Memorandum

To: Howard Bronstein
Town of Plainfield
Board of Selectmen

Date: September 17, 2020

Project #: 42625.00

From: Michael Petrin, PE

Re: Plainfield Culvert Assessments

This report has been prepared by VHB to summarize the limited visual assessment of 41 existing culverts selected and identified numerically by the Town of Plainfield. Please note that two culverts were numerically identified by the Town as #14; therefore, VHB assigned those culverts with identifications of #14 and #14-2. Likewise, the Town did not identify a culvert #20.

The culvert assessments were performed by VHB on various dates in May and August of 2020, and included a visual assessment from the roadway and stream embankments in order to document the existing conditions. The assessments were limited to documenting the representative conditions of each culvert as well as any visual deficiencies observed. Information obtained during the assessments included the material and size of culvert, condition of the culvert, headwalls, embankments and associated roadway area, and the condition of upstream and downstream conveyances. Although the culvert assessments did not include any hydrogeologic or hydraulic analyses, VHB's visual observations included conveyance deficiencies due to sedimentation or vegetative obstructions.

As a part of the culvert assessment program, VHB developed a four-tiered, color-coded characterization in order to better organize the severity of deficiencies observed. The categories were developed in order to graphically depict the locations of the culverts as well as to denote a prioritization of the culverts that require remediation. The categories can also be used to assess additional culverts in the future for consistency. The four categories that were utilized as a part of the assessment are as follows:

3 → Green → Good condition (Minor to no deficiencies observed): Culvert repairs or replacement could be required in the extended future (≈10+ years). Deficiencies included in this category include, but are not limited to, minor downstream ponding or undercutting.

2 → Yellow → Fair condition (Minor to moderate deficiencies observed): Culvert repairs or replacement will likely be required in the near future (≈5-10 years). Deficiencies in this category include, but are not limited to, minor deterioration of the culvert such as preliminary rusting or concrete spalling, vegetative debris and sedimentation build-up, deterioration of headwalls, and moderate undercutting.

1 → Red → Poor Condition (Significant deficiencies observed): Culvert repairs or replacement should occur immediately. Deficiencies in this category include, but are not limited to, complete structural failure such as rotting, deformation, or collapse, complete or near complete blockages of vegetation or sediment, stream flows by-passing the culvert, and significant undercutting or erosion.

0 → White → Could not Assess (Culvert visually inaccessible): Field conditions restricted the visual assessment of the culvert from the roadway or embankment.

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Memorandum

Of the 41 culverts assessed, VHB determined that 11 culverts were in good condition (Green), 15 culverts were in fair condition (Yellow), and 15 culverts were in poor condition (Red). All the culverts assessed were accessible and visible from the roadway or embankment; therefore, the White category was not used.

A map of the culvert locations including the identification numbers and conditions can be found in Appendix A. The individual reports for each culvert assessment, which includes information on culvert location including latitude, longitude, street name, street condition, name of stream or river through culvert, culvert type and size, assessment grade, representative photographs, and general observations and deficiencies can be found in Appendix B.

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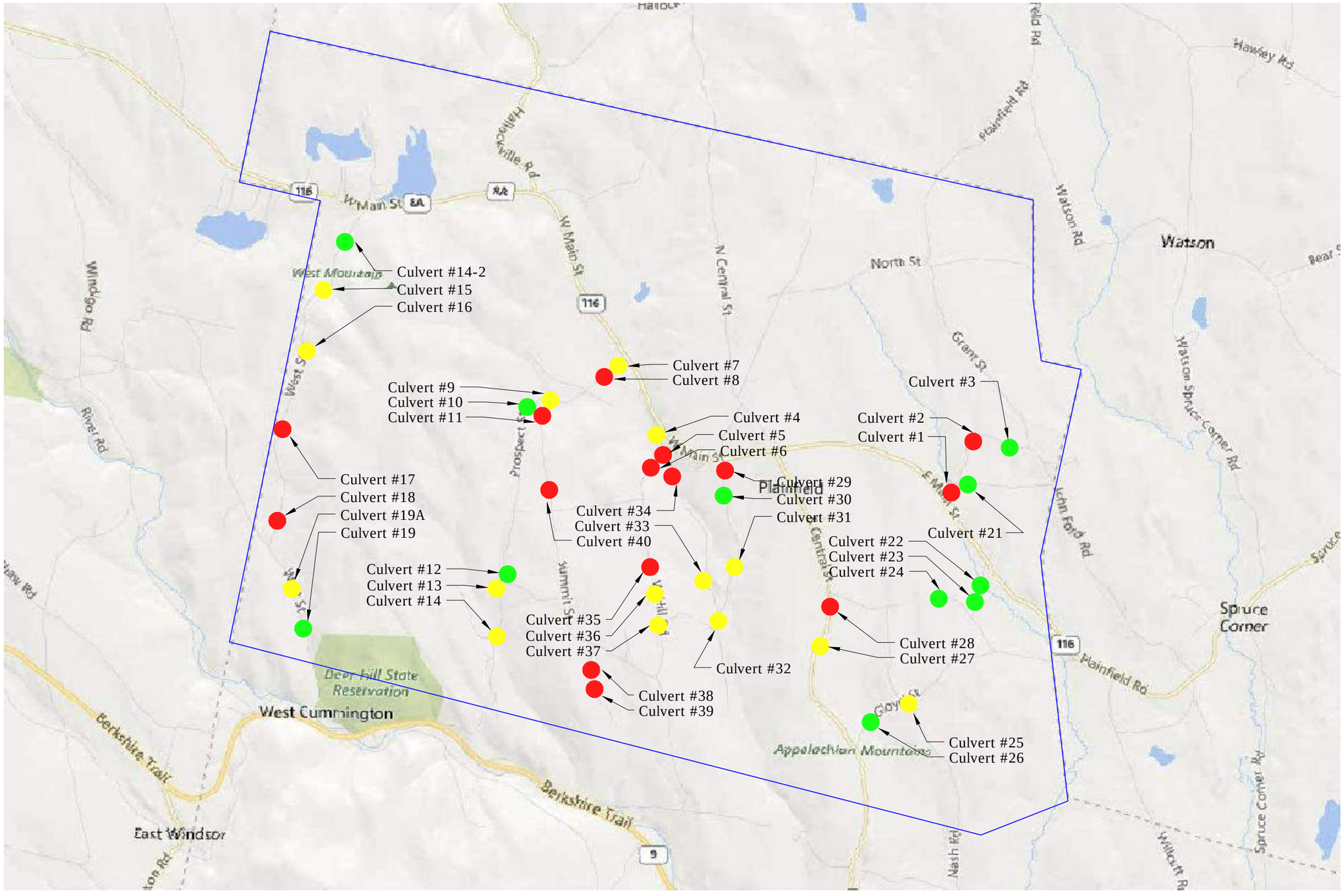
APPENDIX A: Culvert Assessment Map



Legend

- GOOD CONDITION
  - MINOR TO NO DEFICIENCIES OBSERVED
- FAIR CONDITION
  - MINOR TO MODERATE DEFICIENCIES OBSERVED
- POOR CONDITION
  - SIGNIFICANT DEFICIENCIES OBSERVED

Figure A: Culvert Assessment Map

APPENDIX B: Culvert Assessments

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 1
Lat/Long: 42°30'47.1"N 72°53'13.2"W	**Street Name:** Bow Street **Roadway Conditions:** Paved	**Name of Stream/River:** North Branch Swift River
Culvert Shape: Circular	**Culvert Size:** 72"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Red	

Date: 5/21/2020

Photo:

General Notes:

No apparent signs of metal rotting

Depression in the top of pipe directly under the roadway

Large amount of debris build up blocking entrance to culvert

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 1

Photo:

Description:

Opening filled with debris. Fall tree trunk, sticks, and leaves.

Signs of erosion under opening in pipe

Depression in pipe under roadway is observed

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 1

Photos:

Description:

8” water dropped out of pipe

Undercutting of stone underneath pipe edge

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 2
Lat/Long: 42°31'05.6"N 72°53'02.1"W	**Street Name:** Bow Street **Roadway Conditions:** Unpaved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 12"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Red	

Date: 5/21/2020

Photo:

General Notes:

Pipe shows signs of significant rot on metal

Stone headwall falling away from road showing signs of possible collapse

Section of pavement above culvert is in poor condition and in need of repair

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 2

Photo:

Description:

Significant rot first foot of pipe

Stone head wall causing culvert to collapse under weight

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 2

Photos:

Description:

Significant rot first foot of pipe

Appears to be partially crushed under stone headwall

Bottom of pipe filled with sediment

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 3
Lat/Long: 42°31'03.5"N 72°52'46.5"W	**Street Name:** Bow Street **Roadway Conditions:** Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 18"	**Culvert Material:** Corrugated HDPE
Other:	**Culvert Condition Assessment Grade:** Green	

Date: 5/21/2020

Photo:

General Notes:

Slight downward bend in pipe starting approximately in the center to achieve a different slope

No signs of wear on pipe or build up of sediment

Water flowing through pipe 2" in depth

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 3

Photo:

Description:

Small indication of erosion on left side of opening

No signs of wear in pipe

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 3

Photos:

Description:

1” crack on top left side of pipe 2” from edge

Small signs of erosion undercutting pipe

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 4
Lat/Long: 42°31'06.7"N 72°55'30.0"W	**Street Name:** West Hill Road **Roadway Conditions:** Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 24"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Yellow	

Date: 5/21/2020

Photo:

General Notes:

Significant water flow coming from Route 116

Stone headwall on entrance to culvert is leaning away from road

Debris build up from front lip of pipe bent upward

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 4

Photo:

Description:

Left side of pipe lip bent infront of entrance reducing the water flow and allowing debris to build up

Stone headwall presents a slight lean away from road

Entrance does not have sediment build up or erosion

Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 4

Photos:

Description:

No sediment build up

Small signs of undercutting

No rot or deformation

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 5
Lat/Long: 42°30'57.9"N 72°55'27.7"W	**Street Name:** West Hill Street **Roadway Conditions:** Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** (2) 42"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Red	

Date: 5/21/2020

Photo:

General Notes:

Stagnate water

Rust line 1/3 height of pipe

No signs of deformation in either pipe

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 5

Photo:

Description:

Left pipe completly rotted bottom 4' into pipe with 5' erosion under cutting

Right pipe has rot holes with 1' of under cutting

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 5

Photos:

Description:

Right pipe bottom is completely rotted and filled with sediment

Left pipe has bottom filled with sediment
Rust line 1/3 of height of the pipe

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 6
Lat/Long: 42°30'56.5"N 72°55'29.3"W	**Street Name:** West Hill Street **Roadway Conditions:** Paved	**Name of Stream/River:** Mill Brook
Culvert Shape: Circular	**Culvert Size:** 84"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Red	

Date: 5/21/2020

Photo:

General Notes:

Significant water flow

Major Pipe Deformation

Pipe Blockage

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 6

Photo:

Description:

Front bottom lift bent upward causing a blockage and allow build up of debris

No signs of metal rotting

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 6

Photos:

Description:

Deep under cutting

Clear signs of deformation in top side of pipe appearing to be under the road

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 7
Lat/Long: 42°31'28.7"N 72°55'48.8"W	**Street Name:** Prospect Street **Roadway Conditions:** Paved	**Name of Stream/River:** Mill Brook
Culvert Shape: Circular	**Culvert Size:** 48"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Yellow	

Date: 5/21/2020

Photo:

General Notes:

Culvert is showing signs of erosion around the stone head wall

The asphault above the culvert is in poor condition and in need of repair

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 7

Photo:

Description:

Metal pipe appears to be in adequate shape.

There is signs of erosion in the soil behind the stone head wall. This may indicate signs of the head wall seperating from the soil.

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No: 7**

Photos:

Description:

Small signs of erosion under cutting the outlet pipe

No rot appeared. Rust 2/5 the height of the pipe

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 8
Lat/Long: 42°31'28.0"N 72°55'50.0"W	**Street Name:** Prospect Street **Roadway Conditions:** Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 48"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Red	

Date: 5/21/2020

Photo:

General Notes:

Major debris build up causing a blockage and reducing water flow

Condition of downsteam culvert is deteriorating with signs of rot and stone headwall leaning away from road

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 8

Photo:

Description:

Blockage built up before entrance containing large sticks and leaves

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No: 8**

Photos:

Description:

Stonewall leaning away from road

3" deep undercutting

Pipe starting to show signs of rot

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 9
Lat/Long: 42°31'16.8"N 72°56'17.7"W	**Street Name:** Prospect Street **Roadway Conditions:** Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 48"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Yellow	

Date: 5/21/2020

Photo:

General Notes:

Debris needs to be cleaner out of exit to restore full function of culvert

Pipe is in adequate condition, no visible signs of damage

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 9

Photo:

Description:

Large rocks stuck in drainage pipe

Pipe in adequate conidition

Little to no erosion around entrance to culvert

Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 9

Photos:

Description:

1.5’ water drop and large overhang

Pile of sticks and tree trunks piled up blocking the exit from discharging debris

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 10
Lat/Long: 42°31'14.5"N 72°56'28.8"W	**Street Name:** Prospect Street **Roadway Conditions:** Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 48"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Green	

Date: 5/21/2020

Photo:

General Notes:

No signs of culvert failure

Pipe is in adequate condition with exception to the rot beginning at the exit of the culvert

High water drop has caused erosion of the soil underneath pipe

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 10

Photo:

Description:

Build up of sticks and leaves causing a blockage 5" in height

Undercutting to the left of entrance pours into pipe through a quarter sized rot hole

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 10

Photos:

Description:

12" water drop causing undercutting underneath pipe

Pipe fills a pond 3' deep

End of pipe has small signs of rotted metal

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 11
Lat/Long: 42°31'14.3"N 72°56'24.7"W	**Street Name:** Summit Street **Roadway Conditions:** Dirt Road	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 48"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Red	

Date: 5/21/2020

Photo:

General Notes:

Depression in center of pipe may indicate strucural failures

Metal pipe starting to show signs of rot

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 11

Photo:

Description:

Slight depression in center of pipe

Stone headwall is in good condition

Starting to observve signs of rotting metal

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 11

Photos:

Description:

3” water drop

Significant undercutting through stone wall

Large pool of water under output

Signs of rotting metal

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 12
Lat/Long: 42°30'15"N 72°56'40"W	**Street Name:** Governor Street **Roadway Conditions:** Dirt Road	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 48"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Green	

Date: 5/21/2020

Photo:

General Notes:

Culvert in good condition

No signs of erosion

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 12

Photo:

Description:

Pipe in good condition

No signs of erosion

No signs of deformation

Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 12

Photos:

Description:

Pipe still has majority of rubber coating

No signs of pipe deteriorating

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 13
Lat/Long: 42°30'12.7"N 72°56'41.3"W	**Street Name:** Prospect Street **Roadway Conditions:** Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 48"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Yellow	

Date: 5/21/2020

Photo:

General Notes:

Entrance of pipe is bent upward allowing water to flow underneath pipe

There is no significant erosion concerns

Rust line covers majority of the bottom of pipe indicatting high water flows

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 13

Photo:

Description:

Front lip of metal pipe is bent upward but is not observed to casue any flow reduction throught the pipe but does allow water to flow under pipe

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 13

Photos:

Description:

No signs of erosion

High rust line

Culvert Assessment

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Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 14
Lat/Long: 42°29'55"N 72°56'42.4"W	**Street Name:** Prospect Street **Roadway Conditions:** Paved	**Name of Stream/River:** Bartlett Brook
Culvert Shape: Circular	**Culvert Size:** 96"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Yellow	

Date: 5/21/2020

Photo:

General Notes:

Debris build up at entrance could reduce water flow

Pipe is in adequate conditon. Some noted signs of rust and erosion.

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 14

Photo:

Description:

Undercutting erosion directly under pipe and to the right of pipe

No visible signs of rot or depressions in pipe. Pipe in adequate condition.

Debris build up in front of entrance includign fallen trees and rocks

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 14

Photos:

Description:

No visible signs of rotting. Light surface rust starting to form.

2' water drop on to large rock

Pipe supported by concrete base which is in good condition

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 14-2
Lat/Long: 42°32'11"N 72°57'54.4"W	**Street Name:** West Street **Roadway Conditions:** Gravel Road	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 36"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Green	

Date: 5/21/2020

Photo:

General Notes:

Rock blockage at entrance of pipe

End of pipe shows signs of deformation at end of pipe but is not observed underneath roadway

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

Culvert Assessment

Client Name: Town of Plainfield | **Upstream Condition** | **Culvert ID No**: 14-2

Photo:

Description:

Large rock causing a blockage at entrance could act to reduce water flow

No signs of pipe damage including deformation or rot

Culvert Adjacent Assessment

Client Name: Town of Plainfield | **Downstream Condition** | **Culvert ID No:** 14-2

Photos:

Description:

Dent deformation on edge of pipe

2" water drop with erosion directly underneath pipe

Depression in the top of the pipe towards end of pipe but not under the roadway

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 15
Lat/Long: 42°31'54.6"N 72°58'01.3"W	**Street Name:** West Street **Roadway Conditions:** Gravel Road	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 72"	**Culvert Material:** Smooth Steel Barrel
Other:	**Culvert Condition Assessment Grade:** Yellow	

Date: 5/21/2020

Photo:

General Notes:

No signs of rotting metal but entire pipe is rusted

Pipe deformation observed at entrance of pipe

Flowing water has worn into metal

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 15

Photo:

Description:

Entirety of pipe is rusted but no signs of rotting

Water flows on both sides of pipe

Entrance shows signs of metal deformation on upper left portion

Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 15

Photos:

Description:

Water path through pipe has worn into metal

High water drop onto large rock

Gaps observed underneath pipe possibility from water erosion

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 16
Lat/Long: 42°31'33.2"N 72°58'12.8"W	**Street Name:** West Street **Roadway Conditions:** Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 36"-48"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Yellow	

Date: 5/21/2020

Photo:

General Notes:

48" steel pipe transitions into a 36" HDPE pipe about 8' from end of culvert

Steel pipe is rotted at entrance and condition is not able to be seen at end of pipe

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 16

Photo:

Description:

Rotted bottom of pipe

Water eroded and flowing to the right of the pipe

Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 16

Photos:

Description:

Last 8' of culvert switches to corrugated PVC piping

6" water drop

Transition from steel pipe to smaller HDPE pipe causes water blockage

Unable to see end of steel pipe to verify condition of pipe and transition

vhb Engineers | Scientists | Planners | Designers

Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 17
Lat/Long: 42°31'06"N 72°58'24"W	**Street Name:** West Street **Roadway Conditions:** Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 48"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Red	

Date: 5/21/2020

Photo:

General Notes:

Culvert is made of three different types of steel piping ranging in condition. Entrance pipe appears to be the news and is in adequate condition however exit pipe does appear to be structurally failing

Sediment is allso observed in the bottom of pipe at entrance

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 17

Photo:

Description:

10’ to 12’ of metal pipe has drilled holes on sides of pipe untill transition to older solid corrugated steel pipe

Bottom of pipe filled with sediment and rocks

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 17

Photos:

Description:

Last 10’ of piping is transitioned to a smooth bore pipe

Appears to be buckling on sides of pipe along with rot and puncture holes

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 18
Lat/Long: 42°30'33.7"N 72°58'24.9"W	**Street Name:** West Street **Roadway Conditions:** Old Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 24"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Red	

Date: 8/5/2020

Photo:

General Notes:

Deformation on the topside of the corrigated steel located under the roadway inticates possible structural failure

Significant sediment build up dominantly on the outflow of culvert

Pavement over culvert has asphault patches in better condition than surrounding road possibly indicating previous repairs

Road on inflow side of culvert has sediment build up possible indication of road flooding

Little to no water flow

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 18

Photo:

Description:

Fine sediment build up

No signs of deterioration of metal at opening

Erosion undercutting to the right side of metal pipe

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 18

Photos:

Description:

Significant sediment build up
Only 14" of pipe space from top of pipe to top of sediment

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 19
Lat/Long: 42°30'00.1"N 72°58'13.1"W	**Street Name:** West Street **Roadway Conditions:** Old Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 42"	**Culvert Material:** Corrugated HDPE
Other:	**Culvert Condition Assessment Grade:** Green	

Date: 8/5/2020

Photo:

General Notes:

Pavement cracks parallel to culvert run directly on top of underground pipe

High build up of sediment at entrance of culvert

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 19

Photo:

Description:

16” of sediment build up held up by sticks and debris

Erosion to the right of the culvert causes the water flow to go past the culvert before draining

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 19

Photos:

Description:

Erosion under cutting on both sides of pipe outflow

No water drop

No sediment build up

vhb Engineers | Scientists | Planners | Designers

Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 19A
Lat/Long: 42°30'14.3"N 72°58'19.0"W	**Street Name:** West Street **Roadway Conditions:** Old Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 60"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Yellow	

Date: 8/5/2020

Photo:

General Notes:

Road way depression and cracking parallel and directly on top of culvert

Siginficant water flow but old wasp nest and spider webs on top side of pipe indicate full capacity of pipe volume has not been met recently if at all

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 19A

Photo:

Description:

Small stick blockage about 10-15' into the pipe causing slight disruption of water flow

No sediment build up

Undercutting on either side of pipe

Two dime size rot holes on left bottom side of pipe along with rust line on bottom of pipe. No other indication of pipe deterioration visibly seen

Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 19A

Photos:

Description:

6" water drop with erosion undercutting pipe

Last couple feet of pipe has significant rusting but no visible indications of rotting or holes

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 21
Lat/Long: 42°30'49.8"N 72°53'08.2"W	**Street Name:** East Street **Roadway Conditions:** Dirt Road	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 15"	**Culvert Material:** Corrugated HDPE
Other:	**Culvert Condition Assessment Grade:** Green	

Date: 8/5/2020

Photo:

General Notes:

Low water flow

Enterance of pipe beginning to build up sediment

Beginning of pipe lip deformed by rocks ontop of pipe

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 21

Photo:

Description:

Front lip is bent downward from stonewall ontop pipe interior of pipe appears to be in good shape

Thin layer of sediment build up on bottom of the pipe. 3 noted plants groing in the sediment

Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 21

Photos:

Description:

Pipe in good condition

Low water flow

No sediment build up in pipe

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 22
Lat/Long: 42°30'12.2"N 72°52'59.3"W	**Street Name:** Jones Ave **Roadway Conditions:** Old Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 15"	**Culvert Material:** Corrugated HDPE
Other:	**Culvert Condition Assessment Grade:** Green	

Date: 8/5/2020

Photo:

General Notes:

Roadway has patches centered above and around culvert

Pipe in good condition

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 22

Photo:

Description:

Debris build up a foot into the pipe comprized of dead stemmed plants

Low water flow

Pipe visibly appears to be in good condition

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 22

Photos:

Description:

Pipe visibly appears to be in good condition

Water drop 0.5”

No pipe defomitizes

Deep undercuts to the right side of the pipe but no water flows behind the pipe

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 23
Lat/Long: 42°30'11.7"N 72°52'59.5"W	**Street Name:** Jones Ave **Roadway Conditions:** Old Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 15"	**Culvert Material:** Corrugated HDPE
Other:	**Culvert Condition Assessment Grade:** Green	

Date: 8/5/2020

Photo:

General Notes:

Pipe in good condition

Outlet drops water from 10" up and is causing erosion on the underside of pipe

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 23

Photo:

Description:

Small build up of pine needles and debris not causing a significant affect to water flow

No signs of erosion or undercutting

Pipe visibly appears to be in good condition

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 23

Photos:

Description:

10” water drop

10” deep water undercutting

Pipe visibly appears to be in good conditions

Pipe fills a bowl that does not appear to have an outlet

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 24
Lat/Long: 42°30'11."N 72°53'17.2"W	**Street Name:** Pleasant Rd **Roadway Conditions:** Dirt Road	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 15"	**Culvert Material:** Corrugated HDPE
Other:	**Culvert Condition Assessment Grade:** Green	

Date: 8/5/2020

Photo:

General Notes:

The culvert has stagnant water on both sides due to a high inlet elevation and the outlet water gets trapped in a bowl

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 24

Photo:

Description:

Pipe is seated 5” above ground so water naturally rests under the pipe causing under cutting erosion

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 24

Photos:

Description:

4” of stagnant water sits in the end of the pipe

The bowl that the pipe fills is not filled to the outlet

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 25
Lat/Long: 42°29'35.2"N 72°53'31.0"W	**Street Name:** Gloyd Street **Roadway Conditions:** Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 36"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Yellow	

Date: 8/5/2020

Photo:

General Notes:

Debris at entrance of pipe is creating a blockage

Pipe visibly appears to be in adequate condition

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 25

Photo:

Description:

Entrance is blocked up by a thick layer of debris (tree trunks, branches, leaves, etc.)

Condition of pipe was not able to be determined through the debri

Engineers | Scientists | Planners | Designers

Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 25

Photos:

Description:

End of pipe appears to be deformed

Bottom of pipe is rusted but no signs of rot

Water flows out of pipe over a rock and then into the water below

Small signs of undercutting to the left of the pipe as water flows over the rock

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 26
Lat/Long: 42°29'28.8"N 72°53'47.8"W	**Street Name:** Gloyd Street **Roadway Conditions:** Paved	**Name of Stream/River:** Meadow Brook
Culvert Shape: Circular	**Culvert Size:** 102"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Green	

Date: 8/5/2020

Photo:

General Notes:

Significant water drops have cause significant erosion under the pipe and its base

Metal pipe upon inspection appears to be in adequate condition (no rot or deformation)

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 26

Photo:

Description:

No significant signs of erosion

Pipe visibly appears to be in good condition

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 26

Photos:

Description:

Pipe sits in a concrete base. The 12" water drop out of the pipe has significantly eroded under the base

After the initial 12" drop the water flows over a rock and drops another 16"

One tree trunk has flown through the culvert and got jammed in the soil on the other side could potentially cause future blockages

vhb Engineers | Scientists | Planners | Designers

Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 27
Lat/Long: 42°29'54.2"N 72°54'12.4"W	**Street Name:** S. Central Street **Roadway Conditions:** Old Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 18"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Yellow	

Date: 8/5/2020

Photo:

General Notes:

Culvert pipe is rotted on both ends

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 27

Photo:

Description:

Metal entrance is rotted and is missing sections

Entrance pipe is in a concrete box with a open flow side entrance

Concrete box is clean of debris

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 27

Photos:

Description:

Exit pipe has significant rot

Pipe in enclosed in concrete

Water drops 10” down the face of the concrete

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 28
Lat/Long: 42°30'07.7"N 72°54'07.8"W	**Street Name:** S. Central Street **Roadway Conditions:** Old Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 18",24"	**Culvert Material:** Corrugated Steel, HDPE
Other:	**Culvert Condition Assessment Grade:** Red	

Date: 8/5/2020

Photo:

General Notes:

Corrigated steel pipe does not appear to be in use. It is a smaller pipe than the PVC and is at a higher elevation. There is also no idication that the water reaches that elevation.

PVC pipe is filled with heavy sedimentation and shows signs of major deformation at outlet

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 28

Photo:

Description:

Steel:

There is 7" build up of sediment and debris holding up soil that has been stabalized with grass.

PVC:

Front lip deformed upward would cause blockage of water and erosion under pipe.

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 28

Photos:

Description:

Steel:

At higher elevation than PVC. Not accessible due to heavy vegetation.

PVC:

Only 11.5" of pipe height due to heavy sedimentation build up.

Major pipe deformation possibly from stone head wall.

vhb Engineers | Scientists | Planners | Designers

Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 29
Lat/Long: 42°30'51.1"N 72°54'58.1"W	**Street Name:** S. Union Street **Roadway Conditions:** Old Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 18"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Red	

Date: 8/6/2020

Photo:

General Notes:

Pavement cracks run parallel with underground culvert pipe. Slight depression and small areas of missing pavement

Rotted ends of pipe with sediment build up at entrance and pipe blockages could have an affect on pipe drainage capacity

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 29

Photo:

Description:

8” of sediment build up at entrance

Bottom of pipe rotted away leaving behind eroded sediment bowl trapping water before flowing down pipe

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 29

Photos:

Description:

Edge of pipe rotted

Multiple blockages towards center of pipe were not able to be identified or assess the inner pipe condition

Outflow highly eroded bank side towards roadside stream

vhb Engineers | Scientists | Planners | Designers

Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 30
Lat/Long: 42°30'41.0"N 72°54'56.9"W	**Street Name:** S. Union Street **Roadway Conditions:** Dirt Road	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 24"	**Culvert Material:** Corrugated HDPE
Other:	**Culvert Condition Assessment Grade:** Green	

Date: 8/6/2020

Photo:

General Notes:

Deep erosion patterns on both sides of the road

Elongation of pipe throughout due to weight of stonehead walls and road

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 30

Photo:

Description:

Elongation of pipe entrance due to weight of stone head wall.

Slight erosion undercutting to the left side of the pipe

Front bottom flip buldged upward filled underneath by sediment causing a blockage

Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 30

Photos:

Description:

Elongation of pipe continues throughout the length of the pipe

No concerning erosion patterns

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 31
Lat/Long: 42°30'21.7"N 72°54'52.3"W	**Street Name:** S. Union Street **Roadway Conditions:** Dirt Road	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 60"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Yellow	

Date: 8/6/2020

Photo:

General Notes:

Deep undercutting erosion out of outlet pipe caused by 20" water drop

Pipe in adequate condition

Road on inlet side has roadside water erosion path over culvert

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 31

Photo:

Description:

Stick and debris build up on left side of culvert

No shape deformation or signs of rotted metal

Small undercutting erosion on side and underneath pipe

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 31

Photos:

Description:

20” water drop

Deep undercutting erosion

No shape deformation of signs of rotted metal

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 32
Lat/Long: 42°30'01.6"N 72°54'59.5"W	**Street Name:** River Road **Roadway Conditions:** Dirt Road	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 24"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Yellow	

Date: 8/6/2020

Photo:

General Notes:

The outlet of the pipe is starting to break down with signs of rot forming

The entrance to the pipe is clogged with debris creating a blockage for water flow

Undercutting of the pipe is present due to water drop and pool of water

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 32

Photo:

Description:

Debris (sticks and pine needle build up and create a water blockage

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 32

Photos:

Description:

Early signs of rot forming along the bottom

2" water drop fills a bowl that is eroding underneath pipe

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 33
Lat/Long: 42°30'14.4"N 72°55'06.3"W	**Street Name:** River Road **Roadway Conditions:** Dirt Road	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 36"	**Culvert Material:** Corrugated HDPE
Other:	**Culvert Condition Assessment Grade:** Yellow	

Date: 8/6/2020

Photo:

General Notes:

Outlet pipe has evidence of erosion undercutting from water drop in combination with a large stone causing a large depression in the top of the pipe

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 33

Photo:

Description:

Undercutting occurs on both sides of the pipe

Pipe visibly appears to be in good condition with exception to top lift bent inwards

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 33

Photos:

Description:

8” water drop in combination with water pool directly under pipe is cause a 12” deep under cutting

Top right section of the outlet is being depressed inwards by a large stone headwall rock directly on the side of the roadway

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 34
Lat/Long: 42°30'48.3"N 72°55'21.0"W	**Street Name:** River Road **Roadway Conditions:** Dirt Road	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 18"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Red	

Date: 8/6/2020

Photo:

General Notes:

Pipe broken open through the top by guard rail post allowing road debris to fill the pipe

Sediment fills the entrance to the culvert and forest debris is seen in the center

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 34

Photo:

Description:

Bottom of pipe filled with sediment

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 34

Photos:

Description:

Debris is visibly stuck in center of pipe

Guard rail post had been placed directly through the culvert splitting it open. The entirety of the pipe is open to the road filling with road and other road debris

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 35
Lat/Long: 42°30'22.6"N 72°55'32.2"W	**Street Name:** Hill Rd W. **Roadway Conditions:** Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 24"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Red	

Date: 8/6/2020

Photo:

General Notes:

Culvert has signs of being used during rainfall but the water observed flowing was seeping under road entering before culvert and exiting after culvert.

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 35

Photo:

Description:

Sticks and debris are held up at the entrance

There is evidence of a few rot spots on the metal

Water appears to be free flowing under the road before it reaches the culvert. The soil in front of the culvert is wet but the flowing stream stops 15' before the culvert and flows underground

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 35

Photos:

Description:

Water again is free flowing but from underneath the culvert. The stream appears from under a rock 15' downstream of the culvert pipe

Bottom of pipe has rotted edge

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 36
Lat/Long: 42°30'12.8"N 72°55'29.8"W	**Street Name:** Hill Rd W. **Roadway Conditions:** Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 15"	**Culvert Material:** Corrugated HDPE
Other:	**Culvert Condition Assessment Grade:** Yellow	

Date: 8/6/2020

Photo:

General Notes:

Leaves collecting at entrance and base of culvert preventing the culvert from being able to clear out the leaves stuck inside the pipe

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 36

Photo:

Description:

Extent of pipe filled with leaves

Top front lip bending under weight of stone head wall

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 36

Photos:

Description:

Falling tree allowing a build up of leaves from leaving pipe.

Downhill of culvert valley filled with leaves

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 37
Lat/Long: 42°30'01.0"N 72°55'27.2"W	**Street Name:** Hill Rd W. **Roadway Conditions:** Paved	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 15"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Yellow	

Date: 8/6/2020

Photo:

General Notes:

Rotting is occuring on pipe bottom at both entrance and exits

20" water drop out of exit has caused erosion under the pipe

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 37

Photo:

Description:

Bottom of pipe is rotting

Deep undercutting on right side of pipe

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 37

Photos:

Description:

20” water drop over tree root growing under pipe. Soil under tree root has been eroded away.

Bottom lip of exit has a rot hole forming

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 38
Lat/Long: 42°29'44.3"N 72°55'57.7"W	**Street Name:** Maple St **Roadway Conditions:** Dirt Road	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 15"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Red	

Date: 8/6/2020

Photo:

General Notes:

5.5" to 6.5" of sediment observed at ends of culvert

Idications that pipe in current condition has reached its capacity in storms

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 38

Photo:

Description:

5.5” of sediment build up at bottom of pipe

Material over culvert has been washed away exposing top of culvert. Possibly idicating culvert not able to handle water flow and possible road flooding

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 38

Photos:

Description:

Heavy rust line on sides of pipe

6.5” of sediment build up

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 39
Lat/Long: 42°29'37.7"N 72°55'56.2"W	**Street Name:** Maple St **Roadway Conditions:** Dirt Road	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 18"	**Culvert Material:** Corrugated Steel
Other:	**Culvert Condition Assessment Grade:** Red	

Date: 8/6/2020

Photo:

General Notes:

Pipe filled with a thick layer of sediment reducing the capacity of drainage pipe

Signs of rot or structural failure on pipe

Large deformation on entrance of pipe appears to be an impact hit due to no material on top of pipe where deformation is observed

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 39

Photo:

Description:

Large deformation on top left

Pipe material in adequate condition.
No signs of rot or structural failure

4" of sediment build up at entrance

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 39

Photos:

Description:

5.5" of sediment build up at end of pipe

Pipe material in adequate condition.
No signs of rot or structural failure

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Culvert Assessment

Client Name: Town of Plainfield	**VHB Project No:** 42625.00	**Culvert ID No:** 40
Lat/Long: 42°30'47.1"N 72°53'13.2"W	**Street Name:** Summit St. **Roadway Conditions:** Dirt Road	**Name of Stream/River:**
Culvert Shape: Circular	**Culvert Size:** 18"	**Culvert Material:** Corrugated HDPE
Other:	**Culvert Condition Assessment Grade:** Red	

Date: 8/6/2020

Photo:

General Notes:

Pipe has collapsed in center of the pipe. No signs of collapse on the road way

Photograph:

*Condition Assessment Grades

3 → Green → Good condition (Minor to no deficiencies observed)
2 → Yellow → Fair condition (Minor to moderate deficiencies observed)
1 → Red → Poor Condition (Significant deficiencies observed)
0 → White → Could not Assess (Culvert visually inaccessible)

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Culvert Assessment

Client Name: Town of Plainfield	**Upstream Condition**	**Culvert ID No**: 40

Photo:

Description:

Sticks hold back sediment from free flowing down pipe

Slight compressive deformation through out pipe

Pipe collapse in center of pipe

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Culvert Adjacent Assessment

Client Name: Town of Plainfield	**Downstream Condition**	**Culvert ID No:** 40

Photos:

Description:

25” water drop with 6’+ undercutting