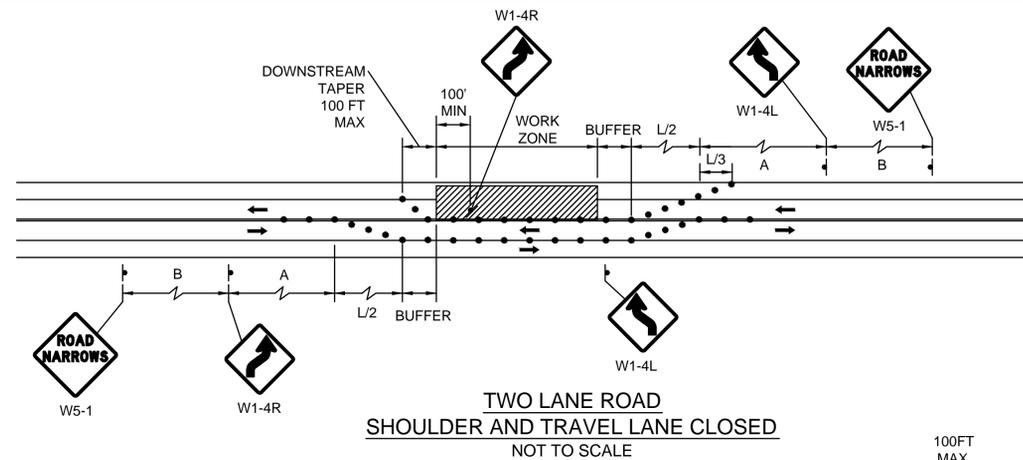


TRAFFIC SIGN SUMMARY

| IDENTIFICATION NUMBER | SIZE OF SIGN (INCHES) | | TEXT | TEXT DIMENSIONS (INCHES) | | | NUMBER OF SIGNS REQUIRED | COLOR | | | UNIT AREA IN SQUARE FEET | AREA IN SQUARE FEET |
|-----------------------|-----------------------|--------|------|--------------------------|------------------|-----------------|--------------------------|------------------|--------|--------|--------------------------|---------------------|
| | WIDTH | HEIGHT | | LETTER HEIGHT | VERTICAL SPACING | ARROW RTE. MKR. | | BACK-GROUND | LEGEND | BORDER | | |
| R1-6 | 12 | 36 | | MASSDOT STANDARD | | | 4 | MASSDOT STANDARD | | | 3.00 | 12.00 |
| R2-10a | 36 | 24 | | MASSDOT STANDARD | | | 26 | MASSDOT STANDARD | | | 6.00 | 156.00 |
| R2-10e | 36 | 48 | | MASSDOT STANDARD | | | 29 | MASSDOT STANDARD | | | 12.00 | 228.00 |
| R4-7 | 30 | 30 | | MUTCD STANDARD | | | 4 | MUTCD STANDARD | | | 6.25 | 25.00 |
| R9-9 | 24 | 12 | | MUTCD STANDARD | | | 2 | MUTCD STANDARD | | | 2.00 | 4.00 |
| R9-11aL | 24 | 12 | | MUTCD STANDARD | | | 1 | MUTCD STANDARD | | | 2.00 | 2.00 |
| R9-11aR | 24 | 12 | | MUTCD STANDARD | | | 1 | MUTCD STANDARD | | | 2.00 | 2.00 |
| R11-2f | 48 | 30 | | MUTCD STANDARD | | | 2 | MUTCD STANDARD | | | 10.00 | 20.00 |
| W1-4L | 36 | 36 | | MUTCD STANDARD | | | 2 | MUTCD STANDARD | | | 9.00 | 18.00 |
| W1-4R | 36 | 36 | | MUTCD STANDARD | | | 2 | MUTCD STANDARD | | | 9.00 | 18.00 |
| W5-1 | 36 | 36 | | MUTCD STANDARD | | | 6 | MUTCD STANDARD | | | 9.00 | 54.00 |
| W8-1 | 36 | 36 | | MUTCD STANDARD | | | 4 | MUTCD STANDARD | | | 9.00 | 36.00 |
| W8-3 | 36 | 36 | | MUTCD STANDARD | | | 2 | MUTCD STANDARD | | | 9.00 | 18.00 |
| W8-8 | 36 | 36 | | MUTCD STANDARD | | | 2 | MUTCD STANDARD | | | 9.00 | 18.00 |
| W8-15 | 36 | 36 | | MUTCD STANDARD | | | 2 | MUTCD STANDARD | | | 9.00 | 18.00 |
| W11-2 | 30 | 30 | | MUTCD STANDARD | | | 4 | MUTCD STANDARD | | | 6.25 | 25.00 |
| W13-1P | 24 | 30 | | MUTCD STANDARD | | | 2 | MUTCD STANDARD | | | 5.00 | 10.00 |
| W16-7pL | 24 | 12 | | MUTCD STANDARD | | | 4 | MUTCD STANDARD | | | 2.00 | 8.00 |
| W20-1 | 36 | 36 | | MUTCD STANDARD | | | 30 | MUTCD STANDARD | | | 9.00 | 270.00 |
| W20-4 | 36 | 36 | | MUTCD STANDARD | | | 4 | MUTCD STANDARD | | | 9.00 | 36.00 |



| ROAD TYPE | DISTANCE BETWEEN SIGNS** | | |
|-------------------------------|--------------------------|-------|-------|
| | A | B | C |
| LOCAL OR LOW VOLUME ROADWAYS* | 350 | 350 | 350 |
| MOST OTHER ROADWAYS* | 500 | 500 | 500 |
| FREeways AND EXPRESSWAYS* | 1,000 | 1,500 | 2,640 |

Based on: Table 6C-1 MUTCD latest edition

*ROAD TYPE TO BE DETERMINED BY MASSDOT OFFICE OF TRANSPORTATION PLANNING.

**DISTANCES ARE SHOWN IN FEET. THE COLUMN HEADINGS A, B AND C ARE THE DIMENSIONS SHOWN IN THE DETAIL/TYPICAL SETUP FIGURES. THE A DIMENSION IS THE DISTANCE FROM THE TRANSITION OR POINT OF RESTRICTION TO THE FIRST SIGN. THE B DIMENSION IS THE DISTANCE BETWEEN THE FIRST AND SECOND SIGNS. THE C DIMENSION IS THE DISTANCE BETWEEN THE SECOND AND THIRD SIGNS. (THE "THIRD" SIGN IS THE FIRST ONE TYPICALLY ENCOUNTERED BY A DRIVER APPROACHING A TEMPORARY TRAFFIC CONTROL (TTC) ZONE.)

THE "THIRD" SIGN ABOVE IS TYPICALLY REFERRED TO AS AN "ADVANCE WARNING" SIGN ON THE TTCP SETUPS. THESE ADVANCE WARNING SIGNS ARE LOCATED PRIOR TO THE PROJECT LIMITS ON ALL APPROACHES (i.e. THE W20-1 SERIES (ROAD WORK XX FT) SIGNS), AND USUALLY REMAIN FOR THE DURATION OF THE PROJECT.

THE FIRST AND SECOND WARNING SIGNS ABOVE ARE REFERRED TO AS THE OPERATIONAL (DAY-TO-DAY) WORK ZONE SIGNS AND MAY BE MOVED DEPENDING ON WHERE THE SPECIFIC ROADWAY WORK FOR THAT DAY IS LOCATED.

R2-10a SIGNS SHALL BE PLACED BETWEEN THE SECOND AND THIRD SIGNS AS DESCRIBED ABOVE.

R2-10a, R2-10e, AND W20-1 SERIES SIGNS ARE TO BE INCLUDED ON ALL DETAILS/TYPICAL SETUPS.

SIGN SPACING MAY NEED TO BE INCREASED IF ADDITIONAL SIGNS ARE REQUIRED PER THE DETAIL/TYPICAL SETUP FIGURES.

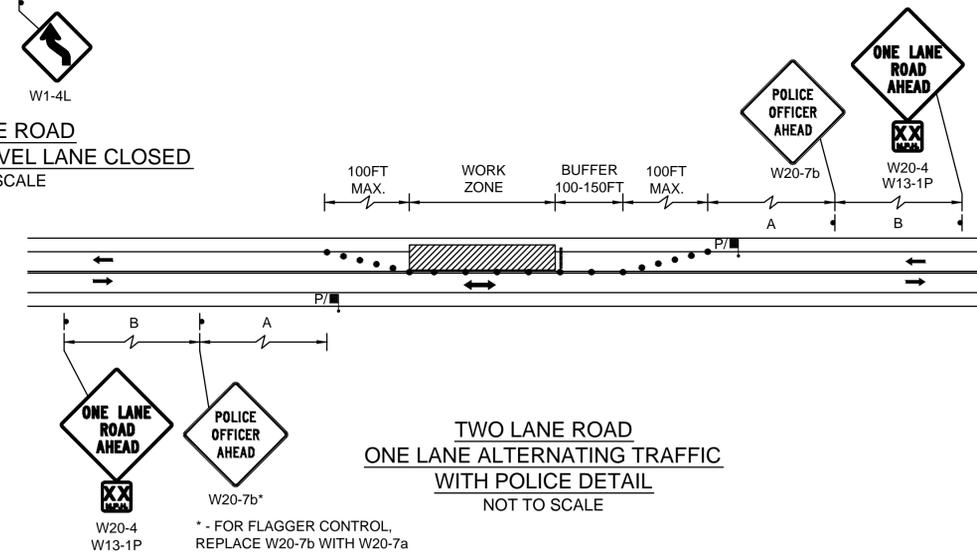
| BUFFER SPACING | |
|----------------|---------------|
| SPEED* (MPH) | DISTANCE (FT) |
| 20 | 115 |
| 25 | 155 |
| 30 | 200 |
| 35 | 250 |
| 40 | 305 |
| 45 | 360 |
| 50 | 425 |
| 55 | 495 |
| 60 | 570 |
| 65 | 645 |
| 70 | 730 |
| 75 | 820 |

*POSTED SPEED, OFF-PEAK 85TH-PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED.

MAYNARD & ACTON ASSABET RIVER RAIL TRAIL

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 101 | 230 |
| PROJECT FILE NO. | | 604531 | |

TEMPORARY TRAFFIC CONTROL PLANS



TRAFFIC SIGN SUMMARY

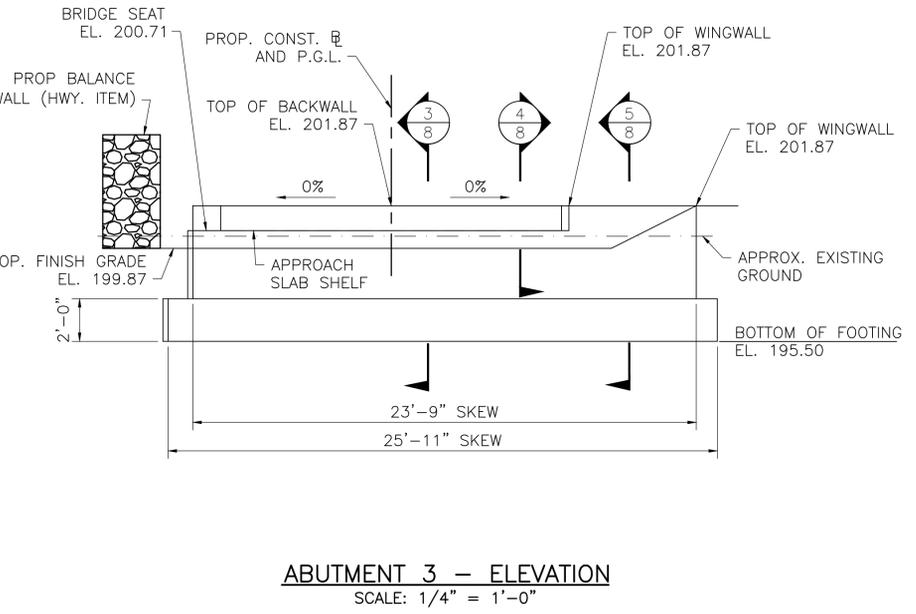
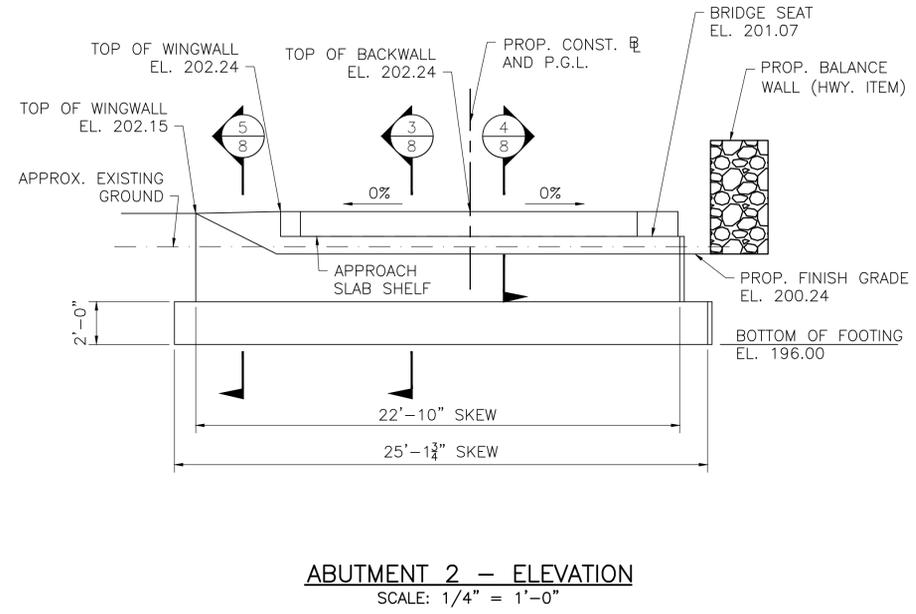
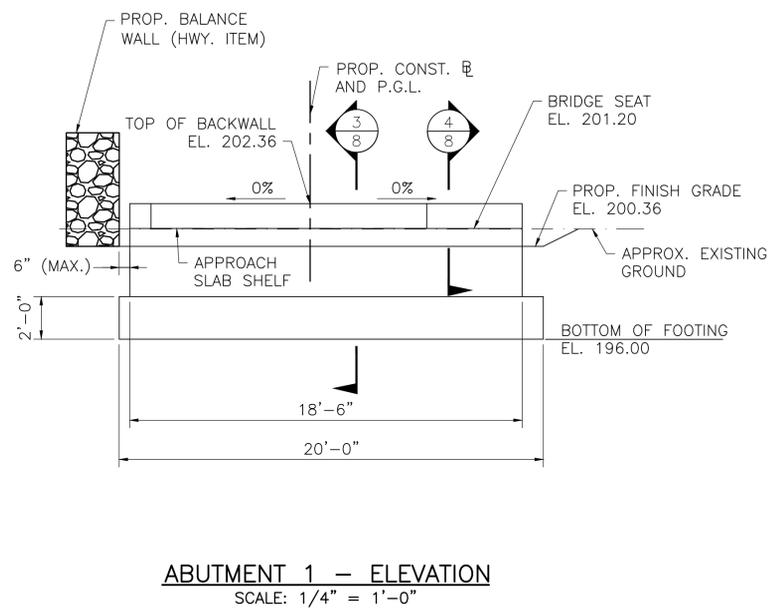
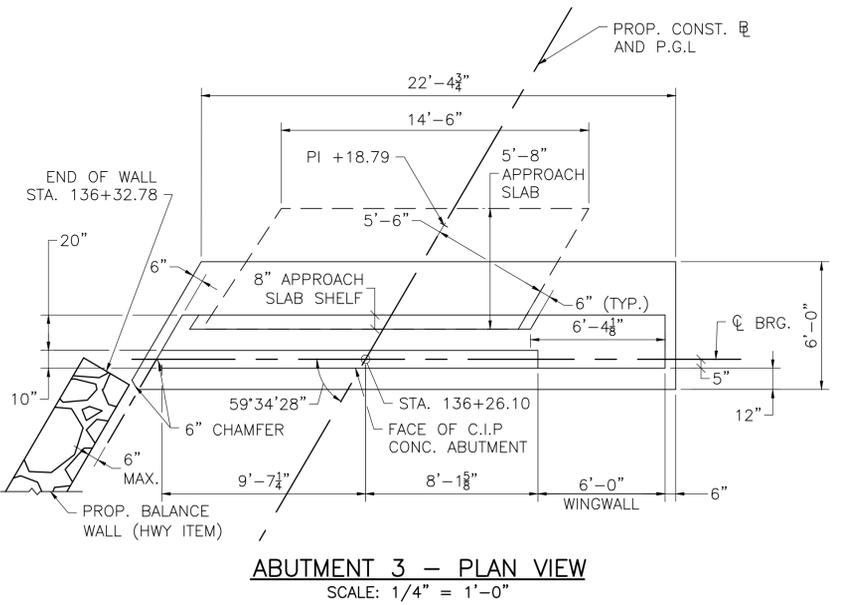
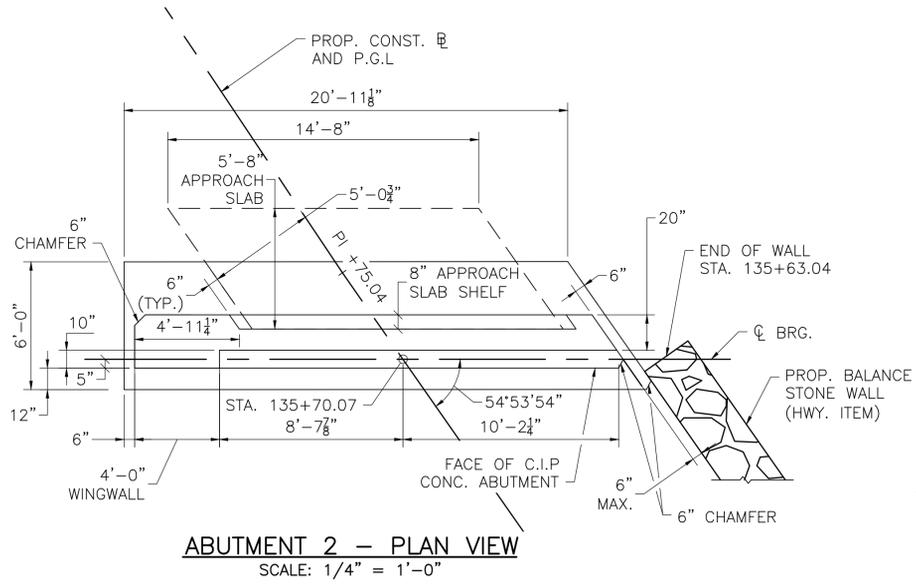
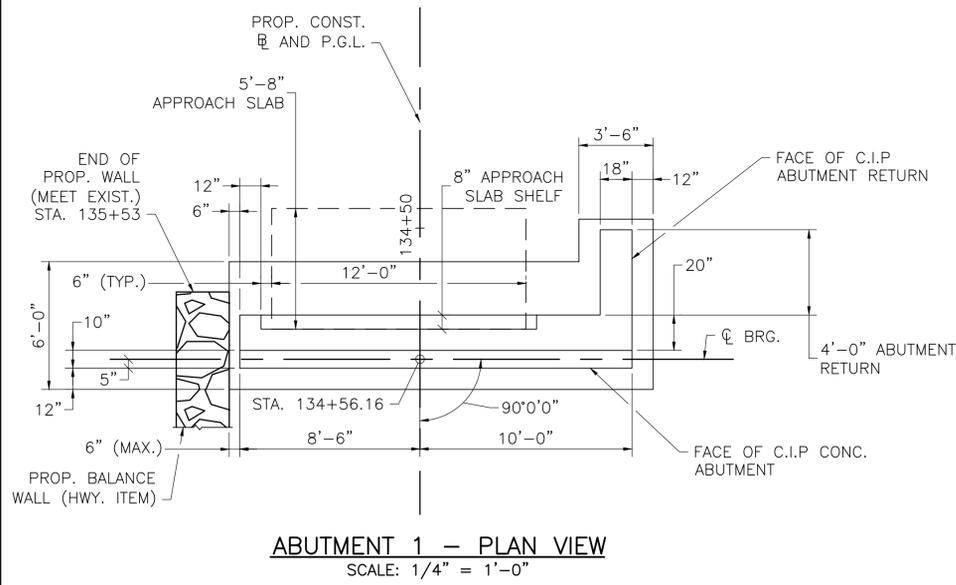
| IDENTIFICATION NUMBER | SIZE OF SIGN (INCHES) | | TEXT | TEXT DIMENSIONS (INCHES) | | | NUMBER OF SIGNS REQUIRED | COLOR | | | UNIT AREA IN SQUARE FEET | AREA IN SQUARE FEET |
|-----------------------|-----------------------|--------|------|--------------------------|------------------|-----------------|--------------------------|----------------|--------|--------|--------------------------|---------------------|
| | WIDTH | HEIGHT | | LETTER HEIGHT | VERTICAL SPACING | ARROW RTE. MKR. | | BACK-GROUND | LEGEND | BORDER | | |
| W20-7a | 36" | 36" | | MUTCD STANDARD | | | 2 | MUTCD STANDARD | | | 9.00 | 18.00 |
| W20-7b | 36 | 36 | | MUTCD STANDARD | | | 4 | MUTCD STANDARD | | | 9.00 | 36.00 |
| W21-5a | 36 | 36 | | MUTCD STANDARD | | | 1 | MUTCD STANDARD | | | 9.00 | 9.00 |
| M4-8a | 24 | 18 | | MUTCD STANDARD | | | 2 | MUTCD STANDARD | | | 3.00 | 6.00 |
| M4-9b | 30 | 24 | | MUTCD STANDARD | | | 3 | MUTCD STANDARD | | | 5.00 | 15.00 |
| M4-9bL | 30 | 24 | | MUTCD STANDARD | | | 6 | MUTCD STANDARD | | | 5.00 | 35.00 |
| M4-9bR | 30 | 24 | | MUTCD STANDARD | | | 6 | MUTCD STANDARD | | | 5.00 | 35.00 |

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-0025(836) | 150 | 230 |
| PROJECT FILE NO. 604531 | | | |

ABUTMENT PLAN & ELEVATION

NOTES:

- HDPE JOISTS ARE TO BE CONTRACTOR DESIGNED AND ARE NOT SHOWN IN ABUTMENT PLAN VIEW FOR CLARITY.



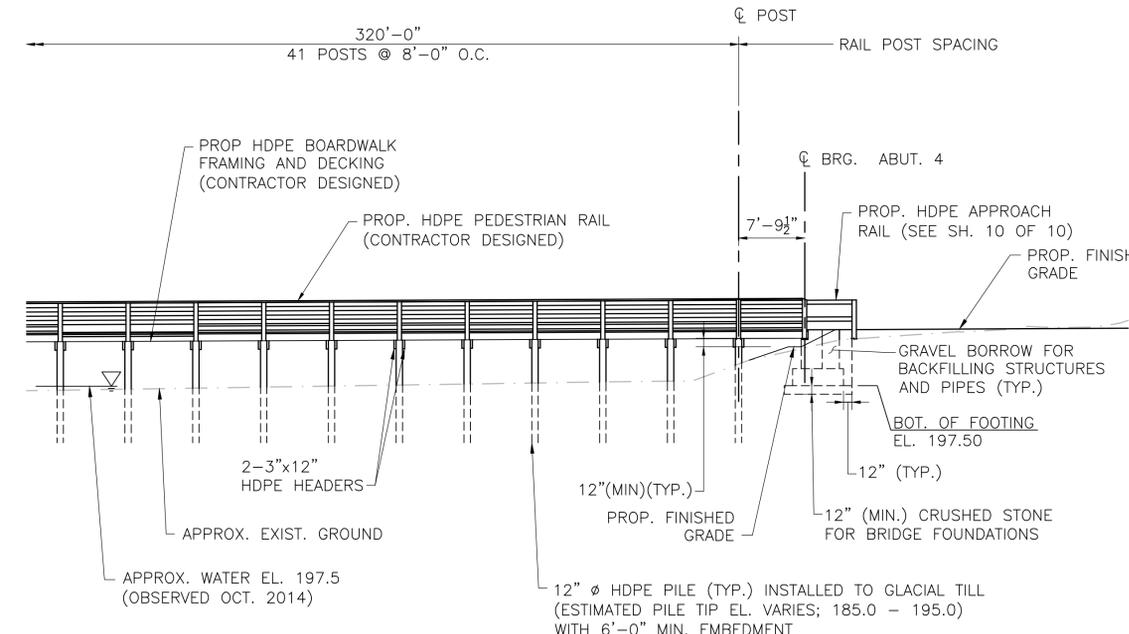
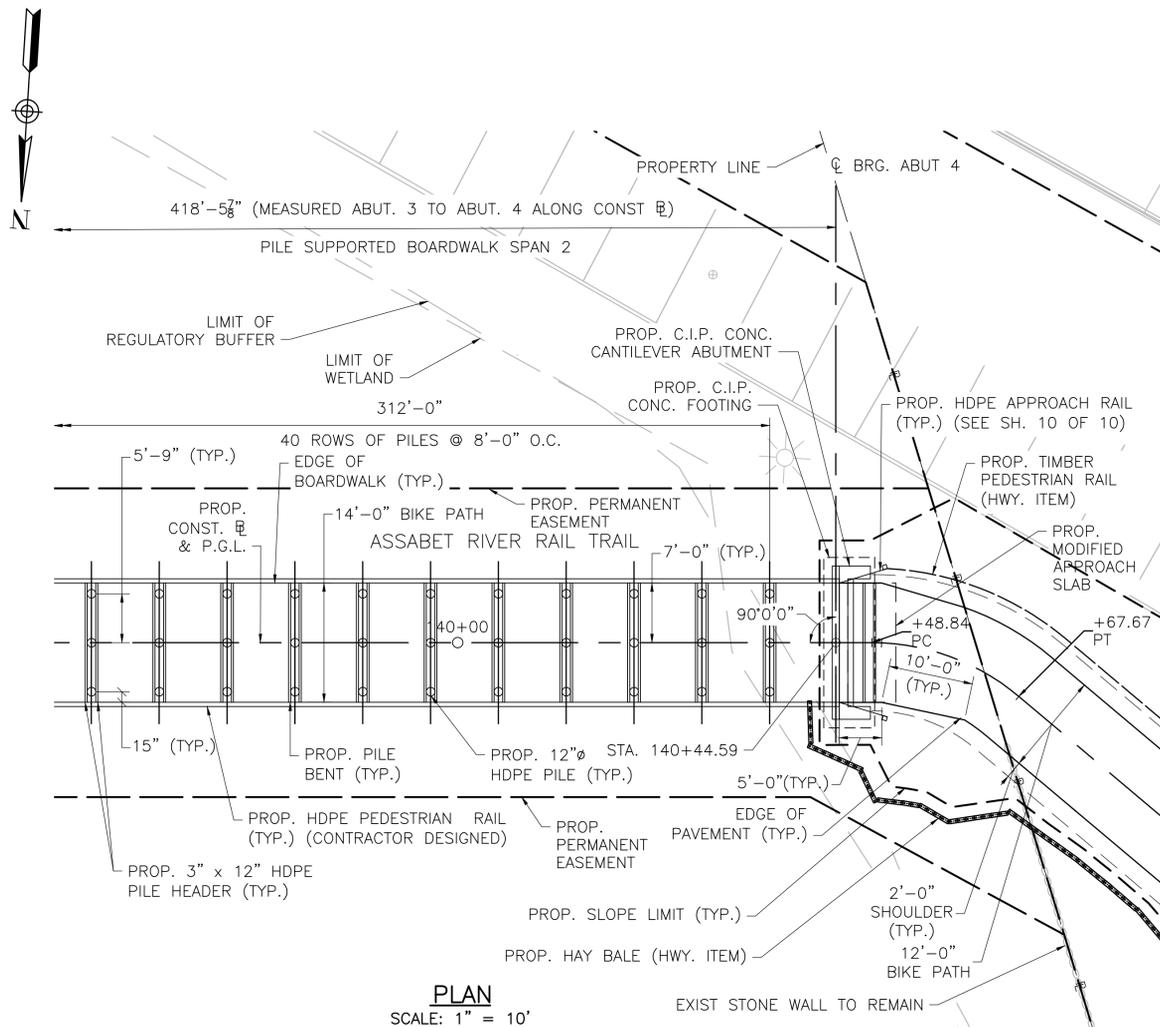
| | |
|--------------------------------|-------------------------|
| SEPT. 19, 2015 | ISSUED FOR CONSTRUCTION |
| DATE | DESCRIPTION |
| USE ONLY PRINTS OF LATEST DATE | |

604531_002034BR7_8.DWG Plotted on 8-Oct-2015 1:52 PM Final Structural Submittal (SF) 19-September-2015

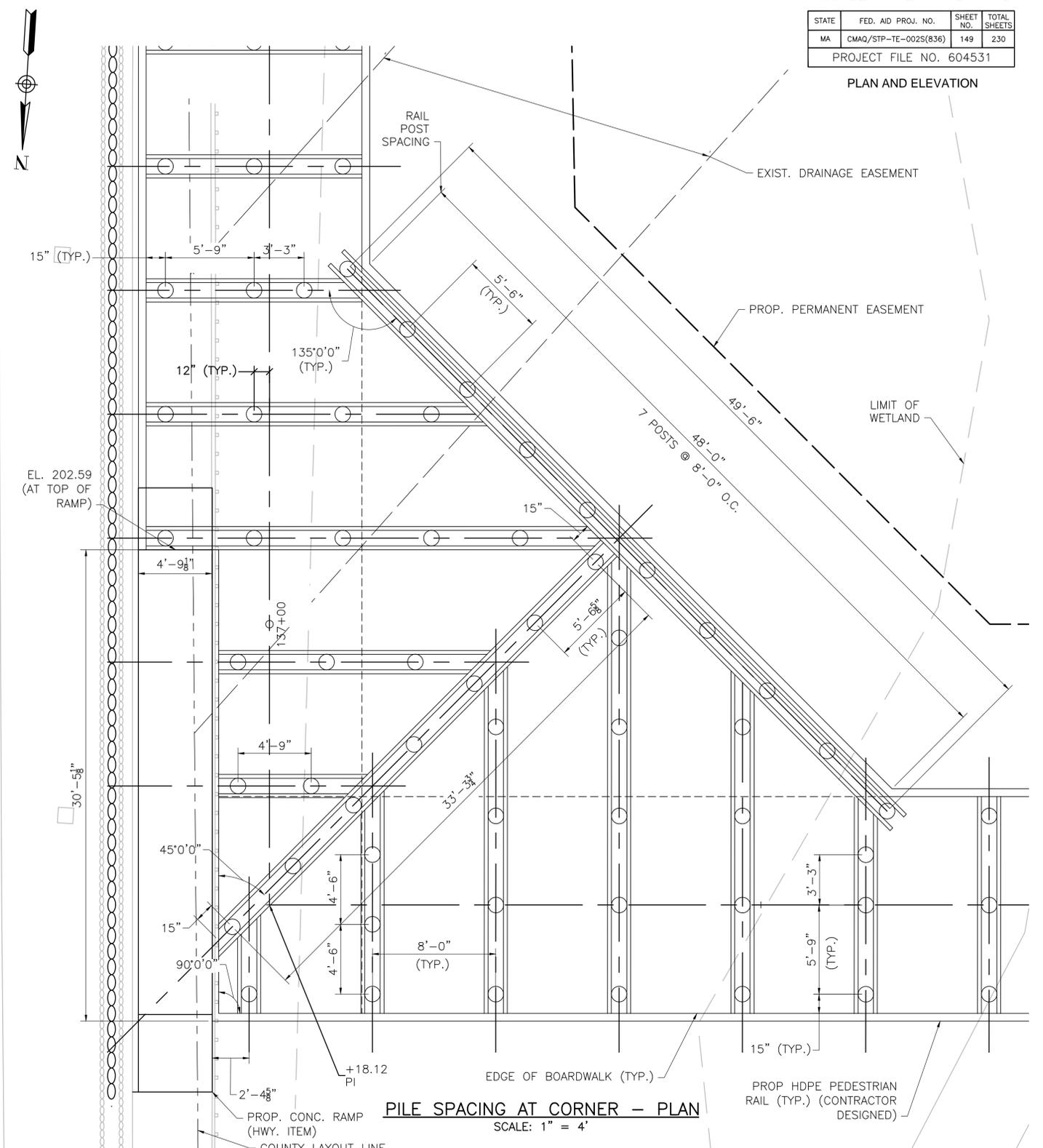
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-0025(836) | 149 | 230 |

PROJECT FILE NO. 604531

PLAN AND ELEVATION



NORTH ELEVATION
SCALE: 1" = 10'



PILE SPACING AT CORNER - PLAN
SCALE: 1" = 4'

- NOTES:
- PILE LOCATIONS ARE SHOWN. JOISTS AND OTHER FRAMING IS CONTRACTOR DESIGNED AND NOT SHOWN IN PLAN VIEW FOR CLARITY.
 - PILES ARE EQUALLY SPACED ALONG PILE BENTS UNLESS SHOWN OTHERWISE (REFER TO SECTIONS ON SHEET 9 OF 10).
 - RAILING POSTS ARE LOCATED AT PILE BENTS UNLESS OTHERWISE NOTED.
 - PILE BENT SPACING MEASURED ALONG CONST. \varnothing .

| DATE | DESCRIPTION |
|----------------|--------------------------------|
| SEPT. 19, 2015 | ISSUED FOR CONSTRUCTION |
| | USE ONLY PRINTS OF LATEST DATE |

CONTINUED ON SHEET 5

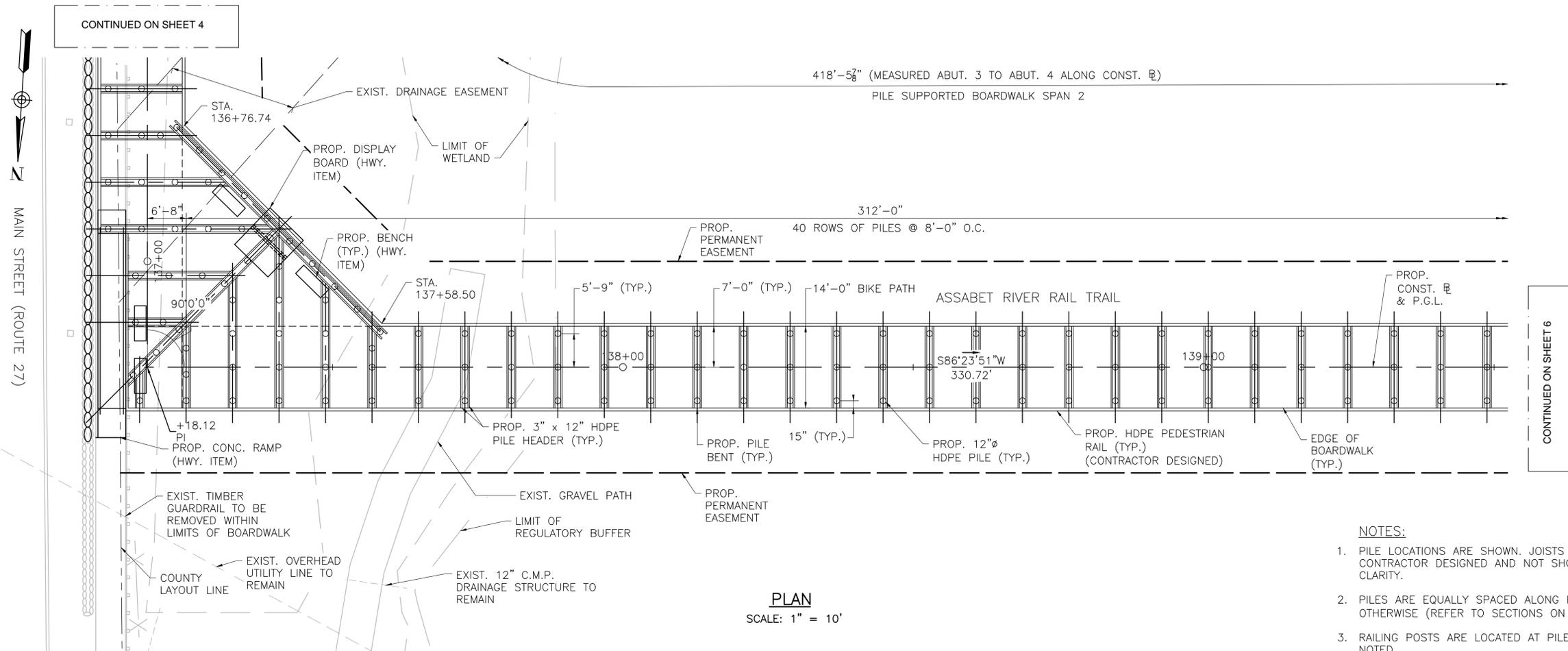
CONTINUED ON SHEET 5

MAYNARD & ACTON
ASSABET RIVER RAIL TRAIL

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 148 | 230 |

PROJECT FILE NO. 604531

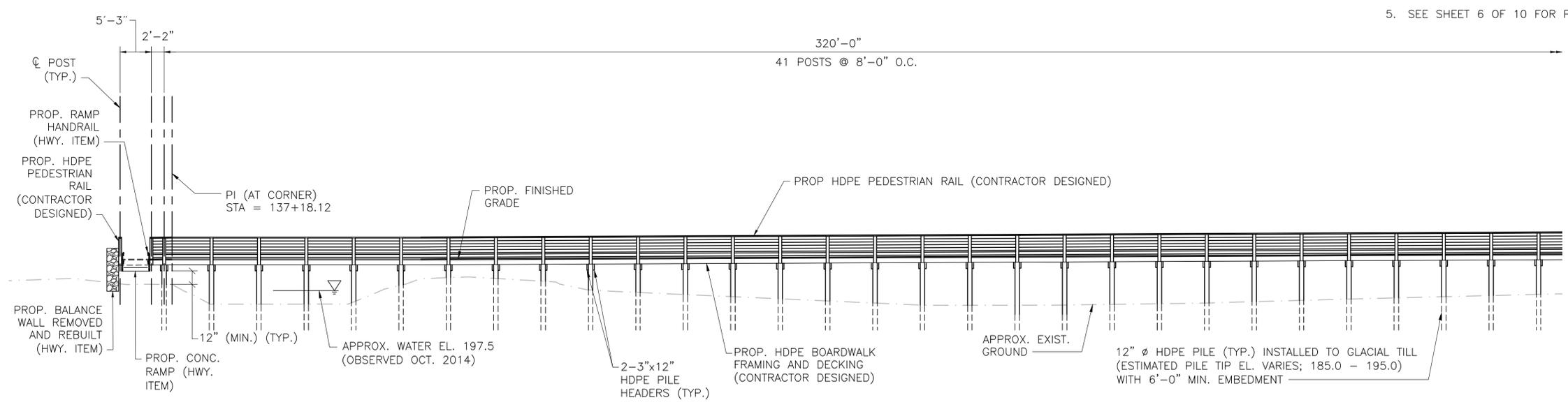
PLAN AND ELEVATION



PLAN
SCALE: 1" = 10'

NOTES:

1. PILE LOCATIONS ARE SHOWN. JOISTS AND OTHER FRAMING IS CONTRACTOR DESIGNED AND NOT SHOWN IN PLAN VIEW FOR CLARITY.
2. PILES ARE EQUALLY SPACED ALONG PILE BENTS UNLESS SHOWN OTHERWISE (REFER TO SECTIONS ON SHEET 9 OF 10).
3. RAILING POSTS ARE LOCATED AT PILE BENTS UNLESS OTHERWISE NOTED.
4. PILE BENT SPACING MEASURED ALONG CONST. \mathcal{L} .
5. SEE SHEET 6 OF 10 FOR PILE SPACING AT CORNER.



NORTH ELEVATION
SCALE: 1" = 10'

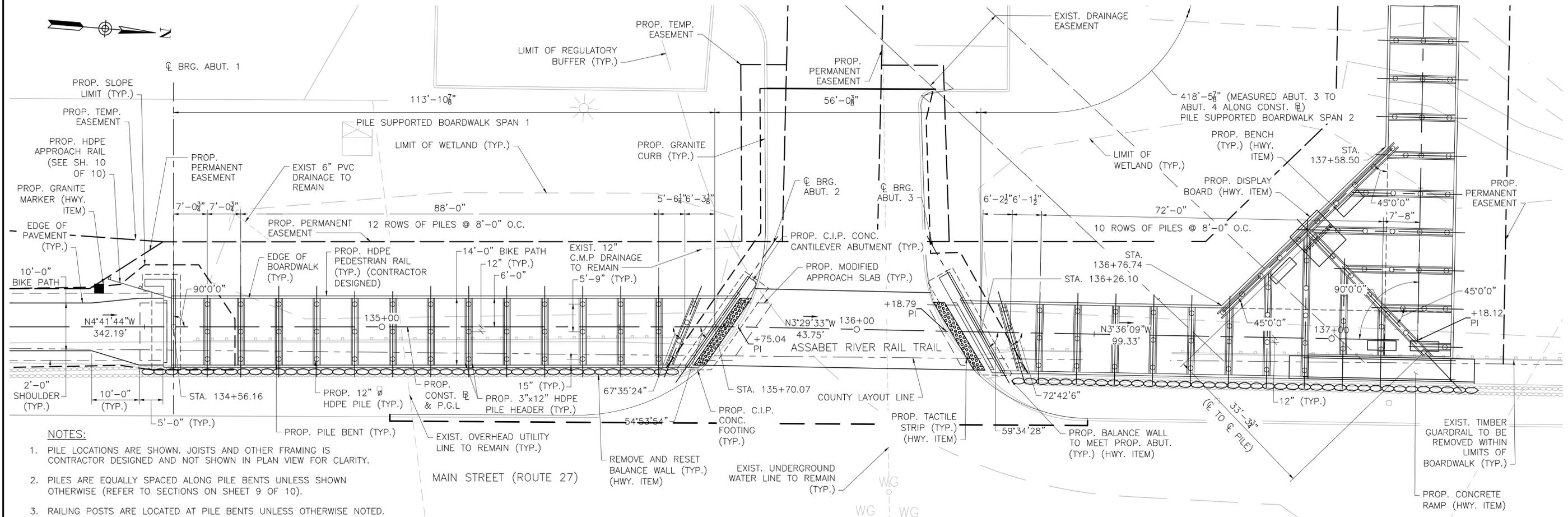
| | |
|--------------------------------|-------------------------|
| SEPT. 19, 2015 | ISSUED FOR CONSTRUCTION |
| DATE | DESCRIPTION |
| USE ONLY PRINTS OF LATEST DATE | |

604531_ (A02034)BR4_6.DWG Printed on 8-Oct-2015 1:49 PM Final Structural Submittal (SF) 19-September-2015

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-0025(836) | 147 | 230 |
| PROJECT FILE NO. 604531 | | | |

CONTINUED ON SHEET 5

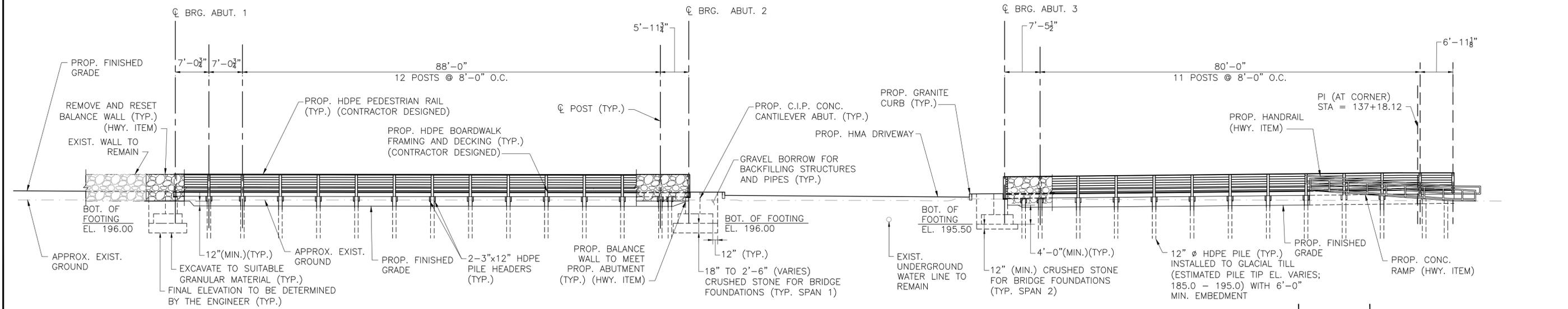
PLAN AND ELEVATION



NOTES:

1. PILE LOCATIONS ARE SHOWN. JOISTS AND OTHER FRAMING IS CONTRACTOR DESIGNED AND NOT SHOWN IN PLAN VIEW FOR CLARITY.
2. PILES ARE EQUALLY SPACED ALONG PILE BENTS UNLESS SHOWN OTHERWISE (REFER TO SECTIONS ON SHEET 9 OF 10).
3. RAILING POSTS ARE LOCATED AT PILE BENTS UNLESS OTHERWISE NOTED.
4. PILE BENT SPACING MEASURED ALONG CONST. \mathcal{C} .
5. SEE SHEET 6 OF 10 FOR PILE SPACING AT CORNER.

PLAN
SCALE: 1" = 10'



EAST ELEVATION
SCALE: 1" = 10'

| DATE | DESCRIPTION |
|----------------|--------------------------------|
| SEPT. 19, 2015 | ISSUED FOR CONSTRUCTION |
| | USE ONLY PRINTS OF LATEST DATE |

604531_ (A02034)BR4_6.DWG Printed on 8-Oct-2015 1:49 PM Final Structural Submittal (SF) 19-September-2015

MAYNARD & ACTON
ASSABET RIVER RAIL TRAIL

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 145 | 230 |

PROJECT FILE NO. 604531

GENERAL NOTES AND ESTIMATED QUANTITIES

GENERAL NOTES

DESIGN:

IN ACCORDANCE WITH THE 2014 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS LRFD BRIDGE DESIGN SPECIFICATIONS AND THE 2009 AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, FOR H5 LOADING AND 90 PSF PEDESTRIAN LOADING.

MASSDOT BENCH MARK:

BENCH MARK - MAG NAIL SET, TRAV. POINT 20
N 2988660.80 E 668196.65
STA. 133+96.84 309.57' LT
EL. 198.20'

ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.

MASSDOT SURVEY NOTEBOOKS:

COPIES OF ELECTRONIC SURVEY FILES MAY BE OBTAINED FROM THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION.

SCALES:

SCALES NOTED ON THE PLANS ARE NOT APPLICABLE TO REDUCED SIZED PRINTS. DIVIDE SCALES BY 2 FOR HALF-SIZE PRINTS (A3).

FOUNDATIONS:

FOUNDATIONS MAY BE ALTERED, IF NECESSARY, TO SUIT CONDITIONS ENCOUNTERED DURING CONSTRUCTION, WITH THE APPROVAL OF THE ENGINEER.

UNSUITABLE MATERIAL:

ALL UNSUITABLE MATERIAL SHALL BE REMOVED WITHIN THE LIMITS OF THE FOUNDATIONS OF THE STRUCTURE, AS DIRECTED BY THE ENGINEER.

SEISMIC GROUND SHAKING HAZARD:

DESIGN RETURN PERIOD: 1000 YEARS

DESIGN SPECTRA:

As = 0.116
Sds = 0.239
Sd1 = 0.095

SITE CLASS = D

SEISMIC DESIGN CATEGORY (SDC) = A

ANCHOR BOLTS:

ALL ANCHOR BOLTS SHALL BE SET BY TEMPLATE BEFORE THE CONCRETE IS PLACED.

REINFORCEMENT:

REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 31 GRADE 60 (EPOXY COATED). UNLESS OTHERWISE NOTED ON THE CONSTRUCTION DRAWINGS, ALL BARS SHALL BE LAPPED AS FOLLOWS:

| MODIFICATION CONDITION | #4 BARS | #5 BARS |
|-----------------------------------------------------|---------|---------|
| 1. NONE | 21" | 26" |
| 2. 12" OF CONCRETE BELOW BAR | 29" | 36" |
| 3. COATED BARS, COVER < 3db, OR CLEAR SPACING < 6db | 31" | 39" |
| 4. COATED BARS, ALL OTHER CASES | 25" | 31" |
| 5. CONDITION 2. AND 3. | 35" | 44" |
| 6. CONDITION 2. AND 4. | 34" | 43" |

IF THE ABOVE BARS ARE SPACED 6" OR MORE ON CENTER, THE LAP LENGTH SHALL BE 80% OF THE LAP LENGTH GIVEN ABOVE. ALL OTHER BARS SHALL BE LAPPED AS SHOWN ON THE CONSTRUCTION DRAWINGS.

CONCRETE MIXES:

| (1) | (2) | (3) | TO BE USED IN CONSTRUCTION OF: |
|------|-----|-----|------------------------------------------------------------|
| 4000 | 1½ | 565 | FOOTINGS AND APPROACH SLABS |
| 4000 | ¾ | 610 | ABUTMENT STEMS, ABUTMENT RETURNS, WINGWALLS, AND BACKWALLS |

- (1) 28 DAY COMPRESSIVE STRENGTH (PSI)
(2) MAXIMUM AGGREGATE SIZE (INCH)
(3) CEMENTITIOUS CONTENT (POUNDS/C.Y.)

CONTRACTOR DESIGNED SUPERSTRUCTURE:

HIGH DENSITY POLYETHYLENE (HDPE) FRAMING, HDPE DECKING, CONNECTIONS, BEARINGS, ANCHOR BOLTS, HDPE RAILINGS, AND DECK JOINTS SHALL BE CONTRACTOR DESIGNED IN ACCORDANCE WITH THE 2014 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS LRFD BRIDGE DESIGN SPECIFICATIONS AND THE 2009 AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, FOR H5 LOADING AND 90 PSF PEDESTRIAN LOADING.

CONSTRUCTION ACCESS RESTRICTION:

THE CONTRACTOR IS DIRECTED TO SUPPLEMENTAL SPECIFICATION SECTION 901.67 AND 960.61 FOR RESTRICTIONS OF LOADING ON THE NEWLY CONSTRUCTED BOARDWALK. ANY LOADING EXCEEDING THE DESIGN LOADING SHALL BE RESTRICTED FROM TRAVELING OVER THE BOARDWALK. THE CONTRACTOR MAY ELECT TO SUBMIT CALCULATIONS STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MASSACHUSETTS TO THE ENGINEER FOR APPROVAL, WHICH DEMONSTRATE THAT CONSTRUCTION LOADS CAN SAFELY TRAVEL OVER THE STRUCTURE.

ESTIMATED QUANTITIES

(NOT GUARANTEED)

| ITEM DESCRIPTION | QUANTITY | UNIT |
|---------------------------------------------------------|----------|------|
| BRIDGE EXCAVATION | 235 | CY |
| GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES | 50 | CY |
| CRUSHED STONE FOR BRIDGE FOUNDATIONS | 90 | TON |
| 12" BLACK HIGH DENSITY POLYETHYLENE (HDPE) PILES | 3800 | FT |
| HIGH DENSITY POLYETHYLENE (HDPE) APPROACH RAIL (4 RAIL) | 30 | EA |
| CONTROL OF WATER - STRUCTURE NO. A-02-034 (BP5) | 1 | LS |
| BRIDGE STRUCTURE, BRIDGE NO. A-02-034 (BP5) | 1 | LS |

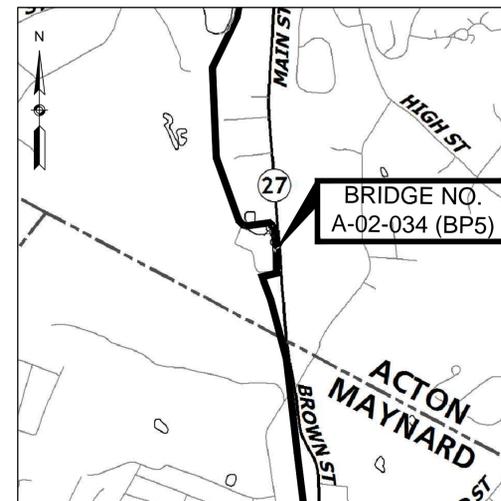
| | |
|--------------------------------|-------------------------|
| SEPT. 19, 2015 | ISSUED FOR CONSTRUCTION |
| DATE | DESCRIPTION |
| USE ONLY PRINTS OF LATEST DATE | |

MAYNARD & ACTON
ASSABET RIVER RAIL TRAIL

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-0025(836) | 144 | 230 |

PROJECT FILE NO. 604531

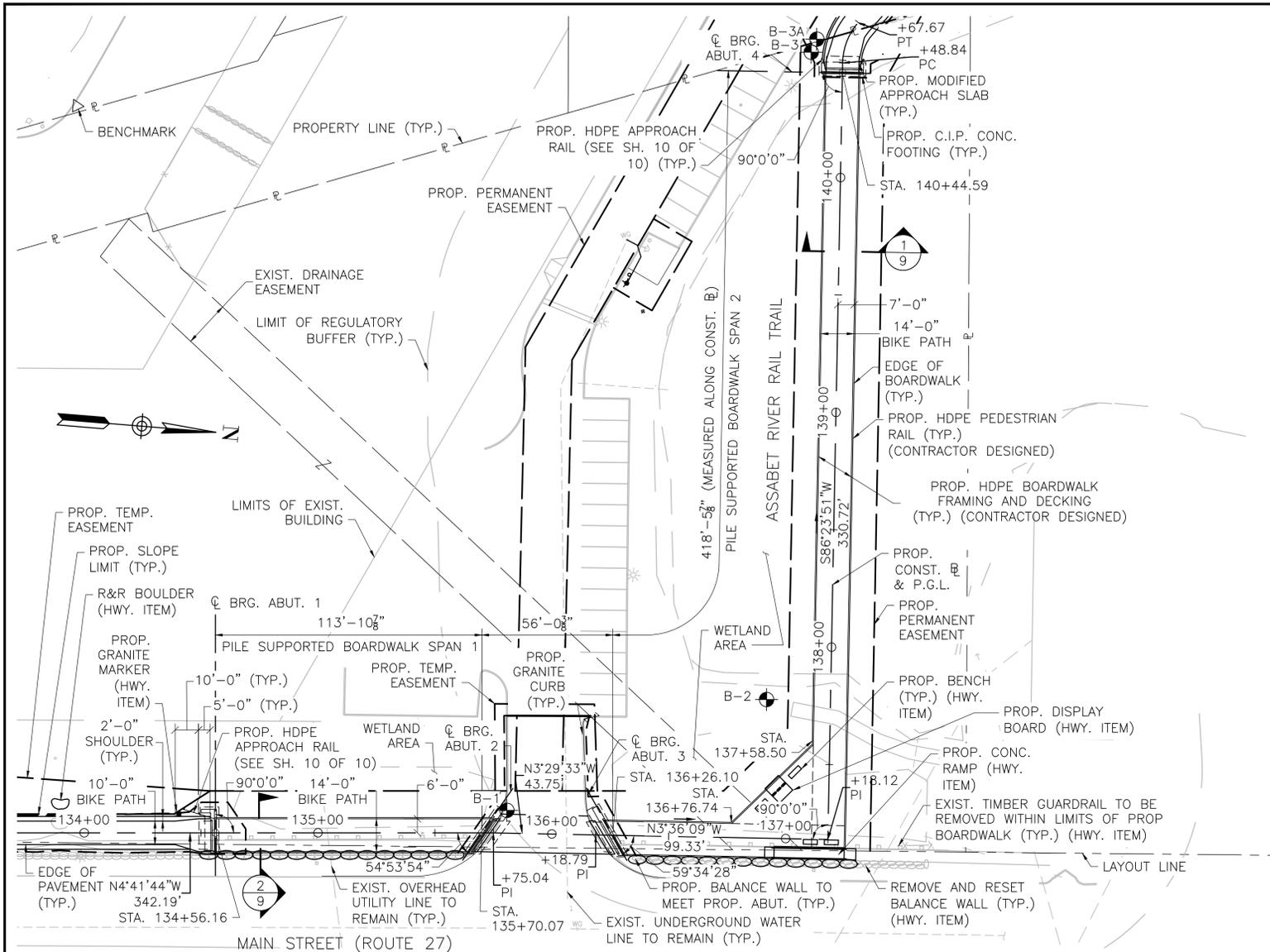
KEY PLAN, LOCUS MAP, AND PROFILE



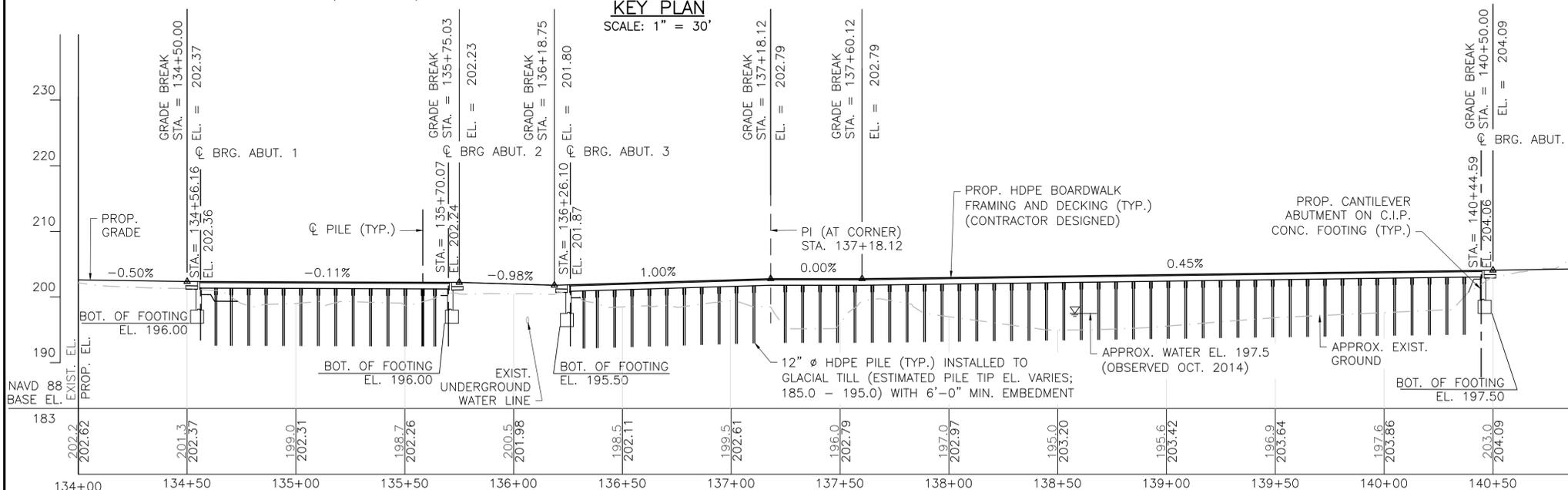
LOCUS
SCALE: 1" = 1000'

- INDEX OF BRIDGE SHEETS:
1. KEY PLAN, LOCUS MAP, AND PROFILE
 2. GENERAL NOTES AND ESTIMATED QUANTITIES
 3. BORING LOGS
 - 4-6. PLAN AND ELEVATION
 7. ABUTMENT PLAN & ELEVATION
 8. ABUTMENT PLAN, ELEVATION & SECTIONS
 9. CROSS SECTION, PILE ELEVATION & MISC. DETAILS
 10. APPROACH RAIL PLAN & ELEVATION

NOTE:
FOR GENERAL NOTES, SEE SHEET 2.



KEY PLAN
SCALE: 1" = 30'



PROFILE - ALONG CONST. B & P.G.L.

SCALE: 1" = 30' HORIZ.
1" = 10' VERT.

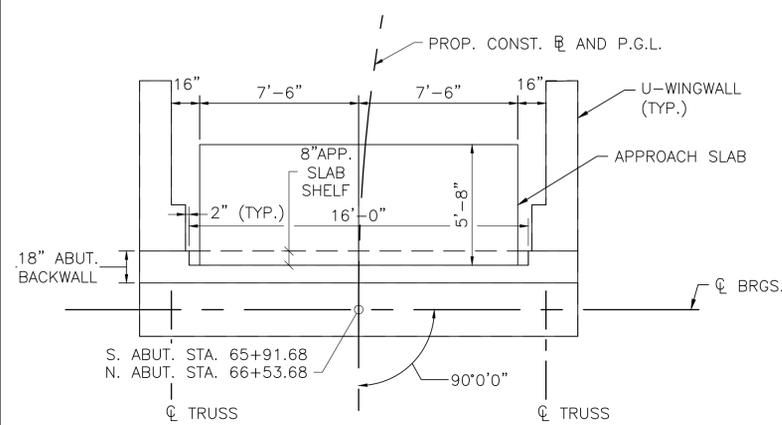
| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| SEPT. 19, 2015 | ISSUED FOR CONSTRUCTION |
| | |
| <p>PROPOSED BOARDWALK ACTON</p> <p>ASSABET RIVER RAIL TRAIL OVER VEGETATED WETLANDS</p> <p>MASSACHUSETTS DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION 10 PARK PLAZA BOSTON, MASS</p> | |
| <p>181 Ballardvale Street, Suite 202 Wilmington, MA 01887</p> | <p>_____ CHIEF ENGINEER</p> |

SHEET 1 OF 10 SHEETS BRIDGE NO. A-02-034 (BP5)

604531_A02034BR1_2.DWG Plotted on 8-Oct-2015 1:47 PM

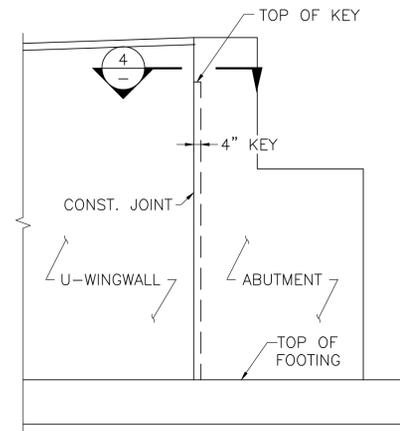
Final Structural Submittal (SF) 19-September-2015

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------------------------|-----------------------|-----------|--------------|
| MA | CMAG/STP-TE-002S(836) | 143 | 230 |
| PROJECT FILE NO. 604531 | | | |



TYPICAL APPROACH SLAB PLAN

SCALE: 1/4" = 1'-0"

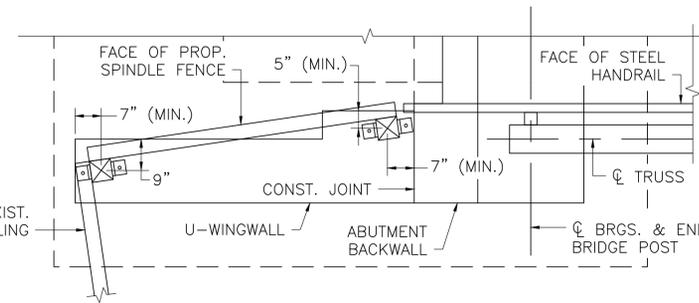


WINGWALL ELEVATION

SCALE: 1/2" = 1'-0"

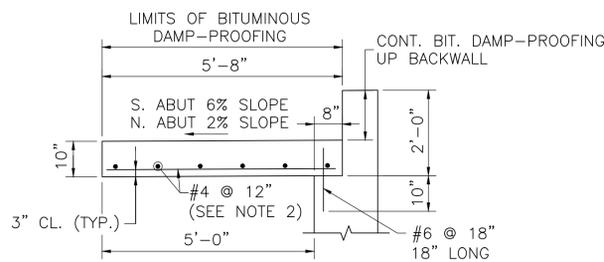
NOTES:

- NW & SE CORNERS SHOWN. NE & SW SIMILAR
- PROP. SPINDLE FENCE PAID UNDER ITEM 670.2, SPINDLE FENCE ON WALL.



TYPICAL SPINDLE FENCE - PLAN

SCALE: 1/2" = 1'-0"

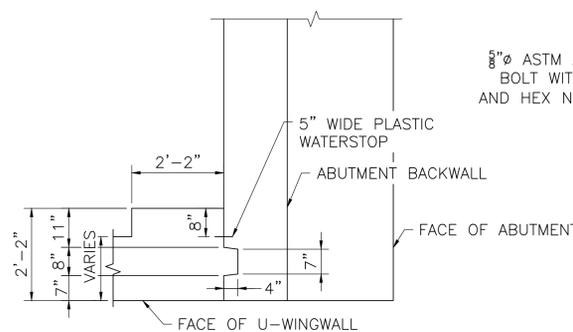


NOTES:

- APPROACH SLAB TO BE 4000 PSI, 1 1/2 IN, 565 CEMENT CONCRETE.
- PLACE LONGITUDINAL REINFORCEMENT PERPENDICULAR TO THE ABUTMENT.
- PLACE TRANSVERSE REINFORCEMENT PARALLEL TO ABUTMENT.

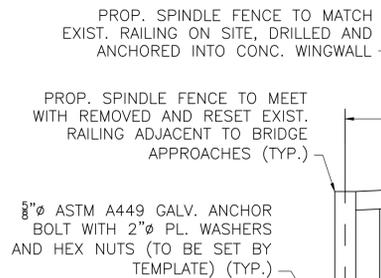
TYPICAL APPROACH SLAB DETAILS

SCALE: 1/2" = 1'-0"



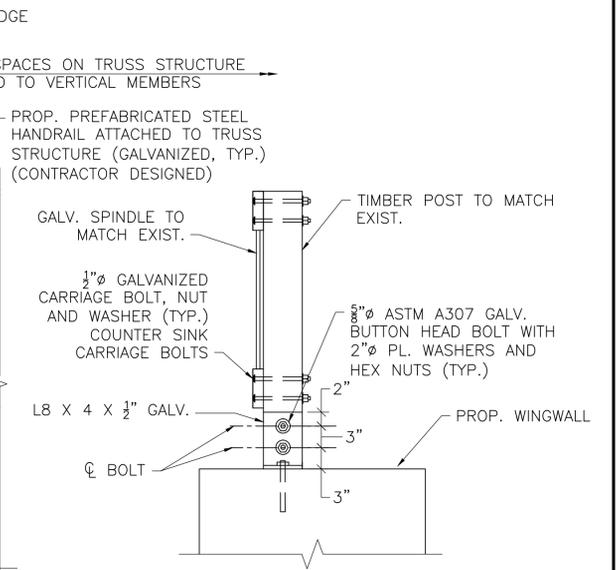
SECTION 4 - CONSTRUCTION JOINT

SCALE: 1/2" = 1'-0"



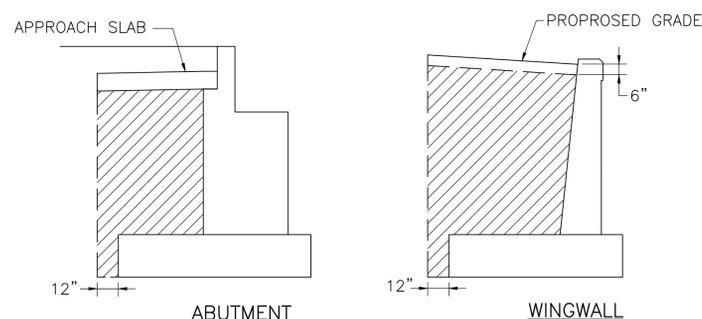
TYPICAL SPINDLE FENCE - ELEVATION

SCALE: 1/2" = 1'-0"



TYPICAL SPINDLE FENCE - SECTION

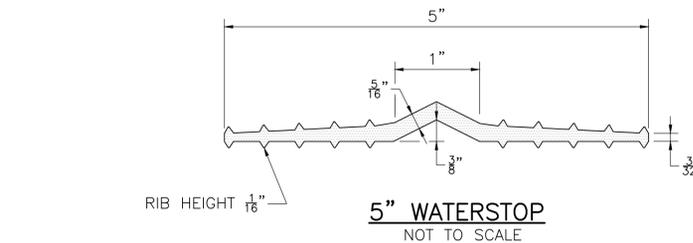
SCALE: 1" = 1'-0"



NOTE:
HATCHED AREA INDICATES LIMITS OF GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES.

LIMITS OF GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES

SCALE: 1/4" = 1'-0"

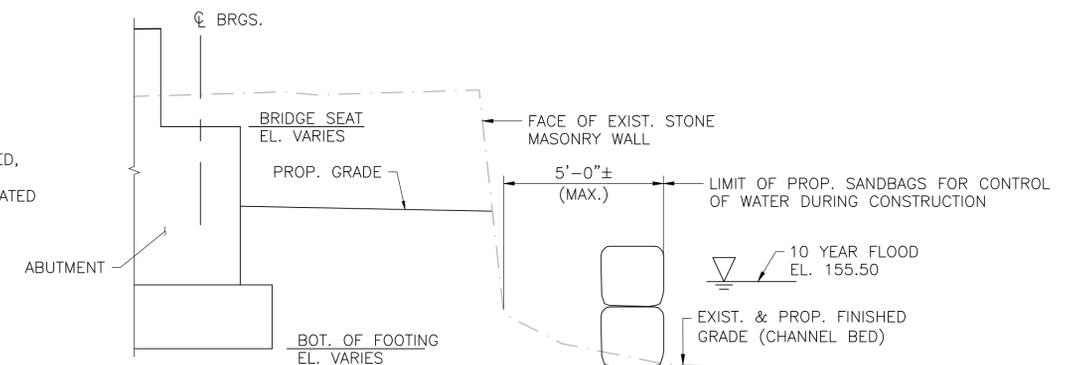


NOTES:

- φ = 45° FOR DEPTH OF 5'-0" OR LESS.
φ = 60° FOR DEPTH OVER 5'-0".
- SAME TREATMENT IS TO BE USED AT ENDS OF WALLS, PIERS, AND ABUTMENTS.

LIMITS OF GRAVEL BORROW FOR BRIDGE FOUNDATIONS

NOT TO SCALE



TYPICAL CONTROL OF WATER DETAIL

SCALE: 3/8" = 1'-0"

| | |
|--------------------------------|-------------------------|
| SEPT. 19, 2015 | ISSUED FOR CONSTRUCTION |
| DATE | DESCRIPTION |
| USE ONLY PRINTS OF LATEST DATE | |

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 142 | 230 |
| PROJECT FILE NO. 604531 | | | |

ABUTMENT AND WINGWALL DETAILS

WINGWALL NOTES:

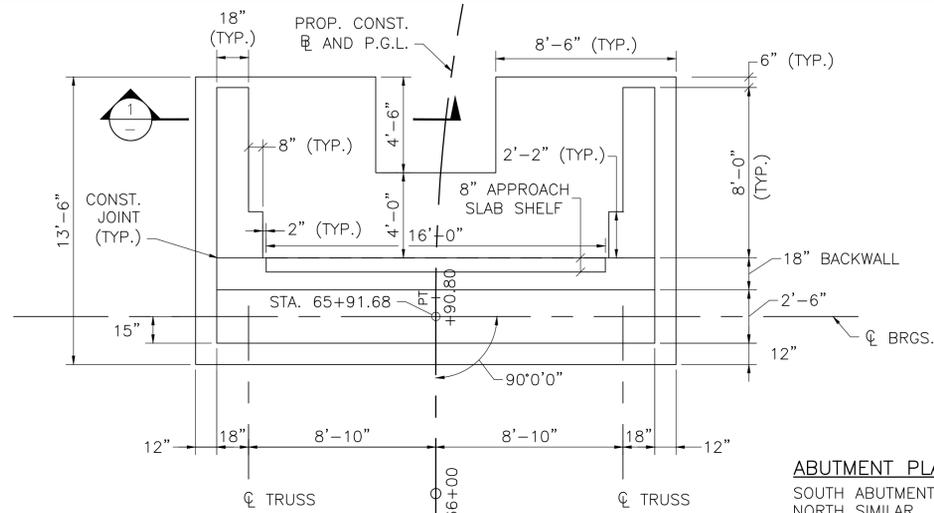
- MEMBRANE WATERPROOFING AND 8"x16"x2", 4000 PSI, 3/4" IN, 610 CEMENT CONCRETE BLOCKS LAID IN MORTAR OR OTHER WATERPROOFING PROTECTIVE COURSE, MIN. 2" THICK AS SPECIFIED IN MHD STANDARD SPECIFICATIONS.
- 4" Ø WEEP HOLES 10'-0" O.C. (JUST ABOVE PROTECTIVE COURSE). PROVIDE 1 CUBIC YARD OF CRUSHED STONE AT EACH END OF WEEP HOLE.
- ALL CONCRETE SHALL BE 4000 PSI, 1 1/2" IN, 565 CEMENT CONCRETE.
- THE FACTORED BEARING PRESSURE = 2.54 KSF AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION.
FACTORED BEARING RESISTANCE = 8.0 KSF. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.

DETAILS AT ABUTMENT NOTES:

- ALL REINFORCEMENT SHOWN IN THIS DETAIL SHALL BE COATED.
- ALL BACKWALL CONCRETE ABOVE THE CONSTRUCTION JOINT LOCATED AT THE BRIDGE SEAT SHALL BE 4000 PSI, 3/4" IN, 610 CEMENT CONCRETE. THE CONSTRUCTION JOINT SHALL BE GIVEN A RAKE FINISH WITH A 1/4" MINIMUM AMPLITUDE.
- TOP OF BACKWALL SHALL BE TROWELLED SMOOTH PARALLEL TO THE PROFILE GRADE.
- THE DECK JOINT SHALL CONFORM TO ADA/AAB REQUIREMENTS.

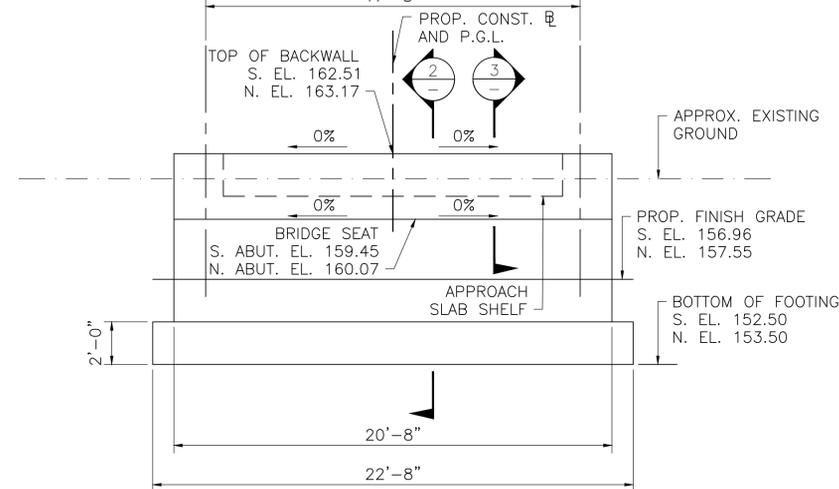
ABUTMENT NOTES:

- MEMBRANE WATERPROOFING AND 8"x16"x2", 4000 PSI, 3/4" IN, 610 CEMENT CONCRETE BLOCKS LAID IN MORTAR OR OTHER WATERPROOFING PROTECTIVE COURSE, MIN. 2" THICK AS SPECIFIED IN MHD STANDARD SPECIFICATIONS.
- 4" Ø WEEP HOLES 10'-0" O.C. (JUST ABOVE PROTECTIVE COURSE). PROVIDE 1 CUBIC YARD OF CRUSHED STONE AT EACH END OF WEEP HOLE.
- ALL CONCRETE SHALL BE 4000 PSI, 1 1/2" IN, 565 CEMENT CONCRETE EXCEPT THE BACKWALL, WHICH SHALL BE 4000 PSI, 3/4" IN, 610 CEMENT CONCRETE.
- THE FACTORED BEARING PRESSURE = 2.98 KSF AS PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS STRENGTH I LOAD COMBINATION.
FACTORED BEARING RESISTANCE = 8.75 KSF. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.



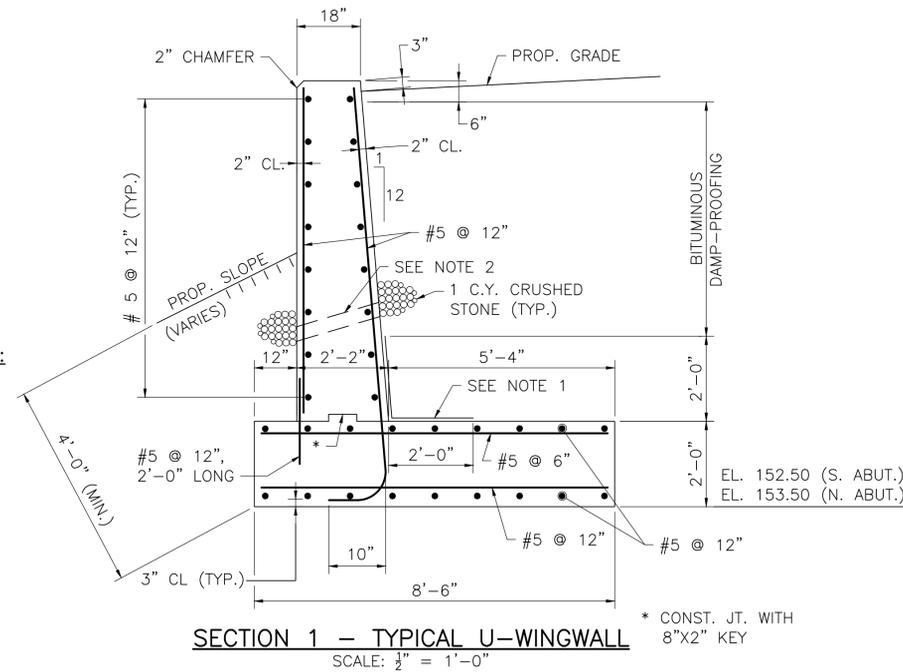
TYPICAL ABUTMENT PLAN

SCALE: 1/4" = 1'-0"



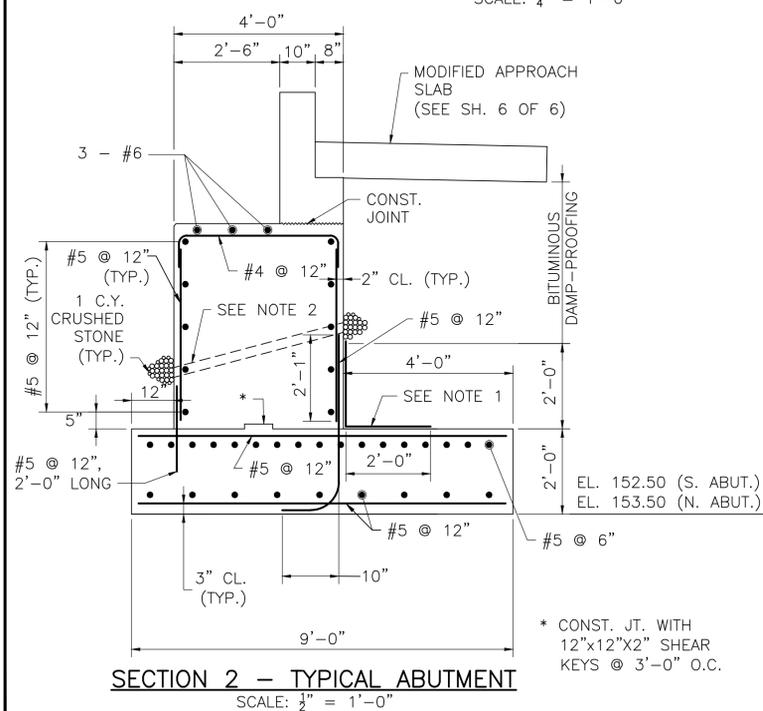
TYPICAL ABUTMENT ELEVATION

SCALE: 1/4" = 1'-0"



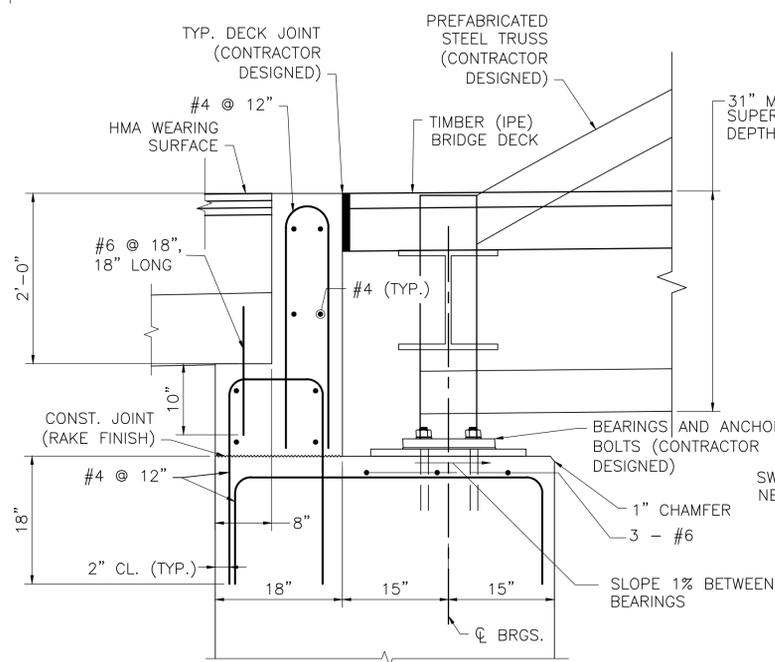
SECTION 1 - TYPICAL U-WINGWALL

SCALE: 1/2" = 1'-0"



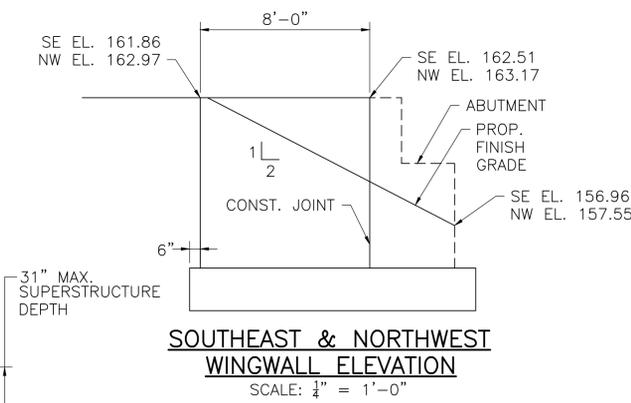
SECTION 2 - TYPICAL ABUTMENT

SCALE: 1/2" = 1'-0"



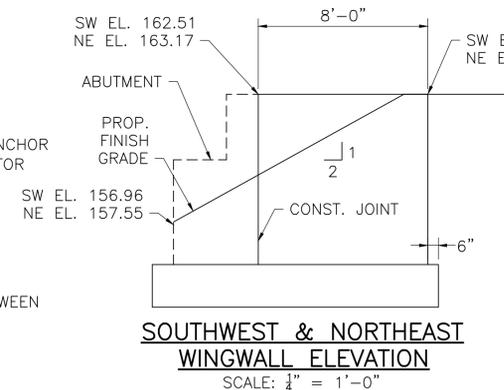
SECTION 3 - DETAILS AT ABUTMENT

SCALE: 1" = 1'-0"



SOUTHEAST & NORTHWEST WINGWALL ELEVATION

SCALE: 1/4" = 1'-0"



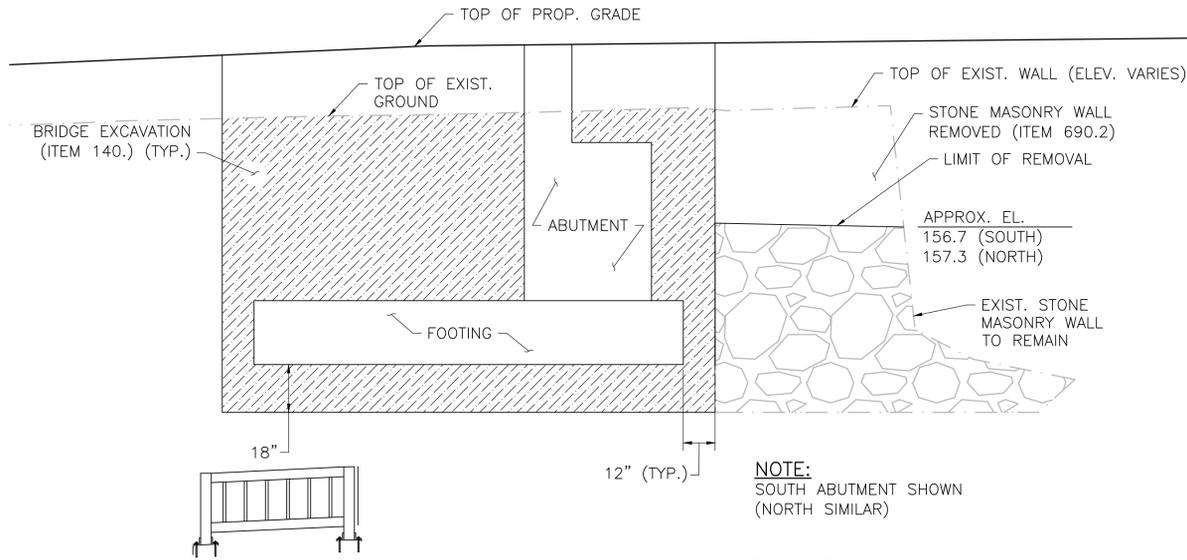
SOUTHWEST & NORTHEAST WINGWALL ELEVATION

SCALE: 1/4" = 1'-0"

| DATE | DESCRIPTION |
|----------------|--------------------------------|
| SEPT. 19, 2015 | ISSUED FOR CONSTRUCTION |
| | USE ONLY PRINTS OF LATEST DATE |

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 141 | 230 |
| PROJECT FILE NO. 604531 | | | |

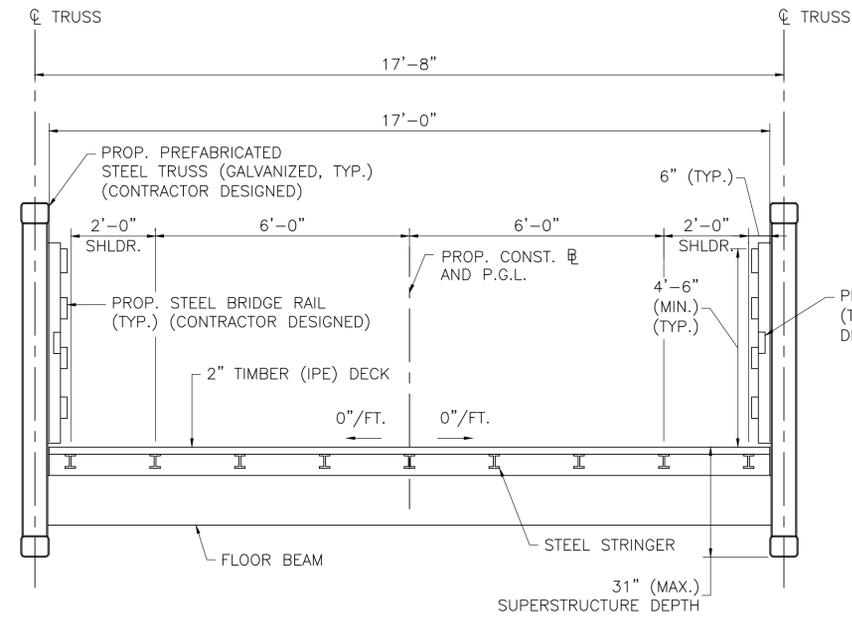
ELEVATION AND CROSS SECTION



EXCAVATION AND WALL REMOVAL PAYMENT LIMITS

SCALE: 1/2" = 1'-0"

NOTE:
SOUTH ABUTMENT SHOWN
(NORTH SIMILAR)

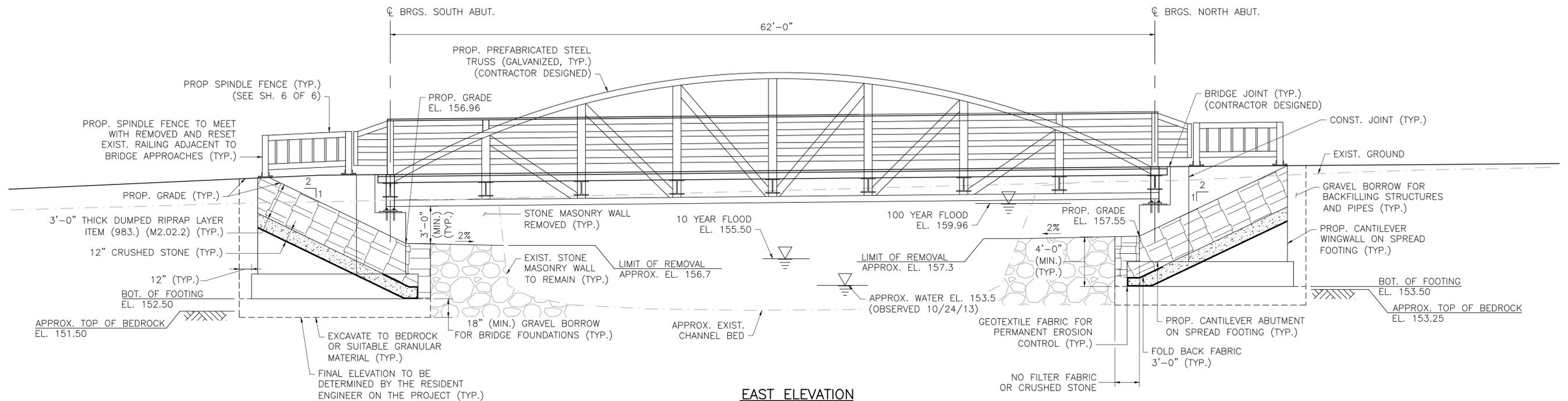


PROPOSED CROSS SECTION

SCALE: 1/2" = 1'-0"

NOTES:

- BEDROCK ELEVATION IS BASED ON BORINGS BB-1 AND BB-2A. ROCK ELEVATION VARIES WITHIN THE FOOTPRINT OF PROPOSED ABUTMENTS. MATERIAL BENEATH FOOTING VARIES FROM ROCK TO SAND. FOOTINGS SHALL BEAR ENTIRELY ON LEVEL BEDROCK OR ENTIRELY ON STRUCTURAL FILL. FOR A FOOTING PARTIALLY ON ROCK, OVER-EXCAVATE ALL MATERIAL 18" (MIN.) BELOW PROPOSED BOTTOM OF FOOTING AND REPLACE WITH GRAVEL BORROW FOR BRIDGE FOUNDATIONS. ALTERNATIVELY, THE CONTRACTOR MAY ELECT TO PLACE A MINIMUM OF 6" OF LEAN CONCRETE BETWEEN BOTTOM OF PROPOSED FOOTING AND BEDROCK. LEAN CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 P.S.I.
- TEMPORARY WATER CONTROL NOT SHOWN FOR CLARITY. SEE DETAIL ON SHEET 6 OF 6.



EAST ELEVATION

SCALE: 1/4" = 1'

| | |
|--------------------------------|-------------------------|
| SEPT. 19, 2015 | ISSUED FOR CONSTRUCTION |
| DATE | DESCRIPTION |
| USE ONLY PRINTS OF LATEST DATE | |

MAYNARD & ACTON
ASSABET RIVER RAIL TRAIL

| | | | |
|-------------------------|-----------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | CMAQ/STP-TE-002S(836) | 140 | 230 |
| PROJECT FILE NO. 604531 | | | |

BORING LOGS

BORING BB-1

| massDOT | | NOBIS ENGINEERING, INC. 585 Middlesex Street Lowell, MA 01851 | | Phone: (978) 683-0891 Fax: (978) 683-0966 www.nobisengineering.com | | Boring No. BB-1 Scale 1" = 5' | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------|--|
| City/Town: Acton & Maynard | | Bridge: Pedestrian Bridge, No. M-10-012 | | Project File No: 604531 | | Contract No: 68386 | |
| Groundwater Depth: 8'10" | | Date & Time: 8/19/2014 1:05 pm | | Date Started: August 19, 2014 | | Total Hours: 8 | |
| Coordinates: N 2982561.11 E 668171.28 | | Driller's Name: Kenneth Smith | | Helper's Name: Matt | | | |
| Ground Elevation: ± 162.5 | | Inspector's Name: Patrick Clarke | | Driller's Company: New Hampshire Boring | | | |
| Sample Number | Depth Range (Feet) | Blow Counts per 6 Inches Coring Times Minute Per Foot | Recovery Inches | Field Description | | Strata Changes | |
| S-1 | 0' - 2' | 4 6 7 7 | 13" | S-1A (4"): Dry, medium dense, brown, FINE SAND, some silt, trace fine gravel, some roots, faint organic-like odor (TOPSOIL). | | 4" | |
| S-2 | 2' - 4' | 3 4 5 4 | 8" | S-1B (2"): Dry, medium dense, gray/brown, FINE TO MEDIUM SAND, some silt, some fine gravel, trace roots (FILL). | | | |
| S-3 | 4' - 6' | 4 5 6 14 | 9" | S-1C (7"): Dry, medium dense, brown, FINE TO MEDIUM SAND AND FINE TO COARSE GRAVEL, trace silt, trace wood fragments (FILL). | | | |
| S-4 | 6' - 8' | 8 4 5 16 | 12" | S-2: Dry, loose, tan/light brown, FINE TO COARSE SAND, some fine to coarse gravel, trace silt, trace wood fragments (FILL). | | | |
| S-5 | 8' - 9'4" | 13 12 100*4 | 8" | S-4: Dry, loose, tan/light brown, FINE TO COARSE SAND, trace silt, trace fine gravel, some wood fragments (FILL). | | | |
| C-1 | 9'4" - 12' | 7 4.5 5 | 9'4" | S-3: Dry, medium dense, tan/light brown, FINE TO COARSE SAND, some fine to coarse gravel, trace silt, trace wood fragments (FILL). | | | |
| C-2 | 12' - 15'6" | 1.3 5 6.3 7 | | S-5: Dry, very dense, light brown with black mottling, FINE TO COARSE SAND, some fine to coarse gravel, some silt, trace wood particles (FILL). | | | |
| Notes: 1. Nearest existing bridge abutment top of footing measured to be approximately 10 feet below existing bridge deck, Assabet River is approximately 10'9" below existing bridge deck. 2. Bedrock outcrops observed at river bottom. 3. Borehole backfilled with drill cuttings, sand, and nearby crushed stone. | | | | | | | |
| Penetration Resistance (N) Guide: Cohesionless Soils (Sands, Gravels) Relative Density Penetration Resistance Consistency Penetration Resistance Very Loose 0 - 4 Loose 4 - 10 Medium Dense 10 - 30 Dense 30 - 50 Very Dense Over 50 N=Sum of Second and Third 6" Blow Counts Terms Used for Second Entry of Descriptions: and = 40-50%, some = 10-40%, trace = 10% or less | | | | Cohesive Soils (Sills, Clays) Penetration Resistance Very Soft 0 - 2 Soft 2 - 4 Medium Stiff 4 - 8 Stiff 8 - 15 Very Stiff 15 - 30 Hard Over 30 Type of Drill Rig: Acker Soil Scout Casing Type: HW Size: 4" Depth: 9'4" Hammer Weight: 300lbs. Fall: 30" Signs: Cones: Arrow-Board: Sampler Type: SS Size: 1 3/8" Automatic Hammer Weight: Safety Hammer Weight: 140lbs. Donut Hammer Weight: 140lbs. Fall: 30" Core Barrel Type: NX Size: 2.15" | | | |

BORING BB-2

| massDOT | | NOBIS ENGINEERING, INC. 585 Middlesex Street Lowell, MA 01851 | | Phone: (978) 683-0891 Fax: (978) 683-0966 www.nobisengineering.com | | Boring No. BB-2 Scale 1" = 5' | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------|--|
| City/Town: Acton & Maynard | | Bridge: Pedestrian Bridge, No. M-10-012 | | Project File No: 604531 | | Contract No: 68386 | |
| Groundwater Depth: N/A | | Date & Time: N/A | | Date Started: August 20, 2014 | | Total Hours: 1 | |
| Coordinates: N 2982524.42 E 668096.84 | | Driller's Name: Kenneth Smith | | Helper's Name: Matt | | | |
| Ground Elevation: ± 160.0 | | Inspector's Name: Patrick Clarke | | Driller's Company: New Hampshire Boring | | | |
| Sample Number | Depth Range (Feet) | Blow Counts per 6 Inches Coring Times Minute Per Foot | Recovery Inches | Field Description | | Strata Changes | |
| S-1 | 0' - 2' | 4 12 19 30 | 14" | S-1A (10"): Dry, dense, brown, FINE TO COARSE SAND, some fine to coarse gravel, some silt, trace fine gravel, trace roots (TOPSOIL). | | 10" | |
| S-2 | 2' - 2'11" | 60 100*5 | 5" | S-1B (4"): Dry, dense, light brown, FINE TO COARSE SAND AND FINE TO COARSE GRAVEL, trace silt, trace asphalt fragments (FILL). | | | |
| Notes: 1. Nearest existing bridge abutment top of footing measured to be approximately 9 feet below existing bridge deck, Assabet River is approximately 9'3" below existing bridge deck. 2. Bedrock outcrops observed at river bottom. 3. Borehole backfilled with drill cuttings and sand. | | | | | | | |
| Penetration Resistance (N) Guide: Cohesionless Soils (Sands, Gravels) Relative Density Penetration Resistance Consistency Penetration Resistance Very Loose 0 - 4 Loose 4 - 10 Medium Dense 10 - 30 Dense 30 - 50 Very Dense Over 50 N=Sum of Second and Third 6" Blow Counts Terms Used for Second Entry of Descriptions: and = 40-50%, some = 10-40%, trace = 10% or less | | | | Cohesive Soils (Sills, Clays) Penetration Resistance Very Soft 0 - 2 Soft 2 - 4 Medium Stiff 4 - 8 Stiff 8 - 15 Very Stiff 15 - 30 Hard Over 30 Type of Drill Rig: Acker Soil Scout Casing Type: HW Size: 4" Depth: 9'4" Hammer Weight: 300lbs. Fall: 30" Signs: Cones: Arrow-Board: Sampler Type: SS Size: 1 3/8" Automatic Hammer Weight: Safety Hammer Weight: 140lbs. Donut Hammer Weight: 140lbs. Fall: 30" Core Barrel Type: NX Size: 2.15" | | | |

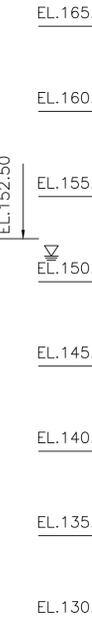
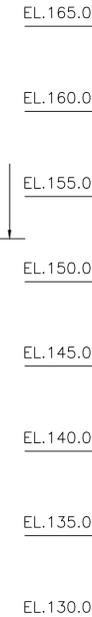
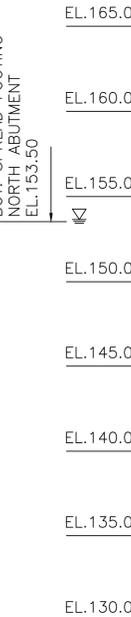
BORING BB-2A

| massDOT | | NOBIS ENGINEERING, INC. 585 Middlesex Street Lowell, MA 01851 | | Phone: (978) 683-0891 Fax: (978) 683-0966 www.nobisengineering.com | | Boring No. BB-2A Scale 1" = 5' | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------|--|
| City/Town: Acton & Maynard | | Bridge: Pedestrian Bridge, No. M-10-012 | | Project File No: 604531 | | Contract No: 68386 | |
| Groundwater Depth: 8'6" | | Date & Time: 8/20/2014 3:20 pm | | Date Started: August 20, 2014 | | Total Hours: 7 | |
| Coordinates: N 2982521.99 E 668093.34 | | Driller's Name: Kenneth Smith | | Helper's Name: Matt | | | |
| Ground Elevation: ± 160.0 | | Inspector's Name: Patrick Clarke | | Driller's Company: New Hampshire Boring | | | |
| Sample Number | Depth Range (Feet) | Blow Counts per 6 Inches Coring Times Minute Per Foot | Recovery Inches | Field Description | | Strata Changes | |
| S-1 | 4' - 6' | 6 9 16 15 | 2" | Casing advanced to 4' below ground surface and washed out for sampling. Subsurface conditions assumed to be similar to those encountered in Boring BB-2. | | | |
| S-2 | 6' - 8' | 10 9 6 10 | 4" | S-1: Wet, medium dense, brown, FINE TO COARSE GRAVEL, trace fine to coarse sand, trace silt, trace wood fragments (FILL). | | | |
| S-3 | 8' - 8'4" | 100*3 | 3" | S-2: Wet, medium dense, brown, FINE TO COARSE GRAVEL, some fine to coarse sand, some silt, trace roots (FILL). | | | |
| C-1 | 8'6" - 11'6" | 5.8 8.8 13 | | S-3: Wet, very dense, brown, FINE TO COARSE SAND, some silt, some fine gravel (FILL). Increased drilling resistance (grinding) observed between 8 and 8'6". Top of BEDROCK at 8'6". | | 8'6" | |
| C-2 | 11'6" - 14'6" | 6.8 7.8 15.3 | | C-1: Hard, slightly to moderately weathered, extremely to slightly fractured, gray with brown staining, medium grained, GNEISS, very close to close, low to high angle open and closed joints. Percent Recovery = 100%, RQD = 14%. C-2: Very hard, slightly weathered to fresh, moderately fractured to sound, gray, medium grained, GNEISS, very close to moderately close low angle to moderately dipping open and closed joints. Percent Recovery = 100%, RQD = 85%. Bottom of Exploration = 14'6" | | | |
| Notes: 1. Nearest existing bridge abutment top of footing measured to be approximately 9 feet below existing bridge deck, Assabet River is approximately 9'3" below existing bridge deck. 2. Bedrock outcrops observed at river bottom. 3. Borehole backfilled with drill cuttings and sand. | | | | | | | |
| Penetration Resistance (N) Guide: Cohesionless Soils (Sands, Gravels) Relative Density Penetration Resistance Consistency Penetration Resistance Very Loose 0 - 4 Loose 4 - 10 Medium Dense 10 - 30 Dense 30 - 50 Very Dense Over 50 N=Sum of Second and Third 6" Blow Counts Terms Used for Second Entry of Descriptions: and = 40-50%, some = 10-40%, trace = 10% or less | | | | Cohesive Soils (Sills, Clays) Penetration Resistance Very Soft 0 - 2 Soft 2 - 4 Medium Stiff 4 - 8 Stiff 8 - 15 Very Stiff 15 - 30 Hard Over 30 Type of Drill Rig: Acker Soil Scout Casing Type: HW Size: 4" Depth: 9'4" Hammer Weight: 300lbs. Fall: 30" Signs: Cones: Arrow-Board: Sampler Type: SS Size: 1 3/8" Automatic Hammer Weight: Safety Hammer Weight: 140lbs. Donut Hammer Weight: 140lbs. Fall: 30" Core Barrel Type: NX Size: 2.15" | | | |

BOT. SPREAD FOOTING
NORTH ABUTMENT
EL.133.50

BOT. SPREAD FOOTING
SOUTH ABUTMENT
EL.152.50

BOT. SPREAD FOOTING
SOUTH ABUTMENT
EL.152.50



BORING NOTES

- LOCATION OF BORINGS SHOWN ON THE PLAN THUS: BB-1
- BORINGS ARE TAKEN FOR THE PURPOSE OF DESIGN AND SHOW CONDITIONS AT BORING POINTS ONLY, BUT DO NOT NECESSARILY SHOW THE NATURE OF THE MATERIALS TO BE ENCOUNTERED DURING CONSTRUCTION.
- WATER LEVELS SHOWN ON THE BORING LOGS WERE OBSERVED AT THE TIME OF TAKING BORINGS AND DO NOT NECESSARILY SHOW THE TRUE GROUND WATER LEVEL.
- FIGURES IN THE COLUMNS INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE A 1 3/8" I.D. SPLIT SPOON SAMPLER 6" USING A 140 POUND WEIGHT FALLING 30".
- BORING SAMPLES ARE STORED AT A STORAGE FACILITY LOCATED ON ROUTE 114 (219 WINTHROP AVENUE) LAWRENCE, MA. THE CONTRACTOR MAY EXAMINE THE SOIL AND ROCK SAMPLES BY CONTACTING THE MASSDOT GEOTECHNICAL SECTION AT 10 PARK PLAZA BOSTON, MA.
- BORINGS BB-1, BB-2, AND BB-2A WERE MADE IN AUGUST, 2014.
- BORINGS WERE MADE BY NEW HAMPSHIRE BORINGS, INC. OF DERRY, NH UNDER THE GUIDANCE OF NOBIS ENGINEERING, INC.
- THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.
- GROUND SURFACE ELEVATIONS ARE APPROXIMATE.

| | |
|--------------------------------|-------------------------|
| SEPT. 19, 2015 | ISSUED FOR CONSTRUCTION |
| DATE | DESCRIPTION |
| USE ONLY PRINTS OF LATEST DATE | |

MAYNARD & ACTON
ASSABET RIVER RAIL TRAIL

| | | | |
|-------------------------|-----------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | CMAQ/STP-TE-002S(836) | 139 | 230 |
| PROJECT FILE NO. 604531 | | | |

GENERAL NOTES AND ESTIMATED QUANTITIES

GENERAL NOTES

DESIGN:

IN ACCORDANCE WITH THE 2014 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS LRFD BRIDGE DESIGN SPECIFICATIONS AND THE 2009 AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, FOR H10 LOADING AND 90 PSF PEDESTRIAN LOADING.

MASSDOT BENCH MARK:

BENCH MARK - MAG NAIL SET, TRAV. POINT 43
N 2982560.14 E 668175.34
STA. 66+61.43 10.86' RT
EL. 162.69'

ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.

MASSDOT SURVEY NOTEBOOKS:

COPIES OF ELECTRONIC SURVEY FILES MAY BE OBTAINED FROM THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION.

SCALES:

SCALES NOTED ON THE PLANS ARE NOT APPLICABLE TO REDUCED SIZED PRINTS. DIVIDE SCALES BY 2 FOR HALF-SIZE PRINTS (A3).

FOUNDATIONS:

FOUNDATIONS MAY BE ALTERED, IF NECESSARY, TO SUIT CONDITIONS ENCOUNTERED DURING CONSTRUCTION, WITH THE APPROVAL OF THE ENGINEER.

UNSUITABLE MATERIAL:

ALL UNSUITABLE MATERIAL SHALL BE REMOVED WITHIN THE LIMITS OF THE FOUNDATIONS OF THE STRUCTURE, AS DIRECTED BY THE ENGINEER.

SEISMIC GROUND SHAKING HAZARD:

DESIGN RETURN PERIOD: 1000 YEARS

DESIGN SPECTRA:

As = 0.086
Sds = 0.178
Sd1 = 0.067

SITE CLASS = C

SEISMIC DESIGN CATEGORY (SDC) = A

ANCHOR BOLTS:

ALL ANCHOR BOLTS SHALL BE SET BY TEMPLATE BEFORE THE CONCRETE IS PLACED.

REINFORCEMENT:

REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 31 GRADE 60 (EPOXY COATED). UNLESS OTHERWISE NOTED ON THE CONSTRUCTION DRAWINGS, ALL BARS SHALL BE LAPPED AS FOLLOWS:

| MODIFICATION CONDITION | #4 BARS | #5 BARS |
|-----------------------------------------------------|---------|---------|
| 1. NONE | 21" | 26" |
| 2. 12" OF CONCRETE BELOW BAR | 29" | 36" |
| 3. COATED BARS, COVER < 3db, OR CLEAR SPACING < 6db | 31" | 39" |
| 4. COATED BARS, ALL OTHER CASES | 25" | 31" |
| 5. CONDITION 2. AND 3. | 35" | 44" |
| 6. CONDITION 2. AND 4. | 34" | 43" |

IF THE ABOVE BARS ARE SPACED 6" OR MORE ON CENTER, THE LAP LENGTH SHALL BE 80% OF THE LAP LENGTH GIVEN ABOVE. ALL OTHER BARS SHALL BE LAPPED AS SHOWN ON THE CONSTRUCTION DRAWINGS.

CONCRETE MIXES:

| (1) | (2) | (3) | TO BE USED IN CONSTRUCTION OF: |
|------|-------|-----|----------------------------------------------------|
| 3000 | 1/2 | 470 | ABUTMENT SUB-GRADE MATERIAL |
| 4000 | 1 1/2 | 565 | ABUTMENTS, WINGWALLS, FOOTINGS, AND APPROACH SLABS |
| 4000 | 3/4 | 610 | ABUTMENT BACKWALLS |

- (1) 28 DAY COMPRESSIVE STRENGTH (PSI)
- (2) MAXIMUM AGGREGATE SIZE (INCH)
- (3) CEMENTITIOUS CONTENT (POUNDS/C.Y.)

CONTRACTOR DESIGNED SUPERSTRUCTURE:

STRUCTURAL STEEL TRUSS (INCLUDING CAMBER), TIMBER (IPE) DECK, BEARINGS, ANCHOR BOLTS, STEEL RAILINGS, AND DECK JOINTS SHALL BE CONTRACTOR DESIGNED IN ACCORDANCE WITH THE 2014 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS LRFD BRIDGE DESIGN SPECIFICATIONS AND THE 2009 AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, FOR H10 LOADING AND 90 PSF PEDESTRIAN LOADING. STEEL SHALL BE GALVANIZED AND UNPAINTED. THE ABUTMENT DESIGN IS FOR A TOTAL MAXIMUM SUPERSTRUCTURE DEAD LOAD OF 54 KIPS (SERVICE LOAD). IF THE WEIGHT OF THE SUPERSTRUCTURE EXCEEDS THE SPECIFIED MAXIMUM LOAD, THE ABUTMENT DESIGN (STABILITY AND REINFORCING) SHALL BE CHECKED AND STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS. THE CALCULATIONS PERFORMED SHALL BE SUPPLIED TO THE ENGINEER FOR APPROVAL.

TEST PITS:

LOCATION OF TEST PITS SHOWN ON PLAN THUS: TP-1
REFER TO HIGHWAY DRAWINGS FOR TEST PIT LOGS.

HYDRAULIC DESIGN DATA:

DRAINAGE AREA: 115.0 SQUARE MILES
DESIGN FLOOD DISCHARGE: 2240 CUBIC FEET PER SECOND
DESIGN FLOOD FREQUENCY: 10 YEARS
DESIGN FLOOD VELOCITY: 11.15 FEET PER SECOND
DESIGN FLOOD ELEVATION: 155.50 FEET

BASE (100 YEAR) FLOOD DATA

BASE FLOOD DISCHARGE: 3950 CUBIC FEET PER SECOND
BASE FLOOD ELEVATION: 159.96 FEET

DESIGN AND CHECK SCOUR

DESIGN SCOUR EVENT RETURN FREQUENCY: 25 YEARS
CHECK SCOUR EVENT RETURN FREQUENCY: 50 YEARS

FLOOD OF RECORD

DISCHARGE: UNKNOWN
FREQUENCY: UNKNOWN
MAXIMUM ELEVATION: UNKNOWN
DATE: UNKNOWN

HISTORY OF ICE FLOES: NONE DOCUMENTED IN NBIS DATABASE
EVIDENCE OF SCOUR OR EROSION: NONE OBSERVED

ESTIMATED QUANTITIES
(NOT GUARANTEED)

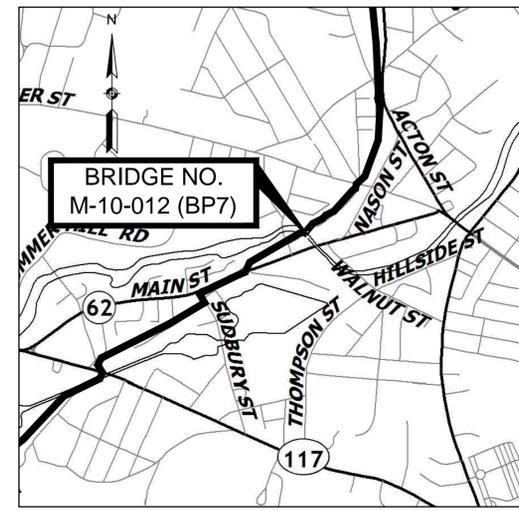
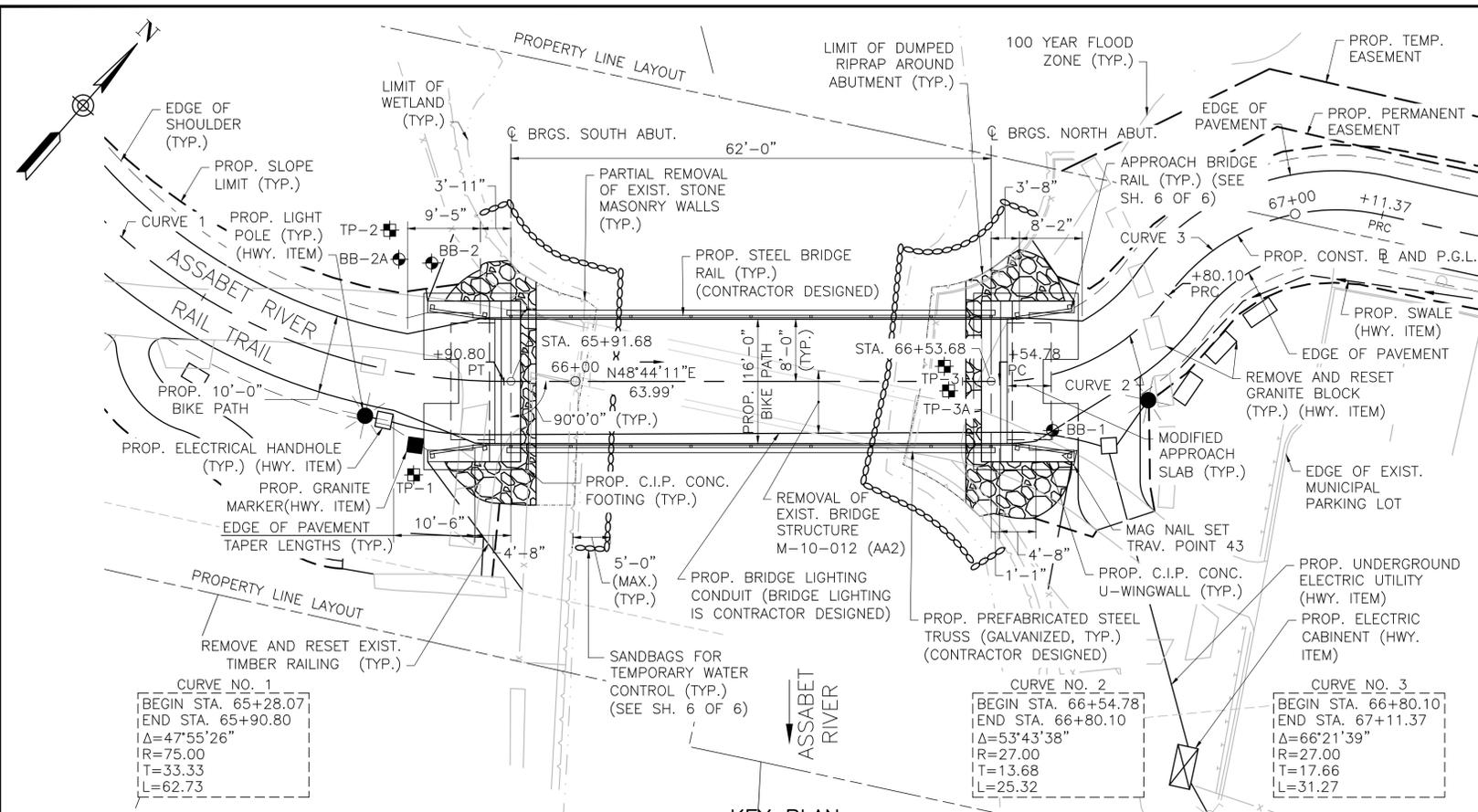
| ITEM DESCRIPTION | QUANTITY | UNIT |
|--------------------------------------------------------|----------|------|
| DEMOLITION OF SUPERSTRUCTURE BRIDGE NO. M-10-012 (AA2) | 1 | LS |
| BRIDGE EXCAVATION | 170 | CY |
| CLASS B ROCK EXCAVATION | 170 | CY |
| GRAVEL BORROW FOR BRIDGE FOUNDATION | 45 | CY |
| GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES | 95 | CY |
| CRUSHED STONE | 20 | TON |
| SPINDLE FENCE REMOVE AND RESET | 80 | FT |
| SPINDLE FENCE ON WALL | 30 | FT |
| STONE MASONRY WALL REMOVED | 60 | CY |
| 3000 PSI, 1.5 IN., 470 CEMENT CONCRETE | 25 | CY |
| DUMPED RIPRAP | 75 | TON |
| CONTROL OF WATER-STRUCTURE NO. M-10-012 (BP7) | 1 | LS |
| BRIDGE STRUCTURE, BRIDGE NO. M-10-012 (BP7) | 1 | LS |

| | |
|--------------------------------|-------------------------|
| SEPT. 19, 2015 | ISSUED FOR CONSTRUCTION |
| DATE | DESCRIPTION |
| USE ONLY PRINTS OF LATEST DATE | |

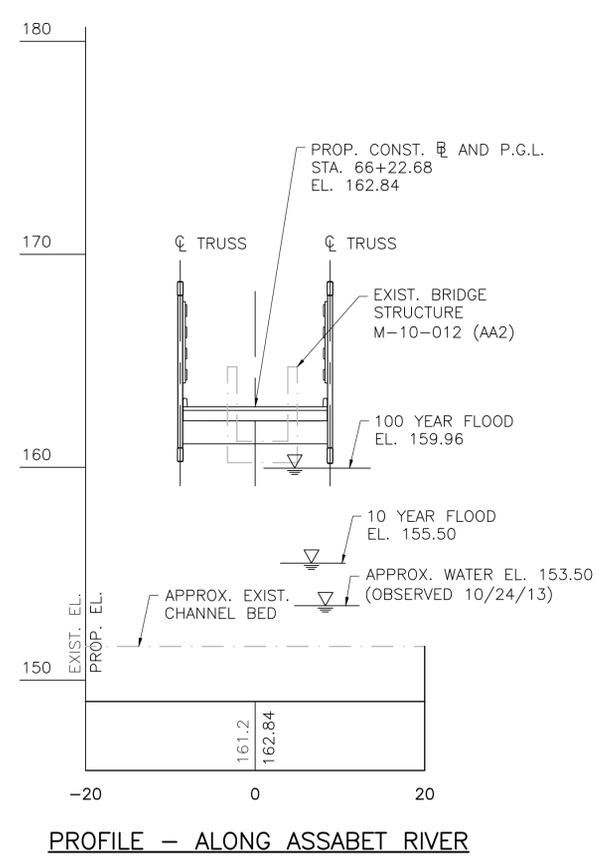
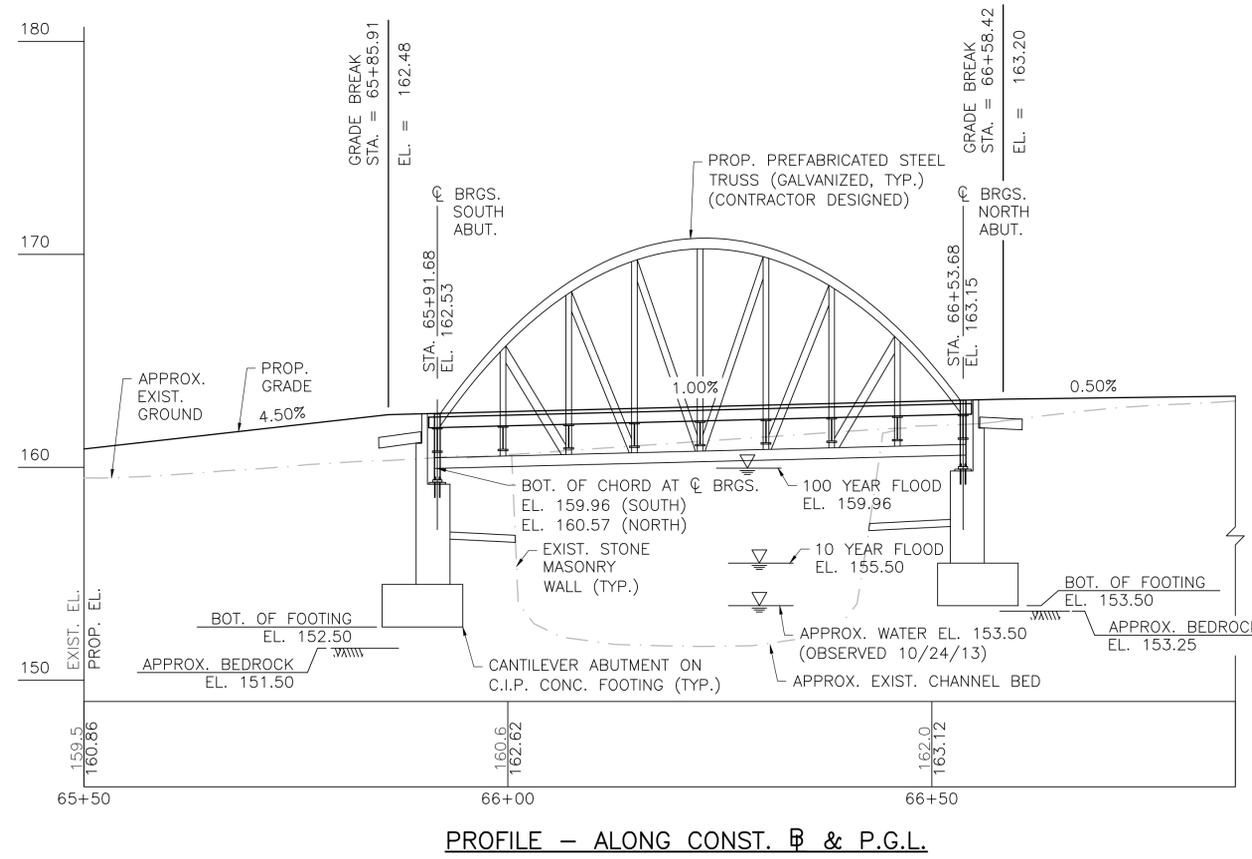
MAYNARD & ACTON
ASSABET RIVER RAIL TRAIL

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|-------------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-0025(836) | 138 | 230 |
| PROJECT FILE NO. 604531 | | | |

KEY PLAN, LOCUS MAP, AND PROFILES



- INDEX OF BRIDGE SHEETS:**
1. KEY PLAN, LOCUS MAP, AND PROFILES
 2. GENERAL NOTES AND ESTIMATED QUANTITIES
 3. BORING LOGS
 4. ELEVATION AND CROSS SECTION
 5. ABUTMENT AND WINGWALL DETAILS
 6. APPROACH SLAB AND MISC. DETAILS



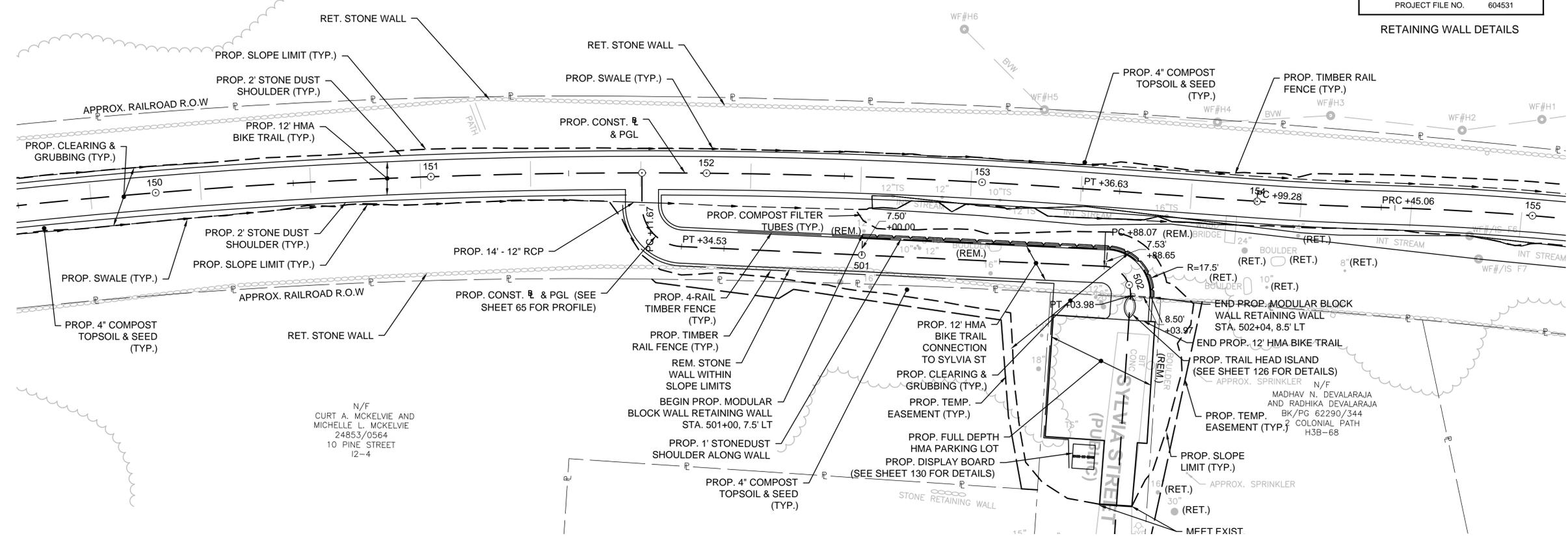
NOTE:
FOR GENERAL NOTES, SEE SHEET 2.

| | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| SEPT. 19, 2015 | ISSUED FOR CONSTRUCTION |
| | |
| PROPOSED BRIDGE MAYNARD ASSABET RIVER RAIL TRAIL OVER ASSABET RIVER MASSACHUSETTS DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION 10 PARK PLAZA BOSTON, MASS | |
| Greenman-Pedersen, Inc. 181 Ballardvale Street, Suite 202 Wilmington, MA 01887 | TITLE: _____ CHIEF ENGINEER |

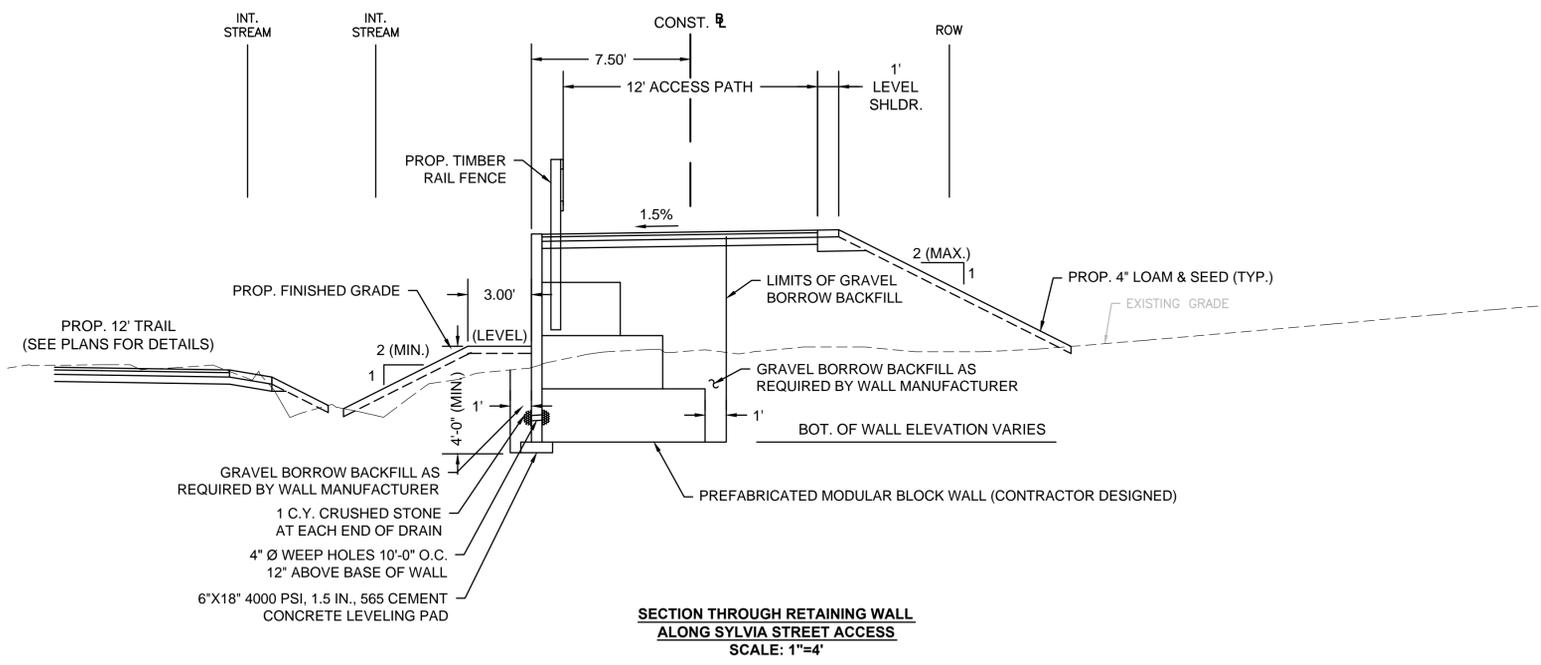
604531_(M10012)BR_2.DWG Printed on 8-Oct-2015 1:43 PM Final Structural Submittal (SF) 19-September-2015

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 137 | 230 |
| PROJECT FILE NO. | | 604531 | |

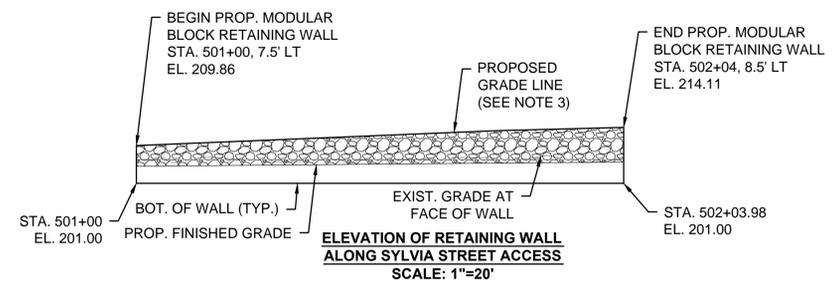
RETAINING WALL DETAILS



PLAN OF RETAINING WALL ALONG SYLVIA STREET ACCESS
SCALE: 1"=20'



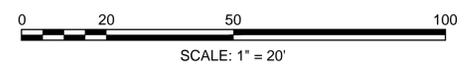
SECTION THROUGH RETAINING WALL ALONG SYLVIA STREET ACCESS
SCALE: 1"=4'



ELEVATION OF RETAINING WALL ALONG SYLVIA STREET ACCESS
SCALE: 1"=20'

WALL NOTES:

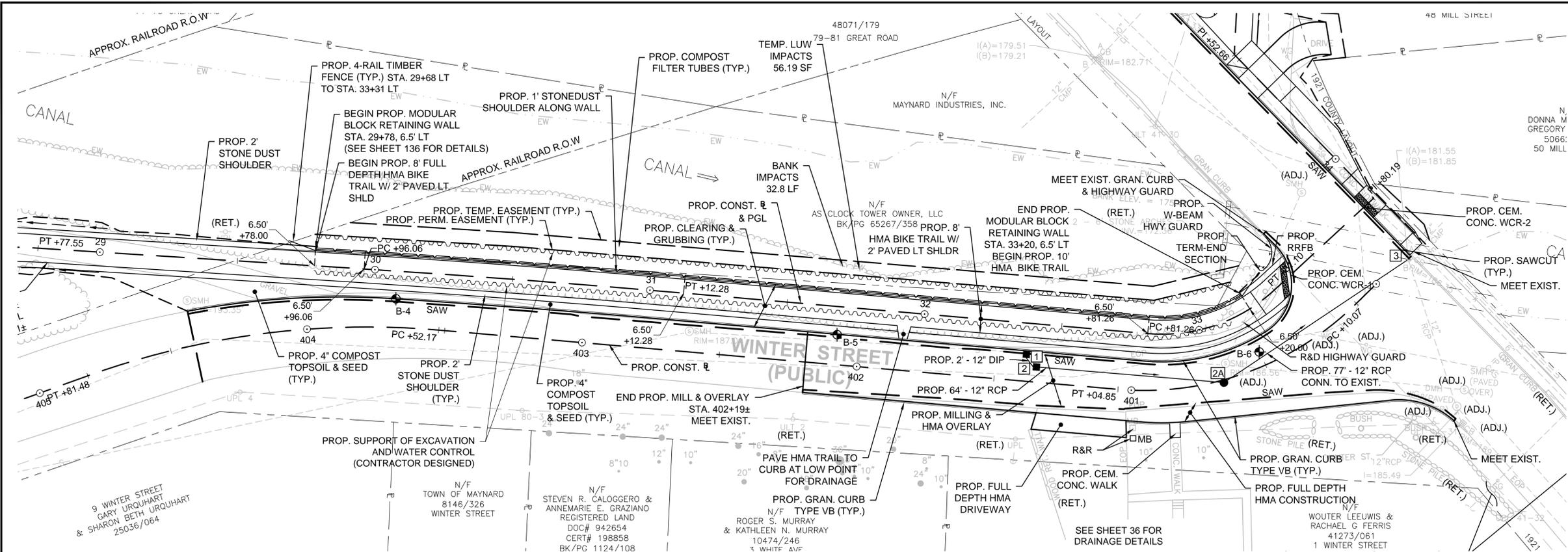
1. PREFABRICATED MODULAR BLOCK RETAINING WALL SHALL BE DESIGNED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL.
2. SEE SPECIAL PROVISIONS FOR DESIGN REQUIREMENTS OF PREFABRICATED MODULAR BLOCK WALL. IF UNSUITABLE MATERIALS SUCH AS FILL AND ORGANICS ARE ENCOUNTERED, THEY SHALL BE EXCAVATED TO SOUND MATERIAL AND BACKFILLED WITH GRAVEL BORROW FOR BRIDGE FOUNDATIONS (ITEM 151.1). COSTS ASSOCIATED WITH OVER EXCAVATION ARE TO BE PAID UNDER ITEM 140. BRIDGE EXCAVATION.
3. THE EXISTING AND PROPOSED GRADE LINES SHOWN BELOW ARE LOCATED AT THE FACE OF THE WALL.
4. FOUNDATION STEPS ARE SCHEMATIC ONLY AND CAN BE MODIFIED TO SUIT THE TYPE OF WALL AND SITE GEOMETRY AS LONG AS 4 FEET MINIMUM COVER IS MAINTAINED ACROSS THE ENTIRE LENGTH OF FOOTING WITH THE GRADING REQUIREMENTS AS SHOWN ON THE TYPICAL SECTION.
5. TOP OF WALL SHALL BE SLOPED TO MATCH THE PROFILE. SPOT ELEVATIONS ARE SHOWN BELOW. SEE CONSTRUCTION PROFILES FOR MORE INFORMATION.
6. ALL TIES ARE FROM THE SYLVIA STREET ACCESS BASELINE TO THE TOP FACE OF THE PROP. WALL.



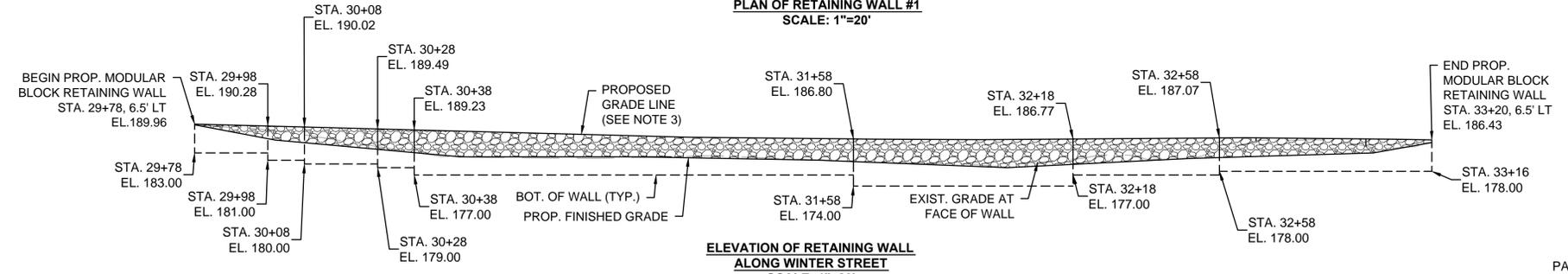
MAYNARD & ACTON
ASABET RIVER RAIL TRAIL

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 136 | 230 |
| PROJECT FILE NO. | | 604531 | |

RETAINING WALL DETAILS
WINTER STREET



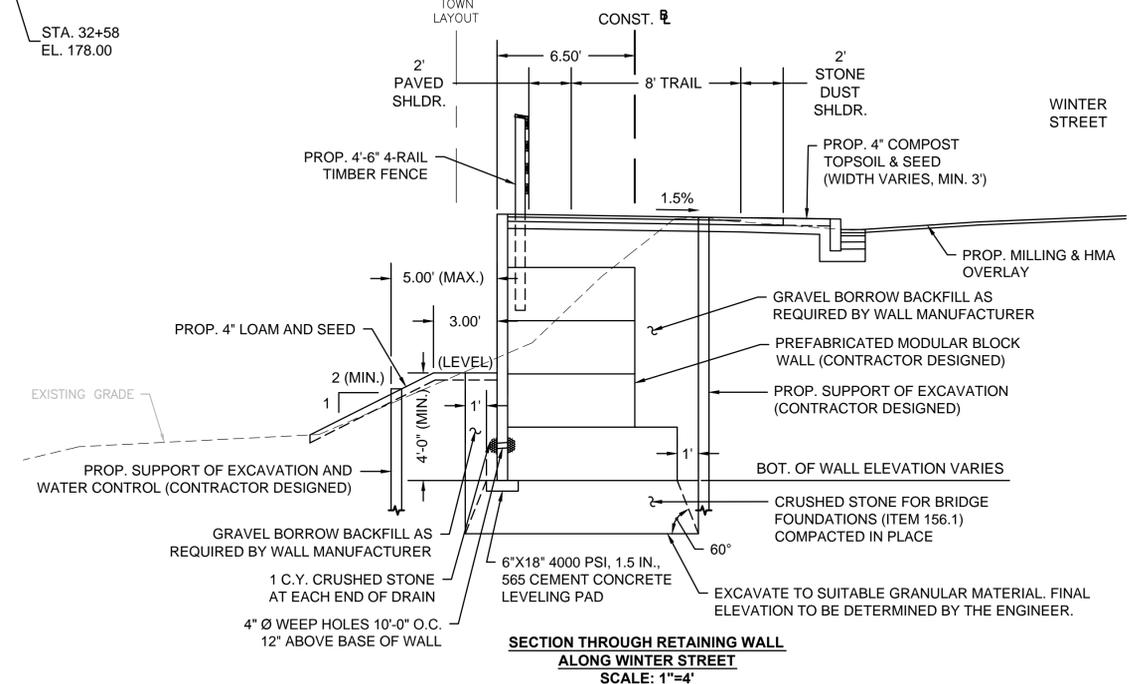
PLAN OF RETAINING WALL #1
SCALE: 1"=20'



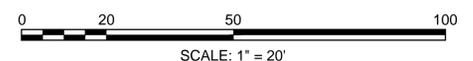
ELEVATION OF RETAINING WALL
ALONG WINTER STREET
SCALE: 1"=20'

WALL NOTES:

1. PREFABRICATED MODULAR BLOCK RETAINING WALL SHALL BE DESIGNED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL.
2. SEE SPECIAL PROVISIONS FOR DESIGN REQUIREMENTS OF PREFABRICATED MODULAR BLOCK WALL. IF UNSUITABLE MATERIALS SUCH AS FILL AND ORGANICS ARE ENCOUNTERED, THEY SHALL BE EXCAVATED TO SOUND MATERIAL AND BACKFILLED WITH CRUSHED STONE FOR BRIDGE FOUNDATIONS (ITEM 156.1). COSTS ASSOCIATED WITH OVER EXCAVATION ARE TO BE PAID UNDER ITEM 140. BRIDGE EXCAVATION.
3. THE EXISTING AND PROPOSED GRADE LINES SHOWN BELOW ARE LOCATED AT THE FACE OF THE WALL.
4. FOUNDATION STEPS ARE SCHEMATIC ONLY AND CAN BE MODIFIED TO SUIT THE TYPE OF WALL AND SITE GEOMETRY AS LONG AS 4 FEET MINIMUM COVER IS MAINTAINED ACROSS THE ENTIRE LENGTH OF FOOTING WITH THE GRADING REQUIREMENTS AS SHOWN ON THE TYPICAL SECTION.
5. TOP OF WALL SHALL BE SLOPED TO MATCH THE PROFILE. SPOT ELEVATIONS ARE SHOWN BELOW. SEE CONSTRUCTION PROFILES FOR MORE INFORMATION.
6. ALL TIES ARE FROM THE BASELINE TO THE TOP FACE OF THE PROPOSED WALL.
7. ANY SUPPORT OF EXCAVATION OR WATER CONTROL STRUCTURE THAT EXTENDS WITHIN THE ZONE OF INFLUENCE OF THE FOOTING SHALL REMAIN IN PLACE. ANY SUPPORT OF EXCAVATION OR WATER CONTROL STRUCTURE TO REMAIN IN PLACE SHALL BE CUT OFF 2 FEET BELOW THE FINISH GROUND LINE.
8. THE ZONE OF INFLUENCE IS DEFINED AS A PLANE ORIGINATING AT THE PERIMETER OF THE BOTTOM OF THE FOOTING AND PROJECTING DOWN AND AWAY FROM THE FOOTING AT AN ANGLE OF 45°.



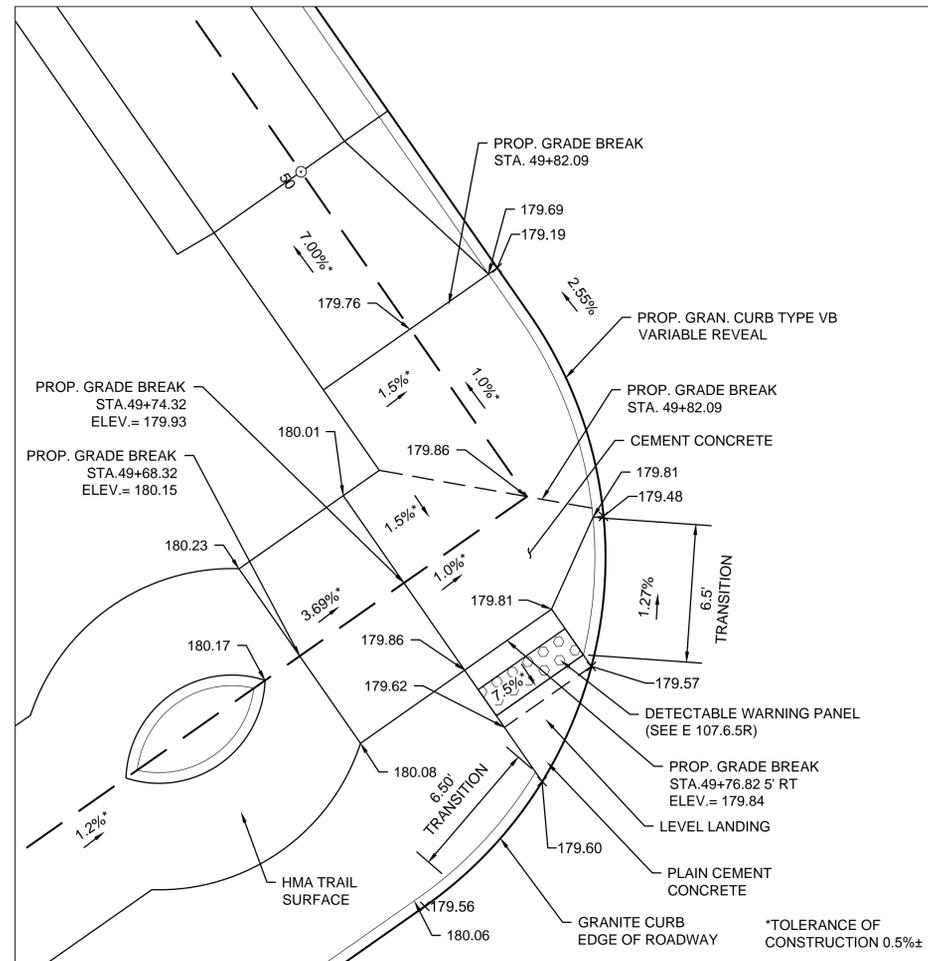
SECTION THROUGH RETAINING WALL
ALONG WINTER STREET
SCALE: 1"=4'



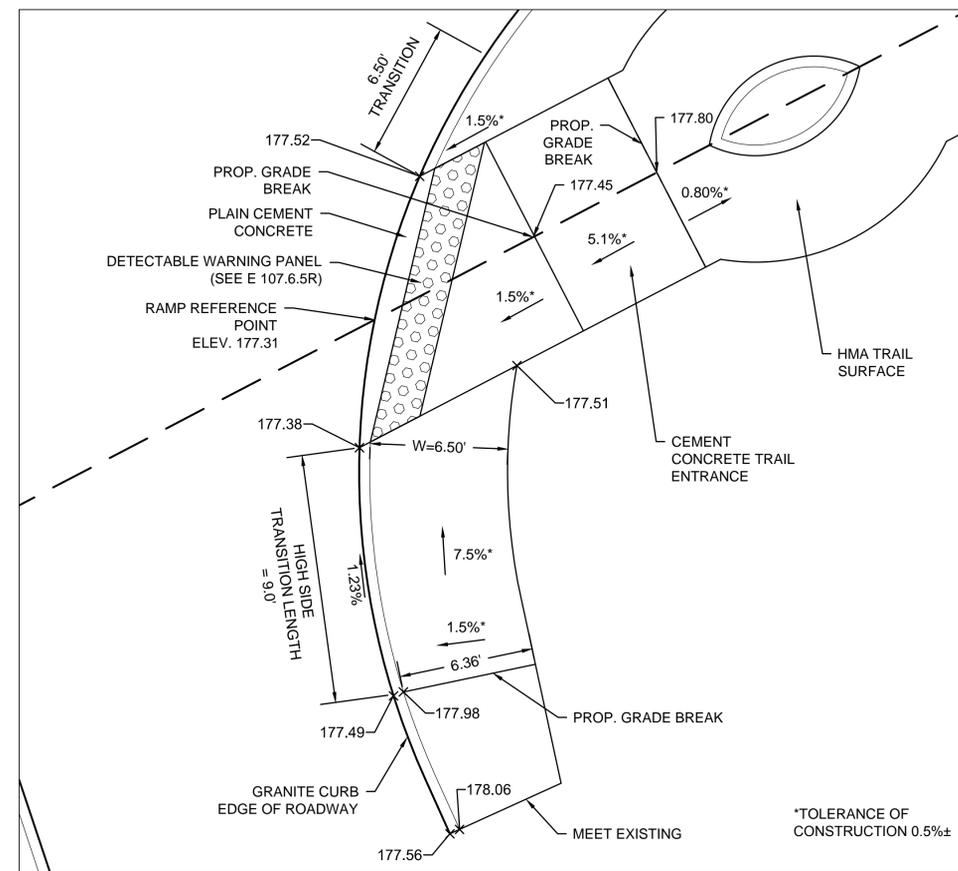
MAYNARD & ACTON
ASSABET RIVER RAIL TRAIL

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 135 | 230 |
| PROJECT FILE NO. | | 604531 | |

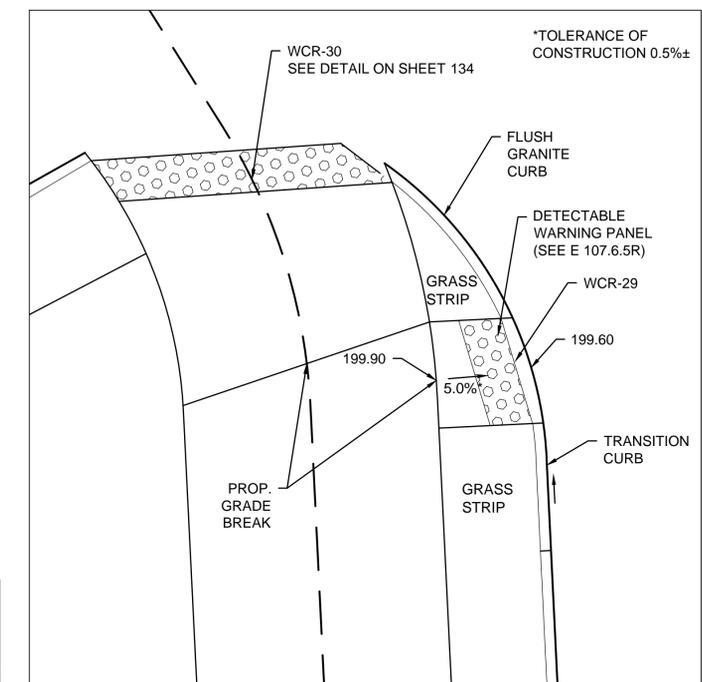
WHEELCHAIR RAMP DRIVEWAY
DETAILS



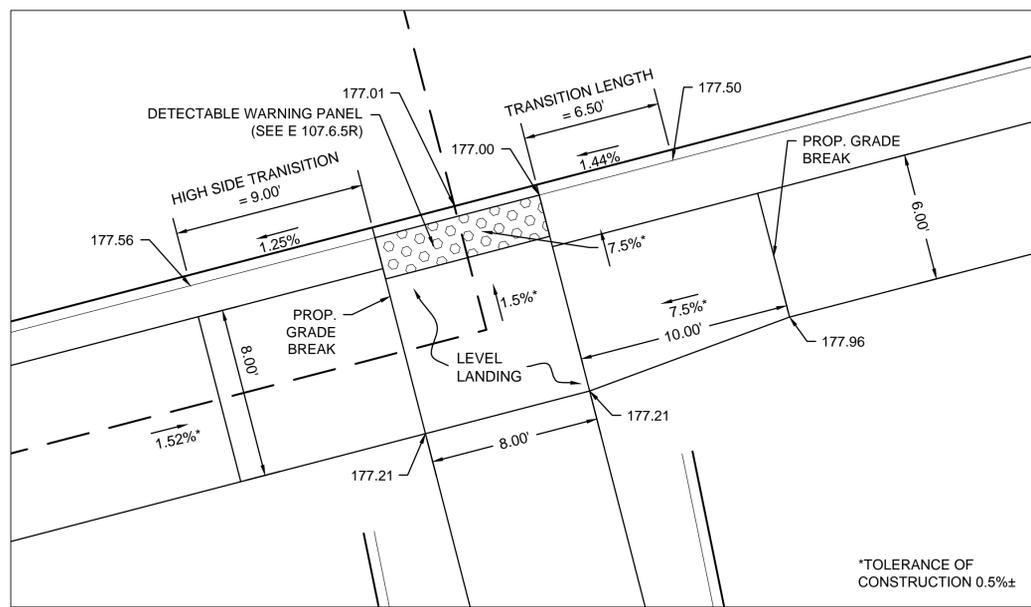
WCR-4 WHEELCHAIR RAMP DETAIL
STA. 49+77 10' RT



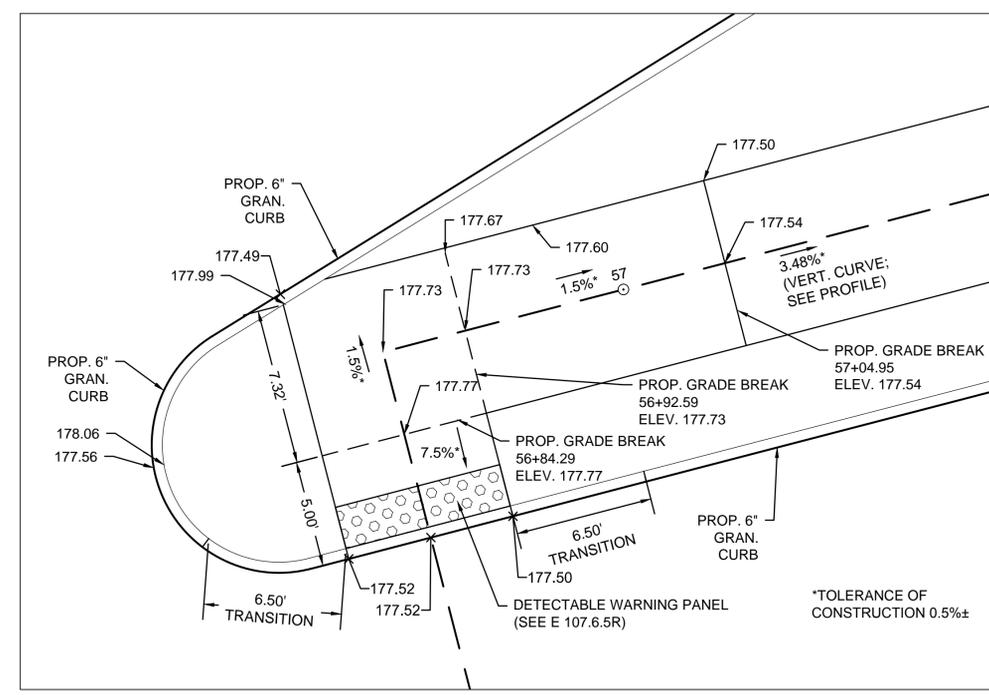
WCR-7 WHEELCHAIR RAMP DETAIL
STA. 51+34



WCR-29 WHEELCHAIR RAMP DETAIL
STA. 88+41 10.5' RT



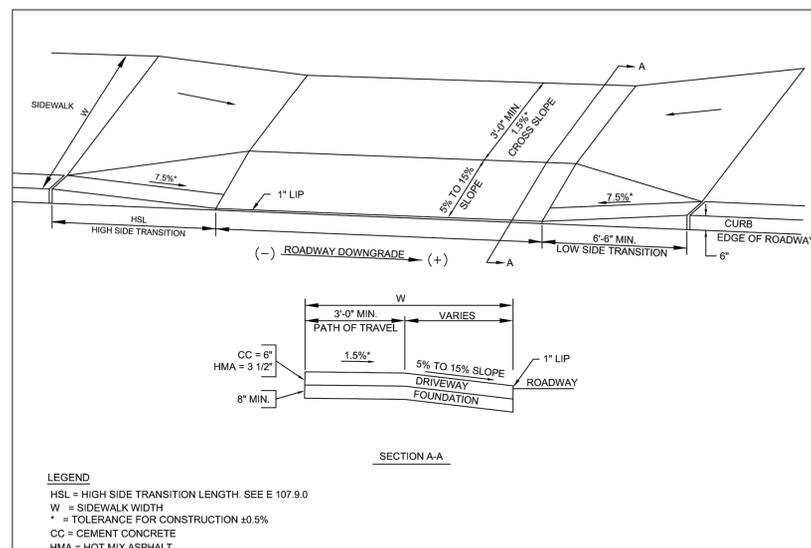
WCR-9 WHEELCHAIR RAMP DETAIL
STA. 56+50



WCR-12 WHEELCHAIR RAMP DETAILS
WCR-12: STA. 56+80.0

| | | | |
|------------------|-----------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | CMAQ/STP-TE-002S(836) | 134 | 230 |
| PROJECT FILE NO. | | 604531 | |

WHEELCHAIR RAMP DRIVEWAY DETAILS



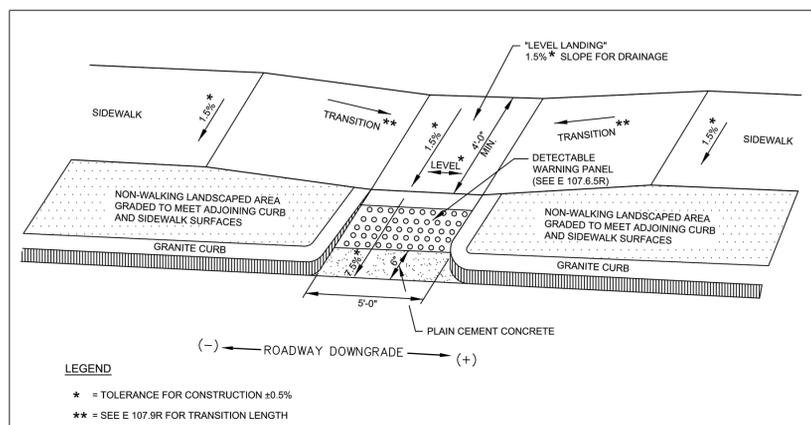
LEGEND
HSL = HIGH SIDE TRANSITION LENGTH. SEE E 107.9.0
W = SIDEWALK WIDTH
* = TOLERANCE FOR CONSTRUCTION ±0.5%
CC = CEMENT CONCRETE
HMA = HOT MIX ASPHALT

| BASELINE | RAMP REFERENCE POINT | | | DRIVEWAY APRON | WIDTH OF SIDEWALK (W) | WIDTH OF DRIVEWAY (L) | DEPTH OF TRAVEL PATH MIN. 3'-3" | ROADWAY GUTTER SLOPE | TRANSITION LENGTH | |
|------------------------|----------------------|----------|--|----------------|-----------------------|-----------------------|---------------------------------|----------------------|-------------------|------------|
| | STATION | OFFSET | | | | | | | LEFT SIDE | RIGHT SIDE |
| ARRT | 34+40 | 5' LT | | 5.0' | 8.0' | 10.0' | 8.0' | -1.8%± | 6.5' | 6.5' |
| ARRT | 50+12 | 5' LT | | 2.5' | 10.0' | 24.0' | 7.5' | 1.2%± | 9.0' | 6.5' |
| MAIN STREET (ROUTE 27) | 2049+12 | 14' LT | | 11.0' | 16.0' | 102.0' | 16.0' | 0.10%± | N/A | N/A |
| MAPLE STREET | 203+58.5 | 2.75' RT | | 2.0' | 10.5' | 11.0' | 8.0' | 0.9%± | 3.84' | 6.5' |

*TRANSITION IS PARALLEL TO ROADWAY WITH 5' GRASS STRIP (SEE CONSTRUCTION PLAN FOR LOCATION)

*3" CURB REVEAL

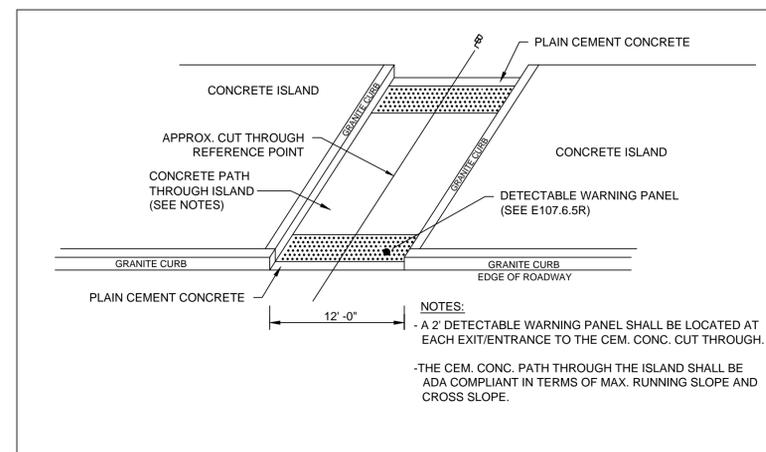
SIDEWALK THROUGH DRIVEWAYS WITHOUT CURB RETURNS



LEGEND
* = TOLERANCE FOR CONSTRUCTION ±0.5%
** = SEE E 107.9R FOR TRANSITION LENGTH

| WCR # | RAMP REFERENCE POINT | | | LENGTH OF PRIMARY RAMP (W1) | WIDTH OF SIDEWALK | WIDTH OF RAMP MIN. 5'-0" | DEPTH OF LEVEL LANDING MIN. 4'-0" | ROADWAY GUTTER SLOPE | TRANSITION LENGTH | | | |
|-------|----------------------|---------|-----------|-----------------------------|-------------------|--------------------------|-----------------------------------|----------------------|-------------------|------------|--|--|
| | BASELINE | STATION | OFFSET | | | | | | LEFT SIDE | RIGHT SIDE | | |
| 8 | ARRT | 51+69 | 12.5' LT | 6.0' | 8.0' | 5.0' | >10.0' | 0% | N/A | N/A | | |
| 9 | ARRT | 56+50 | | SEE DETAIL ON SHEET 135 | | | | | | | | |
| 10 | ARRT | 56+42 | 26' RT | 2.0' | N/A | 8.0' | 4.0' | -0.2%± | N/A | N/A | | |
| 13 | ARRT | 57+25 | 20.56' LT | 2.0' | 8.0' | 5.0' | 14.3' | -1.7%± | N/A | N/A | | |
| 15 | ARRT | 62+98 | 17' LT | 2.0' | 10.0' | 5.0' | >10.0' | -1.2%± | N/A | N/A | | |
| 18 | ARRT | 69+91 | 24' RT | 6.0' | 5.0' | 5.0' | 5.0' | -0.31%± | N/A | N/A | | |

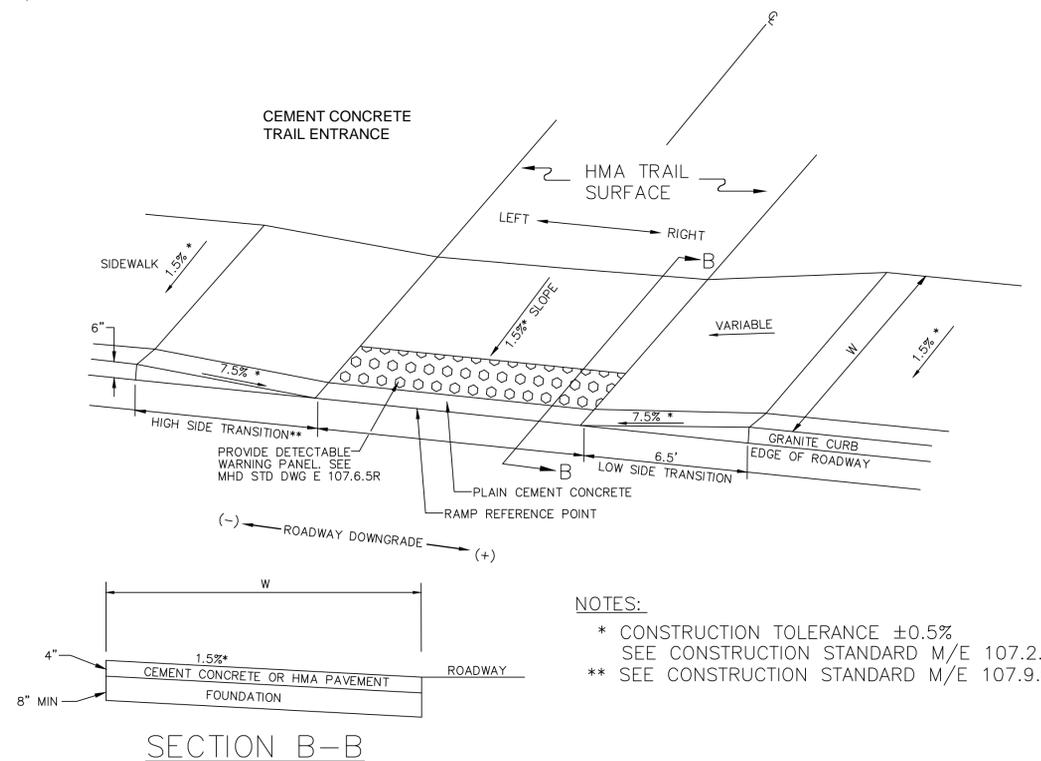
WHEELCHAIR RAMP WITH LANDSCAPING STRIP



NOTES:
- A 2' DETECTABLE WARNING PANEL SHALL BE LOCATED AT EACH EXIT/ENTRANCE TO THE CEM. CONC. CUT THROUGH.
- THE CEM. CONC. PATH THROUGH THE ISLAND SHALL BE ADA COMPLIANT IN TERMS OF MAX. RUNNING SLOPE AND CROSS SLOPE.

| WCR # | RAMP REFERENCE POINT | | | WITH OF CUT THROUGH | 1. WHEELCHAIR RAMPS ARE TO BE CEMENT CONCRETE. 2. CONCRETE RAMPS ARE TO BE TEXTURED BY GROOMING IN A DIRECTION PARALLEL TO THE LENGTH OF THE RAMP. |
|-------|----------------------|---------|--------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| | BASELINE | STATION | OFFSET | | |
| 6 | ARRT | 51+05 | 0' | 12.0' | |

CEMENT CONCRETE ISLAND WITH SIDEWALK 'CUT THROUGH'



NOTES:
* CONSTRUCTION TOLERANCE ±0.5%
SEE CONSTRUCTION STANDARD M/E 107.2.0
** SEE CONSTRUCTION STANDARD M/E 107.9.0

| WCR # | RAMP REFERENCE POINT | | | WIDTH OF SIDEWALK (W) | DEPTH OF LEVEL LANDING MIN. 4'-0" | ROADWAY GUTTER SLOPE | TRANSITION LENGTH | | |
|-------|----------------------|---------|--------|-------------------------|-----------------------------------|----------------------|-------------------|------------|--|
| | BASELINE | STATION | OFFSET | | | | LEFT SIDE | RIGHT SIDE | |
| 7 | ARRT | 51+35 | 0' | SEE DETAIL ON SHEET 135 | | | | | |
| 17 | ARRT | 63+41 | 0' | 5'± | 10.0' | -2.3%± | 6.5' | N/A | |
| 25 | ARRT | 75+35 | 0' | 9'± | 10.0' | 8% | N/A* | 6.5' | |
| 30 | ARRT | 88+56 | 0' | 12.0' | 12.0' | -1.6%± | N/A | 9.0' | |

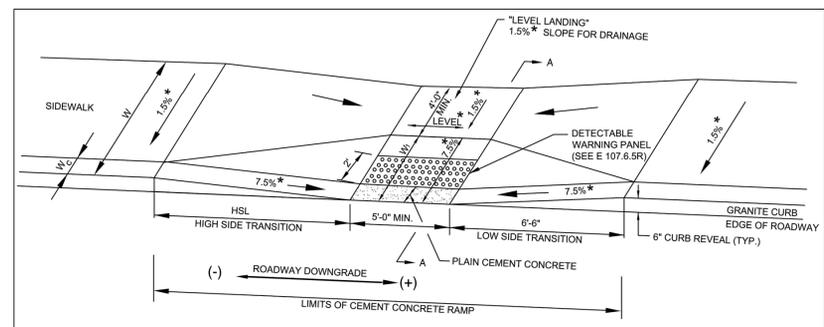
*FLUSH GRANITE CURB AT LEFT SIDE PER PLAN

SIDEWALK THROUGH TRAIL (WITHOUT SPLITTER ISLAND)

MAYNARD & ACTON
ASSABET RIVER RAIL TRAIL

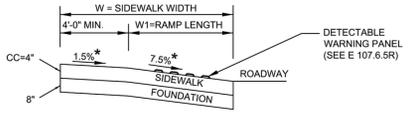
| | | | |
|------------------|-----------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | CMAQ/STP-TE-002S(836) | 133 | 230 |
| PROJECT FILE NO. | | 604531 | |

WHEELCHAIR RAMP DRIVEWAY
DETAILS



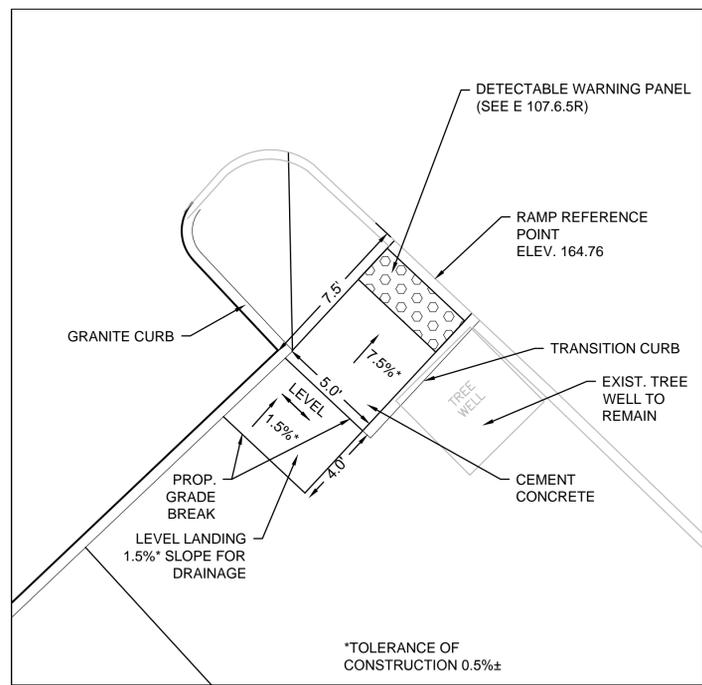
LEGEND

HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.9.0R)
W = SIDEWALK WIDTH
Wc = CURB WIDTH
W1 = PERPENDICULAR RAMP LENGTH
CC = CEMENT CONCRETE
* = TOLERANCE FOR CONSTRUCTION ±0.5%
USABLE SIDEWALK WIDTH PER AAB = W-Wc
RAMP LENGTH, W1 = W-4'-0" MIN



| WCR # | RAMP REFERENCE POINT | | | LENGTH OF PRIMARY RAMP (W1) | WIDTH OF SIDEWALK | WIDTH OF RAMP MIN. 5'-0" | DEPTH OF LEVEL LANDING MIN. 4'-0" | ROADWAY GUTTER SLOPE | TRANSITION LENGTH | | | |
|-------|----------------------|---------|----------|-----------------------------|-------------------|--------------------------|-----------------------------------|----------------------|-------------------|------------|--|--|
| | BASELINE | STATION | OFFSET | | | | | | LEFT SIDE | RIGHT SIDE | | |
| 4 | ARRT | 49+77 | 10' RT | SEE DETAIL ON SHEET 135 | | | | | | | | |
| 5 | ARRT | 50+78 | 0' | 6.0' | 10.0' | 10.0' | 4.0' | 2.9%± | 11.0' | 6.5' | | |
| 12 | ARRT | 56+80 | 0' | SEE DETAIL ON SHEET 135 | | | | | | | | |
| 22 | ARRT | 74+21 | 0' | 6.5' | 10.5' | 6.0' | 4.0' | -7.7%± | 6.5' | 15.0' | | |
| 23 | ARRT | 74+58 | 0' | 4.0' | 7.5' | 6.0' | 4.0' | 6.7%± | 7.5' | N/A | | |
| 26 | ARRT | 75+38 | 13.5' LT | 5.0' | 9.0' | 5.0' | 4.0' | 5.5%± | 15.0' | N/A | | |
| 29 | ARRT | 88+41 | 10.5' RT | SEE DETAIL ON SHEET 135 | | | | | | | | |
| 35 | ARRT | 180+38 | 0' | 4.5' | 10.5' | 10.0' | 6.0' | 0.8%± | 7.67' | 3.25' | | |

WHEELCHAIR RAMP LESS THAN 12'-4" SIDEWALK

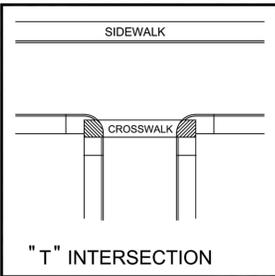
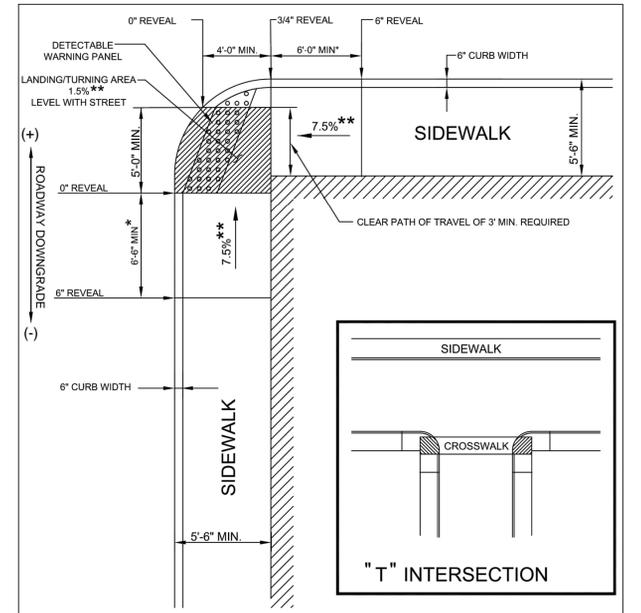


WCR-19 WHEELCHAIR RAMP DETAIL
STA. 71+06

*TOLERANCE OF CONSTRUCTION 0.5%±

*3" CURB REVEAL
*FLUSH GRANITE CURB AT RIGHT SIDE

*3" CURB REVEAL



LEGEND

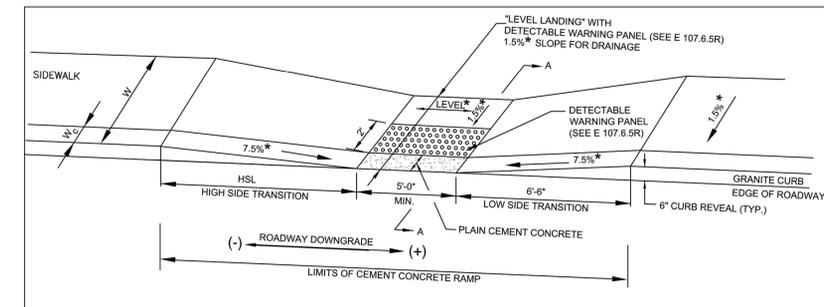
▨ BUILDING OR OTHER UNALTERABLE CONDITION
* TRANSITION LENGTH SHOWN IS MINIMUM. (SEE E 107.9.0R)
** TOLERANCE FOR CONSTRUCTION ±0.5%

NOTE:

ROADWAY, GUTTER, AND FIRST 6" OF SIDEWALK TO BE ADJUSTED FOR FIELD CONDITIONS

| WCR # | RAMP REFERENCE POINT | | | WIDTH OF SIDEWALK | WIDTH OF OPENING | ROADWAY GUTTER SLOPE | LENGTH OF RAMP (W1) |
|-------|----------------------|---------|-----------|-------------------|------------------|----------------------|---------------------|
| | BASELINE | STATION | OFFSET | | | | |
| 36 | MAPLE ST. PARKING | 0+15.96 | 18.60' LT | 5.5' | 5.0' | -2.7%± | 6.5' |

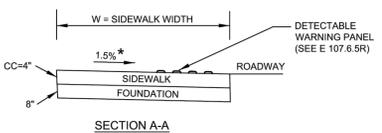
"T" INTERSECTION WHEELCHAIR RAMP



LEGEND

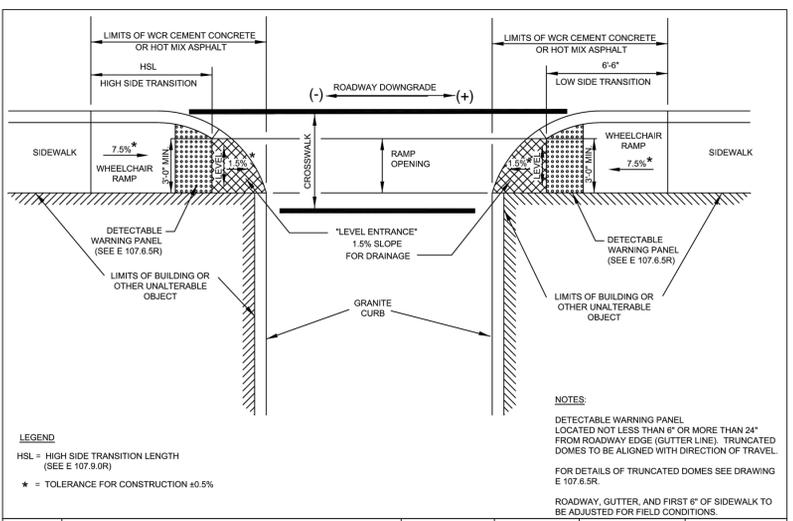
HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.9.0R)
W = SIDEWALK WIDTH
Wc = CURB WIDTH
CC = CEMENT CONCRETE
* = TOLERANCE FOR CONSTRUCTION ±0.5%
USABLE SIDEWALK WIDTH PER AAB = W-Wc
USABLE SIDEWALK WIDTH PER AAB IS NOT TO BE LESS THAN 4'0"
SEE E 107.6.5R FOR DETAILS OF DETECTABLE WARNING PANEL

NOTE:
ROADWAY, GUTTER, AND FIRST 6" OF SIDEWALK TO BE ADJUSTED FOR FIELD CONDITIONS



| WCR # | RAMP REFERENCE POINT | | | WIDTH OF SIDEWALK | WIDTH OF RAMP MIN. 5'-0" | ROADWAY GUTTER SLOPE | TRANSITION LENGTH | |
|-------|----------------------|---------|----------|-------------------|--------------------------|-------------------------|-------------------|------------|
| | BASELINE | STATION | OFFSET | | | | LEFT SIDE | RIGHT SIDE |
| 2 | ARRT | 33+75 | 0' | 6.5' | 10.0' | -3.3%± | 6.5' | 14.0' |
| 14 | ARRT | 57+21 | 34.5' LT | VARIABLES | 5.0' | 2.0%± | 11.0' | 6.5' |
| 24 | ARRT | 74+97 | 0' | 6.5' | 8.0' | -5.6%± | 6.5' | 7.5' |
| 27 | ARRT | 74+81 | 72.5' LT | 5.5' | 5.0' | 2.6%± (L) -4.3%± (R) | 11.0' | 15.0' |
| 38 | MAPLE STREET | 208+60 | 13' LT | 5.5' | 5.0' | -4.9%± | 6.5' | 15.0' |
| 39 | MAPLE STREET PARKING | 0+72 | 12' LT | 5.5' | 5.0' | 1.0%± | 9.0' | 6.5' |

WHEELCHAIR RAMP ON NARROW SIDEWALK WITH DETECTABLE WARNING PANEL



LEGEND

HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.9.0R)
* = TOLERANCE FOR CONSTRUCTION ±0.5%

NOTES:

DETECTABLE WARNING PANEL LOCATED NOT LESS THAN 6" OR MORE THAN 24" FROM ROADWAY EDGE (GUTTER LINE). TRUNCATED DOMES TO BE ALIGNED WITH DIRECTION OF TRAVEL.
FOR DETAILS OF TRUNCATED DOMES SEE DRAWING E 107.6.5R.
ROADWAY, GUTTER, AND FIRST 6" OF SIDEWALK TO BE ADJUSTED FOR FIELD CONDITIONS.

| WCR # | RAMP REFERENCE POINT | | | WIDTH OF SIDEWALK | WIDTH OF OPENING | ROADWAY GUTTER SLOPE | TRANSITION LENGTH |
|-------|----------------------|---------|----------|-------------------|------------------|----------------------|-------------------|
| | BASELINE | STATION | OFFSET | | | | |
| 1 | ARRT | 33+39 | 0' | 10.0' | 10.0' | -2.8%± | 11.0' |
| 3 | ARRT | 34+97 | 60.1' LT | 5.0' | 3.0' | -0.8%± | 6.5' |
| 11 | ARRT | 57+51 | 48.5' RT | 6.0' | 6.0' | 2.7%± | 11.0' |
| 16 | ARRT | 63+15 | 0' | 10.0' | 10.0' | 0% | 6.5' |
| 20 | ARRT | 72+02 | 0' | 10.0' | 10.0' | 0% | 6.5' |
| 21 | ARRT | 72+40 | 0' | 10.0' | 10.0' | 0% | 6.5' |
| 28 | ARRT | 86+31 | 0' | 12.0' | 12.0' | 0.8%± | 7.67'± |
| 31 | ARRT | 131+35 | 0' | 12.0' | 12.0' | 0% | 6.5' |
| 32 | ARRT | 131+73 | 0' | 10.0' | 10.0' | 0% | 6.5' |
| 33 | ARRT | 135+75 | 0' | 10.0' | 10.0' | 0% | 6.5' |
| 34 | ARRT | 136+18 | 0' | 16.5' | 16.5' | 0% | 6.5' |
| 37 | MAPLE STREET | 205+92 | 14.5' RT | 5.5' | 5.0' | 3.9%± | 14.0' |

WHEELCHAIR RAMP FOR ONE CONTINUOUS DIRECTION OF PEDESTRIAN TRAVEL

*LANDSCAPING SEPARATION / NO ADJACENT ROADWAY

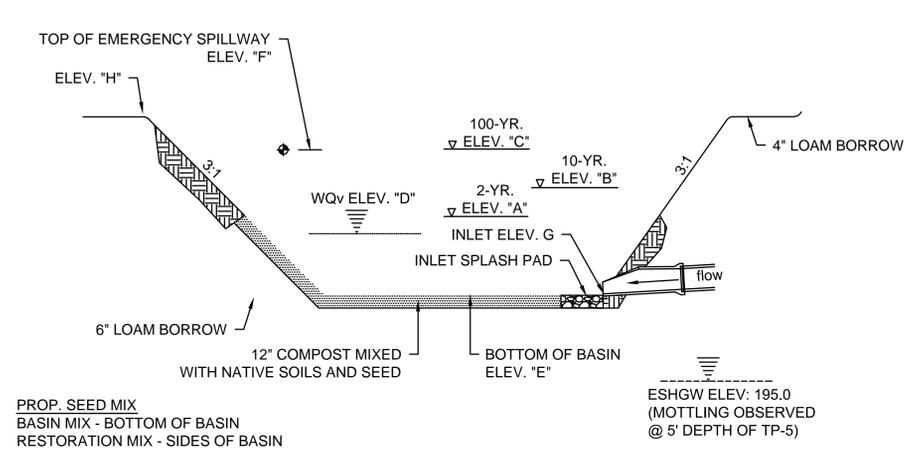
| ROADWAY PROFILE GRADE | *HIGH SIDE TRANSITION LENGTH |
|-----------------------|------------------------------|
| % | ENGLISH UNITS |
| =0% | 6'-6" |
| >0% TO 1% | 7'-8" |
| >1% TO 2% | 9'-0" |
| >2% TO 3% | 11'-0" |
| >3% TO 4% | 14'-0" |
| >4% TO 5% | 15'-0" Max |

NOTE:

*BASED ON A DESIGN SLOPE OF 7.5% AND A REVEAL OF 6".

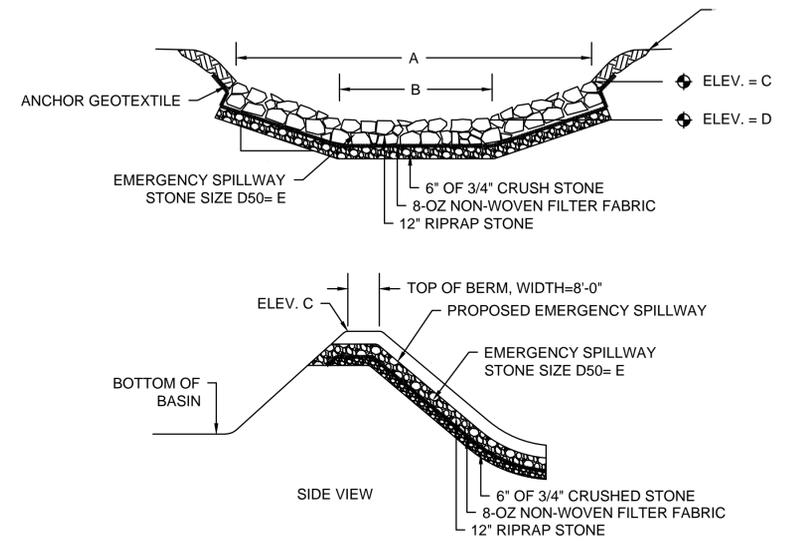
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 132 | 230 |
| PROJECT FILE NO. | | 604531 | |

CONSTRUCTION DETAILS



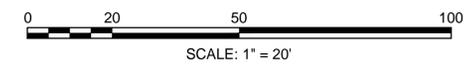
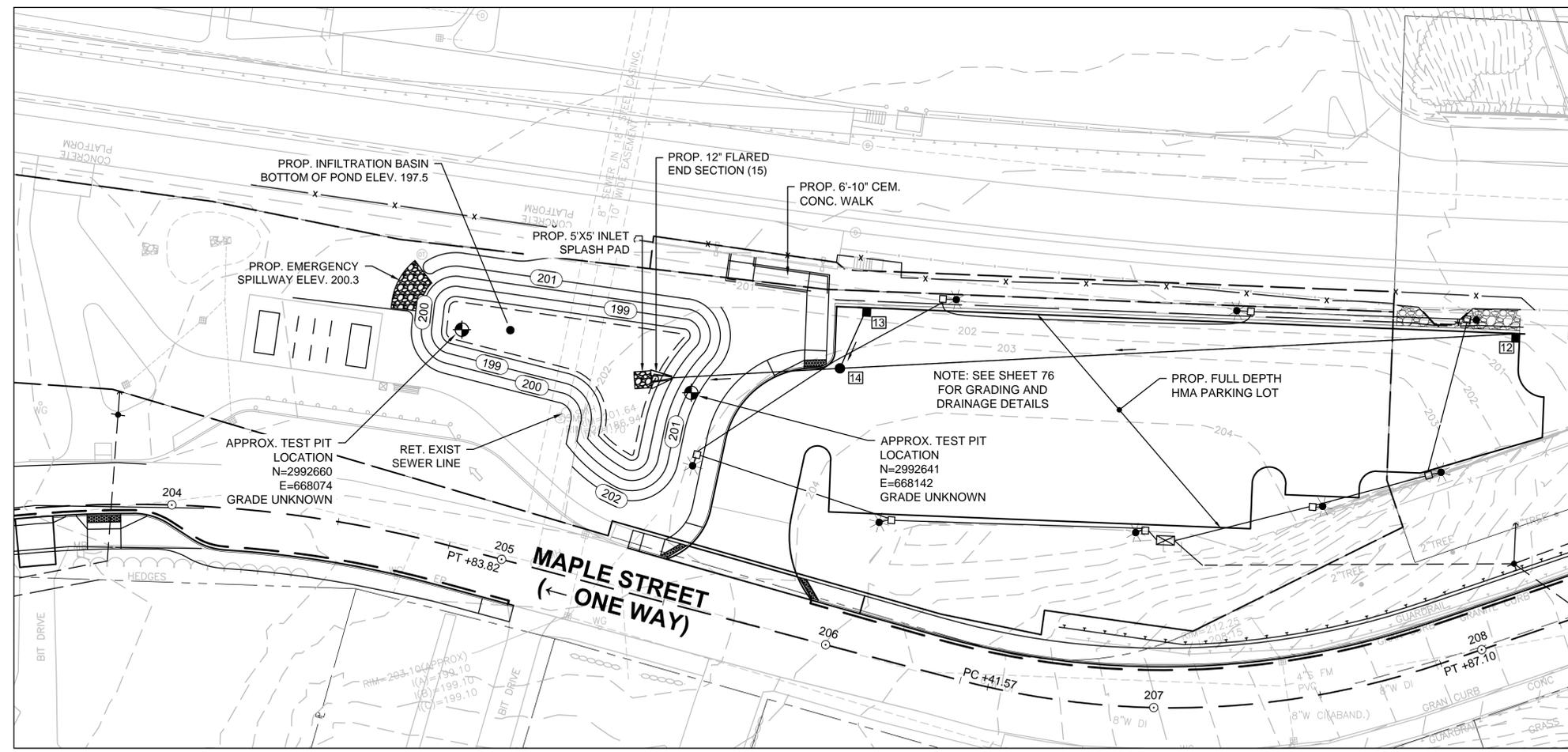
| | A | B | C | D | E | F | G | H |
|--------------------|--------|--------|--------|--------|--------|--------|--------|-------|
| INFILTRATION BASIN | 198.70 | 199.65 | 200.37 | 197.93 | 197.50 | 200.30 | 197.60 | 201.3 |

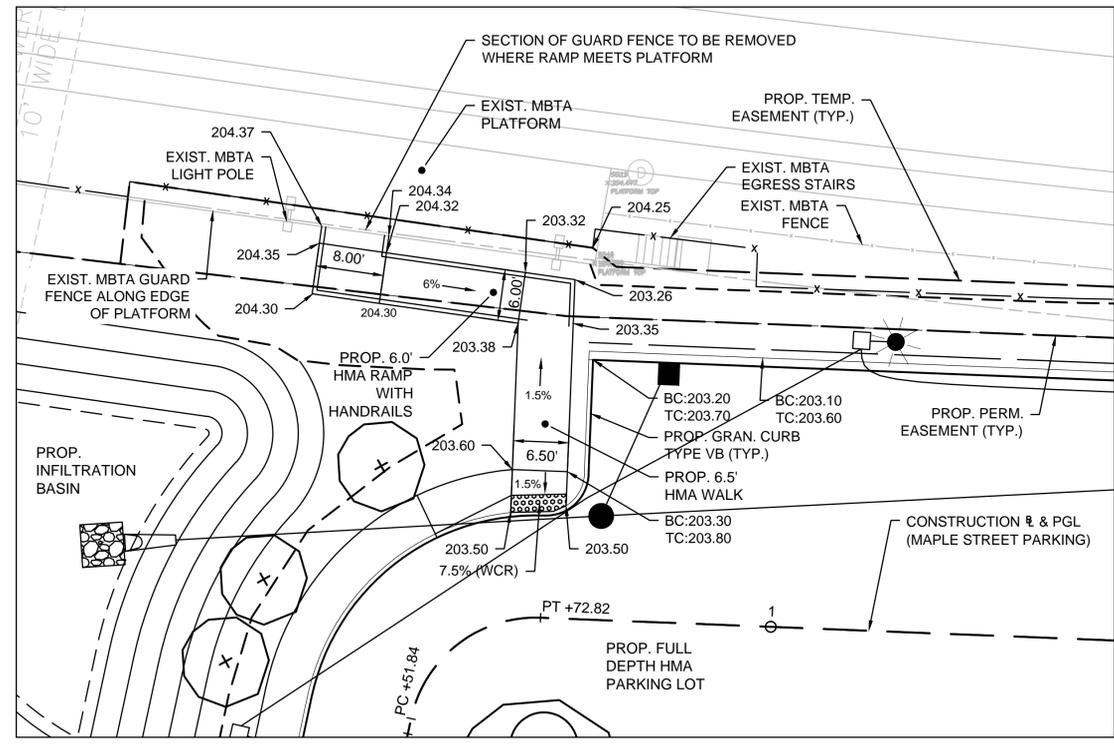
TYPICAL INFILTRATION/ EXTENDED DETENTION BASIN
CROSS-SECTION
NTS



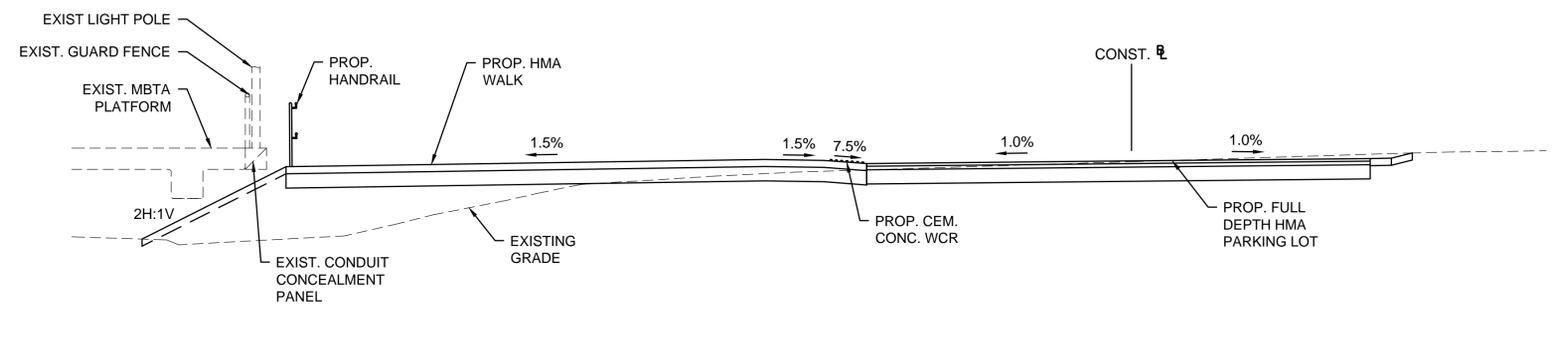
| | A | B | C | D | E |
|------|-----|----|--------|--------|----|
| IB-1 | 12' | 6' | 201.30 | 200.30 | 4" |

SPILLWAY CROSS-SECTION
NTS

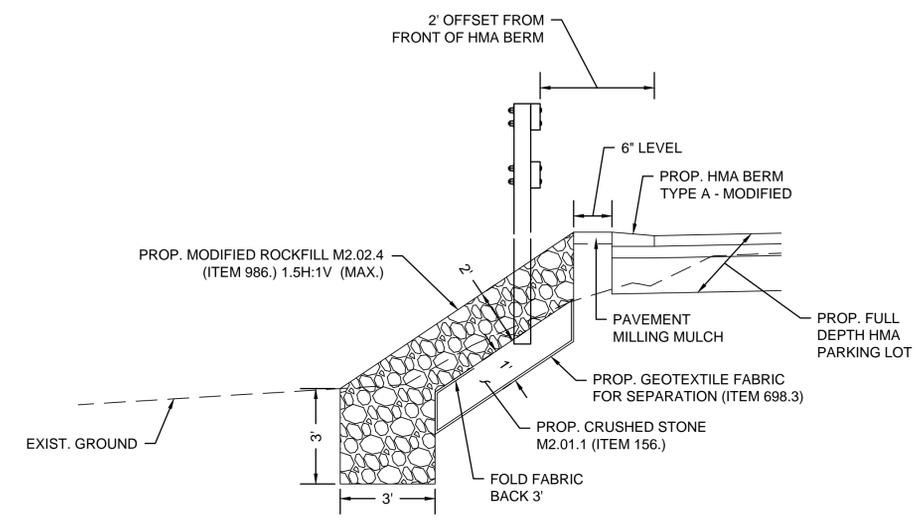




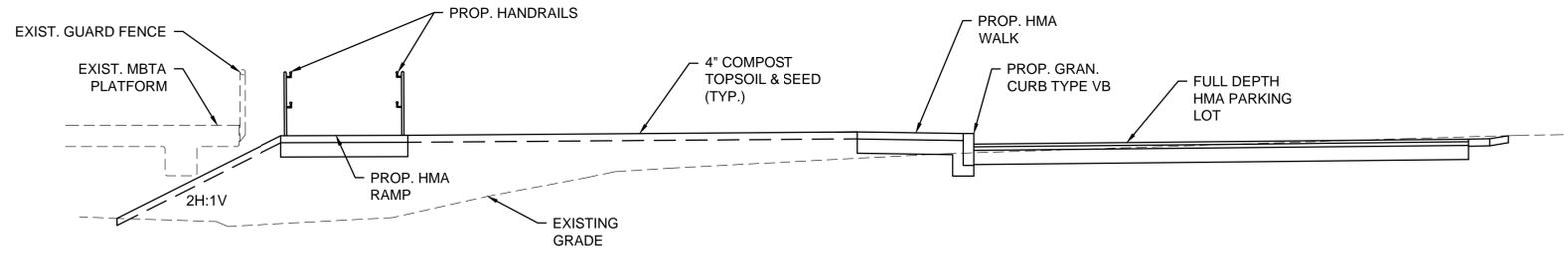
**HMA WALK AND RAMP AT MBTA PLATFORM
(MAPLE STREET PARKING)**
SCALE: 1" = 10'



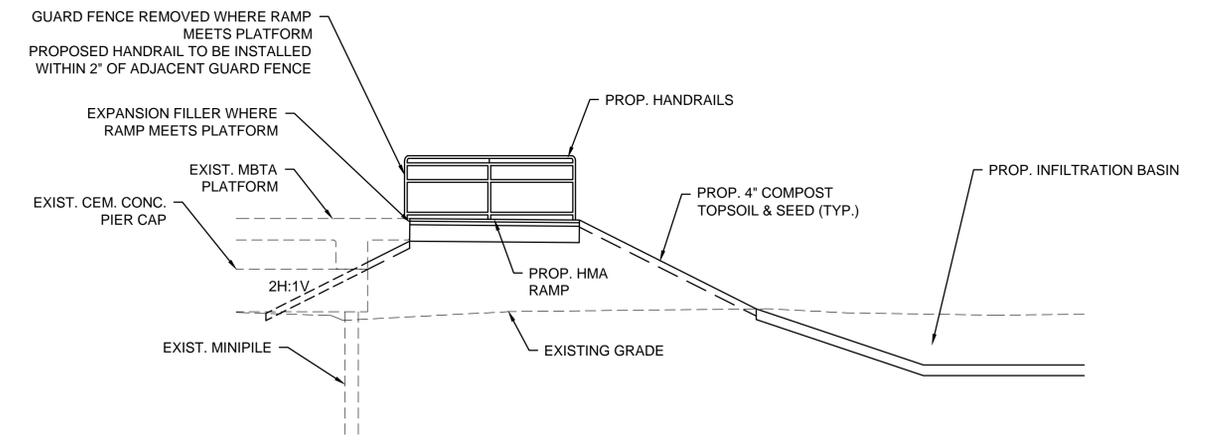
**SECTION AT WALKWAY ENTRANCE / RAMP LANDING
(MAPLE ST. PARKING STA. 0+75)**
SCALE: 1" = 4'



MODIFIED ROCKFILL
FOR SLOPES STEEPER THAN 2H TO 1V
NOT TO SCALE

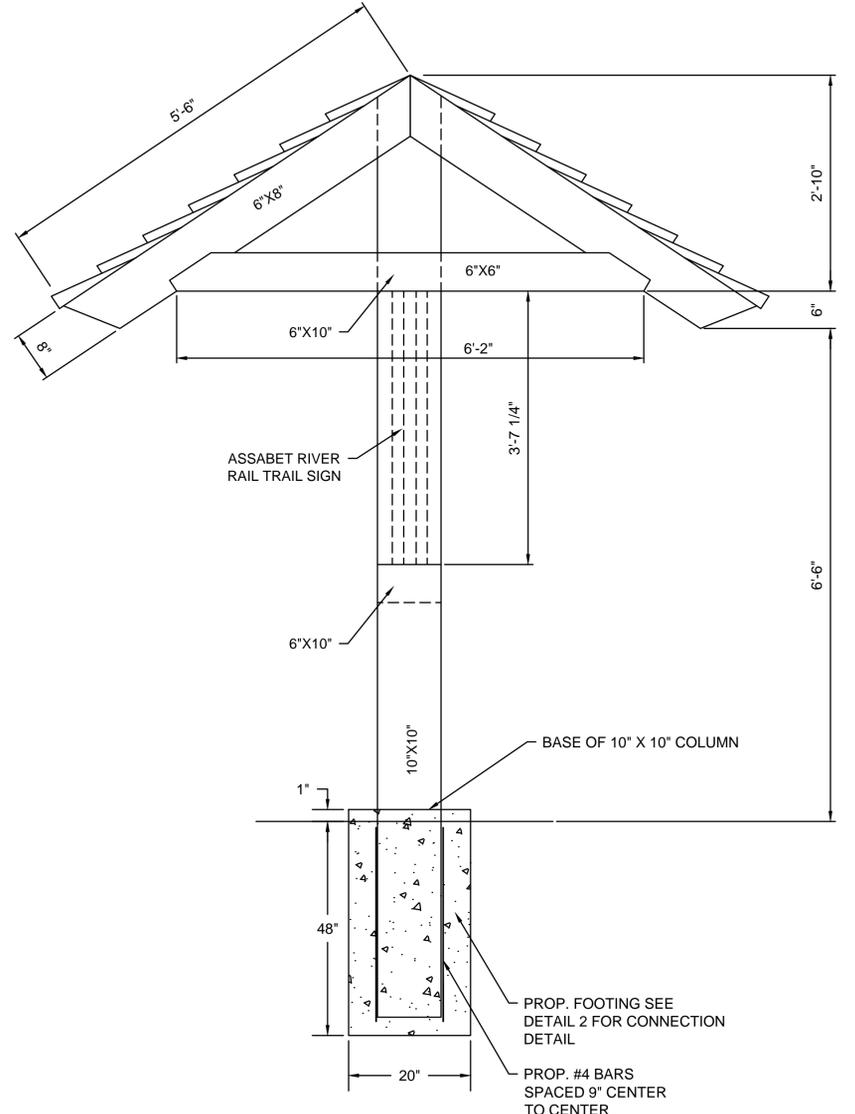
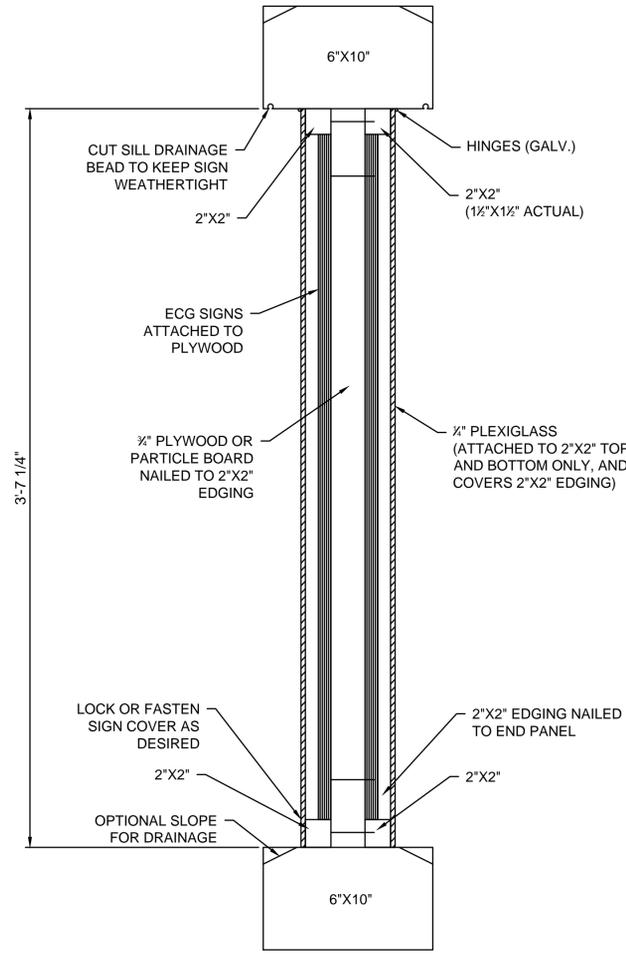
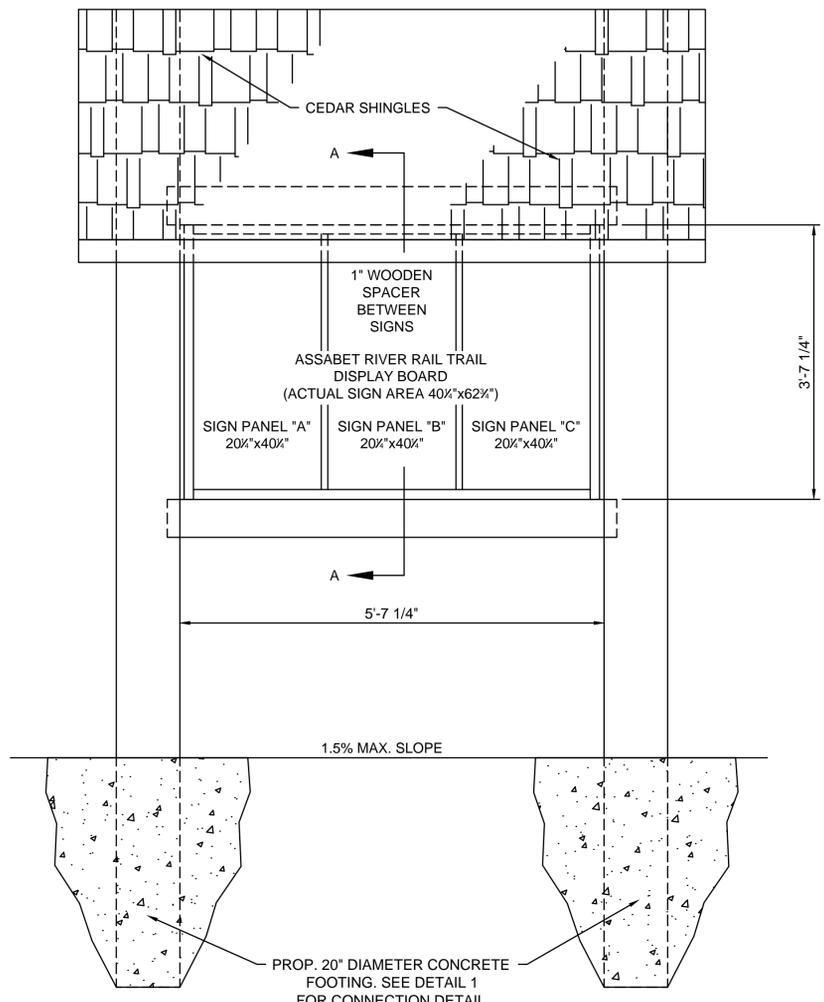


SECTION THROUGH RAMP AT MIDPOINT
SCALE: 1" = 4'



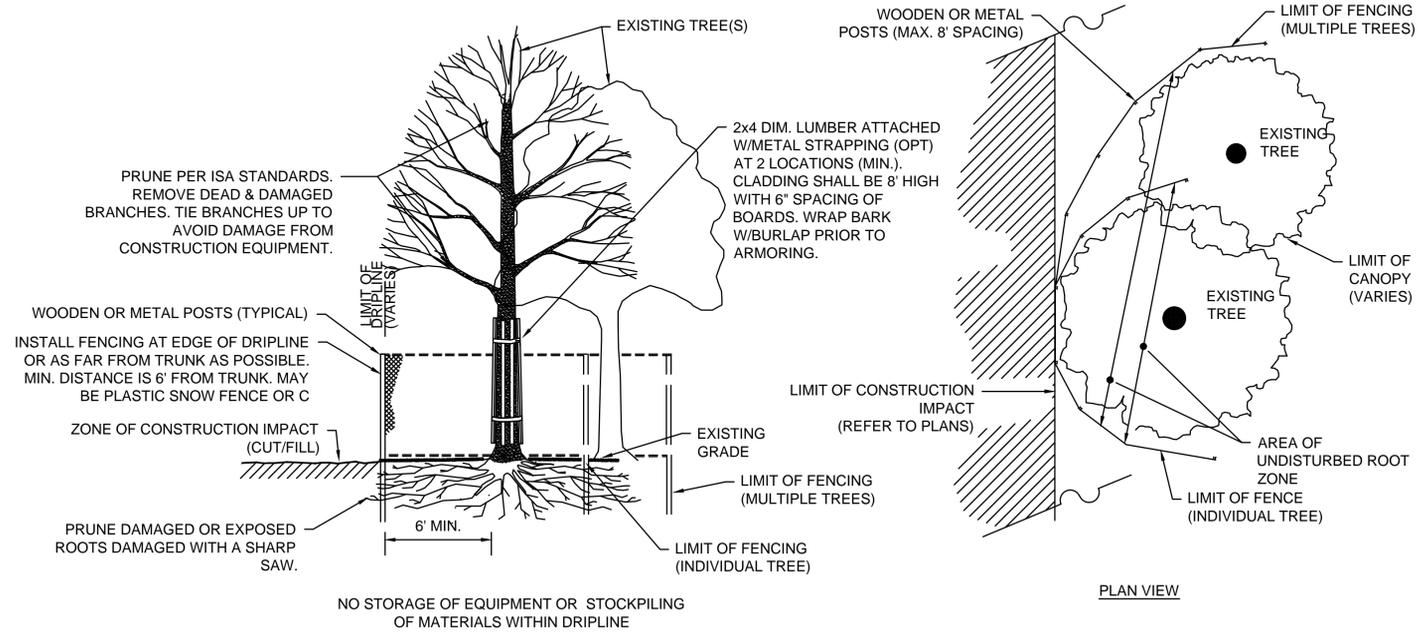
SECTION THROUGH END OF RAMP AT MBTA PLATFORM
SCALE: 1" = 4'

CONSTRUCTION DETAILS

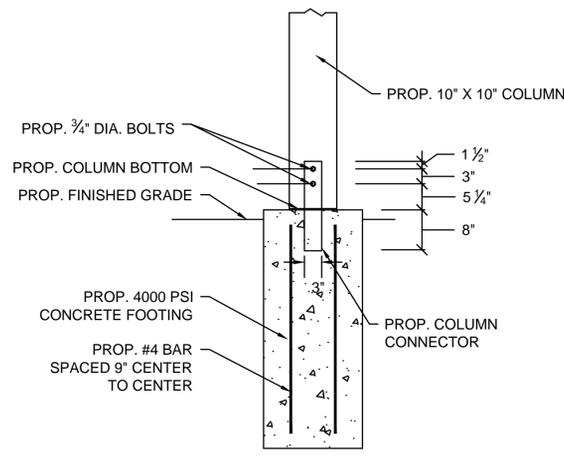


NOTES:
1. INSTALLATION OF DISPLAY BOARD LOCATED ON BOARDWALK SHALL BE COORDINATED WITH BOARDWALK MATERIAL MANUFACTURER

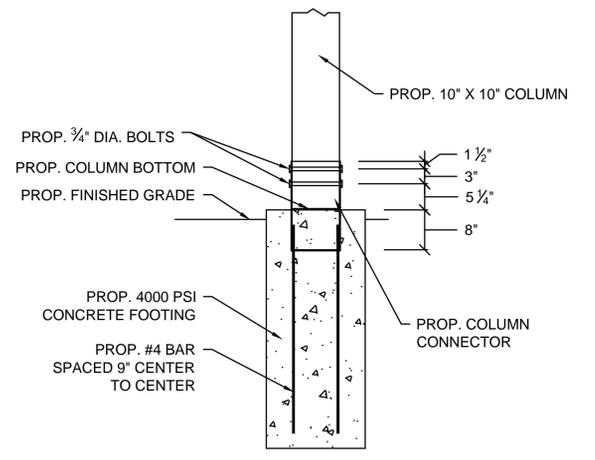
DISPLAY BOARD DETAILS
N.T.S.



TREE PROTECTION PLAN
N.T.S.



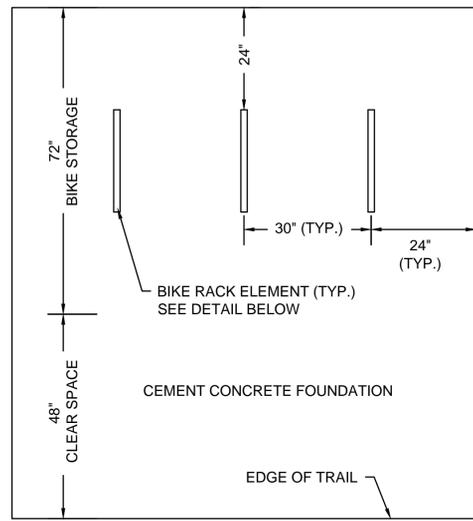
COLUMN BASE - DETAIL 1
N.T.S.



COLUMN BASE - DETAIL 2
N.T.S.

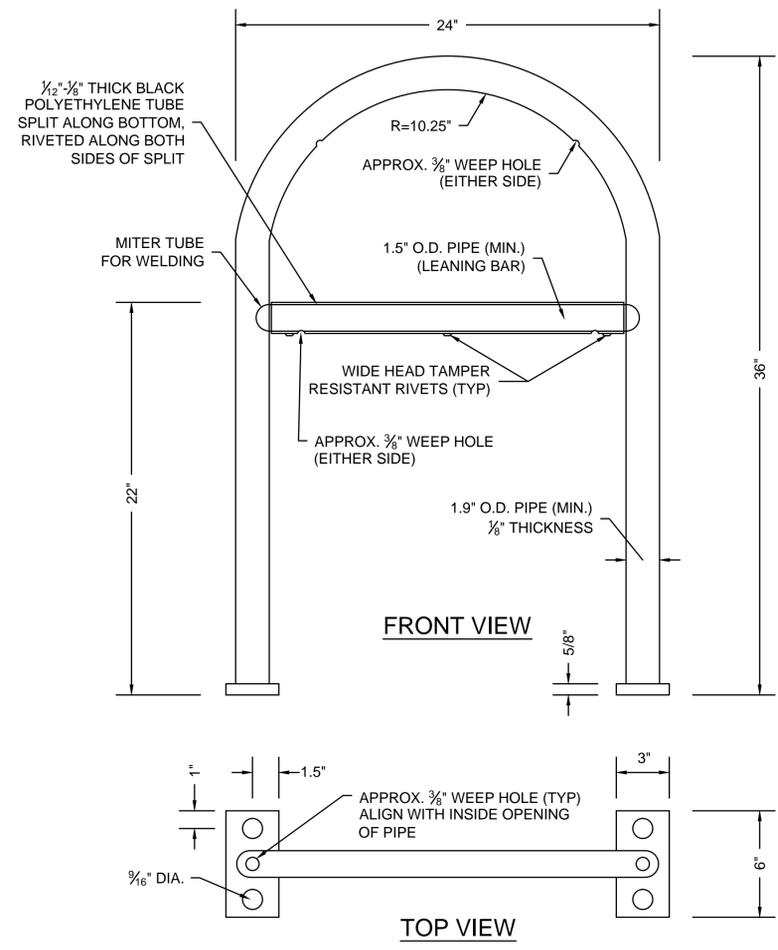
| | | | |
|------------------|-----------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | CMAQ/STP-TE-002S(836) | 129 | 230 |
| PROJECT FILE NO. | | 604531 | |

CONSTRUCTION DETAILS



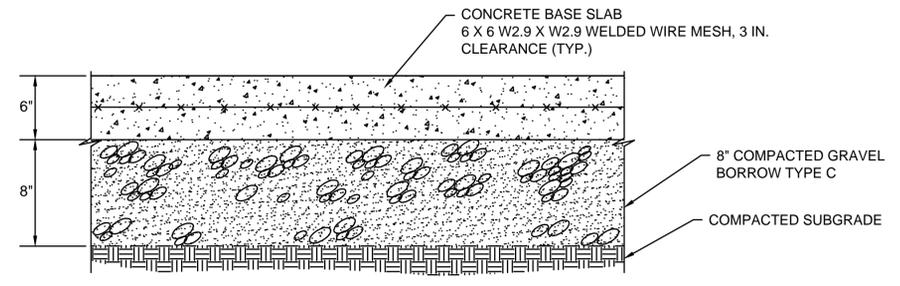
- NOTES:
- ALL DIMENSIONS MINIMUM
 - SEE PLANS FOR QUANTITY OF BIKE RACK ELEMENTS

BICYCLE RACK PLACEMENT

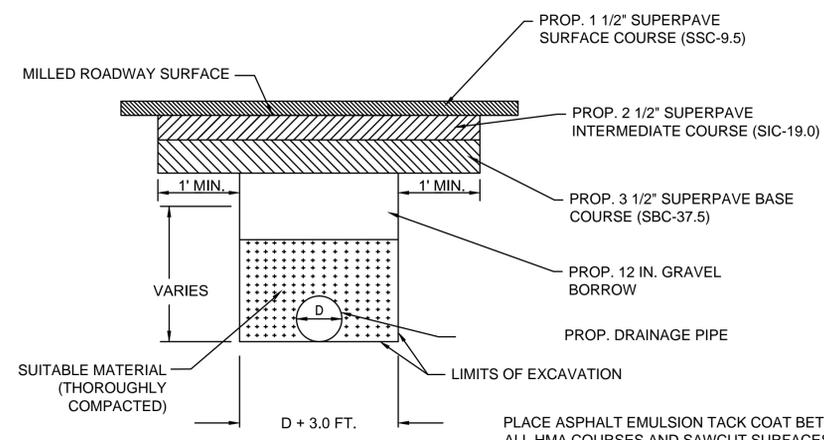


NOTE: DIMENSIONS ARE APPROXIMATE AND WILL BE DETERMINED IN COORDINATION WITH THE MANUFACTURER. BIKE RACK ELEMENTS TO BE OF THE INVERTED "U" OR "A" TYPE AS DEFINED IN "BICYCLE PARKING GUIDELINES" BY ASSOCIATION OF PEDESTRIAN AND BICYCLE PROFESSIONALS. EACH BIKE RACK ELEMENT SHALL ACCOMMODATE TWO BICYCLES.

BICYCLE RACK ELEMENT DETAIL
N.T.S.



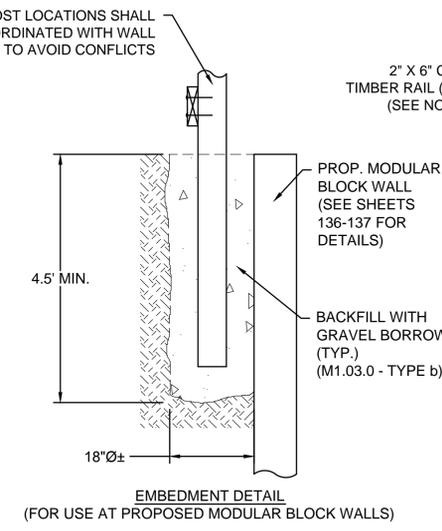
CEMENT CONCRETE FOUNDATION



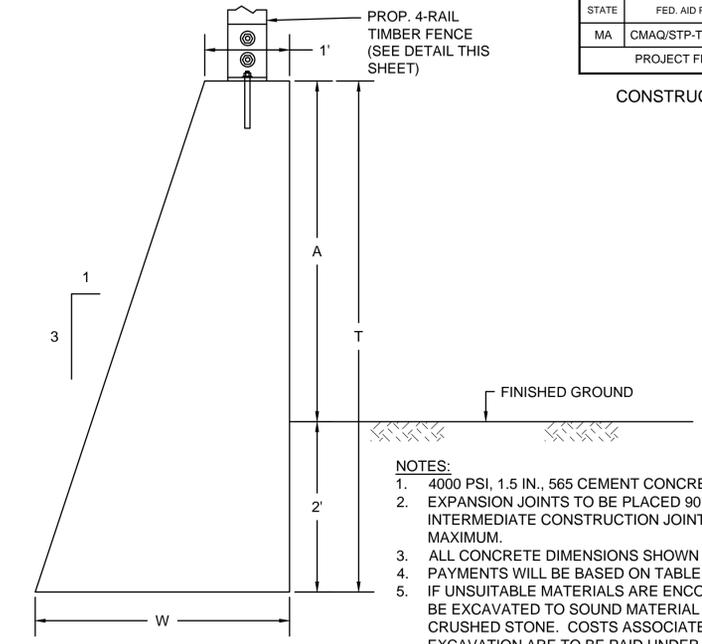
PERMANENT PATCH
N.T.S.
(IN AREAS OF MILLING AND HMA OVERLAY)

DRAINAGE TRENCH DETAIL
N.T.S.

PLACE ASPHALT EMULSION TACK COAT BETWEEN ALL HMA COURSES AND SAWCUT SURFACES PRIOR TO PLACING HMA. SEE PAVEMENT NOTES-FULL DEPTH CONSTRUCTION FOR DEPTH OF HMA COURSES.
AN ALTERNATIVE TO A MULTI-LAYER HMA REPAIR CONSISTING OF A COMPACTED DEPTH OF SSC-9.5 OVER SIC-19.0 OVER SBC-37.5, IS TO CONSTRUCT A 3 LAYERS COMPACTED LIFTS OF SIC-12.5.



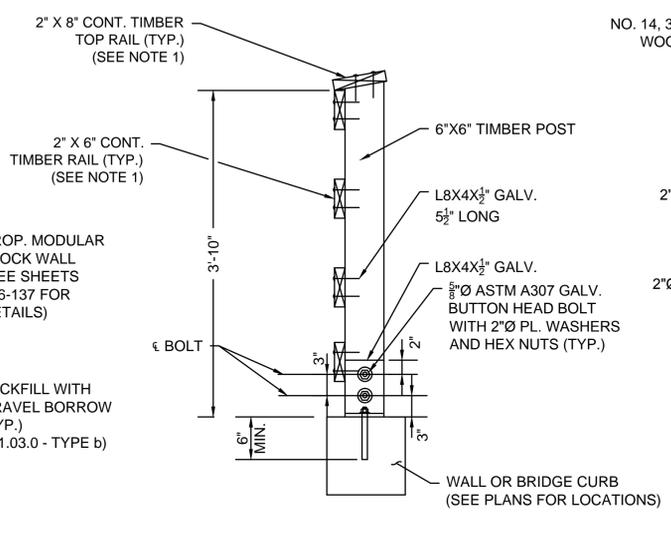
EMBEDMENT DETAIL
(FOR USE AT PROPOSED MODULAR BLOCK WALLS)



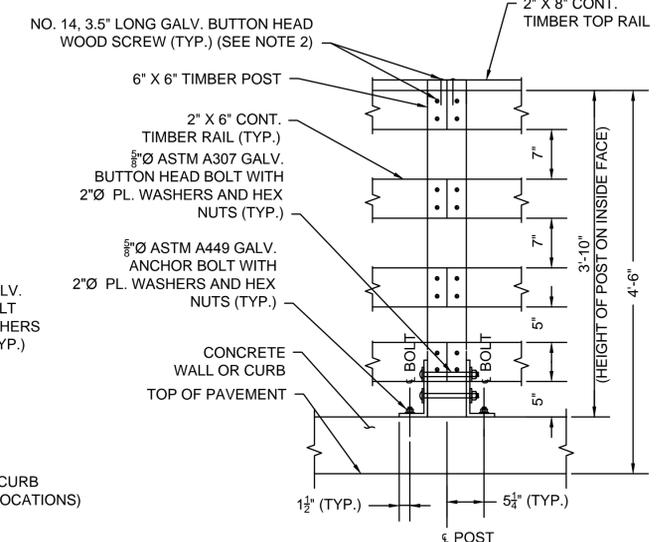
- NOTES:
- 4000 PSI, 1.5 IN., 565 CEMENT CONCRETE TO BE USED.
 - EXPANSION JOINTS TO BE PLACED 90' O.C. MAXIMUM WITH INTERMEDIATE CONSTRUCTION JOINTS PLACED AT 30' O.C. MAXIMUM.
 - ALL CONCRETE DIMENSIONS SHOWN ARE MINIMUM.
 - PAYMENTS WILL BE BASED ON TABLE BELOW.
 - IF UNSUITABLE MATERIALS ARE ENCOUNTERED, THEY SHALL BE EXCAVATED TO SOUND MATERIAL AND BACKFILLED WITH CRUSHED STONE. COSTS ASSOCIATED WITH OVER EXCAVATION ARE TO BE PAID UNDER ITEMS 141, AND 156.
 - AREAS WITH TIMBER FENCE AND CHAIN LINK FENCE SHALL LOCATE POSTS TO AVOID CONFLICTS.

| HEIGHTS | | WIDTH | AREA | CU. YDS. |
|---------|-------|--------|---------|--------------|
| A | T | W | SQ. FT. | PER LIN. FT. |
| 2'-0" | 4'-0" | 2'-4" | 6.667 | 0.247 |
| 2'-6" | 4'-6" | 2'-6" | 7.875 | 0.292 |
| 3'-0" | 5'-0" | 2'-8" | 9.165 | 0.339 |
| 3'-6" | 5'-6" | 2'-10" | 10.541 | 0.390 |
| 4'-0" | 6'-0" | 3'-0" | 12.000 | 0.444 |
| 4'-6" | 6'-6" | 3'-2" | 13.541 | 0.502 |
| 5'-0" | 7'-0" | 3'-4" | 15.162 | 0.562 |

LOW RETAINING WALL
N.T.S.



TRANSVERSE SECTION



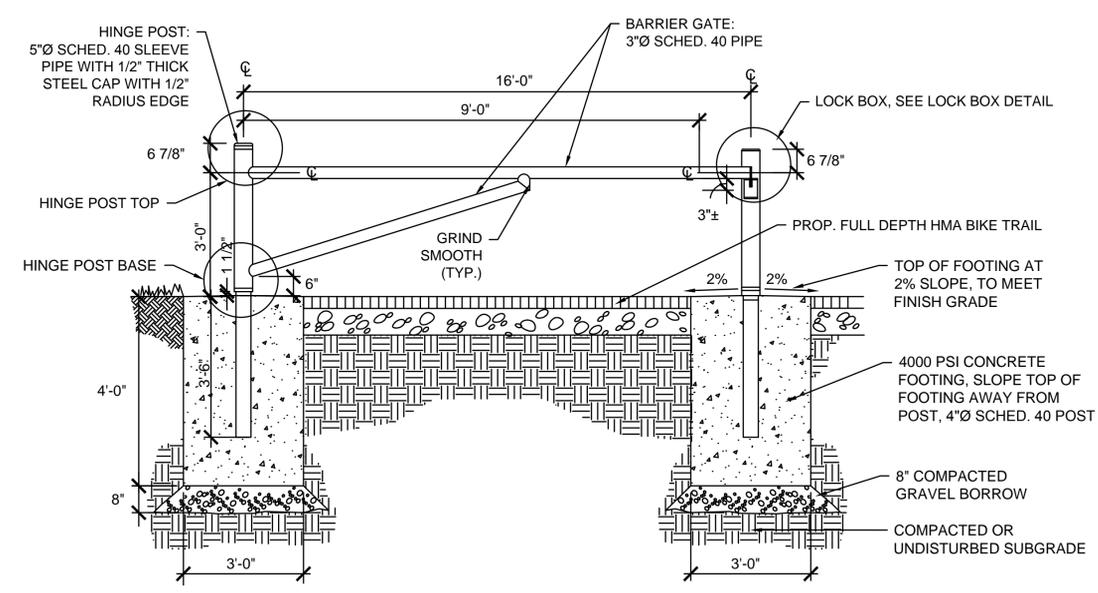
ELEVATION

- NOTES:
- TIMBER RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE POSTS WHERE POSSIBLE.
 - ELEVATION SHOWN REFLECTS LOCATION OF RAIL BUTT JOINT, AT INTERMEDIATE JOINT ONLY TWO WOOD SCREWS REQUIRED PER RAILING.

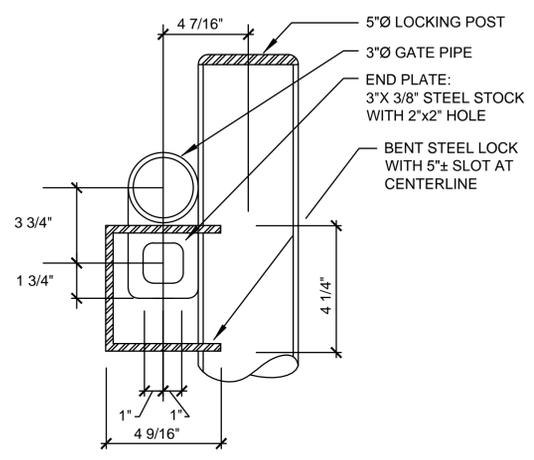
4-RAIL TIMBER FENCE DETAILS
N.T.S.

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 128 | 230 |
| PROJECT FILE NO. | | 604531 | |

CONSTRUCTION DETAILS

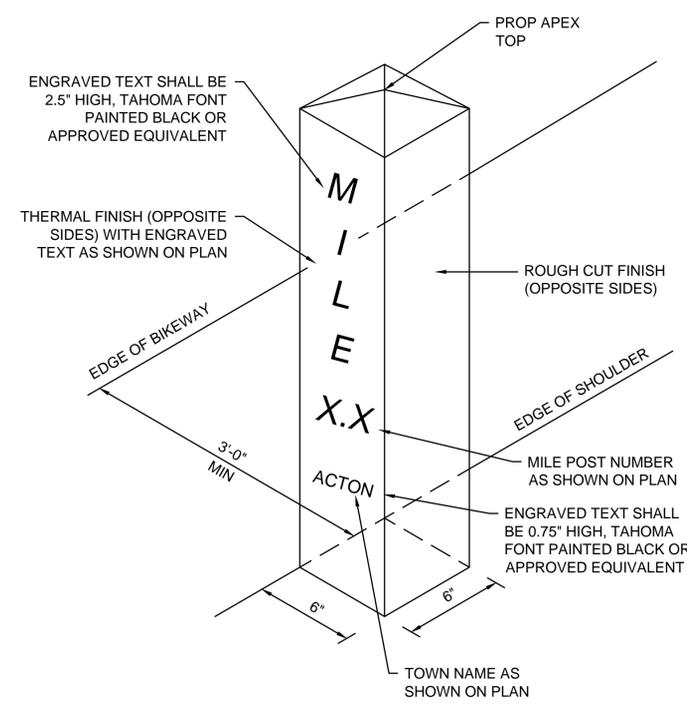


STEEL PIPE ACCESS GATE
N.T.S.

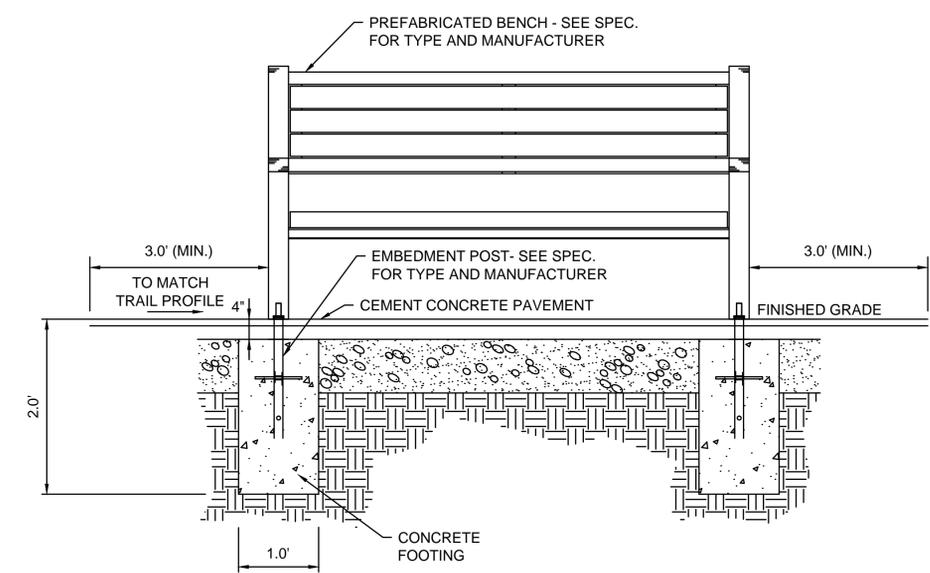


LOCK BOX DETAIL
N.T.S.

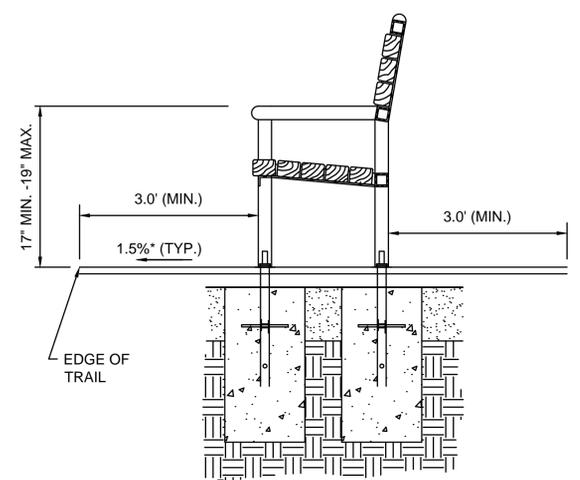
- NOTES:
1. ALL STEEL SHALL BE GALVANIZED INSIDE AND OUT.
 2. PROVIDE 1/2"Ø WEEP HOLES AT WELDED CONNECTIONS (3 PLACES).
 3. INSTALL BRASS BUSHINGS AFTER GALVANIZING.



GRANITE MARKER
N.T.S.

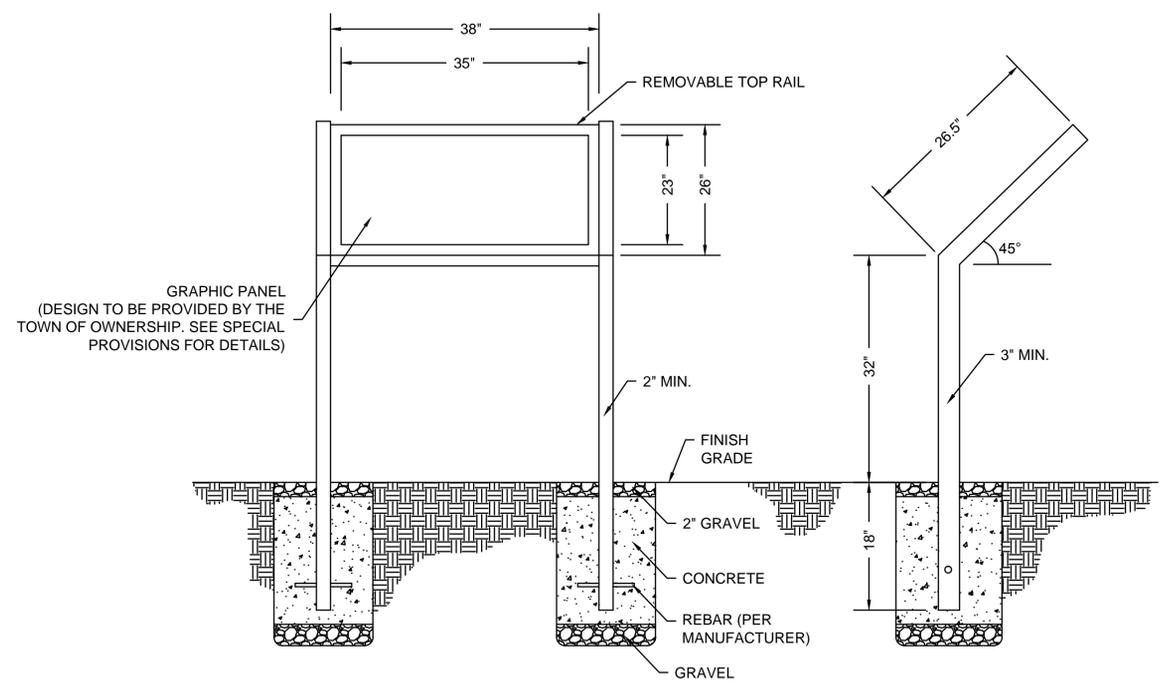


BENCH
N.T.S.



- NOTES:
1. MINIMUM SETBACK OF 3' FROM TRAIL SURFACE
 2. INSTALLATION OF BENCHES LOCATED ON BOARDWALK SHALL BE COORDINATED WITH BOARDWALK MATERIAL MANUFACTURER

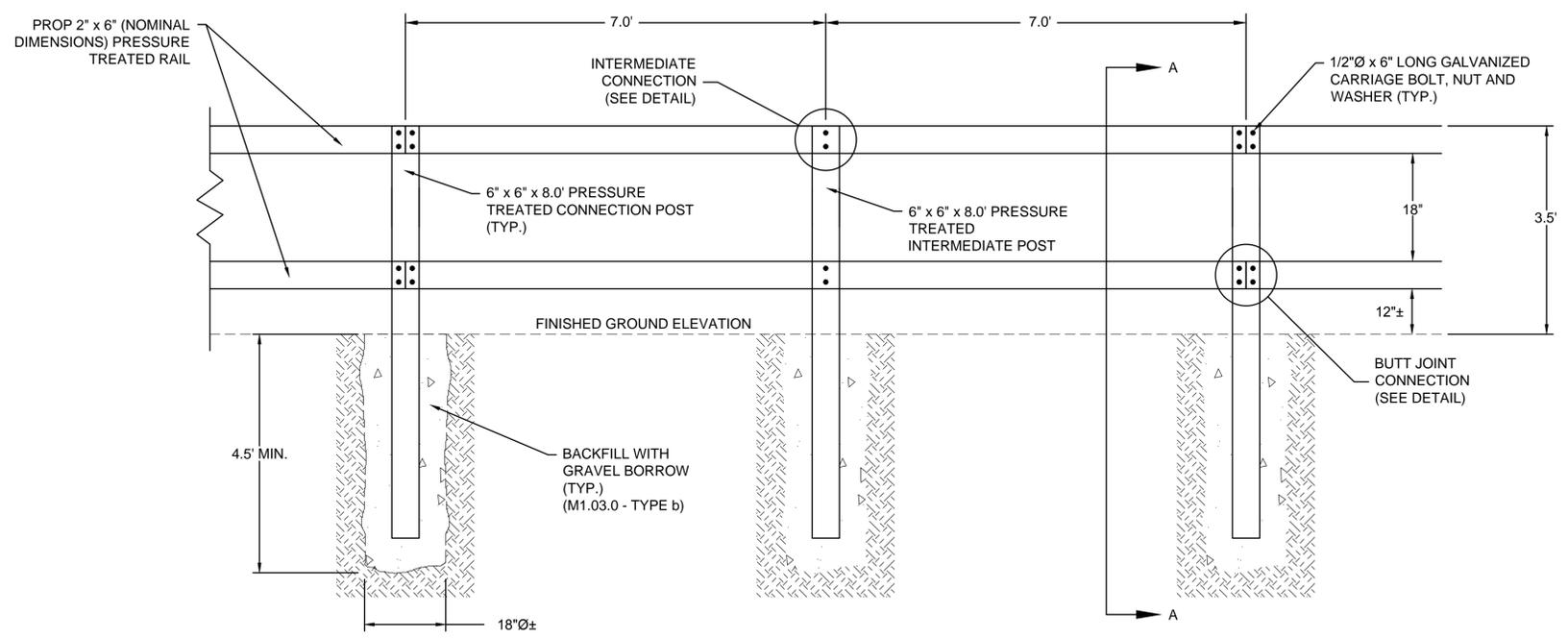
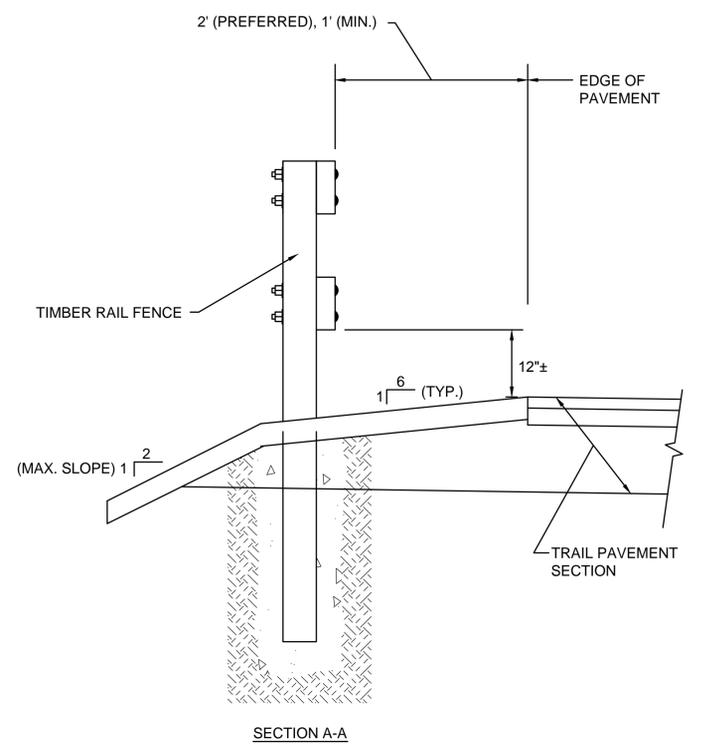
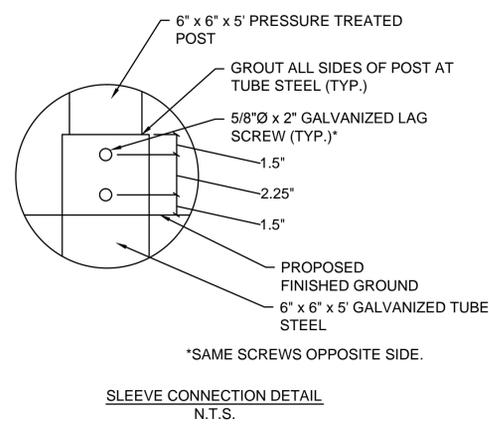
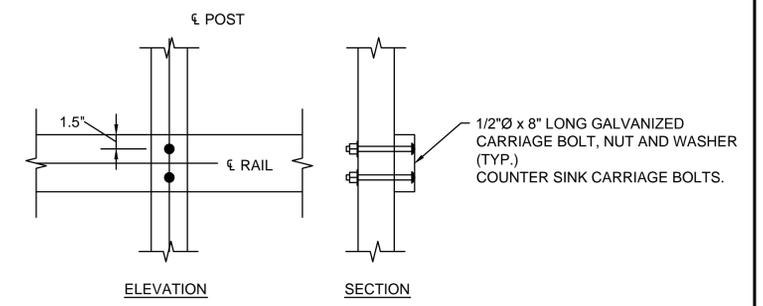
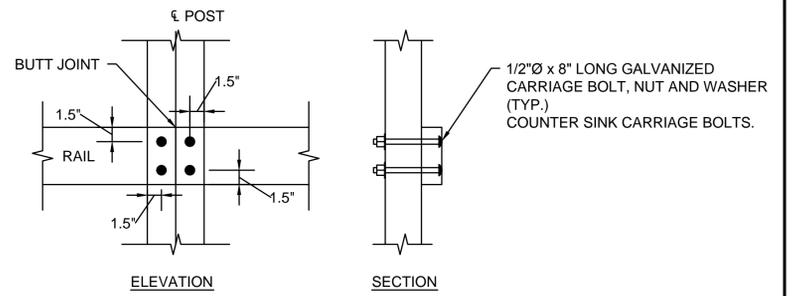
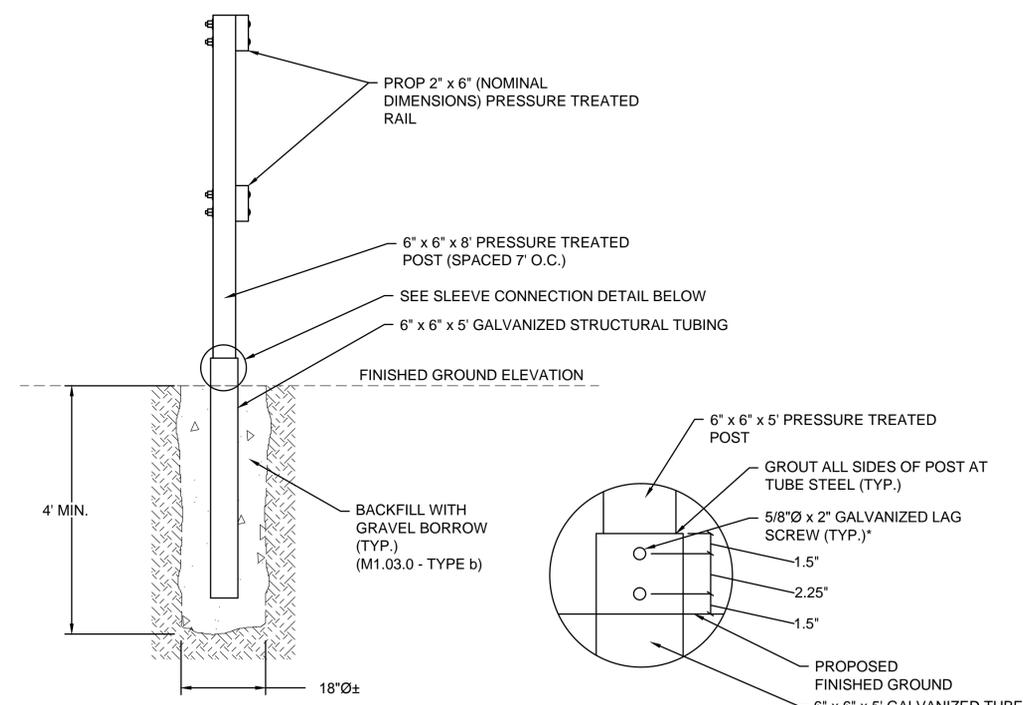
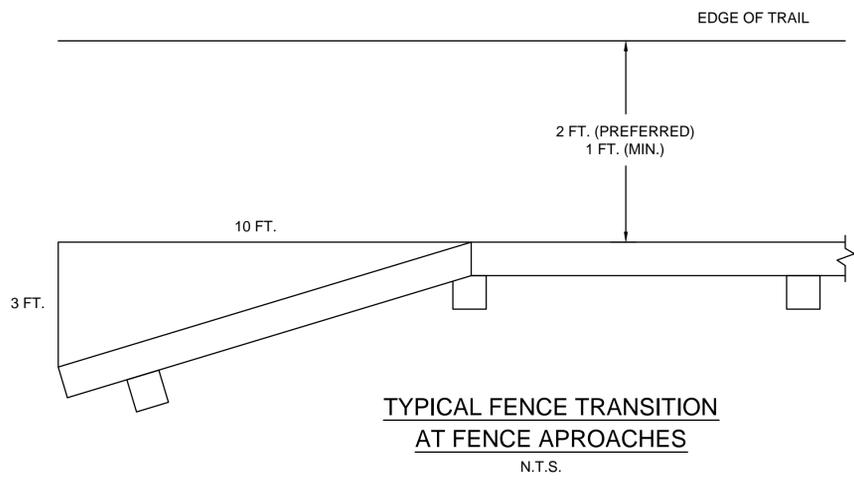
*TOLERANCE OF CONSTRUCTION SHALL BE ± 0.5%



INTERPRETIVE SIGN
N.T.S.

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 127 | 230 |
| PROJECT FILE NO. | | 604531 | |

CONSTRUCTION DETAILS



SUGGESTED TIMBER RAIL FENCE CONSTRUCTION SEQUENCE

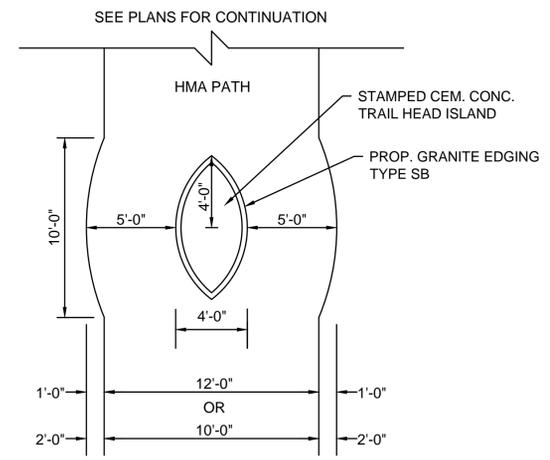
1. AUGER OR DIG POST HOLE TO REQUIRED DIMENSIONS.
2. IF GROUND IS SATURATED, USE TUBE STEEL SLEEVE. SEE DETAIL ON THIS SHEET.
3. BACKFILL BOTTOM 6"± OF HOLE WITH GRAVEL AND COMPACT THOROUGHLY.
4. SET POST AND HOLD PLUMB DURING BACKFILLING.
5. BACKFILL WITH GRAVEL IN 12" LIFTS. COMPACT EACH LIFT THOROUGHLY.
6. CLAMP RAILS TO POSTS AND FIELD DRILL BOLT HOLES.
7. SET BOLTS, WASHERS AND NUTS.
8. IF CCA PRESSURE TREATED LUMBER IS NOT READILY AVAILABLE AT THE TIME OF CONSTRUCTION OR IT IS DEEMED ENVIRONMENTALLY UNACCEPTABLE FOR COMMERCIAL USES BY THE EPA, USE ACQ PRESSURE TREATED LUMBER.

- NOTES:**
1. FOR RADII LESS THAN 165', USE CONNECTION POSTS SET AT 7.0' O.C. AND SHORTEN RAILS ACCORDINGLY.

SEE PLANS FOR LOCATIONS

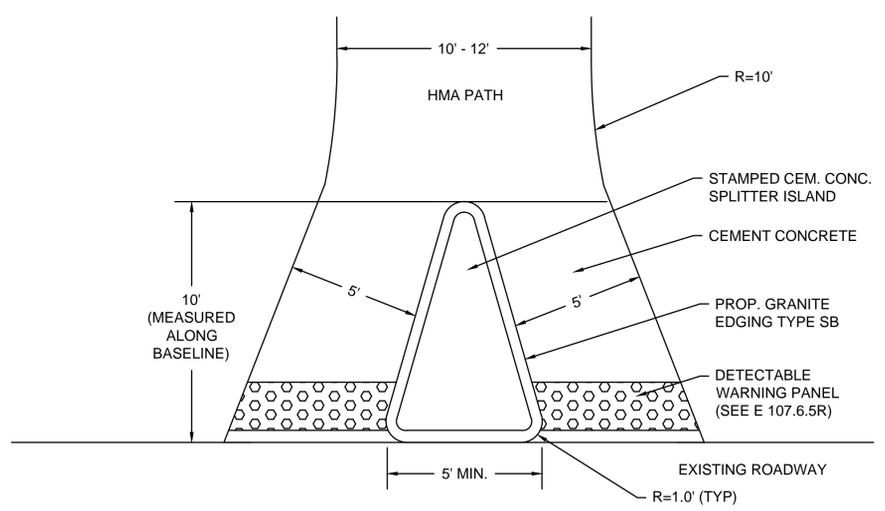
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 126 | 230 |
| PROJECT FILE NO. | | 604531 | |

CONSTRUCTION DETAILS

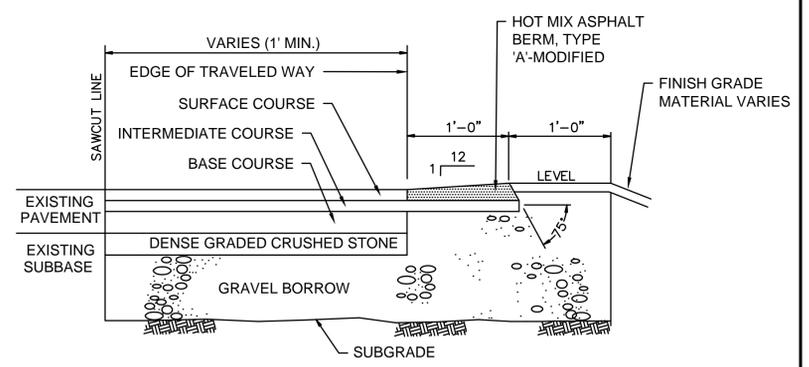


NOTE: TRAIL HEAD ISLANDS AT SYLVIA STREET AND STA. 177+10 LT MAINTAIN AN OUTSIDE WIDTH OF 14'

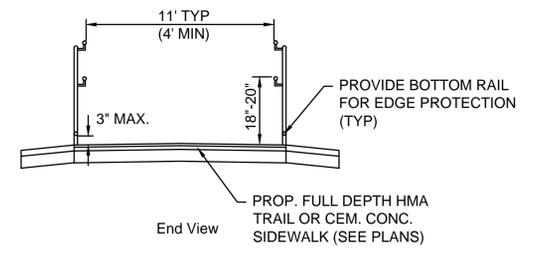
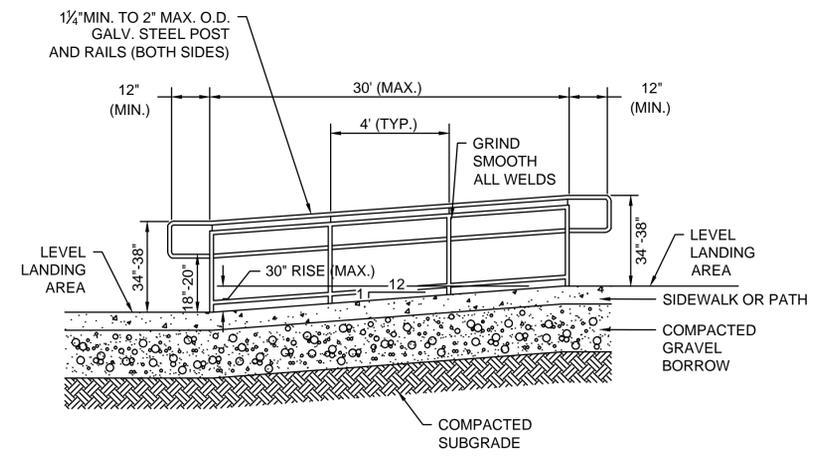
TRAIL HEAD ISLAND DETAIL
(TO BE USED AT PATH OPENINGS NOT ABUTTING ROADWAYS)
N.T.S.



CEMENT CONCRETE TRAIL ENTRANCE WITH SPLITTER ISLAND
N.T.S.

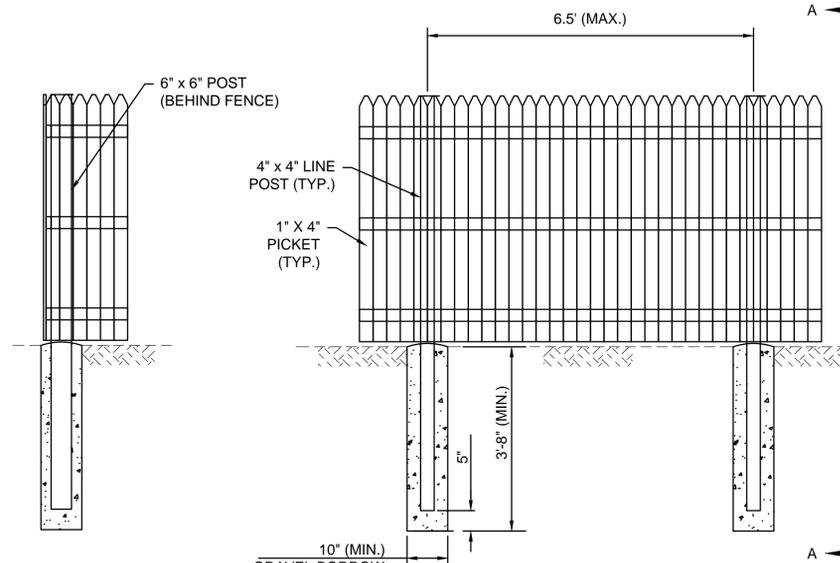


HOT MIX ASPHALT BERM, TYPE 'A' MODIFIED
N.T.S.



NOTE:
1. FOR ADDITIONAL DETAIL SEE 521 CMR 24.00 RAMPS.

RAMP WITH HANDRAIL
N.T.S.

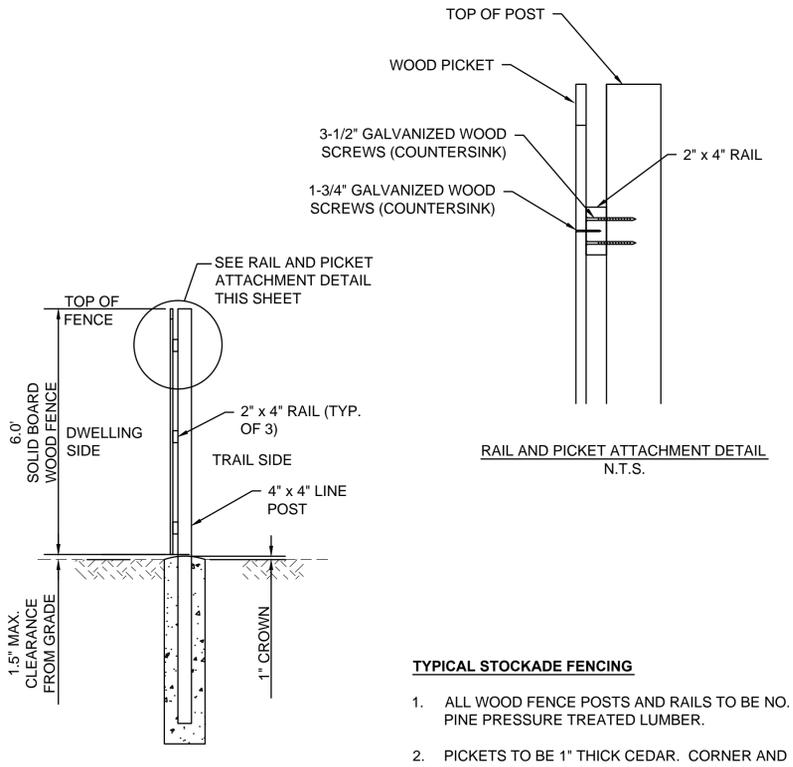


CORNER POST
N.T.S.

ELEVATION
N.T.S.

SECTION A-A
N.T.S.

STOCKADE FENCE
N.T.S.



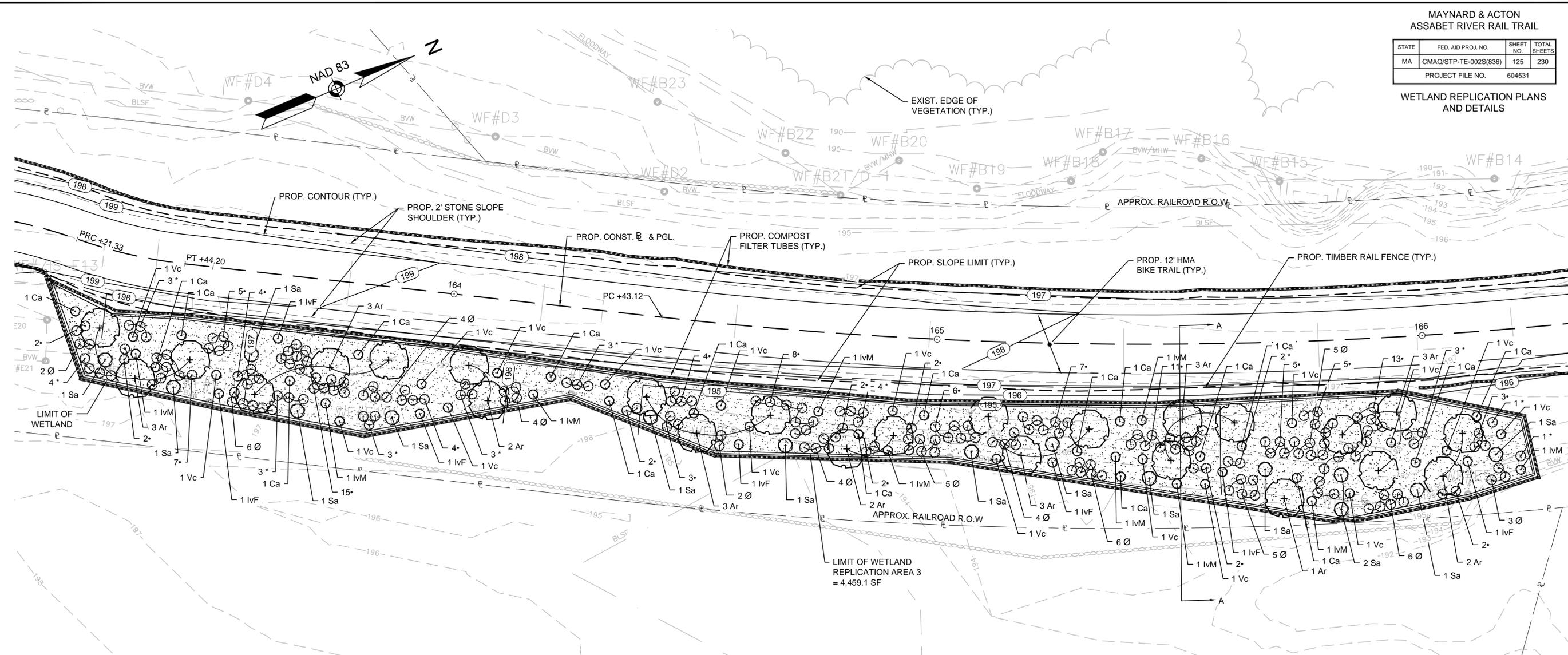
RAIL AND PICKET ATTACHMENT DETAIL
N.T.S.

TYPICAL STOCKADE FENCING

1. ALL WOOD FENCE POSTS AND RAILS TO BE NO. 2 PINE PRESSURE TREATED LUMBER.
2. PICKETS TO BE 1" THICK CEDAR. CORNER AND GATE POSTS TO BE 6" X 6" NO. 2 PINE PRESSURE TREATED LUMBER.
3. LINE POSTS TO BE 4" X 4" NO. 2 PINE PRESSURE TREATED LUMBER.
4. ALL HARDWARE TO BE HOT DIP GALVANIZED.
5. PICKETS SHALL ALWAYS FACE DWELLINGS.

| | | | |
|------------------|-----------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | CMAQ/STP-TE-002S(836) | 125 | 230 |
| PROJECT FILE NO. | | 604531 | |

WETLAND REPLICATION PLANS AND DETAILS



PLANTING PLAN



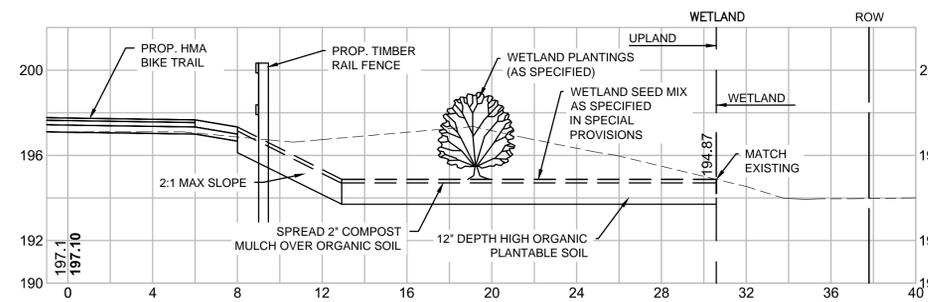
| PLANT TYPE | SYMBOL | SCIENTIFIC NAME | COMMON NAME | SIZE | QTY |
|-------------------|--------|----------------------|---------------------|-------------|-----|
| SHRUBS | Ca | CLETHRA ALNIFOLIA | SUMMERSWEET SHRUB | 18-24" | 19 |
| | IvF | ILEX VERTICILLATA | WINTERBERRY- FEMALE | 24-30" | 7 |
| | IvM | ILEX VERTICILLATA | WINTERBERRY- MALE | 24-30" | 10 |
| | Sa | CORNUS AMOMUM | SILKY DOGWOOD | 2-3' | 15 |
| | Vc | VACCINIUM CORYMBOSUM | BLUEBERRY HIGHBUSH | 18-24" | 18 |
| TREES | Ar | ACER RUBRUM | RED MAPLE | 1"-1.5" CAL | 25 |
| FERN/ HERB ACEOUS | • | OSMUNDA CINNAMOMEA | CINNAMON FERN | PLUG | 116 |
| | * | ONOCLEA SENSIBILIS | SENSITIVE FERN | PLUG | 30 |
| | Ø | OSMUNDA REGALIS | ROYAL FERN | PLUG | 57 |

PLANTING LEGEND

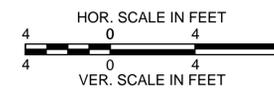
| | |
|--|---------------------------|
| | PROPOSED DECIDUOUS SHRUB |
| | PROPOSED DECIDUOUS TREE |
| | PROPOSED FERN/ HERBACEOUS |

NOTES

- FOR BORDERING VEGETATED WETLAND IMPACTS SEE CONSTRUCTION PLANS & PROFILES.
- SEE SPECIAL PROVISIONS FOR PLANTING INSTALLATION INSTRUCTIONS.



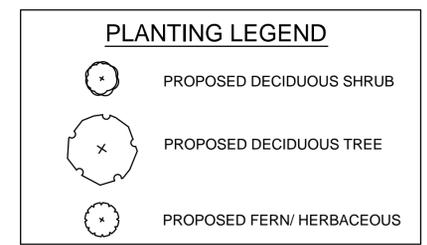
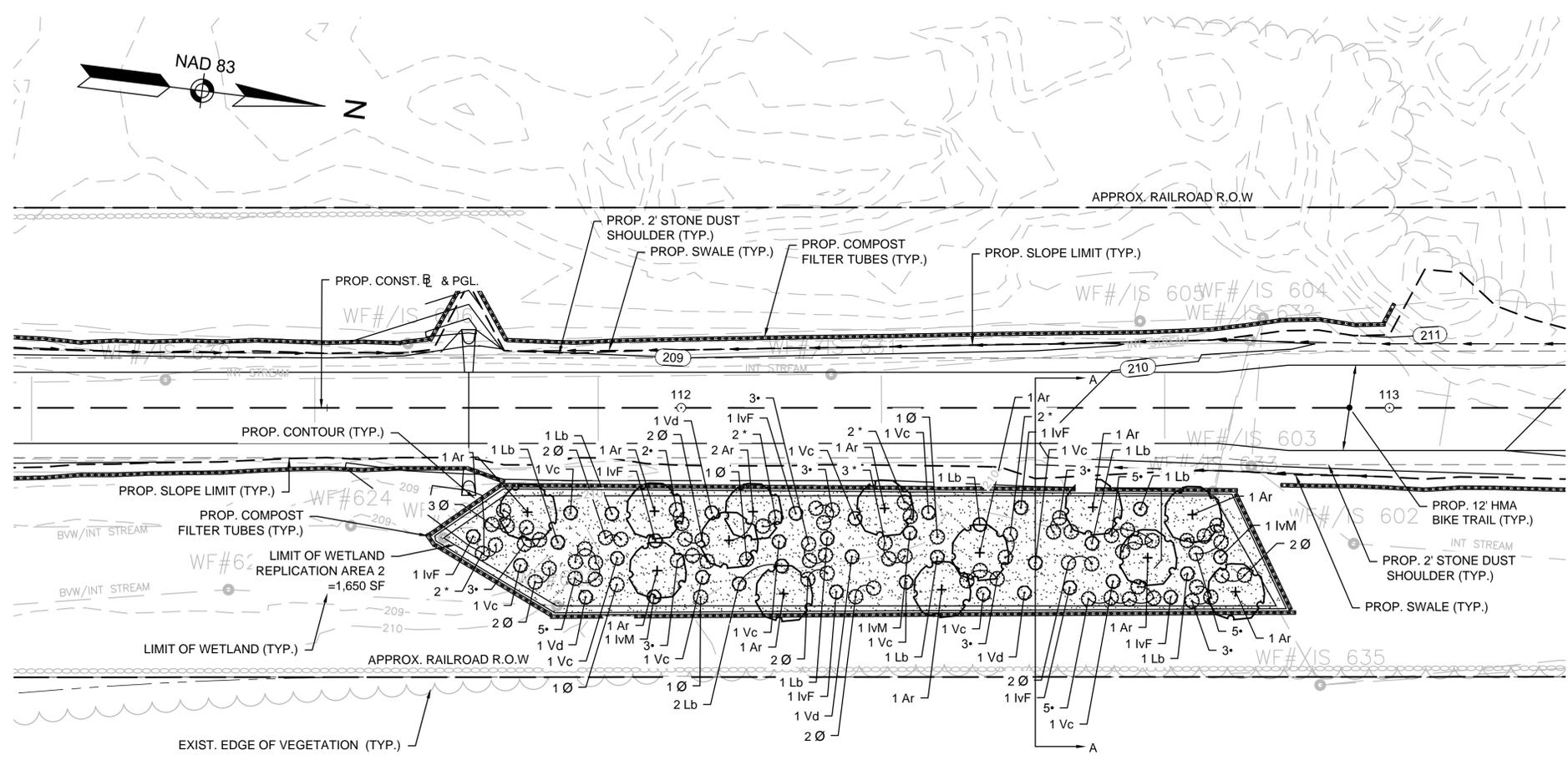
TYPICAL CROSS SECTION OF WETLAND REPLICATION AREA 3 SECTION A-A



| | | | |
|------------------|-----------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | CMAQ/STP-TE-002S(836) | 124 | 230 |
| PROJECT FILE NO. | | 604531 | |

WETLAND REPLICATION PLANS
AND DETAILS

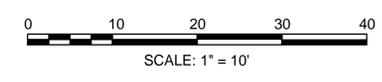
604531_HDWET1.DWG Printed on 8-Oct-2015 1:35 PM



NOTES

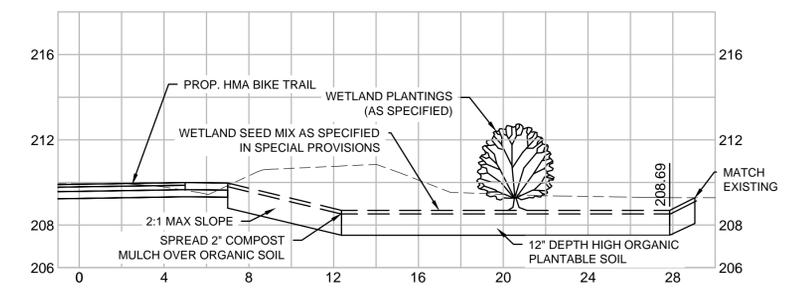
- FOR BORDERING VEGETATED WETLAND IMPACTS SEE CONSTRUCTION PLANS & PROFILES.
- SEE SPECIAL PROVISIONS FOR PLANTING INSTALLATION INSTRUCTIONS.

PLANTING PLAN

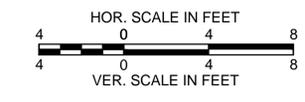


PLANTING SPECIFICATIONS: AREA 2

| PLANT TYPE | SYMBOL | SCIENTIFIC NAME | COMMON NAME | SIZE | QTY |
|-------------------|--------|----------------------|---------------------|-------------|-----|
| SHRUBS | Vc | VACCINIUM CORYMBOSUM | BLUEBERRY HIGHBUSH | 18-24" | 11 |
| | Vd | VIBURNUM DENTATUM | ARROWWOOD | 18-24" | 4 |
| | IvF | ILEX VERTICILLATA | WINTERBERRY- FEMALE | 24-30" | 7 |
| | IvM | ILEX VERTICILLATA | WINTERBERRY- MALE | 24-30" | 3 |
| | Lb | LINDERA BENZOIN | SPICEBUSH | 15-18" | 10 |
| TREES | Ar | ACER RUBRUM | RED MAPLE | 1"-1.5" CAL | 13 |
| | • | OSMUNDA CINNAMOMEA | CINNAMON FERN | PLUG | 43 |
| FERN/ HERB ACEOUS | * | ONOCLEA SENSIBILIS | SENSITIVE FERN | PLUG | 11 |
| | ∅ | OSMUNDA REGALIS | ROYAL FERN | PLUG | 21 |



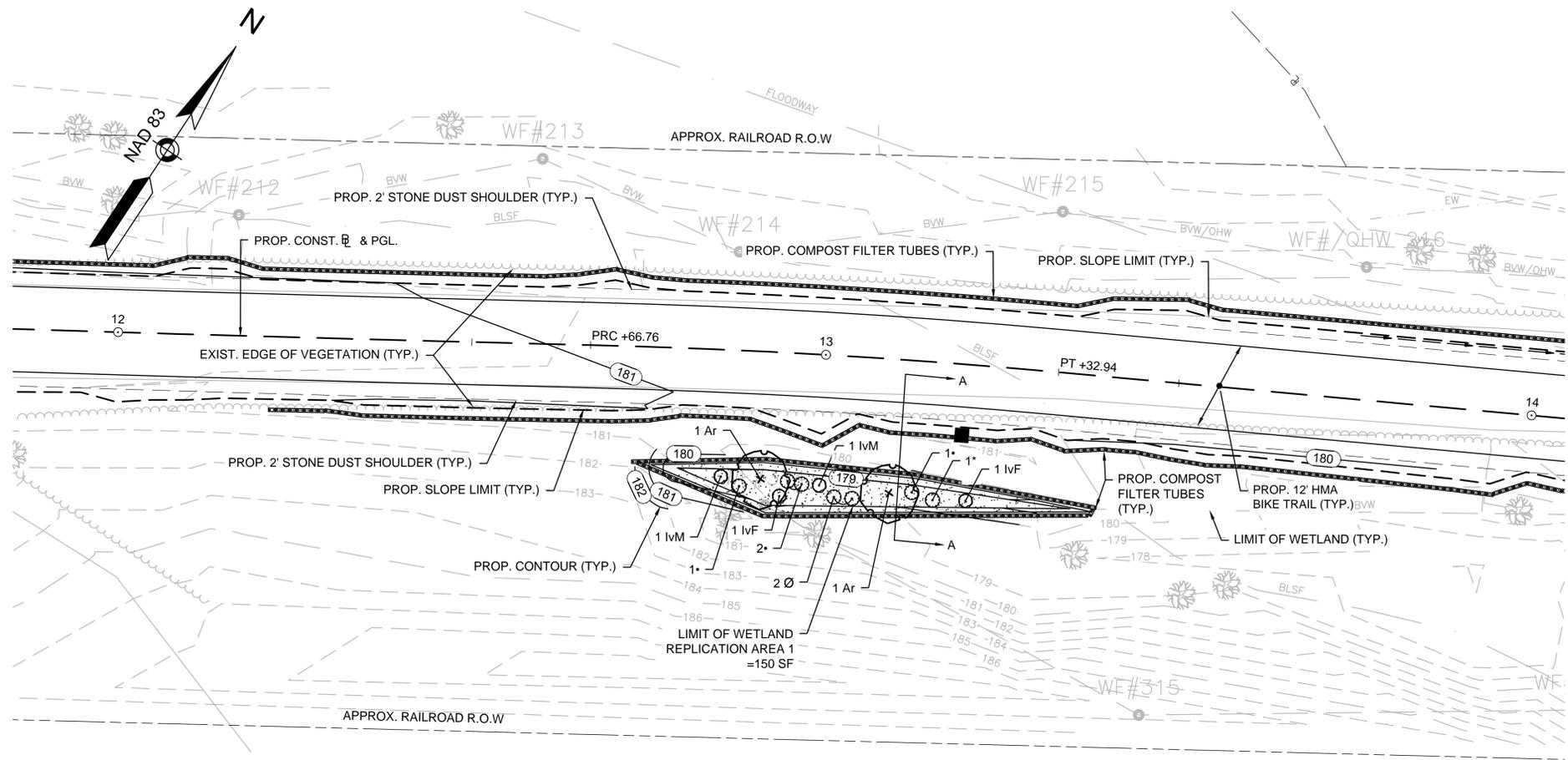
**TYPICAL CROSS SECTION OF
WETLAND REPLICATION AREA 2
SECTION A-A**



| | | | |
|------------------|-----------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | CMAQ/STP-TE-002S(836) | 123 | 230 |
| PROJECT FILE NO. | | 604531 | |

WETLAND REPLICATION PLANS
AND DETAILS

604531_HDWET.DWG Plotted on 8-Oct-2015 1:34 PM



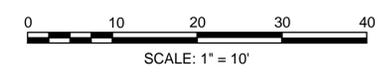
PLANTING LEGEND

- PROPOSED DECIDUOUS SHRUB
- PROPOSED DECIDUOUS TREE
- PROPOSED FERN/ HERBACEOUS

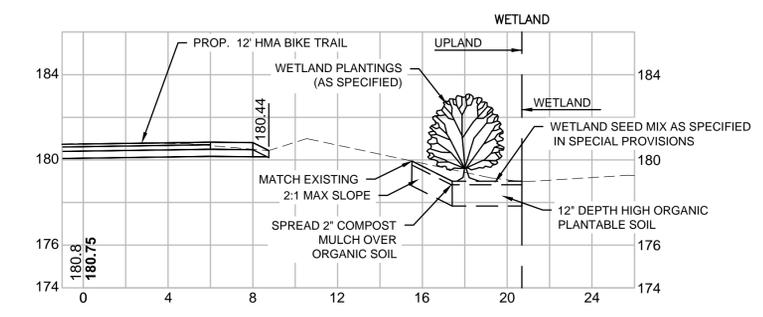
NOTES

- FOR BORDERING VEGETATED WETLAND IMPACTS SEE CONSTRUCTION PLANS & PROFILES.
- SEE SPECIAL PROVISIONS FOR PLANTING INSTALLATION INSTRUCTIONS.

PLANTING PLAN



| PLANTING SPECIFICATIONS: AREA 1 | | | | | |
|---------------------------------|--------|--------------------|---------------------|-------------|-----|
| PLANT TYPE | SYMBOL | SCIENTIFIC NAME | COMMON NAME | SIZE | QTY |
| SHRUBS | IvF | ILEX VERTICILLATA | WINTERBERRY- FEMALE | 24-30" | 2 |
| | IvM | ILEX VERTICILLATA | WINTERBERRY- MALE | 24-30" | 2 |
| TREES | Ar | ACER RUBRUM | RED MAPLE | 1"-1.5" CAL | 2 |
| FERN/ HERBACEOUS | • | OSMUNDA CINNAMOMEA | CINNAMON FERN | PLUG | 4 |
| | * | ONOCLEA SENSIBILIS | SENSITIVE FERN | PLUG | 1 |
| | ∅ | OSMUNDA REGALIS | ROYAL FERN | PLUG | 2 |

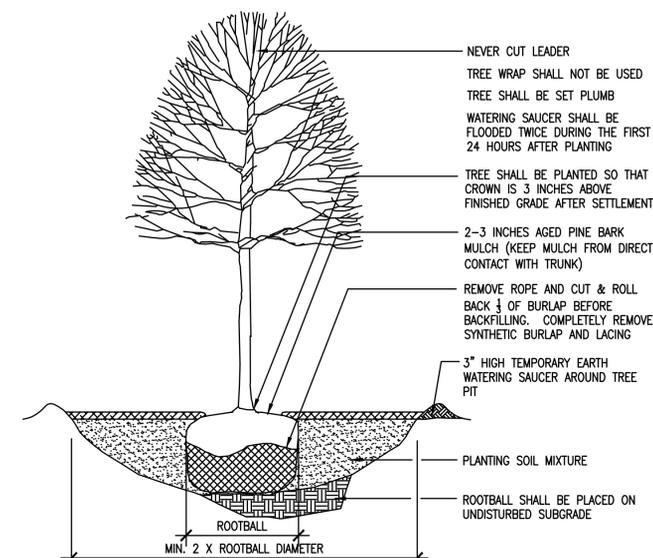


**TYPICAL CROSS SECTION OF
WETLAND REPLICATION AREA 1
SECTION A-A**

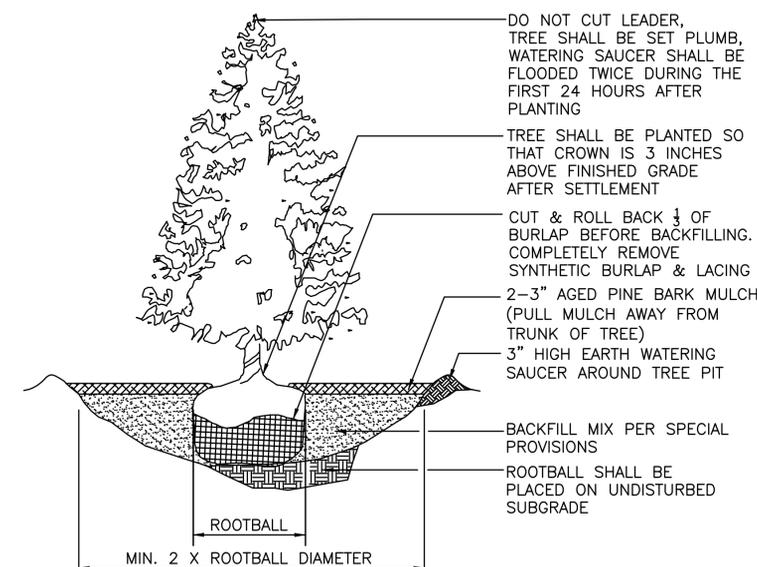


| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 122 | 230 |
| PROJECT FILE NO. | | 604531 | |

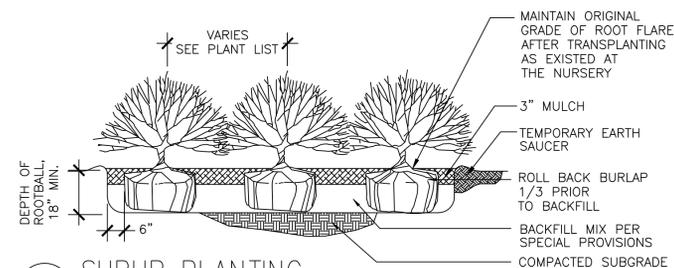
LANDSCAPING PLANS AND
DETAILS



1 DECIDUOUS TREE PLANTING
SCALE: NOT TO SCALE



2 EVERGREEN TREE PLANTING
SCALE: NOT TO SCALE



3 SHRUB PLANTING
SCALE: NOT TO SCALE

MASTER PLANT LIST

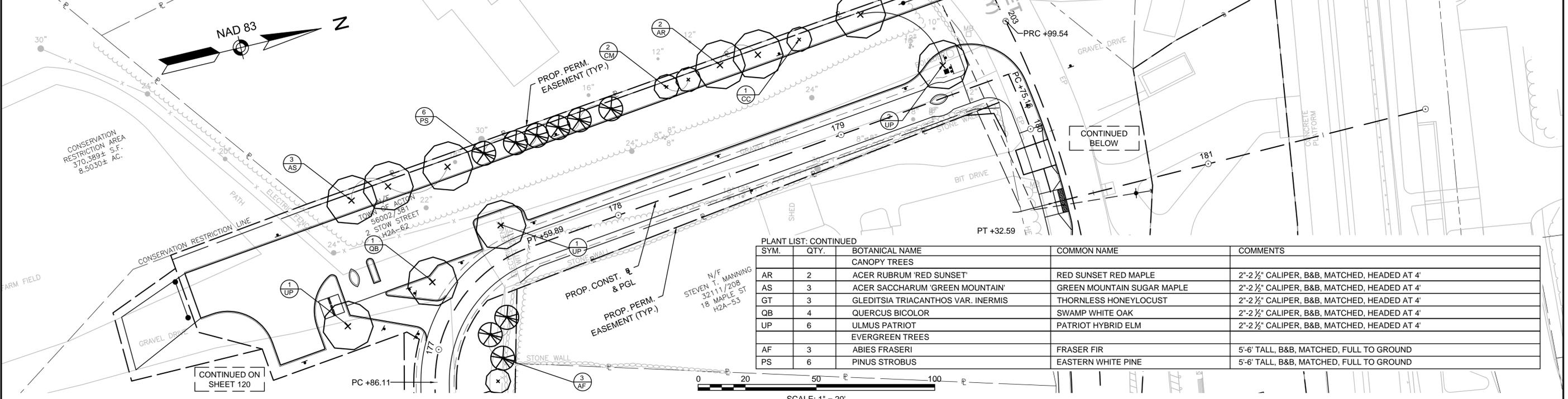
| SYM. | QTY. | BOTANICAL NAME | COMMON NAME | COMMENTS |
|------------------|------|-----------------------------------------|--------------------------------|-----------------------------------------------|
| ORNAMENTAL TREES | | | | |
| AA | 60 | AMELANCHIER ARBOREA 'AUTUMN BRILLIANCE' | AUTUMN BRILLIANCE SERVICEBERRY | 6'-7' CLUMP, B&B, MATCHED, UNIFORM CANOPY |
| AAA | 1 | AMELANCHIER ARBOREA 'AUTUMN BRILLIANCE' | AUTUMN BRILLIANCE SERVICEBERRY | 1" - 1.5" CALIPER, B&B, MATCHED, HEADED AT 4' |
| CC1 | 4 | CARPINUS CAROLINIANA | HORNBEAM | 1" - 1.5" CALIPER, B&B, MATCHED, HEADED AT 4' |
| CC | 15 | CERCIS CANADENSIS | EASTERN REDBUD | 1" - 1.5" CALIPER, B&B, MATCHED, HEADED AT 4' |
| CCA | 8 | CERCIS CANADENSIS 'ALBA' | ALBA EASTERN REDBUD | 1" - 1.5" CALIPER, B&B, MATCHED, HEADED AT 4' |
| CA | 13 | CORNUS ALTERNAFOLIA | PAGODA DOGWOOD | 1" - 1.5" CALIPER, B&B, MATCHED, HEADED AT 4' |
| CV | 10 | CRATAEGUS VIRIDIS 'WINTER KING' | WINTER KING HAWTHORN | 1" - 1.5" CALIPER, B&B, MATCHED, HEADED AT 4' |
| CM | 37 | HAMAMELIS VIRGINIANA | COMMON WITCH-HAZEL | 6'-7' CLUMP, B&B, MATCHED, UNIFORM CANOPY |
| MS | 10 | MAGNOLIA X SOULANGIANA | SAUCER MAGNOLIA | 6'-7' CLUMP, B&B, MATCHED, UNIFORM CANOPY |
| NS | 5 | NYSSA SYLVATICA | TUPELO | 1" - 1.5" CALIPER, B&B, MATCHED, HEADED AT 4' |
| OV | 18 | OSTRYA VIRGINIA | HOPHORNBEAM | 1" - 1.5" CALIPER, B&B, MATCHED, HEADED AT 4' |
| PP | 4 | PARROTIA PERSICA | PERSIAN PARROTIA | 1" - 1.5" CALIPER, B&B, MATCHED, HEADED AT 4' |
| CANOPY TREES | | | | |
| AR | 9 | ACER RUBRUM 'RED SUNSET' | RED SUNSET RED MAPLE | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| AS | 37 | ACER SACCHARUM 'GREEN MOUNTAIN' | GREEN MOUNTAIN SUGAR MAPLE | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| GT | 7 | GLEDITSIA TRIACANTHOS VAR. INERMIS | THORNLESS HONEYLOCUST | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| LS | 5 | LIQUIDAMBAR STYRACIFLUA 'ROTUNDILOBA' | SEEDLESS SWEET GUM | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| LT | 13 | LIRIODENDRON TULIPIFERA | TULIP TREE | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| QB | 11 | QUERCUS BICOLOR | SWAMP WHITE OAK | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| QR | 9 | QUERCUS RUBRA | RED OAK | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| UP | 25 | ULMUS PATRIOT | PATRIOT HYBRID ELM | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| EVERGREEN TREES | | | | |
| AC | 52 | ABIES CONCOLOR | WHITE FIR | 5'-6' TALL, B&B, MATCHED, FULL TO GROUND |
| AF | 49 | ABIES FRASERI | FRASER FIR | 5'-6' TALL, B&B, MATCHED, FULL TO GROUND |
| PG | 34 | PICEA GLAUCA | WHITE SPRUCE | 5'-6' TALL, B&B, MATCHED, FULL TO GROUND |
| PPG | 5 | PICEA PUNGENS 'GLAUCA' | COLORADO BLUE SPRUCE | 5'-6' TALL, B&B, MATCHED, FULL TO GROUND |
| PS | 140 | PINUS STROBUS | EASTERN WHITE PINE | 5'-6' TALL, B&B, MATCHED, FULL TO GROUND |
| SHRUBS | | | | |
| HS | 3 | HIBISCUS SYRIACUS 'LUCY' | LUCY ROSE OFSHARON | 5 GALLON CONT., 3'-4' HT. |
| IG | 3 | ILEX GLABRA 'COMPACTA' | INKBERRY 'COMPACTA' | 3 GALLON CONT. |
| KLE | 3 | KALMIA LATIFOLIA 'ELF' | MOUNTAIN LAUREL 'ELF' | 3 GALLON CONT. |
| KLO | 3 | KALMIA LATIFOLIA 'OLYMPIC FIRE' | MOUNTAIN LAUREL 'OLYMPIC FIRE' | 3 GALLON CONT. |

MAYNARD & ACTON
ASSABET RIVER RAIL TRAIL

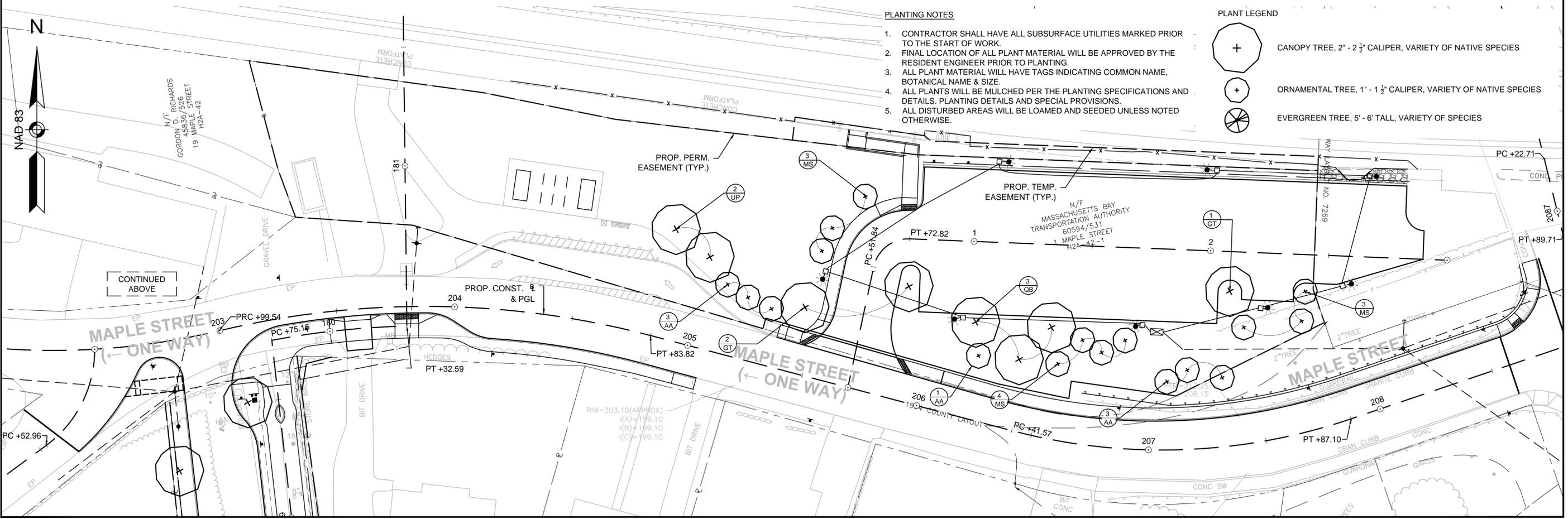
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 121 | 230 |
| PROJECT FILE NO. | | 604531 | |

LANDSCAPING PLANS AND
DETAILS

| SYM. | QTY. | BOTANICAL NAME | COMMON NAME | COMMENTS |
|------------------|------|-----------------------------------------|--------------------------------|-------------------------------------------------|
| ORNAMENTAL TREES | | | | |
| AA | 7 | AMELANCHIER ARBOREA 'AUTUMN BRILLIANCE' | AUTUMN BRILLIANCE SERVICEBERRY | 6'-7" CLUMP, B&B, MATCHED, UNIFORM CANOPY |
| CM | 2 | CORNUS MAS | CORNELIANCHERRY | 1" - 1 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| MS | 10 | MAGNOLIA X SOULANGIANA | SAUCER MAGNOLIA | 6'-7" CLUMP, B&B, MATCHED, UNIFORM CANOPY |
| CC | 1 | CERCIS CANDENSIS | EASTERN REDBUD | 1" - 1 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |



| SYM. | QTY. | BOTANICAL NAME | COMMON NAME | COMMENTS |
|-----------------|------|------------------------------------|----------------------------|-----------------------------------------------|
| CANOPY TREES | | | | |
| AR | 2 | ACER RUBRUM 'RED SUNSET' | RED SUNSET RED MAPLE | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| AS | 3 | ACER SACCHARUM 'GREEN MOUNTAIN' | GREEN MOUNTAIN SUGAR MAPLE | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| GT | 3 | GLEDITSIA TRIACANTHOS VAR. INERMIS | THORNLESS HONEYLOCUST | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| QB | 4 | QUERCUS BICOLOR | SWAMP WHITE OAK | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| UP | 6 | ULMUS PATRIOT | PATRIOT HYBRID ELM | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| EVERGREEN TREES | | | | |
| AF | 3 | ABIES FRASERI | FRASER FIR | 5'-6" TALL, B&B, MATCHED, FULL TO GROUND |
| PS | 6 | PINUS STROBUS | EASTERN WHITE PINE | 5'-6" TALL, B&B, MATCHED, FULL TO GROUND |



- PLANTING NOTES**
1. CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
 2. FINAL LOCATION OF ALL PLANT MATERIAL WILL BE APPROVED BY THE RESIDENT ENGINEER PRIOR TO PLANTING.
 3. ALL PLANT MATERIAL WILL HAVE TAGS INDICATING COMMON NAME, BOTANICAL NAME & SIZE.
 4. ALL PLANTS WILL BE MULCHED PER THE PLANTING SPECIFICATIONS AND DETAILS. PLANTING DETAILS AND SPECIAL PROVISIONS.
 5. ALL DISTURBED AREAS WILL BE LOAMED AND SEEDED UNLESS NOTED OTHERWISE.

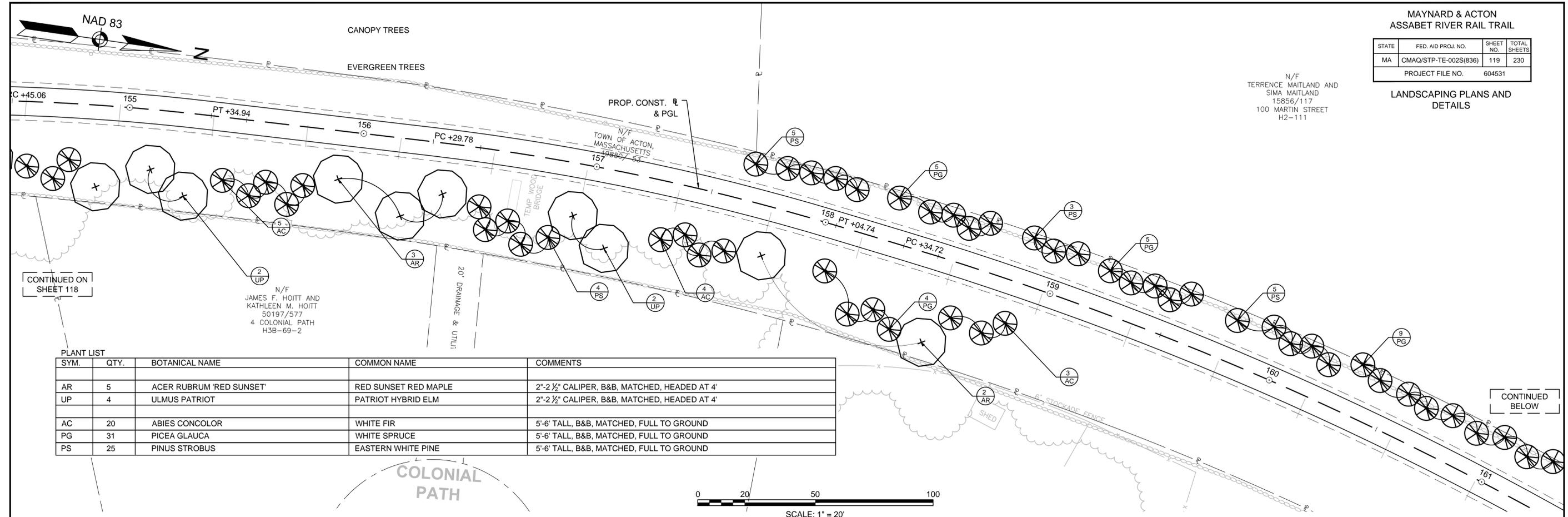
- PLANT LEGEND**
- CANOPY TREE, 2" - 2 1/2" CALIPER, VARIETY OF NATIVE SPECIES
 - ORNAMENTAL TREE, 1" - 1 1/2" CALIPER, VARIETY OF NATIVE SPECIES
 - EVERGREEN TREE, 5' - 6' TALL, VARIETY OF SPECIES

MAYNARD & ACTON
ASSABET RIVER TRAIL

| | | | |
|------------------|-----------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | CMAQ/STP-TE-002S(836) | 119 | 230 |
| PROJECT FILE NO. | | 604531 | |

N/F
TERRENCE MAITLAND AND
SIMA MAITLAND
15856/117
100 MARTIN STREET
H2-111

LANDSCAPING PLANS AND
DETAILS



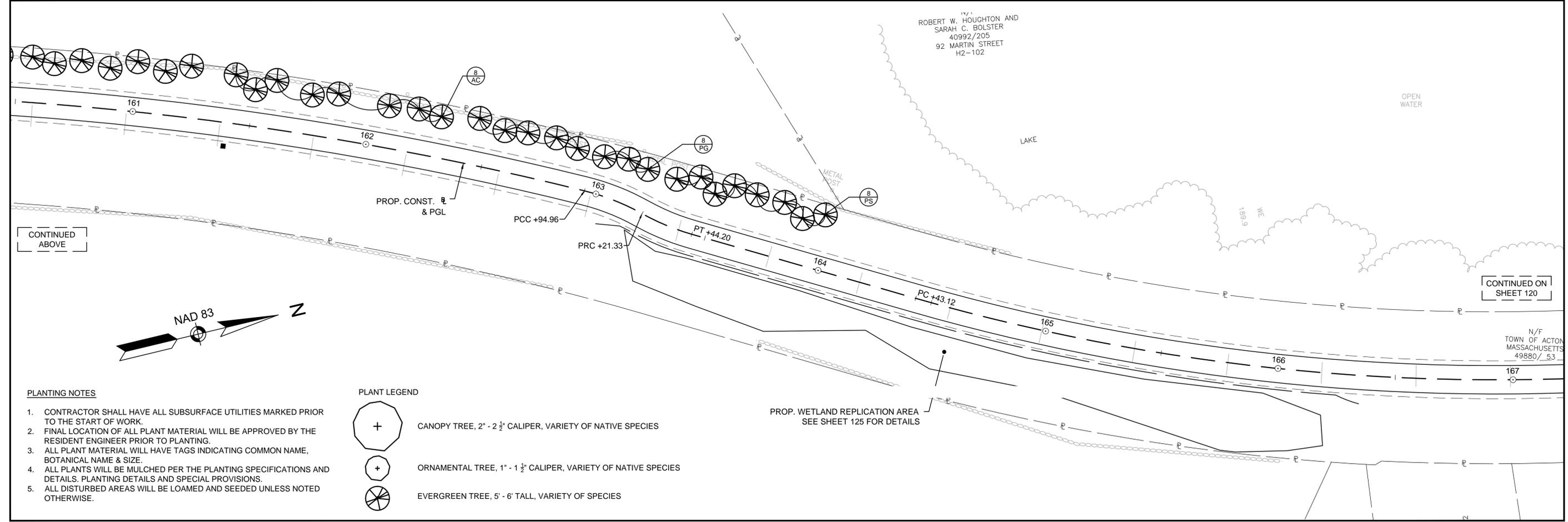
CONTINUED ON
SHEET 118

N/F
JAMES F. HOITT AND
KATHLEEN M. HOITT
50197/577
4 COLONIAL PATH
H3B-69-2

PLANT LIST

| SYM. | QTY. | BOTANICAL NAME | COMMON NAME | COMMENTS |
|------|------|--------------------------|----------------------|-----------------------------------------------|
| AR | 5 | ACER RUBRUM 'RED SUNSET' | RED SUNSET RED MAPLE | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| UP | 4 | ULMUS PATRIOT | PATRIOT HYBRID ELM | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| AC | 20 | ABIES CONCOLOR | WHITE FIR | 5'-6' TALL, B&B, MATCHED, FULL TO GROUND |
| PG | 31 | PICEA GLAUCA | WHITE SPRUCE | 5'-6' TALL, B&B, MATCHED, FULL TO GROUND |
| PS | 25 | PINUS STROBUS | EASTERN WHITE PINE | 5'-6' TALL, B&B, MATCHED, FULL TO GROUND |

CONTINUED
BELOW



CONTINUED
ABOVE

CONTINUED ON
SHEET 120

N/F
TOWN OF ACTON,
MASSACHUSETTS
49880/53

PLANTING NOTES

- CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
- FINAL LOCATION OF ALL PLANT MATERIAL WILL BE APPROVED BY THE RESIDENT ENGINEER PRIOR TO PLANTING.
- ALL PLANT MATERIAL WILL HAVE TAGS INDICATING COMMON NAME, BOTANICAL NAME & SIZE.
- ALL PLANTS WILL BE MULCHED PER THE PLANTING SPECIFICATIONS AND DETAILS. PLANTING DETAILS AND SPECIAL PROVISIONS.
- ALL DISTURBED AREAS WILL BE LOAMED AND SEEDED UNLESS NOTED OTHERWISE.

PLANT LEGEND

-  CANOPY TREE, 2" - 2 1/2" CALIPER, VARIETY OF NATIVE SPECIES
-  ORNAMENTAL TREE, 1" - 1 1/2" CALIPER, VARIETY OF NATIVE SPECIES
-  EVERGREEN TREE, 5' - 6' TALL, VARIETY OF SPECIES

MAYNARD & ACTON
ASSABET RIVER RAIL TRAIL

| | | | |
|------------------|-----------------------|-----------|--------------|
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| MA | CMAQ/STP-TE-002S(836) | 118 | 230 |
| PROJECT FILE NO. | | 604531 | |

LANDSCAPING PLANS AND
DETAILS

| SYM. | QTY. | BOTANICAL NAME | COMMON NAME | COMMENTS |
|------|------|-----------------------------------------|--------------------------------|-----------------------------------------------|
| | | ORNAMENTAL TREES | | N/F |
| AA | 11 | AMELANCHIER ARBOREA 'AUTUMN BRILLIANCE' | AUTUMN BRILLIANCE SERVICEBERRY | 6'-7" CLUMP, B&B, MATCHED, UNIFORM CANOPY |
| | | CANOPY TREES | | N/F |
| AS | 3 | ACER SACCHARUM 'GREEN MOUNTAIN' | GREEN MOUNTAIN SUGAR MAPLE | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| LS | 3 | LIQUIDAMBAR STYRACIFLUA 'ROTUNDILOBA' | SEEDLESS SWEET GUM | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| UP | 6 | ULMUS PATRIOT | PATRIOT HYBRID ELM | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| | | EVERGREEN TREES | | N/F |
| AC | 10 | ABIES CONCOLOR | WHITE FIR | 5'-6" TALL, B&B, MATCHED, FULL TO GROUND |
| AF | 37 | ABIES FRASERI | FRASER FIR | 5'-6" TALL, B&B, MATCHED, FULL TO GROUND |
| PS | 27 | PINUS STROBUS | EASTERN WHITE PINE | 5'-6" TALL, B&B, MATCHED, FULL TO GROUND |

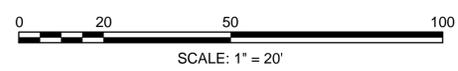


RAIL TRAIL EASEMENT FOR
TOWN OF ACTON
BOOK/PAGE: 46076/394

CONTINUED ON
SHEET 117

N/F PARCEL
ASSASSIN

CONTINUED
BELOW



LIMBILITY COMPANY
52032/412
71,91,99 MARTIN ST
H2-128



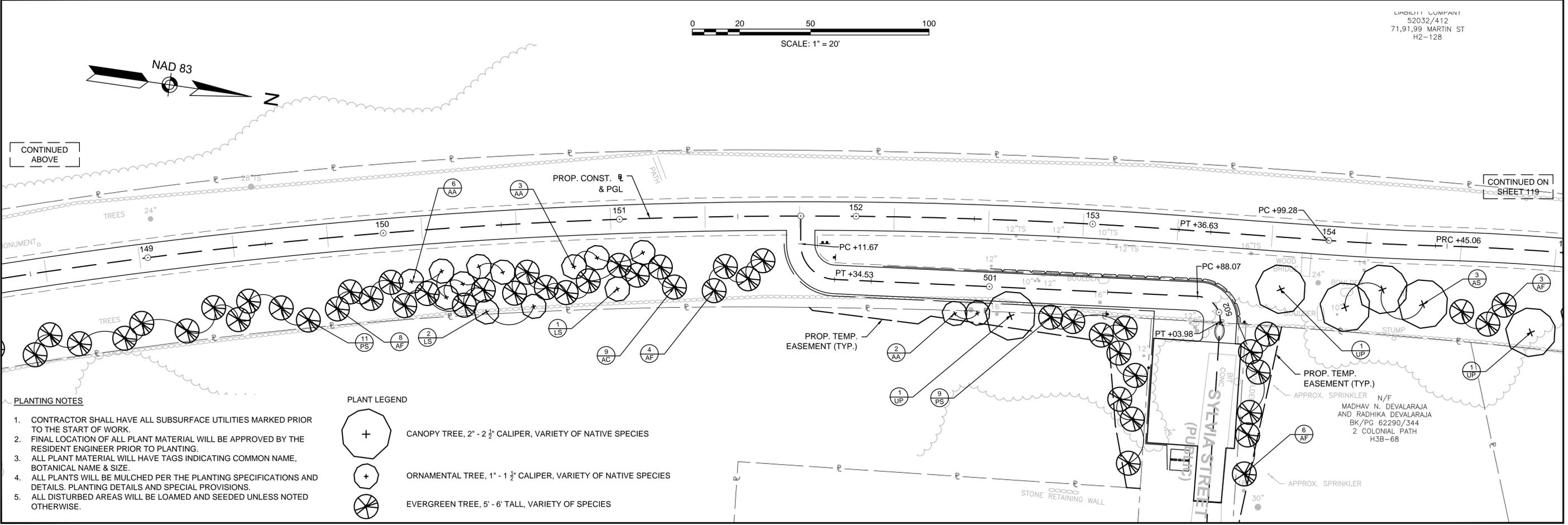
CONTINUED
ABOVE

CONTINUED ON
SHEET 119

- PLANTING NOTES**
- CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
 - FINAL LOCATION OF ALL PLANT MATERIAL WILL BE APPROVED BY THE RESIDENT ENGINEER PRIOR TO PLANTING.
 - ALL PLANT MATERIAL WILL HAVE TAGS INDICATING COMMON NAME, BOTANICAL NAME & SIZE.
 - ALL PLANTS WILL BE MULCHED PER THE PLANTING SPECIFICATIONS AND DETAILS. PLANTING DETAILS AND SPECIAL PROVISIONS.
 - ALL DISTURBED AREAS WILL BE LOAMED AND SEEDED UNLESS NOTED OTHERWISE.

PLANT LEGEND

| | |
|--|-----------------------------------------------------------------|
| | CANOPY TREE, 2" - 2 1/2" CALIPER, VARIETY OF NATIVE SPECIES |
| | ORNAMENTAL TREE, 1" - 1 1/2" CALIPER, VARIETY OF NATIVE SPECIES |
| | EVERGREEN TREE, 5' - 6' TALL, VARIETY OF SPECIES |



CONTINUED ON SHEET 116

N/F 12-33

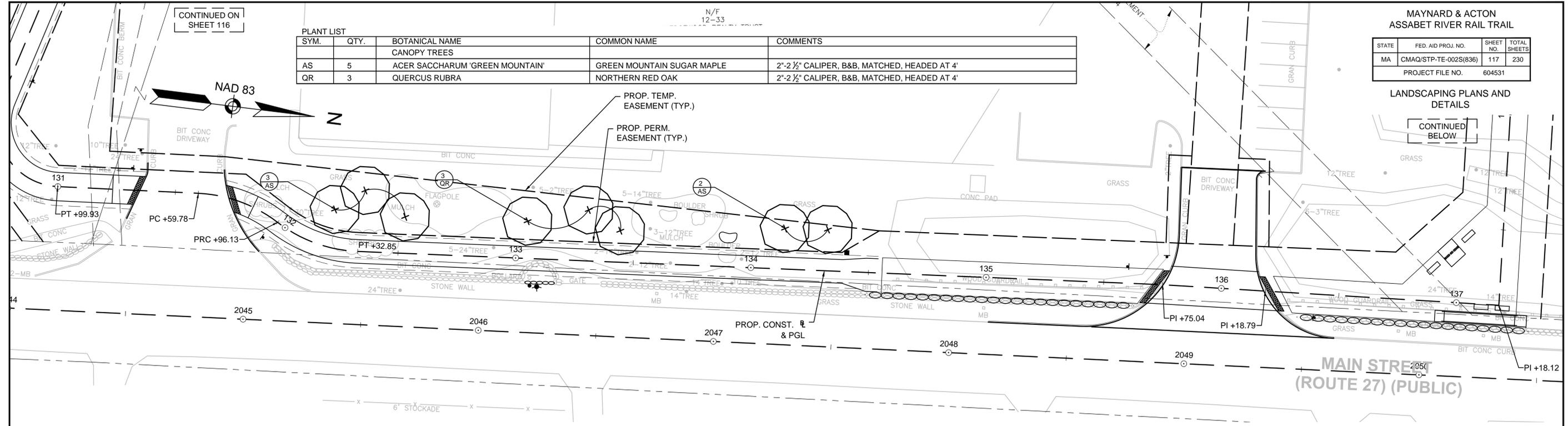
MAYNARD & ACTON ASSABET RIVER RAIL TRAIL

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 117 | 230 |
| PROJECT FILE NO. | | 604531 | |

LANDSCAPING PLANS AND DETAILS

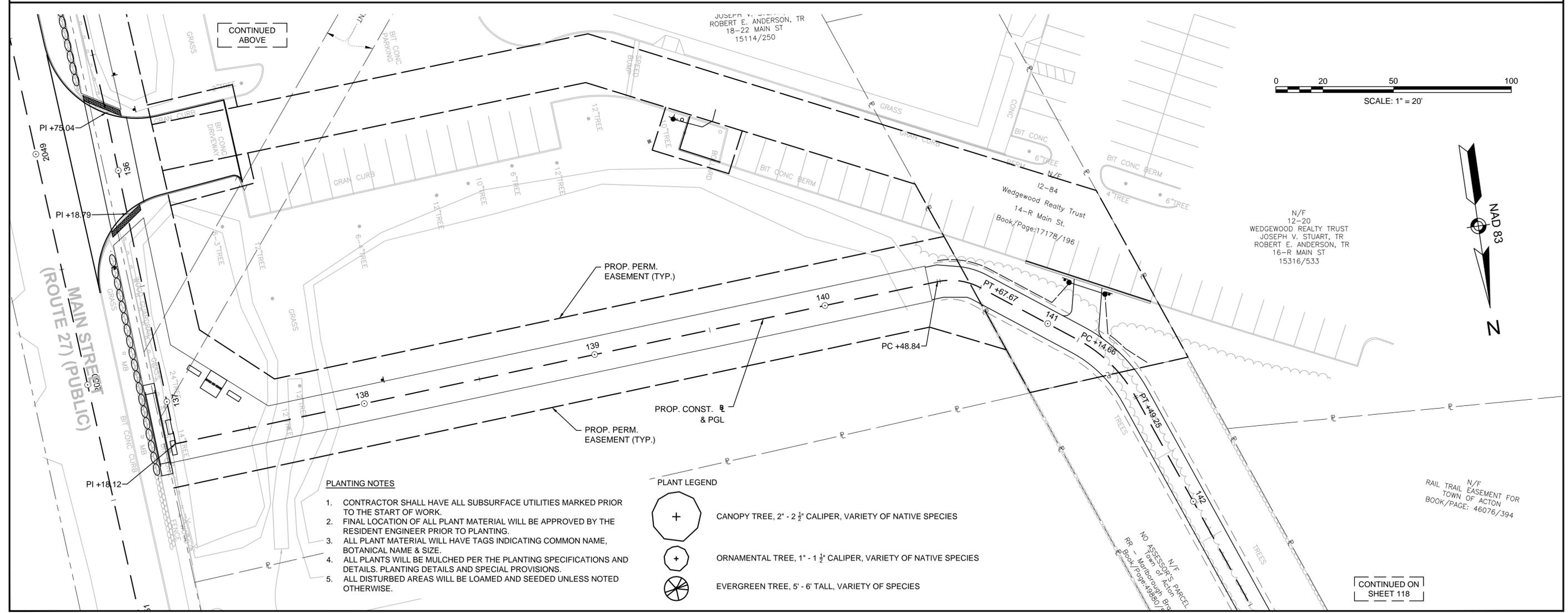
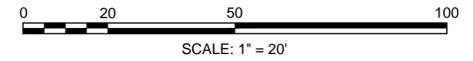
CONTINUED BELOW

| PLANT LIST | | | | |
|---------------------|------|---------------------------------|----------------------------|-----------------------------------------------|
| SYM. | QTY. | BOTANICAL NAME | COMMON NAME | COMMENTS |
| CANOPY TREES | | | | |
| AS | 5 | ACER SACCHARUM 'GREEN MOUNTAIN' | GREEN MOUNTAIN SUGAR MAPLE | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| QR | 3 | QUERCUS RUBRA | NORTHERN RED OAK | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |



MAIN STREET (ROUTE 27) (PUBLIC)

CONTINUED ABOVE



MAIN STREET (ROUTE 27) (PUBLIC)

- PLANTING NOTES**
1. CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
 2. FINAL LOCATION OF ALL PLANT MATERIAL WILL BE APPROVED BY THE RESIDENT ENGINEER PRIOR TO PLANTING.
 3. ALL PLANT MATERIAL WILL HAVE TAGS INDICATING COMMON NAME, BOTANICAL NAME & SIZE.
 4. ALL PLANTS WILL BE MULCHED PER THE PLANTING SPECIFICATIONS AND DETAILS. PLANTING DETAILS AND SPECIAL PROVISIONS.
 5. ALL DISTURBED AREAS WILL BE LOAMED AND SEEDDED UNLESS NOTED OTHERWISE.

- PLANT LEGEND**
- CANOPY TREE, 2" - 2 1/2" CALIPER, VARIETY OF NATIVE SPECIES
 - ORNAMENTAL TREE, 1" - 1 1/2" CALIPER, VARIETY OF NATIVE SPECIES
 - EVERGREEN TREE, 5' - 6' TALL, VARIETY OF SPECIES

CONTINUED ON SHEET 118

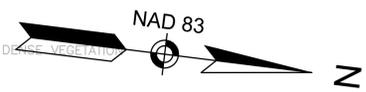
MAYNARD & ACTON
ASSABET RIVER RAIL TRAIL

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 116 | 230 |
| PROJECT FILE NO. | | 604531 | |

LANDSCAPING PLANS AND
DETAILS

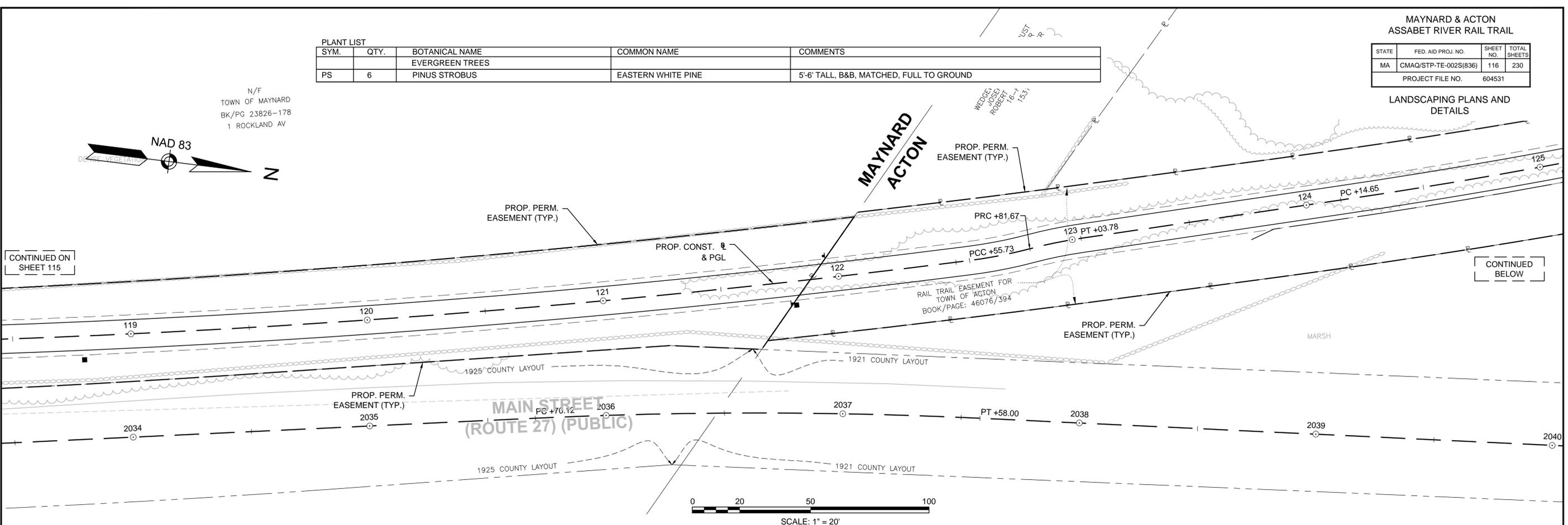
| SYM. | QTY. | BOTANICAL NAME | COMMON NAME | COMMENTS |
|------|------|-----------------|--------------------|------------------------------------------|
| | | EVERGREEN TREES | | |
| PS | 6 | PINUS STROBUS | EASTERN WHITE PINE | 5'-6" TALL, B&B, MATCHED, FULL TO GROUND |

N/F
TOWN OF MAYNARD
BK/PG 23826-178
1 ROCKLAND AV



CONTINUED ON
SHEET 115

CONTINUED
BELOW

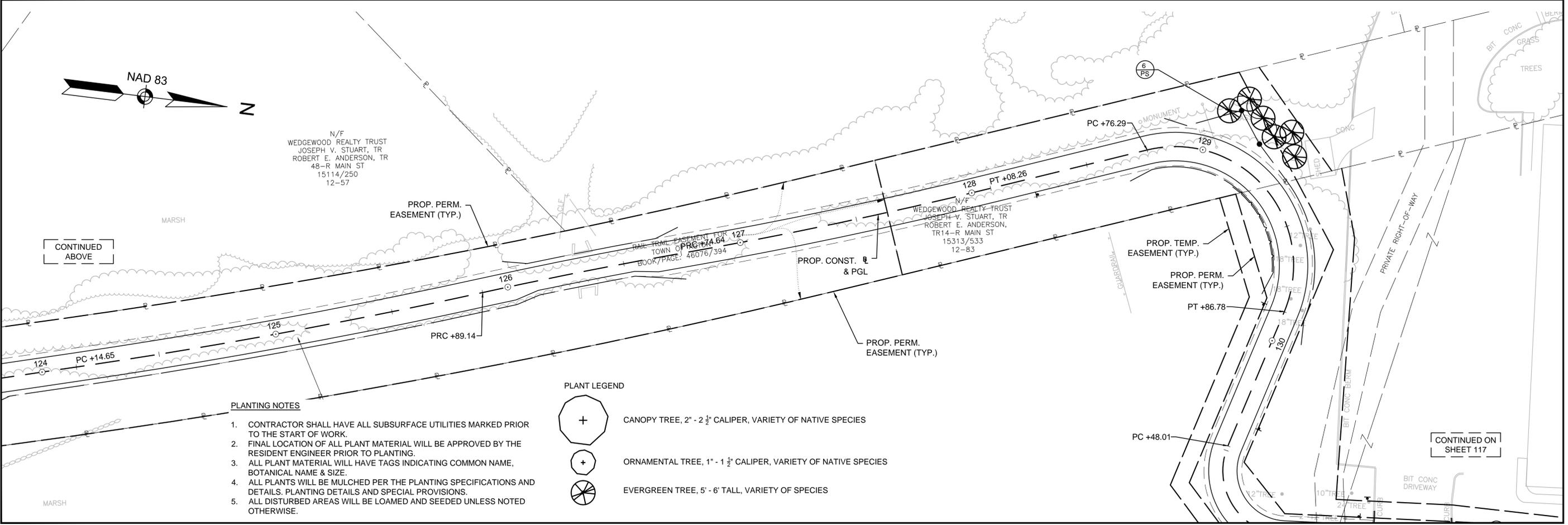


N/F
WEDGEWOOD REALTY TRUST
JOSEPH V. STUART, TR
ROBERT E. ANDERSON, TR
48-R MAIN ST
15114/250
12-57

N/F
WEDGEWOOD REALTY TRUST
JOSEPH V. STUART, TR
ROBERT E. ANDERSON, TR
14-R MAIN ST
15313/533
12-83

CONTINUED
ABOVE

CONTINUED ON
SHEET 117



PLANTING NOTES

1. CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
2. FINAL LOCATION OF ALL PLANT MATERIAL WILL BE APPROVED BY THE RESIDENT ENGINEER PRIOR TO PLANTING.
3. ALL PLANT MATERIAL WILL HAVE TAGS INDICATING COMMON NAME, BOTANICAL NAME & SIZE.
4. ALL PLANTS WILL BE MULCHED PER THE PLANTING SPECIFICATIONS AND DETAILS. PLANTING DETAILS AND SPECIAL PROVISIONS.
5. ALL DISTURBED AREAS WILL BE LOAMED AND SEEDED UNLESS NOTED OTHERWISE.

PLANT LEGEND

- CANOPY TREE, 2" - 2 1/2" CALIPER, VARIETY OF NATIVE SPECIES
- ORNAMENTAL TREE, 1" - 1 1/2" CALIPER, VARIETY OF NATIVE SPECIES
- EVERGREEN TREE, 5' - 6' TALL, VARIETY OF SPECIES

MAYNARD & ACTON
ASSABET RIVER RAIL TRAIL

| | | |
|-----------------------|-----------|--------------|
| FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
| CMAQ/STP-TE-002S(836) | 115 | 230 |
| PROJECT FILE NO. | 604531 | |

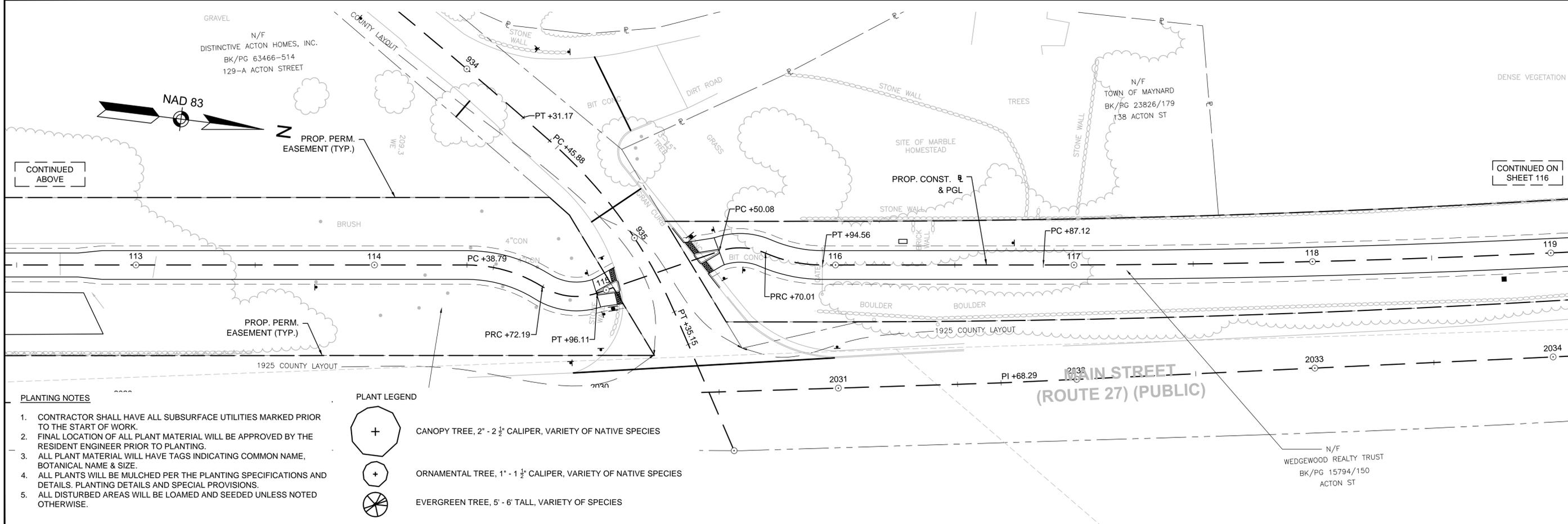
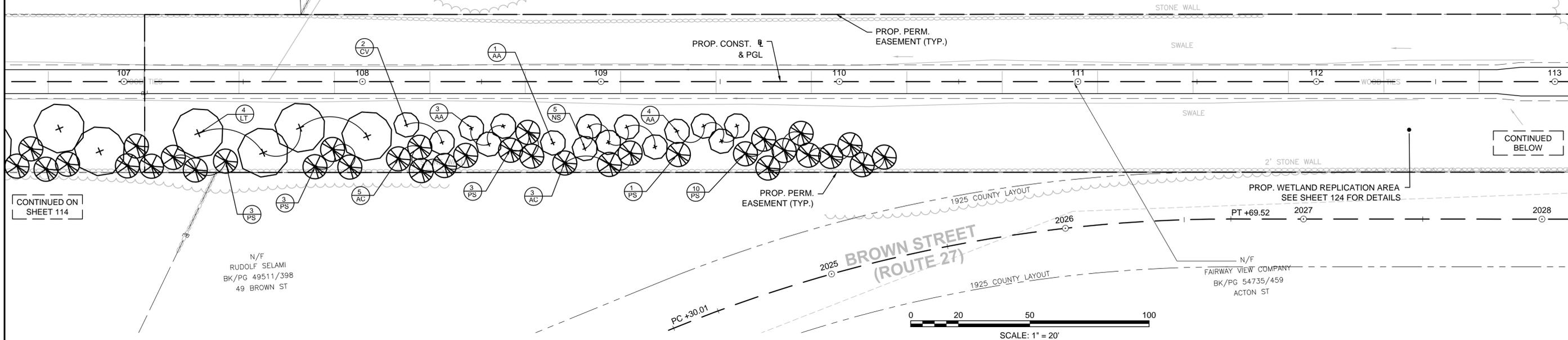
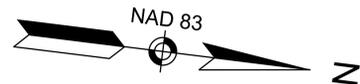
LANDSCAPING PLANS AND
DETAILS

PLANT LIST

| SYM. | QTY. | BOTANICAL NAME | COMMON NAME | COMMENTS |
|------------------|------|-----------------------------------------|--------------------------------|-------------------------------------------------|
| ORNAMENTAL TREES | | | | |
| AA | 8 | AMELANCHIER ARBOREA 'AUTUMN BRILLIANCE' | AUTUMN BRILLIANCE SERVICEBERRY | 6'-7" CLUMP, B&B, MATCHED, UNIFORM CANOPY |
| CV | 2 | CRATAEGUS VIRIDIS 'WINTER KING' | WINTER KING HAWTHORN | 1" - 1 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| NS | 5 | NYSSA SYLVATICA | TUPELO | 1" - 1 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| CANOPY TREES | | | | |
| LT | 4 | LIRIODENDRON TULIPIFERA | TULIP TREE | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| EVERGREEN TREES | | | | |
| AC | 8 | ABIES CONCOLOR | WHITE FIR | 5'-6" TALL, B&B, MATCHED, FULL TO GROUND |
| PS | 20 | PINUS STROBUS | EASTERN WHITE PINE | 5'-6" TALL, B&B, MATCHED, FULL TO GROUND |

N/F
ACTON HOMES, INC.
63466-514
ACTON STREET

N/F
BARBARA A. DUTKOWSKI
BK/PG 24993/398
119 ACTON ST



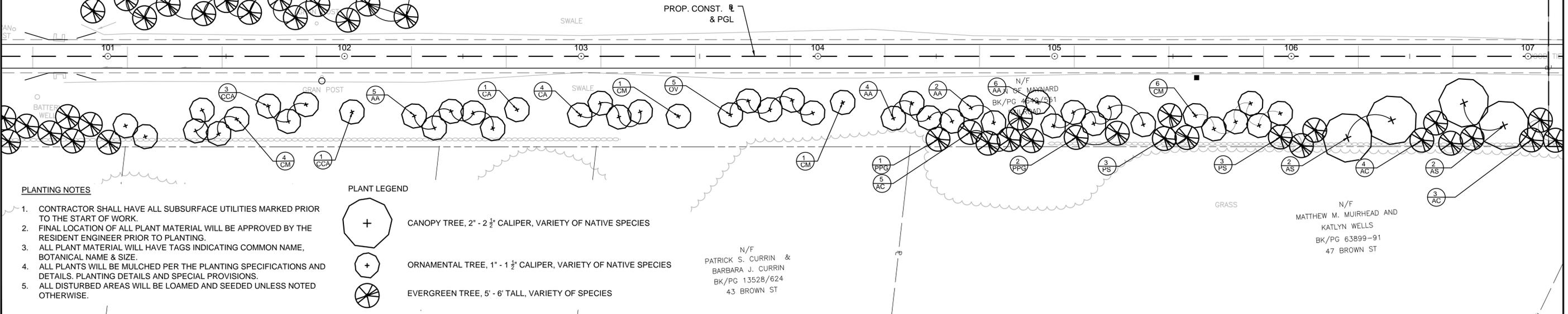
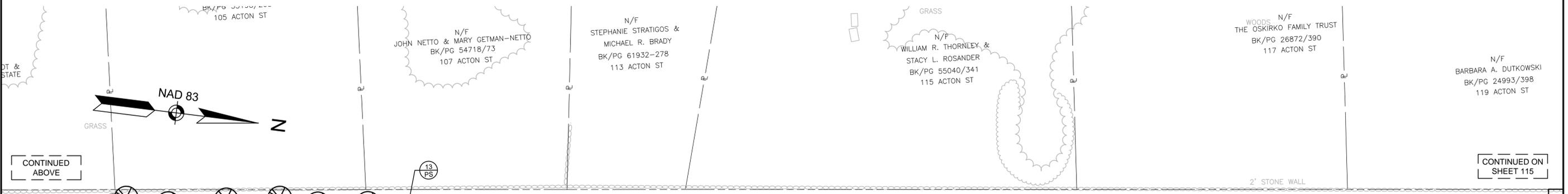
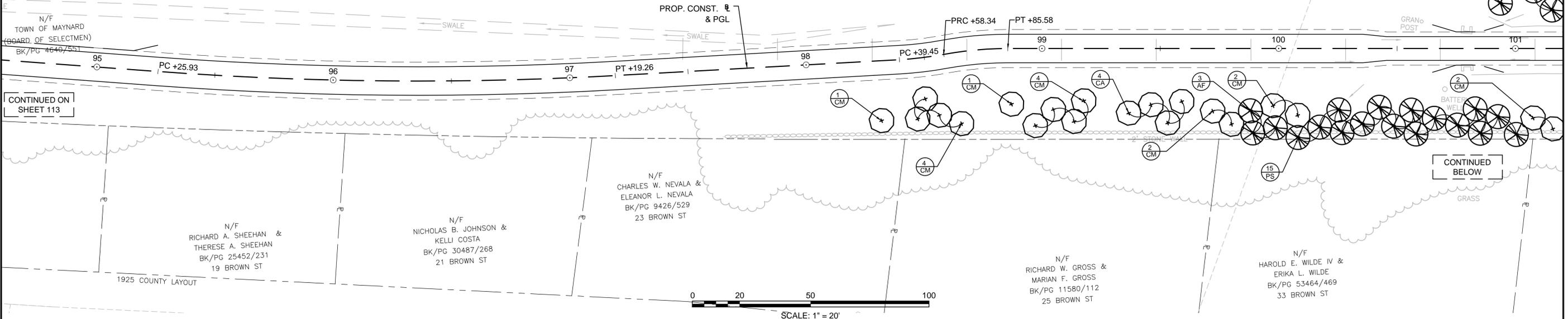
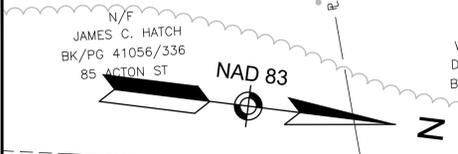
PLANTING NOTES

1. CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
2. FINAL LOCATION OF ALL PLANT MATERIAL WILL BE APPROVED BY THE RESIDENT ENGINEER PRIOR TO PLANTING.
3. ALL PLANT MATERIAL WILL HAVE TAGS INDICATING COMMON NAME, BOTANICAL NAME & SIZE.
4. ALL PLANTS WILL BE MULCHED PER THE PLANTING SPECIFICATIONS AND DETAILS. PLANTING DETAILS AND SPECIAL PROVISIONS.
5. ALL DISTURBED AREAS WILL BE LOAMED AND SEEDED UNLESS NOTED OTHERWISE.

PLANT LEGEND

- CANOPY TREE, 2" - 2 1/2" CALIPER, VARIETY OF NATIVE SPECIES
- ORNAMENTAL TREE, 1" - 1 1/2" CALIPER, VARIETY OF NATIVE SPECIES
- EVERGREEN TREE, 5' - 6' TALL, VARIETY OF SPECIES

| SYM. | QTY. | BOTANICAL NAME | COMMON NAME | COMMENTS |
|------------------|------|-----------------------------------------|--------------------------------|-------------------------------------------------|
| ORNAMENTAL TREES | | | | |
| AA | 17 | AMELANCHIER ARBOREA 'AUTUMN BRILLIANCE' | AUTUMN BRILLIANCE SERVICEBERRY | 6'-7' CLUMP, B&B, MATCHED, UNIFORM CANOPY |
| CM | 28 | HAMAMELIS VIRGINIANA | WITCH-HAZEL | 6' - 7' CLUMP, B&B, MATCHED, UNIFORM CANOPY |
| CCA | 4 | CERCIS CANADENSIS 'ALBA' | ALBA EASTERN REDBUD | 1" - 1 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| CA | 9 | CORNUS ALTERNIFOLIA | PAGODA DOGWOOD | 1" - 1 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| OV | 5 | OSTRYA VIRGINIANA | HOPHORNBEAM | 1" - 1 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| CANOPY TREES | | | | |
| AS | 4 | ACER SACCHARUM 'GREEN MOUNTAIN' | GREEN MOUNTAIN SUGAR MAPLE | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| EVERGREEN TREES | | | | |
| AC | 12 | ABIES CONCOLOR | WHITE FIR | 5'-6' TALL, B&B, MATCHED, FULL TO GROUND |
| AF | 3 | ABIES FRASERI | FRASER FIR | 5'-6' TALL, B&B, MATCHED, FULL TO GROUND |
| PPG | 3 | PICEA PUNGENS 'GLAUCA' | COLORADO BLUE SPRUCE | 5'-6' TALL, B&B, MATCHED, FULL TO GROUND |
| PS | 34 | PINUS STRUBUS | EASTERN WHITE PINE | 5'-6' TALL, B&B, MATCHED, FULL TO GROUND |

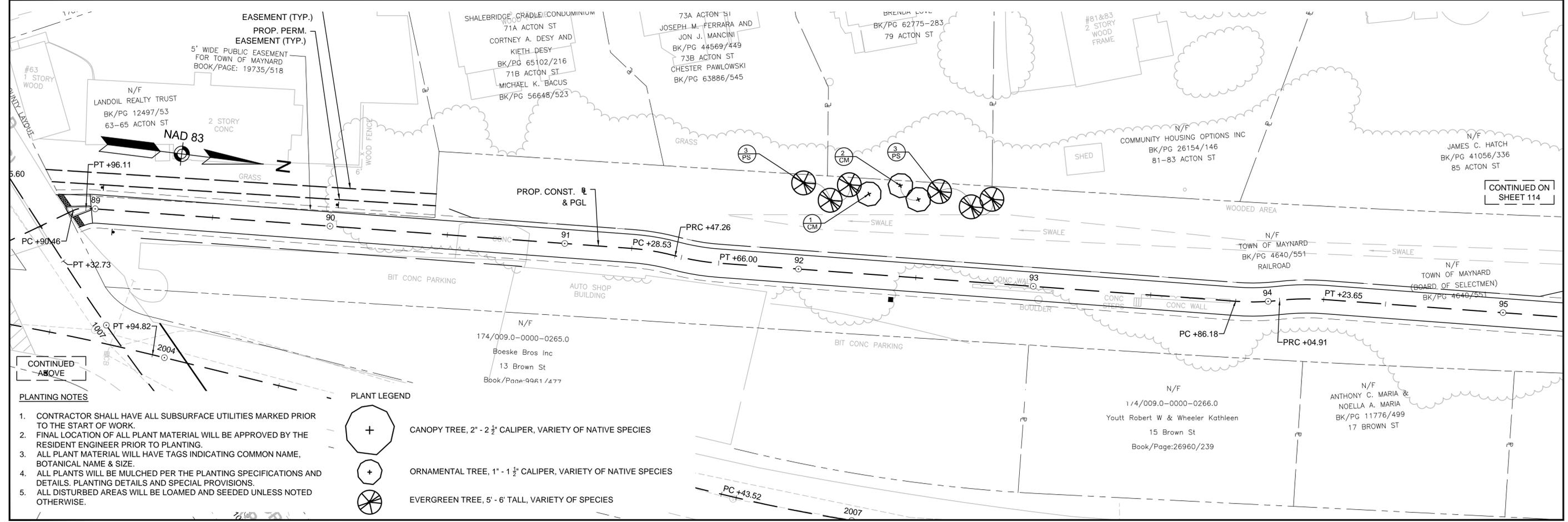
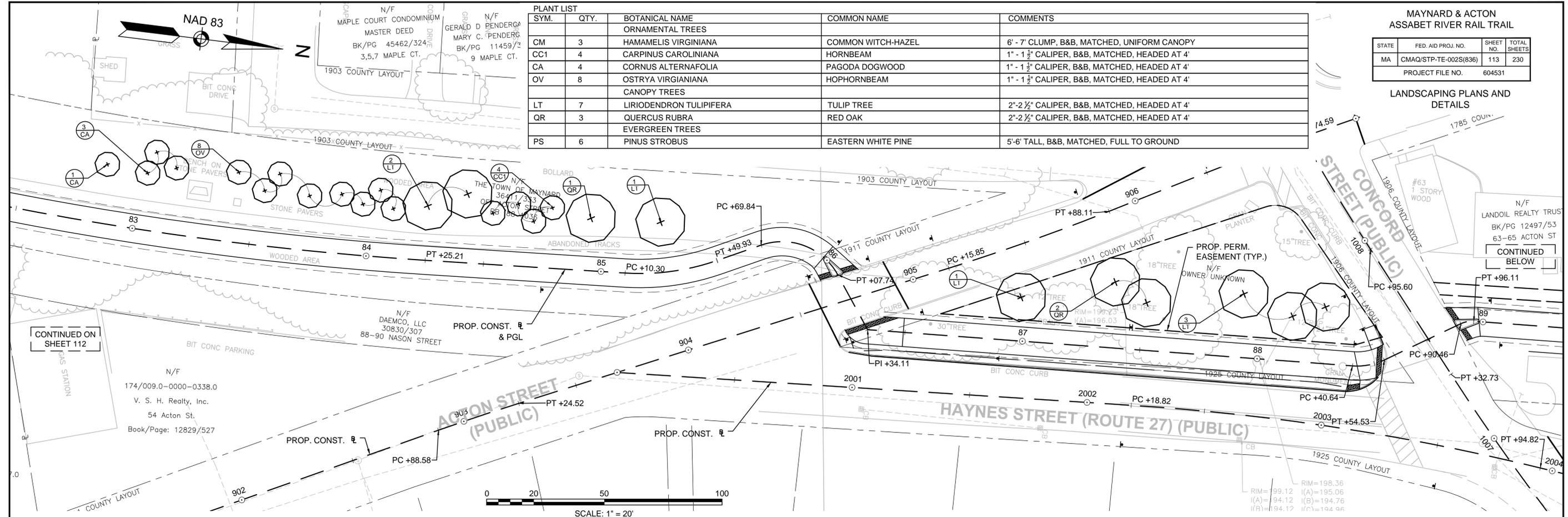


- PLANTING NOTES**
- CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
 - FINAL LOCATION OF ALL PLANT MATERIAL WILL BE APPROVED BY THE RESIDENT ENGINEER PRIOR TO PLANTING.
 - ALL PLANT MATERIAL WILL HAVE TAGS INDICATING COMMON NAME, BOTANICAL NAME & SIZE.
 - ALL PLANTS WILL BE MULCHED PER THE PLANTING SPECIFICATIONS AND DETAILS. PLANTING DETAILS AND SPECIAL PROVISIONS.
 - ALL DISTURBED AREAS WILL BE LOAMED AND SEEDED UNLESS NOTED OTHERWISE.

- PLANT LEGEND**
- CANOPY TREE, 2" - 2 1/2" CALIPER, VARIETY OF NATIVE SPECIES
 - ORNAMENTAL TREE, 1" - 1 1/2" CALIPER, VARIETY OF NATIVE SPECIES
 - EVERGREEN TREE, 5' - 6' TALL, VARIETY OF SPECIES

| SYM. | QTY. | BOTANICAL NAME | COMMON NAME | COMMENTS |
|------------------|------|-------------------------|--------------------|-------------------------------------------------|
| ORNAMENTAL TREES | | | | |
| CM | 3 | HAMAMELIS VIRGINIANA | COMMON WITCH-HAZEL | 6' - 7' CLUMP, B&B, MATCHED, UNIFORM CANOPY |
| CC1 | 4 | CARPINUS CAROLINIANA | HORNBEAM | 1" - 1 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| CA | 4 | CORNUS ALTERNAFOLIA | PAGODA DOGWOOD | 1" - 1 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| OV | 8 | OSTRYA VIRGIANIANA | HOPHORNBEAM | 1" - 1 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| CANOPY TREES | | | | |
| LT | 7 | LIRIODENDRON TULIPIFERA | TULIP TREE | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| QR | 3 | QUERCUS RUBRA | RED OAK | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| EVERGREEN TREES | | | | |
| PS | 6 | PINUS STROBUS | EASTERN WHITE PINE | 5'-6' TALL, B&B, MATCHED, FULL TO GROUND |

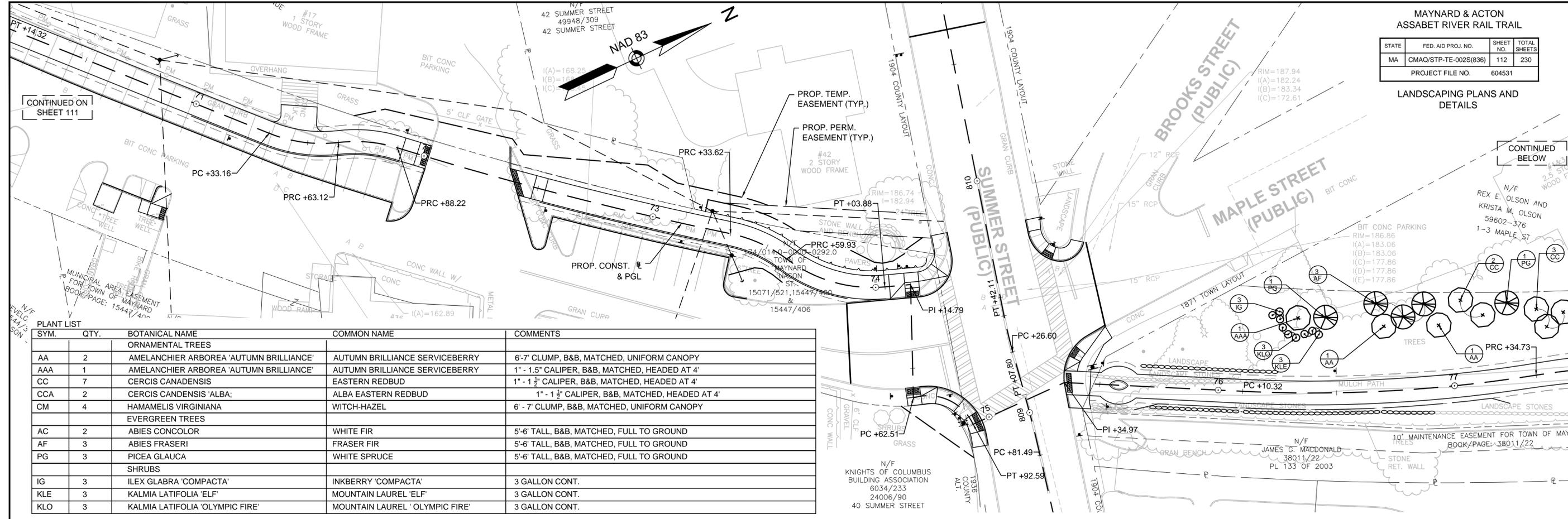
LANDSCAPING PLANS AND DETAILS



- PLANTING NOTES**
1. CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
 2. FINAL LOCATION OF ALL PLANT MATERIAL WILL BE APPROVED BY THE RESIDENT ENGINEER PRIOR TO PLANTING.
 3. ALL PLANT MATERIAL WILL HAVE TAGS INDICATING COMMON NAME, BOTANICAL NAME & SIZE.
 4. ALL PLANTS WILL BE MULCHED PER THE PLANTING SPECIFICATIONS AND DETAILS. PLANTING DETAILS AND SPECIAL PROVISIONS.
 5. ALL DISTURBED AREAS WILL BE LOAMED AND SEEDED UNLESS NOTED OTHERWISE.

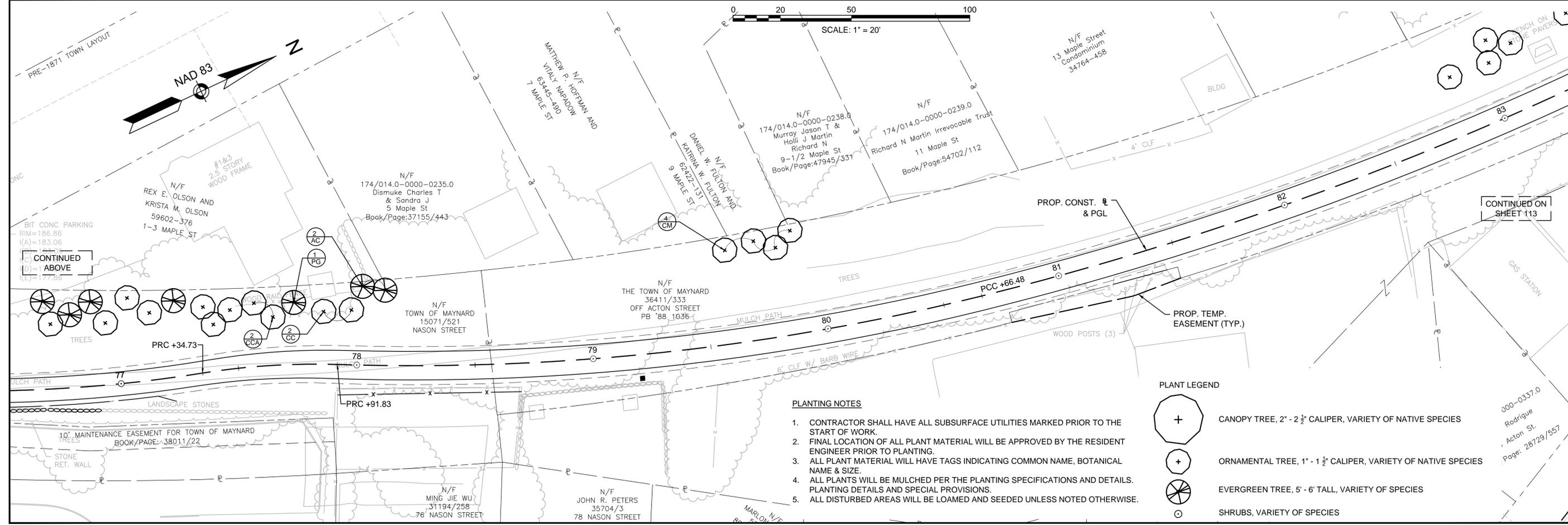
- PLANT LEGEND**
- CANOPY TREE, 2" - 2 1/2" CALIPER, VARIETY OF NATIVE SPECIES
 - ORNAMENTAL TREE, 1" - 1 1/2" CALIPER, VARIETY OF NATIVE SPECIES
 - EVERGREEN TREE, 5' - 6' TALL, VARIETY OF SPECIES

LANDSCAPING PLANS AND DETAILS



PLANT LIST

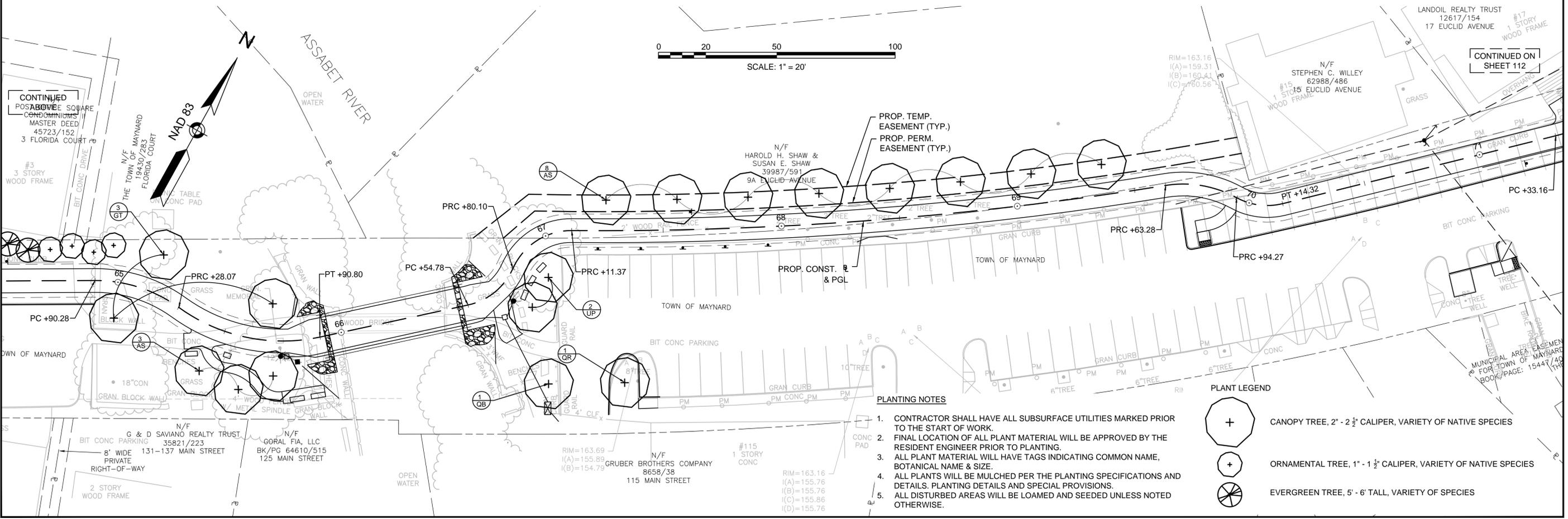
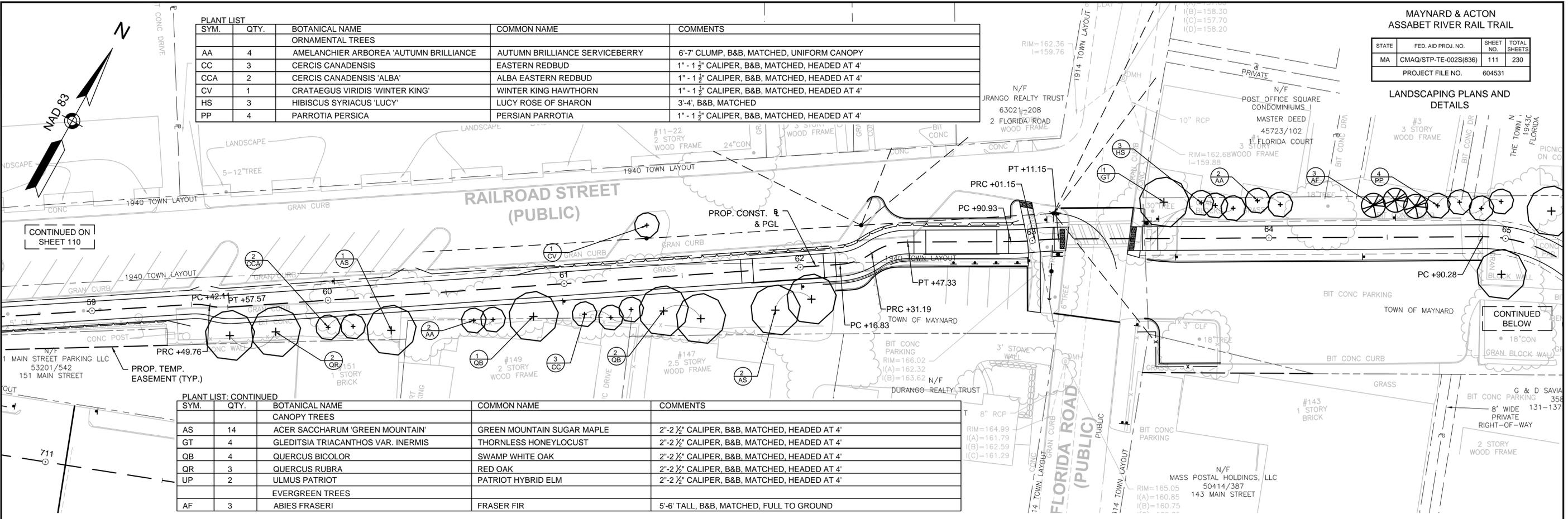
| SYM. | QTY. | BOTANICAL NAME | COMMON NAME | COMMENTS |
|-------------------------|------|-----------------------------------------|--------------------------------|-------------------------------------------------|
| ORNAMENTAL TREES | | | | |
| AA | 2 | AMELANCHIER ARBOREA 'AUTUMN BRILLIANCE' | AUTUMN BRILLIANCE SERVICEBERRY | 6'-7' CLUMP, B&B, MATCHED, UNIFORM CANOPY |
| AAA | 1 | AMELANCHIER ARBOREA 'AUTUMN BRILLIANCE' | AUTUMN BRILLIANCE SERVICEBERRY | 1" - 1.5" CALIPER, B&B, MATCHED, HEADED AT 4' |
| CC | 7 | CERCIS CANADENSIS | EASTERN REDBUD | 1" - 1 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| CCA | 2 | CERCIS CANADENSIS 'ALBA' | ALBA EASTERN REDBUD | 1" - 1 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| CM | 4 | HAMAMELIS VIRGINIANA | WITCH-HAZEL | 6' - 7' CLUMP, B&B, MATCHED, UNIFORM CANOPY |
| EVERGREEN TREES | | | | |
| AC | 2 | ABIES CONCOLOR | WHITE FIR | 5'-6' TALL, B&B, MATCHED, FULL TO GROUND |
| AF | 3 | ABIES FRASERI | FRASER FIR | 5'-6' TALL, B&B, MATCHED, FULL TO GROUND |
| PG | 3 | PICEA GLAUCA | WHITE SPRUCE | 5'-6' TALL, B&B, MATCHED, FULL TO GROUND |
| SHRUBS | | | | |
| IG | 3 | ILEX GLABRA 'COMPACTA' | INKBERRY 'COMPACTA' | 3 GALLON CONT. |
| KLE | 3 | KALMIA LATIFOLIA 'ELF' | MOUNTAIN LAUREL 'ELF' | 3 GALLON CONT. |
| KLO | 3 | KALMIA LATIFOLIA 'OLYMPIC FIRE' | MOUNTAIN LAUREL 'OLYMPIC FIRE' | 3 GALLON CONT. |



LANDSCAPING PLANS AND DETAILS

| SYM. | QTY. | BOTANICAL NAME | COMMON NAME | COMMENTS |
|------------------|------|-----------------------------------------|--------------------------------|-------------------------------------------------|
| ORNAMENTAL TREES | | | | |
| AA | 4 | AMELANCHIER ARBOREA 'AUTUMN BRILLIANCE' | AUTUMN BRILLIANCE SERVICEBERRY | 6'-7" CLUMP, B&B, MATCHED, UNIFORM CANOPY |
| CC | 3 | CERCIS CANADENSIS | EASTERN REDBUD | 1" - 1 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| CCA | 2 | CERCIS CANADENSIS 'ALBA' | ALBA EASTERN REDBUD | 1" - 1 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| CV | 1 | CRATAEGUS VIRIDIS 'WINTER KING' | WINTER KING HAWTHORN | 1" - 1 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| HS | 3 | HIBISCUS SYRIACUS 'LUCY' | LUCY ROSE OF SHARON | 3'-4", B&B, MATCHED |
| PP | 4 | PARROTIA PERSICA | PERSIAN PARROTIA | 1" - 1 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |

| SYM. | QTY. | BOTANICAL NAME | COMMON NAME | COMMENTS |
|-----------------|------|------------------------------------|----------------------------|-----------------------------------------------|
| CANOPY TREES | | | | |
| AS | 14 | ACER SACCHARUM 'GREEN MOUNTAIN' | GREEN MOUNTAIN SUGAR MAPLE | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| GT | 4 | GLEDITSIA TRIACANTHOS VAR. INERMIS | THORNLESS HONEYLOCUST | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| QB | 4 | QUERCUS BICOLOR | SWAMP WHITE OAK | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| QR | 3 | QUERCUS RUBRA | RED OAK | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| UP | 2 | ULMUS PATRIOT | PATRIOT HYBRID ELM | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| EVERGREEN TREES | | | | |
| AF | 3 | ABIES FRASERI | FRASER FIR | 5'-6' TALL, B&B, MATCHED, FULL TO GROUND |

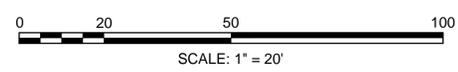


PLANTING NOTES

1. CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
2. FINAL LOCATION OF ALL PLANT MATERIAL WILL BE APPROVED BY THE RESIDENT ENGINEER PRIOR TO PLANTING.
3. ALL PLANT MATERIAL WILL HAVE TAGS INDICATING COMMON NAME, BOTANICAL NAME & SIZE.
4. ALL PLANTS WILL BE MULCHED PER THE PLANTING SPECIFICATIONS AND DETAILS. PLANTING DETAILS AND SPECIAL PROVISIONS.
5. ALL DISTURBED AREAS WILL BE LOAMED AND SEEDING UNLESS NOTED OTHERWISE.

PLANT LEGEND

-  CANOPY TREE, 2" - 2 1/2" CALIPER, VARIETY OF NATIVE SPECIES
-  ORNAMENTAL TREE, 1" - 1 1/2" CALIPER, VARIETY OF NATIVE SPECIES
-  EVERGREEN TREE, 5' - 6' TALL, VARIETY OF SPECIES



CONTINUED ON SHEET 110

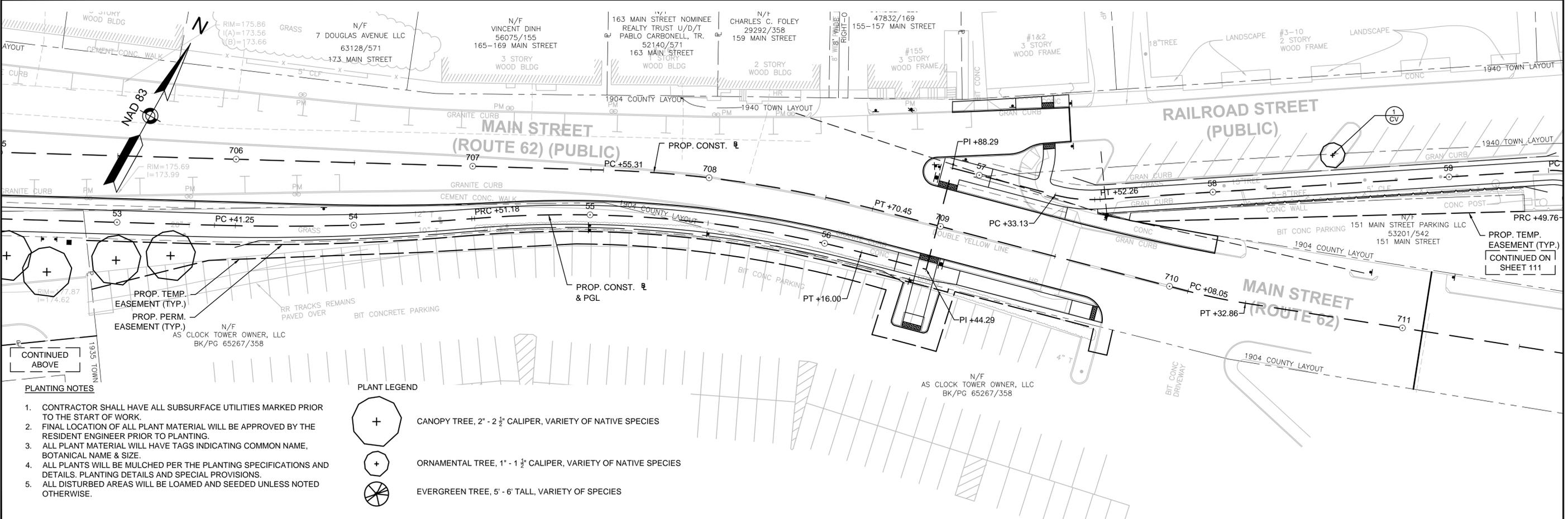
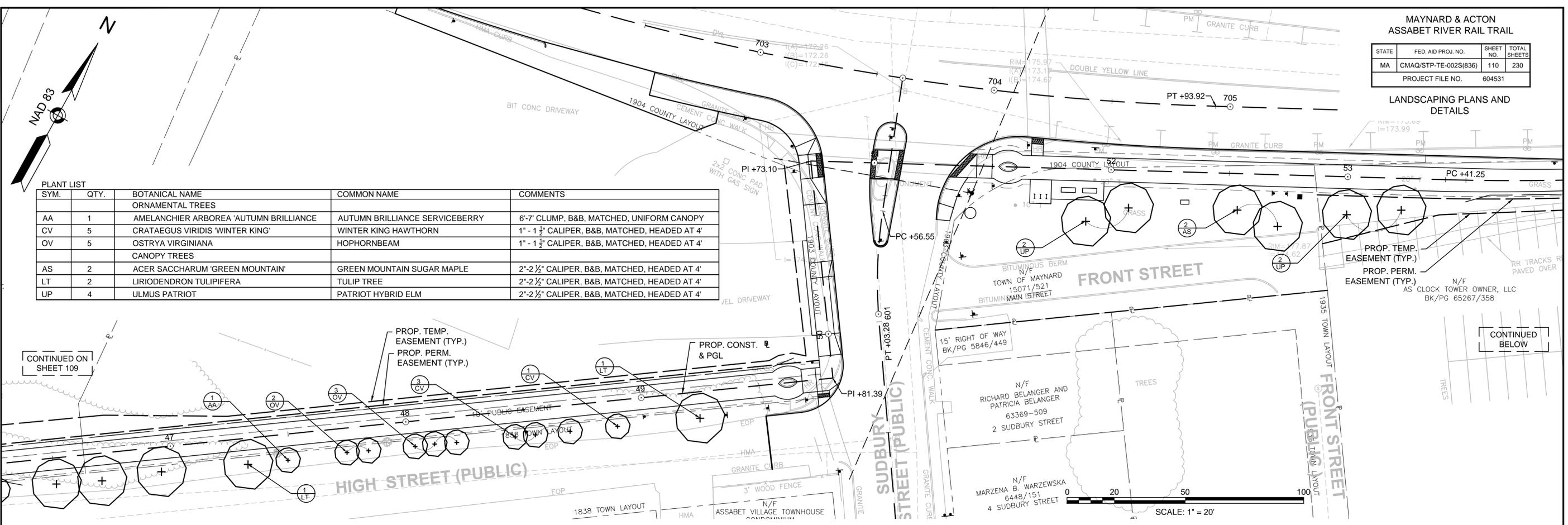
CONTINUED BELOW

CONTINUED ABOVE

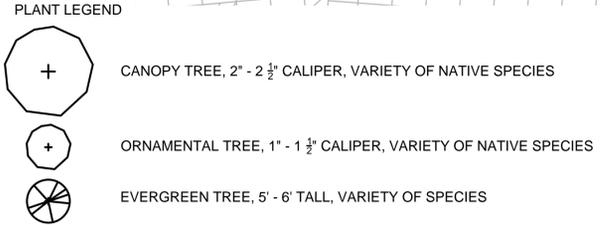
CONTINUED ON SHEET 112

PLANT LIST

| SYM. | QTY. | BOTANICAL NAME | COMMON NAME | COMMENTS |
|------------------|------|-----------------------------------------|--------------------------------|-------------------------------------------------|
| ORNAMENTAL TREES | | | | |
| AA | 1 | AMELANCHIER ARBOREA 'AUTUMN BRILLIANCE' | AUTUMN BRILLIANCE SERVICEBERRY | 6'-7" CLUMP, B&B, MATCHED, UNIFORM CANOPY |
| CV | 5 | CRATAEGUS VIRIDIS 'WINTER KING' | WINTER KING HAWTHORN | 1" - 1 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| OV | 5 | OSTRYA VIRGINIANA | HOPHORNBEAM | 1" - 1 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| CANOPY TREES | | | | |
| AS | 2 | ACER SACCHARUM 'GREEN MOUNTAIN' | GREEN MOUNTAIN SUGAR MAPLE | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| LT | 2 | LIRIODENDRON TULIPIFERA | TULIP TREE | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| UP | 4 | ULMUS PATRIOT | PATRIOT HYBRID ELM | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |



- PLANTING NOTES
- CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
 - FINAL LOCATION OF ALL PLANT MATERIAL WILL BE APPROVED BY THE RESIDENT ENGINEER PRIOR TO PLANTING.
 - ALL PLANT MATERIAL WILL HAVE TAGS INDICATING COMMON NAME, BOTANICAL NAME & SIZE.
 - ALL PLANTS WILL BE MULCHED PER THE PLANTING SPECIFICATIONS AND DETAILS. PLANTING DETAILS AND SPECIAL PROVISIONS.
 - ALL DISTURBED AREAS WILL BE LOAMED AND SEEDDED UNLESS NOTED OTHERWISE.



MAYNARD & ACTON
ASSABET RIVER RAIL TRAIL

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 109 | 230 |
| PROJECT FILE NO. | | 604531 | |

LANDSCAPING PLANS AND
DETAILS

| PLANT LIST | | | | |
|------------------|------|---------------------------------|----------------------------|-------------------------------------------------|
| SYM. | QTY. | BOTANICAL NAME | COMMON NAME | COMMENTS |
| ORNAMENTAL TREES | | | | |
| CV | 2 | CRATAEGUS VIRIDIS 'WINTER KING' | WINTER KING HAWTHORN | 1" - 1 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| CANOPY TREES | | | | |
| AS | 6 | ACER SACCHARUM 'GREEN MOUNTAIN' | GREEN MOUNTAIN SUGAR MAPLE | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| QB | 2 | QUERCUS BICOLOR | SWAMP WHITE OAK | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| UP | 3 | ULMUS PATRIOT | PATRIOT HYBRID ELM | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| EVERGREEN TREES | | | | |
| PPG | 2 | PICEA PUNGENS 'GLAUCA' | COLORADO BLUE SPRUCE | 5'-6' TALL, B&B, MATCHED, FULL TO GROUND |

N/F
LEONA FOLEY
37895/326
2 SPRING LANE

N/F
STEPHEN L. ALLEN
DOLORES A. ALLI
REGISTERED LAND
CERT# 143938
DOC# 523192
SPRING LANE

N/F
BRIAN M. DECHELLIS &
DIANE T. DECHELLIS
52987/579
43 MILL STREET

N/F
TOWN OF MAYNARD
39715/66
WINTER STREET

N/F
DEBRA J. MEALEY
& JEFFREY MEALEY
30759/217
19-20 HIGH STREET

N/F
DONNA MARTELL &
GREGORY FLANIGAN
50662/293
50 MILL STREET

N/F
DONNA MARTELL &
GREGORY FLANIGAN
50662/293

N/F
ROBERT S. MARTELL
& JOAN F. MARTELL
31140/70
12 A&B HARRIMAN CT

N/F
7 HARRIMAN COURT
REALTY TRUST U/D/T
STEPHEN M. HEBERT, TRUSTEE
43106/72
7 HARRIMAN CT

N/F
TOWN OF MAYNARD
39715/66
WINTER STREET

N/F
VINCENT DINH &
BING ZOU
64506/429
174 MAIN STREET

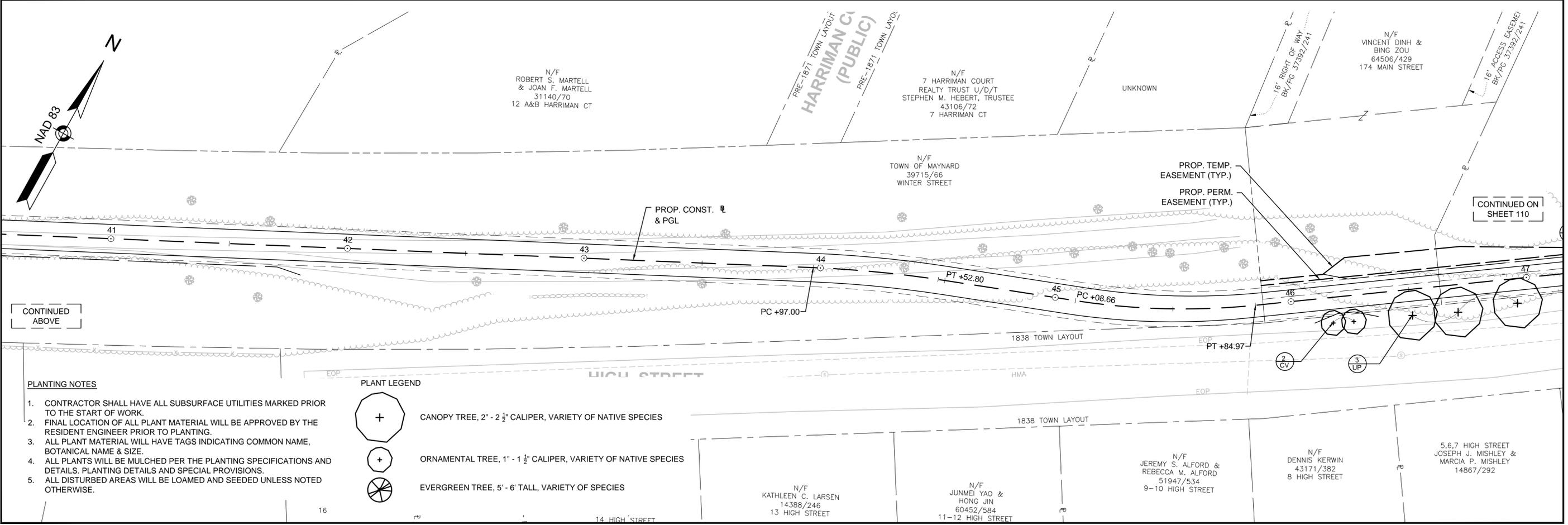
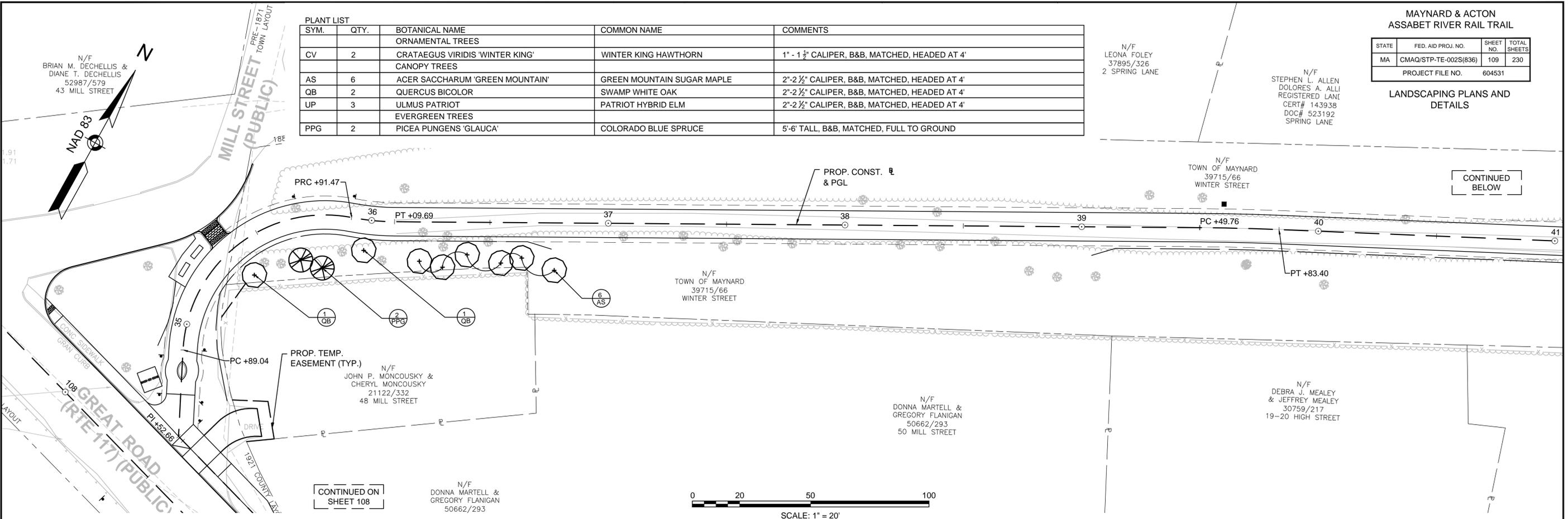
N/F
JEREMY S. ALFORD &
REBECCA M. ALFORD
51947/534
9-10 HIGH STREET

N/F
DENNIS KERWIN
43171/382
8 HIGH STREET

5,6,7 HIGH STREET
JOSEPH J. MISHLEY &
MARCIA P. MISHLEY
14867/292

N/F
KATHLEEN C. LARSEN
14388/246
13 HIGH STREET

N/F
JUNMEI YAO &
HONG JIN
60452/584
11-12 HIGH STREET



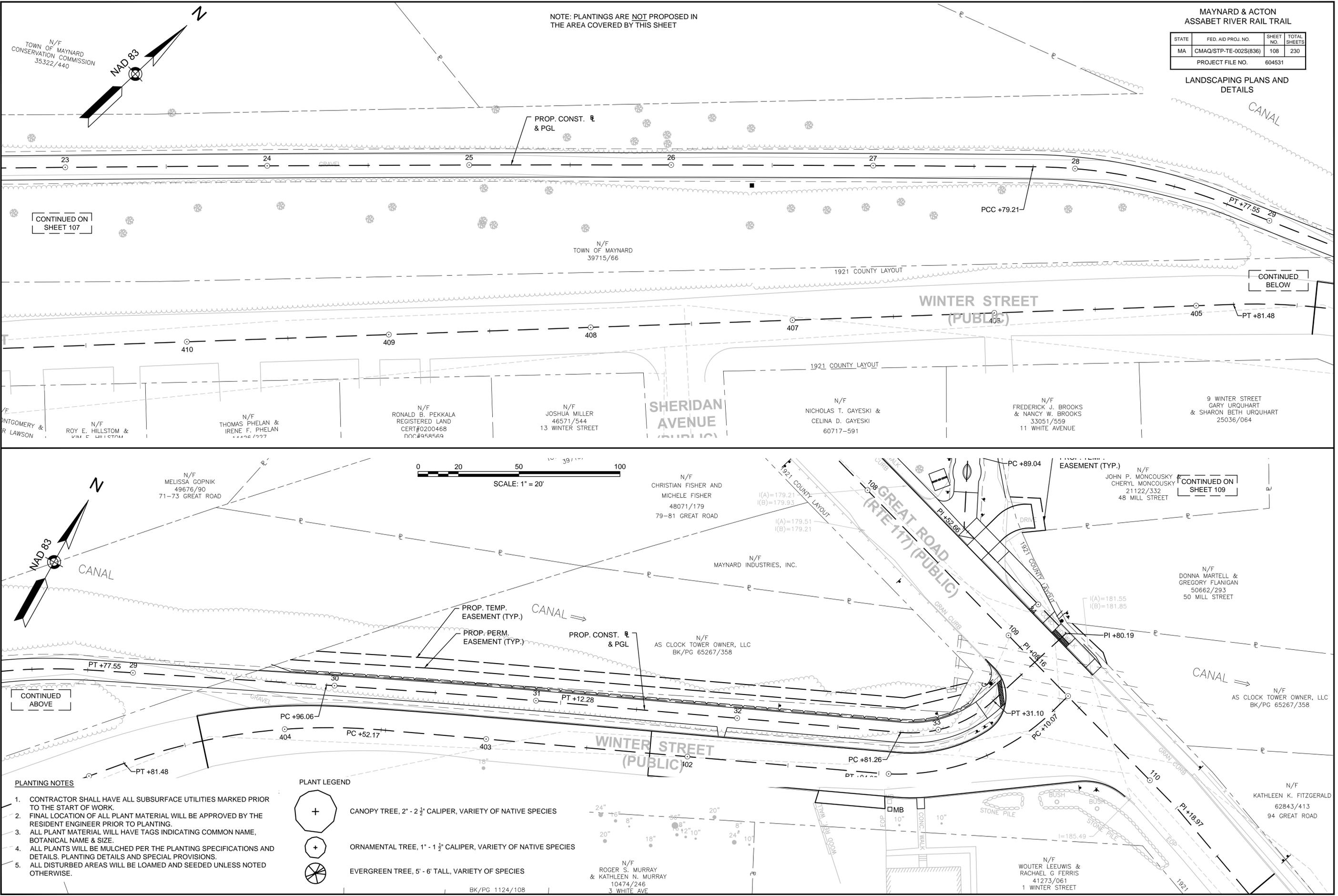
PLANTING NOTES

1. CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
2. FINAL LOCATION OF ALL PLANT MATERIAL WILL BE APPROVED BY THE RESIDENT ENGINEER PRIOR TO PLANTING.
3. ALL PLANT MATERIAL WILL HAVE TAGS INDICATING COMMON NAME, BOTANICAL NAME & SIZE.
4. ALL PLANTS WILL BE MULCHED PER THE PLANTING SPECIFICATIONS AND DETAILS, PLANTING DETAILS AND SPECIAL PROVISIONS.
5. ALL DISTURBED AREAS WILL BE LOAMED AND SEEDED UNLESS NOTED OTHERWISE.

PLANT LEGEND

- CANOPY TREE, 2" - 2 1/2" CALIPER, VARIETY OF NATIVE SPECIES
- ORNAMENTAL TREE, 1" - 1 1/2" CALIPER, VARIETY OF NATIVE SPECIES
- EVERGREEN TREE, 5' - 6' TALL, VARIETY OF SPECIES

NOTE: PLANTINGS ARE NOT PROPOSED IN THE AREA COVERED BY THIS SHEET



CONTINUED ON SHEET 107

CONTINUED BELOW

CONTINUED ON SHEET 109

CONTINUED ABOVE

- PLANTING NOTES**
1. CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
 2. FINAL LOCATION OF ALL PLANT MATERIAL WILL BE APPROVED BY THE RESIDENT ENGINEER PRIOR TO PLANTING.
 3. ALL PLANT MATERIAL WILL HAVE TAGS INDICATING COMMON NAME, BOTANICAL NAME & SIZE.
 4. ALL PLANTS WILL BE MULCHED PER THE PLANTING SPECIFICATIONS AND DETAILS. PLANTING DETAILS AND SPECIAL PROVISIONS.
 5. ALL DISTURBED AREAS WILL BE LOAMED AND SEEDING UNLESS NOTED OTHERWISE.

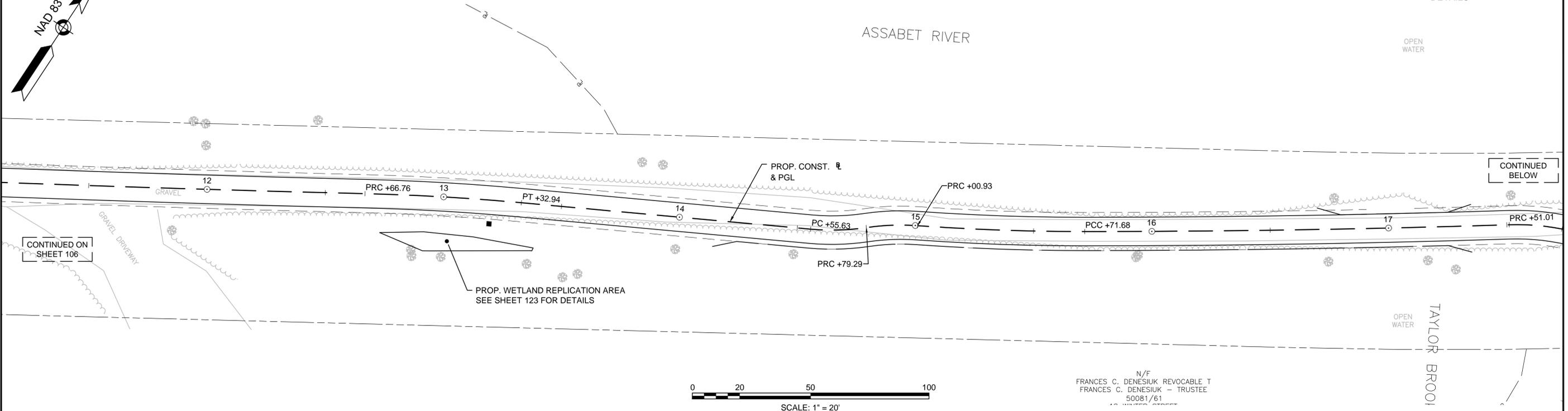
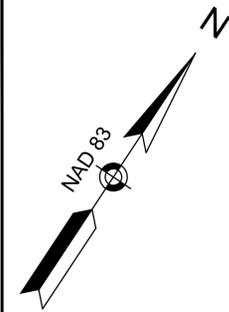
- PLANT LEGEND**
- CANOPY TREE, 2" - 2 1/2" CALIPER, VARIETY OF NATIVE SPECIES
 - ORNAMENTAL TREE, 1" - 1 1/2" CALIPER, VARIETY OF NATIVE SPECIES
 - EVERGREEN TREE, 5' - 6' TALL, VARIETY OF SPECIES

MAYNARD & ACTON
ASSABET RIVER RAIL TRAIL

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 107 | 230 |
| PROJECT FILE NO. | | 604531 | |

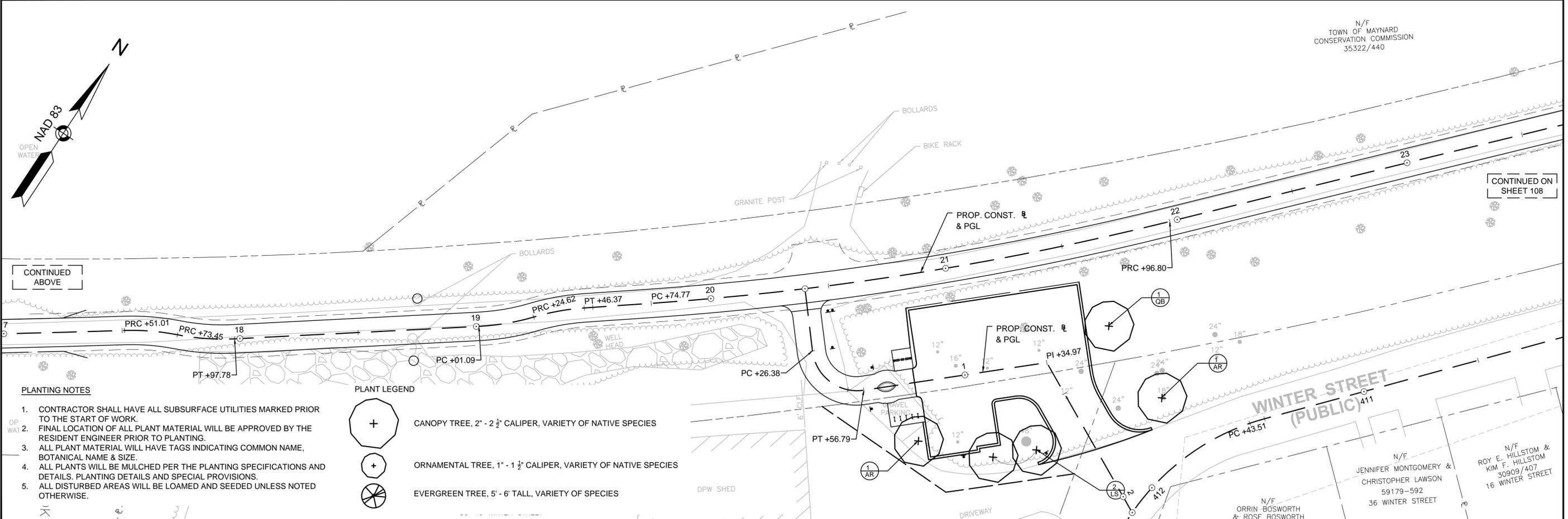
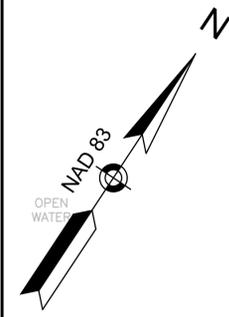
LANDSCAPING PLANS AND
DETAILS

| PLANT LIST | | | | |
|--------------|------|---------------------------------------|----------------------|-----------------------------------------------|
| SYM. | QTY. | BOTANICAL NAME | COMMON NAME | COMMENTS |
| CANOPY TREES | | | | |
| AR | 2 | ACER RUBRUM 'RED SUNSET' | RED SUNSET RED MAPLE | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| LS | 2 | LIQUIDAMBAR STYRACIFLUA 'ROTUNDILOBA' | SEEDLESS SWEETGUM | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| QB | 1 | QUERCUS BICOLOR | SWAMP WHITE OAK | 2"-2 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |



N/F
FRANCES C. DENESIUK REVOCABLE T
FRANCES C. DENESIUK - TRUSTEE
50081/61
10 WINTER STREET

N/F
TOWN OF MAYNARD
CONSERVATION COMMISSION
35322/440



- PLANTING NOTES**
- CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
 - FINAL LOCATION OF ALL PLANT MATERIAL WILL BE APPROVED BY THE RESIDENT ENGINEER PRIOR TO PLANTING.
 - ALL PLANT MATERIAL WILL HAVE TAGS INDICATING COMMON NAME, BOTANICAL NAME & SIZE.
 - ALL PLANTS WILL BE MULCHED PER THE PLANTING SPECIFICATIONS AND DETAILS. PLANTING DETAILS AND SPECIAL PROVISIONS.
 - ALL DISTURBED AREAS WILL BE LOAMED AND SEEDING UNLESS NOTED OTHERWISE.

- PLANT LEGEND**
- CANOPY TREE, 2" - 2 1/2" CALIPER, VARIETY OF NATIVE SPECIES
 - ORNAMENTAL TREE, 1" - 1 1/2" CALIPER, VARIETY OF NATIVE SPECIES
 - EVERGREEN TREE, 5' - 6' TALL, VARIETY OF SPECIES

N/F
JENNIFER MONTGOMERY &
CHRISTOPHER LAWSON
59179-592
36 WINTER STREET

N/F
ROY E. HILLSTOM &
KIM F. HILLSTOM
30909/407
16 WINTER STREET

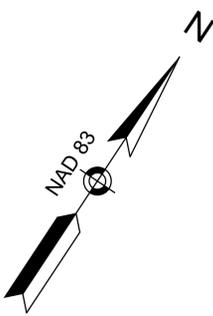
N/F
ORRIN BOSWORTH &
ROSE BOSWORTH

MAYNARD & ACTON
ASSABET RIVER RAIL TRAIL

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 106 | 230 |
| PROJECT FILE NO. | | 604531 | |

LANDSCAPING PLANS AND
DETAILS
30444/0
14 RIVERSIDE PARK

| PLANT LIST | | | | |
|------------------|------|----------------------------------------|--------------------------------|-------------------------------------------------|
| SYM. | QTY. | BOTANICAL NAME | COMMON NAME | COMMENTS |
| ORNAMENTAL TREES | | | | |
| AA | 3 | AMELANCHIER ARBOREA 'AUTUMN BRILLIANCE | AUTUMN BRILLIANCE SERVICEBERRY | 6'-7' CLUMP, B&B, MATCHED, UNIFORM CANOPY |
| CC | 4 | CERCIS CANADENSIS | EASTERN REDBUD | 1" - 1 1/2" CALIPER, B&B, MATCHED, HEADED AT 4' |
| EVERGREEN TREES | | | | |
| PS | 3 | PINUS STROBUS | EASTERN WHITE PINE | 5'-6' TALL, B&B, MATCHED, FULL TO GROUND |



STOW
MAYNARD

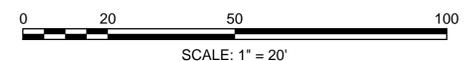
WHITE POND ROAD
(PUBLIC)

N/F
ALAN DIPIETRO
& BETH DIPIETRO
42782/513
4 RIVERSIDE PARK

N/F
MICHAEL RASKIN
& MELISSA RASKIN
239727/1447441
12 RIVERSIDE PARK

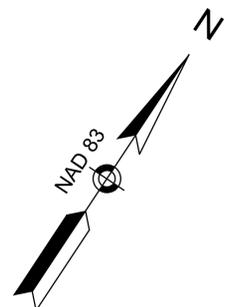
CONTINUED
BELOW

BEGIN PROJECT
STA. 0+25.00
MEET EXISTING
N2978895.6010
E663086.3474



N/F
ASSABET RIVER NATIONAL WILDLIFE REFUGE
DEPT OF THE INTERIOR - US FISH & WILDLIFE
12780/121

N/F
TOWN OF MAYNARD
39715/66
WINTER STREET



N/F
BERNARD DONAHUE &
MARGUERITE DONAHUE
50422/6
14 RIVERSIDE PARK

N/F
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF THE COMMISSIONER
RIVERSIDE STREET

CONTINUED ON
SHEET 107

CONTINUED
ABOVE

N/F
TOWN OF MAYNARD
39715/66
WINTER STREET

PLANTING NOTES

- CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
- FINAL LOCATION OF ALL PLANT MATERIAL WILL BE APPROVED BY THE RESIDENT ENGINEER PRIOR TO PLANTING.
- ALL PLANT MATERIAL WILL HAVE TAGS INDICATING COMMON NAME, BOTANICAL NAME & SIZE.
- ALL PLANTS WILL BE MULCHED PER THE PLANTING SPECIFICATIONS AND DETAILS. PLANTING DETAILS AND SPECIAL PROVISIONS.
- ALL DISTURBED AREAS WILL BE LOAMED AND SEEDED UNLESS NOTED OTHERWISE.

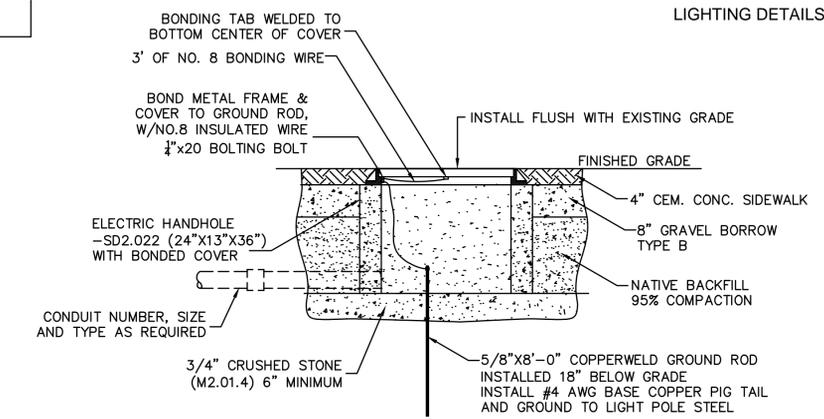
PLANT LEGEND

-  CANOPY TREE, 2" - 2 1/2" CALIPER, VARIETY OF NATIVE SPECIES
-  ORNAMENTAL TREE, 1" - 1 1/2" CALIPER, VARIETY OF NATIVE SPECIES
-  EVERGREEN TREE, 5' - 6' TALL, VARIETY OF SPECIES

N/F
FRANCES C DENESIUK REVOCABLE TRUST
FRANCES C DENESIUK - TRUSTEE
50081/61
18 WINTER STREET

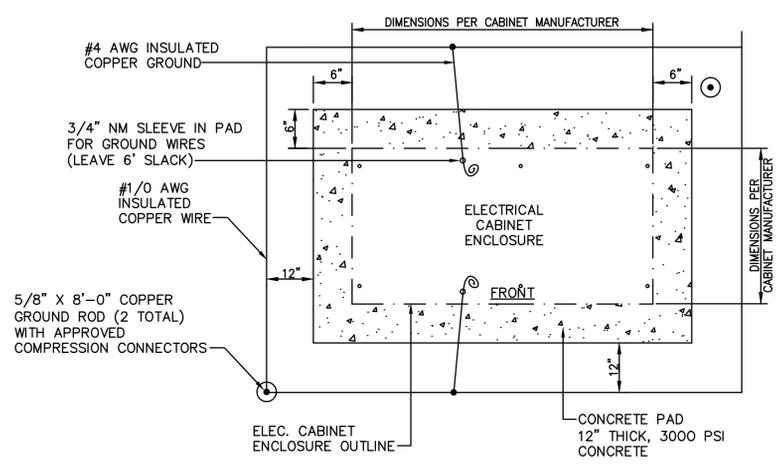
| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 105 | 230 |
| PROJECT FILE NO. | | 604531 | |

LIGHTING DETAILS

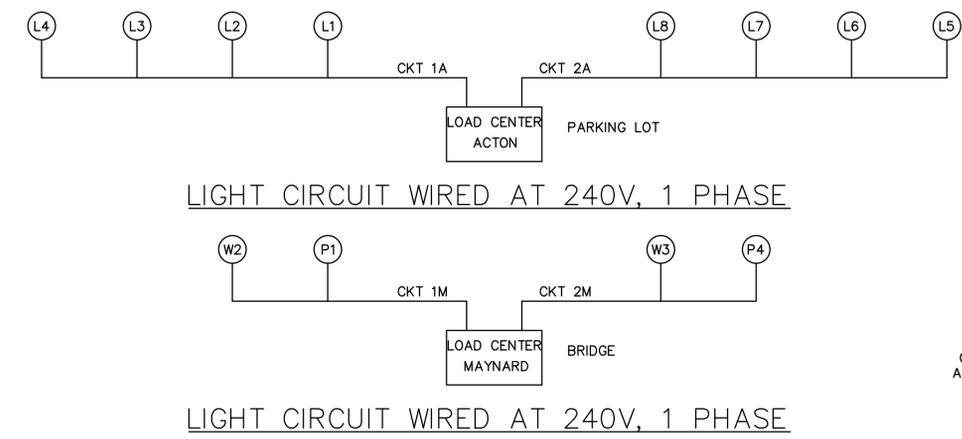


- HANDHOLE INSTALLATION NOTES:**
- HANDHOLE ORIENTATION TO BE SUCH THAT ALL SUPPLY DUCTS ENTER ON SAME SHORT SIDE.
 - SIZE AND NUMBER OF CONDUITS AS REQUIRED.
 - CONDUIT LOCATIONS SHOWN ARE TYPICAL.
 - ALL HANDHOLES SHALL BE LOCATED OUTSIDE OF THE PROPOSED WALKS AND SHARED USE PATH.

INSTALLATION DETAIL
ELECTRIC HANDHOLE
N.T.S.



ELECTRICAL CABINET FOUNDATION PLAN
N.T.S.

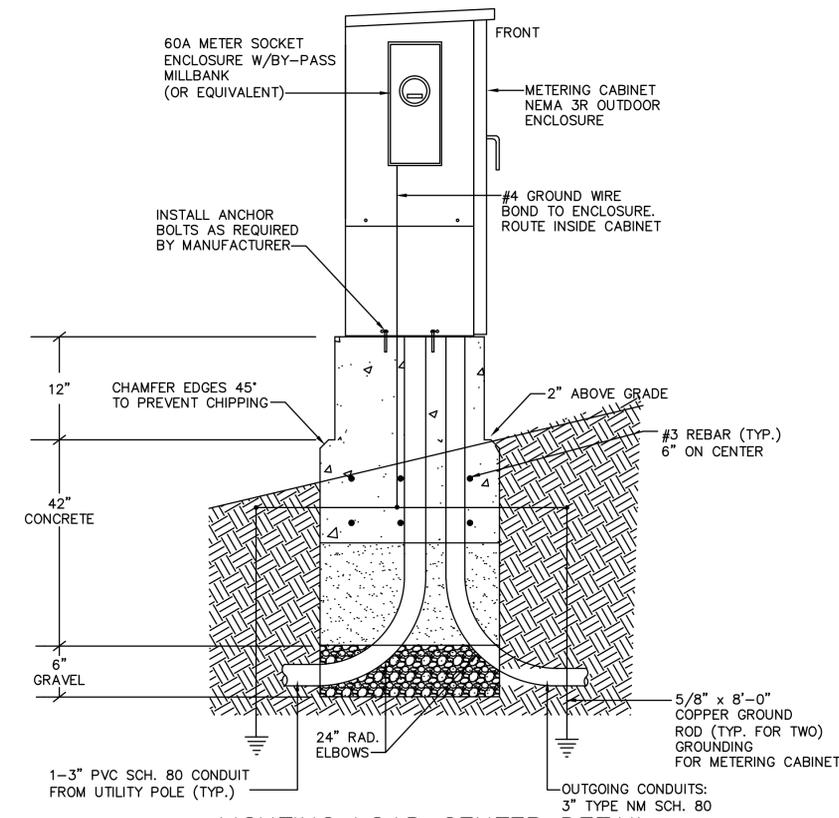


LIGHT CIRCUIT WIRED AT 240V, 1 PHASE
N.T.S.

| MAYNARD DISTRIBUTION PANEL SCHEDULE | | | | | |
|-------------------------------------|---------|-----------------------|---------------------|--------------------------------|-------------------------------------|
| PHASE: 1 | | WIRES: 3 | VOLTAGE: 120/240V | MAINS: 200A MCB | |
| CIRCUIT | BREAKER | | DESCRIPTION OF LOAD | CABLE | CONDUIT |
| | FRAME | POLES(N-NEUTRAL) TRIP | | | |
| M | 100 | 2P | 60 | MAIN CIRCUIT BREAKER | 3W#6AWG & #6 GND (1) 3"NM SCH80 |
| 1 | 20 | 2P | 15 | LIGHTING CKT A | 2W#6AWG & #6 GND (1) 1-1/2"NM SCH80 |
| 2 | 20 | 2P | 15 | LIGHTING CKT B | 2W#6AWG & #6 GND (1) 1-1/2"NM SCH80 |
| 3 | 20 | 1P | 20 | RECEPTACLE IN CABINET | 2W#12AWG & #12 GND (1) 3/4" EMT |
| 4 | 20 | 1P | 20 | ON/OFF/AUTO LIGHTING CONTACTOR | 2W#12AWG & #12 GND (1) 3/4" EMT |
| 5 | 20 | 1P | 20 | TIMECLOCK 120VAC POWER | 2W#12AWG & #12 GND (1) 3/4" EMT |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |

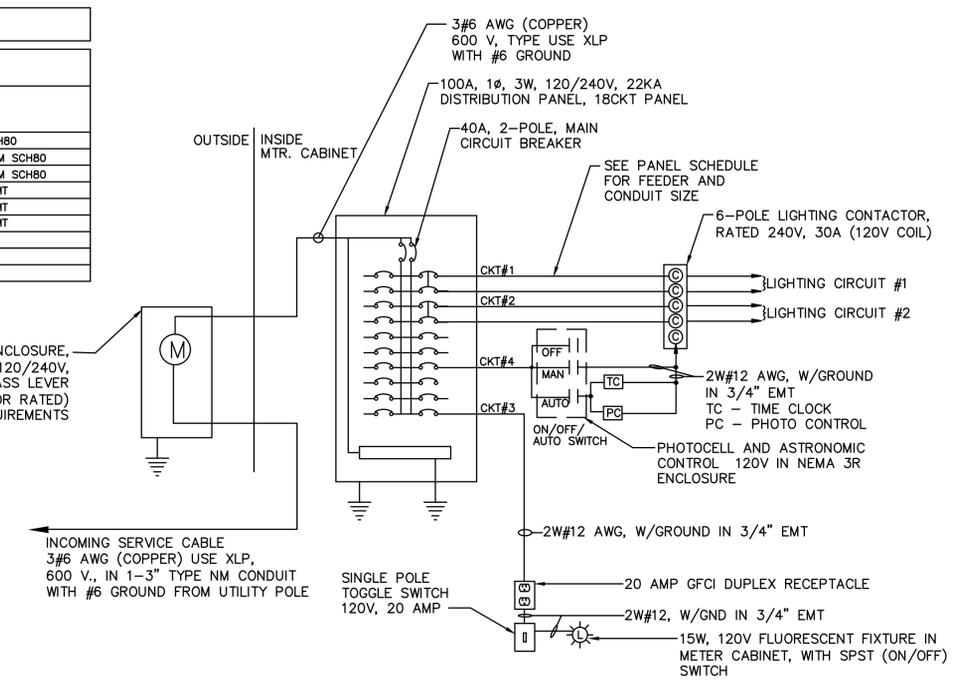
| ACTON DISTRIBUTION PANEL SCHEDULE | | | | | |
|-----------------------------------|---------|-----------------------|---------------------|--------------------------------|-------------------------------------|
| PHASE: 1 | | WIRES: 3 | VOLTAGE: 120/240V | MAINS: 200A MCB | |
| CIRCUIT | BREAKER | | DESCRIPTION OF LOAD | CABLE | CONDUIT |
| | FRAME | POLES(N-NEUTRAL) TRIP | | | |
| M | 100 | 2P | 60 | MAIN CIRCUIT BREAKER | 3W#6AWG & #6 GND (1) 3"NM SCH80 |
| 1 | 20 | 2P | 15 | LIGHTING CKT A | 2W#6AWG & #6 GND (1) 1-1/2"NM SCH80 |
| 2 | 20 | 2P | 15 | LIGHTING CKT B | 2W#6AWG & #6 GND (1) 1-1/2"NM SCH80 |
| 3 | 20 | 1P | 20 | RECEPTACLE IN CABINET | 2W#12AWG & #12 GND (1) 3/4" EMT |
| 4 | 20 | 1P | 20 | ON/OFF/AUTO LIGHTING CONTACTOR | 2W#12AWG & #12 GND (1) 3/4" EMT |
| 5 | 20 | 1P | 20 | TIMECLOCK 120VAC POWER | 2W#12AWG & #12 GND (1) 3/4" EMT |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |

ELECTRICAL PANEL SCHEDULE



LIGHTING LOAD CENTER DETAIL
SECTION A-A
N.T.S.

| MAYNARD AND ACTON ELECTRICAL EQUIPMENT SCHEDULE | | |
|-------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------|
| ITEM | DESCRIPTION | MANUFACTURER |
| METER SOCKET 120/240V | 1 PHASE 3 WIRE, 120/240V, 60 AMP W/BY-PASS IN NEMA 3R ENCLOSURE | GE SQUARE D OR APPROVED EQUAL |
| LIGHTING CONTACTOR 600 VOLT, 6 POLE, 30 AMP | 6 POLE, 240V, 30 AMP, 120V COIL, FRAME IN NEMA 3R ENCLOSURE | GE SQUARE D OR APPROVED EQUAL |
| MAIN 120/240V PANELBOARD | 1 PHASE, 3 WIRE, 100 AF, 40 AT, 18 POLES IN NEMA 3R ENCLOSURE | GE SQUARE D OR APPROVED EQUAL |
| ASTRONOMICAL TIMER | PHOTOCELL AND ASTRONOMIC CONTROL, 120V, 1 PHASE 3 WIRE IN NEMA 3R ENCLOSURE | TORK OR APPROVED EQUAL |
| 20 AMP DUPLEX CONVENIENCE RECEPTACLE | 120 VOLT 20 AMP, GFCI DUPLEX RECEPTACLE | HUBBLE GFST20I OR APPROVED EQUAL |
| LIGHT SWITCH | 120 VOLT 20 AMP, SINGLE POLE TOGGLE SWITCH | HUBBLE SNAP 120INA OR APPROVED EQUAL |
| FLUORESCENT LIGHT | 15W, 120V FLUORESCENT IN SIDE CABINET | GE PHILLIPS OR APPROVED EQUAL |



LIGHTING LOAD CENTER
ELECTRICAL RISER DETAIL
N.T.S.

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 104 | 230 |
| PROJECT FILE NO. | | 604531 | |

LIGHTING DETAILS

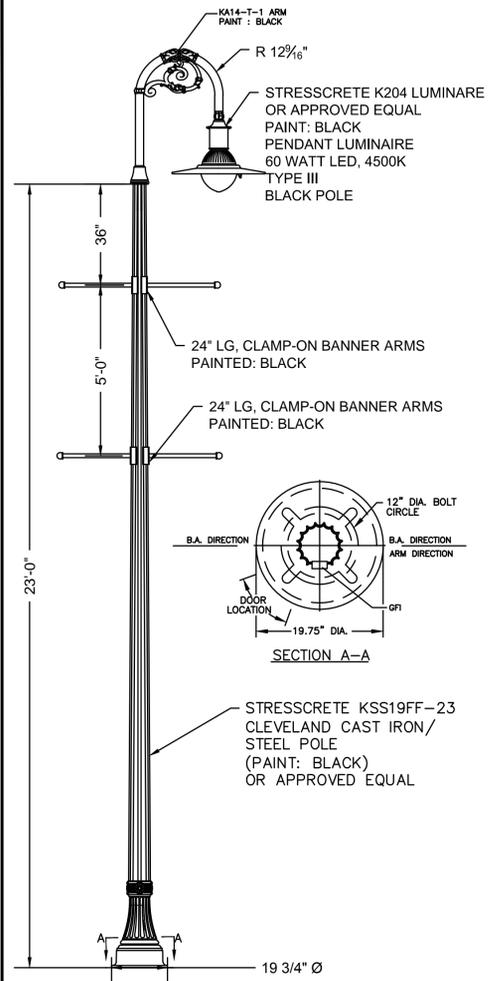
ELECTRICAL INSTALLATION NOTES:

- THIS DRAWING IS FOR INFORMATION ONLY. THE CONTRACTOR SHALL VERIFY ALL LOCATIONS, DEVICES, MATERIALS AND EQUIPMENT PRIOR TO MAKING ANY MODIFICATIONS OR ADDITIONS.
- ALL MATERIALS FURNISHED UNDER THIS CONTRACT SHALL BE IN ACCORDANCE WITH THE LATEST APPLICABLE STANDARDS OF ANSI, NEMA, OSHA, UL NFPA-70, AND THE MASS ELECTRICAL CODE WITH REGARDS TO MATERIAL, DESIGN, CONSTRUCTION AND TESTING.
- CONTRACTOR SHALL NOTIFY DIG SAFE PRIOR TO ANY EXCAVATION.
- CONTRACTOR SHALL INSPECT SITE AND FOLLOW ALL DIG SAFE MARKINGS. CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO EXCAVATION.
- CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO ORIGINAL CONDITIONS.
- CONTRACTOR TO PERFORM ALL WORK AS SHOWN.

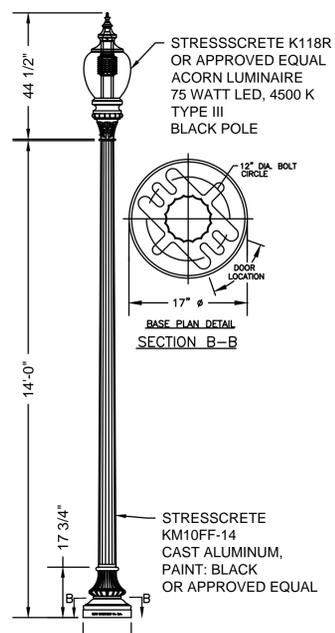
| MAYNARD FIXTURE SCHEDULE | | | | |
|--------------------------|------|-----|---------|---------|
| luminaire # | ID | CKT | VOLTAGE | WATTAGE |
| P1 | PED | 1m | 240 | 60 |
| W2 | PATH | 2m | 240 | TBD |
| W3 | PATH | 1m | 240 | TBD |
| P4 | PED | 2m | 240 | 60 |

| ACTON FIXTURE SCHEDULE | | | | |
|------------------------|-----|-----|---------|---------|
| luminaire # | ID | CKT | VOLTAGE | WATTAGE |
| L1 | LOT | 1a | 240 | 60 |
| L2 | LOT | 1a | 240 | 60 |
| L3 | LOT | 1a | 240 | 60 |
| L4 | LOT | 1a | 240 | 60 |
| L5 | LOT | 2a | 240 | 60 |
| L6 | LOT | 2a | 240 | 60 |
| L7 | LOT | 2a | 240 | 60 |
| L8 | LOT | 2a | 240 | 60 |

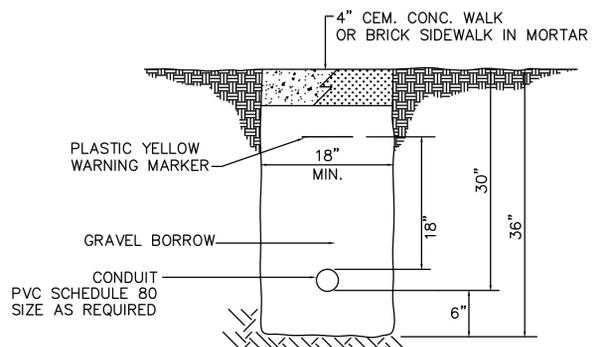
| LIGHTING FIXTURE SCHEDULE | | | | | | |
|---------------------------|-----------------------------------------------------------------------------------------------|--------------------|----------|---------|------------|------------------|
| ID | DESCRIPTION | LAMP | TYPE IES | WATTAGE | TEMP | POLE HEIGHT (FT) |
| W | WALLPACK PER CONTRACTOR. SEE SPECIFICATIONS. ITEM 812.994 | LED, 240 VOLT | - | - | 4200 (+/-) | - |
| P | DECORATIVE ACORN PEDESTRIAN LUMINAIRE W/ POLE STRESSCRETE K118R & KM10FF-14 OR APPROVED EQUAL | 75W, LED, 240 VOLT | III | 75 | 4500 | 14 |
| L | DECORATIVE AREA PENDANT LUMINAIRE W/ POLE STRESSCRETE 204 & KSS19FF23 OR APPROVED EQUAL | 60W, LED, 240VOLT | III | 60 | 4500 | 23 |



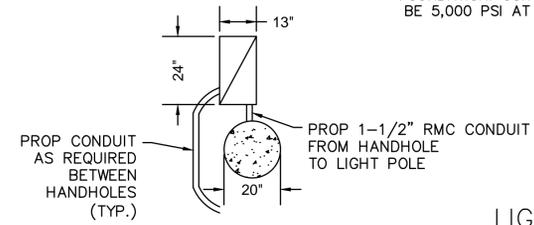
PARKING LOT LIGHT POLE
N.T.S.



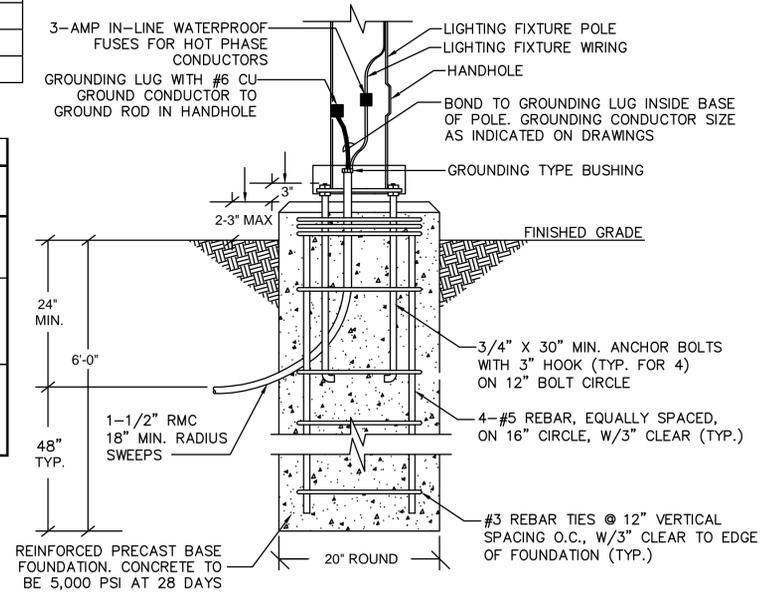
PEDESTRIAN LIGHT POLE
N.T.S.



TYPICAL STREET LIGHT CONDUIT TRENCH
N.T.S.

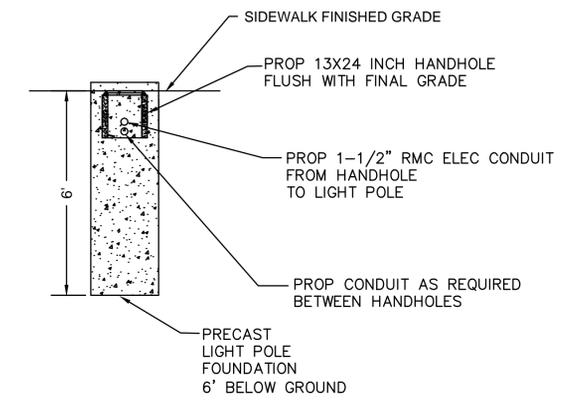


TYPICAL PLAN VIEW
PULLBOX AND FOUNDATION
FOR LIGHTING
N.T.S.

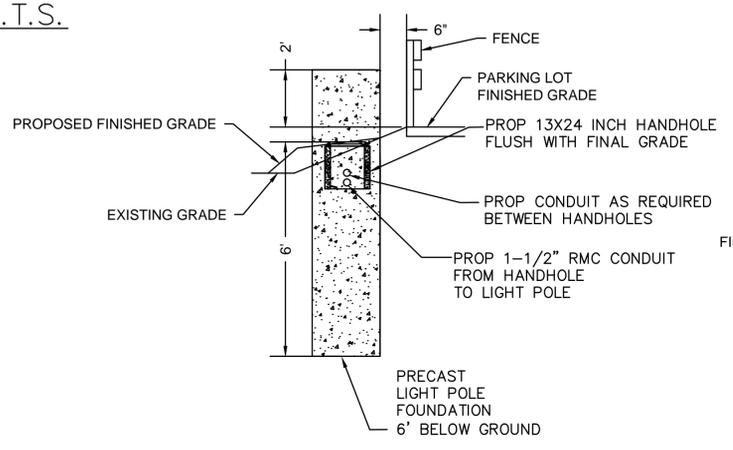


- LIGHT POLE FOUNDATION NOTES:
- BOLT PATTERN SHOWN IS TYPICAL AND NOT FOR CONSTRUCTION. CONTRACTOR TO PROVIDE BOLT PATTERN AND ANCHOR BOLT DETAILS BASED ON SELECTED MANUFACTURER.
 - PROVIDE REBAR DETAIL FROM PRECAST CONCRETE VENDOR FOR APPROVAL.
 - CONDUIT LOCATIONS SHOWN ARE TYPICAL.

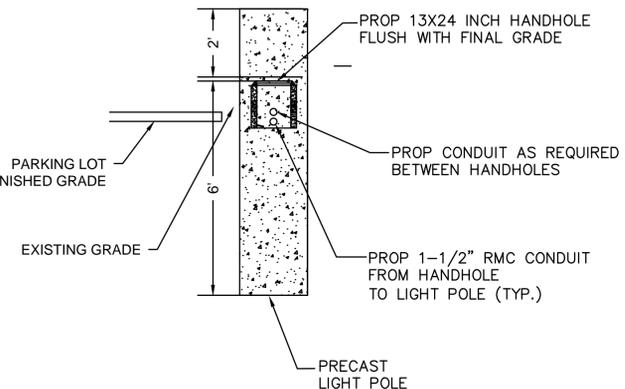
LIGHT POLE FOUNDATION DETAIL
N.T.S.



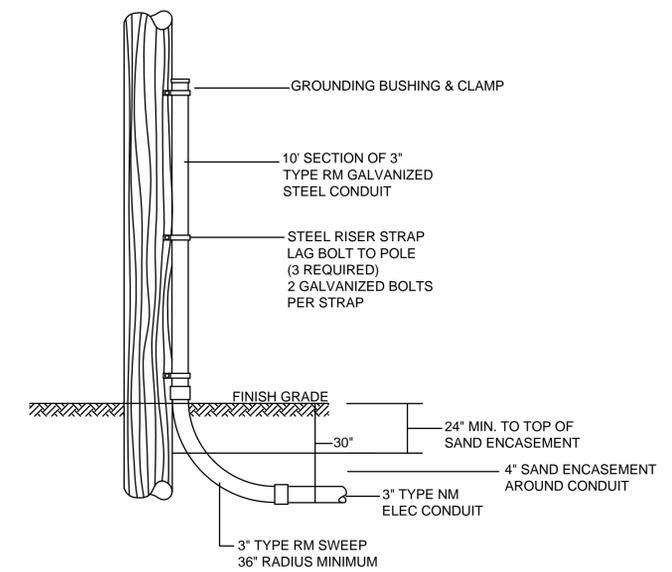
LEVEL GROUND
FOUNDATION AND PULLBOX
N.T.S.



SLOPE BEHIND FENCE
FOUNDATION AND PULLBOX
N.T.S.



SLOPE WITHOUT FENCE
FOUNDATION AND PULLBOX
N.T.S.

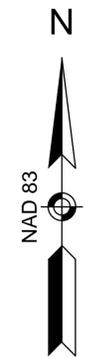
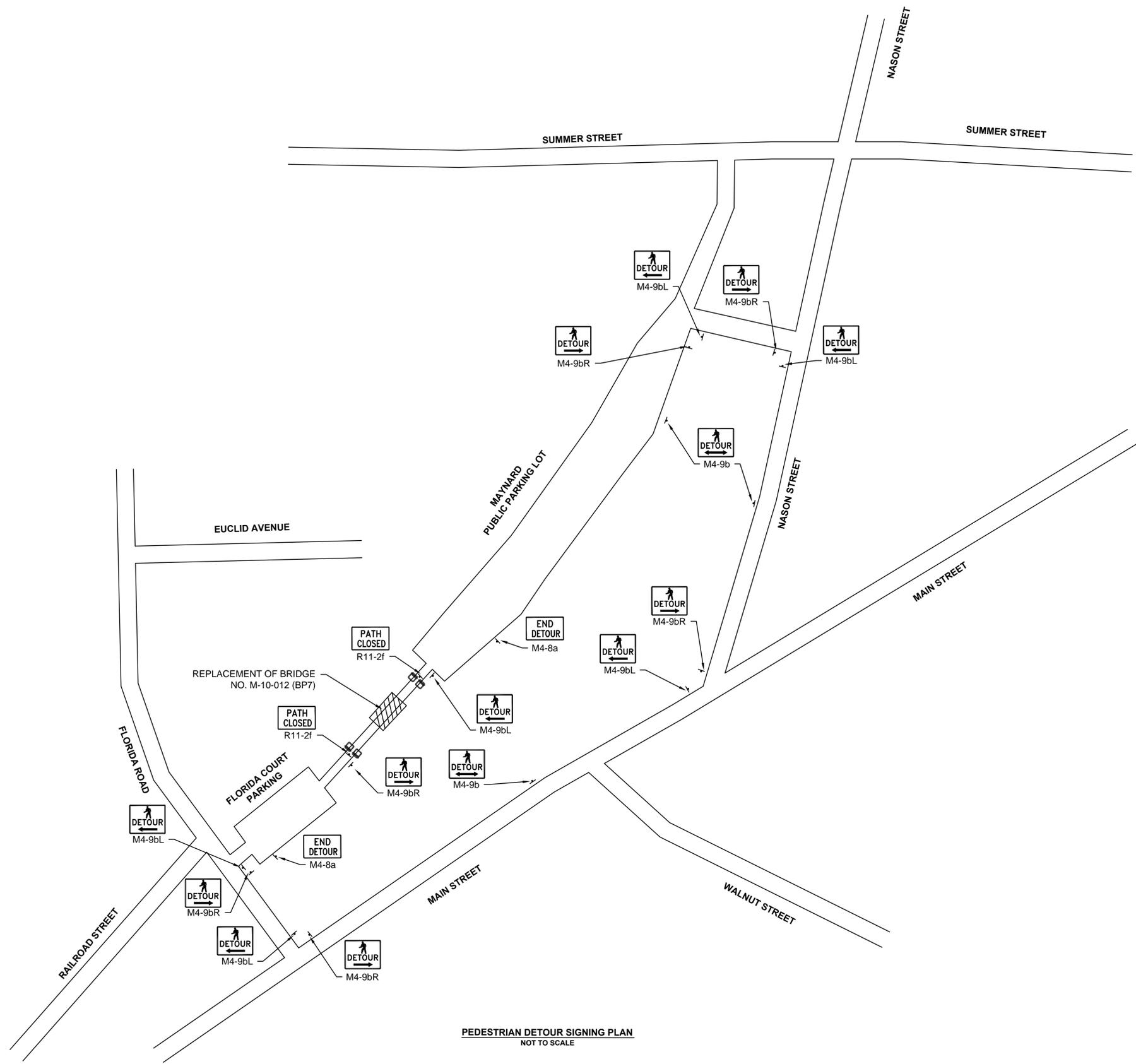


TYPICAL UTILITY
RISER POLE DETAIL
N.T.S.

MAYNARD & ACTON
ASSABET RIVER RAIL TRAIL

| STATE | FED. AID PROJ. NO. | SHEET NO. | TOTAL SHEETS |
|------------------|-----------------------|-----------|--------------|
| MA | CMAQ/STP-TE-002S(836) | 103 | 230 |
| PROJECT FILE NO. | | 604531 | |

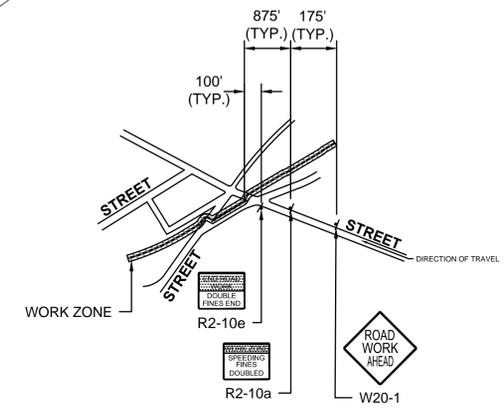
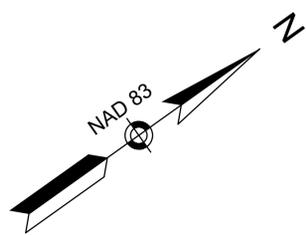
TEMPORARY TRAFFIC CONTROL
PLANS



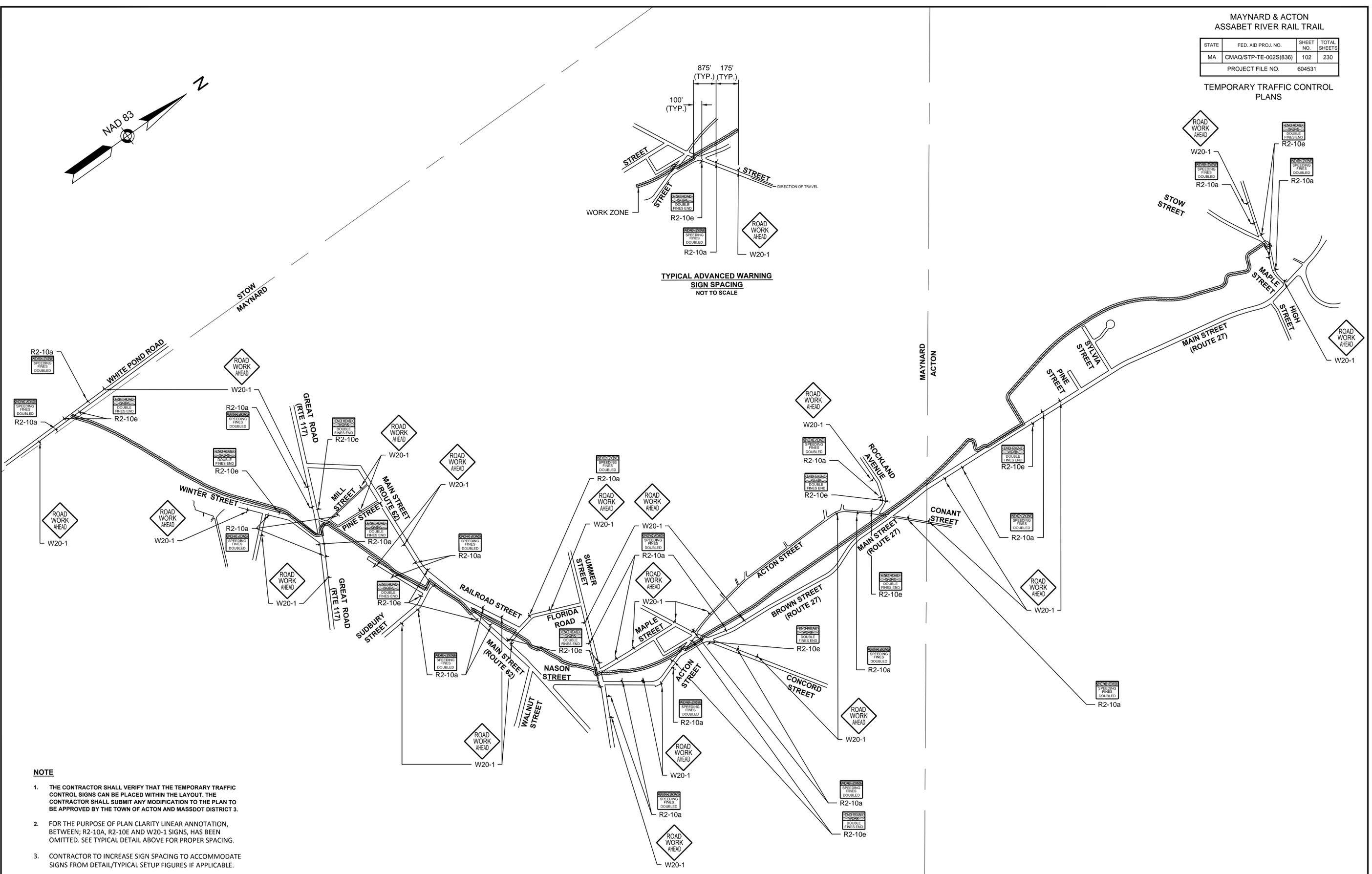
PEDESTRIAN DETOUR SIGNING PLAN
NOT TO SCALE

NOTE
1. THE CONTRACTOR SHALL VERIFY THAT THE TEMPORARY TRAFFIC CONTROL SIGNS CAN BE PLACED WITHIN THE LAYOUT. THE CONTRACTOR SHALL SUBMIT ANY MODIFICATION TO THE PLAN TO BE APPROVED BY THE TOWN OF ACTON AND MASSDOT DISTRICT 3.

TEMPORARY TRAFFIC CONTROL PLANS



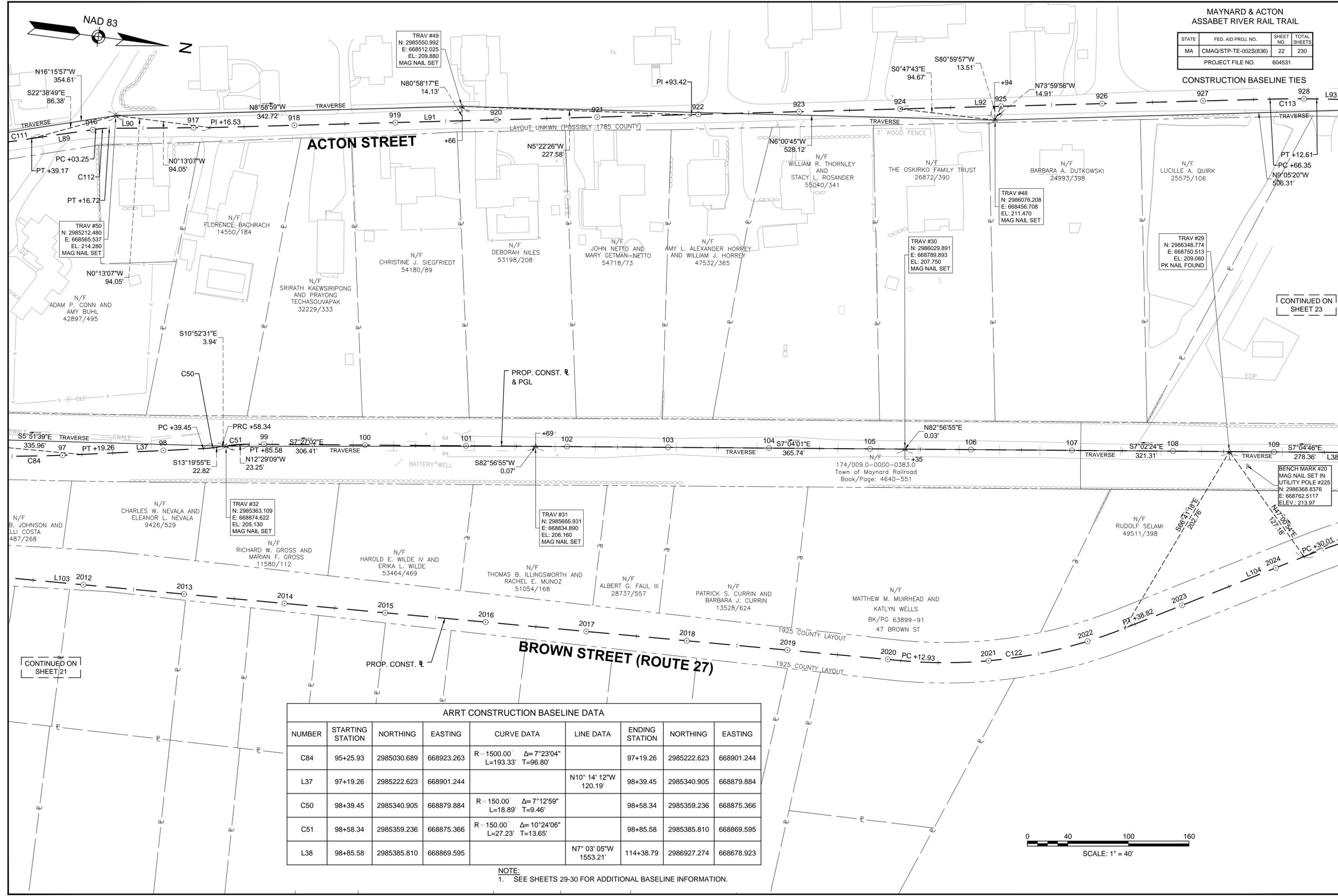
TYPICAL ADVANCED WARNING
SIGN SPACING
NOT TO SCALE



ADVANCE WARNING SIGNING PLAN
NOT TO SCALE

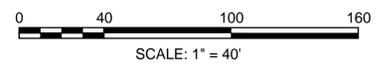
- NOTE**
1. THE CONTRACTOR SHALL VERIFY THAT THE TEMPORARY TRAFFIC CONTROL SIGNS CAN BE PLACED WITHIN THE LAYOUT. THE CONTRACTOR SHALL SUBMIT ANY MODIFICATION TO THE PLAN TO BE APPROVED BY THE TOWN OF ACTON AND MASSDOT DISTRICT 3.
 2. FOR THE PURPOSE OF PLAN CLARITY LINEAR ANNOTATION, BETWEEN; R2-10A, R2-10E AND W20-1 SIGNS, HAS BEEN OMITTED. SEE TYPICAL DETAIL ABOVE FOR PROPER SPACING.
 3. CONTRACTOR TO INCREASE SIGN SPACING TO ACCOMMODATE SIGNS FROM DETAIL/TYPICAL SETUP FIGURES IF APPLICABLE.

CONSTRUCTION BASELINE TIES



| ARRT CONSTRUCTION BASELINE DATA | | | | | | | | |
|---------------------------------|------------------|-------------|------------|---------------------------------------------|--------------------------|----------------|-------------|------------|
| NUMBER | STARTING STATION | NORTHING | EASTING | CURVE DATA | LINE DATA | ENDING STATION | NORTHING | EASTING |
| C84 | 95+25.93 | 2985030.689 | 668923.263 | R=1500.00' Δ=7°23'04" L=193.33' T=96.80' | | 97+19.26 | 2985222.623 | 668901.244 |
| L37 | 97+19.26 | 2985222.623 | 668901.244 | | N10° 14' 12"W 120.19' | 98+39.45 | 2985340.905 | 668879.884 |
| C50 | 98+39.45 | 2985340.905 | 668879.884 | R=150.00' Δ=7°12'59" L=18.89' T=9.46' | | 98+58.34 | 2985359.236 | 668875.366 |
| C51 | 98+58.34 | 2985359.236 | 668875.366 | R=150.00' Δ=10°24'06" L=27.23' T=13.65' | | 98+85.58 | 2985385.810 | 668869.595 |
| L38 | 98+85.58 | 2985385.810 | 668869.595 | | N7° 03' 05"W 1553.21' | 114+38.79 | 2986927.274 | 668678.923 |

NOTE:
1. SEE SHEETS 29-30 FOR ADDITIONAL BASELINE INFORMATION.



CONTINUED ON SHEET 23

CONTINUED ON SHEET 21