** and see PDM Chapter 4 for NEPA Class I (EIS) or Class III (EA) processing. If, after consultation with the FHWA, it is determined that the project can be progressed as a CE, **proceed to step 1B**.

If no to all the above, then this project qualifies as a CE; **proceed to step 1B**.

Step 1B: Identification of CE action

Is the project an action listed in 23 CFR 771.117 (c) - (d) (or as identified in FHWA's additional flexibilities memo)?
 YES NO

If Yes, proceed to step 2.

If No, contact the MOPL (see PDM Exhibit 4-1). If, after consultation with the OOE and the FHWA, it is determined that the project cannot be progressed as a CE, **skip to step 4** and see PDM Chapter 4 for NEPA Class I (EIS) or Class III (EA) processing. If, after consultation with the FHWA, it is determined that the project can continue as a CE, **proceed to step 2**.

¹ See definitions and examples of unusual circumstances in *FEAW_Instructions.doc*

Federal Environmental Approval Worksheet

Project ID Number: 4LV0.02

Step 2: FHWA environmental actions required prior to CE determination²

The Step 2 table identifies certain issues that require: the FHWA to make the CE determination (Column A and 2.4); independent FHWA determinations (2.1); FHWA approvals, compliance or concurrence (2.2); or notification to the FHWA (2.3). Review *the FEAW Thresholds document* to determine how to fill out each column of Step 2.

2.1	Required FHWA Independent environmental determinations	PARCE threshold exceeded ³	FHWA independent determination/ concurrence required	Date determination/ concurrence issued	Resource not present, or present but threshold not exceeded
		A	B	B1	C
	Executive Order (EO) 11990 Protection of Wetlands Individual Finding		<input type="checkbox"/>	Date Issued	<input checked="" type="checkbox"/>
	ESA Section 7 Threatened and Endangered Species	<input type="checkbox"/>	<input type="checkbox"/>	Date Issued	<input checked="" type="checkbox"/>
	Section 106 of National Historic Preservation Act	<input type="checkbox"/>	<input type="checkbox"/>	Date Issued	<input checked="" type="checkbox"/>
	Section 4(f) (Park, Wildlife Refuge, Historic Sites, and National Wild and Scenic Rivers)	<input type="checkbox"/>	<input type="checkbox"/>	Date Issued	<input checked="" type="checkbox"/>
2.2	Other FHWA environmental approvals, compliance and/or concurrence required	PARCE threshold exceeded ³	Threshold exceeded; FHWA approval, compliance or concurrence required		Resource not present, or present but threshold not exceeded
	EO 11988 Floodplains	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>
	EO 13112 Invasive Species		<input type="checkbox"/>		<input checked="" type="checkbox"/>
	EO 12898 Environmental Justice		<input type="checkbox"/>		<input checked="" type="checkbox"/>
	Safe Drinking Water Act Section 1424(e)		<input type="checkbox"/>		<input checked="" type="checkbox"/>
	US Army Corps of Engineers, Section 404/10 NWP #23		<input type="checkbox"/>		<input checked="" type="checkbox"/>
	Section 6(f) Land and Water Conservation Funds		<input type="checkbox"/>		<input checked="" type="checkbox"/>
	Migratory Bird Treaty Act		<input type="checkbox"/>		<input checked="" type="checkbox"/>
	23CFR772 Type I Noise abatement		<input type="checkbox"/>		<input checked="" type="checkbox"/>
2.3	Other Environmental Issues requiring FHWA notification	PARCE threshold exceeded ³	FHWA notification threshold exceeded		Resource not present, or present but threshold not exceeded
	US Army Corps of Engineers, Section 404/10 Individual Permit	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>
	National Wild and Scenic Rivers	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>
	US Coast Guard Bridge Permit	<input type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>
	Known hazardous waste site (only EPA National Priority list)		<input type="checkbox"/>		<input checked="" type="checkbox"/>
	Project on or affecting Native American Lands		<input type="checkbox"/>		<input checked="" type="checkbox"/>
2.4	Other Issues Triggering FHWA Approval of Categorical Exclusion	PARCE threshold exceeded ³			Resource not present, or present but threshold not exceeded
	Property Acquisition	<input type="checkbox"/>			<input checked="" type="checkbox"/>
	Major Traffic Disruptions	<input type="checkbox"/>			<input checked="" type="checkbox"/>
	Changes in Access Control	<input type="checkbox"/>			<input checked="" type="checkbox"/>

² This table does not represent all environmental issues and actions that a project is subject to. Classification as a CE does not exempt the project from further environmental review. Refer to the PDM and The Environmental Manual (TEM) to determine review requirements.

³ When PARCE threshold is exceeded, the NYSDOT recommends that the project qualifies as a CE and requests the FHWA make the CE determination. Information on PARCE specific thresholds are contained within *the FEAW Thresholds document*.

Federal Environmental Approval Worksheet

Project ID Number: 4LV0.02

Step 3: Who makes the NEPA CE Determination?

To identify which party, either the FHWA or the NYSDOT, makes the CE determination in accordance with the PARCE, follow the instructions found in the table below, beginning in Step 3A. This step also identifies which correspondence shell to use to distribute the FEAW and other environmental notifications or approvals.

3	<p>Determine whether the FHWA or the NYSDOT makes the CE determination and whether additional notifications or approvals are required.</p>
3A	<p>Is the project an action listed in 23 CFR 771.117 (c) - (d) (Answered yes in Step 1B)?</p> <p>YES <input checked="" type="checkbox"/> If Yes, proceed to 3B.</p> <p>NO <input type="checkbox"/> If No, the FHWA makes the CE determination.</p> <ul style="list-style-type: none"> • For Locally Administered Federal Aid Projects only, the DAD, the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent from the Regional Planning and Program Manager (RPPM) to the FHWA directly using Shell 4. • For all other projects, the DAD and the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent to the MOPL for review using Shell 3. Proceed to Step 4.
3B	<p>Are any of the CE Thresholds from the PARCE exceeded (Are there any checks in Column A of Step 2)?</p> <p>YES <input type="checkbox"/> If Yes, the FHWA makes the CE determination.</p> <ul style="list-style-type: none"> • For Locally Administered Federal Aid Projects only, the DAD and the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent from the RPPM to the FHWA directly using Shell 4. • For all other projects, the DAD and the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent to the MOPL for review using Shell 3. Proceed to Step 4. <p>NO <input checked="" type="checkbox"/> If No, proceed to 3C.</p>
3C	<p>Are there outstanding independent environmental approvals or concurrences? (Are there checks in column B of Step 2.1 without dates in column B1)?</p> <p>YES <input type="checkbox"/> If Yes, then the FHWA makes the CE determination.</p> <ul style="list-style-type: none"> • For Locally Administered Federal Aid Projects only, the DAD and the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent from the RPPM to the FHWA directly using Shell 4. • For all other projects, the DAD and the NYSDOT recommendation and request (that the FHWA determines the project qualifies as a CE) are sent to the MOPL for review using Shell 3. Proceed to Step 4. <p>NO <input checked="" type="checkbox"/> If No, the NYSDOT makes the NEPA CE determination. Proceed to 3D.</p>
3D	<p>Are there</p> <p><input type="checkbox"/> any circumstances requiring demonstration of applicable EO compliance (any checks in column B of Table 2.2); or</p> <p><input type="checkbox"/> any issues requiring the FHWA environmental notification (any checks in column B of Table 2.3)?</p> <p>YES <input type="checkbox"/> If either box is checked, once all required approvals and concurrences have been secured, the NYSDOT makes the CE determination but the information must be forwarded to FHWA for notification or action prior to Design Approval using Shell 1. Proceed to step 4.</p> <p>NO <input checked="" type="checkbox"/> If neither box is checked, once all required approvals and concurrences have been secured the NYSDOT makes the CE determination without notification to the FHWA. The project will use Shell 2. Proceed to step 4.</p>

Federal Environmental Approval Worksheet

Project ID Number: 4LV0.02

Step 4: Summary and Recommendation

- The project **is** located within an area subject to transportation air quality conformity.
 - **If the project is within such areas, the NEPA process may not be completed until all transportation conformity requirements are met⁴.** Transportation conformity requirements **have** been met at the time of this signature.
- This project does qualify to be progressed as a Categorical Exclusion.
- The NEPA Determination will be made by NYSDOT
- Project is c(26) "Modernization of a highway by resurfacing, restoration, rehabilitation, reconstruction, adding shoulders, or adding auxiliary lanes (including parking, weaving, turning, and climbing lanes), if the action meets the constraints in paragraph (e)..."⁴
- All outstanding FHWA environmental approvals will be obtained and are listed here:
NONE
- All the conditions of the PARCE are addressed herein (or within the DAD or attachments).

I certify that the information provided above is true and accurate and recommend the project be processed as described above.

Project Manager/Designer
(or Responsible Local Official)

X Jason M. Wolfanger

Date 7-7-2020

Print Name and Title:

Jason M. Wolfanger Livingston County Highway Superintendent

Regional Environmental Unit
Supervisor

X Merton J. Edwards

Date 07/28/2020

Print Name and Title:

Merton J. Edwards, PE 2

Regional Local Project Liaison
(Locally Administered Projects Only)

X Frank DiCostanzo

Date 07/28/2020

Print Name and Title:

Frank DiCostanzo

Changes that may have occurred since the preparation of the FEAW which would create the need to go through the FEAW again include, but are not limited to: a change in the scope of the proposed project; a change in the social, economic or environmental circumstances or the setting of the project study area (i.e. the affected environment); a change in the federal statutory environmental standards: discovering new information not considered in the original process; and a significant amount of time has passed (equal or greater than three years).

⁴ See additional information on identifying (c)26, (c)27 & (c)28 versus d (13) in FEAW_Instructions.doc

June 12, 2020

Mr. Zac Cracknell
Livingston County Highway Department
4389 Gypsy Lane
Mt. Morris, New York 14510

Re: Wetland Delineation & Site Due Diligence Report
Bronson Hill Road (CR 62) Rehabilitation Project
Town of Livonia and Town of Avon, Livingston County, New York

Dear Mr. Cracknell:

In accordance with our Scope of Services, Bergmann completed a Wetland Delineation & Site Due Diligence Report for the Bronson Hill Road (CR 62) Rehabilitation Project (Project) located along Bronson Hill Road between US Route 20A/NY Route 15 to US Route 20/NY Route 5 in the Town of Livonia and the Town of Avon, Livingston County, New York. The Study Area includes those sections along the corridor where improvements may be made that are beyond the paved portion of the road (refer to Figure 1, Study Area Location Map and Figure 2, Aerial Location Map). The field delineation was performed by Bergmann on March 31, 2020, with a follow up field visit conducted at the project site during growing conditions on June 5, 2020. The intent of the field visits were to identify and delineate the boundaries of any potentially jurisdictional aquatic resources (i.e. wetlands and streams). An assessment of the invasive species within the Study Area was also conducted during the field visit.

Preliminary Data Gathering

Preliminary data gathering was used to compile and review information that may be helpful in identifying wetlands and/or areas of interest during the field delineation. Preliminary data gathering included a review of the following resources:

- United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) soil survey mapping for Livingston County, New York,
- United States Federal Emergency Management Agency (FEMA) Floodplain maps for Livingston County, New York,
- United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) mapping,
- New York State Department of Environmental Conservation (NYSDEC) Freshwater Wetlands (FWW) mapping, and
- New York State Water Quality Classification mapping.



Review of the Livingston County Soil Survey (Attachment B, NRCS Soils Report and Hydric Soils Report) indicates that the area of disturbance is composed of:

- Lakemont silty clay loam, 0 to 3 percent slopes (34A). Rated 95% hydric.
- Odessa silt loam, 0 to 3 percent slopes (35A). Rated 5% hydric.
- Odessa silt loam, 3 to 8 percent slopes (35B). Rated 4% hydric.
- Lamson mucky fine sandy loam, 0 to 3 percent slopes (49A). Rated 100% hydric.
- Ontario loam, 3 to 8 percent slopes (52B). Rated 0% hydric.
- Ontario loam, 8 to 15 percent slopes (52C). Rated 0% hydric.
- Lima loam, 0 to 3 percent slopes (59A). Rated 2% hydric.
- Lima loam, 3 to 8 percent slopes (59B). Rated 1% hydric.
- Kendaia silt loam, 0 to 3 percent slopes (60A). Rated 5% hydric.
- Hilton loam, 3 to 8 percent slopes (67B). Rated 0% hydric.
- Udorthents, loamy-skeletal, 0 to 25 percent slopes (100D). Rated 0% hydric.
- Lima-Kendaia complex, 0 to 3 percent slopes (159A). Rated 2% hydric.
- Lima-Kendaia complex, 3 to 8 percent slopes (159B). Rated 1% hydric.
- Ontario-Hilton complex, 3 to 8 percent slopes (167B). Rated 0% hydric.

Review of the available FEMA data indicated that the Study Area is located on two (2) Flood Insurance Rate Maps (FIRM) (Panel #3603860005C and Panel #3603800020C). FEMA panel #3603860005C corresponds to the Town of Livonia. The Study Area in the Town of Livonia is within a Zone X – “Area of Minimal Flood Hazard” and FEMA Panel #3603800020C corresponds to the Town of Avon. There is no FEMA data available for the Town of Avon (refer to Figure 4, FEMA Flood Hazard Area Map).

A desktop review of the available USFWS NWI digital data indicated that the Study Area is located within the Lower Genesee Watershed (HUC 04130003). There are three (3) riverine (R5UBH/R4SBC) NWI mapped wetlands within the Study Area (refer to Figure 5, National Wetland Inventory Map).

Review of the available NYSDEC FWW mapping indicated there are no NYSDEC FWW or their checkzones located within the Study Area (refer to Figure 6, NYSDEC Freshwater Wetland and Stream Map).

Review of the New York State Water Quality Classification mapping identified one (1) Class C / Standard C (821-180) Stream and two (2) Class C / Standard C (821-177) Stream within the Study Area (please refer to Figure 6).

Field Delineation Results

The Study Area is irregular in shape and is mainly comprised of mowed roadsides, mowed lawns and paved/unpaved driveways on both the eastern and western sides of Bronson Hill Road (please refer to Attachment D, Representative Study Area Photographs). Other habitat communities identified throughout the Study Area included an abandoned railroad, existing agricultural fields, agricultural pasturelands, red maple hardwood swamp, shallow emergent marsh, scrub-shrub wetland, ditch/artificial intermittent stream, and a perennial stream.

Four (4) palustrine emergent (PEM), two (2) scrub-shrub (PSS) and three (3) forested (PFO) wetlands were identified and delineated within the Study Area (Figure 7, Delineated Resources Map). In order to document site conditions, a U.S. Army Corps of Engineers (USACE) Wetland Determination Data Form was completed for each wetland and upland reference (Attachment E, USACE Wetland Determination Data Forms & Linear Waters of the



U.S. Field Classification Forms). Information on the delineated wetlands can be found in Table 1 and photographs of the wetlands are included in Attachment D.

Four (4) intermittent stream and two (2) perennial stream segments were identified and delineated within the Study Area. Information on the delineated streams can be found in Table 2 and photographs of the streams are included in Attachment D.

Invasive species such as Japanese knotweed (*Reynoutria japonica*), common reed (*Phragmites australis*) and purple loosestrife (*Lythrum salicaria*) were located within and/or immediately adjacent to the Study Area. In areas that were previously mowed (highway maintenance), these invasive species may present later in the season (Figure 8, Invasive Species Map).



Table 1: Wetlands Identified within the Study Area

Wetland I.D. ¹	Cowardin Classification ²	Latitude ³	Longitude ³	Size ⁴ (acres)	Jurisdiction	Hydrology Indicator(s) ⁵	Dominant Species ⁵	Hydric Soil Indicator(s) ⁵	Figure 7 Sheet No.	Invasive Species ⁶
Wetland 1	PFO	42.835121	-77.690602	0.44	USACE	A1, A2, A3, B9, B16, D2, D5	<i>Populus deltoides</i> <i>Acer rubrum</i> <i>Cornus amomum</i> <i>Lonicera tatarica</i> <i>Impatiens capensis</i> <i>Phalaris arundinacea</i> <i>Toxicodendron radicans</i>	A11, F3, F6	1	N/A
		42.834913	-77.691001						1	N/A
Wetland 2	PEM	42.836272	-77.69028	0.46	USACE	A1, A2, A3, D2, D5	<i>Cornus amomum</i> <i>Fraxinus pennsylvanica</i> <i>Typha latifolia</i>	A11, F3, F6	1	<i>Lythrum salicaria</i>
		42.836187	-77.69064						1	
	PSS	42.836863	-77.690485	0.15	USACE	A1, A2, A3, D2, D5	<i>Acer rubrum</i> <i>Cornus amomum</i> <i>Onoclea sensibilis</i> <i>Caltha palustris</i>	F3	1	<i>Lythrum salicaria</i> <i>Phragmites australis</i>
Wetland 3	PFO	42.85879	-77.689444	0.12	USACE	A3, B9, B16, C3, D2, D5	<i>Acer rubrum</i> <i>Populus deltoides</i> <i>Cornus amomum</i> <i>Fraxinus pennsylvanica</i> <i>Solidago rugosa</i> <i>Impatiens capensis</i>	F6	3	<i>Reynoutria japonica</i>
Wetland 4	PEM	42.869659	-77.687837	0.05	USACE	A3, B10, D2, D5	<i>Salix alba</i> <i>Cornus amomum</i> <i>Salix discolor</i> <i>Phalaris arundinacea</i>	F3	4	<i>Reynoutria japonica</i> <i>Phragmites australis</i>
		42.869564	-77.68814						4	



Table 1: Wetlands Identified within the Study Area (Cont.)

Wetland I.D. ¹	Cowardin Classification ²	Latitude ³	Longitude ³	Size ⁴ (acres)	Jurisdiction	Hydrology Indicator(s) ⁵	Dominant Species ⁵	Hydric Soil Indicator(s) ⁵	Figure 7 Sheet No.	Invasive Species ⁶
Wetland 5	PEM	42.875968	-77.687196	0.13	USACE	A1, A3, C3, D2, D5	<i>Cornus amomum</i> <i>Phalaris arundinacea</i> <i>Typha latifolia</i>	A11, F31 F6	5	N/A
Wetland 6	PEM	42.890969	-77.684671	0.11	USACE	A1, A2, A3, D2, D5	<i>Cornus amomum</i> <i>Typha latifolia</i> <i>Phalaris arundinacea</i>	A2, A3, F6	6	<i>Lythrum salicaria</i> <i>Phragmites australis</i>
		42.890993	-77.684999						6	
	PSS	42.890832	-77.685031	0.07	USACE	A2, A3, B9, B10, D2, D5	<i>Acer rubrum</i> <i>Cornus amomum</i> <i>Phalaris arundinacea</i> <i>Onoclea sensibilis</i>	A11, F3, F6	6	
Wetland 7	PFO	42.892948	-77.684675	0.16	USACE	A2, A3, B9, B10, B16, D2, D5	<i>Acer rubrum</i> <i>Cornus amomum</i> <i>Phalaris arundinacea</i> <i>Impatiens capensis</i>	F6	6	<i>Lythrum salicaria</i> <i>Reynoutria japonica</i>
		42.892979	-77.68425						6	

Notes:

1. Bergmann map designation.
2. PEM – Palustrine Emergent, PSS – Palustrine Scrub-Shrub, PFO – Palustrine Forested.
3. Center of wetland in North American Datum, 1983.
4. Total acreage of wetland located within the Study Area.
5. As determined using the USACE Wetland Determination Data Form, Northcentral & Northeast Regional Supplement.
6. Invasive species observed within wetland or within the vicinity of the wetland.



Table 2: Streams Identified within the Study Area

Stream I.D. ¹	Stream Name	NYSDEC WQ Classification ²	Flow Regime	Width (feet) ³	OHWM Width (feet)	OHWM depth (inches)	Stream Length (feet) ⁴	Substrate Types	Latitude ⁵	Longitude ⁵	Figure 7 Sheet No.
Stream 1	Unnamed Tributary (UNT) to Conesus Lake	N/A	Intermittent	5	7	24	144.24	Silt, muck, rocks, cobble, leaf litter	42.835022	-77.690565	1
Stream 2	UNT to Conesus Lake	C / C	Perennial	4.5	2.5	8	156.53	Silt, muck, rocks, cobble, leaf litter and woody vegetation	42.836264	-77.690339	1
Stream 3*	UNT to Little Conesus Creek	N/A	Intermittent	6-7	2	18	44.76	Silt, muck, rocks, gravel, leaf litter	42.858779	-77.689447	3
Stream 4*	UNT to Little Conesus Creek	N/A	Intermittent	6	4.5	12	50.41	Silt, rocks, cobble, gravel, leaf litter, herbaceous vegetation	42.873129	-77.687284	4
Stream 5	UNT to Little Conesus Creek	C / C	Intermittent	7.5	6	18	152.58	Silt, rocks, cobble, gravel, leaf litter	42.890851	-77.685104	6
Stream 6	Little Conesus Creek	C / C	Perennial	20-24	18-20	24	177.36	Silt, muck, rocks, cobble, minor woody vegetation	42.892873	-77.684689	6

Notes:

*Stream begins on the outfall side of roadway.

1. Bergmann map designation.
2. As defined by 6 NYCRR Part 896
3. Width in feet from top of stream bank.
4. Total stream length (in feet) located within the Study Area.
5. Center of stream centerline in North American Datum, 1983.



If you have any questions or require additional information, contact me by phone at 585.498.7930 or email at sparsons@bergmannpc.com.

Sincerely,

Stephanie Parsons
Natural Resource Scientist, BERGMANN

Attachments:

- Attachment A: Figures
 - Figure 1. Study Area Location Map
 - Figure 2. Aerial Imagery Map
 - Figure 3. NRCS Hydric Soil Survey Map
 - Figure 4. FEMA Flood Hazard Area Map
 - Figure 5. National Wetland Inventory Map
 - Figure 6. NYSDEC Freshwater Wetland and Stream Map
 - Figure 7. Delineated Resources Map
 - Figure 8. Invasive Species Map
- Attachment B: NRCS Custom Soil Resource Report for Livingston County, New York
- Attachment C: Representative Study Area Photographs
- Attachment D: USACE Wetland Determination Data Forms & Linear Waters of the U.S. Field Classification Form



ATTACHMENT A

Figures

Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

STUDY AREA LOCATION
MAP (1 of 2)

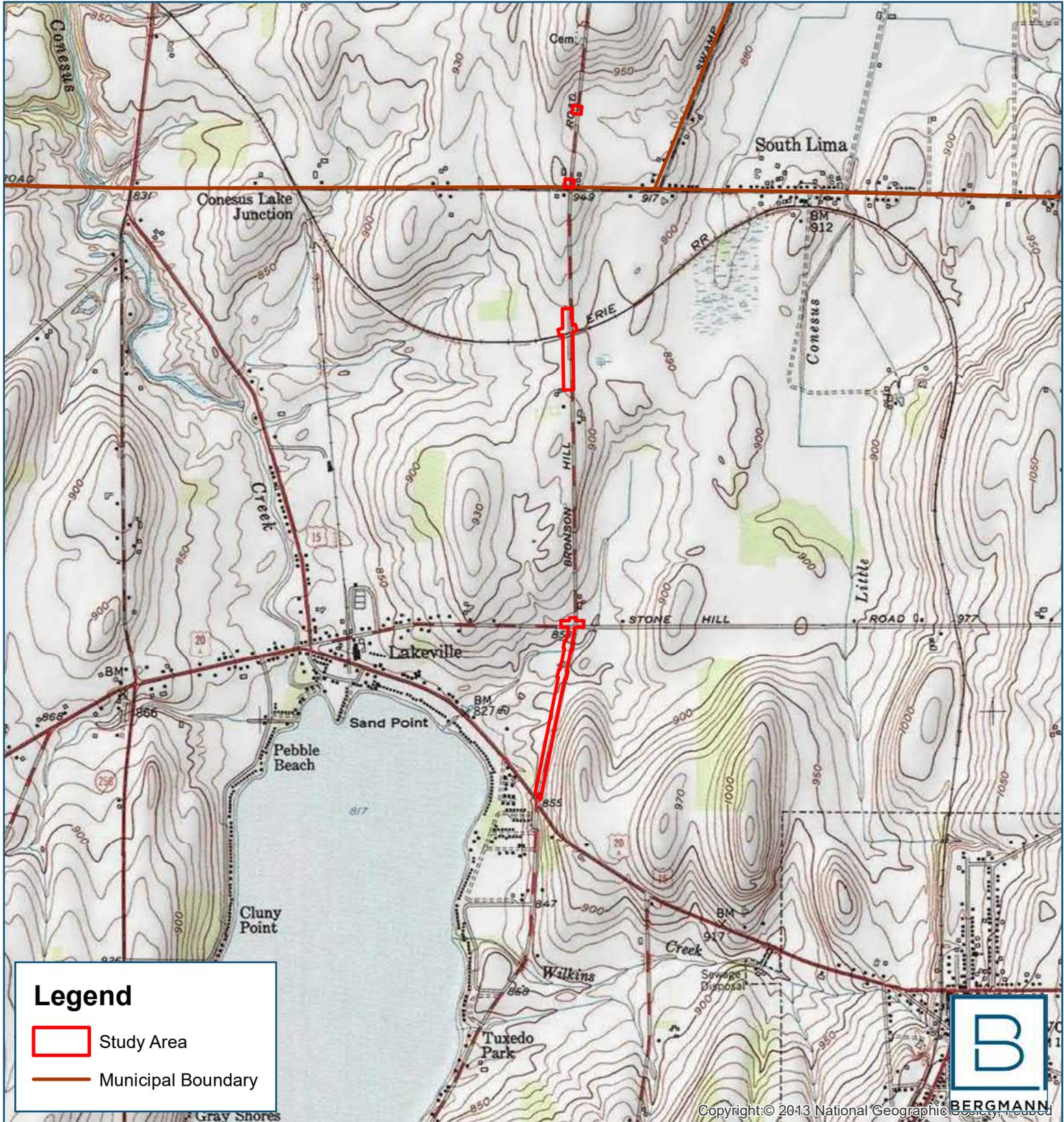
Fig. 1

2,000

Feet



Town of Livonia and Town of Avon, Livingston County, New York



Legend

-  Study Area
-  Municipal Boundary



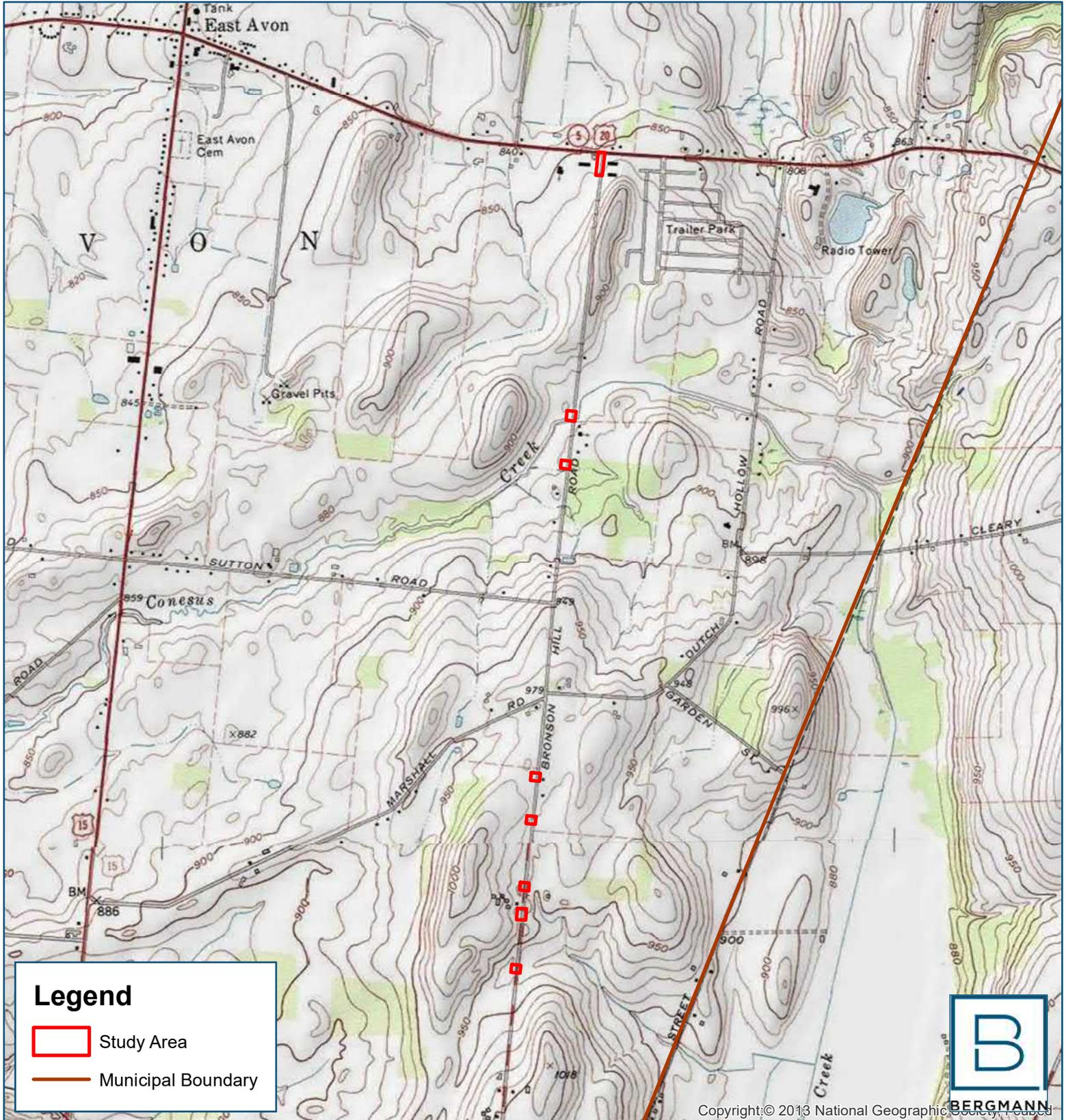
Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

2,000

Feet



Town of Livonia and Town of Avon, Livingston County, New York



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

AERIAL IMAGERY MAP
(1 of 4)

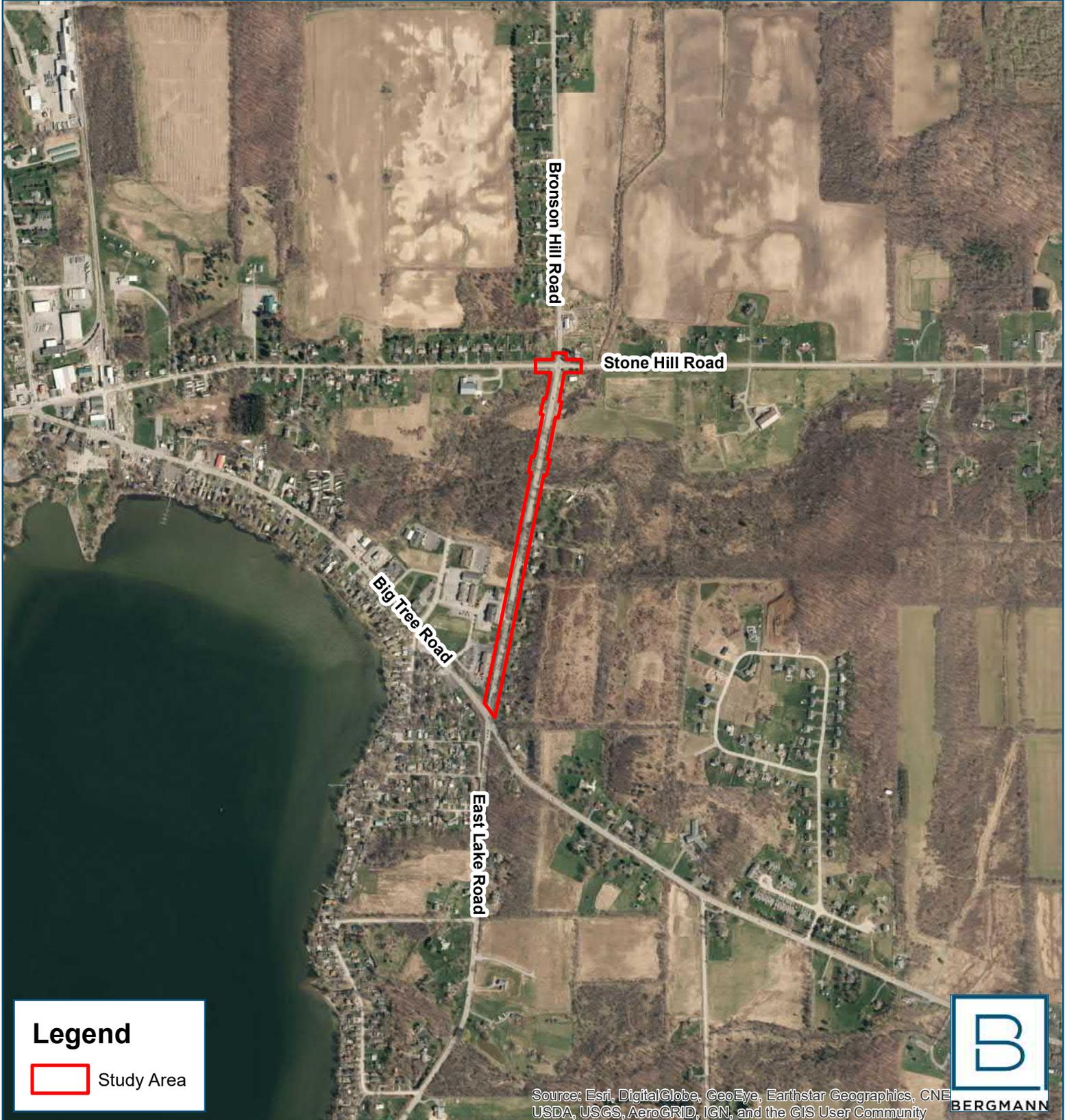
Fig. 2

1,000

Feet



Town of Livonia and Town of Avon, Livingston County, New York



Legend

 Study Area



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNR, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

AERIAL IMAGERY MAP
(2 of 4)

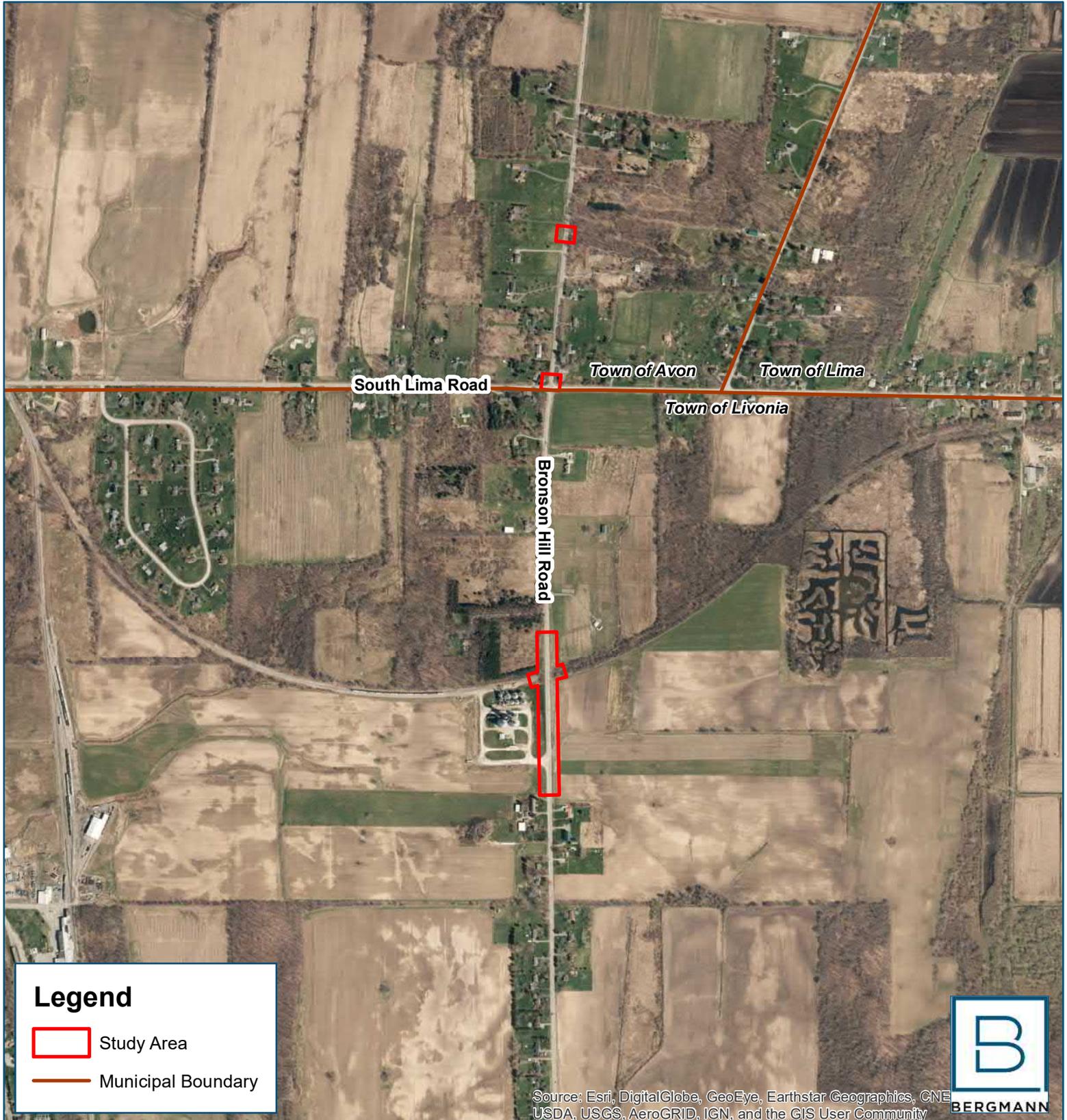
Fig. 2

1,000

Feet



Town of Livonia and Town of Avon, Livingston County, New York



Legend

-  Study Area
-  Municipal Boundary

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES
USDA, USGS, AeroGRID, IGN, and the GIS User Community



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

AERIAL IMAGERY MAP
(3 of 4)

Fig. 2

1,000

Feet



Town of Livonia and Town of Avon, Livingston County, New York



Legend

-  Study Area
-  Municipal Boundary

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES
USDA, USGS, AeroGRID, IGN, and the GIS User Community



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

AERIAL IMAGERY MAP
(4 of 4)

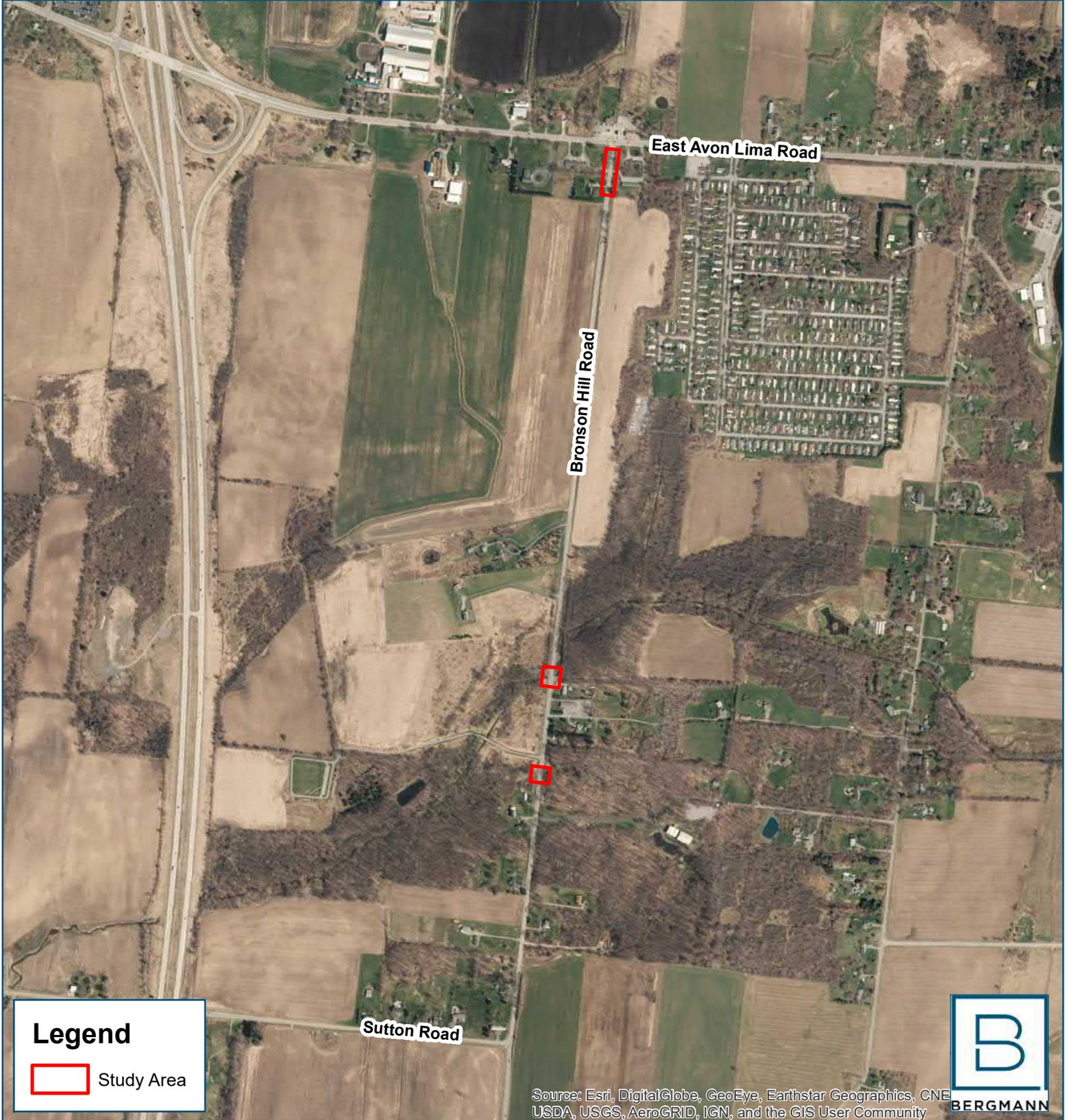
Fig. 2

1,000

Feet



Town of Livonia and Town of Avon, Livingston County, New York



Legend

 Study Area

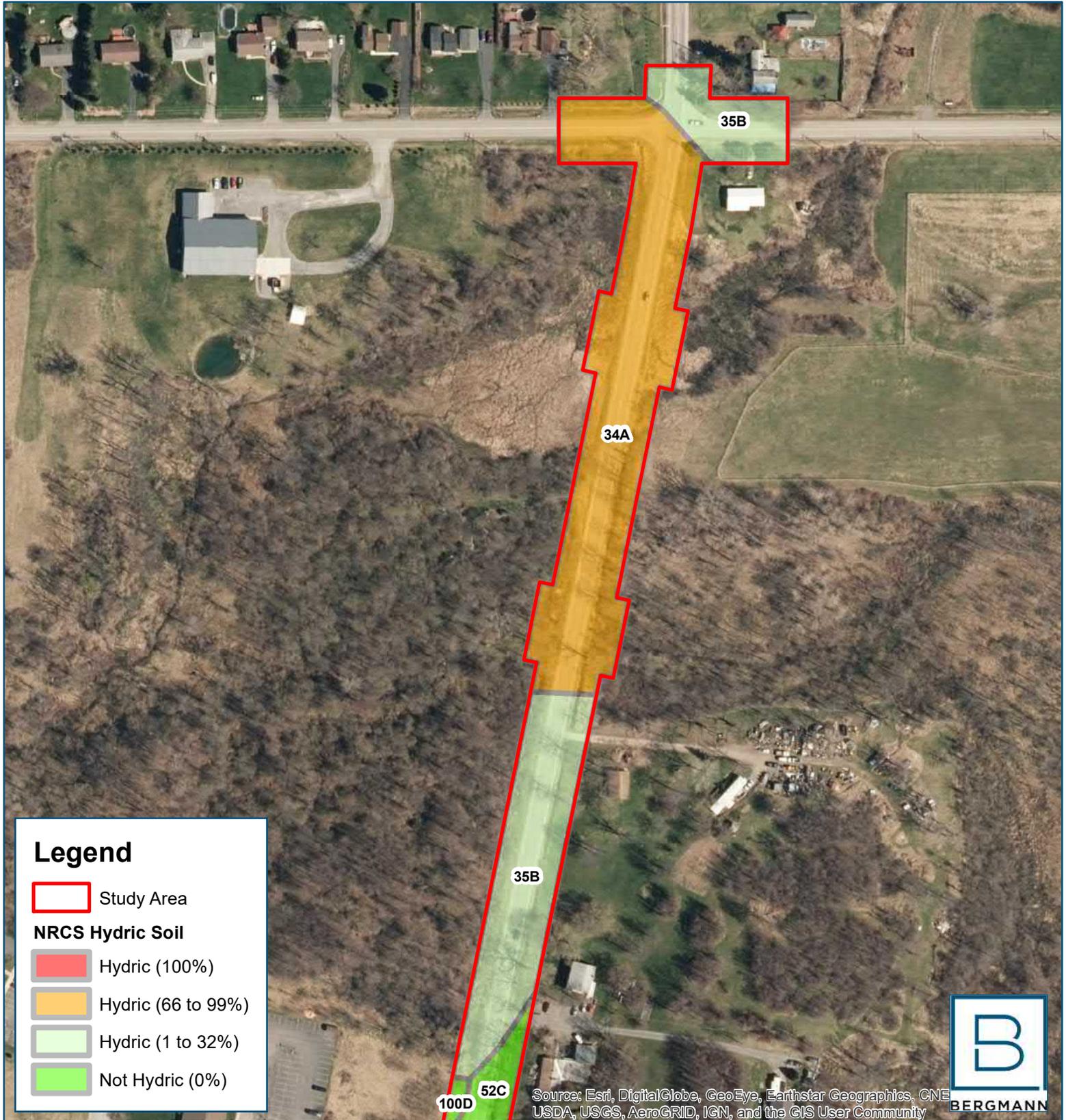
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNR
USDA, USGS, AeroGRID, IGN, and the GIS User Community



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department



Town of Livonia and Town of Avon, Livingston County, New York



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

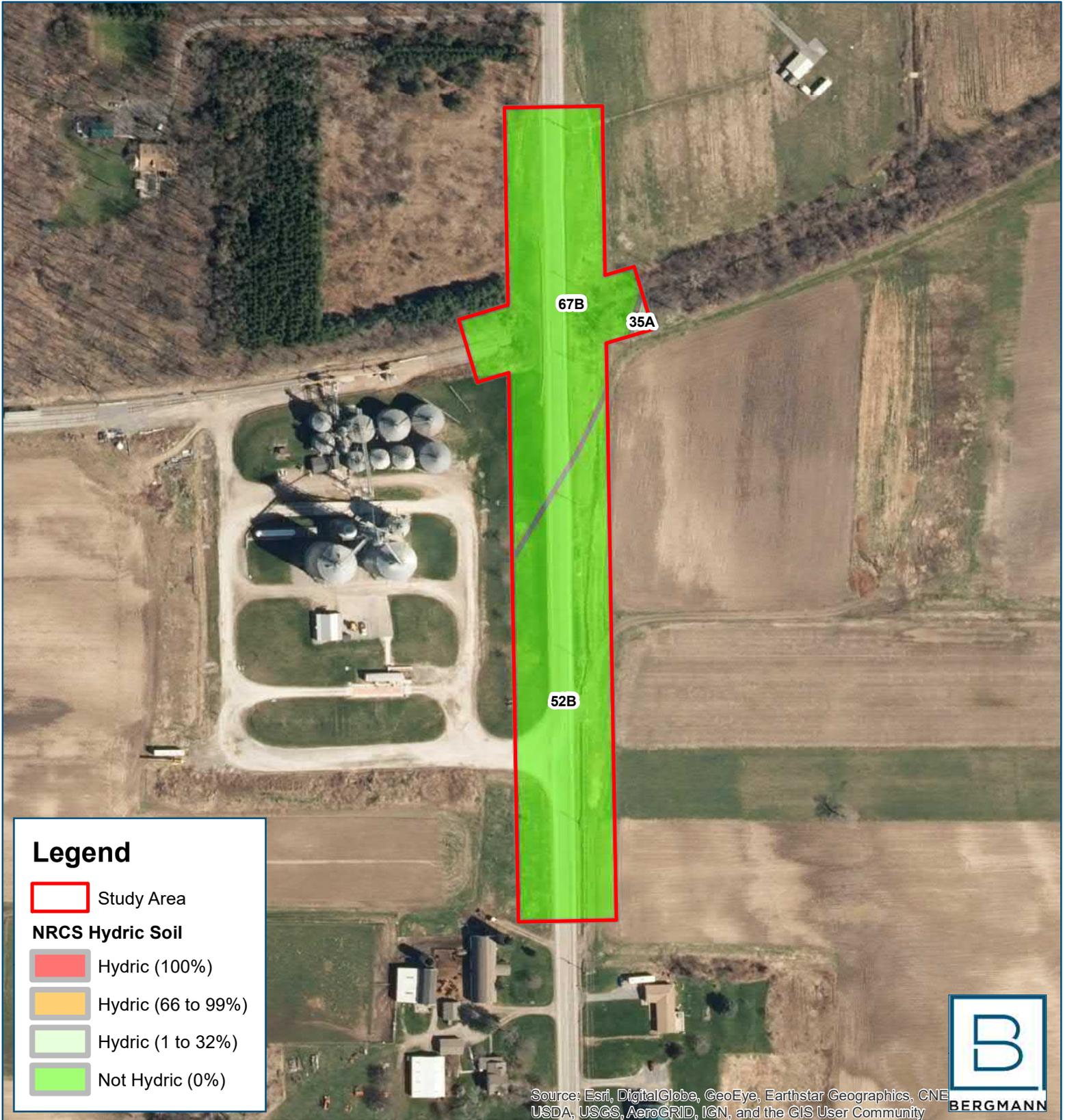
NRCS HYDRIC SOIL
SURVEY MAP (2 of 7)

Fig. 3

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

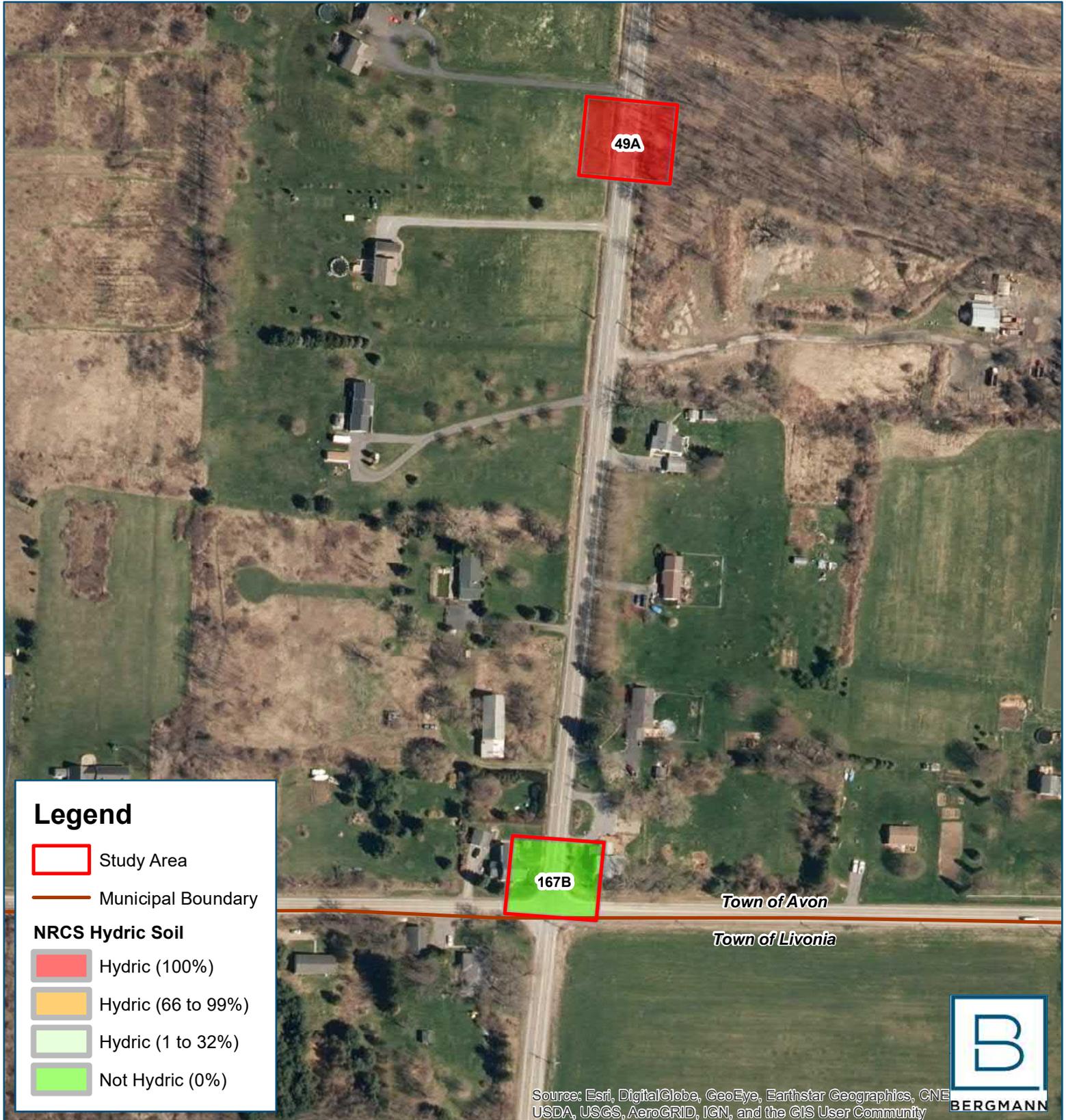
NRCS HYDRIC SOIL
SURVEY MAP (3 of 7)

Fig. 3

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

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Feet



Town of Livonia and Town of Avon, Livingston County, New York

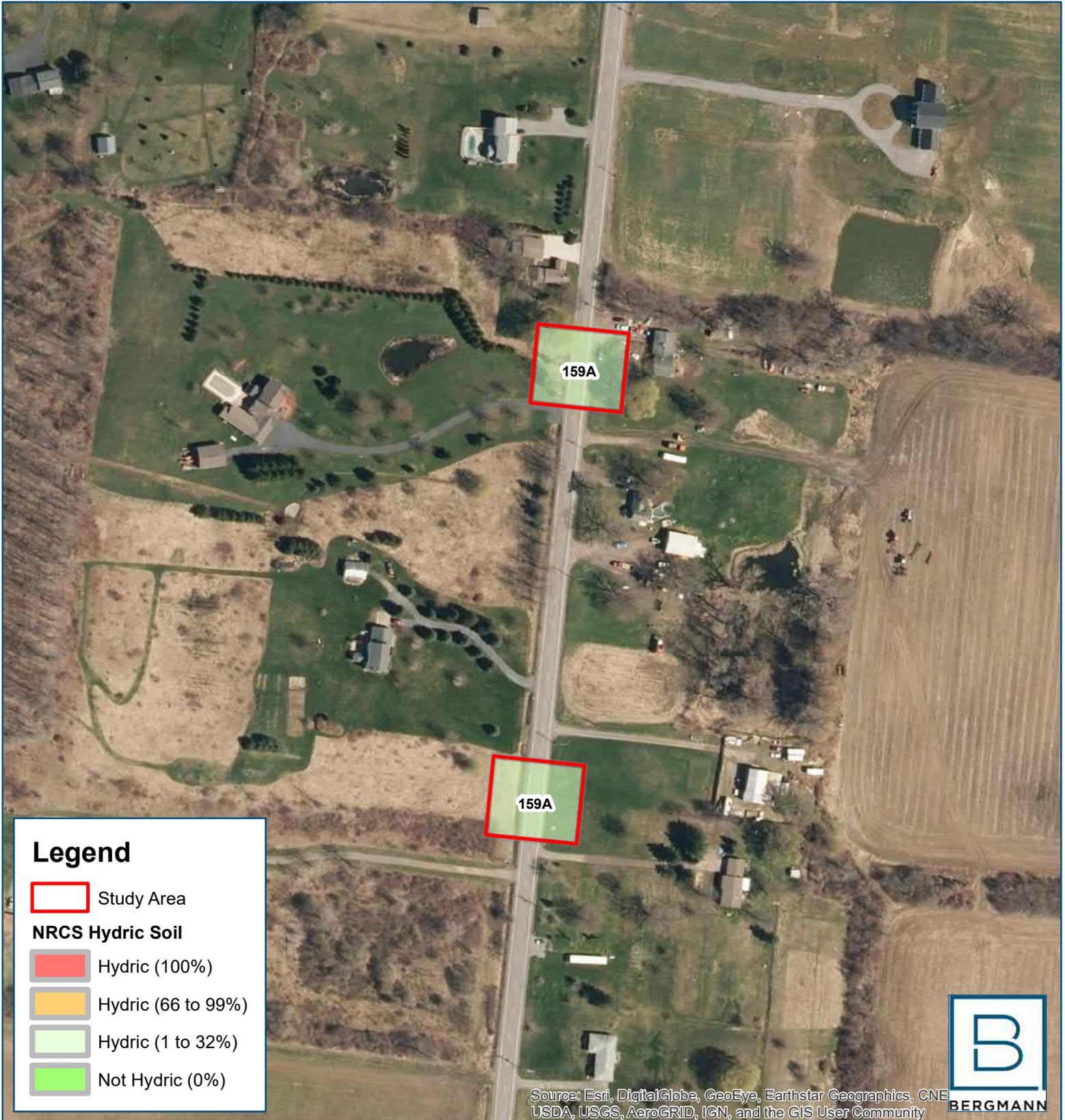


Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

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Feet



Town of Livonia and Town of Avon, Livingston County, New York



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

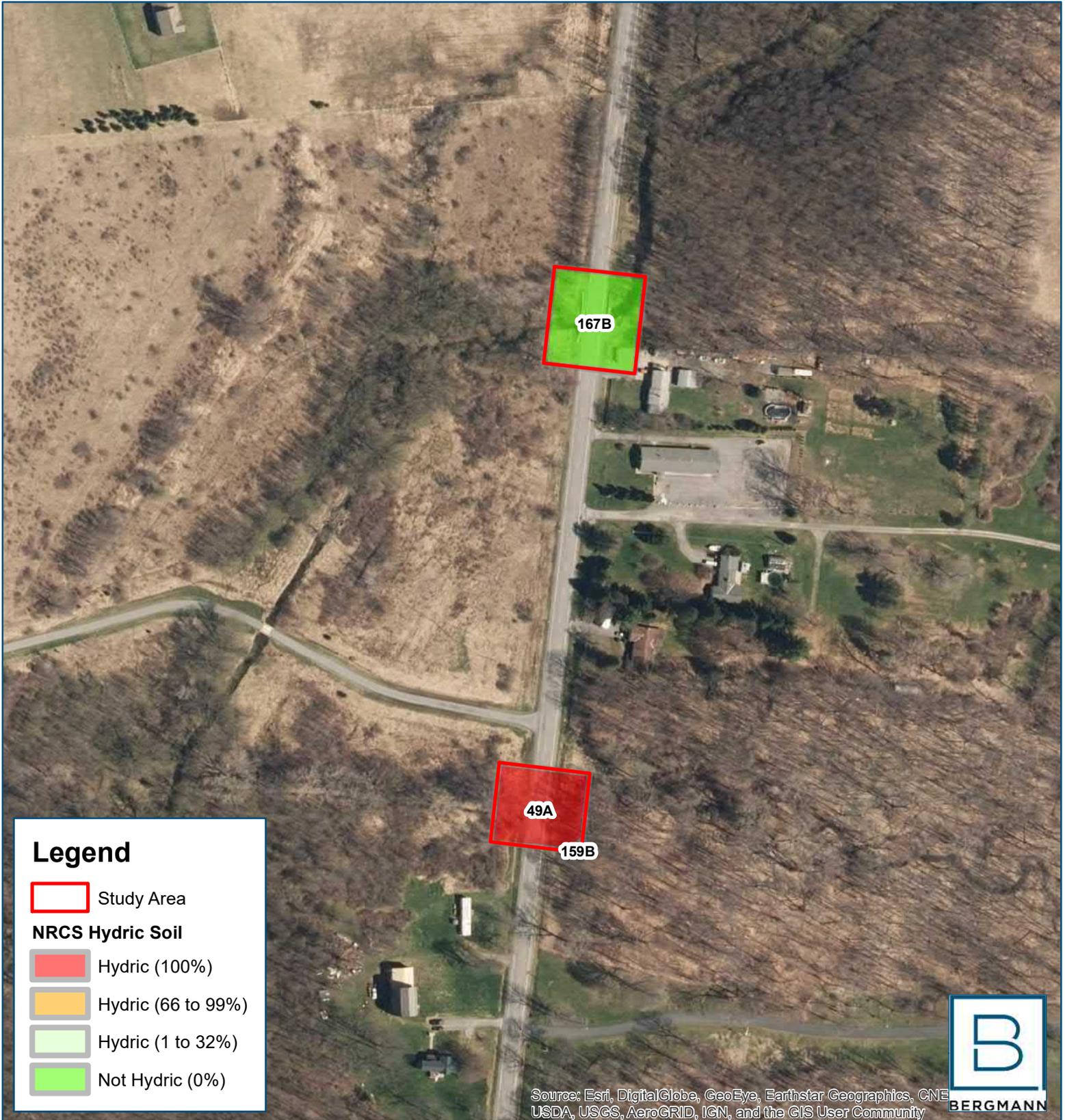
NRCS HYDRIC SOIL
SURVEY MAP (6 of 7)

Fig. 3

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department



Town of Livonia and Town of Avon, Livingston County, New York



Legend

-  Study Area
- NRCS Hydric Soil**
-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

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Feet



Town of Livonia and Town of Avon, Livingston County, New York

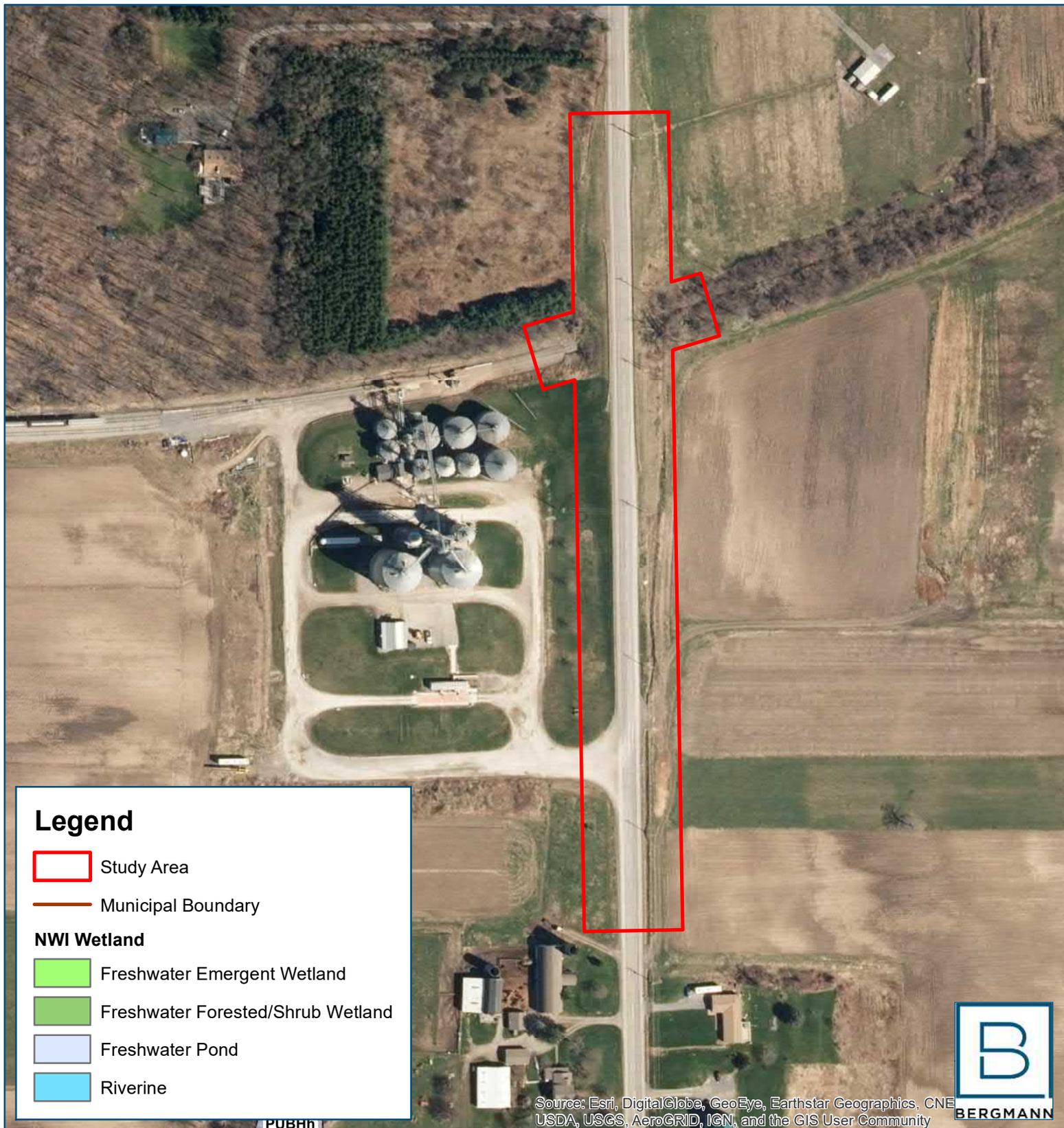


Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York



Legend

-  Study Area
-  Municipal Boundary

NWI Wetland

-  Freshwater Emergent Wetland
-  Freshwater Forested/Shrub Wetland
-  Freshwater Pond
-  Riverine

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES
USDA, USGS, AeroGRID, IGN, and the GIS User Community



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

NATIONAL WETLAND
INVENTORY MAP (3 of 7)

Fig. 5

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York



Legend

-  Study Area
-  Municipal Boundary

NWI Wetland

-  Freshwater Emergent Wetland
-  Freshwater Forested/Shrub Wetland
-  Freshwater Pond
-  Riverine

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES
USA, USGS, AeroGRID, IGN, and the GIS User Community



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

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Feet



Town of Livonia and Town of Avon, Livingston County, New York



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

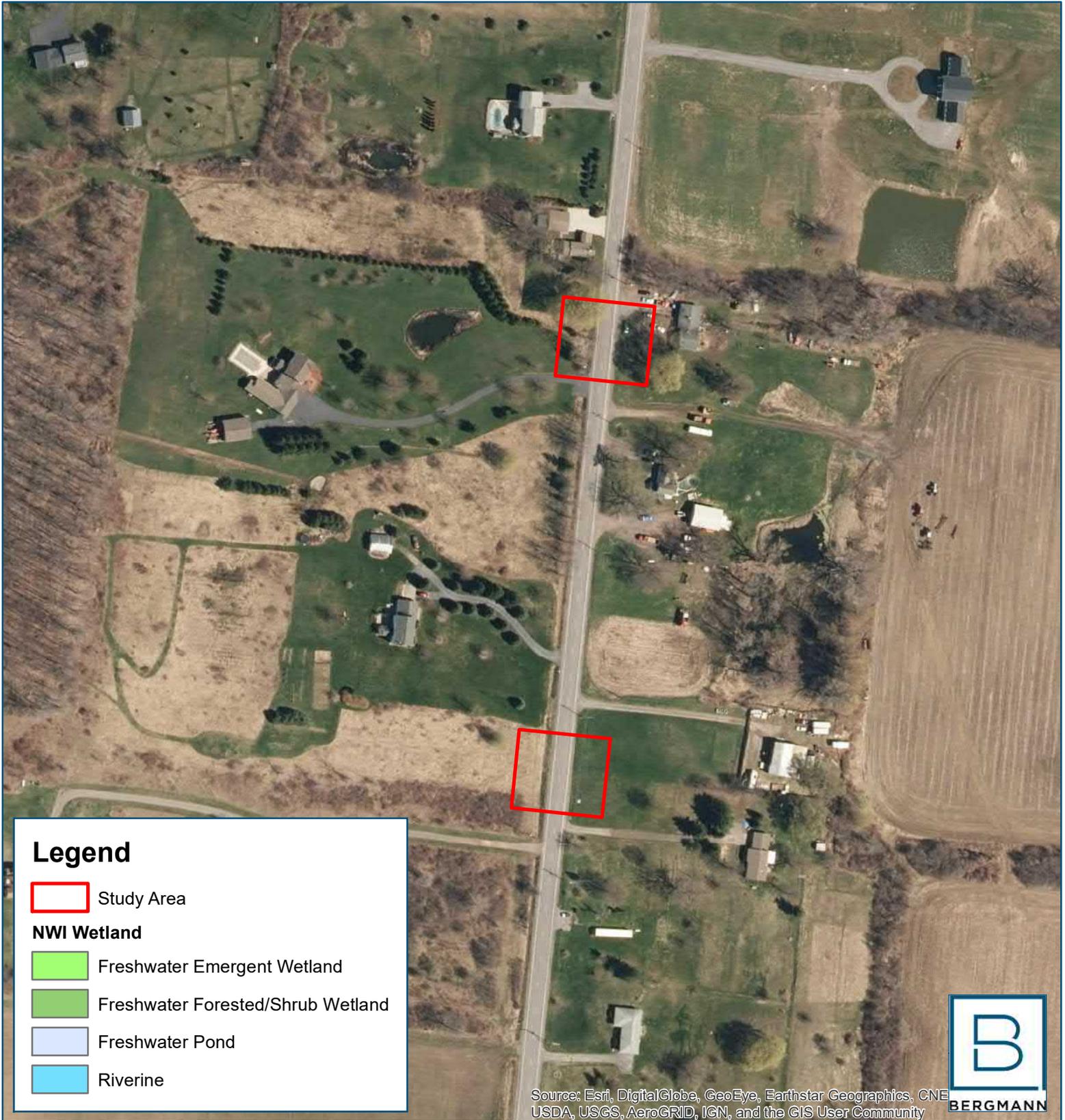
NATIONAL WETLAND
INVENTORY MAP (5 of 7)

Fig. 5

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York



Legend

 Study Area

NWI Wetland

 Freshwater Emergent Wetland

 Freshwater Forested/Shrub Wetland

 Freshwater Pond

 Riverine



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

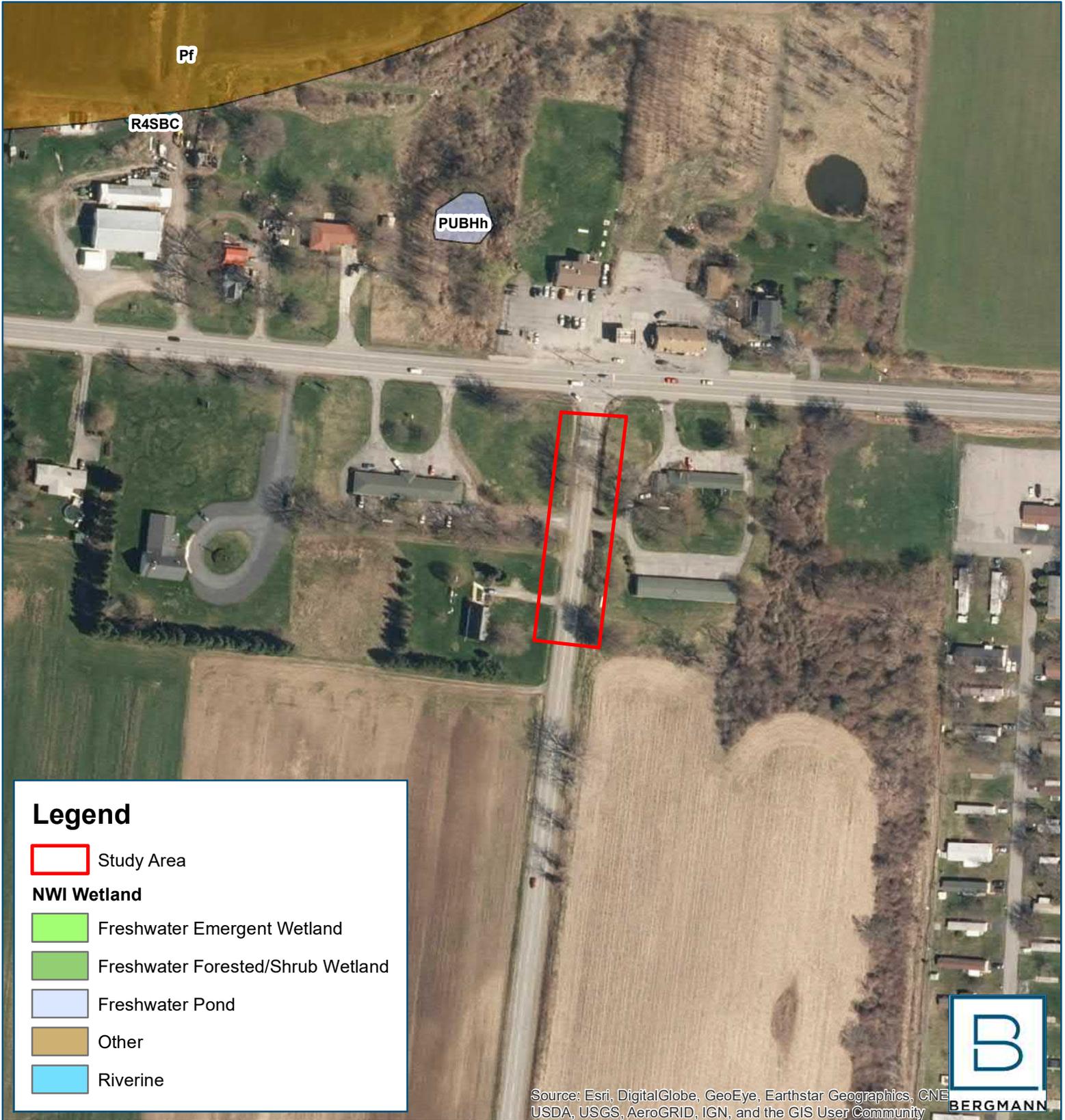
NATIONAL WETLAND
INVENTORY MAP (7 of 7)

Fig. 5

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York

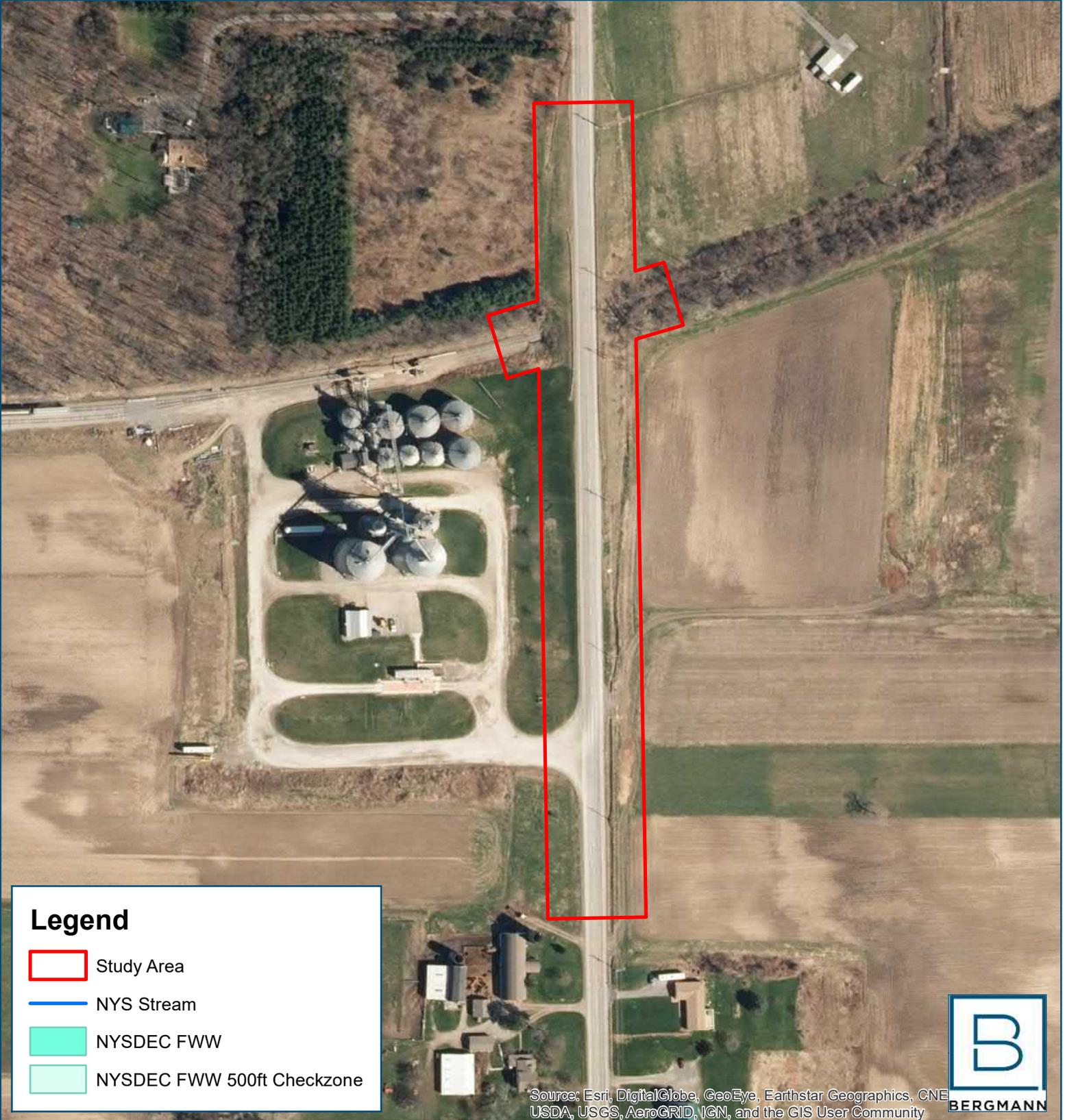


Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York



Legend

-  Study Area
-  Municipal Boundary
-  NYS Stream
-  NYSDEC FWW
-  NYSDEC FWW 500ft Checkzone

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNR
USDA, USGS, AeroGRID, IGN, and the GIS User Community



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York

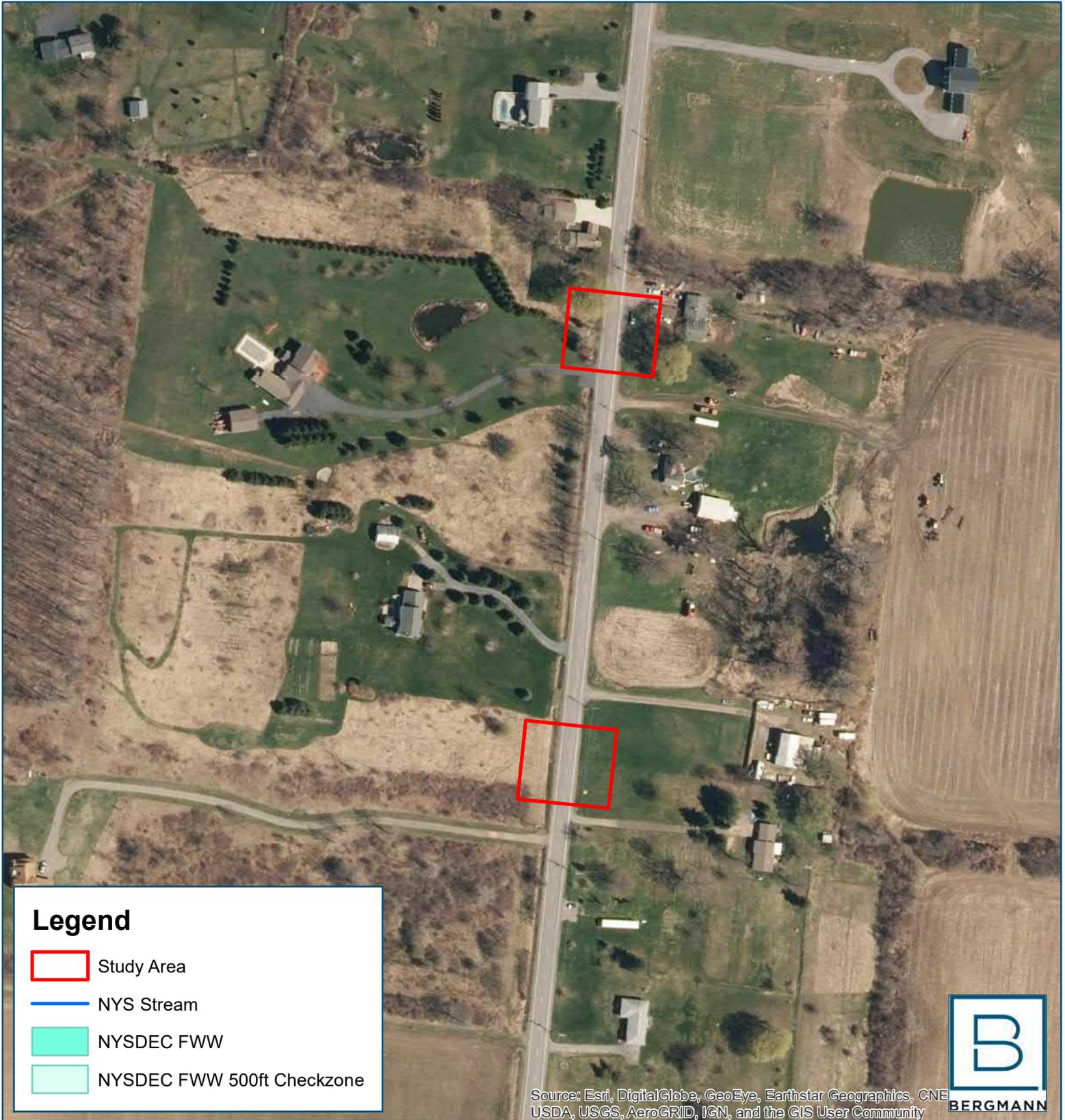


Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York

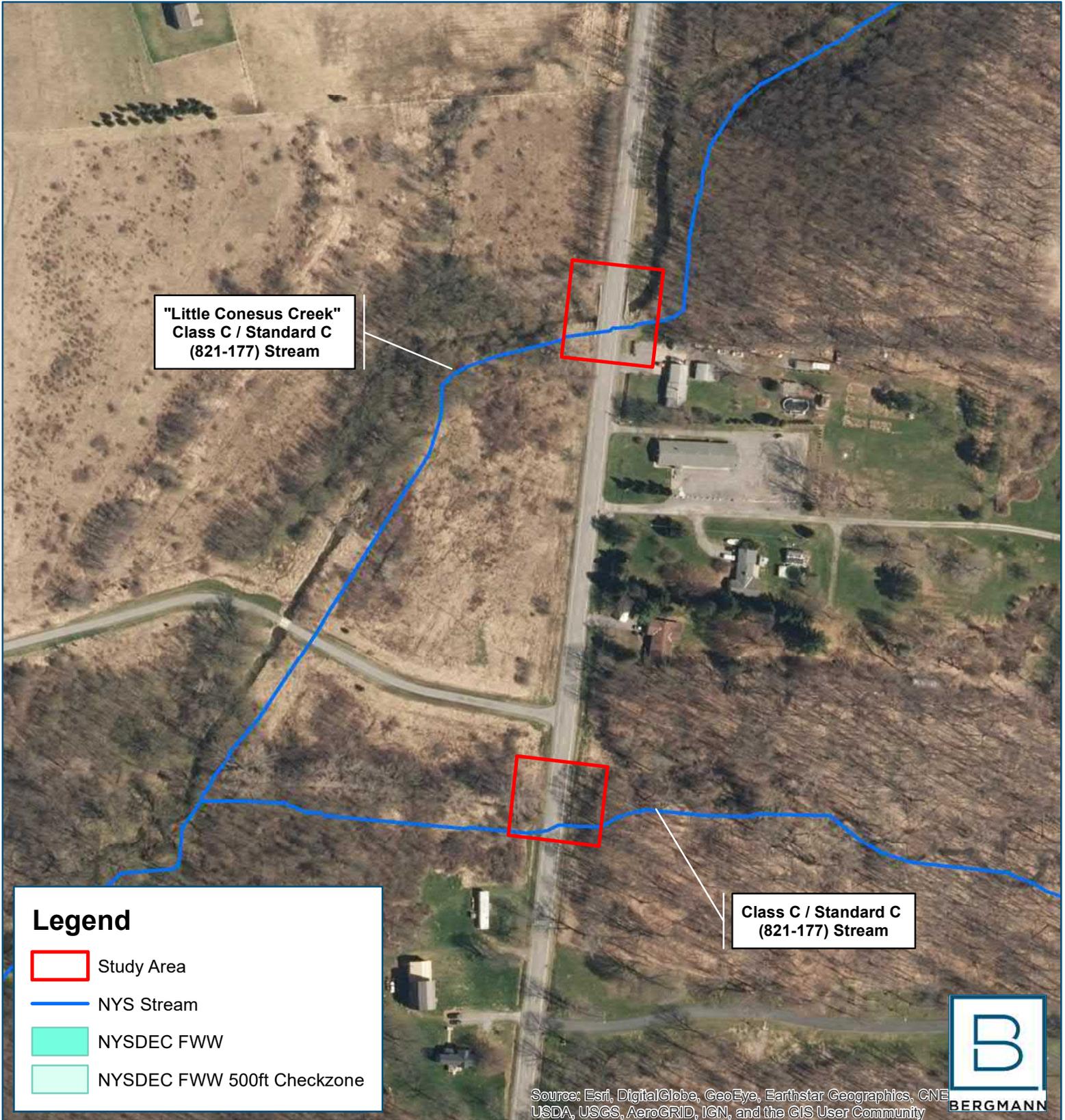


Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

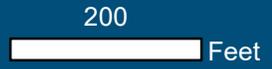
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Feet



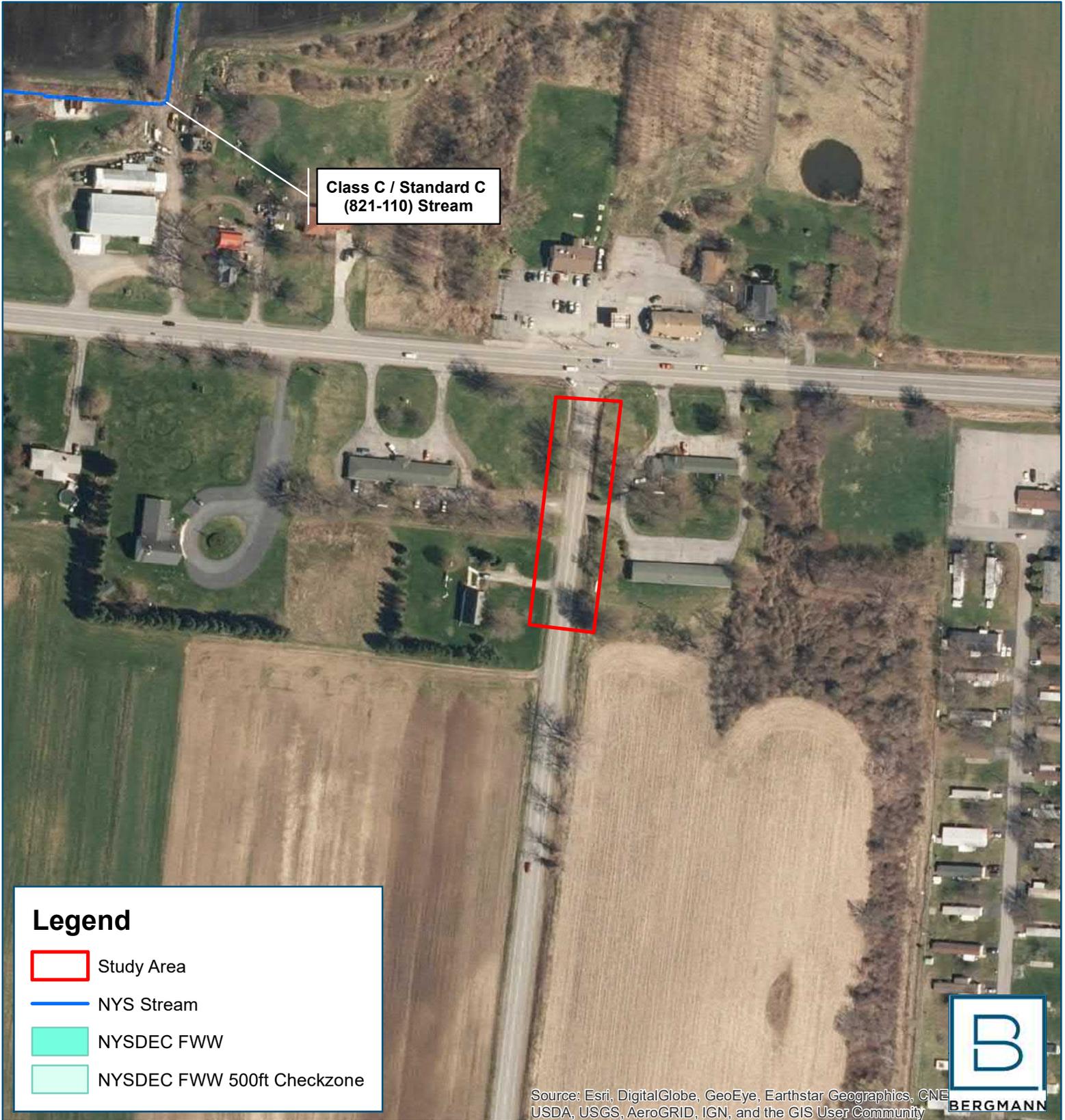
Town of Livonia and Town of Avon, Livingston County, New York



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department



Town of Livonia and Town of Avon, Livingston County, New York



Legend

-  Study Area
-  NYS Stream
-  NYSDEC FWW
-  NYSDEC FWW 500ft Checkzone



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

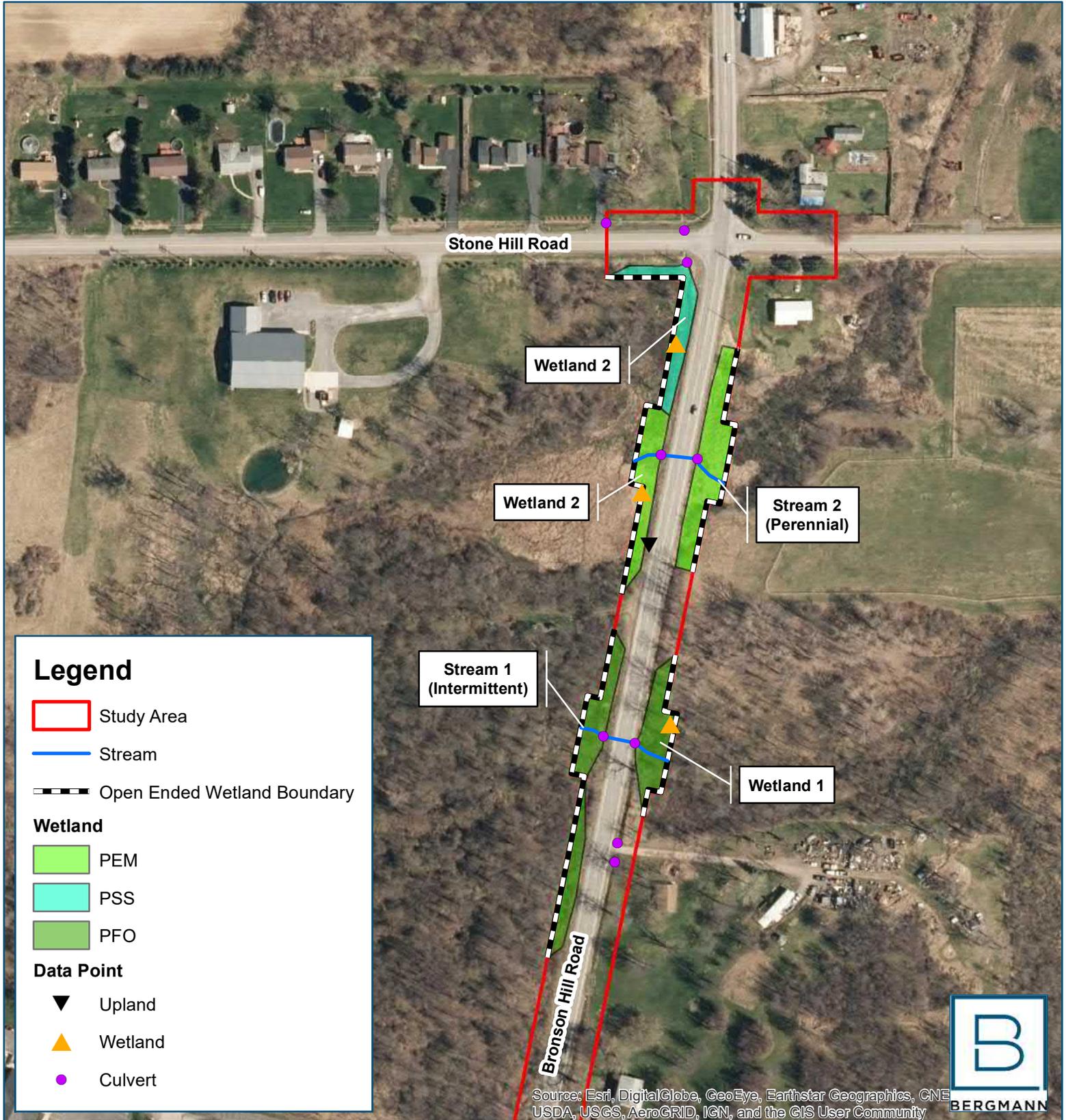
DELINEATED RESOURCES
MAP (1 of 6)

Fig. 7

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

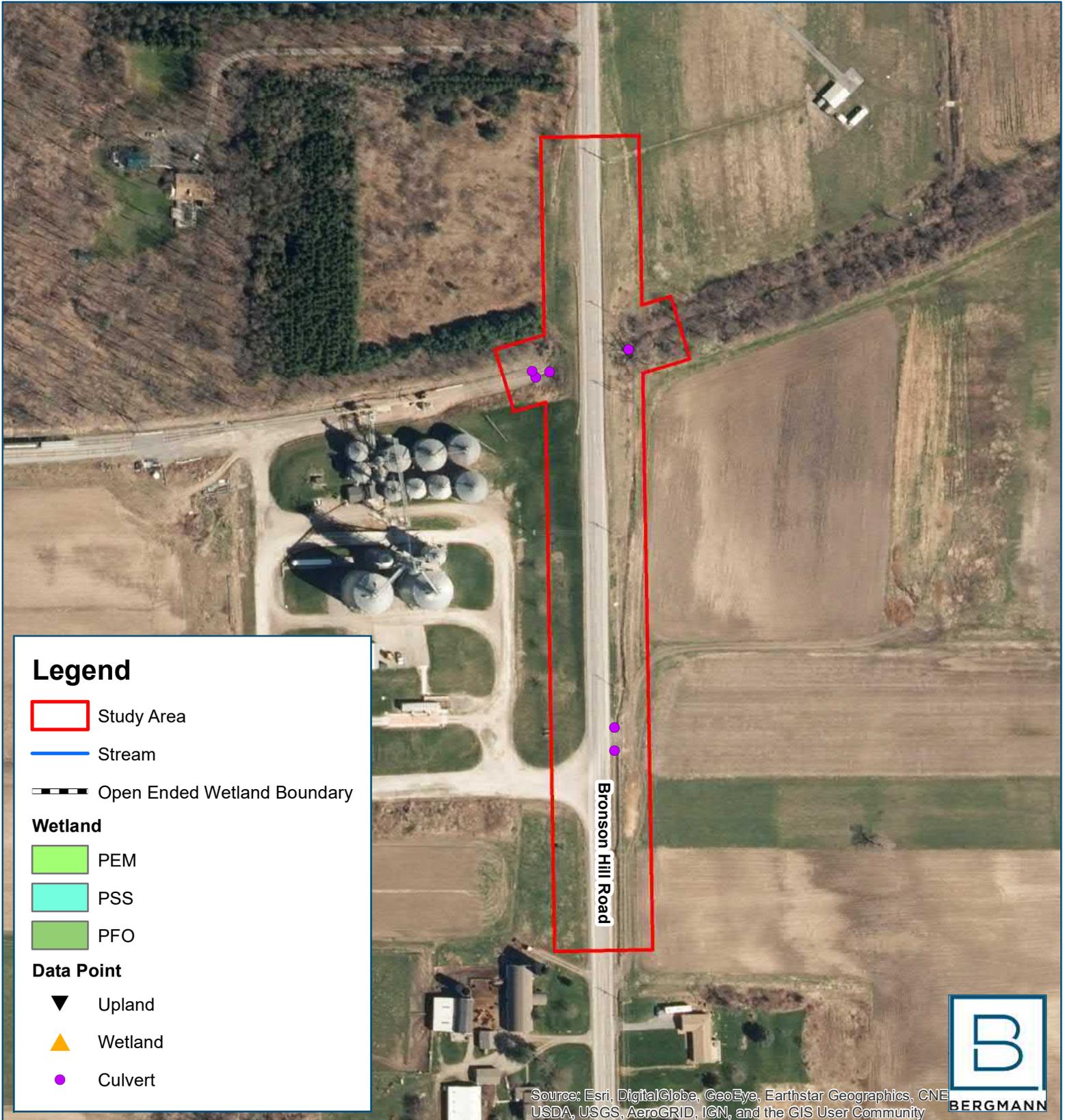
DELINEATED RESOURCES
MAP (2 of 6)

Fig. 7

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

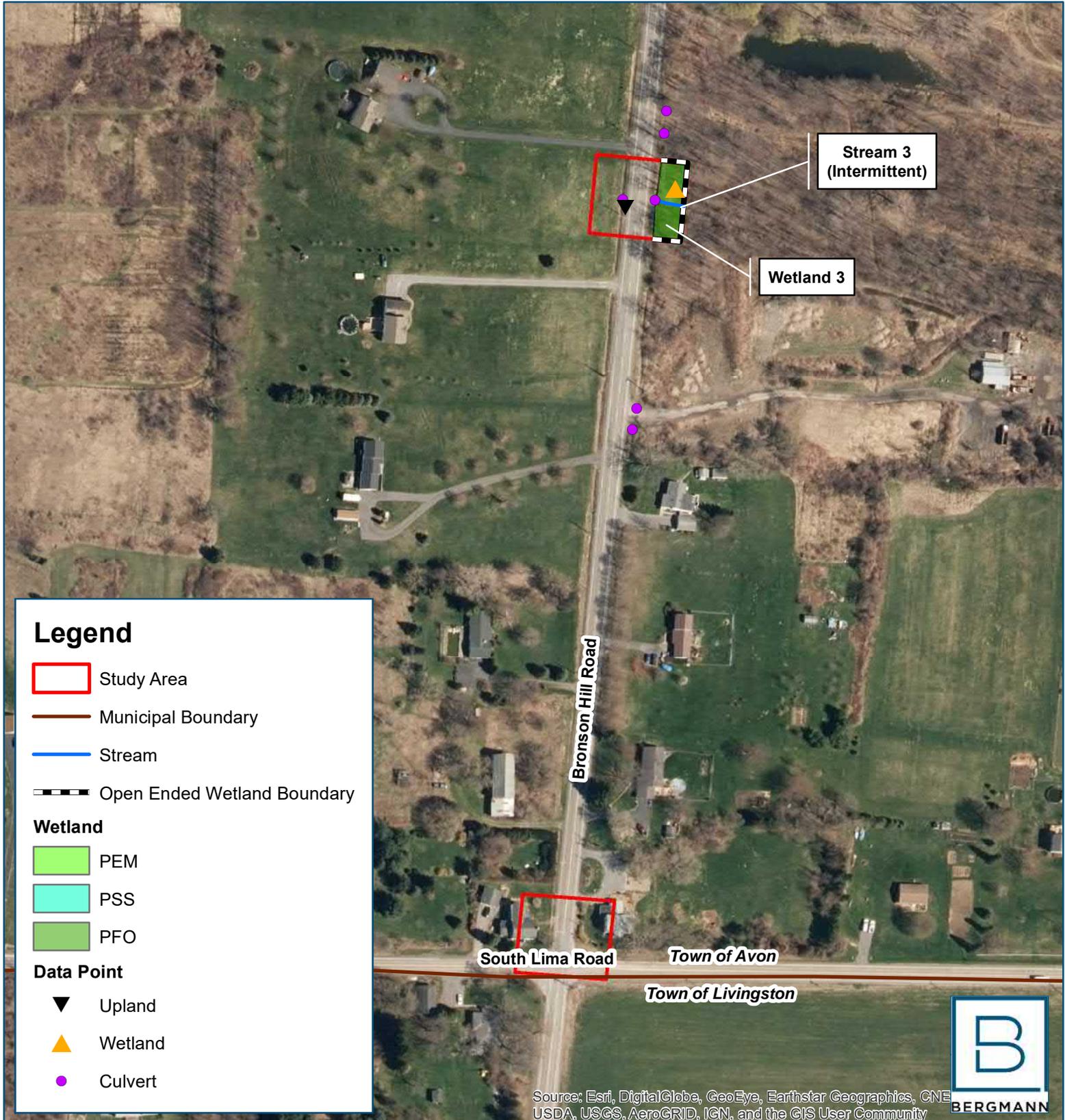
DELINEATED RESOURCES
MAP (3 of 6)

Fig. 7

200 Feet



Town of Livonia and Town of Avon, Livingston County, New York



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

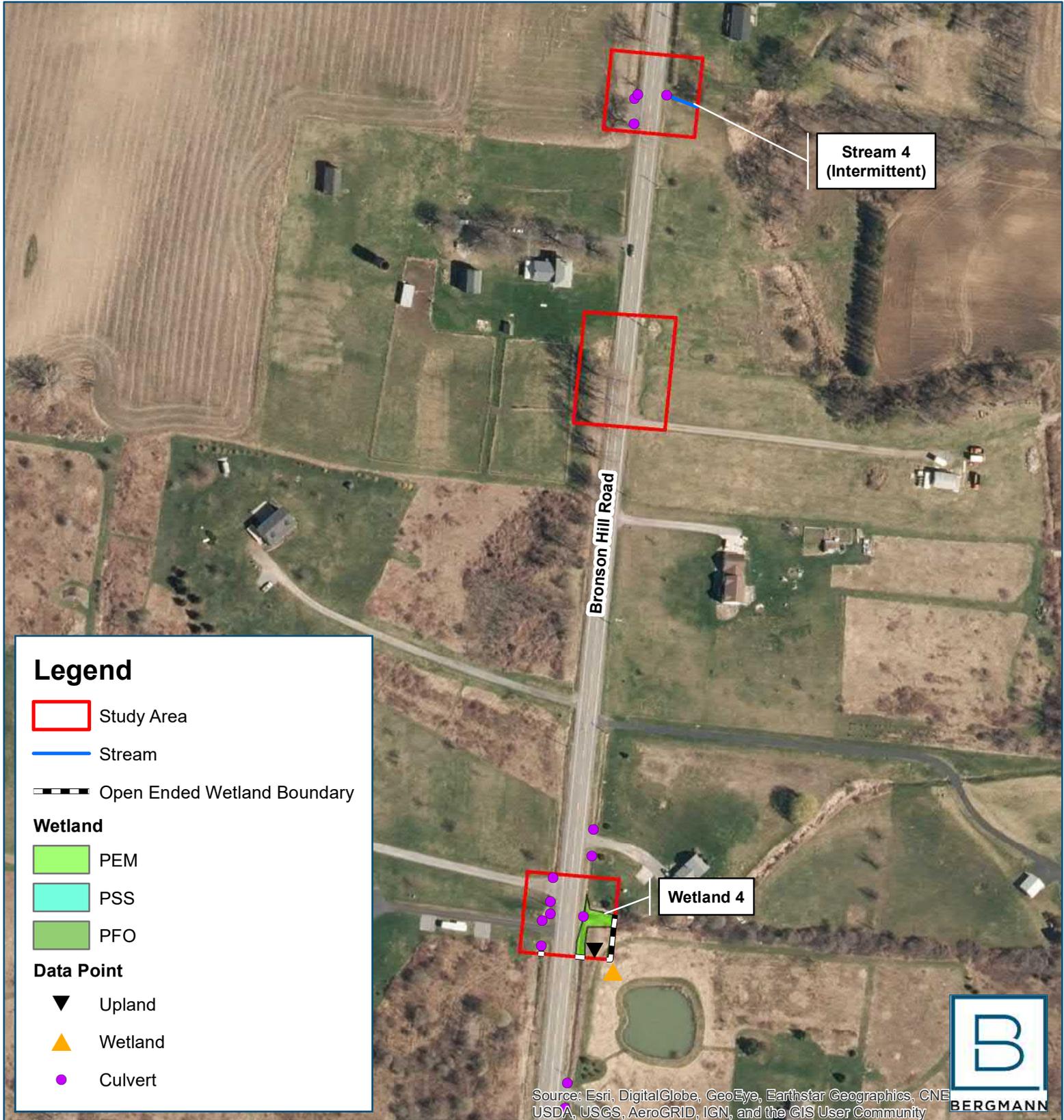
DELINEATED RESOURCES
MAP (4 of 6)

Fig. 7

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

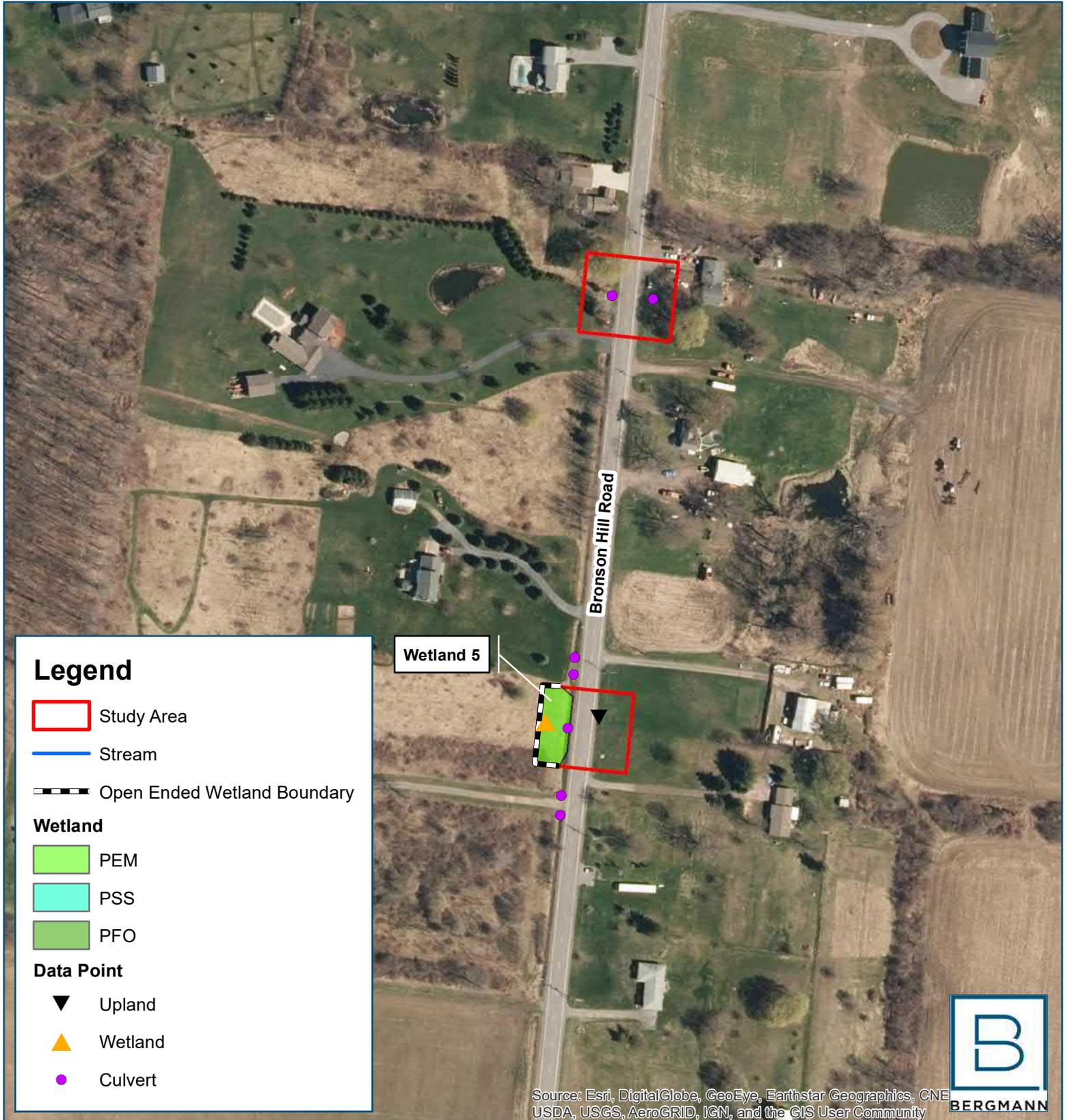
DELINEATED RESOURCES
MAP (5 of 6)

Fig. 7

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

DELINEATED RESOURCES
MAP (6 of 6)

Fig. 7

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

INVASIVE SPECIES
MAP (1 of 4)

Fig. 8

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

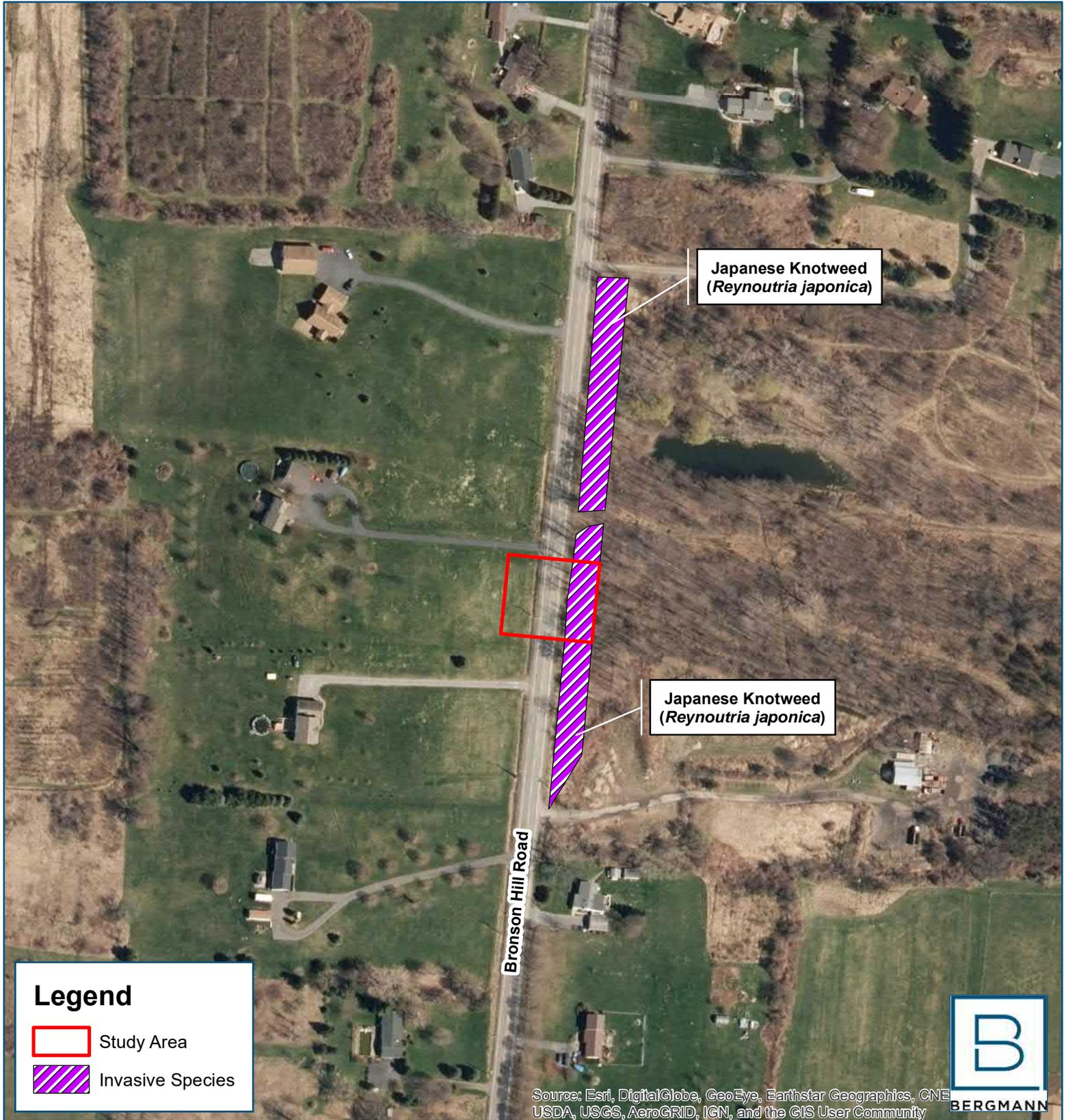
INVASIVE SPECIES
MAP (2 of 4)

Fig. 8

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York



Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

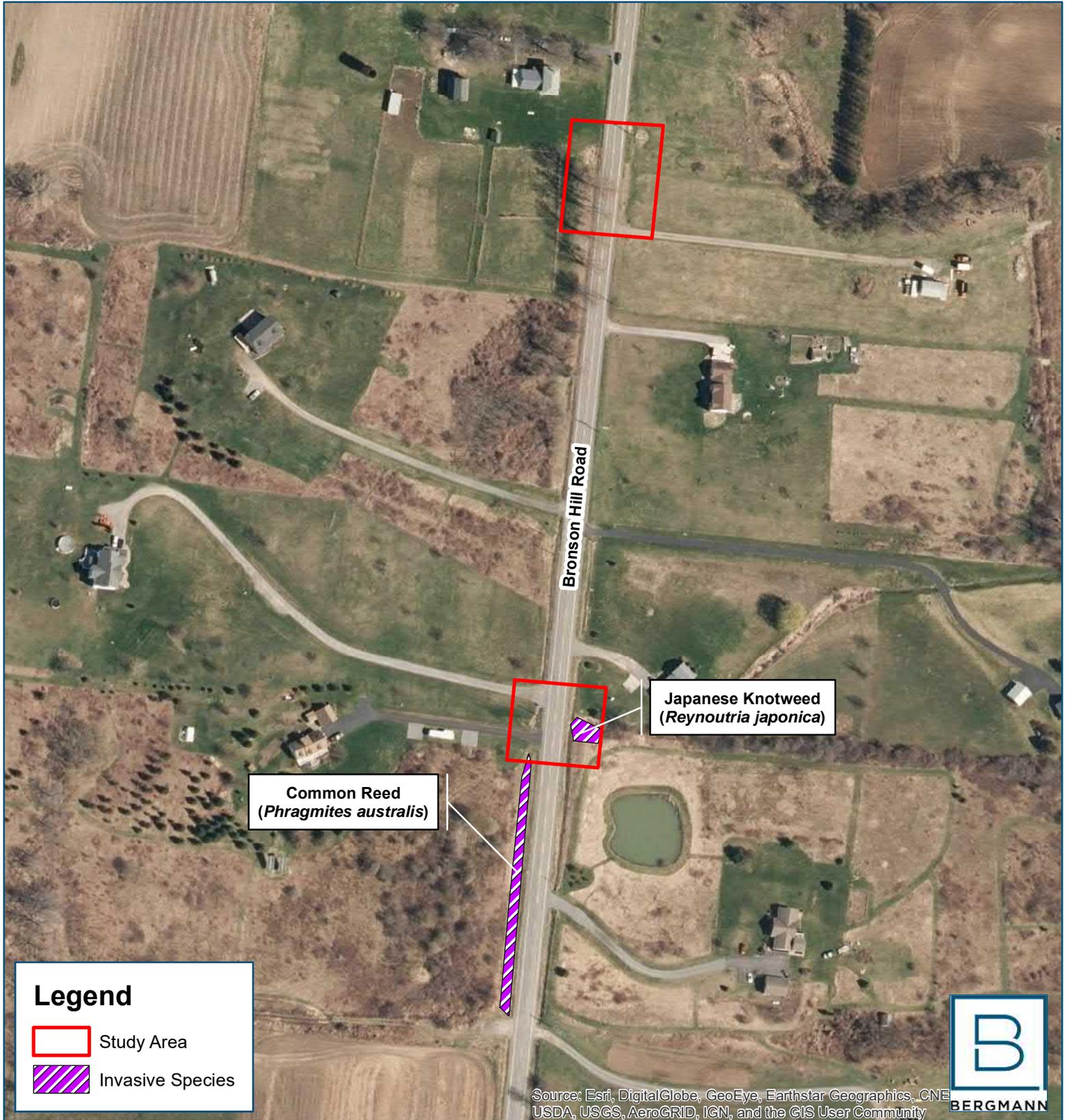
INVASIVE SPECIES
MAP (3 of 4)

Fig. 8

200
Feet



Town of Livonia and Town of Avon, Livingston County, New York

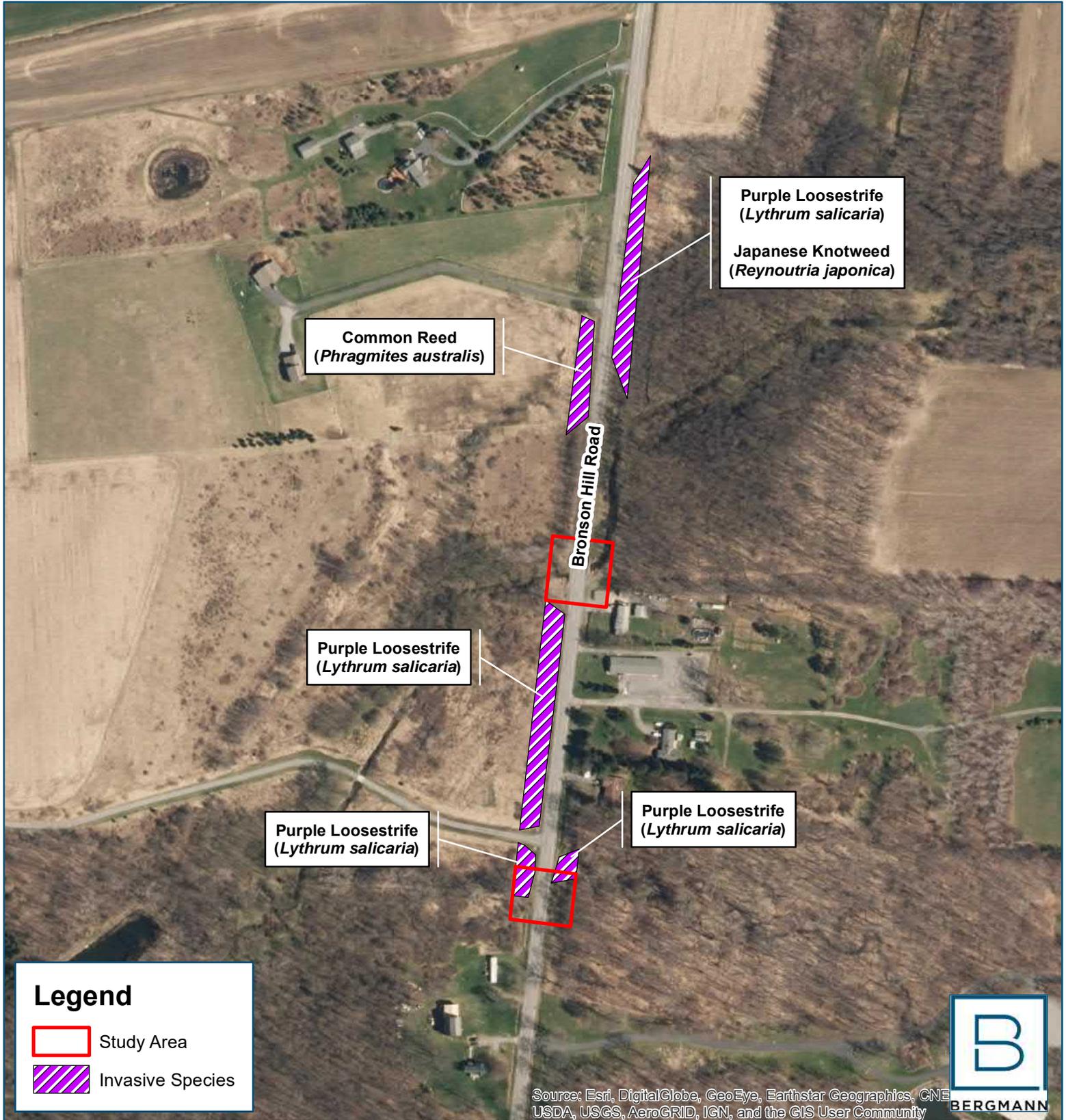


Bronson Hill Road (CR 62) Rehabilitation Livingston County Highway Department

300
Feet



Town of Livonia and Town of Avon, Livingston County, New York





ATTACHMENT B
NRCS Custom Soil Resource Report for
Livingston County, New York



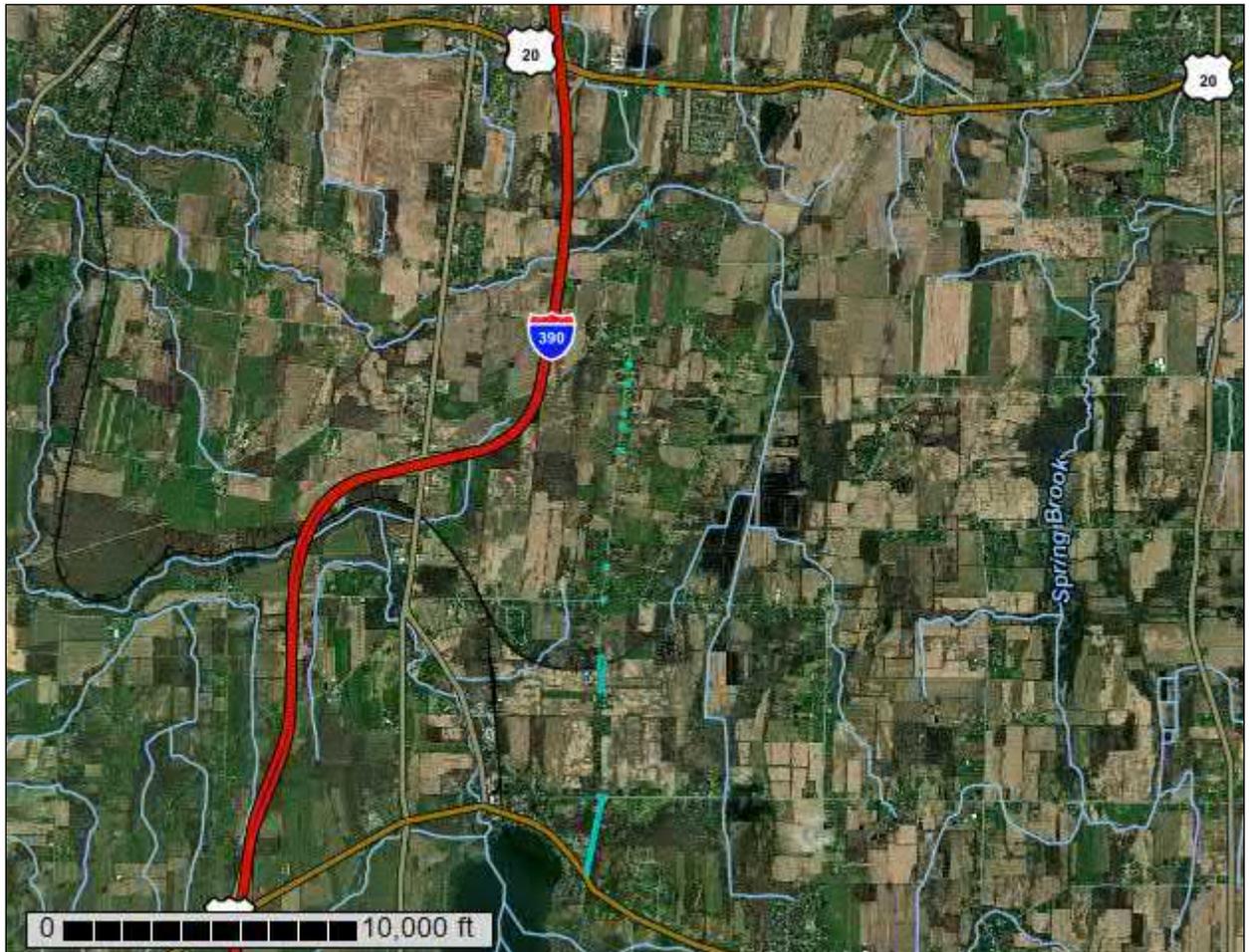
United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Livingston County, New York



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

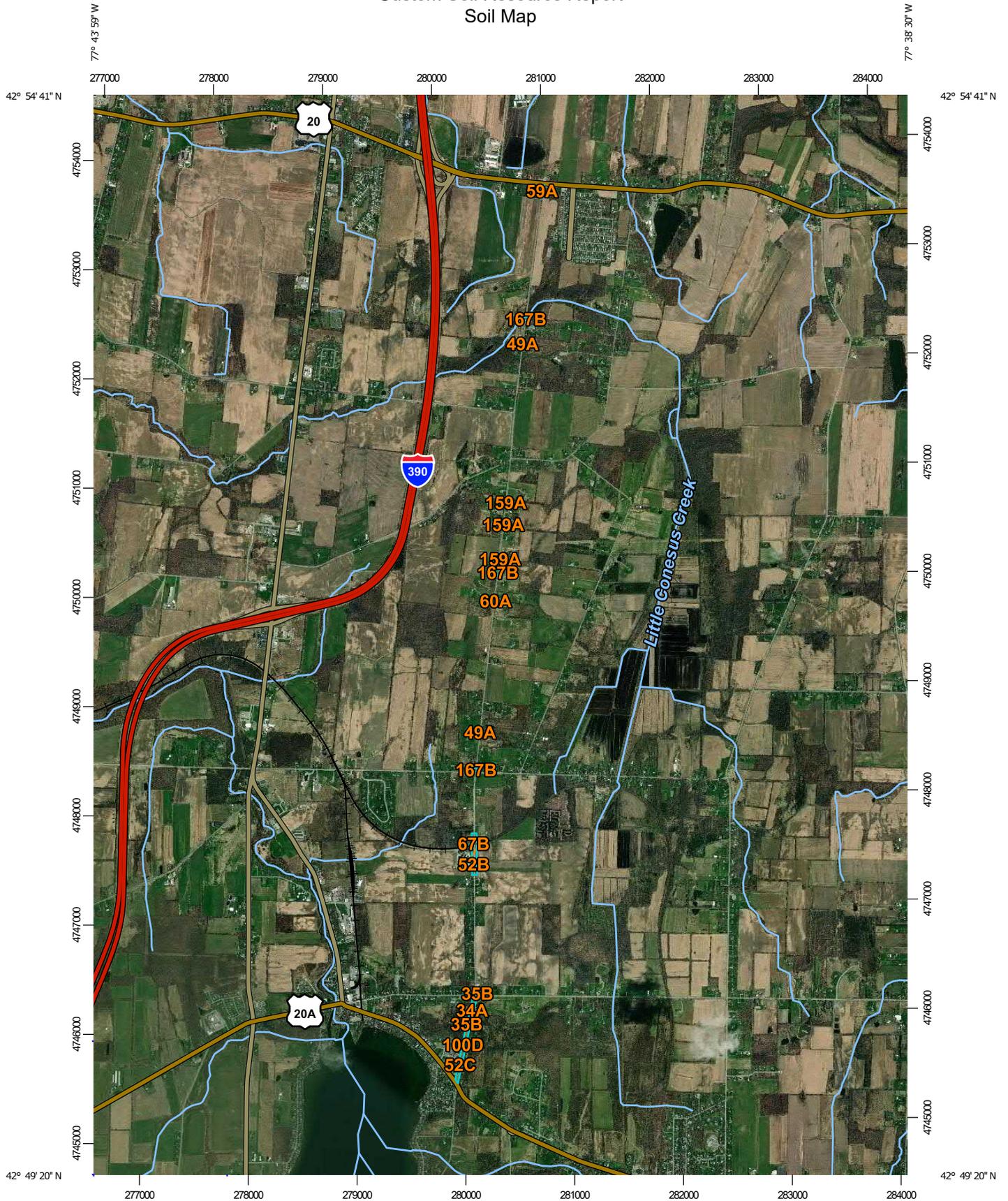
Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

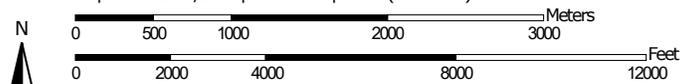
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Map Scale: 1:48,200 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:31,700.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Livingston County, New York
 Survey Area Data: Version 17, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 31, 2012—Sep 16, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
34A	Lakemont silty clay loam, 0 to 3 percent slopes	2.6	15.6%
35A	Odessa silt loam, 0 to 3 percent slopes	0.0	0.2%
35B	Odessa silt loam, 3 to 8 percent slopes	1.8	10.8%
49A	Lamson mucky fine sandy loam, 0 to 3 percent slopes	0.8	4.8%
52B	Ontario loam, 3 to 8 percent slopes	2.3	14.3%
52C	Ontario loam, 8 to 15 percent slopes	2.8	17.2%
59A	Lima loam, 0 to 3 percent slopes	0.8	5.0%
59B	Lima loam, 3 to 8 percent slopes	0.2	1.1%
60A	Kendaia silt loam, 0 to 3 percent slopes	0.2	1.2%
67B	Hilton loam, 3 to 8 percent slopes	2.2	13.6%
100D	Udorthents, loamy-skeletal, 0 to 25 percent slopes	0.1	0.3%
159A	Lima-Kendaia complex, 0 to 3 percent slopes	1.0	6.1%
159B	Lima-Kendaia complex, 3 to 8 percent slopes	0.2	1.3%
167B	Ontario-Hilton complex, 3 to 8 percent slopes	1.4	8.7%
Totals for Area of Interest		16.3	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class.

Custom Soil Resource Report

Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The

Custom Soil Resource Report

pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Livingston County, New York

34A—Lakemont silty clay loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2spjw

Elevation: 300 to 1,800 feet

Mean annual precipitation: 31 to 57 inches

Mean annual air temperature: 41 to 50 degrees F

Frost-free period: 100 to 190 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Lakemont and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lakemont

Setting

Landform: Depressions

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Concave

Parent material: Red clayey glaciolacustrine deposits derived from calcareous shale

Typical profile

Ap - 0 to 6 inches: silty clay loam

Eg - 6 to 10 inches: silty clay loam

Btg1 - 10 to 15 inches: silty clay

Btg2 - 15 to 31 inches: silty clay

C - 31 to 79 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Poorly drained

Runoff class: Very low

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: About 0 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 25 percent

Available water storage in profile: Moderate (about 8.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4w

Hydrologic Soil Group: D

Hydric soil rating: Yes

Minor Components

Odessa

Percent of map unit: 5 percent
Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Fonda

Percent of map unit: 4 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Canandaigua

Percent of map unit: 4 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Barre

Percent of map unit: 2 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

35A—Odessa silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2wr8
Elevation: 260 to 1,540 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 195 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Odessa and similar soils: 85 percent

Custom Soil Resource Report

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Odessa

Setting

Landform: Lake terraces

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Linear

Parent material: Red clayey glaciolacustrine deposits derived from calcareous shale

Typical profile

Ap - 0 to 8 inches: silt loam

Bt/E - 8 to 10 inches: silty clay loam

Bt1 - 10 to 15 inches: silty clay

Bt2 - 15 to 25 inches: silty clay

C - 25 to 79 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Somewhat poorly drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: About 6 to 18 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 25 percent

Available water storage in profile: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: D

Hydric soil rating: No

Minor Components

Lakemont

Percent of map unit: 5 percent

Landform: Depressions

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

Schoharie

Percent of map unit: 5 percent

Landform: Lake plains

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Tread

Down-slope shape: Convex

Custom Soil Resource Report

Across-slope shape: Convex
Hydric soil rating: No

Churchville

Percent of map unit: 3 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Rhinebeck

Percent of map unit: 2 percent
Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

35B—Odessa silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2wrdk
Elevation: 250 to 1,280 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Odessa and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Odessa

Setting

Landform: Lake terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Red clayey glaciolacustrine deposits derived from calcareous shale

Typical profile

Ap - 0 to 8 inches: silt loam
Bt/E - 8 to 10 inches: silty clay loam
Bt1 - 10 to 15 inches: silty clay

Custom Soil Resource Report

Bt2 - 15 to 25 inches: silty clay

C - 25 to 79 inches: silty clay

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Somewhat poorly drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)

Depth to water table: About 6 to 18 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 25 percent

Available water storage in profile: High (about 9.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: D

Hydric soil rating: No

Minor Components

Schoharie

Percent of map unit: 6 percent

Landform: Lake plains

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Tread

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Lakemont

Percent of map unit: 4 percent

Landform: Depressions

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Across-slope shape: Concave

Hydric soil rating: Yes

Churchville

Percent of map unit: 3 percent

Landform: Drumlinoid ridges

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Rhinebeck

Percent of map unit: 2 percent

Landform: Lake plains

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Tread

Down-slope shape: Concave

Custom Soil Resource Report

Across-slope shape: Linear
Hydric soil rating: No

49A—Lamson mucky fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2yfvd
Elevation: 330 to 2,460 feet
Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: Not prime farmland

Map Unit Composition

Lamson and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lamson

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Deltaic or glaciolacustrine deposits with a high content of fine and very fine sand

Typical profile

H1 - 0 to 9 inches: mucky fine sandy loam
H2 - 9 to 18 inches: loamy fine sand
H3 - 18 to 60 inches: very fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum in profile: 25 percent
Available water storage in profile: Low (about 5.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Canandaigua

Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Lamson

Percent of map unit: 5 percent
Landform: Deltas on lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: Yes

52B—Ontario loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w3ps
Elevation: 250 to 1,490 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Ontario and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ontario

Setting

Landform: Ridges, till plains, drumlins
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 8 inches: loam
E - 8 to 14 inches: loam
Bt/E - 14 to 21 inches: loam

Custom Soil Resource Report

Bt - 21 to 39 inches: gravelly loam
C1 - 39 to 48 inches: gravelly loam
C2 - 48 to 79 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Hilton

Percent of map unit: 5 percent
Landform: Ridges, till plains, drumlins
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Linear
Across-slope shape: Convex, concave
Hydric soil rating: No

Honeoye

Percent of map unit: 5 percent
Landform: Drumlins, ridges, till plains
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Cazenovia

Percent of map unit: 3 percent
Landform: Till plains, reworked lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Appleton

Percent of map unit: 2 percent
Landform: Drumlins, ridges, till plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope

Custom Soil Resource Report

Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

52C—Ontario loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w3px
Elevation: 250 to 1,570 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Ontario and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ontario

Setting

Landform: Ridges, till plains, drumlins
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 8 inches: loam
E - 8 to 14 inches: loam
Bt/E - 14 to 21 inches: loam
Bt - 21 to 39 inches: gravelly loam
C1 - 39 to 48 inches: gravelly loam
C2 - 48 to 79 inches: gravelly loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Honeoye

Percent of map unit: 5 percent
Landform: Drumlins, ridges, till plains
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Hilton

Percent of map unit: 5 percent
Landform: Ridges, till plains, drumlins
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Linear
Across-slope shape: Convex, concave
Hydric soil rating: No

Cazenovia

Percent of map unit: 3 percent
Landform: Till plains, reworked lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Appleton

Percent of map unit: 2 percent
Landform: Till plains, drumlins, ridges
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

59A—Lima loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2w3jv
Elevation: 470 to 1,190 feet
Mean annual precipitation: 31 to 57 inches

Custom Soil Resource Report

Mean annual air temperature: 41 to 50 degrees F

Frost-free period: 100 to 190 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Lima and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lima

Setting

Landform: Ridges, till plains, drumlins

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Crest

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 9 inches: loam

Bt/E - 9 to 12 inches: loam

Bt1 - 12 to 16 inches: loam

Bt2 - 16 to 25 inches: gravelly loam

C - 25 to 79 inches: gravelly loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Moderately well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)

Depth to water table: About 18 to 24 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 40 percent

Available water storage in profile: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: B/D

Hydric soil rating: No

Minor Components

Honeoye

Percent of map unit: 5 percent

Landform: Drumlins, hills, till plains

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Crest, side slope

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Custom Soil Resource Report

Appleton

Percent of map unit: 3 percent
Landform: Ridges, till plains, drumlins
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Kendaia

Percent of map unit: 3 percent
Landform: Till plains, drumlins, ridges
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Lyons

Percent of map unit: 2 percent
Landform: Depressions, drainageways
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Cazenovia

Percent of map unit: 2 percent
Landform: Reworked lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

59B—Lima loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w3kf
Elevation: 410 to 1,360 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Lima and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lima

Setting

Landform: Drumlins, ridges, till plains
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 9 inches: loam
Bt/E - 9 to 12 inches: loam
Bt1 - 12 to 16 inches: loam
Bt2 - 16 to 25 inches: gravelly loam
C - 25 to 79 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Available water storage in profile: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B/D
Hydric soil rating: No

Minor Components

Honeoye

Percent of map unit: 6 percent
Landform: Till plains, ridges, drumlins
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Appleton

Percent of map unit: 3 percent
Landform: Drumlins, ridges, till plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Custom Soil Resource Report

Kendaia

Percent of map unit: 3 percent
Landform: Drumlins, ridges, till plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Cazenovia

Percent of map unit: 2 percent
Landform: Reworked lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Lyons

Percent of map unit: 1 percent
Landform: Drainageways, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

60A—Kendaia silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2w5j0
Elevation: 460 to 1,640 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Kendaia and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kendaia

Setting

Landform: Drumlins, ridges, till plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear

Custom Soil Resource Report

Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 8 inches: silt loam
Bw - 8 to 15 inches: silt loam
Bg - 15 to 20 inches: gravelly silt loam
BCg - 20 to 24 inches: gravelly loam
C - 24 to 79 inches: gravelly loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Hydric soil rating: No

Minor Components

Lima

Percent of map unit: 6 percent
Landform: Drumlins, till plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Lyons

Percent of map unit: 5 percent
Landform: Depressions, drainageways
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Churchville

Percent of map unit: 2 percent
Landform: Lake plains, till plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope, rise, talf
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ovid

Percent of map unit: 2 percent
Landform: Till plains, reworked lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

67B—Hilton loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w3ld
Elevation: 260 to 1,310 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Hilton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hilton

Setting

Landform: Drumlins, ridges, till plains
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Linear
Across-slope shape: Concave, convex
Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 9 inches: loam
E - 9 to 17 inches: loam
Bt/E - 17 to 24 inches: gravelly loam
Bt - 24 to 36 inches: gravelly loam
C1 - 36 to 54 inches: gravelly loam
C2 - 54 to 79 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)

Custom Soil Resource Report

Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Available water storage in profile: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B/D
Hydric soil rating: No

Minor Components

Ontario

Percent of map unit: 5 percent
Landform: Till plains, drumlins, ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Appleton

Percent of map unit: 5 percent
Landform: Drumlins, ridges, till plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Bombay

Percent of map unit: 3 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Cayuga

Percent of map unit: 2 percent
Landform: Drumlinoid ridges
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

100D—Udorthents, loamy-skeletal, 0 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2y9ww
Elevation: 330 to 2,460 feet
Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents, loamy-skeletal, and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents, Loamy-skeletal

Setting

Landform: Outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy human transported material

Typical profile

H1 - 0 to 4 inches: gravelly sandy loam
H2 - 4 to 70 inches: very gravelly loamy sand

Properties and qualities

Slope: 0 to 25 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (0.60 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: A
Hydric soil rating: No

Minor Components

Howard

Percent of map unit: 3 percent
Landform: Terraces, valley trains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Fredon

Percent of map unit: 2 percent
Landform: Terraces, valley trains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

159A—Lima-Kendaia complex, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2y9xm
Elevation: 460 to 1,640 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Lima and similar soils: 55 percent
Kendaia and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lima

Setting

Landform: Drumlins, ridges, till plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 9 inches: loam
Bt/E - 9 to 12 inches: loam

Custom Soil Resource Report

Bt1 - 12 to 16 inches: loam
Bt2 - 16 to 25 inches: gravelly loam
C - 25 to 79 inches: gravelly loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Available water storage in profile: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: B/D
Hydric soil rating: No

Description of Kendaia

Setting

Landform: Till plains, drumlins, ridges
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 8 inches: silt loam
Bw - 8 to 15 inches: silt loam
Bg - 15 to 20 inches: gravelly silt loam
BCg - 20 to 24 inches: gravelly loam
C - 24 to 79 inches: gravelly loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w

Custom Soil Resource Report

Hydrologic Soil Group: B/D
Hydric soil rating: No

Minor Components

Honeoye

Percent of map unit: 8 percent
Landform: Hills, till plains, drumlins
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Appleton

Percent of map unit: 3 percent
Landform: Till plains, drumlins, ridges
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Cazenovia

Percent of map unit: 2 percent
Landform: Reworked lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Lyons

Percent of map unit: 2 percent
Landform: Depressions, drainageways
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

159B—Lima-Kendaia complex, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2y9xn
Elevation: 410 to 1,640 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Lima and similar soils: 55 percent

Kendaia and similar soils: 35 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lima

Setting

Landform: Drumlins, ridges, till plains

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Crest

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 9 inches: loam

Bt/E - 9 to 12 inches: loam

Bt1 - 12 to 16 inches: loam

Bt2 - 16 to 25 inches: gravelly loam

C - 25 to 79 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Moderately well drained

Runoff class: Low

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)

Depth to water table: About 18 to 24 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 40 percent

Available water storage in profile: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: B/D

Hydric soil rating: No

Description of Kendaia

Setting

Landform: Ridges, till plains, drumlins

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 8 inches: silt loam

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Bw - 8 to 15 inches: silt loam
Bg - 15 to 20 inches: gravelly silt loam
BCg - 20 to 24 inches: gravelly loam
C - 24 to 79 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Hydric soil rating: No

Minor Components

Honeoye

Percent of map unit: 5 percent
Landform: Drumlins, till plains, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Cazenovia

Percent of map unit: 2 percent
Landform: Reworked lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Appleton

Percent of map unit: 2 percent
Landform: Ridges, till plains, drumlins
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Lyons

Percent of map unit: 1 percent
Landform: Drainageways, depressions
Landform position (two-dimensional): Toeslope

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Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

167B—Ontario-Hilton complex, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2ywl6
Elevation: 520 to 1,480 feet
Mean annual precipitation: 31 to 57 inches
Mean annual air temperature: 41 to 50 degrees F
Frost-free period: 100 to 190 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Ontario and similar soils: 50 percent
Hilton and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ontario

Setting

Landform: Drumlins, till plains, ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 8 inches: loam
E - 8 to 14 inches: loam
Bt/E - 14 to 21 inches: loam
Bt - 21 to 39 inches: gravelly loam
C1 - 39 to 48 inches: gravelly loam
C2 - 48 to 79 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

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Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Available water storage in profile: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B
Hydric soil rating: No

Description of Hilton

Setting

Landform: Till plains, drumlins, ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Linear
Across-slope shape: Convex, concave
Parent material: Calcareous loamy lodgment till derived from limestone, sandstone, and shale

Typical profile

Ap - 0 to 9 inches: loam
E - 9 to 17 inches: loam
Bt/E - 17 to 24 inches: gravelly loam
Bt - 24 to 36 inches: gravelly loam
C1 - 36 to 54 inches: gravelly loam
C2 - 54 to 79 inches: gravelly loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 1.42 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Available water storage in profile: Moderate (about 7.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: B/D
Hydric soil rating: No

Minor Components

Cazenovia

Percent of map unit: 5 percent
Landform: Till plains, reworked lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Concave
Across-slope shape: Convex

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Hydric soil rating: No

Appleton

Percent of map unit: 5 percent

Landform: Till plains, ridges, drumlins

Landform position (two-dimensional): Footslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave

Across-slope shape: Linear

Hydric soil rating: No

Honeoye

Percent of map unit: 5 percent

Landform: Till plains, ridges, drumlins

Landform position (two-dimensional): Backslope, shoulder, summit

Landform position (three-dimensional): Side slope, crest

Down-slope shape: Convex

Across-slope shape: Convex

Hydric soil rating: No

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Hydric Rating by Map Unit

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

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Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

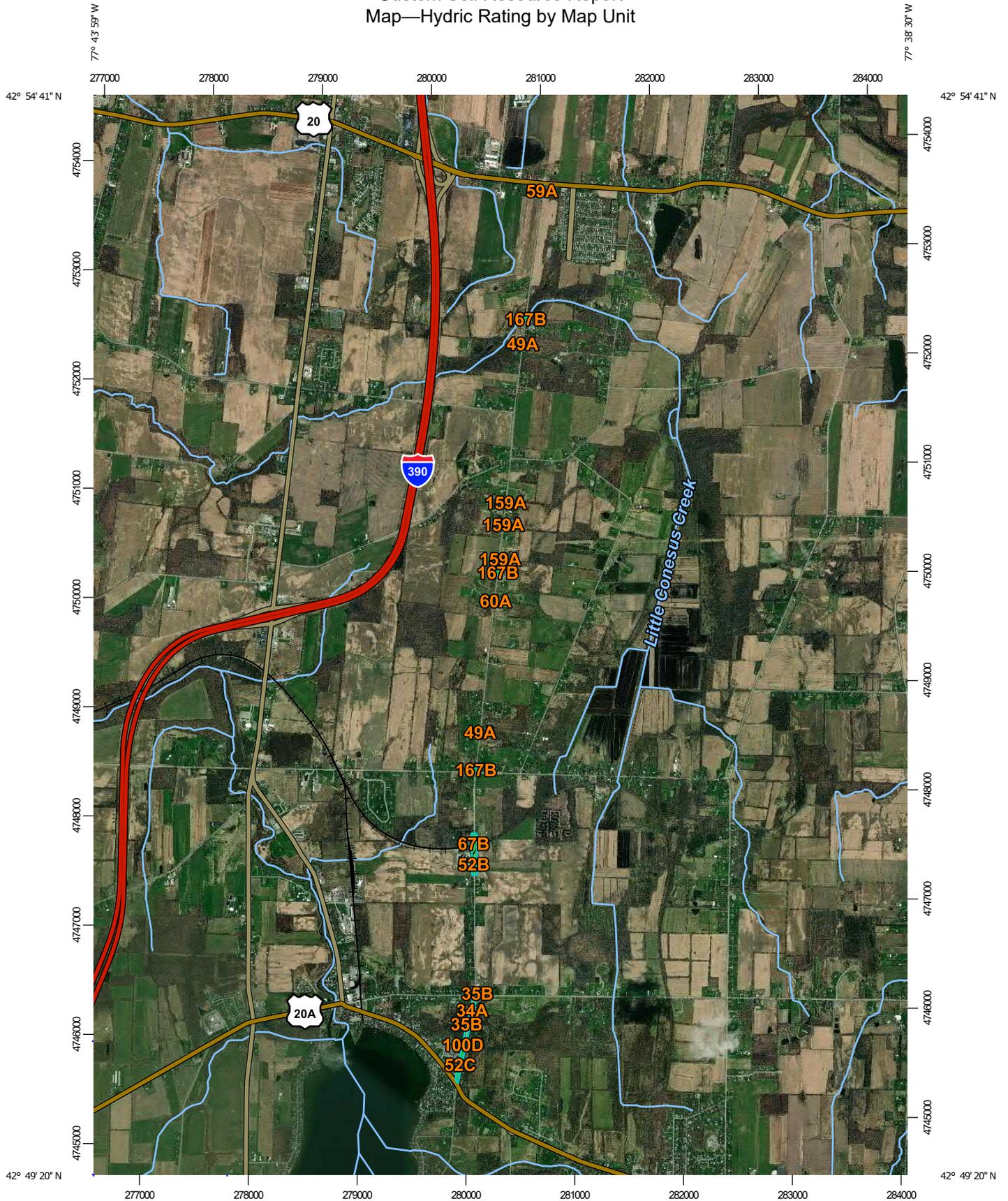
Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

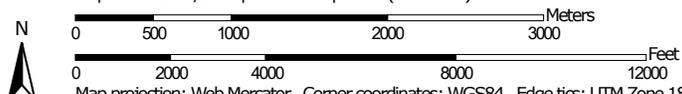
Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Custom Soil Resource Report Map—Hydric Rating by Map Unit



Map Scale: 1:48,200 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

Soil Rating Lines

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

Soil Rating Points

-  Hydric (100%)
-  Hydric (66 to 99%)
-  Hydric (33 to 65%)
-  Hydric (1 to 32%)
-  Not Hydric (0%)
-  Not rated or not available

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:31,700.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Livingston County, New York
 Survey Area Data: Version 17, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 31, 2012—Sep 16, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
34A	Lakemont silty clay loam, 0 to 3 percent slopes	95	2.6	15.6%
35A	Odessa silt loam, 0 to 3 percent slopes	5	0.0	0.2%
35B	Odessa silt loam, 3 to 8 percent slopes	4	1.8	10.8%
49A	Lamson mucky fine sandy loam, 0 to 3 percent slopes	100	0.8	4.8%
52B	Ontario loam, 3 to 8 percent slopes	0	2.3	14.3%
52C	Ontario loam, 8 to 15 percent slopes	0	2.8	17.2%
59A	Lima loam, 0 to 3 percent slopes	2	0.8	5.0%
59B	Lima loam, 3 to 8 percent slopes	1	0.2	1.1%
60A	Kendaia silt loam, 0 to 3 percent slopes	5	0.2	1.2%
67B	Hilton loam, 3 to 8 percent slopes	0	2.2	13.6%
100D	Udorthents, loamy-skeletal, 0 to 25 percent slopes	0	0.1	0.3%
159A	Lima-Kendaia complex, 0 to 3 percent slopes	2	1.0	6.1%
159B	Lima-Kendaia complex, 3 to 8 percent slopes	1	0.2	1.3%
167B	Ontario-Hilton complex, 3 to 8 percent slopes	0	1.4	8.7%
Totals for Area of Interest			16.3	100.0%

Rating Options—Hydric Rating by Map Unit

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
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- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf



ATTACHMENT C

Representative Study Area Photographs



Photo 1: Wetland 1 (PFO), facing north.



Photo 2: Wetland 1 (PFO), facing south.





Photo 3: Wetland 2 (PEM), facing east.



Photo 4: Wetland 2 (PEM), facing west.





Photo 5: Wetland 2 (PSS), facing south.



Photo 6: Wetland 2 (PSS), facing west.





Photo 7: Wetland 3 (PFO), facing east.



Photo 8: Wetland 3 (PFO), facing south.





Photo 9: Wetland 4 (PEM), facing east.



Photo 10: Wetland 4 (PEM), facing west.





Photo 11: Wetland 5 (PEM), facing west.



Photo 12: Wetland 5 (PEM), facing north.





Photo 13: Wetland 6 (PEM), facing south.



Photo 14: Wetland 6 (PEM), facing east.





Photo 15: Wetland 6 (PSS), facing west.



Photo 16: Wetland 6 (PSS), facing south.





Photo 17: Wetland 7 (PFO), facing west.



Photo 18: Wetland 7 (PFO), facing north.





Photo 19: Stream 1, upstream, facing southeast.



Photo 20: Stream 1, downstream, facing west.





Photo 21: Stream 1, upstream, facing southeast.



Photo 22: Stream 1, downstream, facing west.





Photo 23: Stream 2, upstream, facing southeast.



Photo 24: Stream 2, downstream, facing west.



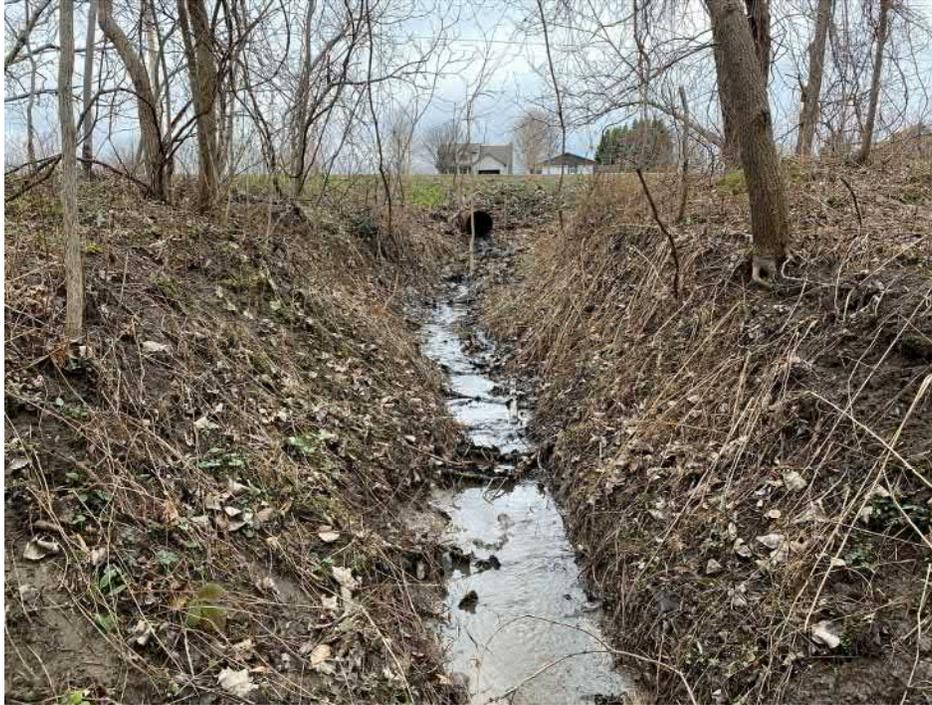


Photo 25: Stream 3, upstream, facing west.



Photo 26: Stream 3, downstream, facing east.





Photo 27: Stream 3, upstream, facing west.
Yellow lines mark approximate location of OHWM.



Photo 28: Stream 3, yellow line marks approximate location of OHWM.





Photo 29: Stream 4, upstream, facing west.



Photo 30: Stream 4, downstream, facing east.





Photo 31: Stream 4, downstream, facing east.
Yellow lines mark approximate location of OHWM.



Photo 32: Stream 4, yellow line marks approximate location of OHWM.





Photo 33: Stream 5, upstream, facing northeast.



Photo 34: Stream 5, downstream, facing southwest.





Photo 35: Stream 6, upstream, facing northeast.



Photo 36: Stream 6, downstream, facing southwest.





Photo 37: Representative upland habitat, facing south.



Photo 38: Representative upland habitat, facing north.





Photo 39: Representative upland habitat, facing south.



Photo 40: Representative upland habitat, facing east.





ATTACHMENT D
USACE Wetland Determination Data Forms
&
Linear Waters of the U.S. Field Classification
Forms

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bronson Hill Road (CR 62) Rehabilitation City/County: Livonia / Livingston Co. Sampling Date: 3-31-2020
 Applicant/Owner: Livingston County Highway Department State: NY Sampling Point: W1-1
 Investigator(s): S. Parsons Section, Township, Range: Town of Livingston
 Landform (hillside, terrace, etc.): Toe of Slope Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.835167 Long: -77.690517 Datum: NAD 83
 Soil Map Unit Name: 34A - Lakemont silty clay loam, 0 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) PFO representative to Wetland 1.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>Surface</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>10</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>Surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

 Recent rainfall, receives hydrology from roadside drainage and Stream 1.

VEGETATION – Use scientific names of plants.

Sampling Point: W1-1

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30'</u>)																				
1. <u>Populus deltoides</u>	45	Yes	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>87.5%</u> (A/B)																
2. <u>Acer rubrum</u>	15	Yes	FAC																	
3. <u>Fraxinus pennsylvanica</u>	5	No	FACW																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	65	=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																				
1. <u>Cornus amomum</u>	10	Yes	FACW	Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>5</u></td> <td>x 1 = <u>5</u></td> </tr> <tr> <td>FACW species <u>55</u></td> <td>x 2 = <u>110</u></td> </tr> <tr> <td>FAC species <u>65</u></td> <td>x 3 = <u>195</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>135</u> (A)</td> <td><u>350</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>2.59</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>5</u>	x 1 = <u>5</u>	FACW species <u>55</u>	x 2 = <u>110</u>	FAC species <u>65</u>	x 3 = <u>195</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>135</u> (A)	<u>350</u> (B)	Prevalence Index = B/A = <u>2.59</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>5</u>	x 1 = <u>5</u>																			
FACW species <u>55</u>	x 2 = <u>110</u>																			
FAC species <u>65</u>	x 3 = <u>195</u>																			
FACU species <u>10</u>	x 4 = <u>40</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>135</u> (A)	<u>350</u> (B)																			
Prevalence Index = B/A = <u>2.59</u>																				
2. <u>Lonicera tatarica</u>	10	Yes	FACU																	
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	20	=Total Cover																		
Herb Stratum (Plot size: <u>05'</u>)																				
1. <u>Cornus amomum</u>	15	Yes	FACW	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Impatiens capensis</u>	10	Yes	FACW																	
3. <u>Phalaris arundinacea</u>	10	Yes	FACW																	
4. <u>Symplocarpus foetidus</u>	5	No	OBL																	
5. <u>Onoclea sensibilis</u>	5	No	FACW																	
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	45	=Total Cover																		
Woody Vine Stratum (Plot size: <u>30'</u>)																				
1. <u>Toxicodendron radicans</u>	5	Yes	FAC	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																
2. _____																				
3. _____																				
4. _____																				
	5	=Total Cover																		

Remarks: (Include photo numbers here or on a separate sheet.)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bronson Hill Road (CR 62) Rehabilitation City/County: Livonia / Livingston Co. Sampling Date: 3-31-2020
 Applicant/Owner: Livingston County Highway Department State: NY Sampling Point: W2-1
 Investigator(s): S. Parsons Section, Township, Range: Town of Livingston
 Landform (hillside, terrace, etc.): Toe of Slope Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.836143 Long: -77.690664 Datum: NAD 83
 Soil Map Unit Name: 34A - Lakemont silty clay loam, 0 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) PEM representative to Wetland 2.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>Surface</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>8</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>Surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Recent rainfall, receives hydrology from roadside drainage and Stream 2.	

VEGETATION – Use scientific names of plants.

Sampling Point: W2-1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>N/A</u>			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
_____ =Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15'</u>)			
1. <u>Cornus amomum</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
2. <u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
_____ =Total Cover			
<u>15</u> =Total Cover			
Herb Stratum (Plot size: <u>05'</u>)			
1. <u>Typha latifolia</u>	<u>70</u>	<u>Yes</u>	<u>OBL</u>
2. <u>Cornus amomum</u>	<u>10</u>	<u>No</u>	<u>FACW</u>
3. <u>Symplocarpus foetidus</u>	<u>5</u>	<u>No</u>	<u>OBL</u>
4. <u>Onoclea sensibilis</u>	<u>5</u>	<u>No</u>	<u>FACW</u>
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			
_____ =Total Cover			
<u>90</u> =Total Cover			
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. <u>N/A</u>			
2. _____			
3. _____			
4. _____			
_____ =Total Cover			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>75</u>	x 1 = <u>75</u>
FACW species <u>30</u>	x 2 = <u>60</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>105</u> (A)	<u>135</u> (B)
Prevalence Index = B/A = <u>1.29</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bronson Hill Road (CR 62) Rehabilitation City/County: Livonia / Livingston Co. Sampling Date: 3-31-2020
 Applicant/Owner: Livingston County Highway Department State: NY Sampling Point: W2-2
 Investigator(s): S. Parsons Section, Township, Range: Town of Livingston
 Landform (hillside, terrace, etc.): Toe of Slope Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.836767 Long: -77.690461 Datum: NAD 83
 Soil Map Unit Name: 34A - Lakemont silty clay loam, 0 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) PSS representative to Wetland 2.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>Surface</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>Surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Recent rainfall, receives hydrology from roadside drainage.

VEGETATION – Use scientific names of plants.

Sampling Point: W2-2

Tree Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Acer rubrum</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
		<u>5</u> =Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Cornus amomum</u>	<u>65</u>	<u>Yes</u>	<u>FACW</u>
2.	<u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>No</u>	<u>FACW</u>
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
		<u>75</u> =Total Cover		
Herb Stratum (Plot size: <u>05'</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Onoclea sensibilis</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
2.	<u>Cornus amomum</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
3.	<u>Caltha palustris</u>	<u>10</u>	<u>Yes</u>	<u>OBL</u>
4.	<u>Symplocarpus foetidus</u>	<u>5</u>	<u>No</u>	<u>OBL</u>
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
8.	_____	_____	_____	_____
9.	_____	_____	_____	_____
10.	_____	_____	_____	_____
11.	_____	_____	_____	_____
12.	_____	_____	_____	_____
		<u>45</u> =Total Cover		
Woody Vine Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>N/A</u>	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
		_____ =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>15</u>	x 1 = <u>15</u>
FACW species <u>105</u>	x 2 = <u>210</u>
FAC species <u>5</u>	x 3 = <u>15</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>125</u> (A)	<u>240</u> (B)
Prevalence Index = B/A = <u>1.92</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bronson Hill Road (CR 62) Rehabilitation City/County: Avon / Livingston Co. Sampling Date: 3-31-2020
 Applicant/Owner: Livingston County Highway Department State: NY Sampling Point: W3-1
 Investigator(s): S. Parsons Section, Township, Range: Town of Avon
 Landform (hillside, terrace, etc.): Toe of slope Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.858841 Long: -77.689413 Datum: NAD 83
 Soil Map Unit Name: 49A - Lamson mucky fine sandy loam, 0 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) PFO representative to Wetland 3.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Recent rainfall, receives hydrology from roadside drainage and Stream 3.

VEGETATION – Use scientific names of plants.

Sampling Point: W3-1

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30'</u>)																				
1. <u><i>Acer rubrum</i></u>	<u>50</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2. <u><i>Populus deltoides</i></u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>																	
3. <u><i>Fraxinus pennsylvanica</i></u>	<u>10</u>	<u>No</u>	<u>FACW</u>																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>80</u>	=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																				
1. <u><i>Cornus amomum</i></u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>	Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>75</u></td> <td>x 2 = <u>150</u></td> </tr> <tr> <td>FAC species <u>95</u></td> <td>x 3 = <u>285</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>170</u> (A)</td> <td><u>435</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>2.56</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>75</u>	x 2 = <u>150</u>	FAC species <u>95</u>	x 3 = <u>285</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>170</u> (A)	<u>435</u> (B)	Prevalence Index = B/A = <u>2.56</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>75</u>	x 2 = <u>150</u>																			
FAC species <u>95</u>	x 3 = <u>285</u>																			
FACU species <u>0</u>	x 4 = <u>0</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>170</u> (A)	<u>435</u> (B)																			
Prevalence Index = B/A = <u>2.56</u>																				
2. <u><i>Fraxinus pennsylvanica</i></u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u><i>Rhamnus cathartica</i></u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>45</u>	=Total Cover																		
Herb Stratum (Plot size: <u>05'</u>)																				
1. <u><i>Solidago rugosa</i></u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u><i>Impatiens capensis</i></u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>																	
3. <u><i>Cornus amomum</i></u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>																	
4. <u><i>Rhamnus cathartica</i></u>	<u>5</u>	<u>No</u>	<u>FAC</u>																	
5. <u><i>Onoclea sensibilis</i></u>	<u>5</u>	<u>No</u>	<u>FACW</u>																	
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	<u>45</u>	=Total Cover																		
Woody Vine Stratum (Plot size: <u>30'</u>)																				
1. <u>N/A</u>				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																
2. _____																				
3. _____																				
4. _____																				
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																

Remarks: (Include photo numbers here or on a separate sheet.)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bronson Hill Road (CR 62) Rehabilitation City/County: Avon / Livingston Co. Sampling Date: 3-31-2020
 Applicant/Owner: Livingston County Highway Department State: NY Sampling Point: W4-1
 Investigator(s): S. Parsons Section, Township, Range: Town of Avon
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.869475 Long: -77.687732 Datum: NAD 83
 Soil Map Unit Name: 60A - Kendaia silt loam, 0 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) PEM representative to Wetland 4.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>Surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Recent rainfall, receives hydrology from roadside drainage.

VEGETATION – Use scientific names of plants.

Sampling Point: W4-1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Salix alba</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	<u>10</u> =Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Cornus amomum</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
2. <u>Salix discolor</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
	<u>25</u> =Total Cover		
Herb Stratum (Plot size: <u>05'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Phalaris arundinacea</u>	<u>40</u>	<u>Yes</u>	<u>FACW</u>
2. <u>Typha latifolia</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>
3. <u>Euthamia graminifolia</u>	<u>15</u>	<u>No</u>	<u>FAC</u>
4. <u>Onoclea sensibilis</u>	<u>10</u>	<u>No</u>	<u>FACW</u>
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____
	<u>85</u> =Total Cover		
Woody Vine Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>N/A</u>	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
	_____ =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>20</u>	x 1 = <u>20</u>
FACW species <u>85</u>	x 2 = <u>170</u>
FAC species <u>15</u>	x 3 = <u>45</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>120</u> (A)	<u>235</u> (B)
Prevalence Index = B/A = <u>1.96</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bronson Hill Road (CR 62) Rehabilitation City/County: Livonia / Livingston Co. Sampling Date: 3-31-2020
 Applicant/Owner: Livingston County Highway Department State: NY Sampling Point: W5-1
 Investigator(s): S. Parsons Section, Township, Range: Town of Livingston
 Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.875985 Long: -77.687242 Datum: NAD 83
 Soil Map Unit Name: 159A - Lima-Kendaia complex, 0 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) PEM representative to Wetland 5.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>Surface</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>Surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

 Recent rainfall, drains into roadside drainage.

VEGETATION – Use scientific names of plants.

Sampling Point: W5-1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>N/A</u>			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
_____ =Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15'</u>)			
1. <u>Cornus amomum</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
_____ =Total Cover			
Herb Stratum (Plot size: <u>05'</u>)			
1. <u>Phalaris arundinacea</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>
2. <u>Typha latifolia</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>
3. <u>Euthamia graminifolia</u>	<u>15</u>	<u>No</u>	<u>FAC</u>
4. <u>Cornus amomum</u>	<u>10</u>	<u>No</u>	<u>FACW</u>
5. <u>Apocynum cannabinum</u>	<u>10</u>	<u>No</u>	<u>FAC</u>
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			
_____ =Total Cover			
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. <u>N/A</u>			
2. _____			
3. _____			
4. _____			
_____ =Total Cover			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>20</u>	x 1 = <u>20</u>
FACW species <u>55</u>	x 2 = <u>110</u>
FAC species <u>25</u>	x 3 = <u>75</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>205</u> (B)
Prevalence Index = B/A = <u>2.05</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bronson Hill Road (CR 62) Rehabilitation City/County: Livonia / Livingston Co. Sampling Date: 3-31-2020
 Applicant/Owner: Livingston County Highway Department State: NY Sampling Point: W6-1
 Investigator(s): S. Parsons Section, Township, Range: Town of Livingston
 Landform (hillside, terrace, etc.): Toe of Slope Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.890987 Long: -77.684988 Datum: NAD 83
 Soil Map Unit Name: 49A - Lamson mucky fine sandy loam, 0 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) PEM representative to Wetland 6. Previously mowed.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>Surface</u> Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>10</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>Surface</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Recent rainfall, receives hydrology from Stream 5.	

VEGETATION – Use scientific names of plants.

Sampling Point: W6-1

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>N/A</u>			
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
_____ =Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15'</u>)			
1. <u>Cornus amomum</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
2. _____			
3. _____			
4. _____			
5. _____			
6. _____			
7. _____			
_____ =Total Cover			
Herb Stratum (Plot size: <u>05'</u>)			
1. <u>Typha latifolia</u>	<u>60</u>	<u>Yes</u>	<u>OBL</u>
2. <u>Phalaris arundinacea</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
3. <u>Onoclea sensibilis</u>	<u>10</u>	<u>No</u>	<u>FACW</u>
4. <u>Symplocarpus foetidus</u>	<u>10</u>	<u>No</u>	<u>OBL</u>
5. _____			
6. _____			
7. _____			
8. _____			
9. _____			
10. _____			
11. _____			
12. _____			
_____ =Total Cover			
Woody Vine Stratum (Plot size: <u>30'</u>)			
1. <u>N/A</u>			
2. _____			
3. _____			
4. _____			
_____ =Total Cover			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>70</u>	x 1 = <u>70</u>
FACW species <u>50</u>	x 2 = <u>100</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>120</u> (A)	<u>170</u> (B)
Prevalence Index = B/A = <u>1.42</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bronson Hill Road (CR 62) Rehabilitation City/County: Livonia / Livingston Co. Sampling Date: 3-31-2020
 Applicant/Owner: Livingston County Highway Department State: NY Sampling Point: W6-2
 Investigator(s): S. Parsons Section, Township, Range: Town of Livingston
 Landform (hillside, terrace, etc.): Toe of Slope Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.890755 Long: -77.685049 Datum: NAD 83
 Soil Map Unit Name: 49A - Lamson mucky fine sandy loam, 0 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) PSS representative to Wetland 6. Previously mowed.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>8</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Recent rainfall, receives hydrology from Stream 5.	

VEGETATION – Use scientific names of plants.

Sampling Point: W6-2

Tree Stratum (Plot size: <u>30'</u>)		Absolute % Cover	Dominant Species?	Indicator Status
1.	<u>Acer rubrum</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
		<u>10</u> =Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1.	<u>Cornus amomum</u>	<u>85</u>	<u>Yes</u>	<u>FACW</u>
2.	<u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>No</u>	<u>FACW</u>
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
		<u>90</u> =Total Cover		
Herb Stratum (Plot size: <u>05'</u>)				
1.	<u>Phalaris arundinacea</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>
2.	<u>Onoclea sensibilis</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
8.	_____	_____	_____	_____
9.	_____	_____	_____	_____
10.	_____	_____	_____	_____
11.	_____	_____	_____	_____
12.	_____	_____	_____	_____
		<u>30</u> =Total Cover		
Woody Vine Stratum (Plot size: <u>30'</u>)				
1.	<u>N/A</u>	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
		_____ =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>120</u>	x 2 = <u>240</u>
FAC species <u>10</u>	x 3 = <u>30</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>130</u> (A)	<u>270</u> (B)
Prevalence Index = B/A = <u>2.08</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0¹

 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (Include photo numbers here or on a separate sheet.)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bronson Hill Road (CR 62) Rehabilitation City/County: Livonia / Livingston Co. Sampling Date: 3-31-2020
 Applicant/Owner: Livingston County Highway Department State: NY Sampling Point: W7-1
 Investigator(s): S. Parsons Section, Township, Range: Town of Livingston
 Landform (hillside, terrace, etc.): Toe of Slope Local relief (concave, convex, none): Concave Slope (%): 0
 Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.892956 Long: -77.684719 Datum: NAD 83
 Soil Map Unit Name: 167B - Ontario-Hilton complex, 3 to 8 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) PFO representative to Wetland 7.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input checked="" type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>10</u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 Recent rainfall, receives hydrology from Stream 6.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bronson Hill Road (CR 62) Rehabilitation City/County: Livonia / Livingston Co. Sampling Date: 3-31-2020
 Applicant/Owner: Livingston County Highway Department State: NY Sampling Point: UPL-1
 Investigator(s): S. Parsons Section, Township, Range: Town of Livingston
 Landform (hillside, terrace, etc.): Roadside Local relief (concave, convex, none): Convex Slope (%): 0
 Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.835919 Long: -77.690625 Datum: NAD 83
 Soil Map Unit Name: 34A - Lakemont silty clay loam, 0 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Upland representative to Wetland 1 and Wetland 2, previously disturbed, taken along a mowed roadside.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No primary or secondary indicators observed.	

VEGETATION – Use scientific names of plants.

Sampling Point: UPL-1

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30'</u>)				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u> </u>	=Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u> </u>	=Total Cover		
Herb Stratum (Plot size: <u>05'</u>)				
1. <u>Poa pratensis</u>	<u>70</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Trifolium repens</u>	<u>10</u>	<u>No</u>	<u>FACU</u>	
3. <u>Trifolium pratense</u>	<u>10</u>	<u>No</u>	<u>FACU</u>	
4. <u>Taraxacum officinale</u>	<u>10</u>	<u>No</u>	<u>FACU</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	<u>100</u>	=Total Cover		
Woody Vine Stratum (Plot size: <u>30'</u>)				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
	<u> </u>	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>100</u>	x 4 = <u>400</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>400</u> (B)
Prevalence Index = B/A = <u>4.00</u>	

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation

 2 - Dominance Test is >50%

 3 - Prevalence Index is ≤3.0¹

 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No X

Remarks: (Include photo numbers here or on a separate sheet.)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bronson Hill Road (CR 62) Rehabilitation City/County: Avon / Livingston Co. Sampling Date: 3-31-2020
 Applicant/Owner: Livingston County Highway Department State: NY Sampling Point: UPL-2
 Investigator(s): S. Parsons Section, Township, Range: Town of Avon
 Landform (hillside, terrace, etc.): Roadside Local relief (concave, convex, none): Convex Slope (%): 0
 Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.858764 Long: -77.689699 Datum: NAD 83
 Soil Map Unit Name: 49A - Lamson mucky fine sandy loam, 0 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Upland representative to Wetland 3, previously disturbed, taken along a mowed roadside.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No primary or secondary indicators observed.	

VEGETATION – Use scientific names of plants.

Sampling Point: UPL-2

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30'</u>)																				
1. <u>N/A</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
			=Total Cover																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																				
1. <u>N/A</u>				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>95</u></td> <td>x 4 = <u>380</u></td> </tr> <tr> <td>UPL species <u>10</u></td> <td>x 5 = <u>50</u></td> </tr> <tr> <td>Column Totals: <u>105</u> (A)</td> <td><u>430</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>4.10</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>95</u>	x 4 = <u>380</u>	UPL species <u>10</u>	x 5 = <u>50</u>	Column Totals: <u>105</u> (A)	<u>430</u> (B)	Prevalence Index = B/A = <u>4.10</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>95</u>	x 4 = <u>380</u>																			
UPL species <u>10</u>	x 5 = <u>50</u>																			
Column Totals: <u>105</u> (A)	<u>430</u> (B)																			
Prevalence Index = B/A = <u>4.10</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
			=Total Cover																	
Herb Stratum (Plot size: <u>05'</u>)																				
1. <u>Poa pratensis</u>	<u>80</u>	<u>Yes</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Daucus carota</u>	<u>10</u>	<u>No</u>	<u>UPL</u>																	
3. <u>Trifolium pratense</u>	<u>10</u>	<u>No</u>	<u>FACU</u>																	
4. <u>Taraxacum officinale</u>	<u>5</u>	<u>No</u>	<u>FACU</u>																	
5. _____																				
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	<u>105</u>		=Total Cover																	
Woody Vine Stratum (Plot size: <u>30'</u>)																				
1. <u>N/A</u>				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																
2. _____																				
3. _____																				
4. _____																				
			=Total Cover																	
				Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u>																

Remarks: (Include photo numbers here or on a separate sheet.)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bronson Hill Road (CR 62) Rehabilitation City/County: Livonia / Livingston Co. Sampling Date: 3-31-2020
 Applicant/Owner: Livingston County Highway Department State: NY Sampling Point: UPL-3
 Investigator(s): S. Parsons Section, Township, Range: Town of Livingston
 Landform (hillside, terrace, etc.): Roadside Local relief (concave, convex, none): Convex Slope (%): 0
 Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.869564 Long: -77.687832 Datum: NAD 83
 Soil Map Unit Name: 60A - Kendaia silt loam, 0 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Upland representative to Wetland 4, previously disturbed, taken within a mowed lawn/berm.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 No primary or secondary indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: UPL-3

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30'</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																
1. <u>N/A</u>																				
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
			=Total Cover	Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>100</u></td> <td>x 4 = <u>400</u></td> </tr> <tr> <td>UPL species <u>10</u></td> <td>x 5 = <u>50</u></td> </tr> <tr> <td>Column Totals: <u>110</u> (A)</td> <td><u>450</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>4.09</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>100</u>	x 4 = <u>400</u>	UPL species <u>10</u>	x 5 = <u>50</u>	Column Totals: <u>110</u> (A)	<u>450</u> (B)	Prevalence Index = B/A = <u>4.09</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>100</u>	x 4 = <u>400</u>																			
UPL species <u>10</u>	x 5 = <u>50</u>																			
Column Totals: <u>110</u> (A)	<u>450</u> (B)																			
Prevalence Index = B/A = <u>4.09</u>																				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																				
1. <u>Reynoutria japonica</u>	<u>10</u>	Yes	FACU																	
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
			=Total Cover																	
Herb Stratum (Plot size: <u>05'</u>)																				
1. <u>Poa pratensis</u>	<u>60</u>	Yes	FACU																	
2. <u>Solidago canadensis</u>	<u>20</u>	Yes	FACU																	
3. <u>Daucus carota</u>	<u>10</u>	No	UPL																	
4. <u>Trifolium repens</u>	<u>5</u>	No	FACU																	
5. <u>trifolium pratense</u>	<u>5</u>	No	FACU																	
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
			=Total Cover																	
Woody Vine Stratum (Plot size: <u>30'</u>)																				
1. <u>N/A</u>																				
2. _____																				
3. _____																				
4. _____																				
			=Total Cover																	
Hydrophytic Vegetation Indicators: <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>2</u> - Dominance Test is >50% <u>3</u> - Prevalence Index is ≤3.0 ¹ <u>4</u> - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																				
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																				
Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u>																				

Remarks: (Include photo numbers here or on a separate sheet.)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bronson Hill Road (CR 62) Rehabilitation City/County: Livonia / Livingston Co. Sampling Date: 3-31-2020
 Applicant/Owner: Livingston County Highway Department State: NY Sampling Point: UPL-4
 Investigator(s): S. Parsons Section, Township, Range: Town of Livingston
 Landform (hillside, terrace, etc.): Roadside Local relief (concave, convex, none): Convex Slope (%): 0
 Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.876002 Long: -77.686934 Datum: NAD 83
 Soil Map Unit Name: 159A - Lima-Kendaia complex, 0 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Upland representative to Wetland 5, previously disturbed, taken along a mowed lawn.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No primary or secondary indicators observed.	

VEGETATION – Use scientific names of plants.

Sampling Point: UPL-4

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30'</u>)				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u> </u>	=Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u> </u>	=Total Cover		
Herb Stratum (Plot size: <u>05'</u>)				
1. <u>Poa pratensis</u>	<u>85</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Taraxacum officinale</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
3. <u>Trifolium pratense</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
4. <u>Trifolium repens</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	<u>100</u>	=Total Cover		
Woody Vine Stratum (Plot size: <u>30'</u>)				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
	<u> </u>	=Total Cover		

Dominance Test worksheet:	
Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
Total Number of Dominant Species Across All Strata:	<u>1</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0.0%</u> (A/B)
Prevalence Index worksheet:	
Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>100</u>	x 4 = <u>400</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>400</u> (B)
Prevalence Index = B/A = <u>4.00</u>	
Hydrophytic Vegetation Indicators:	
<u> </u> 1 - Rapid Test for Hydrophytic Vegetation	
<u> </u> 2 - Dominance Test is >50%	
<u> </u> 3 - Prevalence Index is ≤3.0 ¹	
<u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Definitions of Vegetation Strata:	
Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
Woody vines – All woody vines greater than 3.28 ft in height.	
Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>

Remarks: (Include photo numbers here or on a separate sheet.)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bronson Hill Road (CR 62) Rehabilitation City/County: Livonia / Livingston Co. Sampling Date: 3-31-2020
 Applicant/Owner: Livingston County Highway Department State: NY Sampling Point: UPL-5
 Investigator(s): S. Parsons Section, Township, Range: Town of Livingston
 Landform (hillside, terrace, etc.): Roadside Local relief (concave, convex, none): Convex Slope (%): 0
 Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.891191 Long: -77.684941 Datum: NAD 83
 Soil Map Unit Name: 49A - Lamson mucky fine sandy loam, 0 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Upland representative to Wetland 6, previously disturbed, taken along a mowedlawn/roadside.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No primary or secondary indicators observed.	

VEGETATION – Use scientific names of plants.

Sampling Point: UPL-5

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30'</u>)				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u> </u>	=Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	<u> </u>	=Total Cover		
Herb Stratum (Plot size: <u>05'</u>)				
1. <u>Poa pratensis</u>	60	Yes	FACU	
2. <u>Taraxacum officinale</u>	15	No	FACU	
3. <u>Daucus carota</u>	10	No	UPL	
4. <u>Trifolium repens</u>	10	No	FACU	
5. <u>Fragaria virginiana</u>	5	No	FACU	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	<u>100</u>	=Total Cover		
Woody Vine Stratum (Plot size: <u>30'</u>)				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
	<u> </u>	=Total Cover		

Dominance Test worksheet:	
Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
Total Number of Dominant Species Across All Strata:	<u>1</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0.0%</u> (A/B)
Prevalence Index worksheet:	
Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>90</u>	x 4 = <u>360</u>
UPL species <u>10</u>	x 5 = <u>50</u>
Column Totals: <u>100</u> (A)	<u>410</u> (B)
Prevalence Index = B/A = <u>4.10</u>	
Hydrophytic Vegetation Indicators:	
<u> </u> 1 - Rapid Test for Hydrophytic Vegetation	
<u> </u> 2 - Dominance Test is >50%	
<u> </u> 3 - Prevalence Index is ≤3.0 ¹	
<u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Definitions of Vegetation Strata:	
Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
Woody vines – All woody vines greater than 3.28 ft in height.	
Hydrophytic Vegetation Present?	Yes <u> </u> No <u>X</u>

Remarks: (Include photo numbers here or on a separate sheet.)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Bronson Hill Road (CR 62) Rehabilitation City/County: Livonia / Livingston Co. Sampling Date: 3-31-2020
 Applicant/Owner: Livingston County Highway Department State: NY Sampling Point: UPL-6
 Investigator(s): S. Parsons Section, Township, Range: Town of Livingston
 Landform (hillside, terrace, etc.): Roadside Local relief (concave, convex, none): Convex Slope (%): 0
 Subregion (LRR or MLRA): LRR L, MLRA 101 Lat: 42.89311 Long: -77.684377 Datum: NAD 83
 Soil Map Unit Name: 167B - Ontario-Hilton complex, 3 to 8 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) Upland representative to Wetland 7, previously disturbed, taken along a mowed roadside.	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
--	--

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 No primary or secondary indicators observed.

VEGETATION – Use scientific names of plants.

Sampling Point: UPL-6

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30'</u>)																				
1. <u>N/A</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
					Prevalence Index worksheet:															
				<table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Total % Cover of:</td> <td style="text-align:right;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>105</u></td> <td>x 4 = <u>420</u></td> </tr> <tr> <td>UPL species <u>10</u></td> <td>x 5 = <u>50</u></td> </tr> <tr> <td>Column Totals: <u>115</u> (A)</td> <td><u>470</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>4.09</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>105</u>	x 4 = <u>420</u>	UPL species <u>10</u>	x 5 = <u>50</u>	Column Totals: <u>115</u> (A)	<u>470</u> (B)	Prevalence Index = B/A = <u>4.09</u>	
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Prevalence Index = B/A = <u>4.09</u>																				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																				
1. <u>N/A</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
					¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.															
Herb Stratum (Plot size: <u>05'</u>)																				
1. <u>Poa pratensis</u>	80	Yes	FACU	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																
2. <u>Solidago canadensis</u>	10	No	FACU																	
3. <u>Daucus carota</u>	10	No	UPL																	
4. <u>Trifolium repens</u>	10	No	FACU																	
5. <u>Allium cernuum</u>	5	No	FACU																	
6. _____																				
7. _____																				
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	115			<table style="width:100%; border:none;"> <tr> <td style="text-align:right;">Hydrophytic Vegetation Present?</td> <td style="text-align:center;">Yes <u> </u></td> <td style="text-align:center;">No <u> X </u></td> </tr> </table>	Hydrophytic Vegetation Present?	Yes <u> </u>	No <u> X </u>													
Hydrophytic Vegetation Present?	Yes <u> </u>	No <u> X </u>																		
Woody Vine Stratum (Plot size: <u>30'</u>)																				
1. <u>N/A</u>				Hydrophytic Vegetation Present?																
2. _____																				
3. _____																				
4. _____																				

Remarks: (Include photo numbers here or on a separate sheet.)

Linear Waters of the U.S. Field Classification Form

Whenever an ephemeral stream, intermittent stream, or perennial stream is identified on a project site, use this form to document field observations in support of the field interpreted stream classification.

Stream Feature: Stream 1 **Watershed:** Lower Genesee (HUC 04130003)

Field Observations (check all that apply and describe if applicable):

- Surface water flow within a defined channel East to West
- Presence of Ordinary High Water Mark
(If OHWM is present, place a stake to mark its location) OHWM W=7' OHWM D=24"
- Water seeping from banks (or ice along banks in winter) _____
- Channel has a floodplain or observable bankfull bench _____
- Presence of fish or macroinvertebrates _____
- Primarily erosive features _____
- Recent sediment deposits or accumulations in channel _____
- Algae growing on bed materials _____
- Rooted plants growing in channel bed _____
- Hydric soils in sides of channel _____

Provide a detailed description for each (use additional space in remarks section if necessary):

Antecedent weather conditions 40°F, 100% Cloud Cover, few showers

Position of channel within the drainage basin (high, middle, low)? Middle

Gradient of the channel (steep, moderately sloping, flat)? Flat

Channel morphology (linear/meandering)? Linear

Width of channel? Approximately 5 feet Height of bank? Approximately 2 feet

Interpreted water table position above or below defined channel? Below

Bed materials (provide description of bed materials and indicate if different from surrounding ground surface):

Silt, muck, rocks, cobble, leaf litter

Topographic map designation? Intermittent Perennial Not Mapped

Describe off-site conditions:

Is there development upgradient of channel? Residential Properties, forested habitat

Any artificial structures (i.e. culvert, detention basin) regulating flow?

Culvert

Remarks:

Stream 1 flows east to west through a culvert under Bronson Hill Road. Stream 1 is an UNT

to Conesus Creek. Stream 1 provides hydrology to Wetland 1.

Based on observations, characterize the stream type (check one):

Ephemeral Stream

Intermittent Stream

Perennial Stream

Project Name: Bronson Hill Road (CR 62) Rehabilitation Date of Field Review: 03-31-2020

Project Number: 14525.00 Field Reviewer: S. Parsons

Linear Waters of the U.S. Field Classification Form

Whenever an ephemeral stream, intermittent stream, or perennial stream is identified on a project site, use this form to document field observations in support of the field interpreted stream classification.

Stream Feature: Stream 2 **Watershed:** Lower Genesee (HUC 04130003)

Field Observations (check all that apply and describe if applicable):

- Surface water flow within a defined channel East to West
- Presence of Ordinary High Water Mark
(If OHWM is present, place a stake to mark its location) OHWM W=2.5' OHWM D=8"
- Water seeping from banks (or ice along banks in winter) _____
- Channel has a floodplain or observable bankfull bench _____
- Presence of fish or macroinvertebrates _____
- Primarily erosive features _____
- Recent sediment deposits or accumulations in channel _____
- Algae growing on bed materials _____
- Rooted plants growing in channel bed _____
- Hydric soils in sides of channel _____

Provide a detailed description for each (use additional space in remarks section if necessary):

Antecedent weather conditions 40°F, 100% Cloud Cover, few showers

Position of channel within the drainage basin (high, middle, low)? Middle

Gradient of the channel (steep, moderately sloping, flat)? Flat

Channel morphology (linear/meandering)? Slight meander

Width of channel? Approximately 4.5 feet Height of bank? Approximately 1.5 feet

Interpreted water table position above or below defined channel? Below

Bed materials (provide description of bed materials and indicate if different from surrounding ground surface):

Silt, muck, rocks, cobble, leaf litter and woody vegetation

Topographic map designation? Intermittent Perennial Not Mapped

Describe off-site conditions:

Is there development upgradient of channel? Residential Properties, Stone Hill Road

Any artificial structures (i.e. culvert, detention basin) regulating flow?

Culvert

Remarks:

Stream 2 flows east to west through a culvert under Bronson Hill Road. Stream 2 is an UNT to Conesus Creek.

Stream 2 corresponds to NYS Class C / Standard C (821-180) Stream. Provides hydrology to Wetland 2.

Based on observations, characterize the stream type (check one):

Ephemeral Stream

Intermittent Stream

Perennial Stream

Project Name: Bronson Hill Road (CR 62) Rehabilitation Date of Field Review: 03-31-2020

Project Number: 14525.00 Field Reviewer: S. Parsons

Linear Waters of the U.S. Field Classification Form

Whenever an ephemeral stream, intermittent stream, or perennial stream is identified on a project site, use this form to document field observations in support of the field interpreted stream classification.

Stream Feature: Stream 3 **Watershed:** Lower Genesee (HUC 04130003)

Field Observations (check all that apply and describe if applicable):

- Surface water flow within a defined channel West to East
- Presence of Ordinary High Water Mark
(If OHWM is present, place a stake to mark its location) OHWM W=4.5' OHWM D=18"
- Water seeping from banks (or ice along banks in winter) _____
- Channel has a floodplain or observable bankfull bench _____
- Presence of fish or macroinvertebrates _____
- Primarily erosive features _____
- Recent sediment deposits or accumulations in channel _____
- Algae growing on bed materials _____
- Rooted plants growing in channel bed _____
- Hydric soils in sides of channel _____

Provide a detailed description for each (use additional space in remarks section if necessary):

Antecedent weather conditions 40°F, 100% Cloud Cover, few showers

Position of channel within the drainage basin (high, middle, low)? Middle

Gradient of the channel (steep, moderately sloping, flat)? Flat

Channel morphology (linear/meandering)? Linear

Width of channel? Approximately 6-7 feet Height of bank? Approximately 4.5 feet

Interpreted water table position above or below defined channel? Below

Bed materials (provide description of bed materials and indicate if different from surrounding ground surface):

Silt, muck, rocks, gravel, leaf litter

Topographic map designation? Intermittent Perennial Not Mapped

Describe off-site conditions:

Is there development upgradient of channel? Residential properties, Bronson Hill Road

Any artificial structures (i.e. culvert, detention basin) regulating flow?

Culvert

Remarks:

Stream 3 receives hydrology from a roadside ditch through a culvert under Bronson Hill Road. Stream 3 flows east outside of the Study Area.

Based on observations, characterize the stream type (check one):

Ephemeral Stream Intermittent Stream Perennial Stream

Project Name: Bronson Hill Road (CR 62) Rehabilitation Date of Field Review: 03-31-2020

Project Number: 14525.00 Field Reviewer: S. Parsons

Linear Waters of the U.S. Field Classification Form

Whenever an ephemeral stream, intermittent stream, or perennial stream is identified on a project site, use this form to document field observations in support of the field interpreted stream classification.

Stream Feature: Stream 4 **Watershed:** Lower Genesee (HUC 04130003)

Field Observations (check all that apply and describe if applicable):

- Surface water flow within a defined channel West to East
- Presence of Ordinary High Water Mark
(If OHWM is present, place a stake to mark its location) OHWM W=4.5' OHWM D=12"
- Water seeping from banks (or ice along banks in winter) _____
- Channel has a floodplain or observable bankfull bench _____
- Presence of fish or macroinvertebrates _____
- Primarily erosive features _____
- Recent sediment deposits or accumulations in channel _____
- Algae growing on bed materials _____
- Rooted plants growing in channel bed _____
- Hydric soils in sides of channel _____

Provide a detailed description for each (use additional space in remarks section if necessary):

Antecedent weather conditions 40°F, 100% Cloud Cover, few showers

Position of channel within the drainage basin (high, middle, low)? Middle

Gradient of the channel (steep, moderately sloping, flat)? Flat

Channel morphology (linear/meandering)? Linear

Width of channel? Approximately 6 feet Height of bank? Approximately 3 feet

Interpreted water table position above or below defined channel? Below

Bed materials (provide description of bed materials and indicate if different from surrounding ground surface):

Silt, rocks, cobble, gravel, leaf litter, herbaceous vegetation

Topographic map designation? Intermittent Perennial Not Mapped

Describe off-site conditions:

Is there development upgradient of channel? Bronson Hill Road

Any artificial structures (i.e. culvert, detention basin) regulating flow?

Culvert

Remarks:

Stream 4 receives hydrology from a roadside ditch through a culvert under Bronson Hill Road. Stream 4 flows west to east outside of the Study Area.

Based on observations, characterize the stream type (check one):

Ephemeral Stream Intermittent Stream Perennial Stream

Project Name: Bronson Hill Road (CR 62) Rehabilitation Date of Field Review: 03-31-2020

Project Number: 14525.00 Field Reviewer: S. Parsons

Linear Waters of the U.S. Field Classification Form

Whenever an ephemeral stream, intermittent stream, or perennial stream is identified on a project site, use this form to document field observations in support of the field interpreted stream classification.

Stream Feature: Stream 5 **Watershed:** Lower Genesee (HUC 04130003)

Field Observations (check all that apply and describe if applicable):

- Surface water flow within a defined channel East to West
- Presence of Ordinary High Water Mark
(If OHWM is present, place a stake to mark its location) OHWM W=6' OHWM D=18"
- Water seeping from banks (or ice along banks in winter) _____
- Channel has a floodplain or observable bankfull bench _____
- Presence of fish or macroinvertebrates _____
- Primarily erosive features _____
- Recent sediment deposits or accumulations in channel _____
- Algae growing on bed materials _____
- Rooted plants growing in channel bed _____
- Hydric soils in sides of channel _____

Provide a detailed description for each (use additional space in remarks section if necessary):

Antecedent weather conditions 40°F, 100% Cloud Cover, few showers

Position of channel within the drainage basin (high, middle, low)? Middle

Gradient of the channel (steep, moderately sloping, flat)? Flat

Channel morphology (linear/meandering)? Linear

Width of channel? Approximately 7.5 feet Height of bank? Approximately 2.5 feet

Interpreted water table position above or below defined channel? Below

Bed materials (provide description of bed materials and indicate if different from surrounding ground surface):

Silt, rocks, cobble, gravel, leaf litter

Topographic map designation? Intermittent Perennial Not Mapped

Describe off-site conditions:

Is there development upgradient of channel? Bronson Hill Road, residential properties

Any artificial structures (i.e. culvert, detention basin) regulating flow?

Culvert

Remarks:

Stream 5 is an UNT to Little Conesus Creek. Corresponds to a NYS Class C / Standard C (821-177) Stream.

Flows west through a culvert under Bronson Hill Road outside of the Study Area.

Based on observations, characterize the stream type (check one):

Ephemeral Stream

Intermittent Stream

Perennial Stream

Project Name: Bronson Hill Road (CR 62) Rehabilitation Date of Field Review: 03-31-2020

Project Number: 14525.00 Field Reviewer: S. Parsons

Linear Waters of the U.S. Field Classification Form

Whenever an ephemeral stream, intermittent stream, or perennial stream is identified on a project site, use this form to document field observations in support of the field interpreted stream classification.

Stream Feature: Stream 6 "Little Conesus Creek" **Watershed:** Lower Genesee (HUC 04130003)

Field Observations (check all that apply and describe if applicable):

- Surface water flow within a defined channel East to West
- Presence of Ordinary High Water Mark
(If OHWM is present, place a stake to mark its location) OHWM W=18-20' OHWM D=24"
- Water seeping from banks (or ice along banks in winter) _____
- Channel has a floodplain or observable bankfull bench _____
- Presence of fish or macroinvertebrates _____
- Primarily erosive features _____
- Recent sediment deposits or accumulations in channel _____
- Algae growing on bed materials _____
- Rooted plants growing in channel bed _____
- Hydric soils in sides of channel _____

Provide a detailed description for each (use additional space in remarks section if necessary):

Antecedent weather conditions 40°F, 100% Cloud Cover, few showers

Position of channel within the drainage basin (high, middle, low)? Middle

Gradient of the channel (steep, moderately sloping, flat)? Flat

Channel morphology (linear/meandering)? Slight Meander

Width of channel? Approximately 20-24 feet Height of bank? Approximately 3 feet

Interpreted water table position above or below defined channel? Below

Bed materials (provide description of bed materials and indicate if different from surrounding ground surface):

Silt, muck, rocks, cobble, minor woody vegetation

Topographic map designation? Intermittent Perennial Not Mapped

Describe off-site conditions:

Is there development upgradient of channel? Forested habitat, agricultural land, residential properties

Any artificial structures (i.e. culvert, detention basin) regulating flow?

Culvert

Remarks:

Stream 6 is identified as Little Conesus Creek. Corresponds to a NYS Class C / Standard C (821-177) Stream.

Flows west through a culvert under Bronson Hill Road outside of the Study Area.

Based on observations, characterize the stream type (check one):

Ephemeral Stream Intermittent Stream Perennial Stream

Project Name: Bronson Hill Road (CR 62) Rehabilitation Date of Field Review: 03-31-2020

Project Number: 14525.00 Field Reviewer: S. Parsons

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Livingston County, New York



Local office

New York Ecological Services Field Office

☎ (607) 753-9334

📠 (607) 753-9699

3817 Luker Road

Cortland, NY 13045-9385

<http://www.fws.gov/northeast/nyfo/es/section7.htm>

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed¹ by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

-
1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
 2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

THERE ARE NO ENDANGERED SPECIES EXPECTED TO OCCUR AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS

ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

American Golden-plover *Pluvialis dominica*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

Bald Eagle *Haliaeetus leucocephalus*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1626>

Breeds Dec 1 to Aug 31

Black-billed Cuckoo *Coccyzus erythrophthalmus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9399>

Breeds May 15 to Oct 10

Bobolink *Dolichonyx oryzivorus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 20 to Jul 31

Buff-breasted Sandpiper *Calidris subruficollis*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9488>

Breeds elsewhere

Lesser Yellowlegs *Tringa flavipes*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9679>

Breeds elsewhere

Long-eared Owl *asio otus*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3631>

Breeds Mar 1 to Jul 15

Prairie Warbler *Dendroica discolor*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds May 1 to Jul 31

Semipalmated Sandpiper *Calidris pusilla*

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Breeds elsewhere

Snowy Owl *Bubo scandiacus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wood Thrush *Hylocichla mustelina*

Breeds May 10 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

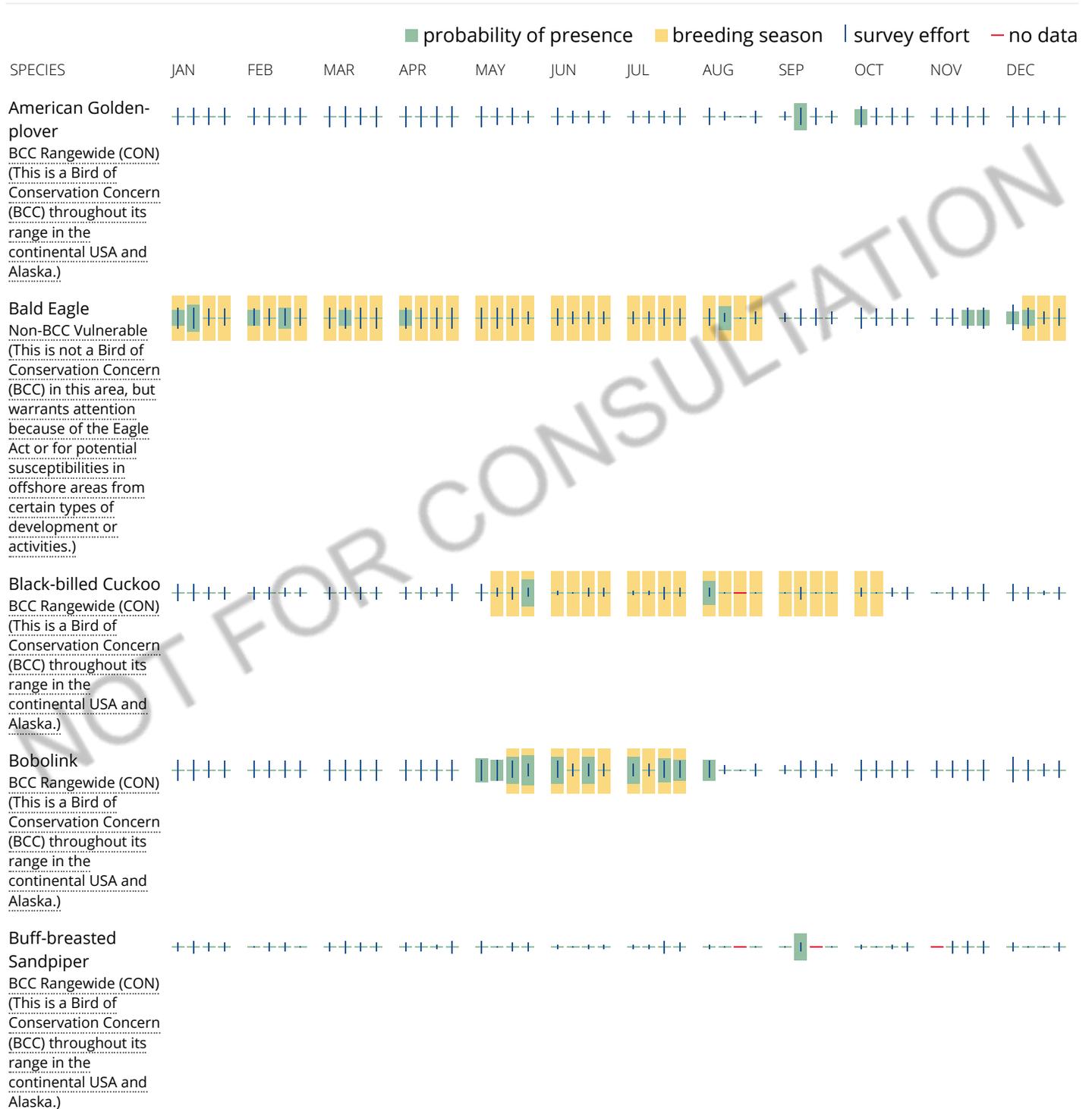
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

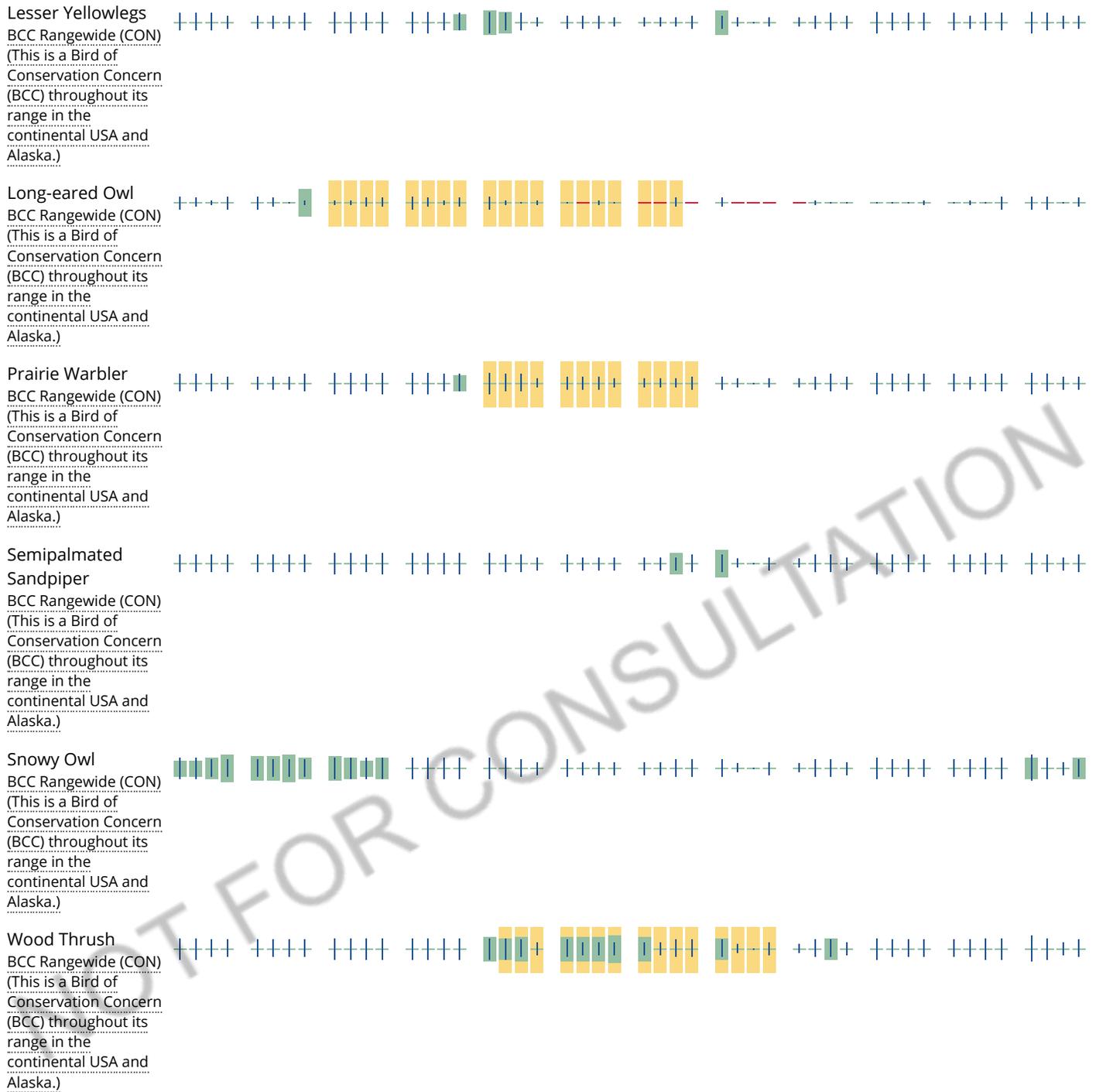
No Data (-)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review.

Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

RIVERINE

[Riverine](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

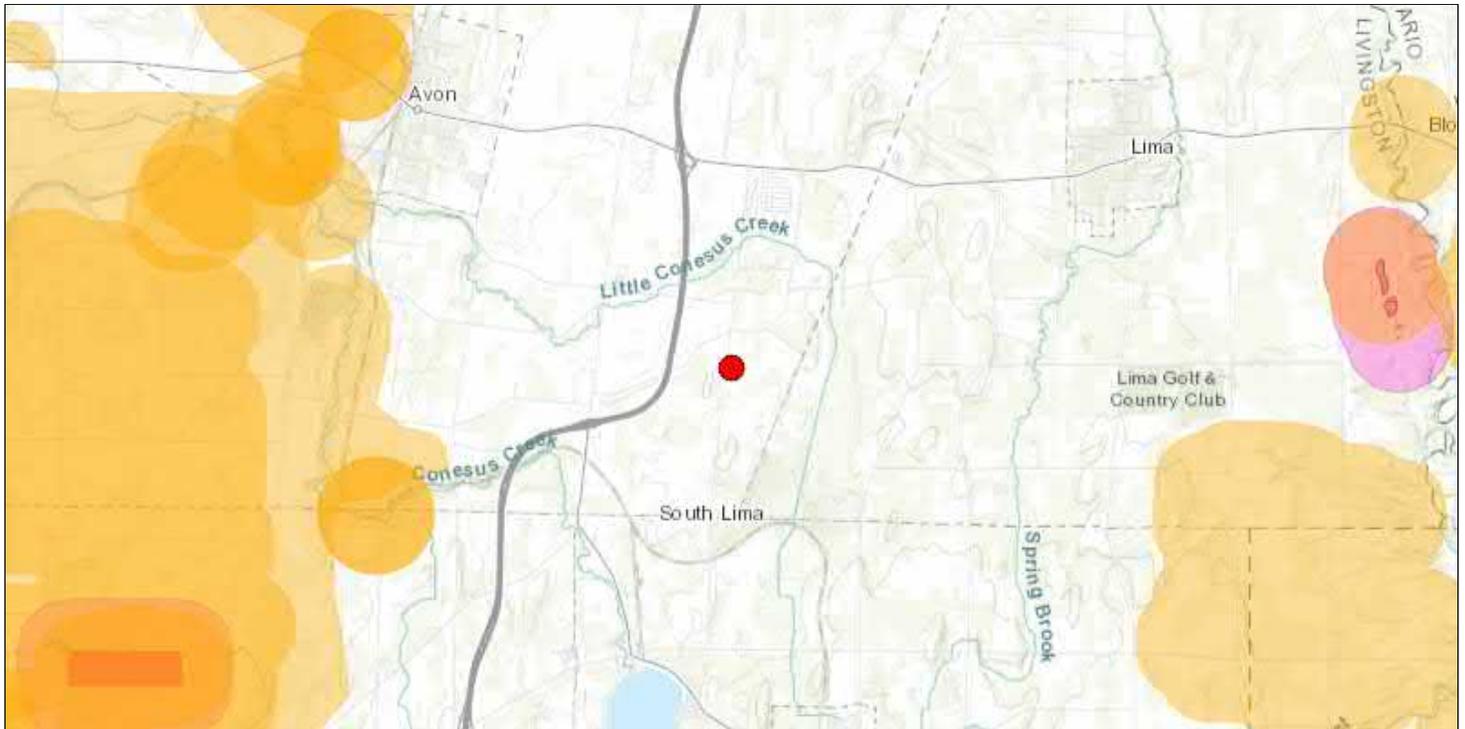
Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Environmental Resource Mapper



The coordinates of the point you clicked on are:

UTM 18	Easng:	280618.16755206557	Northing:	4750551.1859361045
Longitude/Latude	Longitude:	-77.68606120863296	Latude:	42.87606206510106

The approximate address of the point you clicked on is:

2603 Bronson Hill Rd, Avon, New York, 14414

County: Livingston

Town: Avon

USGS Quad: LIVONIA, RUSH

DEC Region

Region 8:

(Western Finger Lakes) Chemung, Genesee, Livingston, Monroe, Ontario, Orleans, Schuyler, Seneca, Steuben, Wayne and Yates counes. For more informaon visit [http://w ww.dec.ny.gov/about/617.html](http://www.dec.ny.gov/about/617.html).

If your project or acon is within or near an ar ea with a rare animal, a permit may be required if the species is listed as endangered or threatened and the department determines the acon ma y be harmful to the species or its habitat.

If your project or acon is within or near an ar ea with rare plants and/or significant natural communiies, the environmental impacts may need to be addressed.

The presence of a unique geological feature or landform near a project, unto itself, does not trigger a requirement for a NYS DEC permit. Readers are advised, however, that there is the chance that a unique feature may also show in another

data layer (ie. a wetland) and thus be subject to permit jurisdiction.

Please refer to the "Need a Permit?" tab for permit information or other authorizations regarding these natural resources.

Disclaimer: If you are considering a project or action in, or near, a wetland or a stream, a NYS DEC permit may be required. The Environmental Resources Mapper does not show all natural resources which are regulated by NYS DEC, and for which permits from NYS DEC are required. For example, Regulated Tidal Wetlands, and Wild, Scenic, and Recreational Rivers, are currently not included on the maps.



MEMORANDUM

TO: Chris Caraccilo, Regional Local Project Liaison
FROM: Frank DiCostanzo, Regional Cultural Resource Coordinator
SUBJECT: PROJECT SUBMITTAL PACKAGE – SECTION 106 RECOMMENDATIONS
**PIN 4LV0.02, BRONSON HILL ROAD (CR 62) REHABILITATION
TOWNS OF LIVONIA AND AVON, LIVINGSTON COUNTY**

May 19, 2020

As the Regional Cultural Resource Coordinator (RCRC) I have reviewed the Project Submittal Package (PSP) prepared for the above referenced Locally Administered Federal Aid project for assessment of obligations under Section 106 of the National Historic Preservation Act (36 CFR Part 800).

Based on review of this PSP, I conclude:

- ✓ The project activities have no potential to cause effects on historic properties in accordance with 36 CFR 800.3(a)(1) therefore, there are no further obligations for compliance with Section 106 of the National Historic Preservation Act and no FHWA involvement/determination required. **This assessment should be recorded in the project environmental documentation.**

The following wording can be used in the Design Report/IPP FRD under Historic and Cultural Resources:

The NYSDOT Regional Cultural Resource Coordinator completed a review of the Section 106 Project Submittal Package, located in Appendix XX.

The project will not involve acquisition of new right-of-way and does not result in the disturbance of soils previously undisturbed by recent construction. There will be no impact on any structure or sites protected by Section 106 of the National Preservation Act; and Section 14.09 of the New York State Preservation Act of 1980. No further action is required.



Livingston County Highway Department
Rehabilitation of Bronson Hill Road (CR 62)
County Road 62, Bronson Hill Road, Towns of Avon and Livonia, Livingston County, NY
PIN 4LV0.02
Hazardous Materials Survey
April 2020

A hazardous materials survey was performed for the New York State Department of Transportation (NYSDOT) for the rehabilitation of Bronson Hill Road, County Road 62, Towns of Avon and Livonia, Livingston County, New York.

The project is identified as follows:

- Rehabilitation of Bronson Hill Road (County Road 62)
- Project Identification Number (P.I.N.) 4LV0.02

The proposed scope of work for this project includes the improvement of the pavement surface quality and the rehabilitation of existing drainage pipes beneath the roadway.

Bergmann personnel completed a site visit to the project location to assess the presence of suspect asbestos containing material (ACM), lead-containing materials (LCM), and polychlorinated biphenyls (PCB), that may be present on exposed surfaces within the subject project corridor and may have a significant impact on planned rehabilitation activities. This site visit was performed on April 3, 2020, by Ariadna Cheremeteff, a New York State Department of Labor certified Asbestos Inspector.

The intent of the hazardous materials survey was to identify suspect ACM, LCM, and PCBs, and quantify ACM that may be encountered as part of the Bronson Hill Road rehabilitation project. No drawings were provided for the hazardous materials review.

Asbestos Containing Materials

Bergmann personnel conducted the Hazardous Materials Survey in accordance with applicable Federal and State regulations. These regulations include:

- USEPA National Emission Standards for Hazardous Air Pollutants (NESHAPS), (ref.: 40 CFR, Part 61, Subpart M)
- National Voluntary Laboratory Accreditation Program (NVLAP)
- New York State Department of Labor Industrial Code Rule 56 (ICR-56)
- New York State Department of Health Environmental Laboratory Approval Program (NYSDOH-ELAP)
- Occupational and Health Administration (OSHA) Regulation 29 CFR 1926.1101, 29 CFR 1910.1001 and 29 CFR 1910.134.

A visual examination of the subject project corridor was conducted by the Asbestos Inspector to identify suspect ACM. Functional spaces, consisting of culverts affected by the proposed rehabilitation project,



were identified to assist while locating suspect ACM. Each functional space was then visually examined to determine the presence of suspect ACM.

A suspect material is considered to be an ACM under the OSHA regulations 29 CFR 1910.1001 and 29 CFR 1926.1101 as any material that contains more than one percent (>1%) asbestos by weight. Although samples containing less than or equal to one percent ($\leq 1\%$) asbestos by weight or trace are not considered asbestos containing materials by definition, employees must be informed about the presence of materials containing $\leq 1\%$ or trace asbestos when it is known it is present. Suspect materials that are not sampled are assumed to be asbestos-containing.

No samples were collected as part of this visual assessment.

Presumed Asbestos-Containing Materials Summary

Bergmann identified the following suspect ACM during the April 2020 inspection and assessment activities, as illustrated on the attached Figure. Materials listed in bold are assumed to be ACM:

Material	Culvert Location Number	Friability	% Asbestos	Estimated Quantity*
Black Coating associated with Galvanized Metal Pipe	C62010650	Non-friable	Assumed	18 Square Feet
Black Coating associated with Corrugated Metal Pipe	C62014620	Non-friable	Assumed	18 Square Feet
Black Coating associated with Metal Pipe	C62015476	Non-friable	Assumed	18 Square Feet
Black Coating associated with Galvanized Metal Pipe	C6201750	Non-friable	Assumed	18 Square Feet
Black Coating associated with Corrugated Metal Pipe	C6202430	Non-friable	Assumed	18 Square Feet

* Quantity subject to contractor verification in the field.

Presumed asbestos containing material identified in this report may require sampling prior to construction start. If analytical results confirm the presence of asbestos-containing materials, proper removal and disposal will be required prior to any culvert disturbance, removal, or replacement activities that will impact the ACM. Any asbestos abatement activities need to be performed by a licensed asbestos abatement contractor using licensed asbestos abatement workers in compliance with applicable local, state and federal regulations.

If suspect ACM that has not been identified in this report is identified during culvert disturbance, removal, or replacement activities, the work should be stopped and the materials must be treated in accordance



with applicable state and federal regulations.

Lead-Containing Materials

Lead pertaining to the project corridor was visually evaluated during the site visit. Lead Containing Materials (LCM) may be found in paint used on the pavement marking paints and underground utilities. Even though banned from consumer paints in 1978, industrial and commercial applications of lead paint continue. Suspect lead-based paint containing materials associated with County Road 62, Bronson Hill Road include the paints used on the pavement markings. Testing of these materials would be required to confirm or deny their presence to plan for worker protection and proper lead containing material disposal. LCM should be handled with NYSDOT standard notes and items removal.

Polychlorinated Biphenyls (PCBs)

PCBs pertaining to the project corridor were visually evaluated during the site visit. PCBs may be found in pole-mounted transformers and underground utilities. PCBs have been found in caulking used in building joint and fillers found on the inside and outside of a building. Electric utility lines run parallel along the project corridor. Pole mounted transformers were observed. The transformers appeared to be in good condition and appeared to be serviced by the local utility company. These transformers may be PCB-containing, as there were no signage indicating they are non-PCB containing. PCBs should be handled with NYSDOT standard notes and items removal, if work is to be done by the County's contractor as part of this project.

Limitations

Bergmann visually inspected materials observable and accessible to the survey inspector as identified on the attached Figure. Materials identified as PACM during this visual assessment must be sampled to confirm or deny the presence of asbestos prior to construction initiation or may be considered ACM and abated and disposed of in accordance with appropriate regulations. Bergmann's visual inspection was limited to culverts accessible and did not include inspection of culverts submerged in water, covered by earth, covered by additional materials, or situated in an inaccessible location. If suspect asbestos-containing materials are encountered or uncovered during construction/culvert replacement, work must be stopped and the materials must be handled in accordance with applicable state and federal regulations.

This hazardous materials inspection investigated the presence of accessible suspect ACMs. Bergmann did not perform destructive testing within interior cavities and spaces that may exist in inaccessible spaces. This material is considered suspect ACM and if found during demolition, the material should be sampled and analyzed to confirm or deny the presence of asbestos.

Conclusions and Recommendations

The PACM identified during the April 3, 2020 site visit will require sampling to verify the presence of ACM at the project site. It is recommended that these suspect coating materials be sampled and analyzed for the presence or absence of ACM and/or the suspect materials may be presumed ACM and be removed as such using NYSDOT Blanket Variance Contract Items.

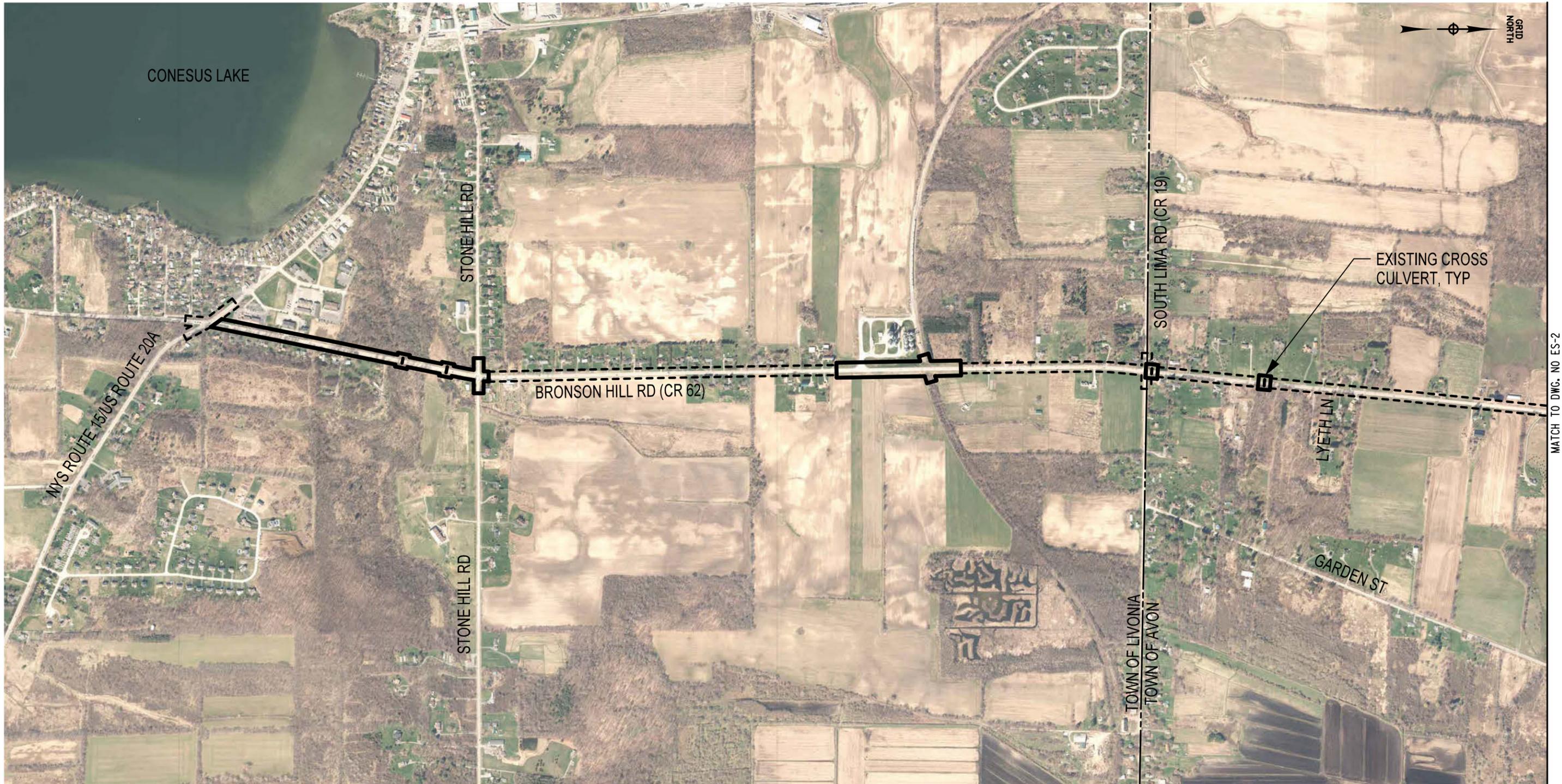
Asbestos materials will need to be handled in accordance with Federal and State regulations. During construction, should suspect ACM that are not included in the findings of this report be identified or uncovered by the Contractor or Construction Inspection personnel, (such as buried transite pipe, bituminous coatings, joint caulking compounds or buried utilities) work in the immediate area that may



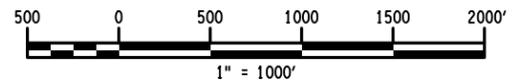
disturb the suspect material should cease, and the material should be sampled and analyzed for the presence of asbestos and be disposed of properly.

LCM and PCBs should be handled with NYSDOT standard notes and items for removal, if Livingston County's contractor is performing work on LCM and/or PCBs. The result of any sampling and testing should be used in the planning of the work and the proper handling and disposal of potentially hazardous materials.

Changes in the proposed scope of work or additional excavation within areas of concern will require further review of potential impacts.



LEGEND	
	DETAILED ENVIRONMENTAL SURVEY LIMITS
	GENERAL PROJECT LIMITS



Livingston County Highway Department			
PIN 4LV0.02 Bronson Hill Road (CR 62) Rehabilitation			
Environmental Study Limits			
SHEET NO. ES-1	SCALE 1"=1000'	DATE 03/20	BERGMANN ARCHITECTS ENGINEERS PLANNERS

Print Date: 11-MAR-2020 07:36
 File Name: 014525_PRS_PLN_ESL_GRAPHIC.dgn

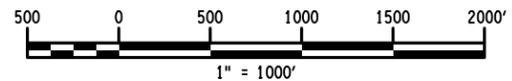
MATCH TO DWG. NO ES-2



MATCH TO DWG. NO ES-1

GRID
NAD 83

LEGEND	
	DETAILED ENVIRONMENTAL SURVEY LIMITS
	GENERAL PROJECT LIMITS



Livingston County Highway Department			
PIN 4LV0.02 Bronson Hill Road (CR 62) Rehabilitation			
Environmental Study Limits			
SHEET NO. ES-2	SCALE 1"=1000'	DATE 03/20	BERGMANN ARCHITECTS ENGINEERS PLANNERS



BERGMANN
ARCHITECTS ENGINEERS PLANNERS

PIN 4LV0.02 County Road 62, Bronson Hill Road, Towns of Avon and Livonia, Livingston County

HAZARDOUS WASTE/CONTAMINATED MATERIALS PRELIMINARY SCREENING



Bergmann

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Rochester, NY 14604

585.232.5135

www.bergmannpc.com

April 23, 2020



Photographs

Site Photographs taken during the Site Reconnaissance Visit.

Figures

Figures depicting Environmental Study Limits.

Appendices (upon request)

Appendix A: EDR Database Search Report

Appendix B: Aerial Photographs Report

Appendix C: Historic Sanborn Map Report



EXECUTIVE SUMMARY

Bergmann was retained by Livingston County to conduct a Hazardous Waste / Contaminated Materials Screening for the rehabilitation of County Road 62, Bronson Hill Road, Towns of Avon and Livonia, Livingston County, New York. The screening was conducted in accordance with: (1) the United States Environmental Protection Agency (USEPA) Standards and Practices for All Appropriate Inquiries (AAI), 40 CFR Part 312}, (2) the New York State Department of Transportation (NYSDOT) "The Environmental Manual."

This preliminary screening is a general review to identify properties within the right-of-way or in close proximity that could contain or be a source of hazardous wastes or contaminated materials. This screening for the subject properties represents a product of Bergmann's professional expertise and judgment in the environmental consulting industry. This report is certified to, can be relied upon by, and has been prepared for the exclusive use of the following entities: Bergmann, NYSDOT, Livingston County, and their respective successors, assigns, affiliates, and subsidiaries.

The screening included a site reconnaissance and walkover of the entire subject project corridor. The site reconnaissance was conducted by Bergmann personnel on April 3rd, 2020.

Of this project corridor, three (3) areas of concern were identified to be subject to additional screening consisting of a review of environmental databases; a review of aerial photographs and maps; and historical Sanborn® Maps. These three areas of concern are: (1) The intersection of CR-62 Bronson Hill Road and US-20 East Avon Lima Road, (2) a section of CR-62 Bronson Hill Road adjacent to the Livonia, Avon, and Lakeville Railroad spur, and (3) the intersection of CR-62 Bronson Hill Road and US-20A Big Tree Road.

The Database findings were identified giving the location and a general summary of findings for each potential mapping site discussed in this memorandum. A database was obtained for Environmental Data Resources (EDR) dated April 16, 2020. A discussion of each identified mapped site within or in close proximity to the project area is presented below.

While this report provides an overview of potential current and historical Recognized Environmental Conditions, the screening is limited by the availability of information at the time of the assessment. It is possible that unreported disposal of waste or illegal activities impairing the environmental status of the property may have occurred which could not be identified. The conclusions and recommendations regarding the RECs that are presented in this report are based on a Scope of Work authorized by the Client.

Regulatory database searches were conducted on the project specific intersections by EDR. The review was supplemented as required with a search of additional environmental resources that included the following:

- Federal U.S. EPA Envirofacts web-based database
- NYSDEC Petroleum Bulk Storage (PBS)/ Chemical Bulk Storage (CBS)/ Major Oil Storage Facility (MOSF) registries (current registries reviewed by EDR as part of the database review package).
- NYSDEC Spills Event Waste web-based databases.

Bergmann has performed this screening in conformance with the scope and limitations of NYSDOT "The Environmental Manual."

SITE RECONNAISSANCE AND DATABASE FINDINGS

Site observation and a review of available environmental database identified the following potential environmental concerns related to the subject project corridor:



EDR Regulatory Database Review

Properties adjoining, or that are within the search radius of 1/2-mile of the three subject areas of concern, that may present Recognized Environmental Concerns (RECs) were identified in the database review. No mapped sites were found for Area of Concern No. 2– Section of CR-62 Bronson Hill Road adjacent to the Livonia, Avon, and Lakeville Railroad spur. A copy of the EDR reports are provided as Appendix A – EDR Database Search Reports.

Area of Concern No. 1

Intersection of CR-62 Bronson Hill Road and East Avon Lima Road, Avon, NY

Location	Address	Database(s)	Description & Report Summary
Harpers Trailer Park Big M Parking Lot	Route 5 & 20	LTANKS NY SPILLS	<p>Location: 1-foot NE</p> <p>LTANKS Spill Number: 9870237 Closed Date: 01/26/1999 Spill Date: 10/08/1998 Description: Gasoline contamination observed during tank removal. Contaminated soil excavated and removed from site. 37 tons of soil excavated.</p> <p>NY SPILLS NY Spill Number: 8904414 Closed Date: 09/01/1989 Spill Date: 08/02/1989</p> <p>Description: UST containing ~30-70 gallons of gasoline discovered while excavating. Tank and contaminated soil removed and disposed of.</p>
Harper Park-Avon	6130 East Avon-Lima Road	UST AST	<p>Location: 1-foot NE</p> <p>Facility ID/ Status: 8-144622 / Closed Site ID: 48858</p> <p>UST Tank ID: 147549 Status: Closed/ Removed Tank ID: 147551 Status: Closed / Removed Tank ID: 147548 Status: Closed / Removed Tank ID: 147550 Status: Closed / Removed Tank ID: 147542 Status: Closed / Removed Tank ID: 147545 Status: Closed / Removed Tank ID: 147535 Status: Closed / Removed</p>



Location	Address	Database(s)	Description & Report Summary
<p>Harper Park-Avon (continued)</p>	<p>6130 East Avon-Lima Road</p>	<p>UST AST</p>	<p>Tank ID: 147540 Status: Closed / Removed Tank ID: 147543 Status: Closed / Removed</p> <p>AST Tank ID: 144649 Status: Converted to non-regulated use Tank ID: 144650 Status: Converted to non-regulated use Tank ID: 144651 Status: Converted to non-regulated use Tank ID: 144652 Status: Converted to non-regulated use Tank ID: 144653 Status: Converted to non-regulated use Tank ID: 144654 Status: Converted to non-regulated use Tank ID: 144655 Status: Converted to non-regulated use Tank ID: 144656 Status: Converted to non-regulated use Tank ID: 144657 Status: Converted to non-regulated use Tank ID: 144658 Status: Converted to non-regulated use Tank ID: 144659 Status: Converted to non-regulated use Tank ID: 144660 Status: Converted to non-regulated use Tank ID: 144661 Status: Converted to non-regulated use Tank ID: 144662 Status: Converted to non-regulated use Tank ID: 147552 Status: Converted to non-regulated use Tank ID: 147553 Status: Closed / Removed Tank ID: 147554 Status: Closed / Removed Tank ID: 147534 Status: Converted to non-regulated use Tank ID: 147559 Status: Closed / Removed Tank ID: 147556 Status: Closed / Removed Tank ID: 147560 Status: Closed / Removed Tank ID: 147537 Status: Converted to non-regulated use Tank ID: 147546 Status: Converted to non-regulated use</p>



Location	Address	Database(s)	Description & Report Summary
Harper Park-Avon (continued)	6130 East Avon-Lima Road	UST AST	Tank ID: 147547 Status: Converted to non-regulated use Tank ID: 147536 Status: Converted to non-regulated use Tank ID: 147561 Status: Closed / Removed Tank ID: 147538 Status: Converted to non-regulated use Tank ID: 147557 Status: Closed / Removed Tank ID: 147539 Status: Converted to non-regulated use Tank ID: 147541 Status: Converted to non-regulated use Tank ID: 144649 Status: Converted to non-regulated use Tank ID: 144650 Status: Converted to non-regulated use Tank ID: 144651 Status: Converted to non-regulated use Tank ID: 144652 Status: Converted to non-regulated use Tank ID: 144653 Status: Converted to non-regulated use Tank ID: 144654 Status: Converted to non-regulated use Tank ID: 144655 Status: Converted to non-regulated use Tank ID: 144656 Status: Converted to non-regulated use Tank ID: 144657 Status: Converted to non-regulated use Tank ID: 144658 Status: Converted to non-regulated use Tank ID: 144659 Status: Converted to non-regulated use Tank ID: 144660 Status: Converted to non-regulated use Tank ID: 144661 Status: Converted to non-regulated use Tank ID: 144662 Status: Converted to non-regulated use Tank ID: 147552 Status: Converted to non-regulated use Tank ID: 147553 Status: Closed / Removed Tank ID: 147554 Status: Closed / Removed Tank ID: 147534 Status: Converted to non-regulated use Tank ID: 147555 Status: Converted to non-regulated use



Location	Address	Database(s)	Description & Report Summary
<p>Harper Park-Avon (continued)</p>	<p>6130 East Avon-Lima Road</p>	<p>UST AST</p>	<p>Tank ID: 147559 Status: Closed / Removed Tank ID: 147544 Status: Converted to non-regulated use Tank ID: 147556 Status: Closed / Removed Tank ID: 147558 Status: Converted to non-regulated use Tank ID: 147560 Status: Closed / Removed Tank ID: 147537 Status: Converted to non-regulated use Tank ID: 147546 Status: Converted to non-regulated use Tank ID: 147547 Status: Converted to non-regulated use Tank ID: 147536 Status: Converted to non-regulated use Tank ID: 147561 Status: Closed / Removed Tank ID: 147538 Status: Converted to non-regulated use Tank ID: 147557 Status: Closed / Removed Tank ID: 147539 Status: Converted to non-regulated use Tank ID: 147541 Status: Converted to non-regulated use</p>
<p>Dutch Hollow Market</p>	<p>6107 East Avon-Lima Road</p>	<p>UST AST</p>	<p>Location: 1-foot N Facility ID/ Status: 8-231975 / Active Site ID: 49075 UST Tank ID: 145834 Status: In Service Install Date: 11/01/1972 Tank ID: 145835 Status: In Service Install Date: 11/01/1972 Tank ID: 145836 Status: In Service Install Date: 11/01/1972 AST Tank ID: 145837 Status: In Service Install Date: 05/01/1985</p>



Location	Address	Database(s)	Description & Report Summary
Harper Park	4 Hillside Drive	NY SPILLS	<p>Location: 236 feet E</p> <p>NY Spill Number: 1410243 Closed Date: 03/11/2016 Spill Date: 01/20/2015</p> <p>Description: Contaminated soils were encountered while digging for placement of propane lines. Fuel oil tank associated with a trailer was leaking. The tank was removed, along with 48 tons of contaminated soil. A vapor barrier with controls to mitigate vapor barrier intrusion was installed under the associated trailer.</p>
Rickard (Claire) Residence	3 Hillside Drive	NY SPILLS	<p>Location: 277 feet ESE</p> <p>NY Spill Number: 0370620 Closed Date: 12/12/2008 Spill Date: 02/28/2004</p> <p>Description: Petroleum contamination was observed in runoff stream and traced to a 275-gallon kerosene AST at associated property. Harper Park took over cleanup. Spill closed.</p>
Valley View (#1) Drive	1 Valley View Drive	NY SPILLS	<p>Location: 576 feet ESE</p> <p>NY Spill Number: 8710676 Closed Date: 03/23/1988 Spill Date: 03/23/1988</p> <p>Description: Unknown white dust observed in air from furnace.</p>
Coyne Farms	6005 Avon-Lima Road	NY SPILLS	<p>Location: 596 feet WNW</p> <p>NY Spill Number: 0812334 Closed Date: 02/12/2009 Spill Date: 02/11/2009</p> <p>Description: One gallon of heating oil was released inside furnace unit and was incompletely burned. Liquid oil was cleaned up inside unit.</p>
Furtner-Swartz Residence	6 Sycamore Drive	NY SPILLS	<p>Location: 632 feet ESE</p> <p>NY Spill Number: 9111298 Closed Date: 04/25/1995</p> <p>Spill Date: 02/02/1992</p>



Location	Address	Database(s)	Description & Report Summary
Furtner-Swartz Residence (continued)	6 Sycamore Drive	NY SPILLS	<p>Description: Oil line was leaking under a trailer. 25-100 gallons possibly lost. No evidence of stains or odors. Spill closed.</p>
Coyne Farms, Inc.	5957 Avon-Lima Road	AST FINDS ECHO	<p>Location: 664 feet WNW</p> <p>Facility ID/ Status: 8-495247 / Closed Site ID: 50549</p> <p>AST Tank ID: 251119 Status: Closed / Removed Tank ID: 151144 Status: Converted to non-regulated use Tank ID: 151145 Status: Converted to non-regulated use Tank ID: 251120 Status: In Service Install Date: 06/01/1989 Tank ID: 251121 Status: In Service Install Date: 05/01/1993 Tank ID: 154016 Status: In Service Install Date: 05/01/1993 Tank ID: 154963 Status: Converted to non-regulated use Tank ID: 251123 Status: Closed / Removed Tank ID: 179093 Status: Converted to non-regulated use Tank ID: 251124 Status: In Service Install Date: 06/09/2004 Tank ID: 279022 Status: In Service Install Date: 08/18/2017 Tank ID: 159874 Status: Closed / Removed</p> <p>Site ID: 51815 Tank ID: 251119 Status: Closed / Removed Tank ID: 151144 Status: Converted to non-regulated use Tank ID: 151145 Status: Converted to non-regulated use Tank ID: 251120 Status: In Service Install Date: 06/01/1989 Tank ID: 251121</p>



Location	Address	Database(s)	Description & Report Summary
<p>Coyne Farms, Inc. (continued)</p>	<p>5957 Avon-Lima Road</p>	<p>AST FINDS ECHO UST</p>	<p> Status: In Service Install Date: 05/01/1993 Tank ID: 154016 Status: Converted to non-regulated use Tank ID: 154963 Status: Converted to non-regulated use Tank ID: 251123 Status: Closed / Removed Tank ID: 179093 Status: Converted to non-regulated use Tank ID: 251124 Status: In Service Install Date: 06/09/2004 Tank ID: 279022 Status: In Service Install Date: 08/18/2017 Tank ID: 159874 Status: Closed / Removed Tank ID: 251124 Status: In Service Install Date: 06/09/2004 Tank ID: 251123 Status: Closed / Removed Tank ID: 179093 Status: Converted to non-regulated use Tank ID: 251124 Status: In Service Install Date: 06/09/2004 EPA ID: NYA00E351 Description: ICIS-NPDES Concentrated Animal Feeding Operation and minor general permit covered facility. No violations identified in past three years. EPA ID: NYA000069 Description: ICIS-NPDES Concentrated Animal Feeding Operation and minor general permit covered facility. Permit terminated. One unpermitted discharge violation identified in the past five years. Location: 664 feet WNW Facility ID/ Status: 8-486388 / Closed Site ID: 50498 UST Tank ID: 152677 Status: Closed prior to conversion Tank ID: 152678 </p>



Location	Address	Database(s)	Description & Report Summary
Coyne Farms (continued)	5957 East Avon-Lima Road	UST	<p>Status: Closed prior to conversion Tank ID: 151143 Status: Closed / Removed</p> <p>Site ID: 50549</p> <p>UST Tank ID: 152677 Status: Closed prior to conversion Tank ID: 152678 Status: Closed prior to conversion Tank ID: 151143 Status: Closed / Removed</p>
NYSDEC Region 8 Headquarters	6274 East Avon-Lima Road	AST	<p>Location: 668 feet E</p> <p>Facility ID/ Status: 8-028525 / Active Site ID: 47820</p> <p>AST Tank ID: 155545 Status: In Service Install Date: 06/01/1990 Tank ID: 225299 Status: In Service Install Date: 09/24/2008</p>
Coyne Farms	5947 Route 5 & 20	LTANKS	<p>Location: 1210 feet WNW</p> <p>LTANKS Spill Number: 8902975 Closed Date: 07/21/1989 Spill Date: 06/22/1989 Description: One 4,000-gallon diesel tank failed. Was removed and replaced with new tank.</p>
National Grid Pole #6251	6255 East Avon Lima Road	LTANKS	<p>Location: 2238 feet E</p> <p>LTANKS Spill Number: 0901468 Closed Date: 05/06/2009 Spill Date: 05/06/2009 Description: Motor vehicle accident caused 5 gallons of electrical transformer oil to spill to soil and dry ditch. Spill was cleaned up and closed.</p>



Area of Concern No. 2

Section of CR-62 Bronson Hill Road adjacent to the Livonia, Avon, and Lakeville Railroad Spur

No mapped sites found in database review.

Area of Concern No. 3

Intersection of CR-62 Bronson Hill Road and US-20A Big Tree Road, Lakeville, NY

Location	Address	Database(s)	Description & Report Summary
National Grid Transformers	3527 Bronson Hill Road	NY SPILLS	<p>Location: 1-foot NE</p> <p>NY SPILLS NY Spill Number: 0911667 Closed Date: 02/03/2010 Spill Date: 02/01/2010</p> <p>Description: Three electrical transformers were felled by a motor vehicle accident, spilling greater than 50 gallons of certified non-PCB transformer oil on approximately 100 feet of roadway, and 100 square foot section of soil. Cleanup was completed and spill was closed.</p>
Big Tree & Bronson Hill	Big Tree & Bronson Hill	NY SPILLS	<p>Location: 1-foot S</p> <p>NY SPILLS NY Spill Number: 9603520 Closed Date: 06/13/1996 Spill Date: 06/13/1996</p> <p>Description: School bus driver saw liquid coming out of a hose from a DOT vehicle. DOT vehicle was a culvert cleaner that only carried water.</p>
Kwik Fill M048	6004 Big Tree Road Box 354 B	RCRA Non-Gen/ NLR FINDS ECHO	<p>Location: 40-feet W</p> <p>Description: Non-generator material handler of ignitable waste and benzene. No violations found.</p> <p>EPA ID: NYD986950368</p>



Location	Address	Database(s)	Description & Report Summary
Genesee Valley Medicine	6003 Big Tree Road	NY SPILLS	<p>Location: 90-feet W</p> <p>NY SPILLS NY Spill Number: 0270354 Closed Date: 09/09/2002 Spill Date: 09/09/2002</p> <p>Description: A freezer cracked and released its entire amount of freon. Spill was closed.</p>
Noyes Lab Draw Station	6003 Big Tree Road	EDR Hist Auto	<p>Location: 90-feet W</p> <p>EDR HIST AUTO Year: 2001-2002</p>
Ward Residence	9 Boller Avenue	NY SPILLS	<p>Location: 177-feet S</p> <p>NY SPILLS NY Spill Number: 8601352 Closed Date: 03/31/1987 Spill Date: 05/27/1986</p> <p>Description: Open burning at site.</p>
Lohrmann Residence	6052 Ely Avenue	LTANKS	<p>Location: 187-feet SW</p> <p>LTANKS Spill Number: 0008262 Closed Date: 10/18/2000 Spill Date: 10/14/2000</p> <p>Description: A tank with a pinhole leak spilled 2-3 gallons of kerosene to soil. Tank was replaced and cleanup completed.</p>
M0048-115 Kwik Fill	6004 Big Tree Road	NY SPILLS UST	<p>Location: 329-feet WNW</p> <p>NY SPILLS NY Spill Number: 0906785 Closed Date: 07/14/2015 Spill Date: 09/15/2009</p> <p>Description: Contaminated soil discovered while excavation was being performed on site. Five 6000-gallon USTs, 1450 tons of impacted soil, and 4585 gallons of impacted water were removed from site and disposed of.</p> <p>Location: 332-feet WNW</p>



Location	Address	Database(s)	Description & Report Summary
<p>M0048-115 Kwik Fill (continued)</p>	<p>6004 Big Tree Road</p>	<p>NY SPILLS UST</p>	<p>Facility ID/ Status: 8-026131 / Unregulated/Closed Site ID: 47748</p> <p>UST Tank ID: 141621 Status: Closed prior to conversion Tank ID: 141622 Status: Closed prior to conversion Tank ID: 141623 Status: Closed prior to conversion Tank ID: 141624 Status: Closed prior to conversion Tank ID: 141625 Status: Closed prior to conversion Tank ID: 175735 Status: Closed / Removed Tank ID: 175736 Status: Closed prior to conversion Tank ID: 141626 Status: Closed prior to conversion Tank ID: 141627 Status: Closed / Removed Tank ID: 175735 Status: Closed / Removed Tank ID: 141629 Status: Closed / Removed</p>
<p>Conesus Lake</p>	<p>3574 Shoreline Drive</p>	<p>NY SPILLS</p>	<p>Location: 346-foot SW</p> <p>NY SPILLS NY Spill Number: 1008677 Closed Date: 11/18/2010 Spill Date: 11/18/2010</p> <p>Description: Foam was observed on the lake. It appeared to be caused by natural organic material in the water.</p>
<p>Camp Run Drive</p>	<p>Camp Run Drive / Jr Crescent</p>	<p>NY SPILLS</p>	<p>Location: 371-foot W</p> <p>NY SPILLS NY Spill Number: 0200495 Closed Date: 04/15/2002 Spill Date: 04/14/2002</p> <p>Description: 10 gallons of fuel spilled out of a tractor trailer and flowed into catch basins and drainage ditches, impacting the lake. Cleanup was completed.</p>



Location	Address	Database(s)	Description & Report Summary
Conesus Lake	3558 Camp Run Road	NY SPILLS	<p>Location: 397-feet W</p> <p>NY SPILLS NY Spill Number: 9700824 Closed Date: 04/18/1997 Spill Date: 04/17/1997</p> <p>Description: White foam was observed on the lake.</p>
Conesus Lake	3412-9 Camp Run Drive	NY SPILLS	<p>Location: 412-feet WNW</p> <p>NY SPILLS NY Spill Number: 9304062 Closed Date: 06/29/1993 Spill Date: 06/29/1993</p> <p>Description: Discoloration of water was observed along shoreline, that was determined to be algae. No spill occurred.</p>
Conesus Lake	3422 Camprun Drive	NY SPILLS	<p>Location: 413-feet WNW</p> <p>NY SPILLS NY Spill Number: 9404408 Closed Date: 06/24/1994 Spill Date: 06/21/1994</p> <p>Description: Die-off of hundreds of fish observed on lakeshore, presumed due to oxygen deficiency.</p>
3542 Camp Run Drive	3542 Camp Run Drive	NY SPILLS	<p>Location: 475-feet W</p> <p>NY SPILLS NY Spill Number: 0502999 Closed Date: 06/13/2005 Spill Date: 06/12/2005</p> <p>Description: Heavy rains caused the overflow of hundreds of gallons of raw sewage from sewage lines into Conesus Lake.</p> <p>NY Spill Number: 0502948 Closed Date: 06/11/2005 Spill Date: 06/11/2005</p> <p>Description: Heavy rains caused the overflow of hundreds of gallons of raw sewage from sewage lines into Conesus Lake.</p>



Location	Address	Database(s)	Description & Report Summary
Soil	3476 Bronson Hill Road	NY SPILLS	<p>Location: 486-feet NNE</p> <p>NY SPILLS NY Spill Number: 1704316 Closed Date: 08/02/2017 Spill Date: 08/01/2017</p> <p>Description: Spill of one pint from a hydraulic oil line.</p>
Conesus Lake	Ely Avenue/Shoreline Drive	NY SPILLS	<p>Location: 533-feet SW</p> <p>NY SPILLS NY Spill Number: 0902216 Closed Date: 05/26/2009 Spill Date: 05/26/2009</p> <p>Description: Less than 5 gallons of gasoline and oil spilled from a boat that sank. Boat was recovered from the lake. No recoverable product was present.</p>
Sugar Creek Stores #34	5953 Big Tree Road	<p>LTANKS</p> <p>RCRA NonGen / NLR</p> <p>FINDS</p> <p>ECHO</p> <p>MANIFEST</p>	<p>Location: 1014 -feet NW</p> <p>LTANKS Spill Number: 1710994 Closed Date: 12/03/2018 Spill Date: 03/05/2018 Description: 6000-gallon tank had failed tank tests – had approximately 7-inches of water in interstitial space and was found to have water on other occasions.</p> <p>Description: Non-generator material handler of ignitable waste and benzene. No violations found. EPA ID: NY0000939371</p> <p>NY MANIFEST Document ID: NYB6567453 Generator Ship Date: 12/13/1994 TSD Site Receive Date: 12/16/1994 Description: 55 gallons of non-listed ignitable wastes.</p>
Lakeville Market	5953 Big Tree Road	<p>UST</p> <p>AST</p>	<p>Location: 1014-feet NW</p> <p>Facility ID/ Status: 8-231967 / Active Site ID: 49074</p> <p>UST Tank ID: 145829</p>



Location	Address	Database(s)	Description & Report Summary
<p>Lakeville Market (continued)</p>	<p>5953 Big Tree Road</p>	<p>UST AST</p>	<p>Status: Closed prior to conversion Tank ID: 145830 Status: Closed prior to conversion Tank ID: 145831 Status: In service. Install Date: 02/01/1990 Tank ID: 145832 Status: In service. Install Date: 02/01/1990</p> <p>AST Tank ID: 145833 Status: Closed / Removed</p>
<p>Western Minimart</p>	<p>5953 Big Tree Road</p>	<p>LTANKS NY SPILLS</p>	<p>Location: 1014 -feet NW</p> <p>LTANKS Spill Number: 1102253 Closed Date: 06/29/2011 Spill Date: 05/29/2011 Description: UST failed tank test due to open vapor vents. Tank passed after re-test. Spill closed.</p> <p>NY SPILLS NY Spill Number: 0370440 Closed Date: 02/11/2004 Spill Date: 10/22/2003</p> <p>Description: Inventory requirements were not followed or properly performed. Spill closed based on review of database.</p> <p>NY Spill Number: 9211298 Closed Date: 08/12/1994 Spill Date: 12/08/1994</p> <p>Description: Water had entered gas UST due to heavy rains and crack in overspill manifold. Nine drums of gas and water pumped from tank and disposed of.</p> <p>NY Spill Number: 9501689 Closed Date: 08/24/1995 Spill Date: 05/09/1995</p> <p>Description: Petroleum contaminated soil discovered around pump islands during tank top upgrade. 105 tons of contaminated soil removed and disposed off-site.</p>



Location	Address	Database(s)	Description & Report Summary
Western Minimart (continued)	5953 Big Tree Road	LTANKS NY SPILLS	<p>NY Spill Number: 9908614 Closed Date: 10/15/1999 Spill Date: 10/14/1999</p> <p>Description: Two gallons of gasoline spilled to the concrete pad due to tank overfill. Gasoline was cleaned up and spill was closed.</p> <p>NY Spill Number: 8909572 Closed Date: 02/15/1990 Spill Date: 01/04/1990</p> <p>Description: Two 6,000-gallon USTs were tested – one failed multiple times. Both tanks removed – minor contamination found in soil and groundwater beneath tank. Spill closed.</p> <p>NY Spill Number: 1003214 Closed Date: 07/20/2010 Spill Date: 06/22/2010</p> <p>Description: Kerosene contaminated groundwater discovered during UST removal. Approximately 1,250 gallons of liquid disposed of, while soil was found to not be impacted.</p> <p>NY Spill Number: 1110585 Closed Date: 12/20/2011 Spill Date: 11/29/2011</p> <p>Description: Two inches of gasoline detected in the interstitial space of tank. Tank tightness test report passed; spill was then closed.</p>
Conesus Bowling Alley	West Lake Road	LTANKS	<p>Location: Unknown</p> <p>LTANKS Spill Number: 7881129 Closed Date: 11/30/1978 Spill Date: 11/29/1978</p> <p>Description: 275-gallon AST leaked entire contents. Fuel reached storm sewer and Conesus lake. Spill cleaned up and closed.</p>



Location	Address	Database(s)	Description & Report Summary
Sugar Creek Store	Route 20A – Big Tree Street	LTANKS	<p>Location: Unknown</p> <p>LTANKS Spill Number: 8710905 Closed Date: 03/30/1988 Spill Date: 03/30/1988 Description: Approximately 15 gallons of gasoline spilled due to tank overfill. Cleanup complete and spill closed.</p>
Conesus Lake Bowling Center	Conesus Lake Bowling Center	LTANKS	<p>Location: Unknown</p> <p>LTANKS Spill Number: 7781218 Closed Date: 12/19/1977 Spill Date: 12/18/1977 Description: Oil slick appeared during rainy periods.</p>

Aerial Photograph Review

Bergmann reviewed reasonably ascertainable Aerial Photographs for the subject areas of concern. The findings of these reviews are as follows:

Area of Concern No. 1 : Aerial photographs from 2017, 2013, 2009, 2006, 1994, 1985, 1980, 1979, 1966, 1959, and 1938, have depicted the subject area of concern as within a rural area since 1938, with a nearby residential development present starting in the mid-60s.

Area of Concern No. 2: Aerial photographs from 2017, 2013, 2009, 2006, 1994, 1985, 1981, 1959, and 1938, have depicted the subject area of concern within a rural and residential area since the mid-90s, with the area primarily being rural in 1985 and before.

Area of Concern No. 3: Aerial photographs from 2017, 2013, 2009, 2006, 1994, 1985, 1981, 1959, and 1938, have depicted the subject area of concern within a primarily residential area since the early 80s, with residential development increasingly occurring to the north and east. The surrounding area prior to the 1959 photograph was primarily agricultural.

Copies of the Aerial Photograph reports are provided as Appendix B – Aerial Photographs Report.

Sanborn Mapping Review

Bergmann attempted to review reasonably ascertainable Sanborn Fire Insurance Maps for the subject areas of concern. These maps were not available as there is no coverage in this area of Avon and Livonia, NY. A copy of the EDR “unmapped property” certificates are provided as Appendix C.



Recognized Environmental Conditions

A Recognized Environmental Condition (REC), as defined in the ASTM Standard, is an environmental condition where the presence or likely presence of any hazardous substances or petroleum products on a property under **Bergmann identified one (1) REC in association with the subject areas of concern.** Discarded tires were observed along the project corridor. Tires are defined as a regulated waste in NYSDEC Part 360 regulations and must be removed and appropriately discarded prior to construction pursuant to applicable federal, state, and local regulations.

Historical Recognized Environmental Conditions

A Historic Recognized Environmental Condition (HREC), is an environmental condition that in the past would have been identified as a REC, but has been adequately addressed and therefore no longer represents a REC. **Bergmann has identified three (3) HRECs at the following locations:**

- The Harpers Trailer Park / Big M Parking Lot site adjacent to the immediate project corridor associated with Area of Concern No. 1.
- The Harper Park site at 4 Hillside drive, 236 feet east of the project corridor associated with Area of Concern No. 1.
- The M0048-115 Kwik Fill site at 6004 Big Tree Road, 329-feet west-northwest of the project corridor associated with Area of Concern No. 3.

Controlled Recognized Environmental Conditions

A Controlled Recognized Environmental Condition (CREC) as defined as Recognized Environmental Condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls). **Bergmann has not identified CRECs in association with the subject project corridor.**

Business Environmental Risk Considerations

Bergmann identified the following areas of potential concern associated with Business Environmental Risk (BER) considerations in connection with the subject property during the course of this screening.

- Electric utility lines run parallel along the project corridor. Pole mounted transformers were observed. The transformers appeared to be in good condition and to be serviced by the local utility company. These transformers may be Polychlorinated Biphenyl (PCBs)-containing as there were no signage indicating that they are non-PCB containing.
- Gas pipeline markers were observed running along project corridor. Underground gas pipelines may run through this area.
- Litter debris was observed at various locations along the project corridor.



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PHOTOGRAPHS



Outlet of culvert



Outlet of culvert. Culvert materials observed included plastic and rock.



Outlet of culvert



Outlet of culvert. Culvert materials observed included plastic.



Outlet of culvert



Outlet of culvert. Culvert materials observed included steel, and rock.



Outlet of culvert



Outlet of culvert. Culvert materials observed included steel.



Outlet of culvert



Outlet of culvert. Culvert materials observed included steel, concrete and wood.



Concrete culvert



Closeup of concrete culvert



Steel corrugated culvert



Outlet of culvert



Culvert consisting of plastic and stone materials.



Culvert



Natural gas pipeline markers alongside project corridor



Culvert inlet



Disposed tire adjacent project corridor.



Well marker adjacent project corridor



Storm drain inlet



Close up of steel culvert outlet pipe



Corrugated steel outlet



Concrete and plastic culvert outlets



Concrete culvert inlet



Plastic culvert outlet



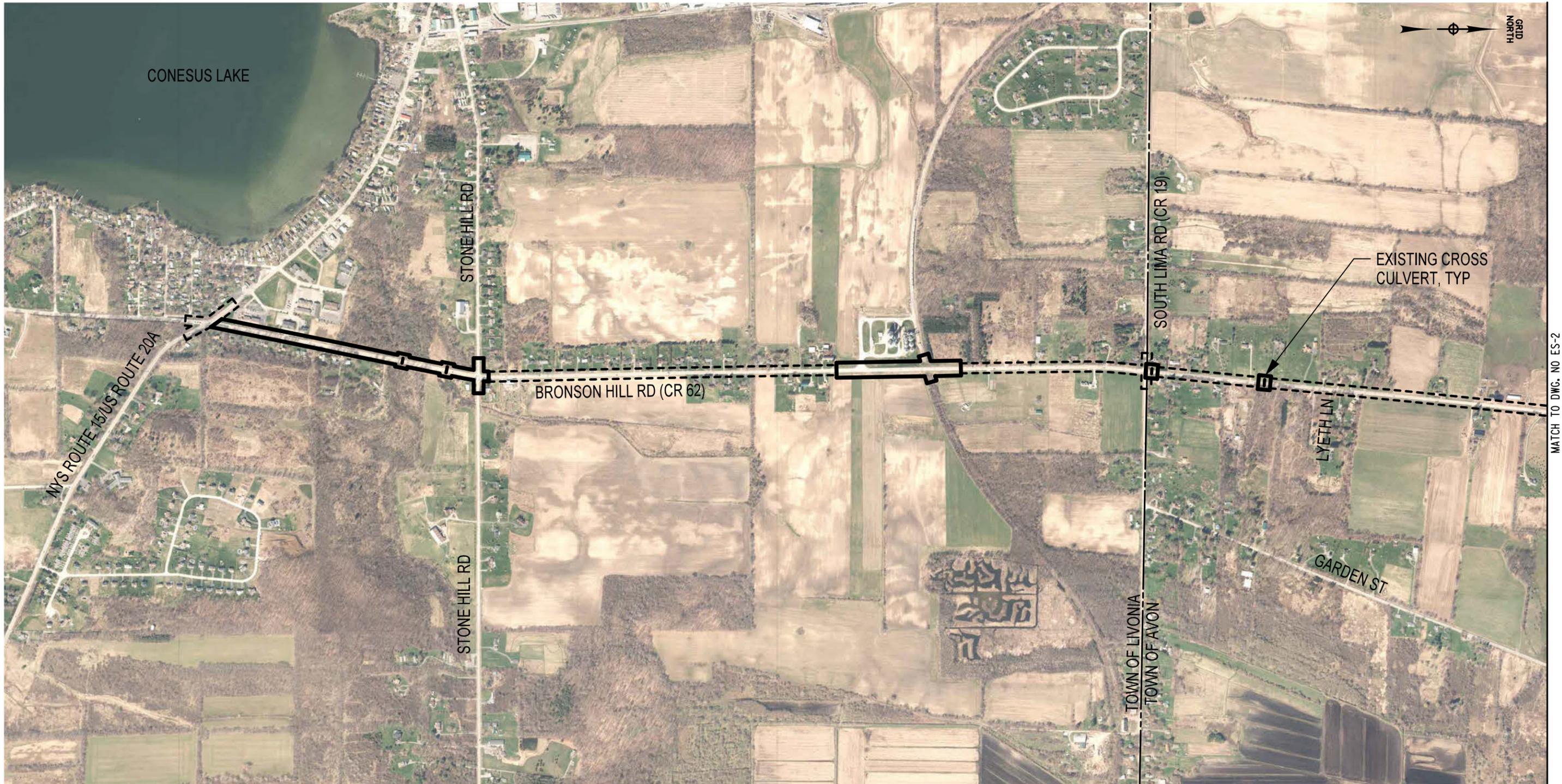
Concrete culvert outlet



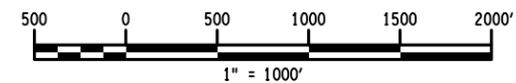
Stone culvert outlet



FIGURES



LEGEND	
	DETAILED ENVIRONMENTAL SURVEY LIMITS
	GENERAL PROJECT LIMITS



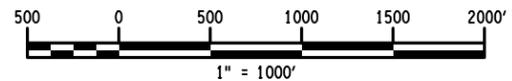
Livingston County Highway Department			
PIN 4LV0.02 Bronson Hill Road (CR 62) Rehabilitation			
Environmental Study Limits			
SHEET NO. ES-1	SCALE 1"=1000'	DATE 03/20	BERGMANN ARCHITECTS ENGINEERS PLANNERS



MATCH TO DWG. NO ES-1

GRID
NAD 83

LEGEND	
	DETAILED ENVIRONMENTAL SURVEY LIMITS
	GENERAL PROJECT LIMITS



Livingston County Highway Department			
PIN 4LV0.02 Bronson Hill Road (CR 62) Rehabilitation			
Environmental Study Limits			
SHEET NO. ES-2	SCALE 1"=1000'	DATE 03/20	BERGMANN ARCHITECTS ENGINEERS PLANNERS

Appendix C:
Crash Analysis / Resurfacing Safety Assessment /
Complete Streets Checklist



To: Livingston County
Highway Department

From: Thomas R. Detrie, P.E., Bergmann

Date: May 22, 2020

Re: PIN 4LV0.02 Bronson Hill (CR 62) Rehabilitation:
Summary of Safety Considerations, Crash History, and
Analysis

PIN 4LV0.02 Bronson Hill (CR 62) Rehabilitation Summary of Safety Considerations, Crash History, and Analysis

A crash analysis was performed in accordance with the NYSDOT *Highway Design Manual* Chapter 5, Section 5.3.

Crash reports were compiled from New York State Accident Location Information System (ALIS) data. New York State Department of Motor Vehicles (NYSDMV) Police Accident Reports (MV-104A forms) were also obtained covering a five-year period from August 1, 2014 to July 31, 2019. The crash study covered an area within and up to 0.1 miles outside the project limits: CR 62 (Bronson Hill Rd) from U.S. Route 20A/NY State Route 15 (Big Tree Rd) to U.S. Route 20/NY State Route 5 (East Avon Lima Road) including intersections with Stone Hill Rd, CR 19 (South Lima Rd), Marshall Rd, Dutch Hollow Rd, and Sutton Rd. There are no high accident locations (HALs), Priority Investigation Locations (PILs), Safety Deficient Locations (SDLs), or Priority Investigation Intersections (PIIs) within the study area.

Crashes are categorized as fatal, injury, property damage only (PDO) or non-reportable (NR). A crash is considered non-reportable if there is no personal injury and either:

- a) No motorist report was filed,
- b) No dollar value of vehicular damage was entered into the report, or
- c) The amount of vehicular damage did not exceed \$1,000.

A total of 173 crashes reportedly occurred within the study limits. Upon further review, 25 of these crashes either fell outside the analysis limits or occurred in a parking lot; therefore, 148 crashes were documented during the 5-year study period. Of the 148, there were 27 (18%) injury, 98 (66%) property damage, and 23 (16%) non-reportable crashes. No fatalities were reported. A table summarizing the 148 crashes is attached.

Of the 148 total crashes, there were a total of two (2) pedestrian and bicycle crashes within the study area. The bicycle crash occurred at the intersection of Bronson Hill Road and U.S. Route 20A/NY State Route 15 (Big Tree Road), in which a northbound bicyclist failed to yield when turning left and struck a northbound vehicle. The pedestrian crash occurred along Bronson Hill Road between its intersections with CR 19 (South Lima Road) and Marshall Road/Dutch Hollow Road. The pedestrian was struck on the shoulder by a southbound vehicle; the police report indicates the driver was impaired by illegal drugs. Both of these crashes resulted in an injury.



Forty-five (45) of the 148 crashes occurred at intersections within the study area. Intersection crashes by location are summarized below in Table 1.

Table 1 Intersection Crash Summary by Location		
Main Roadway	Intersecting Roadway	Total
Bronson Hill Rd	US Rt. 20A/St. Rt. 15 (Big Tree Rd)	18
Bronson Hill Rd	Stone Hill Rd	4
Bronson Hill Rd	CR 19 (South Lima Rd)	3
Bronson Hill Rd	Marshall Rd/Dutch Hollow Rd	5
Bronson Hill Rd	Sutton Rd	2
Bronson Hill Rd	US Rt. 20/St. Rt. 5 (East Avon Lima Rd)	13
Total		45

In Table 2 the segment crashes are summarized by location. Of the 103 segment crashes, 12 (12%) occurred at/near driveways located within the roadway segments.

Table 2 Segment Crash Summary by Location			
Location	From	To	Total
CR 62 (Bronson Hill Rd) Segment 1	US Rt. 20A/St. Rt. 15 (Big Tree Rd)	Stone Hill Rd	5
CR 62 (Bronson Hill Rd) Segment 2	Stone Hill Rd	CR 19 (South Lima Rd)	25
CR 62 (Bronson Hill Rd) Segment 3	CR 19 (South Lima Rd)	Marshall Rd/Dutch Hollow Rd	31
CR 62 (Bronson Hill Rd) Segment 4	Marshall Rd/Dutch Hollow Rd	Sutton Rd	5
CR 62 (Bronson Hill Rd) Segment 5	Sutton Rd	US Rt. 20/St. Rt. 5 (East Avon Lima Rd)	18
US Rt. 20A/St. Rt. 15 (Big Tree Rd)	0.1-miles from CR 62 in both directions		8
CR 19 (South Lima Rd)	0.1-miles from CR 62 in both directions		1
US Rt. 20/St. Rt. 5 (East Avon Lima Rd)	0.1-miles from CR 62 in both directions		9
East Lake Rd	0.1-miles south from US Rt. 20A/St. Rt. 15		1
Total			103

Reviewing the crash types and factors, deer/animal collisions were the most common crash type accounting for 54 (36%) of the crashes. Fixed object collisions were the second-most common crash type with 34 (23%).

This makes sense given the proximity of the tree lines, pole lines, and ditches, relatively narrow (4 ft wide) shoulders, and relatively high-speed limit. Additionally, there were 31 (27%) rear end crashes. There were eight (5%) crashes that involved alcohol or illegal drugs. Weather did not appear to be a factor with the majority (65%) of collisions occurring on a dry roadway surface. Also, most (44%) of the crashes occurred during daylight hours.

The NYSDOT maintains a database of average crash rates for different types of roadway segments. Crash rates for linear sections are expressed in terms of the number of crashes per million vehicle miles of travel (acc/mvm). The average crash rate for similar facilities statewide was compared to that calculated for CR 62 (Bronson Hill Rd) with the project limits to assess the actual safety performance versus reasonable expectation. Two average annual crash rates were calculated for each of the five segments: one including animal and deer crashes and one excluding them. Non-reportable crashes were included in the crash rate calculation. These ten crash segments, which can be found in Table 2, were compared to the NYSDOT published rates for similar facilities, 2.12 ACC/MVM (2016-2017).

Location	Crash Rate (including animal & deer)	Above or Below Avg.	Crash Rate (excluding animal & deer)	Above or Below Avg.
CR 62 (Bronson Hill Rd) Segment 1	1.60	Below	0.00	Below
CR 62 (Bronson Hill Rd) Segment 2	3.08	Above	1.11	Below
CR 62 (Bronson Hill Rd) Segment 3	2.62	Above	1.31	Below
CR 62 (Bronson Hill Rd) Segment 4	2.81	Above	1.12	Below
CR 62 (Bronson Hill Rd) Segment 5	2.33	Above	0.52	Below

Based upon the above analysis, there is no clear crash pattern on CR 62 (Bronson Hill Rd). There are no crash clusters or unique geometric features that are contributing factors to crashes. Additionally, all the crash rates excluding animal and deer collisions are below the statewide average. Therefore, there is an absence of crashes correctable by engineering measures.



Note: It is a violation of law for any person, unless they are acting under the direction of a licensed professional engineer, architect, landscape architect, or land surveyor, to alter an item in any way. If an item bearing the stamp of a licensed professional is altered, the altering engineer, architect, landscape architect, or land surveyor shall stamp the document and include the notation "altered by" followed by their signature, the date of such alteration, and a specific description of the alteration.

TABLE 1: Accident Data Summary

ID Number	Date	Location	Intersection/Driveway	Severity	Light	Character	Surf Cond.	Weather	Impact	Factor1	Comments
35352455	8/4/2014	Bronson Hill Rd - Segment 4	N	1 Injury	1 Daylight	1 Straight and Level	1 Dry	1 Clear	Light Support/Utility Pole	Animal Action	NB V1 swerved to miss deer and struck utility pole
35386759	9/3/2014	Bronson Hill Rd - Segment 2	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	2 Wet	2 Cloudy	Deer	Animal Action	NB V1 struck deer that entered path
35427167	9/21/2014	Bronson Hill Rd - Segment 5	N	0 Property Damage Only	5 Dark-Road Unlighted	2 Straight and Grade	1 Dry	2 Cloudy	Deer	Animal Action	NB V1 struck deer that entered path
35412585	9/26/2014	Bronson Hill Rd at US Rt. 20/St. Rt. 5	I	1 Injury	1 Daylight	1 Straight and Level	1 Dry	1 Clear	Rear End	Driver Inattention/Distracted / Following Too Closely	EB V3 rear ended EB V2
35427214	10/9/2014	Bronson Hill Rd - Segment 2	N	-1 Non-Reportable	5 Dark-Road Unlighted	2 Straight and Grade	1 Dry	2 Cloudy	Deer	Animal Action	NB V1 struck deer that entered path
35430514	10/13/2014	Bronson Hill Rd at US Rt. 20/St. Rt. 5	I	-1 Non-Reportable	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	2 Cloudy	Earth Ele. / Rock Cut / Ditch	Alcohol Involvement / Failure to Keep Right	WB V1 lost control of vehicle during left hand turn and struck ditch
35444317	10/25/2014	Bronson Hill Rd - Segment 5	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	1 Clear	Deer	Animal Action	NB V1 struck deer that entered path
35454830	11/2/2014	US Rt. 20/St. Rt. 5 (East Avon Lima Rd)	N	1 Injury	1 Daylight	2 Straight and Grade	1 Dry	1 Clear	Left Turn	Driver Inattention/Distracted / Failure to Yield Right-of-Way	WB V1 entered oncoming traffic lane from shoulder, struck WB V2
35472511	11/14/2014	Bronson Hill Rd - Segment 2	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	2 Cloudy	Deer	Animal Action	SB V1 struck deer that entered path
35479374	11/20/2014	Bronson Hill Rd at US Rt. 20A/St. Rt. 15	I	0 Property Damage Only	1 Daylight	5 Curve and Grade	4 Snow/Ice	4 Snow	Earth Ele. / Rock Cut / Ditch	Pavement Slippery / Unsafe Speed	WB V1 skidded off snowy road and struck ditch
35501061	12/3/2014	Bronson Hill Rd - Segment 1	N	0 Property Damage Only	5 Dark-Road Unlighted	2 Straight and Level	2 Wet	2 Cloudy	Deer	Animal Action	NB V1 struck deer that entered path
35501748	12/5/2014	US Rt. 20/St. Rt. 5 (East Avon Lima Rd)	D	0 Property Damage Only	2 Dawn	1 Straight and Level	1 Dry	2 Cloudy	Right Angle	Other Vehicular	WB V2 stuck in the rear by EB V1 while making left turn
35514188	12/15/2014	Bronson Hill Rd at US Rt. 20A/St. Rt. 15	I	1 Injury	4 Dark-Road Lighted	1 Straight and Level	2 Wet	1 Clear	Rear End	Driver Inattention/Distracted / Following Too Closely	EB V2 rear ended EB V1
35557379	1/12/2015	Bronson Hill Rd at Sutton Rd	I	1 Injury	5 Dark-Road Unlighted	1 Straight and Level	4 Snow/Ice	2 Cloudy	Earth Ele. / Rock Cut / Ditch	Alcohol Involvement / Traffic Control Disregarded	EB V1 failed to stop, ran off road, and struck ditch
35571444	1/14/2015	US Rt. 20A/St. Rt. 15 (Big Tree Rd)	N	1 Injury	1 Daylight	2 Straight and Grade	1 Dry	1 Clear	Rear End	Following Too Closely	EB V1 rear ended EB V2
35561482	1/19/2015	Bronson Hill Rd at Sutton Rd	I	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	4 Snow/Ice	4 Snow	Earth Ele. / Rock Cut / Ditch	Pavement Slippery	EB V1 failed to stop, skidded off snowy road, and struck ditch
35565517	1/23/2015	Bronson Hill Rd - Segment 2	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	2 Cloudy	Deer	Animal Action	SB V1 struck deer that entered path
35572586	1/25/2015	Bronson Hill Rd at Marshall Rd/Dutch Hollow Rd	I	0 Property Damage Only	1 Daylight	1 Straight and Level	2 Wet	2 Cloudy	Right Angle	Driver Inattention/Distracted / Failure to Yield Right-of-Way	EB V1 failed to yield and struck NB V2
35575978	1/26/2015	Bronson Hill Rd - Segment 3	N	1 Injury	1 Daylight	2 Straight and Grade	4 Snow/Ice	4 Snow	Light Support/Utility Pole	Unsafe Speed / Pavement Slippery	NB V1 skidded off road and struck utility pole
35592400	2/6/2015	Bronson Hill Rd - Segment 3	N	0 Property Damage Only	5 Dark-Road Unlighted	2 Straight and Grade	2 Wet	2 Cloudy	Light Support/Utility Pole	Alcohol Involvement / Failure to Keep Right	NB V1 exited the road and struck a utility pole
35627162	2/19/2015	Bronson Hill Rd - Segment 3	N	0 Property Damage Only	5 Dark-Road Unlighted	2 Straight and Grade	1 Dry	2 Cloudy	Deer	Animal Action	NB V1 struck deer that entered path
35636725	3/6/2015	US Rt. 20/St. Rt. 5 (East Avon Lima Rd)	D	-1 Non-Reportable	4 Dark-Road Lighted	1 Straight and Level	1 Dry	1 Clear	Snow Embankment	Failure to Yield Right-of-Way	SB V1 failed to yield, EB V2 swerved and struck a snow bank
35653940	3/17/2015	Bronson Hill Rd - Segment 3	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	2 Wet	2 Cloudy	Earth Ele. / Rock Cut / Ditch	Fell Asleep / Alcohol Involvement	SB V1 exited the road and struck a ditch
35710527	5/4/2015	Bronson Hill Rd at CR 19	I	1 Injury	1 Daylight	1 Straight and Level	1 Dry	1 Clear	Rear End	Other Vehicular	NB V2 rear ended NB V1
35718956	5/11/2015	Bronson Hill Rd at US Rt. 20A/St. Rt. 15	I	0 Property Damage Only	3 Dusk	1 Straight and Level	2 Wet	1 Clear	Rear End	Following Too Closely	SB V1 rear ended SB V2
35731553	5/23/2015	Bronson Hill Rd at US Rt. 20A/St. Rt. 15	I	-1 Non-Reportable	1 Daylight	3 Straight at Hillcrest	1 Dry	2 Cloudy	Rear End	Following Too Closely	NWB V1 rear ended NWB V2
35807727	7/16/2015	Bronson Hill Rd - Segment 3	N	1 Injury	1 Daylight	2 Straight and Grade	1 Dry	1 Clear	Earth Ele. / Rock Cut / Ditch	Animal Action	NB V1 swerved to miss deer and struck a ditch
35854423	8/21/2015	US Rt. 20/St. Rt. 5 (East Avon Lima Rd)	D	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	1 Clear	Right Turn (with Other Car)	Failure to Yield Right-of-Way	SB V1 failed to yield and struck WB V1
35871737	9/4/2015	Bronson Hill Rd - Segment 3	N	1 Injury	1 Daylight	2 Straight and Grade	1 Dry	1 Clear	Rear End	Following Too Closely	SB V3 rear ended SB V2, V2 then rear ended SB V1
35907514	10/2/2015	Bronson Hill Rd - Segment 3	N	0 Property Damage Only	5 Dark-Road Unlighted	3 Straight at Hillcrest	1 Dry	2 Cloudy	Deer	Animal Action	SB V1 struck deer that entered path
35912466	10/5/2015	Bronson Hill Rd at Stone Hill Rd	I	1 Injury	1 Daylight	1 Straight and Level	1 Dry	2 Cloudy	Right Angle	Failure to Yield Right-of-Way / Traffic Control Disregarded	EB V1 failed to yield and struck NB V2
35919199	10/9/2015	CR 19 (South Lima Rd)	N	-1 Non-Reportable	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	1 Clear	Deer	Animal Action	EB V1 struck deer that entered path
35940647	10/27/2015	Bronson Hill Rd - Segment 5	N	-1 Non-Reportable	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	1 Clear	Deer	Animal Action	NB V1 struck deer that entered path
35957912	11/5/2015	Bronson Hill Rd - Segment 3	N	-1 Non-Reportable	5 Dark-Road Unlighted	2 Straight and Grade	1 Dry	2 Cloudy	Deer	Animal Action	NB V1 struck deer that entered path
35967770	11/15/2015	Bronson Hill Rd - Segment 2	N	0 Property Damage Only	5 Dark-Road Unlighted	2 Straight and Grade	1 Dry	1 Clear	Deer	Animal Action	NB V1 struck deer that entered path
35970639	11/17/2015	Bronson Hill Rd - Segment 2	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	1 Clear	Deer	Animal Action	NB V1 struck deer that entered path
35976354	11/21/2015	Bronson Hill Rd - Segment 4	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	1 Clear	Deer	Animal Action	SB V1 struck deer that entered path
35998833	12/3/2015	Bronson Hill Rd - Segment 5	N	-1 Non-Reportable	5 Dark-Road Unlighted	1 Straight and Level	2 Wet	2 Cloudy	Deer	Animal Action	NB V1 struck deer that entered path
36013583	12/15/2015	Bronson Hill Rd - Segment 2	N	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	2 Cloudy	Earth Ele. / Rock Cut / Ditch	Steering Failure	NB V1 lost control of the vehicle and exited the road into a field
36024013	12/26/2015	Bronson Hill Rd - Segment 2	N	-1 Non-Reportable	5 Dark-Road Unlighted	1 Straight and Level	2 Wet	2 Cloudy	Deer	Animal Action	SB V1 struck deer that entered path
36024051	12/26/2015	Bronson Hill Rd - Segment 2	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	2 Wet	3 Rain	Deer	Animal Action	NB V1 struck deer that entered path
36031331	12/31/2015	Bronson Hill Rd - Segment 3	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	2 Wet	4 Snow	Deer	Animal Action	NB V1 struck deer that entered path
36042496	1/1/2016	US Rt. 20A/St. Rt. 15 (Big Tree Rd)	D	0 Property Damage Only	1 Daylight	1 Straight and Level	4 Snow/Ice	2 Cloudy	Light Support/Utility Pole	Following Too Closely / Unsafe Speed	NWB V1 swerved to miss V2 and struck a utility pole
36043259	1/8/2016	Bronson Hill Rd - Segment 4	N	0 Property Damage Only	5 Dark-Road Unlighted	2 Straight and Grade	1 Dry	1 Clear	Rear End	Following Too Closely	NB V1 rear ended NB V2
36101707	2/18/2016	Bronson Hill Rd at US Rt. 20A/St. Rt. 15	I	-1 Non-Reportable	4 Dark-Road Lighted	2 Straight and Grade	2 Wet	2 Cloudy	Rear End	Following Too Closely	NWB V1 rear ended NWB V2
36157361	4/3/2016	Bronson Hill Rd - Segment 2	N	0 Property Damage Only	1 Daylight	2 Straight and Grade	4 Snow/Ice	2 Cloudy	Other Fixed Object	Pavement Slippery / Driver Inexperience	NB V1 lost control of vehicle and struck mailbox
36160309	4/3/2016	Bronson Hill Rd - Segment 5	N	-1 Non-Reportable	1 Daylight	2 Straight and Grade	4 Snow/Ice	2 Cloudy	Earth Ele. / Rock Cut / Ditch	Unsafe Speed / Pavement Slippery	NB V1 lost control of vehicle and struck earth embankment
36188134	4/28/2016	Bronson Hill Rd - Segment 5	N	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	2 Cloudy	Animal	Animal Action	NB V1 struck turkey that entered path
36191187	4/30/2016	Bronson Hill Rd - Segment 5	N	-1 Non-Reportable	1 Daylight	1 Straight and Level	1 Dry	1 Clear	Animal	Animal Action	SB V1 struck turkey that entered path
36195286	5/5/2016	Bronson Hill Rd - Segment 4	N	-1 Non-Reportable	3 Dusk	1 Straight and Level	1 Dry	1 Clear	Deer	Animal Action	SB V1 struck deer that entered path
36215266	5/20/2016	Bronson Hill Rd - Segment 3	N	1 Injury	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	1 Clear	Pedestrian	Drugs (Illegal)	SB V1 stuck Pedestrian in shoulder of the road
36229761	5/28/2016	Bronson Hill Rd - Segment 5	N	0 Property Damage Only	2 Dawn	2 Straight and Grade	1 Dry	1 Clear	Deer	Animal Action	NB V1 struck deer that entered path
36237877	5/31/2016	Bronson Hill Rd at US Rt. 20A/St. Rt. 15	I	0 Property Damage Only	1 Daylight	2 Straight and Grade	1 Dry	1 Clear	Rear End	Driver Inattention/Distracted	SEB V1 rear ended SEB V2
36271854	6/26/2016	Bronson Hill Rd - Segment 2	N	0 Property Damage Only	2 Dawn	1 Straight and Level	1 Dry	1 Clear	Deer	Animal Action	SB V1 struck deer that entered path
36279294	7/2/2016	Bronson Hill Rd - Segment 3	N	0 Property Damage Only	2 Dawn	1 Straight and Level	1 Dry	1 Clear	Deer	Animal Action	NB V1 struck deer that entered path
36284818	7/2/2016	Bronson Hill Rd at US Rt. 20/St. Rt. 5	I	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	1 Clear	Overtaking	Passing or Lane Usage Improper	EB V2 tried to pass EB V1, but struck V1 when V1 turned right
36280120	7/3/2016	Bronson Hill Rd at US Rt. 20/St. Rt. 5	I	1 Injury	1 Daylight	1 Straight and Level	1 Dry	2 Cloudy	Rear End	Driver Inattention/Distracted	WB V1 rear ended WB V2
36357807	8/25/2016	Bronson Hill Rd at US Rt. 20/St. Rt. 5	I	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	1 Clear	Rear End	Passing or Lane Usage Improper	EB V3 rear ended EB V2
36362769	8/30/2016	Bronson Hill Rd - Segment 2	N	0 Property Damage Only	1 Daylight	2 Straight and Grade	1 Dry	2 Cloudy	Earth Ele. / Rock Cut / Ditch	Texting	SB V1 lost control of the vehicle and rolled over off the roadway
36451282	10/31/2016	Bronson Hill Rd at US Rt. 20A/St. Rt. 15	I	-1 Non-Reportable	1 Daylight	2 Straight and Grade	2 Wet	2 Cloudy	Rear End	Following Too Closely	NWB V1 rear ended NWB V2
36491357	11/1/2016	Bronson Hill Rd - Segment 5	N	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	1 Clear	Deer	Animal Action	V1 struck deer that entered path
36471172	11/14/2016	Bronson Hill Rd - Segment 2	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	1 Clear	Deer	Animal Action	NB V1 struck deer that entered path
36477149	11/16/2016	Bronson Hill Rd - Segment 5	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	1 Clear	Deer	Animal Action	SB V1 struck deer that entered path
36483633	11/20/2016	Bronson Hill Rd - Segment 2	D	-1 Non-Reportable	1 Daylight	1 Straight and Level	4 Snow/Ice	4 Snow	Right Angle	Backing Unsafely / Pavement Slippery	V1 backed into roadway and struck SB V2
36483213	11/20/2016	US Rt. 20A/St. Rt. 15 (Big Tree Rd)	N	0 Property Damage Only	3 Dusk	5 Curve and Grade	4 Snow/Ice	4 Snow	Earth Ele. / Rock Cut / Ditch	Driver Inexperience / Pavement Slippery	NWB V1 lost control of vehicle and struck ditch
36486418	11/20/2016	US Rt. 20A/St. Rt. 15 (Big Tree Rd)	N	0 Property Damage Only	3 Dusk	5 Curve and Grade	4 Snow/Ice	4 Snow	Rear End	Pavement Slippery	NWB V1 rear ended NWB V2
36486416	11/21/2016	Bronson Hill Rd - Segment 2	N	1 Injury	5 Dark-Road Unlighted	1 Straight and Level	4 Snow/Ice	0 Other	Sideswipe (Opposite Direction)	Unsafe Speed / Pavement Slippery	NB V1 lost control of vehicle and sideswiped SB V2
36486979	11/21/2016	Bronson Hill Rd - Segment 5	N	0 Property Damage Only	1 Daylight	2 Straight and Grade	4 Snow/Ice	4 Snow	Sideswipe (Opposite Direction)	Unsafe Speed / Obstruction/Debris	SB V1 (Plow Truck) sideswiped NB V1
36488213	11/23/2016	US Rt. 20/St. Rt. 5 (East Avon Lima Rd)	D	-1 Non-Reportable	1 Daylight	1 Straight and Level	1 Dry	2 Cloudy	Other Fixed Object	Reaction to Uninvolved Vehicle	WB V1 stopped abruptly causing cargo to be unsecured and cargo struck mailbox
36488463	11/25/2016	US Rt. 20/St. Rt. 5 (East Avon Lima Rd)	D	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	2 Wet	1 Clear	Right Angle	Other Vehicular	V2 failed to yield while pulling out of driveway and struck V1
36491618	11/27/2016	Bronson Hill Rd - Segment 2	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	2 Cloudy	Deer	Animal Action	NB V1 struck deer that entered path
36523032	12/15/2016	Bronson Hill Rd - Segment 3	N	0 Property Damage Only	5 Dark-Road Unlighted	2 Straight and Grade	4 Snow/Ice	4 Snow	Light Support/Utility Pole	Unsafe Speed / Pavement Slippery	SB V1 lost control of the vehicle and struck utility pole
36525508	12/17/2016	Bronson Hill Rd - Segment 3	N	1 Injury	1 Daylight	2 Straight and Grade	4 Snow/Ice	2 Cloudy	Earth Ele. / Rock Cut / Ditch	Pavement Slippery / Driver Inexperience	NB V1 lost control of vehicle and rolled over off the roadway
36537993	12/27/2016	Bronson Hill Rd at US Rt. 20/St. Rt. 5	I	-1 Non-Reportable	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	2 Cloudy	Rear End	Following Too Closely / Driver Inattention/Distracted	NB V2 rear ended NB V1
36542760	12/28/2016	Bronson Hill Rd - Segment 3	N	1 Injury	5 Dark-Road Unlighted	3 Straight at Hillcrest	4 Snow/Ice	2 Cloudy	Earth Ele. / Rock Cut / Ditch	Pavement Slippery	NB V1 lost control of vehicle and struck ditch
36543775	12/30/2016	Bronson Hill Rd - Segment 1	N	0 Property Damage Only	5 Dark-Road Unlighted	2 Straight and Grade	4 Snow/Ice	2 Cloudy	Deer	Animal Action	NB V1 struck deer that entered path
36562391	1/12/2017	Bronson Hill Rd at US Rt. 20A/St. Rt. 15	I	1 Injury	4 Dark-Road Lighted	2 Straight and Grade	2 Wet	3 Rain	Guide Rail-End	Alcohol Involvement	SEB V1 exited the road and struck guide rail
36571556	1/19/2017	Bronson Hill Rd - Segment 1	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	1 Clear	Deer	Animal Action	SB V1 struck deer that entered path
36642708	2/8/2017	Bronson Hill Rd - Segment 3	N	0 Property Damage Only	5 Dark-Road Unlighted	2 Straight and Grade	2 Wet	3 Rain	Earth Ele. / Rock Cut / Ditch	Fell Asleep / Passing or Lane Usage Improper	SB V1 exited the road and struck a ditch
36610010	2/17/2017	Bronson Hill Rd - Segment 2	N	-1 Non-Reportable	1 Daylight	2 Straight and Grade	1 Dry	2 Cloudy	Deer	Animal Action	NB V1 struck deer that entered path
36619688	2/25/2017	Bronson Hill Rd at US Rt. 20/St. Rt. 5	I	0 Property Damage Only	4 Dark-Road Lighted	2 Straight and Grade	1 Dry	2 Cloudy	Right Angle	Driver Inattention/Distracted / Traffic Control Disregarded	EB V1 disregarded stop light and struck NB V2
36653936	3/22/2017	Bronson Hill Rd at Marshall Rd/Dutch Hollow Rd	I	0 Property Damage Only	1 Daylight	2 Straight and Grade	1 Dry	2 Cloudy	Right Angle	Failure to Yield Right-of-Way	WB V1 failed to yield and struck SB V2
36678515	4/9/2017	Bronson Hill Rd at US Rt. 20A/St. Rt. 15	I	1 Injury	1 Daylight	2 Straight and Grade	1 Dry	1 Clear	Rear End	Following Too Closely / Driver Inattention/Distracted	NWB V1 rear ended NWB V2
36687835	4/13/2017	Bronson Hill Rd - Segment 4	N	0 Property Damage Only	5 Dark-Road Unlighted	2 Straight and Grade	1 Dry	2 Cloudy	Deer	Animal Action	SB V1 struck deer that entered path
36700306	4/28/2017										

TABLE 1: Accident Data Summary

ID Number	Date	Location	Intersection/Driveway	Severity	Light	Character	Surf Cond.	Weather	Impact	Factor1	Comments
36738328	5/24/2017	Bronson Hill Rd at US Rt. 20A/St. Rt. 15	I	0 Property Damage Only	1 Daylight	2 Straight and Grade	1 Dry	1 Clear	Right Angle	Driver Inattention/Distracted	SEB V2 make left turn and struck SB V1
36755854	6/8/2017	Bronson Hill Rd at US Rt. 20A/St. Rt. 15	I	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	2 Cloudy	Rear End	Driver Inattention/Distracted / Following Too Closely	SEB V1 rear ended SEB V2
36768983	6/18/2017	Bronson Hill Rd - Segment 3	N	0 Property Damage Only	3 Dusk	1 Straight and Level	2 Wet	2 Cloudy	Earth Ele. / Rock Cut / Ditch	Alcohol Involvement / Driver Inattention/Distracted	NB V1 exited the road and struck a ditch
36776207	6/20/2017	Bronson Hill Rd - Segment 1	N	-1 Non-Reportable	2 Dawn	1 Straight and Level	1 Dry	2 Cloudy	Deer	Animal Action	NB V1 struck deer that entered path
36776244	6/21/2017	Bronson Hill Rd - Segment 3	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	1 Clear	Deer	Animal Action	SB V1 struck deer that entered path
36779874	6/23/2017	Bronson Hill Rd - Segment 3	N	-1 Non-Reportable	2 Dawn	2 Straight and Grade	1 Dry	2 Cloudy	Deer	Animal Action	NB V1 struck deer that entered path
36848361	8/13/2017	Bronson Hill Rd - Segment 5	N	0 Property Damage Only	5 Dark-Road Unlighted	2 Straight and Grade	1 Dry	2 Cloudy	Deer	Animal Action	NB V1 struck deer that entered path
36859304	8/21/2017	Bronson Hill Rd - Segment 5	N	0 Property Damage Only	5 Dark-Road Unlighted	3 Straight at Hillcrest	1 Dry	1 Clear	Deer	Animal Action	NB V1 struck deer that entered path
36864513	8/22/2017	Bronson Hill Rd at Marshall Rd/Dutch Hollow Rd	I	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	2 Cloudy	Right Angle	Failure to Yield Right-of-Way	EB V1 failed to yield and struck NB V2
36871925	8/31/2017	Bronson Hill Rd at US Rt. 20/St. Rt. 5	I	1 Injury	1 Daylight	2 Straight and Grade	2 Wet	3 Rain	Bicyclist	Failure to Yield Right-of-Way	NB bicyclist struck NB V1
36922015	10/9/2017	Bronson Hill Rd at Marshall Rd/Dutch Hollow Rd	I	1 Injury	3 Dusk	1 Straight and Level	2 Wet	1 Clear	Right Angle	Other Vehicular	EB V1 failed to yield and struck NB V2
36947336	10/14/2017	Bronson Hill Rd - Segment 5	N	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	1 Clear	Deer	Animal Action	SB V1 struck deer that entered path
36950310	10/21/2017	Bronson Hill Rd - Segment 3	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	1 Clear	Deer	Animal Action	SB V1 struck deer that entered path
36950306	10/24/2017	Bronson Hill Rd - Segment 1	N	0 Property Damage Only	3 Dusk	1 Straight and Level	1 Dry	2 Cloudy	Deer	Animal Action	SB V1 struck deer that entered path
36950314	10/25/2017	Bronson Hill Rd - Segment 5	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	1 Clear	Deer	Animal Action	SB V1 struck deer that entered path
37021147	12/8/2017	Bronson Hill Rd - Segment 2	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	2 Cloudy	Deer	Animal Action	SB V1 struck deer that entered path
37026215	12/11/2017	Bronson Hill Rd - Segment 3	N	0 Property Damage Only	1 Daylight	1 Straight and Level	4 Snow/Ice	4 Snow	Light Support/Utility Pole	Pavement Slippery	NB V1 lost control of vehicle and struck utility pole
37038711	12/17/2017	Bronson Hill Rd - Segment 5	N	-1 Non-Reportable	3 Dusk	2 Straight and Grade	2 Wet	2 Cloudy	Earth Ele. / Rock Cut / Ditch	Pavement Slippery	NB V1 lost control of vehicle and struck ditch
37086609	12/23/2017	Bronson Hill Rd at US Rt. 20A/St. Rt. 15	I	0 Property Damage Only	5 Dark-Road Unlighted	2 Straight and Grade	4 Snow/Ice	4 Snow	Rear End	Pavement Slippery	NWB V1 rear ended NWB V2
37050900	12/24/2017	Bronson Hill Rd at Marshall Rd/Dutch Hollow Rd	I	0 Property Damage Only	1 Daylight	1 Straight and Level	2 Wet	1 Clear	Right Angle	Failure to Yield Right-of-Way / Glare	EB V1 failed to yield and struck NB V2
37057607	12/27/2017	Bronson Hill Rd - Segment 2	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	1 Clear	Deer	Animal Action	SB V1 struck deer that entered path
37069538	1/4/2018	Bronson Hill Rd at US Rt. 20/St. Rt. 5	I	0 Property Damage Only	2 Dawn	1 Straight and Level	2 Wet	2 Cloudy	Rear End	Following Too Closely	NB V2 rear ended NB V1
37117870	1/26/2018	US Rt. 20A/St. Rt. 15 (Big Tree Rd)	D	1 Injury	1 Daylight	1 Straight and Level	1 Dry	2 Cloudy	Rear End	Following Too Closely	SEB V2 rear ended SEB V1
37120713	2/2/2018	Bronson Hill Rd - Segment 3	N	0 Property Damage Only	5 Dark-Road Unlighted	2 Straight and Grade	4 Snow/Ice	4 Snow	Deer	Animal Action	SB V1 struck deer that entered path
37156918	2/20/2018	Bronson Hill Rd - Segment 2	N	1 Injury	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	2 Cloudy	Other Fixed Object	Driver Inattention/Distracted	NB V1 stuck a mailbox
37163894	2/27/2018	Bronson Hill Rd - Segment 3	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	2 Cloudy	Deer	Animal Action	NB V1 struck deer that entered path
37180487	3/10/2018	Bronson Hill Rd - Segment 2	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	2 Wet	4 Snow	Deer	Animal Action	SB V1 struck deer that entered path
37197302	3/21/2018	Bronson Hill Rd at CR 19	I	0 Property Damage Only	2 Dawn	1 Straight and Level	1 Dry	2 Cloudy	Rear End	Driver Inattention/Distracted	NB V2 rear ended NB V1
37233450	4/13/2018	Bronson Hill Rd at Stone Hill Rd	I	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	1 Clear	Right Angle	Failure to Yield Right-of-Way	EB V2 failed to yield and struck NB V1
37271180	5/2/2018	Bronson Hill Rd at US Rt. 20/St. Rt. 5	I	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	1 Clear	Rear End	Following Too Closely	WB V1 rear ended WB V2
37291888	5/19/2018	Bronson Hill Rd - Segment 2	D	0 Property Damage Only	3 Dusk	1 Straight and Level	1 Dry	1 Clear	Rear End	Other Vehicular	SB V1 rear ended SB V2
37364237	7/3/2018	US Rt. 20/St. Rt. 5 (East Avon Lima Rd)	D	1 Injury	1 Daylight	1 Straight and Level	1 Dry	1 Clear	Left Turn	Turning Improperly / Glare	EB V1 failed to yield and EB V2
37385055	7/17/2018	US Rt. 20A/St. Rt. 15 (Big Tree Rd)	N	0 Property Damage Only	1 Daylight	5 Curve and Grade	1 Dry	2 Cloudy	Earth Ele. / Rock Cut / Ditch	Failure to Keep Right / Fell Asleep	SEB V1 exited the road and struck a ditch
37394705	7/18/2018	Bronson Hill Rd at US Rt. 20/St. Rt. 5	I	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	1 Clear	Right Angle	Other Vehicular	SB V2 failed to yield and struck WB V1
37424250	8/9/2018	Bronson Hill Rd at CR 19	I	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	1 Clear	Right Angle	Traffic Control Disregarded	WB V2 failed to yield and struck SB V1
37436665	8/12/2018	Bronson Hill Rd - Segment 3	N	1 Injury	3 Dusk	1 Straight and Level	1 Dry	1 Clear	Earth Ele. / Rock Cut / Ditch	Alcohol Involvement / Passing or Lane Usage Improper	SB V1 exited the road and struck a rock embankment
37459176	8/31/2018	US Rt. 20/St. Rt. 5 (East Avon Lima Rd)	D	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	1 Clear	Right Angle	Failure to Yield Right-of-Way	EB V1 failed to yield and struck WB V2
37621664	11/16/2018	East Lake Rd	N	0 Property Damage Only	4 Dark-Road Lighted	2 Straight and Grade	1 Dry	2 Cloudy	Deer	Animal Action	SB V1 struck deer that entered path
37627333	12/6/2018	Bronson Hill Rd - Segment 3	N	0 Property Damage Only	1 Daylight	2 Straight and Grade	1 Dry	1 Clear	Rear End	Driver Inattention/Distracted / Glare	SB V1 rear ended SB V2
37639822	12/10/2018	Bronson Hill Rd - Segment 2	N	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	2 Cloudy	Other	Object Debris	SB V1 passed SB V2 and a stone chipped windshield
37649458	12/20/2018	US Rt. 20A/St. Rt. 15 (Big Tree Rd)	N	0 Property Damage Only	3 Dusk	2 Straight and Grade	1 Dry	1 Clear	Earth Ele. / Rock Cut / Ditch	Tire Failure/Inadequate	NWB V1 lost control of vehicle and struck ditch
37651981	12/21/2018	Bronson Hill Rd at US Rt. 20A/St. Rt. 15	I	0 Property Damage Only	2 Dawn	5 Curve and Grade	2 Wet	2 Cloudy	Rear End	Following Too Closely	NWB V1 rear ended NWB V2
37653546	12/23/2018	Bronson Hill Rd - Segment 2	N	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	2 Cloudy	Deer	Animal Action	SB V1 struck deer that entered path
37656407	12/25/2018	US Rt. 20A/St. Rt. 15 (Big Tree Rd)	N	0 Property Damage Only	4 Dark-Road Lighted	2 Straight and Grade	2 Wet	1 Clear	Earth Ele. / Rock Cut / Ditch	Pavement Slippery / Steering Failure	NWB V1 lost control of vehicle and struck ditch
37682246	1/9/2019	Bronson Hill Rd - Segment 3	N	0 Property Damage Only	5 Dark-Road Unlighted	2 Straight and Grade	4 Snow/Ice	4 Snow	Deer	Animal Action	SB V1 struck deer that entered path
37699320	1/19/2019	Bronson Hill Rd - Segment 5	N	0 Property Damage Only	5 Dark-Road Unlighted	2 Straight and Grade	4 Snow/Ice	4 Snow	Tree	Unsafe Speed / Tire Failure/Inadequate	SB V1 lost control of vehicle and struck tree
37740177	2/12/2019	Bronson Hill Rd - Segment 3	N	0 Property Damage Only	1 Daylight	2 Straight and Grade	5 Slush	5 Sleet/Hail/Freezing Rain	Earth Ele. / Rock Cut / Ditch	Pavement Slippery	SB V1 lost control of vehicle and struck ditch
37745076	2/14/2019	Bronson Hill Rd at US Rt. 20A/St. Rt. 15	I	1 Injury	1 Daylight	2 Straight and Grade	2 Wet	2 Cloudy	Rear End	Following Too Closely / Driver Inattention/Distracted	SEB V1 rear ended SEB V2
37753304	2/21/2019	Bronson Hill Rd at Stone Hill Rd	I	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	2 Cloudy	Rear End	Following Too Closely	EB V1 rear ended EB V2
37768854	3/2/2019	Bronson Hill Rd - Segment 3	N	0 Property Damage Only	1 Daylight	1 Straight and Level	2 Wet	4 Snow	Earth Ele. / Rock Cut / Ditch	Other Vehicular	NB V1 lost control of vehicle and struck ditch
37779557	3/5/2019	Bronson Hill Rd at US Rt. 20/St. Rt. 5	I	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	1 Clear	Right Angle	Failure to Yield Right-of-Way	EB V1 failed to yield and struck NB V2
37811952	3/27/2019	Bronson Hill Rd at Stone Hill Rd	I	-1 Non-Reportable	1 Daylight	1 Straight and Level	1 Dry	1 Clear	Overtaking	Turning Improperly	SB V2 attempted to pass, but struck SB V1
37819018	4/1/2019	Bronson Hill Rd at US Rt. 20A/St. Rt. 15	I	0 Property Damage Only	1 Daylight	2 Straight and Grade	1 Dry	5 Sleet/Hail/Freezing Rain	Right Turn (With Other Car)	Failure to Yield Right-of-Way / Driver Inattention/Distracted	SB V1 failed to yield and struck NWB V1
37886542	5/15/2019	Bronson Hill Rd - Segment 5	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	2 Wet	2 Cloudy	Deer	Animal Action	SB V1 struck deer that entered path
37915808	6/6/2019	Bronson Hill Rd - Segment 3	N	0 Property Damage Only	5 Dark-Road Unlighted	1 Straight and Level	1 Dry	1 Clear	Deer	Animal Action	SB V1 struck deer that entered path
37957861	6/28/2019	Bronson Hill Rd - Segment 2	N	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	2 Cloudy	Overtaking	Aggressive Driving/Road Rage	NB V1 attempted to pass NB V2, but struck V2
37971397	7/9/2019	US Rt. 20/St. Rt. 5 (East Avon Lima Rd)	D	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	1 Clear	Right Angle	Failure to Yield Right-of-Way	SB V1 failed to yield and struck WB V2
37971389	7/10/2019	Bronson Hill Rd - Segment 3	N	0 Property Damage Only	1 Daylight	1 Straight and Level	1 Dry	1 Clear	Deer	Animal Action	NB V1 struck deer that entered path
38038415	7/13/2019	Bronson Hill Rd at US Rt. 20A/St. Rt. 15	I	0 Property Damage Only	1 Daylight	3 Straight at Hillcrest	1 Dry	2 Cloudy	Rear End	Other Vehicular	SEB V2 rear ended SEB V1
37983618	7/18/2019	Bronson Hill Rd - Segment 3	N	1 Injury	1 Daylight	1 Straight and Level	1 Dry	2 Cloudy	Light Support/Utility Pole	Unsafe Speed / Driver Inattention/Distracted	NB V1 lost control of vehicle and struck utility pole
37984994	7/19/2019	Bronson Hill Rd at US Rt. 20A/St. Rt. 15	I	0 Property Damage Only	1 Daylight	1 Straight and Level	2 Wet	3 Rain	Rear End	Following Too Closely / Driver Inattention/Distracted	SEB V1 rear ended SEB V2



BY PSC	DATE 3/24/20	PROJ. NO. 4LV0.02	SHEET NO. 1 of 5
CKD TRD	DATE 5/22/20	PROJ. CR 62 Bronson Hill Road	

Road Segment: Bronson Hill Rd (CR 62) - From U.S. 20A/NY 15 to Stone Hill Rd

Segment Length: 0.50 miles

	<u>Start</u>	<u>End</u>	1825 days
Study Period:	8/1/2014	7/31/2019	5.00 years

Total Number of Crashes: 5 (including Animal & Deer crashes)

Crashes Per Year: 1.00

AADT (2016): 3,421

$$\text{Segment Crash Rate} = \frac{1,000,000 \times \text{No. of Crashes Per Year}}{365 \times \text{AADT} \times \text{Segment Length}}$$

$$= 1.60 \text{ crashes per million vehicle miles}$$

Total Number of Crashes: 0 (not including Animal & Deer crashes)

Crashes Per Year: 0.00

$$\text{Segment Crash Rate} = \frac{1,000,000 \times \text{No. of Crashes Per Year}}{365 \times \text{AADT} \times \text{Segment Length}}$$

$$= 0.00 \text{ crashes per million vehicle miles}$$

Functional Class: Rural - Free Access Controlled - Undivided - 2 Lanes - Mainline Only

NYSDOT Average Crash

Rate (2016-2017): 2.12 crashes per million vehicle miles



BY PSC	DATE 3/24/20	PROJ. NO. 4LV0.02	SHEET NO. 2 of 5
CKD TRD	DATE 5/22/20	PROJ. CR 62 Bronson Hill Road	

Road Segment: Bronson Hill Rd (CR 62) - From Stone Hill Rd to South Lima Rd (CR 19)

Segment Length: 1.30 miles

	<u>Start</u>	<u>End</u>	1825 days
Study Period:	8/1/2014	7/31/2019	5.00 years

Total Number of Crashes: 25 (including Animal & Deer crashes)

Crashes Per Year: 5.00

AADT (2016): 3,421

$$\text{Segment Crash Rate} = \frac{1,000,000 \times \text{No. of Crashes Per Year}}{365 \times \text{AADT} \times \text{Segment Length}}$$

$$= 3.08 \text{ crashes per million vehicle miles}$$

Total Number of Crashes: 9 (not including Animal & Deer crashes)

Crashes Per Year: 1.80

$$\text{Segment Crash Rate} = \frac{1,000,000 \times \text{No. of Crashes Per Year}}{365 \times \text{AADT} \times \text{Segment Length}}$$

$$= 1.11 \text{ crashes per million vehicle miles}$$

Functional Class: Rural - Free Access Controlled - Undivided - 2 Lanes - Mainline Only

NYS DOT Average Crash

Rate (2016-2017): 2.12 crashes per million vehicle miles



BY PSC	DATE 3/24/20	PROJ. NO. 4LV0.02	SHEET NO. 3 of 5
CKD TRD	DATE 5/22/20	PROJ. CR 62 Bronson Hill Road	

Road Segment: Bronson Hill Rd (CR 62) - From South Lima Rd (CR 19) to Marshall Rd/Dutch Hollow Rd

Segment Length: 1.80 miles

	<u>Start</u>	<u>End</u>	1825 days
Study Period:	8/1/2014	7/31/2019	5.00 years

Total Number of Crashes: 28 (including Animal & Deer crashes)

Crashes Per Year: 5.60

AADT (2016): 3,254

$$\text{Segment Crash Rate} = \frac{1,000,000 \times \text{No. of Crashes Per Year}}{365 \times \text{AADT} \times \text{Segment Length}}$$

$$= 2.62 \text{ crashes per million vehicle miles}$$

Total Number of Crashes: 14 (not including Animal & Deer crashes)

Crashes Per Year: 2.80

$$\text{Segment Crash Rate} = \frac{1,000,000 \times \text{No. of Crashes Per Year}}{365 \times \text{AADT} \times \text{Segment Length}}$$

$$= 1.31 \text{ crashes per million vehicle miles}$$

Functional Class: Rural - Free Access Controlled - Undivided - 2 Lanes - Mainline Only

NYS DOT Average Crash

Rate (2016-2017): 2.12 crashes per million vehicle miles

NOTE: Three crashes were not included because of alcohol and/or illegal drug involvement



BY PSC	DATE 3/24/20	PROJ. NO. 4LV0.02	SHEET NO. 4 of 5
CKD TRD	DATE 5/22/20	PROJ. CR 62 Bronson Hill Road	

Road Segment: Bronson Hill Rd (CR 62) - From Marshall Rd/Dutch Hollow Rd to Sutton Rd

Segment Length: 0.30 miles

	<u>Start</u>	<u>End</u>	1825 days
Study Period:	8/1/2014	7/31/2019	5.00 years

Total Number of Crashes: 5 (including Animal & Deer crashes)

Crashes Per Year: 1.00

AADT (2016): 3,254

$$\text{Segment Crash Rate} = \frac{1,000,000 \times \text{No. of Crashes Per Year}}{365 \times \text{AADT} \times \text{Segment Length}}$$

$$= 2.81 \text{ crashes per million vehicle miles}$$

Total Number of Crashes: 2 (not including Animal & Deer crashes)

Crashes Per Year: 0.40

$$\text{Segment Crash Rate} = \frac{1,000,000 \times \text{No. of Crashes Per Year}}{365 \times \text{AADT} \times \text{Segment Length}}$$

$$= 1.12 \text{ crashes per million vehicle miles}$$

Functional Class: Rural - Free Access Controlled - Undivided - 2 Lanes - Mainline Only

NYSDOT Average Crash

Rate (2016-2017): 2.12 crashes per million vehicle miles



BY PSC	DATE 3/24/20	PROJ. NO. 4LV0.02	SHEET NO. 5 of 5
CKD TRD	DATE 5/22/20	PROJ. CR 62 Bronson Hill Road	

Road Segment: Bronson Hill Rd (CR 62) - From Sutton Rd to U.S. 20/NY 5

Segment Length: 1.30 miles

	<u>Start</u>	<u>End</u>	1825 days
Study Period:	8/1/2014	7/31/2019	5.00 years

Total Number of Crashes: 18 (including Animal & Deer crashes)

Crashes Per Year: 3.60

AADT (2016): 3,254

$$\text{Segment Crash Rate} = \frac{1,000,000 \times \text{No. of Crashes Per Year}}{365 \times \text{AADT} \times \text{Segment Length}}$$

$$= 2.33 \text{ crashes per million vehicle miles}$$

Total Number of Crashes: 4 (not including Animal & Deer crashes)

Crashes Per Year: 0.80

$$\text{Segment Crash Rate} = \frac{1,000,000 \times \text{No. of Crashes Per Year}}{365 \times \text{AADT} \times \text{Segment Length}}$$

$$= 0.52 \text{ crashes per million vehicle miles}$$

Functional Class: Rural - Free Access Controlled - Undivided - 2 Lanes - Mainline Only

NYSDOT Average Crash

Rate (2016-2017): 2.12 crashes per million vehicle miles

PIN 4LV0.02
CR 62 (Bronson Hill Rd) Rehabilitation
Livingston County Highway Department
Prepared by: Bergmann
June 2020

EXHIBIT 2.3.4-3
Resurfacing ADA and Safety Assessment Form
CR 62 (Bronson Hill Road)
US Route 20A/NYS Route 15 to US Route 20/NYS Route 5

South of Stone Hill Road - ADT: 3690 (2031), Posted Speed Limit: 35 mph
 North of Stone Hill Road – ADT: 3510 (2031), Posted Speed Limit: 55 mph

Element	Comments
Signing	<p>The existing signs along Bronson Hill Road generally comply with National MUTCD and NYS Supplement guidance and are in good condition except as noted below:</p> <ul style="list-style-type: none"> • Street name signs have legends written in all capital letters. • A confirmatory CR 62 (M1-6) guide sign with the “Bronson Hill Road” supplementary panel is missing southbound, just south of South Lima Road. “Bronson Hill Road” supplementary panels are also missing from other CR 62 signs along the roadway. • There is an existing motorized vehicle (truck) (W11-10) sign supplemented with a 35 mile per hour advisory speed panel (W13-1P) below and a custom “Caution” panel above on the northbound approach to the Purdue Agribusiness driveway. The Caution panel has fluorescent yellow green sheeting and does not match the sheeting of the remaining sign panels in the assembly. • Speed limit (R2-1/NYR2-2) signs are missing southbound after US Route 20/NYS Route 5 and northbound after Sutton Road. <p>Warning sign advance posting distances were found to be generally compliant with the NYS Supplement to the National MUTCD for the posted speed limit.</p> <p>Missing signs would be installed. The non-conforming “caution” panel would be removed and two 12-inch x 12-inch sign markers (NYW7-15) would be installed in its place. Existing street name signs would be removed and replaced with mixed case legends. This work would be done separately by Livingston County forces.</p>

EXHIBIT 7-1 Resurfacing ADA and Safety Assessment Form
CR 62 (Bronson Hill Road)
US Route 20A/NYS Route 15 to US Route 20/NYS Route 5

Element	Comments
Pavement Markings	<p>Bronson Hill Road has 4-inch yellow centerline striping and 4-inch white edge lines in conformance with the National MUTCD and New York State Supplement. Both passing and no passing zones are marked. Field inspection revealed the centerline markings in fair condition. The edge line markings were also observed in fair condition.</p> <p>Existing pavement markings were reviewed for compliance with Livingston County’s pavement marking log. Several discrepancies regarding the length and type of passing zones were noted. The adequacy of marked passing zones were evaluated per the NYSDOT HDM and AASHTO’s A Policy on Geometric Design of Highways and Streets, 7th Edition, 2018, the National MUTCD, and the New York State Supplement. Four locations were identified where passing should be restricted due to a lack of sight distance at a crest vertical curve.</p> <p>Existing lane widths vary from 10 feet to just under 12 feet and shoulder widths vary from 2.5 feet to 5 feet.</p> <p>Generally, stop lines do not exist on the Town roads intersecting Bronson Hill Road. Stop lines are installed at the intersection of Bronson Hill Road (CR 62) and South Lima Road (CR 19) on all four approaches (all way stop).</p> <p>New pavement markings would be installed subsequent to resurfacing. Proposed passing and no passing zones would be modified were necessary to conform to applicable standards (to be determined during detailed design). Travel lane widths would be standardized at 11 feet and shoulder widths would be standardized at 4 feet, minimum.</p>
Delineation	<p>There is no existing delineation. The existing runs of W-beam guiderail at the location of the former railroad bridge lack snowplow markers. The custom box beam bridge rail end terminal and concrete barrier sections at the existing box culvert also lack snowplow markers. Full roadway delineation is not necessary to comply with the National MUTCD and New York State Supplement requirements; however, snowplow markers would be installed along any new and/or replacement runs of guiderail.</p>
ADA	<p>There are no curb ramps or sidewalks within the project limits. No new pedestrian facilities are proposed. Existing shoulders would be restriped with a minimum width of 4 feet to accommodate the occasional pedestrian.</p>

EXHIBIT 7-1 Resurfacing ADA and Safety Assessment Form
CR 62 (Bronson Hill Road)
US Route 20A/NYS Route 15 to US Route 20/NYS Route 5

Element	Comments
Rumble Strips	<p>There are no existing rumble strips within the project Limits. While it would be eligible for CARDS per NYSDOT Guidelines, Bronson Hill Road is a Livingston County Roadway and CARDS are not required off the state highway system. Bronson Hill Road does not meet the requirements for the installation of SHARDS.</p>
Sight Distance	<p>Horizontal stopping sight distance (HSSD) was reviewed in accordance with NYSDOT HDM Section 7.5.2.2.F. Horizontal stopping sight distances were measured graphically using Microstation (CADD) and project mapping. Photographic evidence obtained during a field visit was also reviewed. All curves along Bronson Hill Road afford more horizontal stopping sight distance than required by the design speed or posted advisory speed.</p> <p>Vertical stopping sight distance (VSSD) was also reviewed for each crest vertical curve in accordance with NYSDOT HDM Section 7.5.2.2.F. VSSD was calculated using Microstation (CADD) and the project mapping. Photographic evidence obtained during a field visit was also reviewed. All crest vertical curves along Bronson Hill Road afford a vertical stopping sight distance more than that required for the design speeds of 40 mph and 60 mph. Sag vertical curves were not reviewed as there are no underpasses, overhead trees are typically clear of the space above the roadway and were not observed to substantially block sight lines. There are no documented operational or safety problems directly related to sag curvature.</p> <p>There were no crashes directly attributable to intersection sight distance at any driveways, private drives, or crossroads on Bronson Hill Road except as noted below:</p> <ul style="list-style-type: none"> • There is a line of mature trees along the west side of Bronson Hill Road just south of Marshall Road that interferes with an eastbound driver's view of northbound vehicles from the position of the stop sign. Sight distance improves as one pulls forward on this approach toward Bronson Hill Road. Two documented crashes occurred involving eastbound and northbound motorists. Placement of a stop line on Marshall Road at the point of optimum sight distance and a short extension of the yellow full barrier line would provide motorists with additional information regarding the optimum stopping location, thus enhancing safety. • There is a line of utility poles and existing vegetation along the west side of Bronson Hill Road at the intersection with Stone Hill Road, just north of the intersection, that interferes with an eastbound driver's view of southbound vehicles from the position of the stop sign. Sight distance improves as one pulls forward on this approach toward Bronson Hill Road. There are no documented crashes associated with this sight restriction. Placement of a stop line on Stone Hill Road at the point of

EXHIBIT 7-1 Resurfacing ADA and Safety Assessment Form
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US Route 20A/NYS Route 15 to US Route 20/NYS Route 5

Element	Comments
	<p>optimum sight distance and a short extension of the yellow full barrier line would provide motorists with additional information regarding the optimum stopping location, thus enhancing safety.</p> <ul style="list-style-type: none"> • There is a line of utility poles and cut embankment along the west side of Bronson Hill Road at the intersection with Sutton Road, just north of the intersection, that interferes with an eastbound driver's view of southbound vehicles from the position of the stop sign. Sight distance improves as one pulls forward on this approach toward Bronson Hill Road. There are no documented crashes associated with this sight restriction. Placement of a stop line on Sutton Road at the point of optimum sight distance and a short extension of the yellow full barrier line would provide motorists with additional information regarding the optimum stopping location, thus enhancing safety.
Fixed Objects	<p>In general, the roadside clear area is defined by the adjacent tree line, lines of utility poles, and roadside ditches. Refer to the Section on Clear Zones for additional information.</p> <p>A steep ditch backslope (1:1.5) (embankment) along the east side of Bronson Hill Road across from the Sutton Road intersection lies approximately 5 feet from the edge of the travel lane. There were 2 crashes during the study period that resulted in vehicles striking this feature. Vehicle remnants were visible during a field inspection. This feature is a function of the cut slope necessary to tie together Bronson Hill Road and Sutton Road and the elevation of the adjacent agricultural field. Remediation (flattening) of the slope would require additional property rights and is beyond the scope of the project.</p> <p>There are four sections of concrete barrier (including tapered end sections) along the west side of Bronson Hill Road approximately 2,800 feet north of Sutton Road at the existing box culvert (C6203150). There are three sections of concrete barrier (including one tapered end section) along the east side. The barriers are located approximately 8 feet from the edge of the traveled way. Each barrier provides protection for vehicles for a drop off on either side of the box culvert within the effective clear zone. Refer to the section on Bridge Transition Rail for additional discussion regarding the barrier end terminals.</p>

EXHIBIT 7-1 Resurfacing ADA and Safety Assessment Form
CR 62 (Bronson Hill Road)
US Route 20A/NYS Route 15 to US Route 20/NYS Route 5

Element	Comments
Guide Rail	<p>There are two runs of W-Beam (G2) guide rail within the project limits: one each along either side of Bronson Hill Road at the location of a former railroad bridge and adjacent to the Purdue Agribusiness plant (approximate Station B 72+50). No segments appeared to be non-functioning or severely deteriorated based on field observation; however, both rails have a measured rail height of less than 29-inches. The G2 W-Beam system is no longer approved for use in New York State and would be replaced with a new rail system meeting current standards. Livingston County has indicated a preference for replacement using box beam guide rail.</p>
Bridge Transition Rail	<p>There are three concrete barrier end sections within the clear zone at the existing box culvert (C6203150). They do not adequately cover the point of need for shielding vehicles from the creek which is considered a nonbypassable water hazard. The posted speed limit is 55 miles per hour and the 85th percentile speeds in this area approach 70 miles per hour. The southeast quadrant has a custom bridge rail transition that also permits access to a private driveway immediately south of the culvert.</p> <p>The project would replace the existing concrete barrier end sections with concrete barrier to box beam transitions and install box beam end terminals in the northeast, northwest, and southwest quadrants of the culvert.</p>
Railroad Crossing	<p>There are no railroad crossings within the project limits. A former railroad bridge was situated along a crest vertical curve on Bronson Hill Road where it crossed a former railroad. The grade separation, bridge, and rail crossing were removed by a previous project. A crest vertical curve remained. The crest vertical curve affords a vertical stopping sight distance more than that required by NYSDOT HDM Section 7.5.2.2.F. at a design speed of 60 mph.</p>
Shoulder Resurfacing	<p>Existing shoulders would be resurfaced in conjunction with resurfacing of the travel lanes.</p>
Edge Drop Offs	<p>There are no edge drop-offs between the traveled way and shoulders. Shoulder edge drop-off conditions in excess of 2 inches were identified only at a few locations throughout the project limits, but shoulders were generally flush with the adjacent roadside. Existing shoulder edge drop-offs would be corrected with the construction of an asphalt safety wedge and the installation of shoulder backup material.</p>

EXHIBIT 7-1 Resurfacing ADA and Safety Assessment Form
CR 62 (Bronson Hill Road)
US Route 20A/NYS Route 15 to US Route 20/NYS Route 5

Element	Comments
Superelevation	<p>The majority of Bronson Hill Road is straight with a normal crown cross section. Cross slopes were surveyed in some locations and spot checked across the corridor using a smart level. The existing travel lane cross slopes were found to vary between 1.5% and 6.5% percent. Shoulder cross slopes vary between 1.5% to 11%.</p> <p>There are four horizontal curves within the project limits:</p> <p>Curve No. 1: Radius = 1350 feet. Located at the transition between the 55 mile per hour speed zone and the 35 mile per hour speed zone. Also includes the intersection with Stone Hill Road. There are curve warning signs and with an advisory speed of 35 miles per hour. Survey mapping indicates there is no superelevation through this curve. The design superelevation rate, assuming an 85th percentile speed of 40 miles per hour in conjunction with the speed limit change and posted advisory speed, would be 5%. This would result in an increase in elevation along the east (high) side of the road of about 1 foot. There is no adverse crash history associated with this curve. Given the potential for substantial impacts to Stone Hill Road, surrounding ditches, utilities, and right-of-way, and in the absence of a related crash history, this feature would be retained and documented with a non-standard feature justification.</p> <p>Curve No. 2: Radius = 2500 feet. This curve is in the 55 mile per hour speed zone. It has curve ahead signs with no posted advisory speed. This area was not surveyed during preliminary design. Lidar mapping suggests there may be adequate superelevation (5.5%) for a design speed of 60 mph . There is no adverse crash history associated with this curve. This area would be covered by supplemental survey during detailed design and the need for changes or a non-standard feature justification revisited at that time.</p> <p>Curve No. 3: Radius = 7500 feet. This curve is in the 55 mile per hour speed zone. It does not have curve ahead signs. Survey mapping indicates the southbound direction appears to have adequate superelevation (2.5%) for a design speed of 60 mph; however, the northbound direction does not. While there is no adverse crash history associated with this curve, it appears as though the northbound direction can be improved to meet standards without impacting the adjacent utility poles or private properties. Corrections would be made in conjunction with milling and resurfacing of the pavement surface.</p> <p>Curve No.4: Radius = 5000 feet. This curve is within the 55 mile per hour speed zone. It does not have curve ahead signs. Survey mapping indicates neither the northbound nor southbound lanes appear to have adequate superelevation (existing 2.5% to 2.75% vs. 3.5%) for a design speed of 60 mph. There is no adverse crash history associated with this curve. It appears as though the</p>

EXHIBIT 7-1 Resurfacing ADA and Safety Assessment Form
CR 62 (Bronson Hill Road)
US Route 20A/NYS Route 15 to US Route 20/NYS Route 5

Element	Comments
	<p>northbound travel lane can be improved; however, improving the southbound travel lane to meet standards would affect the Sutton Road intersection. Corrections would be made in conjunction with milling and resurfacing of the pavement surface to the extent feasible within the available right-of-way, without substantial impact to roadsides and utility poles, in both directions.</p> <p>Travel lane cross slopes would be improved to a uniform 3% (maximum) in conjunction with the milling and resurfacing. Shoulder cross slopes would be improved to a uniform 6% (maximum) in conjunction with the milling and resurfacing. Horizontal curve superelevation would be improved to the greatest extent feasible and practical within the existing roadway footprint considerate of right-of-way, roadside ditches, utility poles, buildings, and intersections, etc. as described above.</p>
Utilities	<p>Utility features within the Bronson Hill Road pavement (valves, manholes, etc.) include water valves from US Route 20A/NYS Route 15 to Stone Hill Road. Poles and guy wires are a minimum of 96-inches from the white edge line and generally are within or behind the line of existing fixed objects along the roadside. The project is not anticipated to affect any existing overhead utility lines. Water Valve elevations would be adjusted to meet the final paving surface.</p>
Speed Change Lanes	<p>There are no speed change lanes located within the project limits. None are proposed.</p>
Clear Zone(s)	<p>The existing clear zone physically matches the roadside clear area. It is defined by embankments, mature trees, utility poles, adjacent structures, wetlands, and private property. Refer to the Crash Analysis for additional information on the crash experience. The relative severity of all crashes during the study period was low (0% fatalities, 18% injury, 82% property damage only or non-reportable). Mainline (non-intersection) collisions with a fixed object, indicative of roadway departure, accounted for just 16% of the total.</p> <p>Providing a wider clear zone would enhance safety along the project corridor, but would involve substantial cost, roadside grading, and right-of-way acquisition beyond the scope of this rehabilitation project.</p>

EXHIBIT 7-1 Resurfacing ADA and Safety Assessment Form
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Element	Comments
Traffic Signals	<p>There are two traffic signals: one at either end of the project area. Both are owned and maintained by the NYSDOT. The NYSDOT has indicated there are no plans that would affect these existing signals throughout the duration of the current Capital Improvement Plan (2024). Existing inductance (presence) loops would be disturbed by the milling and resurfacing operations on Bronson Hill Road. These loops would be replaced to meet current NYSDOT Region 4 preferences. No other traffic signal work would be included in the proposed project.</p>
Shoulder Widening	<p>Existing shoulder widths vary from 2.5 feet to 5 feet. Shoulder widths would be standardized at 4 feet, minimum to benefit crash avoidance, bicyclists, and pedestrians.</p>
Lane Widening	<p>Existing lane widths vary from 10 feet to just under 12 feet. Travel lane widths would be standardized at 11 feet. No new travel or auxiliary lanes are proposed.</p>
Design Vehicle	<p>Bronson Hill Road is not an Access or Qualifying Highway on the NYSDOT Official Description of Designated Qualifying and Access Highways Manual. The following design vehicles can complete identified turns, staying within their lane and the pavement, at the project area intersections:</p> <p><u>US Route 20A/NYS Route 15:</u> SB Right = SU NB Right = P EB Left = SU EB Right = WB-62 WB Left = SU (WB-62 can complete turn but crosses stop line) WB Right = WB-62 All other movements = WB-67</p> <p>A concept was developed for possible future implementation that would accommodate a WB-62 design vehicle for the southbound right and eastbound left turn movements. Refer to Appendix A of the PSR/FDR.</p> <p><u>US Route 20/NYS Route 5:</u> NB Right = WB-50 NB Left = WB-40 (WB 67 can make left turn but crosses stop line) EB Right = WB-40 WB Left = WB-40 (WB 67 can make left turn but crosses stop line)</p> <p>The project would include paving and drainage enhancements in the southeast and southwest corners of the intersection that would also accommodate a day cab connected to a 48-foot trailer (WB-50 / WB-62 combination), which is typical of larger vehicles currently accessing the Purdue Agribusiness plant.</p>

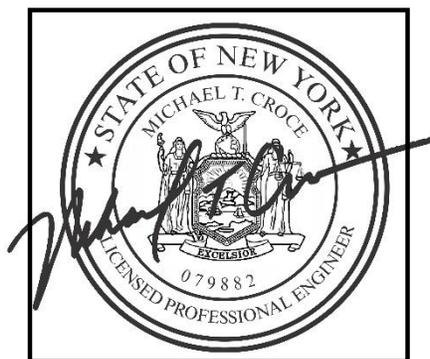
EXHIBIT 7-1 Resurfacing ADA and Safety Assessment Form
CR 62 (Bronson Hill Road)
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Element	Comments
	<p>No changes design vehicle changes are proposed at the following intersections:</p> <ul style="list-style-type: none"> • The Stone Hill Road and South Lima Road intersections generally accommodate a WB-40. • The eastbound right turn and northbound left turns at the Marshall Road and Dutch Hollow Road intersection accommodate an SU. All other moves accommodate a WB-40 or larger. • The Sutton Road intersection accommodates a WB-50 minimum with the exception of the northbound left which accommodates a WB-40.
Driveways	<p>There are four commercial driveways along with numerous residential and agricultural driveways along Bronson Hill Road. All meet the spirit and intent of the most recent <u>NYSDOT Policy and Standards for the Design of Entrances to State Highways</u>.</p>
Turn Lanes	<p>There are no turn lanes within the project area. None are proposed.</p>
Curbing	<p>There are no curbs within the project area. None are proposed.</p>
Drainage	<p>The existing drainage system along Bronson Hill Road consists primarily of open ditches with cross culverts and driveway culverts.</p> <p>There are three drainage inlets with rectangular frames and grates at the following locations. All appear in good condition based on field observation. Drainage inlet frames and grates would also be adjusted to meet the final paving surface.</p> <ul style="list-style-type: none"> • Southeast corner of the intersection of Bronson Hill Road and U.S. Route 20/NY State Route 5 (In pavement) • Southwest corner of the intersection of Bronson Hill Road and U.S. Route 20/NY State Route 5 (In pavement) • Northwest corner of the intersection of Bronson Hill Road and CR 19 (South Lima Road) <p>Drainage pipes include concrete box culverts (5' rise X 16' span and 39" rise X 24" span) and a variety of metal and plastic driveway and cross culverts ranging in size from 12 to 42 inches. Most lack end section treatments and several stone/timber/rock headwalls exist. Several driveway culverts are silted in or buried.</p> <p>In general, by observation, existing roadside ditches provide sufficient capacity to handle storm runoffs; however, flow is occasionally limited by insufficient positive slopes to existing ditch lines or debris.</p>

EXHIBIT 7-1 Resurfacing ADA and Safety Assessment Form
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Element	Comments
	<p>Existing cross culverts would be replaced in kind with reinforced concrete pipe, heavy wall steel pipe, or precast concrete box culverts. One existing concrete box culvert would remain and a 24-inch culvert deep within the former railroad bridge embankment would be slip lined or abandoned in place pending further investigation during detailed design. Refer to Appendix E of the PSR-FDR for more information. Generally, precast concrete box culverts would extend beyond the existing clear area to limit the need for guide rail. Roadsides would be 1:3 or flatter, or 1:2 with guide rail.</p> <p>Existing corrugated metal driveway culverts would be replaced in kind with smooth interior corrugated polyethylene pipe. Additional driveway culverts would be replaced to improve roadside ditch capacity / positive ditch flow, particularly along the east side of Bronson Hill Road from US Route 20A/NYS Route 15 to Stone Hill Road and the west side of Bronson Hill Road immediately north of Stone Hill Road. End sections would be installed to enhance roadside safety.</p> <p>Existing roadside ditches will be cleaned, graded, and shaped to improve roadside ditch positive flow where necessary.</p>
Pedestrian & Bicycle	<p>Bicyclists may share the roadway with motor vehicles. The occasional pedestrian may walk along the shoulder/roadside. There are no sidewalks or curb ramps within the project limits, and none are proposed. An improved riding surface would improve conditions for bicyclists. The shoulder width would be standardized at 4 feet (minimum) which would enhance accommodation for both the occasional pedestrian and bicyclists.</p>

June 19, 2020

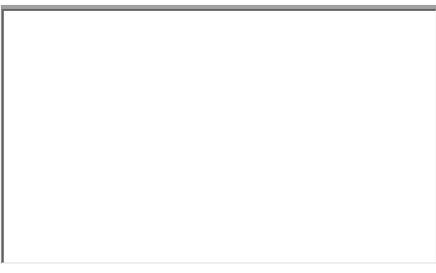
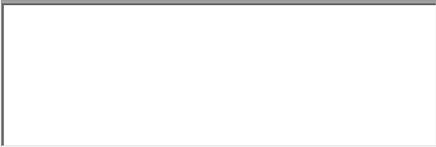
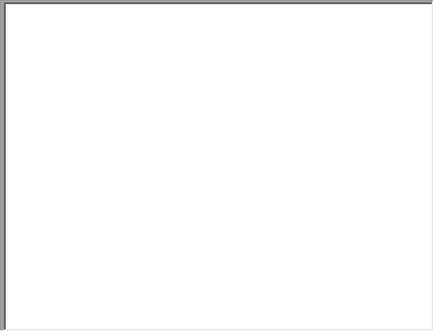
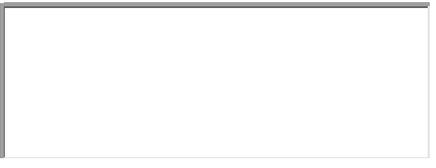
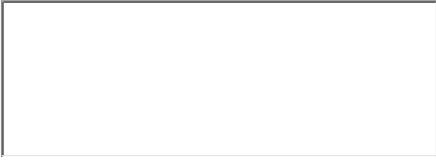
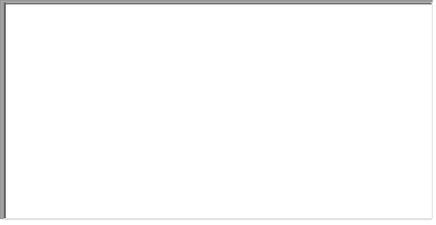


Note: It is a violation of law for any person, unless they are acting under the direction of a licensed professional engineer, architect, landscape architect, or land surveyor, to alter an item in any way. If an item bearing the stamp of a licensed professional is altered, the altering engineer, architect, landscape architect, or land surveyor shall stamp the document and include the notation "altered by" followed by their signature, the date of such alteration, and a specific description of the alteration.

Chapter 18, Appendix A - CAPITAL PROJECTS COMPLETE STREETS CHECKLIST (18A-4)

PIN:	<input type="text" value="4LV0.02"/>	Project Location:	<input type="text" value="Livingston County, Towns of Livonia and Avon"/>
Context:	<input type="radio"/> Urban / Village <input type="radio"/> Suburban <input checked="" type="radio"/> Rural		
Project Title:	<input type="text" value="CR 62 (Bronson Hill Road) Rehabilitation"/>		
STEP 1- APPLICABILITY OF CHECKLIST			
1.1	Is the project located entirely on a facility where bicyclists and pedestrians are prohibited by law and the project does not involve a shared use path or pedestrian/bicycle structure? <i>If no, continue to question 1.2. If yes, <u>stop here</u>.</i>		<input type="radio"/> Yes <input checked="" type="radio"/> No
1.2	a. Is this project a 1R* Maintenance project? <i>If no, continue to question 1.3. If yes, go to part b of this question.</i>		<input type="radio"/> Yes <input checked="" type="radio"/> No
1.2	b. Are there opportunities on the 1R project to improve safety for bicyclists and pedestrians with the following Complete Street features? <ul style="list-style-type: none"> • Sidewalk curb ramps and crosswalks • Shoulder condition and width • Pavement markings • Signing <i>Document opportunities or deficiencies in the IPP and <u>stop here</u>.</i>		<input type="radio"/> Yes <input type="radio"/> No
<small>* Refer to Highway Design Manual (HDM) Chapter 7, Exhibit 7-1 "Resurfacing ADA and Safety Assessment Form" under ADA, Pavement Markings and Shoulder Resurfacing for guidance.</small>			
1.3	Is this project a Cyclical Pavement Marking project? <i>If no, continue to question 1.4. If yes, review EI 13-021* and identify opportunities to improve safety for bicyclists and pedestrians with the following Complete Streets features:</i> <ul style="list-style-type: none"> • Travel lane width • Shoulder width • Markings for pedestrians and bicyclists <i>Document opportunities or deficiencies in the IPP and <u>stop here</u>.</i>		<input type="radio"/> Yes <input checked="" type="radio"/> No
<small>* EI 13-021, "Requirements and Guidance for Pavement Marking Operations - Required Installation of CARDS and Travel Lane and Shoulder Width Adjustments".</small>			
1.4	Is this a Maintenance project (as described in the "Definitions" section of this checklist) and different from 1.2 and 1.3 projects? <i>If no, continue to Step 2. If yes, the Project Development Team should continue to look for opportunities during the Design Approval process to improve existing bicycle and pedestrian facilities within the scope of project. Identify the project type in the space below and <u>stop here</u>.</i>		<input type="radio"/> Yes <input checked="" type="radio"/> No
<input style="width: 100%; height: 80px;" type="text"/>			
STEP 1 prepared by:		<input type="text" value="Michael T. Crocel, PE - BERGMANN"/>	Date: <input type="text" value="5/26/2020"/>
STEP 2 - IPP LEVEL QUESTIONS (At Initiation)			Comment / Action

Chapter 18, Appendix A - CAPITAL PROJECTS COMPLETE STREETS CHECKLIST (18A-5)

2.1	<p>Are there public policies or approved known development plans (e.g., community Complete Streets policy, Comprehensive Plan, MPO Long Range and/or Bike/Ped plan, Corridor Study, etc.) that call for consideration of pedestrian, bicycle or transit facilities in, or linking to, the project area? <i>Contact municipal planning office, Regional Planning Group and Regional Bicycle/Pedestrian Coordinator.</i></p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>	
2.2	<p>Is there an existing or planned sidewalk, shared use path, bicycle facility, pedestrian-crossing facility or transit stop in the project area?</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>	
2.3	<p>a. Is the highway part of an existing or planned State, regional or local bicycle route? <i>If no, proceed to question 2.4. If yes, go to part b of this question.</i> b. Do the existing bicycle accommodations meet the minimum standard guidelines of HDM Chapter 17 or the AASHTO "Guide for the Development of Bicycle Facilities"? * <i>Contact Regional Bicycle/Pedestrian Coordinator</i> <small>* Per HDM Chapter 17- Section 17.4.3, Minimum Standards and Guidelines.</small></p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> Yes <input type="radio"/> No</p>	
2.4	<p>Is the highway considered important to bicycle tourism by the municipality or region?</p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>	
2.5	<p>Is the highway affected by special events (e.g., fairs, triathlons, festivals) that might influence bicycle, pedestrian or transit users? <i>Contact Regional Traffic and Safety</i></p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>	
2.6	<p>Are there existing or proposed generators within the project area (<i>refer to the "Guidance" section</i>) that have the potential to generate pedestrian or bicycle traffic or improved transit accommodations? <i>Contact the municipal planning office, Regional Planning Group, and refer to the CAMCI Viewer, described in the "Definitions" section.</i></p>	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>Future Livonia Gateway Park. Industrial park could potentially bring additional bicyclists or transit trips along with trucks and passenger cars. No approved plans yet exist.</p>
2.7	<p>Is the highway an undivided 4 lane section in an urban or suburban setting, with narrow shoulders, no center turn lanes, and existing Annual Average Daily Traffic (AADT) < 15,000 vehicles per day? <i>If yes, consider a road diet evaluation for the scoping/design phase. Refer to the "Definitions" section for more information on road diets.</i></p>	<p><input type="radio"/> Yes <input checked="" type="radio"/> No</p>	

Chapter 18, Appendix A - CAPITAL PROJECTS COMPLETE STREETS CHECKLIST (18A-6)

2.8	Is there evidence of pedestrian activity (e.g., a worn path) and no or limited pedestrian infrastructure?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
------------	---	---	--

STEP 2 prepared by: Date:

Bicycle/Pedestrian Coordinator has been provided an opportunity to comment: Yes No

ATTACH TO IPP AND INCLUDE RECOMMENDATIONS FOR SCOPING/DESIGN.

STEP 3 - PROJECT DEVELOPMENT LEVEL QUESTIONS (Scoping/Design Stage)			Comment / Action
3.1	Is there an identified need for bicycle/pedestrian/transit or "way finding" signs that could be incorporated into the project?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
3.2	Is there history of bicycle or pedestrian crashes in the project area for which improvements have not yet been made?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
3.3	Are there existing curb ramps, crosswalks, pedestrian traffic signal features, or sidewalks that don't meet ADA standards per HDM Chapter 18 ?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
3.4	Is the posted speed limit is 40 mph or more and the paved shoulder width less than 4' (1.2 m) (6' in the Adirondack or other State Park)? Refer to EI 13-021 .	<input type="radio"/> Yes <input checked="" type="radio"/> No	Speed limits are 55 mph and 35 mph. Paved shoulders are 4 ft wide. Spot shoulder reconstruction/widening where necessary.
3.5	Is there a perceived pedestrian safety or access concern that could be addressed by the use of traffic calming tools (e.g., bulb outs, raised pedestrian refuge medians, corner islands, raised crosswalks, mid-block crossings)?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
3.6	Are there conflicts among vehicles (moving or parked) and bike, pedestrian or transit users which could be addressed by the project?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
3.7	Are there opportunities (or has the community expressed a desire) for new/improved pedestrian-level lighting, to create a more inviting or safer environment?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
3.8	Does the community have an existing street furniture program or a desire for street appurtenances (e.g., bike racks, benches)?	<input type="radio"/> Yes <input checked="" type="radio"/> No	

Chapter 18, Appendix A - CAPITAL PROJECTS COMPLETE STREETS CHECKLIST (18A-7)

3.9	Are there gaps in the bike/pedestrian connections between existing/planned generators? <i>Consider locations within and in close proximity of the project area. (Within 0.5 mi (800 m) for pedestrian facilities and within 1.0 mi (1600 m) for bicycle facilities.)</i>	<input type="radio"/> Yes <input checked="" type="radio"/> No	
3.10	Are existing transit route facilities (bus stops, shelters, pullouts) inadequate or in inconvenient locations? (e.g., not near crosswalks) <i>Consult with Traffic and Safety and transit operator, as appropriate</i>	<input type="radio"/> Yes <input checked="" type="radio"/> No	
3.11	Are there opportunities to improve vehicle parking patterns or to consolidate driveways, (which would benefit transit, pedestrians and bicyclists) as part of this project?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
3.12	Is the project on a "local delivery" route and/or do area businesses rely upon truck deliveries that need to be considered in design?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Purdue Agribusiness facility. Brewery at southern end of project area.
3.13	Are there opportunities to include green infrastructure which may help reduce stormwater runoff and/or create a more inviting pedestrian environment?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
3.14	Are there opportunities to improve bicyclist operation through intersections and interchanges such as with the use of bicycle lane width and/or signing?	<input type="radio"/> Yes <input checked="" type="radio"/> No	

STEP 3 prepared by: Date:

Additional comments, supporting documentation and clarifications for answers in step 1, 2 or 3:

The project is located in a rural area with the predominant land use being agricultural. Residential homes are spread along the corridor with the most concentrated, mature housing between US Route 20A/NYS Route 15A and Stone Hill Road. The occasional pedestrian may legally use the shoulder. Pedestrians anecdotally use the shoulder more frequently between US Route 20A/NYS Route 15 and Stone Hill Road. Bicyclists generally share the travel lanes with motor vehicles or ride along the shoulder. There are no sidewalks. No crosswalks or pedestrian signal features at either end of the project corridor.



**BRONSON HILL RD
DETOUR ROUTE**
~1.6 MILES / 4 MINUTES

**ROAD
CLOSED**

Access Maintained to
Residences / Businesses

Appendix D:
Pavement / Geotechnical Information



Geotechnical Engineering Report

**Bronson Hill Road (CR 62) Rehabilitation
Towns of Avon and Livonia, New York**

June 11, 2020

Terracon Project No. J5205072

Prepared for:

Bergmann Associates, Inc.
Rochester, New York

Prepared by:

Terracon Consultants-NY, Inc.
Rochester, New York



June 11, 2020

Bergmann Associates, Inc.
280 East Broad Street
Rochester, New York 14604



Attn: Mr. Michael Croce – Senior Project Manager
P: (585) 498 7800
E: mcroce@bergmannpc.com

Re: Geotechnical Engineering Report
Bronson Hill Road (CR 62) Rehabilitation
Towns of Avon and Livonia, New York
Terracon Project No. J5205072

Dear Mr. Croce:

We have completed the Geotechnical Engineering services for the above referenced project. This study was performed in general accordance with Terracon Proposal No. PJ5205072 dated April 08, 2020. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of pavements for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,

Terracon Consultants-NY, Inc.

Zeru B. Kiffle, E.I.T.
Staff Engineer

Michele A. Fiorillo, P.E.
Geotechnical Department Manager

REPORT TOPICS

INTRODUCTION.....	1
SITE CONDITIONS.....	1
PROJECT DESCRIPTION.....	3
GEOTECHNICAL CHARACTERIZATION.....	3
PAVEMENT SURVEY.....	5
PAVEMENT RECOMMENDATIONS.....	7
GENERAL COMMENTS.....	9
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Note: This report was originally delivered in a web-based format. **Orange Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the [GeoReport](#) logo will bring you back to this page. For more interactive features, please view your project online at client.terracon.com.

ATTACHMENTS

EXPLORATION AND TESTING PROCEDURES
PHOTOGRAPHY LOG
SITE LOCATION AND EXPLORATION PLANS
EXPLORATION RESULTS
SUPPORTING INFORMATION

Note: Refer to each individual Attachment for a listing of contents.

Geotechnical Engineering Report
Bronson Hill Road (CR 62) Rehabilitation
Along Bronson Hill Road (CR 62)
Towns of Avon and Livonia, New York
Terracon Project No. J5205072
June 11, 2020

INTRODUCTION

This report presents the results of our subsurface exploration and geotechnical engineering services performed for the proposed road pavement rehabilitation along Bronson Hill Road (CR 62) in the Towns of Avon and Livonia, New York. The purpose of these services is to provide information and geotechnical engineering recommendations relative to:

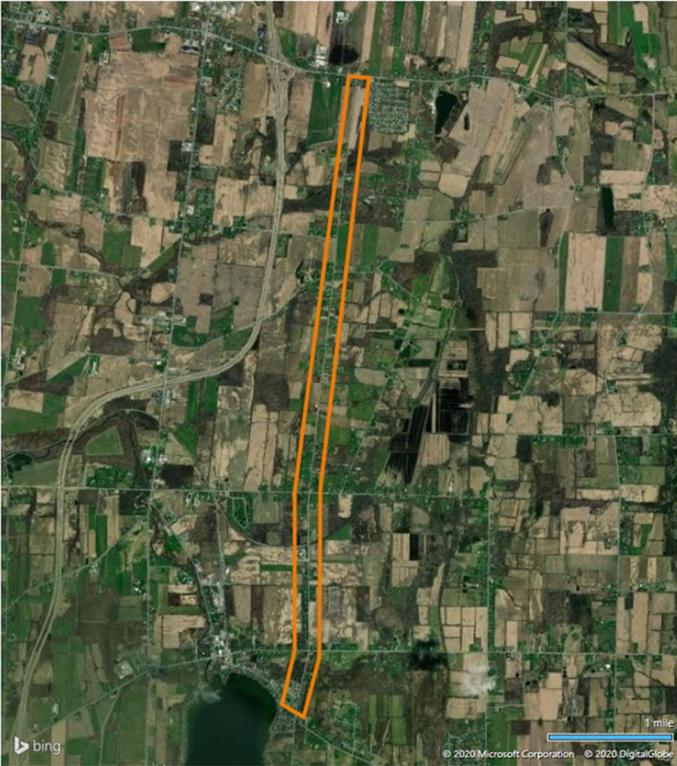
- Subsurface soil conditions
- Groundwater conditions
- Site preparation and earthwork
- Pavement design and construction

The geotechnical engineering Scope of Services for this project included the advancement of five test borings to a depth of approximately 10 feet below existing site grades. In addition, eighteen asphalt cores were obtained along the south bound (SB) and north bound (NB) travel lanes of the existing roadway.

Maps showing the site and boring locations are shown in the **Site Location** and **Exploration Plan** sections, respectively. The results of the laboratory testing performed on soil samples obtained from the site during the field exploration are included on the boring logs and/or as separate graphs in the **Exploration Results** section.

SITE CONDITIONS

The following description of site conditions is derived from our site visit in association with the field exploration and our review of publicly available geologic and topographic maps.

Item	Description
<p>Parcel Information</p>	<p>The project is located along Bronson Hill Rd (CR 62) in Towns of Avon and Livonia, New York. The coordinates of project (latitude/longitude), range from approximately 42.8300° N/77.6923° W (southern end) to 42.9041° N/77.6826° W (northern end). See Site Location and below.</p>  <p>(Aerial image from Google Earth Pro; in orange is shown project site)</p>
<p>Existing Improvements</p>	<p>Existing Roadway</p>
<p>Current Ground Cover</p>	<p>Asphalt pavement.</p>
<p>Existing Topography (Based on Google Earth)</p>	<p>The road, which stretches about 5 miles, has ground surface elevations (El.) ranging from approximately 860 to 990 feet.</p>
<p>Geology¹</p>	<p>The project site, which is the northeastern portion of Livingston County, is located within the Erie-Ontario Lowlands physiographic province. Geological mapping identifies surficial deposits at the project site as lacustrine silt and clay, till moraine, and glacial till. Also, the underlying bedrock is identified as shale or siltstone in the Upper Devonian unit age.</p>
<p>1. References: Fisher, D.W., Isachsen, Y.W., and Rickard, L.V., 1970, Geologic Map of New York State, consisting of 5 sheets: Niagara, Finger Lakes, Hudson-Mohawk, Adirondack, and Lower Hudson, New York State Museum and Science Service, Map and Chart Series No. 15, scale 1: 250,000.</p>	

We also collected photographs at the time of our field exploration program. Representative photos are provided in our [Photography Log](#).

PROJECT DESCRIPTION

Our initial understanding of the project was provided in our proposal and was discussed during project planning. A period of collaboration has transpired since the project was initiated, and our final understanding of the project conditions is as follows:

Item	Description
Information Provided	Documents provided by Bergmann through email: <ul style="list-style-type: none"> ■ Bronson Hill Rd._Pavement Core_Boring Plan Addresses. ■ 4LV002_Bronson Hill Rd._Pavement Core_Boring Plan_2020-03-11.
Project Description	The replacement of existing culverts which are in poor condition, partial depth pavement repairs, and the rehabilitation of the pavement on Bronson Hill Road which is 5 mile, 2-lane rural collector road.
Pavements	Based on the information provided by Bergmann, the existing traffic data (2020) necessary to develop the treatment recommendation are: <ul style="list-style-type: none"> ■ 3,490 (AADT) from US Route 20A/NYS Route 15 to South Lima Road ■ 3,320 from South Lima Road to US Route 20/NYS Route 5 ■ % Trucks = 4% ■ The pavement design life for a milling and resurfacing treatment is 10 years
Estimated Time of Completion (ETC)	2021

GEOTECHNICAL CHARACTERIZATION

We have developed a general characterization of the subsurface conditions based upon our review of the subsurface exploration, laboratory data, geologic setting and our understanding of the project. This characterization, termed GeoModel, forms the basis of our geotechnical calculations and evaluation of site preparation and pavement options. Conditions encountered at each exploration point are indicated on the individual logs. The individual logs can be found in the [Exploration Results](#) section and the GeoModel can be found in the [Figures](#) section of this report.

As part of our analyses, we identified the following model layers within the subsurface profile. For a more detailed view of the model layer depths at each boring location, refer to the GeoModel.

Geotechnical Engineering Report

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, New York
June 11, 2020 ■ Terracon Project No. J5205072



Model Layer	Layer Name	General Description
01	Surface ¹	Asphalt with Subbase Course
02	Native Soil ²	Mixtures of silt, clay, sand with gravel (ML; CL-ML; SM); brown to gray; medium stiff to hard or medium dense to very dense

1. The dimensions of the sampling equipment may preclude sampling particles larger than 2-inch in any dimension.
2. The boreholes were terminated within this layer at a depth of about 10 feet below the existing grades.

Groundwater Conditions

The boreholes were observed while drilling and after completion for the presence and level of groundwater. The water levels observed in the boreholes can be found on the boring logs in **Exploration Results** and are summarized below.

Boring Number	Approximate Depth to Groundwater while drilling (feet)
C-8	8

Note: Groundwater was not encountered at the time of drilling or upon completion in the remainder of the borings.

Groundwater level fluctuations occur due to seasonal variations in the amount of rainfall, runoff and other factors not evident at the time the borings were performed. Water may also become temporarily perched over low permeability layers. Groundwater levels during construction or at other times in the life of the structure may be higher or lower than the levels indicated on the boring logs. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

Pavement Core Results

Eighteen pavement cores were obtained at locations provided by Bergmann and are shown on the **Exploration Plan**. Details of the field exploration are included in **Exploration and Testing Procedures**. Photos of the pavement cores are provided in **Photography Log**. The following table summarizes the pavement thickness (for both asphalt and subbase course) at each boring/core location:

Boring/Core	Travel Lane	Asphalt Pavement Thickness (inches)	Material Directly Below Asphalt	
			Approximate Thickness (inches)	Description/USC Symbol
C-1	North Bound	6.5	8	Subbase Course (Sand and Gravel)
C-1A	South Bound	3.0	12	
C-2	North Bound	6.5	2	
C-3	South Bound	5.3	11	
C-4	South Bound	5.0	2	
C-4A	North Bound	6.0	10	
C-5	North Bound	5.0	10	
C-6	South Bound	9.5	10	
C-7	North Bound	4.5	7	
C-8	North Bound	6.5	8.5	
C-8A	South Bound	6.0	8	
C-9	North Bound	6.5	6	
C-10	South Bound	9.0	7	
C-11	North Bound	3.5	5	
C-12	South Bound	5.0	6	
C-12A	North Bound	7.3	12	
C-13	South Bound	7.5	4	
C-14	North Bound	7.3	8	

The borings and/or coring completed along the existing road indicated approximately 3 to 9.5 inches of asphaltic concrete over approximately 2 to 12 inches of Subbase materials.

PAVEMENT SURVEY

A visual pavement condition survey was conducted during our subsurface explorations. Our observations were performed in general accordance with accepted pavement engineering practices.

The existing pavement appears to be generally in fair conditions with regular but spread-out longitudinal, transverse and alligator cracks. Generally, the pavement is of low severity. We noticed minimal wheel rutting, but the pavement is showing distress associated with age. The pavement surface also appears to have significant raveling occurring within the thin overlay.

Representative site photos were taken at the site of our site visits and are provided in [Photography Log](#).

In general, the causes of the types of pavement distress observed are briefly discussed below:

Longitudinal and Transverse Cracks: Usually the result of climate or pavement durability related factors. This type of distress is typically caused by poorly constructed paving lane joints or hardening of the pavement due to daily temperature cycling. Without proper maintenance or rehabilitation, this type of cracking can progress to more severe forms of pavement distress including potholes or alligator cracking.

Alligator Cracks: Interconnected cracks forming small pieces ranging in size from about 1” to 6”. This is caused by failure of the surfacing due to traffic loading (fatigue) and very often also due to inadequate base or subgrade support.

Raveling: Raveling is progressive loss of pavement material from the surface downward, caused by: stripping of the bituminous film from the aggregate, asphalt hardening due to aging, poor compaction especially in cold weather construction, or insufficient asphalt content. Slight to moderate raveling has loss of fines. Severe raveling has loss of coarse aggregate. Raveling in the wheel paths can be accelerated by traffic.

PAVEMENT RECOMMENDATIONS

CBR and Resilient Modulus Correlations

Boreholes were advanced at five locations. California Bearing ratio (CBR) and Resilient Modulus of the subgrade materials at each location are correlated using empirical relationships with average Standard Penetration Test (SPT-N) values and are summarized in the table below.

Location	Subgrade				
	Subgrade Material	Field SPT-N		Correlated CBR (%) ¹	Resilient Modulus (M _r) (psi) ²
		Blows/12-inches	mm/blow		
C-1	Sandy Silt (ML)	6	51	4	5,910
C-2	Silt (ML)	9	34	5	7,520
C-4	Silty Sand with Gravel (SM)	16	19	10	11,360
C-8	Sandy Silt (ML)	6	51	4	5,920
C-12	Silt (ML)	9	34	5	7,540

1. Validation of Correlations Between a Number of Penetration Tests and In-Situ CBR; page 57, Fig. 1; Livneh, Moshe; Transportation Research record 1219
2. Resilient Modulus is based upon the NCHRP 1-37A formula (National Cooperative Highway Research Program) $M_r = 2555 \times CBR^{0.64}$, as presented in FHWA NHI-05-037.

Based on the subsurface exploration results and our experience with these materials, we recommend using a design CBR of 4 and a resilient modulus of 6,000 psi. The subgrade soil within this project predominantly consist of mixtures of clay, silt, sand and gravel. Based on the information provided by Bergmann, the existing traffic data (2020) necessary to develop the treatment recommendation is 3,490 (AADT) from US Route 20A/NYS Route 15 to South Lima Road, 3,320 from South Lima Road to US Route 20/NYS Route 5 and 4% Trucks.

Recommended Rehabilitation

Rehabilitation activities for this project should be completed in accordance with the New York State Department’s Comprehensive Pavement Design Manual (CPDM).

Based upon the results of the exploration program, site pavement evaluation and the available traffic data, pavement rehabilitation consisting of cold milling of the existing pavement sections and replacement with a new Hot Mix Asphalt (HMA) Overlay may provide a feasible and cost-effective rehabilitation alternative for the project when compared to a full depth reconstruction.

Cold milling and HMA Overlay option should be completed in accordance with Chapter 5 of NYSDOT Comprehensive Pavement Design Manual. Minimum HMA Overlay thickness are presented in Table 5-1, HMA Overlay Thicknesses for Flexible Pavement Rehabilitation of the above referenced manual. It is our opinion that cold milling to a minimum depth of 1-inch and resurfacing with a variable thickness true and leveling course and a minimum of 1.5-inch to 2-inch lift of top course HMA Overlay may present a feasible option for this project.

We also recommend the following:

- All areas of high-severity alligator cracking, as well as isolated areas that exhibit a severe level of distress shall be identified and repaired before the placement of the HMA Overlay. The repair should include removal of any soft subsurface material (i.e. saw cut perimeters and completely box-out and rebuild). The repairs should also include patching and sealing off existing high-severity linear cracks and small cracks, in order to prevent entry of moisture into the subbase/subgrade through the cracks, and further raveling of the crack edges.
- Pre-overlay repairs should also address improving or restoring drainage of the existing roadway, as necessary.
- Immediately before placing HMA Overlay, the existing pavement should be cleaned, and tack coated to bond the overlay to the existing surface. True and level asphalt mix shall be placed to remove rutting and irregularities in the old pavement, and fill patch holes. The true and level mix shall not be used over substantial lengths of the project to effectively increase the overall maximum HMA Overlay thickness or as an additional pavement course.
- The Owner should keep in mind that the partial milling and HMA Overlay option is not a long-term solution (such as may be the case with the full-depth reconstruction option) and could require periodic maintenance (i.e. routine sealing of cracks and joints, patching, and any other work designed to preserve the pavement system).
- All work should be completed with the guidelines presented in the above reference pavement manual.

Pavement performance is affected by its surroundings especially by presence of water. Pavements should be sloped to provide rapid drainage of surface water. Water allowed to pond on or adjacent to the pavements could saturate the subgrade and contribute to premature pavement deterioration. The civil engineer should consider the following drainage recommendations in the design and layout of pavements:

- Final grade adjacent to paved areas should slope down from the edges at a minimum 2%;
- The subgrade and pavement surface should have a minimum 2% slope to promote proper surface drainage;
- Install joint sealant and seal cracks immediately;
- Seal all landscaped areas in or adjacent to pavements to reduce moisture migration to subgrade soils.

GENERAL COMMENTS

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Natural variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence or collaboration through this system are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly impact excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety, and cost estimating including, excavation support, and dewatering requirements/design are the responsibility of others. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

Geotechnical Engineering Report

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, New York
June 11, 2020 ■ Terracon Project No. J5205072



FIGURES

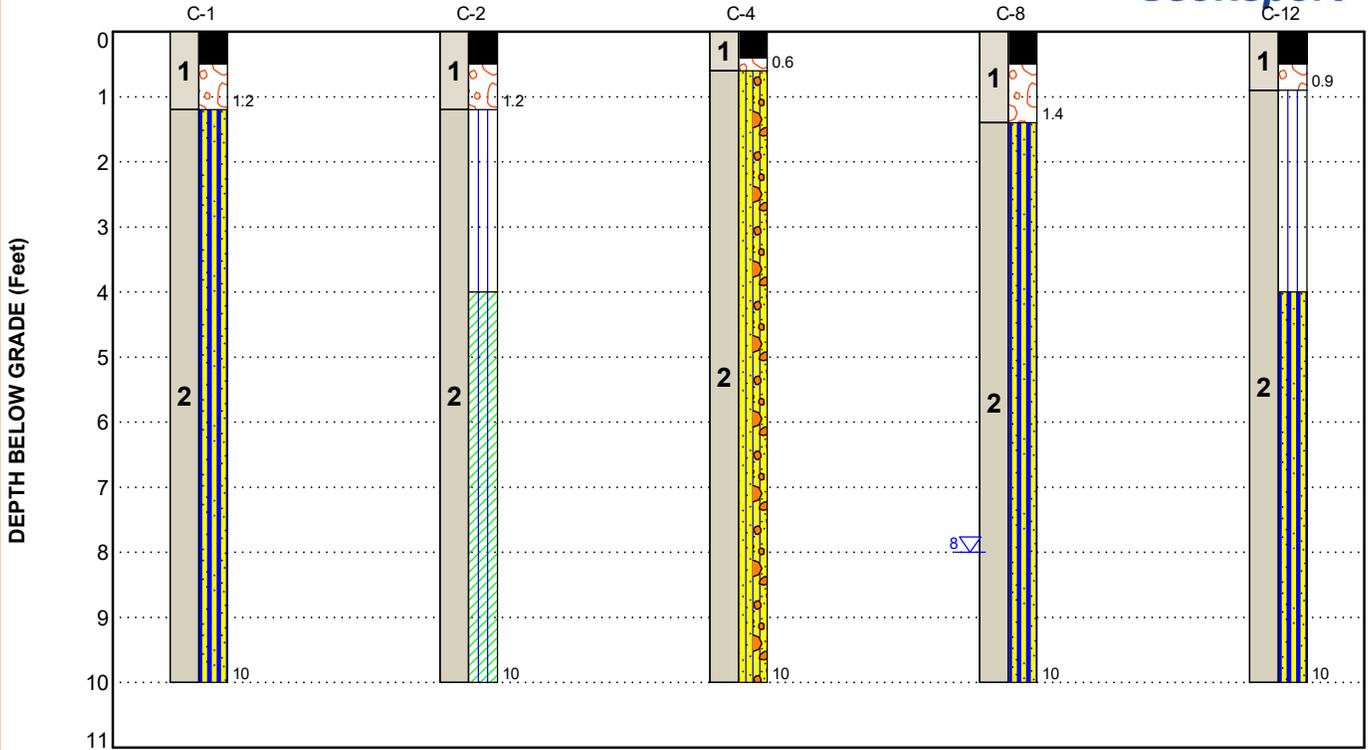
Contents:

GeoModel

Note: All attachments are one page unless noted above.

GEOMODEL

Bronson Hill Rd (CR 62) Rehabilitation ■ Towns of Avon and Livonia, Livingston County, NY
 Terracon Project No. J5205072



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	Surface	Asphalt with Subbase
2	Native Soil	Mixtures of silt, clay, sand with gravel (ML; CL-ML; SM); brown to gray; medium stiff to hard or medium dense to very dense

LEGEND

- Asphalt
- Subbase Course
- Sandy Silt
- Silt
- Silty Clay
- Silty Sand with Gravel

First Water Observation

NOTES:

Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project. Numbers adjacent to soil column indicate depth below ground surface.

Groundwater levels are temporal. The levels shown are representative of the date and time of our exploration. Significant changes are possible over time. Water levels shown are as measured during and/or after drilling. In some cases, boring advancement methods mask the presence/absence of groundwater. See individual logs for details.

ATTACHMENTS

EXPLORATION AND TESTING PROCEDURES

Field Exploration

The following table relates designation system followed by Terracon.

Terracon Designation	Bergman Designation	Location		
		NB=North Bound; SB=South Bound	Latitude	Longitude
C-1	X-3	NB	42.8313	-77.6920
C-1A	X-3	SB (Middle of Travel Lane Opposite to C-1)		
C-2	X-N	NB	42.8366	-77.6905
C-3	X-S	SB	42.8418	-77.6903
C-4	X-3	SB	42.8472	-77.6903
C-4A	X-3	NB (Middle of Travel Lane Opposite to C-4)		
C-5	X-N	NB	42.8532	-77.6904
C-6	X-S	SB	42.8595	-77.6897
C-7	X-N	NB	42.8649	-77.6888
C-8	X-3	NB	42.8705	-77.6878
C-8A	X-3	SB (Middle of Travel Lane Opposite to C-8)		
C-9	X-N	NB	42.8759	-77.6871
C-10	X-S	SB	42.8825	-77.6861
C-11	X-N	NB	42.8871	-77.6855
C-12	X-3	SB	42.8926	-77.6846
C-12A	X-3	NB (Middle Travel Lane Opposite to C-12)		
C-13	X-S	SB	42.8980	-77.6836
C-14	X-N	NB	42.9034	-77.6828

The borings and pavement cores were completed as follows:

Number of Soil Borings/ Pavement Cores	Boring Depth (feet)	Location
3 Cores (C-1, C-1A and C-2)	---	US Route 20 A/NYS Route 15 to Stone Hill Road
2 Borings (C-1 and C-2)	10	
4 Cores (C-3, C-4, C-4A, C-5)	---	

Geotechnical Engineering Report

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, New York
June 11, 2020 ■ Terracon Project No. J5205072



Number of Soil Borings/ Pavement Cores	Boring Depth (feet)	Location
1 Boring (C-4)	10	Stone Hill Road to South Lima Road (CR 19)
6 Cores (C-6, C-7, C-8, C-8A, C-9, and C-10)	--	South Lima Road (CR 19) to Sutton Road
1 Boring (C-8)	10	
5 Cores (C-11, C-12, C-12A, C-13 and C-14)	---	Sutton Road to East Avon Rd
1 Boring (C-12)	10	

Boring Layout and Elevations: Terracon personnel provided the boring layout. Coordinates were obtained with a handheld GPS unit (estimated horizontal accuracy of about ± 10 feet) and approximate elevations were obtained by interpolation from Google Earth Pro. If elevations and a more precise boring layout are desired, we recommend borings be surveyed following completion of fieldwork.

Subsurface Exploration Procedures: 4-inch diameter pavement cores were extracted utilizing a portable coring machine. We advanced the borings with truck-mounted rotary drill rig using continuous flight solid stem augers. Five samples were obtained in the upper 10 feet of each boring. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon was driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the middle 12 inches of a normal 24-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. We observed and recorded groundwater levels during drilling and sampling. For safety purposes, all borings were backfilled with auger cuttings after their completion and patched with concrete.

The sampling depths, penetration distances, and other sampling information was recorded on the field boring logs. The samples were placed in appropriate containers and taken to our soil laboratory for testing and classification by a Geotechnical Engineer. Our exploration team prepared field boring logs as part of the drilling operations. These field logs included visual classifications of the materials encountered during drilling and our interpretation of the subsurface conditions between samples. Final boring logs were prepared from the field logs. The final boring logs represent the Geotechnical Engineer's interpretation of the field logs and include modifications based on observations and tests of the samples in our laboratory.

Laboratory Testing

The project engineer reviewed the field data and assigned laboratory tests to understand the engineering properties of the various soil strata, as necessary, for this project. Procedural standards noted below are for reference to methodology in general. In some cases, variations to methods were applied because of local practice or professional judgment. Standards noted below

Geotechnical Engineering Report

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, New York
June 11, 2020 ■ Terracon Project No. J5205072



include reference to other, related standards. Such references are not necessarily applicable to describe the specific test performed.

- ASTM D2216 Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
- ASTM D422 Standard Test Method for Particle-Size Analysis of Soils
- ASTM D4318 Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils

The laboratory testing program often included examination of soil samples by an engineer. Based on the material's texture and plasticity, we described and classified the soil samples in accordance with the Unified Soil Classification System.

Geotechnical Engineering Report

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, New York
June 11, 2020 ■ Terracon Project No. J5205072



PHOTOGRAPHY LOG

Contents:

Site Photos (5 pages)
Core Logs (18 pages)

PHOTOGRAPHY LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072

Photos taken between NY-20A (Big Tree Rd) and South Lima Rd



PHOTOGRAPHY LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072

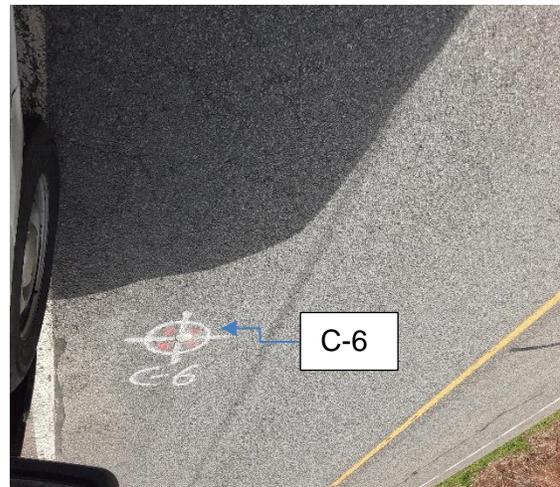
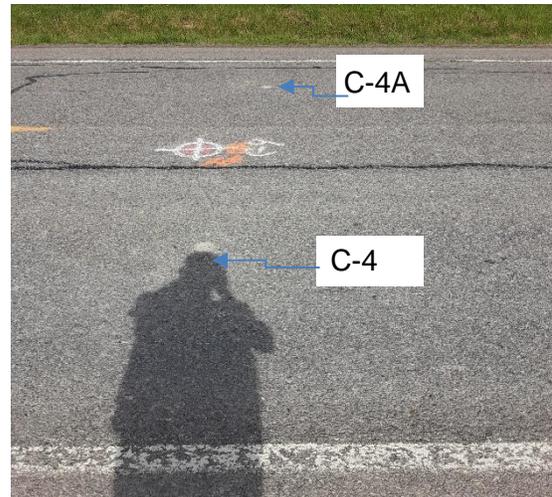
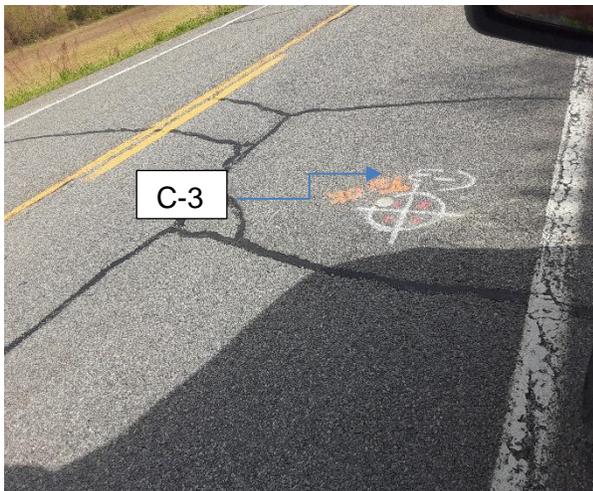
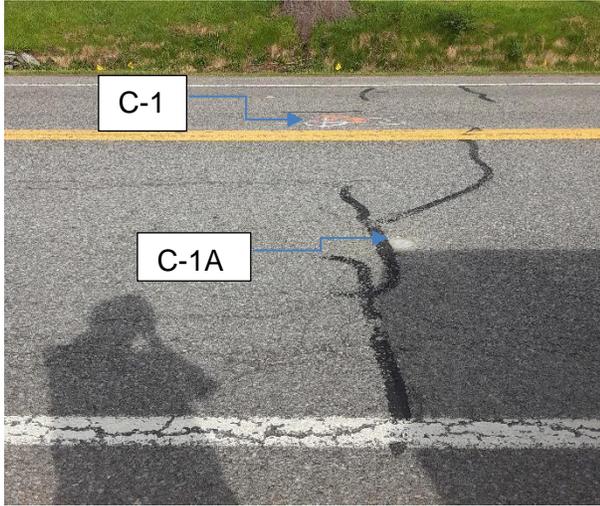
Photos taken between South Lima Rd and East Avon Lima Road



PHOTOGRAPHY LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072

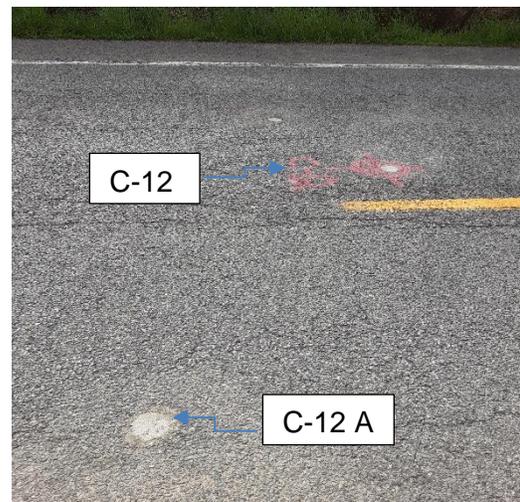
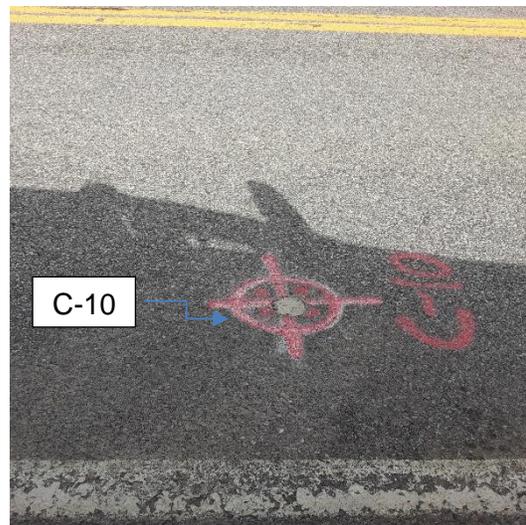
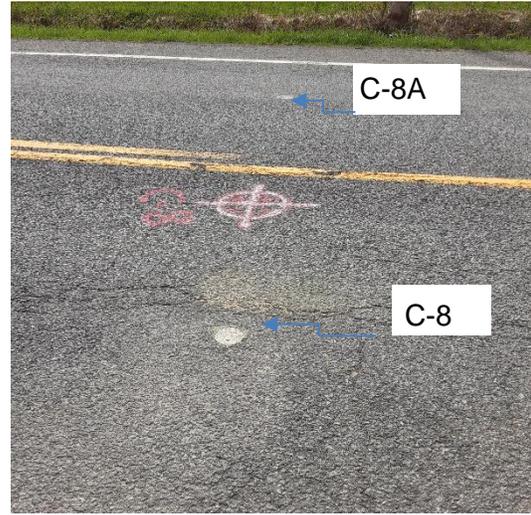
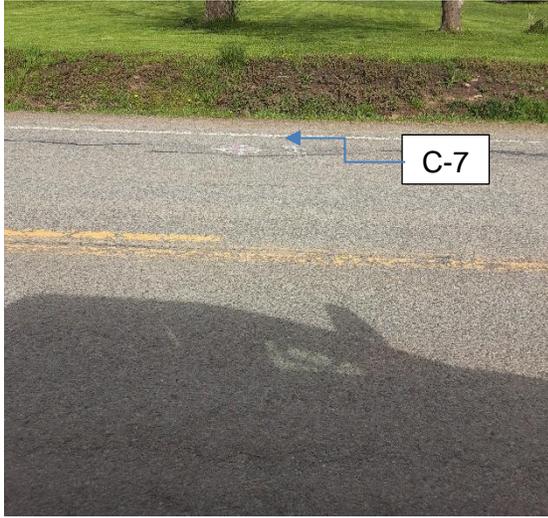
Photos of Pavement Core Locations



PHOTOGRAPHY LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072

Photos of Pavement Core Locations (continued)

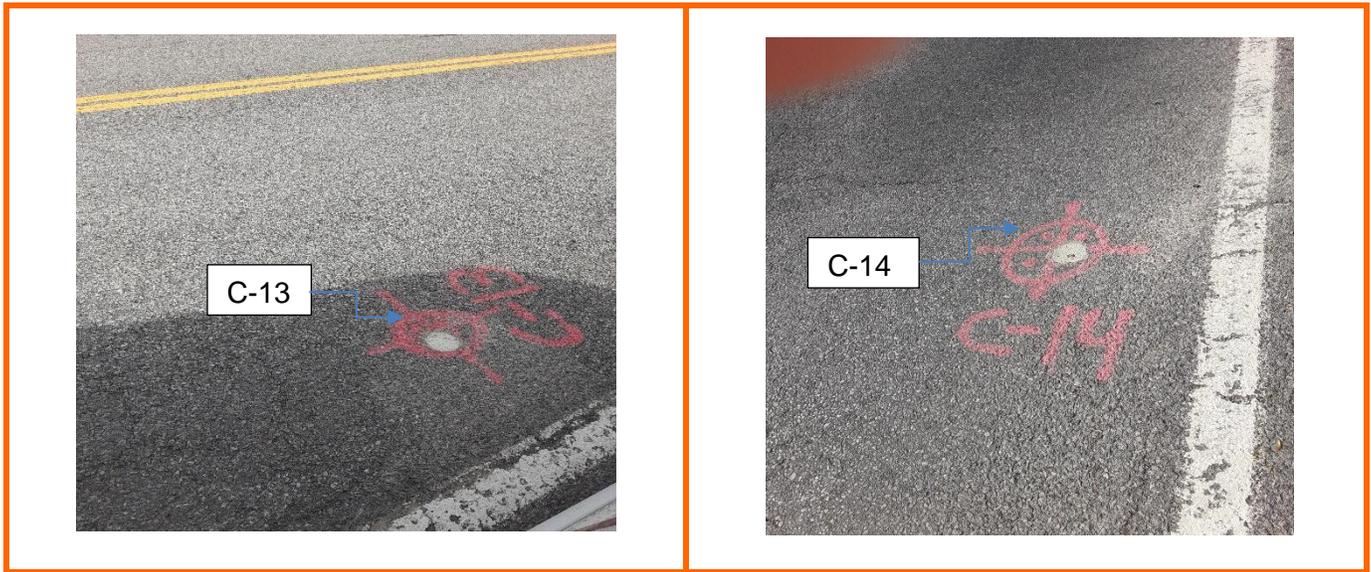


PHOTOGRAPHY LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072



Photos of Pavement Core Locations (continued)



CORE LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072



Pavement core at boring C-1

Course	Thickness (inches)	Conditions	Remarks
Overlay	0.5	Fair	Surface stripping
Top	1.8	Fair	
Binder	4.3	Poor	Asphalt from 4.5 to 6.5" crumbled
TOTAL	6.5		

Notes:

The ruler presented in the photographs is intended to provide a reference scale only. Therefore, the dimensions of the cores may not be accurately reflected in the photographs.

CORE LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072



Pavement core at boring C-1A

Course	Thickness (inches)	Conditions	Remarks
Overlay	0.5	Fair	Surface stripping
Top	1.5	Fair	
Binder	1.0	Poor	
TOTAL	3.0		

Notes:

The ruler presented in the photographs is intended to provide a reference scale only. Therefore, the dimensions of the cores may not be accurately reflected in the photographs.

CORE LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072



Pavement core at boring C-2

Course	Thickness (inches)	Conditions	Remarks
Overlay	0.8	Fair	Surface stripping
Top	2.0	Fair	
Binder	3.8	Poor	Air voids
TOTAL	6.5		

Notes:

The ruler presented in the photographs is intended to provide a reference scale only. Therefore, the dimensions of the cores may not be accurately reflected in the photographs.

CORE LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072



Pavement core at boring C-3

Course	Thickness (inches)	Conditions	Remarks
Overlay	0.5	Fair	Surface stripping
Top	2.0	Good	
Binder	2.8	Poor	Air voids, asphalt crumbled from 4.5" to 5.25"
TOTAL	5.3		

Notes:

The ruler presented in the photographs is intended to provide a reference scale only. Therefore, the dimensions of the cores may not be accurately reflected in the photographs.

CORE LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072



Pavement core at boring C-4

Course	Thickness (inches)	Conditions	Remarks
Overlay	0.3	Fair	Surface Stripping
Top	1.3	Good	
Binder	3.5	Poor	Air voids, asphalt crumbled from 4.5" to 5.0"
TOTAL	5.0		

Notes:

The ruler presented in the photographs is intended to provide a reference scale only. Therefore, the dimensions of the cores may not be accurately reflected in the photographs.

CORE LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072



Pavement core at boring C-4A

Course	Thickness (inches)	Conditions	Remarks
Overlay	0.5	Fair	Surface stripping
Top	2.0	Good	
Binder	3.5	Poor	Air voids
TOTAL	6.0		

Notes:

The ruler presented in the photographs is intended to provide a reference scale only. Therefore, the dimensions of the cores may not be accurately reflected in the photographs.

CORE LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072



Pavement core at boring C-5

Course	Thickness (inches)	Conditions	Remarks
Overlay	0.5	Fair	Surface stripping
Top	2.0	Good	
Binder	2.5	Poor	Air voids, asphalt crumbled from 4.5" to 5.0"
TOTAL	5.0		

Notes:

The ruler presented in the photographs is intended to provide a reference scale only. Therefore, the dimensions of the cores may not be accurately reflected in the photographs.

CORE LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072



Pavement core at boring C-6

Course	Thickness (inches)	Conditions	Remarks
Overlay	0.5	Fair	Surface stripping
Top (2 layers)	3.0	Fair	
Binder (2 layers)	6.0	Poor	Air voids
TOTAL	9.5		

Notes:

The ruler presented in the photographs is intended to provide a reference scale only. Therefore, the dimensions of the cores may not be accurately reflected in the photographs.

CORE LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072



Pavement core at boring C-7

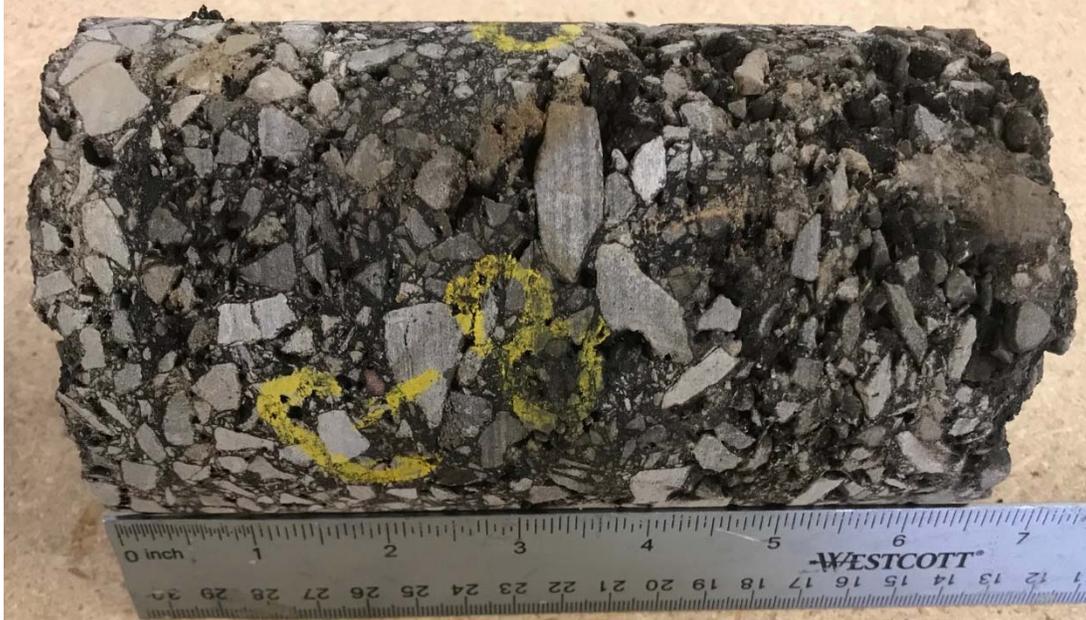
Course	Thickness (inches)	Conditions	Remarks
Overlay	0.8	Poor	Surface stripping
Binder	3.8	Poor	Partially crumbled and fractured
TOTAL	4.6		

Notes:

The ruler presented in the photographs is intended to provide a reference scale only. Therefore, the dimensions of the cores may not be accurately reflected in the photographs.

CORE LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072



Pavement core at boring C-8

Course	Thickness (inches)	Conditions	Remarks
Overlay	0.5	Fair	Surface stripping
Top	1.5	Fair	
Binder	4.5	Fair	Air voids throughout
TOTAL	6.5		

Notes:

The ruler presented in the photographs is intended to provide a reference scale only. Therefore, the dimensions of the cores may not be accurately reflected in the photographs.

CORE LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072



Pavement core at boring C-8A

Course	Thickness (inches)	Conditions	Remarks
Overlay	0.5	Fair	
Top	4.5	Poor	Air voids, asphalt crumbled from 5" to 6"
TOTAL	6.0		

Notes:

The ruler presented in the photographs is intended to provide a reference scale only. Therefore, the dimensions of the cores may not be accurately reflected in the photographs.

CORE LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072



Pavement core at boring C-9

Course	Thickness (inches)	Conditions	Remarks
Overlay	1.0	Fair	Surface stripping
Top	1.5	Good	
Binder	4.0	Poor	Air voids
TOTAL	6.5		

Notes:

The ruler presented in the photographs is intended to provide a reference scale only. Therefore, the dimensions of the cores may not be accurately reflected in the photographs.

CORE LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072



Pavement core at boring C-10

Course	Thickness (inches)	Conditions	Remarks
Overlay	0.5	Fair	Surface stripping
Top	2.0	Good	
Binder	6.5	Fair	Air voids
TOTAL	9.0		

Notes:

The ruler presented in the photographs is intended to provide a reference scale only. Therefore, the dimensions of the cores may not be accurately reflected in the photographs.

CORE LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072



Pavement core at boring C-11

Course	Thickness (inches)	Conditions	Remarks
Overlay	0.5	Poor	Surface stripping
Binder	3.0	Fair	
TOTAL	3.5		

Notes:

The ruler presented in the photographs is intended to provide a reference scale only. Therefore, the dimensions of the cores may not be accurately reflected in the photographs.

CORE LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072



Pavement core at boring C-12

Course	Thickness (inches)	Conditions	Remarks
Overlay	0.5	Fair	Surface stripping
Top	1.0	Good	
Binder	3.5	Poor	Asphalt crumbled from 3.5" to 5.0"
TOTAL	5.0		

Notes:

The ruler presented in the photographs is intended to provide a reference scale only. Therefore, the dimensions of the cores may not be accurately reflected in the photographs.

CORE LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072



Pavement core at boring C-12A

Course	Thickness (inches)	Conditions	Remarks
Overlay	0.5	Fair	Surface stripping
Top	2.3	Good	
Binder	4.5	Fair	Air voids
TOTAL	7.3		

Notes:

The ruler presented in the photographs is intended to provide a reference scale only. Therefore, the dimensions of the cores may not be accurately reflected in the photographs.

CORE LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072



Pavement core at boring C-13

Course	Thickness (inches)	Conditions	Remarks
Overlay	0.8	Fair	Surface stripping
Top (2 layers)	2.0	Good	
Binder	4.8	Fair	Air voids
TOTAL	7.6		

Notes:

The ruler presented in the photographs is intended to provide a reference scale only. Therefore, the dimensions of the cores may not be accurately reflected in the photographs.

CORE LOG

Bronson Hill Road (CR 62) Rehabilitation ■ Towns of Avon and Livonia, NY
Terracon Project No. J5205072



Pavement core at boring C-14

Course	Thickness (inches)	Conditions	Remarks
Overlay	0.5	Fair	Surface stripping
Top (2 layers)	2.0	Fair	
Binder	4.8	Poor	Air voids
TOTAL	7.3		

Notes:

The ruler presented in the photographs is intended to provide a reference scale only. Therefore, the dimensions of the cores may not be accurately reflected in the photographs.

SITE LOCATION AND EXPLORATION PLANS

Contents:

Site Location Plan

Exploration Plan with Aerial Image

Exploration Plan with Project Overlay (2 pages)

Note: All attachments are one page unless noted above.

SITE LOCATION

Bronson Hill Rd (CR 62) Rehabilitation ■ Avon, NY
Terracon Project No. J5205072

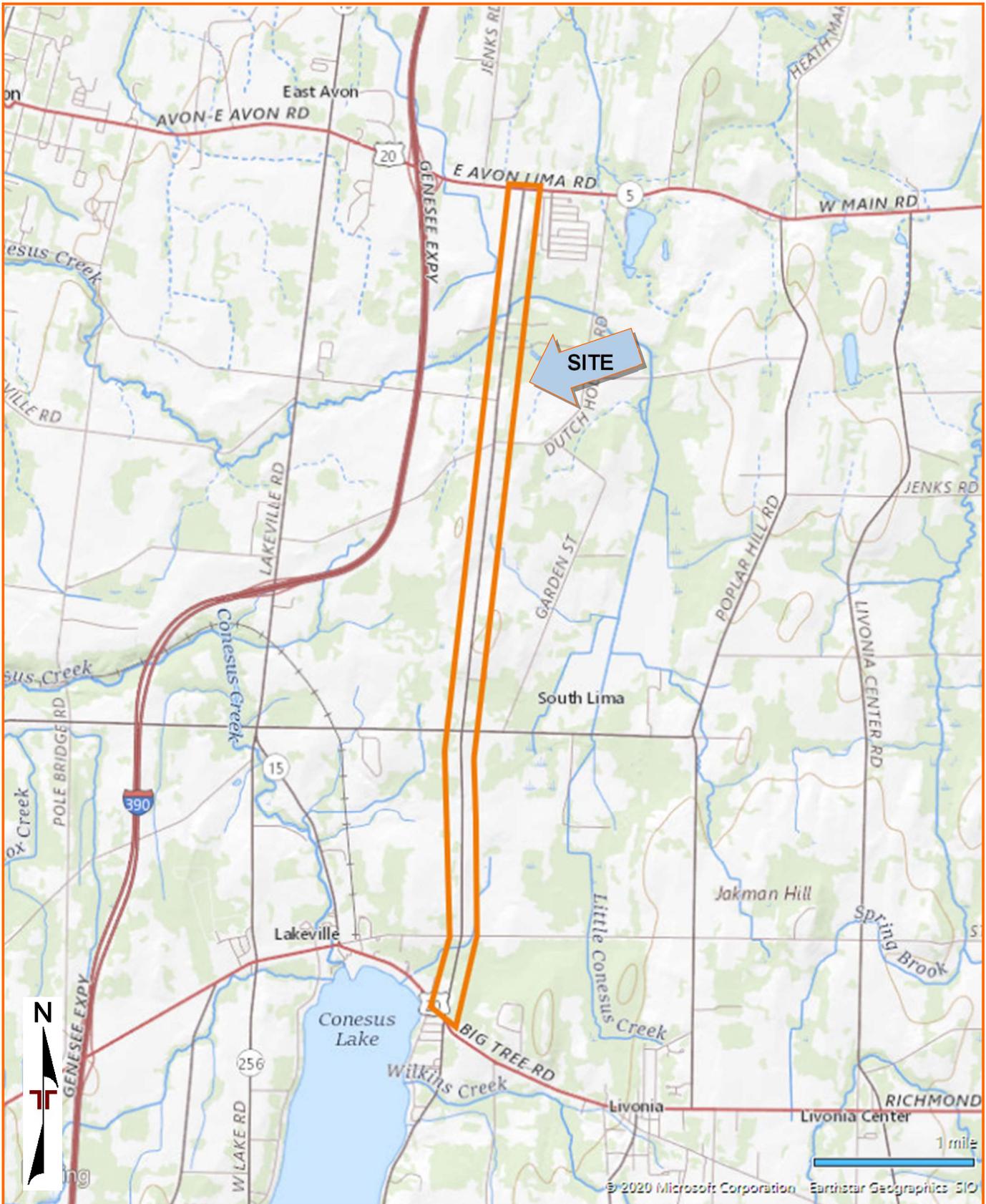


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: RUSH, NY (11/1976) and LIVONIA, NY (11/1976).

EXPLORATION PLAN WITH AERIAL IMAGE

Bronson Hill Rd (CR 62) Rehabilitation ■ Avon and Livonia, NY
Terracon Project No. J5205072

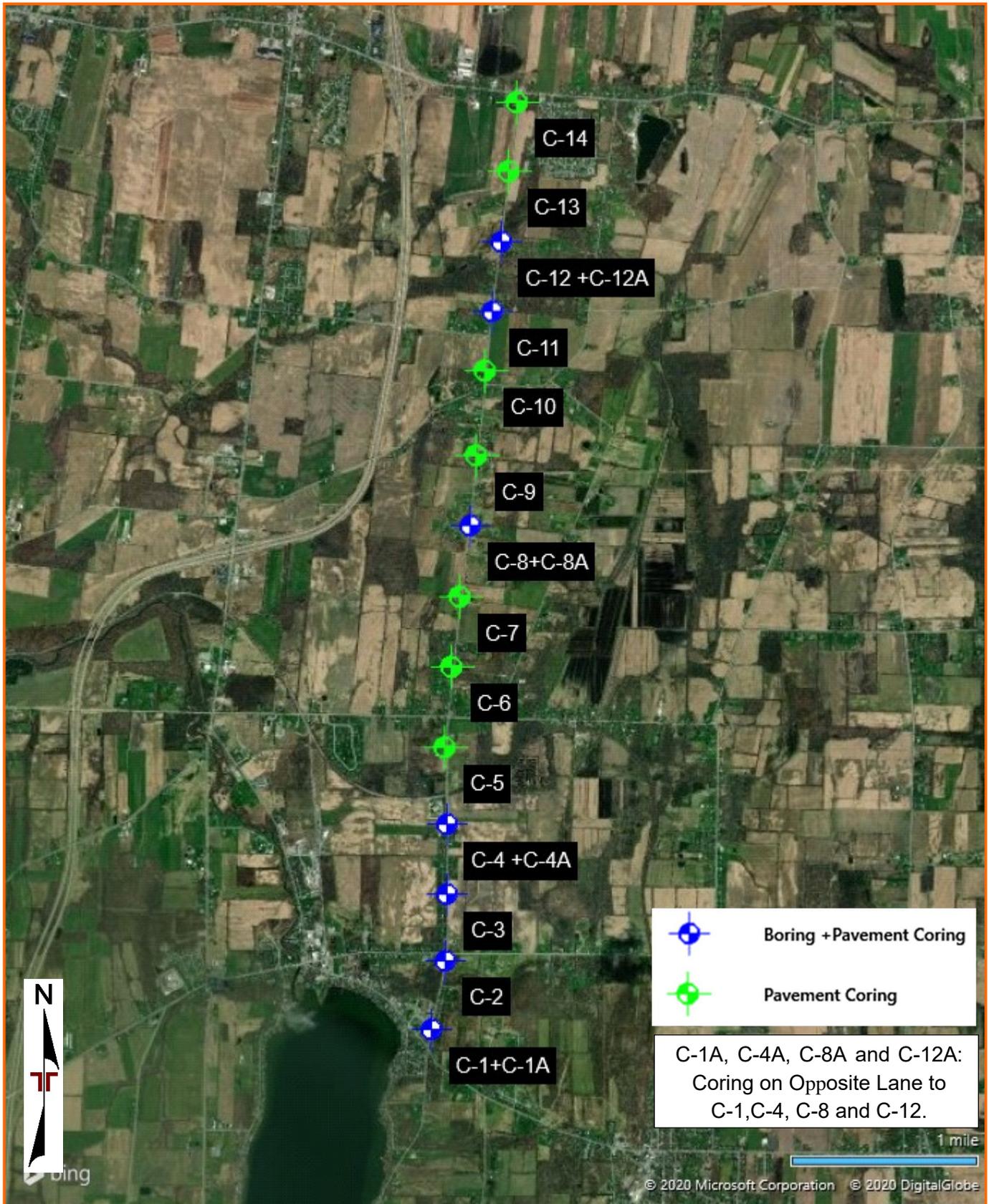


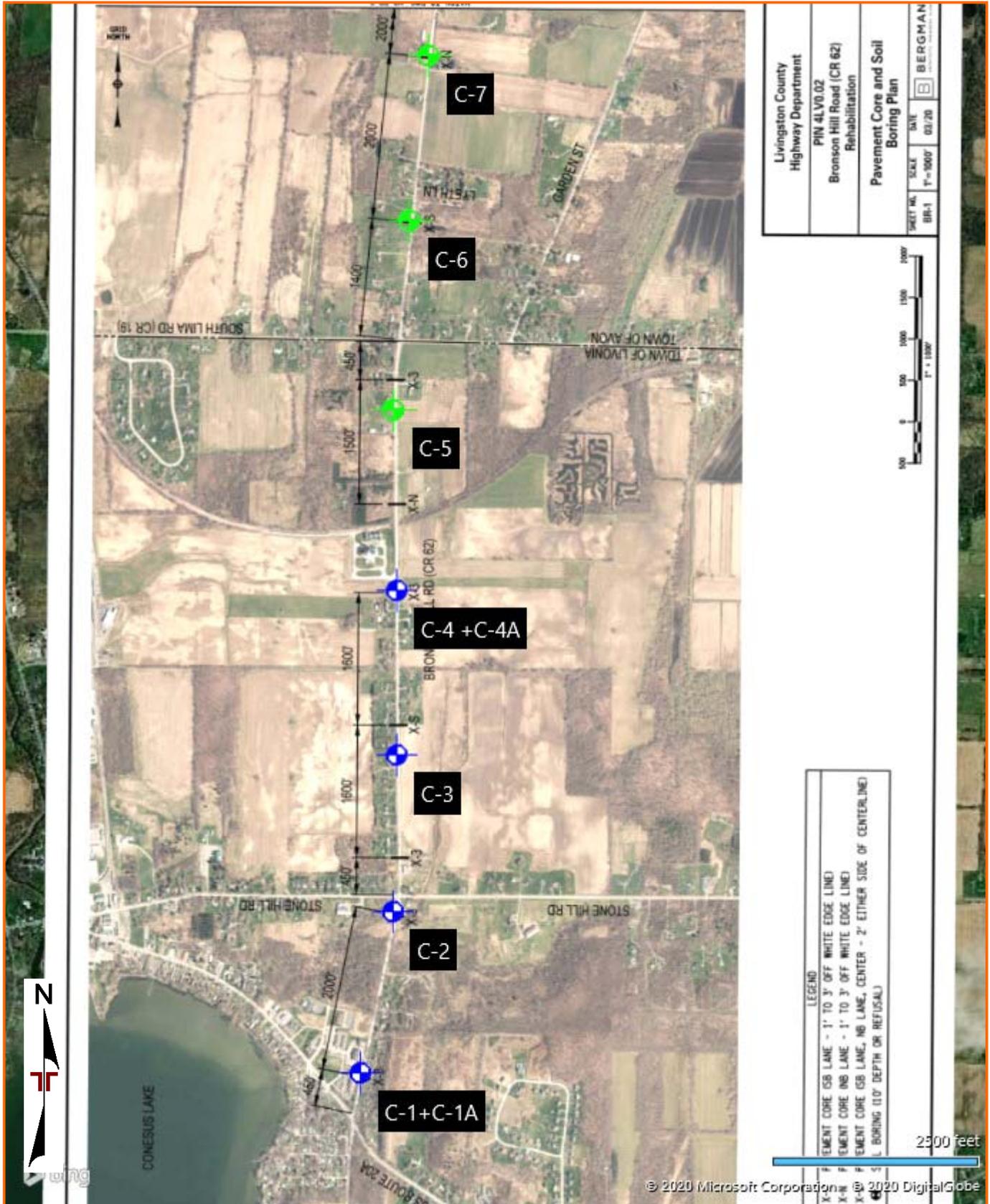
DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

EXPLORATION PLAN WITH PROJECT OVERLAY-1

Bronson Hill Rd (CR 62) Rehabilitation ■ Avon, NY

Terracon Project No. J5205072



Livingston County Highway Department	DATE	BERGMAN
PIN 4LV0.02	SCALE	DATE
Bronson Hill Road (CR 62) Rehabilitation	1" = 100'	03/20
Pavement Core and Soil Boring Plan	SHEET NO.	BIR-1

LEGEND
F EMENT CORE OS LANE - 1' TO 3' OFF WHITE EDGE LINE)
F EMENT CORE INS LANE - 1' TO 3' OFF WHITE EDGE LINE)
F EMENT CORE OS LANE, NB LANE, CENTER - 2' EITHER SIDE OF CENTERLINE)
L BORING (10' DEPTH OR REFUSAL)

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

PROJECT OVERLAY PROVIDED BY BERGMANN ASSOCIATES, LLC

EXPLORATION PLAN WITH PROJECT OVERLAY-2

Bronson Hill Rd (CR 62) Rehabilitation ■ Avon, NY

Terracon Project No. J5205072

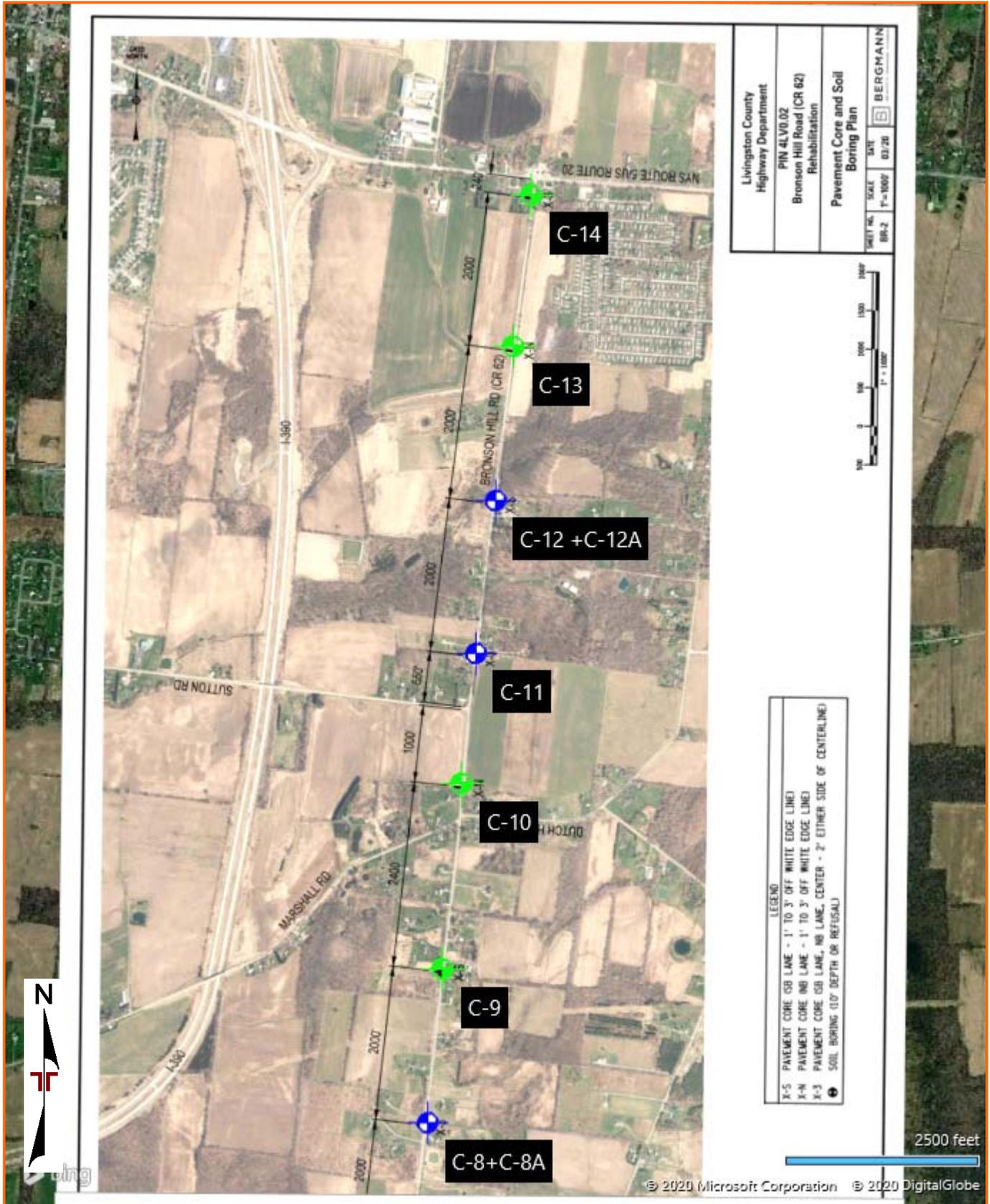


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

PROJECT OVERLAY PROVIDED BY BERGMANN ASSOCIATES, LLC

EXPLORATION RESULTS

Contents:

Boring Logs (5)
Grain Size Distribution
Atterberg Limits

Note: All attachments are one page unless noted above.

BORING LOG NO. C-1

PROJECT: Bronson Hill Rd (CR 62) Rehabilitation

CLIENT: Bergmann Associates, Inc.
Rochester, NY

SITE: Along Bronson Hill Road (CR 62)
Towns of Avon and Livonia, Livingston County, NY

MODEL LAYER	GRAPHIC LOG	LOCATION See Exploration Plan Latitude: 42.8313° Longitude: -77.692°	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (in.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI
1	0.5	6.5" ASPHALT							
	1.2	8" SUBBASE							
		SANDY SILT (ML) , trace clay and gravel, brown, medium stiff to hard				16	30-21-9 N=30		
						14	6-3-3-7 N=6	27	NP
2			5			22	6-11-15-18 N=26		
		Becomes gray				22	18-21-22-26 N=43		
						22	15-17-19-15 N=36		
		Boring Terminated at 10 Feet	10						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Rope and Cathead

Advancement Method:
Diamond Core Drill, 3.25" ID Hollow Stem Augers and 2" OD Split Barrel sampler.

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).

Notes:

Abandonment Method:
Boring backfilled with bentonite
Surface capped with concrete

See [Supporting Information](#) for explanation of symbols and abbreviations.

Elevations were interpolated from Google Earth.

WATER LEVEL OBSERVATIONS

No free water observed



Boring Started: 05-13-2020

Boring Completed: 05-13-2020

Drill Rig: Truck

Driller: S. Kaun

Project No.: J5205072

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL. J5205072 BRONSON HILL RD (GPJ TERRACON_DATATEMPLATE.GDT 6/10/20

BORING LOG NO. C-2

PROJECT: Bronson Hill Rd (CR 62) Rehabilitation

CLIENT: Bergmann Associates, Inc.
Rochester, NY

SITE: Along Bronson Hill Road (CR 62)
Towns of Avon and Livonia, Livingston County, NY

MODEL LAYER	GRAPHIC LOG	LOCATION See Exploration Plan Latitude: 42.8366° Longitude: -77.6905°	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (in.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI
1	0.5	6.5" ASPHALT							
	1.2	2" SUBBASE							
	4.0	SILT (ML) , trace sand, trace gravel, brown, stiff	5		X	20	30-21-18 N=39		
	4.0	SILTY CLAY (CL-ML) , trace gravel, gray, medium stiff to very stiff	5		X	18	1-5-4-3 N=9		
2	4.0		5		X	20	3-3-3-4 N=6		
	10.0		10		X	18	2-2-3-3 N=5		
	10.0		10		X	18	3-7-9-10 N=16		
		Boring Terminated at 10 Feet	10						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Rope and Cathead

Advancement Method:
Diamond Core Drill, 3.25" ID Hollow Stem Augers and 2" OD Split Barrel sampler.

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).

Notes:

Abandonment Method:
Boring backfilled with bentonite
Surface capped with concrete

See [Supporting Information](#) for explanation of symbols and abbreviations.

Elevations were interpolated from Google Earth.

WATER LEVEL OBSERVATIONS

No free water observed



Boring Started: 05-13-2020

Boring Completed: 05-13-2020

Drill Rig: Truck

Driller: S. Kaun

Project No.: J5205072

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL. J5205072 BRONSON HILL RD (GPJ TERRACON_DATATEMPLATE.GDT 6/10/20

BORING LOG NO. C-4

PROJECT: Bronson Hill Rd (CR 62) Rehabilitation

CLIENT: Bergmann Associates, Inc.
Rochester, NY

SITE: Along Bronson Hill Road (CR 62)
Towns of Avon and Livonia, Livingston County, NY

MODEL LAYER	GRAPHIC LOG	LOCATION See Exploration Plan Latitude: 42.8472° Longitude: -77.6903°	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (in.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS
									LL-PL-PI
1	0.4 0.6	5" ASPHALT							
		2" SUBBASE							
		SILTY SAND WITH GRAVEL (SM) , brown, medium dense to very dense				15	30-20-10 N=30		
						20	5-6-10-11 N=16	10	NP
2			5			22	17-19-15-20 N=34		
						20	33-43-22-50 N=65		
						4	50/5"		
	10.0	Boring Terminated at 10 Feet	10						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Rope and Cathead

Advancement Method:
Diamond Core Drill, 3.25" ID Hollow Stem Augers and 2" OD Split Barrel sampler.

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).

Notes:

Abandonment Method:
Boring backfilled with bentonite
Surface capped with concrete

See [Supporting Information](#) for explanation of symbols and abbreviations.

Elevations were interpolated from Google Earth.

WATER LEVEL OBSERVATIONS

No free water observed



Boring Started: 05-13-2020

Boring Completed: 05-13-2020

Drill Rig: Truck

Driller: S. Kaun

Project No.: J5205072

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL. J5205072 BRONSON HILL RD (GPJ TERRACON_DATATEMPLATE.GDT 6/10/20

BORING LOG NO. C-8

PROJECT: Bronson Hill Rd (CR 62) Rehabilitation

CLIENT: Bergmann Associates, Inc.
Rochester, NY

SITE: Along Bronson Hill Road (CR 62)
Towns of Avon and Livonia, Livingston County, NY

MODEL LAYER	GRAPHIC LOG	LOCATION See Exploration Plan Latitude: 42.8705° Longitude: -77.6878°	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (in.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI
		DEPTH							
1	0.5	6.5" ASPHALT							
	1.4	8.5" SUBBASE							
		SANDY SILT (ML) , trace gravel, brown, medium stiff to very stiff				18	33-53-20 N=73		
						6	11-3-3-4 N=6	17	NP
2			5			8	4-4-4-3 N=8		
						13	7-6-7-14 N=13		
				▽		24	11-12-13-12 N=25		
		Boring Terminated at 10 Feet	10						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Rope and Cathead

Advancement Method:
Diamond Core Drill, 3.25" ID Hollow Stem Augers and 2" OD Split Barrel sampler.

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).

Notes:

Abandonment Method:
Boring backfilled with bentonite
Surface capped with concrete

See [Supporting Information](#) for explanation of symbols and abbreviations.

Elevations were interpolated from Google Earth.

WATER LEVEL OBSERVATIONS

▽ 8' While drilling



Boring Started: 05-13-2020

Boring Completed: 05-13-2020

Drill Rig: Truck

Driller: S. Kaun

Project No.: J5205072

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL. J5205072 BRONSON HILL RD (GPJ TERRACON_DATATEMPLATE.GDT 6/10/20

BORING LOG NO. C-12

PROJECT: Bronson Hill Rd (CR 62) Rehabilitation

CLIENT: Bergmann Associates, Inc.
Rochester, NY

SITE: Along Bronson Hill Road (CR 62)
Towns of Avon and Livonia, Livingston County, NY

MODEL LAYER	GRAPHIC LOG	LOCATION See Exploration Plan Latitude: 42.8926° Longitude: -77.6846°	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (in.)	FIELD TEST RESULTS	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI
1	0.5 0.9	5" ASPHALT							
		6" SAND AND GRAVEL , contains topsoil horizon SILT (ML) , trace sand, trace gravel, brown, stiff				18	33-23-11 N=34		
						20	4-4-5-6 N=9	18	NP
2		SANDY SILT (ML) , trace gravel, brown, stiff to very stiff				20	5-7-7-6 N=14		
						14	4-5-5-5 N=10		
							12-13-10-14 N=23		
		Boring Terminated at 10 Feet	10						

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Rope and Cathead

Advancement Method:
Diamond Core Drill, 3.25" ID Hollow Stem Augers and 2" OD Split Barrel sampler.

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).

Notes:

Abandonment Method:
Boring backfilled with bentonite
Surface capped with concrete

See [Supporting Information](#) for explanation of symbols and abbreviations.

Elevations were interpolated from Google Earth.

WATER LEVEL OBSERVATIONS

No free water observed



Boring Started: 05-13-2020

Boring Completed: 05-13-2020

Drill Rig: Truck

Driller: S. Kaun

Project No.: J5205072

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL. J5205072 BRONSON HILL RD (GPJ TERRACON_DATATEMPLATE.GDT 6/10/20

SUPPORTING INFORMATION

Contents:

General Notes

Unified Soil Classification System

Note: All attachments are one page unless noted above.

GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

Bronson Hill Rd (CR 62) Rehabilitation ■ Towns of Avon and Livonia, Livingston County, NY
Terracon Project No. J5205072

SAMPLING	WATER LEVEL	FIELD TESTS
Rock Core Standard Penetration Test	Water Initially Encountered Water Level After a Specified Period of Time Water Level After a Specified Period of Time Cave In Encountered Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.	N Standard Penetration Test Resistance (Blows/Ft.) (HP) Hand Penetrometer (T) Torvane (DCP) Dynamic Cone Penetrometer UC Unconfined Compressive Strength (PID) Photo-Ionization Detector (OVA) Organic Vapor Analyzer

DESCRIPTIVE SOIL CLASSIFICATION
Soil classification as noted on the soil boring logs is based Unified Soil Classification System. Where sufficient laboratory data exist to classify the soils consistent with ASTM D2487 "Classification of Soils for Engineering Purposes" this procedure is used. ASTM D2488 "Description and Identification of Soils (Visual-Manual Procedure)" is also used to classify the soils, particularly where insufficient laboratory data exist to classify the soils in accordance with ASTM D2487. In addition to USCS classification, coarse grained soils are classified on the basis of their in-place relative density, and fine-grained soils are classified on the basis of their consistency. See "Strength Terms" table below for details. The ASTM standards noted above are for reference to methodology in general. In some cases, variations to methods are applied as a result of local practice or professional judgment.

LOCATION AND ELEVATION NOTES
Exploration point locations as shown on the Exploration Plan and as noted on the soil boring logs in the form of Latitude and Longitude are approximate. See Exploration and Testing Procedures in the report for the methods used to locate the exploration points for this project. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS				
RELATIVE DENSITY OF COARSE-GRAINED SOILS <small>(More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance</small>		CONSISTENCY OF FINE-GRAINED SOILS <small>(50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance</small>		
Descriptive Term (Density)	Standard Penetration or N-Value Blows/Ft.	Descriptive Term (Consistency)	Unconfined Compressive Strength Qu, (tsf)	Standard Penetration or N-Value Blows/Ft.
Very Loose	0 - 3	Very Soft	less than 0.25	0 - 1
Loose	4 - 9	Soft	0.25 to 0.50	2 - 4
Medium Dense	10 - 29	Medium Stiff	0.50 to 1.00	4 - 8
Dense	30 - 50	Stiff	1.00 to 2.00	8 - 15
Very Dense	> 50	Very Stiff	2.00 to 4.00	15 - 30
		Hard	> 4.00	> 30

RELEVANCE OF SOIL BORING LOG
The soil boring logs contained within this document are intended for application to the project as described in this document. Use of these soil boring logs for any other purpose may not be appropriate.

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A				Soil Classification		
				Group Symbol	Group Name ^B	
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	Gravels: More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels: Less than 5% fines ^C	$Cu \geq 4$ and $1 \leq Cc \leq 3$ ^E	GW	Well-graded gravel ^F	
			$Cu < 4$ and/or $[Cc < 1 \text{ or } Cc > 3.0]$ ^E	GP	Poorly graded gravel ^F	
		Gravels with Fines: More than 12% fines ^C	Fines classify as ML or MH	GM	Silty gravel ^{F, G, H}	
			Fines classify as CL or CH	GC	Clayey gravel ^{F, G, H}	
	Sands: 50% or more of coarse fraction passes No. 4 sieve	Clean Sands: Less than 5% fines ^D	$Cu \geq 6$ and $1 \leq Cc \leq 3$ ^E	SW	Well-graded sand ^I	
			$Cu < 6$ and/or $[Cc < 1 \text{ or } Cc > 3.0]$ ^E	SP	Poorly graded sand ^I	
		Sands with Fines: More than 12% fines ^D	Fines classify as ML or MH	SM	Silty sand ^{G, H, I}	
			Fines classify as CL or CH	SC	Clayey sand ^{G, H, I}	
Fine-Grained Soils: 50% or more passes the No. 200 sieve	Silts and Clays: Liquid limit less than 50	Inorganic:	$PI > 7$ and plots on or above "A" line	CL	Lean clay ^{K, L, M}	
			$PI < 4$ or plots below "A" line ^J	ML	Silt ^{K, L, M}	
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay ^{K, L, M, N}
			Liquid limit - not dried			Organic silt ^{K, L, M, O}
	Silts and Clays: Liquid limit 50 or more	Inorganic:	PI plots on or above "A" line	CH	Fat clay ^{K, L, M}	
			PI plots below "A" line	MH	Elastic Silt ^{K, L, M}	
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay ^{K, L, M, P}
			Liquid limit - not dried			Organic silt ^{K, L, M, Q}
	Highly organic soils:	Primarily organic matter, dark in color, and organic odor			PT	Peat

^A Based on the material passing the 3-inch (75-mm) sieve.

^B If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

^C Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

^D Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

$$E \quad Cu = D_{60}/D_{10} \quad Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$$

^F If soil contains $\geq 15\%$ sand, add "with sand" to group name.

^G If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

^H If fines are organic, add "with organic fines" to group name.

^I If soil contains $\geq 15\%$ gravel, add "with gravel" to group name.

^J If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

^K If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

^L If soil contains $\geq 30\%$ plus No. 200 predominantly sand, add "sandy" to group name.

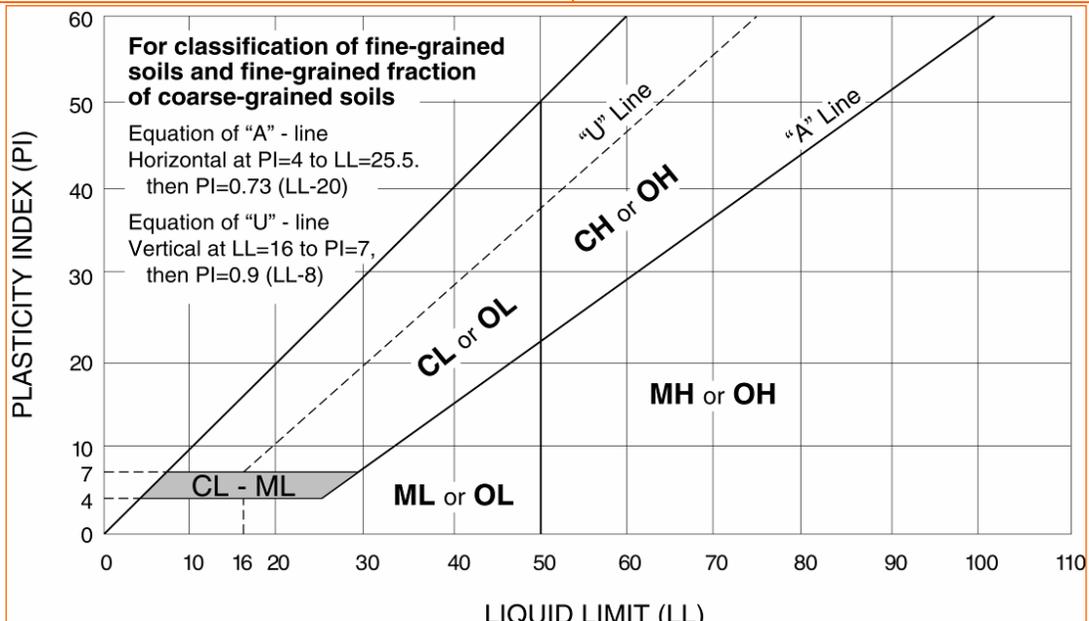
^M If soil contains $\geq 30\%$ plus No. 200, predominantly gravel, add "gravelly" to group name.

^N $PI \geq 4$ and plots on or above "A" line.

^O $PI < 4$ or plots below "A" line.

^P PI plots on or above "A" line.

^Q PI plots below "A" line.



PAVEMENT EVALUATION & TREATMENT SELECTION REPORT (PESR)

Report Date: 7/30/2020 (Rev 1)

General

Region: 4 County: Livingston Route No.: CR 62 PIN: 4LV0.02

Project Description: Bronson Hill Road (CR 62) Rehabilitation

Begin RM: N/A End RM: N/A Total Length: 5.2 miles

Latest Pavement Rehabilitation/Treatment Date(s):

Edgedrain pre-1996 then recycled and topped with HMA. Crack seal 2005. Shimming + T&L 2008. NOVACHIP 2010. Crack seal 2013.

Original Contract Date(s): Unknown

Related Pavement Data:

Traffic AADT (Range): 3490 Date: 2020 % Trucks: 4%

Sufficiency Rating Surface Score: 5 Date: 2019 (as documented in IPP)

Roadway Features

Roadway: Divided Non-Divided

Median: Flush Raised Concrete Median Barrier

Curbs: Mountable Non-Mountable HMA PCC Stone None

Gutter: None Present Location:

MIARDS/CARDS: None Present Location:

Travel Lanes:

Number: 2 Width(s): Varies 10 ft to 12 ft

Type: Reinforced PCC Non-Reinforced PCC HMA HMA over PCC

Thickness (normal): Total: 6.5" av. (HMA: 6.5" av. PCC: 0)

Reinforced and Non-Reinforced PCC Pavements only:

Slab Length:

Load Transfer Type: Dowels 2 Component

Transverse Joints: Contraction Expansion

Subbase: Type: N/A Thickness (nominal): 6.5" av.

Shoulders:

Type: HMA PCC Gravel Thickness: 6.5" av.

Surface Treatment/Stabilized Gravel Thickness:

Width: Left: N/A Right: Varies 2 ft to 5 ft

Drainage Type: Open System Closed System

PAVEMENT EVALUATION & TREATMENT SELECTION REPORT (PETSr)

PAVEMENT DISTRESS	SEVERITY – Typical for Length of Project				COMMENTS
Wheelpath Cracking	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Transverse Cracking	<input type="checkbox"/> None	<input type="checkbox"/> Low	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> High	
Longitudinal Cracking	<input type="checkbox"/> None	<input type="checkbox"/> Low	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> High	
Edge Cracking	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Raveling	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	Surface Course
Rutting Corrugations	<input type="checkbox"/> None	<input type="checkbox"/> Low	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> High	Select Locations
Settlements/Heaves	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Other	<input type="checkbox"/> None	<input type="checkbox"/> Low	<input checked="" type="checkbox"/> Medium	<input type="checkbox"/> High	Alligator Cracking
	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	Transverse Corrugations

SHOULDER DISTRESS	SEVERITY – Typical for Length of Project				COMMENTS
Cracking	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Separation	<input checked="" type="checkbox"/> None	<input type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	
Drop Off	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	Spot locations at edge of shoudler only
Deformation	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Low	<input type="checkbox"/> Medium	<input type="checkbox"/> High	

Miscellaneous Comments

Evidence of crack sealing. Pavement deterioration with broken-off edges in southwest and southeast corners of US Route 20/NYS Route 5 intersection. Pavement condition at joint with state highway also poor. Poor drainage.

EXISTING PAVEMENT CONDITION REMARKS:

The existing pavement surface is in relatively good condition. Longitudinal, transverse, and alligator cracking is present, however the NOVACHIP and crack sealing treatments appear to have avoided further deterioration. No signs of distress suggesting issues with subsurface drainage along mainline.

EXISTING SHOULDER REMARKS:

Isolated areas with a low degree of cracking along the shoulder. Isolated areas of rutting along the shoulder. Very few places with drop-off

REMARKS AND PAVEMENT RECOMMENDATIONS:

Pavement cores suggest the recycled binder may deteriorate if exposed to heavy truck traffic. NOVACHIP overlay is non-structural. 1/2 inch overlay, 1 3/4 inch HMA top course material. 4 1/4 inch recycled binder provides a 6 1/2 inch pavement section on average. Conventional pavement design procedure indicates 6 1/2 inches should be adequate. (ESAL design suggests 6 1/2 to 6 3/4 inch with Mr =6000 psi and compounded growth.) Recommend maximum milling depth of 1 inch where/as necessary, retaining at least 1 inch HMA over the recycled binder material. Pavement and shoulder cross slopes also require correction. Use truing & leveling and then 1 to 1 1/2 inches of HMA to resurface and accomplish cross slope correction. Resulting pavement 7 inch thick +/- . Shoulder backup and driveway tie-ins will be required. Full depth pavement repairs and/or widening where needed.

GEOTECHNICAL REMARKS AND RECOMMENDATIONS:

Based upon the Subsurface Investigation in spring 2020, no other special geotechnical techniques or considerations anticipated that would affect the design or construction within the project limits.

PAVEMENT EVALUATION & TREATMENT SELECTION REPORT (PETSr)

Treatment Options:

1. 1" max. cold milling and resurfacing with truing & leveling + 1 to 1 1/2 inches of HMA top
2. Heavy tack coat and resurfacing with truing & leveling + 1 to 1 1/2 inches of HMA top.
- 3.

Results of Life Cycle Cost Analysis:

Not required per Table 3-2 of the NYSDOT Comprehensive Pavement Design Manual

Recommendations:

1-inch (max.) cold milling where needed. Resurfacing with truing & leveling + 1 to 1 1/2 inches of HMA top to rehabilitate pavement surface and correct cross slope. Apply heavy tack in areas where milling is not performed. Notes in construction contract to restrict the duration on which traffic can run on a milled surface. Full depth spot pavement repairs as necessary. Full depth shoulder repairs and widening where necessary. Install shoulder backup and driveway tie-ins as necessary.

If you have any questions regarding this report, please contact

Michael T. Croce, PE

(585) 498-7800

Prepared by:

Michael T. Croce, PE

Date:

July 30, 2020 (Rev. 1)

Approved by:



Date: 8-3-20

Professional Engineering Seal for Recommendations to Use Beyond Preservation Treatments:

Appendix E: Culvert Information

Culvert Disposition Table

Culvert ID	1	2	3	4	5	
County Culvert ID	C62001970	C62002410			C62009485	
Culvert Station	B 19+70	B 24+13	B 27+50 LT	B 72+36	B 94+98	
Representative Photo(s)	Inlet 	Inlet 	Inlet 	Inlet 	Inlet 	
	Outlet 	Outlet 	Outlet 	Outlet No Photo Available	Outlet 	
Existing Condition	Size	24"	42"	30"	24"	12"
	Material	Corrugated Metal	Corrugated Metal	Corrugated Metal	Corrugated Metal	Steel
	Condition	- Fair - Crushed Inlet - Outlet half full of water	- Fair - 3/4 full of water	- Fair - Outlet half full of water	- Fair with some section loss - Under ~20 ft of embankment	- Good
	Upstream Invert Elevation (ft)	842.46	844.81	850.45	892.46	950.12 (DS TOG) 947.42
	Downstream Invert Elevation (ft)	842.12	844.32	849.34	891.85	946.55
	Length (ft)	49.3	58.0	51.1	127.1	50.4
	Environmental	Stream - Intermittent	Class C Stream - Perennial	N/A	N/A	N/A
Roadside Condition	- No end sections - Steep dropoff at inlet - Light stone armoring at inlet	- No end sections - Relatively flat side slopes - Ponded water on either side	- No end sections - Steep side slopes at inlet, where 3 ditches converge - Flat outlet side slopes	- Guide rail protected steep slope	- Drainage structure with CI grate at inlet for roadside swale - No outlet end section	
Hydrology / Hydraulics	Drainage Area (Acres)	174	175	72	83	1
	Flow - 10-YR Design Storm (CFS)	116	66	54	55	1
	Flow - 10-YR Design Storm with 10% Increase Future Forecasting (CFS)	127.6	72.6	59.4	60.5	1.1
Proposed Design	Size	48" Rise x 108" ft Span Box	48" Rise x 48" Span Box	24" Rise x 38" Span Elliptical	21" Slip Line	15"
	Material	Precast Concrete	Precast Concrete	Reinforced Concrete	HDPE	Reinforced Concrete
	Upstream Invert Elevation (ft)	842.50	844.81	953.40 (DS TOG) 950.04 (INVERT) 850.75 (END SECTION)	892.46	950.12 (DS TOG) 947.42 (INVERT)
	Downstream Invert Elevation (ft)	842.12	844.32	849.34	891.85	946.50
	Length (ft)	77	74	70	127.1	52
	Tailwater Depth (ft)	1.52	1.02	0.84	N/A	0.12
	Outlet Velocity (ft/s)	10.45	8.4	9.61	N/A	5.49
	ROW Impacts?	(2) Permanent Easements	(2) Permanent Easements	(2) Permanent Easements	(1) Temporary Easement	No
	Wetland Impacts?	Yes	Yes	Yes	No	No
	End Treatment	Tapered and Flared End Piece with Stone Armoring	Tapered and Flared End Piece with Stone Armoring	End Section with Stone Armoring	End Section with Stone Armoring	End Section with Stone Armoring
Design Comments	- Extended culvert to limits of existing clear area - 1 ft natural stream bottom (naturally fill) - Choice of replacement based upon hydraulic capacity, OHW width, and natural bottom	- Extended culvert to limits of existing clear area - 1 ft natural stream bottom (naturally fill) - Choice of replacement based upon hydraulic capacity, OHW width, and natural bottom	- North side roadside safety improved by installing drainage structure and inlet pipes for each of the three approaching ditches - Main flow comes from north (agricultural watershed with retention pond) - Extended south side to improve roadside safety - Concrete circular pipe considered but dismissed due to limited cover	- Slip line to extend life of existing corrugated metal and depth of cover OR - Plug and abandon pipe pending further investigation during detailed design (hydrology / field assessment) - Hydraulic capacity will remain the same given the decreased manning's coefficient - Temporary easement for access to upstream side for construction	- Replace system in kind	

Culvert Disposition Table

Culvert ID	6	7	8	9	10	
County Culvert ID	C62010650	C62014620	C62015476	C62015886	C62016908	
Culvert Station	B 106+36	B 146+38	B 154+54	B 159+02	B 169+30	
Representative Photo(s)	<u>Inlet</u> 	<u>Inlet</u> 	<u>Inlet</u> 	<u>Inlet</u> 	<u>Inlet</u> 	
	<u>Outlet</u> 	<u>Outlet</u> 	<u>Outlet</u> 	<u>Outlet</u> 	<u>Outlet</u> Unknown Outlet / Plugged	
Existing Condition	Size	18"	36"	12"	39" Rise x 24" Span	12"
	Material	Steel	Corrugated Metal	Corrugated Metal	Concrete	Steel
	Condition	- Fair	- Fair - Outlet half full of water	- Fair	- Fair - Inlet headwall broken off	- Fair - Previously plugged by County
	Upstream Invert Elevation (ft)	923.49	931.20	954.73	953.42	967.60
	Downstream Invert Elevation (ft)	921.94	930.43	953.84	952.46	Unknown
	Length (ft)	50.5	51.0	40.0	40.6	Unknown
	Environmental	Stream - Intermittent, downstream of culvert	N/A	N/A	Stream - Intermittent, downstream of culvert	N/A
Roadside Condition	- No end sections - Outlet pipe perched - Stone at outlet	- No end sections - Inlet in steep ditch / hole between driveways and utilities - Outlet on 1:2 slope	- No end sections - Steep dropoff at outlet - "Buried" inlet and outlet	- Headwalls - Steep roadside ditch upstream and driveway culvert / headwall - Outlet perched on 1:2 slope with plunge pool	- Flat side slopes - Inlet ditch continues to flow south past pipe	
Hydrology / Hydraulics	Drainage Area (Acres)	17	65	6	22	8
	Flow - 10-YR Design Storm (CFS)	11	37	5	25	7
	Flow - 10-YR Design Storm with 10% Increase Future Forecasting (CFS)	12.1	40.7	5.5	27.5	7.7
Proposed Design	Size	18"	36"	15"	30"	Remove Existing Cross Culvert
	Material	Reinforced Concrete	Reinforced Concrete	Reinforced Concrete	Reinforced Concrete	
	Upstream Invert Elevation (ft)	923.25	931.20	954.73	957.34 (DS TOG) 953.13 (IN INVERT / END SECTION) 950.61 (OUT INVERT)	
	Downstream Invert Elevation (ft)	921.00	930.43	954.00	950.00	
	Length (ft)	54	54	51	73	
	Tailwater Depth (ft)	0.6	4.33	1.11	1.2	
	Outlet Velocity (ft/s)	11.67	10.26	7.57	8.68	
	ROW Impacts?	No	No	No	(1) Permanent Easement	No
	Wetland Impacts?	Yes	Yes	No	No	Yes
	End Treatment	End Section with Stone Armoring	End Section with Stone Armoring	End Section with Stone Armoring	End Section with Stone Armoring	N/A
Design Comments	- Increase depth to improve ditch flow to cross culvert inlet - Length and deepen to improve outlet flow and tie-in to existing side slopes	- Replace cross culvert in kind	- Lengthen outlet to improve roadside safety	- West side roadside safety improved by installing drainage structure and inlet pipe to north and driveway culvert to south - East side lengthen to improve roadside safety - Entire system deepen to provide better transition to open channel flow to east	- Remove existing cross culvert as it carries no flow	

Culvert Disposition Table

Culvert ID	11	12	13	
County Culvert ID	C62017590	C62022430	C62023150	
Culvert Station	B 175+93	B 224+02	B 231+54	
Representative Photo(s)	Inlet 	Inlet 	Inlet 	
	Outlet No Photo Available	Outlet 	Outlet No Photo Available	
Existing Condition	Size	12" / 15"	24"	
	Material	Steel to Corrugated Plastic	Corrugated Metal	
	Condition	- Fair to Good - Unknown length to pipe material transition	- Fair	- Good
	Upstream Invert Elevation (ft)	974.01	867.87	N/A
	Downstream Invert Elevation (ft)	973.23	867.56	N/A
	Length (ft)	68.4	40.2	50.2
	Environmental	N/A	Class C Stream - Intermittent	Class C Stream - Perennial
	Roadside Condition	- Flat side slopes - Outlet previously extended beyond the highway boundary	- No end sections - Steep dropoffs at inlet/outlet	- Headwalls - Protected with temporary concrete barrier
Hydrology / Hydraulics	Drainage Area (Acres)	5	181	N/A
	Flow - 10-YR Design Storm (CFS)	4	97	N/A
	Flow - 10-YR Design Storm with 10% Increase Future Forecasting (CFS)	4.4	106.7	N/A
Proposed Design	Size	15"	30" Rise x 96" Span Box	N/A
	Material	Reinforced Concrete	Precast Concrete	N/A
	Upstream Invert Elevation (ft)	973.76	867.87	N/A
	Downstream Invert Elevation (ft)	973.23	867.56	N/A
	Length (ft)	68	63	N/A
	Tailwater Depth (ft)	0.57	1.6	N/A
	Outlet Velocity (ft/s)	5.5	10.74	N/A
	ROW Impacts?	(1) Permanent Easement	(3) Permanent Easements	N/A
	Wetland Impacts?	No	Yes	N/A
	End Treatment	End Section with Stone Armoring	Tapered and Flared End Piece with Stone Armoring	N/A
Design Comments	- Replace cross culvert in kind	- West side: Extended culvert to limit of existing clear area - East side: Extension not practical of existing clear area width. Install box beam guide railing with box culvert end section beyond deflection distance. 1:2 foreslope to ditch bottom behind rail. - 6" natural stream bottom (naturally fill) - Choice of replacement based upon hydraulic capacity, OHW width, and natural bottom	No proposed work except replace existing concrete barrier end terminals with transition sections and box beam guide rail end terminals to enhance roadside safety.	

Appendix F:
Nonstandard Features Justification / Non-Conforming
Features Checklist


**Exhibit 2-15
Nonstandard Feature Justification**

Rev. 04/24/17

PIN:	4LV0.02	Route No. and Name:	Bronson Hill Road (CR 62)		
Project Type:	2R - Resurfacing, Restoration, and Rehabilitation		<input type="checkbox"/> National Network/Qualifying Highway		<input type="checkbox"/> Access Highway
Functional Class:	Rural Major Collector		Design Classification (AASHTO Class):	Rural Collector	
ADT:	3510	% Trucks:	4%	<input type="radio"/> NHS	<input checked="" type="radio"/> Non-NHS
			Terrain:	Rolling	
1. Description of Nonstandard Feature					
Type of Feature:	Superelevation Rate				
Location:	Curve Number 1 (Refer to Plans in Appendix A)				
Latitude and Longitude (Linear Feature) FROM Lat:	42deg 50' 12.87"	Long:	-77deg 41' 24.97"	O Lat:	42deg 50' 15.74"
				ong:	-77deg 41' 24.61"
Latitude and Longitude (Point Feature) Lat:		Long:			
Standard Value:	e= 8% max, e= 5% for 1,350 ft at 40 mph design speed		Design Speed:	40 miles per hour	
Existing Value:	No superelevation, normal crown		Recommended Speed - Existing:	15 mph	
Proposed Value:	No superelevation, normal crown		Recommended Speed - Proposed:	15 mph	
2. Accident Analysis					
Current Accident Rate¹:	0.00-1.11*	<input checked="" type="radio"/> acc/mvm	<input type="radio"/> acc/mev	Statewide Accident Rate:	2.12
				<input checked="" type="radio"/> acc/mvm	<input type="radio"/> acc/mev
From	US 20/NY 15	to	South Lima Road	Is the Nonstandard Feature a contributing factor?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Anticipated accident rates, severity, and costs:					
*Crash rate with animal and deer collisions removed. Curve appears as a "bend" in the alignment at the intersection of Bronson Hill Road and Stone Hill Road. Curve warning signs are present. Advisory speed is posted at 35 mph. No change in the anticipated crash rate is anticipated. 5-year crash study showed no adverse crash pattern or cluster associated with this non-standard feature.					
3. Cost Estimates					
Cost to fully meet standards:	\$300,000-\$320,000 w/o ROW, Utilities			Cost(s) for incremental improvements:	\$300,000-\$320,000 w/o ROW, Utilities
4. Mitigation					
e.g., increased superelevation and speed change lane length for a non-standard ramp radius					
Curve warning signs, advisory speed panels, "forgiving" roadside slopes (1:4 or flatter) beyond the edge of shoulder allowing a vehicle space and time to recover and/or stop. Consideration of chevrons during detailed design phase.					
5. Compatibility with Adjacent Segments and Future Plans					
Full superelevation, e=5%, Vd=40 mph, right (east) edge up 1-foot. Superelevation e=4.0%, posted advisory speed = 35 mph, right edge up over 9 in. Superelevation of e=3.5%, speed of 30 mph, right edge raised over 8 in. Superelevation of e=2.5%, speed of 25 mph, right edge raised just under 6 in. All options require reconstruction on Bronson Hill Road and Stone Hill Road. Adjacent drainage and landscaping affected. Private property acquisitions required. Substantial utility coordination and relocations (overhead) required. Intersection reconstruction beyond the scope of 2R project. No plans for either Bronson Hill Road or Stone Hill Road that would change existing conditions. Retaining feature now does not preclude adjustment under a future reconstruction project.					
6. Other Factors					
e.g., social, economic, and environmental					
Reducing posted advisory speed to 15 mph would be out of character for the area. Unlikely to be followed by motorists. Advisory speeds of 30 mph or less require a "turn" sign instead of a curve sign, which also would be out of character and not descriptive of the alignment.					
7. Proposed Treatment (i.e., recommendation)					
Retain existing normal crown through Curve No. 1 in conjunction with planned milling and resurfacing. Continue to monitor crash experience. County reevaluates posted advisory speed with ball-bank after paving is complete.					

¹ Use accidents per million vehicle miles (acc/mvm) for linear highway segments; use accidents per million entering vehicles (acc/meh) for intersections.



Exhibit 2-15
Nonstandard Feature Justification

Rev. 04/24/17

PIN: Route No. and Name:

Project Type: National Network/Qualifying Highway Access Highway

Functional Class: Design Classification (AASHTO Class):

ADT: % Trucks: NHS Non-NHS Terrain:

1. Description of Nonstandard Feature

Type of Feature:

Location:

Latitude and Longitude (Linear Feature) FROM Lat: Long: TO Lat: Long:

Latitude and Longitude (Point Feature) Lat: Long:

Standard Value: Design Speed:

Existing Value: Recommended Speed - Existing:

Proposed Value: Recommended Speed - Proposed:

2. Accident Analysis

Current Accident Rate¹: acc/mvm acc/mev Statewide Accident Rate: acc/mvm acc/mev

From to Is the Nonstandard Feature a contributing factor? Yes No

Anticipated accident rates, severity, and costs:

*Crash rate with animal and deer collisions removed. Curve appears as a subtle "bend" in the alignment just south of the intersection of Bronson Hill Road and Sutton Road. There are no curve warning signs are present. No change in the anticipated crash rate is anticipated. 5-year crash study showed no adverse crash pattern or cluster associated with this non-standard feature.

3. Cost Estimates

Cost to fully meet standards: Cost(s) for incremental improvements:

4. Mitigation

e.g., increased superelevation and speed change lane length for a non-standard ramp radius

Curve warning signs with advisory speed panels. Increase superelevation in both directions to the greatest extent feasible (determine during detailed design) in both directions.

5. Compatibility with Adjacent Segments and Future Plans

No plans for either Bronson Hill Road or Sutton Road that would change existing conditions. Retaining feature now does not preclude adjustment under a future reconstruction project.

6. Other Factors

e.g., social, economic, and environmental

Attaining full superelevation in the southbound direction would affect adjacent utility poles and private property (ROW acquisition required).

7. Proposed Treatment (i.e., recommendation)

County continues to monitor crash experience. Increase superelevation to the extent feasible within the existing roadway footprint without substantial impacts to adjacent ditches, utilities, or private properties.

¹ Use accidents per million vehicle miles (acc/mvm) for linear highway segments; use accidents per million entering vehicles (acc/meh) for intersections.

Non-Conforming Feature Checklist

Issued by EB 17-031, October 2017, Errata correction 02/12/2020

NOTE: This list is furnished only as a reference tool for use in identifying non-conforming features on projects.

#	Other Design Parameters To Be Treated as Nonconforming When Not Met	General Criteria (See Reference for more information)	NYSDOT HDM	2011 AASHTO Green Book	2011 AASHTO RDG
Drainage and Hydrology					
	Design storm for culverts	50 yr.	8.3.2.4		
✓	Design storm for closed drainage	Interstates, other freeways & principal arterials - 10 yr. (50 yr. in sags, underpasses and depressed roadway) Minor arterials, collectors/local roads and streets - 5 yr. (25 yr. in sags, underpasses and depressed roadway)	8.3.2.4		
✓	Design storm for ditches	Interstates, other freeways & principal arterials - 25 yr. Minor arterials, collectors/local roads and streets - 10 yr.	8.3.2.4		
Where feasible due to existing roadway grades	Minimum slope for turf lined roadside channels	0.5%	8.5.2		
Relatively flat roadsides and existing culverts / ditches / stream channel elevations make this infeasible	Allowable headwater at culvert inlets	See HDM Section 8.6.1.1	8.6.1.1		
NA	Maximum width of spread for ponding water	1/2 width of right most travel lane, except limited to the shoulder width of Interstates and other freeways	8.7.4.4.C		
NA	Maximum depth of ponding water	0.5" less than the curb height	8.7.4.4.C		
NA	Minimum grade on curbed highways	0.5%	5.7.4.1	p. 3-119	
NA	Curbed pavements at sag vertical curve	0.3% minimum grade within 50' of the level point	5.7.4.2.B		
✓	Minimum round pipe size	Culverts (lateral) - 24" Storm drains (longitudinal) - 15"	8.6.1.2 & 8.7.5.1		
Yes and as allowed/approved by Livingston County	Depth of cover	See HDM Chapter 8, Appendix A for minimum fill height to subgrade and maximum allowable height of cover	8.6.2.3.A & 8.A		
NA	Park and ride lot	0.5% minimum profile, 2% minimum cross slope, 5.0% maximum grade	24.3.1.6		
SPEDES					
✓	Maximum slopes	1:2 for soils, steeper for rock and stabilized slopes	8		
✓	Stormwater treatment	For non-exempt projects	8		
Alignment					
✓	Decision sight distance (ft)	See AASHTO GB Table 3-3 for minimum values	5.7.2.3	p. 3-7	
✓	Passing sight distance (two-lane, two-way roadways) (ft)	See AASHTO GB Table 3-4 for minimum values	5.7.2.2	p. 3-9	
✓	Passing zone length (ft)	See AASHTO GB Table 3-5 for minimum values		p. 3-14	
NA	Compound curve ratio (of flatter radius to sharper radius in the direction of the sharper curve)	Ramps and mainline curves - 1:2 Maximum Mainline Curves - 1:1.5 Desirable	5.7.3.5	p. 3-58	
NA	Compound curve lengths [in the direction of the sharper curve] (ft)	See AASHTO GB Table 3-14 for minimum values		p. 3-58	
✓	Minimum superelevation runoff length (non-spiral curve)	$L_r = (w n_1 e_d b_w) / \Delta$	5.7.3.3	p. 3-61	
✓	Minimum superelevation runout length (non-spiral curve)	$L_t = L_r (e_{NC} / e_d)$		p. 3-66	
✓	Maximum superelevation on tangent (non-spiral curve)	60% - 90%	5.7.3.3	p. 3-66	
NA	Minimum superelevation runout length (spiral curve) (ft)	$L_t = L_s (e_{NC} / e_d)$		p. 3-66	
NA	Minimum length of spiral curve (ft)	See AASHTO GB Eqs 3-26 or 3-27		p. 3-71	
NA	Maximum length of spiral curve (ft)	See AASHTO GB Eq 3-28		p. 3-72	
NA	Minimum tangent between broken back curves (ft)	1,500'	5.7.3.5		
NA	Minimum tangent for reverse curves (ft)	325'	5.7.3.5	p. 3-112	
✓	Minimum length of crest vertical curve (ft)	Min. SSD	5.7.4.2.A	p. 3-153	
✓	Minimum length of sag vertical curve (ft)	Minimum lengths for drainage and sight distance under vertical obstructions are needed; minimum lengths for riding comfort and appearance are desirable.	5.7.4.2.B	p. 3-161	
NA	Climbing lane warrant (two-lane, two-way roadways)	Upgrade traffic flow rate in excess of 200 vph; and upgrade truck flow rate in excess of 20 vph; and 10 mph heavy truck speed reduction, or LOS E or F, or LOS drop of 2 or more	5.7.5	p. 3-125	
NA	Climbing lane warrant (multilane highways and freeways)	10 mph heavy truck speed reduction, and either LOS E or F or LOS drop of 1 LOS or more	5.7.5		
NA	Emergency escape ramp warrant	Long descending grade	5.7.6	p. 3-140	
✓	Intersection skew	Acute angle $\geq 60^\circ$	5.9.3.3	p. 9-54	
✓	Intersection sight distance (ft)	See HDM Exhibit 5-30 and Appendix 5C	5.9.5	p. 9-28	
✓	Intersection turning radii (ft)	Greater of 30' minimum or design vehicle path	5.9.3.7	p. 9-55	
Mobility					
✓	Design vehicle	Largest vehicle that frequently uses a facility. Minimum required is SU except WB 67 on truck access and interstate	5.7.1.1		
✓	Intersection LOS (each lane group)	Urban - D minimum, Rural - C minimum	5.9.2.1		
NA	Merge (and lane drop) taper length (ft)	See Table 6H-4 of the National MUTCD	5.7.8 & 5.9.8.1		
NA	Approach and departure taper length (ft)	Desirable = Merge Taper Length Minimum = 1/2 Merge Taper Length	5.9.8.2.E		
NA	Bay taper length (ft)	Desirable = 50' - 100' Maximum = 1/2 Merge Taper Length	5.9.8.2.E		
NA	Lane drop taper rate	50:1 minimum; 70:1 desirable		p. 10-80	

Non-Conforming Feature Checklist

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#	Other Design Parameters To Be Treated as Nonconforming When Not Met	General Criteria (See Reference for more information)	NYSDOT HDM	2011 AASHTO Green Book	2011 AASHTO RDG
NA	Two-way left-turn lane (TWLTL) length (ft)	Desirable minimum of 260'	5.9.8.2.C		
NA	Bay (Queue) Storage length (ft)	See HDM 5.9.8.2.F	5.9.8.2.F		
NA	Turn lane lengths, based on deceleration distance for constrained areas (ft)	See HDM 5.9.8.2.G	5.9.8.2.G		
NA	Transit facilities	See HDM Chapter 24	24.3.5 & 24.3.6		
NA	Speed change lane length for at-grade intersections (ft)	See AASHTO GB Section 9.7	5.9.8.3	9-124	
✓	Pedestrian accommodations	Non-conforming if warranted, but none provided	18.5.5.2		
✓	Pedestrian LOS	D minimum	18.5.4		
NA	Pedestrian crossing speed	See HDM Exhibit 18-10	18.7.1.2		
NA	Pedestrian refuge island width (ft)	6'	5.9.4.4		
NA	Pedestrian delay at intersections	> 30 seconds	5.9.2.2		
NA	Raised crosswalks	4" rise with 4% slopes and 8' min crossing width	<u>EI 13-018</u>		
NA	On-street parking	See 5.7.16.1 for list of restrictions. Restrictions include: - within intersection turning area - roads with ≥ 50 mph design speed - front-in diagonal	5.7.16.1		
NA	Traffic calming	See HDM Chapter 25	25		
Roadside					
✓	Maximum desirable side slopes	Varies based on embankment height and design speed; see HDM Table 3-9	3.2.13.1		
✓	Barrier warrant	Non-conforming when shielding for fixed object, roadside obstacle, or non-conforming cross-sectional or drainage feature not provided when warranted	10.2.2		
✓	Barrier crash testing criteria	Generally MASH, see 10.2.3 for exceptions	10.2.3 & 10C		
✓	Point of need	See HDM 10.2.2.1	10.2.2.1		
✓	Barrier height	See HDM Table 10-7 & Standard Sheet Group 606	10.3		
✓	MASH barrier crash testing level	TL-1, TL-2 or TL-3. Refer to HDM 10.2.3	10.2.3 & 10C		
✓	Minimum distance between the first (farthest upstream) post of an NCHRP 350 terminal and a shielded fixed object	75' for ≥ 60 mph design speeds 60' for 50 and 55 mph design speeds 45' for < 50 mph design speeds	10.2.2.1		
✓	Lateral offset (minimum) (ft)	1.5' from face of curb (3' at intersections and driveway openings) OR greater of shoulder width or 4'			p. 3-13
✓	Clear zone width	Varies based design speed, volume, side slopes and roadway curvature; See HDM Tables 10-1 & 10-2 for minimum goals	10.2 and 10.3		
✓	Shoulder break offset	30 in.	3.2.5.3		
✓	Shoulder break rounding	4' radius	3.2.5.3		
NA	Bike lane width (ft)	5' minimum	17.4.7		
NA	Bicycle path width (ft)	Two-way: 10' minimum One-way: not recommended	17.4.9		
Not applicable on County Roads	CARDs on undivided roads	≥45 MPH with 11' minimum lane width and 2' minimum shoulder width (other criteria applies)	<u>EI 13-021</u>		
NA	SHARDs	≥50 MPH with 11' minimum lane width and 6' minimum shoulder width (other criteria applies)	<u>EI 16-014</u>		
✓	Setback (snow storage) (ft)	Minimum = 4' Desirable = 90th percentile seasonal snowfall depth x 6%/ft x distance centerline to curb	3.2.11.1		
NA	Curb at pedestrian refuge islands	Design spd. ≤ 40 mph - 6" vertical (non-mountable) Design spd. 45 mph -50 mph 4-6" sloping (mountable) preferred, 6" vertical face curb allowed Design spd. > 50 mph - 4", 1:3 traversable curb or uncurbed	5.9.4.4		
NA	Median width (multilane divided rural arterials)	4' minimum without left turn lanes 12' minimum with left turn lanes	3.2.8.2.A & B		
Driveways					
Match existing, No observed issues - Follows spirit and intent of <u>NYSDOT Policy and Standards for the Design of Entrances to State Highways</u>	Driveway spacing	See HDM Figure 5A-3	5A.4.1		
	Maximum commercial driveway grade	6% urban, 10% rural	5A.4.4.2 & Std.Sht. 608-03		
	Maximum residential driveway grade	8% urban, 12% rural	5A.4.4.2 & Std.Sht. 608-03		
	Driveway materials (surface and subbase)	See Standard Sheet 608-03	5A.9.3 & Std.Sht. 608-03		
	Driveway opening width	See Standard Sheet 608-03	5A.9.5 & Std.Sht. 608-03		
	15" typical, 12" minimum, 10" allowable in special cases. (Livingston County stds.)	Minimum pipe size	15"	5A.4.5.1 & 8.6.1.2	
✓	Minimum cover over top of pipe	12"	5A.4.5.1		
Freeways					
NA	Interchange spacing	1 mile urban, 2 mile rural		p. 10-68	
NA	Ramp terminal spacing (ft)	See AASHTO GB Figure 10-68 for minimum values		p. 10-106	
NA	Speed change lane length (ft)	See AASHTO GB Section 10.9.6		p. 10-107	
NA	Control of access	Full		p.8-1	

Non-Conforming Feature Checklist

Issued by EB 17-031, October 2017, Errata correction 02/12/2020

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#	Other Design Parameters To Be Treated as Nonconforming When Not Met	General Criteria (See Reference for more information)	NYSDOT HDM	2011 AASHTO Green Book	2011 AASHTO RDG
NA	Median width	Rural = 36' (10' mountainous) Urban = 10' for 4 lanes, 22' for ≥ 6 lanes	3.2.8.1	p. 8-7	
NA	Median barrier	Warranted on interstates w/ traversable median < 72 ft. wide; warranted on non-interstate freeways or expressways with AADT $\geq 20,000$ and traversable median < 50 feet wide	10.2.4		
NA	ROW fence height	4' - agricultural areas 6' - urban areas 8' - adjacent to school play grounds	10.5.2.4.A		
NA	Median-emergency crossovers (rural)	$\leq 1:10$ side slope, 25' width, 50' radii, located 3-4 miles apart and >1,500' from end of ramp	5.7.10	p. 8-9	
NA	Longitudinal utilities	Not permitted on Interstates	13		
Pavement					
✓	Thickness	See HDM 3.2.4.2	3.2.4.2		
✓	Rollover	Between travel lanes = 4% maximum. At the traveled way edge = 8% maximum. When the superelevation rate exceeds 6% on Rural Highways, a maximum rollover rate of 10% at the edge of traveled way may be permitted.	3.2.5.1 & 7.5.2.1.L	p. 4-28	
✓	Edge of shoulder drop off	2" max.	3.3.5		
✓	Smoothness	Specifications	3		
NA	Curb use restrictions	No vertical-faced curbs on roads > 50 MPH; see HDM 10.2.2.4 A, B & C for complete restrictions	10.2.2.4		
NA	Curb offset	On new/reconstructed high speed highways, mountable or traversable curb should be located no closer to the traveled way than the outside of the shoulder	3.2.9.4.A		
HOV Lane					
NA	Free flow LOS (freeway)	C minimum	24.2.3.3		
NA	Buffer area width (freeway)	Narrow buffer: 1' minimum, 4' maximum Wide buffer: 10' minimum, 14' maximum	24.2.3.4.B		
NA	Buffer area width (arterials)	2' desirable	24.4.3.2		
NA	Enforcement area width (freeway)	14' minimum (≥ 50 mph) 12' minimum (≤ 40 mph)	24.2.3.4.C		
Misc.					
NA	Bridge roadway width	See Bridge Manual Table 2-1	5.7.14		
NA	Lighting warrants	See NYSDOT's Policy on Highway Lighting	12		
NA	Traffic control signal warrants	MUTCD and NYS Supplement outlines minimum conditions under which a traffic control signal may be justified	11.3.1.3		
✓	Signs and delineation	See MUTCD and Standard Sheet Groups 645, 646 & 649			
✓	Depth of cover for underground utilities (in)	60" min. below top of pavement (within roadway) 36" min. below finished grade (outside of roadway)	13A (Section 131.9)		
NA	Water line to sanitary/storm sewer offset	10' (horizontal) parallel, 18" (Vertical) crossing	13F.5		

Appendix G: Public Involvement

PUBLIC COMMENT SUMMARY

A public information review period took place from Monday, July 13, 2020 to Friday, July 24, 2020, with documents illustrating the proposed project made available on the County's project website. Interested commuters, residents, and the general public were encouraged to review the written and graphical documentation, including a slide show presentation, during that time. Comments or questions were directed to the County via an online form or they had the opportunity to present comments to the County's project manager via e-mail or mail via comment sheets provided on the project website. A total of seven comments were received prior to the deadline. Changes have been made to the Final Design Report where noted in the response.

Comment: Since work is going to be done on the roadway, can you consider putting in a designated bicycle lane? There are more and more bicyclists out and about, especially due to COVID-19 needing to be involved in activities where one can social distance, and this would be a great way to promote exercise in the community (and safe lanes). I have gone to other communities where there are designated bicycle lanes on one side of the road - two bicycle lanes on the same side of the road. This leads to safer biking and drivers being aware to use caution. I think as road areas in this county are being repaired and fixed, adding bike lanes would be a great improvement for the well-being and safety of our community and would not incur much of an added expense since the work is already being done. Please seriously consider this option in the project. (Community Member – 5720 West Lake Road)

Response: *As noted in **Section 2.3.5**, bicyclists may legally use the paved shoulder and roadway consistent with the NYS Vehicle and Traffic Law Section 1234. The existing shoulder width varies from 2 to 5 feet. The shoulder width would be standardized at 4 feet (minimum) throughout the corridor in conjunction with resurfacing and the application of new pavement markings to enhance bicycle accommodation. Existing physical, environmental, and property constraints would not allow for the construction of a separated shared use path within the scope of and funding available to this maintenance project. The proposed project would not preclude the future addition of bicycle lanes or a separate facility as part of a future, independent action.*

Comment: It appears due to the cemetery that our section of the road, through Michael Wirt, will not be changed. Is this correct? (Resident - 2892 Bronson Hill Road)

Response: *The pavement rehabilitation will extend through this area. Roadway cross culvert and driveway culvert changes will also be made where needed. Refer to the preliminary plans contained in **Appendix A** for an illustration of the proposed work.*

Comment: Driveway at 3100 Bronson Hill Road (General Plan, page 4) - drivers cannot see when pulling out onto the road. Consider moving tree and brush line back from road. Tree stump in ditch north of driveway creates vegetation visual obstruction. (Resident – 3100 Bronson Hill Road)

Response: *The Livingston County Highway Department will review conditions and perform tree trimming or ditch cleaning, as necessary, in advance of this project as a separate action.*

Comment: Thank you. This is a much-needed project and will address several issues I have noticed with my section of Bronson Hill Rd. The culverts and ditch along my section need this maintenance! In addition, the shoulders on my section of Bronson Hill Rd are very narrow. This appears to address both of those issues, relative to my section of the road. Although I am not looking forward to the dust, I am looking forward to the results following completion! (Resident – 3080 Bronson Hill Road)

Response: *Thank you for your comment.*

Comment: We own 100 acres of farm land along Bronson Hill Rd. On the corner of Sutton Road along Bronson Hill Road, there is currently no drainage ditch along the road so when a steady or heavy rain comes along, it washes into our fields and is starting to erode a couple good size areas. We are enquiring about getting a ditch dug along the road to then feed into the ditch that runs to the corner of the field on Sutton Rd. This would eliminate the erosion and washouts that we have been experiencing from the road runoff. We would be more than happy to meet in person and show exactly what and where we believe this would benefit. It is a pretty long stretch of road frontage that this affects. If you would have any interest in possibly looking into this and working it into the project, we would be thrilled. A side note, we could probably arrange for a parking area for equipment on the property, when not being used. (Landowner – SW corner of Bronson / Sutton)

Response: *The feasibility of installing a roadside ditch in this area, within the existing highway boundary, will be reviewed further during detailed design. Arrangements regarding the selection and occupation of material and equipment staging area(s) will ultimately be made by the Contractor.*

Comment: I tried using the online form to provide feedback about the Bronson Hill Rd project, but there apparently is a limit to how much text can be entered, so I'm sending this by E-mail instead.

I've read through the materials, including the "Draft/Preliminary plans" detailed schematics, but it was difficult to determine which culverts, for example, specifically would be repaired / replaced. As our property is adjacent to the intersection of Bronson Hill Rd and Stone Hill Rd, my wife and I would like to offer up the following observations regarding the Bronson Hill Rd project:

1. The roadway cross culvert running beneath Stone Hill Road, immediately to the west of the intersection of Bronson Hill and Stone Hill, often overflows when there is a storm with significant rainfall. There have been a few times in recent years where the entire intersection has been flooded with several inches of flowing water, causing dangerous driving conditions.
2. There is a cross culvert along the border of our property at Bronson Hill Rd, a few hundred feet (roughly) south of the intersection with Stone Hill Rd., that runs under Bronson Hill, and often overflows with heavy rain fall and leads to flooding of the road. I have seen the Highway Department work on that culvert a time or two in the past (maybe 5 years?), so my guess is that you plan to address it with the current project.
3. It may be beyond the scope of this particular project, but we feel the intersection at Bronson Hill and Stone Hill could significantly benefit from a 4-way stop, similarly to the one installed fairly recently at the intersection of Stone Hill and Poplar Hill. There have been a lot of near misses and actual accidents at the intersection, and we far-too-often witness cars and motorcycles traveling at high rates of speed, not obeying the posted speed limit signs.

Please consider this as a potential improvement if it cannot be addressed with the current project. Thanks for your consideration of this feedback. (Resident – 6176 Stone Hill Road)

Response: *Refer to the Culvert Disposition Table in **Appendix E** for detailed information on the proposed work at specific culverts. The culvert (C-3) crossing Stone Hill Road just west of Bronson Hill Road will be replaced and its hydraulic capacity will be increased. Livingston County Soil and Water Conservation recently completed a project upstream of this crossing in hopes to attenuate the water before reaching this crossing, hopefully reducing the chances of flooding. Additional grading will be done on the inlet side to help mitigate flooding concerns.*

The culvert (C-2) crossing Bronson Hill Road approximately 200 feet south of Stone Hill Road will be replaced with a precast concrete box structure having increased capacity.

*Please refer to the Safety and Crash History Analysis presented in **Section 2.3.4** for a summary of the safety study performed as part of this project. As shown in **Exhibit 2.3.4-2**, the crash rate, excluding animal and deer related collisions, does not exceed the statewide average for similar intersections for the five-year study period from August 1, 2014 through July 31, 2019.*

Comment: I have the following concerns:

1. If the ditch is widened toward my house, it might get into the septic leach lines. However, I am not exactly sure where they end.
2. There are two existing drainpipes from my property into the roadside ditch. Please make sure they are not damaged.
3. Please make sure all re-graded ditches are reseeded, so they do not erode, particularly upstream of my property, near the cemetery.
4. I would prefer the shoulders be paved or use millings, so the grass does not grow out to the pavement.
5. I would be interested in having the ditch in front of my property enclosed so it does not have to be mowed.
6. The existing CMP driveway pipe has only railroad ties across it at the wheel paths.
(Resident – 2898 Bronson Hill Road)

Response: *All driveway and culvert work will be done within the existing highway boundary and therefore should not reach the ends of the leach lines; however, this concern will be reviewed further during detailed design.*

A note will be added to the contract plans regarding the existing drain pipes. If the ends of the pipes are affected by the proposed ditch work they would be replaced in kind.

Topsoil will be placed, and turf will be reestablished where disturbed by construction activity. Additionally, erosion sediment control devices would be installed during construction to mitigate erosion.

Asphalt shoulders will be repaved, and shoulder back-up material will be placed behind them as part of the project. The exact type of shoulder back-up material to be used will be determined during detailed design in accordance with Livingston County's typical practices.

Livingston County will review the request to enclose this segment of ditch further during detailed design.

Residential driveways where culverts are replaced will be restored to their existing width using similar material (i.e. gravel or asphalt) within the limits of disturbance.

Comment: If possible, we would like some of the millings. (Landowner – 3474 Bronson Hill Road)

Response: *The County will make note of the offer to the Contractor at the preconstruction meeting in 2021 prior to the start of construction.*



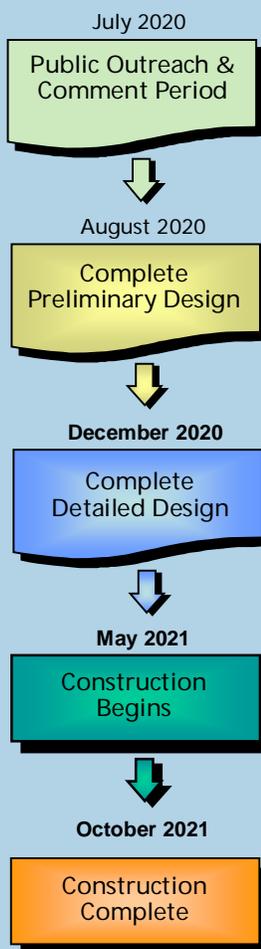
Bronson Hill Road (CR 62) Rehabilitation

PIN 4LV0.02

Public Outreach & Comment Period

July 2020

Anticipated Project Schedule



For further information, please contact:

Mr. Zac Cracknell
Deputy Highway Superintendent
Livingston County Highway Dept.
4389 Gypsy Lane
Mount Morris, NY 14510
highway@co.livingston.ny.us

Project Location



Why is the project needed?

- Bronson Hill Road is an important two-lane rural collector roadway. It serves residential, agricultural, industrial, and seasonal traffic— 3,500 vehicles per day. Livingston County has carried out regular maintenance, but the roadway's surface now needs repaving to repair cracking and rutting and to protect the layers below.
- Wet conditions and poor drainage have resulted in potholes, broken pavement, and rutting from heavy trucks where Bronson Hill Road meets US Route 20 & NYS Route 5.
- Many roadway cross culverts are in poor condition. Some are made of corrugated metal pipe and are rusting and falling apart. Some aren't large enough to handle the types of storms regularly experienced today. Others, carrying streams, could be made more environmentally friendly. There are also several undersized driveway culverts within Livingston County's right-of-way and ditches that would benefit from cleaning or reshaping.
- The concrete barriers where Bronson Hill Road passes over Little Conesus Creek are not long enough to adequately protect a vehicle from running off the road into the water. If a vehicle were to hit one of the concrete ends at a high rate of speed, it could result in a severe crash. "W" shaped guiderails at the former railroad crossing do not meet current safety standards related to the types of SUV's and tractor trailers seen on the road today.
- Short portions of the shoulder are narrower than 4 feet, which is the minimum needed to accommodate occasional pedestrian traffic.

What are the project's objectives?

- Perform corrective maintenance on the existing pavement surface, extending the expected service life by 8 to 10 years;
- Enhance drainage and pavement conditions in the southeast and southwest corners of the intersection with US Route 20 and NYS Route 5;
- Replace and/or improve undersized drainage cross culverts to handle up to 10% more flow than experienced during a typical 10-year design storm;
- Improve or replace existing concrete barrier end terminals and guide rail to achieve conformance with current standards; and
- Improve flow in drainage ditches where needed and practical;

Major elements of proposed work:



- Mill the existing pavement to a depth of 1-inch and resurface with a 1 1/2-inch asphalt top course. Perform deeper repairs where needed. Improve the cross slope along straightaways and banking in curves where possible. Smooth the transition between the northern edge of US Route 20A / NYS Route 15 and Bronson Hill Road.
- Reconstruct portions of the shoulder to better accommodate turning trucks and ensure a minimum width of 4 feet for the occasional pedestrian. Install shoulder back-up material and adjust driveways as necessary to meet the new pavement surface.
- Install new roadway cross culverts (some pipes, some precast concrete box culverts) to improve condition and increase capacity. The ends of the culverts would be moved away from the roadway, eliminating drop offs and enhancing roadside safety. Improve drainage in the corners of the US Route 20 / NYS Route 5 intersection through shoulder reconstruction, extending drainage pipes, ditch cleaning, roadside grading, and the adjustment of existing drainage inlets.
- Replace existing driveway pipes and clean and reshape ditches where needed to improve flow within Livingston County's right-of-way.
- Replace the ends of the concrete barriers at Little Conesus Creek and the "W" Beam guide rail at the former rail-road crossing.

Estimated Construction Cost:

\$3.3M

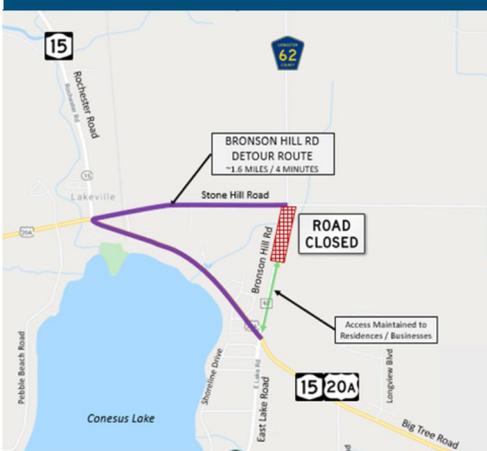
This project is funded with federal and Livingston County dollars. Should money be available, New York State may also contribute money toward the project.



Construction Information

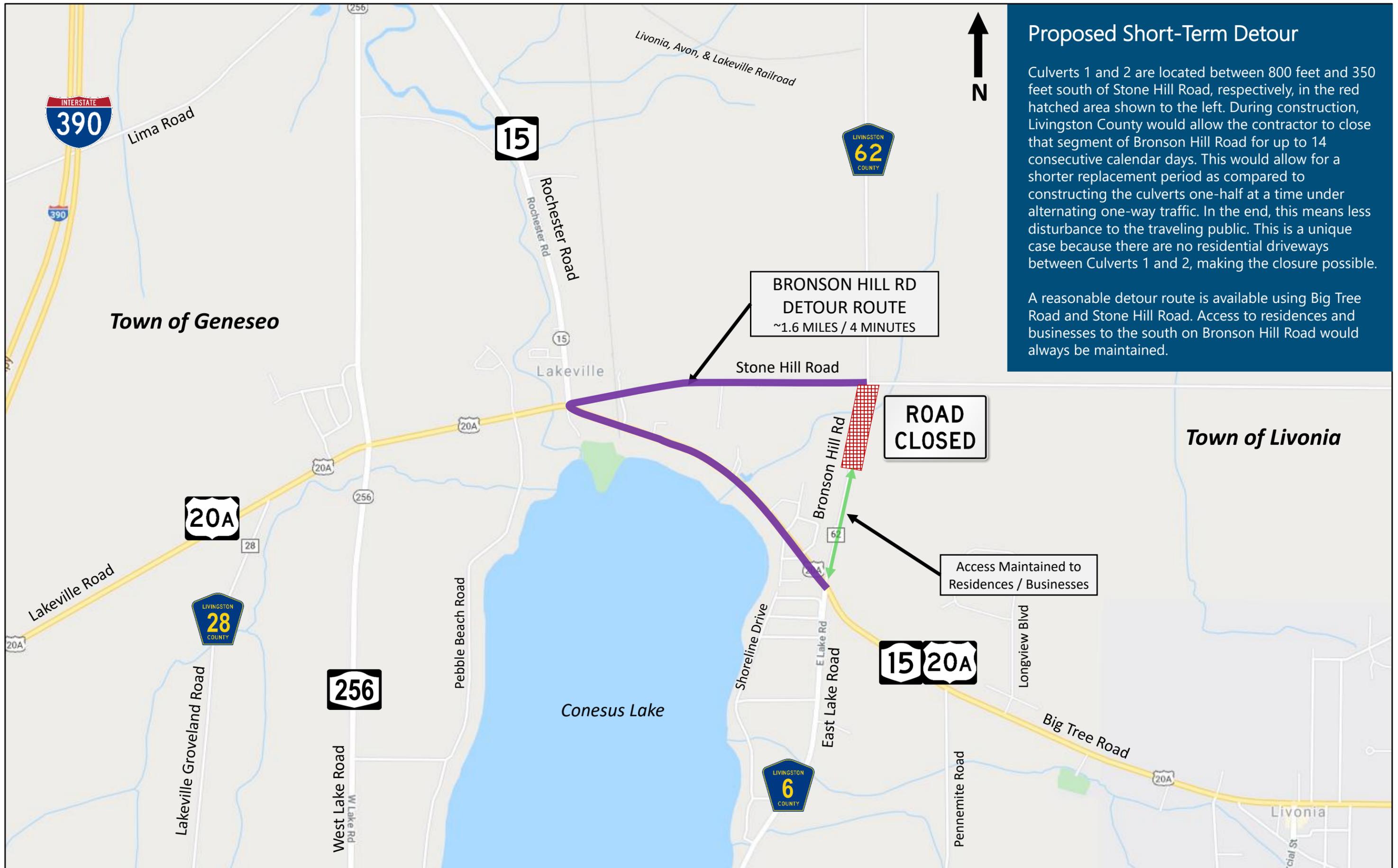
- Traffic would be maintained on Bronson Hill Road throughout most of construction. Shoulder closures would be used for work that does not affect the through travel lanes.
- Traffic would be controlled by flaggers when work affects a travel lane and the roadway can be reopened to two-way traffic by the end of the day. A temporary traffic signal would be required to control alternating one-way traffic if the roadway cannot be reopened to two-way traffic at the end of the day.
- A short-term detour would be allowed for the replacement of two culverts just south of Stone Hill Road. Bronson Hill Road would always remain open to local traffic south of the closure. The contract would include provisions limiting the number of consecutive calendar days this closure could be kept in place.
- The contractor would be required to coordinate with local emergency service, law enforcement, and school district officials in advance.

Proposed Detour Route



Property Acquisitions

- Up to ten property acquisitions are anticipated to construct and maintain the project. Most would be permanent easements, with one temporary easement specifically for construction access.
- The acquisitions would fall at or near locations where roadway cross culverts are being extended to improve roadside safety.
- As this project involves federal funding, all property acquisitions would be done in conformance with the Uniform Relocation Assistance and Real Property Acquisition Act of 1970. Affected owners would be contacted later this summer by the County's real estate consultant.

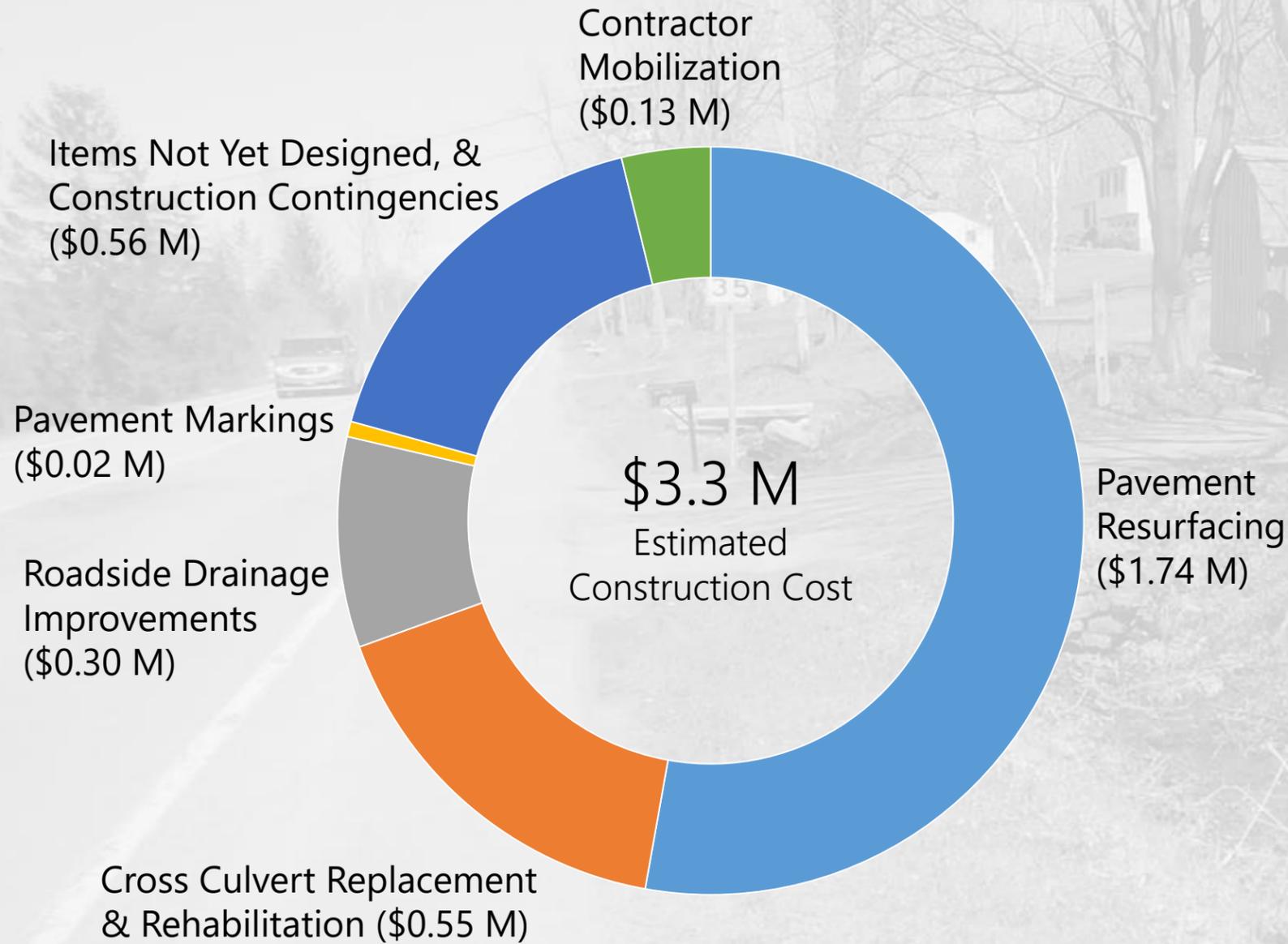


Proposed Short-Term Detour

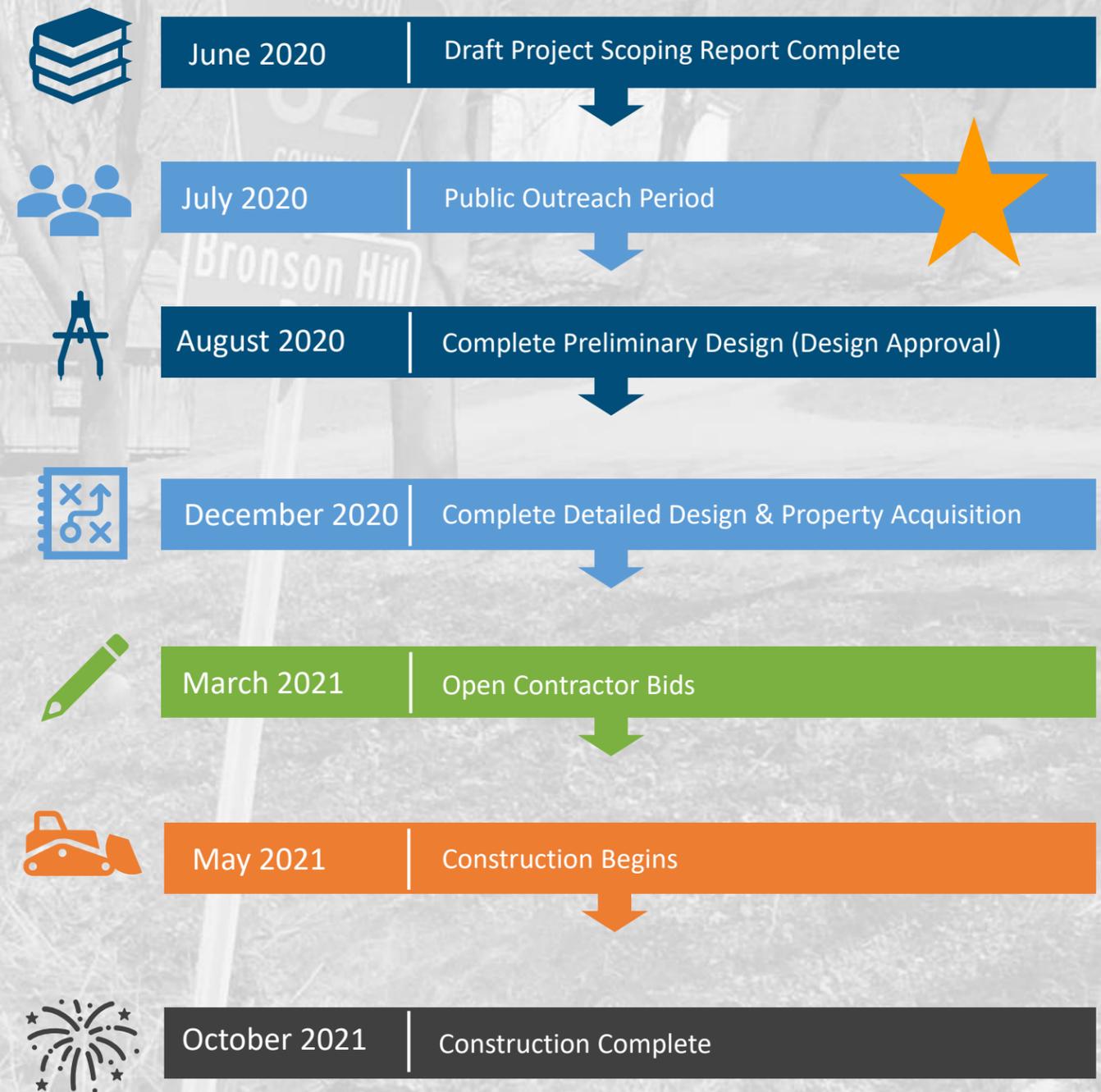
Culverts 1 and 2 are located between 800 feet and 350 feet south of Stone Hill Road, respectively, in the red hatched area shown to the left. During construction, Livingston County would allow the contractor to close that segment of Bronson Hill Road for up to 14 consecutive calendar days. This would allow for a shorter replacement period as compared to constructing the culverts one-half at a time under alternating one-way traffic. In the end, this means less disturbance to the traveling public. This is a unique case because there are no residential driveways between Culverts 1 and 2, making the closure possible.

A reasonable detour route is available using Big Tree Road and Stone Hill Road. Access to residences and businesses to the south on Bronson Hill Road would always be maintained.

Construction Cost Estimate



Anticipated Schedule





Bronson Hill Road (CR 62) Rehabilitation

PIN 4LV0.02

Towns of Livonia and Avon
Livingston County

Presentation Available July 13, 2020
Comment Period Ends July 24, 2020



NATIONAL FIRM. STRONG LOCAL CONNECTIONS.



Department of
Transportation



BERGMANN
ARCHITECTS ENGINEERS PLANNERS



Bronson Hill Road (CR 62) Rehabilitation
PIN 4LV0.02

How can you provide input on or before Friday July 24, 2020?

Write or e-mail:

Zac Cracknell

Deputy Highway Superintendent
Livingston County Highway Department
4389 Gypsy Lane
Mount Morris, NY 14510

highway@co.livingston.ny.us

Fill out and return a comment sheet available on
the project web page:

<https://www.livingstoncounty.us/1225/Bronson-Hill-Rehabilitation>



NATIONAL FIRM. STRONG LOCAL CONNECTIONS.

Presentation Outline

1 BACKGROUND
Location, Need, Purpose, Objectives

2 PROJECT OVERVIEW
Proposed Work

3 CONSTRUCTION
Work Zones, Schedule, & Cost

4 HOW TO PROVIDE INPUT
Contact Information





Bronson Hill Road (CR 62) Rehabilitation
PIN 4LV0.02

Background

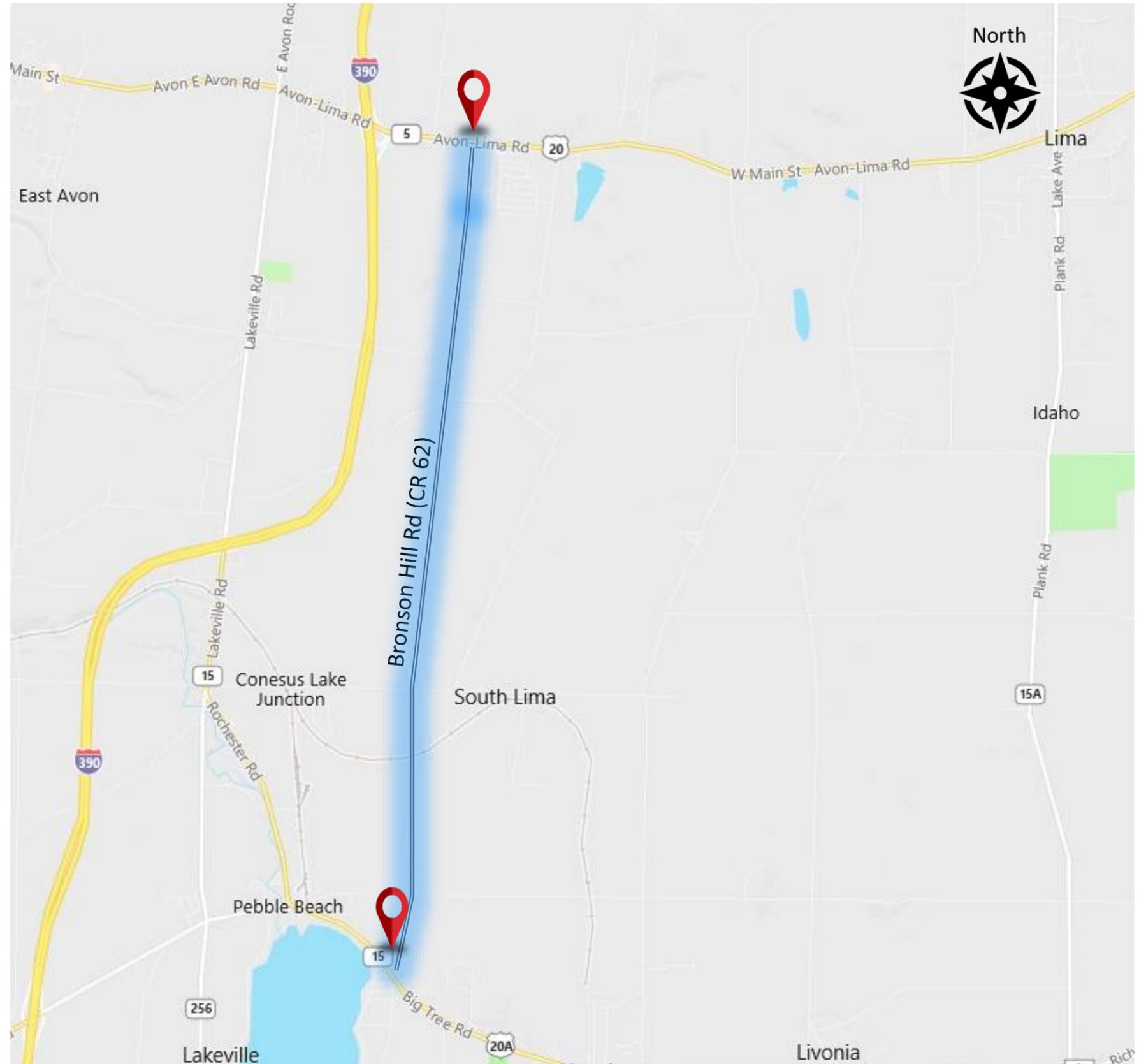
Location, Need, Purpose, Objectives

Project Location

Bronson Hill Road:

From Big Tree Road (US Route 20A/NYS Route 15)
- to -
East Avon–Lima Road (US Route 20/NYS Route 5)

In the towns of Livonia and Avon, Livingston
County





Purpose & Need

Pavement Condition

Bronson Hill Road is an important two-lane rural collector roadway. It serves residential, agricultural, industrial, and seasonal traffic. Livingston County has carried out regular maintenance, but the roadway's surface needs repaving to repair cracking and rutting and protect the layers below.

Short portions of the shoulder are narrower than 4 feet, which is the minimum needed to accommodate occasional pedestrian traffic.



3,500 vehicles per day
4% heavy trucks



Last paved: **2010**
Most recent treatment: **crack sealing**





Wet conditions have accelerated damage to Bronson Hill Road where it meets US Route 20 and NYS Route 5. There are potholes, the edge of pavement is broken and rutted from heavy trucks, and water doesn't reach nearby catch basins.



Purpose & Need

Roadway Drainage

Many roadway cross culverts are in poor condition. Those made of corrugated metal pipe are rusting and falling apart. Some aren't large enough to handle the types of storms regularly experienced today. Others, carrying streams, can be made more environmentally friendly. Improving pipes beneath a road and taking care of the water before you pave makes good sense.

There are also several undersized driveway culverts within the County's right-of-way. Some ditches would benefit from cleaning or reshaping.



13 roadway cross culverts were studied in detail
10 need replacement



Purpose & Need

Concrete Barriers & Guide Rails

The concrete barriers where Bronson Hill Road passes over Little Conesus Creek are not long enough to adequately protect a vehicle from running off the road and into the water. If a vehicle were to hit one of the concrete ends at a high rate of speed, it could result in a severe crash.

“W” shaped guide rails at the former railroad crossing do not meet current safety standards related to the types of SUV’s and tractor trailers seen on the road today.



Bronson Hill Road does not have a history of bad crashes; however, proactively enhancing roadside safety is good practice.

Speeds regularly come in at just under **60** miles per hour between Stone Hill Road and South Lima Road.

Speeds get as high as **66** miles per hour between South Lima Road and US Route 20 / NYS Route 5.



Project Objectives

- Perform corrective maintenance on the existing pavement surface, extending the expected service life by 8 to 10 years;
- Replace and/or improve undersized drainage cross culverts to handle up to 10% more flow than that experienced during a typical 10-year design storm;
- Improve flow in drainage ditches where needed and practical;
- Enhance pedestrian accommodation along the shoulders with a minimum width of 4 feet;
- Enhance drainage and pavement conditions in the southeast and southwest corners of the intersection with US Route 20 and NYS Route 5; and
- Improve or replace existing concrete barrier end terminals and guide rail to achieve conformance with current standards.





Bronson Hill Road (CR 62) Rehabilitation
PIN 4LV0.02

Project Overview

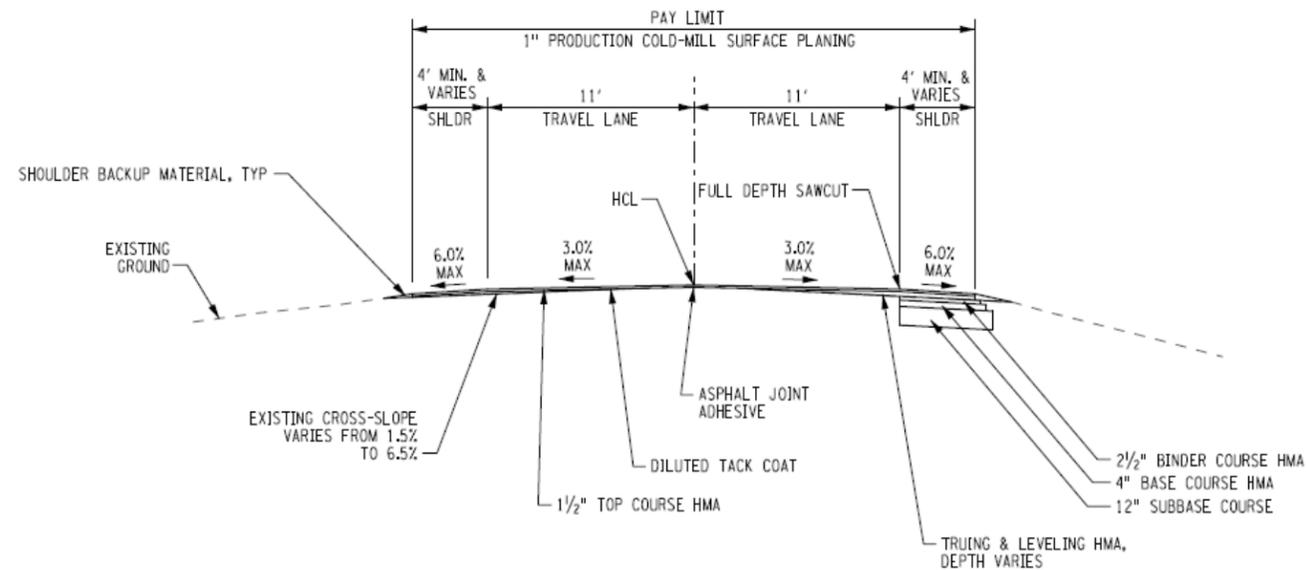
Proposed Work



Proposed Work

Paving

Rehabilitate the existing pavement: Mill to a depth of 1-inch and resurface with a 1 ½-inch asphalt top course. Perform deeper repairs or reconstruction where needed. Improve the cross slope along straightaways and banking in curves where possible. Smooth the transition between the northern edge of US Route 20A/NYS Route 15 and Bronson Hill Road.



MILLING & RESURFACING WITH SHOULDER RECONSTRUCTION
 LOCATIONS OF SHOULDER RECONSTRUCTION AS SHOWN ON THE GENERAL PLANS

Reconstruct portions of the shoulder to better accommodate turning trucks and ensure a minimum width of 4 feet for the occasional pedestrian.

Avoid a drop-off along the edge of the new shoulder by placing backup material and adjusting driveways where necessary.



Proposed Work Drainage

Install new roadway cross culverts (circular reinforced concrete pipe, heavy wall circular steel pipe, elliptical reinforced concrete pipe, and/or precast concrete boxes) to improve condition and increase capacity. The ends of the culverts would be moved away from the roadway, eliminating current drop offs and enhancing roadside safety.

Replace existing driveway pipes and clean and reshape ditches where needed to improve flow within Livingston County's right-of-way.

Improve drainage in the corners of the US Route 20 / NYS Route 5 intersection through shoulder reconstruction, extending drainage pipes, ditch cleaning, roadside grading, and the adjustment of existing drainage inlets. The new shoulders would be wider and reduce the potential for rutting by turning trucks.



Proposed Work

Other Features

- Replace the existing ends of the concrete barriers at Little Conesus Creek with new concrete transition pieces, box beam guide rail, and end terminals.
- Replace the “W” beam guide rail at the former railroad crossing with box beam guiderail.
- Install new pavement markings on the resurfaced asphalt. Add stop lines on side roads.
- Replace existing traffic loops in the pavement where affected by milling and resurfacing.
- Replace select guide signs, including missing signs, and update warning signs as necessary (by Livingston County forces).
- Reestablish turf beyond the shoulders where disturbed by the work.



Anticipated Impacts

Wetlands & Private Property



The replacement and extension of roadway cross culverts would permanently impact **0.2 acres of wetlands**. Livingston County is exploring options to mitigate the impact including working with Soil and Water Conservation to construct replacement wetlands or participating in an off-site wetland bank program. Approvals will require coordination with the United States Army Corps of Engineers.



Up to **ten property acquisitions**, primarily permanent easements with one temporary easement for construction access, are anticipated. These impacts would be associated with extending roadway cross culverts to improve roadside safety. As this project involves federal funding, all property acquisitions would be done in conformance with the Uniform Relocation Assistance and Real Property Acquisition Act of 1970. Affected owners would be contacted later this summer by the County's real estate consultant.





Bronson Hill Road (CR 62) Rehabilitation
PIN 4LV0.02

Construction

Work Zones, Schedule, & Cost

Work Zone Traffic Control

Two-Way & Alternating One-Way Traffic

Traffic would be maintained on Bronson Hill Road throughout most of construction. The conceptual work zone traffic control and staging scheme is as follows:



Shoulder closures for work that does not affect the through travel lanes.



Traffic would be controlled by flaggers when work affects a travel lane and the roadway can be reopened to two-way traffic by the end of the day. This includes installing cross culverts one-half at a time, milling, resurfacing, pavement marking, etc.



A temporary signal would be required to control alternating one-way traffic if the roadway cannot be reopened to two-way traffic by the end of the day.

Work Zone Traffic Control

Short-Term Detour

A short-term closure of Bronson Hill Road would be allowed for the replacement of two culverts just south of Stone Hill Road.

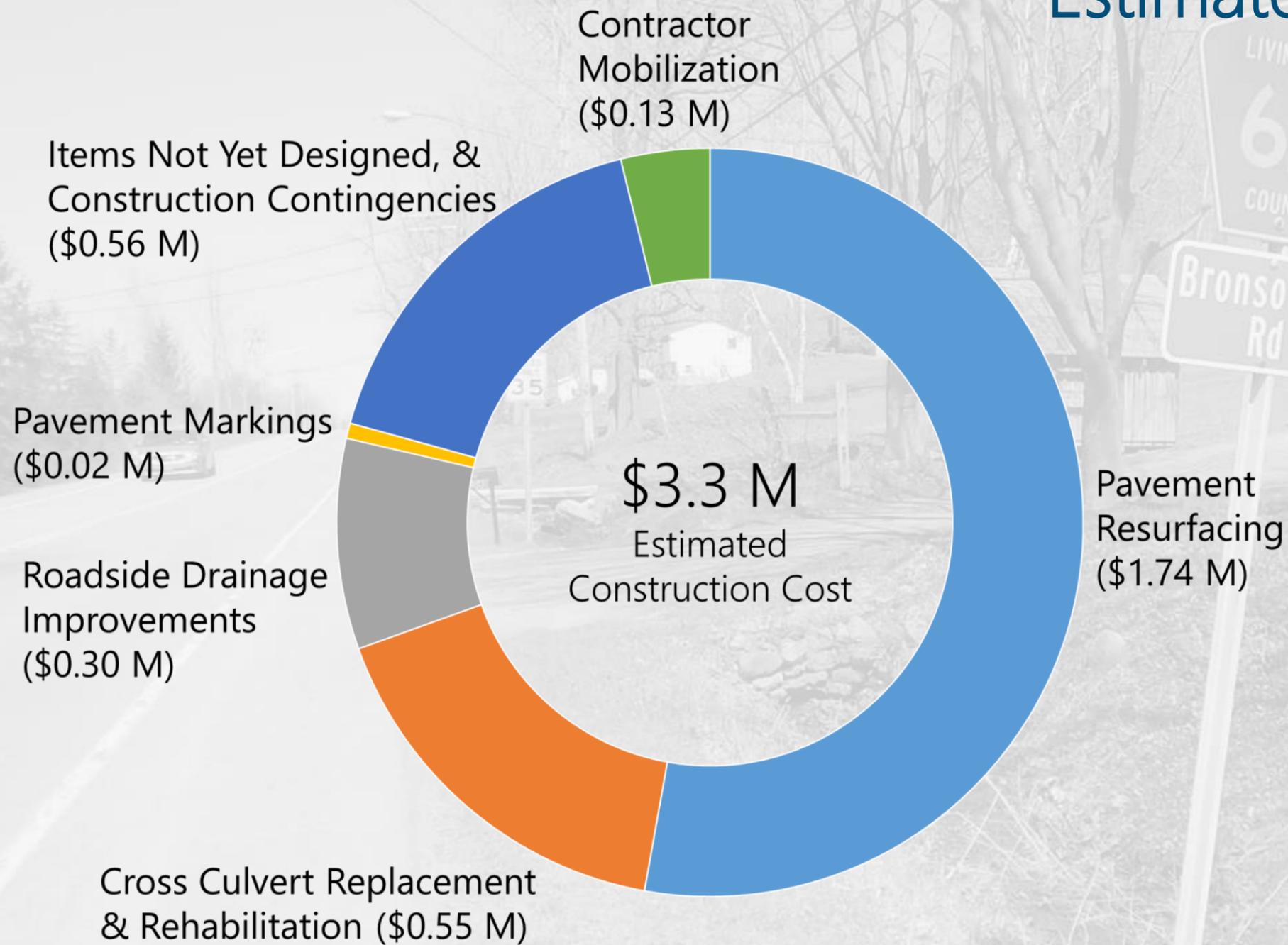
The proposed detour would utilize US Route 20A/NYS Route 15 and Stone Hill Road. Bronson Hill Road would always remain open to local traffic south of the closure. The contract would include provisions limiting the number of consecutive calendar days this closure could be kept in place.

No night-time construction is anticipated.

The contractor would be required to coordinate with local emergency service, law enforcement, and school district officials in advance.



Estimated Construction Cost



The project would be paid for with a combination of federal and local funding. Should money be available, New York State may also provide a portion of the project funds.

The graph to the left shows a breakdown of how the estimated \$3.3 million dollar construction cost would be spread across the work.



Bronson Hill Road (CR 62) Rehabilitation
PIN 4LV0.02

How to Provide Input

Contact Information



Bronson Hill Road (CR 62) Rehabilitation
PIN 4LV0.02

We welcome your input on or before
Friday July 24, 2020!

Write or e-mail

Zac Cracknell

Deputy Highway Superintendent
Livingston County Highway Department
4389 Gypsy Lane
Mount Morris, NY 14510

highway@co.livingston.ny.us

Fill out and return a comment sheet available on
the project web page:

<https://www.livingstoncounty.us/1225/Bronson-Hill-Rehabilitation>



NATIONAL FIRM. STRONG LOCAL CONNECTIONS.

Appendix H: Miscellaneous

Transportation Project Report

Initial Project Proposal

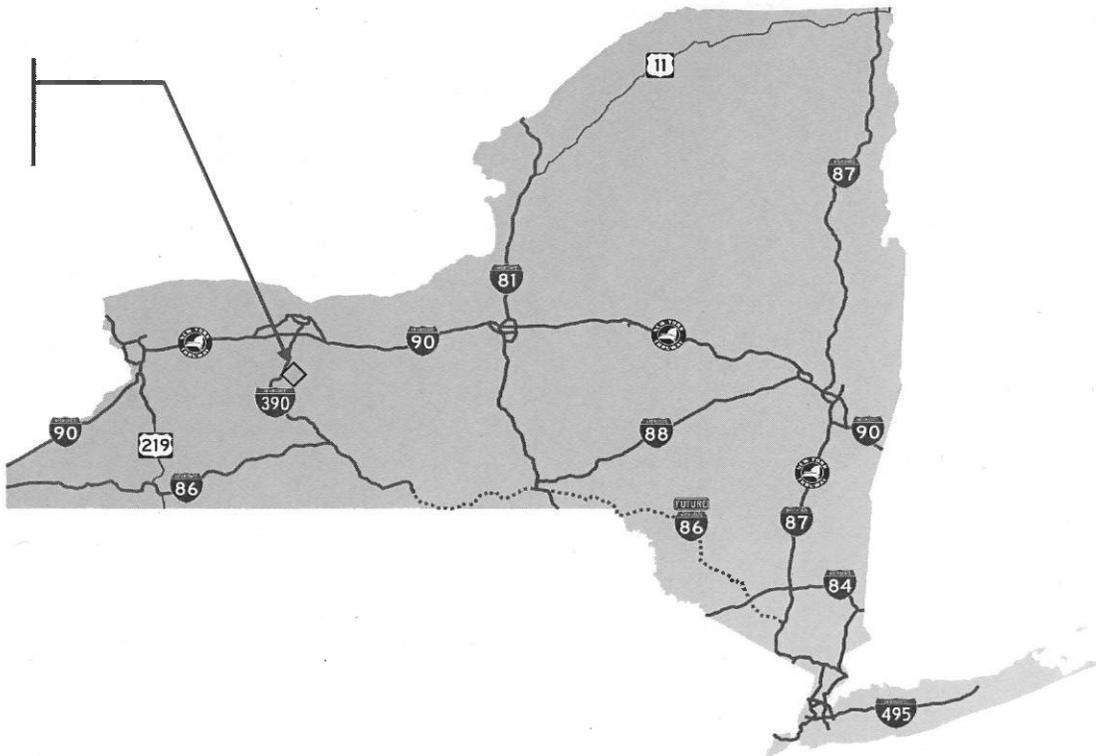
July 2019

CR 62 (Bronson Hill Rd) Rehabilitation

PIN 4LV0.02

Towns of Avon and Livonia, Livingston County

Project
Location



ANDREW M. CUOMO
Governor

Department of
Transportation



U.S. Department of Transportation
Federal Highway Administration

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Project Approval Sheet

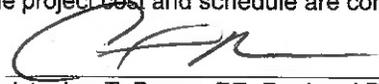
Milestones

Signatures

Dates

A. Recommendation for IPP Approval:

The project cost and schedule are consistent with the Regional Capital Program.



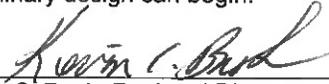
Christopher T. Reeve, PE, Regional Program Manager

8/8/19

Date

B. IPP Approval:

The project is ready to be added to the Regional Capital Program and project scoping or preliminary design can begin.



Kevin C. Bush, Regional Director

8/9/19

Date

PIN: 4LV0.02

PROJECT NAME: County Road 62 – Bronson Hill Rd Rehabilitation

MUNICIPALITY: Towns of Avon and Livonia

COUNTY: Livingston

ROUTE/SH #: CR 62

BIN: N/A

LIMITS: CR 62 from Route 20A (Big Tree Rd) to Route 5/20 – Avon-Lima Rd

Mile points: 139891011 0.100 to 5.090

Reference Markers: N/A

PROJECT LENGTH: 5 miles

FEDERAL AID SYSTEM: Non-NHS FUNCTIONAL CLASS: Major rural collector

EXISTING AADT: 3,153 (2016)

TRUCKS (%): N/A

PROJECT NEED:

Existing Characteristics of Concern	
Element	Measure/Indicator
Surface Rating	Condition Rating= 5

Bronson Hill Rd is a 5 mile, 2-lane major rural collector roadway. It was last paved with a NOVA Chip in 2010, crack sealed in 2013. There are areas of alligator cracking and widening, areas where drainage structures are now inadequate to handle run-off. Southbound right turns from Bronson Hill to Westbound 20A are difficult for large trucks. Traffic tends to drive on the shoulders at the northern 5 & 20 intersection.

PROJECT ELEMENT(S) TO BE ADDRESSED:

- Highway Element-Specific
- Bridge Element-Specific
- Other:
- Operational Maintenance
- Where & When

- PRIORITY RESULTS:
- Mobility & Reliability
 - Economic Competitiveness
 - Safety
 - Environmental Stewardship
 - Security

PROJECT PURPOSE / OBJECTIVE(S):

This project will rehabilitate drainage and pavement on Bronson Hill Rd. These improvements will help users of this roadway which include 125+ residences along Bronson Hill Rd and there are also 1,500 acres of farm land accessed by numerous family farms. Improvements to the road/shoulders and drainage will benefit these farms.

DESCRIPTION OF PROPOSED WORK:

The lane widths will remain the same, paved shoulders widened where needed to accommodate bicycles and pedestrians, pavement, and culvert condition will be improved. Turning lane or widened shoulder options will be explored at the northern and southern ends. The pavement section will be strengthened at the future Livonia Gateway Park Intersection. This project will also address turning movements and sight distance at intersections and bring guiderail to current standards.

PROJECTED ENVIRONMENTAL PROCESS:

SEQRA Type: Exempt
 Type II
 Non-Type II EA or EIS

NEPA Class: Class II – Categorical Exclusion (CE)
 Class III – EA
 Class I – EIS
 N/A – Project is 100% State funded

ATTACHMENTS:

The following Checklist(s) will be completed during preliminary design:

- Federal Environmental Approvals Worksheet (FEAW)
- Social, Economic and Environmental Resources Checklist
- Capital Projects Complete Streets Checklist
- Smart Growth Checklist

NOTES ON SPECIAL CIRCUMSTANCES: Scoping, design, and construction are to be administered by the Livingston County Highway Department. The sponsor’s project manager is Don Higgins (585-243-6700).

SPECIAL TECHNICAL ACTIVITES REQUIRED: A State-Local agreement will be required to allow for reimbursement of sponsor expenditures consistent with the applicable Federal Aid Program. A safety screening will be conducted during preliminary engineering.

PLANNED PUBLIC INVOLVEMENT: A Public Involvement Plan indicating how the public will be made aware of the construction activities will be prepared during preliminary design.

WORKZONE SAFETY & MOBILITY: The Region has determined that this project is not significant per 23 CFR 630.1010. A Transportation Management Plan (TMP) will be prepared for the project consistent with 23 CFR 630.1012. The TMP will consist of a Temporary Traffic Control (TTC) plan. Transportation Operations (TO) and Public Information (PI) components of a TMP will be considered during final design.

FUNDING SOURCE: 100% State Federal

MPO INVOLVEMENT: No Yes
 TIP Name: CR 62 (Bronson Hill Rd) Rehabilitation
 TIP No.: H20-08-LV2

TIP AMENDMENT REQUIRED: No Yes; Needed by:

STIP STATUS: On STIP Not on STIP

PROBABLE SCHEDULE AND COST: Scoping and Preliminary Design will begin in summer of 2019. Detailed Design is scheduled to begin in October 2019. PS&E will occur in October 2020 for a bid opening in November 2020. The contract award would be in December 2020 with construction completed by November of 2021. The estimated construction cost is \$2,706,000.

DESIRED LETTING: November 2020

DESIRED CONSTRUCTION COMPLETION: November 2021

SCHEDULE ISSUES: Public Meeting 4(f)/106 FHWA sign-off
 Permits Consultant(s) for: PE and CI
 Other – Identify e.g., utilities, endangered species (ESA)

Schedule and Cost				
Project Phase	Activity Duration	Estimated Cost	Fund Source	Obligation Date
Scoping	2 Months	\$0.031	STP-Flex	8/2019
Design I-IV	2 Months	\$0.120	STP-Flex	8/2019
Design V-VI	6 Months	\$0.120	STP-Flex	8/2019
ROWI		\$0.062	STP-Flex	8/2019
ROWA		\$0.017	STP-Flex	6/2020
Construction	8 Months	\$2.706	STP-Flex	11/2020
Construction Inspection	8 Months	\$0.217	STP-Flex	11/2020
TOTAL ESTIMATED COST		\$3.273 M		

BASIS OF ESTIMATE: TIP Application

PROGRAM DISPOSITION: Scheduled for letting in SFY 2020

STATEWIDE SIGNIFICANCE: No Remarks:

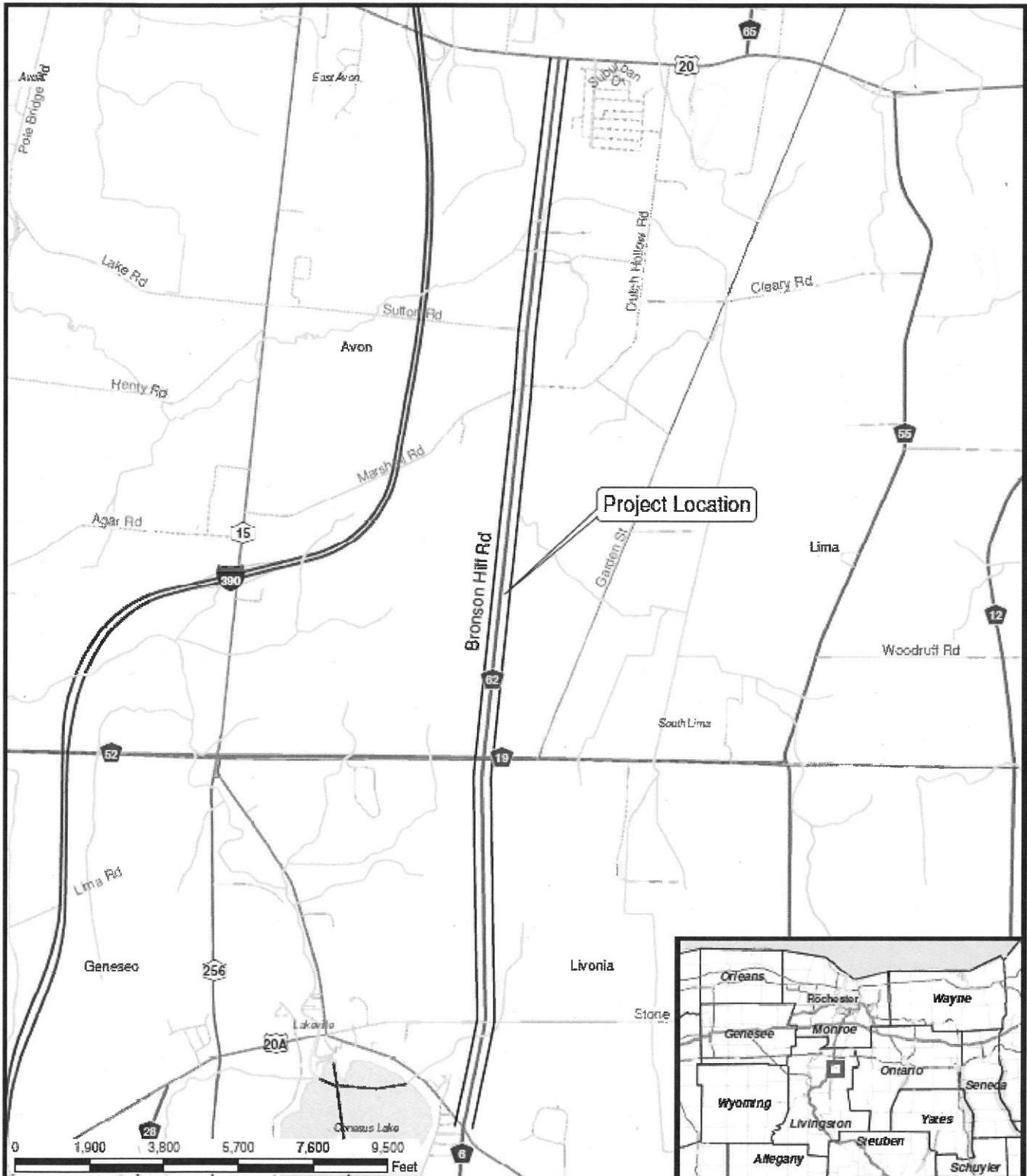
ASSET MANAGEMENT (OPTIONAL): Applies Not Applicable

PUBLIC FRIENDLY DESCRIPTION OF PROJECT: This project involves the rehabilitation of County Road 62 (Bronson Hill Road) from Route 20A (Big Tree Road) to Route 20&5 (Avon-Lima Road) in the Towns of Avon and Livonia, Livingston County. The paved shoulders will be widened where needed to accommodate bicycles and pedestrians, and condition of the pavement and culverts will be improved. Options for turning lanes or widened shoulders will be explored at the northern and southern ends. The pavement section will be strengthened at the future Livonia Gateway Park intersection.

PROJECT MANAGER/JOB MANAGER: Frank DiCostanzo
FUNCTIONAL AREA(S): Local Projects Unit
PHONE(S): (585) 272-3752

IPP PREPARED BY: Lora Leon

DATE: 07/30/2019



Bronson Hill Rd / CR 62
Pavement and Drainage Rehabilitation
Towns of Avon & Livonia
Livingston County, NY

LIVINGSTON COUNTY
HIGHWAY DEPARTMENT
4389 GYPSY LANE
MT. MORRIS, NY 14510

NYSDOT Design Report Review Checklist

PIN:	4LV0.02	Dates:	FINAL July 2020		Regional Reviewer¹:			
Project Description:	CR 62 (Bronson Hill Rd) Rehabilitation				Design Approval Grantor:	Jason M. Wolfanger, Highway Superintendent, Livingston County		
Functional Classification:	Rural Major Collector				Design Classification:	Rural Collector		
NHS²:	Yes <input type="checkbox"/>		No <input checked="" type="checkbox"/>		Requested Action:	Design Approval		
Part of 16 foot Vertical Clearance Network:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Cannot readily determine <input type="checkbox"/> Consult RPPM or MO Structures to determine vertical clearance				Report Prepared by:	Region <input type="checkbox"/> DSB <input type="checkbox"/> Consultant <input checked="" type="checkbox"/>		
Designated Qualifying and Access Highway:	Designated Qualifying Highway <input type="checkbox"/>				Designated Access Highway <input type="checkbox"/>			
	Within 1 mile of a Qualifying Highway <input type="checkbox"/>				Neither <input checked="" type="checkbox"/>			
NEPA Class:	Class II (CE) 'c' list <input checked="" type="checkbox"/> 'd' list <input type="checkbox"/> Determination by NYSDOT <input type="checkbox"/> FHWA <input type="checkbox"/>		Class III (EA) <input type="checkbox"/>	Class I (EIS) <input type="checkbox"/>	SEQR Type:	Type II <input checked="" type="checkbox"/>	Non-Type II (EA) <input type="checkbox"/>	Non-Type II (EIS) <input type="checkbox"/>

#	Y	Item	Comments
1	<input checked="" type="checkbox"/>	Report content is in accordance with the Project Development Manual (PDM) Appendix 7 and all applicable appendices are included? Approval authorities are accurately identified on Project Approval Sheet?	
	<input checked="" type="checkbox"/>	BRJR completed and attached for bridge rehabilitations?	N/A
2	<input checked="" type="checkbox"/>	Project Objectives are clear and in accordance with PDM Appendix 4? Stakeholder's input on project objectives is indicated?	
3	<input checked="" type="checkbox"/>	A Public Involvement (PI) Plan is prepared and followed in accordance with PDM § 2.2.6.1? Copy included?	Refer to Chapter 1 for a summary of the public involvement efforts.
	<input checked="" type="checkbox"/>	Public outreach efforts are adequate and documented in the report?	Refer to Chapter 1 for a summary of the public involvement efforts.
	<input checked="" type="checkbox"/>	Is there a need for a public hearing? If so, is the public hearing type documented in the PIP and discussed in the DAD? Has the appropriate hearing certification been provided on the Project Approval Sheet?	No need for public hearing. Public information comment period held with information / presentation available on project website.
4	<input checked="" type="checkbox"/>	Location maps with project location/limits are included?	Refer to Appendix A.
5	<input checked="" type="checkbox"/>	All reasonable alternatives adequately evaluated/analyzed?	
6	<input checked="" type="checkbox"/>	Design speed is either the maximum functional class speed or reflective of anticipated off-peak 85 th % speed per HDM § 2.6.1.1 (or § 4.4 or § 7.5.2.1 or § 7.5.2.2)? Regional Traffic Engineer concurred with the design speed chosen? Basis for the selection of design speed is included per HDM § 2.6.1.1?	

1: The DQAB Project Development Section tracks time allotted for reviews.

2: The NHS has been expanded to include all Principal Arterials, along with some additional routes. Consult with your RPPM for expanded/updated NHS information.

NYSDOT Design Report Review Checklist

#	Y	Item	Comments
7	<input checked="" type="checkbox"/>	Design criteria for all roads and/or ramps established using the proper standards per HDM Chapters 2, 4, or 7? Design Criteria Table used (HDM Table 2-16)? HDM and Bridge Manual references included? Design criteria for shared-use path established per AASHTO Guide for Bicycle Facilities?	
	<input checked="" type="checkbox"/>	Other Design Parameters established per HDM Chapters 5, 17 and 18 as discussed in HDM §2.1?	
	<input checked="" type="checkbox"/>	Bridge Projects – bridge roadway width standards selected from BM table 2-1? Is there any planned improvement within project limits?	N/A
8	<input checked="" type="checkbox"/>	Non-Standard Features to be created, worsened, or retained are identified? Associated safety concerns are discussed and explained?	Refer to Section 2.5.4 and Appendix F.
	<input checked="" type="checkbox"/>	Non-Standard Features are justified in accordance with HDM § 2.8? Associated safety concerns are clearly addressed?	Refer to Section 2.5.4 and Appendix F.
9	<input checked="" type="checkbox"/>	Capacity of each feasible alternative analyzed per HDM § 5.2 using a design year per PDM Appendix 5?	N/A
10	<input checked="" type="checkbox"/>	Crash analysis performed using HDM §5.3 (using current data or data representative of current conditions)?	
	<input checked="" type="checkbox"/>	Crash mitigation measures considered and either incorporated or an explanation provided?	
11	<input checked="" type="checkbox"/>	Prerequisites to environmental determinations are complete? (Check all appropriate boxes below)	
	<input checked="" type="checkbox"/>	FEAW included and completed for Federal aid, NEPA Class II projects?	
	<input checked="" type="checkbox"/>	FHWA Sign-off stating requirements of 36 CFR Part 800 (Fed-Aid w/ Cultural Resources) have been met and concurrence with SHPO effect determination included?	N/A
	<input checked="" type="checkbox"/>	Individual 4(f) draft or final evaluation completed (if applicable)	N/A
	<input checked="" type="checkbox"/>	Environmental permits/coordination identified and in process?	
	<input checked="" type="checkbox"/>	Environmental studies complete (Ref. PDM Appendix 1)?	
	<input checked="" type="checkbox"/>	If applicable, proposed mitigation measures discussed?	
	<input checked="" type="checkbox"/>	For Design Approval requests, has environmental determination been made?	
12	<input checked="" type="checkbox"/>	ROW acquisitions are adequate and necessary? Abstract Request Maps are prepared on time?	All right-of-way acquisitions proceeding on schedule. Consultant forces with Livingston County assistance.
	<input checked="" type="checkbox"/>	Are any acquisitions considered non-de minimis? (If so, confirm that the NEPA class is correctly identified.)	N/A

NYSDOT Design Report Review Checklist

#	Y	Item	Comments
	<input checked="" type="checkbox"/>	<p>If acquisitions are non-de minimis, is an EDPL hearing planned? Is the need for the hearing documented in the PIP and discussed in the DAD? Have the steps for holding an EDPL hearing in PDM Chapter 4 been followed? Has the appropriate hearing certification statement been provided on the Project Approval Sheet? Has the Region taken the appropriate follow-up actions below?</p> <ul style="list-style-type: none"> • Hearing record made available per EDPL §203? • Determination and Findings prepared per EDPL §204? • Notice of Determination and Findings published and mailed to all affected property owners? 	N/A
13	<input checked="" type="checkbox"/>	Plans, profiles and sections for highway, bridge, and detours included per PDM Appendix 7?	Refer to Appendix A.
14	<input checked="" type="checkbox"/>	Preliminary WZTC alternatives are evaluated for social, economic, environmental impacts to the community? Has the most likely WZTC scheme been identified?	
15	<input checked="" type="checkbox"/>	Project cost and schedule are reasonable? Project Cost Table included per HDM Chapter 21 (EB 18-042)?	
16	<input checked="" type="checkbox"/>	Utility involvements are clearly defined? Utility conflicts identified? Coordination with utilities initiated?	
17	<input checked="" type="checkbox"/>	Complete Streets Checklist included per HDM § 18.5.1 and results are discussed in the report?	
18	<input checked="" type="checkbox"/>	Bicyclist and pedestrian needs are discussed?	
	<input checked="" type="checkbox"/>	Has characterization of the anticipated pedestrian use and anticipated predominant pedestrian trip type (recreational, utilitarian, etc.) been made? Does pedestrian WZTC provision make sense based on the characterization?	
	<input checked="" type="checkbox"/>	Has determination of the level of bicycle use (low or high) been made? Are the lane and/or shoulder width standards from HDM §2.7 appropriate for the determination?	
19	<input checked="" type="checkbox"/>	ITS needs are identified and discussed in the report? Coordination with Regional ITS Coordinator?	N/A
	<input checked="" type="checkbox"/>	SERF completed and FHWA's risk determination included? (For all projects with ITS elements)	N/A
20	<input checked="" type="checkbox"/>	Regional Construction Group is on board? Constructability review sought? If yes, discussed in the report?	Suggested constructability included.
21	<input checked="" type="checkbox"/>	Final Design Report contains stamp and legal note from the preparer per PDM Appendix 7 § 6.1? Final Design Report sealed and signed by the Group Director responsible for the project per EI 08-001?	
22	<input checked="" type="checkbox"/>	Region's transmittal memo identifies the action being requested, and the information provided is consistent with the information provided in the Report?	N/A

Appendix I:
NYS Smart Growth Checklist

Smart Growth Screening Tool

PIN 4LV0.02

Prepared By: Michael T. Croce, PE

Smart Growth Screening Tool (STEP 1)

NYS DOT & Local Sponsors – Fill out the Smart Growth Screening Tool until the directions indicate to **STOP** for the project type under consideration. For all other projects, complete answering the questions. For any questions, refer to [Smart Growth Guidance](#) document.

Title of Proposed Project: CR 62 (Bronson Hill Road) Rehabilitation

Location of Project: Towns of Livonia and Avon, Livingston County

Brief Description: Preventive pavement and drainage maintenance from US Route 20A/NYS Route 15A to US Route 20/NYS Route 5.

A. Infrastructure:

Addresses SG Law criterion a. –

(To advance projects for the use, maintenance or improvement of existing infrastructure)

1. Does this project use, maintain, or improve existing infrastructure?

Yes

No

N/A

Explain: (use this space to expand on your answers above – the form has no limitations on the length of your narrative)

The pavement wearing surface would be replaced. The rest of the pavement structure would be retained. Drainage features (cross culverts and select driveway culverts) would be replaced to improve condition, capacity, and flow.

Maintenance Projects Only

a. Continue with screening tool for the four (4) types of maintenance projects listed below, as defined in NYSDOT PDM Exhibit 7-1 and described in 7-4:

<https://www.dot.ny.gov/divisions/engineering/design/dqab/pdm>

- Shoulder rehabilitation and/or repair;
- Upgrade sign(s) and/or traffic signals;

Smart Growth Screening Tool

- Park & ride lot rehabilitation;
 - 1R projects that include single course surfacing (inlay or overlay), per Chapter 7 of the NYSDOT Highway Design Manual.
- b. For all other maintenance projects, **STOP here**. Attach this document to the programmatic [Smart Growth Impact Statement and signed Attestation](#) for Maintenance projects.

For all other projects (**other than maintenance**), continue with screening tool.

B. Sustainability:

NYSDOT defines Sustainability as follows: A sustainable society manages resources in a way that fulfills the community/social, economic and environmental needs of the present without compromising the needs and opportunities of future generations. A transportation system that supports a sustainable society is one that:

- Allows individual and societal transportation needs to be met in a manner consistent with human and ecosystem health and with equity within and between generations.
- Is safe, affordable, and accessible, operates efficiently, offers choice of transport mode, and supports a vibrant economy.
- Protects and preserves the environment by limiting transportation emissions and wastes, minimizes the consumption of resources and enhances the existing environment as practicable.

For more information on the Department's Sustainability strategy, refer to Appendix 1 of the Smart Growth Guidance and the NYSDOT web site, www.dot.ny.gov/programs/greenlites/sustainability

(Addresses SG Law criterion j : to promote sustainability by strengthening existing and creating new communities which reduce greenhouse gas emissions and do not compromise the needs of future generations, by among other means encouraging broad based public involvement in developing and implementing a community plan and ensuring the governance structure is adequate to sustain and implement.)

1. Will this project promote sustainability by strengthening existing communities?

Yes No N/A

2. Will the project reduce greenhouse gas emissions?

Yes No N/A

Explain: (use this space to expand on your answers above)

Project would keep the existing roadway viable for use by the traveling public.

Smart Growth Screening Tool

C. Smart Growth Location:

Plans and investments should preserve our communities by promoting its distinct identity through a local vision created by its citizens.

(Addresses SG Law criteria b and c: to advance projects located in municipal centers; to advance projects in developed areas or areas designated for concentrated infill development in a municipally approved comprehensive land use plan, local waterfront revitalization plan and/or brownfield opportunity area plan.)

1. Is this project located in a developed area?

Yes No N/A

2. Is the project located in a municipal center?

Yes No N/A

3. Will this project foster downtown revitalization?

Yes No N/A

4. Is this project located in an area designated for concentrated infill development in a municipally approved comprehensive land use plan, waterfront revitalization plan, or Brownfield Opportunity Area plan?

Yes No N/A

Explain: (use this space to expand on your answers above)

Surrounding land uses include agricultural, residential, light industrial, and commercial. Established residential homes are located between US Route 20A/NYS Route 15 and Stone Hill Road. Other infill residential development continues along the corridor. The Livonia Gateway Park is a planned industrial development between Stone Hill Road and South Lima Road. The project is not in a built-up urban area or downtown. Despite the development it retains a rural character.

D. Mixed Use Compact Development:

Future planning and development should assure the availability of a range of choices in housing and affordability, employment, education transportation and other essential services to encourage a jobs/housing balance and vibrant community-based workforce.

(Addresses SG Law criteria e and i: to foster mixed land uses and compact development, downtown revitalization, brownfield redevelopment, the enhancement of beauty in public spaces, the diversity and affordability of housing in proximity to places of employment, recreation and commercial

Smart Growth Screening Tool

development and the integration of all income groups; to ensure predictability in building and land use codes.)

1. Will this project foster mixed land uses?

Yes No N/A

2. Will the project foster brownfield redevelopment?

Yes No N/A

3. Will this project foster enhancement of beauty in public spaces?

Yes No N/A

4. Will the project foster a diversity of housing in proximity to places of employment and/or recreation?

Yes No N/A

5. Will the project foster a diversity of housing in proximity to places of commercial development and/or compact development?

Yes No N/A

6. Will this project foster integration of all income groups and/or age groups?

Yes No N/A

7. Will the project ensure predictability in land use codes?

Yes No N/A

8. Will the project ensure predictability in building codes?

Yes No N/A

Explain: (use this space to expand on your answers above)

Project would keep the existing roadway for use by the traveling public.

E. Transportation and Access:

NYSDOT recognizes that Smart Growth encourages communities to offer a wide range of transportation options, from walking and biking to transit and automobiles, which increase people's access to jobs, goods, services, and recreation.

(Addresses SG Law criterion f: to provide mobility through transportation choices including improved public transportation and reduced automobile dependency.)

Smart Growth Screening Tool

1. Will this project provide public transit?

Yes No N/A

2. Will this project enable reduced automobile dependency?

Yes No N/A

3. Will this project improve bicycle and pedestrian facilities (such as shoulder widening to provide for on-road bike lanes, lane striping, crosswalks, new or expanded sidewalks or new/improved pedestrian signals)?

Yes No N/A

(Note: Question 3 is an expansion on question 2. The recently passed Complete Streets legislation requires that consideration be given to complete street design features in the planning, design, construction, reconstruction and rehabilitation, but not including resurfacing, maintenance, or pavement recycling of such projects.)

Explain: (use this space to expand on your answers above)

The new asphalt wearing surface would benefit both the occasional pedestrians and bicyclists. Shoulders are generally 4 ft wide; however in narrower (spot) locations they would be widened to provide 4 ft of shoulder, minimum to enhance accommodation of the occasional pedestrian.

F. Coordinated, Community-Based Planning:

Past experience has shown that early and continuing input in the transportation planning process leads to better decisions and more effective use of limited resources. For information on community based planning efforts, the MPO may be a good resource if the project is located within the MPO planning area.

(Addresses SG Law criteria g and h: to coordinate between state and local government and inter-municipal and regional planning; to participate in community based planning and collaboration.)

1. Has there been participation in community-based planning and collaboration on the project?

Yes No N/A

2. Is the project consistent with local plans?

Yes No N/A

3. Is the project consistent with county, regional, and state plans?

Yes No N/A

Smart Growth Screening Tool

4. Has there been coordination between inter-municipal/regional planning and state planning on the project?

Yes No N/A

Explain: (use this space to expand on your answers above)

Planning involved NYSDOT and GTC. Outreach has been done with involved towns. A public meeting is planned. The project has been designed to NYSDOT standards, local community plans, and is included in the Statewide Transportation Improvement Program (TIP).

G. Stewardship of Natural and Cultural Resources:

Clean water, clean air and natural open land are essential elements of public health and quality of life for New York State residents, visitors, and future generations. Restoring and protecting natural assets, and open space, promoting energy efficiency, and green building, should be incorporated into all land use and infrastructure planning decisions.

(Addresses SG Law criterion d :To protect, preserve and enhance the State's resources, including agricultural land, forests surface and ground water, air quality, recreation and open space, scenic areas and significant historic and archeological resources.)

1. Will the project protect, preserve, and/or enhance agricultural land and/or forests?

Yes No N/A

2. Will the project protect, preserve, and/or enhance surface water and/or groundwater?

Yes No N/A

3. Will the project protect, preserve, and/or enhance air quality?

Yes No N/A

4. Will the project protect, preserve, and/or enhance recreation and/or open space?

Yes No N/A

5. Will the project protect, preserve, and/or enhance scenic areas?

Yes No N/A

6. Will the project protect, preserve, and/or enhance historic and/or archeological resources?

Yes No N/A

Explain: (use this space to expand on your answers above)

Smart Growth Screening Tool

Maintaining drainage and pavement will ensure continued access to adjacent agricultural properties. No anticipated changes to surface/groundwaters, no anticipated changes to air quality no anticipated changes to open space, continued access to the scenic, rural viewshed, no anticipated impact of historic or archaeological resources.

Smart Growth Screening Tool

Smart Growth Impact Statement (STEP 2)

NYS DOT: Complete a Smart Growth Impact Statement (SGIS) below using the information from the Screening Tool.

Local Sponsors: The local sponsors are not responsible for completing a Smart Growth Impact Statement. Proceed to [Step 3](#).

Smart Growth Impact Statement

PIN: 4LV0.02

Project Name: CR 62 (Bronson Hill Road) Rehabilitation

Pursuant to ECL Article 6, this project is compliant with the New York State Smart Growth Public Infrastructure Policy Act. This project has been determined to meet the relevant criteria, to the extent practicable, described in ECL Sec. 6-0107. Specifically, the project:

- Replacement of the asphalt wearing surface would enhance conditions for pedestrians and bicyclists along with motorists. Maintaining the roadway in good condition would retain access to adjacent agricultural properties, residences, and businesses.
- Drainage (cross culvert and driveway culvert) replacements and spot ditch cleaning/grading would enhance flow and protect the pavement structure.
-
-
-
-

This publically supported infrastructure project complies with the state policy of maximizing the social, economic and environmental benefits from public infrastructure development. The project will not contribute to the unnecessary costs of sprawl development, including environmental degradation, disinvestment in urban and suburban communities, or loss of open space induced by sprawl.

Smart Growth Screening Tool

Review & Attestation Instructions (STEP 3)

Local Sponsors: Once the Smart Growth Screening Tool is completed, the next step is to submit the project certification statement (**Section A**) to Responsible Local Official for signature. After signing the document, the completed Screening Tool and Certification statement should be sent to NYSDOT for review as noted below.

NYSDOT: For state-let projects, the Screening Tool and SGIS is forwarded to Regional Director/ RPPM/Main Office Program Director or designee for review, and upon approval, the attestation is signed (**Section B.2**). For locally administered projects, the sponsor's submission and certification statement is reviewed by NYSDOT staff, the appropriate box (**Section B.1**) is checked, and the attestation is signed (Section B.2).

A. CERTIFICATION (LOCAL PROJECT)

I HEREBY CERTIFY, to the best of my knowledge, all of the above to be true and correct.

Preparer of this document:


Signature

7/31/2020
Date

Senior Project Manager
Title

Michael T. Croce, PE
Printed Name

Responsible Local Official (for local projects):


Signature

8-3-20
Date

Highway Superintendent
Title

JASON M. WOLFANGER
Printed Name

Smart Growth Screening Tool

B. ATTESTATION (NYSDOT)

1. I HEREBY:

Concur with the above certification, thereby attesting that this project is in compliance with the State Smart Growth Public Infrastructure Policy Act

Concur with the above certification, with the following conditions (information requests, confirming studies, project modifications, etc.):

(Attach additional sheets as needed)

do not concur with the above certification, thereby deeming this project ineligible to be a recipient of State funding or a subrecipient of Federal funding in accordance with the State Smart Growth Public Infrastructure Policy Act.

2. **NOW THEREFORE**, pursuant to ECL Article 6, this project is compliant with the New York State Smart Growth Public Infrastructure Policy Act, to the extent practicable, as described in the attached Smart Growth Impact Statement.

NYSDOT Commissioner, Regional Director, MO Program Director,
Regional Planning & Programming Manager (or official designee):

Frank P. DiCostanzo
Signature

8-03-2020
Date

RLPL
Title

Frank P. DiCostanzo
Printed Name