

April 7, 2022

Planning Board
Town of Philipstown
2 Cedar Street
Cold Spring, New York 10516

Attn: Neal Zuckerman, Chairman

Re: Hudson Valley Shakespeare Festival
Amendment to Proposed Plan and Evaluation of Reduced Impacts

Dear Chairman Zuckerman and Members of the Planning Board:

On behalf of our client, we are pleased to inform you of an exciting project change concerning the Hudson Valley Shakespeare Festival (HVSF) and its proposal to transform The Garrison from a golf course to the permanent home for a performing arts festival. Although the expanded Environmental Assessment Form (EAF) and the supporting technical reports demonstrate that the project, as previously proposed, could have been successfully mitigated and would not have resulted in a significant adverse environmental impact, the HVSF has heard and considered the concerns raised during the public hearing process and has decided to meaningfully reduce the scope of the project by eliminating the previously proposed 20-room hotel and 225 seat indoor theater. These facilities are proposed to be eliminated in both plan and from the list of uses permitted within the proposed amended Planned Development District (PDD). While not an easy decision, the HVSF values the opinions of the Planning Board, the public, and its new neighbors and is excited to present the modified plan for your consideration.

While the project team is actively working on responses to the questions and comments provided by the Planning Board following the close of the public hearing, and while the EAF and site development plans will be revised in their entirety to incorporate the project change, we wanted to take this opportunity to officially submit the scaled back version of the plan. The purpose of this submission is to demonstrate how the reduced project scope effects the primary subject matters under evaluation and so the Board understands how substantial the project change is, and what it means in terms of reduced impacts.

The 20-room hotel was planned to be built east and adjacent to the existing restaurant and banquet facility; we note the 2005 Garrison Golf Club Planned Development District (GCCPDD) included a 40-room inn which was approved by the Planning Board. The hotel was envisioned and evaluated to have a ground floor footprint of $\pm 7,800$ s.f. ($\pm 15,600$ s.f. total) and a height of 35 feet. It was anticipated that the hotel would have had a 2-person occupancy per room for a total of 40 guests when fully occupied.

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The previously proposed year-round theater was positioned south of the restaurant and banquet hall, adjacent to the proposed parking lot. It was anticipated and evaluated to be ±14,000 s.f. in area, ±38 feet in height, and would have accommodated 225 seats. The theater would have been operational seven and a half months out of the year and would have extended the performance season by three (3) months (April, May, and December).

The change in project scope significantly reduces impacts in all respects; the topics of primary concern are provided below:

Number and Size of Structures/Total Number of Seats

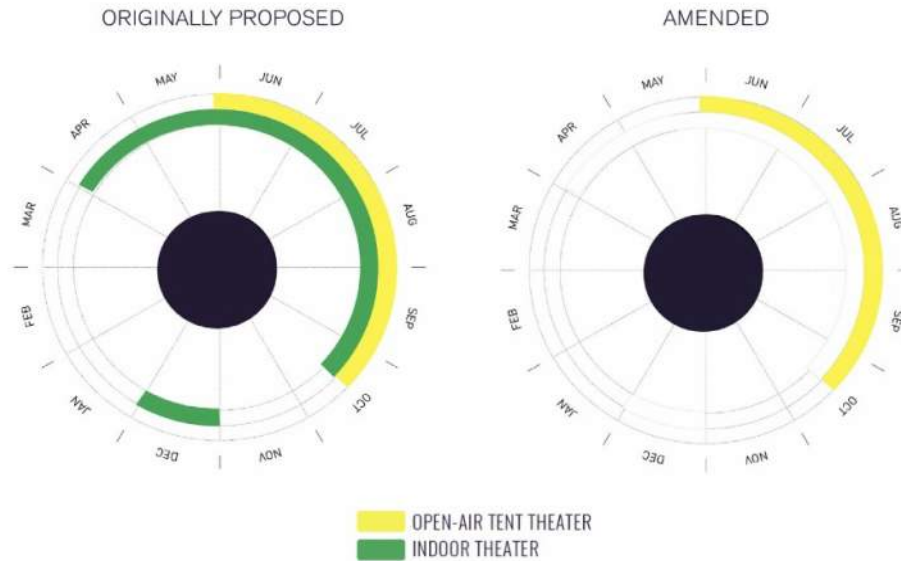
The project change will result in the elimination of two (2) of the larger proposed buildings resulting in a total gross floor area reduction of 29,600 s.f., a 39% reduction in floor area when compared to the prior plan. HVSF has also decided to reduce the seating capacity of the permanent tent theater from 530 seats to 500 seats. The amended plan reduces the total on-site seating capacity by 255 seats, 20 rooms, and 40 overnight guests.

Maximum Occupancy and Performance Season

The expanded EAF had conservatively estimated the theoretical maximum number of persons to be on-site at one time to be 1,124 persons. With the elimination of the hotel and indoor theater, the new theoretical maximum is 853 persons, a 24% reduction. Please refer to the enclosed memorandum from John Canning, P.E. of Kimley Horn, dated April 6, 2022 for additional information.

With the removal of the indoor theater, the number of performances and the performance season will be significantly reduced and will be comparable to what currently occurs at Boscobel, where HVSF has been performing for decades without incident. The amended plan will reduce the performance season by three (3) months and performances will occur from the end of May to mid-October.

HVSF Performance Calendar



Traffic

As demonstrated in the attached memorandum from Kimley Horn, dated April 6, 2022, the level of service of the intersections studied is improved with the elimination of the hotel and indoor theater; however, the benefits of eliminating these facilities are partially off-set by the fact that banquet, restaurant, and HVSF guests will need to travel to an off-site hotel. All previously proposed traffic related mitigative measures remain under the amended plan.

Revised Parking Calculations

With the elimination of the hotel and indoor theater, the parking demand is similarly reduced. As stated above, the theoretical maximum number of persons that could be on-site at the same time has been significantly reduced from 1,124 persons to 853 persons and, therefore, the parking demand has been comparatively reduced from 462 to 346 spaces needed. A total of 381 parking spaces will be provided under the amended plan, not including six (6) additional spaces, which will be constructed when the artist lodging is built, as part of a later phase. In addition, the 130 existing overflow parking spaces on the west side of the property will remain, if ever needed.

Wetland Buffer Disturbance

With the elimination of the hotel and indoor theater and the reduction in parking spaces needed, the size and location of the primary parking lot has been reevaluated and modified so that no portion of the parking lot or access driveway is located within the Town's 100-foot regulated wetland buffer. As previously proposed, the parking lot will continue to be constructed with a permeable surface.

Domestic Water/Sewer Demand

As identified on Table 19, Proposed Condition-Domestic Water Demand and Sewage Generation, of the EAF, the total domestic water demand associated with the previously proposed project was estimated to be 16,453 gallons per day (gpd). That estimate included the hotel (2,200 gpd) and the indoor theater (900 gpd). With the elimination of these facilities the new total estimated domestic water demand, after allowable reductions for water saving fixtures, is 13,353 gpd, a reduction of 3,100 gpd or 19%.

Water Budget

Elimination of the proposed inn and indoor theater will reduce the domestic water demand by 3,100 gpd resulting in a domestic water demand under the proposed condition of 13,353 gpd. Of this demand, 750 gpd is anticipated for the new single-family home to be constructed south of the HVSF parcel. This home will derive its water from a new domestic water well, constructed solely for this purpose. Therefore, the estimated HVSF demand is 12,603 gpd. This figure is an increase of only 28% above the estimated demand under the existing condition (9,820 gpd) and is 2,717 gpd less than what had been estimated in connection with the 2005 GCCPDD approval. This demand increase will be addressed through construction of one new potable well for the HVSF development.

An estimate of natural recharge to the groundwater aquifer has been calculated using methods prescribed by the Town of Philipstown. Recharge from the entire basin is estimated to be 199,449 gpd which is almost 15 times the anticipated demand. The Town requires that demand be multiplied by a conservative factor of six (6) in order to protect the aquifer from nitrate loading from septic effluent. Even with this 6x multiplier, recharge is estimated to be 2.5 times the anticipated demand.

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In addition to the information above, I am enclosing several updated exhibits prepared by Nelson Byrd Woltz and a memorandum from John Canning, P.E. of Kimley Horn, dated April 6, 2022. In closing, the change in project scope and the concessions made by the applicant result in an undoubtable reduction of impacts which, we hope, will lead to your determination of non-significance pursuant to the State Environmental Quality Review Act (SEQRA).

Respectfully submitted,



Jan K. Johannessen, AICP
Kellard Sessions Consulting

JKJ/dc

Enclosures

cc: Hudson Valley Shakespeare Festival
P. Daniel Hollis, Esq.

MEMORANDUM

To: Town of Philipstown Planning Board

From: John Canning, P.E.
Andrea Connell, RSP1

Date: April 6, 2022

Subject: Hudson Valley Shakespeare Festival
Traffic Analysis for Modified HVSF Development Program

Kimley-Horn Engineering and Landscape Architecture of New York, P.C. (Kimley-Horn) has prepared this Memorandum to provide an evaluation of a reduced development program for the proposed redevelopment of The Garrison.

The revised development program eliminates the Hudson Valley Shakespeare Festival's ("HVSF") 225-seat indoor theater, reduces the outdoor tent theater from 530 seats to 500 seats and eliminates 20 hotel rooms (leaving 52 rooms for lodging, including 8 existing). Table 1 below summarizes the existing development at the site, the previous 2021 development program and the currently proposed reduced program.

Table 1 – Development Comparison				
Land Use	Existing Development	Previous 2021 Proposal	Current Proposal	Change from 2021 Proposal
Golf Course	18-holes	No golf course	No golf course	No change
Banquet space	232 seats	200 seats	200 seats	No change
Restaurant	72 seats	72 seats	72 seats	No change
Bar	24 seats	25 seats	25 seats	No change
Private residence	1 unit	1 unit	1 unit	No change
Hotel Guest and Artist Accommodations¹	8 guest rooms	72 rooms ⁽¹⁾	52 artist rooms ⁽¹⁾	-20 hotel rooms
Outdoor tent theatre	N/A	530 seats	500 seats	-30 seats
Indoor theatre	N/A	225 seats	No theater	-225 seats
Outdoor Pavilion	N/A	2,400 sf (no seats)	2,400 sf (no seats)	No change

Notes: (1) Bedrooms. Artists are, typically, HVSF performers and staff.

For the previously contemplated HVSF development program, Kimley-Horn prepared a Traffic Impact Study ("TIS", dated August 23, 2021) as well as several subsequent traffic and parking analyses to address comments from the Planning Board and their consultants. This Memorandum provides an updated traffic and parking analysis of the reduced development program, including revised Build

Synchro analyses, parking demand and property occupancy levels and maximum annual attendance levels.

Traffic Analysis

The results of the Synchro Intersection Capacity Analyses (using HCM 6 results) and comparison to the No-Build analyses are summarized in Tables 2 through 4 below.

Table 2 (8/23/2021 TIS Revised Table 13) LOS Comparison – Friday PM Peak Hour							
Intersection	Movement/ Approach	No-Build with Existing PDD		No-Build with Approved PDD		Build with Improvements	
		Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS
US Route 9 (Albany Post Road) at Travis Corners Rd and Snake Hill Rd (Unsignalized/Signalized) ¹	EB LTR	348.0	F	360.8	F		
	EB LT					44.5	D
	EB R					39.6	D
	WB LTR	128.8	F	139.3	F	47.7	D
	NB LTR	0.5	A	0.5	A	32.9	C
	SB LTR	0.3	A	0.3	A	5.8	A
	Overall Int					25.0	C
US Route 9 (Albany Post Road) at Site Driveway ² (Unsignalized)	EB LR	39.8	E	44.4	E	37.6	E
	NB LT	0.2	A	0.2	A		
	NB L					9.0	A
	NB T					0.0	A
	SB TR	0.0	A	0.0	A		
	SB T					0.0	A
	SB R					0.0	A
US Route 9 (Albany Post Road) at Coleman Road ³ (Unsignalized)	WB LR	30.5	D	30.7	D	30.7	D
	NB TR	0.0	A	0.0	A	0.0	A
	SB LT	0.0	A	0.0	A		
	SB L					10.8	B
	SB T					0.0	A
Snake Hill Road at Site Driveway (Unsignalized)	EB LT	0.4	A	0.4	A	1.7	A
	WB TR	0.0	A	0.0	A	0.0	A
	SB LR	9.2	A	9.3	A	9.5	A
NYS Route 9D at Snake Hill Road (Unsignalized)	WB LR	30.3	D	30.6	D	27.9	D
	NB TR	0.0	A	0.0	A	0.0	A
	SB LT	0.4	A	0.4	A	0.5	A

Note: LOS = Level of Service. Delay is the average delay per vehicle in seconds.

- (1) Improvements: Traffic signal installation and restripe eastbound approach to provide a separate right-turn lane.

- (2) Improvements: Exclusive northbound left-turn lane and southbound right-turn lane. Although it is proposed to provide turn lanes on the driveway approach, approval to modify the driveway lies with the NYSDOT.
- (3) Improvement: Exclusive southbound left-turn lane.

Table 3 – (8/23/2021 TIS Revised Table 14) LOS Comparison – Saturday Midday Peak Hour							
Intersection	Movement/ Approach	No-Build with Existing PDD		No-Build with Approved PDD		Build with Improvements	
		Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS
US Route 9 (Albany Post Road) at Travis Corners Rd and Snake Hill Rd (Unsignalized/ Signalized) ¹	EB LTR	63.6	F	66.6	F		
	EB LT					25.6	C
	EB R					23.7	C
	WB LTR	27.5	D	28.8	D	27.8	C
	NB LTR	0.4	A	0.4	A	11.5	B
	SB LTR	0.2	A	0.2	A	8.9	A
	Overall Int					12.0	B
US Route 9 (Albany Post Road) at Site Driveway ² (Unsignalized)	EB LR	23.9	C	25.4	D	24.9	C
	NB LT	0.4	A	0.4	A		
	NB L					8.8	A
	NB T					0.0	A
	SB TR	0.0	A	0.0	A		
	SB T					0.0	A
	SB R					0.0	A
US Route 9 (Albany Post Road) at Coleman Road ³ (Unsignalized)	WB LR	24.3	C	24.6	C	24.7	C
	NB TR	0.0	A	0.0	A	0.0	A
	SB LT	0.0	A	0.0	A		
	SB L					9.0	A
	SB T					0.0	A
Snake Hill Road at Site Driveway (Unsignalized)	EB LT	1.4	A	1.5	A	2.7	A
	WB TR	0.0	A	0.0	A	0.0	A
	SB LR	9.3	A	9.4	A	9.6	A
NYS Route 9D at Snake Hill Road (Unsignalized)	WB LR	62.1	F	62.9	F	53.2	F
	NB TR	0.0	A	0.0	A	0.0	A
	SB LT	0.6	A	0.6	A	0.6	A

Note: LOS = Level of Service. Delay is the average delay per vehicle in seconds.

- (1) Improvements: Traffic signal installation and restripe eastbound approach to provide a separate right-turn lane.
- (2) Improvements: Exclusive northbound left-turn lane and southbound right-turn lane. Although it is proposed to provide turn lanes on the driveway approach, approval to modify the driveway lies with the NYSDOT.
- (3) Improvement: Exclusive southbound left-turn lane.

Table 4 – (8/23/2021 TIS Revised Table 15) LOS Comparison – Saturday PM Event Peak Hour							
Intersection	Movement/ Approach	No-Build with Existing PDD		No-Build with Approved PDD		Build with Improvements	
		Delay (secs)	LOS	Delay (secs)	LOS	Delay (secs)	LOS
US Route 9 (Albany Post Road) at Travis Corners Rd and Snake Hill Rd (Unsignalized/Signalized) ¹	EB LTR	42.7	E	43.5	E		
	EB LT					19.2	B
	EB R					21.4	C
	WB LTR	23.1	D	23.6	D	24.4	C
	NB LTR	0.2	A	0.3	A	10.6	B
	SB LTR	0.1	A	0.2	A	10.9	B
	Overall Int					11.9	B
US Route 9 (Albany Post Road) at Site Driveway ² (Unsignalized)	EB LR	17.6	C	18.9	C	25.0	D
	NB LT	0.3	A	0.4	A		
	NB L					9.0	A
	NB T					0.0	A
	SB TR	0.0	A	0.0	A		
	SB T					0.0	A
US Route 9 (Albany Post Road) at Coleman Road ³ (Unsignalized)	WB LR	22.1	C	22.3	C	23.1	C
	NB TR	0.0	A	0.0	A	0.0	A
	SB LT	0.0	A	0.0	A		
	SB L					0.0	A
	SB T					0.0	A
Snake Hill Road at Site Driveway (Unsignalized)	EB LT	1.7	A	1.8	A	3.2	A
	WB TR	0.0	A	0.0	A	0.0	A
	SB LR	9.3	A	9.4	A	10.2	B
NYS Route 9D at Snake Hill Road (Unsignalized)	WB LR	47.9	E	47.9	E	48.5	E
	NB TR	0.0	A	0.0	A	0.0	A
	SB LT	0.4	A	0.4	A	0.4	A

Note: LOS = Level of Service. Delay is the average delay per vehicle in seconds.

- (1) Improvements: Traffic signal installation and restripe eastbound approach to provide a separate right-turn lane.
- (2) Improvements: Exclusive northbound left-turn lane and southbound right-turn lane. Although it is proposed to provide turn lanes on the driveway approach, approval to modify the driveway lies with the NYSDOT.
- (3) Improvement: Exclusive southbound left-turn lane.

As shown in Tables 2 through 4 above, as a result of the elimination of the indoor theater and the hotel, the results are, overall, better, albeit marginally, than the previous 2021 development program, as the benefits of eliminating indoor theater and hotel traffic are largely offset by the fact that banquet, restaurant and HVSF guests who had been traveling back and forth internally on the site to and from the hotel will now have to leave the site to get to a hotel or will be arriving at the site from a hotel.

Parking Analysis

The parking demand projections and maximum property occupancy levels has been updated to reflect the reduced development size. The revised projections, which are appended, indicate that the site's population will be reduced significantly (from a previously projected 1,124 maximum persons ever likely to be on the site to 853 persons), as will the projected maximum parking demand (from 462 to 346 spaces). A total of 381 parking spaces are proposed until the artist lodging is constructed, when an additional 6 parking spaces will be provided. In addition the 130 overflow parking spaces on the west side of the property will remain, if ever needed. Since the 381 parking spaces proposed is greater than the projected maximum parking demand of 346 vehicles, it is unlikely that the use of these spaces will ever be required.

Annual Attendance Levels

A revised table showing the "ebb and flow" monthly attendance projections¹ for weekdays and weekends has been prepared and is appended. As indicated in the Table, the reduced development program results in significantly lower attendance levels throughout the year.

Conclusions

Compared to previous analyses conducted for the Project, the reduced development program will provide slightly better overall traffic operating conditions at the study intersections and will result in reduced parking demand and property occupancy levels. As with the original findings of the August 2021 TIS and subsequent analyses, it is concluded that the proposed development will not have an adverse impact on area traffic operating conditions.

¹ The ebb and flow projections were originally provided in Kimley-Horn's September 30, 2021 Memorandum to the Planning Board.

Appendix

- Revised Synchro Analysis (Build with Improvements)
- Revised Parking and Maximum Property Occupancy Projections
 - Revised Annual “Ebb and Flow” Attendance Projections

Intersection						
Int Delay, s/veh	2.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	68	20	541	54	26	432
Future Vol, veh/h	68	20	541	54	26	432
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	1	0	0	1
Mvmt Flow	73	22	582	58	28	465

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1132	611	0	0	640
Stage 1	611	-	-	-	-
Stage 2	521	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	227	497	-	-	954
Stage 1	546	-	-	-	-
Stage 2	600	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	218	497	-	-	954
Mov Cap-2 Maneuver	218	-	-	-	-
Stage 1	546	-	-	-	-
Stage 2	576	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.9	0	0.5
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	250	954
HCM Lane V/C Ratio	-	-	0.378	0.029
HCM Control Delay (s)	-	-	27.9	8.9
HCM Lane LOS	-	-	D	A
HCM 95th %tile Q(veh)	-	-	1.7	0.1

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	2	2	912	6	1	523
Future Vol, veh/h	2	2	912	6	1	523
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-1	-	2	-	-	-2
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	3	0	0	4
Mvmt Flow	2	2	1126	7	1	646

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1778	1130	0	0	1133
Stage 1	1130	-	-	-	-
Stage 2	648	-	-	-	-
Critical Hdwy	6.2	6.1	-	-	4.1
Critical Hdwy Stg 1	5.2	-	-	-	-
Critical Hdwy Stg 2	5.2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	101	258	-	-	624
Stage 1	331	-	-	-	-
Stage 2	544	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	101	258	-	-	624
Mov Cap-2 Maneuver	101	-	-	-	-
Stage 1	331	-	-	-	-
Stage 2	543	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	30.7	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	145	624
HCM Lane V/C Ratio	-	-	0.034	0.002
HCM Control Delay (s)	-	-	30.7	10.8
HCM Lane LOS	-	-	D	B
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘↘		↘	↑	↑	↘
Traffic Vol, veh/h	13	18	38	905	485	40
Future Vol, veh/h	13	18	38	905	485	40
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	159	-	-	95
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	1	-	-	2	-2	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	0	0	0	3	4	0
Mvmt Flow	16	22	47	1117	599	49

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1811	600	649	0	-	0
Stage 1	600	-	-	-	-	-
Stage 2	1211	-	-	-	-	-
Critical Hdwy	6.6	6.3	4.1	-	-	-
Critical Hdwy Stg 1	5.6	-	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	79	496	947	-	-	-
Stage 1	534	-	-	-	-	-
Stage 2	266	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	75	496	946	-	-	-
Mov Cap-2 Maneuver	75	-	-	-	-	-
Stage 1	507	-	-	-	-	-
Stage 2	266	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	37.6	0.4	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	946	-	148	-	-
HCM Lane V/C Ratio	0.05	-	0.259	-	-
HCM Control Delay (s)	9	-	37.6	-	-
HCM Lane LOS	A	-	E	-	-
HCM 95th %tile Q(veh)	0.2	-	1	-	-

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	14	47	71	35	12	8
Future Vol, veh/h	14	47	71	35	12	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	1	1	-	4	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	16	53	80	39	13	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	119	0	-	0	185
Stage 1	-	-	-	-	100
Stage 2	-	-	-	-	85
Critical Hdwy	4.1	-	-	-	7.2
Critical Hdwy Stg 1	-	-	-	-	6.2
Critical Hdwy Stg 2	-	-	-	-	6.2
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1482	-	-	-	776
Stage 1	-	-	-	-	909
Stage 2	-	-	-	-	926
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1482	-	-	-	767
Mov Cap-2 Maneuver	-	-	-	-	767
Stage 1	-	-	-	-	899
Stage 2	-	-	-	-	926

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1482	-	-	-	831
HCM Lane V/C Ratio	0.011	-	-	-	0.027
HCM Control Delay (s)	7.5	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	3.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	65	26	657	80	37	530
Future Vol, veh/h	65	26	657	80	37	530
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	0	1	2	0	1
Mvmt Flow	71	29	722	88	41	582

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1430	766	0	0	810
Stage 1	766	-	-	-	-
Stage 2	664	-	-	-	-
Critical Hdwy	6.42	6.2	-	-	4.1
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.3	-	-	2.2
Pot Cap-1 Maneuver	148	406	-	-	825
Stage 1	459	-	-	-	-
Stage 2	512	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	137	406	-	-	825
Mov Cap-2 Maneuver	137	-	-	-	-
Stage 1	459	-	-	-	-
Stage 2	475	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	53.2	0	0.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	169	825
HCM Lane V/C Ratio	-	-	0.592	0.049
HCM Control Delay (s)	-	-	53.2	9.6
HCM Lane LOS	-	-	F	A
HCM 95th %tile Q(veh)	-	-	3.2	0.2

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	10	1	589	9	1	479
Future Vol, veh/h	10	1	589	9	1	479
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-1	-	2	-	-	-2
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	14	0	2	0	0	3
Mvmt Flow	12	1	701	11	1	570

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1279	707	0	0	712
Stage 1	707	-	-	-	-
Stage 2	572	-	-	-	-
Critical Hdwy	6.34	6.1	-	-	4.1
Critical Hdwy Stg 1	5.34	-	-	-	-
Critical Hdwy Stg 2	5.34	-	-	-	-
Follow-up Hdwy	3.626	3.3	-	-	2.2
Pot Cap-1 Maneuver	186	447	-	-	897
Stage 1	486	-	-	-	-
Stage 2	559	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	186	447	-	-	897
Mov Cap-2 Maneuver	186	-	-	-	-
Stage 1	486	-	-	-	-
Stage 2	558	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	196	897
HCM Lane V/C Ratio	-	-	0.067	0.001
HCM Control Delay (s)	-	-	24.7	9
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.2	0

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	Y
Traffic Vol, veh/h	21	22	52	577	453	36
Future Vol, veh/h	21	22	52	577	453	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	159	-	-	95
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	1	-	-	2	-2	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	2	3	0
Mvmt Flow	25	26	62	687	539	43

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1350	539	582	0	-	0
Stage 1	539	-	-	-	-	-
Stage 2	811	-	-	-	-	-
Critical Hdwy	6.6	6.3	4.1	-	-	-
Critical Hdwy Stg 1	5.6	-	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	155	538	1002	-	-	-
Stage 1	571	-	-	-	-	-
Stage 2	421	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	145	538	1002	-	-	-
Mov Cap-2 Maneuver	145	-	-	-	-	-
Stage 1	536	-	-	-	-	-
Stage 2	421	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.9	0.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1002	-	232	-	-
HCM Lane V/C Ratio	0.062	-	0.221	-	-
HCM Control Delay (s)	8.8	-	24.9	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.8	-	-

Build with Improvements (No Indoor Theater or Hotel)
5: Route 9 & Snake Hill Rd/Travis Corners Rd

Saturday Midday Peak Hour
03/23/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕			↕			↕	
Traffic Volume (veh/h)	27	19	20	13	23	25	56	582	6	11	442	26
Future Volume (veh/h)	27	19	20	13	23	25	56	582	6	11	442	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1847	1743	1595	2018	2018	2018	1894	1850	1894	1979	1919	1904
Adj Flow Rate, veh/h	31	22	23	15	27	29	65	677	7	13	514	30
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	0	7	17	0	0	0	0	3	0	0	4	5
Cap, veh/h	65	46	87	25	44	47	126	833	8	81	900	52
Arrive On Green	0.07	0.07	0.07	0.06	0.06	0.06	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	991	703	1332	391	703	755	92	1636	16	14	1767	101
Grp Volume(v), veh/h	53	0	23	71	0	0	749	0	0	557	0	0
Grp Sat Flow(s),veh/h/ln	1694	0	1332	1849	0	0	1744	0	0	1882	0	0
Q Serve(g_s), s	1.5	0.0	0.8	1.9	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.5	0.0	0.8	1.9	0.0	0.0	17.8	0.0	0.0	10.1	0.0	0.0
Prop In Lane	0.58		1.00	0.21		0.41	0.09		0.01	0.02		0.05
Lane Grp Cap(c), veh/h	111	0	87	116	0	0	967	0	0	1033	0	0
V/C Ratio(X)	0.48	0.00	0.26	0.61	0.00	0.00	0.77	0.00	0.00	0.54	0.00	0.00
Avail Cap(c_a), veh/h	512	0	402	261	0	0	1802	0	0	1947	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.4	0.0	22.1	22.7	0.0	0.0	10.2	0.0	0.0	8.5	0.0	0.0
Incr Delay (d2), s/veh	3.2	0.0	1.6	5.1	0.0	0.0	1.4	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.3	0.9	0.0	0.0	4.1	0.0	0.0	2.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.6	0.0	23.7	27.8	0.0	0.0	11.5	0.0	0.0	8.9	0.0	0.0
LnGrp LOS	C	A	C	C	A	A	B	A	A	A	A	A
Approach Vol, veh/h		76			71			749				557
Approach Delay, s/veh		25.0			27.8			11.5				8.9
Approach LOS		C			C			B				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		31.3		9.2		31.3		9.1				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		50.0		15.0		50.0		7.0				
Max Q Clear Time (g_c+I1), s		19.8		3.5		12.1		3.9				
Green Ext Time (p_c), s		5.5		0.2		3.6		0.1				

Intersection Summary

HCM 6th Ctrl Delay	12.0
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	29	53	56	48	14	12
Future Vol, veh/h	29	53	56	48	14	12
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	1	1	-	4	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	5	2	0	0	0
Mvmt Flow	34	62	66	56	16	14

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	123	0	-	0	225 95
Stage 1	-	-	-	-	95 -
Stage 2	-	-	-	-	130 -
Critical Hdwy	4.1	-	-	-	7.2 6.6
Critical Hdwy Stg 1	-	-	-	-	6.2 -
Critical Hdwy Stg 2	-	-	-	-	6.2 -
Follow-up Hdwy	2.2	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	1477	-	-	-	730 957
Stage 1	-	-	-	-	914 -
Stage 2	-	-	-	-	875 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1476	-	-	-	711 956
Mov Cap-2 Maneuver	-	-	-	-	711 -
Stage 1	-	-	-	-	891 -
Stage 2	-	-	-	-	874 -

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1476	-	-	-	806
HCM Lane V/C Ratio	0.023	-	-	-	0.038
HCM Control Delay (s)	7.5	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection						
Int Delay, s/veh	4.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	82	40	378	61	40	751
Future Vol, veh/h	82	40	378	61	40	751
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	1	0	0	0
Mvmt Flow	89	43	411	66	43	816

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1346	444	0	0	477	0
Stage 1	444	-	-	-	-	-
Stage 2	902	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	169	618	-	-	1096	-
Stage 1	651	-	-	-	-	-
Stage 2	399	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	157	618	-	-	1096	-
Mov Cap-2 Maneuver	157	-	-	-	-	-
Stage 1	651	-	-	-	-	-
Stage 2	370	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	48.5	0	0.4
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	208	1096
HCM Lane V/C Ratio	-	-	0.638	0.04
HCM Control Delay (s)	-	-	48.5	8.4
HCM Lane LOS	-	-	E	A
HCM 95th %tile Q(veh)	-	-	3.8	0.1

Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	9	0	560	10	0	609
Future Vol, veh/h	9	0	560	10	0	609
Conflicting Peds, #/hr	0	2	0	4	4	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	50	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	-1	-	2	-	-	-2
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	2	0	0	2
Mvmt Flow	9	0	589	11	0	641

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	1240	601	0	0	604
Stage 1	599	-	-	-	-
Stage 2	641	-	-	-	-
Critical Hdwy	6.2	6.1	-	-	4.1
Critical Hdwy Stg 1	5.2	-	-	-	-
Critical Hdwy Stg 2	5.2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	209	512	-	-	984
Stage 1	571	-	-	-	-
Stage 2	548	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	208	509	-	-	981
Mov Cap-2 Maneuver	208	-	-	-	-
Stage 1	569	-	-	-	-
Stage 2	548	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	208	981
HCM Lane V/C Ratio	-	-	0.046	-
HCM Control Delay (s)	-	-	23.1	0
HCM Lane LOS	-	-	C	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↘		↘	↑	↑	↘
Traffic Vol, veh/h	38	77	48	532	570	48
Future Vol, veh/h	38	77	48	532	570	48
Conflicting Peds, #/hr	2	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	159	-	-	95
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	1	-	-	2	-2	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	2	2	0
Mvmt Flow	40	81	51	560	600	51

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1264	600	651	0	-	0
Stage 1	600	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Critical Hdwy	6.6	6.3	4.1	-	-	-
Critical Hdwy Stg 1	5.6	-	-	-	-	-
Critical Hdwy Stg 2	5.6	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	176	496	945	-	-	-
Stage 1	534	-	-	-	-	-
Stage 2	497	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	166	496	945	-	-	-
Mov Cap-2 Maneuver	166	-	-	-	-	-
Stage 1	505	-	-	-	-	-
Stage 2	497	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25	0.7	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	945	-	299	-	-
HCM Lane V/C Ratio	0.053	-	0.405	-	-
HCM Control Delay (s)	9	-	25	-	-
HCM Lane LOS	A	-	D	-	-
HCM 95th %tile Q(veh)	0.2	-	1.9	-	-

Build with Improvements (No Indoor Theater or Hotel)
5: Route 9 & Snake Hill Rd/Travis Corners Rd

Saturday PM Event Peak Hour
03/23/2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕			↕			↕	
Traffic Volume (veh/h)	28	17	67	10	14	10	43	542	9	11	616	23
Future Volume (veh/h)	28	17	67	10	14	10	43	542	9	11	616	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1773	1847	1847	2018	2018	2018	1894	1864	1894	1979	1949	1979
Adj Flow Rate, veh/h	29	18	70	10	15	10	45	565	9	11	642	24
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	5	0	0	0	0	0	0	2	0	0	2	0
Cap, veh/h	97	60	138	22	32	22	122	766	12	90	831	31
Arrive On Green	0.09	0.09	0.09	0.04	0.04	0.04	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	1106	686	1565	541	812	541	69	1704	26	10	1846	68
Grp Volume(v), veh/h	47	0	70	35	0	0	619	0	0	677	0	0
Grp Sat Flow(s),veh/h/ln	1792	0	1565	1894	0	0	1799	0	0	1924	0	0
Q Serve(g_s), s	1.0	0.0	1.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.0	0.0	1.8	0.8	0.0	0.0	11.7	0.0	0.0	12.6	0.0	0.0
Prop In Lane	0.62		1.00	0.29		0.29	0.07		0.01	0.02		0.04
Lane Grp Cap(c), veh/h	158	0	138	75	0	0	900	0	0	952	0	0
V/C Ratio(X)	0.30	0.00	0.51	0.46	0.00	0.00	0.69	0.00	0.00	0.71	0.00	0.00
Avail Cap(c_a), veh/h	589	0	514	355	0	0	2119	0	0	2325	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.2	0.0	18.6	20.0	0.0	0.0	9.7	0.0	0.0	9.9	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	2.9	4.4	0.0	0.0	0.9	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.7	0.4	0.0	0.0	2.8	0.0	0.0	3.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.2	0.0	21.4	24.4	0.0	0.0	10.6	0.0	0.0	10.9	0.0	0.0
LnGrp LOS	B	A	C	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h		117			35			619			677	
Approach Delay, s/veh		20.6			24.4			10.6			10.9	
Approach LOS		C			C			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		25.2		9.7		25.2		7.7				
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0				
Max Green Setting (Gmax), s		50.0		14.0		50.0		8.0				
Max Q Clear Time (g_c+I1), s		13.7		3.8		14.6		2.8				
Green Ext Time (p_c), s		4.3		0.3		4.6		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				11.9								
HCM 6th LOS				B								
Notes												
User approved pedestrian interval to be less than phase max green.												

Intersection						
Int Delay, s/veh	5.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	31	42	42	38	70	36
Future Vol, veh/h	31	42	42	38	70	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	1	1	-	4	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	0	5	2	0	0	0
Mvmt Flow	36	49	49	44	81	42

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	93	0	0	192	71
Stage 1	-	-	-	71	-
Stage 2	-	-	-	121	-
Critical Hdwy	4.1	-	-	7.2	6.6
Critical Hdwy Stg 1	-	-	-	6.2	-
Critical Hdwy Stg 2	-	-	-	6.2	-
Follow-up Hdwy	2.2	-	-	3.5	3.3
Pot Cap-1 Maneuver	1514	-	-	768	989
Stage 1	-	-	-	942	-
Stage 2	-	-	-	885	-
Platoon blocked, %		-	-		
Mov Cap-1 Maneuver	1514	-	-	750	989
Mov Cap-2 Maneuver	-	-	-	750	-
Stage 1	-	-	-	919	-
Stage 2	-	-	-	885	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1514	-	-	-	817
HCM Lane V/C Ratio	0.024	-	-	-	0.151
HCM Control Delay (s)	7.4	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Parking Projections and Maximum Property Occupancy

(expected less than 10 times per year)

Base Maximum Occupancy				% of Full Attendance		
		People	Parked Cars		People	Parked Cars
HVSF	Guests	500	238	100%	500	238
	Staff	<u>20</u>	<u>13</u>	100%	<u>20</u>	<u>13</u>
		520	251		520	251
Banquet	Guests Cars	100	40	100%	100	40
	Guests Buses	100	15	100%	100	15
	Staff	<u>20</u>	<u>20</u>	100%	<u>20</u>	<u>17</u>
		220	75		220	72
Restaurant	PP Guests	40	16	75%	30	12
	HVSF Guests	32		75%	24	
	Staff	<u>10</u>	8	75%	<u>8</u>	<u>6</u>
		82	24		61	18
Hotel	PP Guests			100%	0	0
				100%	0	
	HVSF Staff	31	5	100%	31	5
	Staff		<u>0</u>	100%	<u>0</u>	<u>0</u>
				31	5	
Total		853	356	98%	832	346



Original Site Plan



Reduced Site Plan - Indoor Theater and Inn Removed

Legend

- | | | | | | | | |
|-----------------------------|---|---|---|--|--------------------------------|--|--------------------|
| ① Theater Tent | ⑥ Pervious Parking Lot (236 Spaces) - ADJUSTED TO AVOID WETLAND BUFFER | ⑪ 6 Artists and Guest Lodging Buildings | ⑬ 5 Artist and Guest Lodging Buildings + 1 Amenity Building | ⑰ Wedding Venue | ⑳ Existing Parking Lot | ㉒ Pervious Parking - Staff and Event Overflow (130 Spaces) | ㉔ Meadow Plantings |
| ② Back of House | ⑦ Welcome Center Box Office + Picnic Pickup | ⑫ Parking - Staff (45 Spaces) | ⑭ Pavilion | ⑱ Existing Guest Lodging | ㉑ Existing Guest Lodging | ㉓ New Snake Hill Road Entrance | ㉕ New Trees |
| ③ Concessions and Restrooms | ⑧ Welcome Garden | ⑬ 5 Artist and Guest Lodging Buildings + 1 Amenity Building | ⑮ 20-Room Hotel - REMOVED | ㉒ Pervious Parking Lot (6 Spaces) - REDUCED | ㉓ New Snake Hill Road Entrance | | |
| ④ Picnic Lawns | ⑨ Rehearsal and Administration | ⑯ Year-Round Theater - REMOVED | | | | | |
| ⑤ Entry Road | | | | | | | |



Birds Eye View of Campus



Birds Eye View of Campus - Indoor Theater and Inn Removed

Existing Site

- ① The Valley Restaurant
- ② Inn
- ③ Wedding Venue
- ④ Golf Pro Shop
- ⑤ Existing Parking
- ⑥ Manager's Quarters / Cottage



Phase 1 (2024)

- ① **Baseline Site**
New Snake Hill Road Entry
Grading
Parking (236 spaces) - ADJUSTED TO AVOID WETLAND BUFFER
Service Road to Performance Space
Minimal Landscape at Tent/Parking
Infrastructure to Theater Cluster
- ② **New Tent**
- ③ **Back of House**



New Tent and Seating Bowl, image courtesy Studio Gang Architects



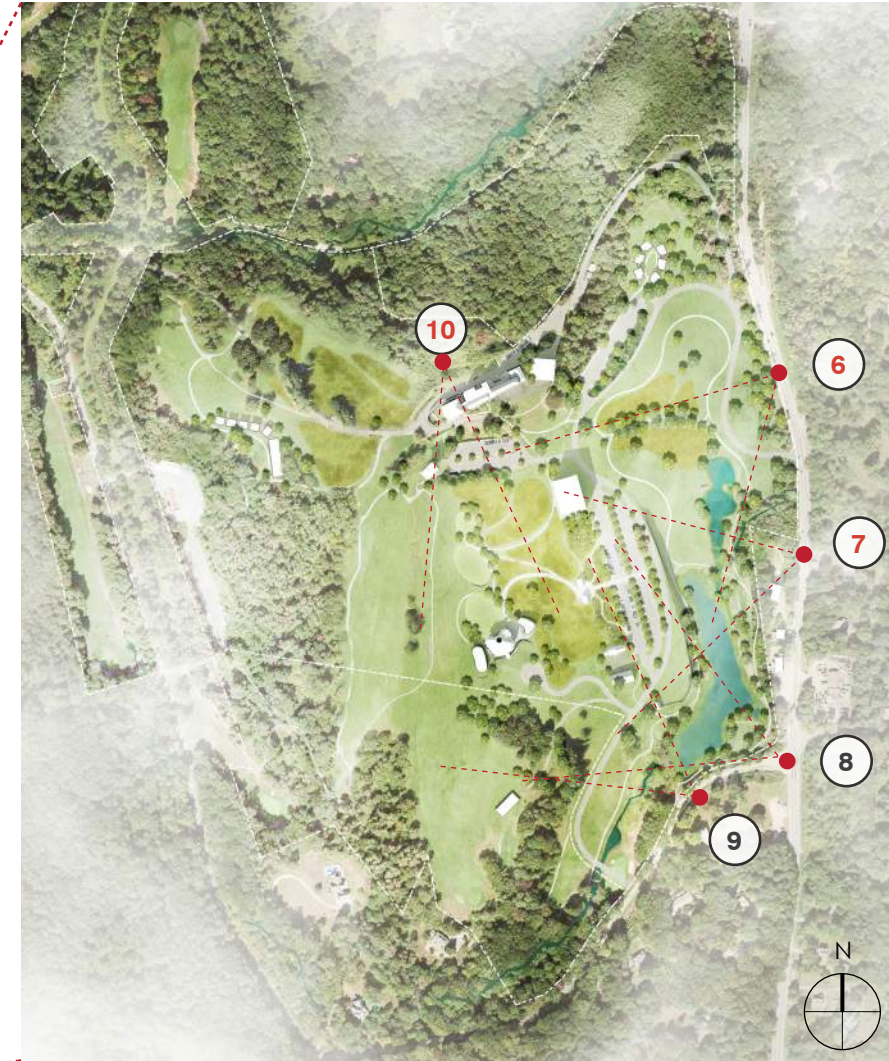
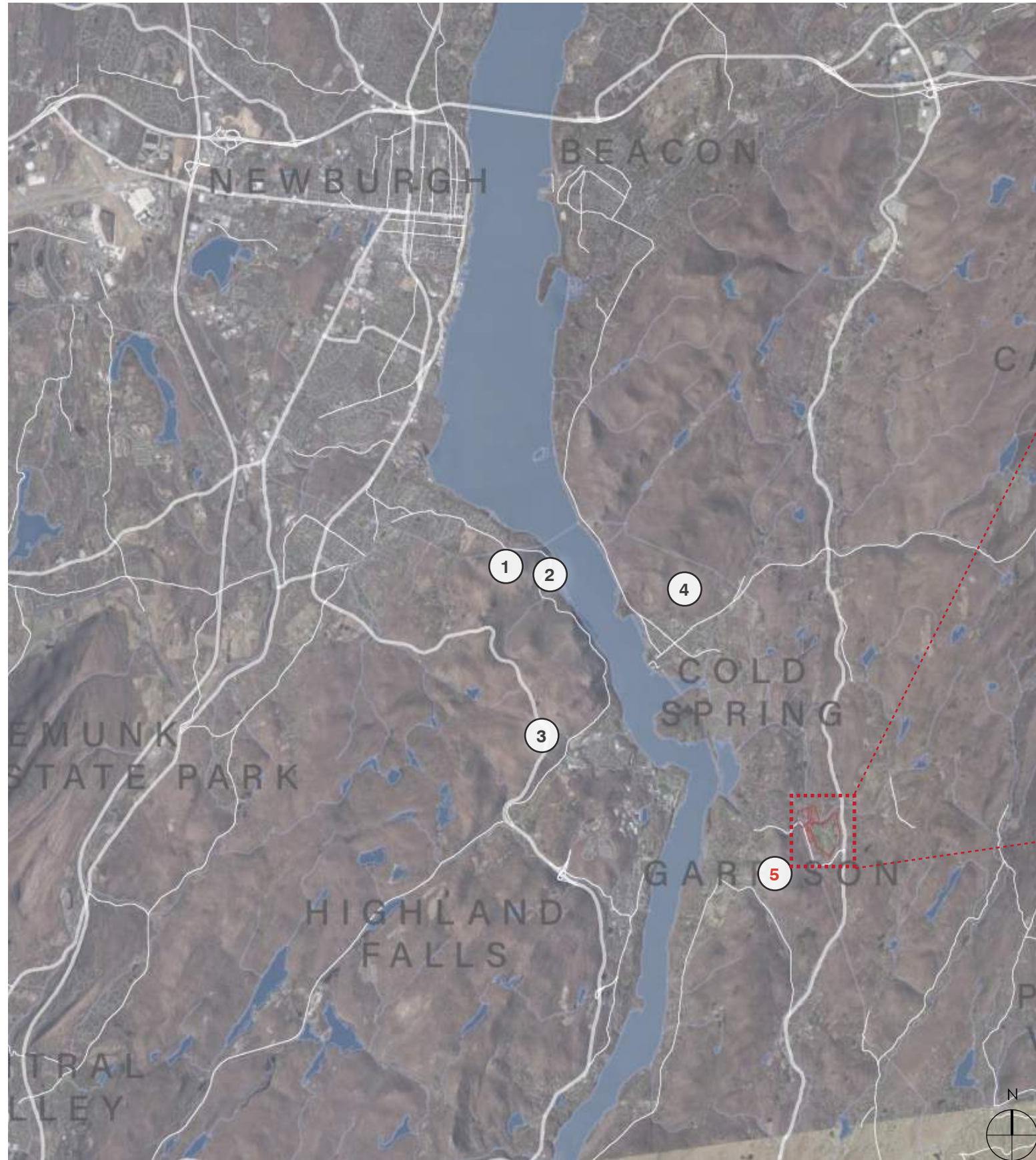
Full Campus Buildout

The below elements are not listed in any particular order and the order does not indicate any priority for implementation. Campus elements are numbered only for ease of locating each item on the site plan.

- ① **Rehearsal Space**
- ② **Welcome Center + Welcome Garden**
- ③ **The Pavilion**
- Artist and Guest Accommodations**
- ④ **Artist and Guest Accommodations**
- ⑤ **20-Room Inn - REMOVED**
- ⑥ **Guest Accommodations Parking- REDUCED**
- ⑦ **Year-Round Theater - REMOVED**
- ⑧ **Park Paths**
- ⑨ **Route 9 Entry Road Re-routing**
- ⑩ **Concessions + Restrooms**

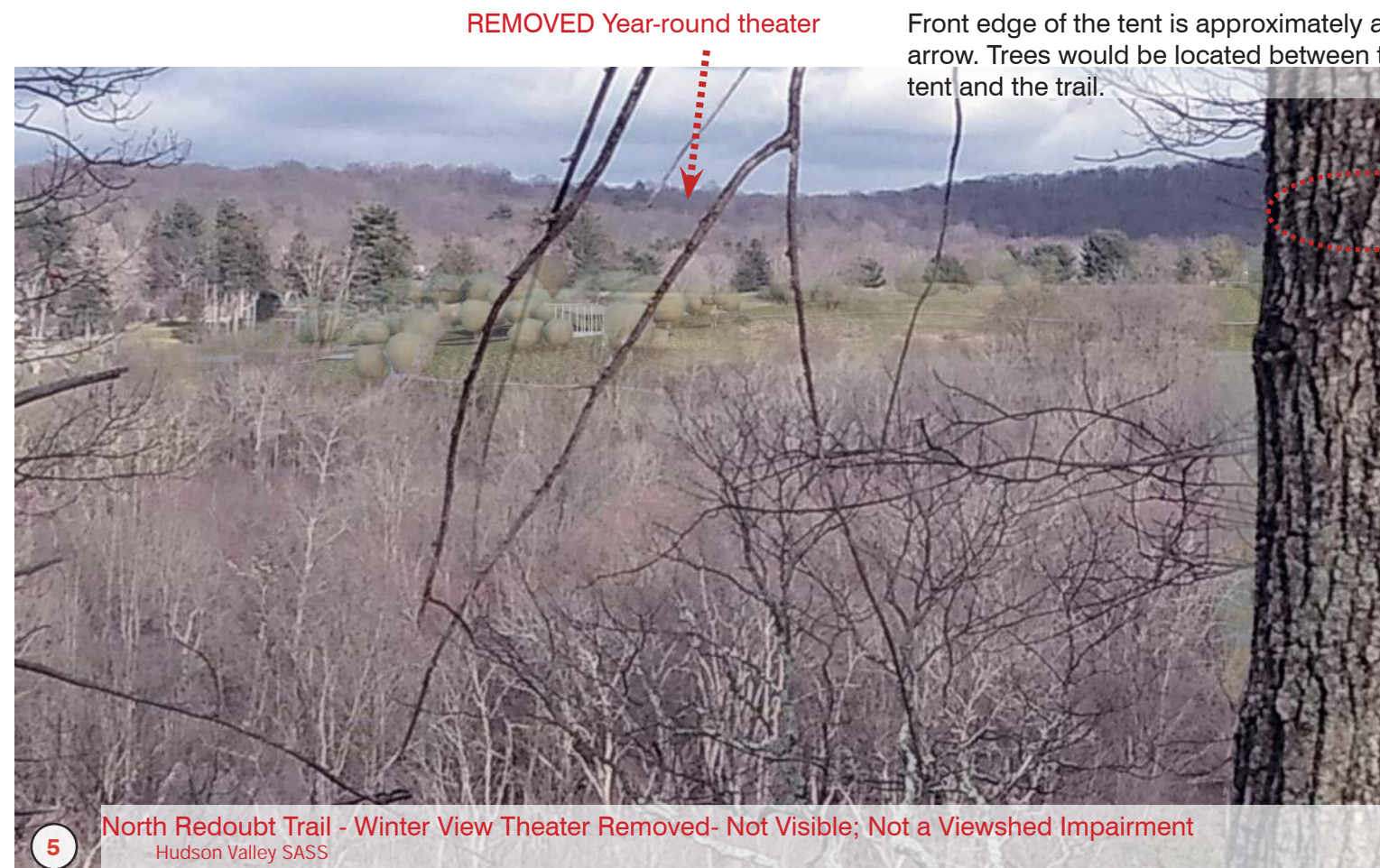
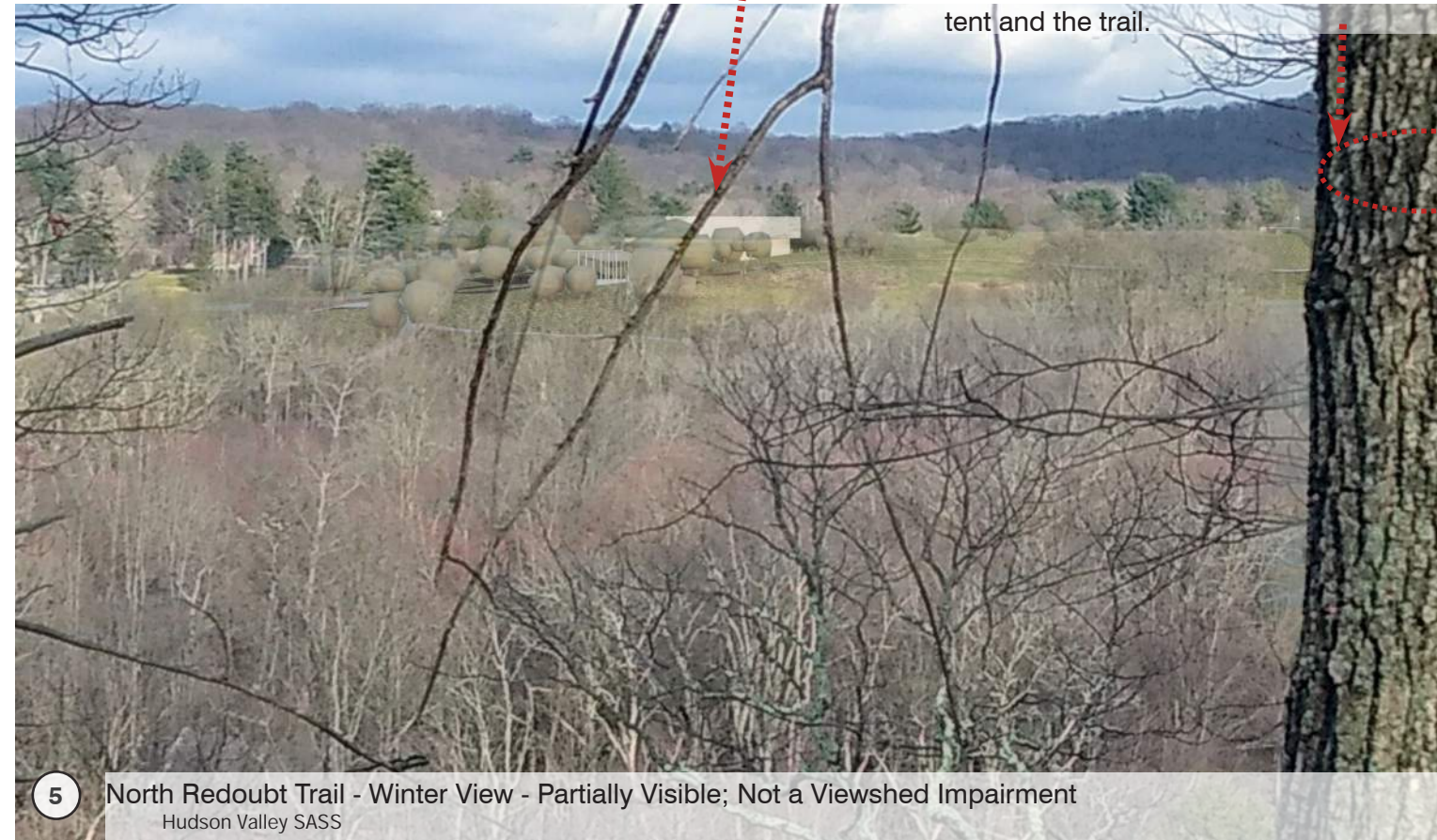
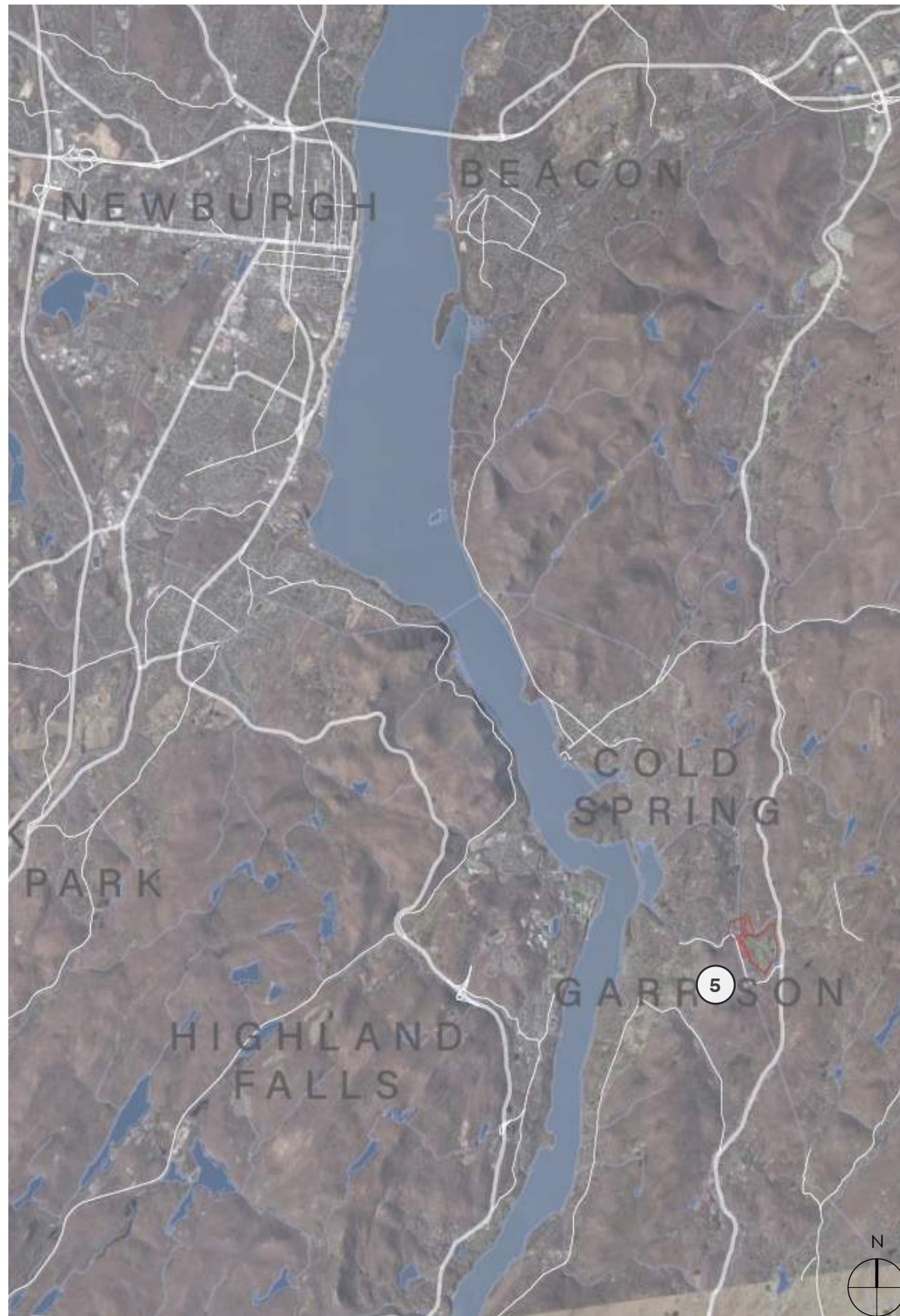


Viewshed Analysis Locations



Legend

- ① Howell Trail at Storm King Mountain
Hudson Valley SASS
- ② Storm King Highway
NYS Scenic Road
- ③ Route 9W
NYS Scenic Road
- ④ Bull Hill, Washburn Trail
Hudson Valley SASS
- ⑤ North Redoubt Trail
Hudson Valley SASS
- ⑥ View from Route 9 looking south
- ⑦ View from Route 9 at Route 9 spur
- ⑧ View from Snake Hill Road at Route 9 looking northwest
- ⑨ View from Snake Hill Road looking northwest
Eligible SHPO Site at South Highland United Methodist Church
- ⑩ Section through Existing Building and Tent



Viewshed Analysis Locations Adjacent to Site

- 6 View from Route 9 looking south
- 7 View from Route 9 at Route 9 spur
- 8 View from Snake Hill Road at Route 9 looking northwest
- 9 View from Snake Hill Road looking northwest
Eligible SHPO Site at South Highland
United Methodist Church
- 10 Section through Existing Building and Tent

*Route 9 is a designated NYS Scenic Road

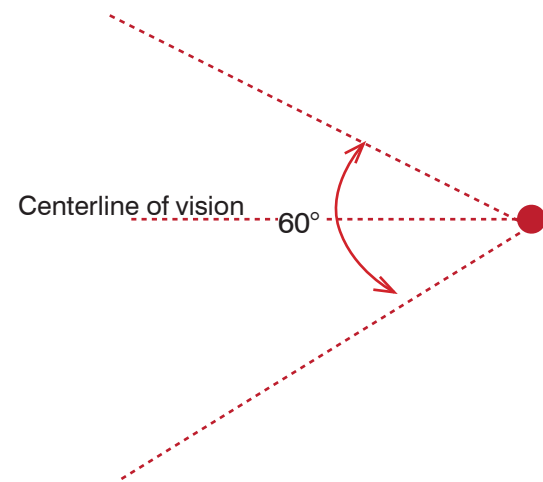
The site is in the Scenic Protection Overlay district (SPO). The intent of the district is to preserve the attractive rural and historic quality of the Town and to regulate land uses to preserve the Town's scenic beauty and rural character. The SPO applies to those sections of road that are visible to the public and that substantially retain their scenic character. (Sect 175-15) The proposed project site falls within the SPO.

- There is a 250' district overlay from the right of way of all state, county, and Town Roads except those zoned SR, OC, HC, M, HM, HR. This site is RC. (Sect 175-15)

- There is a required landscape buffer 100' deep along Route 9 and 9D and 50' deep along other scenic roads. (Sect 175-15)

Cone of Vision Diagram and Explanation

Cone of Vision is defined as the field of vision for a person without peripheral vision. The standard cone of vision is 60° (or 30° from either side of center)



Typical cone of vision for a driver is reduced to 40° (20° in either direction) after reaching speeds of approximately 60 miles per hour. The viewshed analysis uses the expanded field of vision typical for a stationary person - 60°.





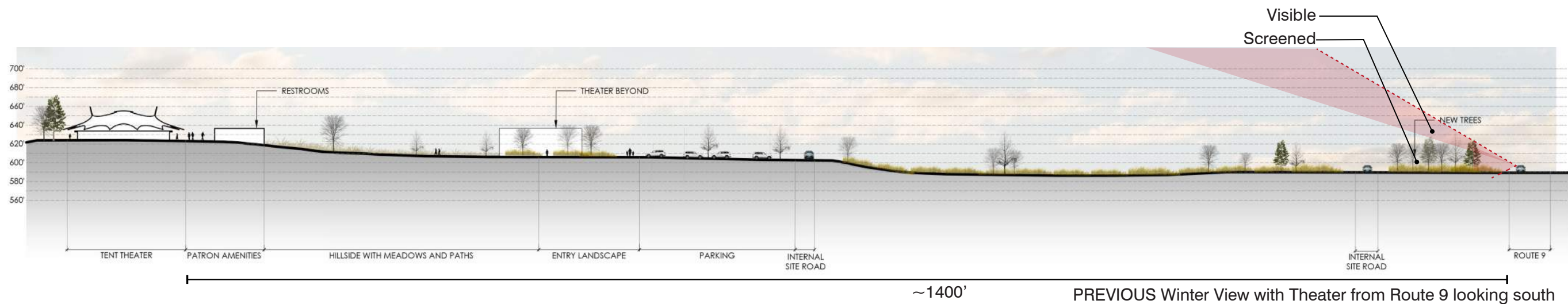
Tent, beyond

Proposed Condition (Winter View)

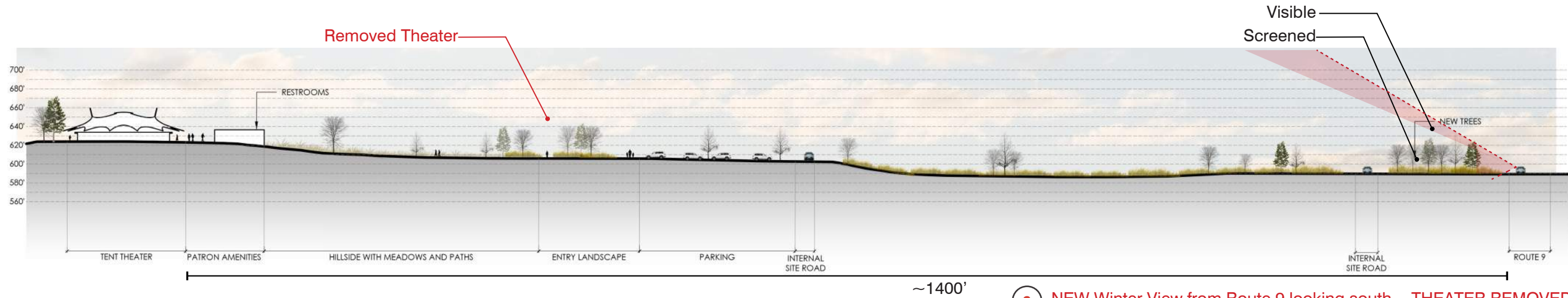


Tent, beyond

Existing Conditions Street View



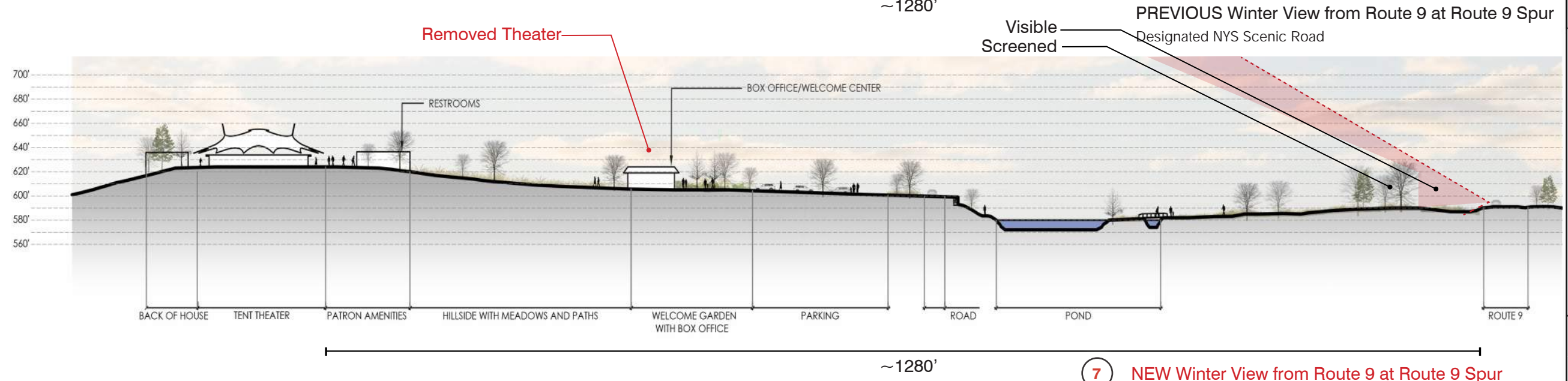
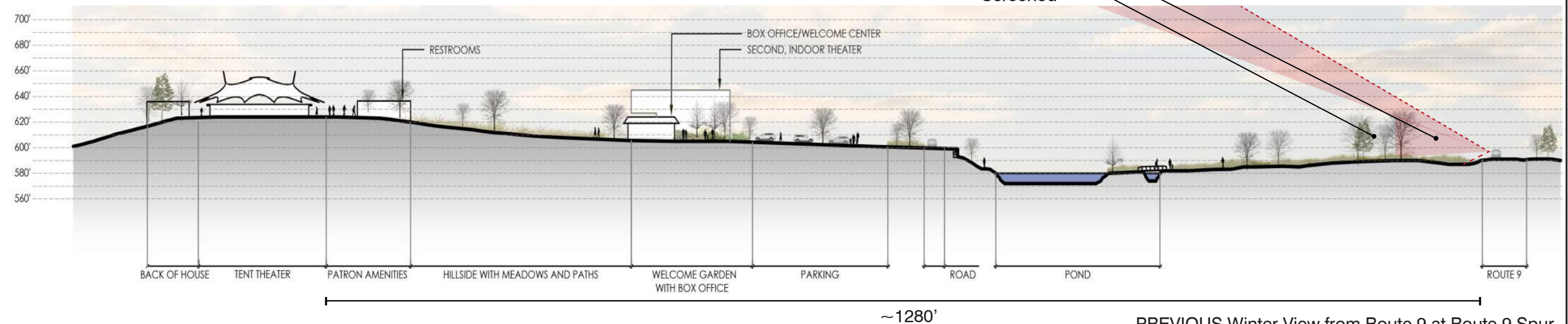
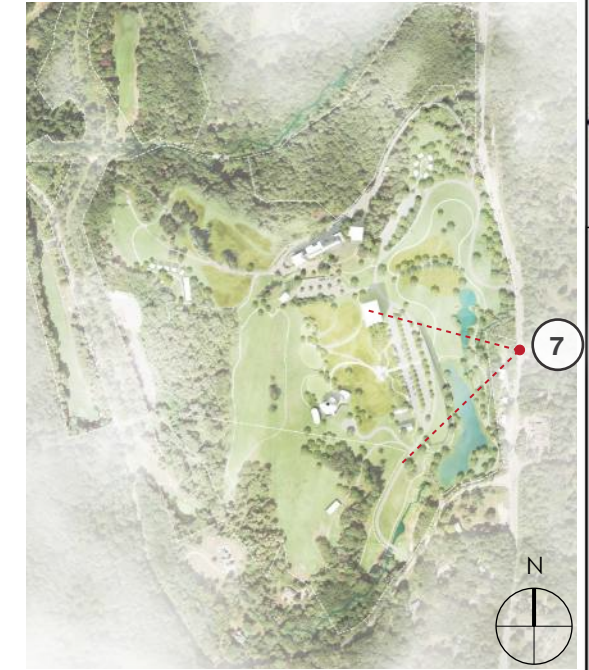
~1400' PREVIOUS Winter View with Theater from Route 9 looking south
Designated NYS Scenic Road



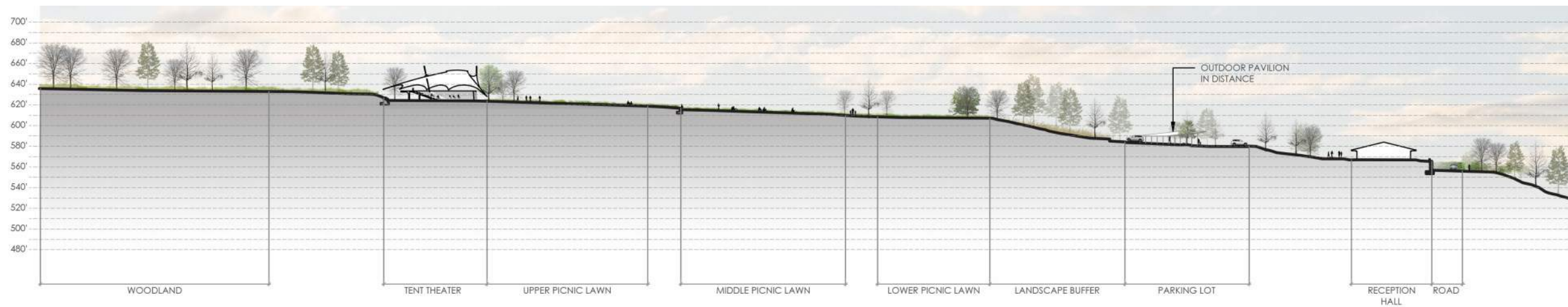
~1400' **6** NEW Winter View from Route 9 looking south -- THEATER REMOVED
Designated NYS Scenic Road



Existing Conditions Street View



7 NEW Winter View from Route 9 at Route 9 Spur Designated NYS Scenic Road



ENVIRONMENTAL ASSESSMENT FORM - PART 3

**Viewshed and Sightlines Profile
Location 7 - Route 9 at Route 9 Spur**

THE GARRISON - HUDSON VALLEY SHAKESPEARE FESTIVAL



EXHIBIT

10 NEW Winter View from Existing Reception Hall through Tent