



2018 Construction Update

PRESENTED TO
Middlebury Selectboard

PRESENTED BY
VTrans, VHB, and Kubricky

March 27, 2018





Meeting with you today

- **Kristin Higgins**, PE, Structures Program Manager, *VTrans*
- **Aaron Guyette**, PE, Design Project Manager, *VHB*
- **Mark Alexander**, Senior Project Manager, *Kubricky Construction*
- **John Whittaker**, Project Manager, *Kubricky Construction*



Project Overview

Project Dimensions

Overall length: 3,550 feet

Tunnel length: 360 feet

Construction Area: 6.1 Acres

2018 Construction Activities

- Tree cutting
- Drainage infrastructure
- Temporary access roads
- Aerial utility relocations

2017

2018

2019

2020

2021

2018 Tree Cutting



2018 Pre-Construction Activities

- Building inspection and vibration monitoring
- Temporary traffic control signing
- Temporary erosion prevention and sediment control

2017

2018

2019

2020

2021

2018 Drainage infrastructure

Drainage outfall/
receiving shaft 1

Drive 1

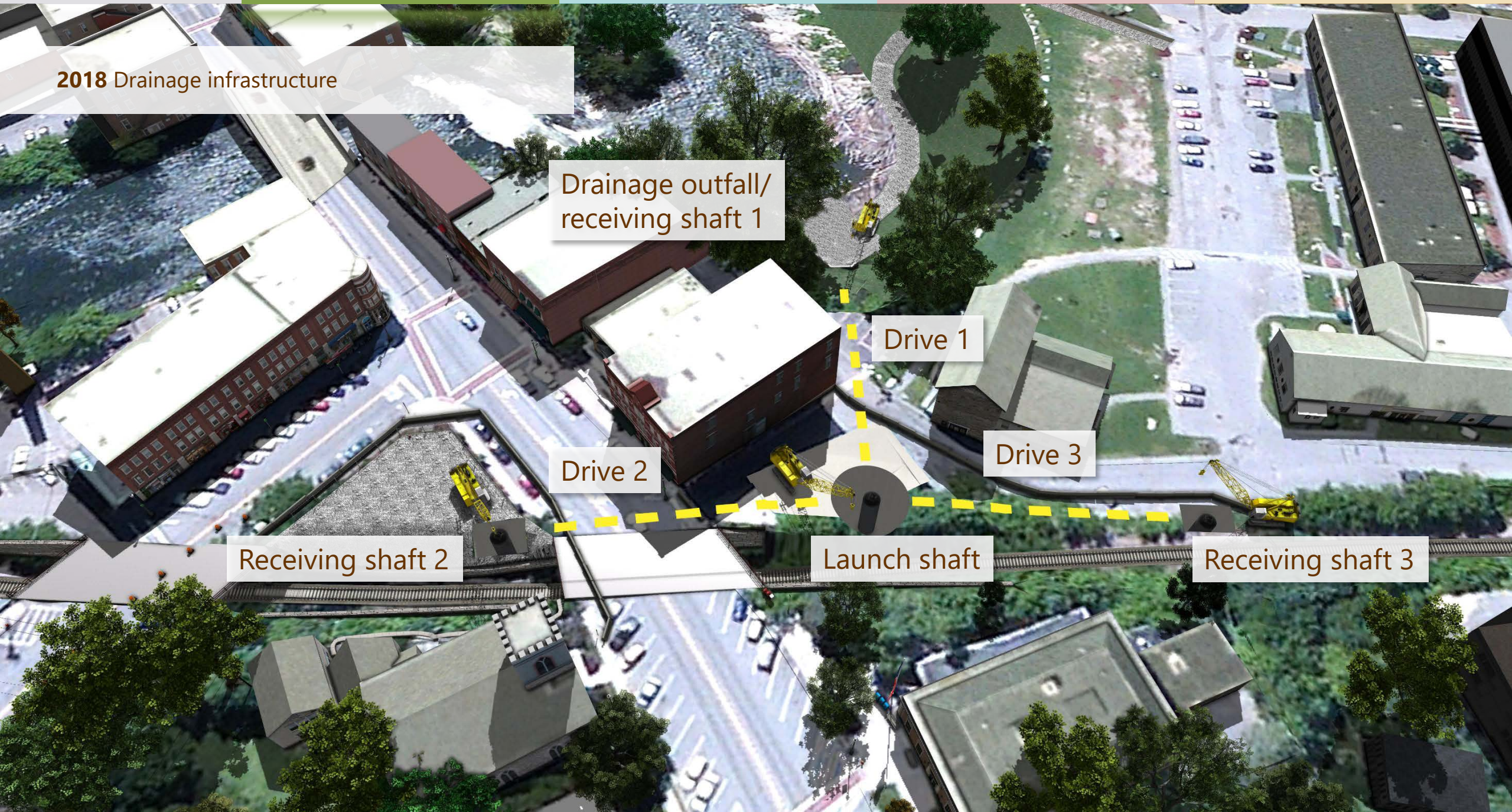
Drive 2

Drive 3

Receiving shaft 2

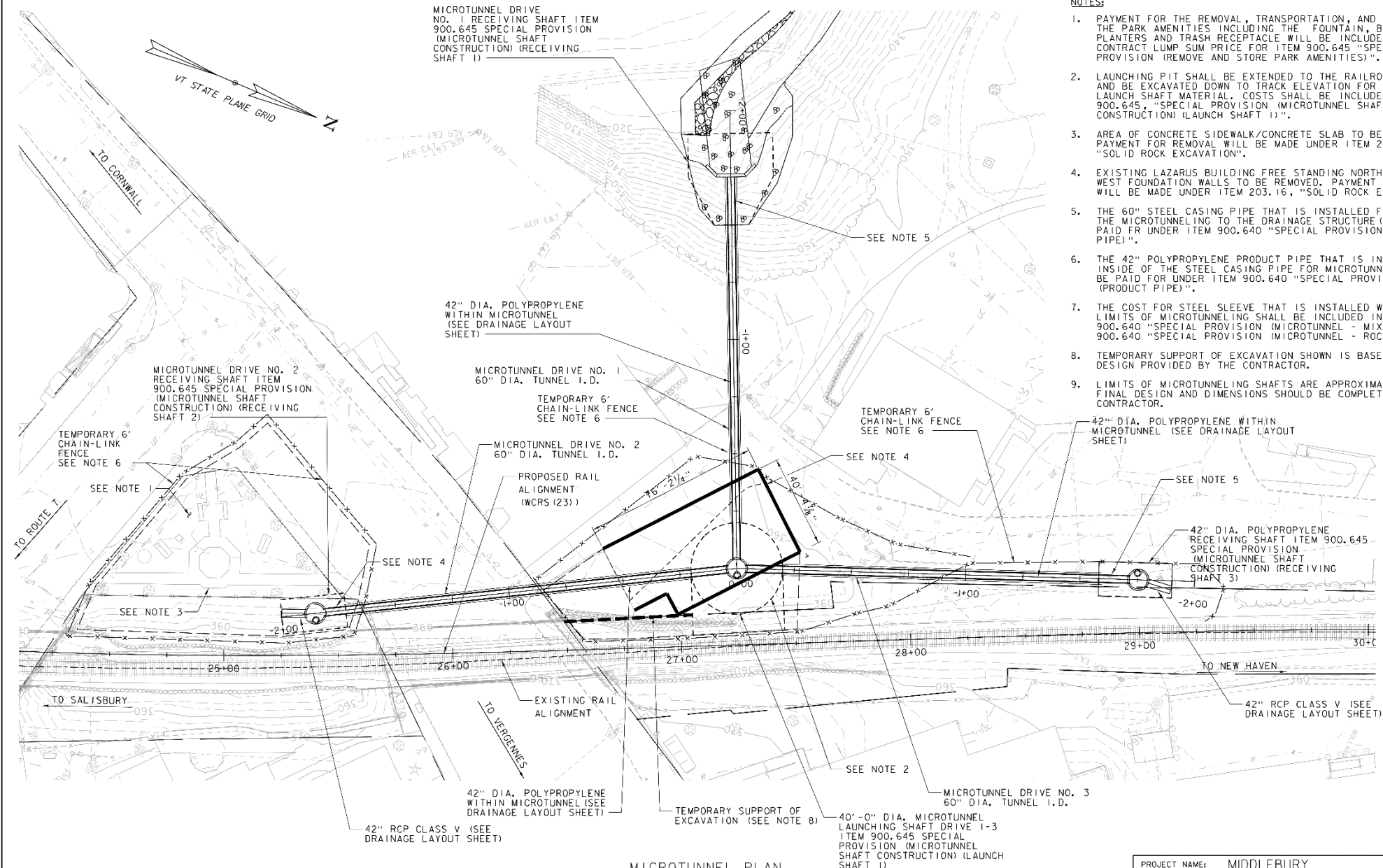
Launch shaft

Receiving shaft 3



2018 Microtunneling Activities

- General Sequence
 - Launch Shaft – complete microtunnel drives – set manhole/backfill
 - Receiving Shaft 1 – microtunnel drive 1 – construct Headwall
 - Receiving Shaft 2 – microtunnel drive 2 – set manhole/backfill
 - Receiving Shaft 3 – microtunnel drive 3 – set manhole/backfill



MICROTUNNEL PLAN

SCALE 1" = 20'-0"

20 0 20

NOTES:

1. PAYMENT FOR THE REMOVAL, TRANSPORTATION, AND STORAGE OF THE PARK AMENITIES INCLUDING THE FOUNTAIN, BENCHES, PLANTERS AND TRASH RECEPTACLE WILL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR ITEM 900.645 "SPECIAL PROVISION (REMOVE AND STORE PARK AMENITIES)".
2. LAUNCHING PIT SHALL BE EXTENDED TO THE RAILROAD TRACKS AND BE EXCAVATED DOWN TO TRACK ELEVATION FOR REMOVAL OF LAUNCH SHAFT MATERIAL. COSTS SHALL BE INCLUDED IN ITEM 900.645 "SPECIAL PROVISION (MICROTUNNEL SHAFT CONSTRUCTION) (LAUNCH SHAFT 1)".
3. AREA OF CONCRETE SIDEWALK/CONCRETE SLAB TO BE REMOVED. PAYMENT FOR REMOVAL WILL BE MADE UNDER ITEM 203.16, "SOLID ROCK EXCAVATION".
4. EXISTING LAZARUS BUILDING FREE STANDING NORTH, EAST AND WEST FOUNDATION WALLS TO BE REMOVED. PAYMENT FOR REMOVAL WILL BE MADE UNDER ITEM 203.16, "SOLID ROCK EXCAVATION".
5. THE 60" STEEL CASING PIPE THAT IS INSTALLED FROM END OF THE MICROTUNNELING TO THE DRAINAGE STRUCTURE(S) WILL BE PAID FOR UNDER ITEM 900.640 "SPECIAL PROVISION (CASING PIPE)".
6. THE 42" POLYPROPYLENE PRODUCT PIPE THAT IS INSTALLED INSIDE OF THE STEEL CASING PIPE FOR MICROTUNNELING WILL BE PAID FOR UNDER ITEM 900.640 "SPECIAL PROVISION (PRODUCT PIPE)".
7. THE COST FOR STEEL SLEEVE THAT IS INSTALLED WITHIN THE LIMITS OF MICROTUNNELING SHALL BE INCLUDED IN ITEMS 900.640 "SPECIAL PROVISION (MICROTUNNEL - MIXED)" AND 900.640 "SPECIAL PROVISION (MICROTUNNEL - ROCK)".
8. TEMPORARY SUPPORT OF EXCAVATION SHOWN IS BASED ON 30% DESIGN PROVIDED BY THE CONTRACTOR.
9. LIMITS OF MICROTUNNELING SHAFTS ARE APPROXIMATE ONLY. FINAL DESIGN AND DIMENSIONS SHOULD BE COMPLETED BY THE CONTRACTOR.

PROJECT NAME: MIDDLEBURY

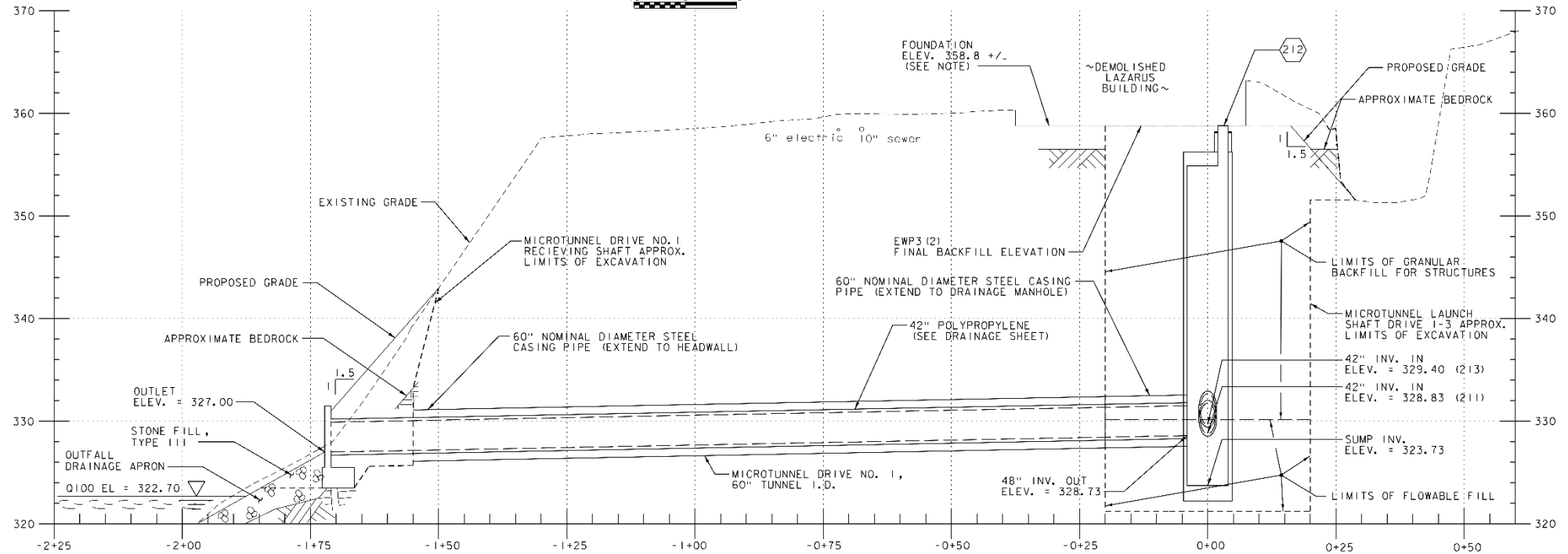
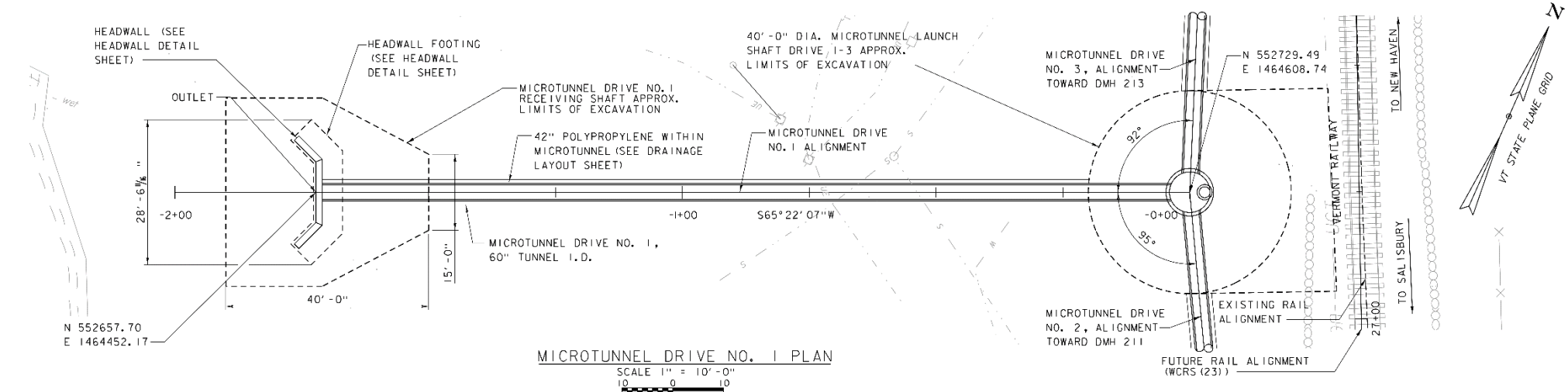
PROJECT NUMBER: EWP3(2)

FILE NAME: z16b046site.plan.dgn
PROJECT LEADER: A.P. GUYETTE
DESIGNED BY: J.A. PITTSINGER
MICROTUNNEL LAYOUT SHEET

PLOT DATE: 2/27/2018
DRAWN BY: R. A. LORENZO
CHECKED BY: D. WOTRING
SHEET 74 OF 135

Launch Shaft Construction

- Fencing in Printer's Alley: End of April 2018
- Earth Excavation: Late April 2018
- Drilling and blasting in Printer's Alley: May – July 2018
- Microtunneling start: August 2018
- Set manhole structure and backfill: March and April 2019
- Construction activity in Printer's Alley: April 2018 – April 2019



NOTE:

1. TOP OF STRUCTURE ELEVATION BASED ON FOUNDATION LEFT-IN-PLACE FOLLOWING DEMOLITION OF LAZARUS BUILDING.
2. LIMITS OF MICROTUNNELING SHAFTS ARE APPROXIMATE ONLY. FINAL DESIGN AND DIMENSIONS SHOULD BE COMPLETED BY THE CONTRACTOR.
3. CASING NOT SHOWN ON PIPE FOR MICROTUNNEL DRIVE NO. 2 AND 3 FOR CLARITY.

MICROTUNNEL DRIVE NO. 1 PROFILE

SCALE 1" = 10' HORIZONTAL
1" = 5' VERTICAL



PROJECT NAME: MIDDLEBURY
PROJECT NUMBER: EWP3(2)

FILE NAME: 216b046m1c_tun.Dr1.dgn
PROJECT LEADER: A.P. GUYETTE
DESIGNED BY: J.A. PITTSINGER
MICROTUNNEL PROFILE SHEET (1 OF 3)

PLOT DATE: 2/27/2018
DRAWN BY: R. A. LORENZO
CHECKED BY: D. WOTRING
SHEET 76 OF 135

2017

2018

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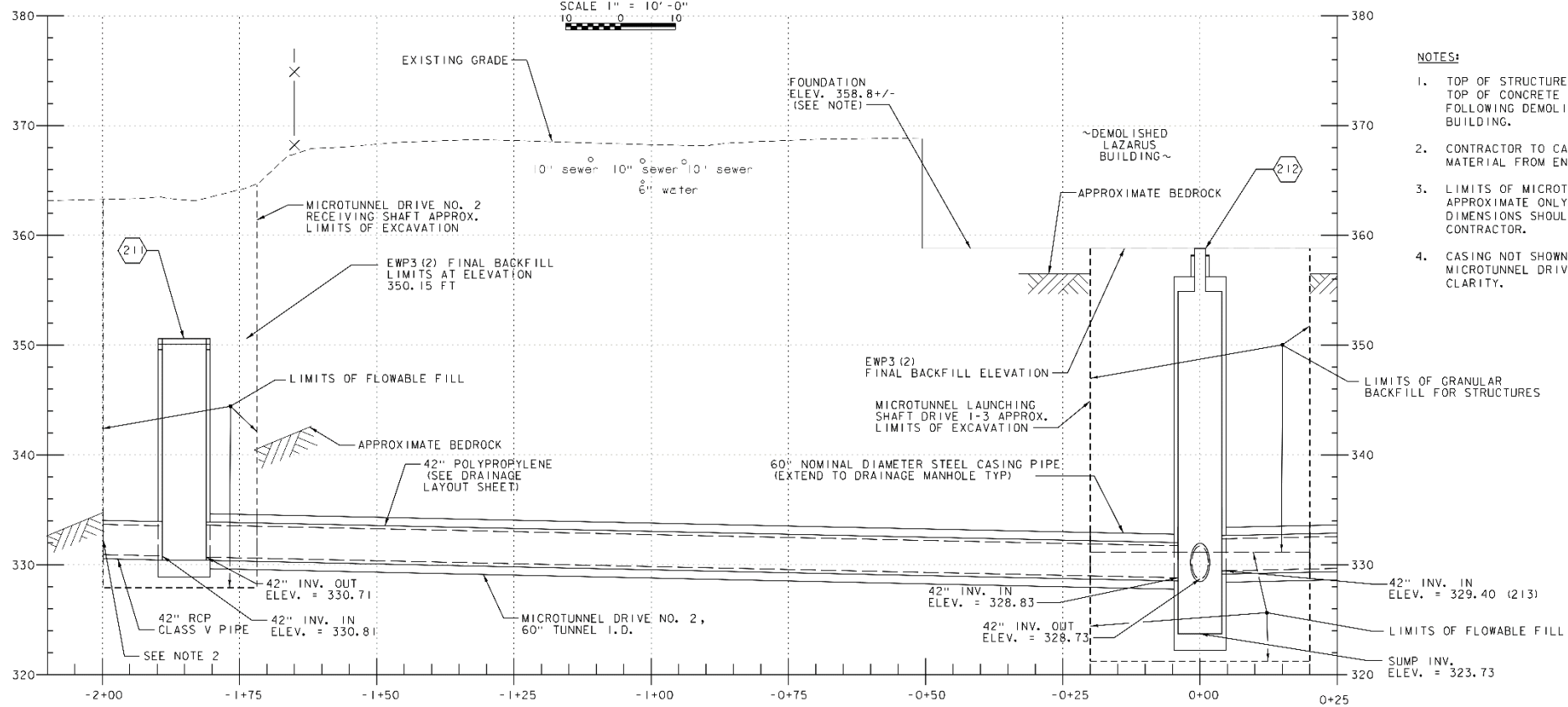
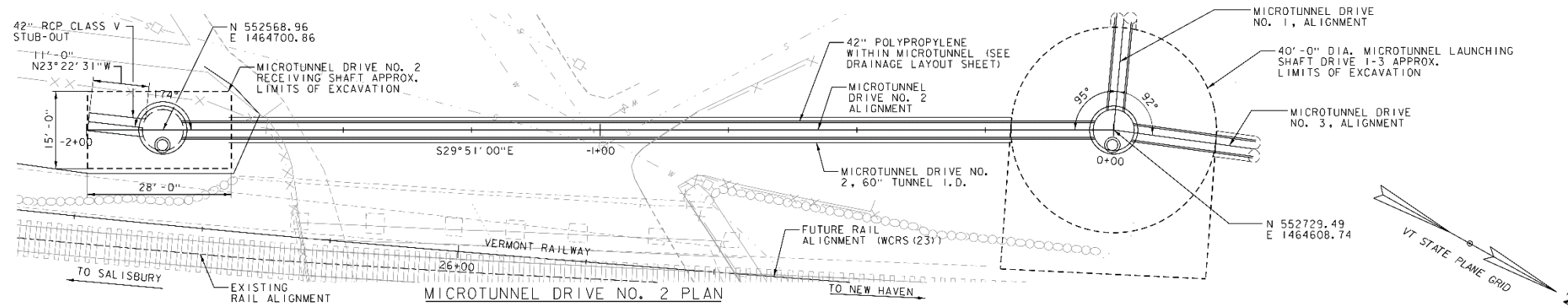
2018 Temporary outfall access road

Park area undisturbed during construction



Receiving Shaft 1 Construction

- Installation of access road and tree clearing: April 2018
- Soil excavation: May 2018
- Drilling and blasting: June 2018
- Completion of microtunnel drive 1: August 2018
- Removal of temporary access road: Spring 2019



- NOTES:**
1. TOP OF STRUCTURE ELEVATION BASED ON TOP OF CONCRETE SLAB LEFT-IN-PLACE FOLLOWING DEMOLITION OF LAZARUS BUILDING.
 2. CONTRACTOR TO CAP PIPE TO PREVENT MATERIAL FROM ENTERING PIPE
 3. LIMITS OF MICROTUNNELING SHAFTS ARE APPROXIMATE ONLY, FINAL DESIGN AND DIMENSIONS SHOULD BE COMPLETED BY THE CONTRACTOR.
 4. CASING NOT SHOWN ON PIPE FOR MICROTUNNEL DRIVE NO. 2 AND 3 FOR CLARITY.

MICROTUNNEL DRIVE NO. 2 PROFILE
 SCALE 1" = 10' HORIZONTAL
 1" = 5' VERTICAL



PROJECT NAME:	MIDDLEBURY
PROJECT NUMBER:	EWP3(2)
FILE NAME:	216b046m1c.tun.Dr2.dgn
PROJECT LEADER:	A.P. GUYETTE
DESIGNED BY:	J.A. PITTSINGER
MICROTUNNEL PROFILE SHEET (2 OF 3)	
PLOT DATE:	2/27/2018
DRAWN BY:	R. A. LORENZO
CHECKED BY:	D. WOTRING
SHEET	77 OF 135

Receiving Shaft 2 Construction

- Removal of park amenities: end of April 2018
- Installation of fencing around Triangle Park: end of April 2018
- Support of excavation (minipiles): May 2018
- Soil excavation: May and July 2018
- Drilling and blasting: August 2018
- Completion of microtunnel drive 2: October 2018
- Set manhole structure and backfill: January 2019

Receiving Shaft 3 Construction

- Installation of fencing and barriers: May and June 2018
- Support of excavation (minipiles): May and June 2018
- Soil excavation: August 2018
- Drilling and blasting: September 2018
- Completion of microtunnel drive 3: November 2018
- Set manhole structure and backfill: February 2019

2017

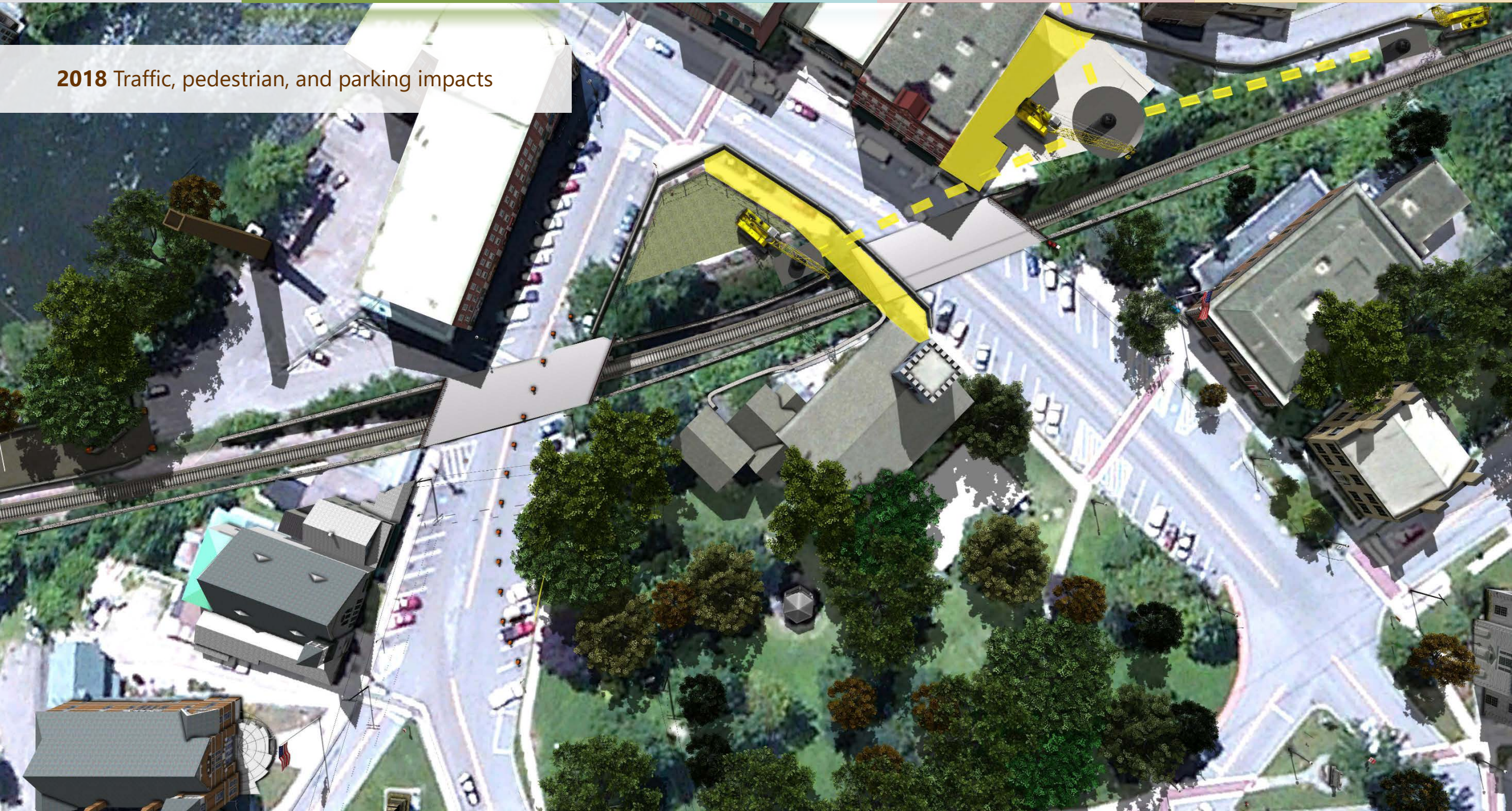
2018

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2021

2018 Traffic, pedestrian, and parking impacts



Water Street Temporary Access Road

- Construction: Summer of 2018
- Access to railroad corridor and lower Battell Block parking area

2017

2018

2019

2020

2021

Summer 2018 Temporary access road



Aerial Utility Relocations

- Electric and telecommunications relocations
- Printer's Alley area
- Merchants Row crossing



Summary of 2018 Downtown Impacts

- Short term closures of Printer's Alley
- Utility duct bank installation across Merchants Row
- Intermittent truck traffic downtown
- Minor construction noise during daytime working hours
- Normal working hours: 7:00am – 5:00pm
 - Isolated extended hours and weekends

2017

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2021



2018 Downtown Events

- Construction Activities will work around these events
 - Festival on the Green
 - Peasant's Market
 - Lion's Club Auction

2017

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Questions?