7.0 LONG LIST OF ALTERNATIVES

Based on the existing and future corridor deficiencies and needs identified in Section 5 and the goals and objective identified in Section 6, the following Long List of Alternatives for each corridor was identified for evaluation to enhance transit service in the study area.

7.1 WATERBURY BRANCH

This section describes the No Build Alternative, the Transportation Systems Management (TSM) Alternative and the 23 build alternatives generated for the Waterbury Branch.

7.1.1 No Build Alternative

The No Build Alternative for the Waterbury Branch establishes the base case condition if no substantive improvements are implemented. The impacts of the various build alternatives under consideration are then compared against this No Build Alternative, helping to define the resulting benefit anticipated from the construction and financial investment for the recommended project(s).

The No Build Alternative reflects the population/employment changes and travel patterns outlined in Section 5 that are anticipated to occur independently of any transportation improvements. It also assumes that the following planned projects with committed funds will be constructed.

Planned Transit Improvements

Positive Train Control. The Railroad Safety Enhancement Act of 2008 (RSEA), passed by the U.S. Congress in November 2008 (H.R. 2095), requires implementation of Positive Train Control (PTC) on all mainline Class I railroad, intercity rail passenger, and commuter rail passenger lines by December 31, 2015. PTC systems, which integrate command, control, communications, and information systems for regulating train movements with safety, security, and efficiency, can be used in conjunction with a signal system or as a stand-alone system. On-board computers have the ability to automatically enforce movement and continually update operating data systems with information on the location of other trains. While conventional signal systems use electrical circuits in track blocks to determine train location by block occupancy, PTC systems use Global Positioning System (GPS) or transponders augmented by odometers to determine train location.

Although not required on the Waterbury Branch given the current level of service, it is assumed that service on the branch will increase in the future and that PTC will eventually be introduced. PTC would be installed separate from the Waterbury and New Canaan Branch Lines Needs and Feasibility Study, although it could be timed to coincide with the implementation of study improvements like the signalization of the branch. Full signalization of the Waterbury Branch

plus a signal system overlay using Amtrak's Advanced Civil Speed Enforcement System (ACSES) would satisfy PTC requirements if service were increased on the branch.

Planned Roadway Improvements

While there are no major roadway improvements planned or under construction in the Waterbury Branch corridor at this time, several studies are currently underway that may result in changes to the roadway network prior to the implementation of any Waterbury and New Canaan Branch Lines Needs and Feasibility Study improvements.

Route 8 Study (Interchanges 22-30) (State Project 124-164). CTDOT is conducting a study that will identify transportation deficiencies and define near- and long-term improvements for the corridor. The study began in October 2008.

Route 67/Route 42 Connector Road Study (State Project 124-163). VCOG is studying potential transportation improvements in the Seymour/Beacon Falls portion of the corridor, including the possibility of a connector road between CT-42 and CT-67. The goal of this study is to develop a solution to the transportation needs of this part of the Valley Region that is compatible with the involved communities' *Vision of the Future*. Phase A of the study began late May 2008.

I-84/Route 8 Waterbury Interchange Needs and Deficiencies Study (State Project 151-301). CTDOT is evaluating the transportation needs along I-84 between Exits 18 and 23 and on CT-8 between Exits 30 and 35 in Waterbury. An implementation plan of near- and long-term roadway modifications will be proposed to improve roadway operations within the study area.

I-84 Environmental Impact Statement (EIS). CTDOT is preparing an EIS to evaluate the effects of adding a third general purpose lane on I-84 in each direction, from the New York State line (Exit 1) to Exit 19 in Waterbury.

Route 67 Traffic Study, Seymour. CTDOT is studying potential operational improvements at intersections in the portion of CT-67 just west of CT-8 in Seymour.

7.1.2 Transportation Systems Management Alternative

The TSM Alternative consists of various transportation improvements designed to achieve as many of the goals and objectives of the project as possible while keeping costs to a minimum. It represents the "best that can be done" to optimize facilities and operations while stopping short of major capital investment, through operational upgrades to existing transit services and small physical improvements such as bus lanes on existing highways or expanded park-and-ride facilities. A TSM Alternative is among those considered for all projects funded by the Federal Transit Administration (FTA) and will be developed in more detail if FTA funding is pursued in later phases of the Waterbury and New Canaan Branch Lines study.

7.1.3 Track and Signal Modification Alternatives

This section describes a wide variety of alternatives for improving existing commuter rail service on the Waterbury Branch. While none of these alternatives address the extension of service north of Waterbury, which falls outside the scope of this study, the potential to extend transit service beyond Waterbury in the future would not be precluded by any of the alternatives identified below. Likewise, none of the commuter rail alternatives described in this section

would prevent future electrification or double tracking of the branch, even if these options are not included among the final study recommendations at this time.

As described above, existing Waterbury Branch service is constrained by the lack of signaling and passing sidings, manual switches, frequent curves, and limited capacity on the New Haven Line. Several alternatives were developed that address one or more of these concerns. Where appropriate, RAILSIM Train Performance Calculator (TPC) runs were conducted to determine whether an alternative could improve travel times and/or service frequency for Waterbury Branch customers.

→ Existing Service with Increased Train Length (W-1)

This alternative would maintain the existing Waterbury Branch service schedule, diesel rolling stock, and trackage but would increase the train length from the four-car consist typically used during peak periods today to a six- or eight-car peak-period consist. Extending train length would increase capacity between Waterbury and Bridgeport without requiring additional schedule slots on the New Haven Line, although it would do little to address service frequency, a key objective for the improvement of transit service in the corridor.

The alternative would involve lengthening platforms at all Waterbury Branch stations in order to accommodate the extended consist. The existing low-level platforms used at all branch stations except Waterbury would be replaced with high-level platforms to allow level boarding, which can decrease dwell time at stations. The new high-level platforms would be extended to 680 feet at all Waterbury Branch stations except Seymour and Ansonia. At Seymour Station, the maximum platform length that could be constructed without realigning the curves north and south of the station is 500 feet, which would allow five cars to open their doors at the station (passengers at the front or back of a longer train would walk through the train to the nearest open door to disembark). At Ansonia Station, the maximum platform length is 425 feet, which would allow four cars to open doors. Because the existing boarding area is on a curve just north of the Housatonic River floodgate, the platform location would be shifted northward to accommodate a high-level platform at the station, and minor realignment of the curves north and south of the platform also would be necessary. The existing platform at Naugatuck, also on a curve, would be shifted to the south as described below for Alternative W-19, Relocated Naugatuck Platform.

The Waterbury Station platform, which currently allows level boarding, would be extended from its existing length of approximately 112 feet to 680 feet. Figures 7-1 through 7-6 show the proposed platform lengths and locations along the branch.

The conceptual capital cost for constructing this alternative would be $48.0 million (2008 dollars). In addition to these capital improvements, increasing train length would also require Metro-North to reassign existing equipment or acquire additional equipment to run on the branch.

→ Existing Service with Upgraded Track Speed (W-2)

This alternative would maintain the existing Waterbury Branch service schedule and diesel rolling stock, but would upgrade certain sections of track that currently support a passenger speed of 59 MPH to support 79 MPH speeds. This essentially would involve straightening the branch line's numerous curves wherever possible between the Devon wye and Waterbury. Table 7-1 shows the locations of these improvements and the maximum speeds that could be supported with the upgrade.

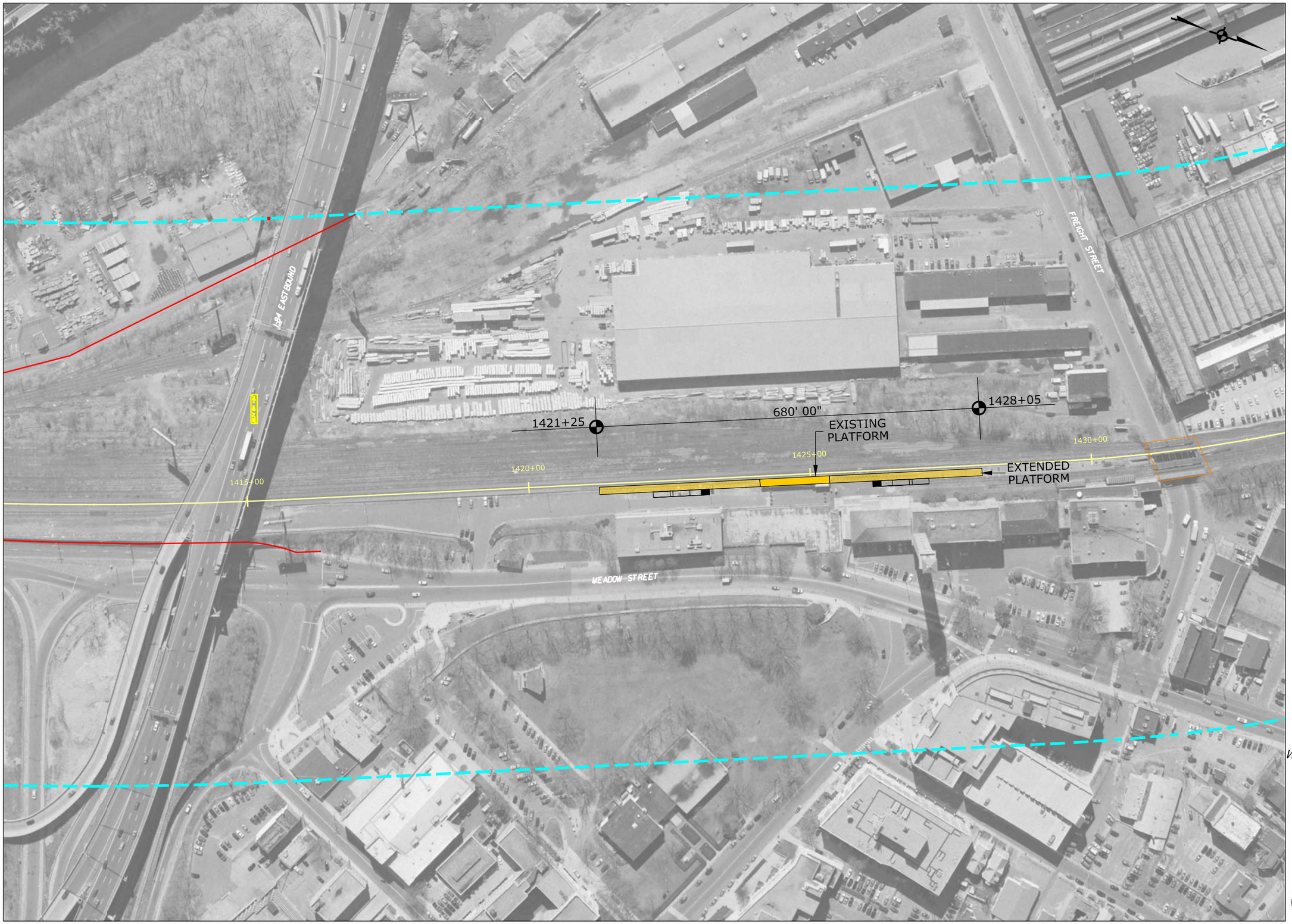
TABLE 7-1: UPGRADED TRACK SPEEDS

Location	Maximum Speed (mph)	Location	Maximum Speed (mph)
East and west legs of wye to MP 7.5	79	**MP 14.9 - MP 17.8**	79
Except:		**Except:**	
16+11.41 - 34+58.84	70	MP 14.9 - 800+37.47	59*
101+43.02 - 110+88.02	79	800+37.47 - 802+45.14	65
134+89.12 - 141+09.35	60	805+60.39 - 807+64.09	60
144+78.60 - 154+01.88	60	807+64.09 - 814+39.94	59*
198+76.90 - 224+00.84	70	814+39.94 - 816+39.44	60
245+57.62 - 256+12.26	60	829+16.48 - 836+54.59	60
268+51.70 - 276+40.42	79	841+21.50 - 844+34.39	60
288+13.05 - 297+27.05	79	861+20.89 - 864+92.02	79
302+10.39 - 313+85.77	70	878+57.96 - 884+16.74	60
324+80.07 - 340+99.17	70	894+09.66 - 896+05.94	65
351+25.35 - 368+38.98	79	896+05.94 - 906+41.88	59*
368+38.98 - 391+03.52	65	906+41.88 - 908+41.05	65
MP 7.5 to MP 7.7	79	916+92.77 - 918+90.90	60
MP 12.3 - MP 14.4	79	918+90.90 - 933+54.52	59*
Except:		933+54.52 - 935+51.42	60
653+25.45 - 655+78.33	70	**MP 24.2 - MP 25.4**	79
672+17.73 - 678+12.52	70	**Except:**	
684+17.67 - 689+40.13	70	1278+22.32 - 1284+25.10	70
699+23.81 - 702+16.80	70	1299+79.59 - 1316+51.00	60
716+88.02 - 720+09.28	60	1316+51.00 - 1319+00.34	70
723+57.60 - 731+53.67	60	**MP 27.1 - MP 27.3**	79
739+33.51 - 743+62.35	60	**Except**	
748+41.03 - 756+36.52	70	MP 27.1 - 1432+58.77	70
758+93.58 - MP 14.4	59*	1442+15.94 - 1445+75.84	70

*Location where original speed was 59 MPH

The RAILSIM TPC performed for this alternative revealed that a time savings of just over one minute could be achieved by upgrading track in all of these locations. Although there are many locations where the improved track alignment could support 79 MPH, they are generally too short to allow a train to accelerate to 79 MPH and then brake in time for the next speed restriction. Without major reconfiguration and new right-of-way acquisition, significant travel time improvements are not possible.

The conceptual capital cost for constructing this alternative would be $27.0 million (2008 dollars).



LEGEND

- EXISTING R.R. TRACK
- R.O.W.
- RAIL STUDY CORRIDOR
- XX MILE POST MARKER
- R.R. STRUCTURES
- PLATFORM, EXISTING
- PLATFORM, PROPOSED
- WATERCOURSE
- CHANNEL ENCROACHMENT LINE
- R.R. STATION PARKING
- SIDING/NEW R.R. TRACK

Figure7-1: Waterbury Station Platform Extension

CROSSING DATA

MILE — CROSSING STREET/FEATURE

6J6 UG STAMFORD RD. OD

AG - AT GRADE
UG - UNDERGRADE
OH - OVERHEAD

OPEN DECK

SCALE IN FEET
0 80 160

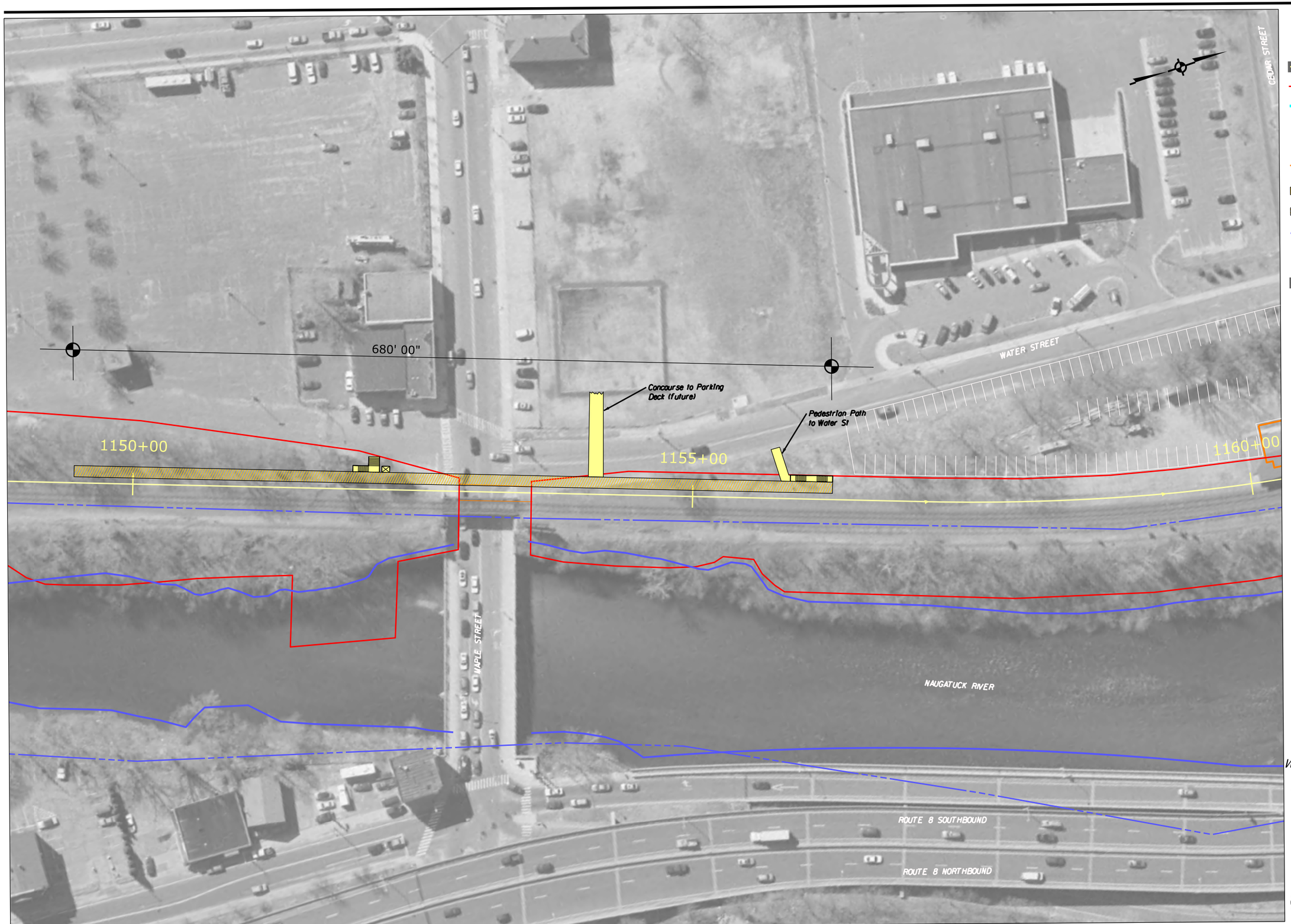
WATERBURY AND NEW CANAAN BRANCH LINES
NEEDS & FEASIBILITY STUDY
PROJECT NO. 170-2562

WATERBURY BRANCH LINE

EXTENDED WATERBURY STATION PLATFORM PROPOSED PLAN

CONNECTICUT DEPARTMENT OF TRANSPORTATION

PARSONS



LEGEND

- EXISTING R.R. TRACK
- R.O.W.
- RAIL STUDY CORRIDOR
- MILE POST MARKER
- R.R. STRUCTURES
- PLATFORM, EXISTING
- PLATFORM, PROPOSED
- WATERCOURSE
- CHANNEL ENCROACHMENT LINE
- R.R. STATION PARKING
- SIDING/NEW R.R. TRACK

Figure 7-2: Naugatuck Station Platform Extension/ Relocation

CROSSING DATA

MILE — CROSSING STREET/FEATURE

6J6 UG STAMFORD RD. OD

AG - AT GRADE
UG - UNDERGRADE
OH - OVERHEAD

OPEN DECK

SCALE IN FEET
0 40 80

WATERBURY AND NEW CANAAN BRANCH LINES
NEEDS & FEASIBILITY STUDY
PROJECT NO. 170-2562

WATERBURY BRANCH LINE

RELOCATED NAUGATUCK PLATFORM PROPOSED PLAN

CONNECTICUT DEPARTMENT OF TRANSPORTATION

PARSONS

LEGEND

- EXISTING R.R. TRACK
- R.O.W.
- RAIL STUDY CORRIDOR
- XX MILE POST MARKER
- R.R. STRUCTURES
- PLATFORM, EXISTING
- PLATFORM, PROPOSED
- WATERCOURSE
- CHANNEL ENCROACHMENT LINE
- R.R. STATION PARKING
- SIDING/NEW R.R. TRACK

Figure 7-3: Beacon Falls Station Platform Extension

CROSSING DATA

MILE — CROSSING STREET/FEATURE

6J6 UG STAMFORD RD. OD

AG - AT GRADE
UG - UNDERGRADE
OH - OVERHEAD

OPEN DECK

SCALE IN FEET
0 40 80

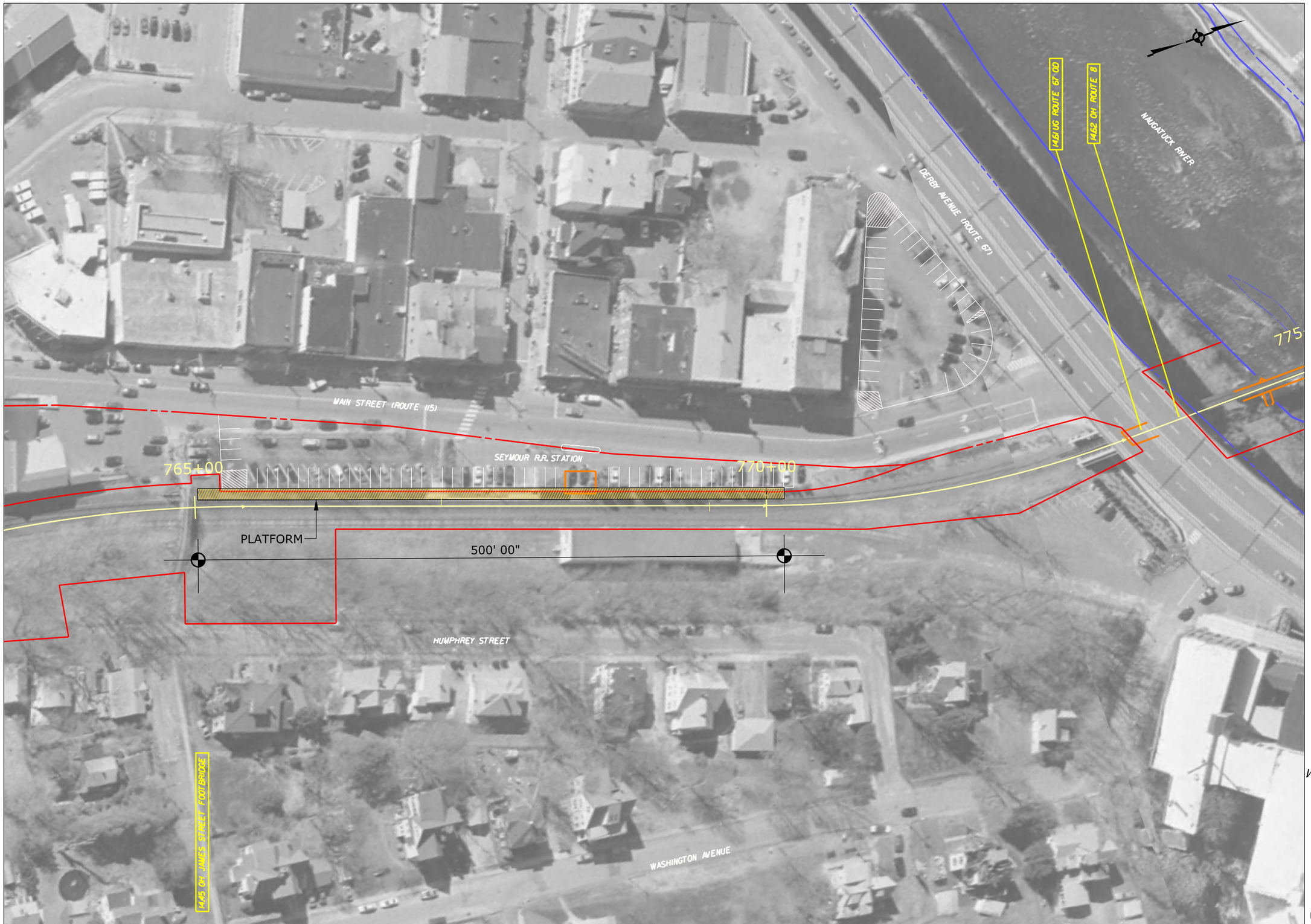
WATERBURY AND NEW CANAAN BRANCH LINES
NEEDS & FEASIBILITY STUDY
PROJECT NO. 170-2562

WATERBURY BRANCH LINE

HIGH-LEVEL BEACON FALLS STATION PLATFORM PROPOSED PLAN

CONNECTICUT DEPARTMENT OF TRANSPORTATION

PARSONS



LEGEND

- EXISTING R.R. TRACK
- R.O.W.
- RAIL STUDY CORRIDOR
- XX MILE POST MARKER
- R.R. STRUCTURES
- PLATFORM, EXISTING
- PLATFORM, PROPOSED
- WATERCOURSE
- CHANNEL ENCROACHMENT LINE
- R.R. STATION PARKING

Figure 7-4: Seymour Station Platform Extension

CROSSING DATA

MILE — CROSSING STREET/FEATURE

6.16 UG STAMFORD RD. OD

AG - AT GRADE
UG - UNDERGRADE
OH - OVERHEAD

OPEN DECK

SCALE IN FEET
0 40 80

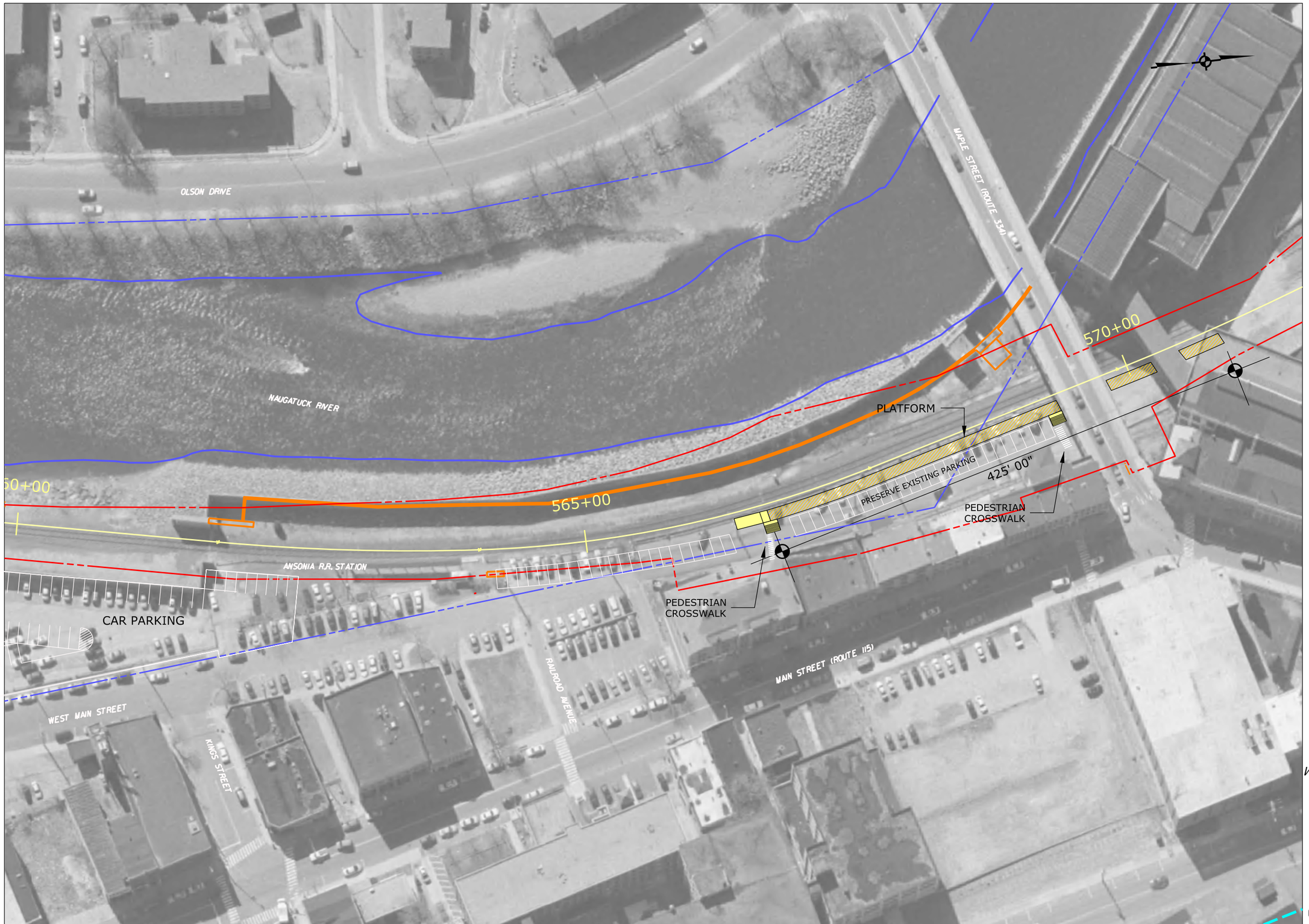
WATERBURY AND NEW CANAAN BRANCH LINES
NEEDS & FEASIBILITY STUDY
PROJECT NO. 170-2562

WATERBURY BRANCH LINE

HIGH-LEVEL SEYMOUR STATION PLATFORM PROPOSED PLAN

CONNECTICUT DEPARTMENT OF TRANSPORTATION

PARSONS



LEGEND

- EXISTING R.R. TRACK
- R.O.W.
- RAIL STUDY CORRIDOR
- MILE POST MARKER (XX)
- R.R. STRUCTURES
- PLATFORM, EXISTING
- PLATFORM, PROPOSED
- WATERCOURSE
- CHANNEL ENCROACHMENT LINE
- R.R. STATION PARKING

Figure 7-5: Ansonia Station Platform Extension/ Relocation

CROSSING DATA

MILE — CROSSING STREET/FEATURE

6J6 UG STAMFORD RD. OD

AG - AT GRADE
UG - UNDERGRADE
OH - OVERHEAD

OPEN DECK

SCALE IN FEET
0 40 80

WATERBURY AND NEW CANAAN BRANCH LINES
NEEDS & FEASIBILITY STUDY
PROJECT NO. 170-2562

WATERBURY BRANCH LINE

RELOCATED ANSONIA PLATFORM PROPOSED PLAN

CONNECTICUT DEPARTMENT OF TRANSPORTATION

PARSONS

LEGEND

- EXISTING R.R. TRACK
- R.O.W.
- RAIL STUDY CORRIDOR
- XX MILE POST MARKER
- R.R. STRUCTURES
- PLATFORM, EXISTING
- PLATFORM, PROPOSED
- WATERCOURSE
- CHANNEL ENCROACHMENT LINE
- R.R. STATION PARKING
- SIDING/NEW R.R. TRACK

Figure 7-6: Derby-Shelton Station Platform Extension

CROSSING DATA

MILE — CROSSING STREET/FEATURE

6.16 UG STAMFORD RD. OD

AG - AT GRADE
UG - UNDERGRADE
OH - OVERHEAD

OPEN DECK

SCALE IN FEET
0 40 80

WATERBURY AND NEW CANAAN BRANCH LINES
NEEDS & FEASIBILITY STUDY
PROJECT NO. 170-2562

WATERBURY BRANCH LINE

DERBY-SHELTON STATION PLATFORM EXTENSION PROPOSED PLAN

CONNECTICUT DEPARTMENT OF TRANSPORTATION

PARSONS

→ Full Signalization (W-3)

This alternative would implement a Centralized Traffic Control (CTC) system along the entire Waterbury Branch. The signal system, which would be controlled by rail traffic controllers at the existing GCT Dispatch Center, would allow two trains heading in the same direction to operate on the branch at the same time. Currently, the full 27-mile length of the branch is a single block, meaning that a second train cannot enter the branch from the mainline until the train ahead of it reaches Waterbury Station. This severely limits the number of morning and evening peak period trains that can operate on the branch. By signalizing the Waterbury Branch, the corridor could be divided into a series of blocks, where a second train could enter a new block once the train ahead of it pulled onto the next block. This would allow, for example, two trains traveling north from Bridgeport to depart closer together, rather than forcing the second train to wait for the first train to reach Waterbury before departing, which could reduce Waterbury Branch headways.

This improvement would produce the greatest benefit if combined with the addition of a fully interlocked (signalized) passing siding or sidings, or double tracking (Alternatives W-8, W-9, W-10, and W-11) where trains traveling in the same direction or in different directions could bypass one another. With fully signalized interlockings, trains could move between tracks without the time-consuming need for train crews to throw switches by hand.

As discussed above, PTC is expected to be implemented on the branch eventually, independent of this study. However, if the full signalization of the branch is pursued, signalization and PTC could be installed concurrently.

The conceptual capital cost for constructing this alternative would be $128.0 million (2008 dollars).

7.1.3.1 Electrification Alternatives

Two alternatives would introduce electric service on the Waterbury Branch. The New Haven Line and New Canaan Branch are both fully electrified, and a separate, ongoing CTDOT study is considering electrification of the Danbury Branch. Electrifying part or all of the Waterbury Branch would allow the use of electric multiple unit (EMU) rolling stock used elsewhere in the Metro-North system, could eliminate or relocate the existing transfer at Bridgeport Station, and could potentially result in slightly improved travel times along the branch.

→ Full Electrification (W-4)

This alternative would involve electrification of the entire 27-mile branch line, from the Devon wye where the branch meets the New Haven Line in the south to its northern terminus at Waterbury Station. The current diesel rolling stock would be replaced with Metro-North EMU rolling stock (the newly acquired M-8 cars or equivalent), which exhibits greater acceleration rates and can potentially improve travel times in locations where trains are able to accelerate and decelerate more quickly. The current track and signal system would remain unchanged.

The RAILSIM TPC run for this alternative indicates that approximately one minute of running time would be saved by converting to electric service, without any additional track improvements.

The conceptual capital cost for constructing this alternative would be $320.0 million (2008 dollars).

→ Partial Electrification (W-5)

This alternative would electrify only the portion of the branch from Devon to Derby-Shelton. EMU equipment would be utilized from the New Haven Line to Derby-Shelton Station, with diesel equipment used between Derby-Shelton and Waterbury. All passengers would transfer at Derby-Shelton Station. This alternative would also include track improvements, where possible, between the Devon wye and Derby-Shelton to upgrade track speeds and take advantage of the EMUs' greater acceleration capabilities. These locations are identified in Table 7-2.

TABLE 7-2: UPGRADED TRACK SPEEDS, PARTIAL ELECTRIFICATION ALTERNATIVE

Location	Maximum Speed (mph)
East and west legs of wye to MP 7.5	79
Except:	
16+11.41 - 34+58.84	70
101+43.02 - 110+88.02	79
134+89.12 - 141+09.35	60
144+78.60 - 154+01.88	60
198+76.90 - 224+00.84	70
245+57.62 - 256+12.26	60
268+51.70 - 276+40.42	79
288+13.05 - 297+27.05	79
302+10.39 - 313+85.77	70
324+80.07 - 340+99.17	70
351+25.35 - 368+38.98	79
368+38.98 - 391+03.52	65
MP 7.5 to MP 7.7	79

This alternative would result in a three- to four-minute increase in passenger travel time when compared to the existing service to Bridgeport. This would be due to a five-minute across-platform transfer from diesel to electric trains at Derby-Shelton Station. On the other hand, the new across-platform transfer at Derby-Shelton would save passengers bound for points west of Bridgeport from making the existing "drop-back" transfer at Bridgeport Station, where the use of side platforms does not allow for across-platform transfers. Passengers at Bridgeport currently alight from the first train and walk forward or backward to a second train waiting along the same platform, a less efficient and more time consuming movement.

A transfer station at Derby-Shelton also would be desirable in the context of New Haven Line operations if Metro-North plans significant increases in Bridgeport Station originations. Because Bridgeport serves a large volume of through Amtrak and Metro-North trains, there are limited time periods to "turn" or originate (from Bridgeport Yard) trains at Bridgeport Station. Derby-Shelton would allow electric train originations in a less-congested environment. In addition, if Derby-Shelton Station were transformed into an intermodal hub as described in Alternatives W-15, W-16, and W-17, partial electrification would provide an even greater benefit to riders.

The conceptual capital cost for constructing this alternative would be $136.0 million (2008 dollars).

→ Full Electrification with Upgraded Track Speed (W-6)

This alternative combines the Full Electrification Alternative (W-4) with the track improvements in the Upgraded Track Speed Alternative (W-2) to harness the combined benefit of track improvements and electrification. The RAILSIM TPC run performed for this alternative indicated that combining full electrification with improved track speeds would result in a trip time savings of approximately two minutes.

The conceptual capital cost for constructing this alternative would be $350.0 million (2008 dollars).

→ Partial Electrification with Upgraded Track Speed (W-7)

This alternative combines the Partial Electrification Alternative (W-5) with the track improvements in the Upgraded Track Speed Alternative (W-2). This alternative would result in an increased running time of more than three minutes compared to the existing service to Bridgeport due to the five-minute across-platform transfer from diesel to electric trains at Derby-Shelton Station. As with the Partial Electrification Alternative, this increase in travel time to Bridgeport would be offset for passengers traveling to points west of Bridgeport who would no longer have to make a drop-back transfer at Bridgeport. By allowing electric train originations in a less-congested location than Bridgeport Station, a transfer station at Derby-Shelton also would be desirable in the context of New Haven Line operations.

The conceptual capital cost for constructing this alternative would be $151.0 million (2008 dollars).

7.1.3.2 Double Track Alternatives

Two alternatives would add double track to the Waterbury Branch, either along the full length of the corridor, or between the Devon wye and Derby-Shelton. Double-tracking part or all of the Waterbury Branch would allow multiple trains to operate on the branch at the same time, increasing operational flexibility and capacity on the branch. However, numerous crossings of waterbodies, especially north of Derby-Shelton, would require new structures and environmental coordination.

Both double-tracking alternatives would also include new high-level platforms at all stations as described in Alternative W-1.

→ Full Double Track (W-8)

This alternative would add a second track along the full length of the Waterbury Branch, from the Devon wye to Waterbury Station. Although double tracking the entire Waterbury Branch would allow more than one train to operate on the branch at once, the benefit gained through this alternative is similar to that achieved by adding one or more passing sidings as described in Section 7.1.3.3, at significantly higher cost.

The conceptual capital cost for constructing this alternative would be $612.0 million (2008 dollars).

→ Partial Double Track (W-9)

This alternative would add a second track along the portion of the Waterbury Branch from the Devon wye to Derby-Shelton Station (see Appendix B – Waterbury Branch, Double Track from Devon to Derby-Shelton Alternative Drawings). Like the Full Double Track Alternative, the

marginal benefit of this option is similar to that produced by adding one or more passing sidings, and still at a considerably higher cost.

The conceptual capital cost for constructing this alternative would be $133.0 million (2008 dollars).

7.1.3.3 Passing Siding Alternatives

Two alternatives would add passing sidings along the Waterbury Branch. Like the double track alternatives described in Section 7.1.3.2, the addition of one or more passing sidings would allow multiple trains to operate on the branch at the same time, increasing flexibility and capacity on the branch. In order to realize the potential benefits of passing sidings, full signalization would also have to be implemented (Alternative W-3).

→ Beacon Falls Passing Siding (W-10)

This alternative would add one passing siding on the Waterbury Branch in the Town of Beacon Falls, either north of the Beacon Falls Station between MP 18 and 20 (Figures 7-7a and b), or south of the station, beginning just north of the Seymour-Beacon Falls town line, between MP 15 and 17 (Figures 7-8a and b). Either passing siding would be of sufficient length that, with Centralized Traffic Control (CTC) on the line, trains could enter and leave the siding at 30 MPH.

A RAILSIM TPC run was performed to determine the capacity (minimum headway) improvement achieved by adding a single passing siding either north or south of Beacon Falls. With either passing siding, it would be possible to send one more non-revenue train northbound to Waterbury (for another early morning double berth), which would allow an extra southbound morning peak period train to operate. It also would be possible to support an extra midday round trip and an extra late afternoon/early evening round trip.

Combined with a new Devon Station from Alternatives W-12 or W-13, the passing siding located south of Beacon Falls Station could also support hourly shuttles in both directions between Waterbury and the New Haven Line via a transfer at Devon Station. The northern location for the siding would not support hourly shuttles in this instance because it would shift the meet location three to four minutes closer to Waterbury in each direction, resulting in infeasibly short turn times at Devon.

The conceptual capital cost for constructing this alternative would be $20.0 million (2008 dollars).

→ Four Passing Sidings (W-11)

This alternative would add four passing sidings on the Waterbury Branch, one north or south of Beacon Falls Station (described above and shown in Figures 7-7 and 7-8); one north of Derby-Shelton Station, from 74+640 to 782+261 (approximately MP 9 to 9.7); one two miles north of the Devon wye; and one two miles south of Waterbury Station (see Appendix B – Waterbury Branch, Four Passing Sidings Alternative Drawings). The proposed locations would not require any station platform modifications, as trains would pass outside of station limits. All passing sidings would be of sufficient length that, with CTC, trains could enter and leave the sidings at 30 MPH.

THE LENGTH OF SIDING IS APPROX. 3400 FT.

980+00

SWITCH 1
SEE C & S BLOCK PLAN

985+00

HIGH ROCK ROAD

990+00

995+00

1000+00

NAUGATUCK RIVER

18'75' UG 30'x10' STONE CULVERT

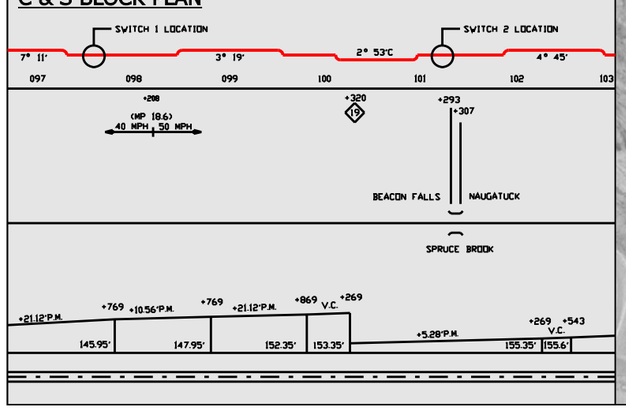
ROUTE 8 SOUTHBOUND

ROUTE 8 NORTHBOUND

HIGHLAND AVENUE

MATCH MARK BEACON FALLS SIDING ALTERNATIVE 2A AND 2B, SHEET - 2

C & S BLOCK PLAN



LEGEND

- EXISTING R.R. TRACK
- R.O.W.
- RAIL STUDY CORRIDOR
- XX MILE POST MARKER
- R.R. STRUCTURES, PLATFORMS
- WATERCOURSE
- CHANNEL ENCROACHMENT LINE
- R.R. STATION PARKING
- SIDING/NEW R.R. TRACK

Figure 7-7a:
Beacon Falls Passing Siding - North Option
Sheet 1

CROSSING DATA

MILE | CROSSING STREET/FEATURE

6J6 UG STAMFORD RD. OD

OPEN DECK

AG - AT GRADE
UG - UNDERGRADE
OH - OVERHEAD

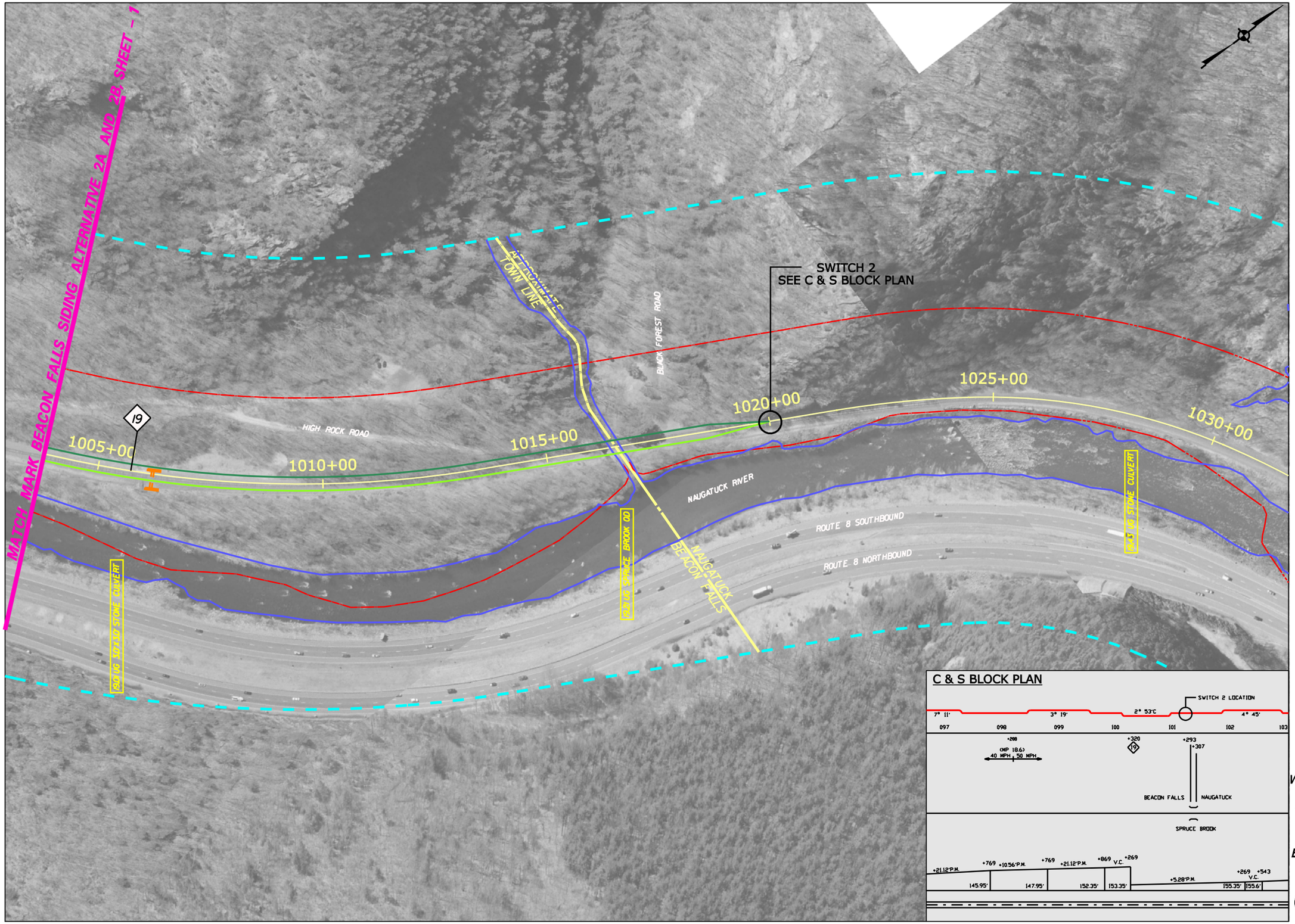
SCALE IN FEET
0 100 200

WATERBURY AND NEW CANAAN BRANCH LINES
NEEDS & FEASIBILITY STUDY
PROJECT NO. 170-2562

WATERBURY BRANCH LINE
BEACON FALLS SIDING ALT. 3
980+00 TO 1020+00
SHEET - 1

CONNECTICUT DEPARTMENT OF TRANSPORTATION

PARSONS



LEGEND

- EXISTING R.R. TRACK
- R.O.W.
- RAIL STUDY CORRIDOR
- XX MILE POST MARKER
- R.R. STRUCTURES, PLATFORMS
- WATERCOURSE
- CHANNEL ENCROACHMENT LINE
- R.R. STATION PARKING
- SIDING/NEW R.R. TRACK

Figure 7-7b: Beacon Falls Passing Siding - North Option Sheet 2

CROSSING DATA

MILE — CROSSING STREET/FEATURE

6J6 UG STAMFORD RD. OD

AG - AT GRADE
UG - UNDERGRADE
OH - OVERHEAD

OPEN DECK

SCALE IN FEET

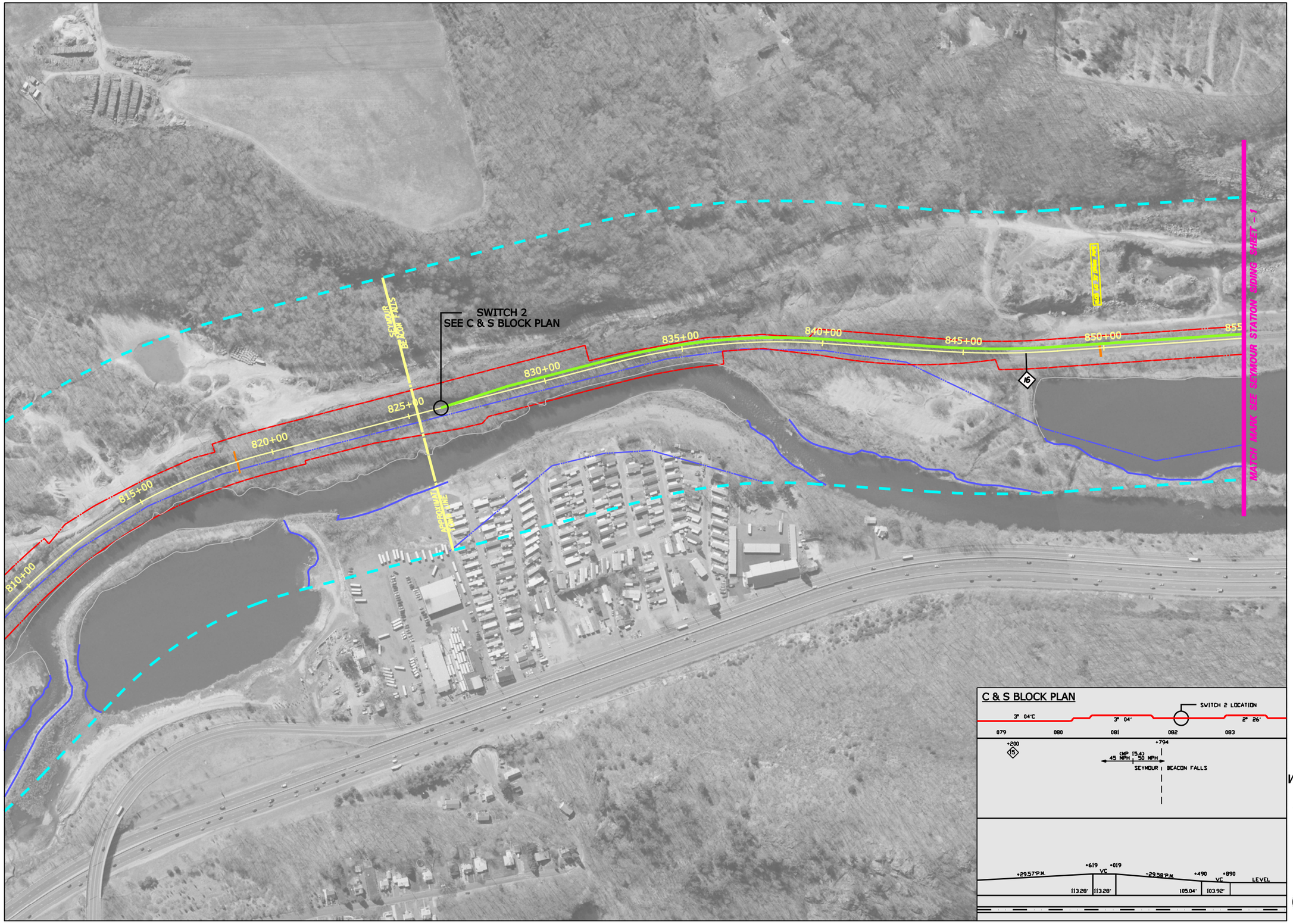
0 100 200

WATERBURY AND NEW CANAAN BRANCH LINES
NEEDS & FEASIBILITY STUDY
PROJECT NO. 170-2562

WATERBURY BRANCH LINE
BEACON FALLS SIDING ALT. 3
980+00 TO 1020+00
SHEET - 2

CONNECTICUT DEPARTMENT OF TRANSPORTATION

PARSONS



LEGEND

- EXISTING R.R. TRACK
- R.O.W.
- RAIL STUDY CORRIDOR
- XX MILE POST MARKER
- R.R. STRUCTURES, PLATFORMS
- WATERCOURSE
- CHANNEL ENCROACHMENT LINE
- R.R. STATION PARKING
- SIDING/NEW R.R. TRACK

Figure 7-8a: Beacon Falls Passing Siding - South Option Sheet 1

CROSSING DATA

MILE — CROSSING STREET/FEATURE

6J6 UG STAMFORD RD. OD

AG - AT GRADE
UG - UNDERGRADE
OH - OVERHEAD

OPEN DECK

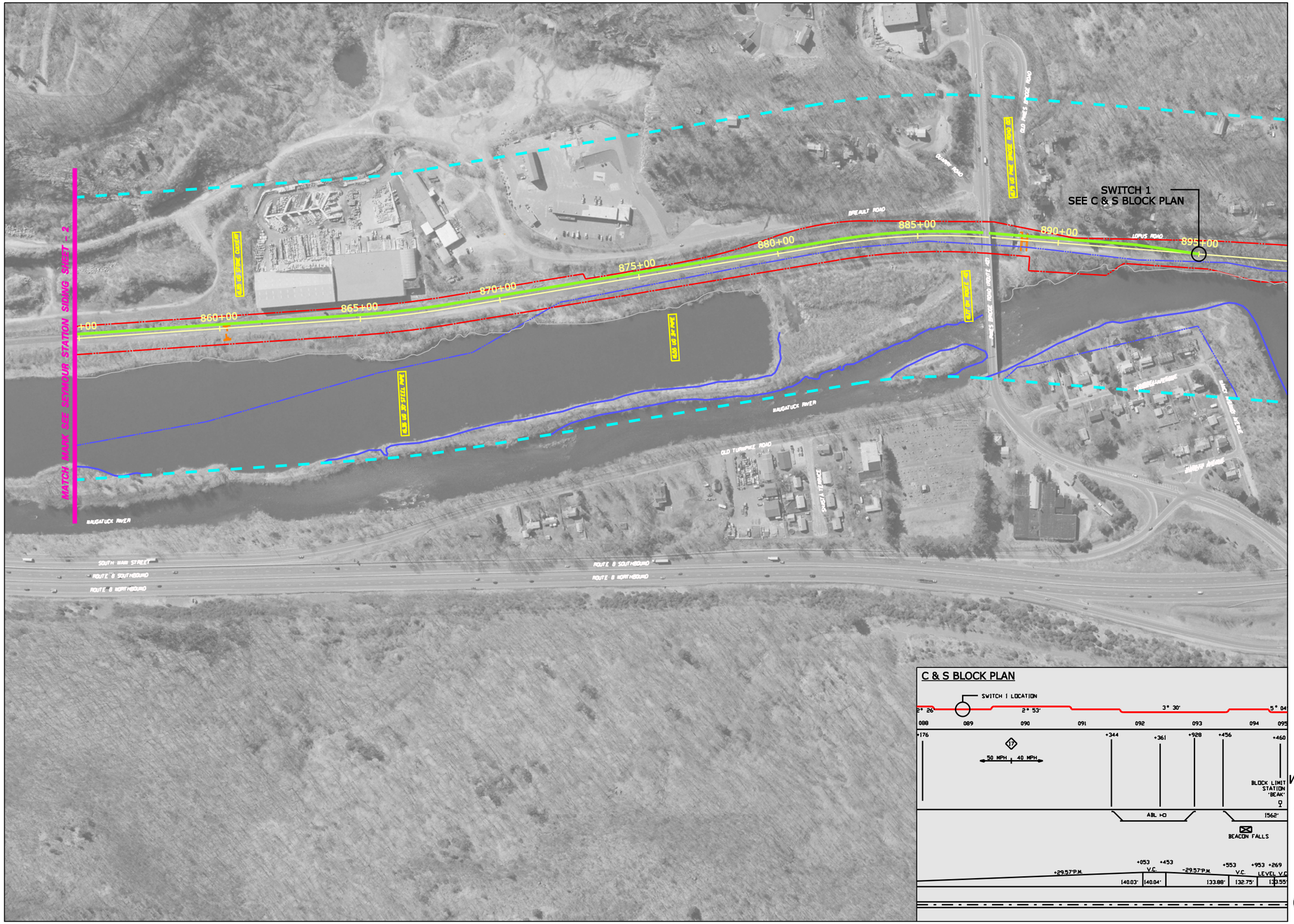
SCALE IN FEET
0 160 320

WATERBURY AND NEW CANAAN BRANCH LINES
NEEDS & FEASIBILITY STUDY
PROJECT NO. 170-2562

WATERBURY BRANCH LINE
SEYMOUR STATION SIDING

CONNECTICUT DEPARTMENT OF TRANSPORTATION

PARSONS



LEGEND

- EXISTING R.R. TRACK
- R.O.W.
- RAIL STUDY CORRIDOR
- MILE POST MARKER
- R.R. STRUCTURES, PLATFORMS
- WATERCOURSE
- CHANNEL ENCROACHMENT LINE
- R.R. STATION PARKING
- SIDING/NEW R.R. TRACK

Figure 7-8b: Beacon Falls Passing Siding - South Option Sheet 2

CROSSING DATA

MILE — CROSSING STREET/FEATURE

6J6 UG STAMFORD RD. OD

AG - AT GRADE
UG - UNDERGRADE
OH - OVERHEAD

OPEN DECK

SCALE IN FEET
0 160 320

WATERBURY AND NEW CANAAN BRANCH LINES
NEEDS & FEASIBILITY STUDY
PROJECT NO. 170-2562

WATERBURY BRANCH LINE
SEYMOUR STATION SIDING

CONNECTICUT DEPARTMENT OF TRANSPORTATION

PARSONS