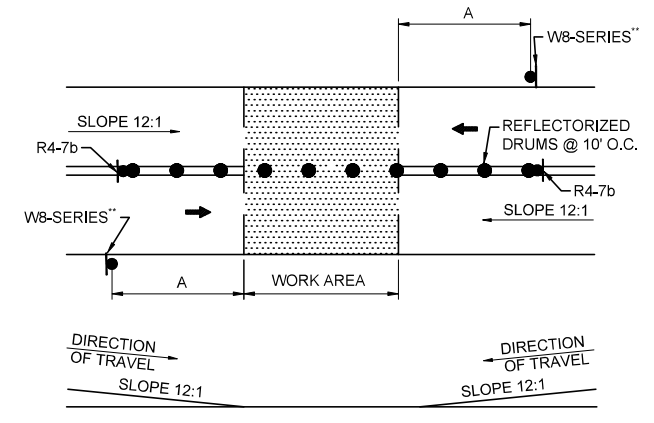


GENERAL NOTES

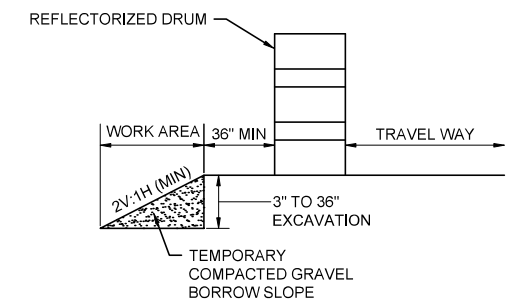
- ALL CONSTRUCTION SIGNING, TEMPORARY TRAFFIC CONTROL DEVICES, AND ROADSIDE ELEMENTS SHALL CONFORM WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS AMENDED, THE MASSDOT STANDARD DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TEMPORARY TRAFFIC CONTROL PLANS, THE LATEST REVISIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, (AASHTO) ROADSIDE DESIGN GUIDE, AASHTO POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, AND NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 350 OR THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
- THE ALLOWABLE WORK HOURS ARE IDENTIFIED IN THE ENERGY FACILITIES SITING BOARD FINAL DECISION. THE CONTRACTOR SHALL NOTE THAT THERE ARE FURTHER RESTRICTED WORKING HOURS WHILE WORKING IN MUNICIPAL AND MASSDOT RIGHTS OF WAY (ROWS) IN ACCORDANCE WITH THEIR RESPECTIVE PERMITS.

WORK HOURS WITHIN THE ROADWAY SHALL BE AS STATED IN THE STATE/LOCAL PERMIT ISSUED BY MASSDOT OR THE MUNICIPALITY WITH JURISDICTION OF THE ROADWAY. AT A MINIMUM, THE CONTRACTOR SHALL NOTE THE FOLLOWING POTENTIAL RESTRICTIONS:
 - TYPICALLY, MASSDOT OR LOCAL MUNICIPALITY WILL NOT ALLOW WORK THAT IMPACTS THE TRAVEL WAY DURING PEAK TRAFFIC PERIODS. FOR EXAMPLE, PEAK PERIODS ARE COMMONLY DEFINED AS MONDAY THRU FRIDAY, 7:00 AM TO 9:00 AM AND 3:00 PM TO 7:00 PM.
 - IN ORDER TO MINIMIZE IMPACTS TO TRAFFIC DURING CONSTRUCTION, IT IS SUGGESTED THAT WORK AT THE INTERSECTIONS OF FOREST AVENUE AT MARLBORO STREET AND MAIN STREET AT FOREST AVENUE/ WILKINS STREET WILL REQUIRE NIGHT WORK.
 - WORK IN THE PROXIMITY OF FOREST AVENUE ELEMENTARY SCHOOL AND CHAPS CHILD CARE WILL ALSO REQUIRE COORDINATION WITH THE TOWN OF HUDSON.
 - ROAD CLOSURE AND DETOUR OF CHESTNUT STREET SHALL BE COORDINATED WITH THE TOWN OF HUDSON AND THE TOWN OF STOW AND ANY IMPACTS TO SCHOOL BUS ROUTES SHALL BE CLOSELY COORDINATED WITH THE APPROPRIATE AGENCY.
- NO WORK SHALL OCCUR WITHIN THE PUBLIC WAY ON STATE RECOGNIZED HOLIDAYS UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- ALL TEMPORARY PEDESTRIAN PATHWAYS SHALL COMPLY FULLY WITH ALL REQUIREMENTS OF THE MUTCD AND ALL APPLICABLE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB) AND AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) REQUIREMENTS AND PUBLIC RIGHTS-OF WAY ACCESSIBILITY GUIDELINES (PROWAG).
- ALL DRUMS OUTSIDE TAPERS SHALL BE SET AT 20' ON CENTER MAX. UNLESS OTHERWISE NOTED OR ADJUSTED BY THE ENGINEER.
- ALL DRUMS SHALL BE APPROXIMATELY PLACED AND MOVED AS NECESSARY TO MAINTAIN SAFE AND REASONABLE ABUTTER ACCESS. WORK MAY REQUIRE ADDITIONAL SIGNS, DRUMS AND OTHER TRAFFIC CONTROL DEVICES, GRADING AND TEMPORARY PAVEMENT FOR PASSAGE OF PEDESTRIAN, VEHICULAR AND EMERGENCY TRAFFIC THROUGH THE WORK AREAS, BOTH DURING AND AFTER WORKING HOURS, TO MAINTAIN SUCH ACCESS.
- THE FIRST 10 DRUMS ON TAPERS SHALL BE REFLECTORIZED DRUMS WITH SEQUENTIAL FLASHING WARNING LIGHTS AND SHALL BE OPERATING, AT A MINIMUM, BETWEEN DUSK AND DAWN, WHEN TAPER IS DEPLOYED.
- REFLECTORIZED CONES SHALL BE A MINIMUM OF 36 INCHES IN HEIGHT.
- CONES MAY BE USED IN LIEU OF DRUMS OUTSIDE OF TAPER AREAS.
- THE CONTRACTOR SHALL NOTIFY EACH ABUTTER AT LEAST 2 WEEKS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OR RESTRICTION OF ACCESS.
- FOR DROP-OFFS 3" OR LESS WITHIN THE CLEAR ZONE, CONDITION MAY BE MITIGATED WITH W8-9 (LOW SHOULDER) SIGN OR TEMPORARY CHANNELIZATION DEVICES.
- CONTRACTOR SHALL STAGE WORK SUCH THAT A DROP-OFF OF NO MORE THAN 3" AT THE END OF EACH WORK DAY EXISTS WITHIN THE CLEAR ZONE AT ANY TIME AND ENSURE DROP-OFF IS MITIGATED WITHOUT BARRIER PER NOTE 11.
- CONSTRUCTION CLEAR ZONE SHALL BE IN ACCORDANCE WITH MASSDOT BOSTON TRAFFIC GUIDELINES AS FOLLOWS:
 - 4' IF POSTED SPEED IS LESS THAN 35 MPH
 - 8' IF POSTED SPEED IS 35 MPH
 - 15' IF POSTED SPEED IS 40 MPH
- 11' MINIMUM LANE WIDTHS SHALL BE MAINTAINED UNLESS OTHERWISE NOTED.
- NON-ESSENTIAL TRAFFIC CONTROL DEVICES AND SIGNS SHALL BE COVERED OR REMOVED DURING NON-WORKING HOURS WHEN NOT IN USE.
- SIGNS INSTALLED ON PORTABLE STANDS REQUIRE 12 INCH MINIMUM MOUNTING HEIGHT FROM THE ROADWAY SURFACE TO THE BOTTOM OF THE SIGN.
- SIGNS INSTALLED ON PORTABLE STANDS PLACED AMONG CHANNELIZATION DEVICES REQUIRE A 36 INCH MINIMUM MOUNTING HEIGHT FROM THE ROADWAY SURFACE TO THE BOTTOM OF THE SIGN.
- SIGNS MOUNTED ON POSTS REQUIRE A MINIMUM 84 INCH MOUNTING HEIGHT FROM THE ROADWAY OR SIDEWALK SURFACE TO THE BOTTOM OF THE SIGN.
- ALL SIGNS SHALL BE MOUNTED ON THEIR OWN NCHRP 350 AND/OR MASH CRASH TESTED SIGN SUPPORTS AND INSTALLED IN ACCORDANCE WITH THE MUTCD. SIGNS SHALL NOT BE MOUNTED TO OR LEANED AGAINST DRUMS OR CONES.
- CONTRACTOR SHALL SECURE WORK AREAS BY APPROPRIATE MEANS, TO PREVENT UNAUTHORIZED ACCESS AT ALL TIMES.
- THERE IS NO DESIGNATED BICYCLE LANE ON THE ROADWAY WITHIN THE PROJECT LIMITS. BICYCLES ARE EXPECTED TO SHARE THE ROAD WITH GENERAL VEHICULAR TRAFFIC.
- TEMPORARY CONSTRUCTION FENCING IS TO BE USED WHEN WORKING ADJACENT TO PRIVATE PROPERTY TO DELINEATE WORK ZONE LIMITS AND PREVENT UNAUTHORIZED ACCESS.
- WORK ZONE ACCESS POINTS ARE IDENTIFIED ON THE KEY PLAN AND WORK ZONE ACCESS PLAN ON SHEETS 127 - 129. CONTRACTOR SHALL SWEEP AREAS ADJACENT TO THE SITE ON A DAILY BASIS. CONTRACTOR SHALL REPAIR DAMAGED ROADWAYS AND SIDEWALKS AT THEIR OWN COST.

| LANE TAPER LENGTH FORMULAS | |
|----------------------------|--|
| L= | TAPER LENGTH IN FEET |
| W= | WIDTH OF ROADWAY TO BE SHIFTED OR REDIRECTED IN FEET |
| S= | POSTED SPEED LIMIT IN MPH |
| | POSTED SPEED |
| | 40 MPH OR LESS |
| | $L = \frac{WS^2}{60}$ |



- NOTES:**
- SQUARE OFF THE FULL WIDTH OF THE ROADWAY AT THE END OF WORK DAY
 - CONTRACTOR SHALL INSTALL W8-1 OR W8-8 SIGN, AS APPROPRIATE, ON ALL ROADWAYS IN ADVANCE OF THE TRANSITION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.



- NOTE:**
- CONTRACTOR SHALL INSTALL W8-9 SIGN ON ALL ROADWAYS 350 FT IN ADVANCE OF THE START OF DROP-OFF CONDITION.

TEMPORARY PAVEMENT TRANSITION

SCALE: NTS

| LEGEND | |
|--------|--|
| | POLICE OFFICER |
| | TRAFFIC SIGNAL |
| | REFLECTORIZED DRUM |
| | REFLECTORIZED DRUMS WITH SEQUENTIAL FLASHING WARNING LIGHTS (SEE NOTE 7) |
| | TEMPORARY CONSTRUCTION SIGN |
| | TRAFFIC CONE |
| | TYPE III BARRICADE |
| | WORK AREA (PUBLIC ACCESS RESTRICTED) |
| | ROAD CLOSED, LOCAL ACCESS ONLY |
| | TRAFFIC FLOW |
| | PEDESTRIAN ROUTE |
| | CONSTRUCTION FENCE |
| | TEMPORARY PEDESTRIAN BARRICADE |
| | PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) |
| NTS | NOT TO SCALE |

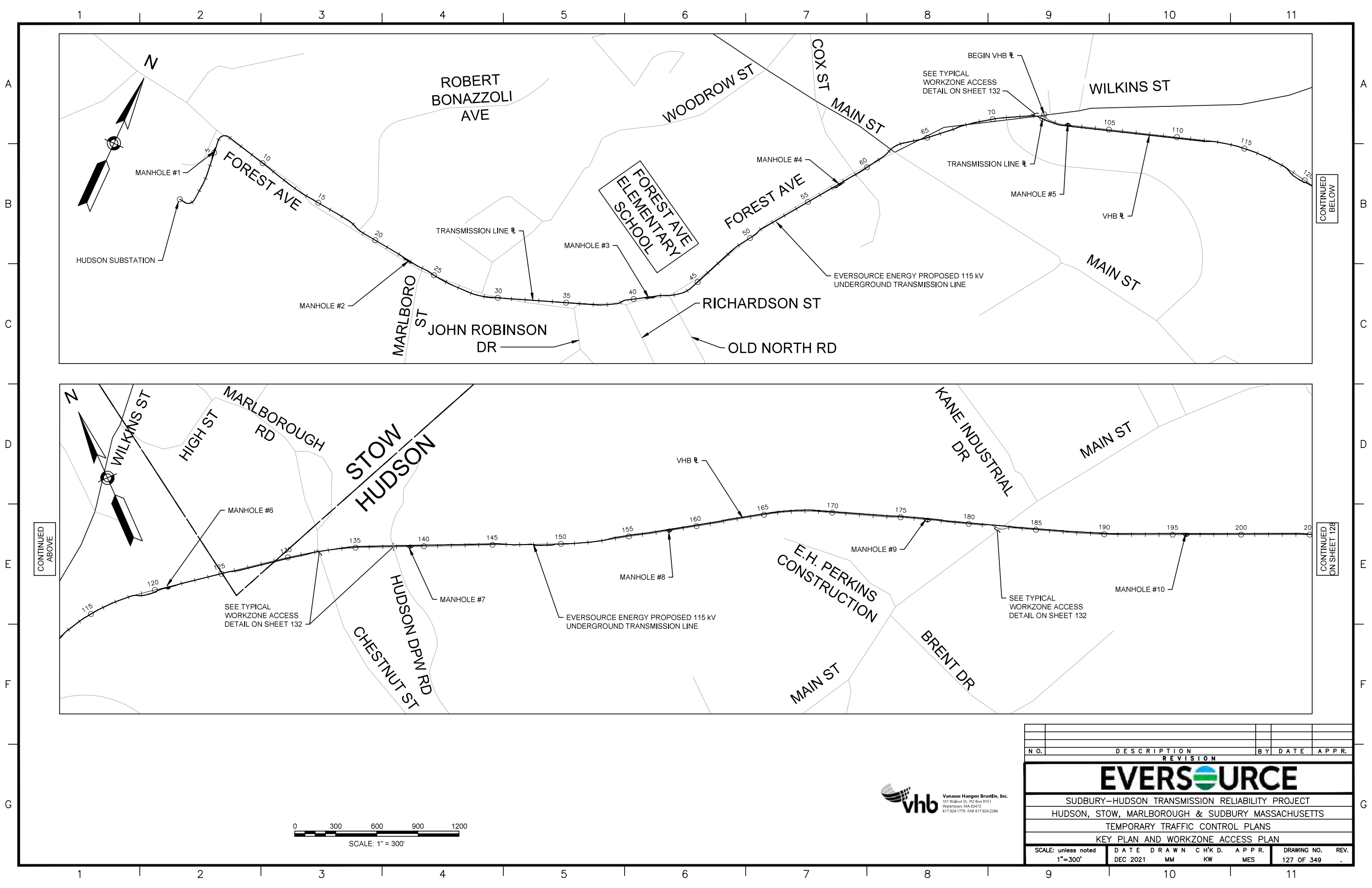
TYPICAL ROADWAY DROP-OFF PROTECTION

SCALE: NTS

| ROADWAY | DISTANCE BETWEEN SIGNS (FEET) | | | | BUFFER SPACING | |
|---|-------------------------------|-----|-----|-----|----------------|-----------------|
| | A | B | C | D | SPEED (MPH) | DISTANCE (FEET) |
| BOSTON POST RD (ROUTE 20), FOREST AVE, WILKINS ST, MAIN ST, CONCORD RD, DUTTON RD, PEAKHAM RD, HORSE POND RD, UNION AVE, LANDHAM RD | 350 | 150 | 350 | 350 | 15 | 80 |
| | | | | | 20 | 115 |
| | | | | | 25 | 155 |
| | | | | | 30 | 200 |
| | | | | | 35 | 250 |
| ALL OTHERS | 100 | 50 | 100 | 100 | 40 | 305 |



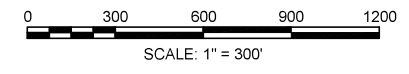
| DESCRIPTION | | | | BY | DATE | APPR. |
|---|----------|-------|---------|----------|-------------|-------|
| REVISION | | | | | | |
| EVERSOURCE | | | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | | | |
| GENERAL NOTES AND LEGEND | | | | | | |
| SCALE: unless noted | DATE | DRAWN | CHECKED | APPROVED | DRAWING NO. | REV. |
| NTS | DEC 2021 | MM | KW | MES | 126 OF 349 | . |

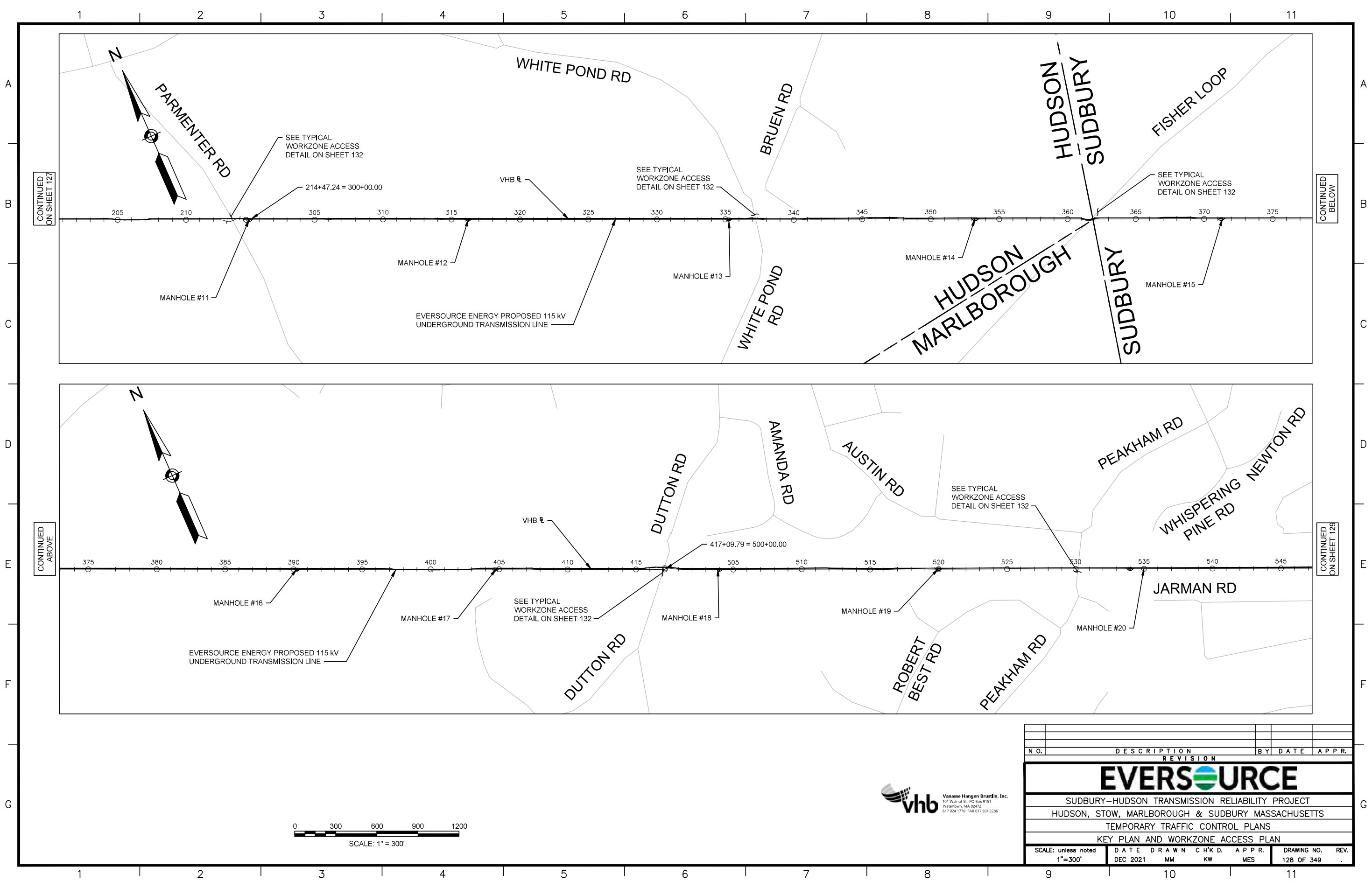


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| NO. | DESCRIPTION | BY | DATE | APPR. |
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| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | |
| KEY PLAN AND WORKZONE ACCESS PLAN | | | | |
| SCALE: unless noted 1"=300' | DATE DEC 2021 | DRAWN MM | CHECKED KW | APPROVED MES |
| DRAWING NO. 127 OF 349 | | | | REV. . |



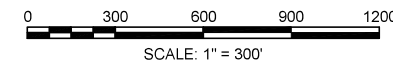


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ON SHEET 127

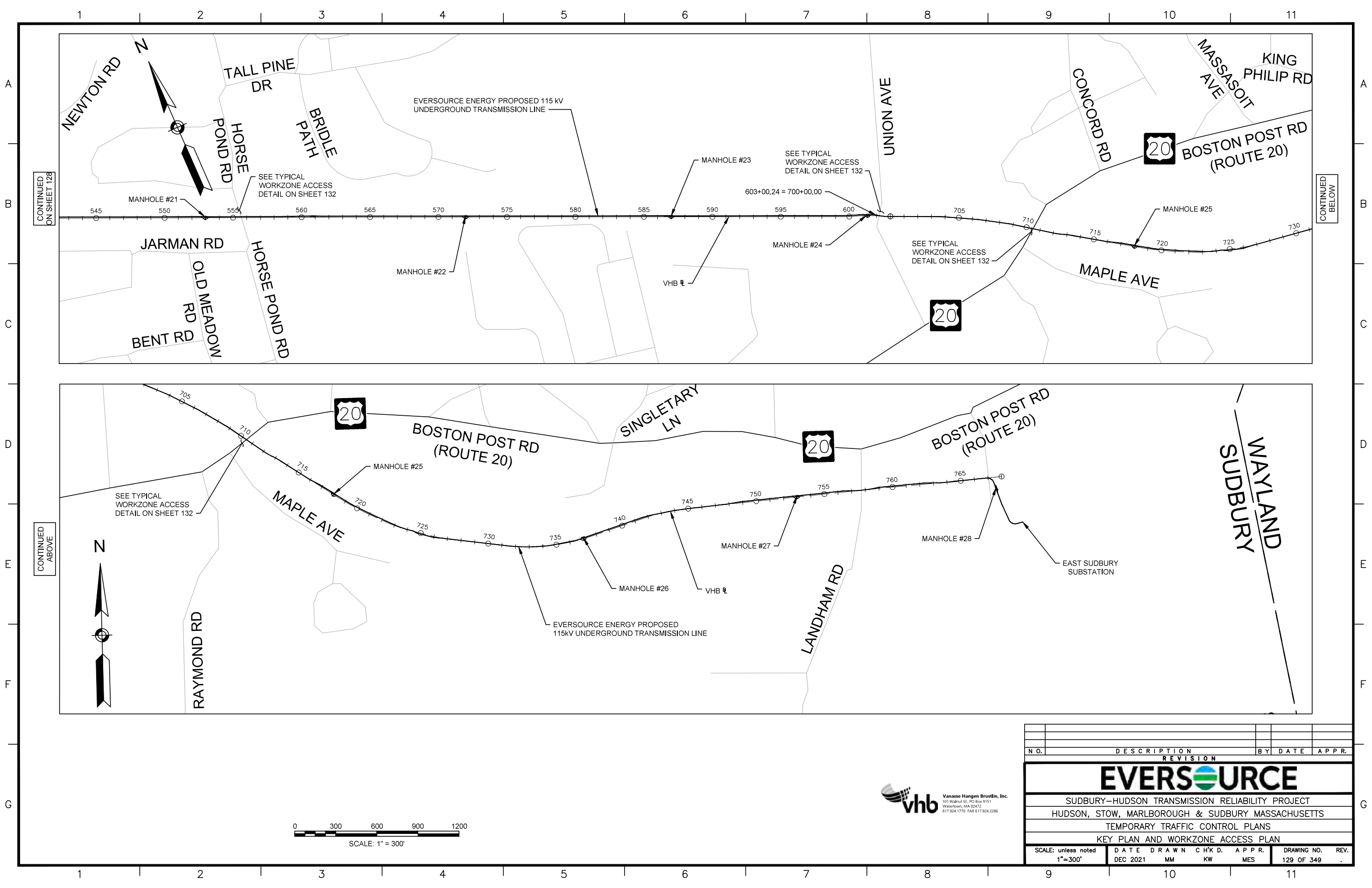
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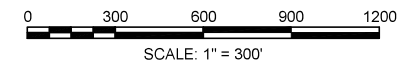


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| EVERSOURCE | | | | | | | | | |
| SUBBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUBBURY MASSACHUSETTS | | | | | | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | | | | | | |
| KEY PLAN AND WORKZONE ACCESS PLAN | | | | | | | | | |
| SCALE: unless noted 1"=300' | | DATE | | DRAWN | | C H'K D. | | APPR. | |
| | | DEC 2021 | | MM | | KW | | MES | |
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| 128 OF 349 | | | | | | | | | |



| NO. | DESCRIPTION | BY | DATE | APPR. |
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| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | |
| KEY PLAN AND WORKZONE ACCESS PLAN | | | | |
| SCALE: unless noted 1"=300' | DATE DEC 2021 | DRAWN MM | CHECKED KW | APPROVED MES |
| DRAWING NO. 129 OF 349 | | | | REV. . |


Vanasse Hangen Brustlin, Inc.
 101 Walnut St., PO Box 9151
 Watertown, MA 02472
 617.924.1770 FAX 617.924.2286



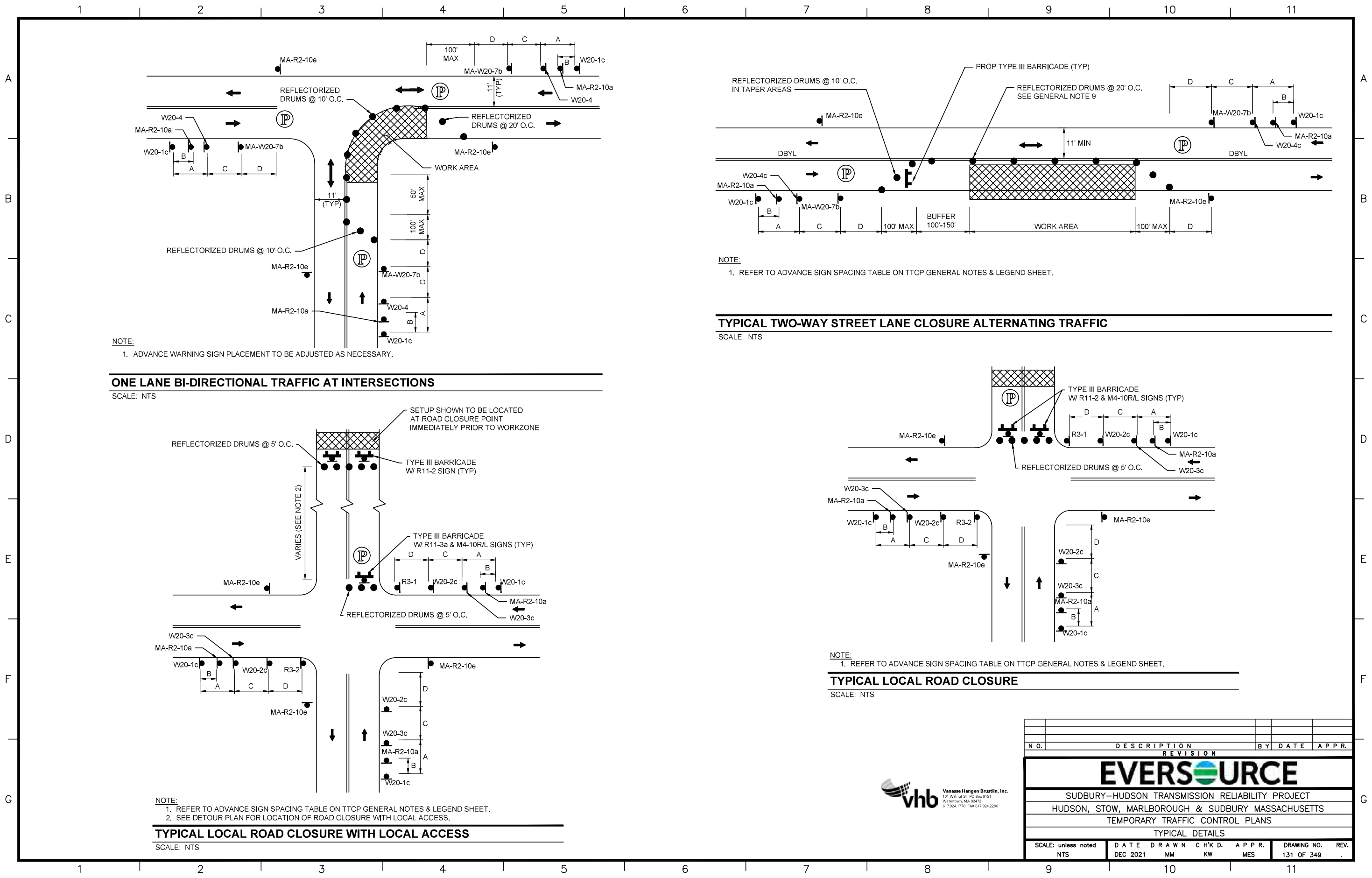
SUGGESTED TEMPORARY TRAFFIC CONTROL SETUP APPLICATION

| TOWN | ROADWAY | TRANSMISSION \pm STATION (SEE NOTE 1) | VHB \pm STATION (SEE NOTE 2) | TEMPORARY TRAFFIC CONTROL SETUPS | SHEET NUMBER | NOTES |
|----------------------------|--|--|---|---|------------------------|----------------------|
| HUDSON | EVERSOURCE | 0+00 \pm TO 6+20 \pm MANHOLE #1 | -- | OFF-ROAD | -- | MANHOLE #4 |
| | FOREST AVENUE | 6+20 \pm TO 6+40 \pm | -- | TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC PEDESTRIAN BYPASS TYPE II DETAIL | SHEET 131 SHEET 132 | -- |
| | | 6+40 \pm TO 22+20 \pm | -- | TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC | SHEET 131 | -- |
| | | 22+20 \pm TO 24+00 \pm MANHOLE #2 | -- | TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC | SHEET 131 | MANHOLE #2 |
| | | 24+00 \pm TO 24+40 \pm | -- | SITE SPECIFIC FOREST AVE AT MARLBORO ST STAGE 1 | SHEET 133 | AT MARLBORO ST |
| | | 24+40 \pm TO 24+80 \pm | -- | SITE SPECIFIC FOREST AVE AT MARLBORO ST STAGE 2 | SHEET 134 | AT MARLBORO ST |
| | | 24+80 \pm TO 29+20 \pm | -- | TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC | SHEET 131 | -- |
| | | 29+20 \pm TO 30+20 \pm | -- | TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC | SHEET 131 | AT WOODROW ST |
| | | 30+20 \pm TO 35+60 \pm | -- | TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC | SHEET 131 | -- |
| | | 35+60 \pm TO 37+00 \pm | -- | CLOSURE AND DETOUR PLAN - JOHN ROBINSON DR | SHEET 139 | AT JOHN ROBINSON RD |
| | | 37+00 \pm TO 39+00 \pm | -- | TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC | SHEET 131 | -- |
| | | 39+00 \pm TO 40+50 \pm | -- | ONE LANE BI-DIRECTIONAL TRAFFIC AT INTERSECTIONS | SHEET 131 | AT RICHARDSON ST |
| | | 40+50 \pm TO 41+80 \pm MANHOLE #3 | -- | CLOSURE AND DETOUR PLAN- FOREST AVENUE - MANHOLE #3 | SHEET 140 | MANHOLE #3 |
| | | 41+80 \pm TO 42+50 \pm | -- | TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC | SHEET 131 | -- |
| | | 42+50 \pm TO 44+00 \pm | -- | ONE LANE BI-DIRECTIONAL TRAFFIC AT INTERSECTIONS | SHEET 131 | AT OLD NORTH RD |
| | 44+00 \pm TO 56+80 \pm | -- | TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC | SHEET 131 | -- | |
| | 56+80 \pm TO 58+40 \pm MANHOLE #4 | -- | CLOSURE AND DETOUR PLAN- FOREST AVENUE - MANHOLE #4 | SHEET 141 | MANHOLE #4 | |
| | 58+40 \pm TO 61+40 \pm | -- | TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC | SHEET 131 | -- | |
| | FOREST AVENUE / WILKINS ST | 61+40 \pm TO 62+00 \pm | -- | SITE SPECIFIC FOREST AVE AT MAIN ST STAGE 1 PCMS PLAN - FOREST AVE AT MAIN ST NIGHT WORK | SHEET 135 SHEET 149 | AT MAIN / WILKINS ST |
| | | 62+00 \pm TO 62+30 \pm | -- | SITE SPECIFIC FOREST AVE AT MAIN ST STAGE 2 CLOSURE AND DETOUR PLAN - FOREST AVENUE - MANHOLE #4 | SHEET 136 SHEET 141 | AT MAIN / WILKINS ST |
| 62+30 \pm TO 62+40 \pm | | -- | SITE SPECIFIC FOREST AVE AT MAIN ST STAGE 3 CLOSURE AND DETOUR PLAN - FOREST AVENUE - MANHOLE #4 | SHEET 137 SHEET 141 | AT MAIN / WILKINS ST | |
| 62+40 \pm TO 63+30 \pm | | -- | SITE SPECIFIC FOREST AVE AT MAIN ST STAGE 4 PCMS PLAN - FOREST AVE AT MAIN ST NIGHT WORK | SHEET 138 SHEET 149 | AT MAIN / WILKINS ST | |
| WILKINS ST | 63+30 \pm TO 73+60 \pm | -- | TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC | SHEET 131 | -- | |
| STOW | MBTA ROW | -- | 100+31 \pm TO 124+95 \pm | OFF-ROAD | -- | -- |
| | MBTA ROW | -- | 124+95 \pm TO 128+30 \pm | OFF-ROAD | -- | -- |
| HUDSON | MBTA ROW | -- | 128+30 \pm TO 132+50 \pm | OFF-ROAD | -- | -- |
| | CHESTNUT ST | -- | 132+50 \pm TO 132+80 \pm | CLOSURE AND DETOUR PLAN- CHESTNUT ST AND MARLBORO RD | SHEET 143 | AT CHESTNUT ST |
| | MBTA ROW | -- | 132+80 \pm TO 181+60 \pm | OFF-ROAD | -- | -- |
| | MAIN ST | -- | 181+60 \pm TO 182+30 \pm | TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC | SHEET 131 | AT MAIN ST |
| | MBTA ROW | -- | 182+30 \pm TO 213+50 \pm | OFF-ROAD | -- | -- |
| | PARMENTER RD | -- | 213+50 \pm TO 213+70 \pm | TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC | SHEET 131 | AT PARMENTER RD |
| | MBTA ROW | -- | 213+70 \pm TO 214+47 \pm 214+47 \pm = 300+00 \pm 300+00 \pm TO 336+90 \pm | OFF-ROAD | -- | -- |
| | WHITE POND RD | -- | 336+90 \pm TO 337+10 \pm | CLOSURE AND DETOUR PLAN- WHITE POND RD | SHEET 144 | AT WHITE POND RD |
| MARLBOROUGH | MBTA ROW | -- | 337+10 \pm TO 361+40 \pm | OFF-ROAD | -- | -- |
| | MBTA ROW | -- | 361+40 \pm TO 361+55 \pm | OFF-ROAD | -- | -- |
| SUDBURY | MBTA ROW | -- | 361+55 \pm TO 416+85 \pm | OFF-ROAD | -- | -- |
| | DUTTON RD | -- | 416+85 \pm TO 417+10 \pm 417+10 \pm = 500+00 \pm | CLOSURE AND DETOUR PLAN- DUTTON RD | SHEET 145 | AT DUTTON RD |
| | MBTA ROW | -- | 500+00 \pm TO 530+45 \pm | OFF-ROAD | -- | -- |
| | PEAKHAM RD | -- | 530+45 \pm TO 530+65 \pm | PEDESTRIAN BYPASS TYPE I DETAIL CLOSURE AND DETOUR- PEAKHAM RD | SHEET 132 SHEET 146 | AT PEAKHAM RD |
| | MBTA ROW | -- | 530+65 \pm TO 555+75 \pm | OFF-ROAD | -- | -- |
| | HORSE POND RD | -- | 555+75 \pm TO 556+00 \pm | PEDESTRIAN BYPASS TYPE I DETAIL CLOSURE AND DETOUR- HORSE POND RD | SHEET 132 SHEET 147 | AT HORSE POND RD |
| | MBTA ROW | -- | 556+00 \pm TO 602+35 \pm | OFF-ROAD | -- | -- |
| | UNION AVE | -- | 602+35 \pm TO 602+65 \pm | TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC | SHEET 131 | AT UNION AVE |
| | MBTA ROW | -- | 602+65 \pm TO 603+00 \pm 603+00 \pm = 700+00 \pm 700+00 \pm TO 711+35 \pm | OFF-ROAD | -- | -- |
| | BOSTON POST RD (ROUTE 20) | -- | 711+35 \pm TO 711+65 \pm | SEE NOTE 4 | -- | AT BOSTON POST RD |
| SUDBURY | MBTA ROW | -- | 711+65 \pm TO 757+65 \pm | OFF-ROAD | -- | -- |
| | LANDHAM RD | -- | 757+65 \pm TO 758+00 \pm | OFF-ROAD | -- | BELOW LANDHAM RD |
| | MBTA ROW | -- | 758+00 \pm TO 767+30 \pm | OFF-ROAD | -- | -- |
| SUDBURY | EVERSOURCE | 475+40 \pm TO 479+85 | -- | OFF-ROAD | -- | -- |

- NOTES:
- REFER TO KEY PLAN AND WORKZONE ACCESS PLAN ON SHEETS 128 & 129 FOR OVERVIEW. SEE EVERSOURCE ENERGY 115KV UNDERGROUND TRANSMISSION LINE PLAN AND PROFILE FOR ADDITIONAL INFORMATION.
 - REFER TO VHB CONSTRUCTION PLANS ON SHEETS 24-74 FOR ADDITIONAL INFORMATION.
 - REFER TO GENERAL NOTE 2 ON SHEET 126 REGARDING WORK HOURS.
 - REFER TO APPROVED MASSDOT ACCESS PERMIT TTCP FOR WORK ALONG ROUTE 20.



| | | | | | | |
|---|------------------|-------------|---------------|-----------------|---------------------------|-----------|
| NO. | | DESCRIPTION | | BY | DATE | APPR. |
| EVERSOURCE | | | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | | | |
| SUGGESTED TEMPORARY TRAFFIC CONTROL SETUP | | | | | | |
| SCALE: unless noted NTS | DATE DEC 2021 | DRAWN MM | CHECKED KW | APPROVED MES | DRAWING NO. 130 OF 349 | REV. . |



NOTE:
1. ADVANCE WARNING SIGN PLACEMENT TO BE ADJUSTED AS NECESSARY.

ONE LANE BI-DIRECTIONAL TRAFFIC AT INTERSECTIONS
SCALE: NTS

NOTE:
1. REFER TO ADVANCE SIGN SPACING TABLE ON TTCP GENERAL NOTES & LEGEND SHEET.

TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC
SCALE: NTS

NOTE:
1. REFER TO ADVANCE SIGN SPACING TABLE ON TTCP GENERAL NOTES & LEGEND SHEET.

TYPICAL LOCAL ROAD CLOSURE
SCALE: NTS

NOTE:
1. REFER TO ADVANCE SIGN SPACING TABLE ON TTCP GENERAL NOTES & LEGEND SHEET.
2. SEE DETOUR PLAN FOR LOCATION OF ROAD CLOSURE WITH LOCAL ACCESS.

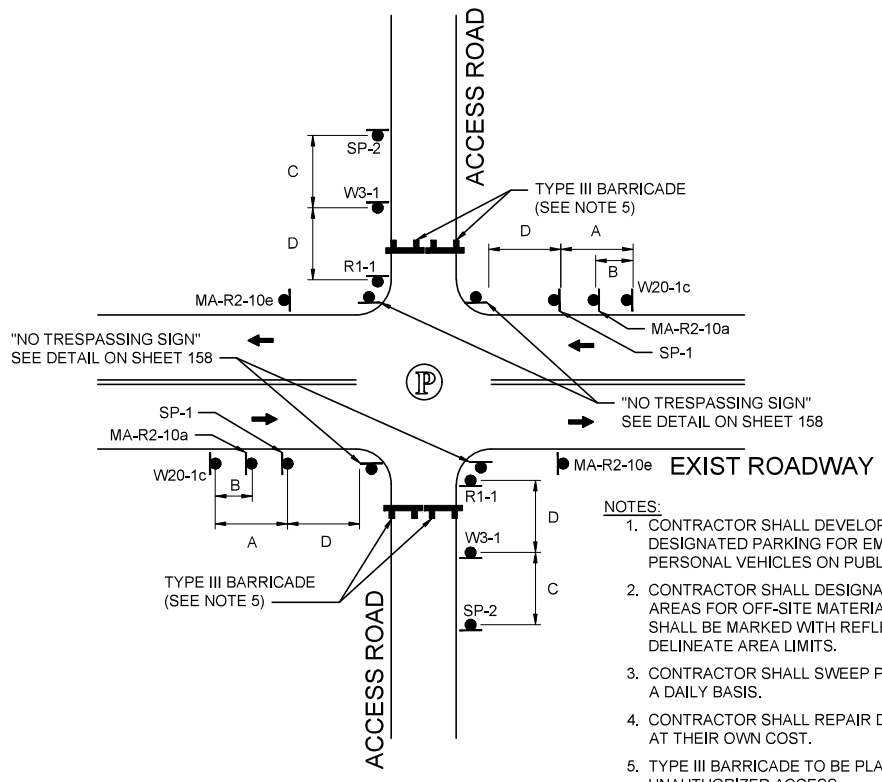
TYPICAL LOCAL ROAD CLOSURE WITH LOCAL ACCESS
SCALE: NTS



| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|---------------|-----------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | |
| TYPICAL DETAILS | | | | |
| SCALE: unless noted NTS | DATE DEC 2021 | DRAWN MM | CHECKED KW | APPROVED MES |
| DRAWING NO. 131 OF 349 | | | | REV. . |

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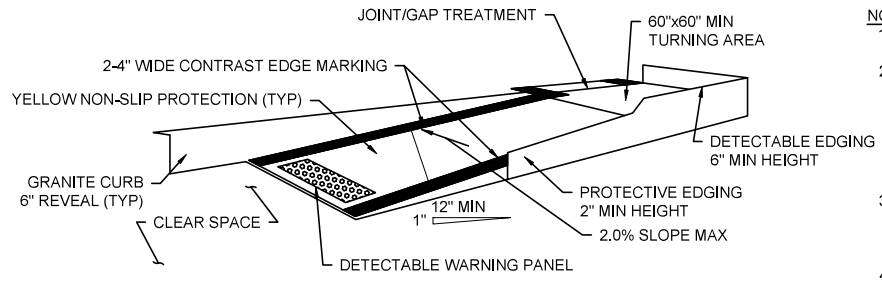
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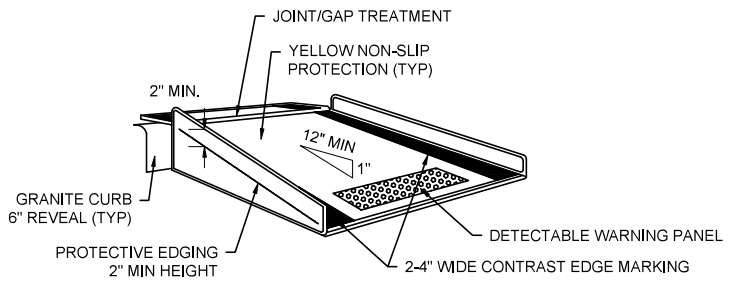
- NOTES:**
1. CONTRACTOR SHALL DEVELOP WORK ZONE STAGING AREAS WITH DESIGNATED PARKING FOR EMPLOYEES. PARKING OF WORKERS' PERSONAL VEHICLES ON PUBLIC PROPERTY IS STRICTLY PROHIBITED.
 2. CONTRACTOR SHALL DESIGNATE MATERIAL STORAGE AND STAGING AREAS FOR OFF-SITE MATERIAL STORAGE. OFF-SITE STORAGE AREAS SHALL BE MARKED WITH REFLECTORIZED DRUMS TO CLEARLY DELINEATE AREA LIMITS.
 3. CONTRACTOR SHALL SWEEP PAVED AREAS ADJACENT TO THE SITE ON A DAILY BASIS.
 4. CONTRACTOR SHALL REPAIR DAMAGED ROADWAYS AND SIDEWALKS AT THEIR OWN COST.
 5. TYPE III BARRICADE TO BE PLACED AT ALL TIMES TO PREVENT UNAUTHORIZED ACCESS.

TYPICAL WORKZONE ACCESS

SCALE: NTS



TEMPORARY CURB RAMP-PARALLEL TO CURB



TEMPORARY CURB RAMP-PERPENDICULAR TO CURB

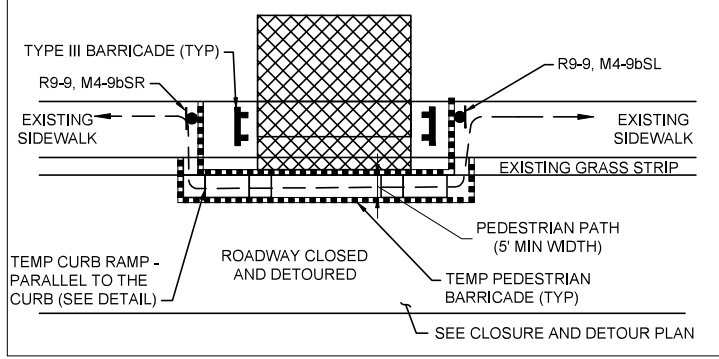
TEMPORARY CURB RAMPS

SCALE: NTS

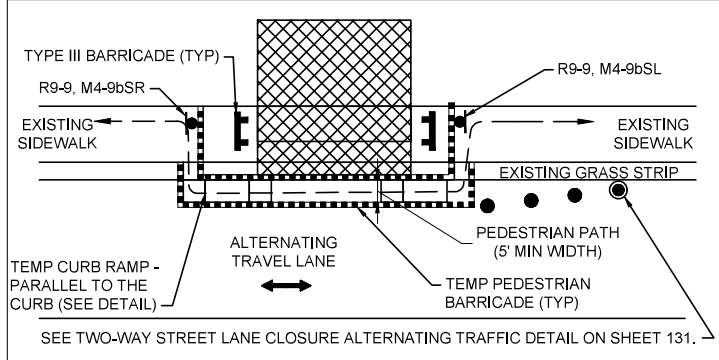
- NOTES:**
1. CURB RAMPS SHALL BE 60" MINIMUM WIDTH WITH A FIRM, STABLE AND NON-SLIP SURFACE.
 2. PROTECTIVE EDGING WITH A 2" MINIMUM HEIGHT SHALL BE INSTALLED WHEN THE CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN THE CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
 3. DETECTABLE EDGING WITH 6" MINIMUM HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
 4. THE CURB RAMP WALKWAY AND LANDING AREA SURFACE SHALL BE OF A SOLID CONTINUOUS CONTRASTING COLOR ABUTTING UP TO THE EXISTING SIDEWALK.
 5. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX CROSS-SLOPE.
 6. CLEAR SPACE OF 48"x48" MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
 7. WATER FLOW IN THE GUTTER SYSTEM SHALL HAVE MINIMAL RESTRICTION.
 8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 0.5" WIDTH.
 9. CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED 0.5" LATERAL EDGES SHOULD BE VERTICAL UP TO 0.25" HIGH, AND BEVELED AT 1:2 BETWEEN 0.25" AND 0.5" HEIGHT.
 10. IF A TEMPORARY PEDESTRIAN RAMP LEADS TO A CROSSWALK, THEN A DETECTABLE WARNING PAD MUST BE ADHERED TO THE BASE OF THE RAMP. IF IT LEADS TO A PROTECTED PEDESTRIAN BYPASS THAT DOES NOT CONFLICT WITH VEHICULAR TRAFFIC, THEN A PAD SHALL NOT BE INSTALLED ON THE RAMP.

- NOTES:**
1. ADDITIONAL ADVANCE WARNING SIGNS MAY BE NECESSARY AS DETERMINED BY THE ENGINEER.
 2. CONTROLS FOR PEDESTRIAN TRAFFIC ONLY, ARE SHOWN. VEHICULAR TRAFFIC SHALL BE MAINTAINED AS SHOWN ELSEWHERE.
 3. STREET LIGHTING SHOULD BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
 4. — — — INDICATES DIRECTION OF PEDESTRIAN TRAVEL.
 5. ALL TEMPORARY PEDESTRIAN PATHWAYS SHALL COMPLY FULLY WITH ALL REQUIREMENTS OF THE MUTCD AND ALL APPLICABLE MAAB AND ADAAG REQUIREMENTS AND INCLUDE THE USE OF A COMPLIANT TEMPORARY PEDESTRIAN MANAGEMENT GUIDANCE SYSTEM AT ALL TIMES.
 6. CONTRACTOR SHALL MAINTAIN AS WIDE OF A PEDESTRIAN ACCESS AS POSSIBLE AT ALL TIMES. EXCEPT WHERE NECESSARY, THE CONTRACTOR MAY TEMPORARILY REDUCE PEDESTRIAN PATHWAYS TO 4 FEET IN WIDTH (EXCLUDING CURB) FOR NO MORE THAN 200 LINEAR FEET AT A TIME IN ACCORDANCE WITH ALL STANDARDS. A 5' x 5' PASSING AREA SHALL BE PROVIDED IN INTERVALS NOT EXCEEDING 200 FEET.
 7. TEMPORARY WHEELCHAIR RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MASSDOT, MAAB, AND ADAAG REQUIREMENTS.

PEDESTRIAN BYPASS TYPE I



PEDESTRIAN BYPASS TYPE II

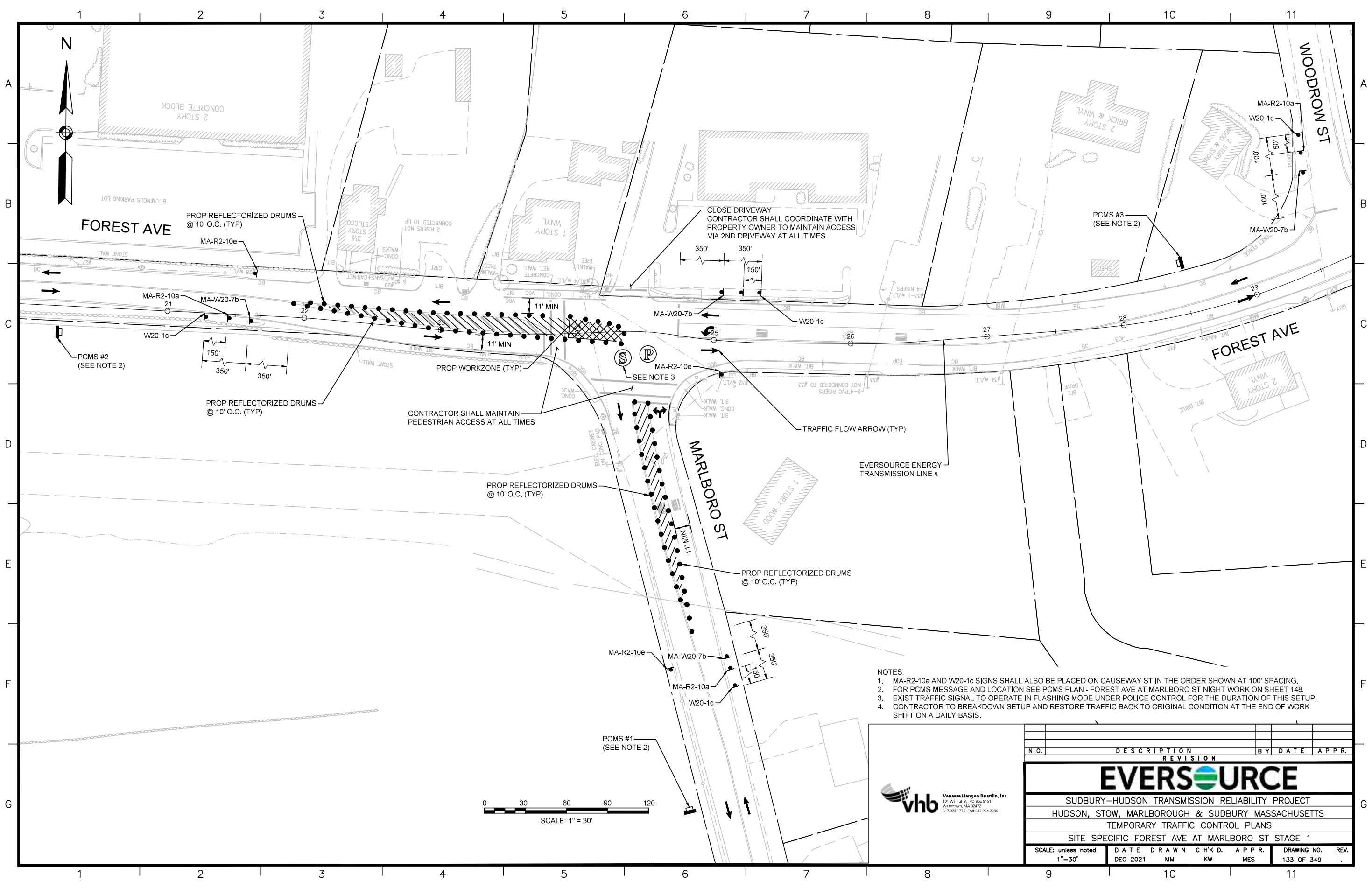


PEDESTRIAN BYPASS DETAIL

SCALE: NTS



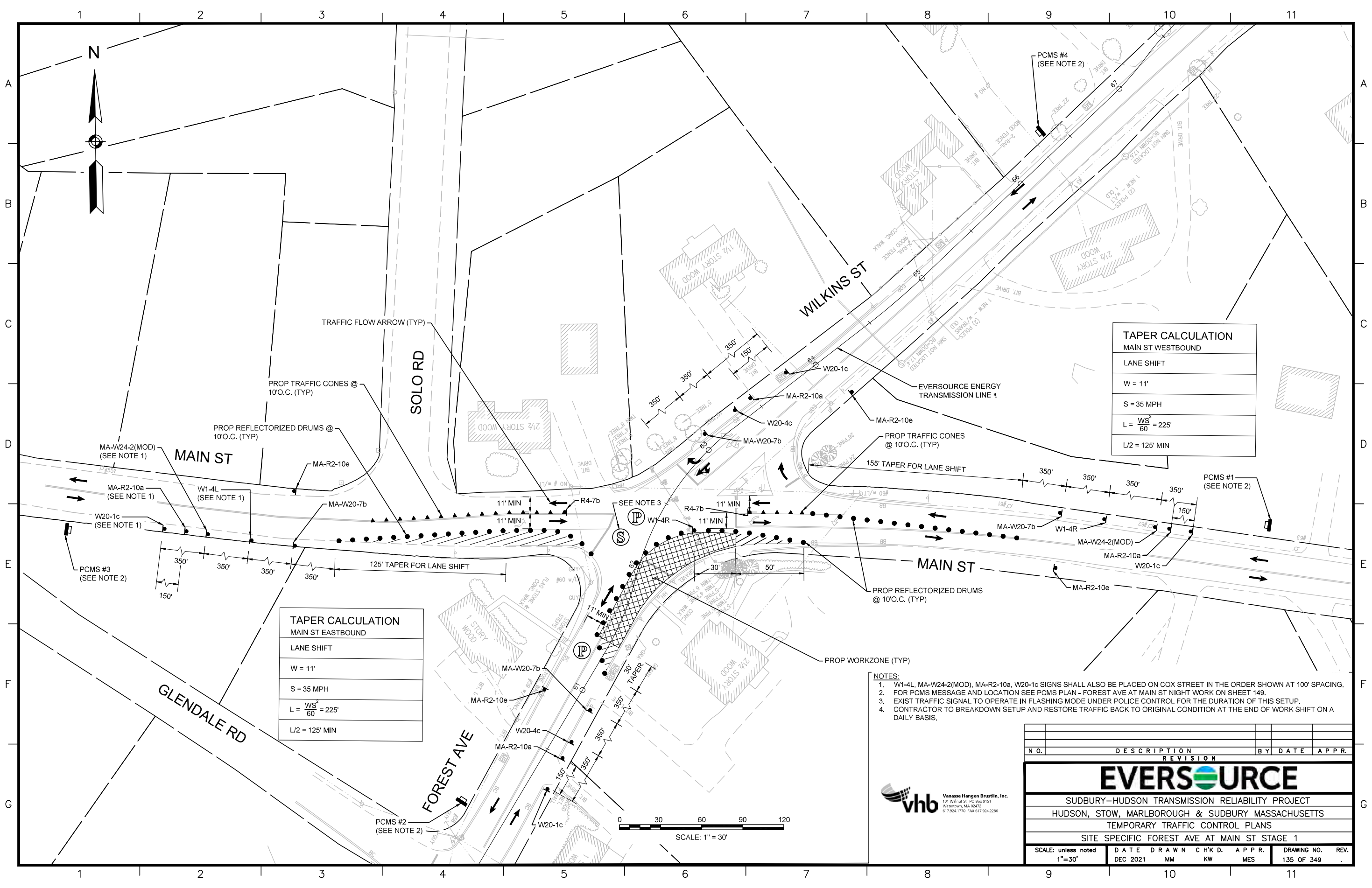
| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|---------------|-----------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | |
| TYPICAL DETAILS | | | | |
| SCALE: unless noted NTS | DATE DEC 2021 | DRAWN MM | CHECKED KW | APPROVED MES |
| DRAWING NO. 132 OF 349 | | REV. | | |



- NOTES:
1. MA-R2-10a AND W20-1c SIGNS SHALL ALSO BE PLACED ON CAUSEWAY ST IN THE ORDER SHOWN AT 100' SPACING.
 2. FOR PCMS MESSAGE AND LOCATION SEE PCMS PLAN - FOREST AVE AT MARLBORO ST NIGHT WORK ON SHEET 148.
 3. EXIST TRAFFIC SIGNAL TO OPERATE IN FLASHING MODE UNDER POLICE CONTROL FOR THE DURATION OF THIS SETUP.
 4. CONTRACTOR TO BREAKDOWN SETUP AND RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.



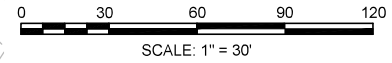
| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|---------------|-----------------|
| | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | |
| SITE SPECIFIC FOREST AVE AT MARLBORO ST STAGE 1 | | | | |
| SCALE: unless noted 1"=30' | DATE DEC 2021 | DRAWN MM | CHECKED KW | APPROVED MES |
| DRAWING NO. 133 OF 349 | | | | REV. . |



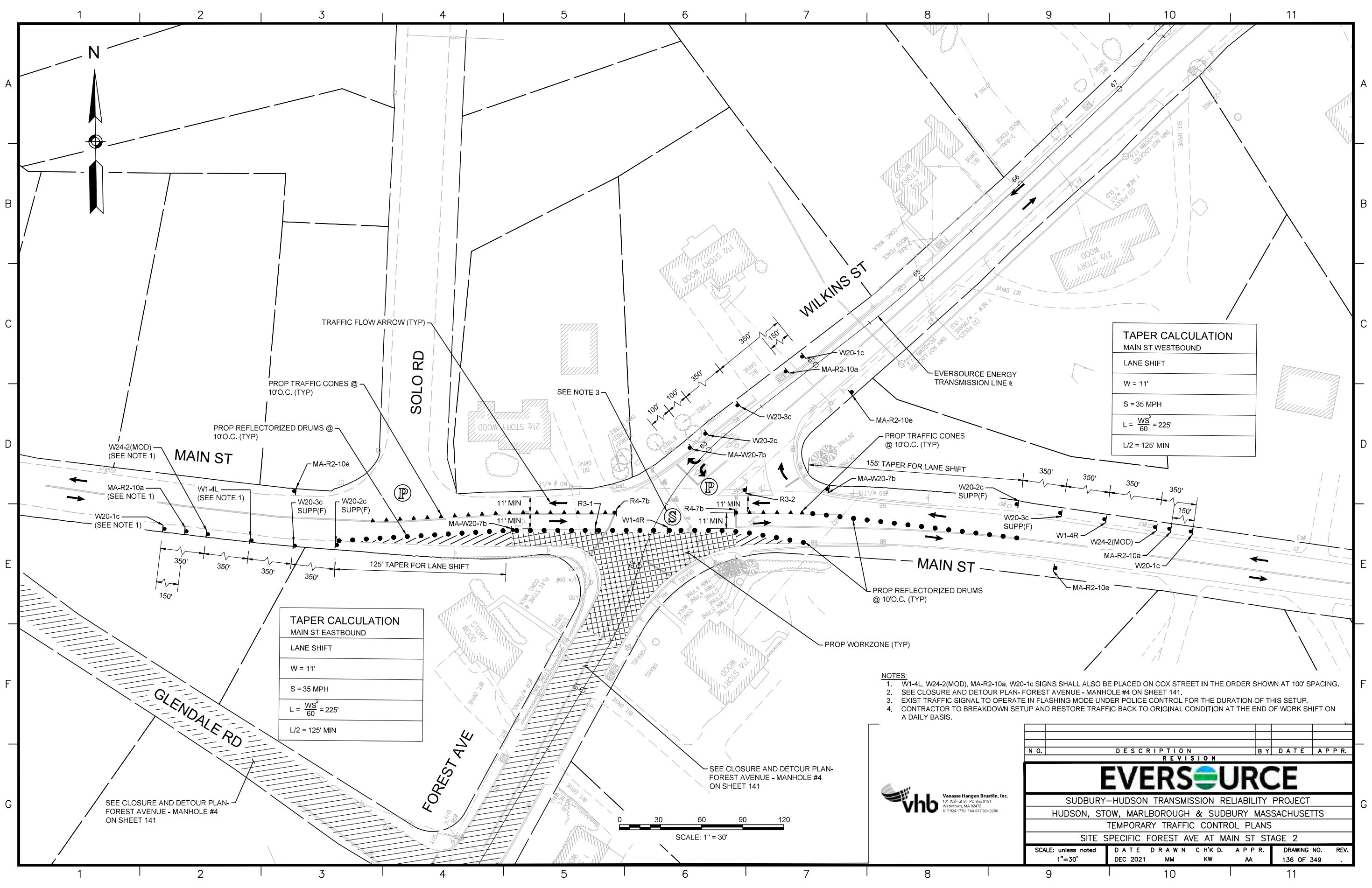
| TAPER CALCULATION MAIN ST WESTBOUND | |
|--|--|
| LANE SHIFT | |
| W = 11' | |
| S = 35 MPH | |
| $L = \frac{WS^2}{60} = 225'$ | |
| L/2 = 125' MIN | |

| TAPER CALCULATION MAIN ST EASTBOUND | |
|--|--|
| LANE SHIFT | |
| W = 11' | |
| S = 35 MPH | |
| $L = \frac{WS^2}{60} = 225'$ | |
| L/2 = 125' MIN | |

- NOTES:
1. W1-4L, MA-W24-2(MOD), MA-R2-10a, W20-1c SIGNS SHALL ALSO BE PLACED ON COX STREET IN THE ORDER SHOWN AT 100' SPACING.
 2. FOR PCMS MESSAGE AND LOCATION SEE PCMS PLAN - FOREST AVE AT MAIN ST NIGHT WORK ON SHEET 149.
 3. EXIST TRAFFIC SIGNAL TO OPERATE IN FLASHING MODE UNDER POLICE CONTROL FOR THE DURATION OF THIS SETUP.
 4. CONTRACTOR TO BREAKDOWN SETUP AND RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.



| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|---------------|---------------------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | |
| SITE SPECIFIC FOREST AVE AT MAIN ST STAGE 1 | | | | |
| SCALE: unless noted 1"=30' | DATE DEC 2021 | DRAWN MM | CHECKED KW | APPROVED MES |
| | | | | DRAWING NO. 135 OF 349 |



| TAPER CALCULATION MAIN ST WESTBOUND | |
|--|--|
| LANE SHIFT | |
| W = 11' | |
| S = 35 MPH | |
| $L = \frac{WS^2}{60} = 225'$ | |
| L/2 = 125' MIN | |

| TAPER CALCULATION MAIN ST EASTBOUND | |
|--|--|
| LANE SHIFT | |
| W = 11' | |
| S = 35 MPH | |
| $L = \frac{WS^2}{60} = 225'$ | |
| L/2 = 125' MIN | |

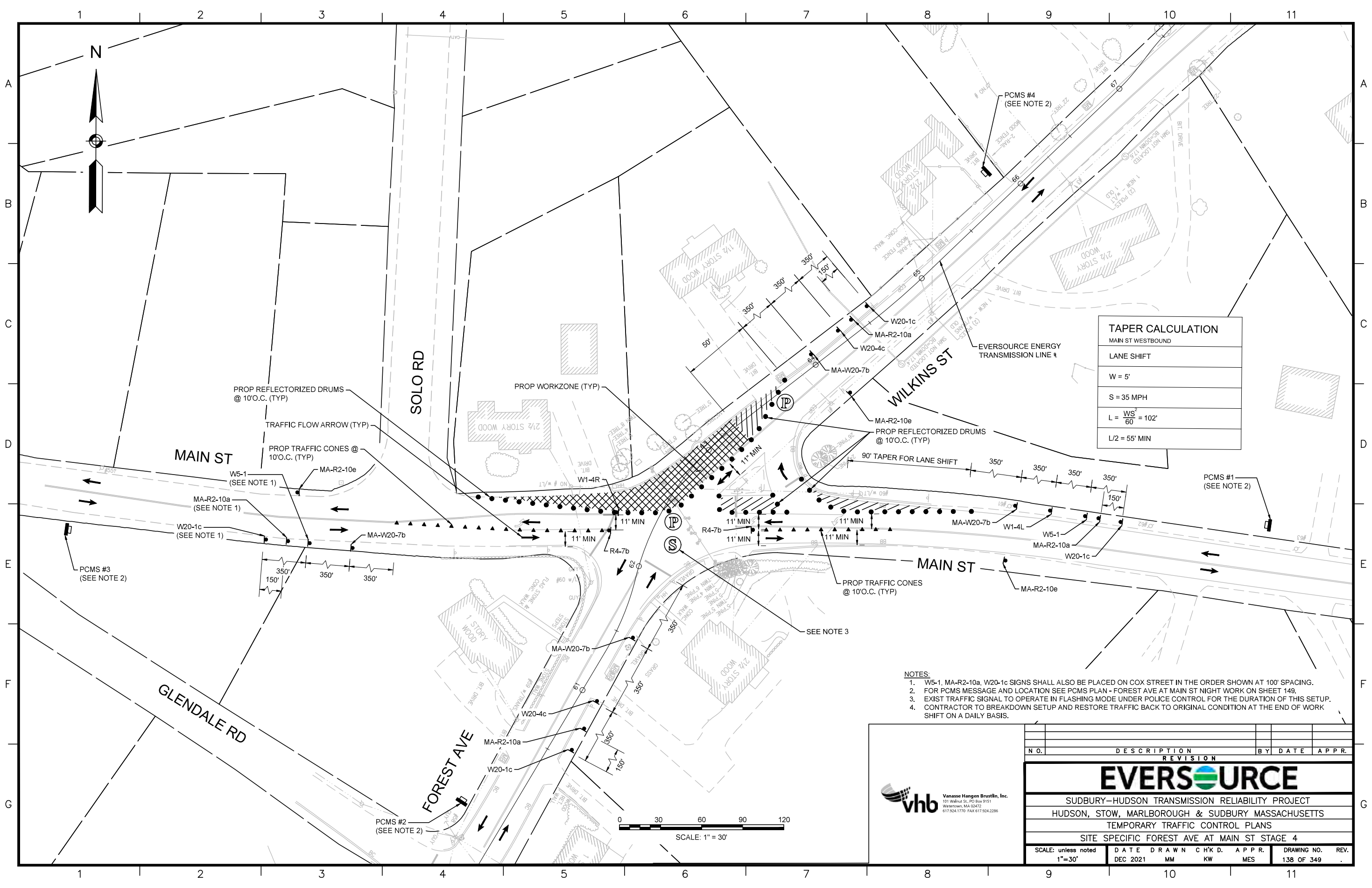
- NOTES:
1. W1-4L, W24-2(MOD), MA-R2-10a, W20-1c SIGNS SHALL ALSO BE PLACED ON COX STREET IN THE ORDER SHOWN AT 100' SPACING.
 2. SEE CLOSURE AND DETOUR PLAN- FOREST AVENUE - MANHOLE #4 ON SHEET 141.
 3. EXIST TRAFFIC SIGNAL TO OPERATE IN FLASHING MODE UNDER POLICE CONTROL FOR THE DURATION OF THIS SETUP.
 4. CONTRACTOR TO BREAKDOWN SETUP AND RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|-------------|-------|---------|-------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | |
| SITE SPECIFIC FOREST AVE AT MAIN ST STAGE 2 | | | | |
| SCALE: unless noted 1"=30' | DATE | DRAWN | CHECKED | APPR. |
| | DEC 2021 | MM | KW | AA |
| DRAWING NO. | REV. | | | |
| 136 OF 349 | | | | |



SEE CLOSURE AND DETOUR PLAN- FOREST AVENUE - MANHOLE #4 ON SHEET 141

SEE CLOSURE AND DETOUR PLAN- FOREST AVENUE - MANHOLE #4 ON SHEET 141

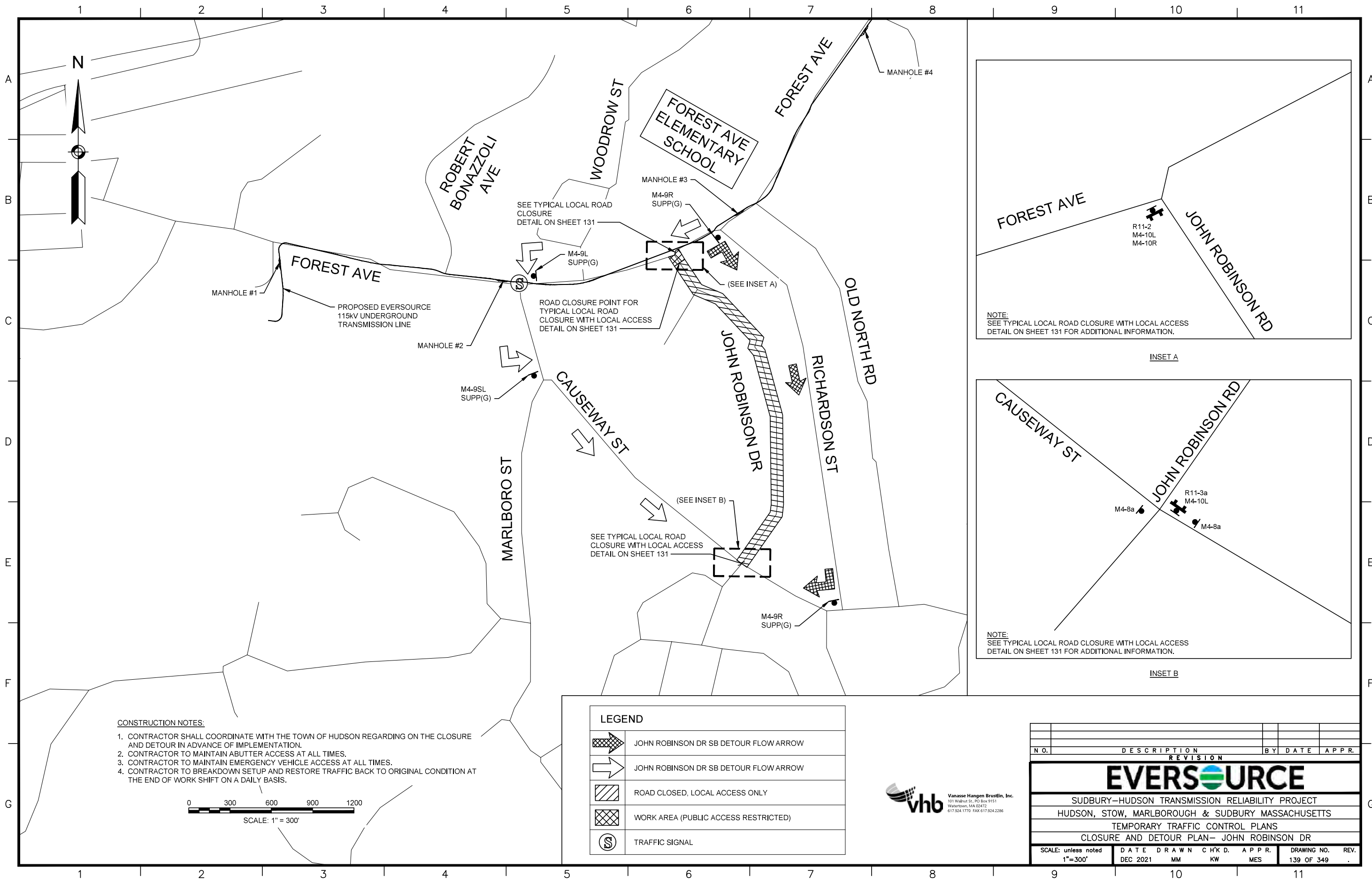


| TAPER CALCULATION | |
|-------------------|--------------------------|
| MAIN ST WESTBOUND | |
| LANE SHIFT | |
| W = | 5' |
| S = | 35 MPH |
| L = | $\frac{WS^2}{60} = 102'$ |
| L/2 = | 55' MIN |

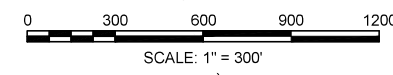
- NOTES:**
1. W5-1, MA-R2-10a, W20-1c SIGNS SHALL ALSO BE PLACED ON COX STREET IN THE ORDER SHOWN AT 100' SPACING.
 2. FOR PCMS MESSAGE AND LOCATION SEE PCMS PLAN - FOREST AVE AT MAIN ST NIGHT WORK ON SHEET 149.
 3. EXIST TRAFFIC SIGNAL TO OPERATE IN FLASHING MODE UNDER POLICE CONTROL FOR THE DURATION OF THIS SETUP.
 4. CONTRACTOR TO BREAKDOWN SETUP AND RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

| | | | | | | |
|---|----------|-------------|---------|----------|-------------|-------|
| NO. | | DESCRIPTION | | BY | DATE | APPR. |
| | | REVISION | | | | |
| EVERSOURCE | | | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | | | |
| SITE SPECIFIC FOREST AVE AT MAIN ST STAGE 4 | | | | | | |
| SCALE: unless noted | DATE | DRAWN | CHECKED | APPROVED | DRAWING NO. | REV. |
| 1"=30' | DEC 2021 | MM | KW | MES | 138 OF 349 | |

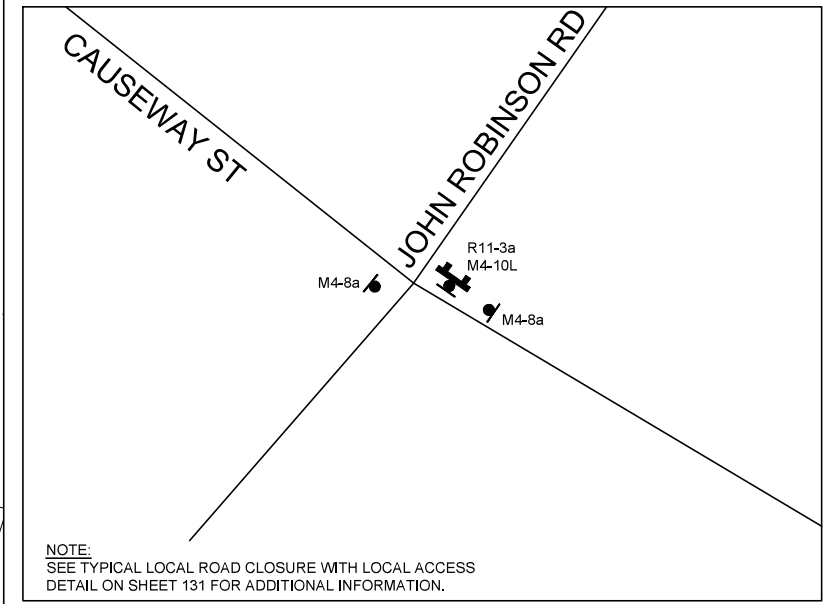
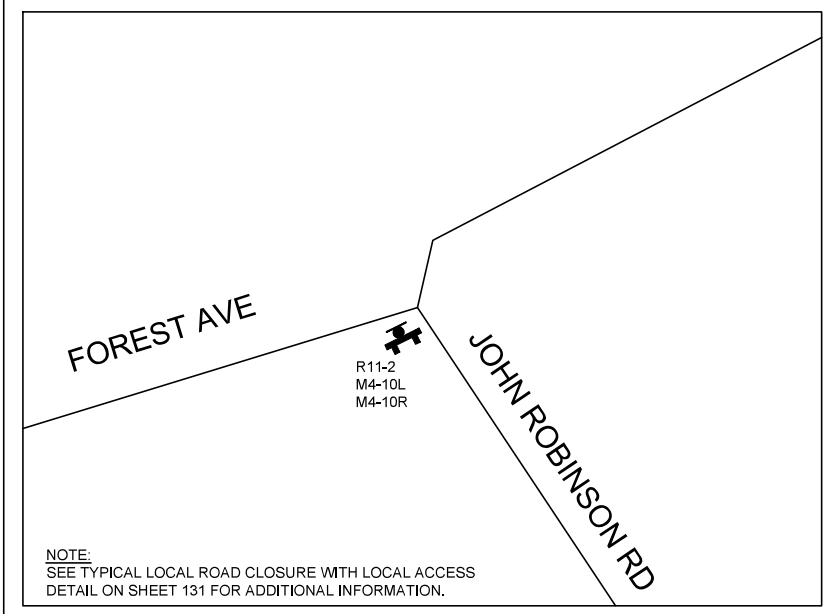




- CONSTRUCTION NOTES:**
1. CONTRACTOR SHALL COORDINATE WITH THE TOWN OF HUDSON REGARDING ON THE CLOSURE AND DETOUR IN ADVANCE OF IMPLEMENTATION.
 2. CONTRACTOR TO MAINTAIN ABUTTER ACCESS AT ALL TIMES.
 3. CONTRACTOR TO MAINTAIN EMERGENCY VEHICLE ACCESS AT ALL TIMES.
 4. CONTRACTOR TO BREAKDOWN SETUP AND RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.



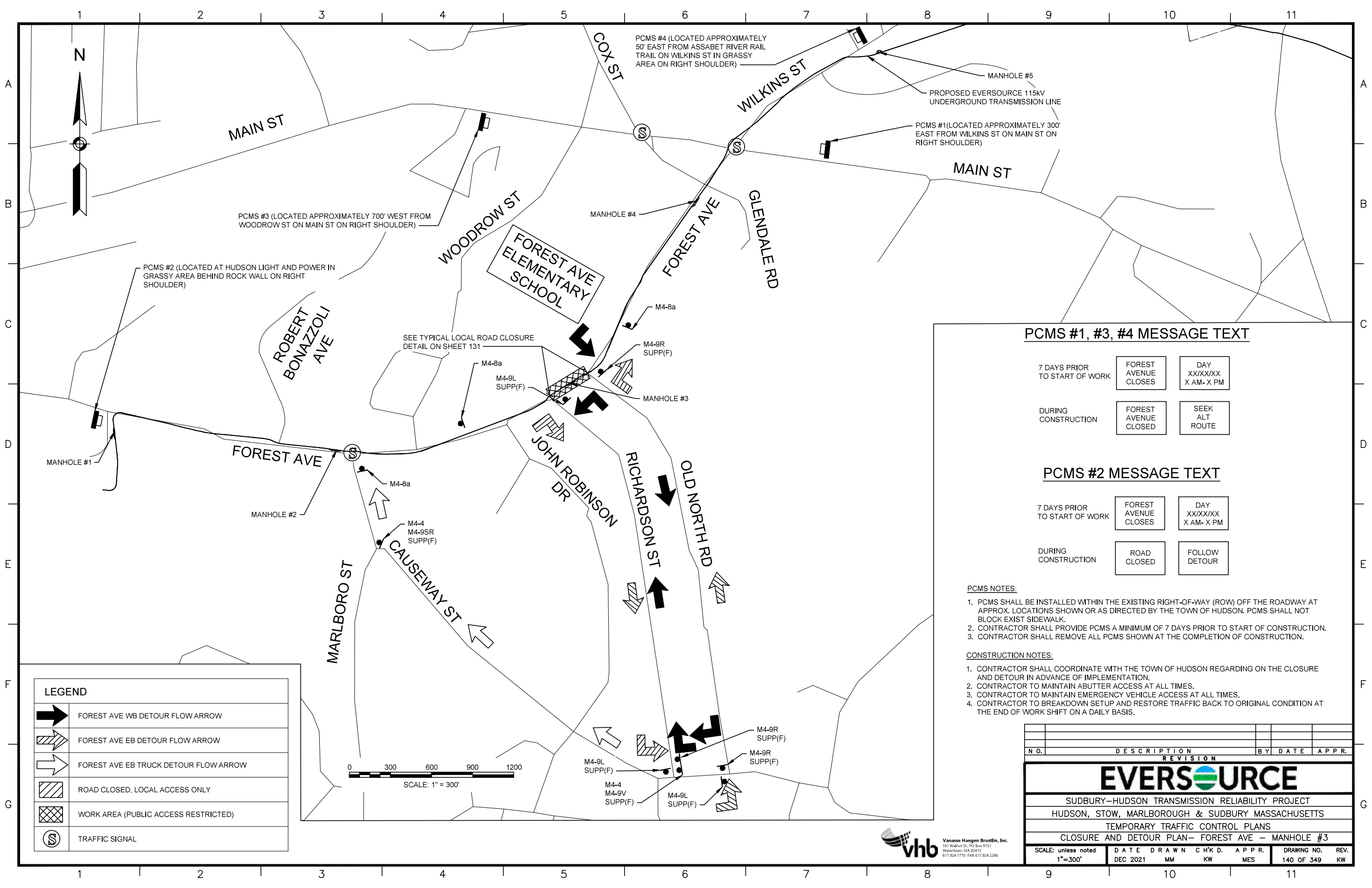
| LEGEND | |
|--------|---------------------------------------|
| | JOHN ROBINSON DR SB DETOUR FLOW ARROW |
| | JOHN ROBINSON DR SB DETOUR FLOW ARROW |
| | ROAD CLOSED, LOCAL ACCESS ONLY |
| | WORK AREA (PUBLIC ACCESS RESTRICTED) |
| | TRAFFIC SIGNAL |



NOTE:
SEE TYPICAL LOCAL ROAD CLOSURE WITH LOCAL ACCESS
DETAIL ON SHEET 131 FOR ADDITIONAL INFORMATION.

NOTE:
SEE TYPICAL LOCAL ROAD CLOSURE WITH LOCAL ACCESS
DETAIL ON SHEET 131 FOR ADDITIONAL INFORMATION.

| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|---------------|-----------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | |
| CLOSURE AND DETOUR PLAN- JOHN ROBINSON DR | | | | |
| SCALE: unless noted 1"=300' | DATE DEC 2021 | DRAWN MM | CHECKED KW | APPROVED MES |
| DRAWING NO. 139 OF 349 | | | | REV. . |



PCMS #1, #3, #4 MESSAGE TEXT

| | | |
|-------------------------------|------------------------|-------------------------|
| 7 DAYS PRIOR TO START OF WORK | FOREST AVENUE CLOSURES | DAY XX/XX/XX X AM- X PM |
| DURING CONSTRUCTION | FOREST AVENUE CLOSED | SEEK ALT ROUTE |

PCMS #2 MESSAGE TEXT

| | | |
|-------------------------------|------------------------|-------------------------|
| 7 DAYS PRIOR TO START OF WORK | FOREST AVENUE CLOSURES | DAY XX/XX/XX X AM- X PM |
| DURING CONSTRUCTION | ROAD CLOSED | FOLLOW DETOUR |

PCMS NOTES:

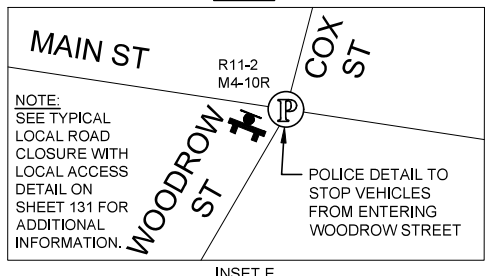
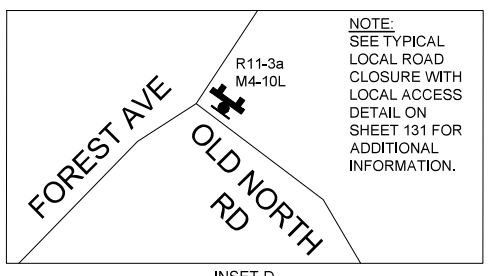
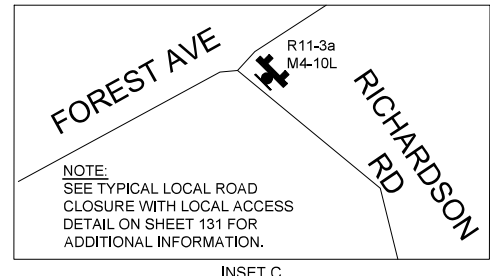
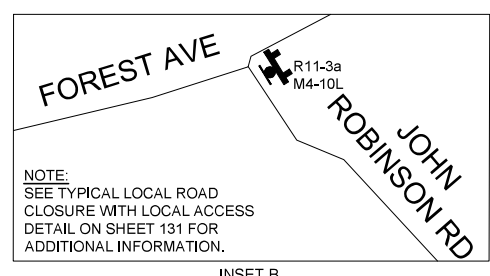
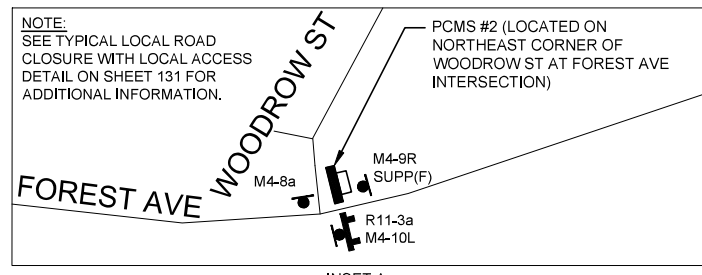
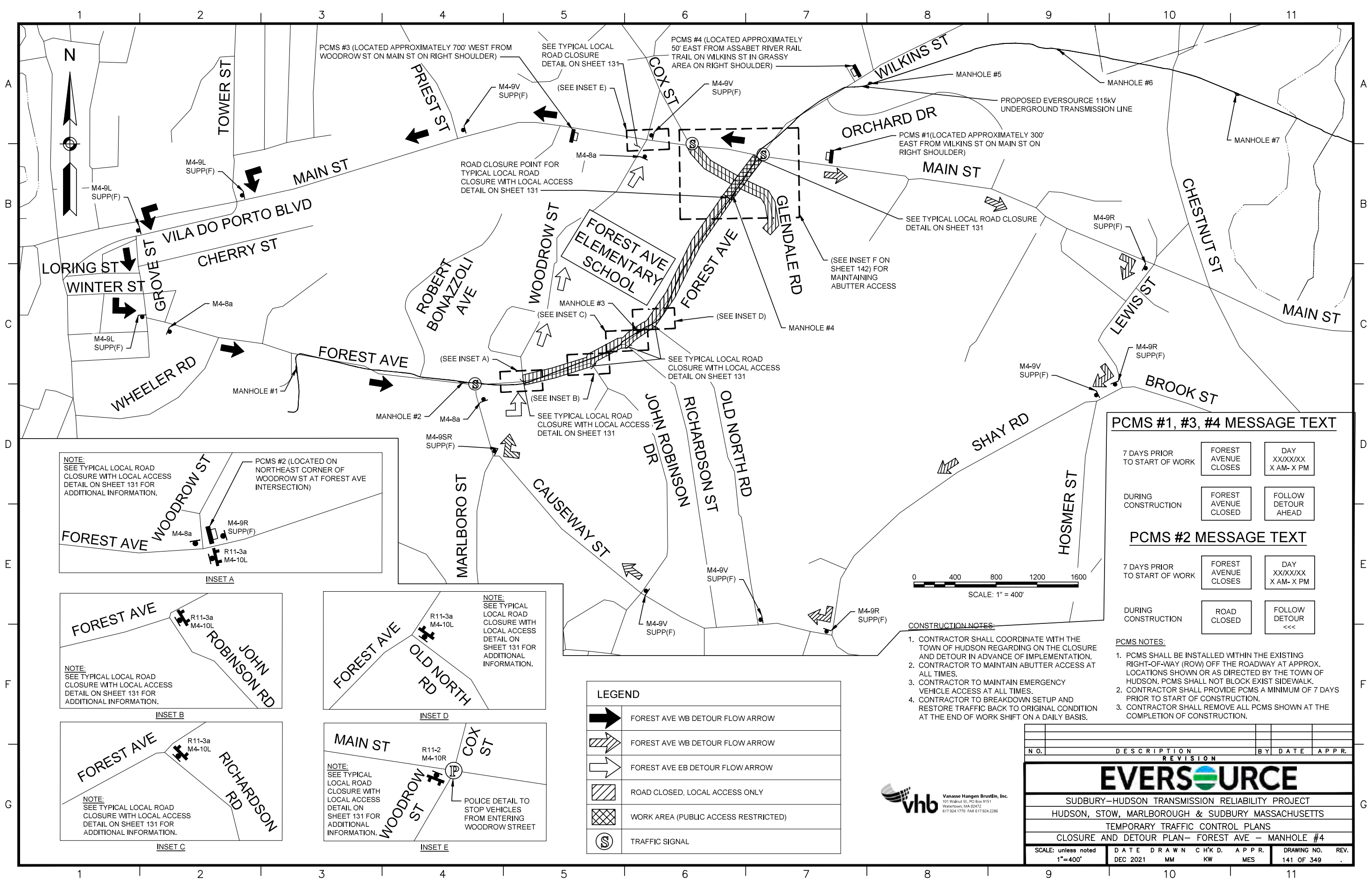
1. PCMS SHALL BE INSTALLED WITHIN THE EXISTING RIGHT-OF-WAY (ROW) OFF THE ROADWAY AT APPROX. LOCATIONS SHOWN OR AS DIRECTED BY THE TOWN OF HUDSON. PCMS SHALL NOT BLOCK EXIST SIDEWALK.
2. CONTRACTOR SHALL PROVIDE PCMS A MINIMUM OF 7 DAYS PRIOR TO START OF CONSTRUCTION.
3. CONTRACTOR SHALL REMOVE ALL PCMS SHOWN AT THE COMPLETION OF CONSTRUCTION.

CONSTRUCTION NOTES:

1. CONTRACTOR SHALL COORDINATE WITH THE TOWN OF HUDSON REGARDING ON THE CLOSURE AND DETOUR IN ADVANCE OF IMPLEMENTATION.
2. CONTRACTOR TO MAINTAIN ABUTTER ACCESS AT ALL TIMES.
3. CONTRACTOR TO MAINTAIN EMERGENCY VEHICLE ACCESS AT ALL TIMES.
4. CONTRACTOR TO BREAKDOWN SETUP AND RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|-------------|-------|---------|----------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | |
| CLOSURE AND DETOUR PLAN- FOREST AVE - MANHOLE #3 | | | | |
| SCALE: unless noted 1"=300' | DATE | DRAWN | CHECKED | APPROVED |
| | DEC 2021 | MM | KW | MES |
| DRAWING NO. | REV. | | | |
| 140 OF 349 | KW | | | |





LEGEND

| | |
|--|--------------------------------------|
| | FOREST AVE WB DETOUR FLOW ARROW |
| | FOREST AVE WB DETOUR FLOW ARROW |
| | FOREST AVE EB DETOUR FLOW ARROW |
| | ROAD CLOSED, LOCAL ACCESS ONLY |
| | WORK AREA (PUBLIC ACCESS RESTRICTED) |
| | TRAFFIC SIGNAL |

PCMS #1, #3, #4 MESSAGE TEXT

7 DAYS PRIOR TO START OF WORK
 FOREST AVENUE CLOSURES
 DAY XX/XX/XX X AM- X PM

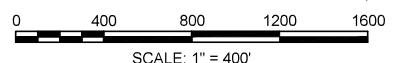
DURING CONSTRUCTION
 FOREST AVENUE CLOSED
 FOLLOW DETOUR AHEAD

PCMS #2 MESSAGE TEXT

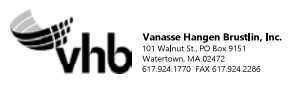
7 DAYS PRIOR TO START OF WORK
 FOREST AVENUE CLOSURES
 DAY XX/XX/XX X AM- X PM

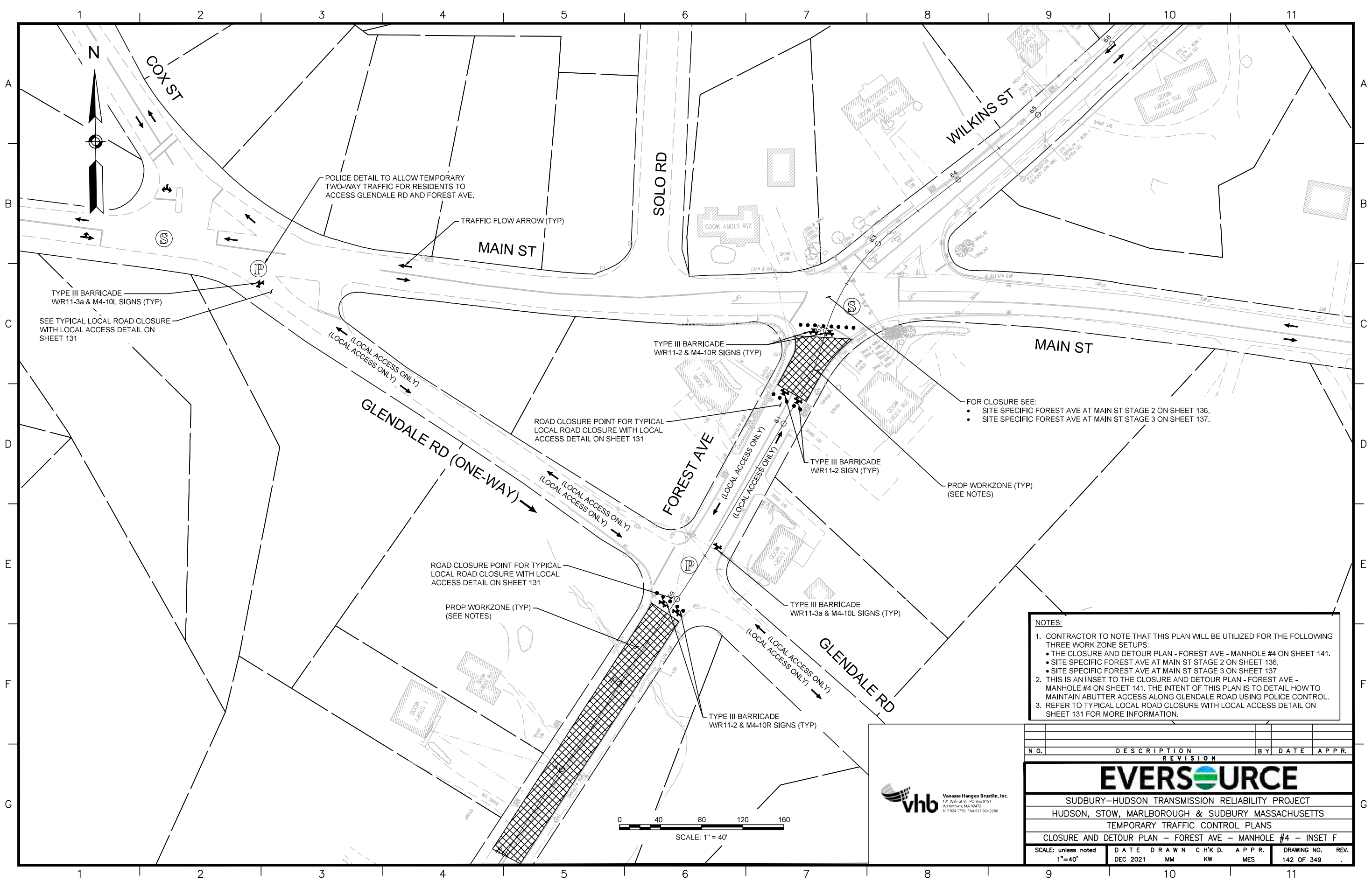
DURING CONSTRUCTION
 ROAD CLOSED
 FOLLOW DETOUR <<<

- CONSTRUCTION NOTES:**
- CONTRACTOR SHALL COORDINATE WITH THE TOWN OF HUDSON REGARDING ON THE CLOSURE AND DETOUR IN ADVANCE OF IMPLEMENTATION.
 - CONTRACTOR TO MAINTAIN ABUTTER ACCESS AT ALL TIMES.
 - CONTRACTOR TO MAINTAIN EMERGENCY VEHICLE ACCESS AT ALL TIMES.
 - CONTRACTOR TO BREAKDOWN SETUP AND RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.
- PCMS NOTES:**
- PCMS SHALL BE INSTALLED WITHIN THE EXISTING RIGHT-OF-WAY (ROW) OFF THE ROADWAY AT APPROX. LOCATIONS SHOWN OR AS DIRECTED BY THE TOWN OF HUDSON. PCMS SHALL NOT BLOCK EXIST SIDEWALK.
 - CONTRACTOR SHALL PROVIDE PCMS A MINIMUM OF 7 DAYS PRIOR TO START OF CONSTRUCTION.
 - CONTRACTOR SHALL REMOVE ALL PCMS SHOWN AT THE COMPLETION OF CONSTRUCTION.



| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|---------------------------|-----------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | |
| CLOSURE AND DETOUR PLAN- FOREST AVE - MANHOLE #4 | | | | |
| SCALE: unless noted 1"=400' | DATE DEC 2021 | DRAWN MM | CHECKED KW | APPROVED MES |
| | | | DRAWING NO. 141 OF 349 | REV. |

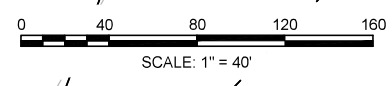


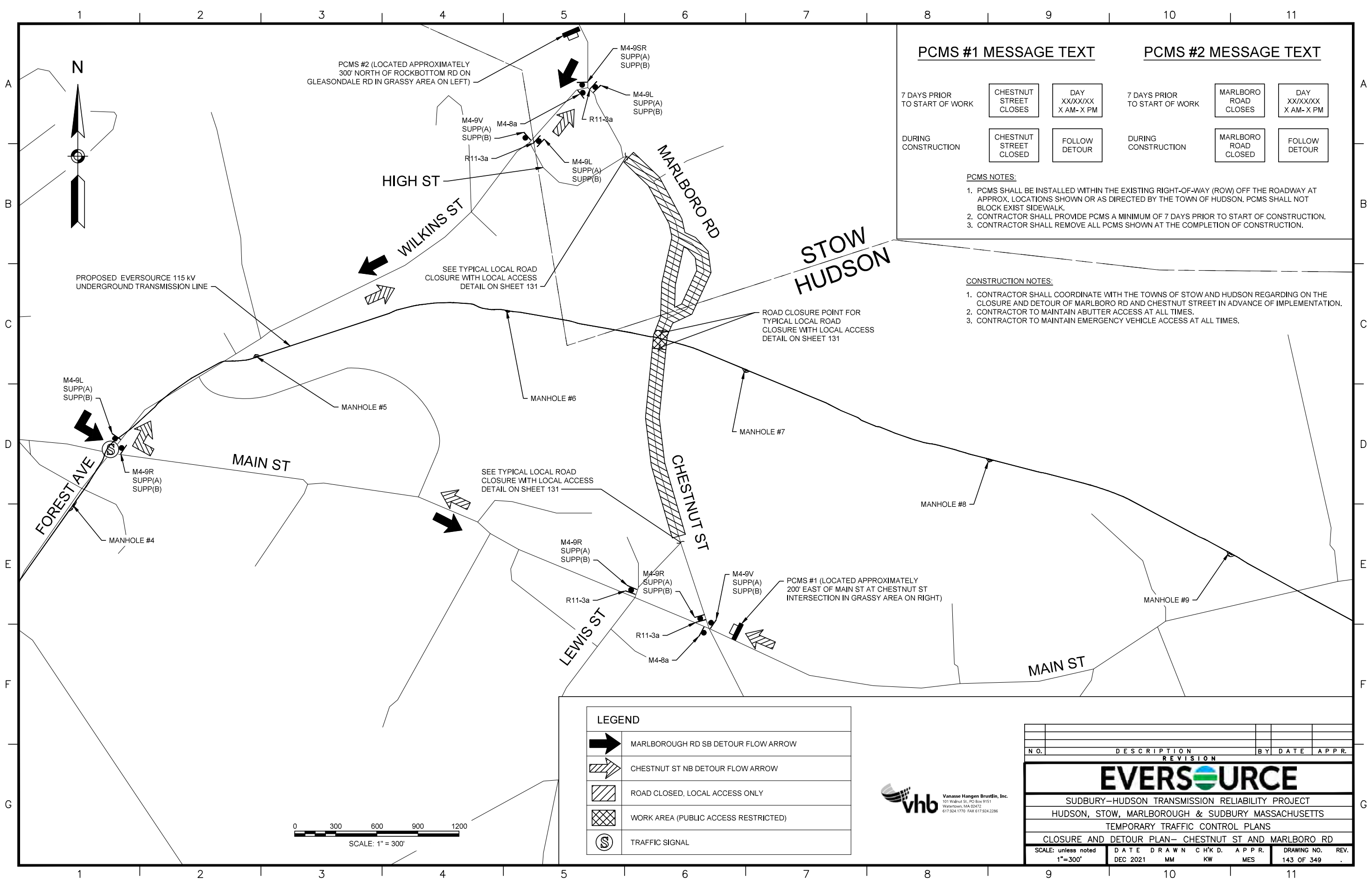


NOTES:

- CONTRACTOR TO NOTE THAT THIS PLAN WILL BE UTILIZED FOR THE FOLLOWING THREE WORK ZONE SETUPS:
 - THE CLOSURE AND DETOUR PLAN - FOREST AVE - MANHOLE #4 ON SHEET 141.
 - SITE SPECIFIC FOREST AVE AT MAIN ST STAGE 2 ON SHEET 136.
 - SITE SPECIFIC FOREST AVE AT MAIN ST STAGE 3 ON SHEET 137
- THIS IS AN INSET TO THE CLOSURE AND DETOUR PLAN - FOREST AVE - MANHOLE #4 ON SHEET 141. THE INTENT OF THIS PLAN IS TO DETAIL HOW TO MAINTAIN ABUTTER ACCESS ALONG GLENDALE ROAD USING POLICE CONTROL.
- REFER TO TYPICAL LOCAL ROAD CLOSURE WITH LOCAL ACCESS DETAIL ON SHEET 131 FOR MORE INFORMATION.

| NO. | DESCRIPTION | BY | DATE | APPR. | |
|---|-------------|-------|---------|----------|------------------|
| | | | | | REVISION |
| EVERSOURCE | | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | | |
| CLOSURE AND DETOUR PLAN - FOREST AVE - MANHOLE #4 - INSET F | | | | | |
| SCALE: unless noted 1"=40' | DATE | DRAWN | CHECKED | APPROVED | DRAWING NO. REV. |
| | DEC 2021 | MM | KW | MES | 142 OF 349 |





PCMS #1 MESSAGE TEXT

7 DAYS PRIOR
TO START OF WORK

DURING
CONSTRUCTION

CHESTNUT
STREET
CLOSES

CHESTNUT
STREET
CLOSED

DAY
XX/XX/XX
X AM- X PM

FOLLOW
DETOUR

PCMS #2 MESSAGE TEXT

7 DAYS PRIOR
TO START OF WORK

DURING
CONSTRUCTION

MARLBORO
ROAD
CLOSES

MARLBORO
ROAD
CLOSED

DAY
XX/XX/XX
X AM- X PM

FOLLOW
DETOUR

PCMS NOTES:

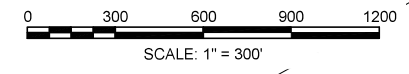
1. PCMS SHALL BE INSTALLED WITHIN THE EXISTING RIGHT-OF-WAY (ROW) OFF THE ROADWAY AT APPROX. LOCATIONS SHOWN OR AS DIRECTED BY THE TOWN OF HUDSON. PCMS SHALL NOT BLOCK EXIST SIDEWALK.
2. CONTRACTOR SHALL PROVIDE PCMS A MINIMUM OF 7 DAYS PRIOR TO START OF CONSTRUCTION.
3. CONTRACTOR SHALL REMOVE ALL PCMS SHOWN AT THE COMPLETION OF CONSTRUCTION.

CONSTRUCTION NOTES:

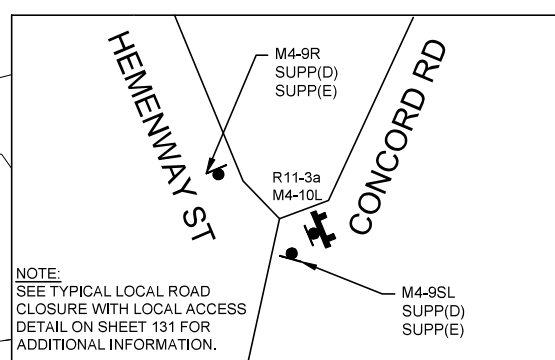
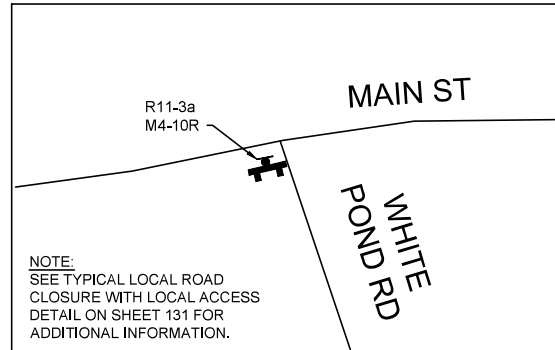
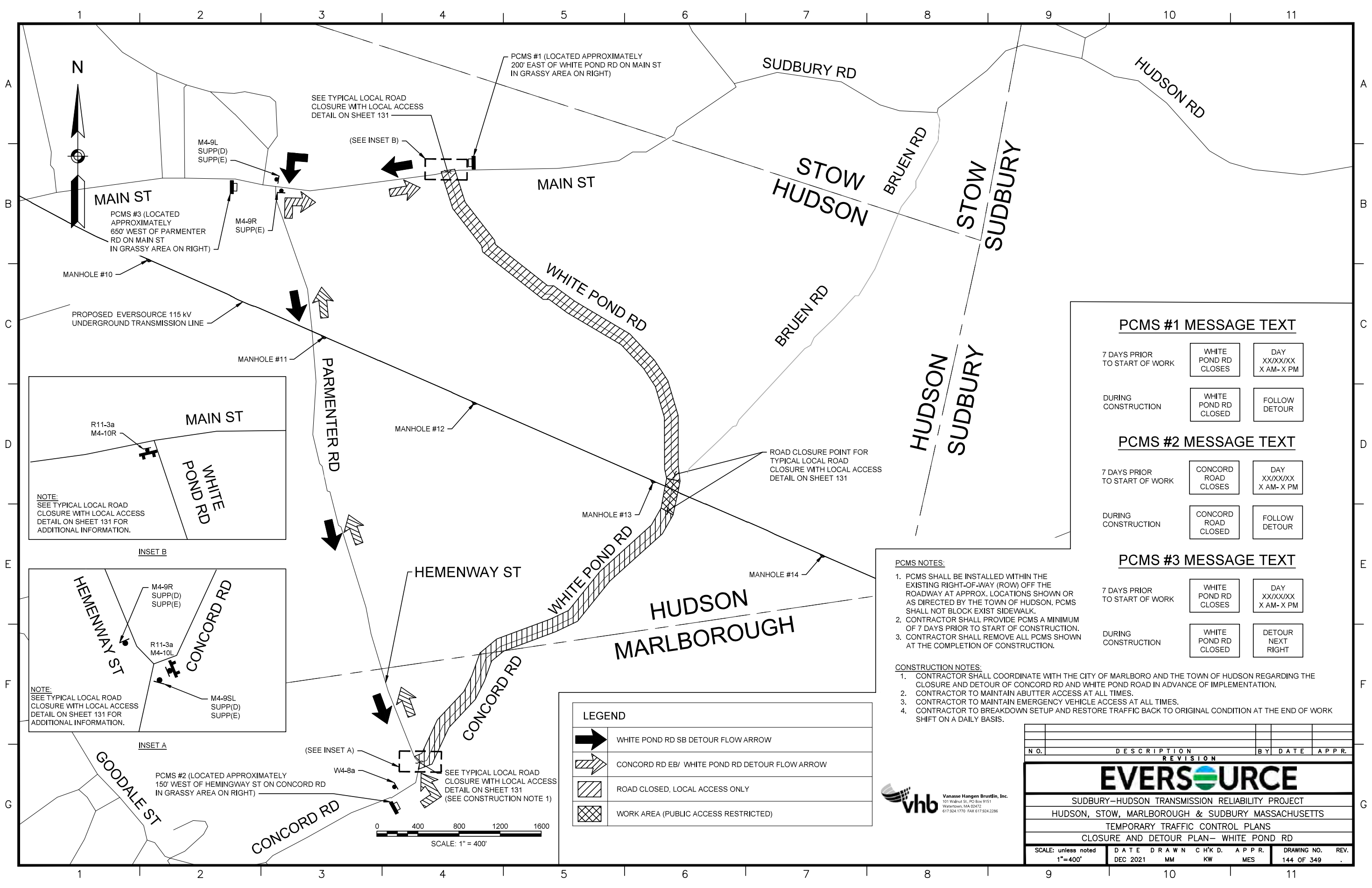
1. CONTRACTOR SHALL COORDINATE WITH THE TOWNS OF STOW AND HUDSON REGARDING ON THE CLOSURE AND DETOUR OF MARLBORO RD AND CHESTNUT STREET IN ADVANCE OF IMPLEMENTATION.
2. CONTRACTOR TO MAINTAIN ABUTTER ACCESS AT ALL TIMES.
3. CONTRACTOR TO MAINTAIN EMERGENCY VEHICLE ACCESS AT ALL TIMES.

LEGEND

| | |
|--|--------------------------------------|
| | MARLBOROUGH RD SB DETOUR FLOW ARROW |
| | CHESTNUT ST NB DETOUR FLOW ARROW |
| | ROAD CLOSED, LOCAL ACCESS ONLY |
| | WORK AREA (PUBLIC ACCESS RESTRICTED) |
| | TRAFFIC SIGNAL |



| NO. | DESCRIPTION | BY | DATE | APPR. |
|--|-------------|-------|---------|----------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | |
| CLOSURE AND DETOUR PLAN- CHESTNUT ST AND MARLBORO RD | | | | |
| SCALE: unless noted 1"=300' | DATE | DRAWN | CHECKED | APPROVED |
| | DEC 2021 | MM | KW | MES |
| DRAWING NO. | REV. | | | |
| 143 OF 349 | | | | |



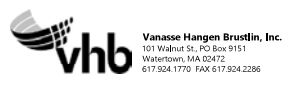
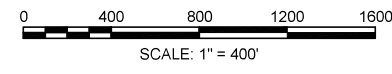
| PCMS #1 MESSAGE TEXT | | |
|-------------------------------|------------------------|------------------------|
| 7 DAYS PRIOR TO START OF WORK | WHITE POND RD CLOSURES | DAY XX/XX/XX X AM-X PM |
| DURING CONSTRUCTION | WHITE POND RD CLOSED | FOLLOW DETOUR |
| PCMS #2 MESSAGE TEXT | | |
| 7 DAYS PRIOR TO START OF WORK | CONCORD ROAD CLOSURES | DAY XX/XX/XX X AM-X PM |
| DURING CONSTRUCTION | CONCORD ROAD CLOSED | FOLLOW DETOUR |

- PCMS NOTES:**
- PCMS SHALL BE INSTALLED WITHIN THE EXISTING RIGHT-OF-WAY (ROW) OFF THE ROADWAY AT APPROX. LOCATIONS SHOWN OR AS DIRECTED BY THE TOWN OF HUDSON. PCMS SHALL NOT BLOCK EXIST SIDEWALK.
 - CONTRACTOR SHALL PROVIDE PCMS A MINIMUM OF 7 DAYS PRIOR TO START OF CONSTRUCTION.
 - CONTRACTOR SHALL REMOVE ALL PCMS SHOWN AT THE COMPLETION OF CONSTRUCTION.

- CONSTRUCTION NOTES:**
- CONTRACTOR SHALL COORDINATE WITH THE CITY OF MARLBORO AND THE TOWN OF HUDSON REGARDING THE CLOSURE AND DETOUR OF CONCORD RD AND WHITE POND ROAD IN ADVANCE OF IMPLEMENTATION.
 - CONTRACTOR TO MAINTAIN ABUTTER ACCESS AT ALL TIMES.
 - CONTRACTOR TO MAINTAIN EMERGENCY VEHICLE ACCESS AT ALL TIMES.
 - CONTRACTOR TO BREAKDOWN SETUP AND RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

LEGEND

| | |
|--|--|
| | WHITE POND RD SB DETOUR FLOW ARROW |
| | CONCORD RD EB/ WHITE POND RD DETOUR FLOW ARROW |
| | ROAD CLOSED, LOCAL ACCESS ONLY |
| | WORK AREA (PUBLIC ACCESS RESTRICTED) |

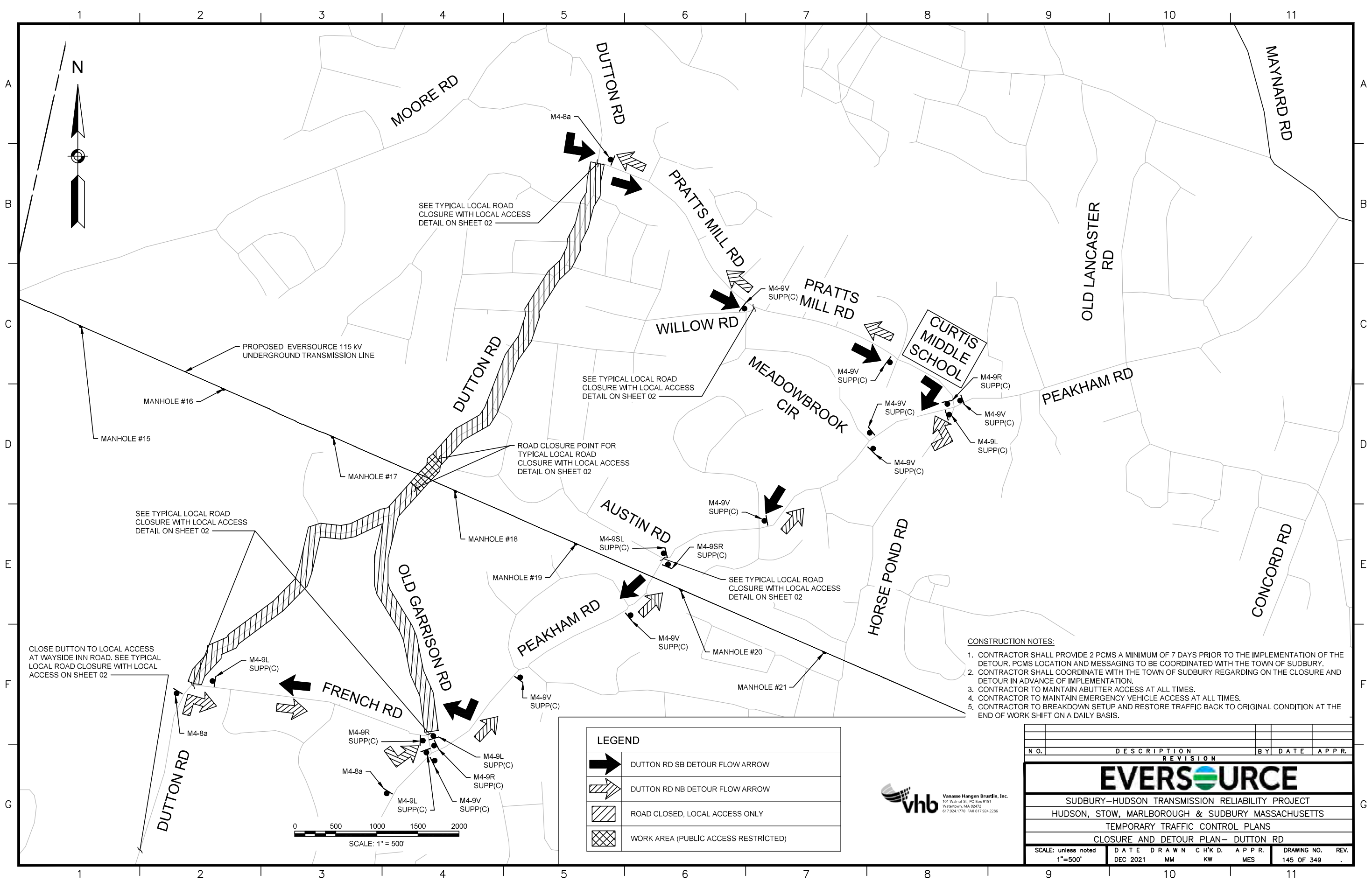


| REVISION | | | | |
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| NO. | DESCRIPTION | BY | DATE | APPR. |
| | | | | |

EVERSOURCE

SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT
 HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS
 TEMPORARY TRAFFIC CONTROL PLANS
 CLOSURE AND DETOUR PLAN- WHITE POND RD

| | | | | | | |
|--------------------------------|------------------|-------------|---------------|-----------------|---------------------------|------|
| SCALE: unless noted 1"=400' | DATE DEC 2021 | DRAWN MM | CHECKED KW | APPROVED MES | DRAWING NO. 144 OF 349 | REV. |
|--------------------------------|------------------|-------------|---------------|-----------------|---------------------------|------|



SEE TYPICAL LOCAL ROAD CLOSURE WITH LOCAL ACCESS DETAIL ON SHEET 02

SEE TYPICAL LOCAL ROAD CLOSURE WITH LOCAL ACCESS DETAIL ON SHEET 02

SEE TYPICAL LOCAL ROAD CLOSURE WITH LOCAL ACCESS DETAIL ON SHEET 02

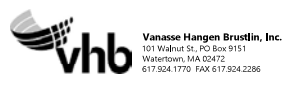
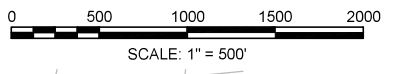
SEE TYPICAL LOCAL ROAD CLOSURE WITH LOCAL ACCESS DETAIL ON SHEET 02

CLOSE DUTTON TO LOCAL ACCESS AT WAYSIDE INN ROAD. SEE TYPICAL LOCAL ROAD CLOSURE WITH LOCAL ACCESS ON SHEET 02

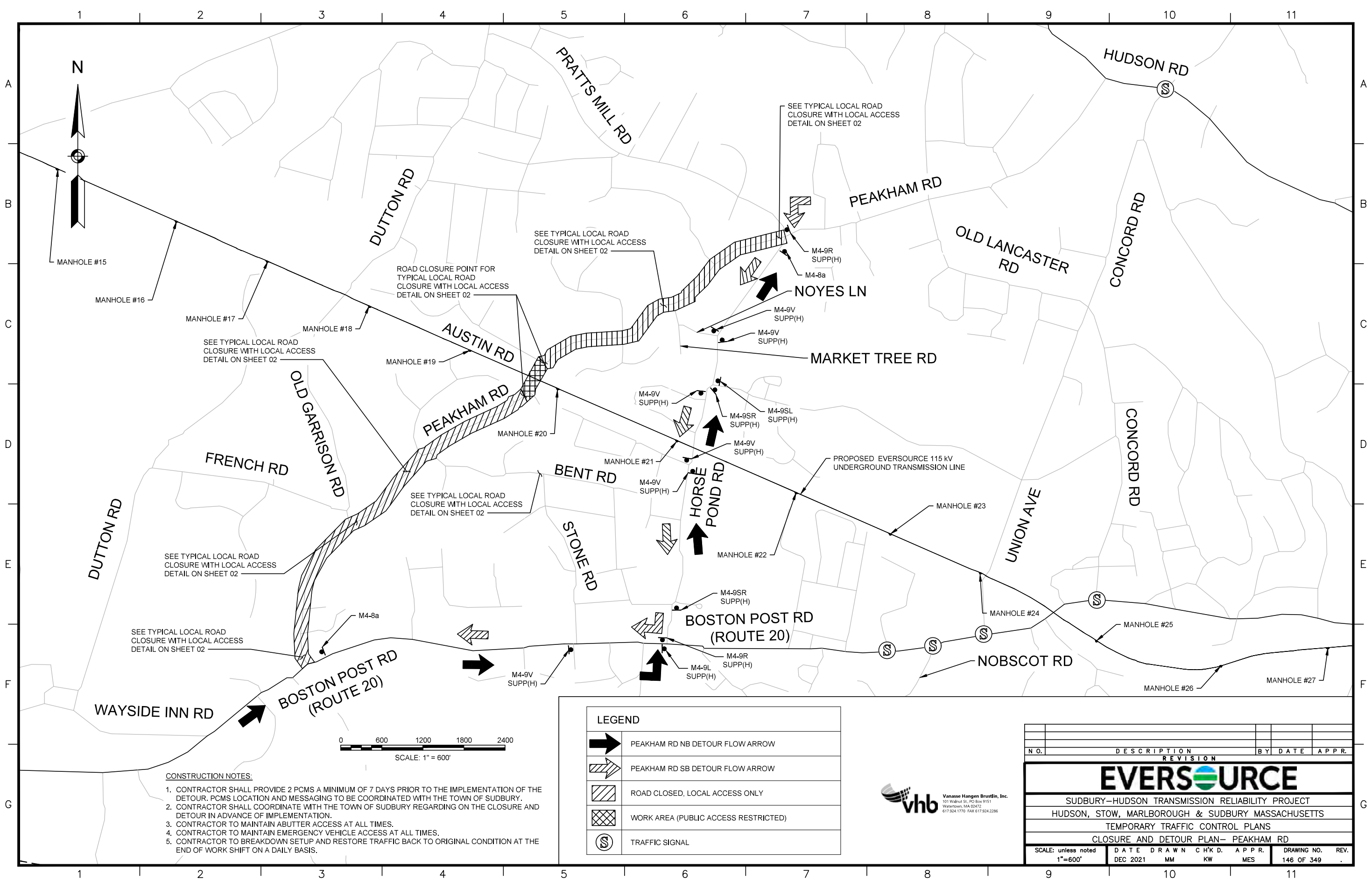
CONSTRUCTION NOTES:

1. CONTRACTOR SHALL PROVIDE 2 PCMS A MINIMUM OF 7 DAYS PRIOR TO THE IMPLEMENTATION OF THE DETOUR. PCMS LOCATION AND MESSAGING TO BE COORDINATED WITH THE TOWN OF SUDBURY.
2. CONTRACTOR SHALL COORDINATE WITH THE TOWN OF SUDBURY REGARDING ON THE CLOSURE AND DETOUR IN ADVANCE OF IMPLEMENTATION.
3. CONTRACTOR TO MAINTAIN ABUTTER ACCESS AT ALL TIMES.
4. CONTRACTOR TO MAINTAIN EMERGENCY VEHICLE ACCESS AT ALL TIMES.
5. CONTRACTOR TO BREAKDOWN SETUP AND RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.

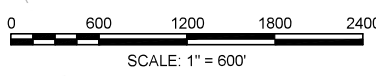
| LEGEND | |
|--------|--------------------------------------|
| | DUTTON RD SB DETOUR FLOW ARROW |
| | DUTTON RD NB DETOUR FLOW ARROW |
| | ROAD CLOSED, LOCAL ACCESS ONLY |
| | WORK AREA (PUBLIC ACCESS RESTRICTED) |



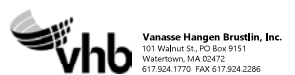
| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|-------------|-------|---------|----------|
| | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | |
| CLOSURE AND DETOUR PLAN- DUTTON RD | | | | |
| SCALE: unless noted 1"=500' | DATE | DRAWN | CHECKED | APPROVED |
| | DEC 2021 | MM | KW | MES |
| DRAWING NO. | REV. | | | |
| 145 OF 349 | | | | |



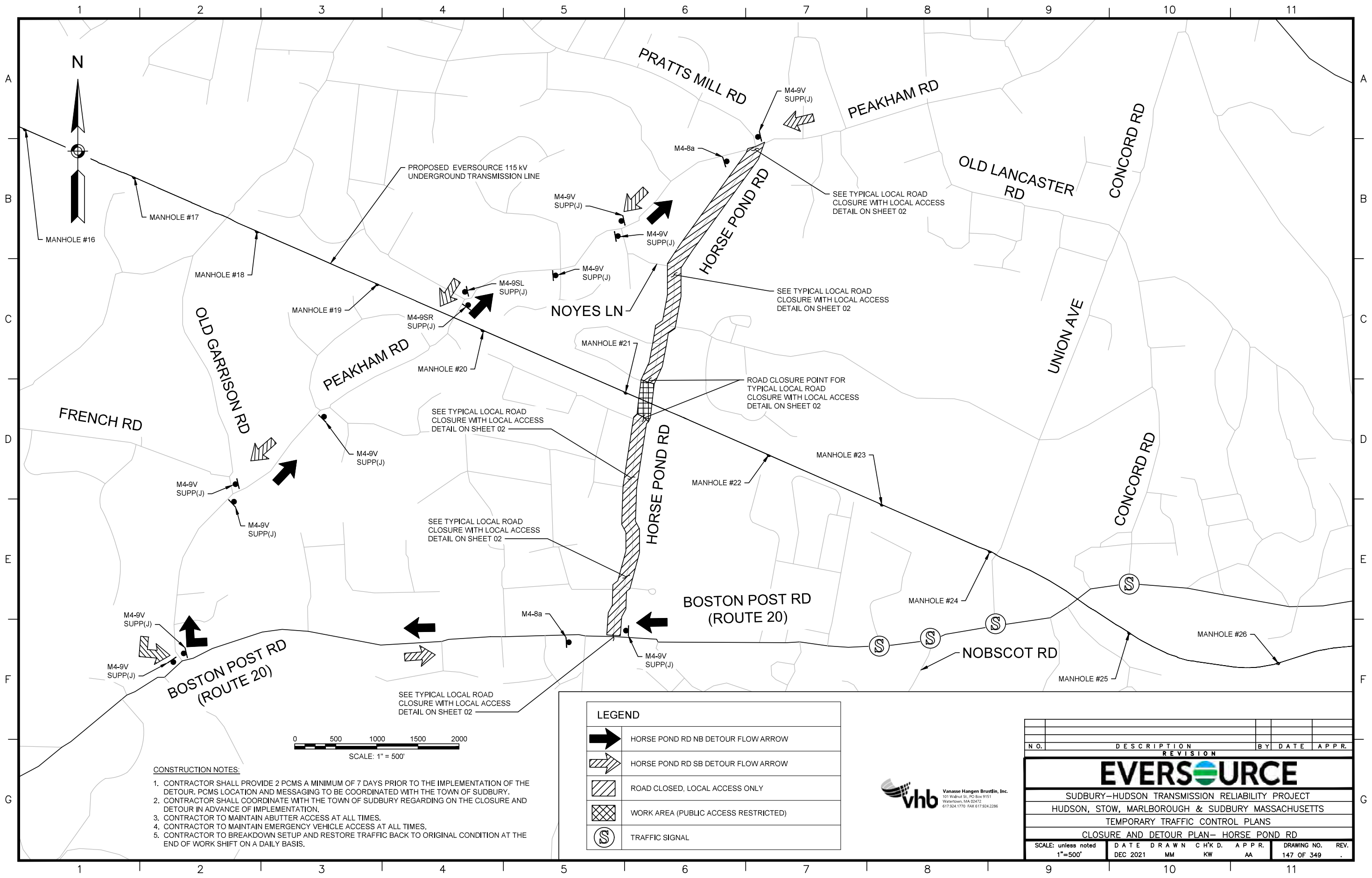
- CONSTRUCTION NOTES:**
1. CONTRACTOR SHALL PROVIDE 2 PCMS A MINIMUM OF 7 DAYS PRIOR TO THE IMPLEMENTATION OF THE DETOUR. PCMS LOCATION AND MESSAGING TO BE COORDINATED WITH THE TOWN OF SUDBURY.
 2. CONTRACTOR SHALL COORDINATE WITH THE TOWN OF SUDBURY REGARDING ON THE CLOSURE AND DETOUR IN ADVANCE OF IMPLEMENTATION.
 3. CONTRACTOR TO MAINTAIN ABUTTER ACCESS AT ALL TIMES.
 4. CONTRACTOR TO MAINTAIN EMERGENCY VEHICLE ACCESS AT ALL TIMES.
 5. CONTRACTOR TO BREAKDOWN SETUP AND RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.



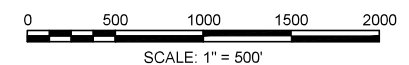
| LEGEND | |
|--------|--------------------------------------|
| | PEAKHAM RD NB DETOUR FLOW ARROW |
| | PEAKHAM RD SB DETOUR FLOW ARROW |
| | ROAD CLOSED, LOCAL ACCESS ONLY |
| | WORK AREA (PUBLIC ACCESS RESTRICTED) |
| | TRAFFIC SIGNAL |



| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|---------------|-----------------|
| | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | |
| CLOSURE AND DETOUR PLAN- PEAKHAM RD | | | | |
| SCALE: unless noted 1"=600' | DATE DEC 2021 | DRAWN MM | CHECKED KW | APPROVED MES |
| DRAWING NO. 146 OF 349 | | | | REV. . |



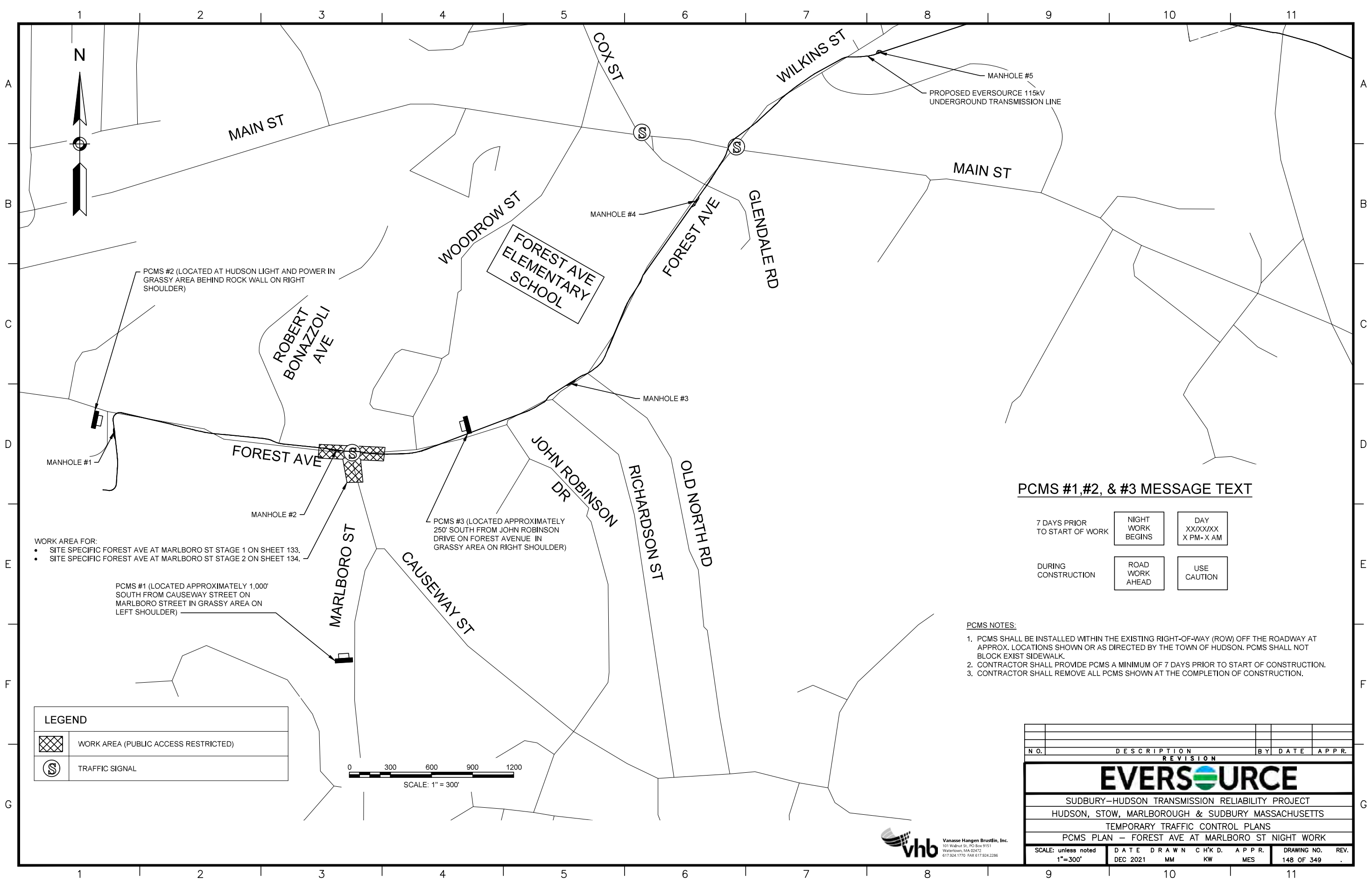
- CONSTRUCTION NOTES:**
1. CONTRACTOR SHALL PROVIDE 2 PCMS A MINIMUM OF 7 DAYS PRIOR TO THE IMPLEMENTATION OF THE DETOUR. PCMS LOCATION AND MESSAGING TO BE COORDINATED WITH THE TOWN OF SUDBURY.
 2. CONTRACTOR SHALL COORDINATE WITH THE TOWN OF SUDBURY REGARDING THE CLOSURE AND DETOUR IN ADVANCE OF IMPLEMENTATION.
 3. CONTRACTOR TO MAINTAIN ABUTTER ACCESS AT ALL TIMES.
 4. CONTRACTOR TO MAINTAIN EMERGENCY VEHICLE ACCESS AT ALL TIMES.
 5. CONTRACTOR TO BREAKDOWN SETUP AND RESTORE TRAFFIC BACK TO ORIGINAL CONDITION AT THE END OF WORK SHIFT ON A DAILY BASIS.



| LEGEND | |
|--------|--------------------------------------|
| | HORSE POND RD NB DETOUR FLOW ARROW |
| | HORSE POND RD SB DETOUR FLOW ARROW |
| | ROAD CLOSED, LOCAL ACCESS ONLY |
| | WORK AREA (PUBLIC ACCESS RESTRICTED) |
| | TRAFFIC SIGNAL |



| NO. | DESCRIPTION | BY | DATE | APPR. | |
|---|------------------|-------------|---------------|----------------|---------------------------|
| | | | | | REVISION |
| EVERSOURCE | | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | | |
| CLOSURE AND DETOUR PLAN- HORSE POND RD | | | | | |
| SCALE: unless noted 1"=500' | DATE DEC 2021 | DRAWN MM | CHECKED KW | APPROVED AA | DRAWING NO. 147 OF 349 |



PCMS #2 (LOCATED AT HUDSON LIGHT AND POWER IN GRASSY AREA BEHIND ROCK WALL ON RIGHT SHOULDER)

ROBERT BONAZZOLI AVE

FOREST AVE ELEMENTARY SCHOOL

MANHOLE #4

FOREST AVE

GLENDALE RD

MAIN ST

MANHOLE #5
PROPOSED EVERSOURCE 115KV UNDERGROUND TRANSMISSION LINE

WILKINS ST

COX ST

WOODROW ST

MANHOLE #3

JOHN ROBINSON DR

RICHARDSON ST

OLD NORTH RD

FOREST AVE

MANHOLE #2

MARLBORO ST

CAUSEWAY ST

PCMS #3 (LOCATED APPROXIMATELY 250' SOUTH FROM JOHN ROBINSON DRIVE ON FOREST AVENUE IN GRASSY AREA ON RIGHT SHOULDER)

PCMS #1 (LOCATED APPROXIMATELY 1,000' SOUTH FROM CAUSEWAY STREET ON MARLBORO STREET IN GRASSY AREA ON LEFT SHOULDER)

- WORK AREA FOR:
- SITE SPECIFIC FOREST AVE AT MARLBORO ST STAGE 1 ON SHEET 133.
 - SITE SPECIFIC FOREST AVE AT MARLBORO ST STAGE 2 ON SHEET 134.

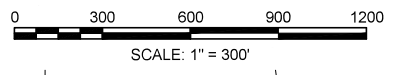
PCMS #1,#2, & #3 MESSAGE TEXT

| | | |
|-------------------------------|---------------------|------------------------|
| 7 DAYS PRIOR TO START OF WORK | NIGHT WORK BEGINS | DAY XX/XX/XX X PM-X AM |
| | DURING CONSTRUCTION | ROAD WORK AHEAD |

PCMS NOTES:

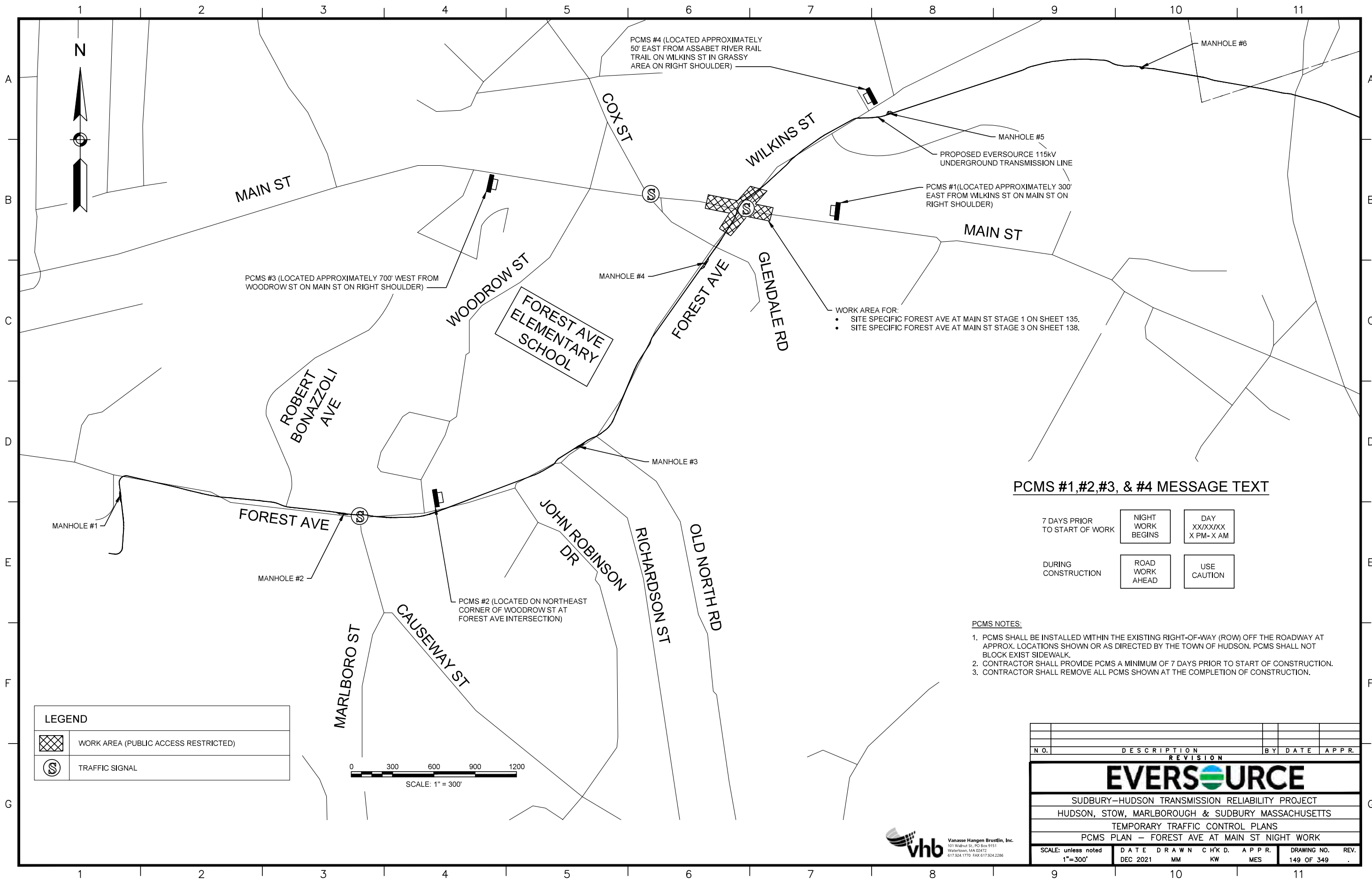
1. PCMS SHALL BE INSTALLED WITHIN THE EXISTING RIGHT-OF-WAY (ROW) OFF THE ROADWAY AT APPROX. LOCATIONS SHOWN OR AS DIRECTED BY THE TOWN OF HUDSON. PCMS SHALL NOT BLOCK EXIST SIDEWALK.
2. CONTRACTOR SHALL PROVIDE PCMS A MINIMUM OF 7 DAYS PRIOR TO START OF CONSTRUCTION.
3. CONTRACTOR SHALL REMOVE ALL PCMS SHOWN AT THE COMPLETION OF CONSTRUCTION.

| LEGEND | |
|--------|--------------------------------------|
| | WORK AREA (PUBLIC ACCESS RESTRICTED) |
| | TRAFFIC SIGNAL |



| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|---------------|-----------------|
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | |
| PCMS PLAN - FOREST AVE AT MARLBORO ST NIGHT WORK | | | | |
| SCALE: unless noted 1"=300' | DATE DEC 2021 | DRAWN MM | CHECKED KW | APPROVED MES |
| DRAWING NO. 148 OF 349 | | | | REV. . |





PCMS #4 (LOCATED APPROXIMATELY 50' EAST FROM ASSABET RIVER RAIL TRAIL ON WILKINS ST IN GRASSY AREA ON RIGHT SHOULDER)

MANHOLE #6

MANHOLE #5
PROPOSED EVERSOURCE 115kV UNDERGROUND TRANSMISSION LINE

PCMS #1(LOCATED APPROXIMATELY 300' EAST FROM WILKINS ST ON MAIN ST ON RIGHT SHOULDER)

PCMS #3 (LOCATED APPROXIMATELY 700' WEST FROM WOODROW ST ON MAIN ST ON RIGHT SHOULDER)

MANHOLE #4

WORK AREA FOR:
 • SITE SPECIFIC FOREST AVE AT MAIN ST STAGE 1 ON SHEET 135.
 • SITE SPECIFIC FOREST AVE AT MAIN ST STAGE 3 ON SHEET 138.

MANHOLE #3

MANHOLE #1

MANHOLE #2

PCMS #2 (LOCATED ON NORTHEAST CORNER OF WOODROW ST AT FOREST AVE INTERSECTION)

PCMS #1,#2,#3, & #4 MESSAGE TEXT

7 DAYS PRIOR TO START OF WORK

| | |
|-------------------|------------------------|
| NIGHT WORK BEGINS | DAY XX/XX/XX X PM-X AM |
|-------------------|------------------------|

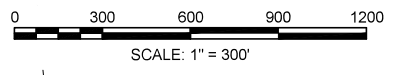
DURING CONSTRUCTION

| | |
|-----------------|-------------|
| ROAD WORK AHEAD | USE CAUTION |
|-----------------|-------------|

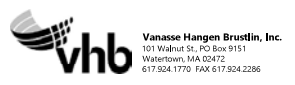
PCMS NOTES:

1. PCMS SHALL BE INSTALLED WITHIN THE EXISTING RIGHT-OF-WAY (ROW) OFF THE ROADWAY AT APPROX. LOCATIONS SHOWN OR AS DIRECTED BY THE TOWN OF HUDSON. PCMS SHALL NOT BLOCK EXIST SIDEWALK.
2. CONTRACTOR SHALL PROVIDE PCMS A MINIMUM OF 7 DAYS PRIOR TO START OF CONSTRUCTION.
3. CONTRACTOR SHALL REMOVE ALL PCMS SHOWN AT THE COMPLETION OF CONSTRUCTION.

| LEGEND | |
|--------|--------------------------------------|
| | WORK AREA (PUBLIC ACCESS RESTRICTED) |
| | TRAFFIC SIGNAL |



| | | | | | | |
|---|----------|-------------|----------|-------|-------------|-------|
| NO. | | DESCRIPTION | | BY | DATE | APPR. |
| REVISION | | | | | | |
| EVERSOURCE | | | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | | | |
| PCMS PLAN - FOREST AVE AT MAIN ST NIGHT WORK | | | | | | |
| SCALE: unless noted 1"=300' | DATE | DRAWN | C H'K D. | APPR. | DRAWING NO. | REV. |
| | DEC 2021 | MM | KW | MES | 149 OF 349 | . |



| TEMPORARY TRAFFIC CONTROL SIGN SUMMARY | | | | | | | | | | TEMPORARY TRAFFIC CONTROL SIGN SUMMARY (CONTINUED) | | | | | | | | | |
|--|--------------|--------|------|---|------------------|-----------------|---------------------|-----------|-----------|--|--------------|--------|------|---|------------------|-----------------|---------------------|-------------|--------|
| IDENTIFICATION NUMBER | SIZE OF SIGN | | TEXT | TEXT DIMENSIONS (INCHES) | | | COLOR | | | IDENTIFICATION NUMBER | SIZE OF SIGN | | TEXT | TEXT DIMENSIONS (INCHES) | | | COLOR | | |
| | WIDTH | HEIGHT | | LETTER HEIGHT | VERTICAL SPACING | ARROW RTE. MKR. | BACK-GROUND | LEGEND | BORDER | | WIDTH | HEIGHT | | LETTER HEIGHT | VERTICAL SPACING | ARROW RTE. MKR. | | BACK-GROUND | LEGEND |
| R1-1 | 36" | 36" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | RED | WHITE | WHITE | W20-2c | 36" | 36" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| MA-R2-10a | 48" | 36" | | AS PER MASSDOT STANDARD | | | FLUOR-ESCENT ORANGE | BLACK | BLACK | W20-3c | 36" | 36" | | AS PER MASSDOT STANDARD | | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| MA-R2-10e | 36" | 48" | | AS PER MASSDOT STANDARD | | | FLUOR-ESCENT ORANGE | BLACK | BLACK | W20-4c | 36" | 36" | | AS PER MASSDOT STANDARD | | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| R3-1 | 24" | 24" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | WHITE | RED/BLACK | BLACK | MA-W20-7b | 36" | 36" | | AS PER MASSDOT STANDARD | | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| R3-2 | 24" | 24" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | WHITE | RED/BLACK | BLACK | W24-2 (MOD) | 36" | 36" | | AS PER MASSDOT STANDARD | | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| R4-7b | 24" | 30" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | WHITE | BLACK | BLACK | M4-4 | 24" | 12" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | WHITE | BLACK | BLACK |
| R9-9 | 24" | 12" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | WHITE | BLACK | BLACK | M4-8a | 24" | 18" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| R11-2 | 48" | 30" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | WHITE | BLACK | BLACK | M4-9L | 30" | 24" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| R11-3a | 60" | 30" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | WHITE | BLACK | BLACK | M4-9R | 30" | 24" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W1-4L | 36" | 36" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | FLUOR-ESCENT ORANGE | BLACK | BLACK | M4-9SL | 30" | 24" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W1-4R | 36" | 36" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | FLUOR-ESCENT ORANGE | BLACK | BLACK | M4-9SR | 30" | 24" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W3-1 | 36" | 36" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | FLUOR-ESCENT ORANGE | BLACK | RED/BLACK | M4-9V | 30" | 24" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| W5-1 | 36" | 36" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | FLUOR-ESCENT ORANGE | BLACK | BLACK | M4-10L | 48" | 18" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | FLUOR-ESCENT ORANGE | BLACK | --- |
| W8-1 | 36" | 36" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | FLUOR-ESCENT ORANGE | BLACK | BLACK | M4-10R | 48" | 18" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | FLUOR-ESCENT ORANGE | BLACK | --- |
| W8-8 | 36" | 36" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | FLUOR-ESCENT ORANGE | BLACK | BLACK | | | | | | | | | | |
| W8-9 | 36" | 36" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | FLUOR-ESCENT ORANGE | BLACK | BLACK | | | | | | | | | | |
| W20-1c | 36" | 36" | | SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED | | | FLUOR-ESCENT ORANGE | BLACK | BLACK | | | | | | | | | | |

NOTES:
1. HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION" FOR TEXT DIMENSIONS, AS AMENDED; THE 1977 MASSHIGHWAY DEPARTMENT CONSTRUCTION AND TRAFFIC STANDARD DETAILS, AS AMENDED, FOR SIGNS AND SUPPORTS; THE MASSHIGHWAY DEPARTMENT SIGN LISTINGS 1993 EDITION, AS AMENDED; THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR MOUNTING REQUIREMENTS; AND THE 2017 MASSDOT STANDARD SIGNS BOOK, AS AMENDED.
2. ALL SIGNS SHOWN GRAPHICALLY FOR INFORMATION ONLY. SIGN VENDOR SHALL FABRICATE ALL SIGNS IN ACCORDANCE WITH THE APPLICABLE STANDARDS.



| N O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | |
| SIGN SUMMARY | | | | |
| SCALE: unless noted NTS | DATE DEC 2021 | DRAWN MM | C H'K D. KW | APPR. MES |
| DRAWING NO. 150 OF 349 | REV. . | | | |

A

B

C

D

E

F

G

| TEMPORARY TRAFFIC CONTROL SIGN SUMMARY (CONTINUED) | | | | | | | | | |
|--|--------------|--------|---|--------------------------|------------------|-----------------|---------------------|--------|--------|
| IDENTIFICATION NUMBER | SIZE OF SIGN | | TEXT | TEXT DIMENSIONS (INCHES) | | | | COLOR | |
| | WIDTH | HEIGHT | | LETTER HEIGHT | VERTICAL SPACING | ARROW RTE. MKR. | BACK-GROUND | LEGEND | BORDER |
| SUPP(A) | 48" | 12" | MARLBORO RD | 6"C | 3" 3" | N/A | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| SUPP(B) | 48" | 12" | CHESTNUT ST | 6"C | 3" 3" | N/A | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| SUPP(C) | 42" | 12" | DUTTON RD | 6"C | 3" 3" | N/A | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| SUPP(D) | 36" | 24" | WHITE POND RD | 6"C 6"C | 4" 4" 4" | N/A | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| SUPP(E) | 48" | 12" | CONCORD RD | 6"C | 3" 3" | N/A | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| SUPP(F) | 42" | 12" | FOREST AVE | 6"C | 3" 3" | N/A | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| SUPP(G) | 48" | 24" | JOHN ROBINSON DR | 6"C 6"C | 4" 4" 4" | N/A | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| SUPP(H) | 48" | 12" | PEAKHAM RD | 6"C | 3" 3" | N/A | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| SUPP(J) | 60" | 12" | HORSE POND RD | 6"C | 3" 3" | N/A | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| SP-1 | 36" | 36" |  | 6"C 6"C 6"C | 3.5" 3.5" | N/A | FLUOR-ESCENT ORANGE | BLACK | BLACK |
| SP-2 | 36" | 36" |  | 6"C 6"C 6"C | 3.5" 3.5" | N/A | FLUOR-ESCENT ORANGE | BLACK | BLACK |

NOTES:
 1. HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION" FOR TEXT DIMENSIONS, AS AMENDED; THE 1977 MASSHIGHWAY DEPARTMENT CONSTRUCTION AND TRAFFIC STANDARD DETAILS, AS AMENDED, FOR SIGNS AND SUPPORTS; THE MASSHIGHWAY DEPARTMENT SIGN LISTINGS 1993 EDITION, AS AMENDED; THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR MOUNTING REQUIREMENTS; AND THE 2017 MassDOT STANDARD SIGNS BOOK, AS AMENDED.
 2. ALL SIGNS SHOWN GRAPHICALLY FOR INFORMATION ONLY. SIGN VENDOR SHALL FABRICATE ALL SIGNS IN ACCORDANCE WITH THE APPLICABLE STANDARDS.

A

B

C

D

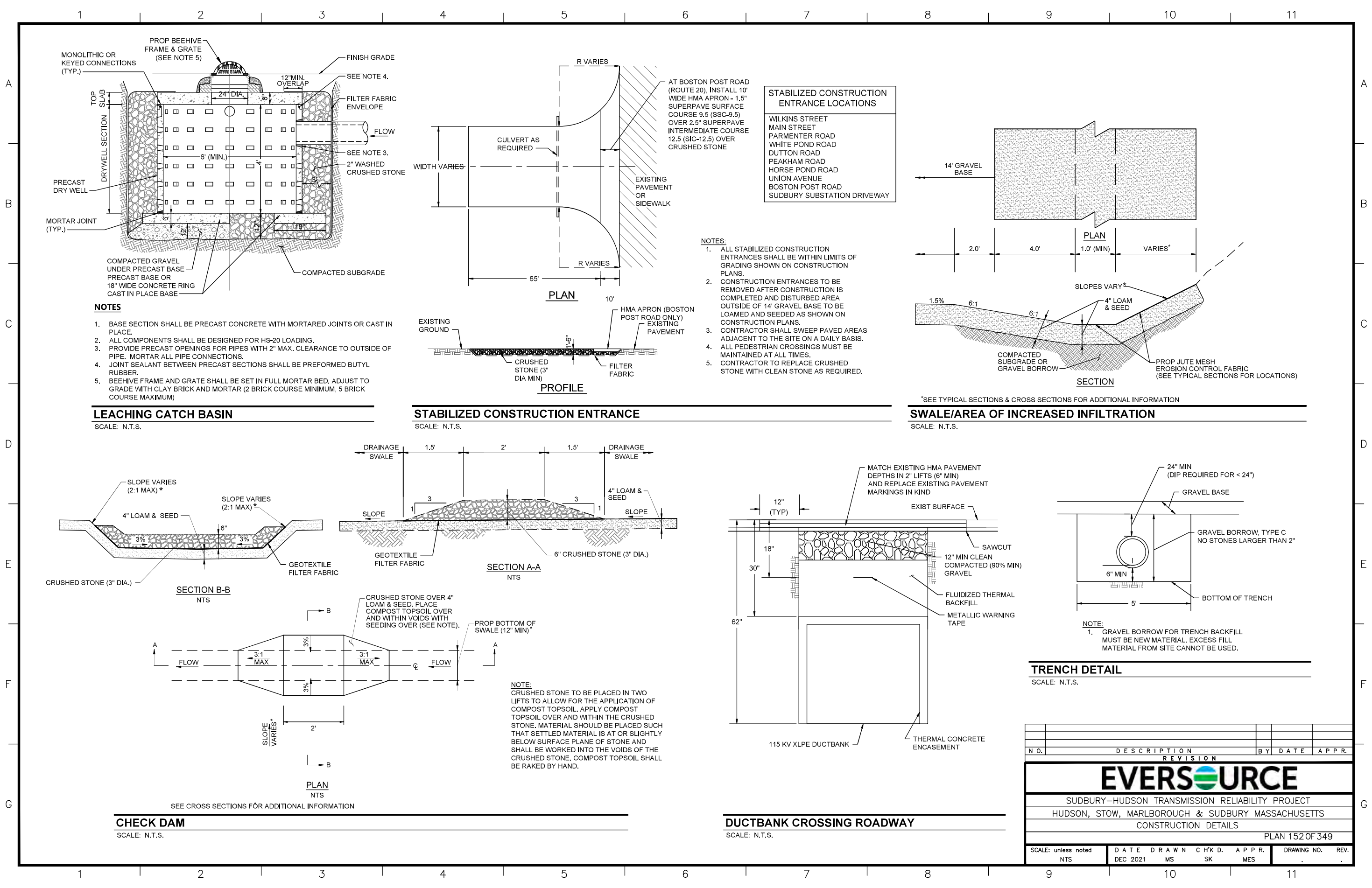
E

F

G



| N O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| TEMPORARY TRAFFIC CONTROL PLANS | | | | |
| SIGN SUMMARY | | | | |
| SCALE: unless noted NTS | DATE DEC 2021 | DRAWN MM | C H'K D. KW | APPR. MES |
| DRAWING NO. 151 OF 349 | | REV. | | |



NOTES

1. BASE SECTION SHALL BE PRECAST CONCRETE WITH MORTARED JOINTS OR CAST IN PLACE.
2. ALL COMPONENTS SHALL BE DESIGNED FOR HS-20 LOADING.
3. PROVIDE PRECAST OPENINGS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
4. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
5. BEEHIVE FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED, ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSE MINIMUM, 5 BRICK COURSE MAXIMUM)

LEACHING CATCH BASIN

SCALE: N.T.S.

STABILIZED CONSTRUCTION ENTRANCE

SCALE: N.T.S.

SWALE/AREA OF INCREASED INFILTRATION

SCALE: N.T.S.

CHECK DAM

SCALE: N.T.S.

DUCTBANK CROSSING ROADWAY

SCALE: N.T.S.

STABILIZED CONSTRUCTION ENTRANCE LOCATIONS

- WILKINS STREET
- MAIN STREET
- PARMENTER ROAD
- WHITE POND ROAD
- DUTTON ROAD
- PEAKHAM ROAD
- HORSE POND ROAD
- UNION AVENUE
- BOSTON POST ROAD
- SUDBURY SUBSTATION DRIVEWAY

NOTES:

1. ALL STABILIZED CONSTRUCTION ENTRANCES SHALL BE WITHIN LIMITS OF GRADING SHOWN ON CONSTRUCTION PLANS.
2. CONSTRUCTION ENTRANCES TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED AND DISTURBED AREA OUTSIDE OF 14" GRAVEL BASE TO BE LOAMED AND SEEDED AS SHOWN ON CONSTRUCTION PLANS.
3. CONTRACTOR SHALL SWEEP PAVED AREAS ADJACENT TO THE SITE ON A DAILY BASIS.
4. ALL PEDESTRIAN CROSSINGS MUST BE MAINTAINED AT ALL TIMES.
5. CONTRACTOR TO REPLACE CRUSHED STONE WITH CLEAN STONE AS REQUIRED.

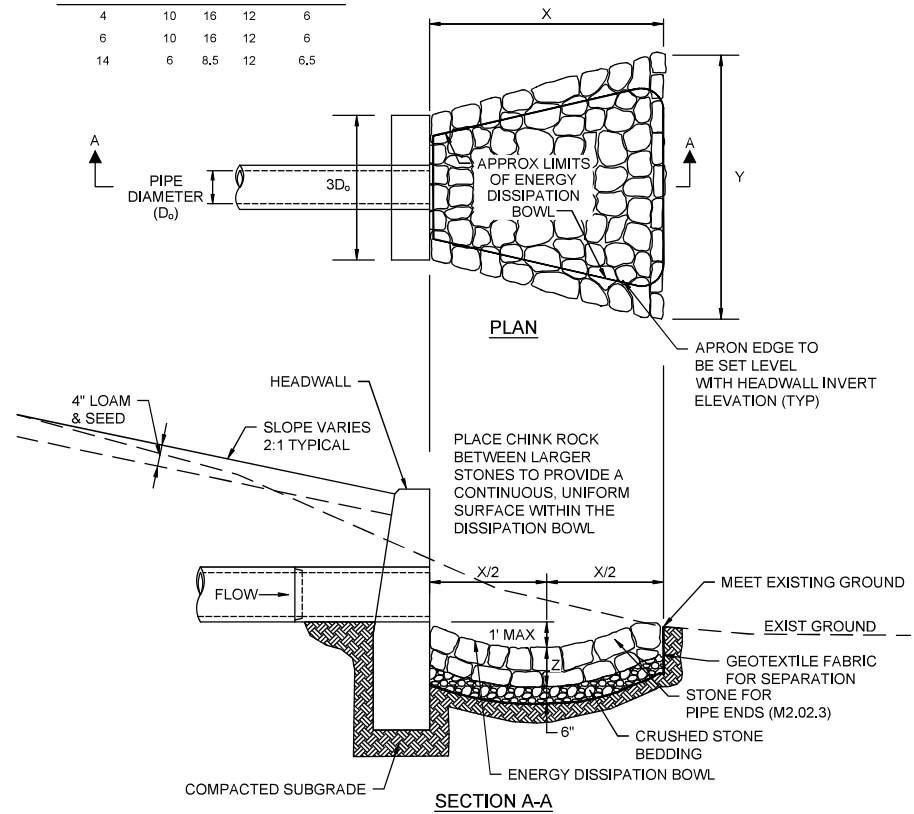
*SEE TYPICAL SECTIONS & CROSS SECTIONS FOR ADDITIONAL INFORMATION

TRENCH DETAIL

SCALE: N.T.S.

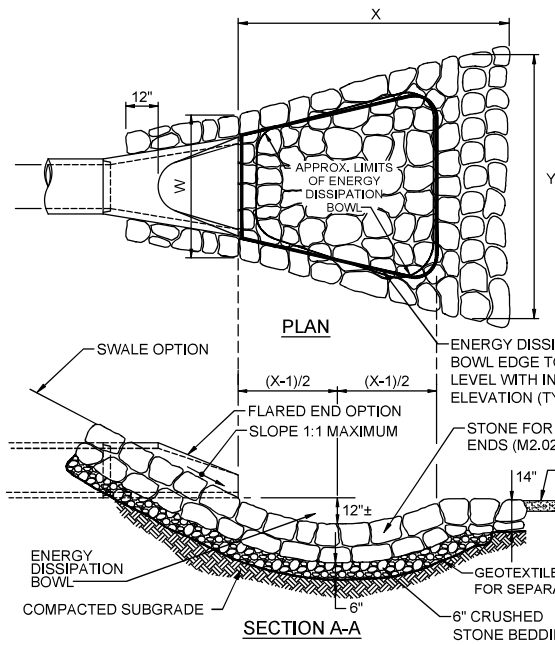
| NO. | DESCRIPTION | BY | DATE | APP.R. |
|---|------------------|-------------|---------------|------------------|
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CONSTRUCTION DETAILS | | | | |
| PLAN 152 OF 349 | | | | |
| SCALE: unless noted NTS | DATE DEC 2021 | DRAWN MS | CHECKED SK | APP.R. MES |
| | | | | DRAWING NO. REV. |

| RIPRAP STONE | | | | |
|------------------|--------|--------|--------|------------------------------------|
| STRUCTURE NUMBER | X (FT) | Y (FT) | Z (IN) | STONE DIA. (D ₅₀) (IN) |
| 4 | 10 | 16 | 12 | 6 |
| 6 | 10 | 16 | 12 | 6 |
| 14 | 6 | 8.5 | 12 | 6.5 |



STONE FOR PIPE ENDS

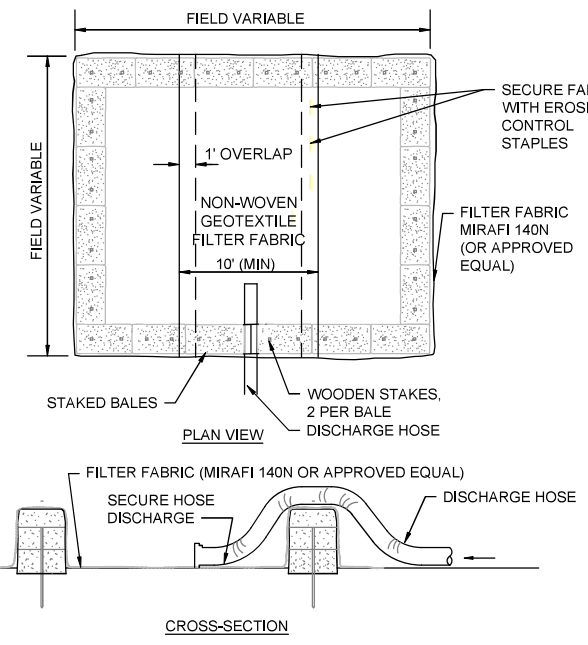
SCALE: N.T.S.



STONE PROTECTION AT SWALE/FLARED END (STRUCTURE NUMBER 10)

SCALE: N.T.S.

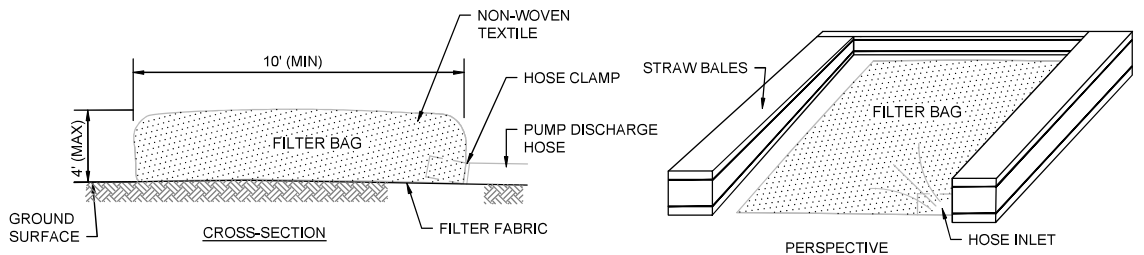
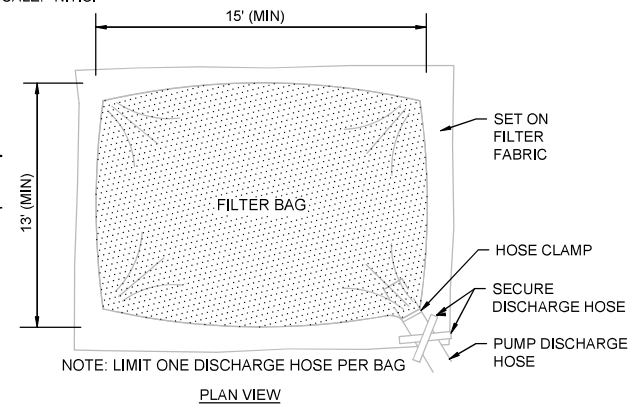
| RIPRAP STONE | | | | |
|---------------|--------|--------|--------|------------------------------------|
| DESIGN OPTION | W (FT) | X (FT) | Y (FT) | STONE DIA. (D ₅₀) (IN) |
| STRUCTURE 10 | 3 | 4 | 5 | 6.5 |
| SWALE | 7 | 6 | 8 | 6.5 |



- NOTES:**
- NUMBER OF BALES MAY VARY DEPENDING ON SITE CONDITIONS.
 - THE BASIN TO BE SIZED TO PREVENT DISCHARGE WATER FROM OVERTOPPING BASIN.
 - WITHIN THE TOWN OF HUDSON, STOW AND SUDBURY, THE CONTRACTOR SHALL NOTIFY THE PROPER TOWN'S CONSERVATION COMMISSION PRIOR TO ANY PLANNED DEWATERING AND THE CONSERVATION COMMISSION MUST APPROVE THIS WORK IN THE FIELD PRIOR TO COMMENCEMENT.

DEWATERING STRAW BALE BASIN

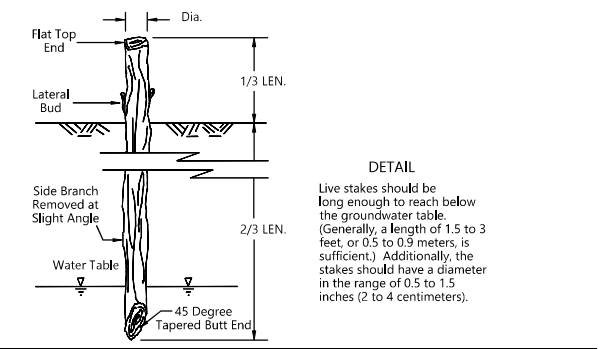
SCALE: N.T.S.



- NOTE:**
- BAG TO BE USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 - WITHIN THE TOWN OF HUDSON, STOW AND SUDBURY, THE CONTRACTOR SHALL NOTIFY THE PROPER TOWN'S CONSERVATION COMMISSION PRIOR TO ANY PLANNED DEWATERING AND THE CONSERVATION COMMISSION MUST APPROVE THIS WORK IN THE FIELD PRIOR TO COMMENCEMENT.

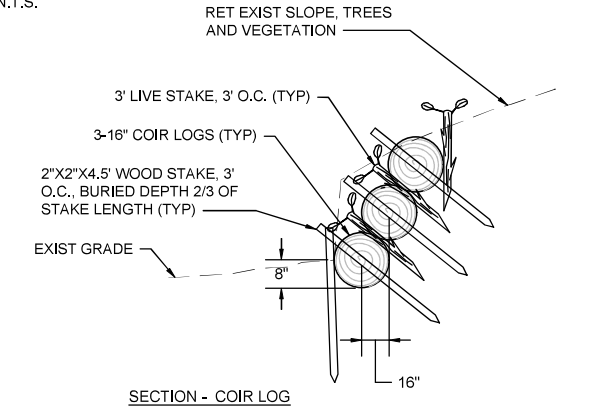
DEWATERING FILTER BAG

SCALE: N.T.S.



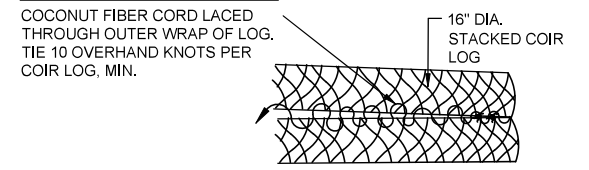
LIVE STAKE

SCALE: N.T.S.

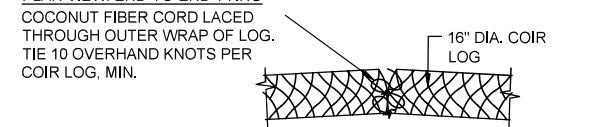


NOTE: FIELD VERIFY THE EXISTING SLOPE AND INSTALL THE COIR LOG AS REQUIRED BASED ON THE EXISTING SLOPE. CONTRACTOR TO VERIFY SLOPE STABILITY WITH COIR LOG MANUFACTURER PRIOR TO INSTALLATION.

ELEVATION VIEW: LATERAL TYING



PLAN VIEW: END-TO-END TYING



COIR LOG NOTES:

- DETAIL IS REPRESENTATIVE ONLY. PURPOSE IS TO SHOW DESIGN INTENT. PRIOR TO PLANT INSTALLATION PLANT LAYOUT SHALL BE STAKED OUT BY CONTRACTOR AND APPROVED BY OWNER'S REPRESENTATIVE.

COIR LOG

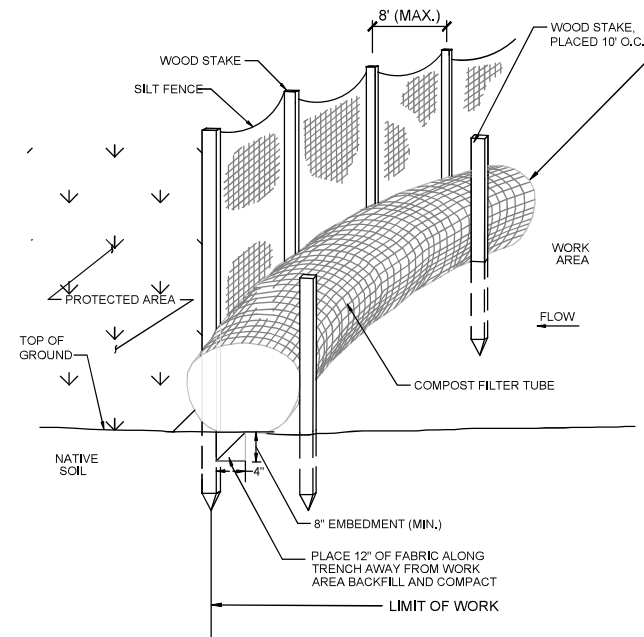
SCALE: N.T.S.

| NO. | DESCRIPTION | BY | DATE | APPR. |
|----------|-------------|----|------|-------|
| REVISION | | | | |

EVERSOURCE

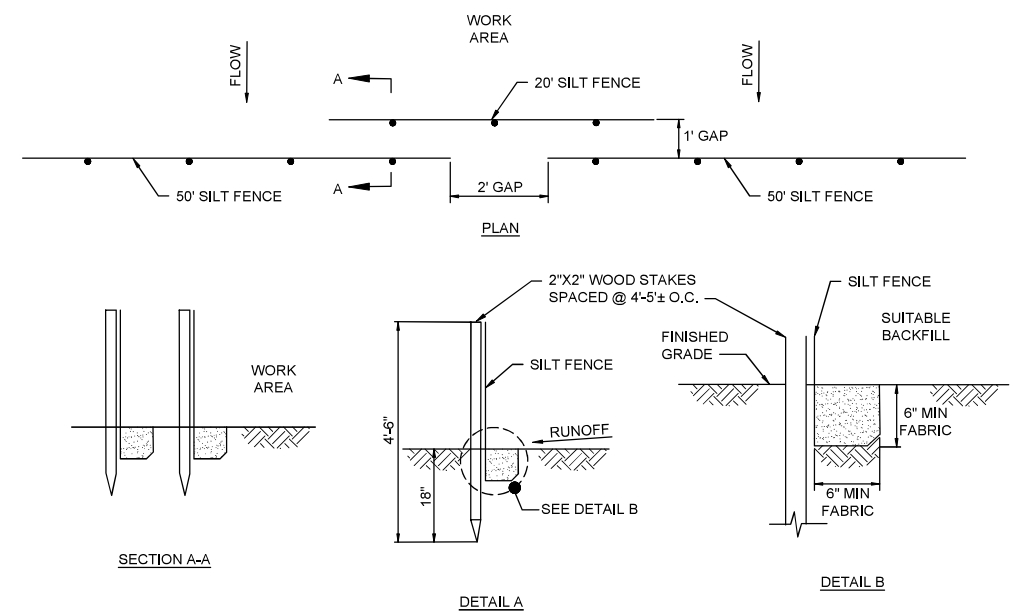
SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT
HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS
CONSTRUCTION DETAILS
PLAN 153 OF 349

| SCALE: unless noted | DATE | DRAWN | CHECK | DATE | APPR. | DRAWING NO. | REV. |
|---------------------|----------|-------|-------|------|-------|-------------|------|
| NTS | DEC 2021 | MS | SK | MES | | | |



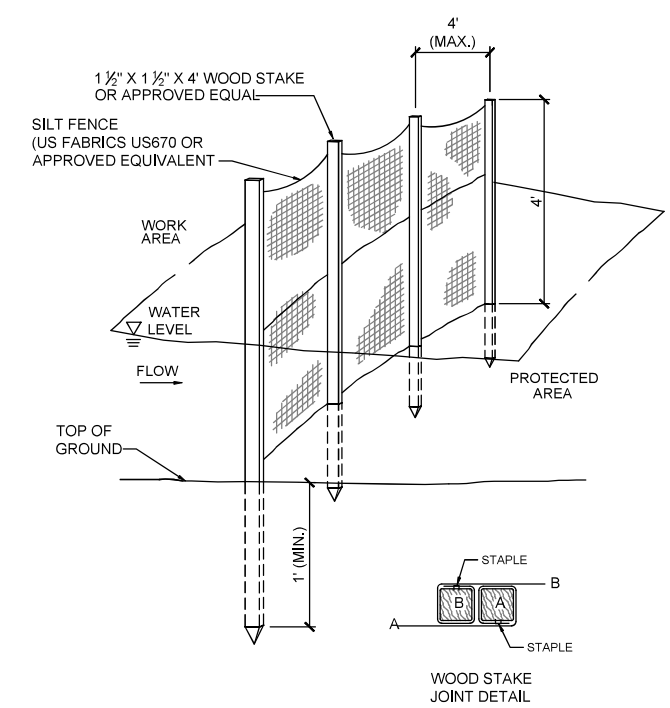
- NOTES:**
1. FILTER CLOTH SHALL BE FASTENED SECURELY TO POSTS WITH WIRE TIES OR STAPLES, AND POSTS SHALL BE SPACED EVERY 10 FEET.
 2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES AND FOLDED.
 3. ENTRENCH SILT FENCE BUT NOT COMPOST FILTER TUBE.
 4. INSPECTIONS SHALL BE FREQUENT, AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY.
 5. TUBES FOR COMPOST FILTERS SHALL BE JUTE MESH OR APPROVED BIODEGRADABLE MATERIAL. ADDITIONAL TUBES SHALL BE USED AT THE DIRECTION OF THE ENGINEER. TAMP TUBES IN PLACE TO ENSURE GOOD CONTACT WITH SOIL SURFACE. IT IS NOT NECESSARY TO TRENCH TUBES INTO EXISTING GRADE.
 6. TUBES CAN BE PLACED DIRECTLY ON EXISTING PAVEMENT WHEN NECESSARY.
 7. PROVIDE A 3 FT. MINIMUM OVERLAP AT ENDS OF TUBES TO JOIN IN A CONTINUOUS BARRIER AND MINIMIZE UNIMPEDED FLOW. STAKE JOINING TUBES SNUGLY AGAINST EACH OTHER TO PREVENT UNFILTERED FLOW BETWEEN THEM.

COMPOST FILTER TUBE AND SILT FENCE DETAIL - TYPE A EROSION CONTROL BARRIER
SCALE: N.T.S.

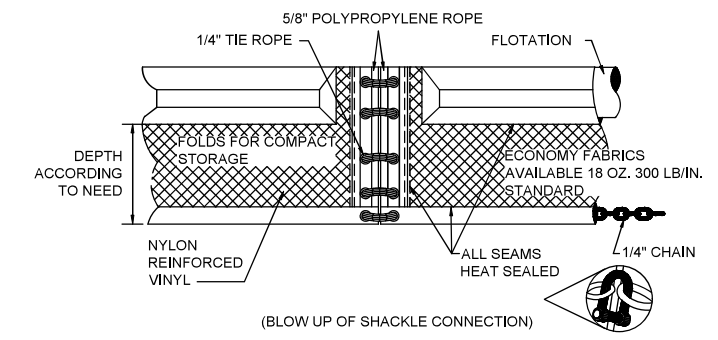


- NOTES:**
1. SYNCOPATED SILT FENCE SHALL BE USED WITHIN ALL PRIORITY HABITAT AREAS AND WITHIN 450' OF VERNAL POOLS.
 2. INSTALL GAP AFTER EVERY 50' OF EROSION CONTROL BARRIER.

SYNCOPATED SILT FENCE DETAIL - TYPE B EROSION CONTROL BARRIER
SCALE: N.T.S.



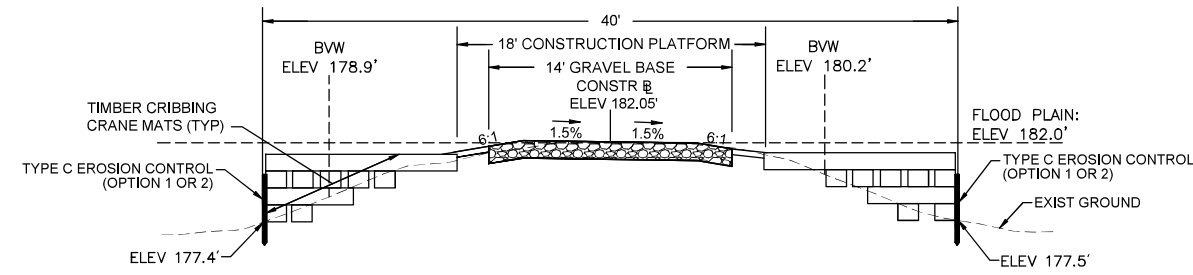
4' HIGH SILT FENCE BARRIER DETAIL - EROSION CONTROL BARRIER TYPE C (OPTION 1)
SCALE: N.T.S.



TURBIDITY CURTAIN DETAIL - EROSION CONTROL BARRIER TYPE C (OPTION 2)
SCALE: N.T.S.

| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|---------------|-----------------|
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CONSTRUCTION DETAILS | | | | |
| PLAN 154 OF 349 | | | | |
| SCALE: unless noted NTS | DATE DEC 2021 | DRAWN MS | CHECKED SK | APPROVED MES |
| DRAWING NO. | REV. | | | |

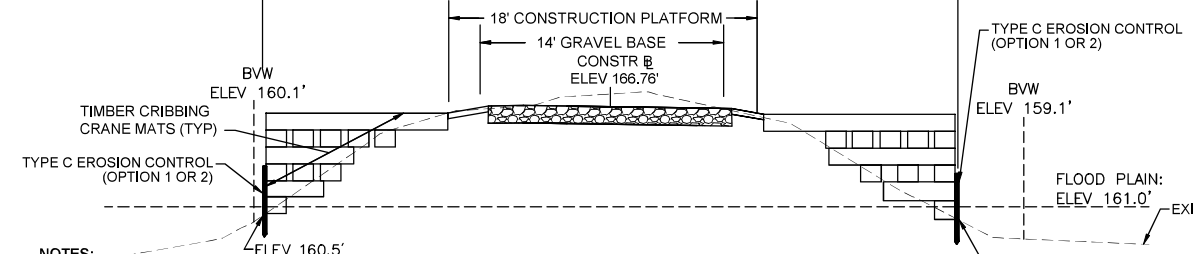
1 2 3 4 5 6 7 8 9 10 11



- NOTES:**
1. ACTUAL CONFIGURATION OF CRANE MATS TO BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR'S TEMPORARY WORK LIMIT SHALL NOT EXTEND MORE THAN 20 FEET FROM THE CENTERLINE OF CONSTRUCTION TO THE OUTERMOST LIMIT ON EACH SIDE WHERE CRANE MATTING IS PERMITTED.
 2. AREA DISTURBED BY CRANE MATS OUTSIDE THE LIMITS OF THE 18' CONSTRUCTION PLATFORM TO BE RESTORED. SEE CRANE MAT RESTORATION DETAILS ON SHEET 130.
 3. GEOTEXTILE FABRIC TO BE INSTALLED UNDERNEATH AND WRAPPED AROUND CRANE MATS. GEOTEXTILE FABRIC MUST OVERLAP AT THE EDGES AND BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS.
 4. THE CROSS-SECTION FOR STATION 148+00 IS USED AS A REPRESENTATIVE AREA FOR THE PURPOSES OF THIS DETAIL.

TYPICAL CRANE MAT CROSS-SECTION WITHOUT STEEL SHEETING - BRIDGE 130

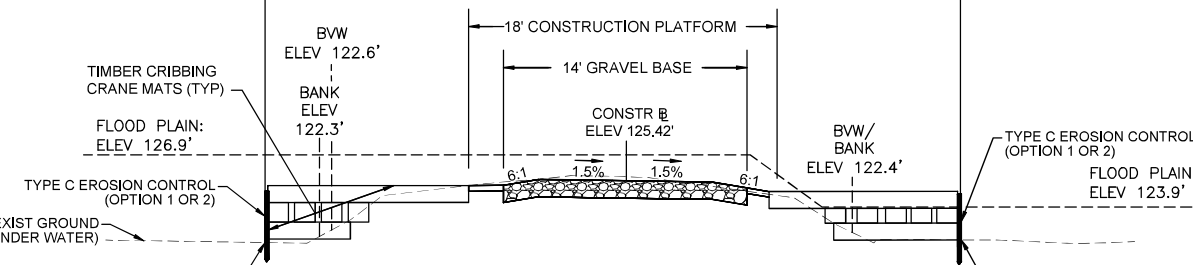
SCALE: N.T.S.



- NOTES:**
1. ACTUAL CONFIGURATION OF CRANE MATS TO BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR'S TEMPORARY WORK LIMIT SHALL NOT EXTEND MORE THAN 20 FEET FROM THE CENTERLINE OF CONSTRUCTION TO THE OUTERMOST LIMIT ON EACH SIDE WHERE CRANE MATTING IS PERMITTED.
 2. AREA DISTURBED BY CRANE MATS OUTSIDE THE LIMITS OF THE 18' CONSTRUCTION PLATFORM TO BE RESTORED. SEE CRANE MAT RESTORATION DETAILS ON SHEET 130.
 3. GEOTEXTILE FABRIC TO BE INSTALLED UNDERNEATH AND WRAPPED AROUND CRANE MATS. GEOTEXTILE FABRIC MUST OVERLAP AT THE EDGES AND BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS.
 4. THE CROSS-SECTION FOR STATION 401+50 IS USED AS A REPRESENTATIVE AREA FOR THE PURPOSES OF THIS DETAIL.

TYPICAL CRANE MAT CROSS-SECTION WITHOUT STEEL SHEETING - BRIDGE 128

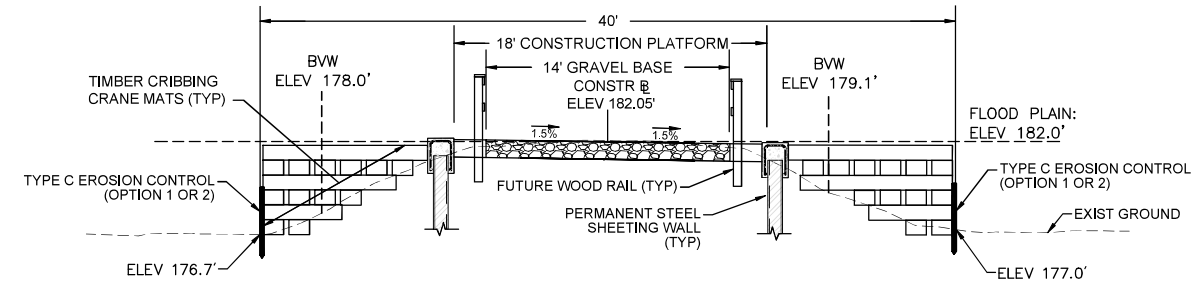
SCALE: N.T.S.



- NOTES:**
1. ACTUAL CONFIGURATION OF CRANE MATS TO BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR'S TEMPORARY WORK LIMIT SHALL NOT EXTEND MORE THAN 20 FEET FROM THE CENTERLINE OF CONSTRUCTION TO THE OUTERMOST LIMIT ON EACH SIDE WHERE CRANE MATTING IS PERMITTED.
 2. AREA DISTURBED BY CRANE MATS OUTSIDE THE LIMITS OF THE 18' CONSTRUCTION PLATFORM TO BE RESTORED. SEE CRANE MAT RESTORATION DETAILS ON SHEET 130.
 3. GEOTEXTILE FABRIC TO BE INSTALLED UNDERNEATH AND WRAPPED AROUND CRANE MATS. GEOTEXTILE FABRIC MUST OVERLAP AT THE EDGES AND BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS.
 4. THE CROSS-SECTION FOR STATION 726+00 IS USED AS A REPRESENTATIVE AREA FOR THE PURPOSES OF THIS DETAIL.

TYPICAL CRANE MAT CROSS-SECTION WITHOUT STEEL SHEETING - BRIDGE 127

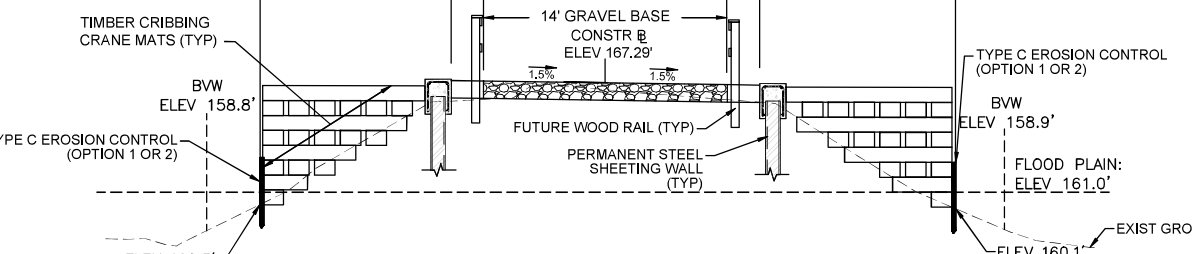
SCALE: N.T.S.



- NOTES:**
1. ACTUAL CONFIGURATION OF CRANE MATS TO BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR'S TEMPORARY WORK LIMIT SHALL NOT EXTEND MORE THAN 20 FEET FROM THE CENTERLINE OF CONSTRUCTION TO THE OUTERMOST LIMIT ON EACH SIDE WHERE CRANE MATTING IS PERMITTED.
 2. AREA DISTURBED BY CRANE MATS OUTSIDE THE LIMITS OF THE 18' CONSTRUCTION PLATFORM TO BE RESTORED. SEE CRANE MAT RESTORATION DETAILS ON SHEET 130.
 3. GEOTEXTILE FABRIC TO BE INSTALLED UNDERNEATH AND WRAPPED AROUND CRANE MATS. GEOTEXTILE FABRIC MUST OVERLAP AT THE EDGES AND BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS.
 4. THE CROSS-SECTION FOR STATION 148+25 IS USED AS A REPRESENTATIVE AREA FOR THE PURPOSES OF THIS DETAIL.

TYPICAL CRANE MAT CROSS-SECTION WITH STEEL SHEETING - BRIDGE 130

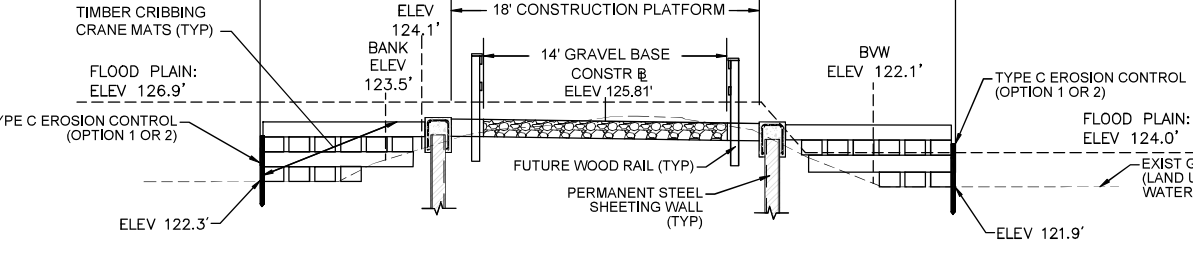
SCALE: N.T.S.



- NOTES:**
1. ACTUAL CONFIGURATION OF CRANE MATS TO BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR'S TEMPORARY WORK LIMIT SHALL NOT EXTEND MORE THAN 20 FEET FROM THE CENTERLINE OF CONSTRUCTION TO THE OUTERMOST LIMIT ON EACH SIDE WHERE CRANE MATTING IS PERMITTED.
 2. AREA DISTURBED BY CRANE MATS OUTSIDE THE LIMITS OF THE 18' CONSTRUCTION PLATFORM TO BE RESTORED. SEE CRANE MAT RESTORATION DETAILS ON SHEET 130.
 3. GEOTEXTILE FABRIC TO BE INSTALLED UNDERNEATH AND WRAPPED AROUND CRANE MATS. GEOTEXTILE FABRIC MUST OVERLAP AT THE EDGES AND BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS.
 4. THE CROSS-SECTION FOR STATION 401+00 IS USED AS A REPRESENTATIVE AREA FOR THE PURPOSES OF THIS DETAIL.

TYPICAL CRANE MAT CROSS-SECTION WITH STEEL SHEETING - BRIDGE 128

SCALE: N.T.S.



- NOTES:**
1. ACTUAL CONFIGURATION OF CRANE MATS TO BE DETERMINED BY THE CONTRACTOR. THE CONTRACTOR'S TEMPORARY WORK LIMIT SHALL NOT EXTEND MORE THAN 20 FEET FROM THE CENTERLINE OF CONSTRUCTION TO THE OUTERMOST LIMIT ON EACH SIDE WHERE CRANE MATTING IS PERMITTED.
 2. AREA DISTURBED BY CRANE MATS OUTSIDE THE LIMITS OF THE 18' CONSTRUCTION PLATFORM TO BE RESTORED. SEE CRANE MAT RESTORATION DETAILS ON SHEET 130.
 3. GEOTEXTILE FABRIC TO BE INSTALLED UNDERNEATH AND WRAPPED AROUND CRANE MATS. GEOTEXTILE FABRIC MUST OVERLAP AT THE EDGES AND BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS.
 4. THE CROSS-SECTION FOR STATION 724+90 IS USED AS A REPRESENTATIVE AREA FOR THE PURPOSES OF THIS DETAIL.

TYPICAL CRANE MAT CROSS-SECTION WITH STEEL SHEETING - BRIDGE 127

SCALE: N.T.S.

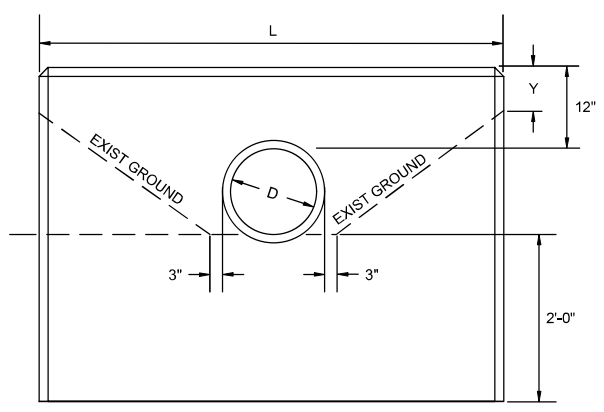
| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|---------------|-----------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUBBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUBBURY MASSACHUSETTS | | | | |
| CONSTRUCTION DETAILS | | | | |
| PLAN 155 OF 349 | | | | |
| SCALE: unless noted NTS | DATE DEC 2021 | DRAWN MS | CHECKED SK | APPROVED MES |
| DRAWING NO. | REV. | | | |

1 2 3 4 5 6 7 8 9 10 11

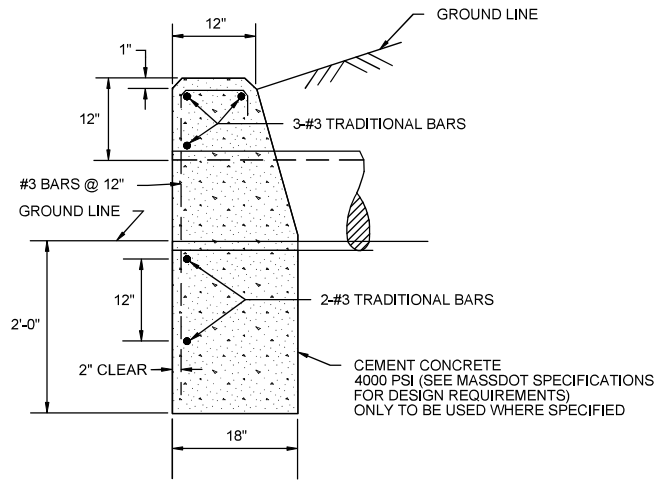
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FRONT ELEVATION

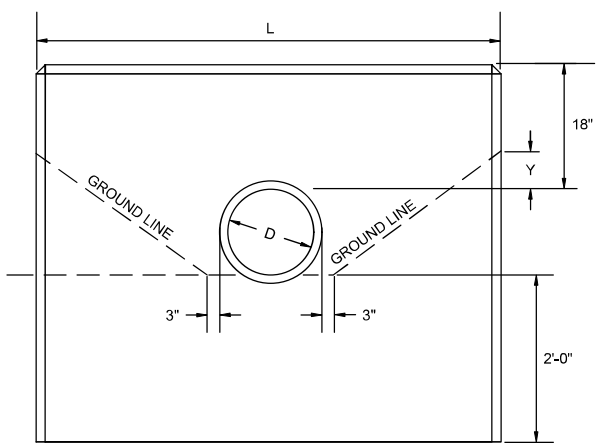


END ELEVATION

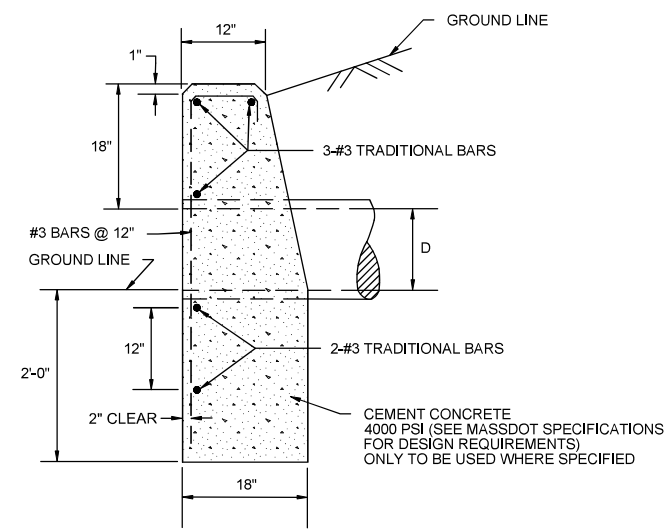
- NOTES:**
- THIS DETAIL SHALL BE APPLIED TO THE PROPOSED 18" DRAINAGE PIPE AT STATION 738+77.
 - SEE MASSDOT CONST STD 206.4.1 FOR THE VALUES OF L AND Y FOR VARIOUS PIPE DIAMETERS.

HEADWALL WITH 12" REVEAL ABOVE PIPE

SCALE: N.T.S.



FRONT ELEVATION



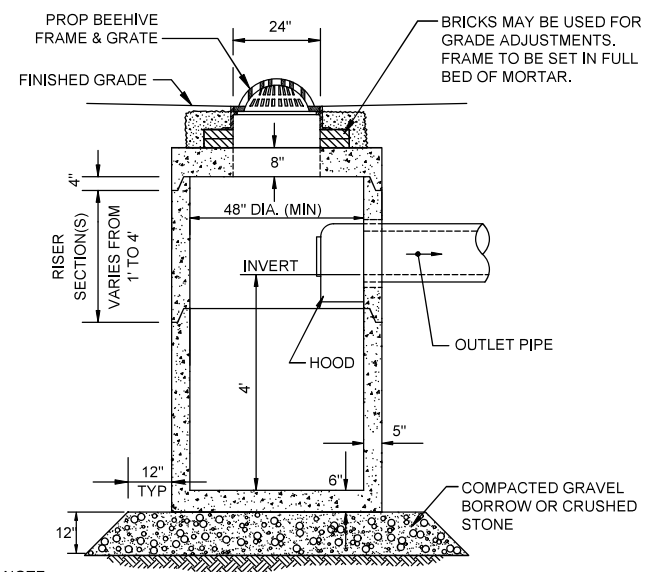
END ELEVATION

- NOTES:**
- THIS DETAIL SHALL BE APPLIED TO THE PROPOSED 24" DRAINAGE PIPE AT STATION 713+63.
 - SEE MASSDOT CONST STD 206.4.1 FOR THE VALUES OF L AND Y FOR VARIOUS PIPE DIAMETERS.

HEADWALL WITH 18" REVEAL ABOVE PIPE

SCALE: N.T.S.

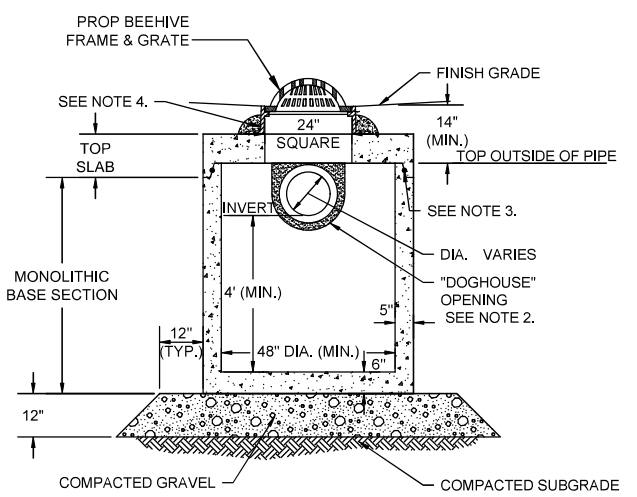
D



NOTE:
6" MINIMUM SPACE FROM TOP OF KNOCKOUT TO BOTTOM OF ROOF SLAB JOINT REQUIRED WHEN USING HOODS.

DEEP SUMP CATCH BASIN WITH HOOD (CB)

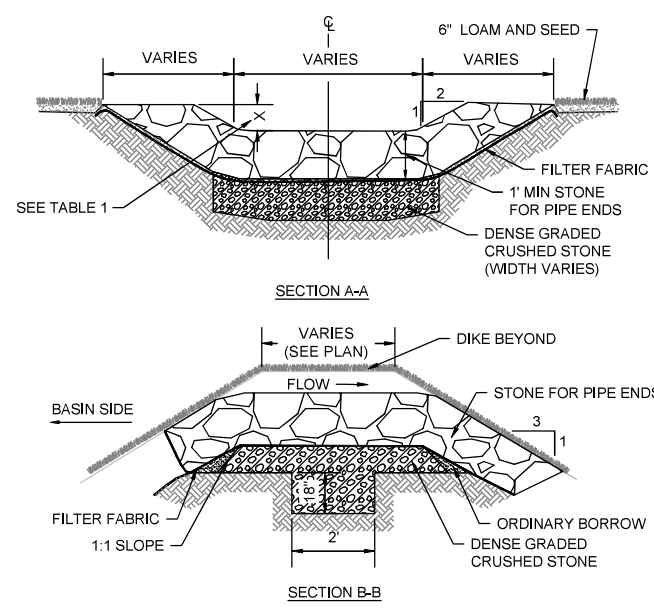
SCALE: N.T.S.



- NOTES:**
- ALL SECTIONS SHALL BE DESIGNED FOR HS-10 LOADING.
 - PROVIDE DOGHOUSE OPENING FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. TOP SLAB SHALL NOT REST DIRECTLY ON PIPE. GROUT ALL PIPE CONNECTIONS (NON-SHRINK GROUT).
 - JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
 - CATCH BASIN FRAME (4" DEPTH) SHALL BE SET IN FULL MORTAR BED.
 - ADJUST TO FINISH GRADE WITH CLAY BRICK AND MORTAR AS REQUIRED.

CATCH BASIN WITH SHALLOW COVER (SHALLOW CB)

SCALE: N.T.S.

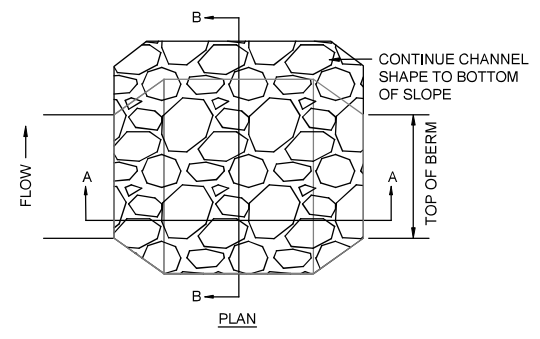


OVERFLOW STONE SWALE

SCALE: N.T.S.

TABLE 1

| BMP NUMBER | X (FT) |
|------------|--------|
| P-6.2 | 0.2 |
| P-7.1 | 0.5 |



| N.O. | DESCRIPTION | BY | DATE | APP.R. |
|---|------------------|-------------|---------------|---------------------|
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CONSTRUCTION DETAILS | | | | |
| PLAN 156 OF 349 | | | | |
| SCALE: unless noted NTS | DATE DEC 2021 | DRAWN MS | CHECKED SK | APP.R. MES |
| | | | | DRAWING NO. REV. |

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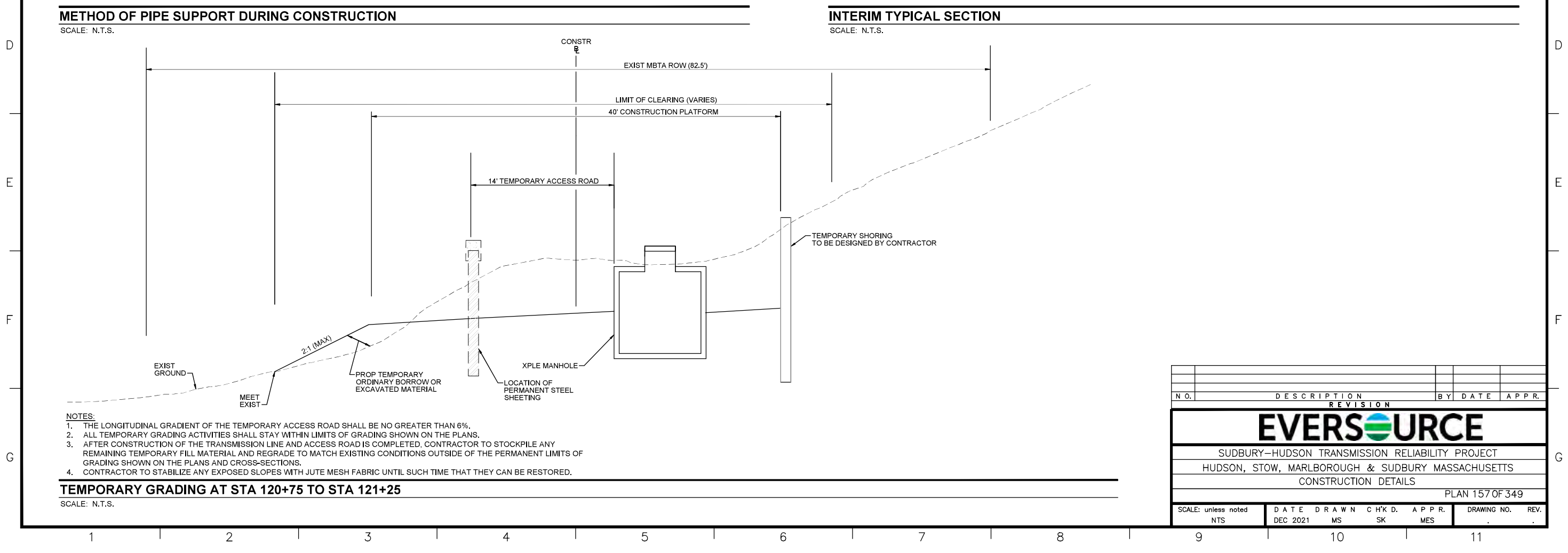
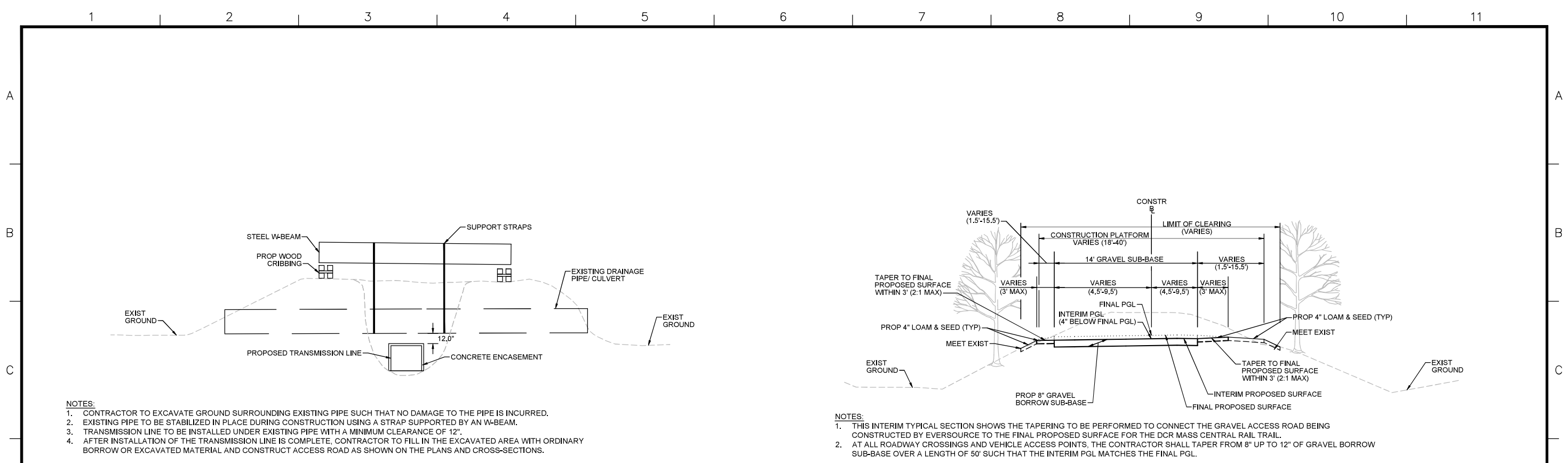
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| NO. | | DESCRIPTION | | BY | DATE | APPR. |
|---|------------------|-------------|----------------|-----------------|-------------|-------|
| REVISION | | | | | | |
| EVERSOURCE | | | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | |
| CONSTRUCTION DETAILS | | | | | | |
| PLAN 157 OF 349 | | | | | | |
| SCALE: unless noted NTS | DATE DEC 2021 | DRAWN MS | C H'K D. SK | A P P R. MES | DRAWING NO. | REV. |
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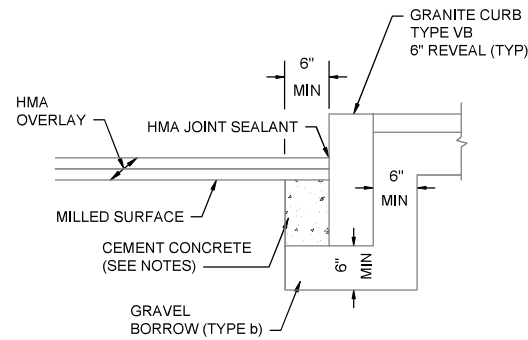
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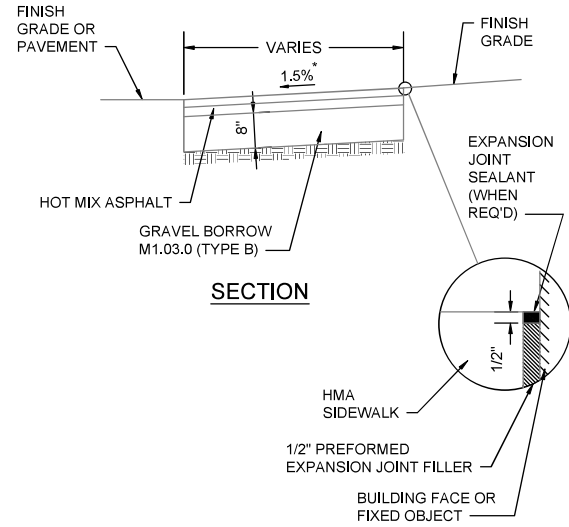
G



- NOTES:
1. CONCRETE SHALL BE INCLUDED IN PRICE BID FOR GRANITE CURB.
 2. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M4 OF THE STANDARD SPECIFICATIONS MAY BE USED. ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.

GRANITE CURB IN MILL & OVERLAY

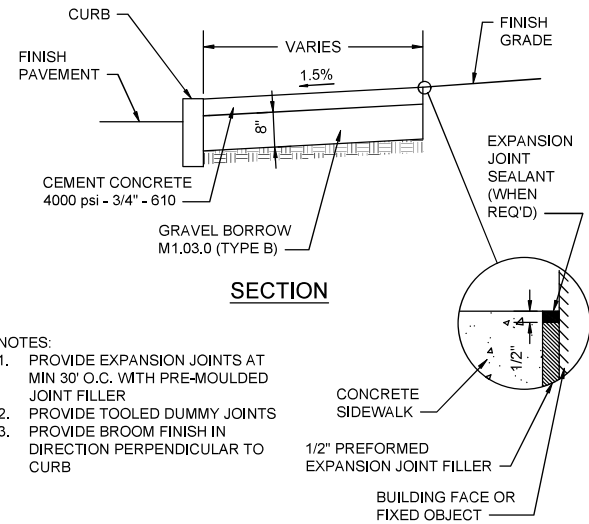
SCALE: N.T.S.



* TOLERANCE FOR CONSTRUCTION ±0.5%

HOT MIX ASPHALT SIDEWALK

SCALE: N.T.S. DWG: WALK-01 DATE: MARCH 2013



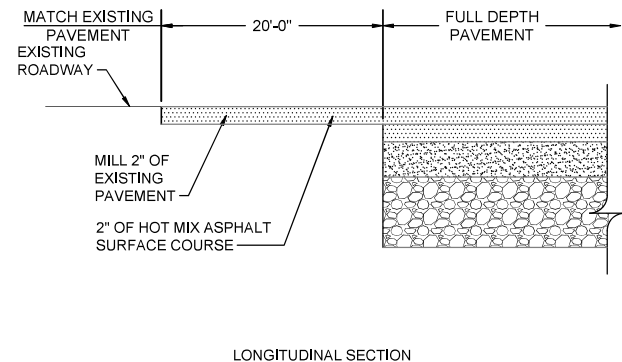
- NOTES:
1. PROVIDE EXPANSION JOINTS AT MIN 30' O.C. WITH PRE-MOULDED JOINT FILLER
 2. PROVIDE TOOLED DUMMY JOINTS
 3. PROVIDE BROOM FINISH IN DIRECTION PERPENDICULAR TO CURB

CEMENT CONCRETE SIDEWALK

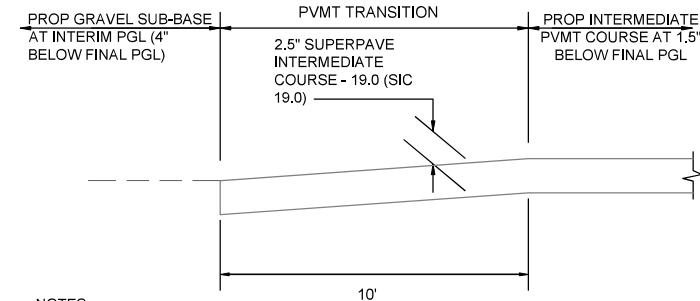
SCALE: N.T.S.

FULL DEPTH PAVEMENT TRANSITION

SCALE: N.T.S.



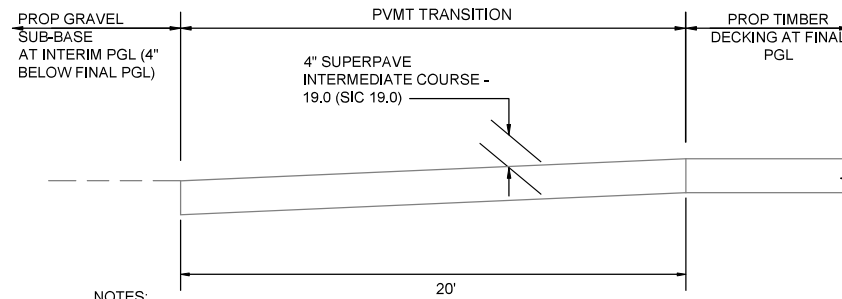
LONGITUDINAL SECTION



- NOTES:
1. DEPTH OF GRAVEL SUB-BASE UNDER PVMT TO BE ADJUSTED SUCH THAT DATUM SURFACE REMAINS AT 12" BELOW FINAL PGL THROUGH PVMT TRANSITION.

LONGITUDINAL SECTION OF PVMT TRANSITION AT CATTLE CROSSING

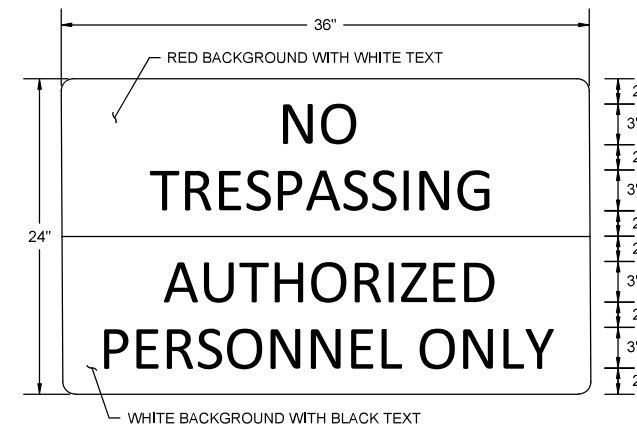
SCALE: N.T.S.



- NOTES:
1. DEPTH OF GRAVEL SUB-BASE UNDER PVMT TO BE ADJUSTED SUCH THAT DATUM SURFACE REMAINS AT 12" BELOW FINAL PGL THROUGH PVMT TRANSITION.

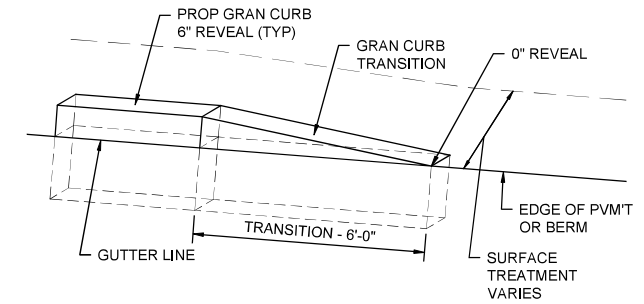
LONGITUDINAL SECTION OF PVMT TRANSITION AT BRIDGES

SCALE: N.T.S.



- NO BORDER
- MATERIAL - FLAT SHEET ALUMINUM 0.08" INCHES THICK
- SIGN SHALL BE MOUNTED ON P5 POST AT ALL WORK ZONE ACCESS POINTS AND ON CONSTRUCTION FENCE FACING CONSTRUCTION PLATFORM AS NOTED ON THE PLANS.

NO TRESPASSING SIGN

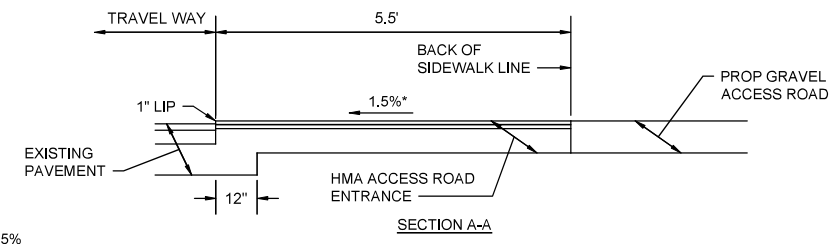
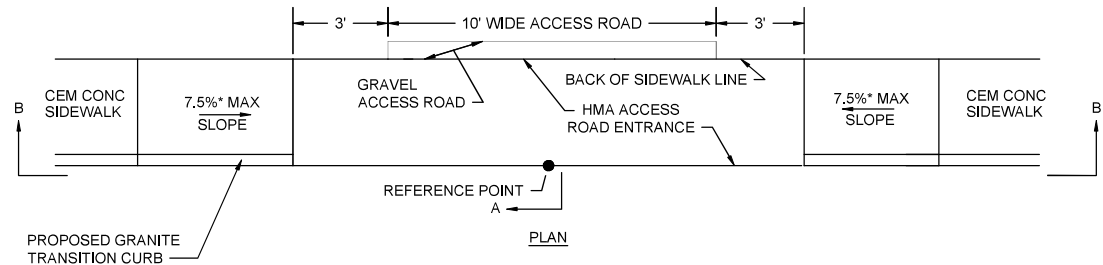
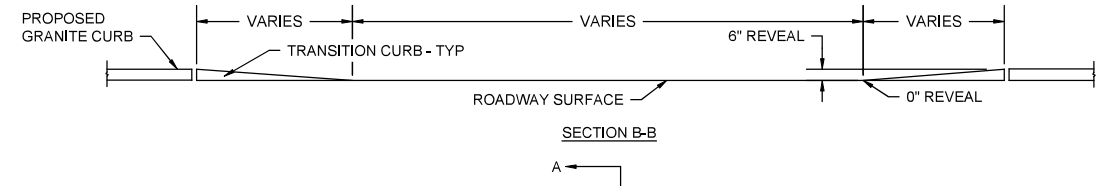


GRANITE CURB TRANSITION PIECE

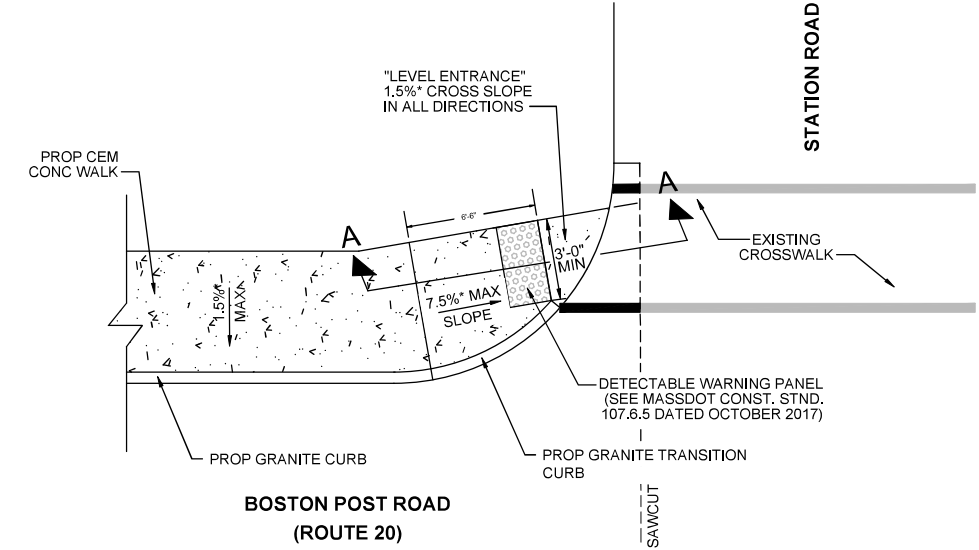
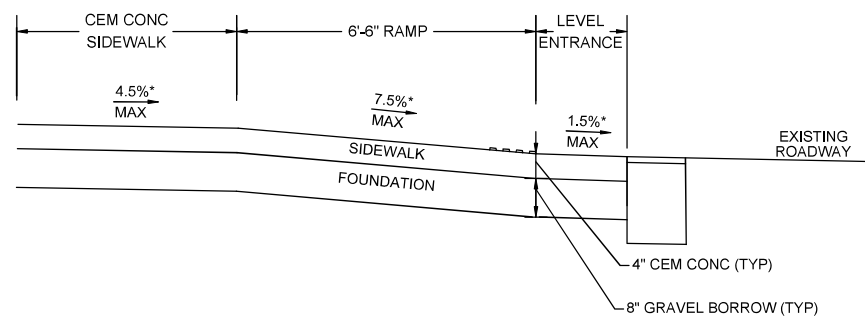
SCALE: N.T.S.

| N. O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|---------------|-----------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CONSTRUCTION DETAILS | | | | |
| PLAN 158 OF 349 | | | | |
| SCALE: unless noted NTS | DATE DEC 2021 | DRAWN MS | CHECKED SK | APPROVED MES |
| DRAWING NO. | REV. | | | |

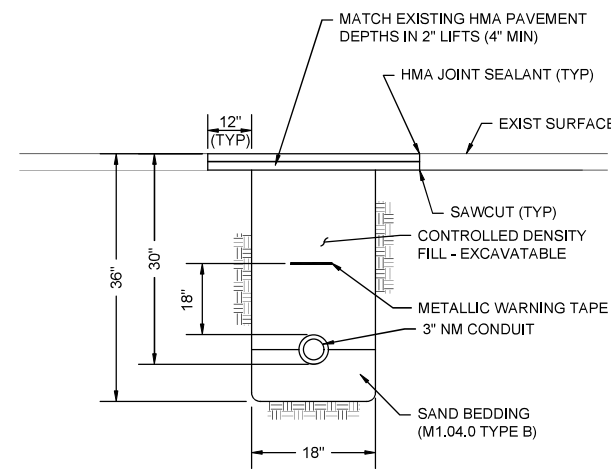
| ACCESS ROAD CROSSING DATA | | | | | | | | | |
|--|----------------------|----------------|----------------|-----------|-------|------------|-------|-------------------|----------|
| NO. | LOCATION (REF POINT) | ROADWAY GUTTER | SIDEWALK WIDTH | LEFT SIDE | | RIGHT SIDE | | OPENING ELEVATION | COMMENTS |
| | | | | REVEAL | TRANS | REVEAL | TRANS | | |
| BOSTON POST ROAD (ROUTE 20) STATE HIGHWAY LAYOUT | | | | | | | | | |
| 1 | 182+61.6, 9.6' LT | 5.2% | 5'-6" | 6" | 9'-0" | 6" | 7'-8" | 134.31' | |



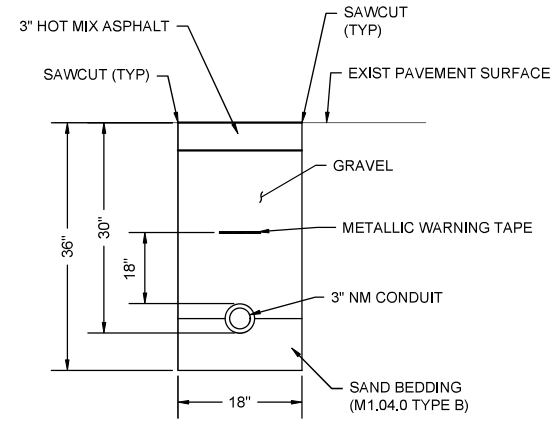
*TOLERANCE FOR CONSTRUCTION ±0.5%
TYPICAL ACCESS ROAD CROSSING WITH SIDEWALK AND WITHOUT CURB RETURNS
 SCALE: N.T.S.



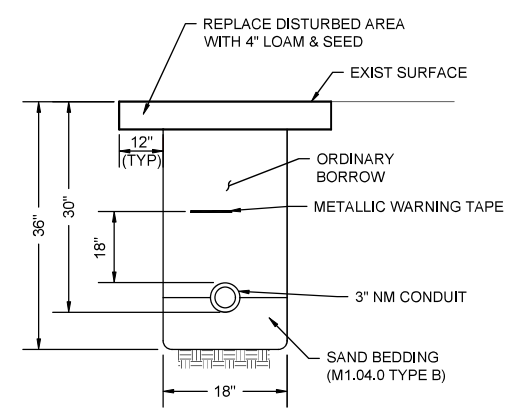
*TOLERANCE FOR CONSTRUCTION ±0.5%
WHEELCHAIR RAMP #1
 SCALE: N.T.S.



CONDUIT CROSSING ROADWAY/DRIVEWAY
 SCALE: N.T.S.



CONDUIT IN SIDEWALK
 SCALE: N.T.S.



CONDUIT IN GRASS
 SCALE: N.T.S.

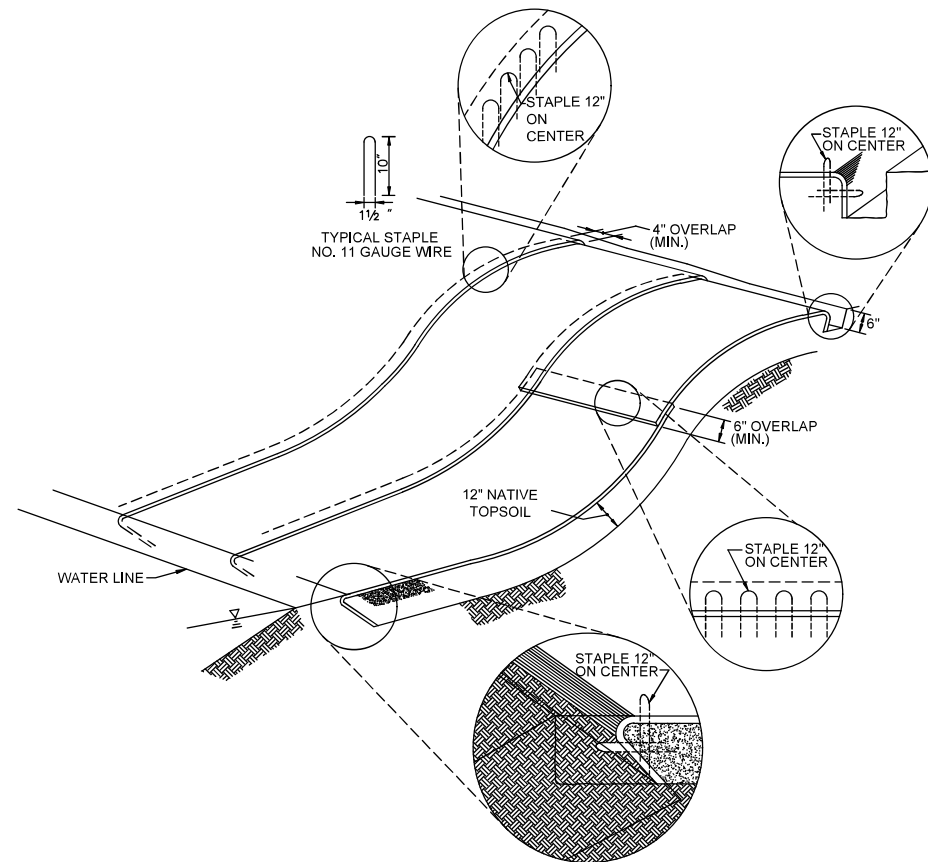
| NO. | DESCRIPTION | BY | DATE | APP.R. |
|---|------------------|-------------|----------------|---------------|
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CONSTRUCTION DETAILS | | | | |
| PLAN 159 OF 349 | | | | |
| SCALE: unless noted NTS | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APP.R. MES |
| DRAWING NO. | REV. | | | |

NOTES FOR BIONET C700BN EROSION CONTROL BLANKET:

- METHOD OF INSTALLATION SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.

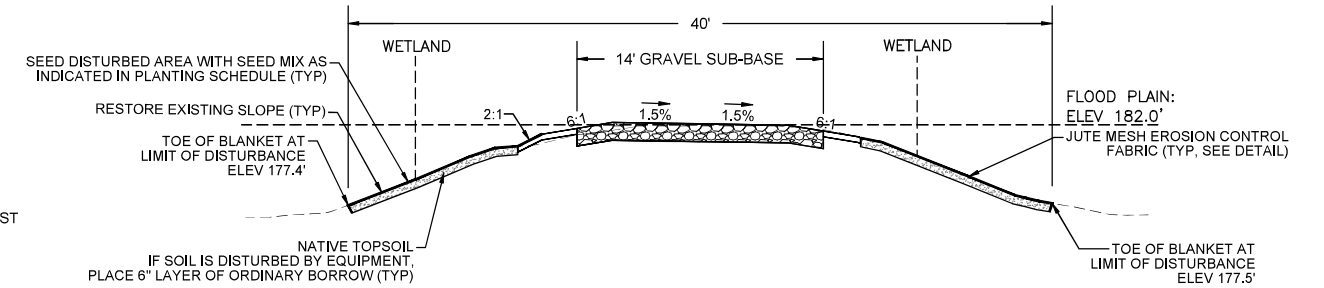
NOTES FOR JUTE MESH EROSION CONTROL FABRIC:

- EROSION CONTROL FABRIC SHALL BE WESTERN EXCELSIOR CC-4 ALL-NATURAL OR SIMILAR. FABRIC MUST BE COMPOSED OF 100% BIODEGRADABLE MATERIAL, WITH NO SYNTHETIC NETTING OR STITCHING. NETTING SHALL BE JUTE, MATRIX FILLING SHALL BE EXCELSIOR, STRAW, OR COCONUT, AND STITCHING SHALL BE BIODEGRADABLE. FABRIC SHOULD BE RATED FOR SLOPES OF AT LEAST 2:1 AND LONGEVITY OF AT LEAST 12 MONTHS.
- PREPARE SOIL BEFORE INSTALLING FABRIC, INCLUDING ANY NECESSARY APPLICATION OF LIME, AND SEED.
- BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE FABRIC IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF FABRIC EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE FABRIC WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF FABRIC BACK OVER SEED AND COMPACTED SOIL. SECURE FABRIC OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE FABRIC.
- ROLL FABRIC FROM TOP OF SLOPE TO BOTTOM. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE.
- INSTALL TREE, SHRUB, AND/OR PLUG PLANTINGS AT THE LOCATIONS INDICATED IN THE PLANTING SCHEDULE ON SHEET 161 OR AS DIRECTED BY THE WETLAND SCIENTIST AFTER UNROLLING FABRIC. LOCATE PLANTINGS AT ROLL SEAMS OR CUT SLIT IN BLANKET PERPENDICULAR TO ACCESS ROAD TO ACCOMMODATE PLANTING. PLANTING HOLES SHOULD BE HAND-DUG.
- SECURE FABRIC AFTER PLANTINGS ARE INSTALLED. ALL FABRIC MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. DO NOT PLACE STAPLES OR STAKES WITHIN 2 FEET OF PLANTINGS. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- PLACE CONSECUTIVE FABRICS END OVER END (SHINGLE STYLE) WITH A 4"-6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER TO SECURE FABRIC.
- FULL LENGTH EDGE OF FABRIC AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- ADJACENT FABRICS MUST BE OVERLAPPED APPROXIMATELY 2"-5" (DEPENDING ON FABRIC TYPE) AND STAPLED. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING FABRIC (FABRIC BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE FABRIC BEING OVERLAPPED.
- FULL LENGTH EDGE OF FABRIC AT BOTTOM OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART. FABRIC SHALL HAVE A MINIMUM 6" RUNOUT LENGTH UNDER GEOWEB.
- A MINIMUM OF 4 NOTCHED WOOD STAKES SHALL BE INSTALLED TO SECURE EACH FABRIC, ONE AT EACH CORNER.
- THE TERMINAL END OF THE FABRIC MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.



JUTE MESH EROSION CONTROL FABRIC & BIONET C700BN EROSION CONTROL BLANKET

SCALE: N.T.S.

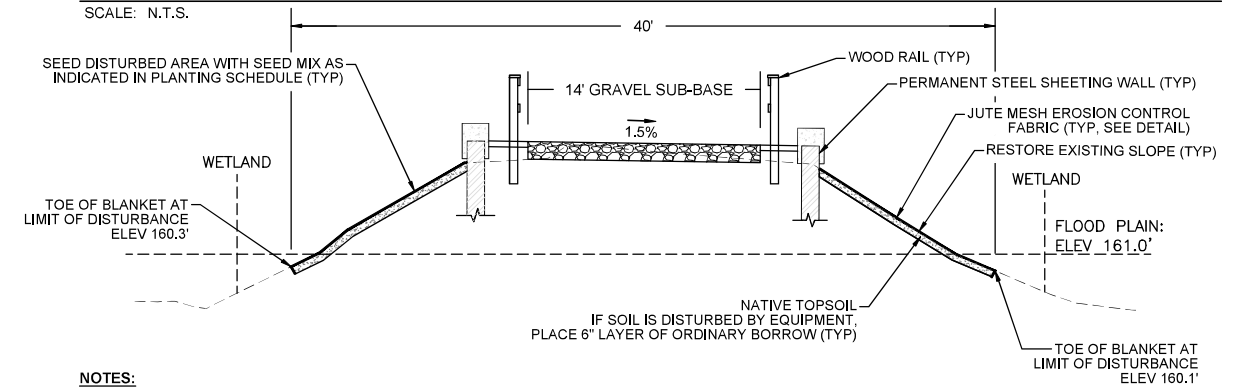


NOTES:

- THIS SECTION APPLIES ONLY TO THE FOLLOWING STATION RANGES:
STA 147+75 TO 148+50
STA 149+00 TO 150+25
- THE CROSS-SECTION FOR STATION 148+00 IS USED AS A REPRESENTATIVE AREA FOR THE PURPOSES OF THIS DETAIL.

TYPICAL CRANE MAT RESTORATION CROSS-SECTION - BRIDGE 130

SCALE: N.T.S.

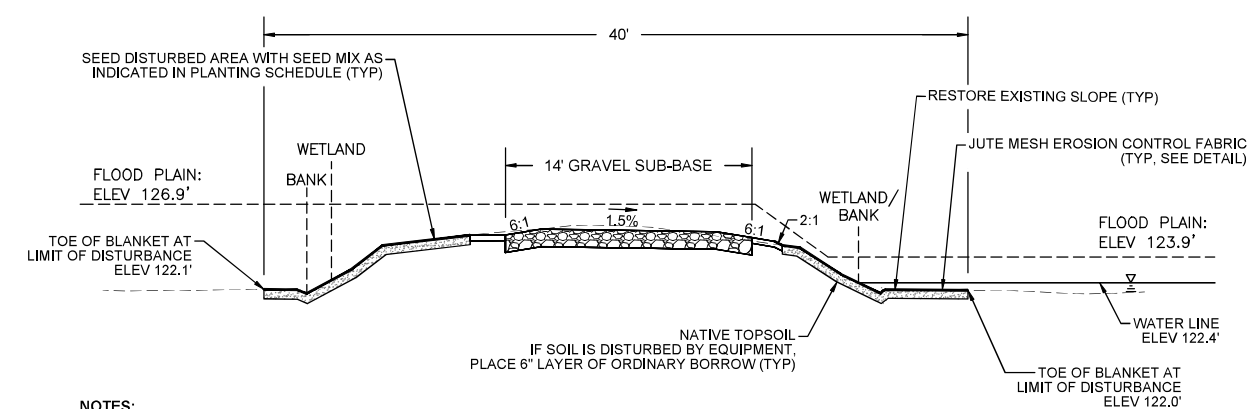


NOTES:

- THIS SECTION APPLIES ONLY TO THE FOLLOWING STATION RANGES:
STA 399+10 TO 400+20
STA 400+75 TO 401+75
- THE CROSS-SECTION FOR STATION 401+00 IS USED AS A REPRESENTATIVE AREA FOR THE PURPOSES OF THIS DETAIL.

TYPICAL CRANE MAT RESTORATION CROSS-SECTION - BRIDGE 128

SCALE: N.T.S.



NOTES:

- THIS SECTION APPLIES ONLY TO THE FOLLOWING STATION RANGES:
STA 724+40 TO 725+00
STA 725+70 TO 726+40
- THE CROSS-SECTION FOR STATION 726+00 IS USED AS A REPRESENTATIVE AREA FOR THE PURPOSES OF THIS DETAIL.

TYPICAL CRANE MAT RESTORATION CROSS-SECTION - BRIDGE 127

SCALE: N.T.S.

| NO. | DESCRIPTION | BY | DATE | APP.R. |
|---|------------------|-------------|---------------|---------------|
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CONSTRUCTION DETAILS | | | | |
| PLAN 160 OF 349 | | | | |
| SCALE: unless noted NTS | DATE DEC 2021 | DRAWN MS | CHECKED SK | APP.R. MES |
| DRAWING NO. | | REV. | | |

PLANTING SCHEDULE A: GENERAL CONSTRUCTION CORRIDOR

| HERBACEOUS SEED MIX | | |
|---|----------------|-------|
| SPECIES | WETLAND STATUS | % |
| VIRGINIA WILD RYE (<i>ELYMUS VIRGINICUS</i>) | FACW | 25.00 |
| CANADA WILD RYE (<i>ELYMUS CANADENSIS</i>) | FACU | 25.00 |
| LITTLE BLUESTEM (<i>SCHIZACHYRIUM SCOPARIUM</i>) | FACU | 25.00 |
| DEER-TONGUE GRASS (<i>DICHANTHELIUM CLANDESTINUM</i>) | FACW | 8.00 |
| UPLAND BENTGRASS (<i>AGROSTIS PERENNANS</i>) | FACU | 8.00 |
| FOX SEDGE (<i>CAREX VULPINOIDEA</i>) | OBL | 2.00 |
| PATH RUSH (<i>JUNCUS TENUIS</i>) | FAC | 2.00 |
| SOFT RUSH (<i>JUNCUS EFFUSUS</i>) | OBL | 0.10 |
| BEARD-TONGUE (<i>PENSTEMON DIGITALIS</i>) | FAC | 2.00 |
| NEW ENGLAND ASTER (<i>SYMPHYOTRICHUM NOVAE-ANGLIAE</i>) | FACW | 1.00 |
| WOODLAND GOLDENROD (<i>SOLIDAGO CAESIA</i>) | FACU | 0.50 |
| BLUE WOOD ASTER (<i>SYMPHYOTRICHUM CORDIFOLIUM</i>) | UPL | 0.50 |
| JOE-PYE WEED (<i>EUTROCHIUM MACULATUM</i>) | OBL | 0.30 |
| WHITE AVENS (<i>GEUM CANADENSE</i>) | FAC | 0.30 |
| RIGID GOLDENROD (<i>OLIGONEURON RIGIDUM</i>) | UPL | 0.30 |

| SHRUB SEED MIX | | |
|--|----------------|--------|
| SPECIES | WETLAND STATUS | LBS/AC |
| ALTERNATE-LEAVED DOGWOOD (<i>SWIDA ALTERNIFOLIA</i>) | FACU | 2.00 |
| AMERICAN HAZELNUT (<i>CORYLUS AMERICANA</i>) | FACU | 2.00 |
| ARROWWOOD (<i>VIBURNUM DENTATUM</i>) | FAC | 2.00 |
| NANNYBERRY (<i>VIBURNUM LENTAGO</i>) | FAC | 2.00 |

NOTE: HERBACEOUS AND SHRUB SEED MIXES TO BE APPLIED AT AN APPLICATION RATE RECOMMENDED BY THE SUPPLIER

| SOD SEED MIX | |
|---|-------|
| SPECIES | % |
| KENTUCKY BLUEGRASS (<i>POA PRATENSIS</i>) | 60-75 |
| PERENNIAL RYEGRASS (<i>LOLIUM PERENNE</i>) | 10-20 |
| TALL FESCUE (<i>SCHEDONORUS ARUNDINACEUS</i>) | 15 |

NOTE: SOD SEED MIX TO BE USED INSTEAD OF HERBACEOUS SEED MIX AND SHRUB SEED MIX FOR AREA OF INCREASED INFILTRATION P-10.13A (STA 753+50 TO STA 756+50)

PLANTING NOTES:

- ALL PROPOSED PLANTING LOCATIONS SHALL BE STAKED AS SHOWN ON THE PLANS FOR FIELD REVIEW AND APPROVAL BY THE LANDSCAPE ARCHITECT OR ENVIRONMENTAL MONITOR PRIOR TO INSTALLATION.
- ANY PROPOSED PLANT SUBSTITUTIONS MUST BE REVIEWED BY LANDSCAPE ARCHITECT AND APPROVED IN WRITING BY THE ENVIRONMENTAL MONITOR.
- ONLY SPECIES ARE ALLOWED (NO HORTICULTURAL CULTIVARS OR VARIETIES).
- SEED MIX AND PLANT STOCK SHALL BE OBTAINED FROM A NURSERY THAT SPECIALIZES IN NATIVE ECOLOGICAL PLANTINGS. PLANT STOCK SHALL BE SUPPLIED IN A PLANTING-READY CONDITION. ALL MATERIALS MUST BE INSPECTED AND APPROVED BY THE ENVIRONMENTAL MONITOR PRIOR TO BEING PLANTED. IF NOT PLANTED WITHIN 12 HOURS FROM WHEN THEY WERE COLLECTED, PLANTS SHALL BE STORED IN ACCORDANCE WITH RECOMMENDATIONS PROVIDED BY THE NURSERY.
- PLANT STOCK WILL BE INSTALLED IN HAND-DUG HOLES IN LOCATIONS TO BE DETERMINED BY ENVIRONMENTAL MONITOR.
- A 3-INCH DEEP MULCH PER SPECIFICATION SHALL BE INSTALLED UNDER ALL TREES AND SHRUBS, AND IN ALL PLANTINGS BEDS, UNLESS OTHERWISE INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENVIRONMENTAL MONITOR.
- NO FERTILIZERS SHALL BE APPLIED.
- NO PLANT MATERIALS SHALL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA. CONTRACTOR SHALL NOTIFY THE ENVIRONMENTAL MONITOR OF ANY CONFLICT.
- ALL PLANT MATERIALS INSTALLED SHALL MEET THE SPECIFICATIONS OF THE "AMERICAN STANDARDS FOR NURSERY STOCK" BY THE AMERICAN ASSOCIATION OF NURSERYMEN AND CONTRACT DOCUMENTS.
- ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF FINAL ACCEPTANCE.
- ALL TREES SHALL BE BALLED AND BURLAPPED, UNLESS OTHERWISE NOTED IN THE DRAWINGS OR SPECIFICATION, OR APPROVED BY THE ENVIRONMENTAL MONITOR.
- FINAL QUANTITY FOR EACH PLANT TYPE SHALL BE AS GRAPHICALLY SHOWN ON THE PLAN. THIS NUMBER SHALL TAKE PRECEDENCE IN CASE OF ANY DISCREPANCY BETWEEN QUANTITIES SHOWN ON THE PLANT LIST AND ON THE PLAN. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES BETWEEN THE NUMBER OF PLANS SHOWN ON THE PLANT LIST AND PLANT LABELS PRIOR TO BIDDING.
- AREAS DESIGNATED AS "LOAM & SEED" SHALL RECEIVE MINIMUM 4" OF LOAM AND SPECIFIED SEED MIX.
- THIS PLAN IS INTENDED FOR PLANTING PURPOSES. REFER TO SITE/CIVIL DRAWINGS FOR ALL OTHER SITE CONSTRUCTION INFORMATION.

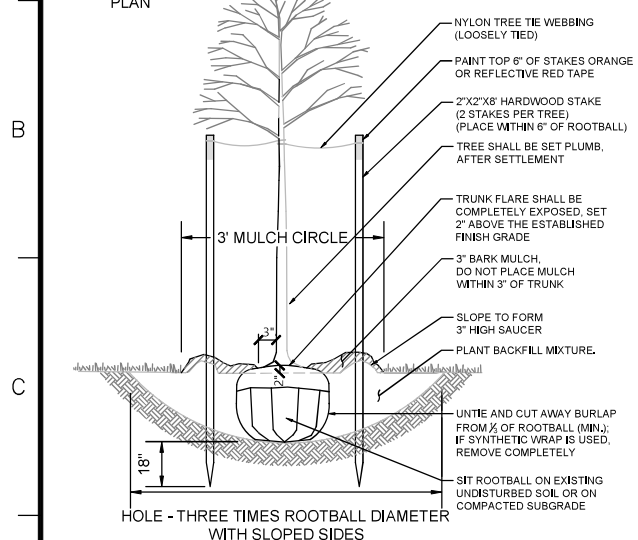
PLANT MAINTENANCE NOTES:

- CONTRACTOR SHALL PROVIDE COMPLETE MAINTENANCE OF SEEDED AREAS AND PLANTINGS. NO IRRIGATION IS PROPOSED FOR THIS SITE. THE CONTRACTOR SHALL SUPPLY SUPPLEMENTAL WATERING FOR SEEDED AREAS AND PLANTINGS DURING THE ONE YEAR PLANT GUARANTEE PERIOD.
- CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, AND EQUIPMENT FOR THE COMPLETE LANDSCAPE MAINTENANCE WORK. WATER SHALL BE PROVIDED BY THE CONTRACTOR.
- WATERING SHALL BE REQUIRED DURING THE GROWING SEASON, WHEN NATURAL RAINFALL IS BELOW ONE INCH PER WEEK.
- WATER SHALL BE APPLIED IN SUFFICIENT QUANTITY TO THOROUGHLY SATURATE THE SOIL IN THE ROOT ZONE OF EACH PLANT.
- PROTECT PLANTING AREAS AND PLANTS AGAINST TRESPASSING AND DAMAGE OF ALL KINDS FOR THE DURATION OF THE MAINTENANCE PERIOD. IF ANY PLANTS BECOME DAMAGED OR INJURED, THEY SHALL BE TREATED OR REPLACED AS REQUIRED.
- CONTRACTOR SHALL REPLACE DEAD OR DYING PLANTS AT THE END OF THE ONE YEAR GUARANTEE PERIOD. CONTRACTOR SHALL TURN OVER MAINTENANCE TO THE FACILITY MAINTENANCE STAFF AT THAT TIME.

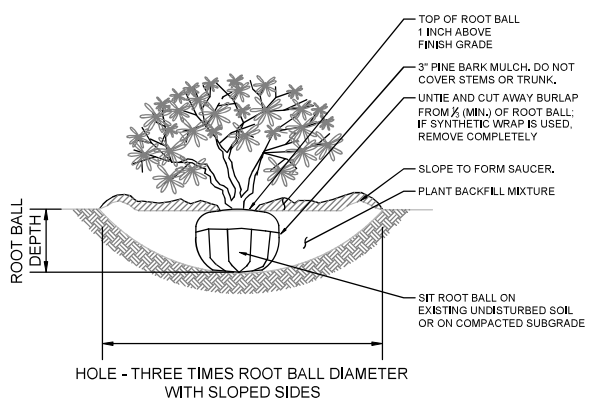
| | | | | | | |
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| NO. | | DESCRIPTION | | BY | DATE | APP.R. |
| REVISION | | | | | | |
| EVERSOURCE | | | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | |
| CONSTRUCTION DETAILS | | | | | | |
| PLAN 1610F349 | | | | | | |
| SCALE: unless noted NTS | DATE DEC 2021 | DRAWN MS | CHECKED SK | APP.R. MES | DRAWING NO. . | REV. . |

NOTES

1. IN AREAS WHERE PLANS INDICATE LOAM AND SEED, PINE BARK MULCH SHALL NOT BE APPLIED TO THE BED.
2. STAKING IS NOT REQUIRED FOR TREES UNDER 3" CALIPER.



TREE PLANTING (FOR TREES UNDER 4" CALIPER)
SCALE: NTS



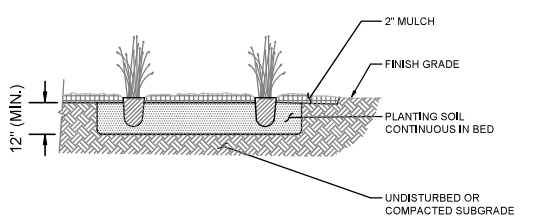
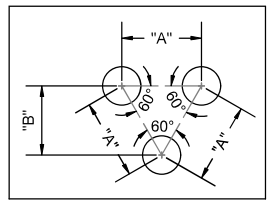
NOTES

1. IN AREAS WHERE PLANS INDICATE LOAM AND SEED, PINE BARK MULCH SHALL NOT BE APPLIED TO THE BED.
2. LOOSEN ROOTS AT THE OUTER EDGE OF ROOTBALL OF CONTAINER GROWN SHRUBS.

SHRUB PLANTING
SCALE: NTS

PLANT SPACING

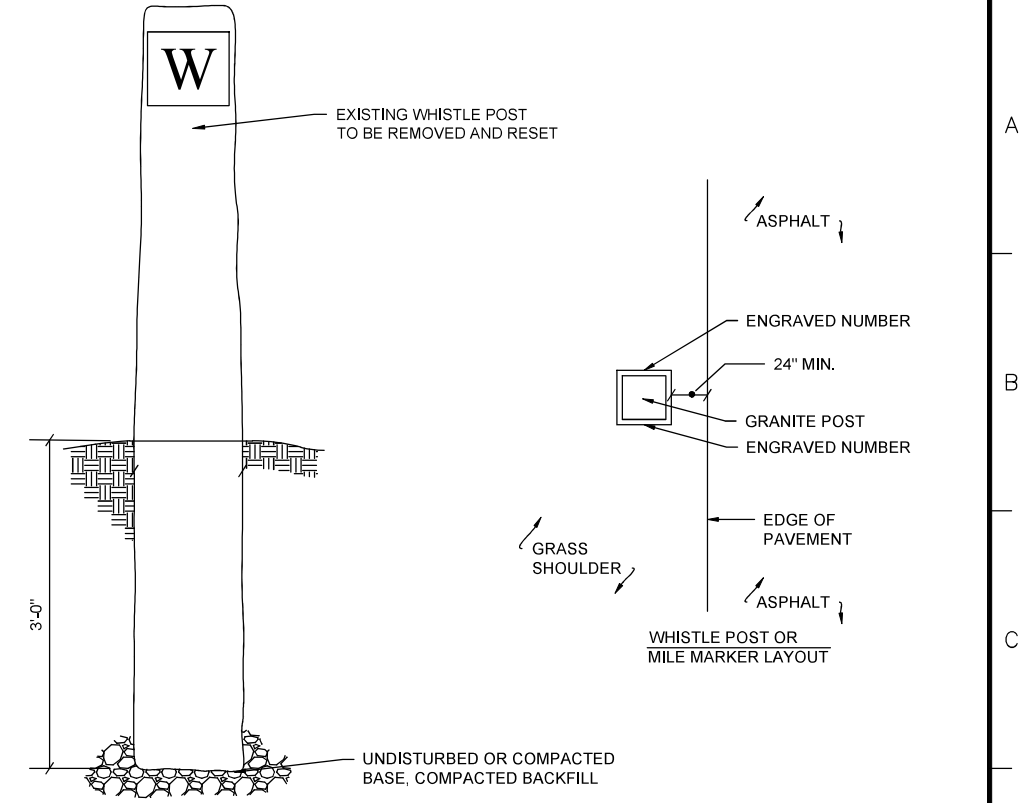
| PLANT SPACING ("A") | ROW SPACING ("B") |
|---------------------|-------------------|
| 6 IN. O.C. | 5 IN. O.C. |
| 8 IN. O.C. | 7 IN. O.C. |
| 10 IN. O.C. | 8 1/2 IN. O.C. |
| 12 IN. O.C. | 10 1/2 IN. O.C. |
| 15 IN. O.C. | 13 IN. O.C. |
| 18 IN. O.C. | 16 IN. O.C. |
| 24 IN. O.C. | 21 IN. O.C. |
| 30 IN. O.C. | 26 IN. O.C. |
| 36 IN. O.C. | 30 IN. O.C. |
| 48 IN. O.C. | 42 IN. O.C. |
| 54 IN. O.C. | 48 IN. O.C. |
| 60 IN. O.C. | 54 IN. O.C. |



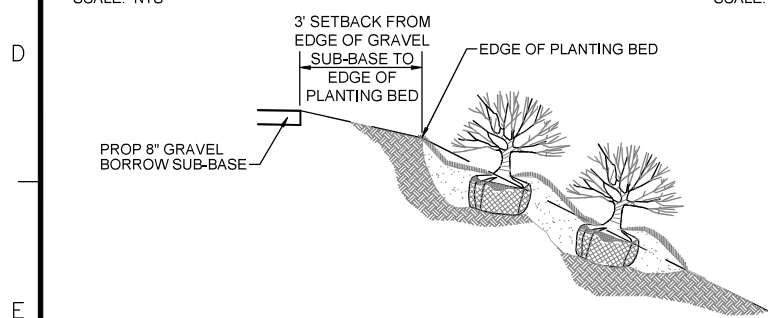
NOTES

1. IN AREAS WHERE PLANS INDICATE LOAM AND SEED, PINE BARK MULCH SHALL NOT BE APPLIED TO THE BED.

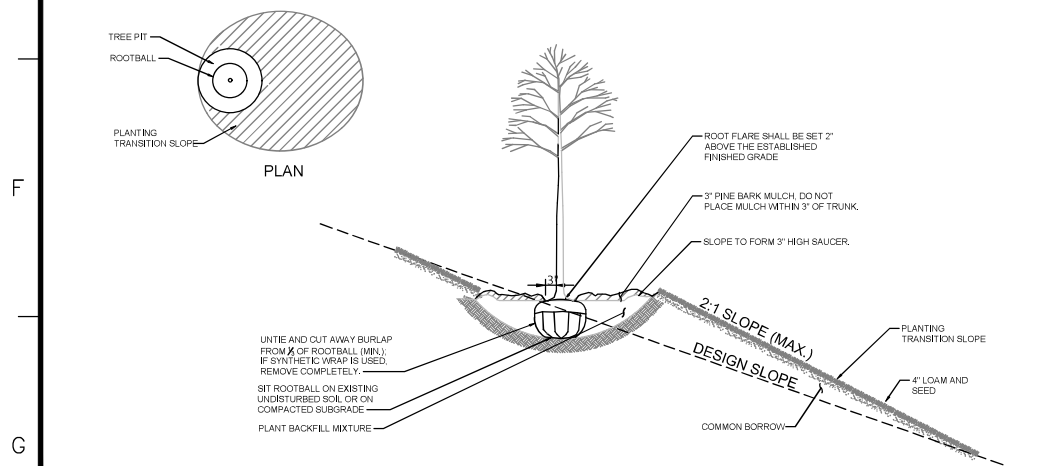
PERENNIAL PLANTING
SCALE: NTS



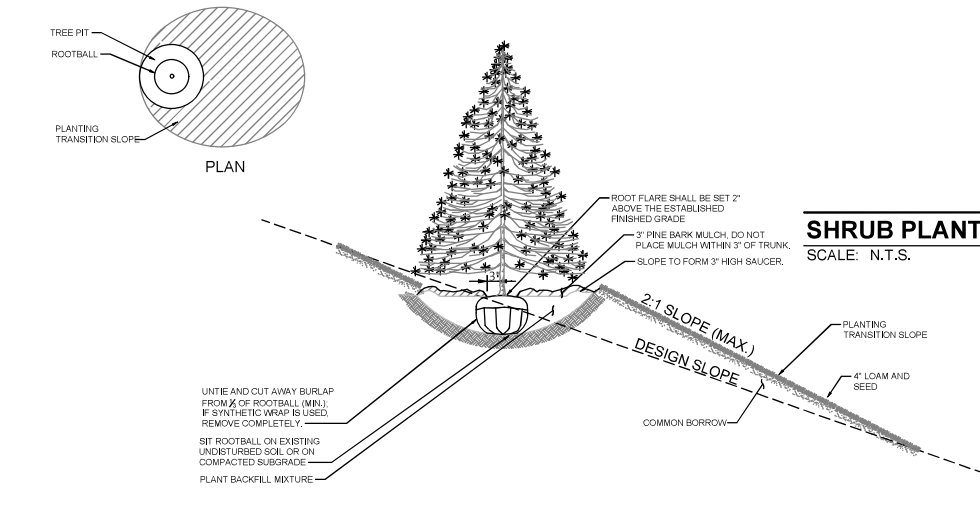
WHISTLE POST OR MILE MARKER DETAIL
SCALE: NTS



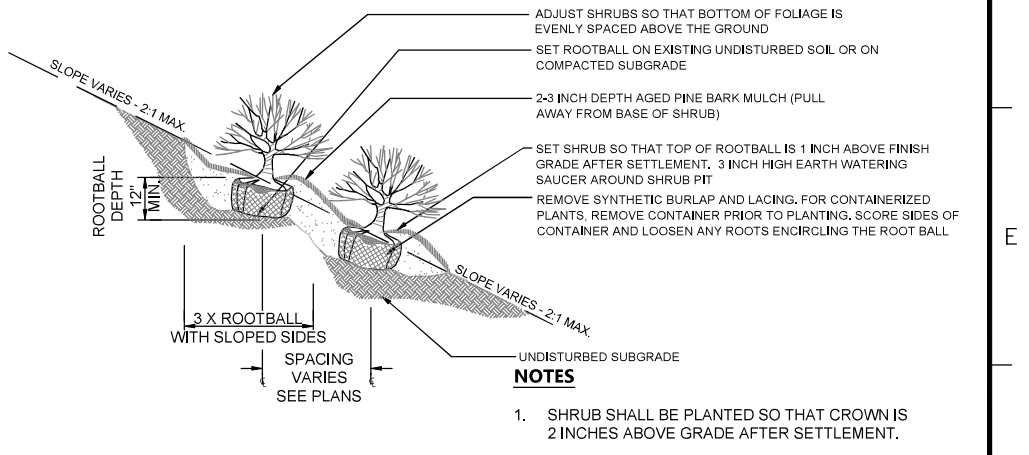
3' PLANTING BED SETBACK FROM GRAVEL SUB-BASE
SCALE: N.T.S.



DECIDUOUS TREE PLANTING ON SLOPE
SCALE: N.T.S.

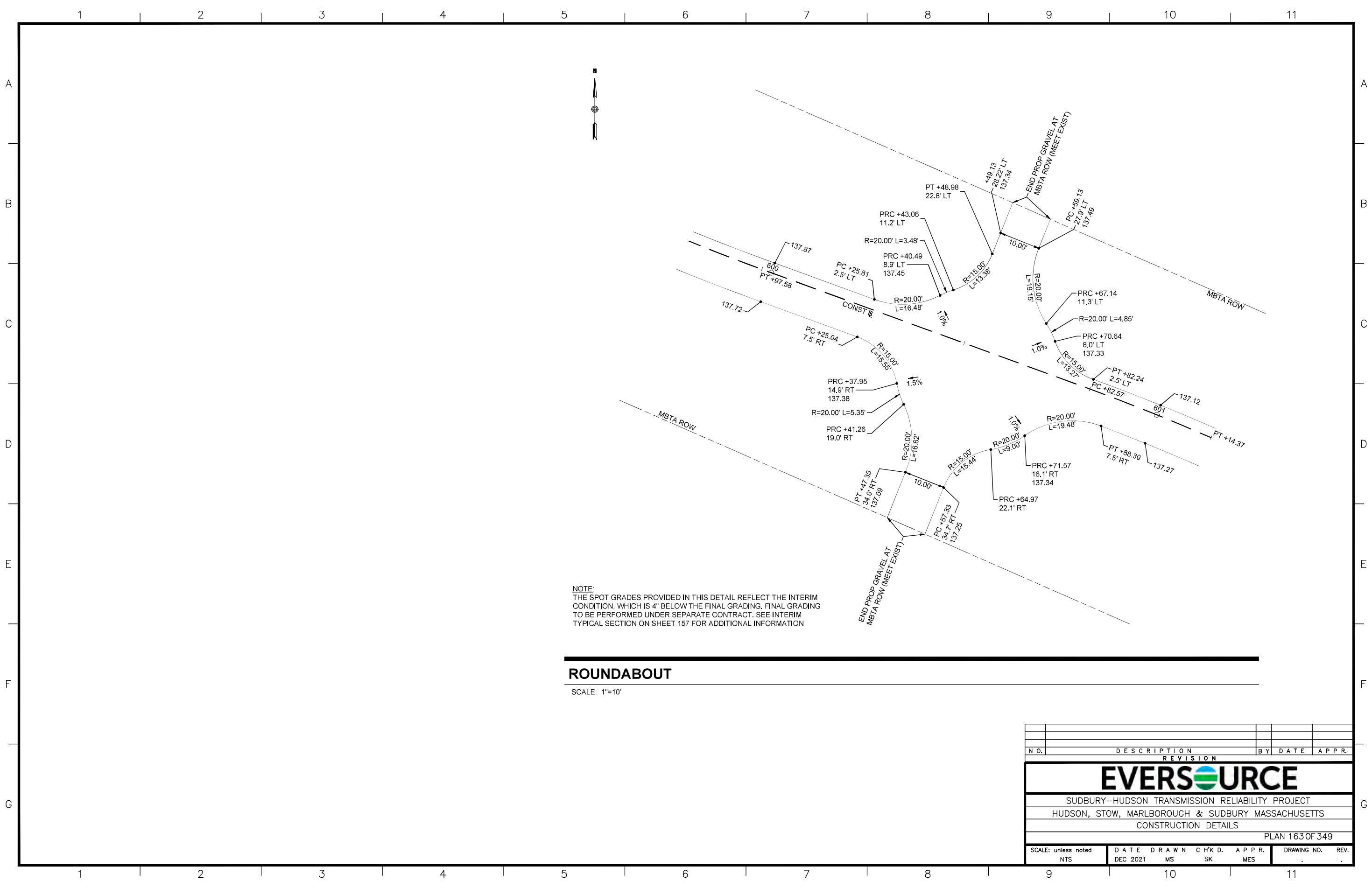


EVERGREEN TREE PLANTING ON SLOPE
SCALE: N.T.S.



SHRUB PLANTING ON SLOPE
SCALE: N.T.S.

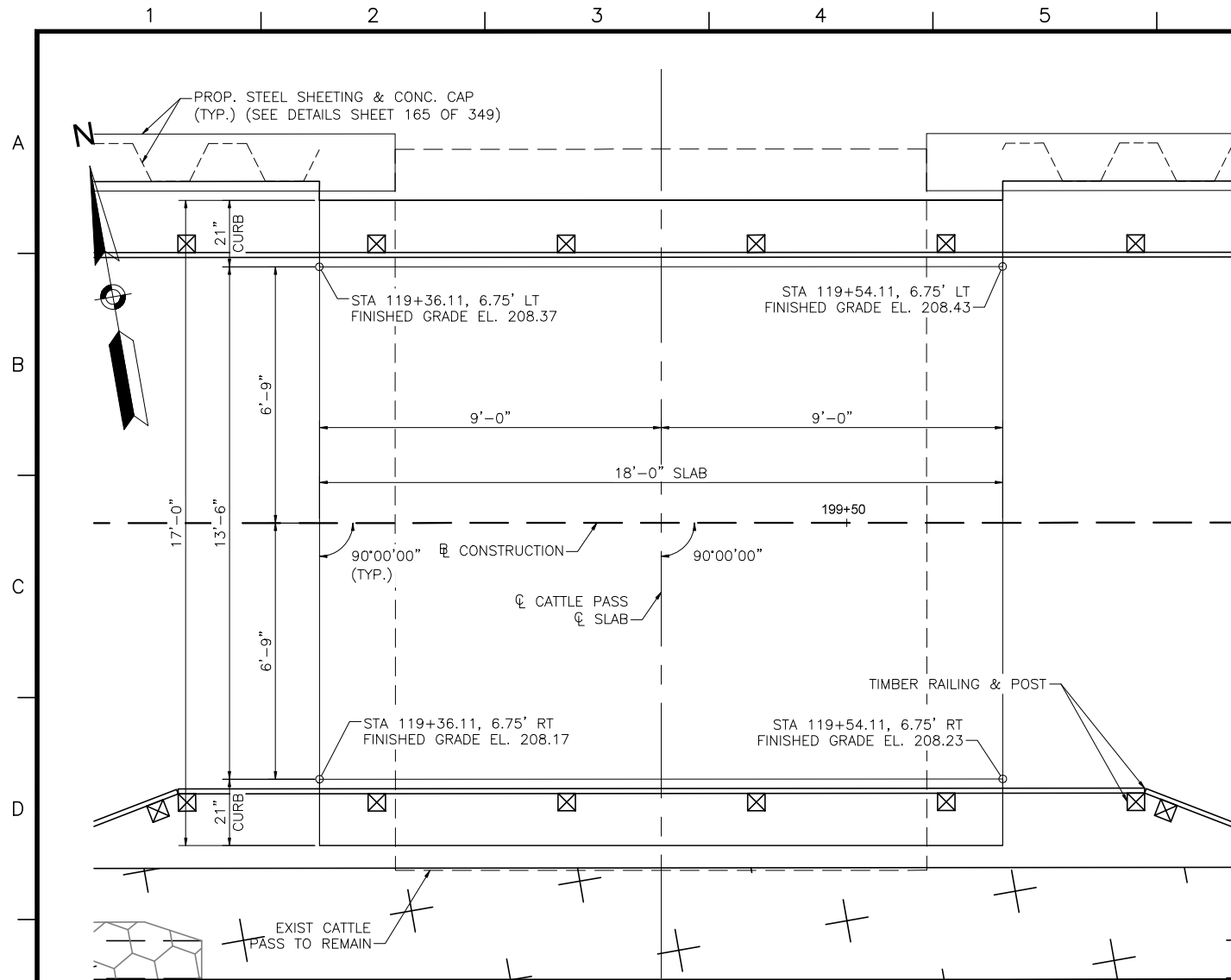
| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|---------------|------------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CONSTRUCTION DETAILS | | | | |
| PLAN 162 OF 349 | | | | |
| SCALE: unless noted NTS | DATE DEC 2021 | DRAWN MS | CHECKED SK | APPROVED MES |
| | | | | DRAWING NO. REV. |



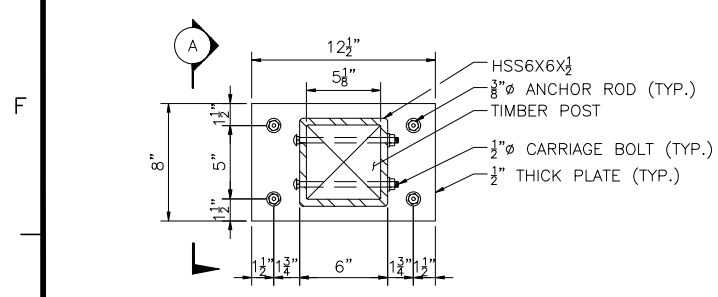
NOTE:
 THE SPOT GRADES PROVIDED IN THIS DETAIL REFLECT THE INTERIM CONDITION, WHICH IS 4" BELOW THE FINAL GRADING. FINAL GRADING TO BE PERFORMED UNDER SEPARATE CONTRACT. SEE INTERIM TYPICAL SECTION ON SHEET 157 FOR ADDITIONAL INFORMATION

ROUNABOUT
 SCALE: 1"=10'

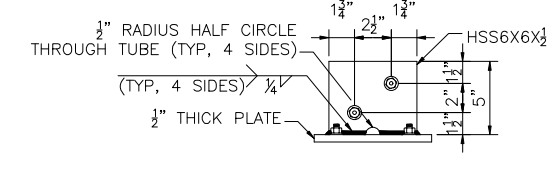
| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|---------------|-----------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CONSTRUCTION DETAILS | | | | |
| PLAN 163 OF 349 | | | | |
| SCALE: unless noted NTS | DATE DEC 2021 | DRAWN MS | CHECKED SK | APPROVED MES |
| DRAWING NO. | REV. | | | |



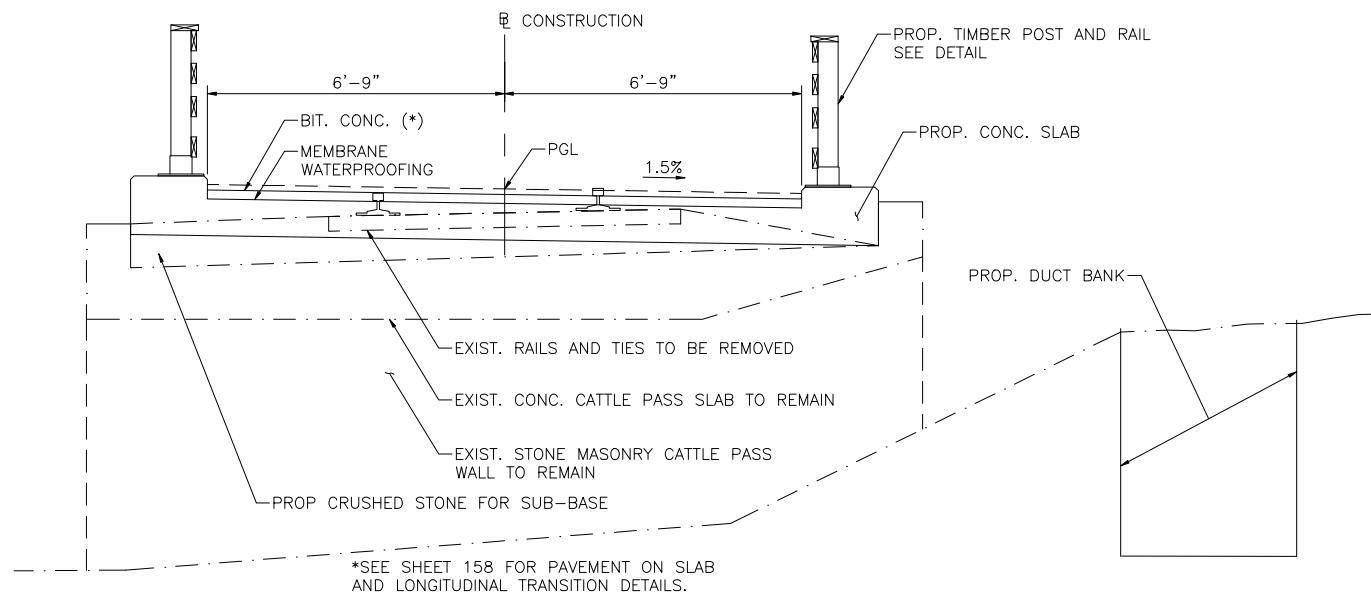
CATTLE PASS PLAN
SCALE: 1/2"=1'-0"



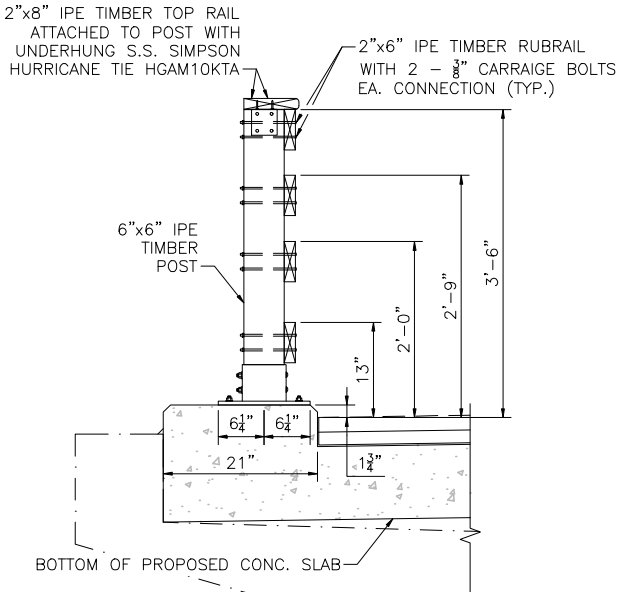
POST BASE DETAIL
SCALE: 1"=0'-6"



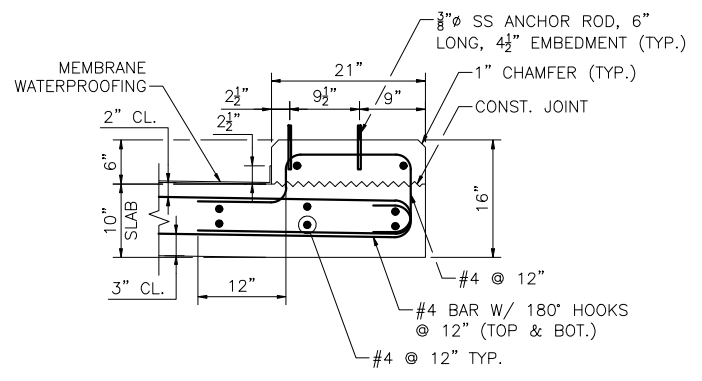
SECTION A
SCALE: 1"=0'-6"



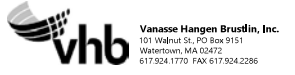
CATTLE PASS SECTION
SCALE: 1/2"=1'-0"



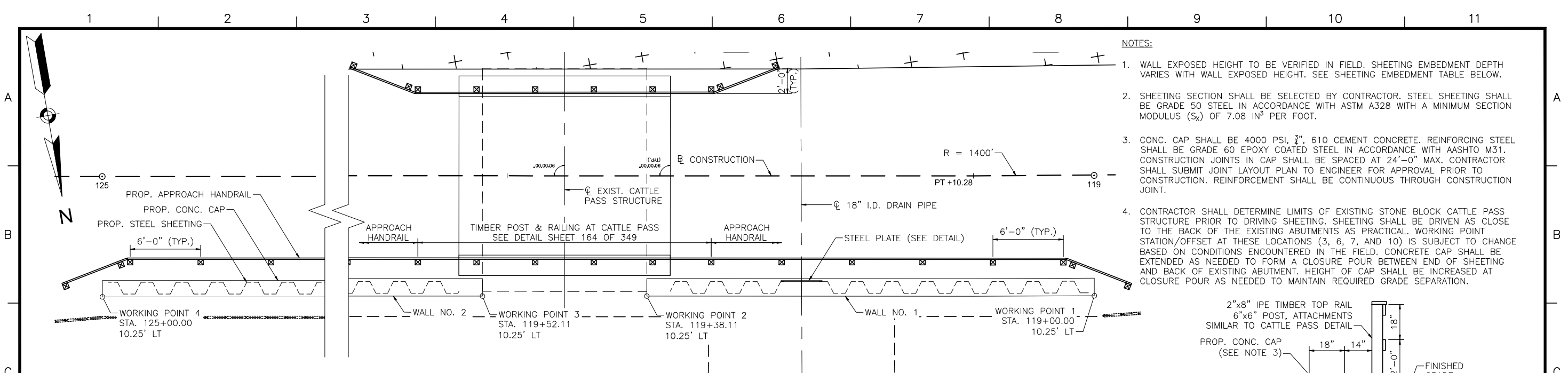
TIMBER RAILING & POST DETAIL
SCALE: 1/2"=1'-0"



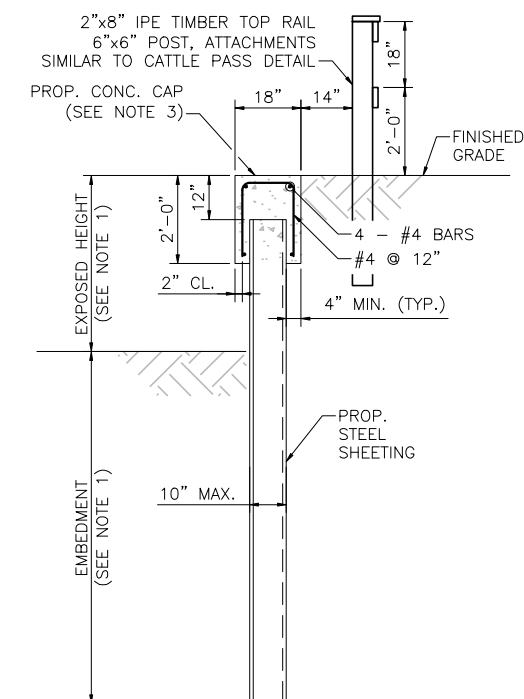
SLAB REINFORCING DETAIL
SCALE: 1/2"=1'-0"



| NO. | DESCRIPTION | BY | DATE | APPR. |
|--|----------------|------------|--------------|------------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH, & SUDBURY MASSACHUSETTS | | | | |
| CONSTRUCTION DETAILS | | | | |
| PLAN 164 OF 349 | | | | |
| SCALE: unless noted VARIES | DATE: DEC 2021 | DRAWN: AMS | CHECKED: SBK | APPROVED: KGK |
| | | | | DRAWING NO. REV. |



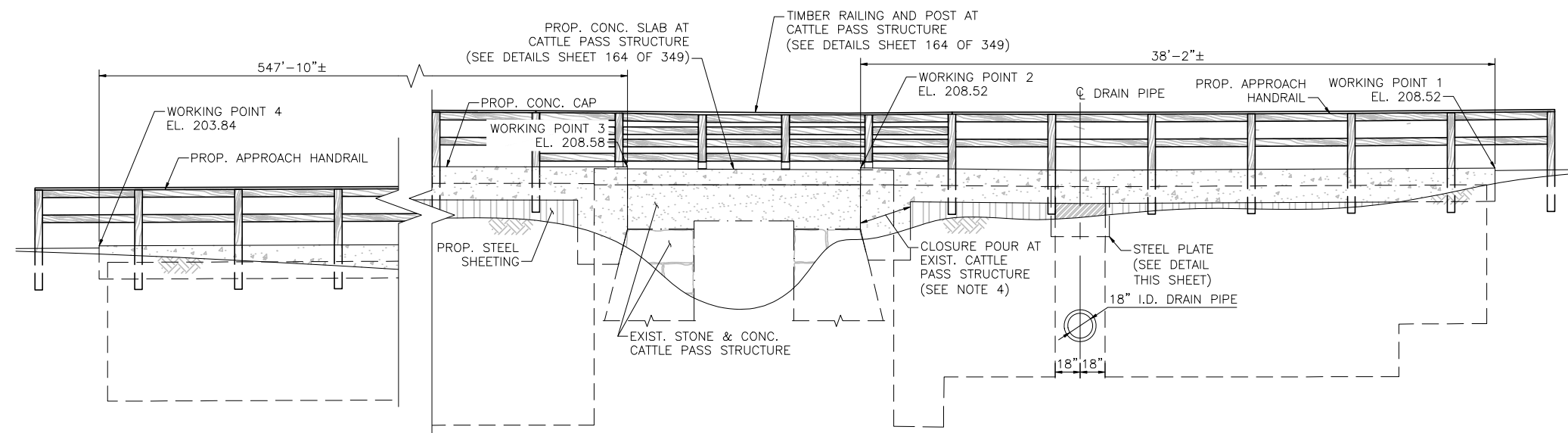
- NOTES:**
1. WALL EXPOSED HEIGHT TO BE VERIFIED IN FIELD. SHEETING EMBEDMENT DEPTH VARIES WITH WALL EXPOSED HEIGHT. SEE SHEETING EMBEDMENT TABLE BELOW.
 2. SHEETING SECTION SHALL BE SELECTED BY CONTRACTOR. STEEL SHEETING SHALL BE GRADE 50 STEEL IN ACCORDANCE WITH ASTM A328 WITH A MINIMUM SECTION MODULUS (S_x) OF 7.08 IN³ PER FOOT.
 3. CONC. CAP SHALL BE 4000 PSI, 3/4", 610 CEMENT CONCRETE. REINFORCING STEEL SHALL BE GRADE 60 EPOXY COATED STEEL IN ACCORDANCE WITH AASHTO M31. CONSTRUCTION JOINTS IN CAP SHALL BE SPACED AT 24'-0" MAX. CONTRACTOR SHALL SUBMIT JOINT LAYOUT PLAN TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINT.
 4. CONTRACTOR SHALL DETERMINE LIMITS OF EXISTING STONE BLOCK CATTLE PASS STRUCTURE PRIOR TO DRIVING SHEETING. SHEETING SHALL BE DRIVEN AS CLOSE TO THE BACK OF THE EXISTING ABUTMENTS AS PRACTICAL. WORKING POINT STATION/OFFSET AT THESE LOCATIONS (3, 6, 7, AND 10) IS SUBJECT TO CHANGE BASED ON CONDITIONS ENCOUNTERED IN THE FIELD. CONCRETE CAP SHALL BE EXTENDED AS NEEDED TO FORM A CLOSURE POUR BETWEEN END OF SHEETING AND BACK OF EXISTING ABUTMENT. HEIGHT OF CAP SHALL BE INCREASED AT CLOSURE POUR AS NEEDED TO MAINTAIN REQUIRED GRADE SEPARATION.



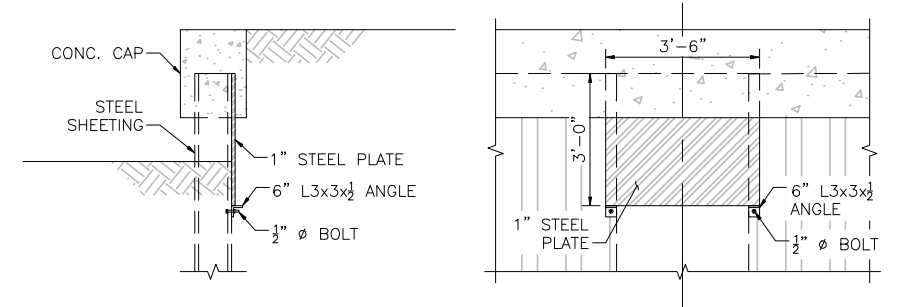
TYPICAL SHEETING SECTION
SCALE: 3/4"=1'-0"

| SHEETING EMBEDMENT TABLE | |
|--------------------------|---------------|
| EXPOSED HEIGHT | EMBEDMENT |
| 2'-0" (MAX.) | 7'-4" (MIN.) |
| 3'-0" (MAX.) | 9'-5" (MIN.) |
| 4'-0" (MAX.) | 11'-6" (MIN.) |
| 5'-0" (MAX.) | 13'-7" (MIN.) |
| 6'-0" (MAX.) | 15'-7" (MIN.) |
| 7'-0" (MAX.) | 17'-7" (MIN.) |

WALL 1 & 2 SHEETING PLAN (AT CATTLE PASS)
SCALE: 3/4"=1'-0"



WALL 1 & 2 ELEVATION (AT CATTLE PASS)
SCALE: 3/4"=1'-0"



STEEL PLATE DETAIL
SCALE: 3/4"=1'-0"



| NO. | DESCRIPTION | BY | DATE | APPR. |
|--|----------------|------------|--------------|---------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH, & SUDBURY MASSACHUSETTS | | | | |
| CONSTRUCTION DETAILS | | | | |
| PLAN 165 OF 349 | | | | |
| SCALE: unless noted VARIES | DATE: DEC 2021 | DRAWN: AMS | CHECKED: SBK | APPROVED: KGK |
| DRAWING NO. | REV. | | | |

1 2 3 4 5 6 7 8 9 10 11

A

B

C

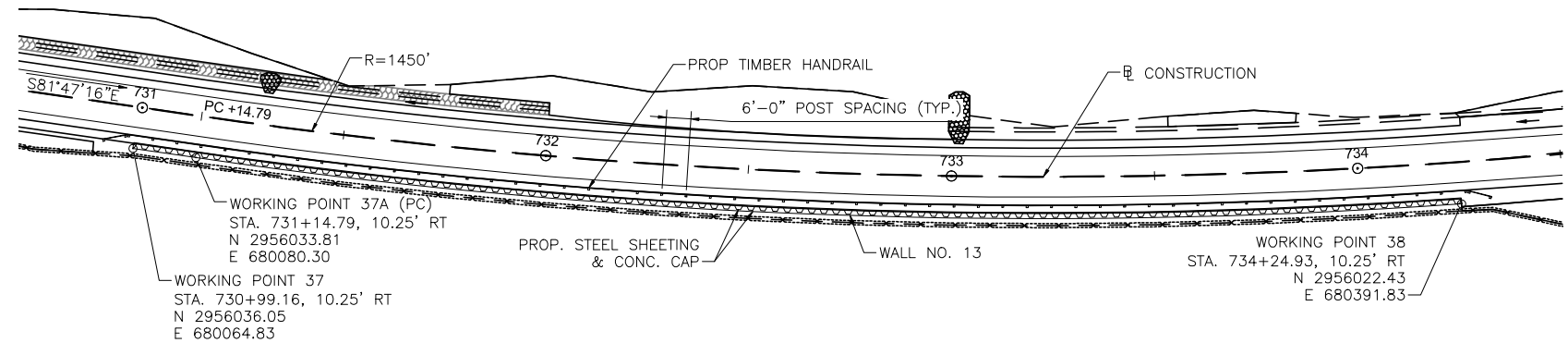
D

E

F

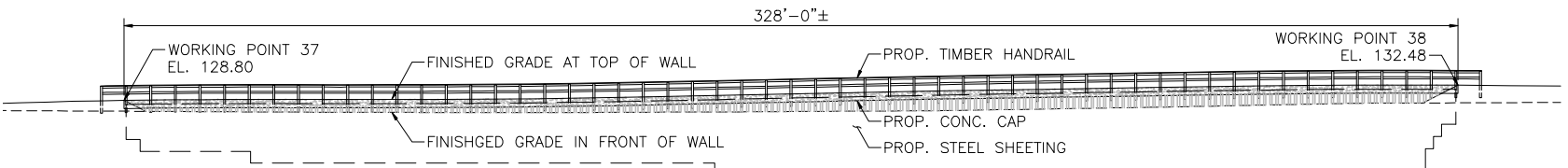
G

N



WALL 13 SHEETING PLAN

SCALE: 1"=20'-0"



WALL 13 ELEVATION

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

NOTES:

1. WALL EXPOSED HEIGHT TO BE VERIFIED IN FIELD. SHEETING EMBEDMENT DEPTH VARIES WITH WALL EXPOSED HEIGHT. SEE TYPICAL SHEETING SECTION AND SHEETING EMBEDMENT TABLE SHEET 165 OF 349.
2. SHEETING SECTION SHALL BE SELECTED BY CONTRACTOR. STEEL SHEETING SHALL BE GRADE 50 STEEL IN ACCORDANCE WITH ASTM A328 WITH A MINIMUM SECTION MODULUS (S_x) OF 7.08 IN³ PER FOOT.
3. CONC. CAP SHALL BE 4000 PSI, 3", 610 CEMENT CONCRETE. REINFORCING STEEL SHALL BE GRADE 60 EPOXY COATED STEEL IN ACCORDANCE WITH AASHTO M31. CONSTRUCTION JOINTS IN CAP SHALL BE SPACED AT 24'-0" MAX. CONTRACTOR SHALL SUBMIT JOINT LAYOUT PLAN TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONSTRUCTION

A JOINT.

B

C

D

E

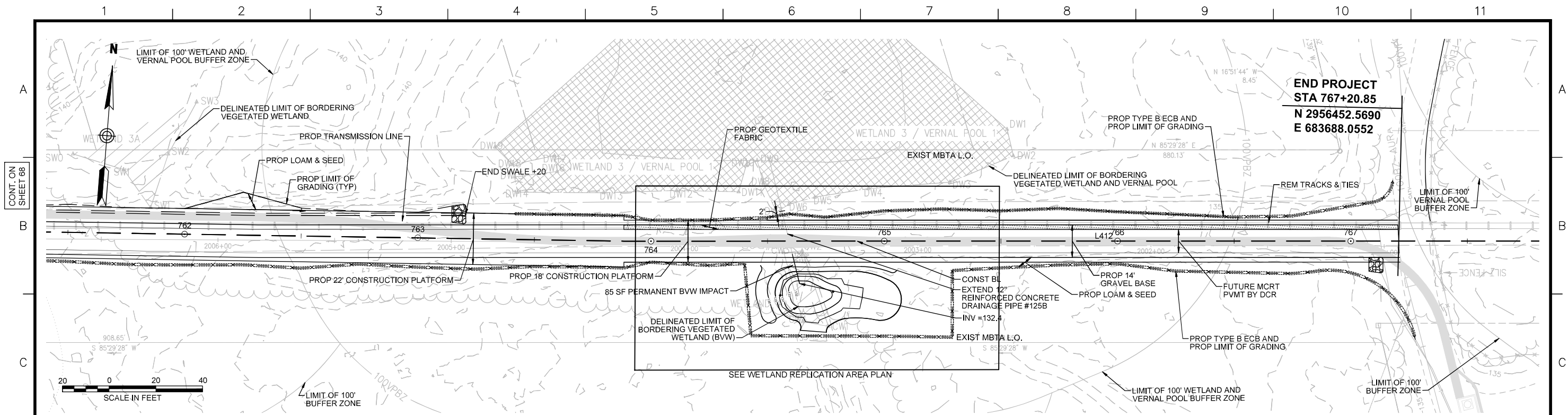
F

G

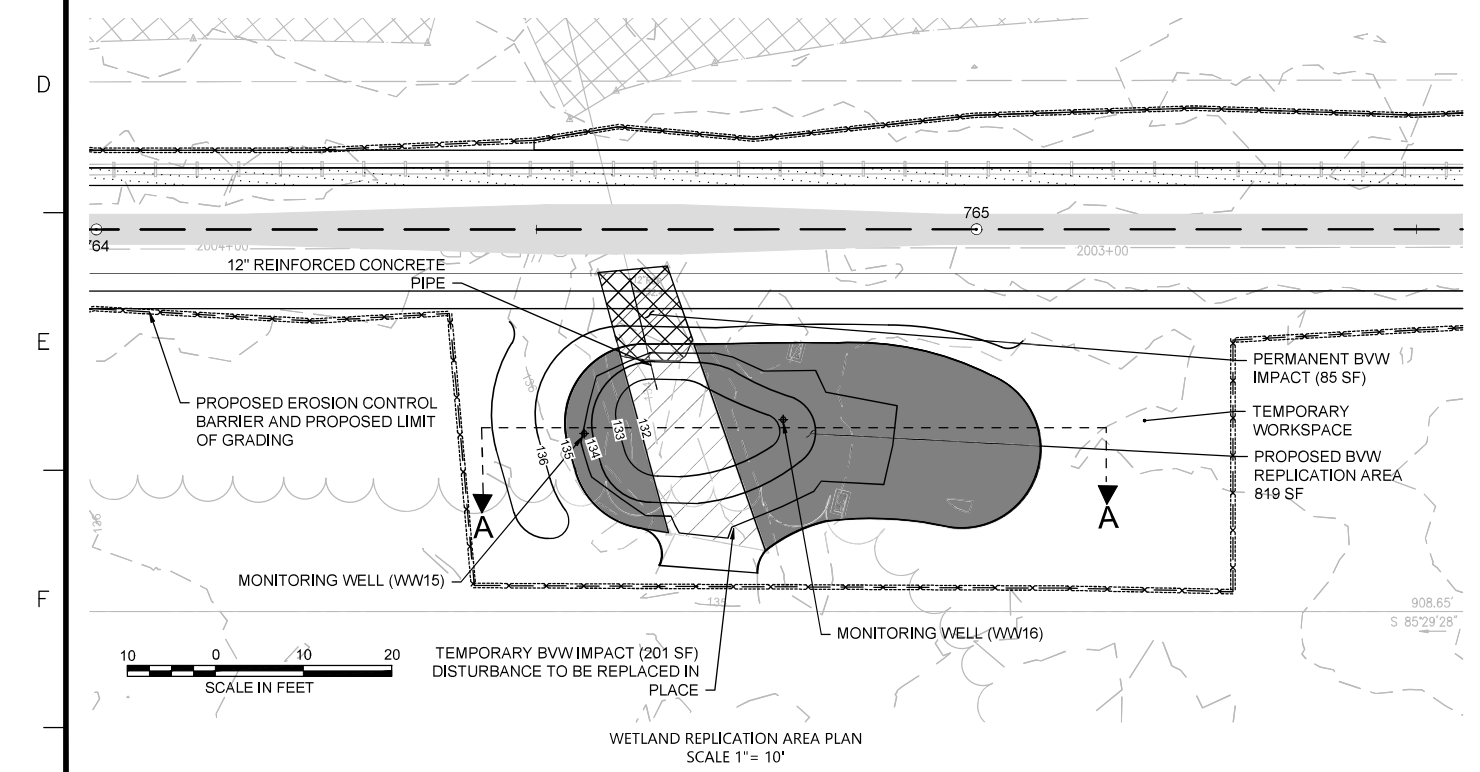


| NO. | DESCRIPTION | BY | DATE | APPR. |
|--|----------------|------------|--------------|-----------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH, & SUDBURY MASSACHUSETTS | | | | |
| CONSTRUCTION DETAILS | | | | |
| PLAN 166 OF 349 | | | | |
| SCALE: unless noted VARIES | DATE: DEC 2021 | DRAWN: AMS | C'H'K'D: SBK | APPR: KGK |
| DRAWING NO. | REV. | | | |

1 2 3 4 5 6 7 8 9 10 11

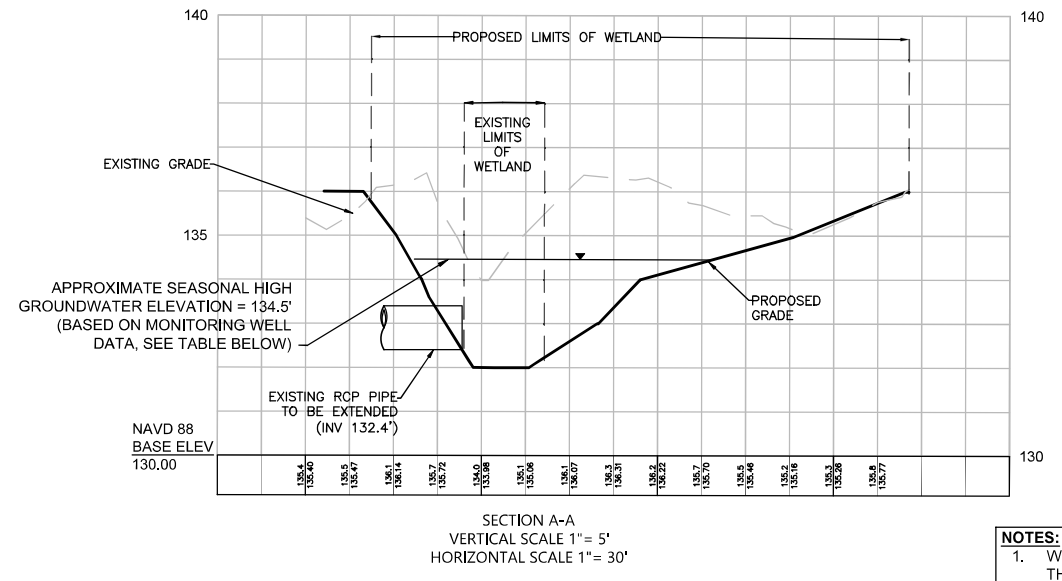


END PROJECT
STA 767+20.85
N 2956452.5690
E 683688.0552



LEGEND

- TEMPORARY BWV IMPACTS (201 SF)
- PERMANENT BWV IMPACTS (85 SF)
- PROPOSED BWV REPLICATION AREA (819 SF)



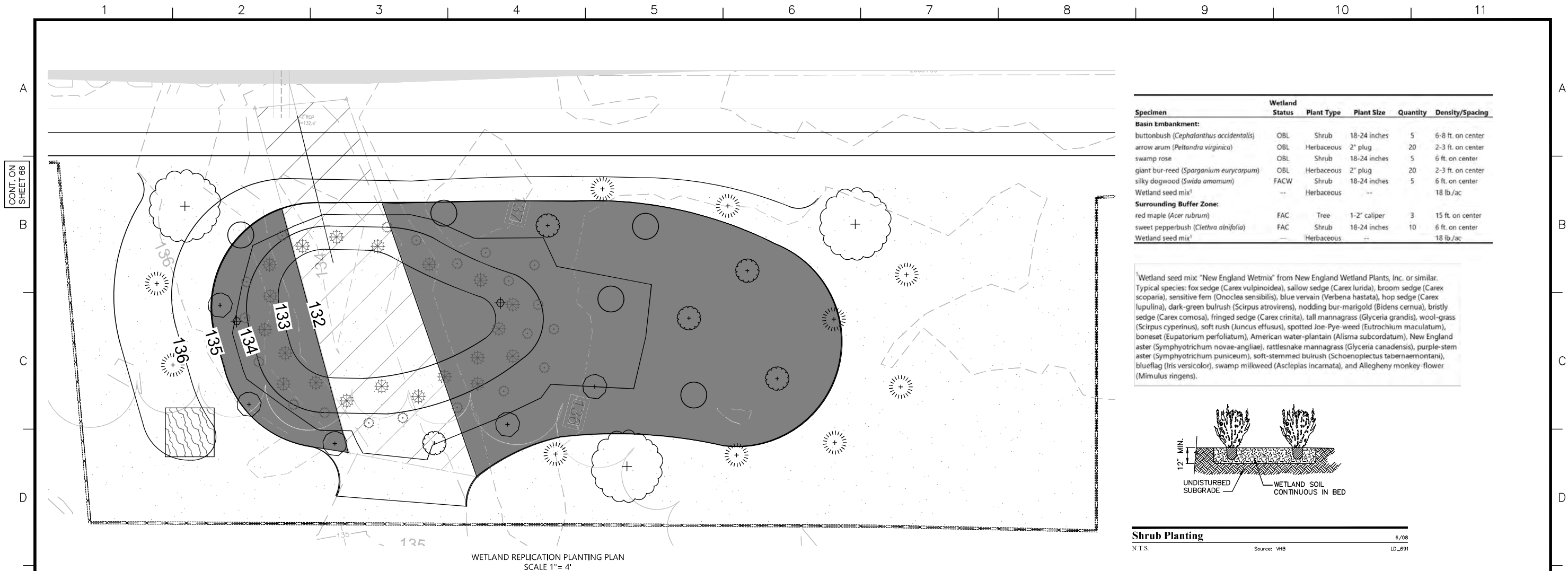
| GROUNDWATER DEPTH (FT) | | |
|------------------------|-------|-------|
| DATE | WW15* | WW16* |
| 12/5/2018 | 1.50 | 1.46 |
| 1/10/2019 | 1.55 | 1.58 |
| 2/12/2019 | 1.60 | N/A |
| 3/27/2019 | 1.56 | 1.55 |
| 4/18/2019 | 1.57 | 1.54 |
| 4/25/2019 | 1.48 | 1.46 |
| 5/23/2019 | 1.58 | 1.62 |

*WW15 AND WW16 LOCATED AT APPROXIMATELY ELEV 136'

- NOTES:**
- WETLAND BOUNDARIES SHOWN HEREIN ARE THE SAME AS THOSE SHOWN ON HUDSON AND SUDBURY ANRAD PLANS (2018).
 - CONTRACTOR TO INSTALL GEOTEXTILE FABRIC UNDERNEATH 12" GRAVEL BORROW WITHIN LIMITS SHOWN.

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 101 Walnut St., PO Box 9151
 Watertown, MA 02472
 617.924.1770 FAX 617.924.2266

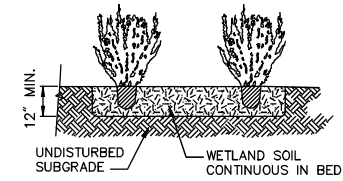
| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|-------------|-------|---------|------------------|
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| WETLAND REPLICATION GRADING PLAN | | | | |
| PLAN 167 OF 349 | | | | |
| SCALE: unless noted 1"=20' | DATE | DRAWN | CHECKED | APPROVED |
| | DEC 2021 | MBB | EJM | MAC |
| | | | | DRAWING NO. REV. |



WETLAND REPLICATION PLANTING PLAN
SCALE 1" = 4'

| Specimen | Wetland Status | Plant Type | Plant Size | Quantity | Density/Spacing |
|---|----------------|------------|--------------|----------|-------------------|
| Basin Embankment: | | | | | |
| buttonbush (<i>Cephalanthus occidentalis</i>) | OBL | Shrub | 18-24 inches | 5 | 6-8 ft. on center |
| arrow arum (<i>Peltandra virginica</i>) | OBL | Herbaceous | 2" plug | 20 | 2-3 ft. on center |
| swamp rose | OBL | Shrub | 18-24 inches | 5 | 6 ft. on center |
| giant bur-reed (<i>Sparganium eurycarpum</i>) | OBL | Herbaceous | 2" plug | 20 | 2-3 ft. on center |
| silky dogwood (<i>Swida amomum</i>) | FACW | Shrub | 18-24 inches | 5 | 6 ft. on center |
| Wetland seed mix ¹ | -- | Herbaceous | -- | -- | 18 lb./ac |
| Surrounding Buffer Zone: | | | | | |
| red maple (<i>Acer rubrum</i>) | FAC | Tree | 1-2" caliper | 3 | 15 ft. on center |
| sweet pepperbush (<i>Clethra alnifolia</i>) | FAC | Shrub | 18-24 inches | 10 | 6 ft. on center |
| Wetland seed mix ¹ | -- | Herbaceous | -- | -- | 18 lb./ac |

¹Wetland seed mix "New England Wetmix" from New England Wetland Plants, Inc. or similar. Typical species: fox sedge (*Carex vulpinoidea*), sallow sedge (*Carex lurida*), broom sedge (*Carex scoparia*), sensitive fern (*Onoclea sensibilis*), blue vervain (*Verbena hastata*), hop sedge (*Carex lupulina*), dark-green bulrush (*Scirpus atrovirens*), nodding bur-marigold (*Bidens cernua*), bristly sedge (*Carex comosa*), fringed sedge (*Carex crinita*), tall mangrass (*Glyceria grandis*), wool-grass (*Scirpus cyperinus*), soft rush (*Juncus effusus*), spotted Joe-Pye-weed (*Eutrochium maculatum*), boneset (*Eupatorium perfoliatum*), American water-plantain (*Alisma subcordatum*), New England aster (*Symphotrichum novae-angliae*), rattlesnake mangrass (*Glyceria canadensis*), purple-stem aster (*Symphotrichum puniceum*), soft-stemmed bulrush (*Schoenoplectus tabernaemontani*), blueflag (*Iris versicolor*), swamp milkweed (*Asclepias incarnata*), and Allegheny monkey-flower (*Mimulus ringens*).



Shrub Planting 6/08
N.T.S. Source: VHB LD_691

LEGEND

| | | | | | |
|--|-----------------------------------|--|------------------|--|----------------|
| | WETLAND SEED MIX | | BUTTONBUSH | | GIANT BUR-REED |
| | REPLICATION AREA/WETLAND SEED MIX | | SWEET PEPPERBUSH | | ARROW ARUM |
| | RED MAPLE | | SILKY DOGWOOD | | TREE SNAG |
| | SWAMP ROSE | | | | |

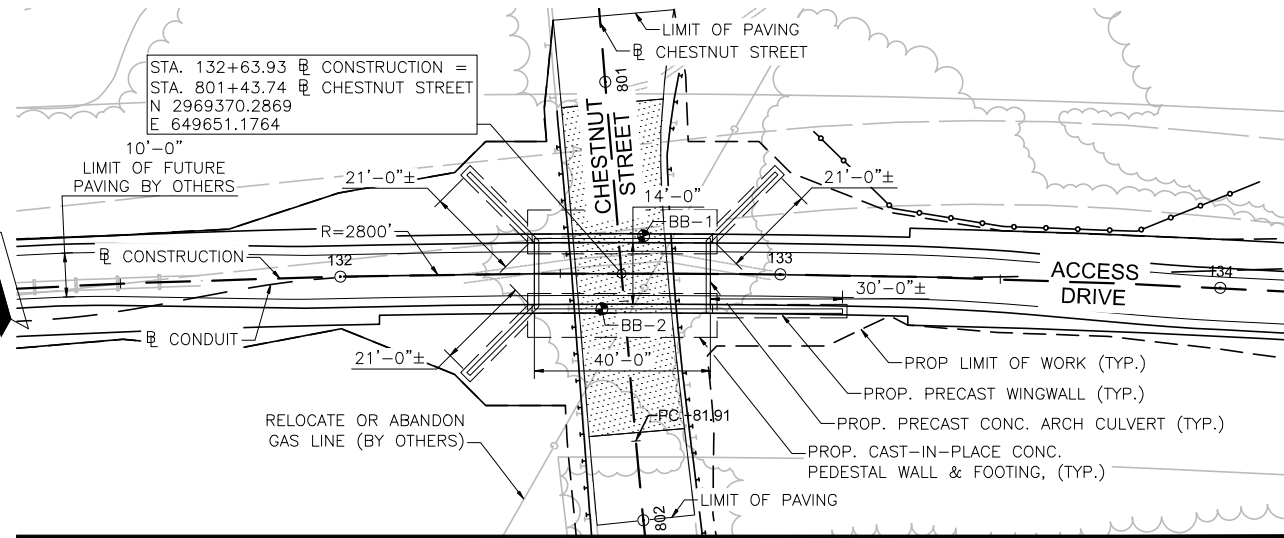
- NOTES:**
- CONSTRUCTION OF THE WETLAND REPLICATION AREA WILL INCLUDE GRADING, SOILS PLACEMENT, AND PLANTING, AND ALL WORK SHALL BE PERFORMED UNDER THE SUPERVISION OF AN EXPERIENCED WETLAND SCIENTIST. ALL PLANTINGS SHALL BE PERFORMED IN SPRING (APRIL 15 TO JUNE 15) OR FALL (SEPTEMBER 1 TO OCTOBER 31).
 - AN EROSION CONTROL BARRIER WILL CONSIST OF SYNCOPATED SILT FENCE (TYPE B EROSION CONTROL BARRIER) AND SHALL BE INSTALLED ALONG THE ENTIRE PERIMETER OF THE REPLICATION AREA EXCEPT AT THE UPGRADIENT EDGE TO ALLOW ACCESS TO MACHINERY.
 - ALL AREAS TO BE PLANTED AS PART OF THE REPLICATION AREA SHALL BE CLEARED AND GRUBBED (AS NEEDED) AND SHALL BE EXCAVATED TO A DEPTH OF 12 INCHES BELOW THE FINAL DESIGN ELEVATIONS. MINOR MODIFICATIONS TO THE GRADING PLAN MAY BE MADE IN THE FIELD BY THE SUPERVISING WETLAND SCIENTIST IN RESPONSE TO HYDROLOGIC CONDITIONS. THE SUPERVISING WETLAND SCIENTIST WILL INSPECT THE FINAL SUB-GRADE OF THE REPLICATION AREA TO ENSURE THAT THE PROPER HYDROLOGY HAS BEEN ESTABLISHED.
 - THE TWELVE-INCH DBH SNAG THAT WILL BE REMOVED DURING CONSTRUCTION WILL BE REINSTALLED WITH A SIGNIFICANT PORTION OF THE ROOT MASS INTACT. THE SNAG WILL BE FIRMLY ENTRENCHED TO PREVENT FUTURE WINDTHROW.
 - THE REPLICATION AREA WILL THEN BE BACKFILLED WITH PREPARED WETLAND SOIL. PREPARED SOILS SHALL CONSIST OF A 1:1 MIXTURE (OR EQUAL VOLUMES) OF ORGANIC AND MINERAL MATERIALS (IN THE SILT LOAM, LOAM, OR LOAMY SAND RANGE) TO INCREASE THE ORGANIC CARBON CONTENT TO BETWEEN 4 AND 12 PERCENT BY WEIGHT. CLEAN LEAF OR COMMERCIALY AVAILABLE COMPOST IS THE PREFERRED AMENDMENT TO ACHIEVE THIS STANDARD, ALTHOUGH OTHER MATERIALS MAY BE USED IF APPROVED BY THE SUPERVISING WETLAND SCIENTIST. AREAS TO BE PLANTED AS BVW SHOULD BE GRADED IN A SLIGHTLY IRREGULAR FASHION TO ALLOW FOR SMALL HUMMOCKS AND HOLLOW APPROXIMATELY 6 INCHES ABOVE AND BELOW GRADE TO CREATE A PIT AND MOUND TOPOGRAPHY.
 - FALLEN LOGS, BRANCHES, AND OTHER NATURAL MATERIALS SHALL BE DISTRIBUTED IN THE REPLICATION AREA TO PROVIDE ADDITIONAL WILDLIFE HABITAT. THESE MATERIALS SHALL COVER 2 TO 4 PERCENT OF THE REPLICATION AREA'S SURFACE AND SHALL NOT INCLUDE ANY KNOWN INVASIVE SPECIES. WOODY MATERIAL SHOULD VARY IN SIZE AND DEGREE OF DECOMPOSITION.
 - ONCE WETLAND SOILS AND ANY NATURAL MATERIALS HAVE BEEN PLACED, ANY EQUIPMENT OR VEHICLES EXERTING A GROUND PRESSURE OF 3 PSI OR GREATER SHALL NO LONGER BE ALLOWED IN THE REPLICATION AREA TO AVOID COMPACTING THE WETLAND SOILS.
 - PLANTINGS WILL BE INSTALLED ONCE THE ABOVE TASKS HAVE BEEN COMPLETED. ALL SHRUB PLANTING WORK SHALL BE PERFORMED BY HAND USING HAND TOOLS ONLY. THE SPECIES, SIZE, AND QUANTITY OF PLANTINGS SHALL FOLLOW THE PLANTING SCHEDULE. ONLY PLANT MATERIALS NATIVE TO THE REGION SHALL BE USED. IN THE EVENT THAT PLANT SUBSTITUTIONS ARE NECESSARY, THE SUPERVISING WETLAND SCIENTIST OR ANOTHER QUALIFIED WETLAND SCIENTIST OR BOTANIST SHALL BE CONSULTED. ALL WOODY PLANT STOCK SHALL EITHER BE BARE-ROOT OR CONTAINER-GROWN. PLANTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE DESIGN SPECIFIED ON THE PLAN, ALTHOUGH THE SUPERVISING WETLAND SCIENTIST MAY DIRECT THE PROJECT CONTRACTOR TO RELOCATE PLANTINGS BASED ON FIELD CONDITIONS.
 - FOLLOWING SHRUB PLANTINGS, THE AREA WILL BE SEEDED WITH A NATIVE WETLAND SEED MIX AS SPECIFIED IN THE PLANTING SCHEDULE OR A SIMILAR MIX. THE SEED MIX SHALL BE APPLIED AT A RATE AND IN A MANNER ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.
 - FOLLOWING COMPLETION OF PLANTING AND SEEDING, A LINE OF EROSION CONTROLS WILL BE INSTALLED ALONG THE UPGRADIENT EDGE OF THE REPLICATION AREA. ALL EROSION CONTROLS AROUND THE REPLICATION AREA SHALL REMAIN IN PLACE UNTIL VEGETATION IS WELL-ESTABLISHED AND SOILS HAVE STABILIZED. EROSION CONTROLS WILL REMAIN IN PLACE UNTIL REMOVAL HAS BEEN APPROVED BY THE ENVIRONMENTAL MONITOR.
 - THE REPLICATION AREA WILL BE MONITORED FOR TWO FULL GROWING SEASONS AFTER PLANTING. THE AREA WILL BE INSPECTED TWICE PER YEAR TO ASSESS WHETHER THE AREA HAS ACHIEVED 75 PERCENT COVER BY REGIONAL INDIGENOUS WETLAND SPECIES. CONSIDERATION WILL BE GIVEN TO OTHER NATIVE WETLAND PLANT SPECIES THAT BECOME ESTABLISHED IN THE REPLICATION.
 - INVASIVE SPECIES WITHIN THE REPLICATION AREA SHALL BE REMOVED BY HAND FOR TWO GROWING SEASONS AFTER PLANTING. IF NECESSARY ANY AREAS WHERE INVASIVE SPECIES HAVE BEEN REMOVED WILL BE RESEED WITH A SUITABLE WETLAND SEED MIX.
 - SHRUBS AND SEED MIX ARE SUBJECT TO CHANGE OR SUBSTITUTION PENDING AVAILABILITY AND ACTUAL SITE CONDITIONS.

| | | | | |
|---|-------------|-------|---------|------|
| NO. | DESCRIPTION | BY | DATE | APP. |
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| WETLAND REPLICATION PLANTING PLAN | | | | |
| PLAN 168 OF 349 | | | | |
| SCALE: unless noted 1"=4' | DATE | DRAWN | CHECKED | APP. |
| | DEC 2021 | MBB | EJM | MAC |
| DRAWING NO. | REV. | | | |
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Watertown, MA 02472
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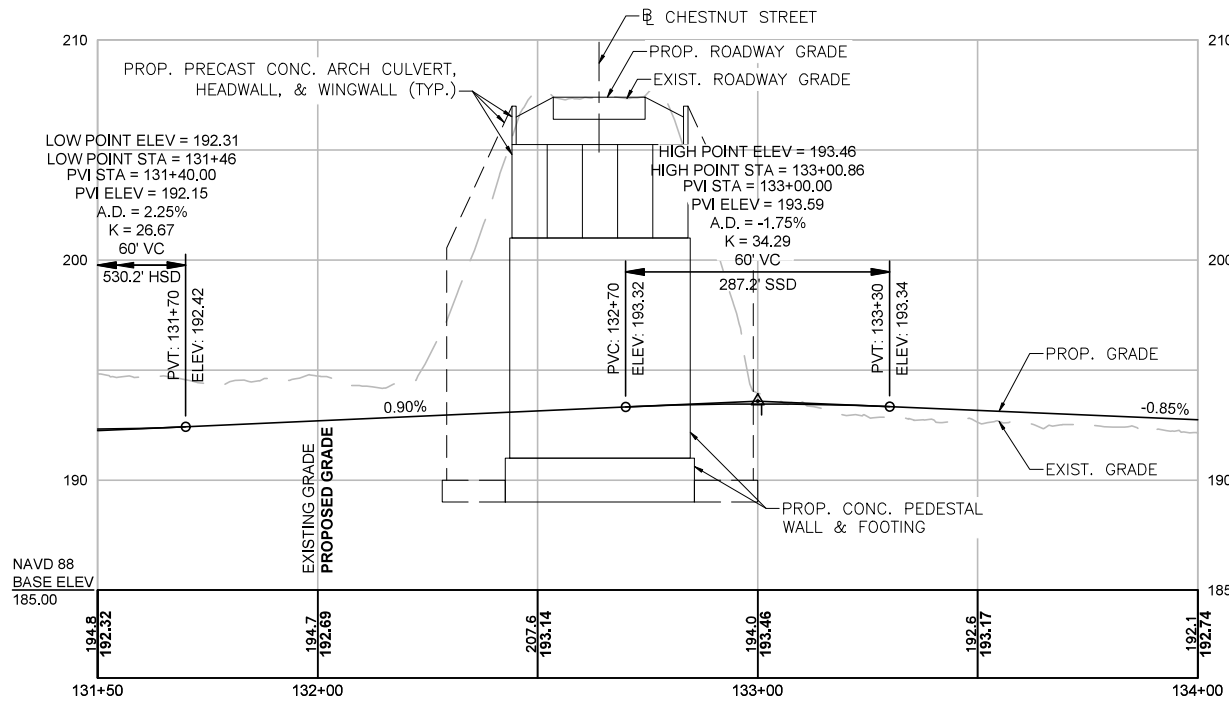
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B
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KEY PLAN

SCALE: 1"=20'



PROFILE - ACCESS DRIVE

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1/4"=1'-0"

GENERAL NOTES: CHESTNUT STREET

DESIGN:
IN ACCORDANCE WITH 2020 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR HL-93 LOADING.

CONCRETE:
ALL CAST IN PLACE CONCRETE SHALL BE 4000 PSI 3/4", 610 CEMENT CONCRETE.
ALL PRECAST CONCRETE SHALL BE 5000 PSI, 3/4", 705 CEMENT CONCRETE.

REINFORCEMENT:
REINFORCING STEEL SHALL BE EPOXY COATED AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 GRADE 60.

SUBSTRUCTURE DESIGN:
PROPOSED BRIDGE SUBSTRUCTURES INCLUDING FOOTINGS AND PEDESTAL WALLS ARE SHOWN AS PRELIMINARY ONLY. FINAL FOOTING DESIGN BY CULVERT MANUFACTURER. SEE GEOTECH RECOMMENDATIONS.

SURVEY AND EXISTING CONDITIONS:
THE EXISTING CONDITIONS SHOWN ON THIS PLAN WERE DEVELOPED FROM A COMBINED EFFORT OF AERIAL PHOTOGRAMMETRIC MAPPING BY EASTERN TOPOGRAPHICS, INC., BASED ON AERIAL PHOTOGRAPHS TAKEN ON FEBRUARY 22, 2013, AND AUGMENTED BY AN ON-THE-GROUND SURVEY PERFORMED BY VHB DURING 2015 AND 2017. THE HORIZONTAL CONTROL IS BASED ON THE MASSACHUSETTS MAINLAND STATE PLANE COORDINATE SYSTEM AND THE NATIONAL GEODETIC SURVEY (NAD83). ALL ELEVATION IS US FEET, REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD88).

DEMOLITION AND CONSTRUCTION:
ALL EXISTING MATERIALS REMOVED AND NOT REUSED AND ALL WASTE MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. CONTAMINATED WASTE SHALL BE DISPOSED OF OFF SITE AT AN APPROVED FACILITY.
ALL UNSUITABLE MATERIALS SHALL BE REMOVED WITHIN THE LIMITS OF THE FOUNDATIONS OF THE STRUCTURE, AS DIRECTED BY THE RESIDENT ENGINEER. BACKFILL WITH GRAVEL BORROW FOR BRIDGE FOUNDATIONS.
BURIED EXISTING BRIDGE COMPONENTS MAY BE ENCOUNTERED DURING EXCAVATION AND SHALL BE REMOVED AS UNCLASSIFIED EXCAVATION. TEMPORARY SHEETING MAY BE REQUIRED AT THE OPTION OF THE CONTRACTOR.
BACKFILL AROUND PROPOSED SUBSTRUCTURE SHALL BE GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES.
THE CONTRACTOR SHALL TAKE THE PROPER PRECAUTIONS TO ENSURE THE STABILITY AND SAFE PERFORMANCE OF ALL STRUCTURAL ELEMENTS DURING DEMOLITION AND CONSTRUCTION.
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ADEQUATE SHIELDING DURING DEMOLITION AND CONSTRUCTION TO ADEQUATELY PROTECT WORKERS.
ANY DAMAGE TO REMAINING EXISTING COMPONENTS THAT IS CAUSED BY THE CONTRACTOR'S ACTIVITY SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR, AT NO ADDITIONAL EXPENSE.

HEADWALL TEXT:
THE TEXT "MASS CENTRAL RAIL TRAIL" SHALL BE EMBEDDED INTO THE OUTSIDE FACE OF BOTH CONCRETE HEADWALLS OF THE CULVERT STRUCTURE, CENTERED BOTH WAYS. THE SIZE AND STYLE OF THE TEXT SHALL MATCH THAT OF THE STRUCTURE CARRYING CONANT STREET OVER THE MCRT IN WESTON.

CHESTNUT STREET:
SEE SHEET 95 FOR PROFILE OF CHESTNUT STREET.



| NO. | | DESCRIPTION | BY | DATE | APPR. |
|--|--|------------------|--------------|----------------|-----------------|
| REVISION | | | | | |
| EVERSOURCE | | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | |
| BRIDGE NO. H-25-011 (CHESTNUT STREET) - KEY PLAN & PROFILE | | | | | |
| PLANT 69 OF 349 | | | | | |
| SCALE: unless noted H: 1"=20' V: 1"=4' | | DATE DEC 2021 | DRAWN AMS | CHECKED SBK | APPROVED KGK |
| DRAWING NO. | | REV. | | | |

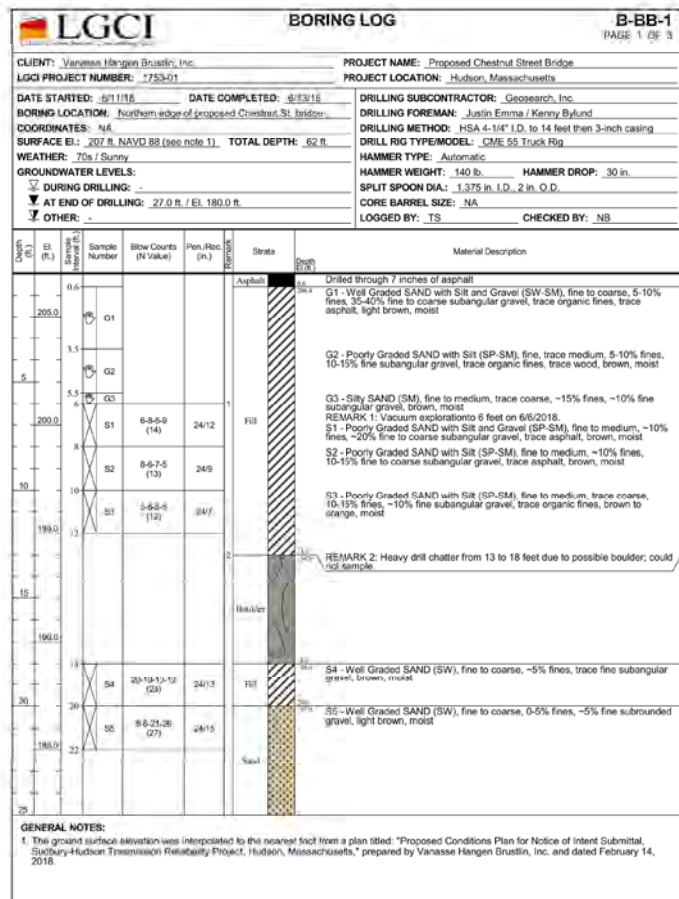
BORING BB-1
 STATION: 132+68.90
 OFFSET: 8.52' LT
 N: 2969377.1
 E: 649658.3
 GROUND ELEVATION: 207.0'
 (SEE NOTE 10)

BORING BB-1 (CONTINUED)

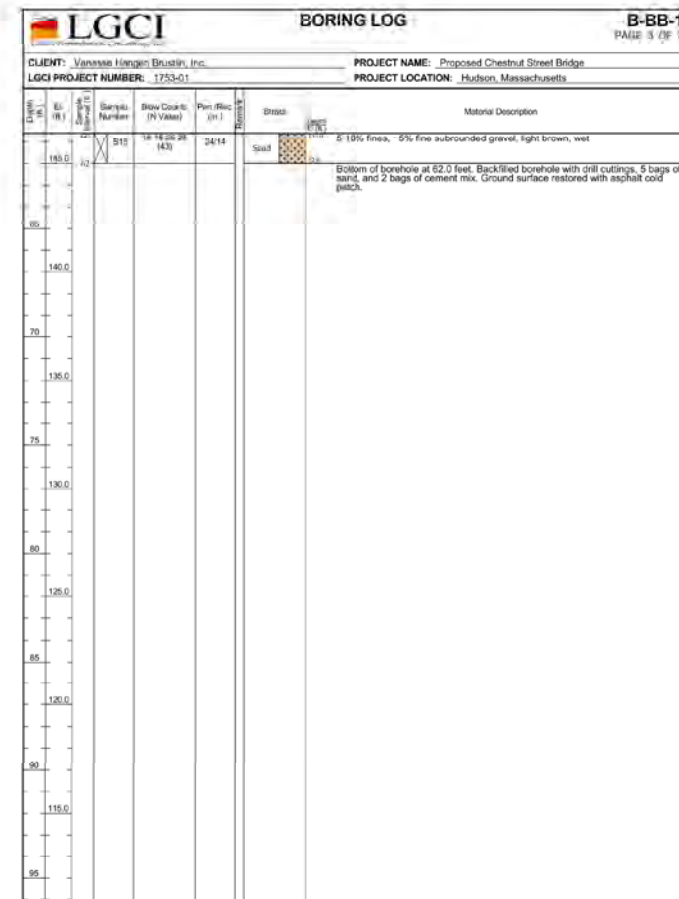
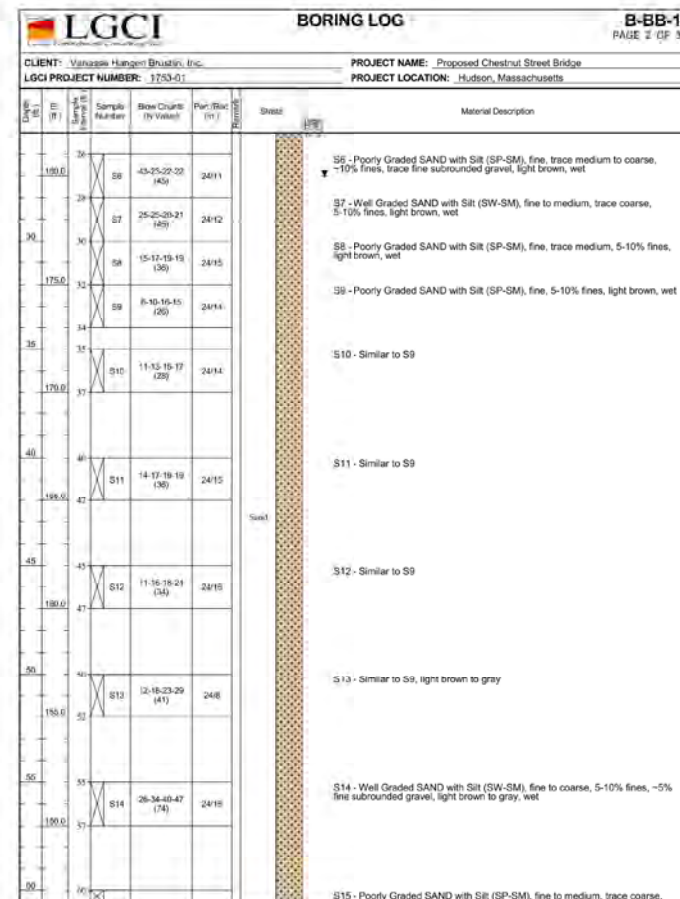
BORING BB-1 (CONTINUED)

BORING NOTES:

1. LOCATION OF BORINGS SHOWN ON THE KEY PLAN THUS: ●.
2. BORINGS ARE TAKEN FOR 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.
3. WATER LEVELS SHOWN ON THE BORING LOGS ARE ASSUMED BASED ON BORINGS PERFORMED FOR THE EXISTING BRIDGE, AS NOTED IN THE GEOTECHNICAL REPORT DATED SEPTEMBER 2018.
4. FIGURES IN COLUMNS INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE A 1 1/2" I.D. SPLIT SPOON SAMPLER 6" USING A 140 POUND WEIGHT FALLING 30".
5. ALL BORINGS WERE MADE IN JUNE OF 2018
6. BORINGS WERE MADE BY GEOLOGIC EARTH EXPLORATION, INC., 7 SHERWOOD DR., NORFOLK, MA 02056.
7. THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.
8. BORING LOCATIONS AND ELEVATIONS ARE APPROXIMATE ONLY.



APPROX. BOTTOM OF FOOTING EL. 188.5



| NO. | DESCRIPTION | BY | DATE | APPR. |
|--|-------------|----------|----------|-------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH, & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE H-25-011 (CHESTNUT STREET BRIDGE) BORING LOGS | | | | |
| PLANI 70 OF 349 | | | | |
| SCALE: unless noted | DATE DRAWN | C H'K D. | A P P R. | DRAWING NO. |
| N/A | DEC 2021 | AMS | SBK | KGK |

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B

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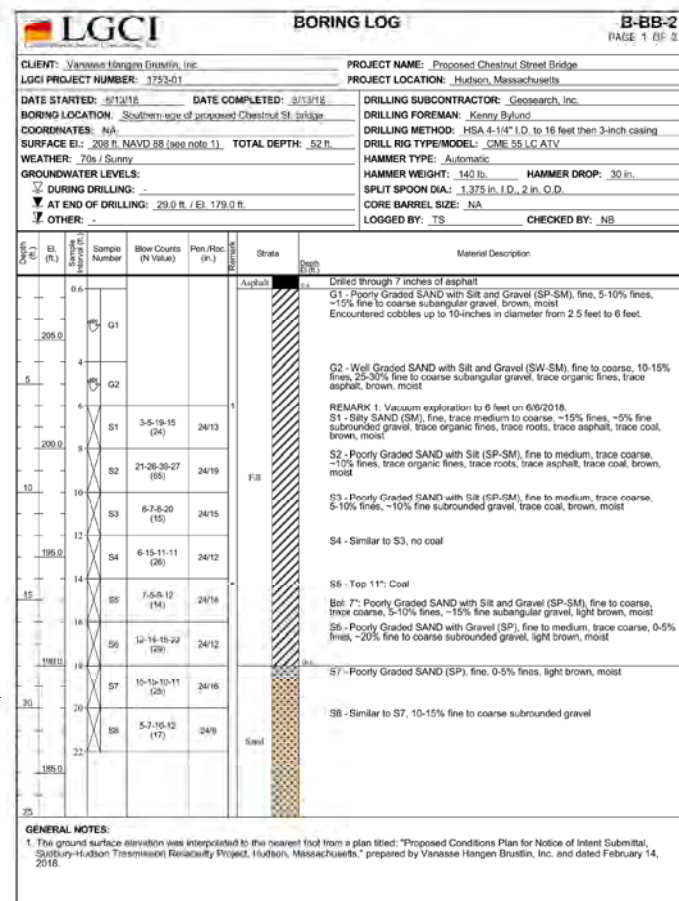
E

F

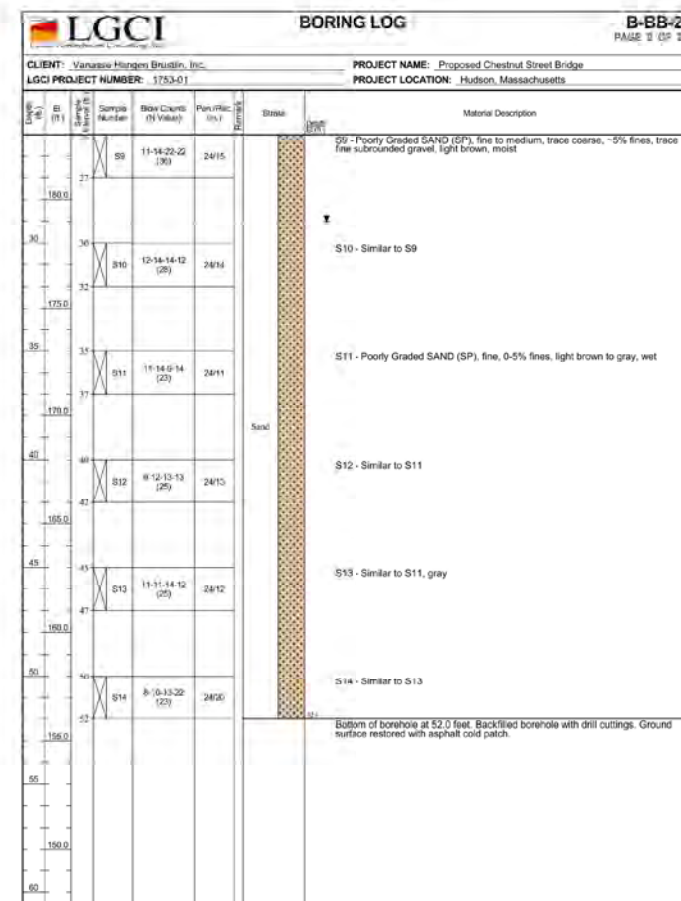
G

BORING BB-2
 STATION: 132+59.41
 OFFSET: 8.06' RT
 N: 2969363.8
 E: 649644.7
 GROUND ELEVATION: 208.0'
 (SEE NOTE 10, SHEET 170 OF 349)

BORING BB-2 (CONTINUED)

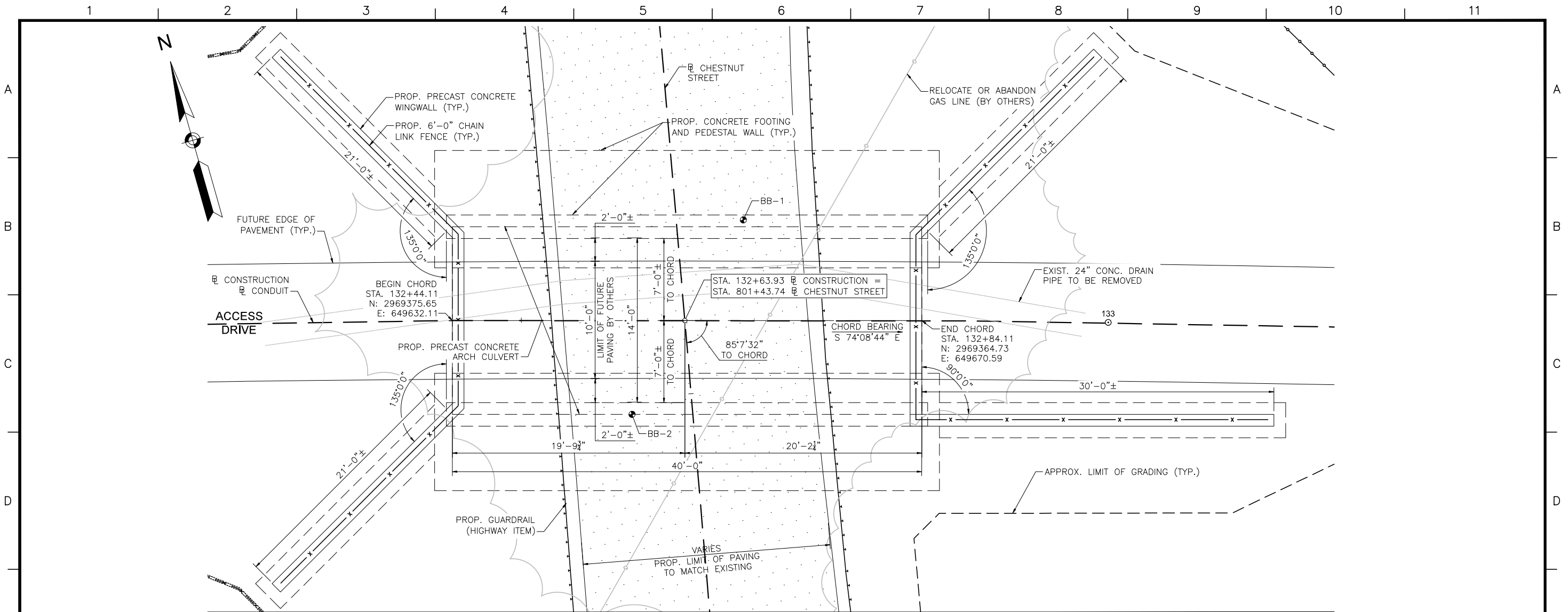


APPROX. BOTTOM OF FOOTING EL. 188.5



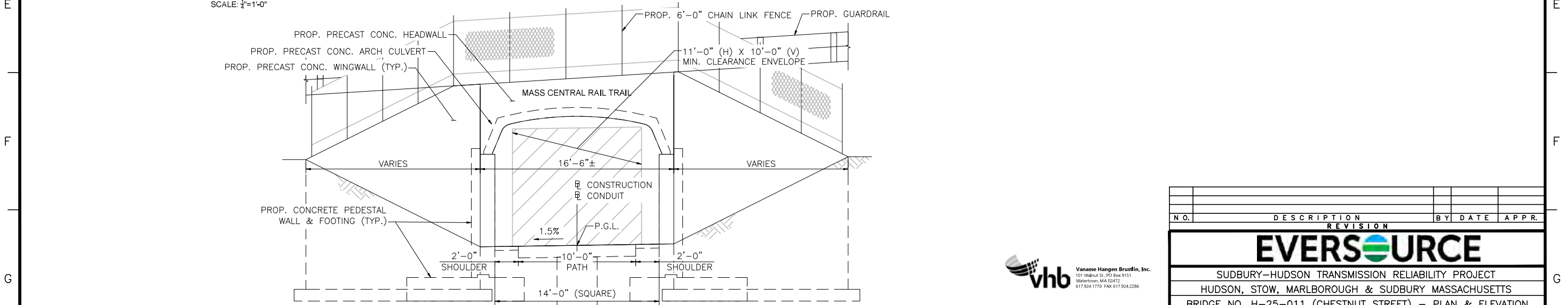
| NO. | DESCRIPTION | BY | DATE | APPR. |
|--|-------------|-------|----------|----------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH, & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE H-25-011 (CHESTNUT STREET BRIDGE) - BORING LOGS | | | | |
| PLAN 171 OF 349 | | | | |
| SCALE: unless noted | DATE | DRAWN | C H'K D. | A P P R. |
| N/A | DEC 2021 | AMS | SBK | KGK |
| DRAWING NO. | REV. | | | |
| | | | | |





CULVERT PLAN

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

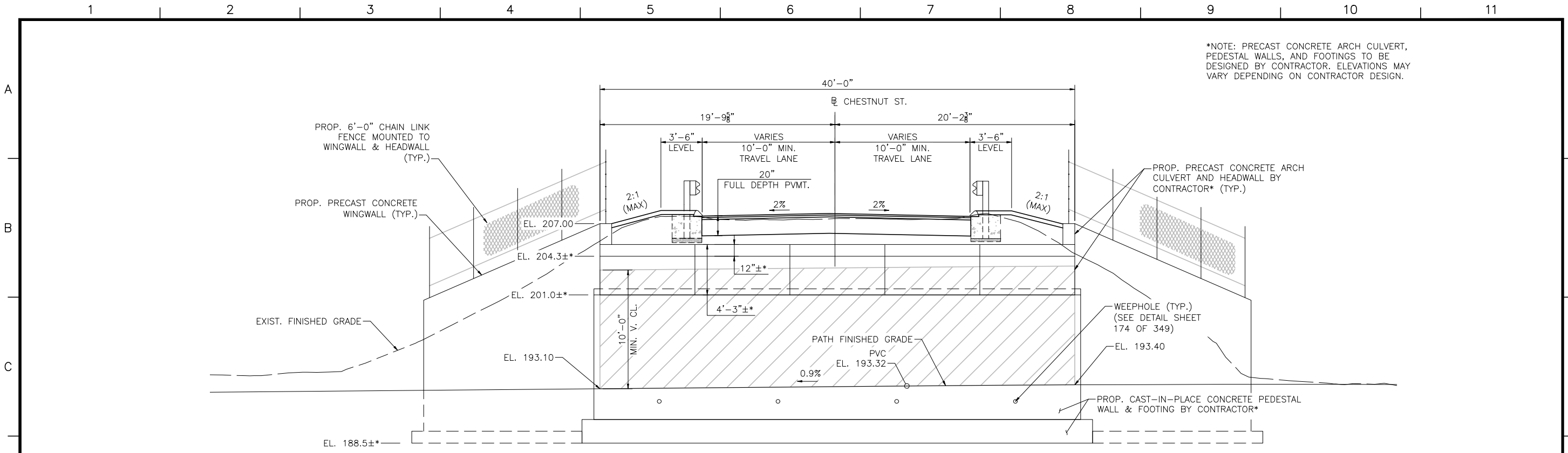


TYPICAL PORTAL ELEVATION

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

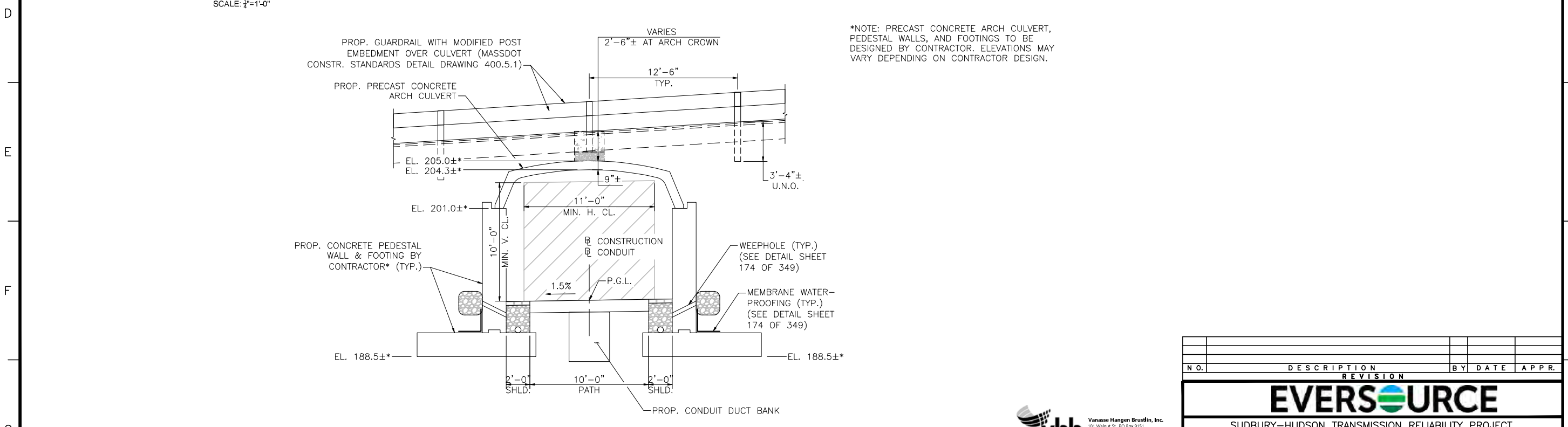


| NO. | DESCRIPTION | BY | DATE | APPR. |
|--|------------------|--------------|-----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE NO. H-25-011 (CHESTNUT STREET) - PLAN & ELEVATION | | | | |
| PLAN 72 OF 349 | | | | |
| SCALE: unless noted 1"=4' | DATE DEC 2021 | DRAWN AMS | C'H'K'D. SBK | APPR. KGK |
| DRAWING NO. | REV. | | | |



CULVERT LONGITUDINAL SECTION

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

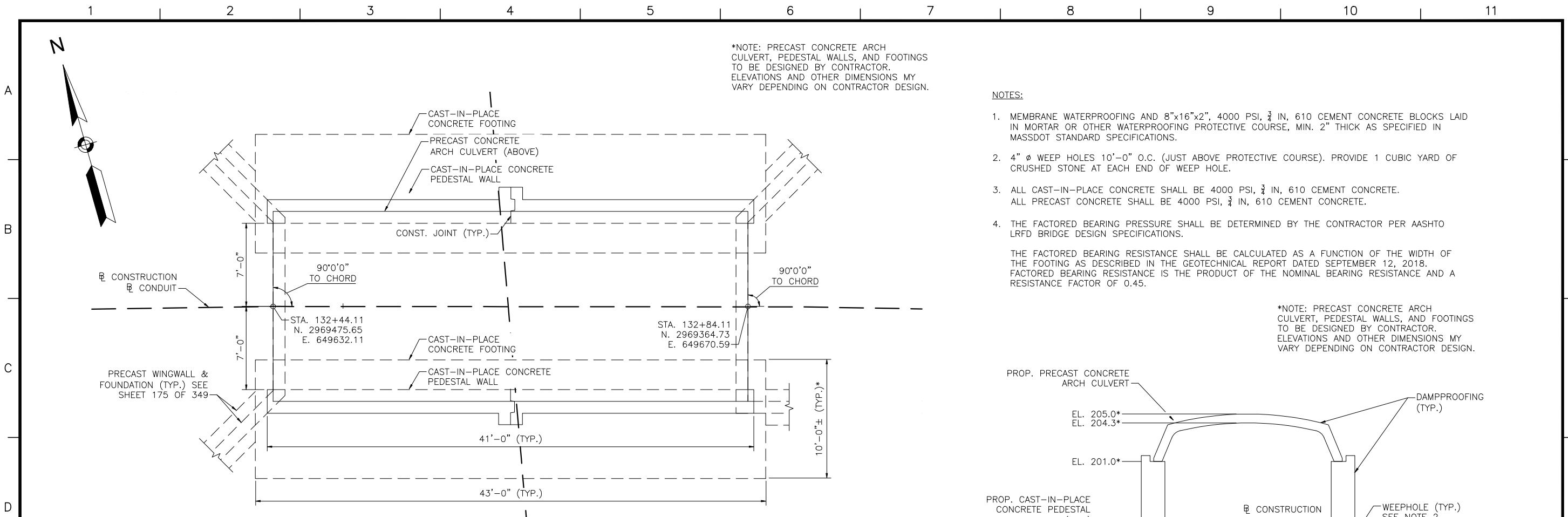


CULVERT TRANSVERSE SECTION

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

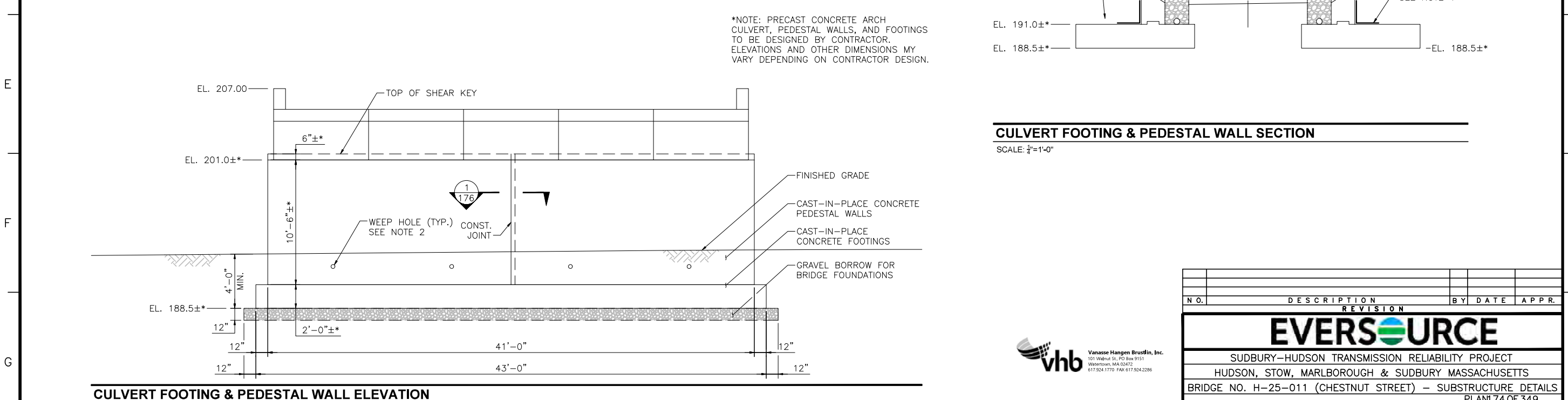


| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|--------------|-----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE NO. H-25-011 (CHESTNUT STREET) - SECTIONS | | | | |
| PLAN 173 OF 349 | | | | |
| SCALE: unless noted 1"=4' | DATE DEC 2021 | DRAWN AMS | C H'K D. SBK | APPR. KGK |
| DRAWING NO. | REV. | | | |



CULVERT FOOTING & PEDESTAL WALL PLAN

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



CULVERT FOOTING & PEDESTAL WALL ELEVATION

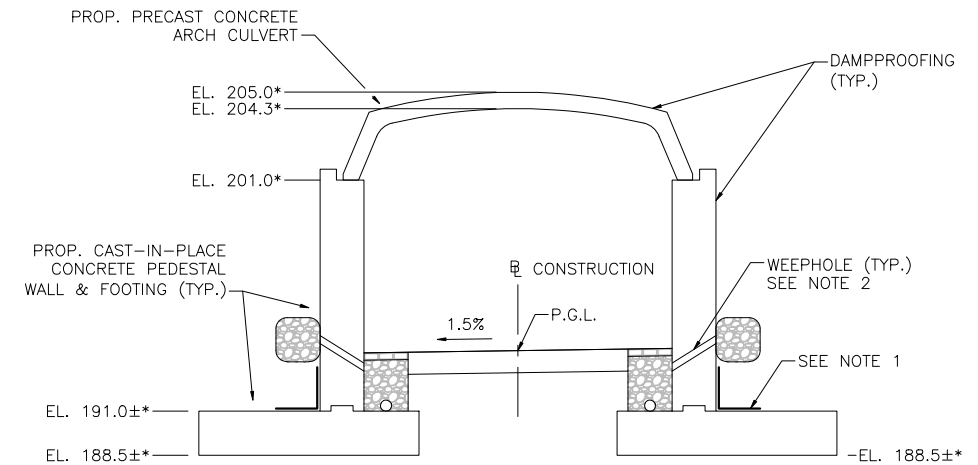
SCALE: 1/4"=1'-0"

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 MASSDOT 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 CAST-IN-PLACE CONCRETE SHALL BE 4000 PSI, 3/4" IN, 610 CEMENT CONCRETE. ALL PRECAST CONCRETE SHALL BE 4000 PSI, 3/4" IN, 610 CEMENT CONCRETE.
- THE FACTORED BEARING PRESSURE SHALL BE DETERMINED BY THE CONTRACTOR PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

THE FACTORED BEARING RESISTANCE SHALL BE CALCULATED AS A FUNCTION OF THE WIDTH OF THE FOOTING AS DESCRIBED IN THE GEOTECHNICAL REPORT DATED SEPTEMBER 12, 2018. FACTORED BEARING RESISTANCE IS THE PRODUCT OF THE NOMINAL BEARING RESISTANCE AND A RESISTANCE FACTOR OF 0.45.

*NOTE: PRECAST CONCRETE ARCH CULVERT, PEDESTAL WALLS, AND FOOTINGS TO BE DESIGNED BY CONTRACTOR. ELEVATIONS AND OTHER DIMENSIONS MY VARY DEPENDING ON CONTRACTOR DESIGN.

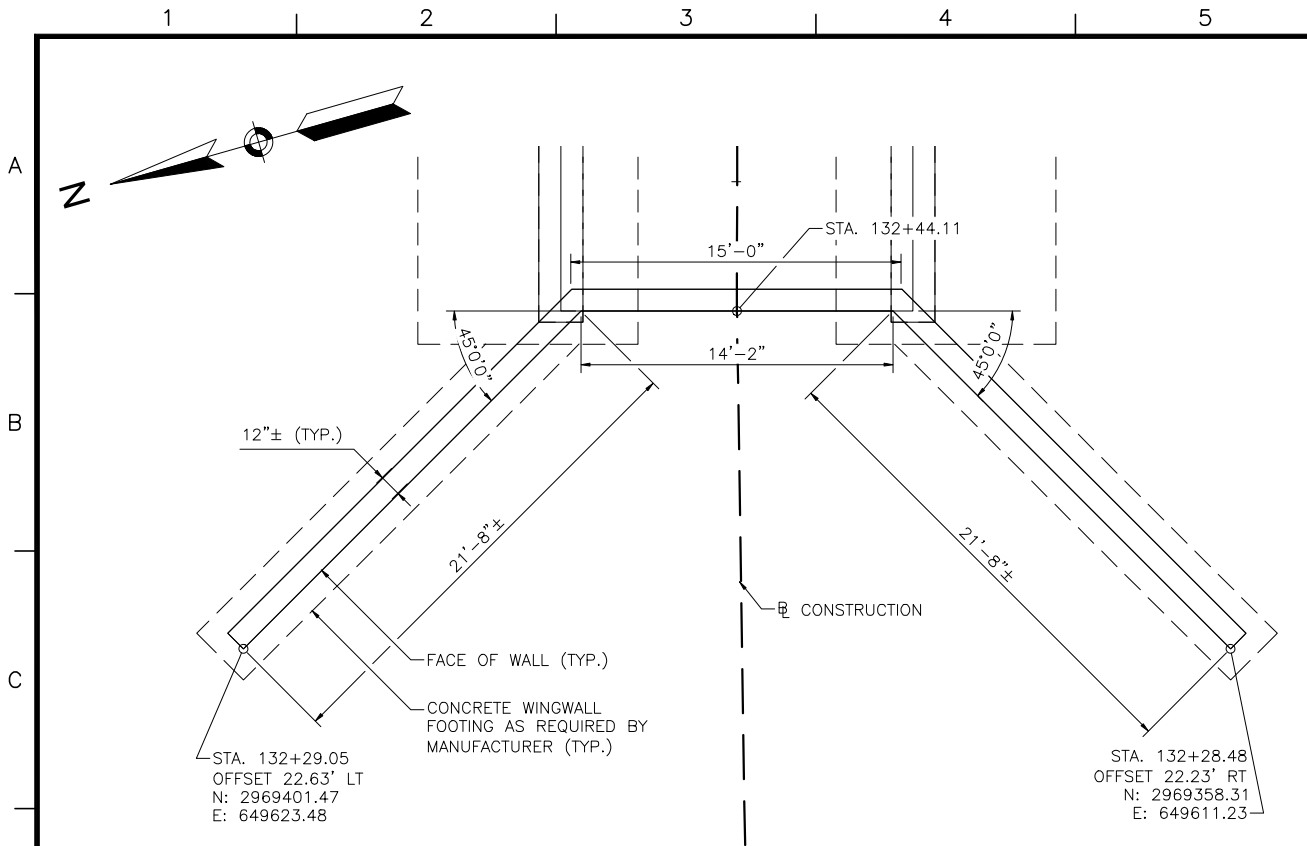


CULVERT FOOTING & PEDESTAL WALL SECTION

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

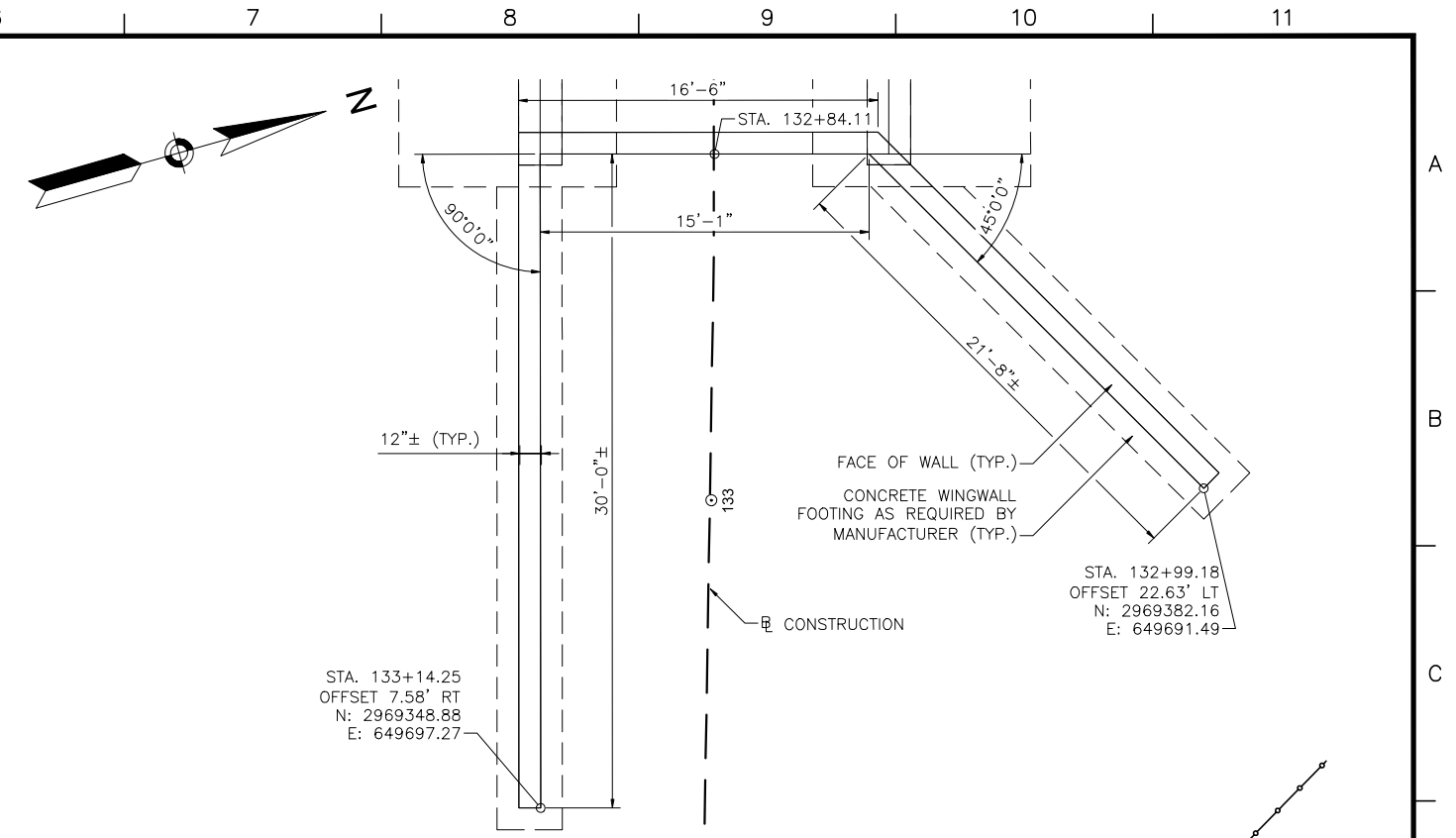


| NO. | DESCRIPTION | BY | DATE | APPR. |
|--|------------------|--------------|----------------|-----------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE NO. H-25-011 (CHESTNUT STREET) - SUBSTRUCTURE DETAILS | | | | |
| PLAN 174 OF 349 | | | | |
| SCALE: unless noted 1"=4' | DATE DEC 2021 | DRAWN AMS | CHECKED SBK | APPROVED KGK |
| DRAWING NO. | REV. | | | |



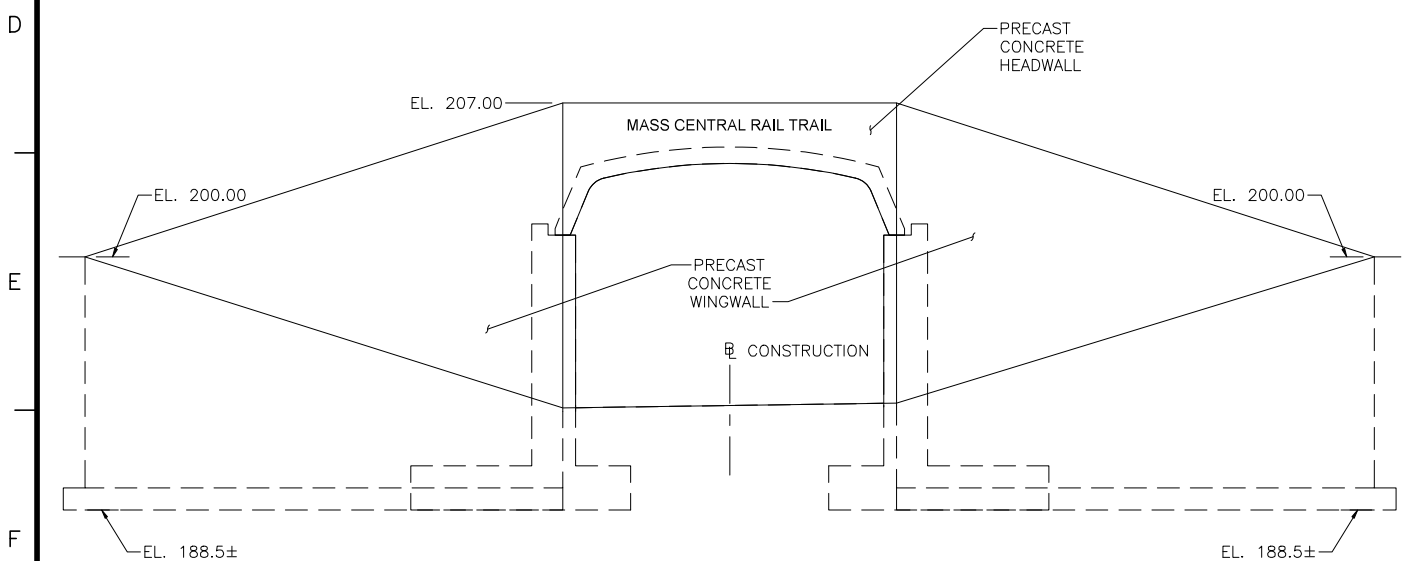
WINGWALL PLAN AT WEST PORTAL

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



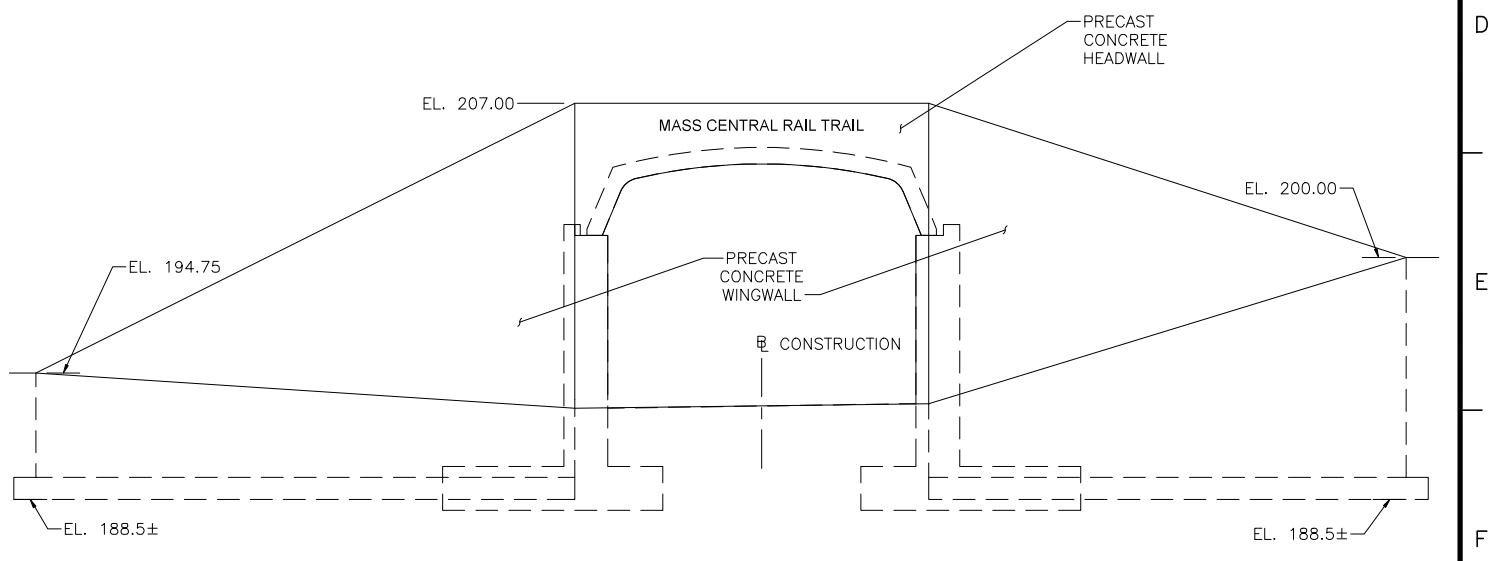
WINGWALL PLAN AT EAST PORTAL

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



WINGWALL DEVELOPED ELEVATION AT WEST PORTAL

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



WINGWALL DEVELOPED ELEVATION AT EAST PORTAL

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



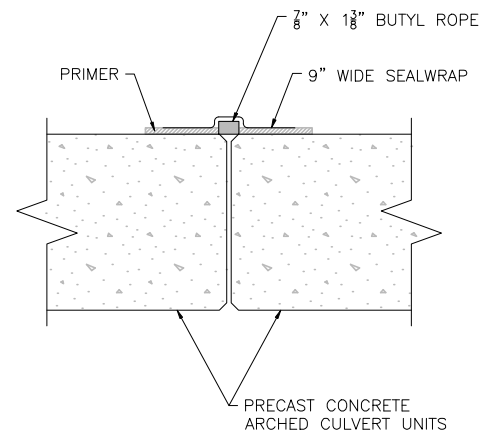
| NO. | DESCRIPTION | BY | DATE | APPR. |
|--|------------------|--------------|-----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE NO. H-25-011 (CHESTNUT STREET) - WINGWALL DETAILS | | | | |
| PLAN 75 OF 349 | | | | |
| SCALE: unless noted 1"=4' | DATE DEC 2021 | DRAWN AMS | C H'K D. SBK | APPR. KGK |
| DRAWING NO. | | | | REV. |

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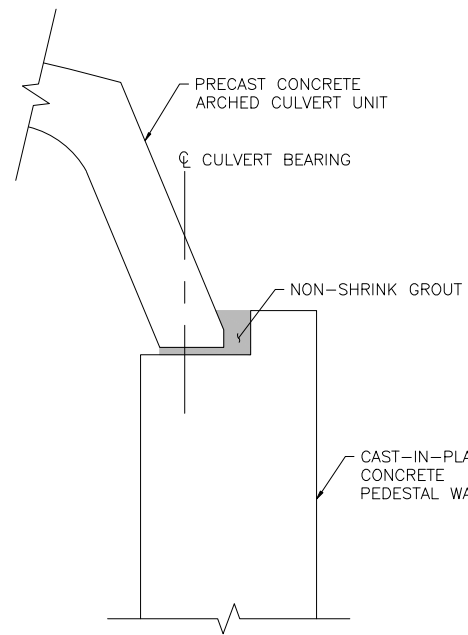
NOTE: CULVERT BEARING DETAIL SHOWN IS PRELIMINARY ONLY. ALTERNATE DETAILS SHALL REQUIRE APPROVAL BY THE ENGINEER.

NOTE: RET. WALL TYPE SHOWN IS PRELIMINARY ONLY. ALTERNATE PREFABRICATED WALL TYPES SHALL REQUIRE APPROVAL BY THE ENGINEER.



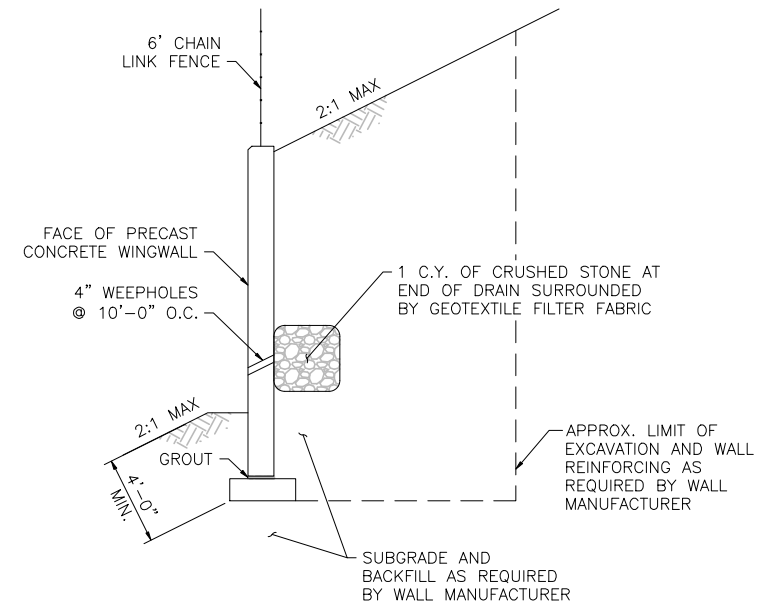
CULVERT JOINT DETAIL

SCALE: 1"=0'-6"



CULVERT BEARING DETAIL

SCALE: 1"=1'-0"

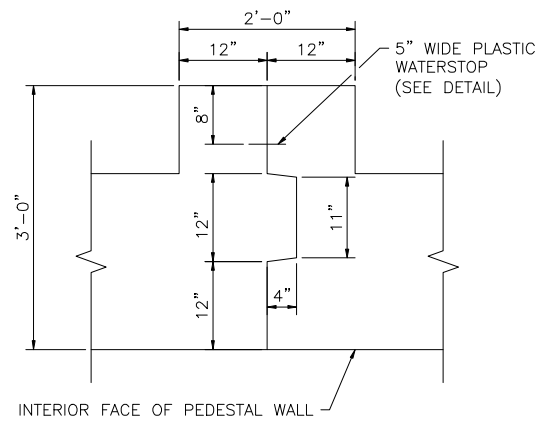


TYPICAL WINGWALL SECTION

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

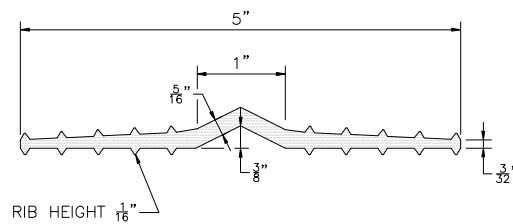
NOTE: CONSTRUCTION JOINT DETAIL SHOWN IS DIMENSIONED IN ACCORDANCE WITH MASSDOT STANDARD DETAILS. ALTERNATE DETAILS SHALL REQUIRE APPROVAL BY THE ENGINEER.

NOTE: PLASTIC WATERSTOP DETAIL SHOWN IS DIMENSIONED IN ACCORDANCE WITH MASSDOT STANDARD DETAILS. ALTERNATE DETAILS SHALL REQUIRE APPROVAL BY THE ENGINEER.



SECTION 1 - CONSTRUCTION JOINT DETAIL

SCALE: 1"=0'-6"

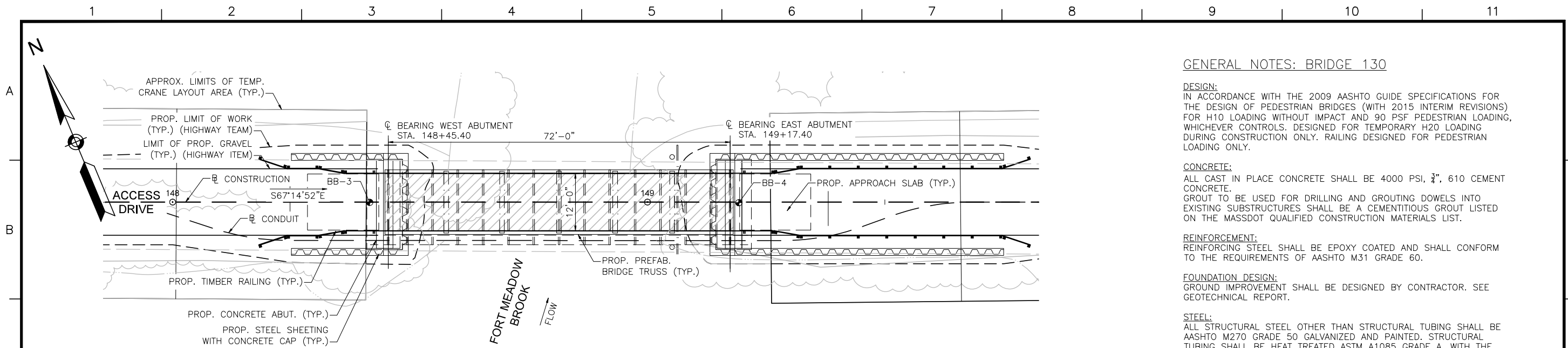


PLASTIC WATERSTOP DETAIL

SCALE: 1"=1'-0"



| NO. | | DESCRIPTION | BY | DATE | APPR. |
|---|----------------|-------------|---------------|------------|------------------|
| REVISION | | | | | |
| EVERSOURCE | | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | |
| BRIDGE NO. H-25-011 (CHESTNUT STREET) - DETAILS | | | | | |
| PLAN 176 OF 349 | | | | | |
| SCALE: unless noted VARIES | DATE: DEC 2021 | DRAWN: AMS | C H'K D.: SBK | APPR.: KGK | DRAWING NO.: 176 |
| | | | | | REV.: . |



BRIDGE KEY PLAN

SCALE: 1"=10'-0"

GENERAL NOTES: BRIDGE 130

DESIGN:
 IN ACCORDANCE WITH THE 2009 AASHTO GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES (WITH 2015 INTERIM REVISIONS) FOR H10 LOADING WITHOUT IMPACT AND 90 PSF PEDESTRIAN LOADING, WHICHEVER CONTROLS. DESIGNED FOR TEMPORARY H20 LOADING DURING CONSTRUCTION ONLY. RAILING DESIGNED FOR PEDESTRIAN LOADING ONLY.

CONCRETE:
 ALL CAST IN PLACE CONCRETE SHALL BE 4000 PSI, 3/4", 610 CEMENT CONCRETE.
 GROUT TO BE USED FOR DRILLING AND GROUTING DOWELS INTO EXISTING SUBSTRUCTURES SHALL BE A CEMENTITIOUS GROUT LISTED ON THE MASSDOT QUALIFIED CONSTRUCTION MATERIALS LIST.

REINFORCEMENT:
 REINFORCING STEEL SHALL BE EPOXY COATED AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 GRADE 60.

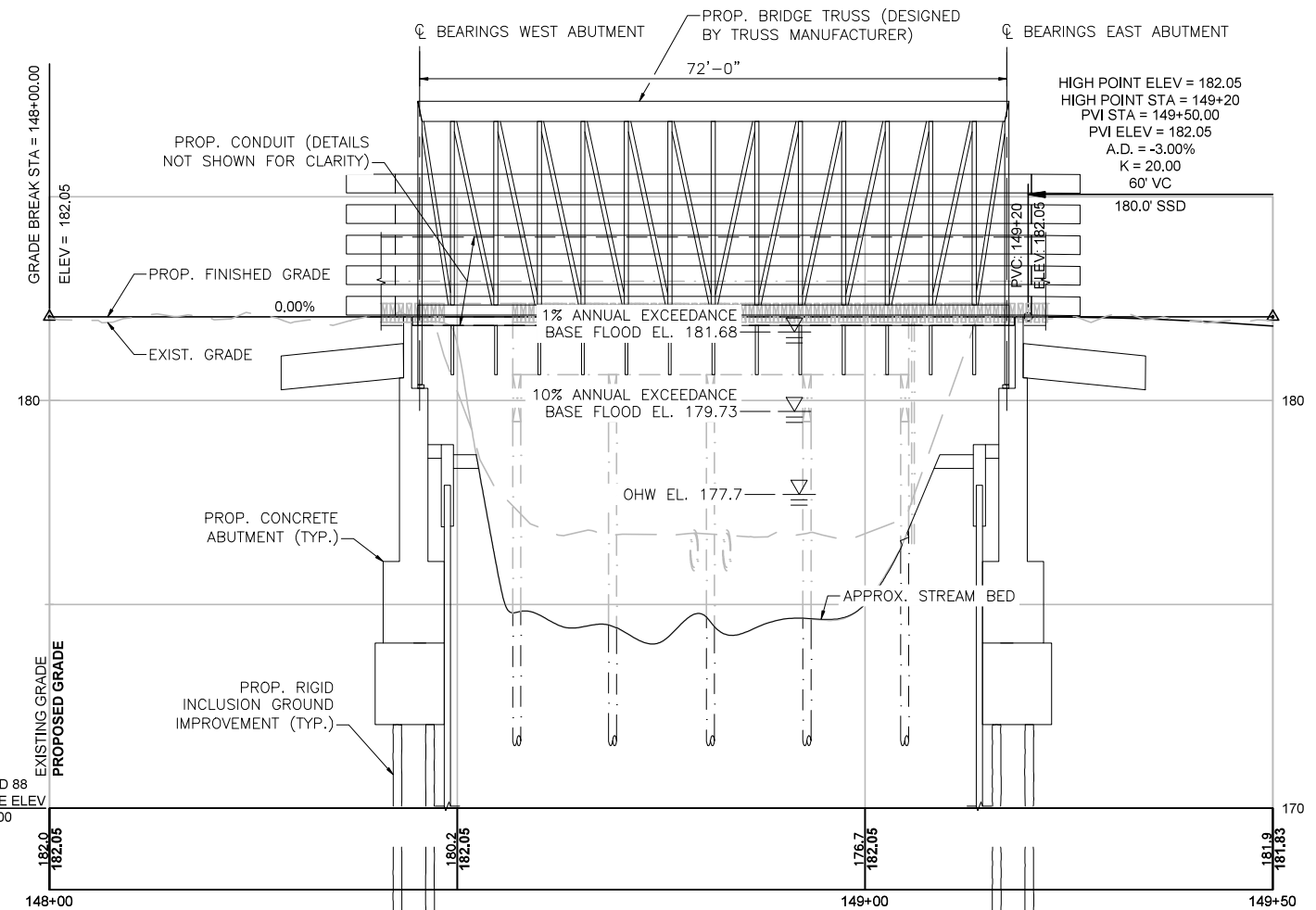
FOUNDATION DESIGN:
 GROUND IMPROVEMENT SHALL BE DESIGNED BY CONTRACTOR. SEE GEOTECHNICAL REPORT.

STEEL:
 ALL STRUCTURAL STEEL OTHER THAN STRUCTURAL TUBING SHALL BE AASHTO M270 GRADE 50 GALVANIZED AND PAINTED. STRUCTURAL TUBING SHALL BE HEAT TREATED ASTM A1085 GRADE A, WITH THE SUPPLEMENTAL REQUIREMENTS S1, GALVANIZED AND PAINTED. BOLTS THAT FASTEN TO STEEL ONLY SHALL BE AASHTO M1644 (ASTM 325) HIGH STRENGTH BOLTS, GALVANIZED.

TIMBER:
 DECK PLANKING AND RAILINGS: IPE, F_b min = 22,000 psi.
 ALL NAILS, SCREWS, BOLTS, WASHERS, CONNECTORS, FASTENERS AND HARDWARE FOR WOOD CONNECTIONS SHALL BE STAINLESS STEEL TYPE 304 OR TYPE 316.
 WHERE TREATED TIMBER MEMBERS ARE IN DIRECT CONTACT WITH STEEL PROVIDE VYCOR DECK PROTECTOR BARRIER MEMBRANE BY W.R. GRACE & CO. OR APPROVED EQUAL.

SURVEY AND EXISTING CONDITIONS:
 THE EXISTING CONDITIONS SHOWN ON THIS PLAN WERE DEVELOPED FROM A COMBINED EFFORT OF AERIAL PHOTOGRAMMETRIC MAPPING BY EASTERN TOPOGRAPHICS, INC., BASED ON AERIAL PHOTOGRAPHS TAKEN ON FEBRUARY 22, 2013, AND AUGMENTED BY AN ON-THE-GROUND SURVEY PERFORMED BY VHB DURING 2015 AND 2017. THE HORIZONTAL CONTROL IS BASED ON THE MASSACHUSETTS MAINLAND STATE PLANE COORDINATE SYSTEM AND THE NATIONAL GEODETIC SURVEY (NAD83). ALL ELEVATION IS US FEET, REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD88).

DEMOLITION AND CONSTRUCTION:
 ALL EXISTING MATERIALS REMOVED AND NOT REUSED AND ALL WASTE MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. TREATED TIMBER AND CONTAMINATED WASTE SHALL BE DISPOSED OF OFF SITE AT AN APPROVED FACILITY. ALL UNSUITABLE MATERIALS SHALL BE REMOVED WITHIN THE LIMITS OF THE FOUNDATIONS OF THE STRUCTURE, AS DIRECTED BY THE RESIDENT ENGINEER. BACKFILL WITH GRAVEL BORROW FOR BRIDGE FOUNDATIONS. BACKFILL AROUND PROPOSED SUBSTRUCTURE SHALL BE GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES. THE CONTRACTOR SHALL TAKE THE PROPER PRECAUTIONS TO ENSURE THE STABILITY AND SAFE PERFORMANCE OF ALL STRUCTURAL ELEMENTS DURING DEMOLITION AND CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ADEQUATE SHIELDING OR NETTING DURING DEMOLITION AND CONSTRUCTION TO ADEQUATELY PROTECT WORKERS AND TO PREVENT DEBRIS AND MATERIALS FROM ENTERING THE WATERWAY. ANY DAMAGE TO REMAINING EXISTING COMPONENTS THAT IS CAUSED BY THE CONTRACTOR'S ACTIVITY SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR, AT NO ADDITIONAL EXPENSE.



PROFILE - ACCESS DRIVE

HORIZONTAL SCALE: 1"=10'-0"
 VERTICAL SCALE: 1"=2'-0"

| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|-------------|------------|------|-------------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE H-25-027 (BRIDGE 130) - KEY PLAN & PROFILE | | | | |
| PLANT 77 OF 349 | | | | |
| SCALE: unless noted | | DATE DRAWN | | C H'K D. A P P R. |
| H: 1"=10' V: 1"=2' | | DEC 2021 | | AMS SBK KGK |
| DRAWING NO. | | REV. | | |
| | | | | |




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BORING BB-3
 STATION: 148+41.50
 OFFSET: 0.07' RT
 N: 2968779.2
 E: 651113.0
 GROUND ELEVATION: 182.0'
 (SEE NOTE 10)

BORING BB-3 (CONTINUED)

BORING NOTES:

1. LOCATION OF BORINGS SHOWN ON THE KEY PLAN THUS: 
2. BORINGS ARE TAKEN FOR 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.
3. WATER LEVELS SHOWN ON THE BORING LOGS ARE ASSUMED BASED ON BORINGS PERFORMED FOR THE EXISTING BRIDGE, AS NOTED IN THE GEOTECHNICAL REPORT DATED OCTOBER 2018.
4. FIGURES IN 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".
5. ALL BORINGS WERE MADE IN MAY OF 2018.
6. BORINGS WERE MADE BY GEOLOGIC EARTH EXPLORATION, INC., 7 SHERWOOD DR., NORFOLK, MA 02056.
7. THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.
8. BORING LOCATIONS AND ELEVATIONS ARE APPROXIMATE ONLY.

| LGCI | | BORING LOG | | B-BB-3 | |
|--|--|---|--|-------------------------------------|--|
| 180 Chestnut Street, Suite 2 Dorchester, MA 02122 Telephone: (617) 353-8812 Fax: (617) 353-9330 | | PROJECT NAME: Proposed Fort Meadow Brook Bridge | | PAGE 1 OF 4 | |
| CLIENT: Vanasse Hangen Brustlin, Inc. | | PROJECT LOCATION: Hudson, Massachusetts | | | |
| LGCI PROJECT NUMBER: 1753-01 | | DATE STARTED: 05/23/18 | | DATE COMPLETED: 06/29/18 | |
| BORING LOCATION: Western side of Fort Meadow Brook bridge | | DRILLING SUBCONTRACTOR: Geosearch, Inc. | | DRILLING FOREMAN: Kenny Bylund | |
| COORDINATES: NA | | DRILLING METHOD: See note 2 | | DRILL RIG TYPE/MODEL: CME 55 LC ATV | |
| SURFACE EL.: 182 ft NAVD 88 (see note 1) | | TOTAL DEPTH: 101 ft | | HAMMER TYPE: Automatic | |
| WEATHER: 90s / Sunny | | HAMMER WEIGHT: 140 lb | | HAMMER DROP: 30 in. | |
| GROUNDWATER LEVELS: | | SPLIT SPOON DIA.: 1.375 in. I.D., 2 in. O.D. | | CORE BARREL SIZE: NA | |
| DURING DRILLING: | | LOGGED BY: TS | | CHECKED BY: NB | |
| AT END OF DRILLING: 6.0 ft / EL. 176.0 ft | | | | | |
| OTHER: | | | | | |

| Depth (ft) | Sample No. | Blow Counts (N Value) | Pen. Rec. (ft) | Strata | Material Description |
|------------|------------|-----------------------|----------------|---|---|
| 0 | | | | | S1 - Coal ash, trace fine subangular gravel, trace roots, trace brick |
| 1 | S1 | 5-5-4 (10) | 2415 | Fill | S2 - Poorly Graded SAND with Silt and Gravel (SP-SM), fine to medium, 5-10% fines, -15% fine to coarse subangular gravel, brown, moist |
| 2 | S2 | 10-8-17 (25) | 2411 | | S3 - Well Graded SAND with Silt and Gravel (SW-SM), fine to coarse, 5-10% fines, 35-40% fine subangular gravel, trace organic fines, brown, moist |
| 3 | S3 | 7-10-7-8 (17) | 2420 | | S4 - Similar to S3, -20% fine subangular gravel, trace roots |
| 4 | S4 | 8-2-2-1 (4) | 2411 | | S5 - Silty SAND (SM), fine, ~40% fines, gray, wet |
| 5 | | | | Borrowed organic soil | S6 - Silty SAND (SM), fine to coarse, ~25% fines, trace organic fines, trace roots, gray to brown, wet |
| 6 | S6 | 2-3-3-2 (8) | 2411 | | REMARK 1: Switched to 4-inch casing at 12 feet. |
| 7 | S7 | 0-0-1-1 (1) | 2421 | | S7 - PEAT (PT), fibrous, trace roots, black, wet |
| 8 | S8 | 0-0-3-3 (3) | 2417 | | S8 - Silty SAND (SM), fine to medium, 20-30% fines, trace peat fibers, trace roots, black, wet |
| 9 | S9 | 3-2-3-3 (5) | 2412 | | S9 - Poorly Graded SAND with Silt (SP-SM), fine to medium, ~10% fines, ~5% fine subrounded gravel, trace wood, dark brown, wet |
| 10 | S10 | 3-4-3-4 (7) | 2411 | | S10 - Similar to S9, no wood |
| 11 | S11 | 2-1-4-4 (5) | 2415 | | S11 - Well Graded SAND with Silt (SW-SM), fine to coarse, ~10% fines, trace fine subrounded gravel, gray to black, wet |
| 12 | S12 | 3-5-5-5 (10) | 2403 | | S12 - Similar to S11, 10-15% fine subrounded gravel |
| 13 | | | | | S13 - Similar to S12, angular stone fragments |
| 14 | | | | | S14 - Well Graded SAND with Silt and Sand (GW-GM), fine to coarse, subrounded, 10-15% fines, 35-40% fine to coarse sand, gray, wet |
| 15 | | | | S15 - Well Graded SAND with Silt and Gravel (SW-SM), fine to coarse, ~10% fines, ~15% fine to coarse subrounded gravel, gray, wet | |
| 16 | | | | S16 - Well Graded SAND (SW), fine to coarse, 0-5% fines, gray, wet | |
| 17 | | | | S17 - Similar to S16 | |
| 18 | | | | S18 - Poorly Graded SAND (SP), fine to medium, trace coarse, 0-5% fines, (gray), wet | |
| 19 | | | | S19 - Poorly Graded SAND with Silt (SP-SM), fine, ~10% fines, gray, wet | |
| 20 | | | | S20 - Similar to S19, 10-15% fines | |

GENERAL NOTES:
 1. The ground surface elevation was interpolated to the nearest foot from a plan titled: "Proposed Conditions Plan for Notice of Intent Submittal, Sudbury-Hudson Transmission Reliability Project, Hudson, Massachusetts," prepared by Vanasse Hangen Brustlin, Inc. and dated February 14, 2018.
 2. The drilling method used was: HSA 1-1/4" I.D. to 12 feet, drive and wash with 4 inch casing to 29 feet, and drive and wash with 3 inch casing.

BOTTOM OF FOOTING
 EL. 174.05

BOTTOM OF GROUND
 IMPROVEMENT
 EL. 151.41

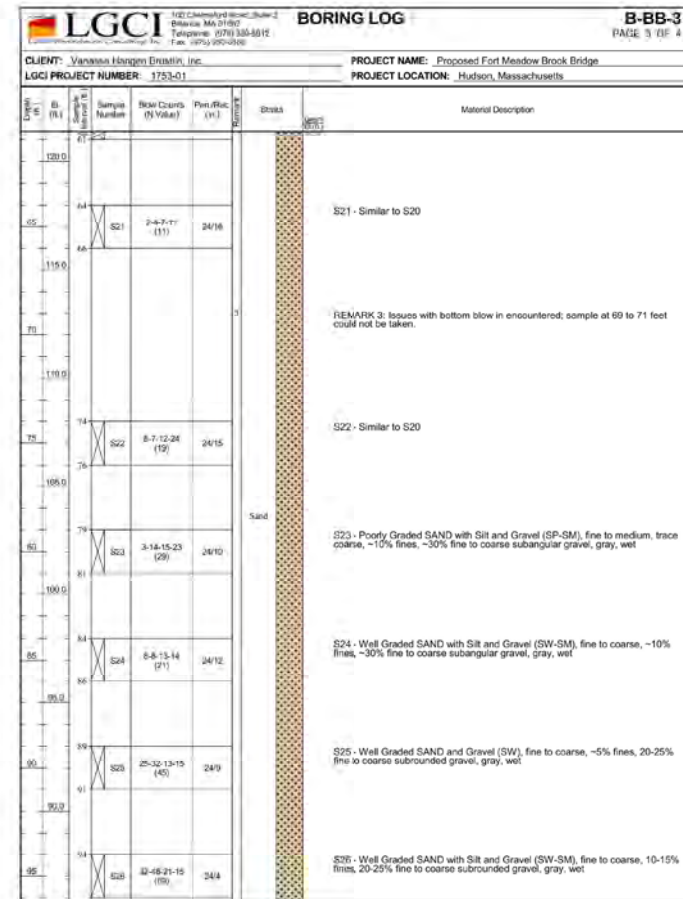
| LGCI | | BORING LOG | | B-BB-3 | |
|--|--|---|--|-------------------------------------|--|
| 180 Chestnut Street, Suite 2 Dorchester, MA 02122 Telephone: (617) 353-8812 Fax: (617) 353-9330 | | PROJECT NAME: Proposed Fort Meadow Brook Bridge | | PAGE 2 OF 4 | |
| CLIENT: Vanasse Hangen Brustlin, Inc. | | PROJECT LOCATION: Hudson, Massachusetts | | | |
| LGCI PROJECT NUMBER: 1753-01 | | DATE STARTED: 05/23/18 | | DATE COMPLETED: 06/29/18 | |
| BORING LOCATION: Western side of Fort Meadow Brook bridge | | DRILLING SUBCONTRACTOR: Geosearch, Inc. | | DRILLING FOREMAN: Kenny Bylund | |
| COORDINATES: NA | | DRILLING METHOD: See note 2 | | DRILL RIG TYPE/MODEL: CME 55 LC ATV | |
| SURFACE EL.: 182 ft NAVD 88 (see note 1) | | TOTAL DEPTH: 101 ft | | HAMMER TYPE: Automatic | |
| WEATHER: 90s / Sunny | | HAMMER WEIGHT: 140 lb | | HAMMER DROP: 30 in. | |
| GROUNDWATER LEVELS: | | SPLIT SPOON DIA.: 1.375 in. I.D., 2 in. O.D. | | CORE BARREL SIZE: NA | |
| DURING DRILLING: | | LOGGED BY: TS | | CHECKED BY: NB | |
| AT END OF DRILLING: 6.0 ft / EL. 176.0 ft | | | | | |
| OTHER: | | | | | |

| Depth (ft) | Sample No. | Blow Counts (N Value) | Pen. Rec. (ft) | Strata | Material Description |
|------------|------------|-----------------------|----------------|------------------------------------|--|
| 21 | S14 | 7-6-6-6 (12) | 243 | Sand | REMARK 2: Switched to 3-inch casing at 29 feet. |
| 22 | S14 | 7-6-6-6 (12) | 243 | | S14 - Well Graded Gravel with Silt and Sand (GW-GM), fine to coarse, subrounded, 10-15% fines, 35-40% fine to coarse sand, gray, wet |
| 23 | | | | Sand | S15 - Well Graded SAND with Silt and Gravel (SW-SM), fine to coarse, ~10% fines, ~15% fine to coarse subrounded gravel, gray, wet |
| 24 | S15 | 7-8-8-4 (15) | 2410 | | S16 - Well Graded SAND (SW), fine to coarse, 0-5% fines, gray, wet |
| 25 | | | | | S16 - Well Graded SAND (SW), fine to coarse, 0-5% fines, gray, wet |
| 26 | S16 | 12-6-11-16 (17) | 2416 | | S17 - Similar to S16 |
| 27 | | | | | S17 - Similar to S16 |
| 28 | S17 | 3-3-5-5 (5) | 2410 | | S18 - Poorly Graded SAND (SP), fine to medium, trace coarse, 0-5% fines, (gray), wet |
| 29 | | | | | S18 - Poorly Graded SAND (SP), fine to medium, trace coarse, 0-5% fines, (gray), wet |
| 30 | S18 | 8-10-6-6 (19) | 2416 | | S19 - Poorly Graded SAND with Silt (SP-SM), fine, ~10% fines, gray, wet |
| 31 | | | | | S19 - Poorly Graded SAND with Silt (SP-SM), fine, ~10% fines, gray, wet |
| 32 | S19 | 6-3-2-10 (20) | 2417 | | S20 - Similar to S19, 10-15% fines |
| 33 | | | | S20 - Similar to S19, 10-15% fines | |
| 34 | S20 | 8-2-6-7 (8) | 2410 | | |

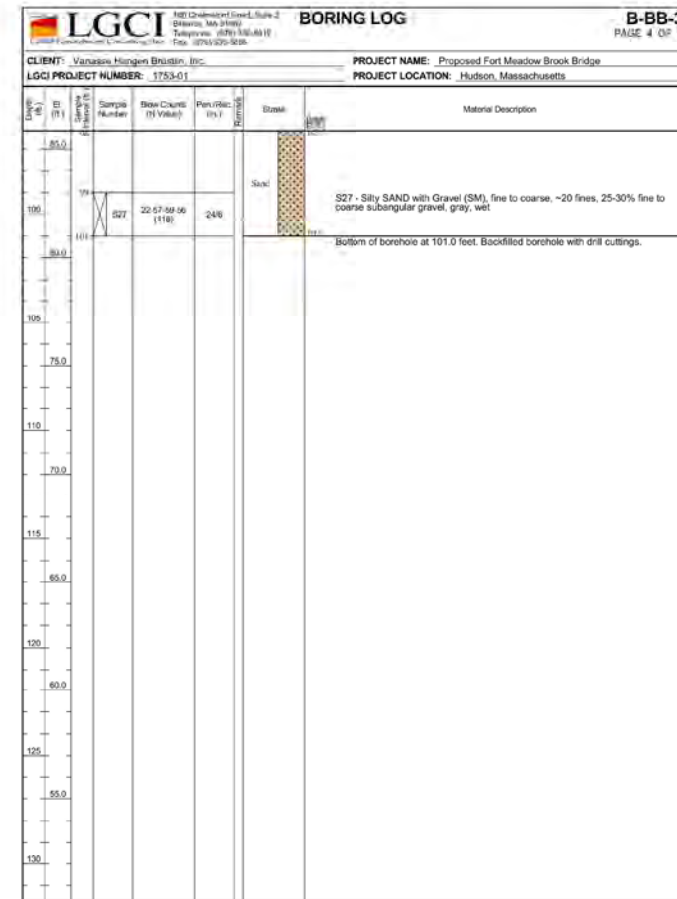
| | | | | |
|--|-------------|-------|---------|-------|
| NO. | DESCRIPTION | BY | DATE | APPR. |
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH, & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE H-25-011 (BRIDGE 130) - BORING LOGS | | | | |
| PLAN 178 OF 349 | | | | |
| SCALE: unless noted | DATE | DRAWN | CHECKED | APPR. |
| N/A | DEC 2021 | AMS | KGK | KGK |
| DRAWING NO. | REV. | | | |
| | | | | |



BORING BB-3 (CONTINUED)



BORING BB-3 (CONTINUED)

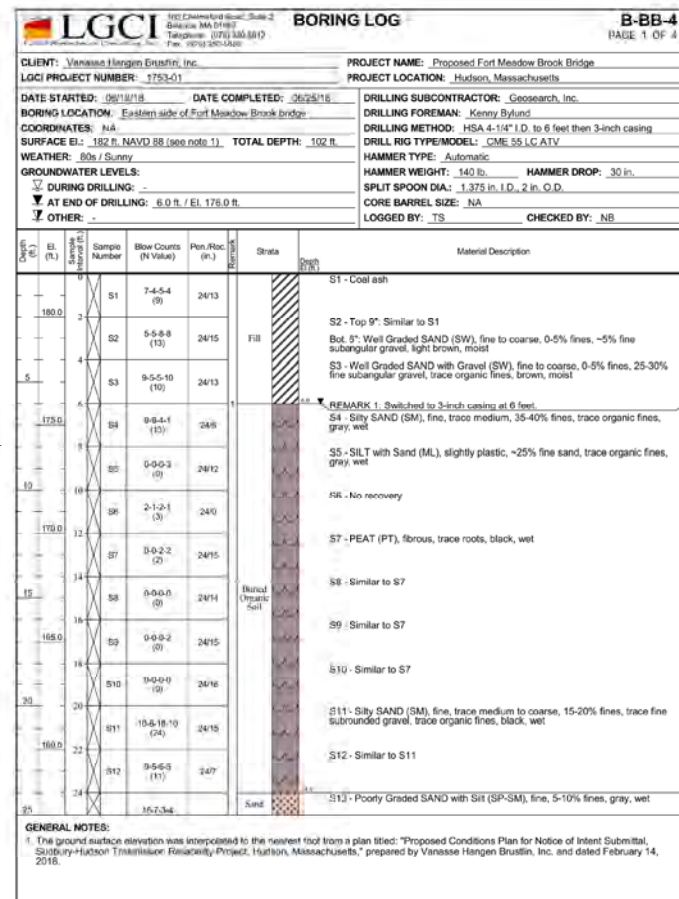


| NO. | DESCRIPTION | BY | DATE | APPR. |
|--|------------------|--------------|----------------|-----------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH, & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE H-25-011 (BRIDGE 130) - BORING LOGS | | | | |
| PLAN 179 OF 349 | | | | |
| SCALE: unless noted N/A | DATE DEC 2021 | DRAWN AMS | CHECKED KGK | APPROVED KGK |
| DRAWING NO. | | REV. | | |

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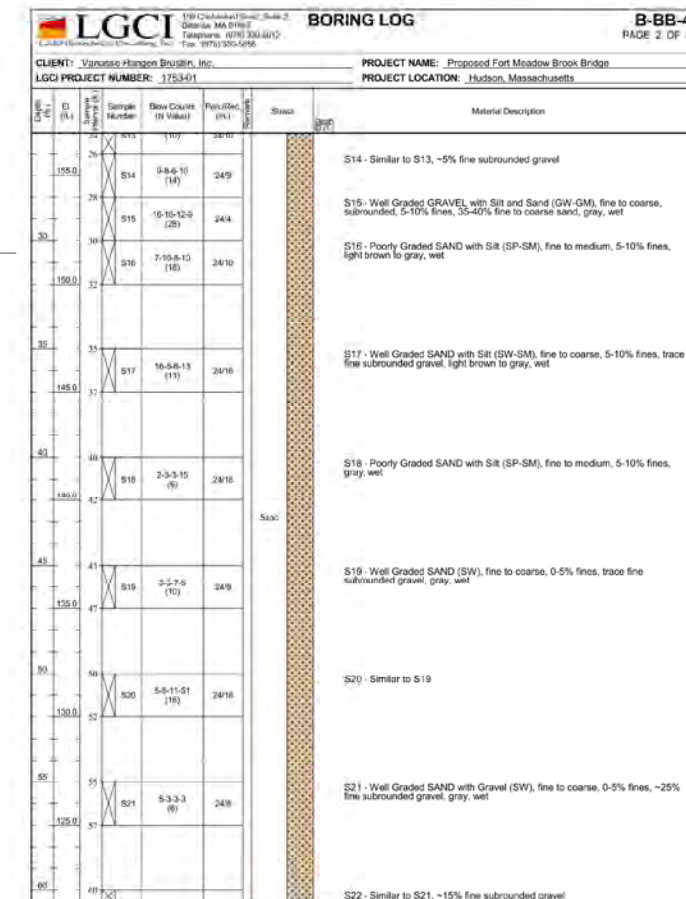
BORING BB-4
 STATION: 149+19.24
 OFFSET: 0.13' RT
 N: 2968749.1
 E: 651184.7
 GROUND ELEVATION: 182.0'
 (SEE NOTE 10, SHEET 178 OF 349)

BORING BB-4 (CONTINUED)



BOTTOM OF FOOTING
EL. 174.05

BOTTOM OF GROUND IMPROVEMENT
EL. 151.41



| NO. | DESCRIPTION | BY | DATE | APPR. |
|--|-------------|-------|---------|-------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH, & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE H-25-011 (BRIDGE 130) - BORING LOGS | | | | |
| PLAN 80 OF 349 | | | | |
| SCALE: unless noted | DATE | DRAWN | CHECKED | APPR. |
| N/A | DEC 2021 | AMS | SBK | KGK |
| DRAWING NO. | REV. | | | |
| | | | | |

A

A

BORING BB-4 (CONTINUED)

BORING BB-4 (CONTINUED)

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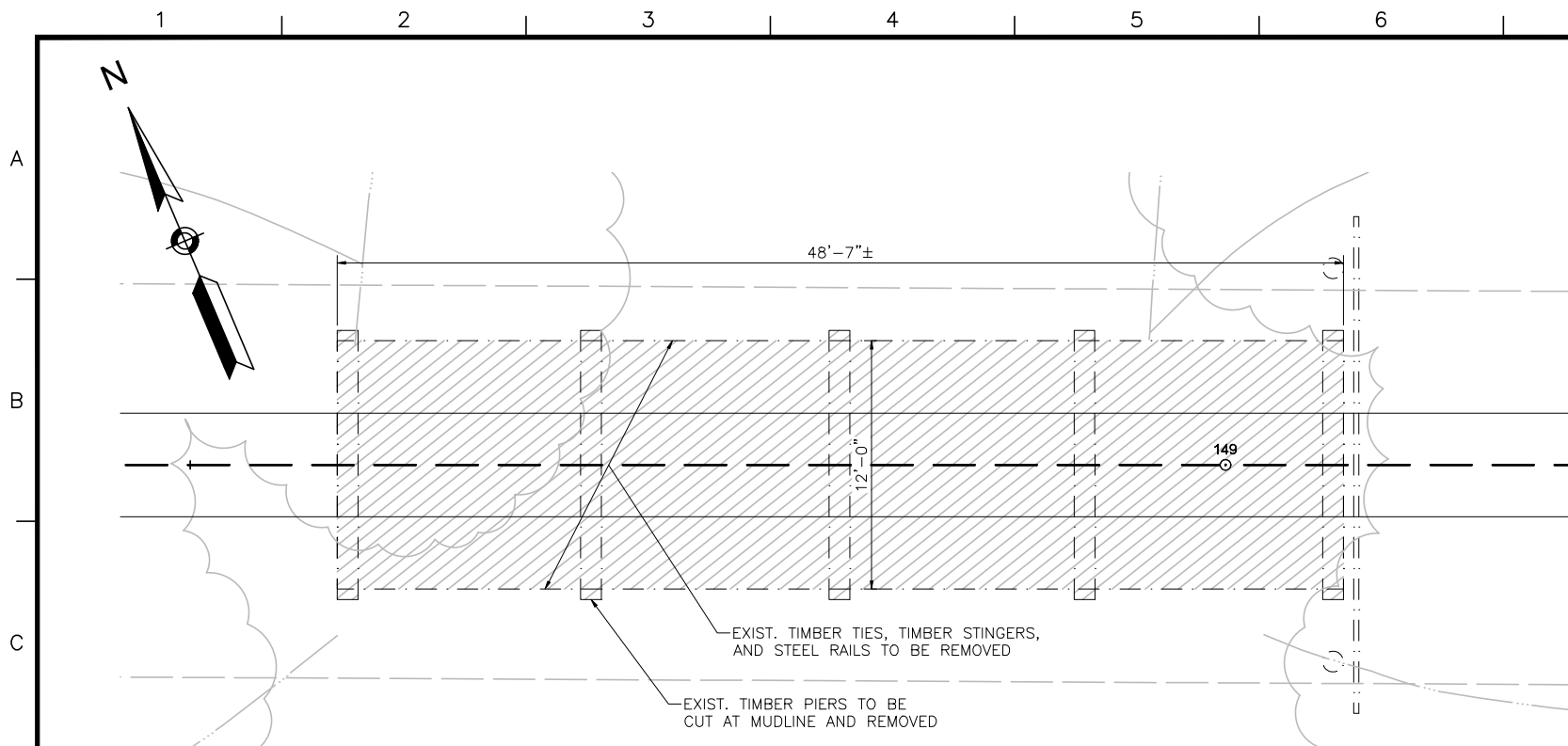
G

| LGCI | | BORING LOG | | B-BB-4 | |
|---|----|---|-------------------|-------------|--|
| 1077 Chestnut Street, Suite 2 Boston, MA 02109 Telephone: (617) 353-6112 Fax: (617) 350-5520 | | PROJECT NAME: Proposed Fort Meadow Brook Bridge | | PAGE 3 OF 4 | |
| CLIENT: Vanasse Hangen Brustlin, Inc. | | PROJECT LOCATION: Hudson, Massachusetts | | | |
| LGCI PROJECT NUMBER: 1753-01 | | | | | |
| 102.0 | 62 | S22 | 11-8-16 (11) | 2412 | |
| 105.0 | 65 | S23 | 8-8-24-48 (30) | 2415 | S23 - Similar to S22 |
| 115.0 | 67 | | | | REMARK 2: Issues with bottom blow in encountered, sample at 70 to 72 feet could not be taken. |
| 118.0 | | | | | REMARK 3: Issues with bottom blow in encountered, sample at 75 to 77 feet could not be taken. |
| 120.0 | | | | | Sand |
| 124.0 | 68 | S24 | 8-9-11-20 (26) | 2417 | S24 - Poorly Graded SAND (SP), fine to medium, 0-5% fines, gray, wet |
| 128.0 | 69 | S25 | 12-13-12-12 (25) | 247 | S25 - Similar to S24, light brown to gray |
| 132.0 | 70 | S26 | 37-49-62-62 (108) | 2418 | S26 - Poorly Graded SAND (SP), fine, 0-5% fines, gray, wet |
| 136.0 | 71 | | | | S27 - Well Graded SAND with Gravel (SW), fine to coarse, 0-5% fines, ~15% fine to coarse gravel, gray, wet |
| 138.0 | 72 | | | | |

| LGCI | | BORING LOG | | B-BB-4 | |
|---|----|---|-------------------|-------------|--|
| 1077 Chestnut Street, Suite 2 Boston, MA 02109 Telephone: (617) 353-6112 Fax: (617) 350-5520 | | PROJECT NAME: Proposed Fort Meadow Brook Bridge | | PAGE 4 OF 4 | |
| CLIENT: Vanasse Hangen Brustlin, Inc. | | PROJECT LOCATION: Hudson, Massachusetts | | | |
| LGCI PROJECT NUMBER: 1753-01 | | | | | |
| 102.0 | 62 | S22 | 11-8-16 (11) | 2412 | |
| 105.0 | 65 | S23 | 8-8-24-48 (30) | 2415 | S23 - Similar to S22 |
| 115.0 | 67 | | | | REMARK 2: Issues with bottom blow in encountered, sample at 70 to 72 feet could not be taken. |
| 118.0 | | | | | REMARK 3: Issues with bottom blow in encountered, sample at 75 to 77 feet could not be taken. |
| 120.0 | | | | | Sand |
| 124.0 | 68 | S24 | 8-9-11-20 (26) | 2417 | S24 - Poorly Graded SAND (SP), fine to medium, 0-5% fines, gray, wet |
| 128.0 | 69 | S25 | 12-13-12-12 (25) | 247 | S25 - Similar to S24, light brown to gray |
| 132.0 | 70 | S26 | 37-49-62-62 (108) | 2418 | S26 - Poorly Graded SAND (SP), fine, 0-5% fines, gray, wet |
| 136.0 | 71 | | | | S27 - Well Graded SAND with Gravel (SW), fine to coarse, 0-5% fines, ~15% fine to coarse gravel, gray, wet |
| 138.0 | 72 | | | | |
| 140.0 | | | | | Bottom of borehole at 102.0 feet. Backfilled borehole with drill cuttings. |

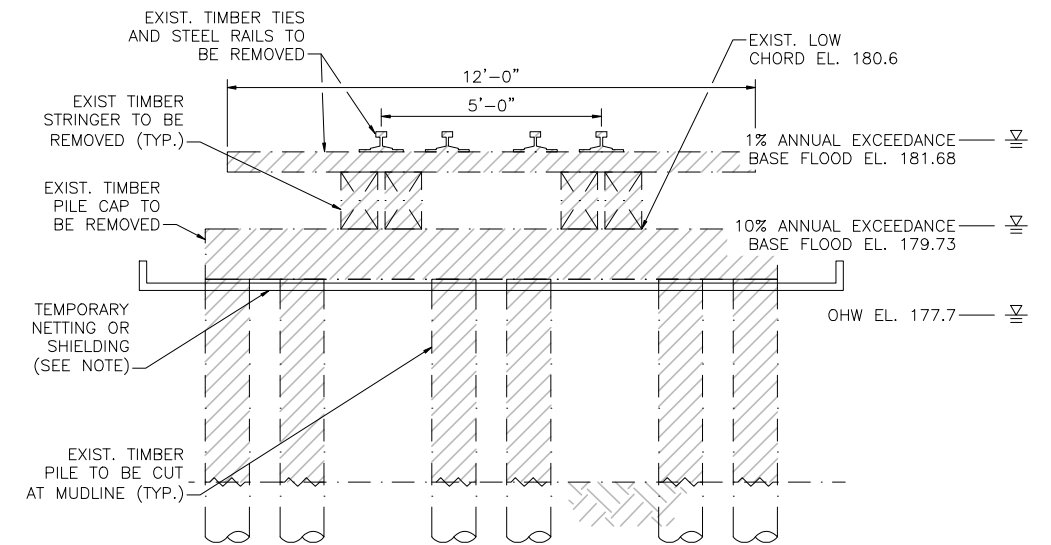


| NO. | DESCRIPTION | BY | DATE | APPR. |
|--|-------------|-------|---------|----------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH, & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE H-25-011 (BRIDGE 130) - BORING LOGS | | | | |
| PLAN 181 OF 349 | | | | |
| SCALE: unless noted | DATE | DRAWN | CHECKED | APPROVED |
| N/A | DEC 2021 | AMS | SBK | KGK |
| DRAWING NO. | REV. | | | |
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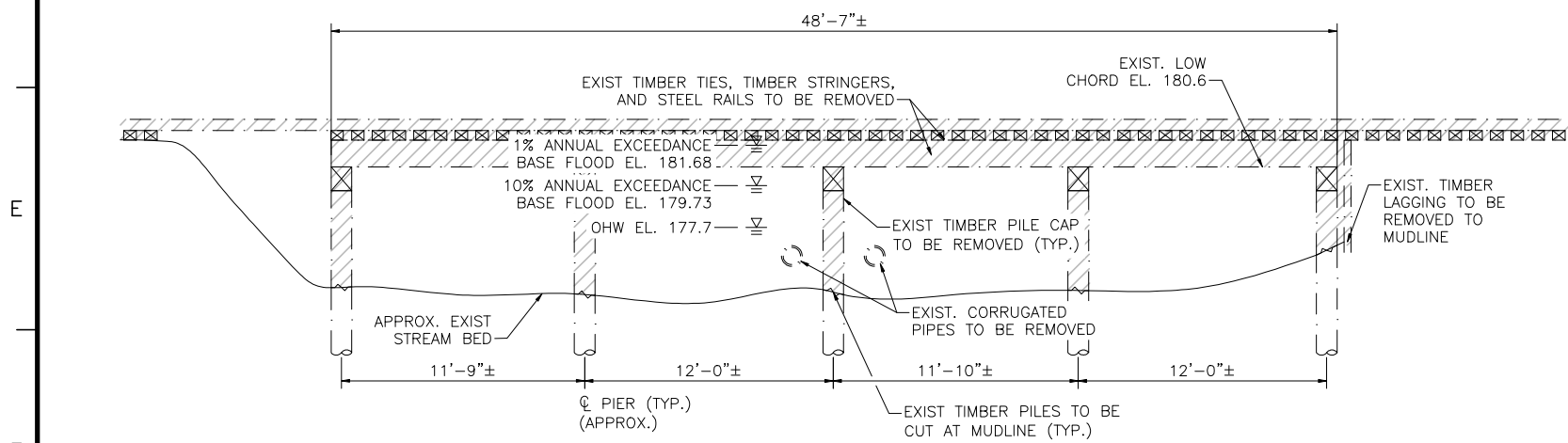
BRIDGE PLAN

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



BRIDGE SECTION

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



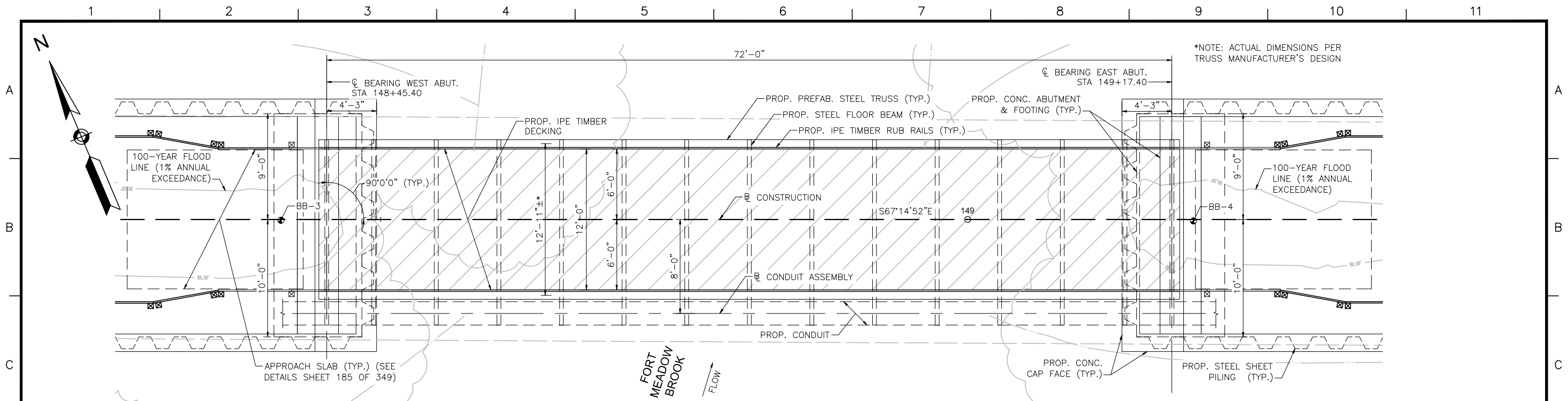
BRIDGE ELEVATION

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

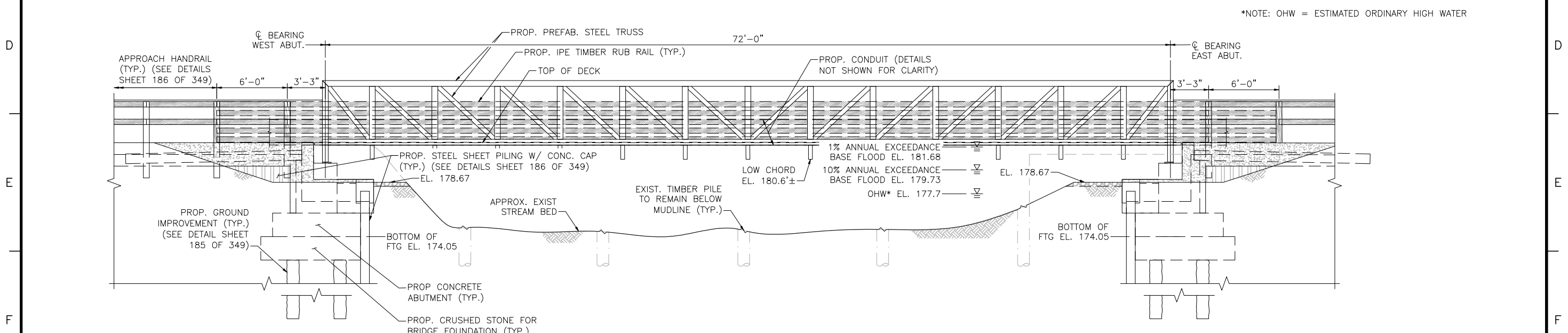
NOTE: CONTRACTOR SHALL DESIGN AND INSTALL TEMPORARY PROTECTIVE SHIELDING OR NETTING DURING DEMOLITION OF BRIDGE AND AS NEEDED DURING CONSTRUCTION OF NEW BRIDGE TO PREVENT CONSTRUCTION DEBRIS FROM FALLING INTO THE WATER BODIES BELOW. SEE PROJECT SPECIFICATIONS AND PERMITTING DOCUMENTS FOR ADDITIONAL REQUIREMENTS AND INFORMATION.



| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|----------------|------------|--------------|---------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE H-25-027 (BRIDGE 130) - DEMOLITION PLAN | | | | |
| PLANT 82 OF 349 | | | | |
| SCALE: unless noted VARIES | DATE: DEC 2021 | DRAWN: AMS | CHECKED: SBK | APPROVED: KGK |
| DRAWING NO. | REV. | | | |
| | | | | |



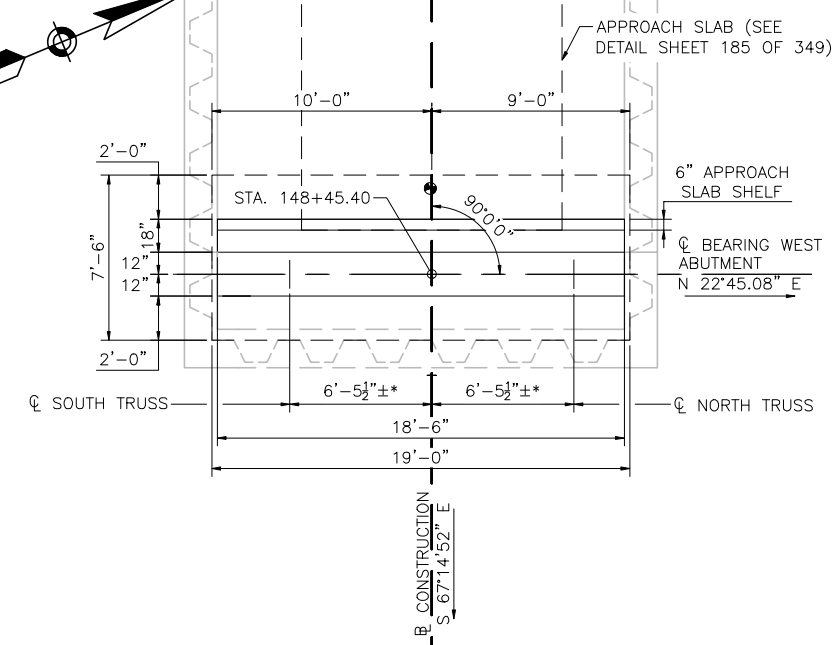
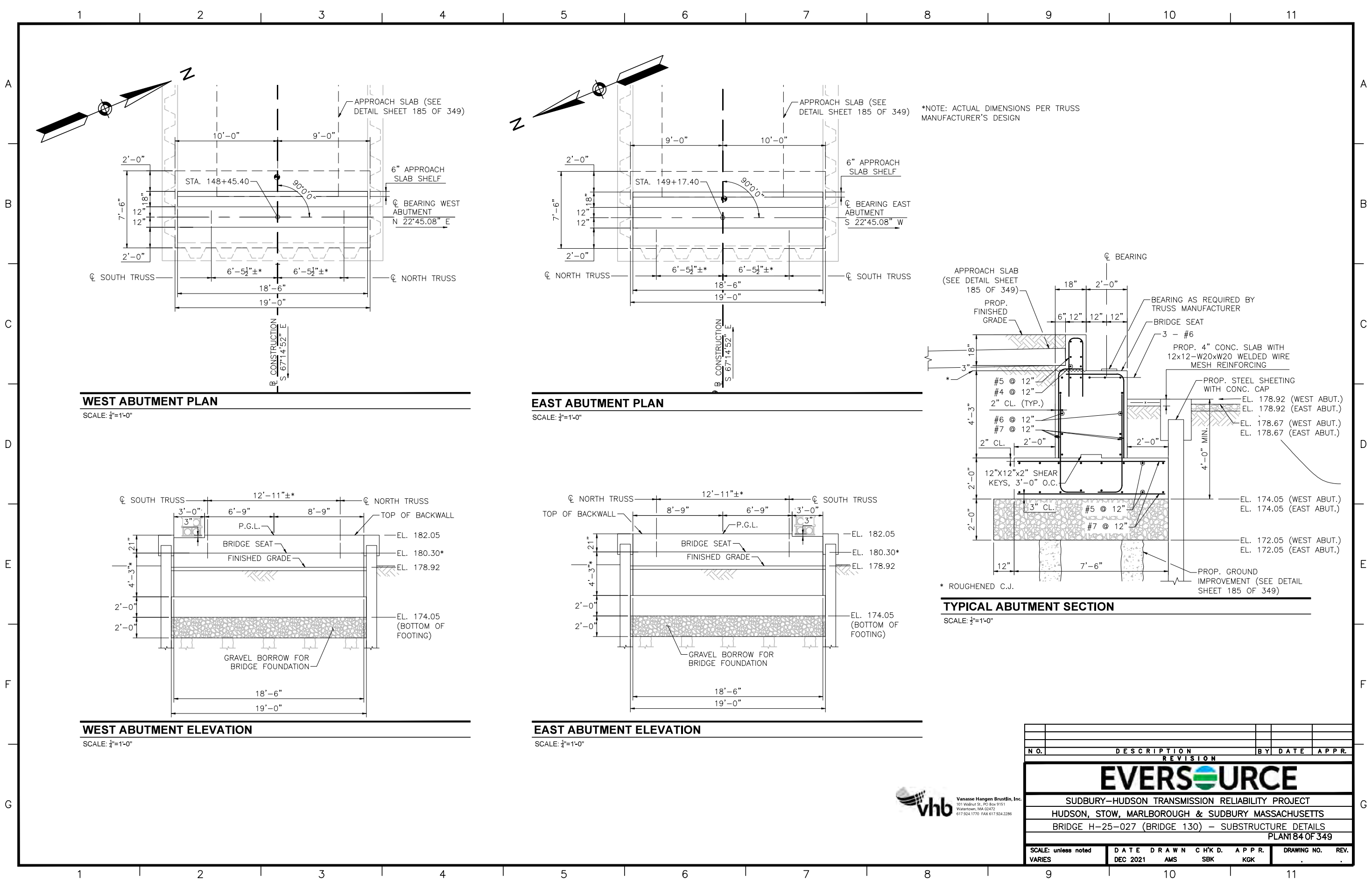
BRIDGE 130 (FORT MEADOW BROOK) PLAN
SCALE: 1/4"=1'-0"



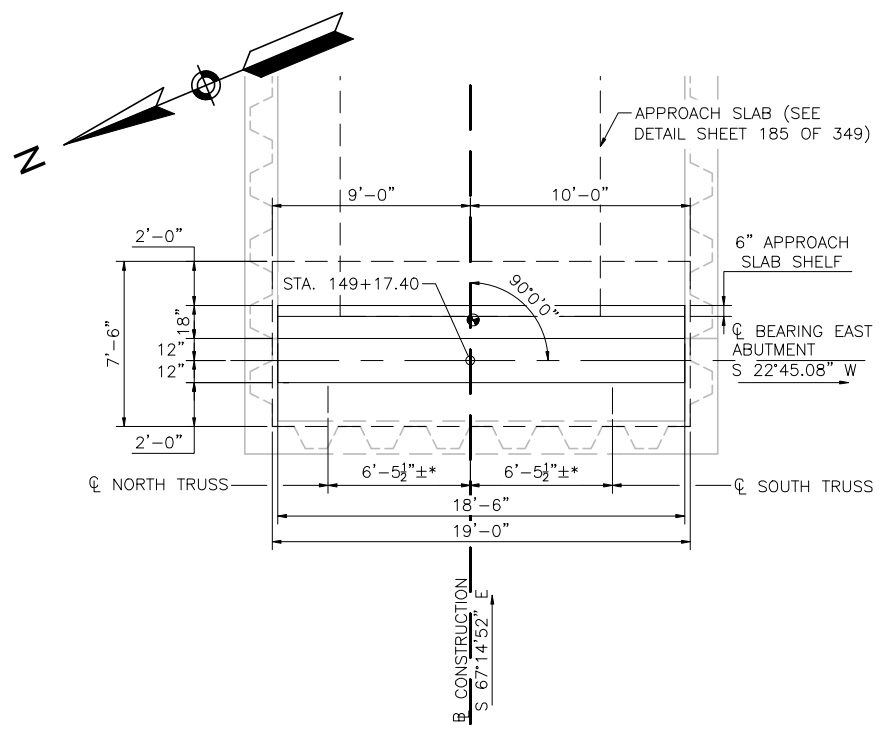
BRIDGE 130 (FORT MEADOW BROOK) ELEVATION
SCALE: 1/4"=1'-0"



| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|--------------|----------------|-----------------|
| | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE H-25-027 (BRIDGE 130) - PLAN & ELEVATION | | | | |
| PLANT 83 OF 349 | | | | |
| SCALE: unless noted 1"=4' | DATE DEC 2021 | DRAWN AMS | CHECKED SBK | APPROVED KGK |
| DRAWING NO. | | REV. | | |

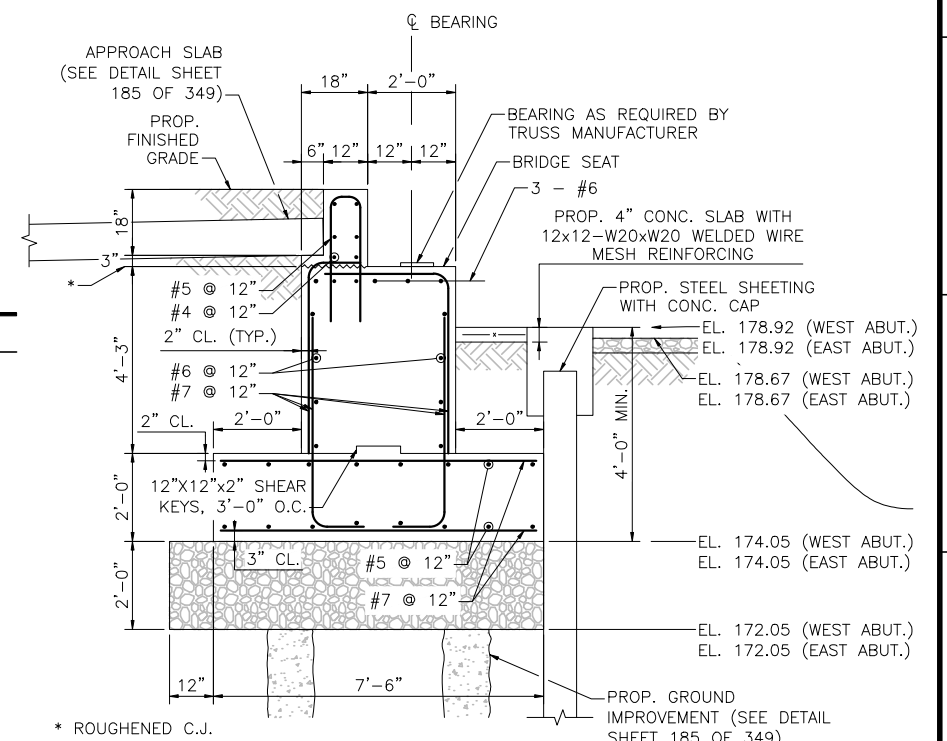


WEST ABUTMENT PLAN
SCALE: 1/4"=1'-0"

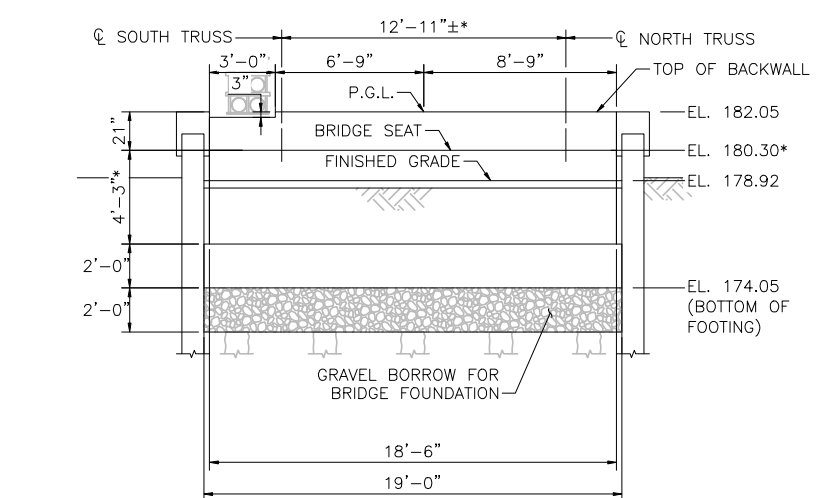


EAST ABUTMENT PLAN
SCALE: 1/4"=1'-0"

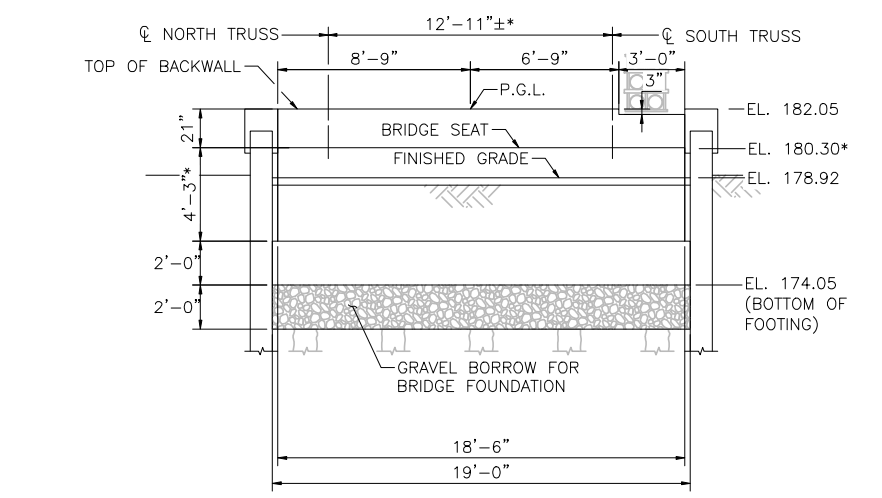
*NOTE: ACTUAL DIMENSIONS PER TRUSS
MANUFACTURER'S DESIGN



TYPICAL ABUTMENT SECTION
SCALE: 1/2"=1'-0"



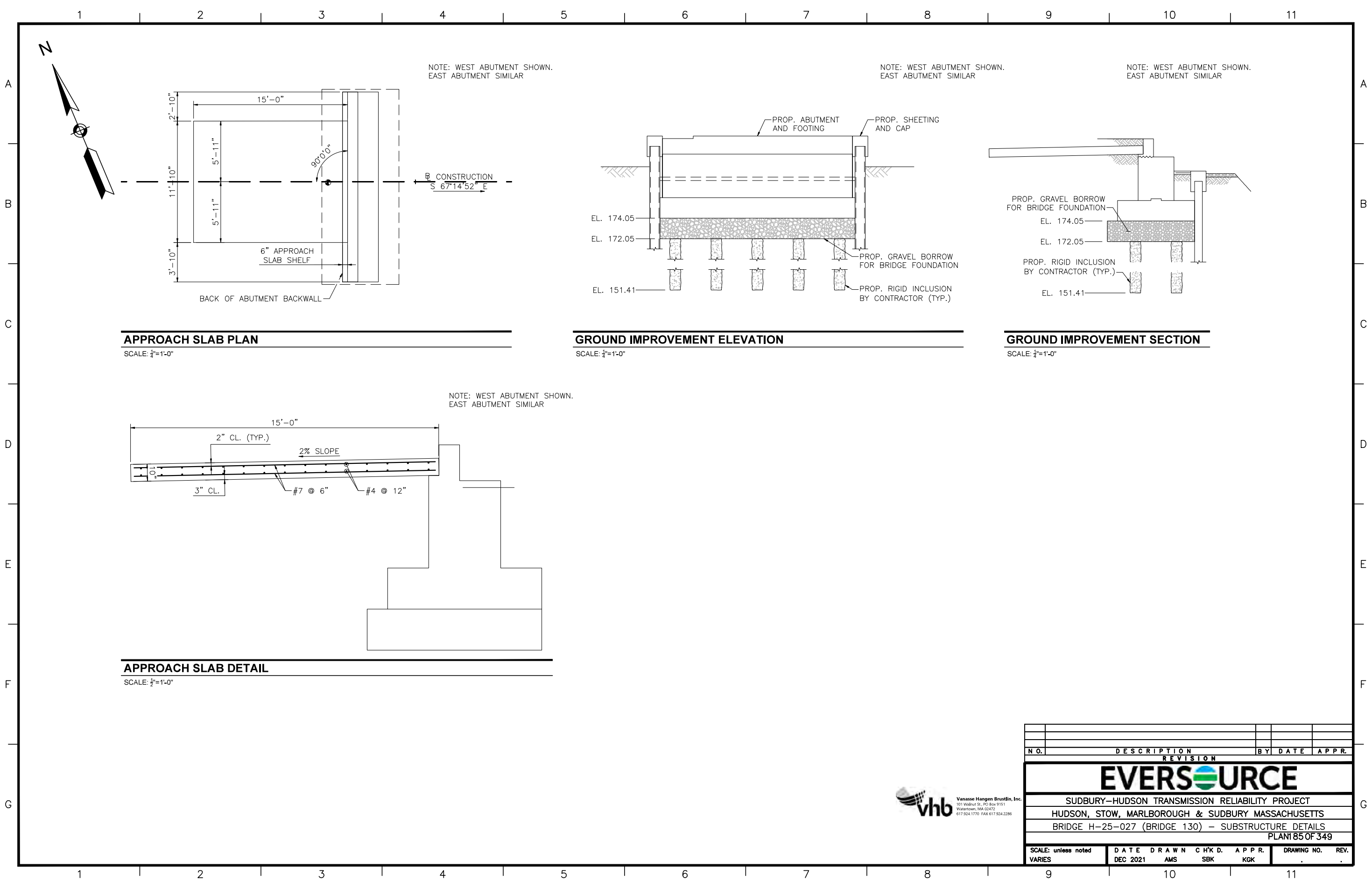
WEST ABUTMENT ELEVATION
SCALE: 1/4"=1'-0"



EAST ABUTMENT ELEVATION
SCALE: 1/4"=1'-0"

| NO. | DESCRIPTION | BY | DATE | APPR. | |
|---|------------------|--------------|----------------|-----------------|---------------------|
| | | | | | REVISION |
| EVERSOURCE | | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | |
| BRIDGE H-25-027 (BRIDGE 130) - SUBSTRUCTURE DETAILS | | | | | |
| PLAN 184 OF 349 | | | | | |
| SCALE: unless noted VARIES | DATE DEC 2021 | DRAWN AMS | CHECKED SBK | APPROVED KGK | DRAWING NO. REV. |





NOTE: WEST ABUTMENT SHOWN.
EAST ABUTMENT SIMILAR

NOTE: WEST ABUTMENT SHOWN.
EAST ABUTMENT SIMILAR

NOTE: WEST ABUTMENT SHOWN.
EAST ABUTMENT SIMILAR

APPROACH SLAB PLAN

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

GROUND IMPROVEMENT ELEVATION

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

GROUND IMPROVEMENT SECTION

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

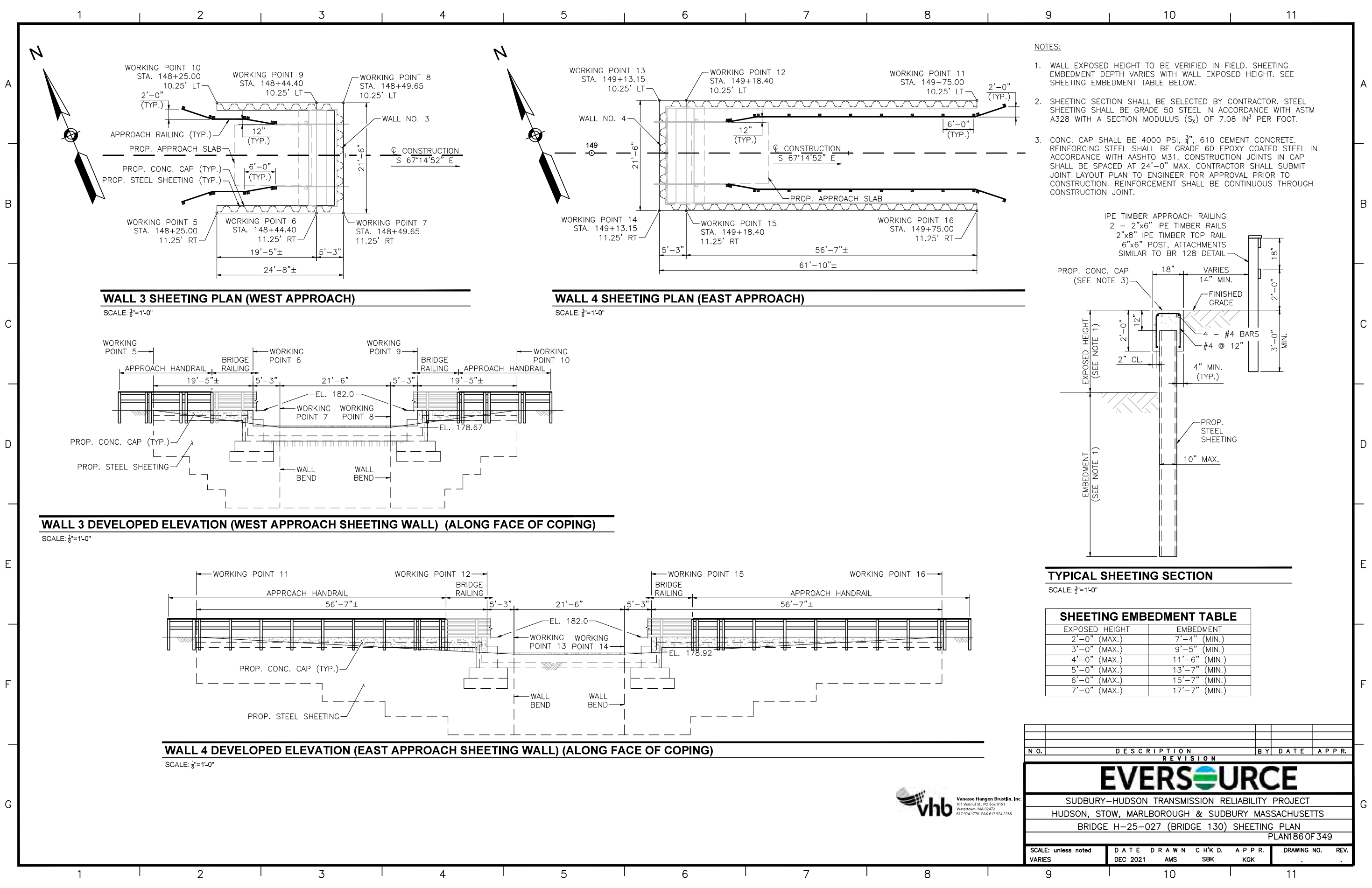
NOTE: WEST ABUTMENT SHOWN.
EAST ABUTMENT SIMILAR

APPROACH SLAB DETAIL

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



| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|--------------|----------------|-----------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE H-25-027 (BRIDGE 130) - SUBSTRUCTURE DETAILS | | | | |
| PLANT 85 OF 349 | | | | |
| SCALE: unless noted VARIES | DATE DEC 2021 | DRAWN AMS | CHECKED SBK | APPROVED KGK |
| DRAWING NO. | | REV. | | |
| | | | | |



NOTES:

1. WALL EXPOSED HEIGHT TO BE VERIFIED IN FIELD. SHEETING EMBEDMENT DEPTH VARIES WITH WALL EXPOSED HEIGHT. SEE SHEETING EMBEDMENT TABLE BELOW.
2. SHEETING SECTION SHALL BE SELECTED BY CONTRACTOR. STEEL SHEETING SHALL BE GRADE 50 STEEL IN ACCORDANCE WITH ASTM A328 WITH A SECTION MODULUS (S_x) OF 7.08 IN³ PER FOOT.
3. CONC. CAP SHALL BE 4000 PSI, 3/4", 610 CEMENT CONCRETE. REINFORCING STEEL SHALL BE GRADE 60 EPOXY COATED STEEL IN ACCORDANCE WITH AASHTO M31. CONSTRUCTION JOINTS IN CAP SHALL BE SPACED AT 24'-0" MAX. CONTRACTOR SHALL SUBMIT JOINT LAYOUT PLAN TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINT.

WALL 3 SHEETING PLAN (WEST APPROACH)

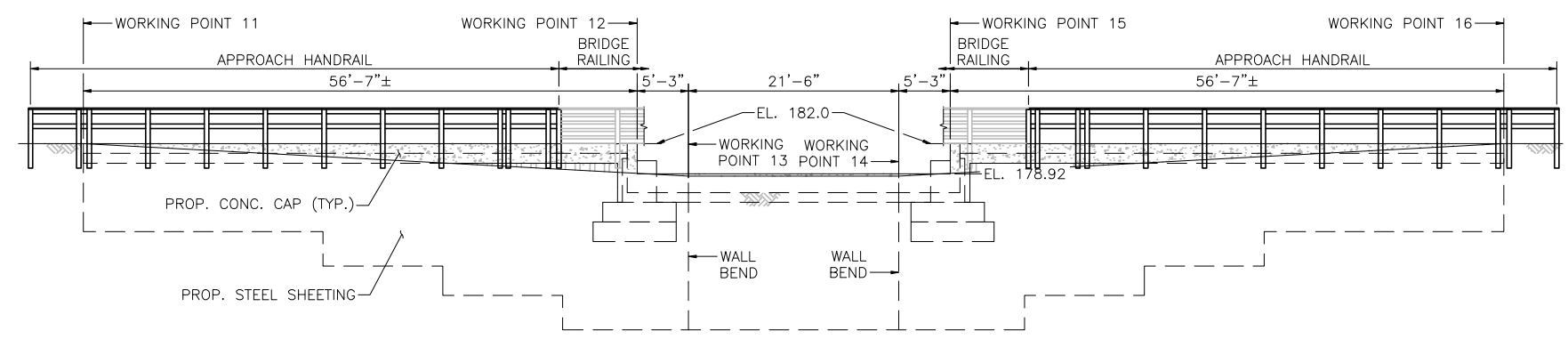
SCALE: 1/8"=1'-0"

WALL 4 SHEETING PLAN (EAST APPROACH)

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

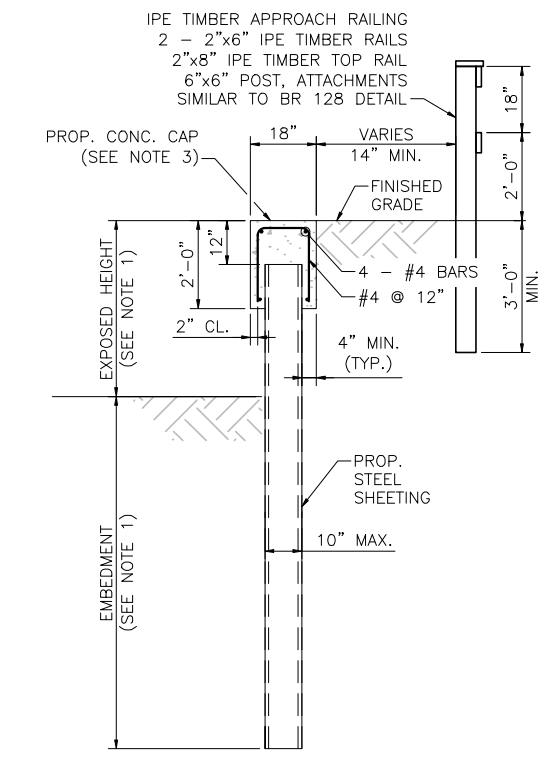
WALL 3 DEVELOPED ELEVATION (WEST APPROACH SHEETING WALL) (ALONG FACE OF COPING)

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



WALL 4 DEVELOPED ELEVATION (EAST APPROACH SHEETING WALL) (ALONG FACE OF COPING)

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



TYPICAL SHEETING SECTION

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

| SHEETING EMBEDMENT TABLE | |
|--------------------------|---------------|
| EXPOSED HEIGHT | EMBEDMENT |
| 2'-0" (MAX.) | 7'-4" (MIN.) |
| 3'-0" (MAX.) | 9'-5" (MIN.) |
| 4'-0" (MAX.) | 11'-6" (MIN.) |
| 5'-0" (MAX.) | 13'-7" (MIN.) |
| 6'-0" (MAX.) | 15'-7" (MIN.) |
| 7'-0" (MAX.) | 17'-7" (MIN.) |

| | | | | |
|---|----------------|------------|--------------|---------------|
| NO. | DESCRIPTION | BY | DATE | APPR. |
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE H-25-027 (BRIDGE 130) SHEETING PLAN | | | | |
| PLANT 86 OF 349 | | | | |
| SCALE: unless noted VARIES | DATE: DEC 2021 | DRAWN: AMS | CHECKED: SBK | APPROVED: KGK |
| DRAWING NO. | REV. | | | |



Vanasse Hangen Brustlin, Inc.
101 Walnut St., PO Box 9151
Watertown, MA 02472
617.924.1770 FAX 617.924.2286

1 2 3 4 5 6 7 8 9 10 11

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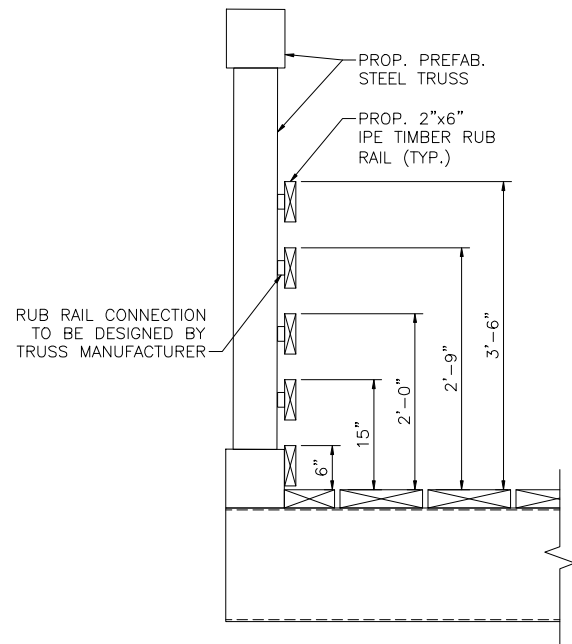
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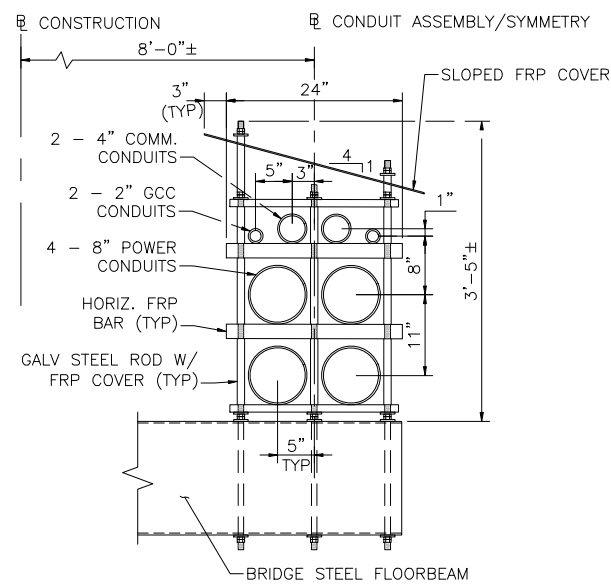
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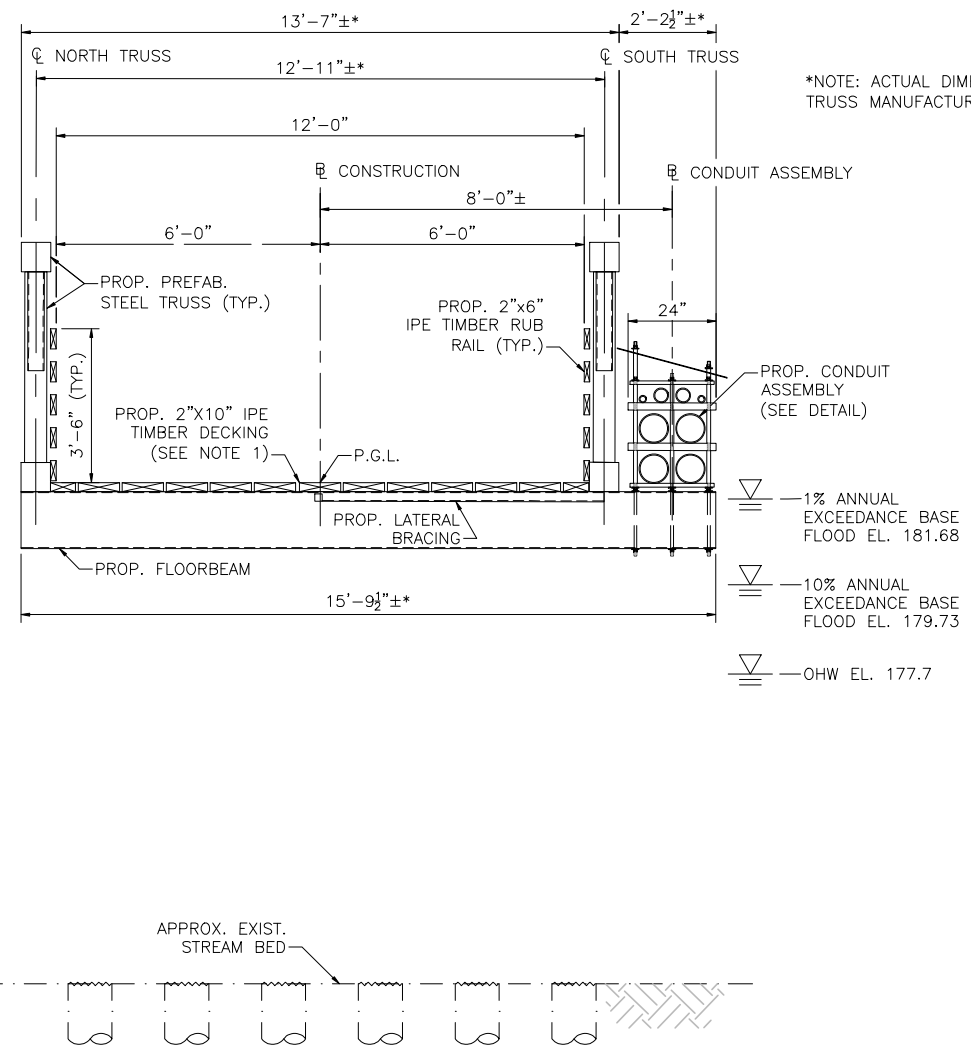
RAILING CONNECTION DETAIL

SCALE: 1"=1'-0"



CONDUIT ASSEMBLY DETAIL

SCALE: 1"=1'-0"



BRIDGE TRANSVERSE SECTION

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

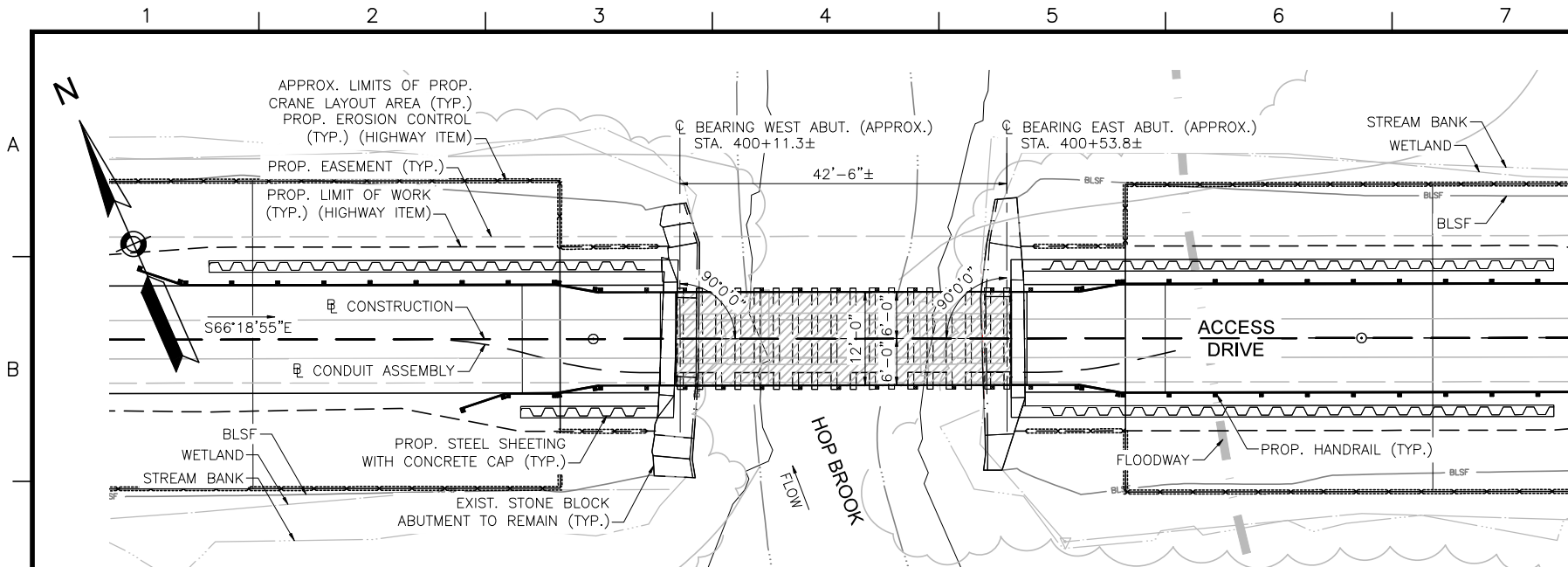
NOTES:

1. TRUSS SHALL BE DESIGNED FOR TEMPORARY H20 LOADING DURING CONSTRUCTION. TIMBER DECKING IS DESIGNED FOR H10 LOADING WITHOUT IMPACT AND 90 PSF PEDESTRIAN LOADING, WHICHEVER CONTROLS. CONTRACTOR SHALL DESIGN TEMPORARY DECKING IF BRIDGE IS INTENDED TO BE USED FOR CONSTRUCTION VEHICLES.

| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|--------------|----------------|-----------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE H-25-027 (BRIDGE 130) - SECTION & DETAILS | | | | |
| PLANT 87 OF 349 | | | | |
| SCALE: unless noted VARIES | DATE DEC 2021 | DRAWN AMS | CHECKED SBK | APPROVED KGK |
| DRAWING NO. | REV. | | | |



1 2 3 4 5 6 7 8 9 10 11



BRIDGE KEY PLAN
SCALE: 1"=10'

GENERAL NOTES: BRIDGE 128

DESIGN:
IN ACCORDANCE WITH THE 2009 AASHTO GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES (WITH 2015 INTERIM REVISIONS) FOR H10 LOADING WITHOUT IMPACT AND 90 PSF PEDESTRIAN LOADING, WHICHEVER CONTROLS. DESIGNED FOR TEMPORARY H2O LOADING DURING CONSTRUCTION ONLY. RAILING DESIGNED FOR PEDESTRIAN LOADING ONLY.

CONCRETE:
ALL CAST IN PLACE CONCRETE SHALL BE 4000 PSI, 3/8", 660 CEMENT CONCRETE.
GROUT TO BE USED FOR DRILLING AND GROUTING DOWELS INTO EXISTING SUBSTRUCTURES SHALL BE A CEMENTITIOUS GROUT LISTED ON THE MASSDOT QUALIFIED CONSTRUCTION MATERIALS LIST.

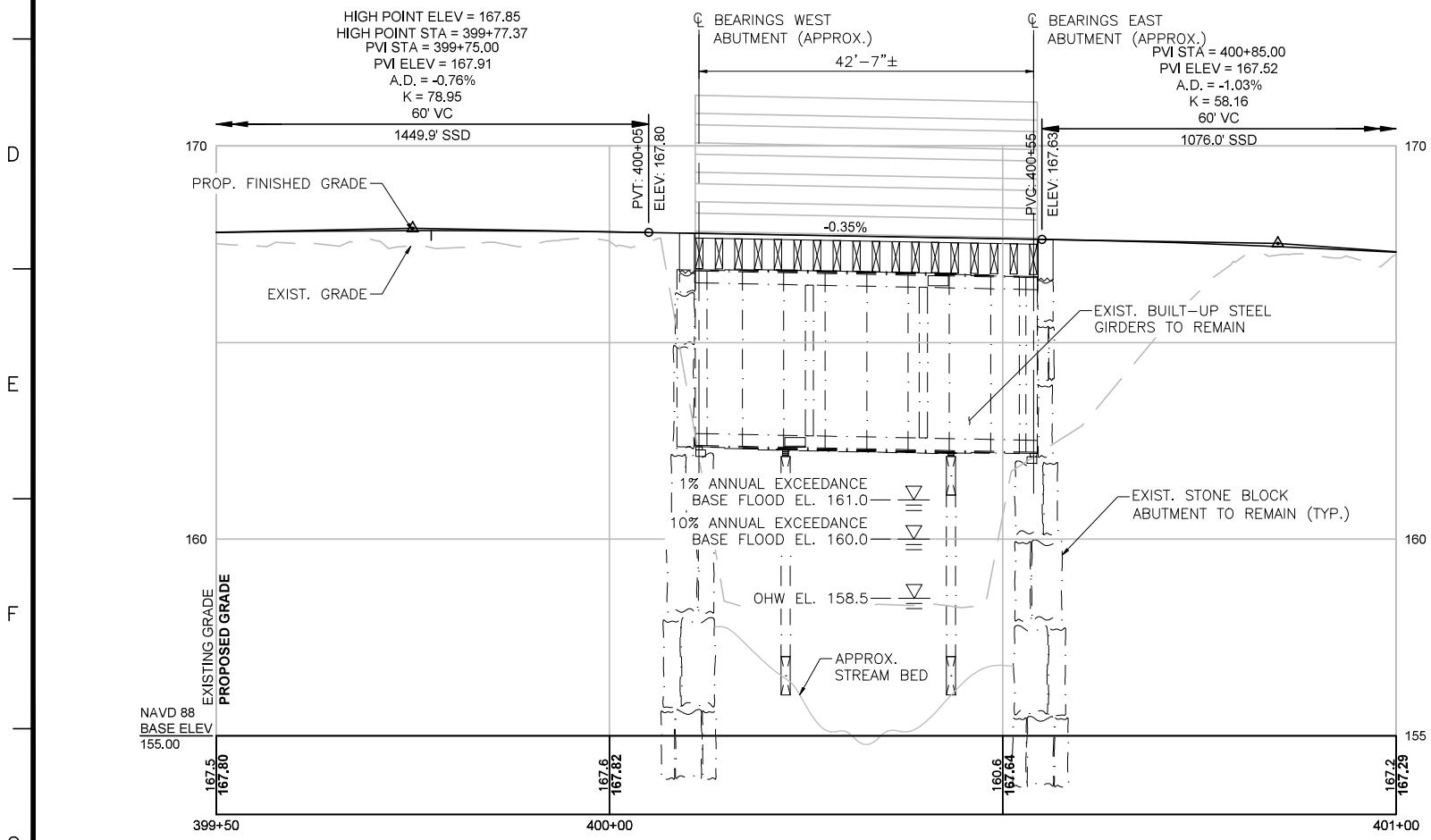
REINFORCEMENT:
REINFORCING STEEL SHALL BE EPOXY COATED AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 GRADE 60.

STEEL:
NEW STEEL PLATES AND SHAPES SHALL BE NEW MATERIAL MEETING THE REQUIREMENTS OF AASHTO M270 GRADE 50, PAINTED.
BOLTS THAT FASTEN TO STEEL ONLY SHALL BE AASHTO M1644 (ASTM 325) HIGH STRENGTH BOLTS, GALVANIZED.

TIMBER:
DECK PLANKING AND RAILINGS: IPE, F_b min = 22,000 psi.
FLOOR BEAMS: SYP NO. 1 OR BETTER, F_b min = 1,050 psi.
SYP TIMBER SHALL BE TREATED WITH ACQ-D WITH 0.60 PCF RETENTION.
ALL NAILS, SCREWS, BOLTS, WASHERS, CONNECTORS, FASTENERS AND HARDWARE FOR WOOD CONNECTIONS SHALL BE STAINLESS STEEL TYPE 304 OR TYPE 316.
WHERE TREATED TIMBER MEMBERS ARE IN DIRECT CONTACT WITH STEEL PROVIDE VYCOR DECK PROTECTOR BARRIER MEMBRANE BY W.R. GRACE & CO. OR APPROVED EQUAL.
BETWEEN THE TIMBER TRANSVERSE FLOOR BEAMS AND THE DECK PLANKING, PROVIDE A LAYER OF GRACE ICE & WATER SHIELD BY W.R. GRACE & CO. OR APPROVED EQUAL.

SURVEY AND EXISTING CONDITIONS:
THE EXISTING CONDITIONS SHOWN ON THIS PLAN WERE DEVELOPED FROM A COMBINED EFFORT OF AERIAL PHOTOGRAMMETRIC MAPPING BY EASTERN TOPOGRAPHICS, INC., BASED ON AERIAL PHOTOGRAPHS TAKEN ON FEBRUARY 22, 2013, AND AUGMENTED BY AN ON-THE-GROUND SURVEY PERFORMED BY VHB DURING 2015 AND 2017.
THE HORIZONTAL CONTROL IS BASED ON THE MASSACHUSETTS MAINLAND STATE PLANE COORDINATE SYSTEM AND THE NATIONAL GEODETIC SURVEY (NAD83). ALL ELEVATION IS US FEET, REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD88).

DEMOLITION AND CONSTRUCTION:
ALL EXISTING MATERIALS REMOVED AND NOT REUSED AND ALL WASTE MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. TREATED TIMBER AND CONTAMINATED WASTE SHALL BE DISPOSED OF OFF SITE AT AN APPROVED FACILITY.
BACKFILL AROUND ABUTMENTS SHALL BE GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES.
THE CONTRACTOR SHALL TAKE THE PROPER PRECAUTIONS TO ENSURE THE STABILITY AND SAFE PERFORMANCE OF ALL STRUCTURAL ELEMENTS DURING DEMOLITION AND CONSTRUCTION.
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ADEQUATE SHIELDING OR NETTING DURING DEMOLITION AND CONSTRUCTION TO ADEQUATELY PROTECT WORKERS AND TO PREVENT DEBRIS AND MATERIALS FROM ENTERING THE WATERWAY.
ANY DAMAGE TO REMAINING EXISTING COMPONENTS THAT IS CAUSED BY THE CONTRACTOR'S ACTIVITY SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR, AT NO ADDITIONAL EXPENSE.

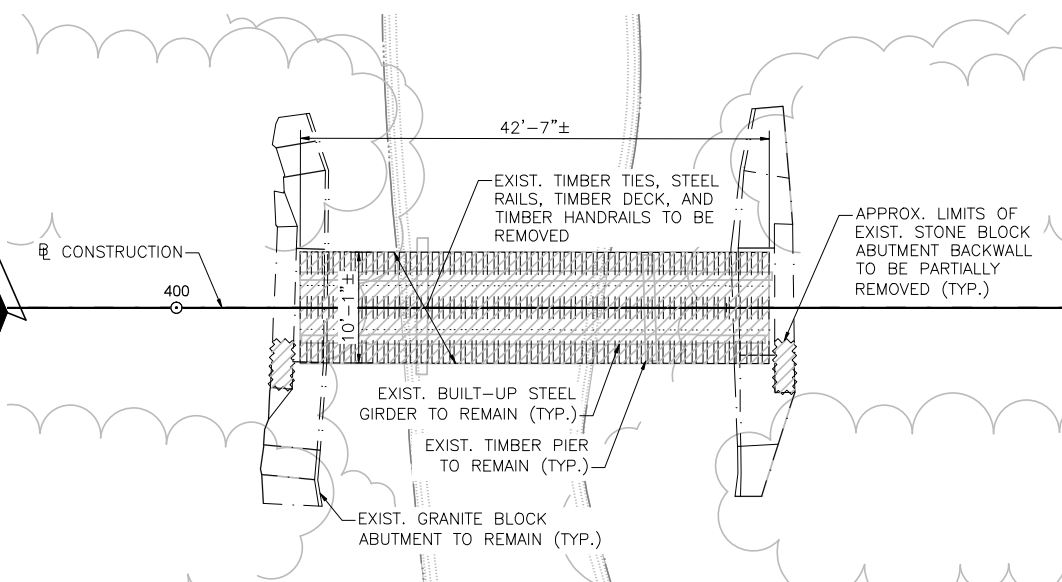
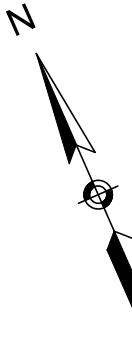


PROFILE - ACCESS DRIVE
HORIZONTAL SCALE: 1"=10'
VERTICAL SCALE: 1/2"=1'-0"

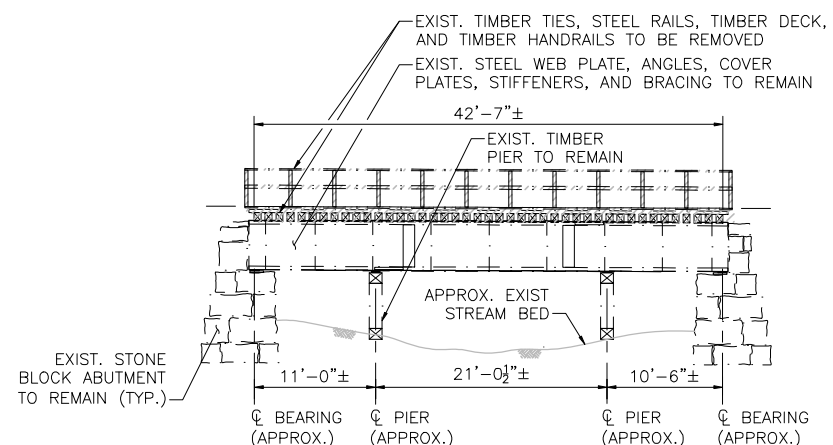


| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|--------------|----------------|-----------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE S-31-017 (BRIDGE 128) - KEY PLAN & PROFILE | | | | |
| PLANI 88 OF 349 | | | | |
| SCALE: unless noted H: 1"=10' V: 1/2"=1'-0" | DATE DEC 2021 | DRAWN AMS | CHECKED SBK | APPROVED KGK |
| DRAWING NO. | | REV. | | |

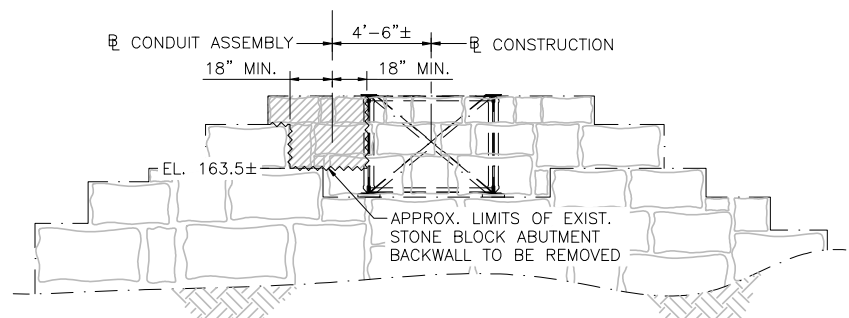
1 2 3 4 5 6 7 8 9 10 11



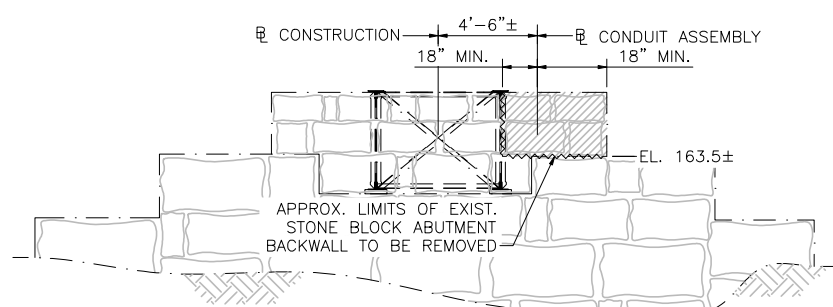
BRIDGE PLAN
SCALE: $\frac{1}{8}$ "=1'-0"



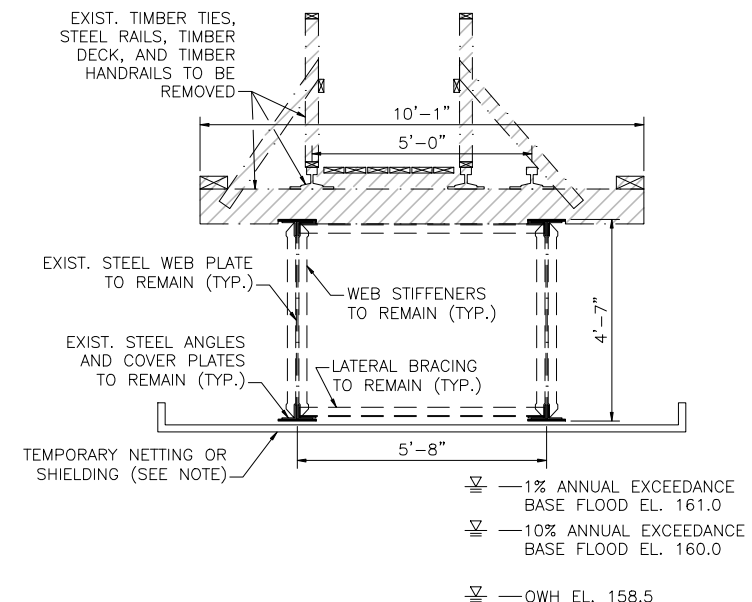
BRIDGE ELEVATION
SCALE: $\frac{1}{8}$ "=1'-0"



WEST ABUTMENT ELEVATION
SCALE: $\frac{1}{4}$ "=1'-0"



EAST ABUTMENT ELEVATION
SCALE: $\frac{1}{4}$ "=1'-0"



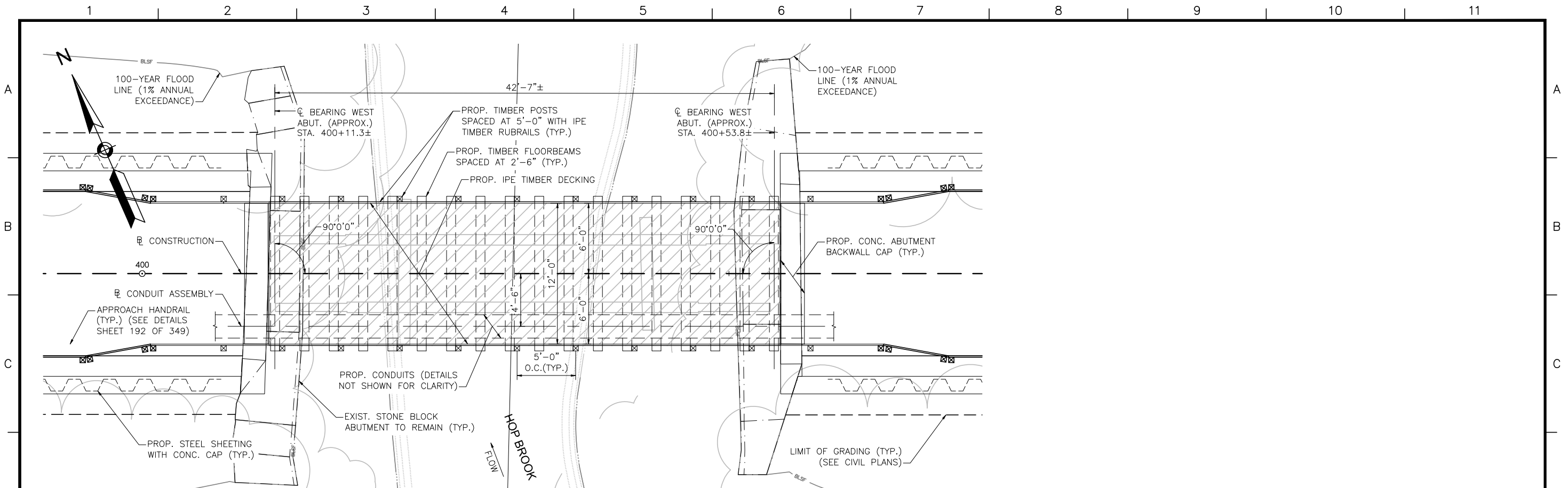
BRIDGE TRANSVERSE SECTION
SCALE: $\frac{1}{4}$ "=1'-0"

NOTE: CONTRACTOR SHALL DESIGN AND INSTALL TEMPORARY PROTECTIVE SHIELDING OR NETTING DURING DEMOLITION OF BRIDGE AND AS NEEDED DURING CONSTRUCTION OF NEW BRIDGE TO PREVENT CONSTRUCTION DEBRIS FROM FALLING INTO THE WATER BODIES BELOW. SEE PROJECT SPECIFICATIONS AND PERMITTING DOCUMENTS FOR ADDITIONAL REQUIREMENTS AND INFORMATION.



| NO. | DESCRIPTION | BY | DATE | APPR. | |
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| | | | | | REVISION |
| EVERSOURCE | | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | |
| BRIDGE S-31-017 (BRIDGE 128) - DEMOLITION PLAN | | | | | |
| PLAN 89 OF 349 | | | | | |
| SCALE: unless noted VARIES | DATE: DEC 2021 | DRAWN: AMS | C'H'K'D: SBK | APPR: KGK | DRAWING NO. REV. |

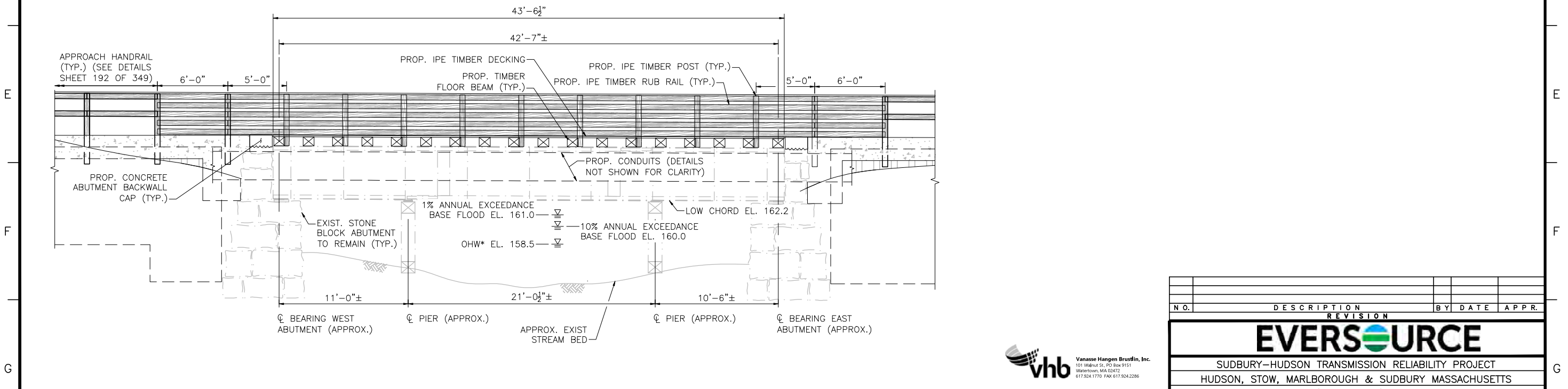
1 2 3 4 5 6 7 8 9 10 11



BRIDGE 128 (HOP BROOK) PLAN

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

*NOTE: OHW = ESTIMATED ORDINARY HIGH WATER



BRIDGE 128 (HOP BROOK) ELEVATION

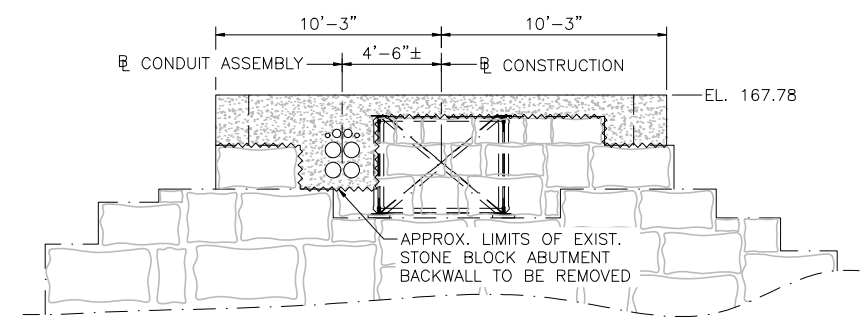
SCALE: 1/4"=1'-0"



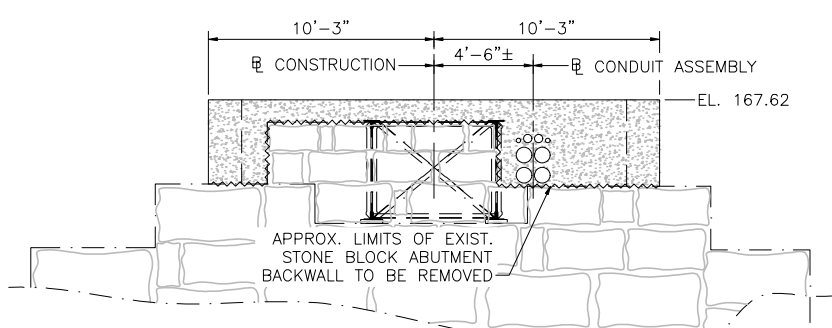
| NO. | DESCRIPTION | BY | DATE | APPR. |
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| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE S-31-017 (BRIDGE 128) - PLAN & ELEVATION | | | | |
| PLAN 190 OF 349 | | | | |
| SCALE: unless noted 1"=4' | DATE DEC 2021 | DRAWN AMS | C'H'K D. SBK | APPR. KGK |
| DRAWING NO. | REV. | | | |

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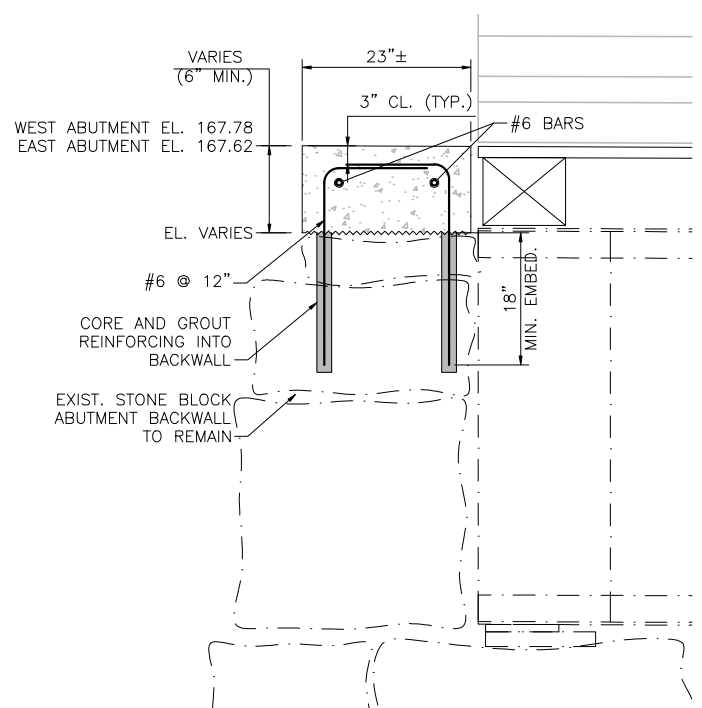
NOTES:
 1. UTILITY SLEEVES SHALL BE STEEL PIPE CONFORMING TO ASTM A-53, TYPE S, GRADE B, STANDARD WEIGHT, PLAIN ENDS, HOT-DIP GALVANIZED AND SHALL BE SET IN THE FORMS PRIOR TO PLACING CONCRETE.



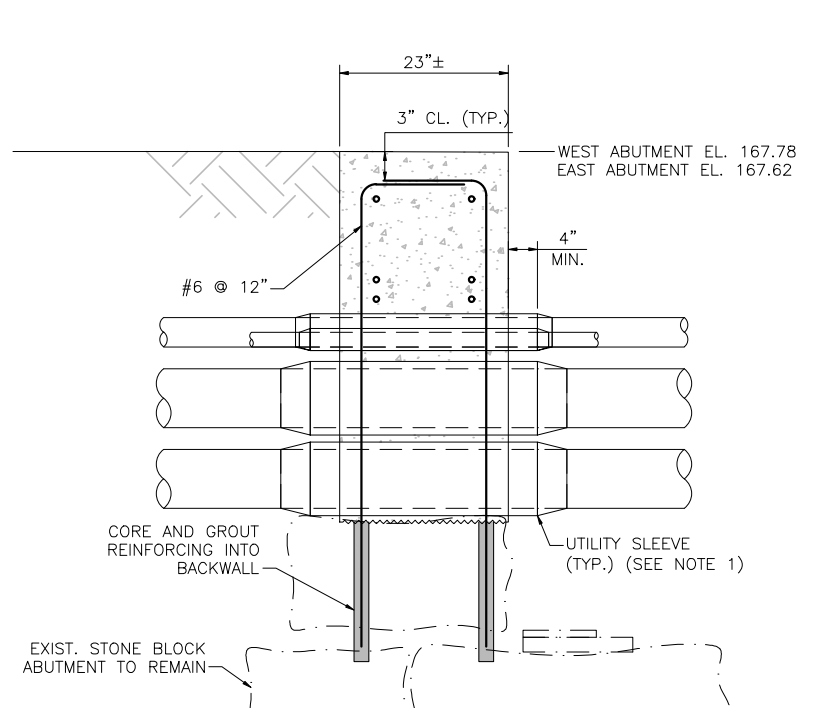
WEST ABUTMENT ELEVATION
 SCALE: 1/2"=1'-0"



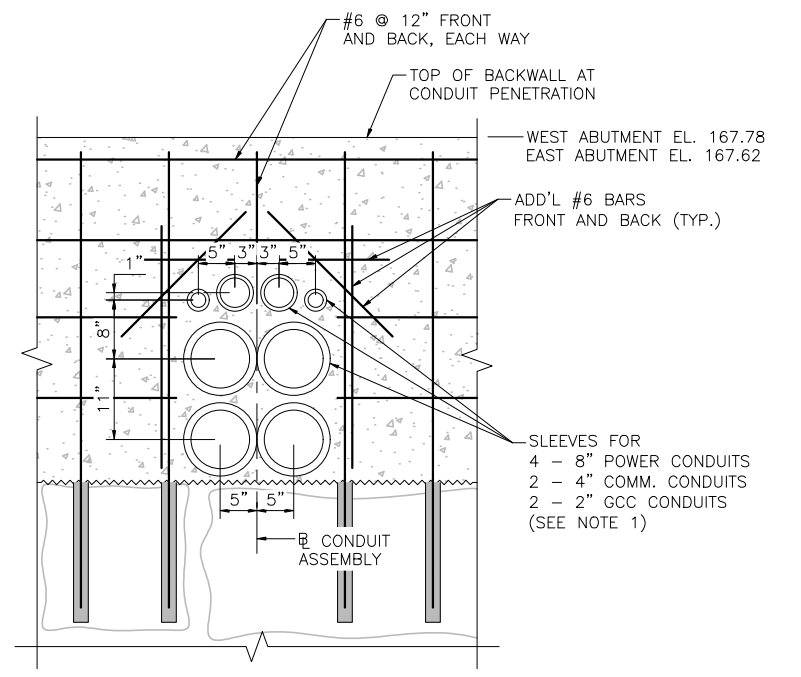
EAST ABUTMENT ELEVATION
 SCALE: 1/2"=1'-0"



BACKWALL CAP DETAIL
 SCALE: 1"=1'-0"



CONDUIT PENETRATION DETAIL
 SCALE: 1"=1'-0"

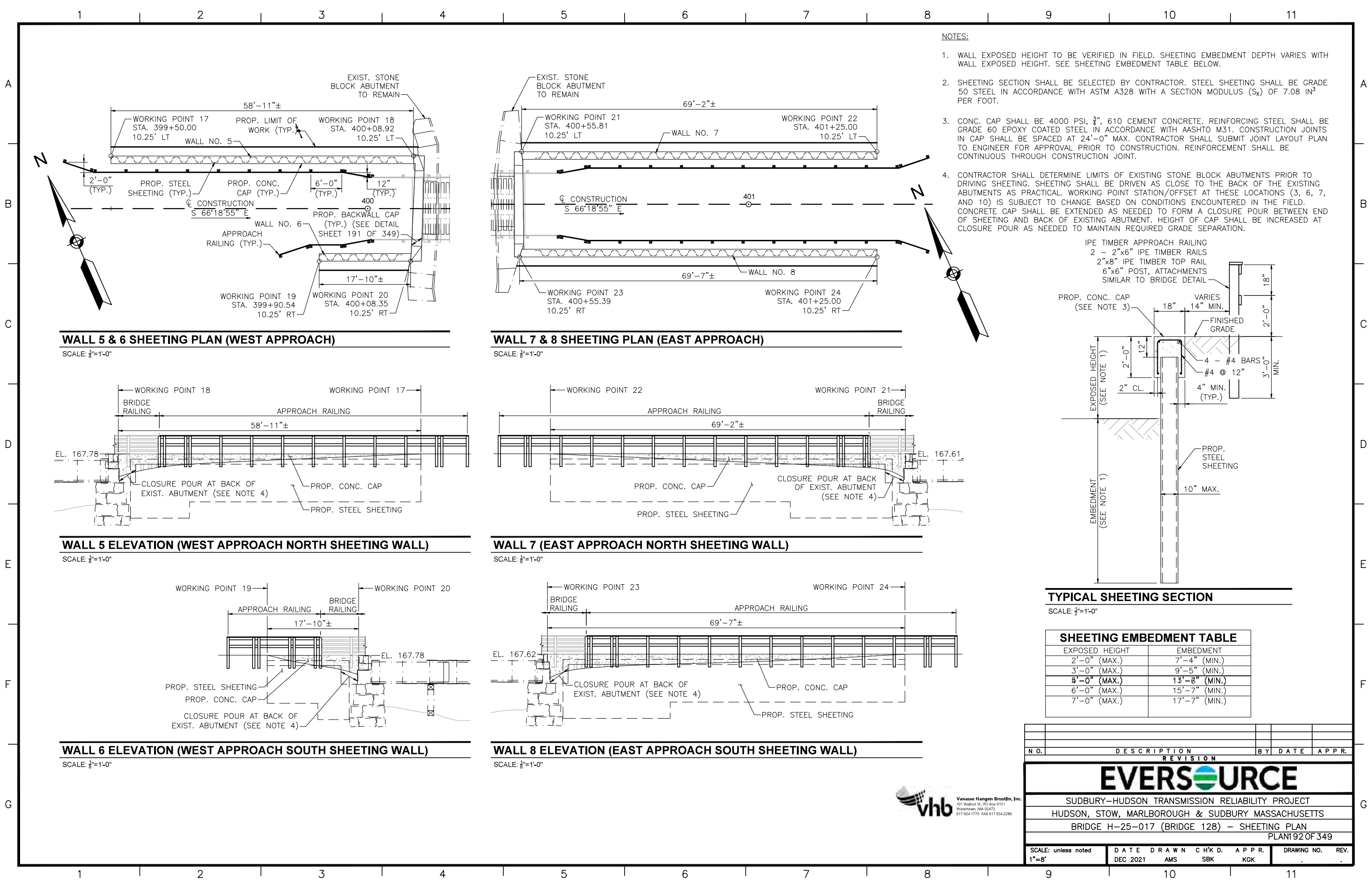


CONDUIT PENETRATION SECTION
 SCALE: 1"=1'-0"

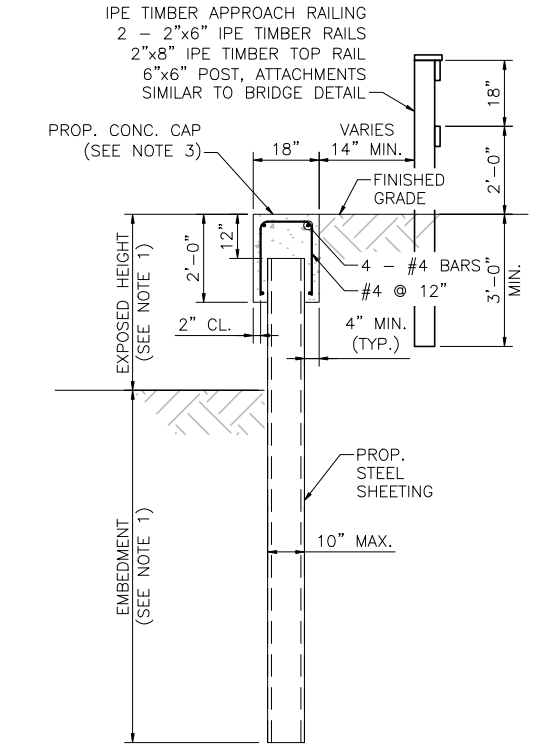
| N.O. | DESCRIPTION | BY | DATE | APPR. |
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| | REVISION | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE S-31-017 (BRIDGE 128) - ABUTMENT DETAILS | | | | |
| PLAN 1910F 349 | | | | |
| SCALE: unless noted VARIES | DATE DEC 2021 | DRAWN AMS | C H'K D. SBK | APPR. KGK |
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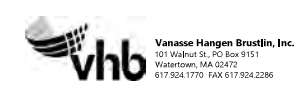
- NOTES:**
1. WALL EXPOSED HEIGHT TO BE VERIFIED IN FIELD. SHEETING EMBEDMENT DEPTH VARIES WITH WALL EXPOSED HEIGHT. SEE SHEETING EMBEDMENT TABLE BELOW.
 2. SHEETING SECTION SHALL BE SELECTED BY CONTRACTOR. STEEL SHEETING SHALL BE GRADE 50 STEEL IN ACCORDANCE WITH ASTM A328 WITH A SECTION MODULUS (S_x) OF 7.08 IN³ PER FOOT.
 3. CONC. CAP SHALL BE 4000 PSI, 3/4", 610 CEMENT CONCRETE. REINFORCING STEEL SHALL BE GRADE 60 EPOXY COATED STEEL IN ACCORDANCE WITH AASHTO M31. CONSTRUCTION JOINTS IN CAP SHALL BE SPACED AT 24'-0" MAX. CONTRACTOR SHALL SUBMIT JOINT LAYOUT PLAN TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINT.
 4. CONTRACTOR SHALL DETERMINE LIMITS OF EXISTING STONE BLOCK ABUTMENTS PRIOR TO DRIVING SHEETING. SHEETING SHALL BE DRIVEN AS CLOSE TO THE BACK OF THE EXISTING ABUTMENTS AS PRACTICAL. WORKING POINT STATION/OFFSET AT THESE LOCATIONS (3, 6, 7, AND 10) IS SUBJECT TO CHANGE BASED ON CONDITIONS ENCOUNTERED IN THE FIELD. CONCRETE CAP SHALL BE EXTENDED AS NEEDED TO FORM A CLOSURE POUR BETWEEN END OF SHEETING AND BACK OF EXISTING ABUTMENT. HEIGHT OF CAP SHALL BE INCREASED AT CLOSURE POUR AS NEEDED TO MAINTAIN REQUIRED GRADE SEPARATION.



TYPICAL SHEETING SECTION
SCALE: 1/2"=1'-0"

| SHEETING EMBEDMENT TABLE | |
|--------------------------|---------------|
| EXPOSED HEIGHT | EMBEDMENT |
| 2'-0" (MAX.) | 7'-4" (MIN.) |
| 3'-0" (MAX.) | 9'-5" (MIN.) |
| 4'-0" (MAX.) | 13'-8" (MIN.) |
| 6'-0" (MAX.) | 15'-7" (MIN.) |
| 7'-0" (MAX.) | 17'-7" (MIN.) |

| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|--------------|-----------------|-----------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE H-25-017 (BRIDGE 128) - SHEETING PLAN | | | | |
| PLANT 92 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN AMS | C H'K D. SBK | A P P R. KGK |
| DRAWING NO. | | REV. | | |



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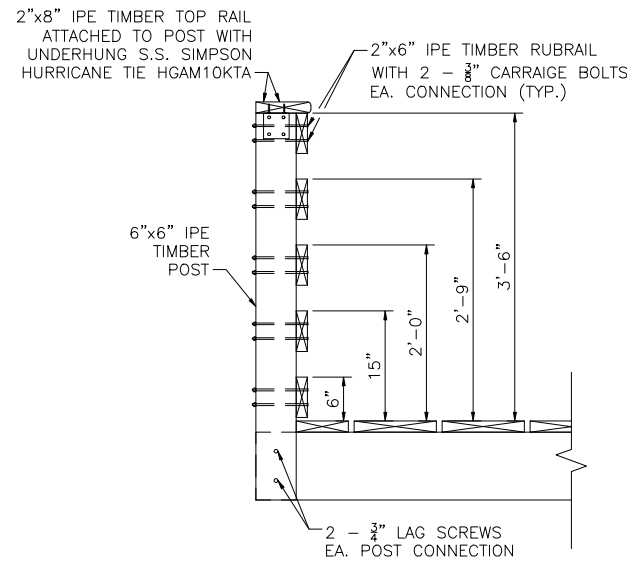
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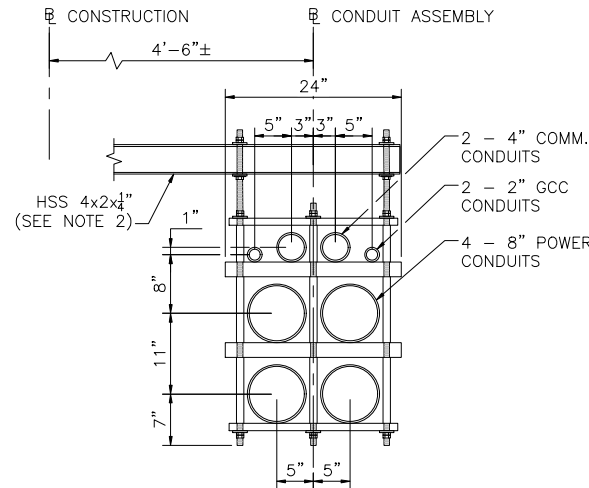
NOTES:

- EXIST. STEEL GIRDERS CAN SUPPORT TEMPORARY H20 LOADING DURING CONSTRUCTION. TIMBER DECKING IS DESIGNED FOR H10 LOADING WITHOUT IMPACT AND 90 PSF PEDESTRIAN LOADING, WHICHEVER CONTROLS. CONTRACTOR SHALL DESIGN TEMPORARY DECKING IF BRIDGE IS INTENDED TO BE USED FOR CONSTRUCTION VEHICLES.
- HSS CONDUIT SUPPORT MEMBERS SHALL BE STRUCTURAL STEEL IN ACCORDANCE WITH MASSDOT STANDARD SPECIFICATIONS SECTION M8.05.0 AND SHALL BE PAINTED IN ACCORDANCE WITH MASSDOT STANDARD SPECIFICATIONS SECTION M7.02. PAINT COLOR FOR HSS SUPPORT MEMBER SHALL MATCH COLOR OF CONDUIT HANGER ASSEMBLY.



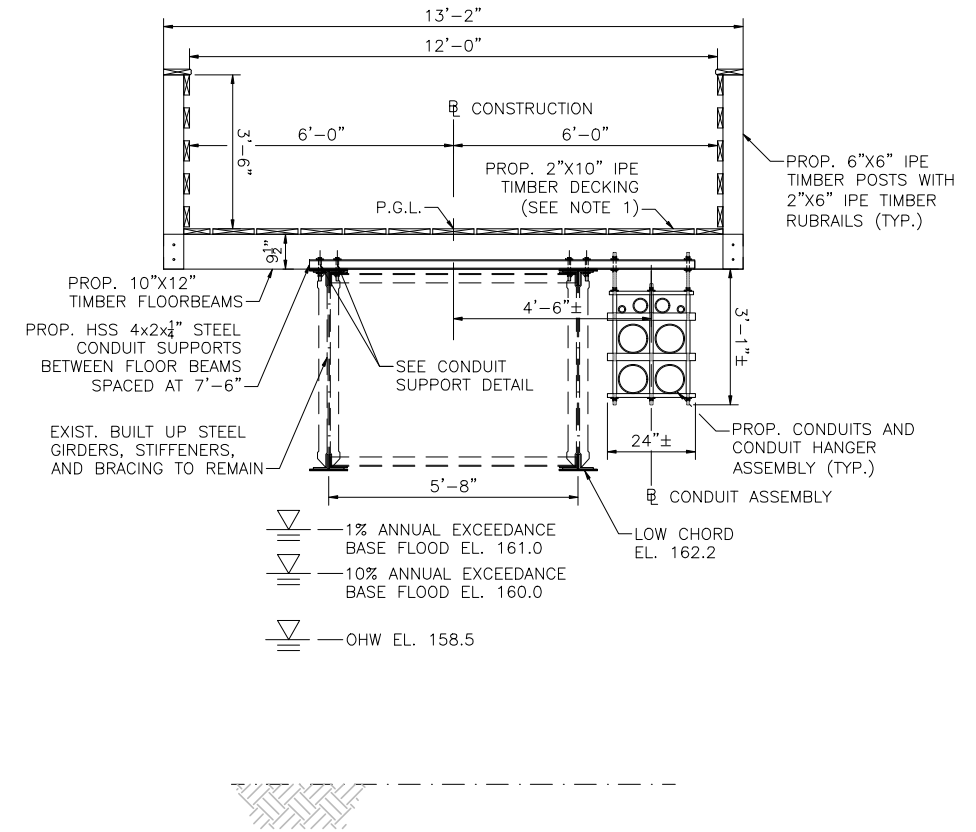
RAILING CONNECTION DETAIL

SCALE: 1"=1'-0"



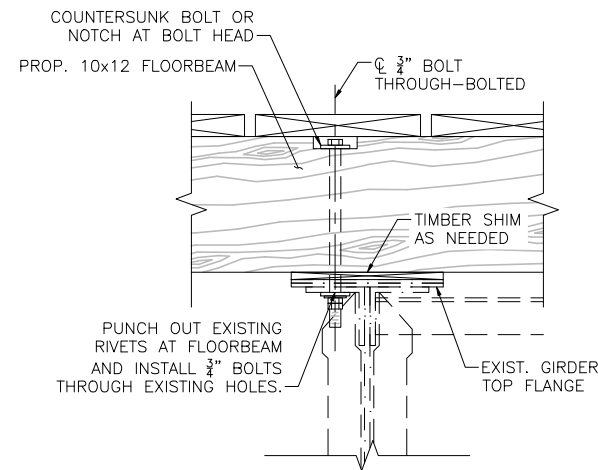
CONDUIT ASSEMBLY DETAIL

SCALE: 1"=1'-0"

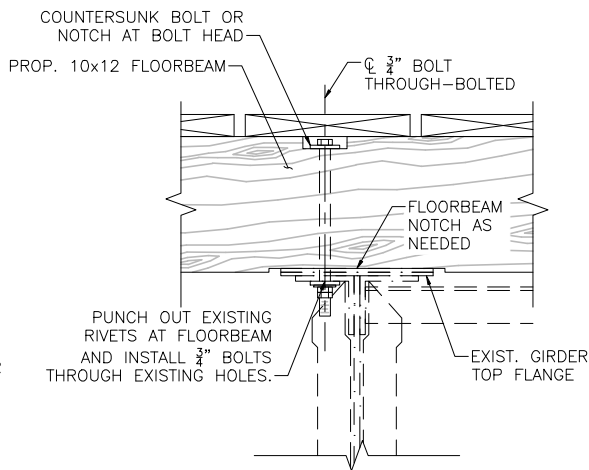


BRIDGE TRANSVERSE SECTION

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



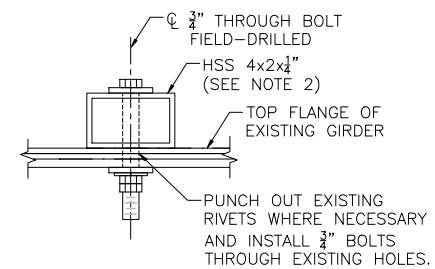
AT BUILD-UP



AT CUT-OUT

FLOORBEAM CONNECTION DETAIL

SCALE: 2"=1'-0"

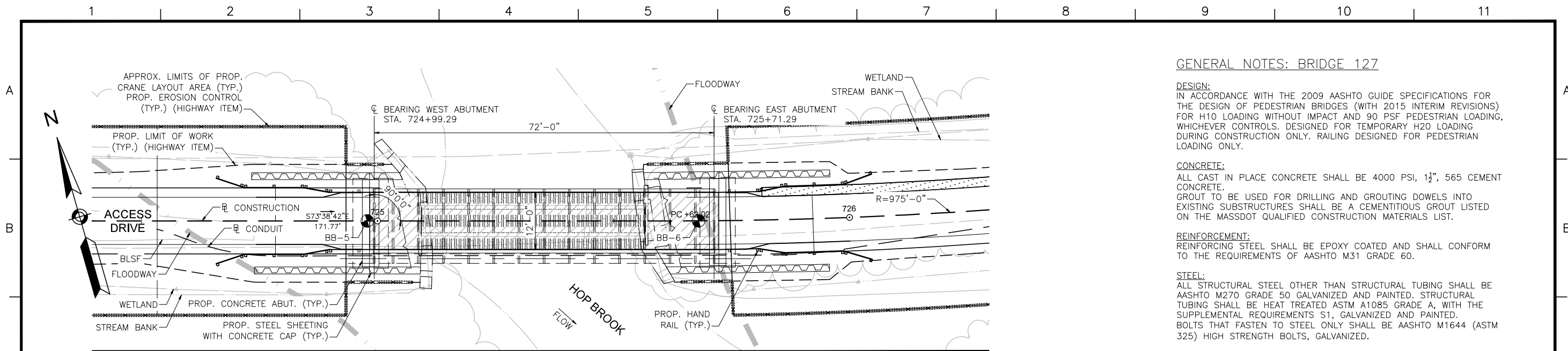


CONDUIT SUPPORT DETAIL

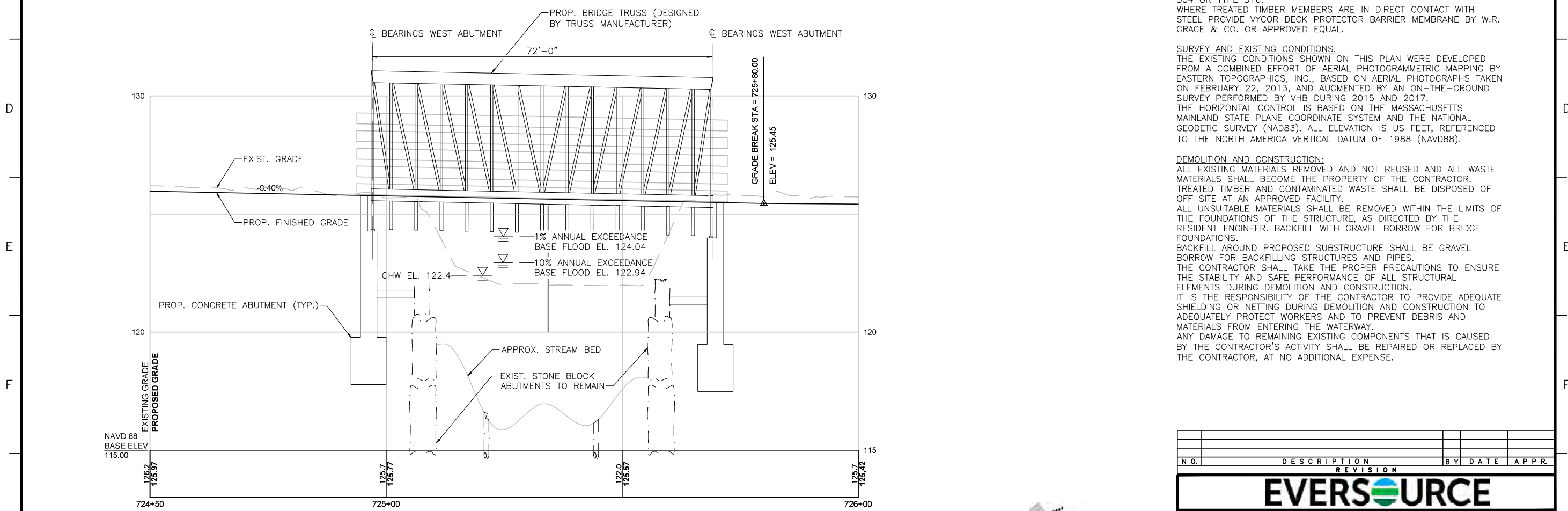
SCALE: 3"=1'-0"

| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|--------------|----------------|-----------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE S-31-017 (BRIDGE 128) - SECTION & DETAILS | | | | |
| PLAN 1930F 349 | | | | |
| SCALE: unless noted VARIES | DATE DEC 2021 | DRAWN AMS | CHECKED SBK | APPROVED KGK |
| DRAWING NO. | | REV. | | |





BRIDGE KEY PLAN
SCALE: 1"=10'-0"



PROFILE - ACCESS DRIVE
HORIZONTAL SCALE: 1"=10'-0"
VERTICAL SCALE: 1"=2'-0"

GENERAL NOTES: BRIDGE 127

DESIGN:
IN ACCORDANCE WITH THE 2009 AASHTO GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES (WITH 2015 INTERIM REVISIONS) FOR H10 LOADING WITHOUT IMPACT AND 90 PSF PEDESTRIAN LOADING, WHICHEVER CONTROLS. DESIGNED FOR TEMPORARY H20 LOADING DURING CONSTRUCTION ONLY. RAILING DESIGNED FOR PEDESTRIAN LOADING ONLY.

CONCRETE:
ALL CAST IN PLACE CONCRETE SHALL BE 4000 PSI, 1 1/2", 565 CEMENT CONCRETE.
GROUT TO BE USED FOR DRILLING AND GROUTING DOWELS INTO EXISTING SUBSTRUCTURES SHALL BE A CEMENTITIOUS GROUT LISTED ON THE MASSDOT QUALIFIED CONSTRUCTION MATERIALS LIST.

REINFORCEMENT:
REINFORCING STEEL SHALL BE EPOXY COATED AND SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M31 GRADE 60.

STEEL:
ALL STRUCTURAL STEEL OTHER THAN STRUCTURAL TUBING SHALL BE AASHTO M270 GRADE 50 GALVANIZED AND PAINTED. STRUCTURAL TUBING SHALL BE HEAT TREATED ASTM A1085 GRADE A, WITH THE SUPPLEMENTAL REQUIREMENTS S1, GALVANIZED AND PAINTED. BOLTS THAT FASTEN TO STEEL ONLY SHALL BE AASHTO M1644 (ASTM 325) HIGH STRENGTH BOLTS, GALVANIZED.

TIMBER:
DECK PLANKING AND RAILINGS: IPE, F_b min = 22,000 psi.
ALL NAILS, SCREWS, BOLTS, WASHERS, CONNECTORS, FASTENERS AND HARDWARE FOR WOOD CONNECTIONS SHALL BE STAINLESS STEEL TYPE 304 OR TYPE 316.
WHERE TREATED TIMBER MEMBERS ARE IN DIRECT CONTACT WITH STEEL PROVIDE VYCOR DECK PROTECTOR BARRIER MEMBRANE BY W.R. GRACE & CO. OR APPROVED EQUAL.

SURVEY AND EXISTING CONDITIONS:
THE EXISTING CONDITIONS SHOWN ON THIS PLAN WERE DEVELOPED FROM A COMBINED EFFORT OF AERIAL PHOTOGRAMMETRIC MAPPING BY EASTERN TOPOGRAPHICS, INC., BASED ON AERIAL PHOTOGRAPHS TAKEN ON FEBRUARY 22, 2013, AND AUGMENTED BY AN ON-THE-GROUND SURVEY PERFORMED BY VHB DURING 2015 AND 2017. THE HORIZONTAL CONTROL IS BASED ON THE MASSACHUSETTS MAINLAND STATE PLANE COORDINATE SYSTEM AND THE NATIONAL GEODETIC SURVEY (NAD83). ALL ELEVATION IS US FEET, REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD88).

DEMOLITION AND CONSTRUCTION:
ALL EXISTING MATERIALS REMOVED AND NOT REUSED AND ALL WASTE MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. TREATED TIMBER AND CONTAMINATED WASTE SHALL BE DISPOSED OF OFF SITE AT AN APPROVED FACILITY.
ALL UNSUITABLE MATERIALS SHALL BE REMOVED WITHIN THE LIMITS OF THE FOUNDATIONS OF THE STRUCTURE, AS DIRECTED BY THE RESIDENT ENGINEER. BACKFILL WITH GRAVEL BORROW FOR BRIDGE FOUNDATIONS.
BACKFILL AROUND PROPOSED SUBSTRUCTURE SHALL BE GRAVEL BORROW FOR BACKFILLING STRUCTURES AND PIPES.
THE CONTRACTOR SHALL TAKE THE PROPER PRECAUTIONS TO ENSURE THE STABILITY AND SAFE PERFORMANCE OF ALL STRUCTURAL ELEMENTS DURING DEMOLITION AND CONSTRUCTION.
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ADEQUATE SHIELDING OR NETTING DURING DEMOLITION AND CONSTRUCTION TO ADEQUATELY PROTECT WORKERS AND TO PREVENT DEBRIS AND MATERIALS FROM ENTERING THE WATERWAY.
ANY DAMAGE TO REMAINING EXISTING COMPONENTS THAT IS CAUSED BY THE CONTRACTOR'S ACTIVITY SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR, AT NO ADDITIONAL EXPENSE.



| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|--------------|----------------|-----------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE S-31-016 (BRIDGE 127) - KEY PLAN & PROFILE | | | | |
| PLANT 94 OF 349 | | | | |
| SCALE: unless noted H: 1"=10' V: 1"=2' | DATE DEC 2021 | DRAWN AMS | CHECKED SBK | APPROVED KGK |
| DRAWING NO. | | REV. | | |

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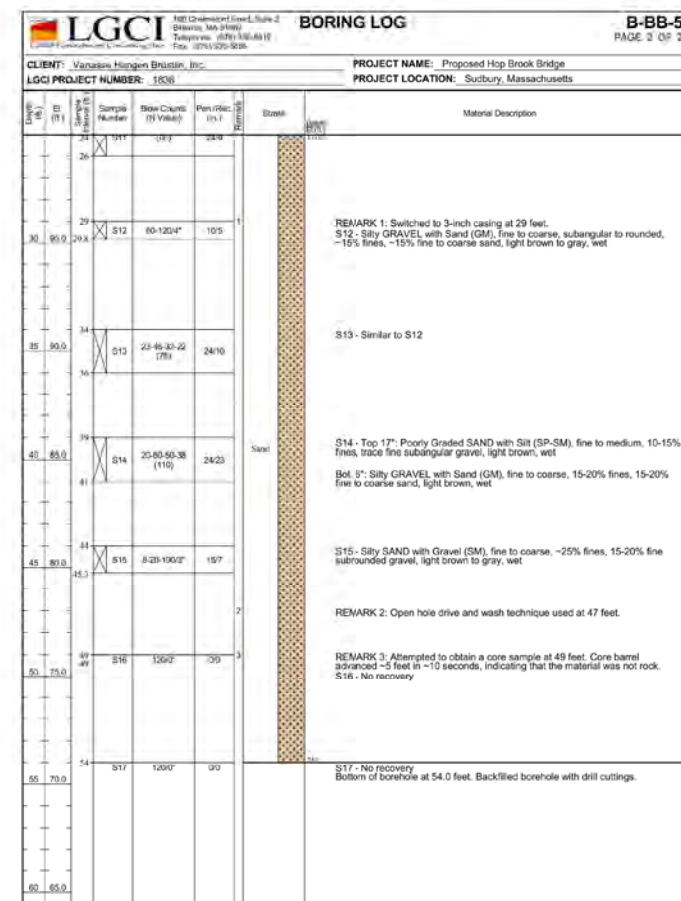
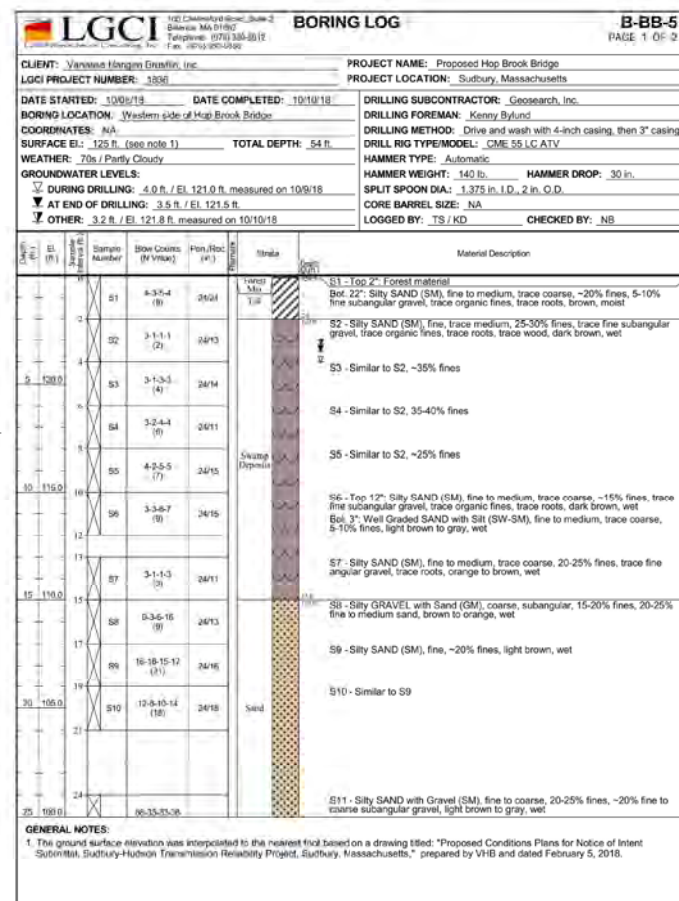
BORING BB-5
 STATION: 724+98
 OFFSET: 0.0' LT
 N: 2956151.0
 E: 679475.0
 GROUND ELEVATION: 125.0'
 (SEE NOTE 10)

BORING BB-5 (CONTINUED)

BORING NOTES:

1. LOCATION OF BORINGS SHOWN ON THE KEY PLAN THUS: 
2. BORINGS ARE TAKEN FOR 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.
3. WATER LEVELS SHOWN ON THE BORING LOGS ARE ASSUMED BASED ON BORINGS PERFORMED FOR THE EXISTING BRIDGE, AS NOTED IN THE GEOTECHNICAL REPORT DATED DECEMBER 2018.
4. FIGURES IN COLUMNS INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE A 1 1/8" I.D. SPLIT SPOON SAMPLER 6" USING A 140 POUND WEIGHT FALLING 30".
5. ALL BORINGS WERE MADE IN OCTOBER OF 2018.
6. BORINGS WERE MADE BY GEOLOGIC EARTH EXPLORATION, INC., 7 SHERWOOD DR., NORFOLK, MA 02056.
7. THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988 IS USED THROUGHOUT.
8. BORING LOCATIONS AND ELEVATIONS ARE APPROXIMATE ONLY.

BOTTOM OF FOOTING
 EL. 117.76



Vanasse Hangen Brustlin, Inc.
 101 Walnut St., P.O. Box 9151
 Watertown, MA 02472
 617.924.1770 FAX 617.924.2286

| NO. | DESCRIPTION | BY | DATE | APPR. |
|--|-------------|-------|---------|-------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH, & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE S-31-016 (BRIDGE 127) - BORING LOGS | | | | |
| PLAN 195 OF 349 | | | | |
| SCALE: unless noted | DATE | DRAWN | CHECKED | APPR. |
| N/A | DEC 2021 | AMS | SBK | KGK |
| DRAWING NO. | REV. | | | |
| | | | | |

A

B

C

D

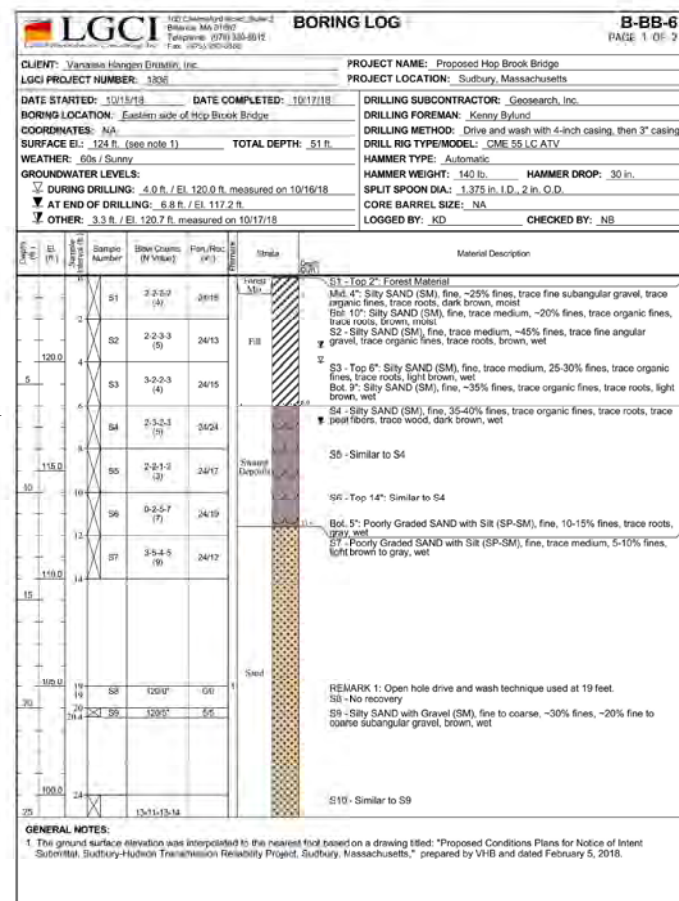
E

F

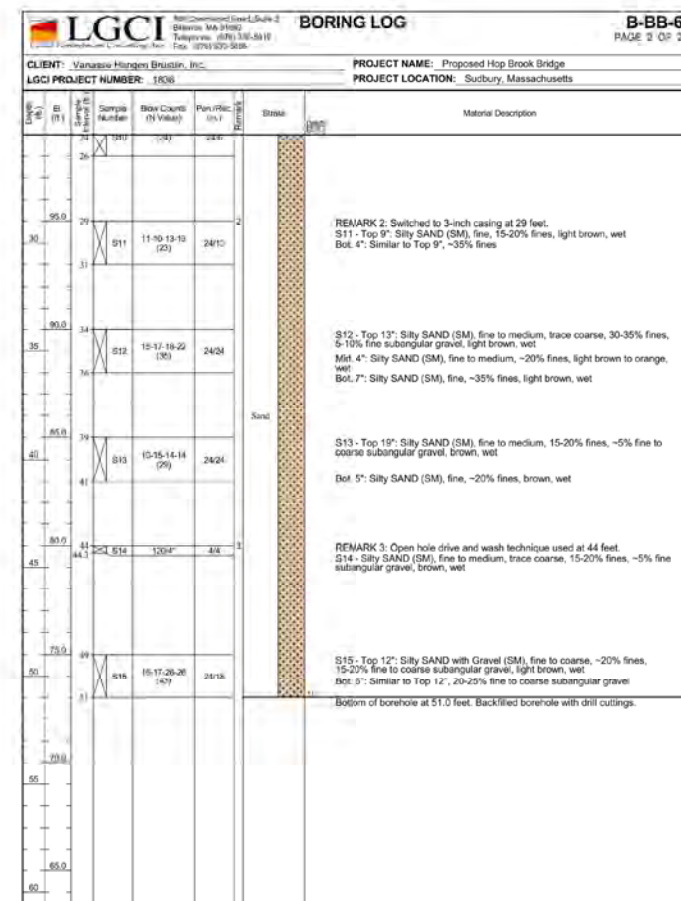
G

BORING BB-6
 STATION: 725+68.0
 OFFSET: 0.0' LT
 N: 2956131.0
 E: 679542.0
 GROUND ELEVATION: 124.0'
 (SEE NOTE 10, SHEET 195 OF 349)

BORING BB-6 (CONTINUED)

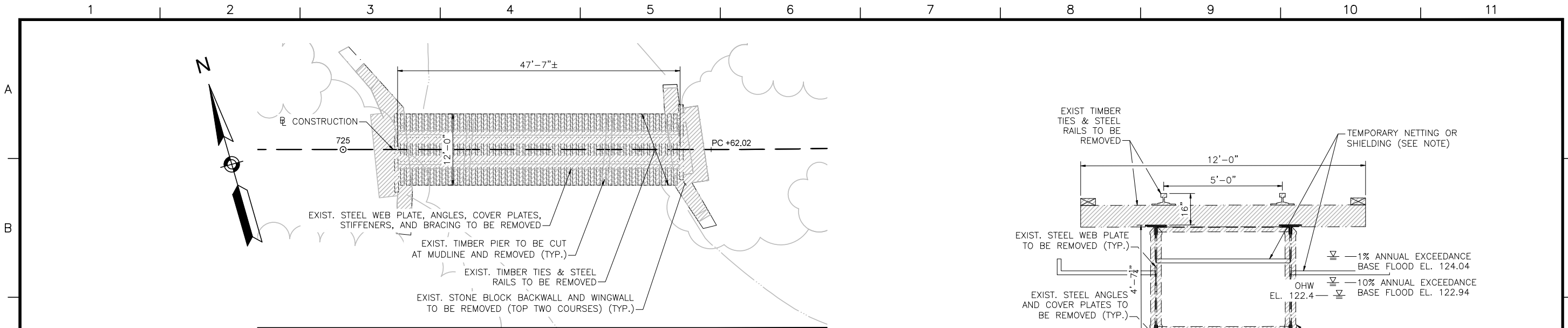


BOTTOM OF FOOTING
 EL. 117.47

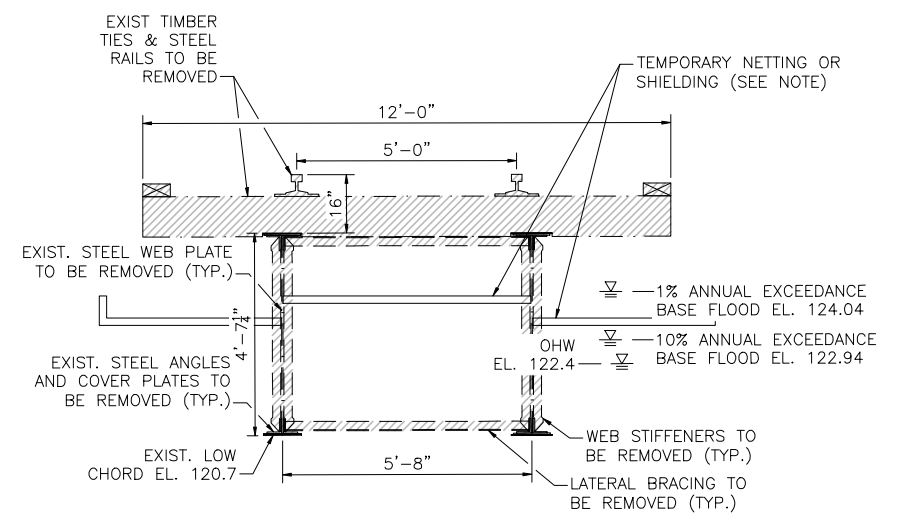


| NO. | DESCRIPTION | BY | DATE | APPR. |
|--|-------------|-------|---------|-------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH, & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE S-31-016 (BRIDGE 127) - BORING LOGS | | | | |
| PLAN 196 OF 349 | | | | |
| SCALE: unless noted | DATE | DRAWN | CHECKED | APPR. |
| N/A | DEC 2021 | AMS | SBK | KGK |
| DRAWING NO. | REV. | | | |
| | | | | |



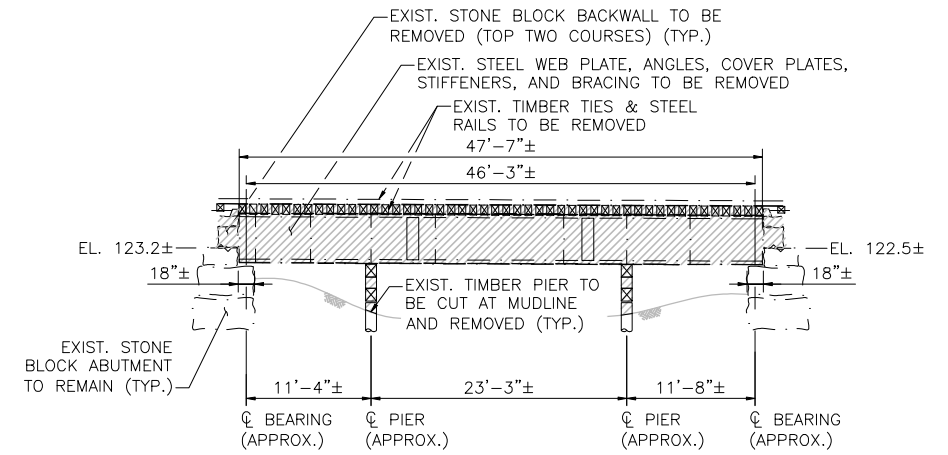


BRIDGE PLAN
SCALE: 1/4"=1'-0"

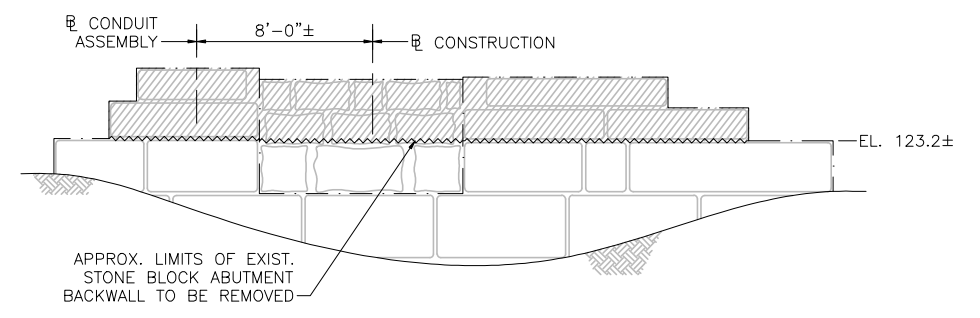


BRIDGE TRANSVERSE SECTION
SCALE: 1/2"=1'-0"

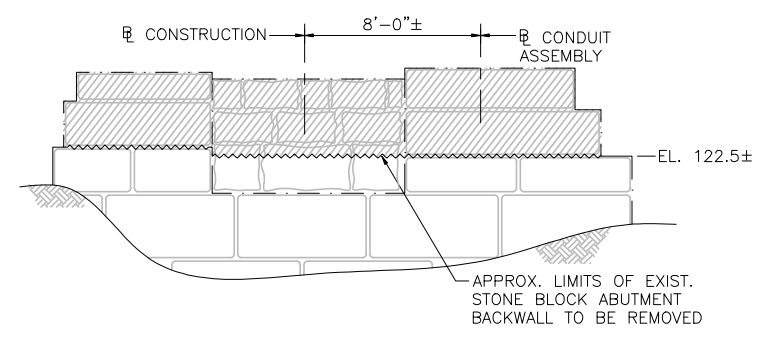
NOTE: CONTRACTOR SHALL DESIGN AND INSTALL TEMPORARY PROTECTIVE SHIELDING OR NETTING DURING DEMOLITION OF BRIDGE AND AS NEEDED DURING CONSTRUCTION OF NEW BRIDGE TO PREVENT CONSTRUCTION DEBRIS FROM FALLING INTO THE WATER BODIES BELOW. SEE PROJECT SPECIFICATIONS AND PERMITTING DOCUMENTS FOR ADDITIONAL REQUIREMENTS AND INFORMATION.



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



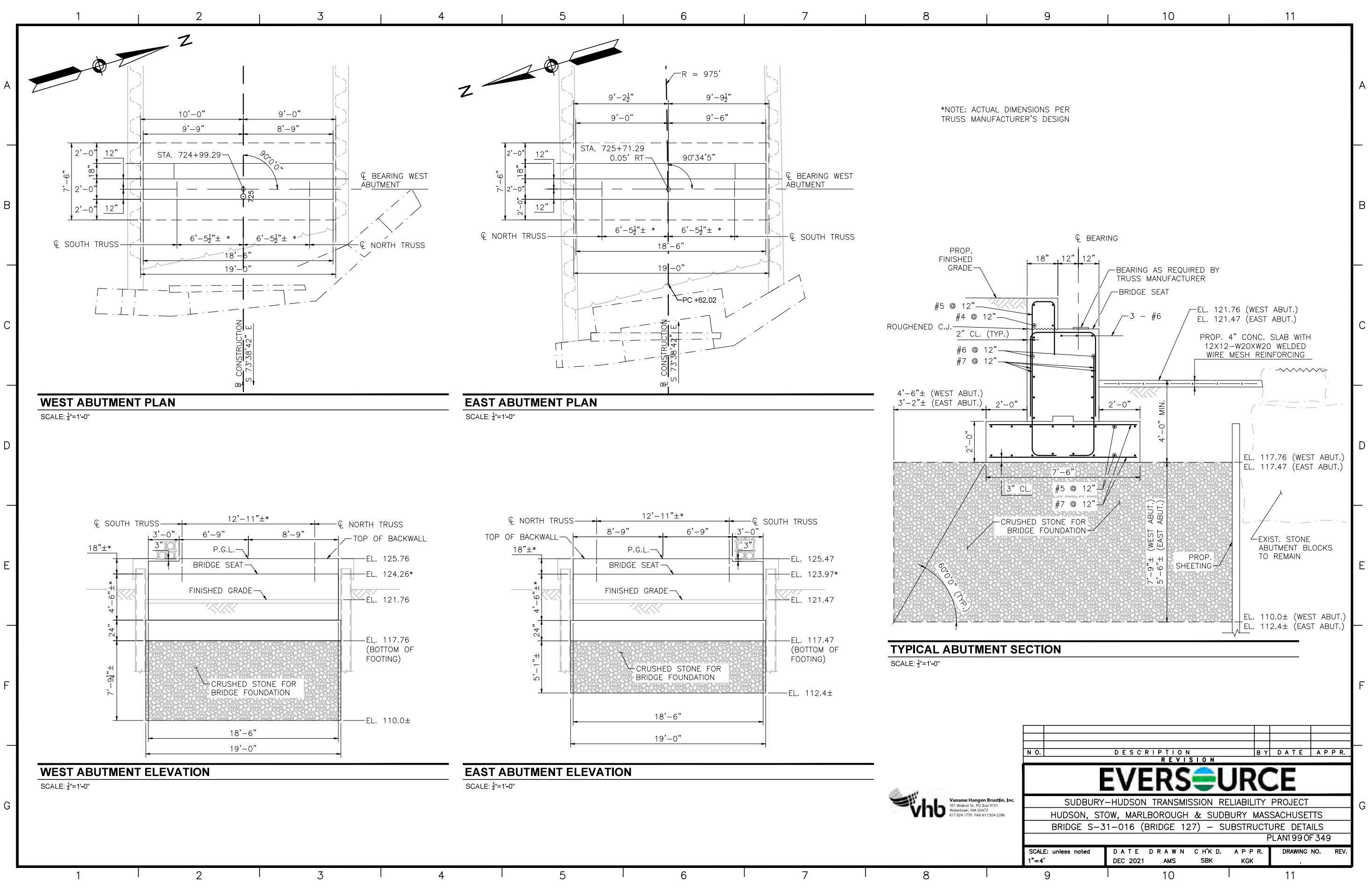
WEST ABUTMENT ELEVATION
SCALE: 1/4"=1'-0"



EAST ABUTMENT ELEVATION
SCALE: 1/4"=1'-0"



| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|----------------|------------|---------------|------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE S-31-016 (BRIDGE 127) - DEMOLITION PLAN | | | | |
| PLAN 197 OF 349 | | | | |
| SCALE: unless noted VARIES | DATE: DEC 2021 | DRAWN: AMS | C'H'K D.: SBK | APPR.: KGK |
| DRAWING NO. | REV. | | | |



*NOTE: ACTUAL DIMENSIONS PER TRUSS MANUFACTURER'S DESIGN

WEST ABUTMENT PLAN

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

EAST ABUTMENT PLAN

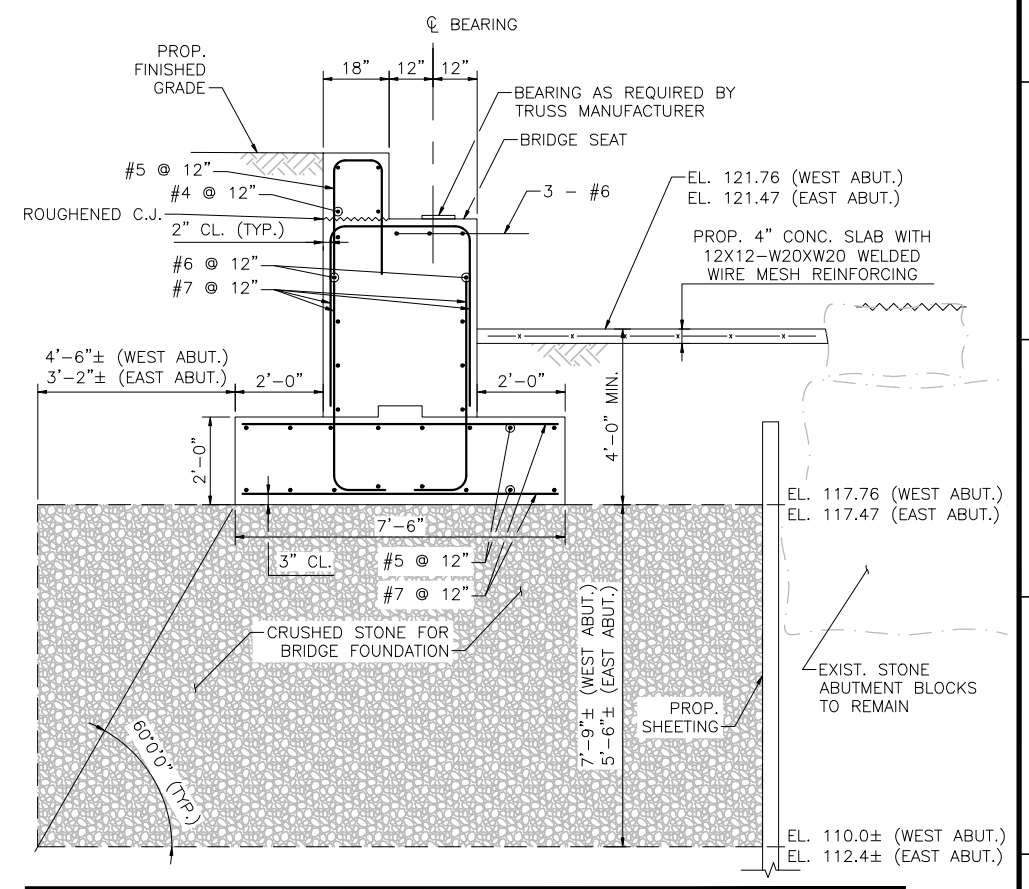
SCALE: 1/4"=1'-0"

WEST ABUTMENT ELEVATION

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

EAST ABUTMENT ELEVATION

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

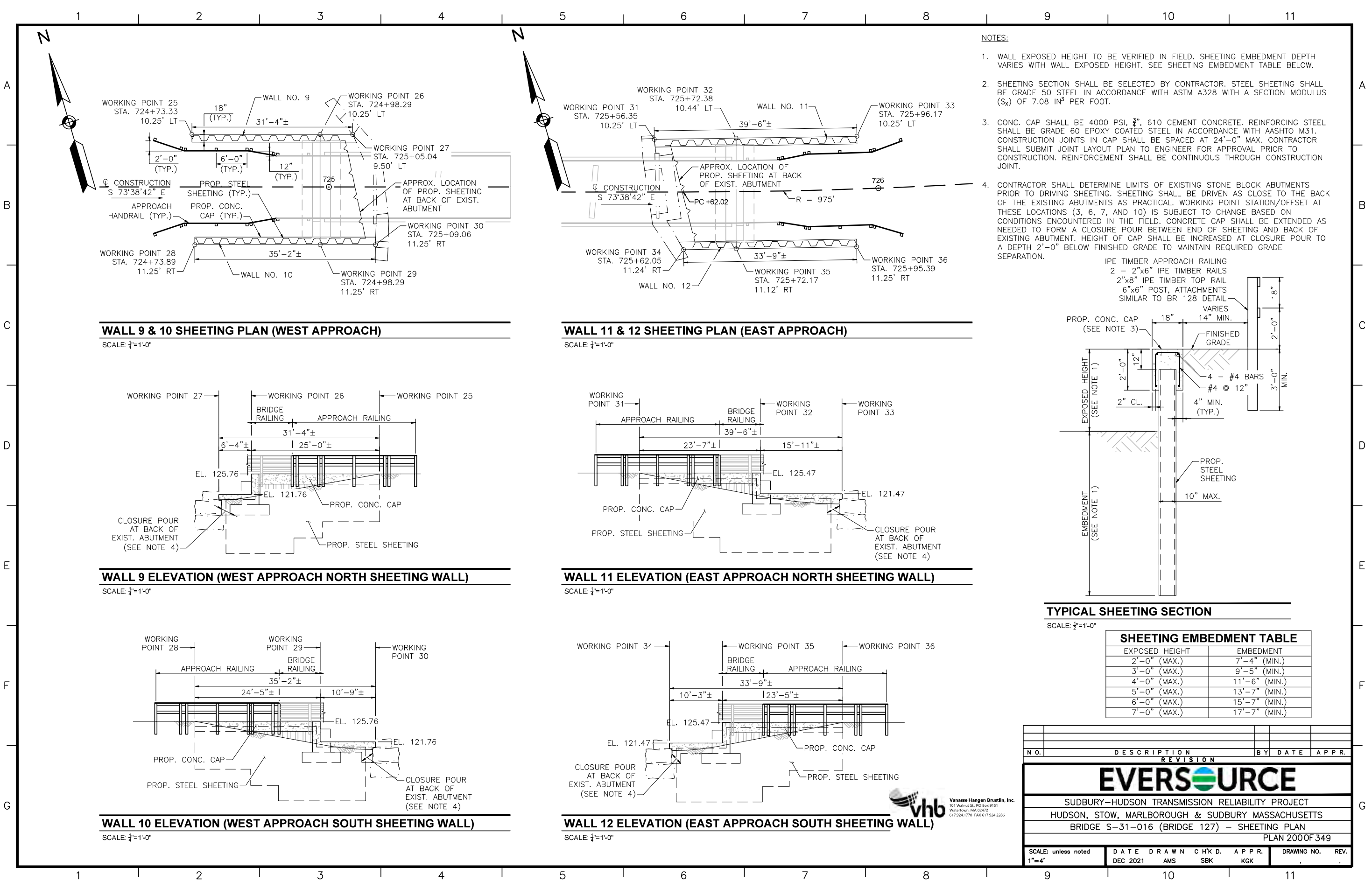


TYPICAL ABUTMENT SECTION

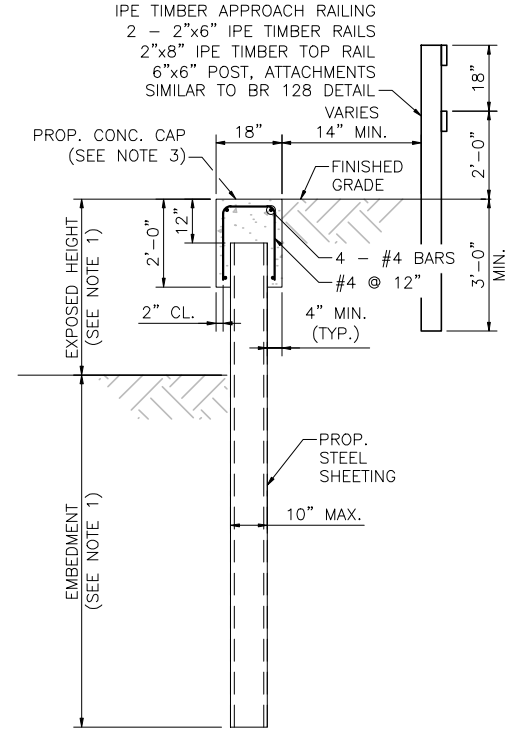
SCALE: 1/2"=1'-0"

| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|--------------|----------------|---------------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE S-31-016 (BRIDGE 127) - SUBSTRUCTURE DETAILS | | | | |
| PLAN 199 OF 349 | | | | |
| SCALE: unless noted 1"=4' | DATE DEC 2021 | DRAWN AMS | CHECKED SBK | APPROVED KGG |
| | | | | DRAWING NO. REV. |





- NOTES:**
1. WALL EXPOSED HEIGHT TO BE VERIFIED IN FIELD. SHEETING EMBEDMENT DEPTH VARIES WITH WALL EXPOSED HEIGHT. SEE SHEETING EMBEDMENT TABLE BELOW.
 2. SHEETING SECTION SHALL BE SELECTED BY CONTRACTOR. STEEL SHEETING SHALL BE GRADE 50 STEEL IN ACCORDANCE WITH ASTM A328 WITH A SECTION MODULUS (S_x) OF 7.08 IN³ PER FOOT.
 3. CONC. CAP SHALL BE 4000 PSI, $\frac{3}{4}$ " 610 CEMENT CONCRETE. REINFORCING STEEL SHALL BE GRADE 60 EPOXY COATED STEEL IN ACCORDANCE WITH AASHTO M31. CONSTRUCTION JOINTS IN CAP SHALL BE SPACED AT 24'-0" MAX. CONTRACTOR SHALL SUBMIT JOINT LAYOUT PLAN TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINT.
 4. CONTRACTOR SHALL DETERMINE LIMITS OF EXISTING STONE BLOCK ABUTMENTS PRIOR TO DRIVING SHEETING. SHEETING SHALL BE DRIVEN AS CLOSE TO THE BACK OF THE EXISTING ABUTMENTS AS PRACTICAL. WORKING POINT STATION/OFFSET AT THESE LOCATIONS (3, 6, 7, AND 10) IS SUBJECT TO CHANGE BASED ON CONDITIONS ENCOUNTERED IN THE FIELD. CONCRETE CAP SHALL BE EXTENDED AS NEEDED TO FORM A CLOSURE POUR BETWEEN END OF SHEETING AND BACK OF EXISTING ABUTMENT. HEIGHT OF CAP SHALL BE INCREASED AT CLOSURE POUR TO A DEPTH 2'-0" BELOW FINISHED GRADE TO MAINTAIN REQUIRED GRADE SEPARATION.



TYPICAL SHEETING SECTION
SCALE: $\frac{1}{2}$ "=1'-0"

| SHEETING EMBEDMENT TABLE | |
|--------------------------|---------------|
| EXPOSED HEIGHT | EMBEDMENT |
| 2'-0" (MAX.) | 7'-4" (MIN.) |
| 3'-0" (MAX.) | 9'-5" (MIN.) |
| 4'-0" (MAX.) | 11'-6" (MIN.) |
| 5'-0" (MAX.) | 13'-7" (MIN.) |
| 6'-0" (MAX.) | 15'-7" (MIN.) |
| 7'-0" (MAX.) | 17'-7" (MIN.) |

WALL 9 & 10 SHEETING PLAN (WEST APPROACH)

SCALE: $\frac{1}{4}$ "=1'-0"

WALL 11 & 12 SHEETING PLAN (EAST APPROACH)

SCALE: $\frac{1}{4}$ "=1'-0"

WALL 9 ELEVATION (WEST APPROACH NORTH SHEETING WALL)

SCALE: $\frac{1}{4}$ "=1'-0"

WALL 11 ELEVATION (EAST APPROACH NORTH SHEETING WALL)

SCALE: $\frac{1}{4}$ "=1'-0"

WALL 10 ELEVATION (WEST APPROACH SOUTH SHEETING WALL)

SCALE: $\frac{1}{4}$ "=1'-0"

WALL 12 ELEVATION (EAST APPROACH SOUTH SHEETING WALL)

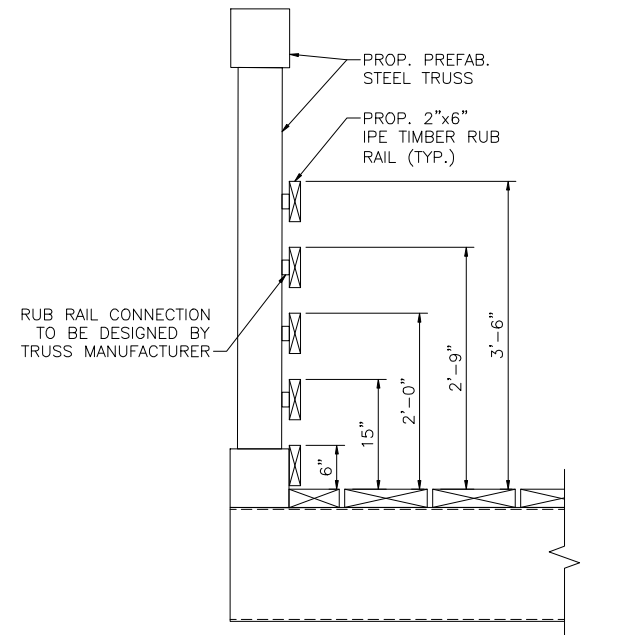
SCALE: $\frac{1}{4}$ "=1'-0"



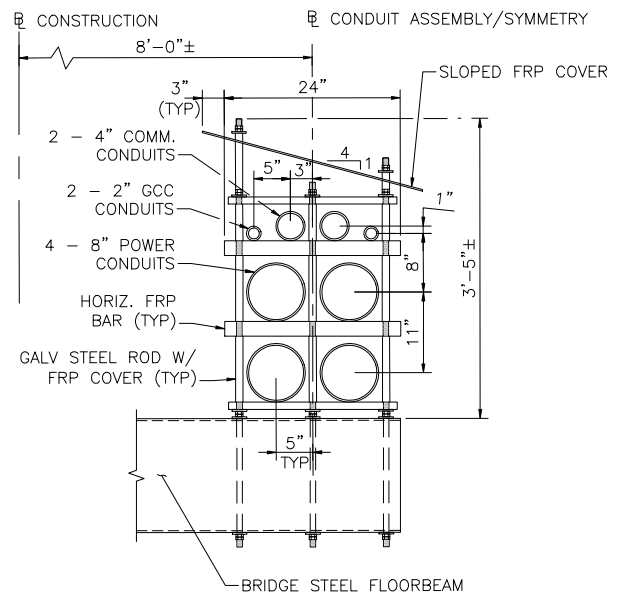
| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|--------------|----------------|---------------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE S-31-016 (BRIDGE 127) - SHEETING PLAN | | | | |
| PLAN 200 OF 349 | | | | |
| SCALE: unless noted 1"=4' | DATE DEC 2021 | DRAWN AMS | CHECKED SBK | APPROVED KGG |
| | | | | DRAWING NO. REV. |

1 2 3 4 5 6 7 8 9 10 11

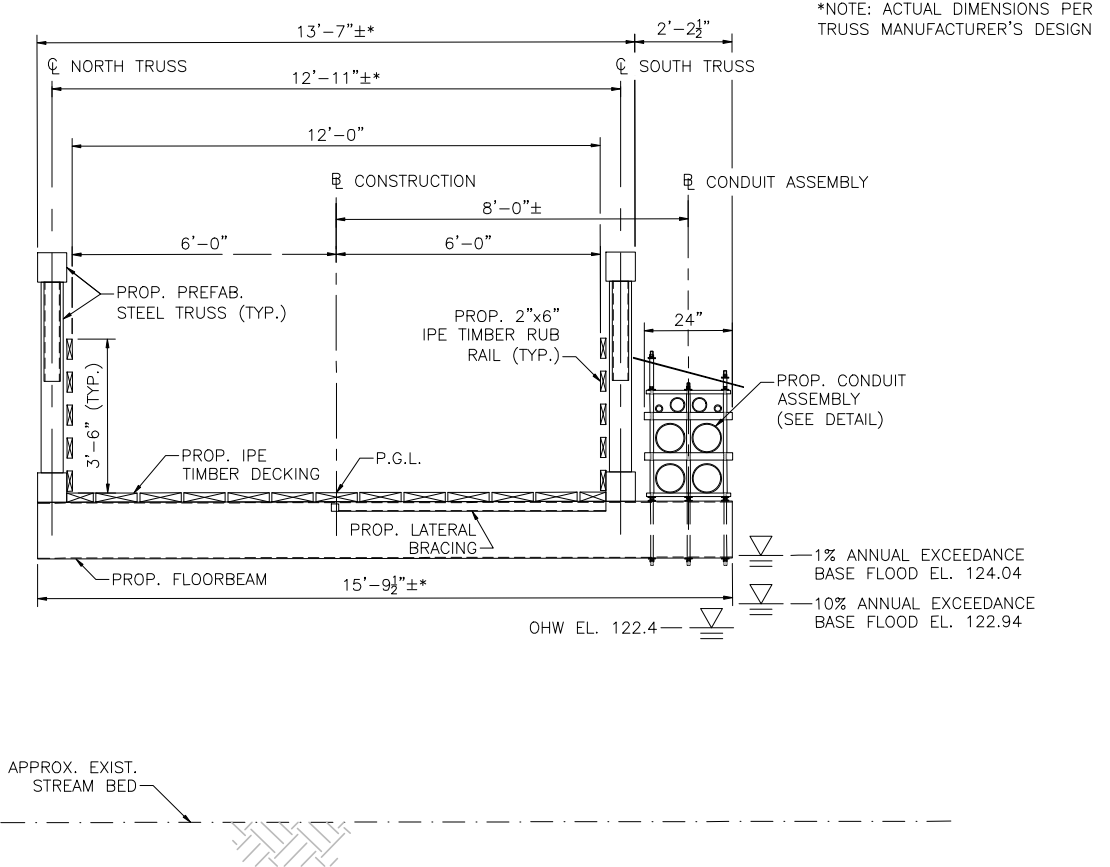
A
B
C
D
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F
G



RAILING CONNECTION DETAIL
SCALE: 1"=1'-0"



CONDUIT ASSEMBLY DETAIL
SCALE: 1"=1'-0"



BRIDGE TRANSVERSE SECTION
SCALE: 1/2"=1'-0"

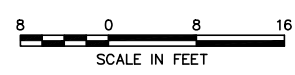
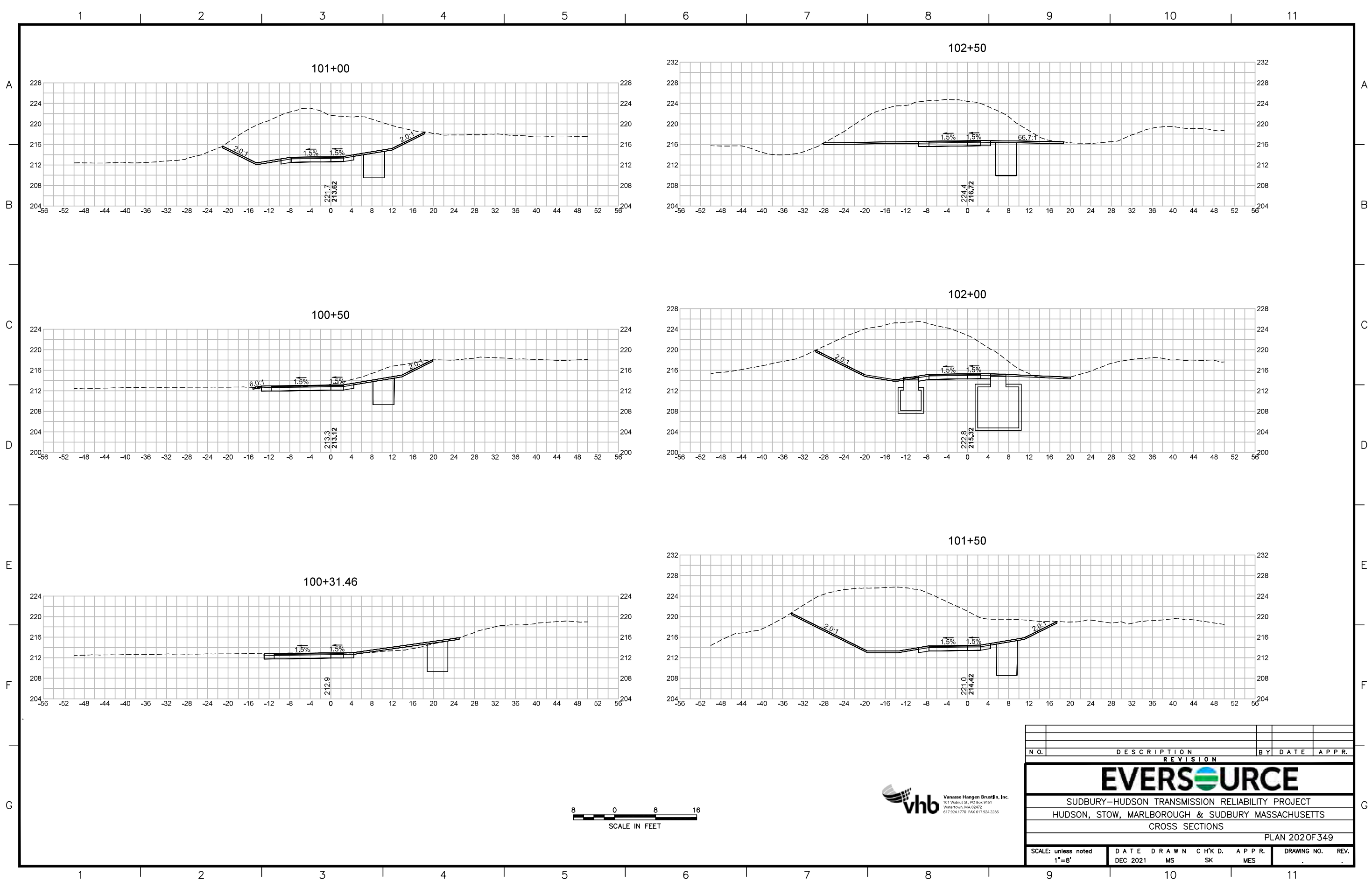
*NOTE: ACTUAL DIMENSIONS PER TRUSS MANUFACTURER'S DESIGN

- NOTES:
- TRUSS SHALL BE DESIGNED FOR TEMPORARY H2O LOADING DURING CONSTRUCTION. TIMBER DECKING IS DESIGNED FOR H10 LOADING WITHOUT IMPACT AND 90 PSF PEDESTRIAN LOADING, WHICHEVER CONTROLS. CONTRACTOR SHALL DESIGN TEMPORARY DECKING IF BRIDGE IS INTENDED TO BE USED FOR CONSTRUCTION VEHICLES.

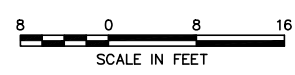
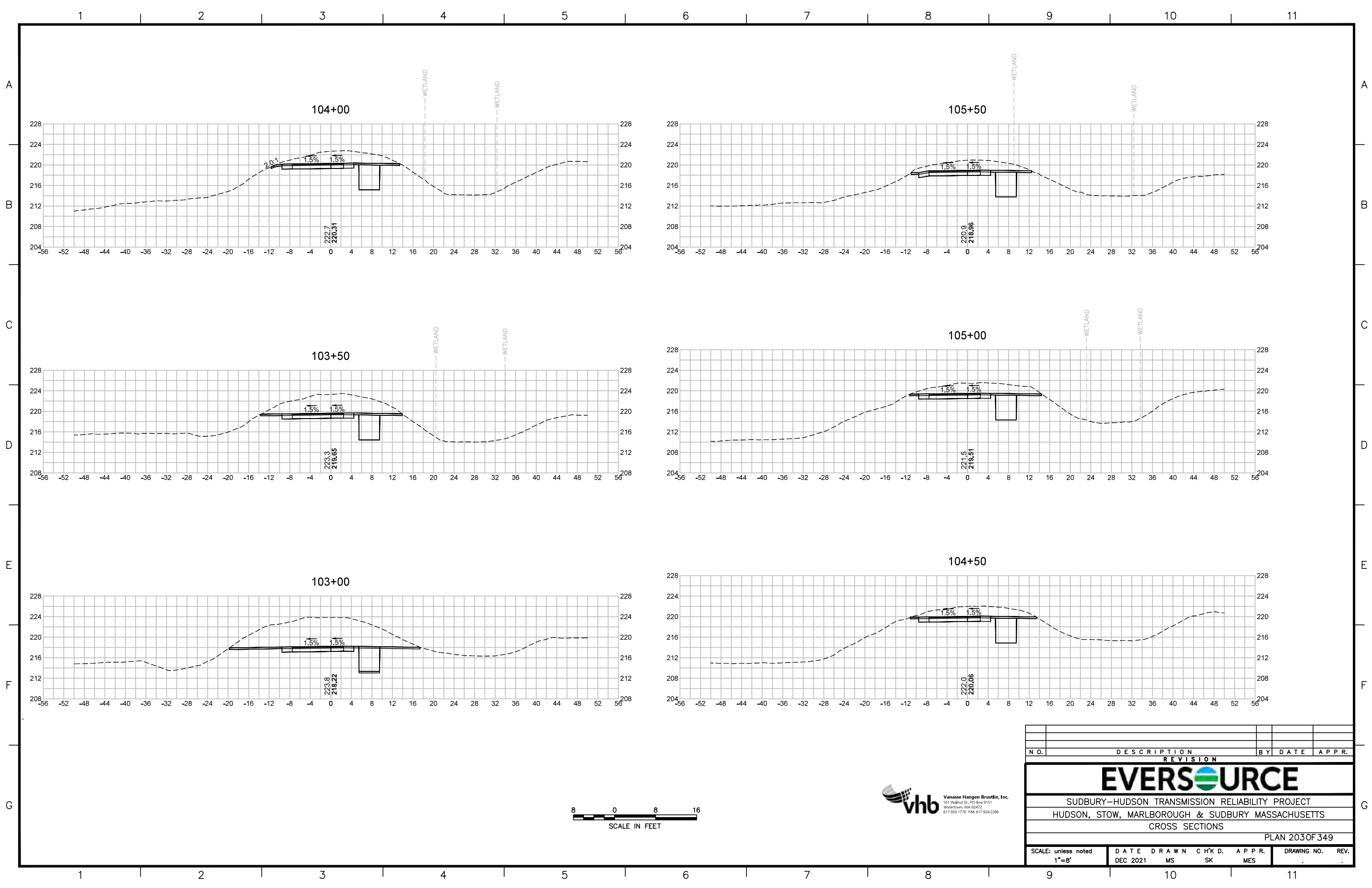


| NO. | DESCRIPTION | BY | DATE | APPR. |
|---|----------------|------------|--------------|-----------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| BRIDGE S-31-016 (BRIDGE 127) - SECTION OF DETAILS | | | | |
| PLAN 201 OF 349 | | | | |
| SCALE: unless noted VARIES | DATE: JAN 2020 | DRAWN: AMS | C'H'K'D: SBK | APPR: KGK |
| DRAWING NO. # | REV. # | | | |

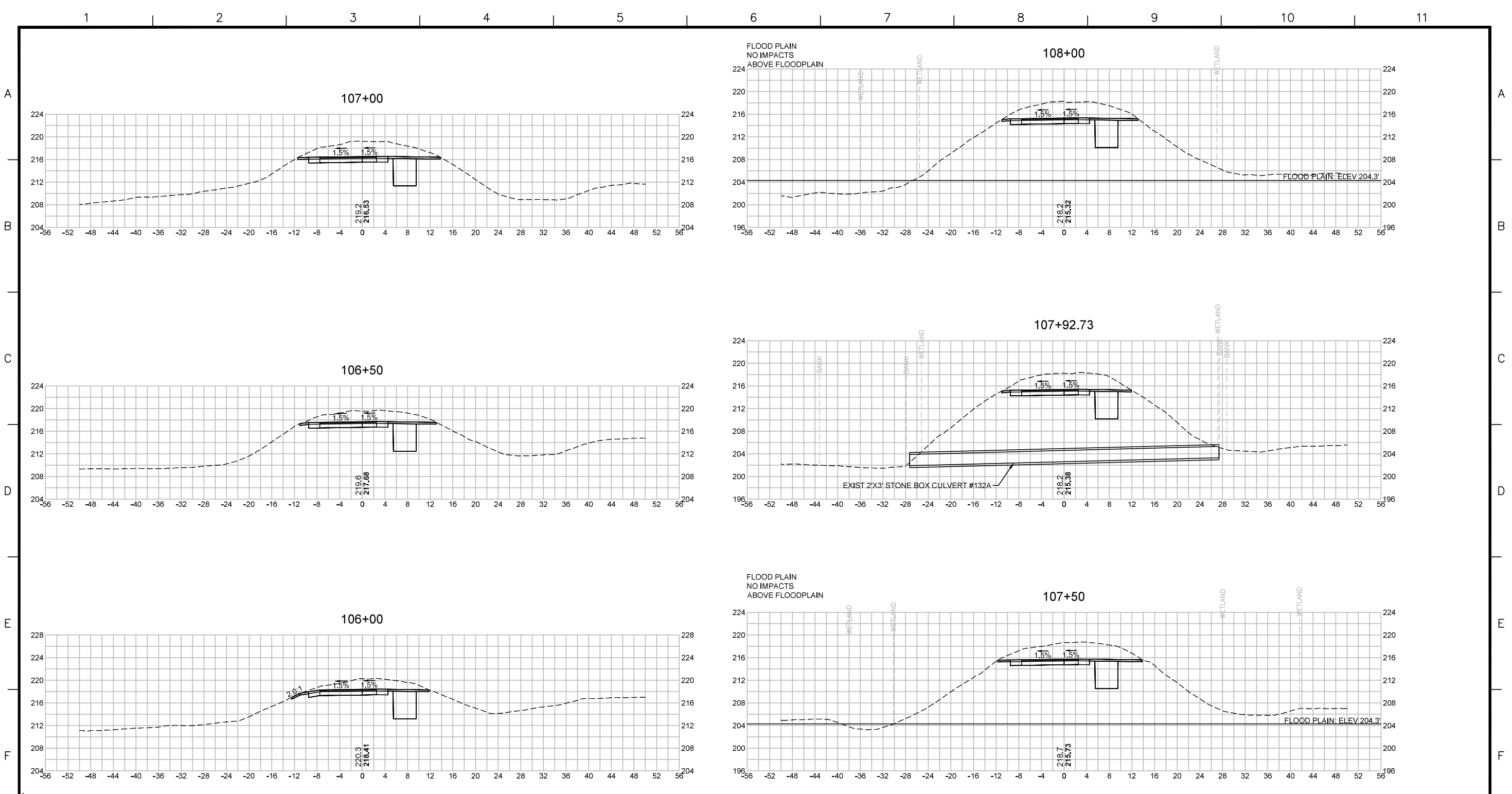
1 2 3 4 5 6 7 8 9 10 11



| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|-----------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 2020F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | A P P R. MES |
| DRAWING NO. | | REV. | | |



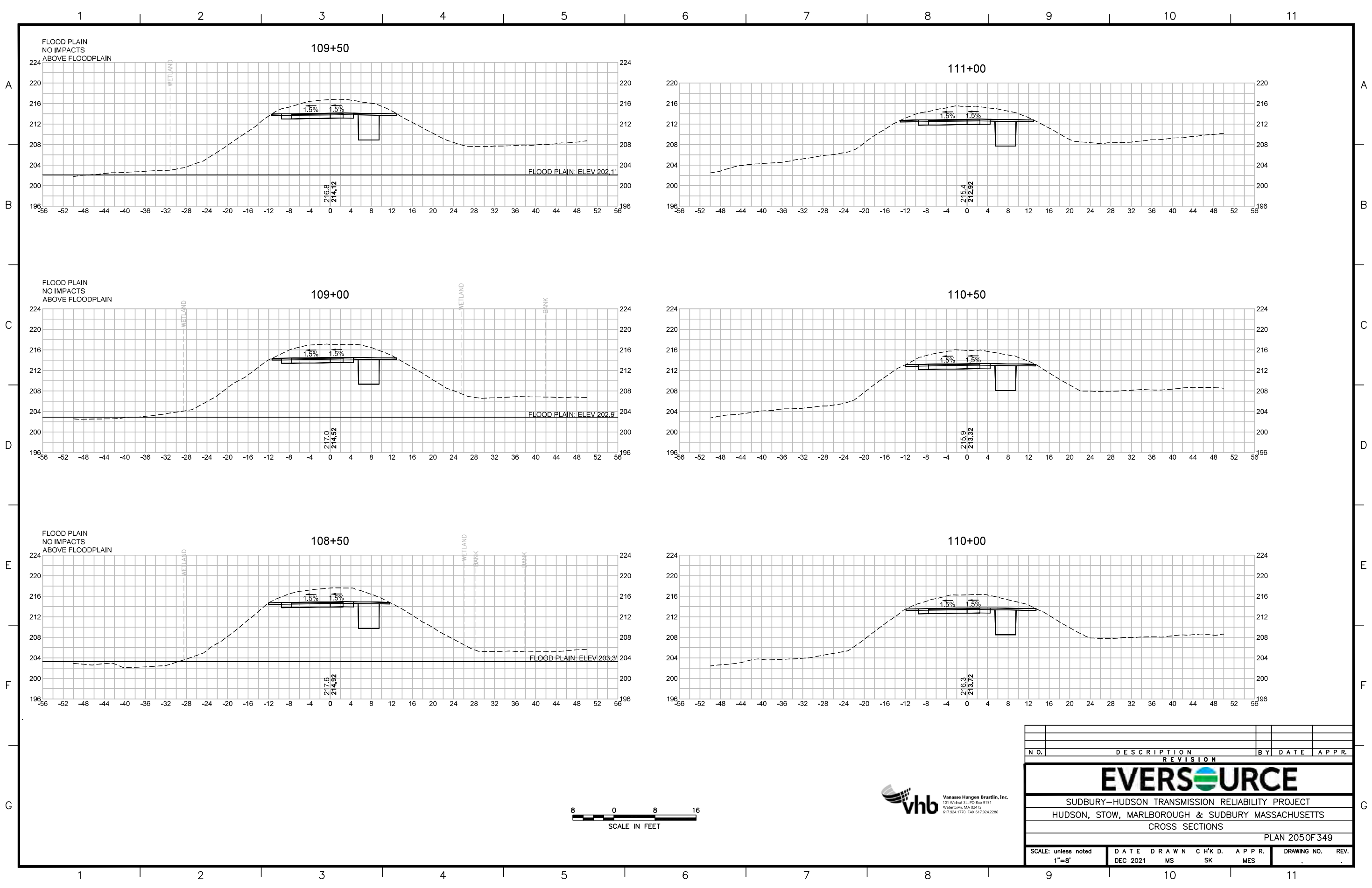
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| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 2030F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| | | | | DRAWING NO. |
| | | | | REV. |



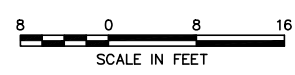
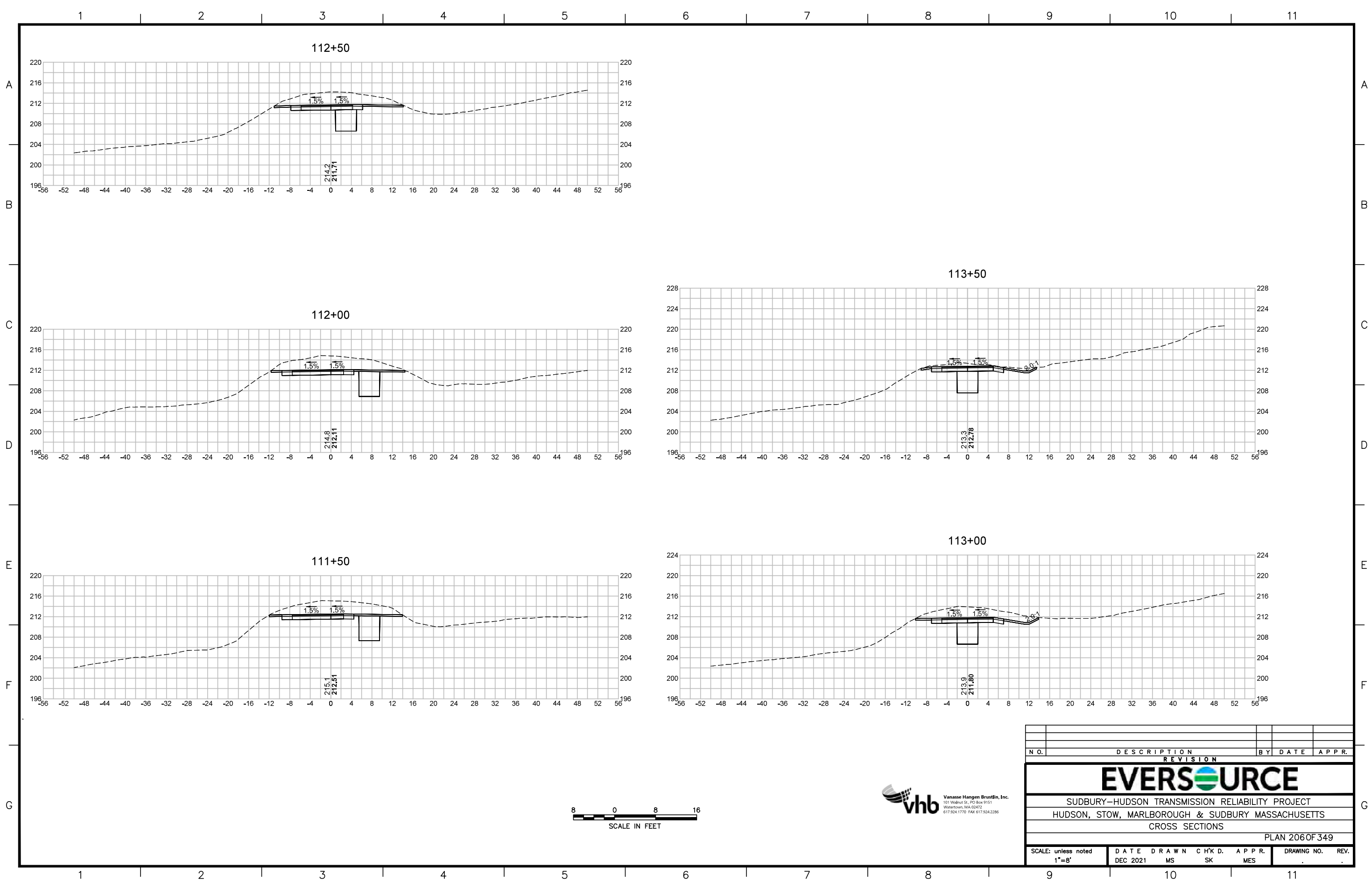
BLSF CROSSING STA 108 - FEMA ZONE AE - ASSABET BRANCH NO. 4
 FEMA ELEV 205.8 @ CROSSING BUT VARIES AS STREAM RUNS PARALLEL TO ALIGNMENT
 NO IMPACTS



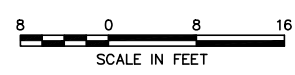
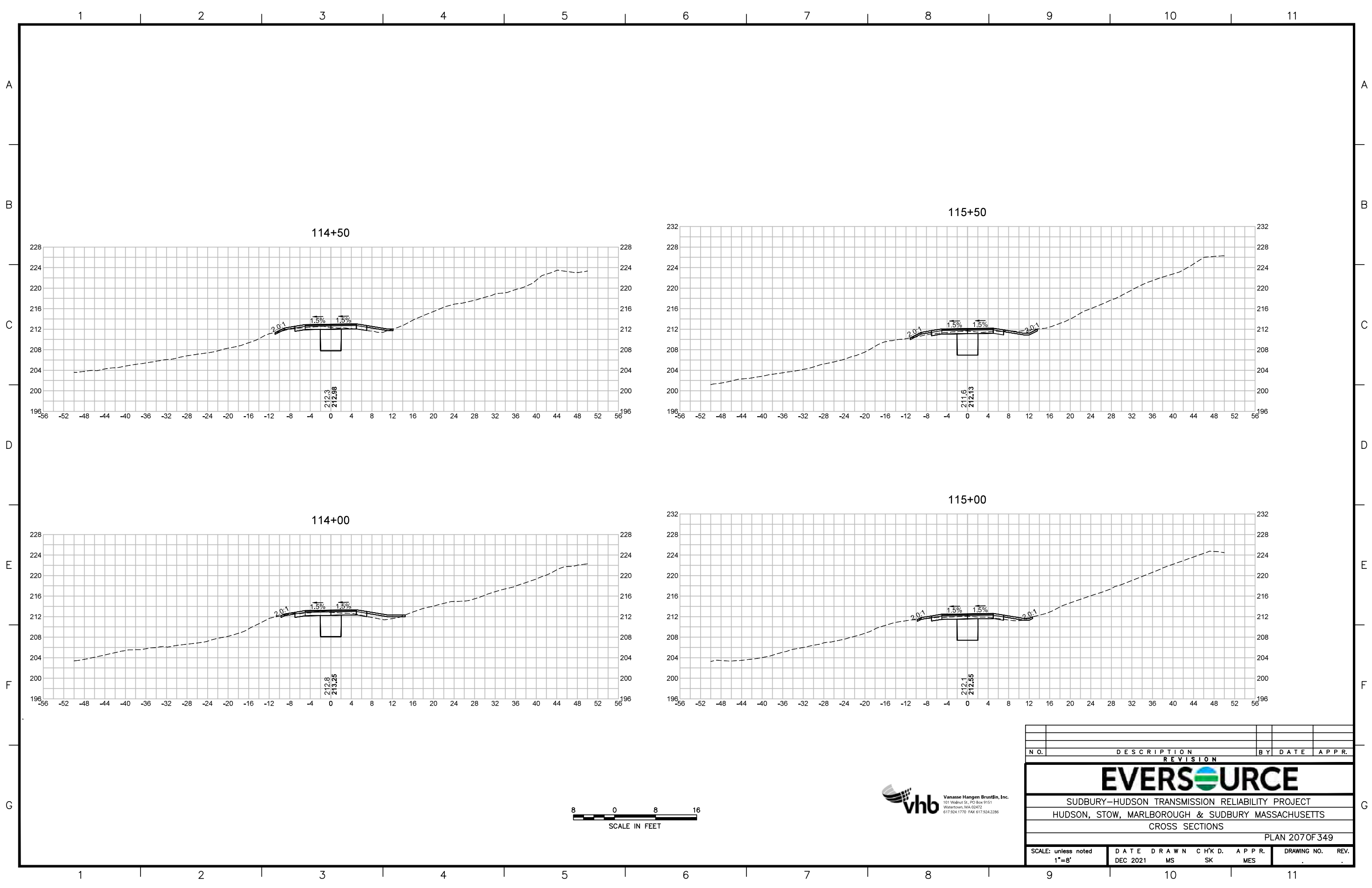
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|---|------------------|-------------|----------------|-------------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 204 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | A P P R. MES |
| | | | | DRAWING NO. 11 |
| | | | | REV. . |



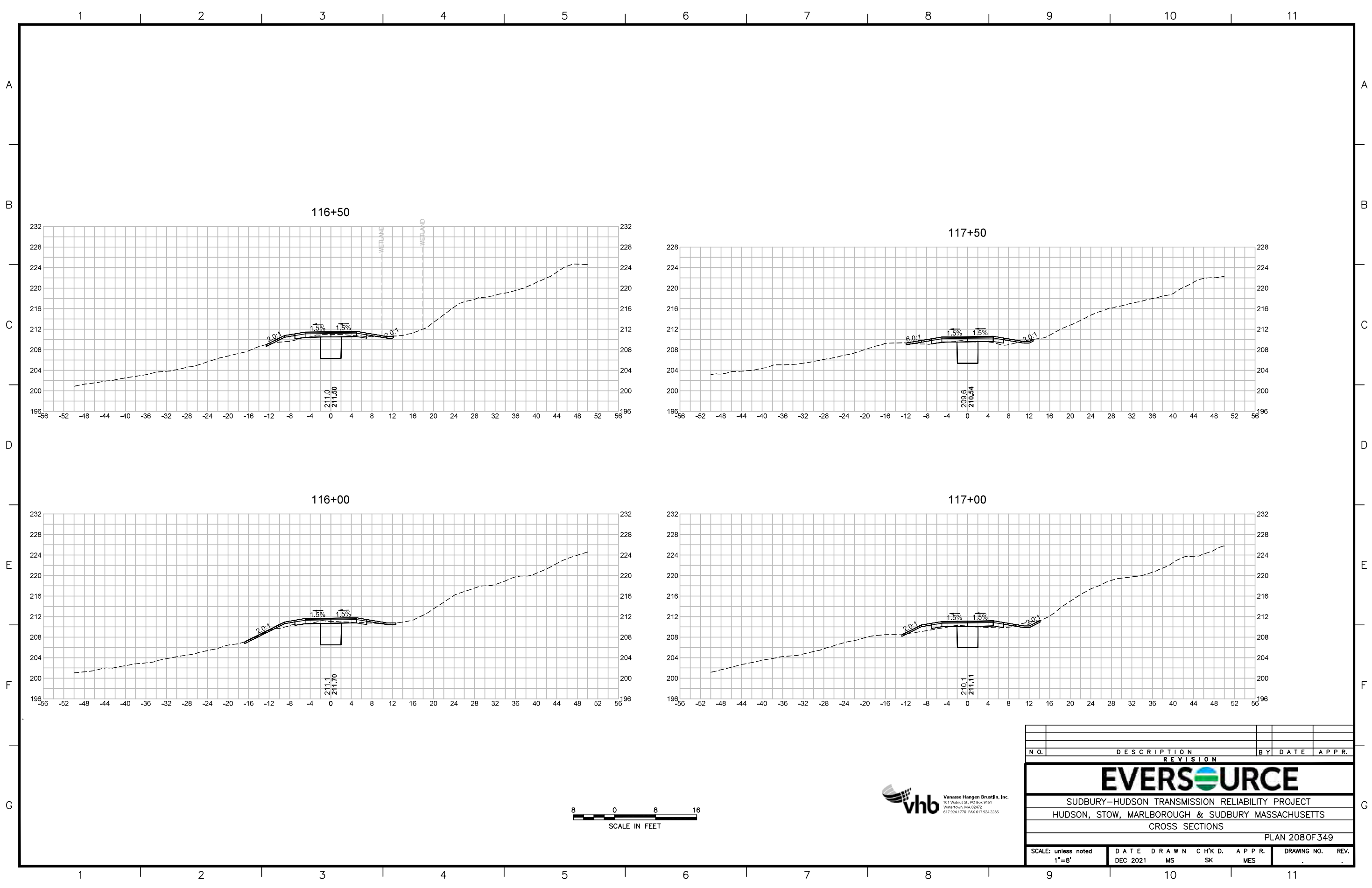
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 205 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |
| 11 | | | | |



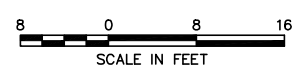
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| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 206 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | REV. | | | |

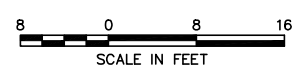
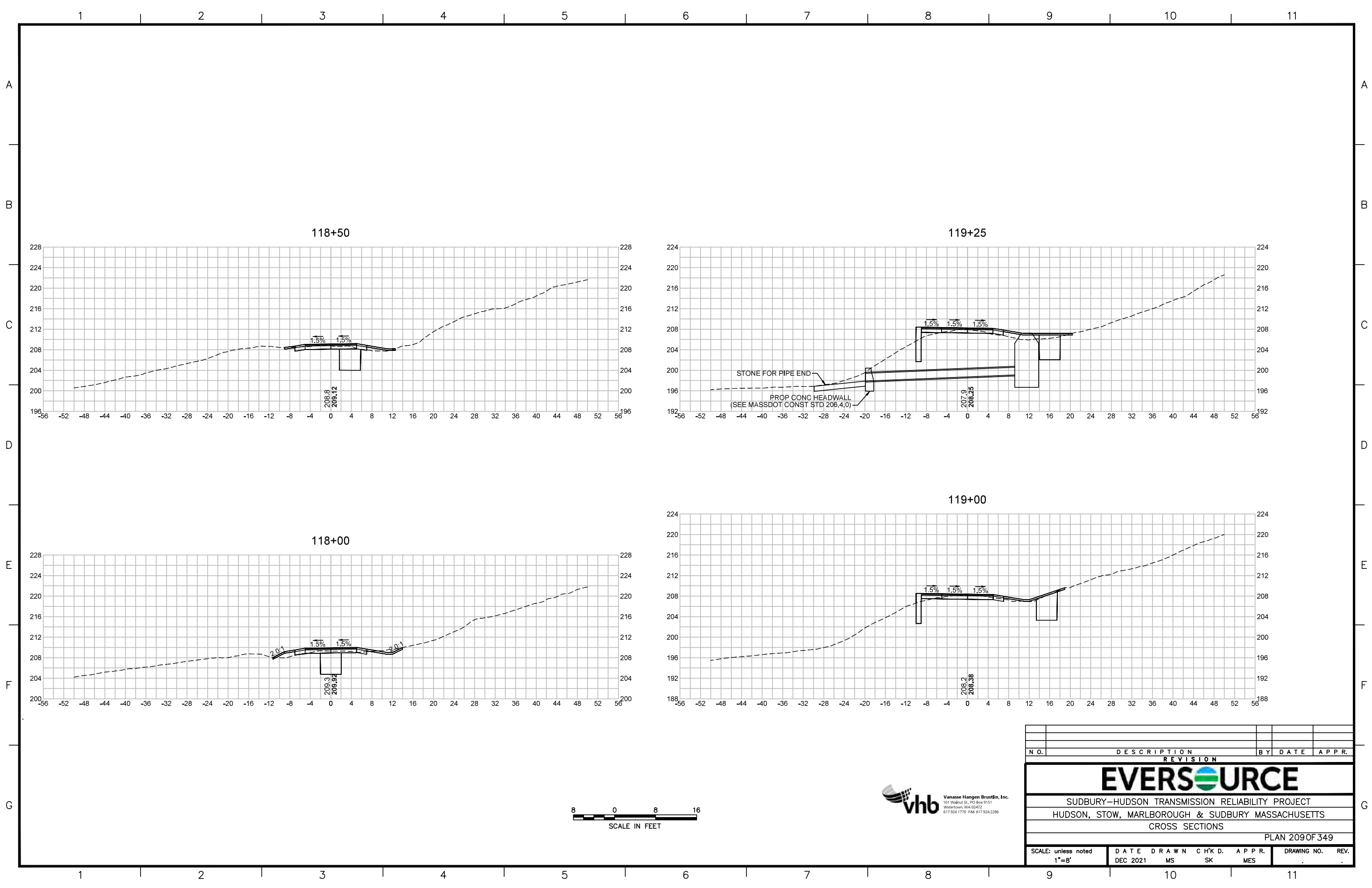


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| REVISION | | | | | | |
| EVERSOURCE | | | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | |
| CROSS SECTIONS | | | | | | |
| PLAN 207 OF 349 | | | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES | DRAWING NO. | REV. |
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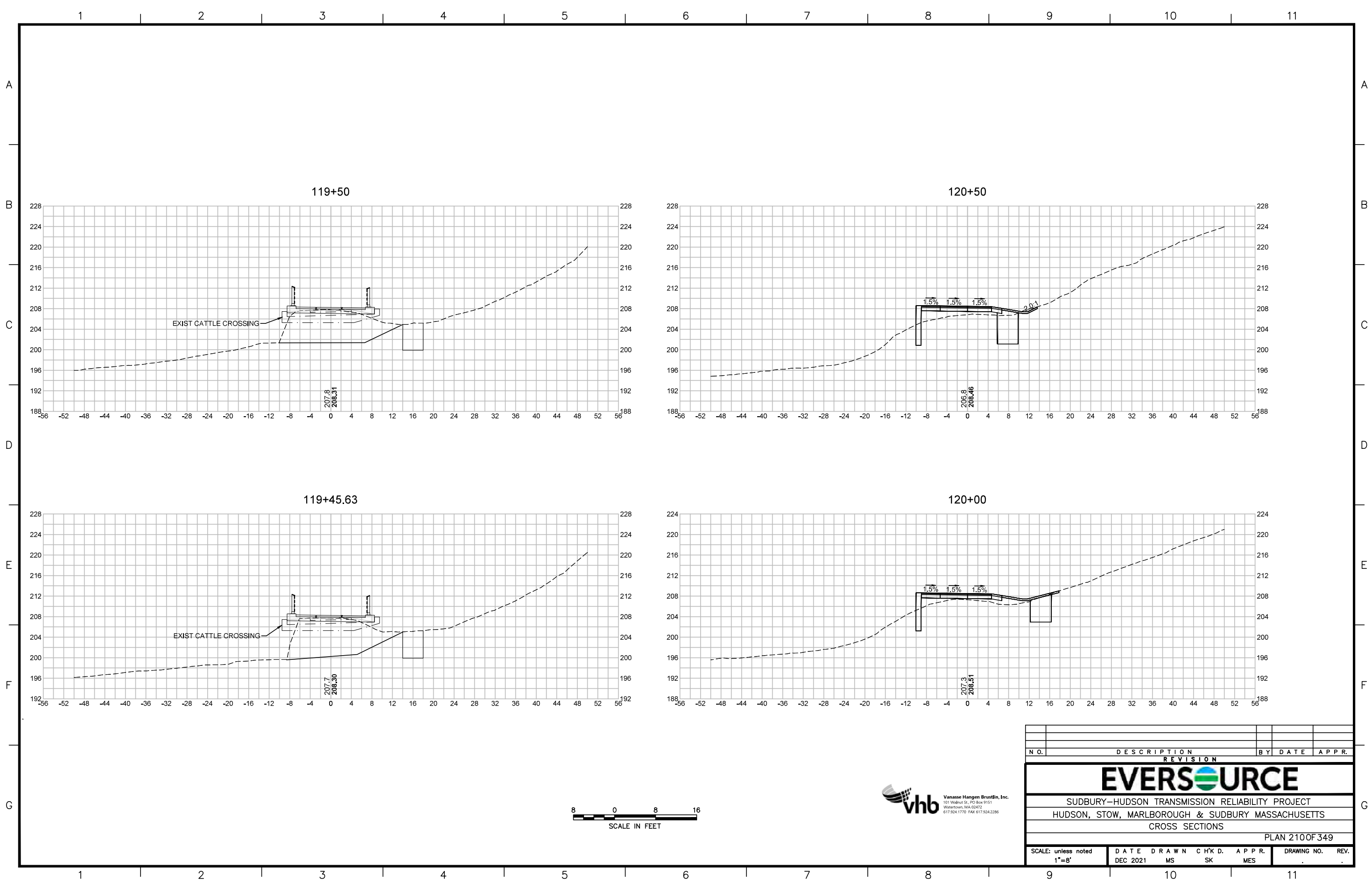


| N.O. | DESCRIPTION | BY | DATE | APPR. |
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| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 208 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | REV. | | | |





| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 209 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | REV. | | | |



119+50

120+50

119+45.63

120+00

EXIST CATTLE CROSSING

207.8
208.31

1.5% 1.5% 1.5%

206.8
208.46

EXIST CATTLE CROSSING

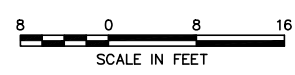
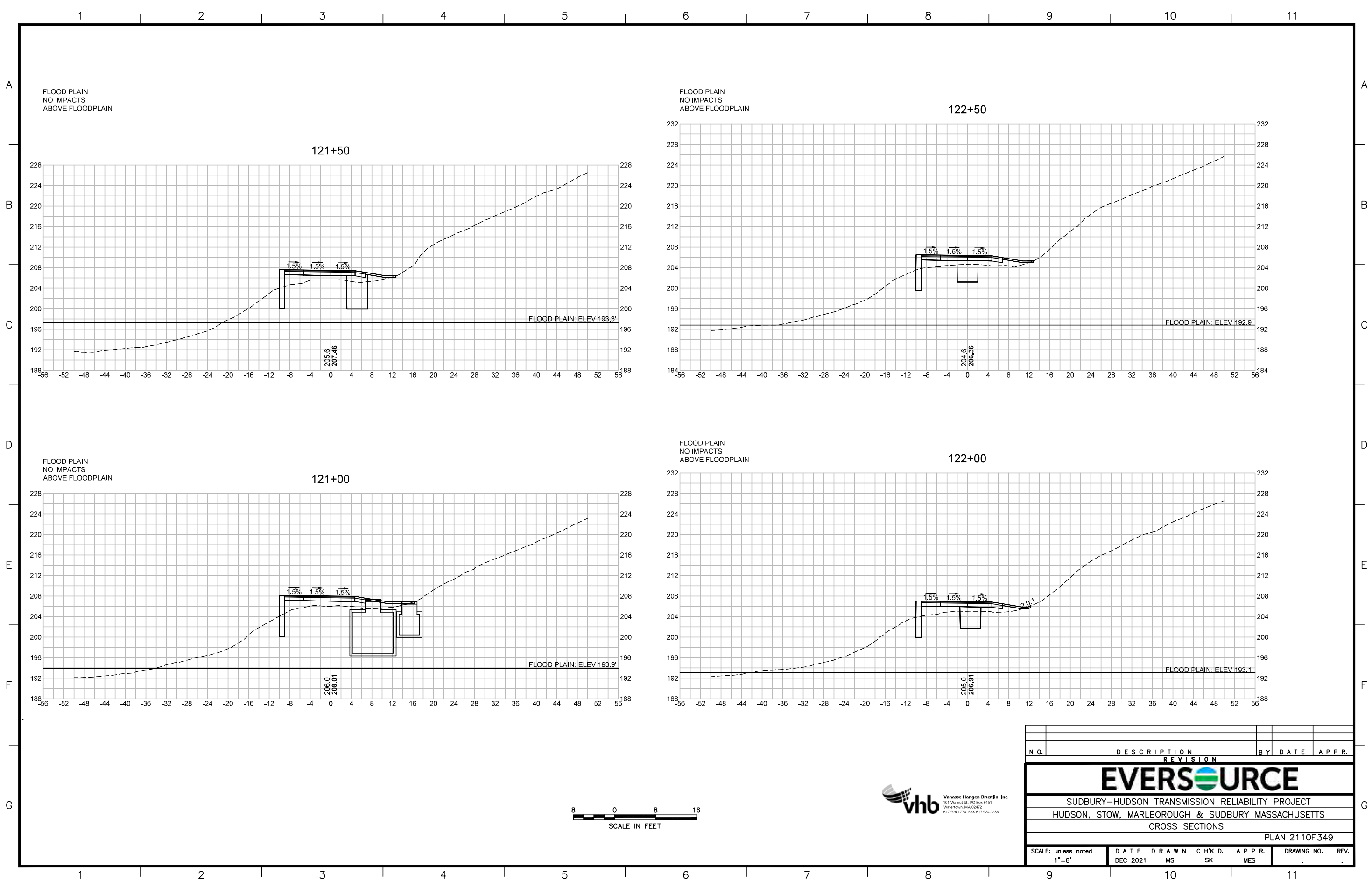
207.7
208.30

1.5% 1.5% 1.5%

207.3
208.51



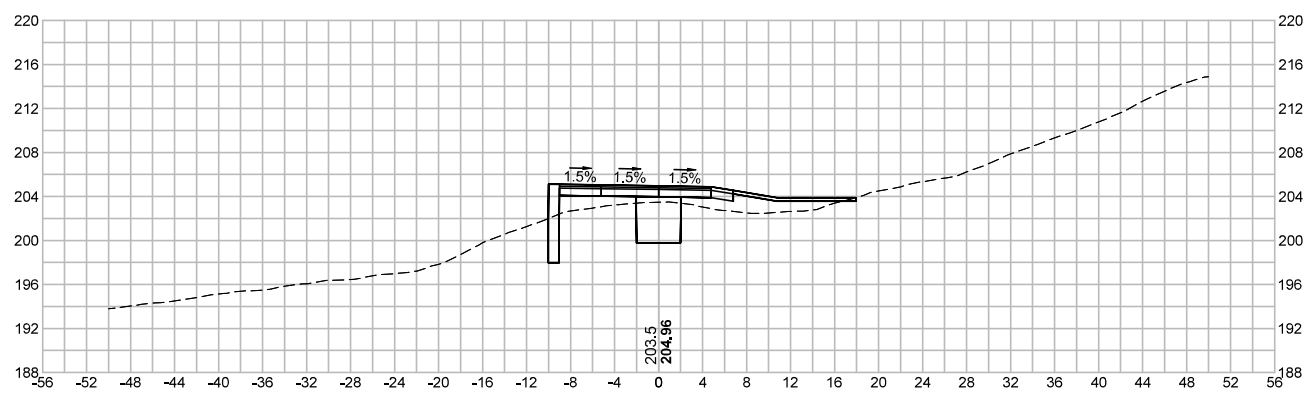
| NO. | | DESCRIPTION | | BY | DATE | APPR. |
|---|------------------|-------------|----------------|-----------------|-------------|-------|
| REVISION | | | | | | |
| EVERSOURCE | | | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | |
| CROSS SECTIONS | | | | | | |
| PLAN 2100F 349 | | | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | A P P R. MES | DRAWING NO. | REV. |
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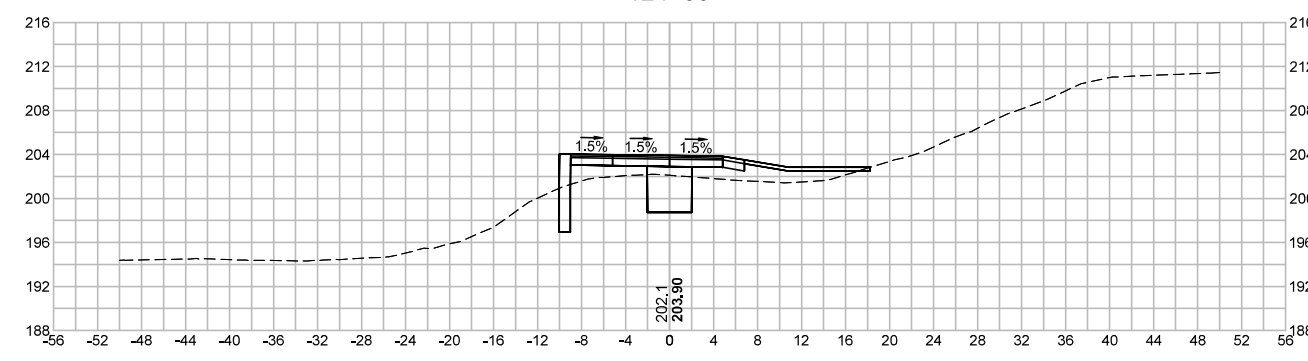
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| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 2110F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | A P P R. MES |
| DRAWING NO. | REV. | | | |

TOWN OF STOW
TOWN OF HUDSON

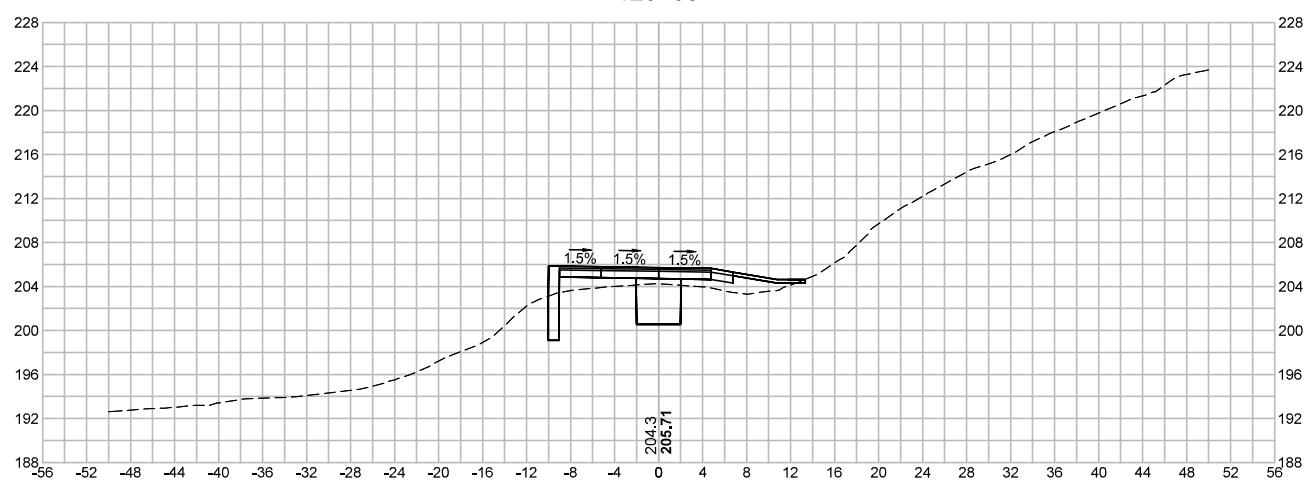
123+50



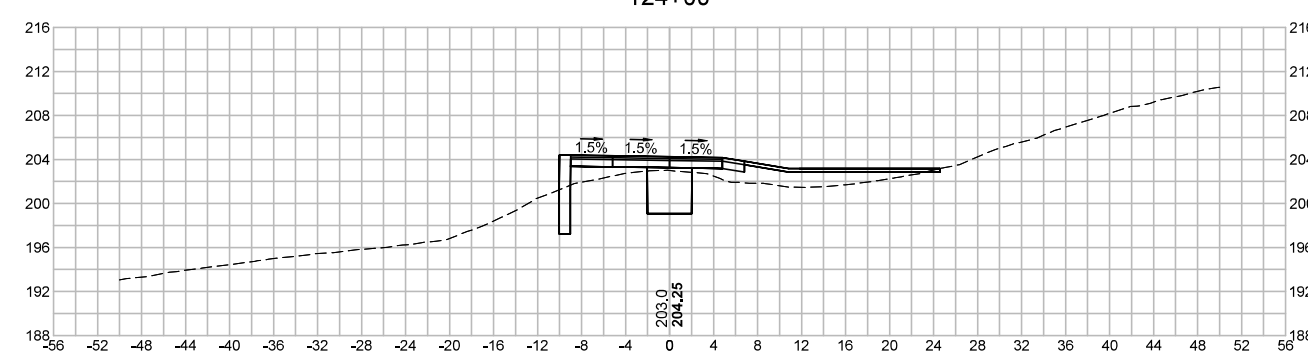
124+50



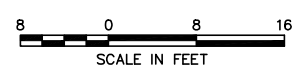
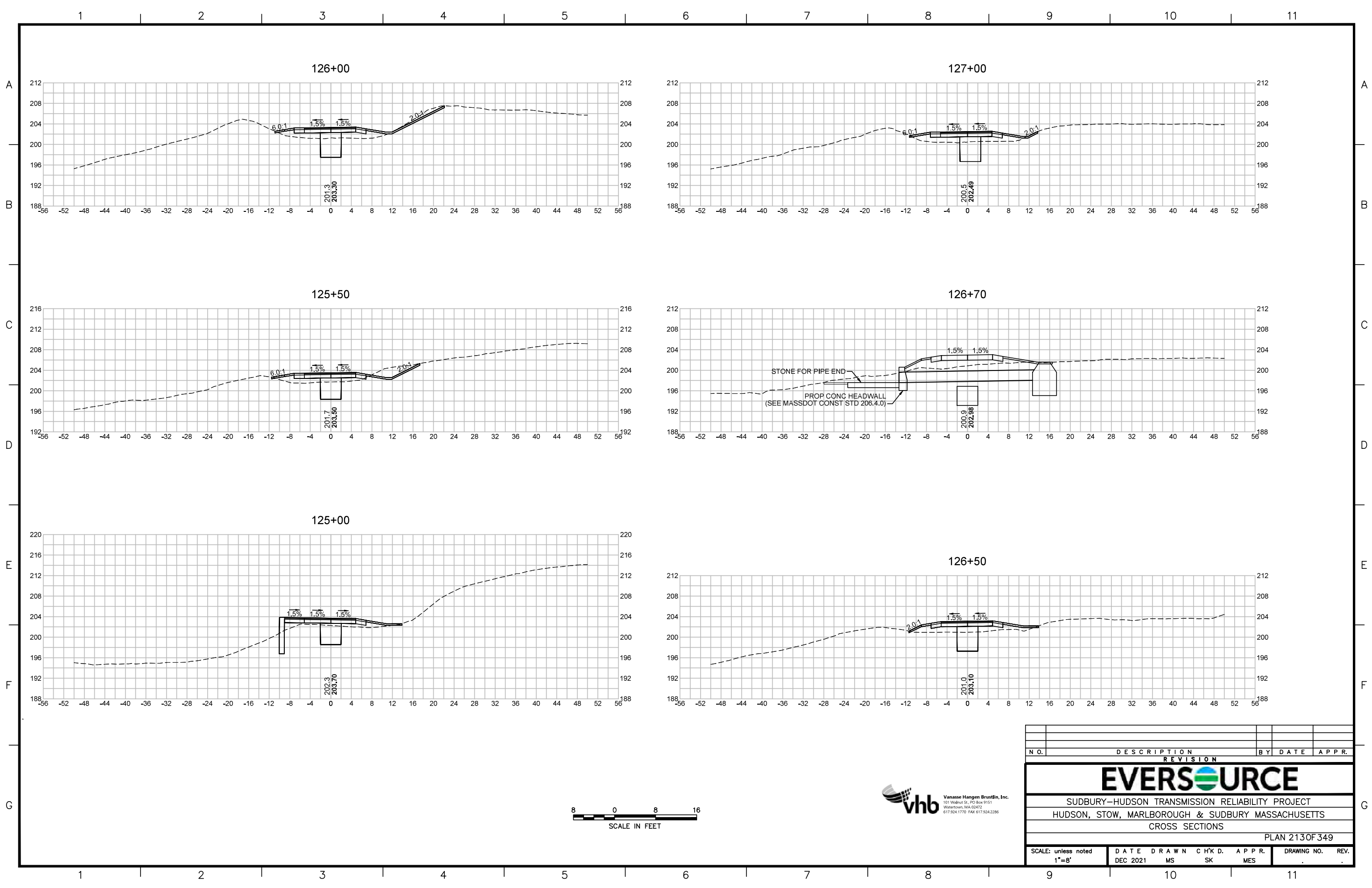
123+00



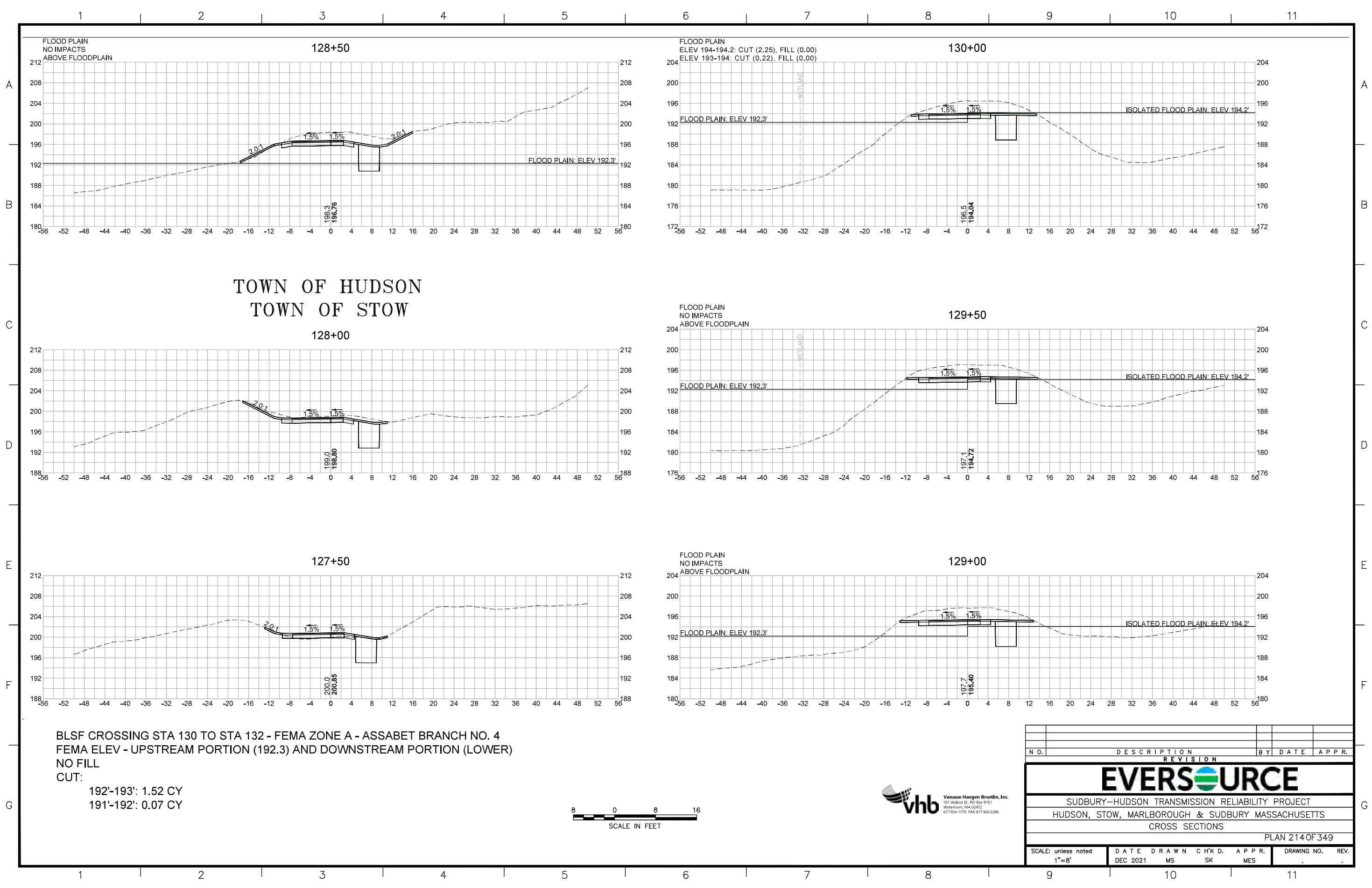
124+00



| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 2120F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | REV. | | | |

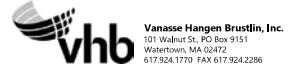


| NO. | | DESCRIPTION | | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|-------------|-------|
| REVISION | | | | | | |
| EVERSOURCE | | | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | |
| CROSS SECTIONS | | | | | | |
| PLAN 2130F 349 | | | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES | DRAWING NO. | REV. |
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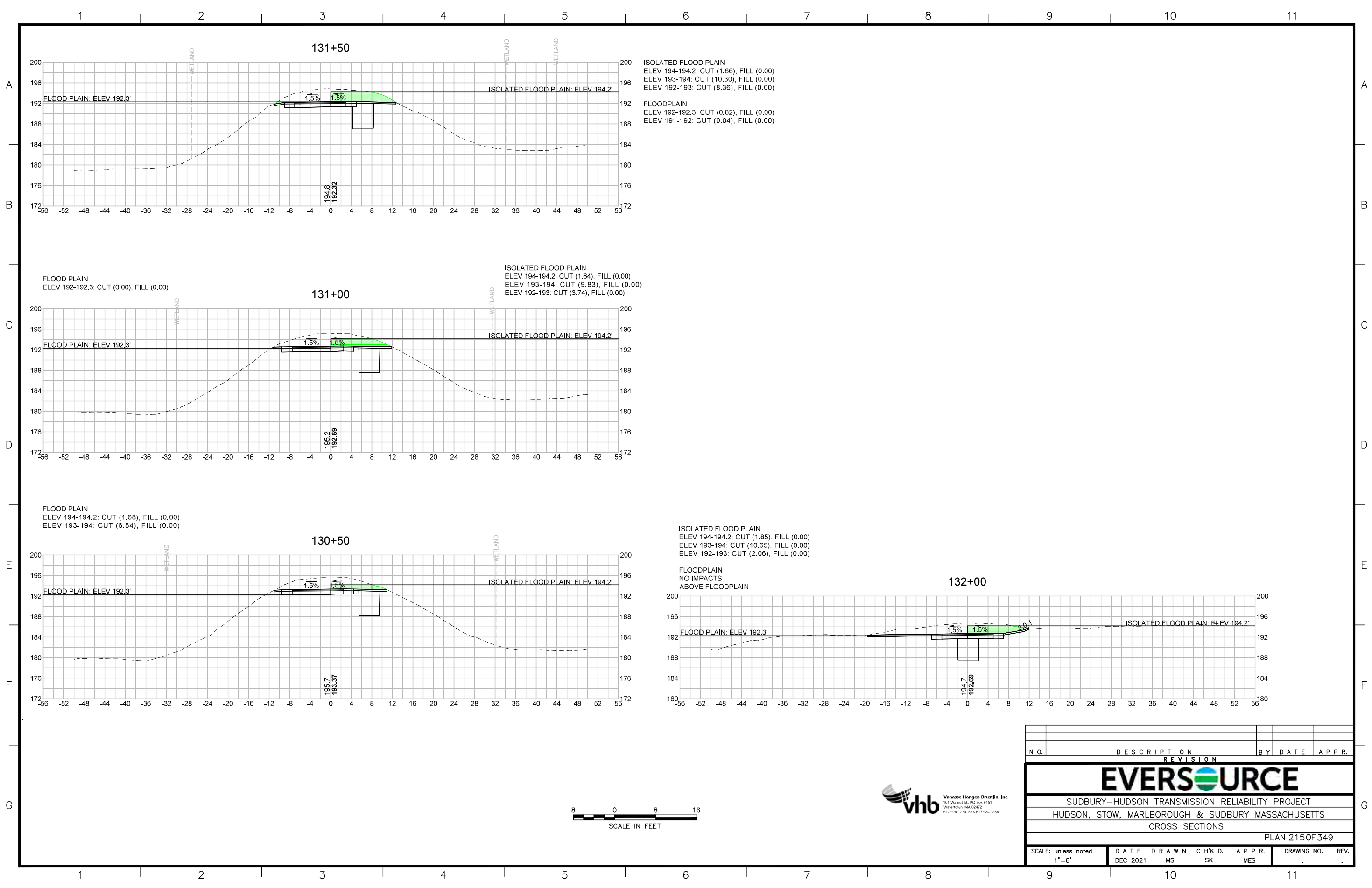


TOWN OF HUDSON
TOWN OF STOW

BLSF CROSSING STA 130 TO STA 132 - FEMA ZONE A - ASSABET BRANCH NO. 4
FEMA ELEV - UPSTREAM PORTION (192.3) AND DOWNSTREAM PORTION (LOWER)
NO FILL
CUT:
192'-193': 1.52 CY
191'-192': 0.07 CY



| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 214 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



ISOLATED FLOOD PLAIN
 ELEV 194-194.2: CUT (1.66), FILL (0.00)
 ELEV 193-194: CUT (10.30), FILL (0.00)
 ELEV 192-193: CUT (8.36), FILL (0.00)

FLOODPLAIN
 ELEV 192-192.3: CUT (0.82), FILL (0.00)
 ELEV 191-192: CUT (0.04), FILL (0.00)

ISOLATED FLOOD PLAIN
 ELEV 194-194.2: CUT (1.64), FILL (0.00)
 ELEV 193-194: CUT (9.83), FILL (0.00)
 ELEV 192-193: CUT (3.74), FILL (0.00)

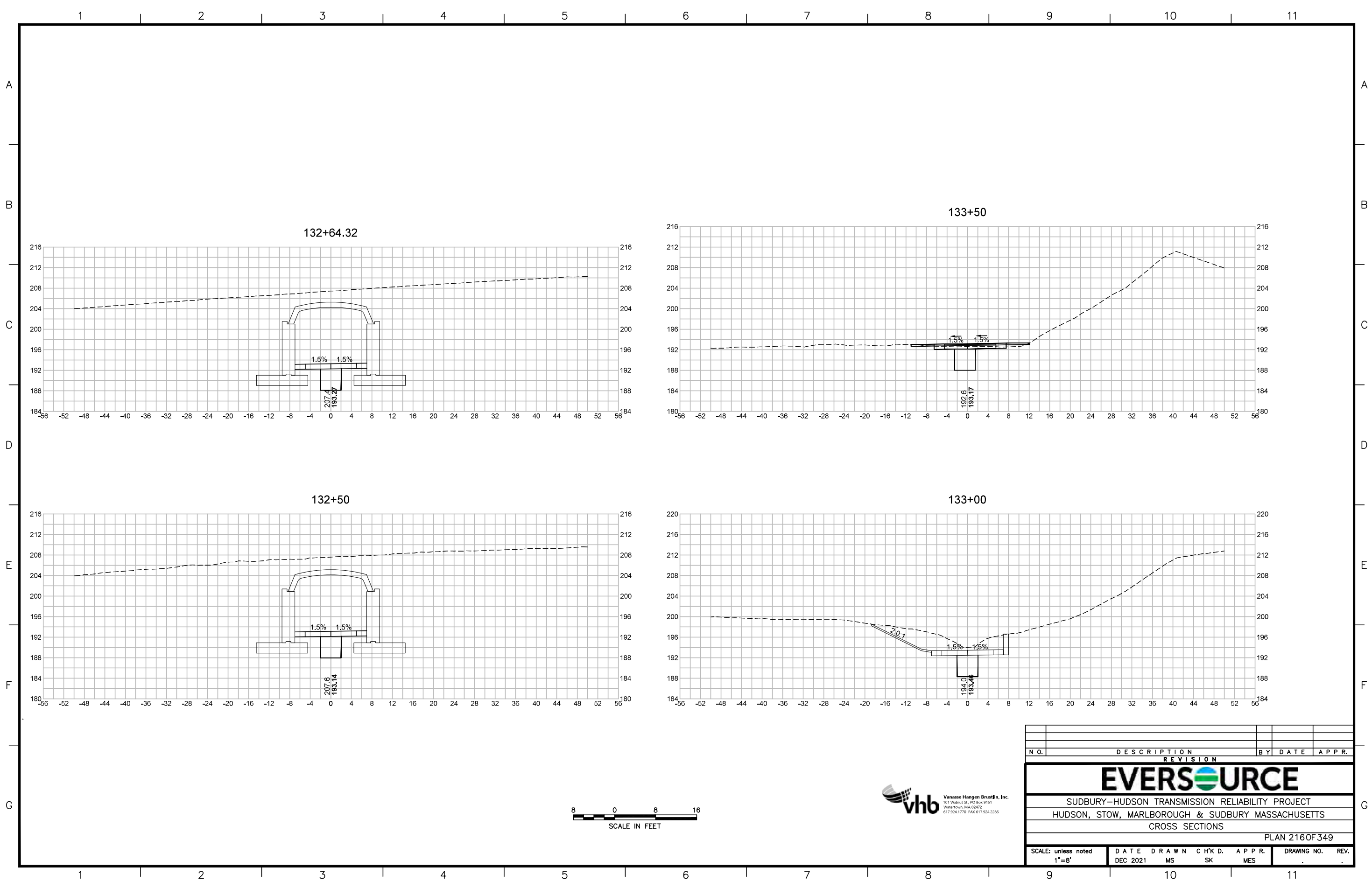
FLOOD PLAIN
 ELEV 192-192.3: CUT (0.00), FILL (0.00)

ISOLATED FLOOD PLAIN
 ELEV 194-194.2: CUT (1.85), FILL (0.00)
 ELEV 193-194: CUT (10.65), FILL (0.00)
 ELEV 192-193: CUT (2.06), FILL (0.00)

FLOODPLAIN
 NO IMPACTS
 ABOVE FLOODPLAIN



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|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 2150F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | | | REV. |



132+64.32

133+50

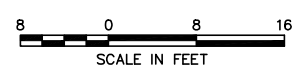
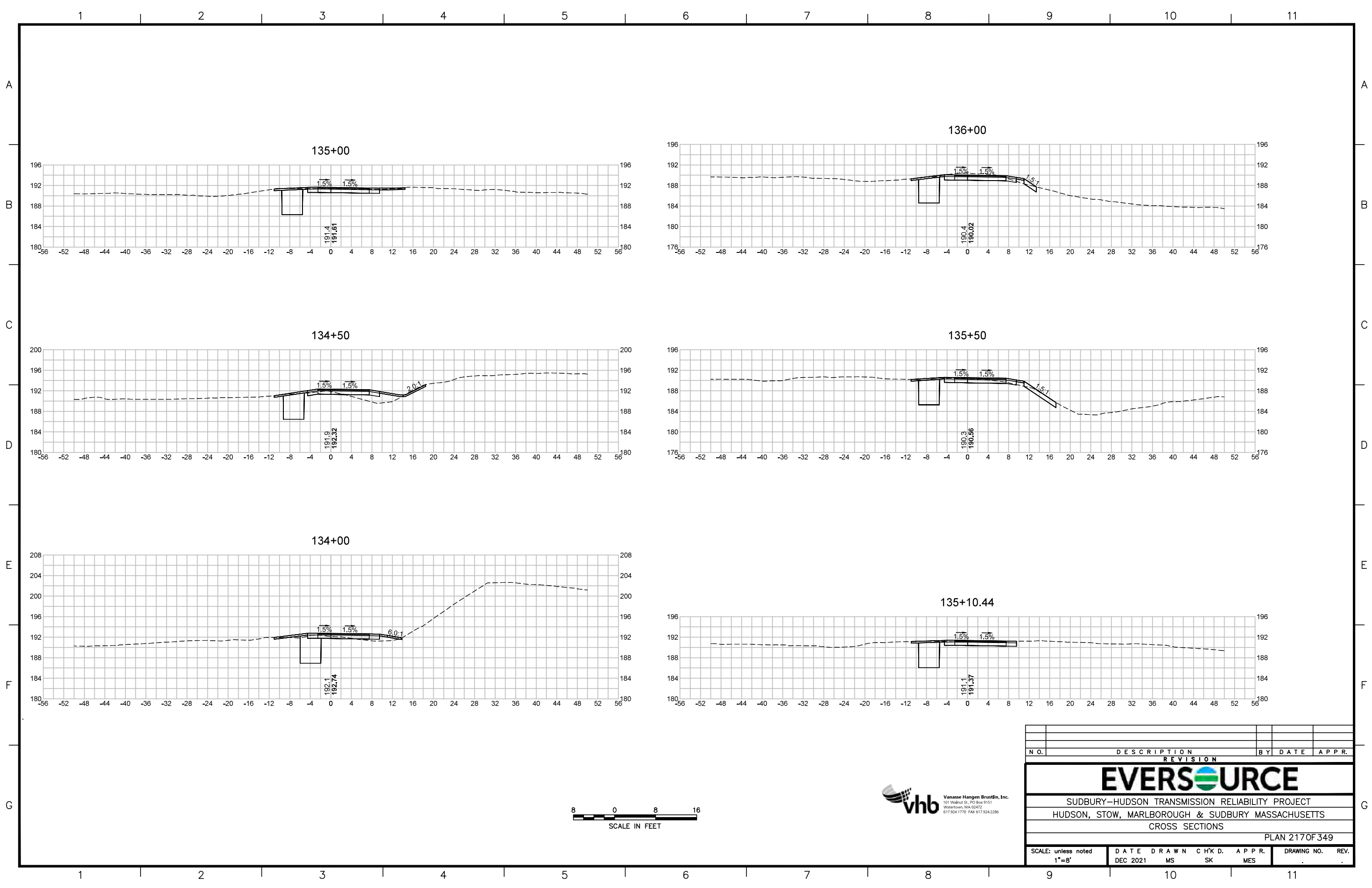
132+50

133+00

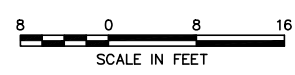
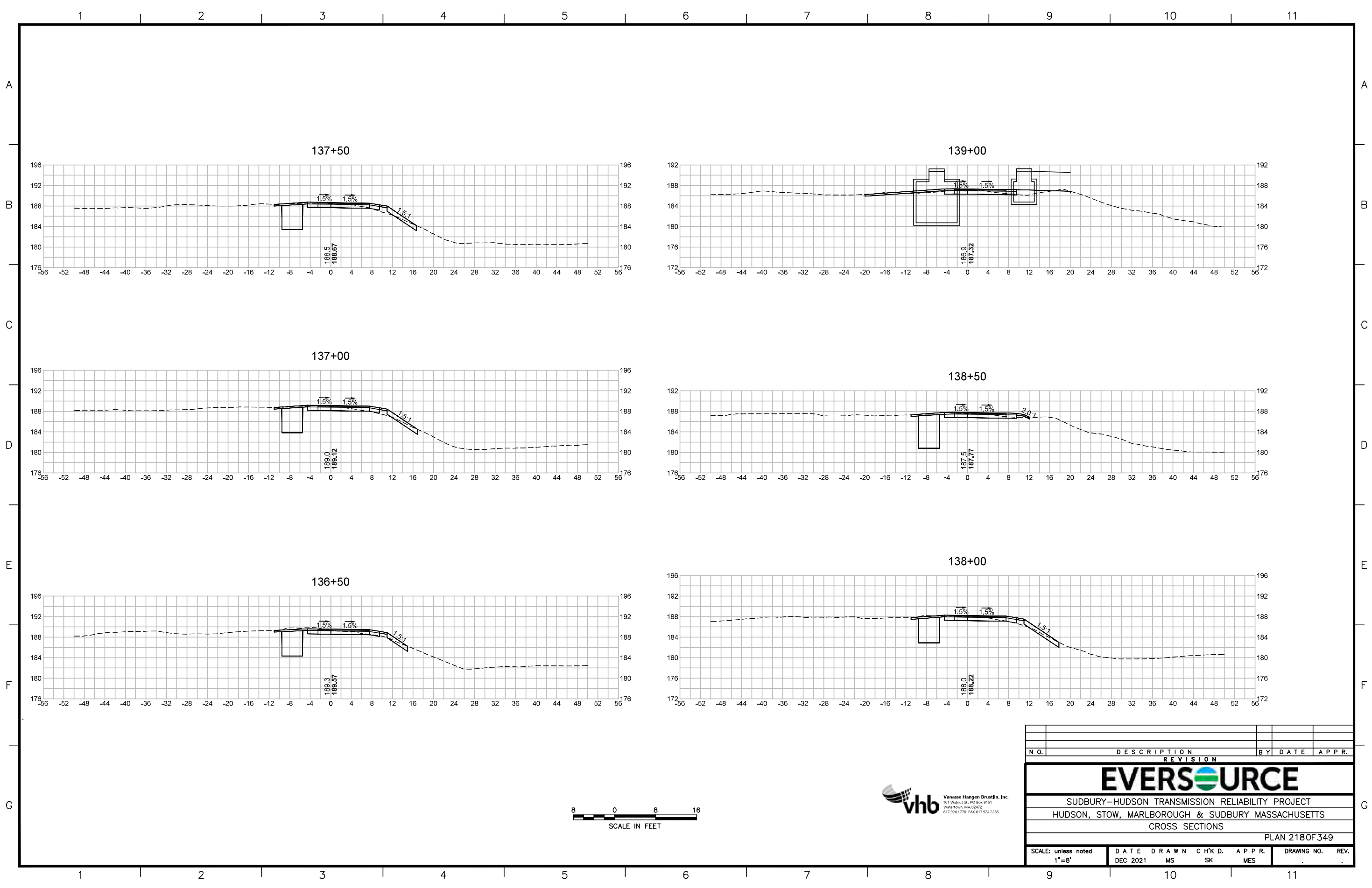


vhb
 Vanasse Hangen Brustlin, Inc.
 101 Walnut St., P.O. Box 9151
 Watertown, MA 02472
 617.924.1770 FAX 617.924.2386

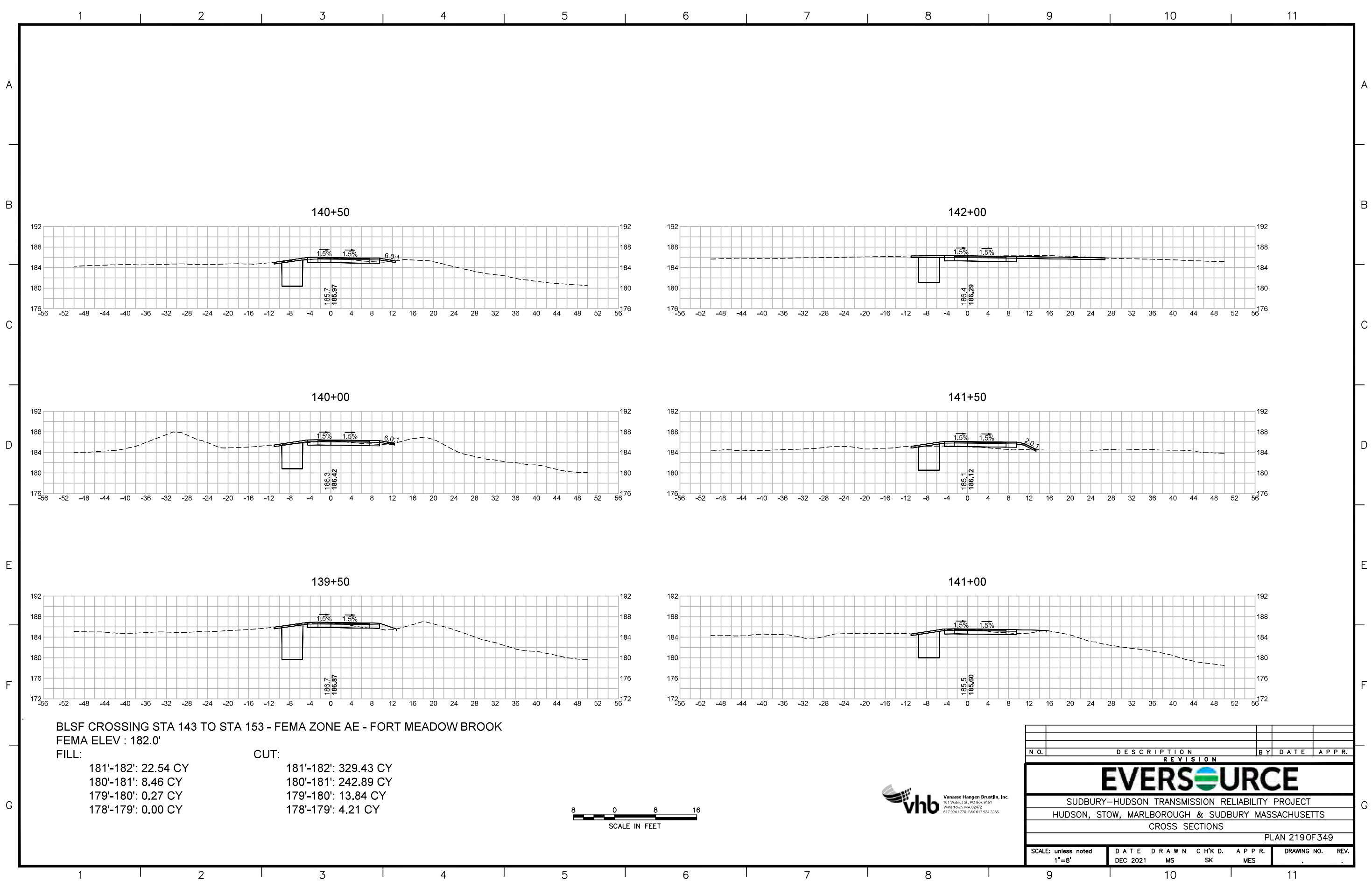
| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 216 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | REV. | | | |



| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 217 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| | | | | DRAWING NO. |
| | | | | REV. |



| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 2180F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| | | | | DRAWING NO. |
| | | | | REV. |

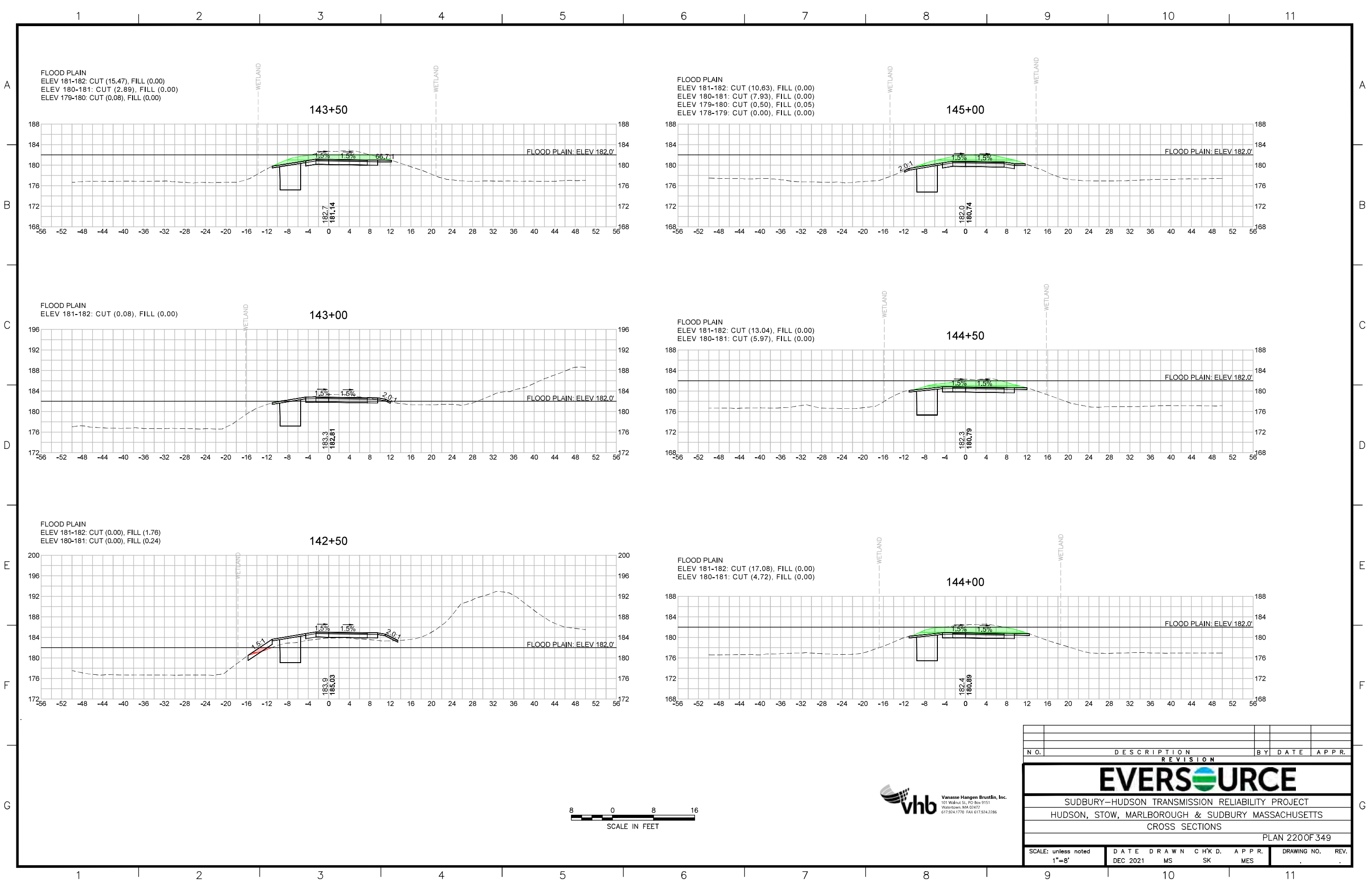


BLSF CROSSING STA 143 TO STA 153 - FEMA ZONE AE - FORT MEADOW BROOK
 FEMA ELEV : 182.0'

| | |
|---------------------|----------------------|
| FILL: | CUT: |
| 181'-182': 22.54 CY | 181'-182': 329.43 CY |
| 180'-181': 8.46 CY | 180'-181': 242.89 CY |
| 179'-180': 0.27 CY | 179'-180': 13.84 CY |
| 178'-179': 0.00 CY | 178'-179': 4.21 CY |



| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 2190F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



FLOOD PLAIN
 ELEV 181-182: CUT (15.47), FILL (0.00)
 ELEV 180-181: CUT (2.89), FILL (0.00)
 ELEV 179-180: CUT (0.08), FILL (0.00)

143+50

FLOOD PLAIN: ELEV 182.0'

FLOOD PLAIN
 ELEV 181-182: CUT (10.63), FILL (0.00)
 ELEV 180-181: CUT (7.93), FILL (0.00)
 ELEV 179-180: CUT (0.50), FILL (0.05)
 ELEV 178-179: CUT (0.00), FILL (0.00)

145+00

FLOOD PLAIN: ELEV 182.0'

FLOOD PLAIN
 ELEV 181-182: CUT (0.08), FILL (0.00)

143+00

FLOOD PLAIN: ELEV 182.0'

FLOOD PLAIN
 ELEV 181-182: CUT (13.04), FILL (0.00)
 ELEV 180-181: CUT (5.97), FILL (0.00)

144+50

FLOOD PLAIN: ELEV 182.0'

FLOOD PLAIN
 ELEV 181-182: CUT (0.00), FILL (1.76)
 ELEV 180-181: CUT (0.00), FILL (0.24)

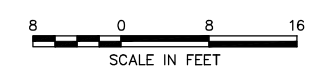
142+50

FLOOD PLAIN: ELEV 182.0'

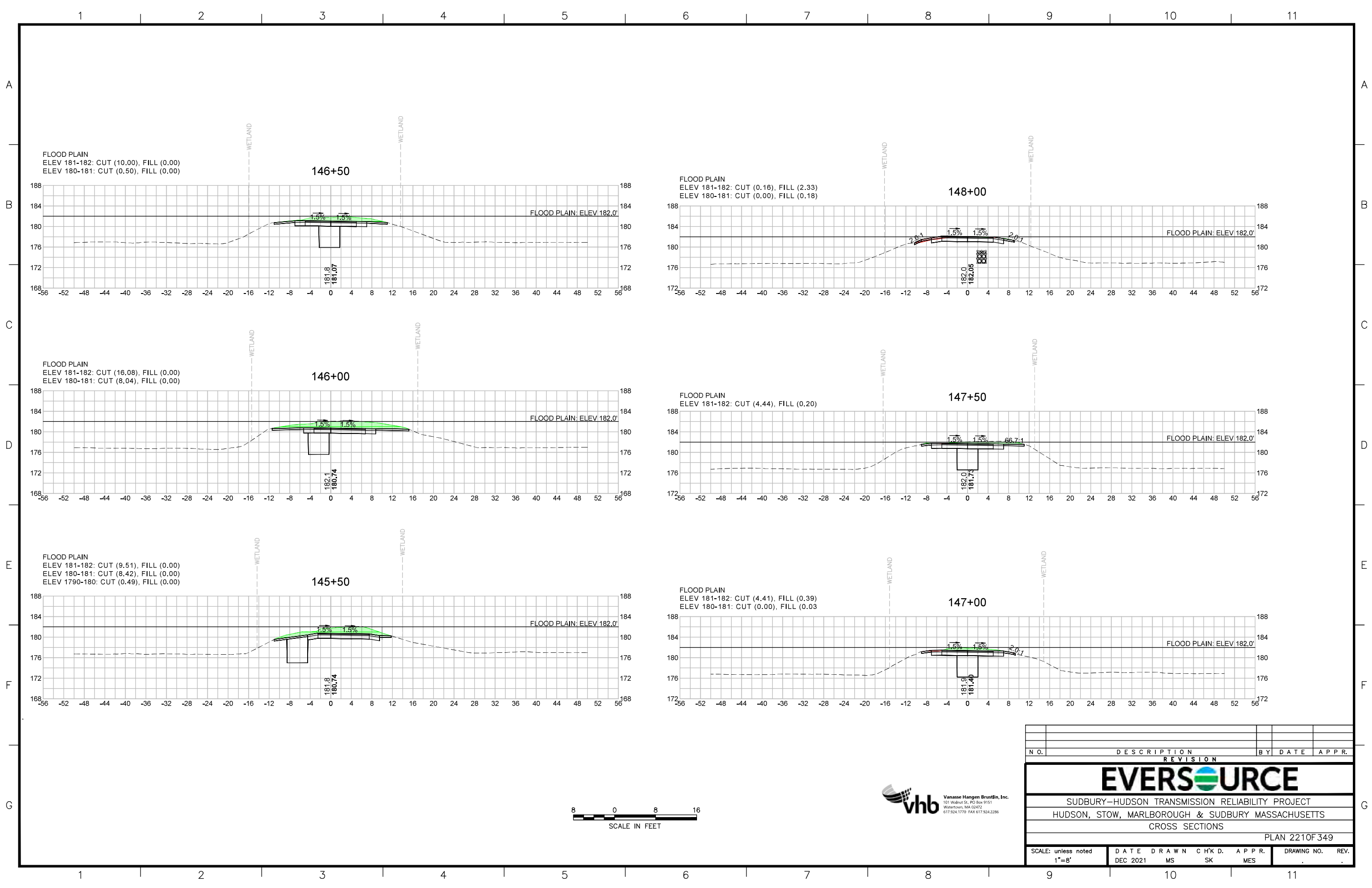
FLOOD PLAIN
 ELEV 181-182: CUT (17.08), FILL (0.00)
 ELEV 180-181: CUT (4.72), FILL (0.00)

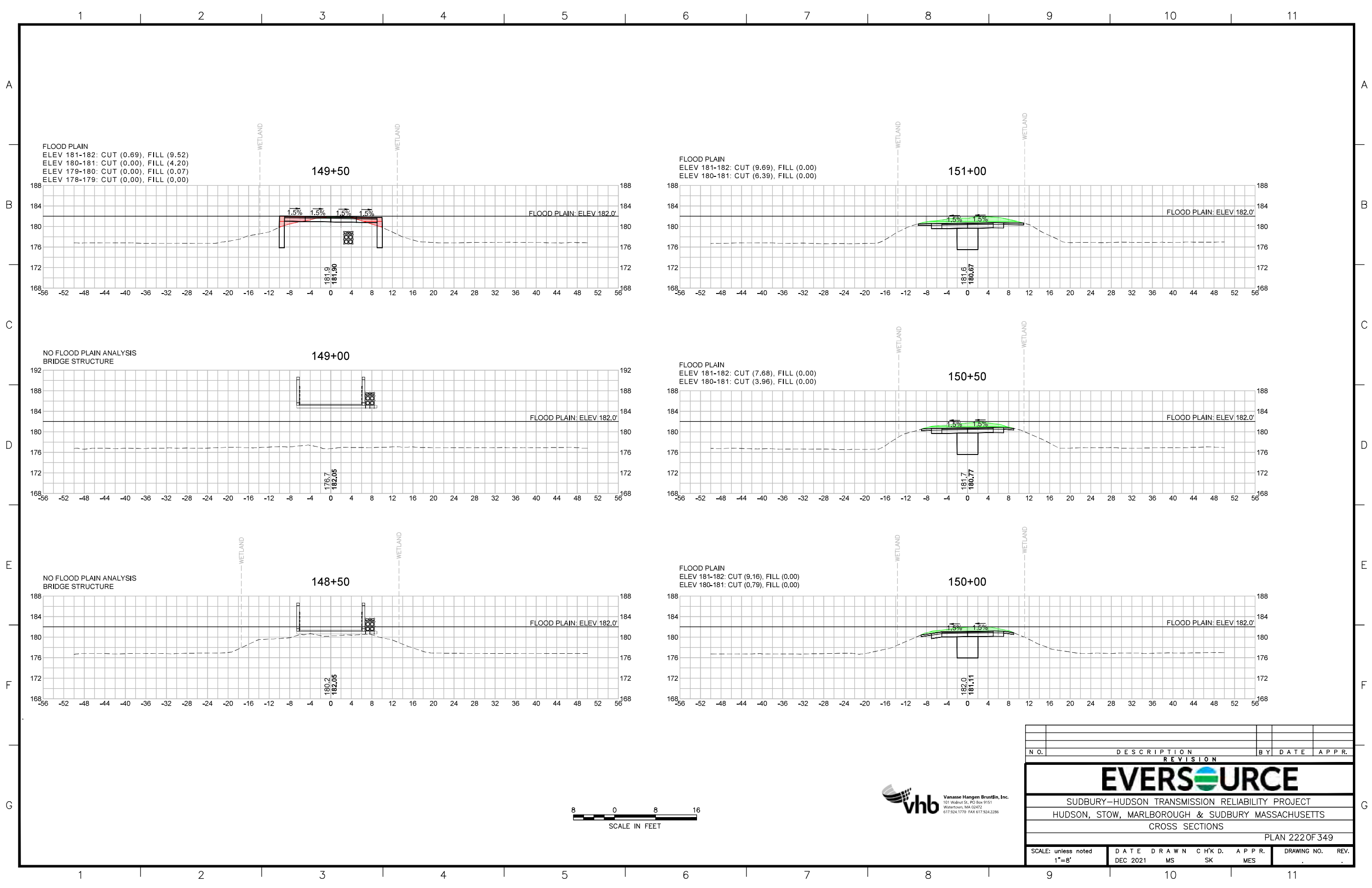
144+00

FLOOD PLAIN: ELEV 182.0'



| NO. | | DESCRIPTION | | BY DATE | | APPR. | |
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| REVISION | | | | | | | |
| EVERSOURCE | | | | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | | |
| CROSS SECTIONS | | | | | | | |
| PLAN 220 OF 349 | | | | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | CHECKED SK | APPROVED MES | DRAWING NO. | REV. | |





FLOOD PLAIN
 ELEV 181-182: CUT (0.69), FILL (9.52)
 ELEV 180-181: CUT (0.00), FILL (4.20)
 ELEV 179-180: CUT (0.00), FILL (0.07)
 ELEV 178-179: CUT (0.00), FILL (0.00)

FLOOD PLAIN
 ELEV 181-182: CUT (9.69), FILL (0.00)
 ELEV 180-181: CUT (6.39), FILL (0.00)

NO FLOOD PLAIN ANALYSIS
 BRIDGE STRUCTURE

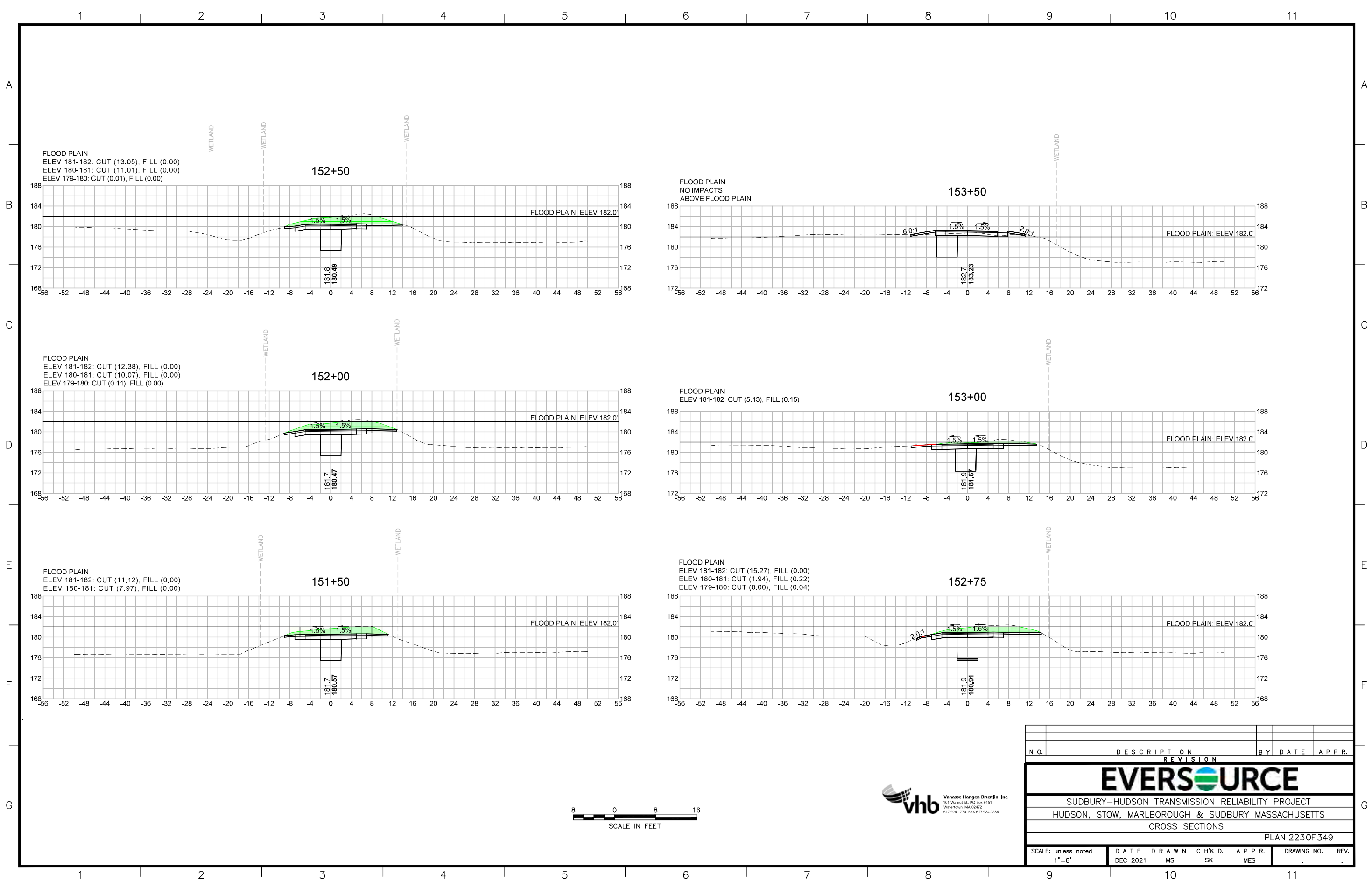
FLOOD PLAIN
 ELEV 181-182: CUT (7.68), FILL (0.00)
 ELEV 180-181: CUT (3.96), FILL (0.00)

NO FLOOD PLAIN ANALYSIS
 BRIDGE STRUCTURE

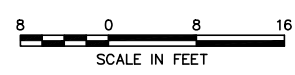
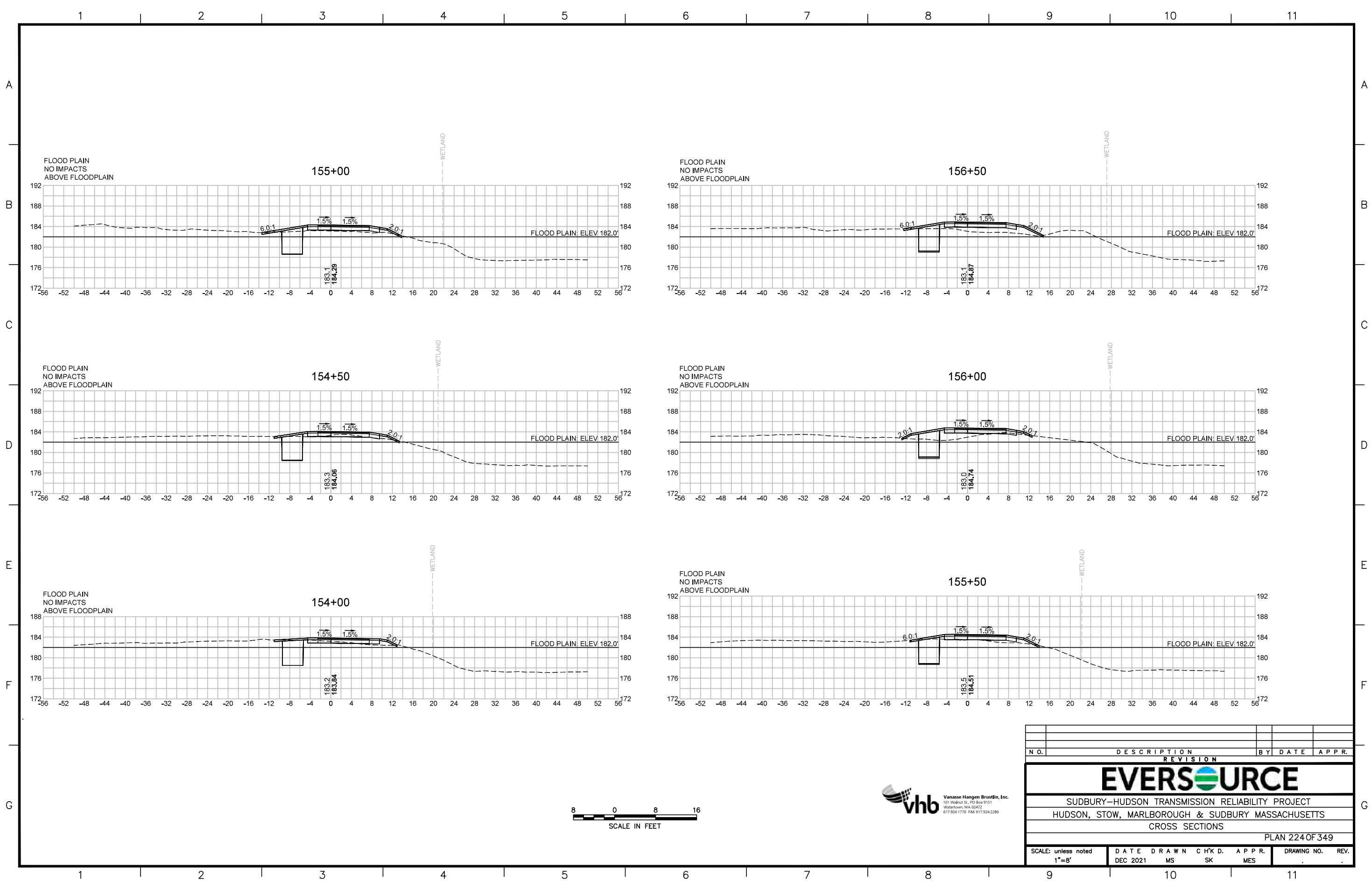
FLOOD PLAIN
 ELEV 181-182: CUT (9.16), FILL (0.00)
 ELEV 180-181: CUT (0.79), FILL (0.00)



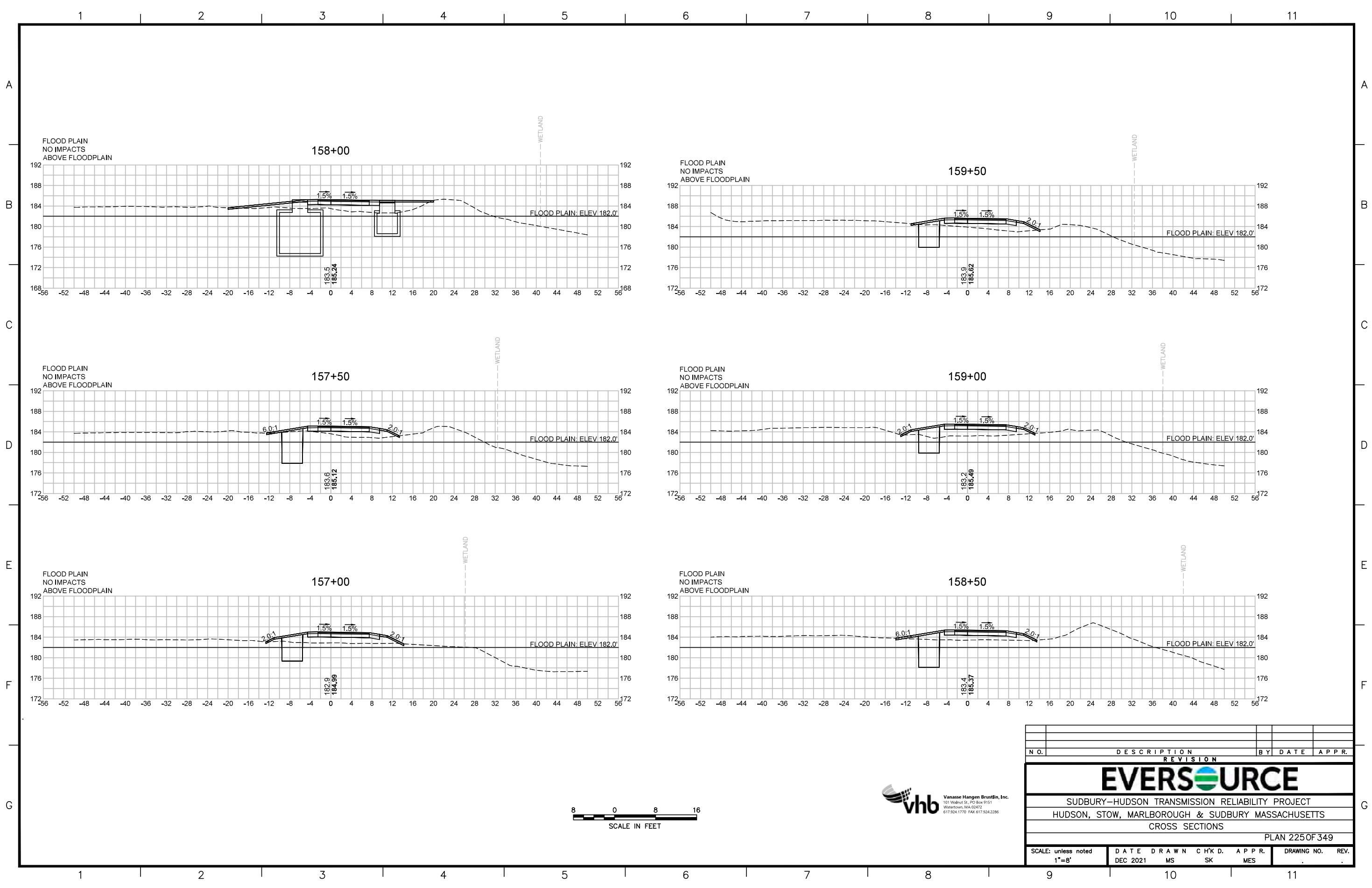
| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 222 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



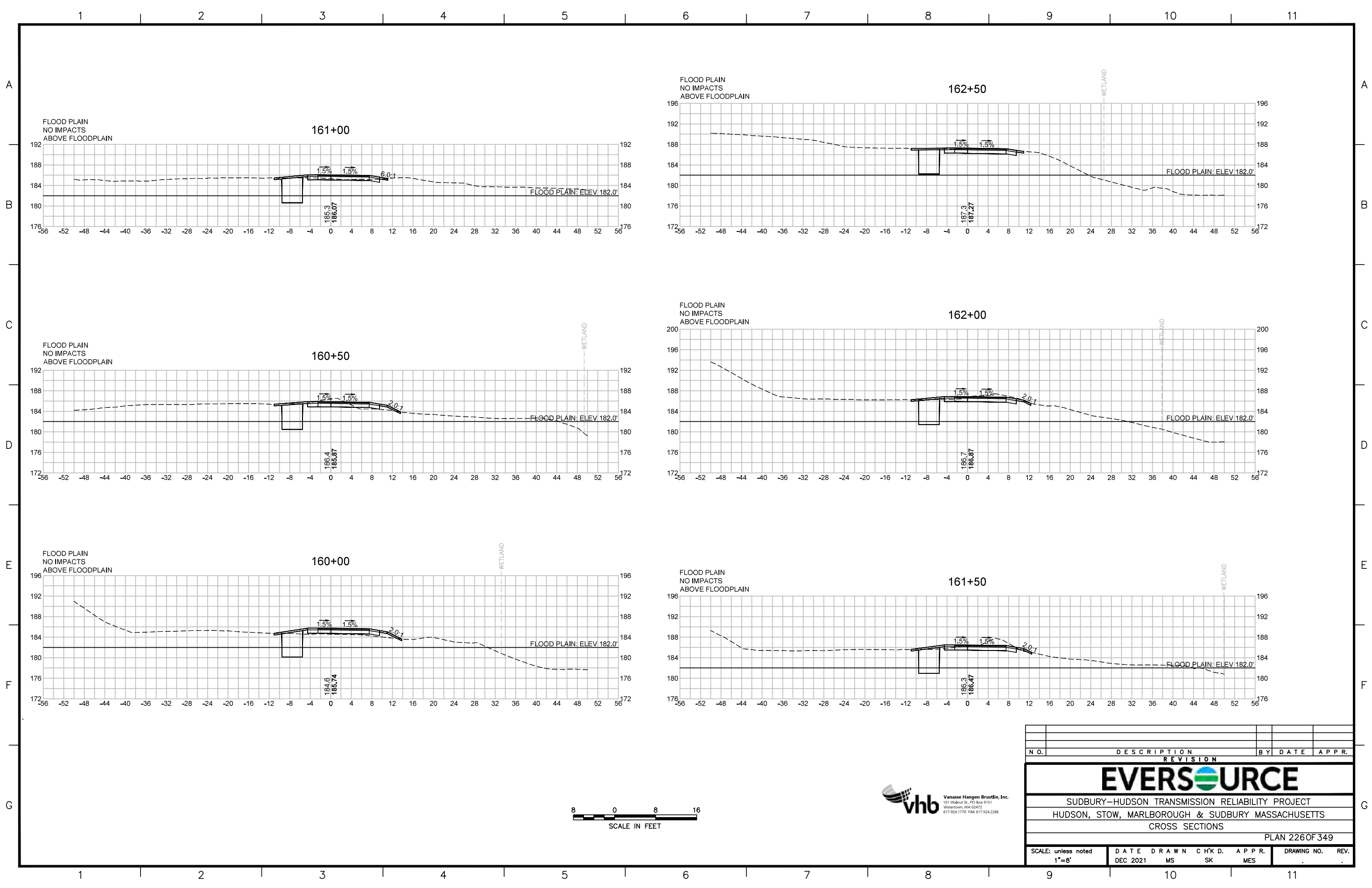
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 2230F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | | | REV. |



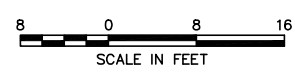
| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 224 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |

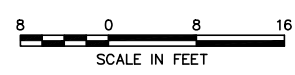
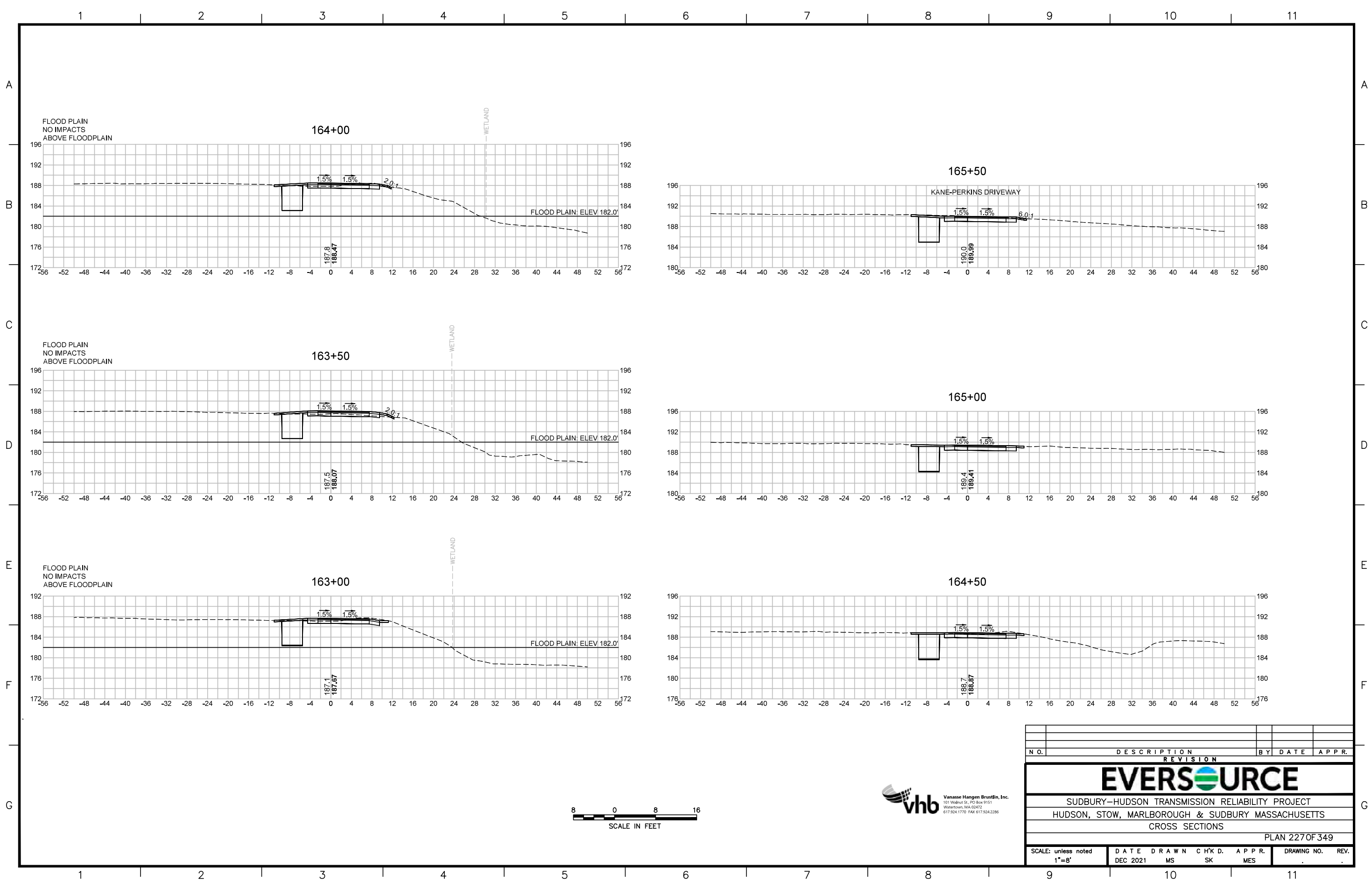


| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 225 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |
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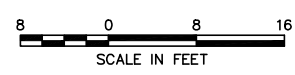
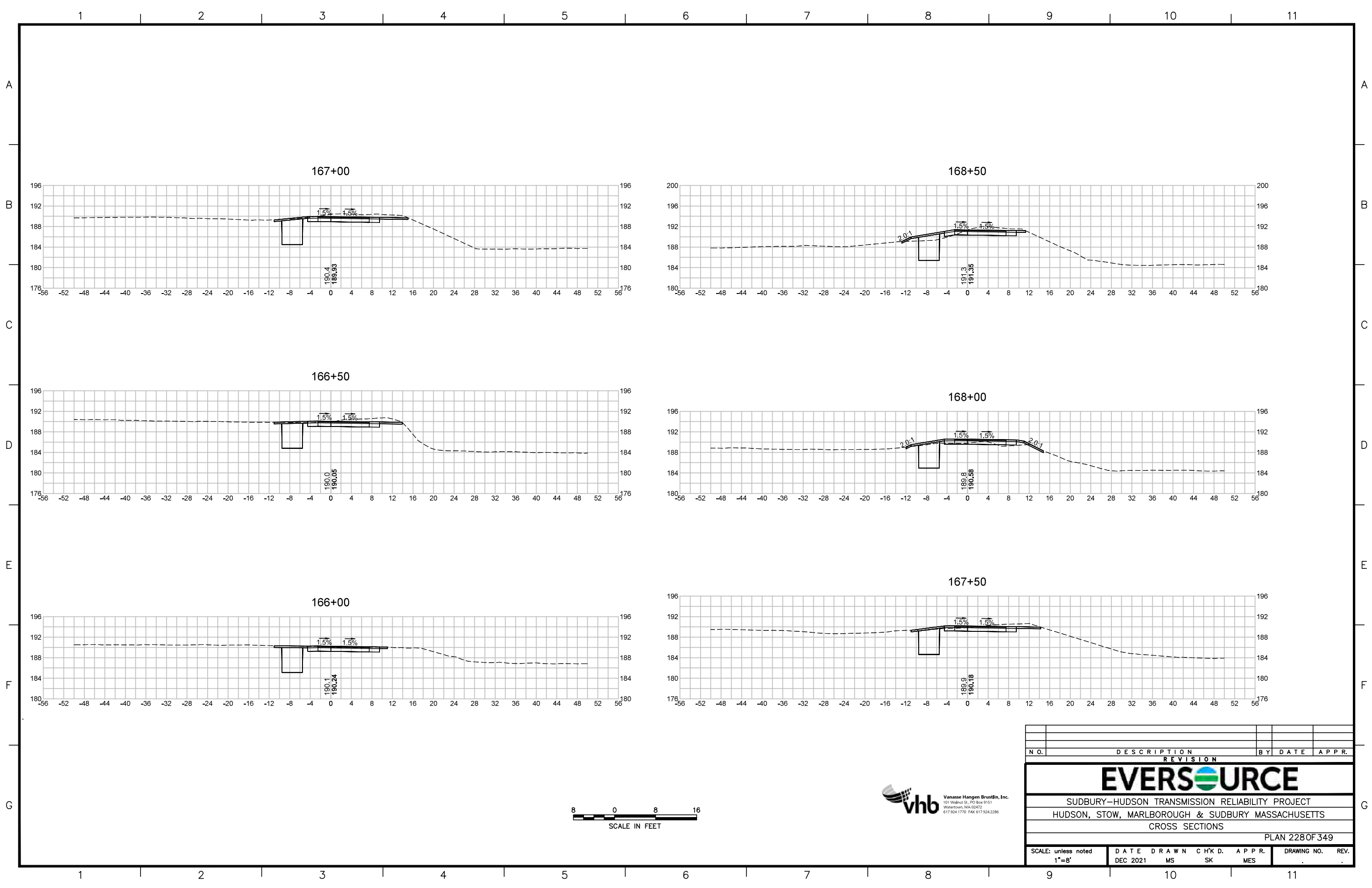


| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 226 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |
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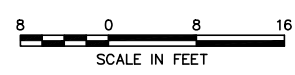
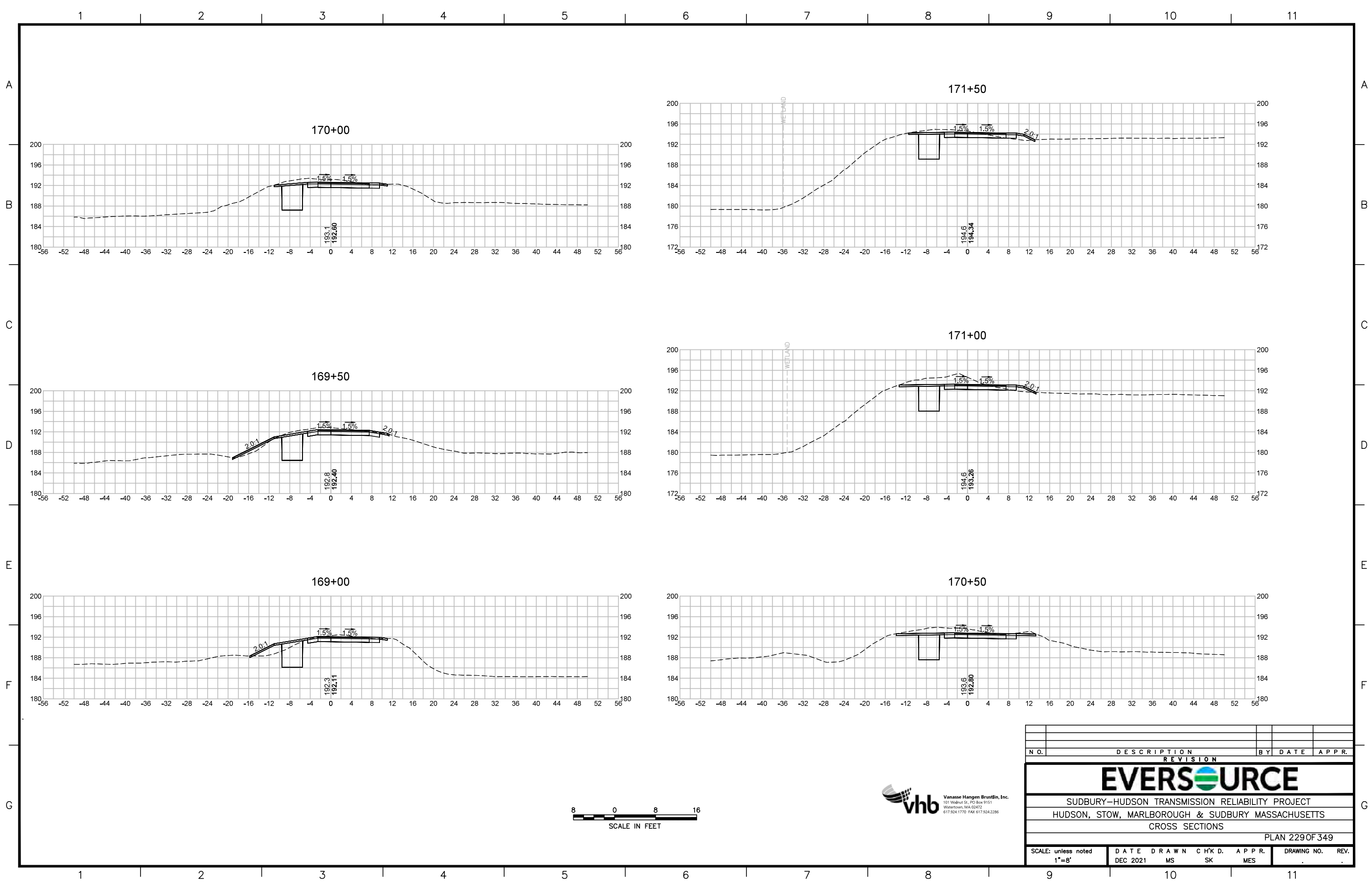




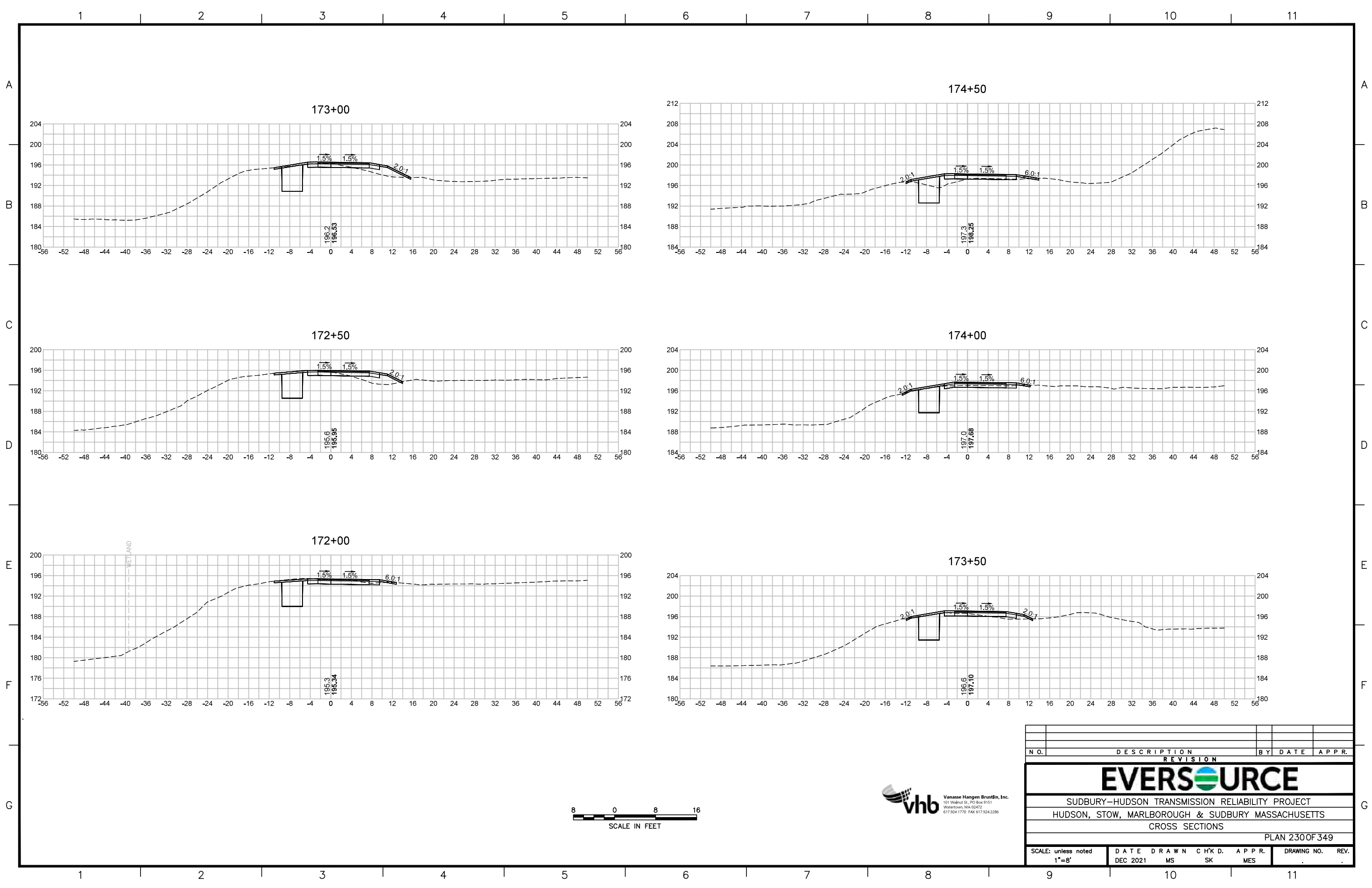
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| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 227 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| | | | | DRAWING NO. |
| | | | | REV. |



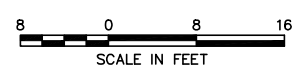
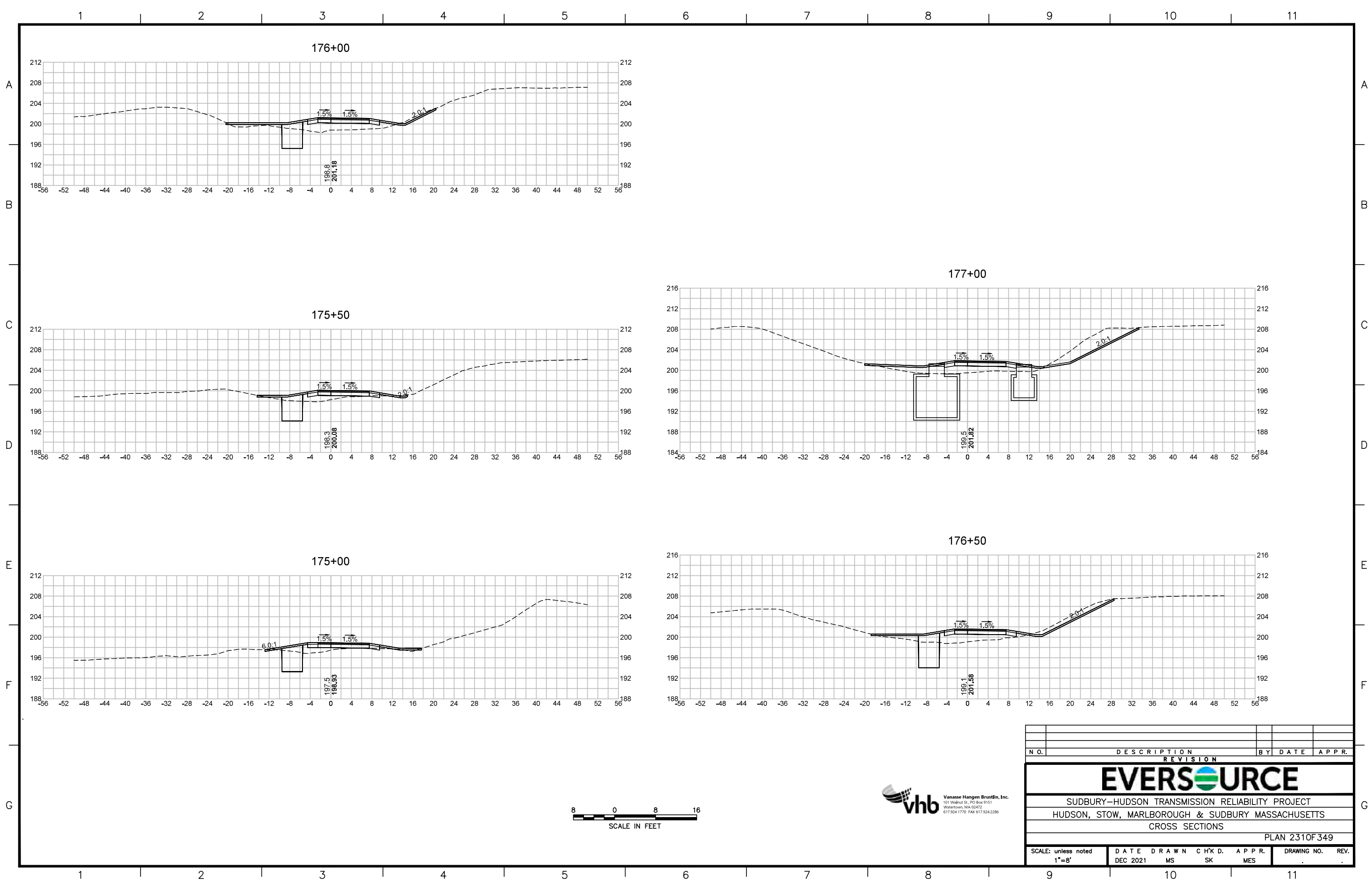
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| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 228 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



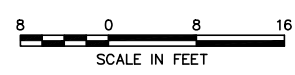
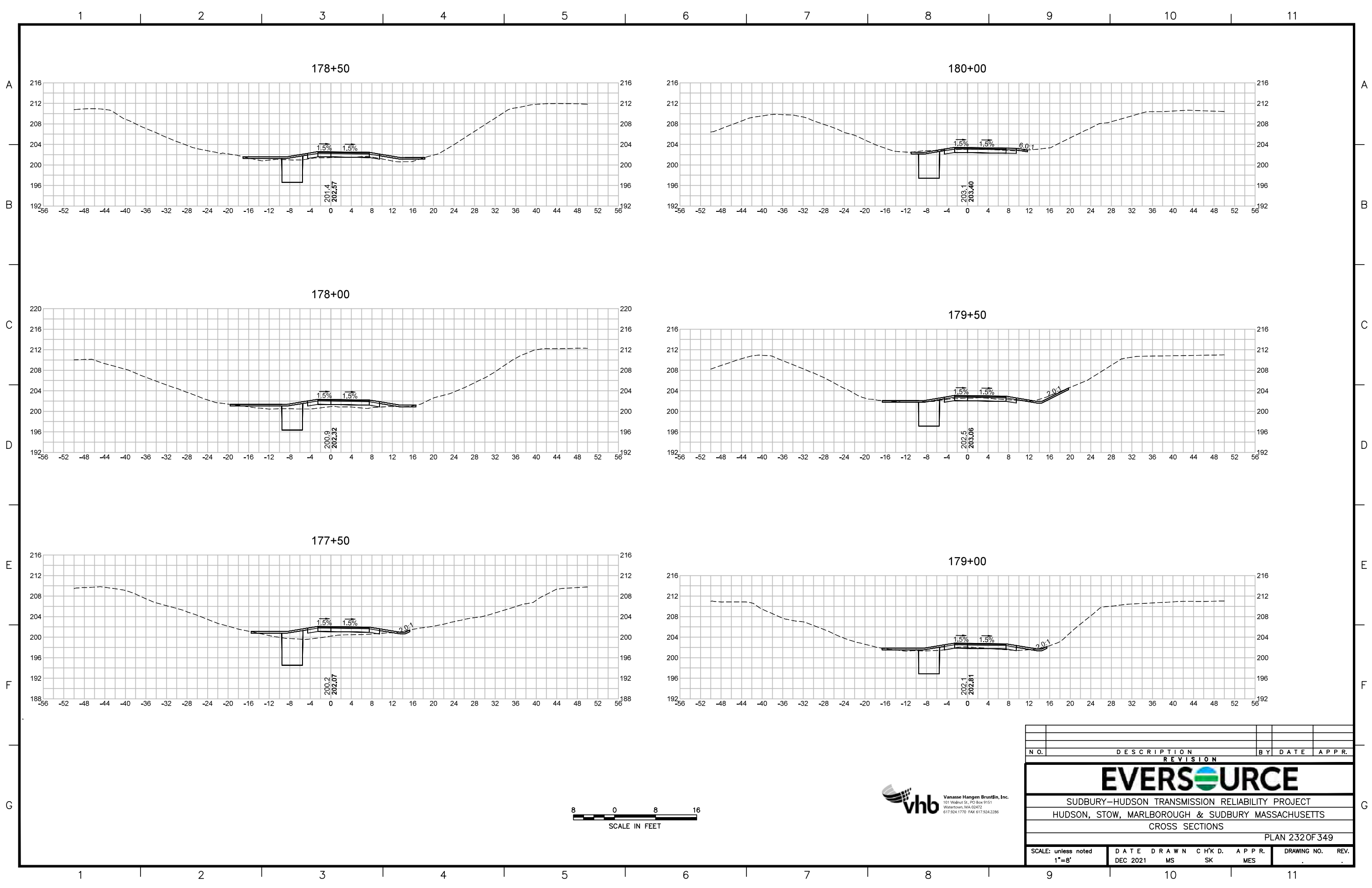
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|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 229 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



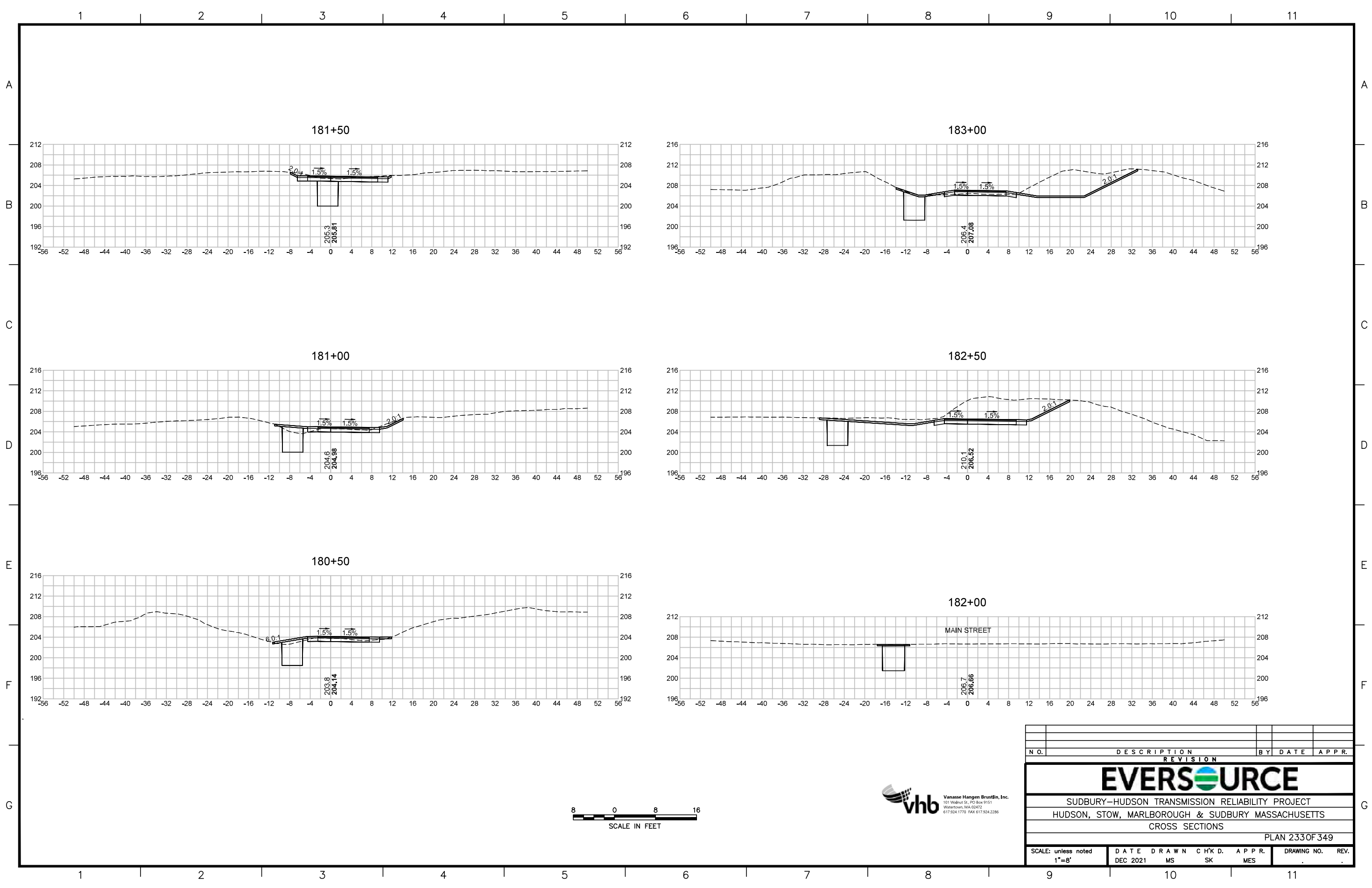
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| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 2300F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



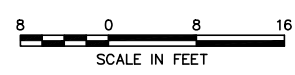
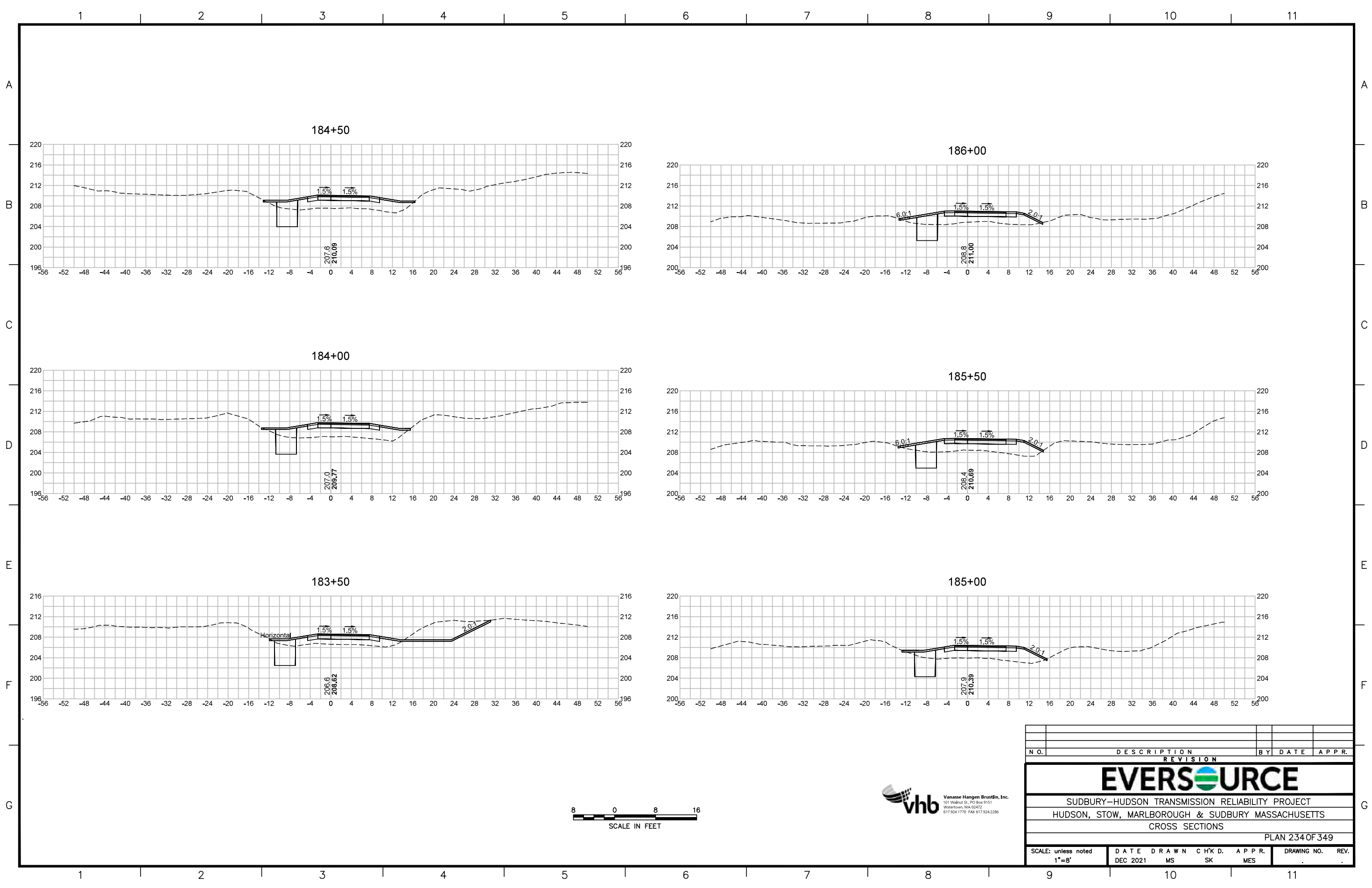
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|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 2310F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 2320F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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| N.O. | DESCRIPTION | BY | DATE | APPR. |
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 2330F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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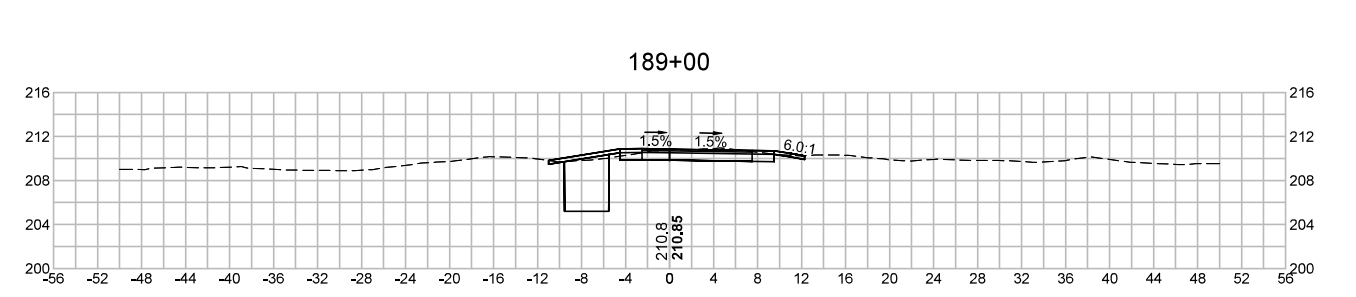
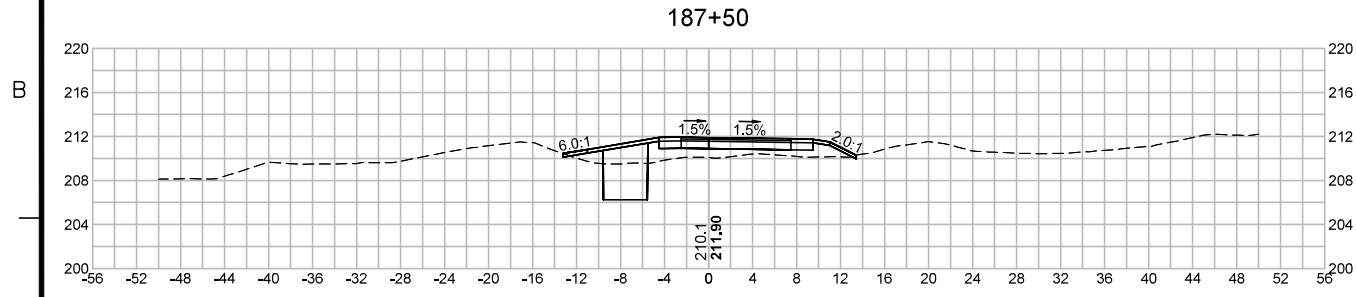


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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 234 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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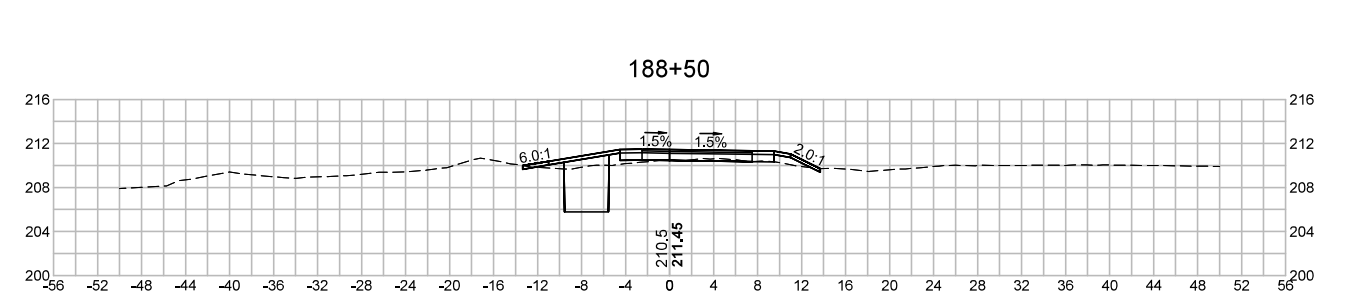
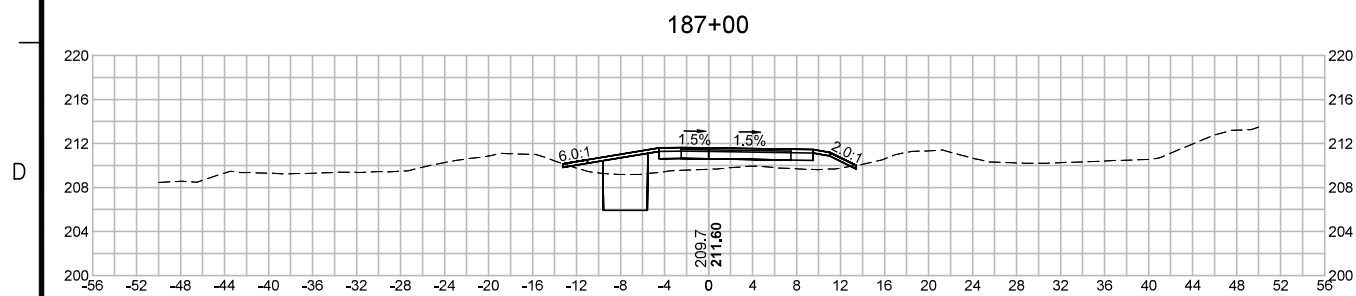
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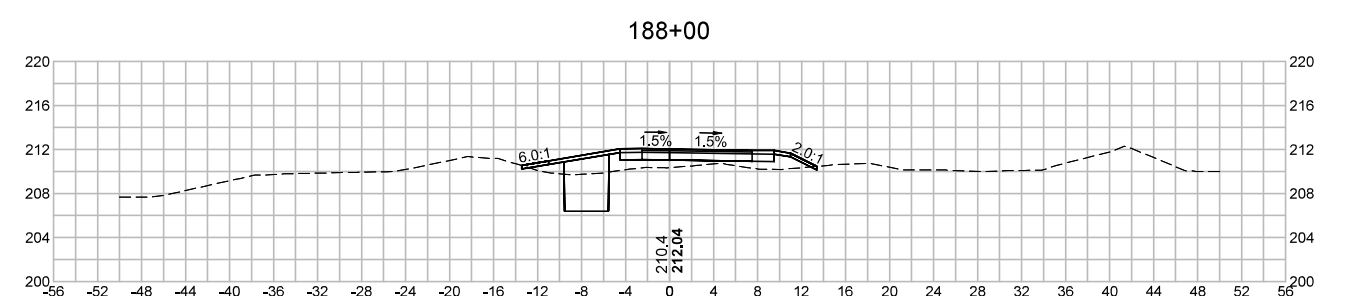
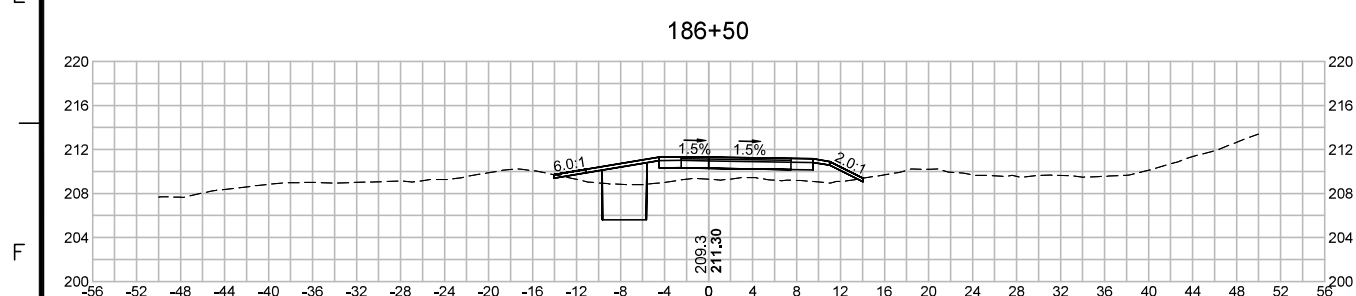
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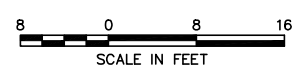
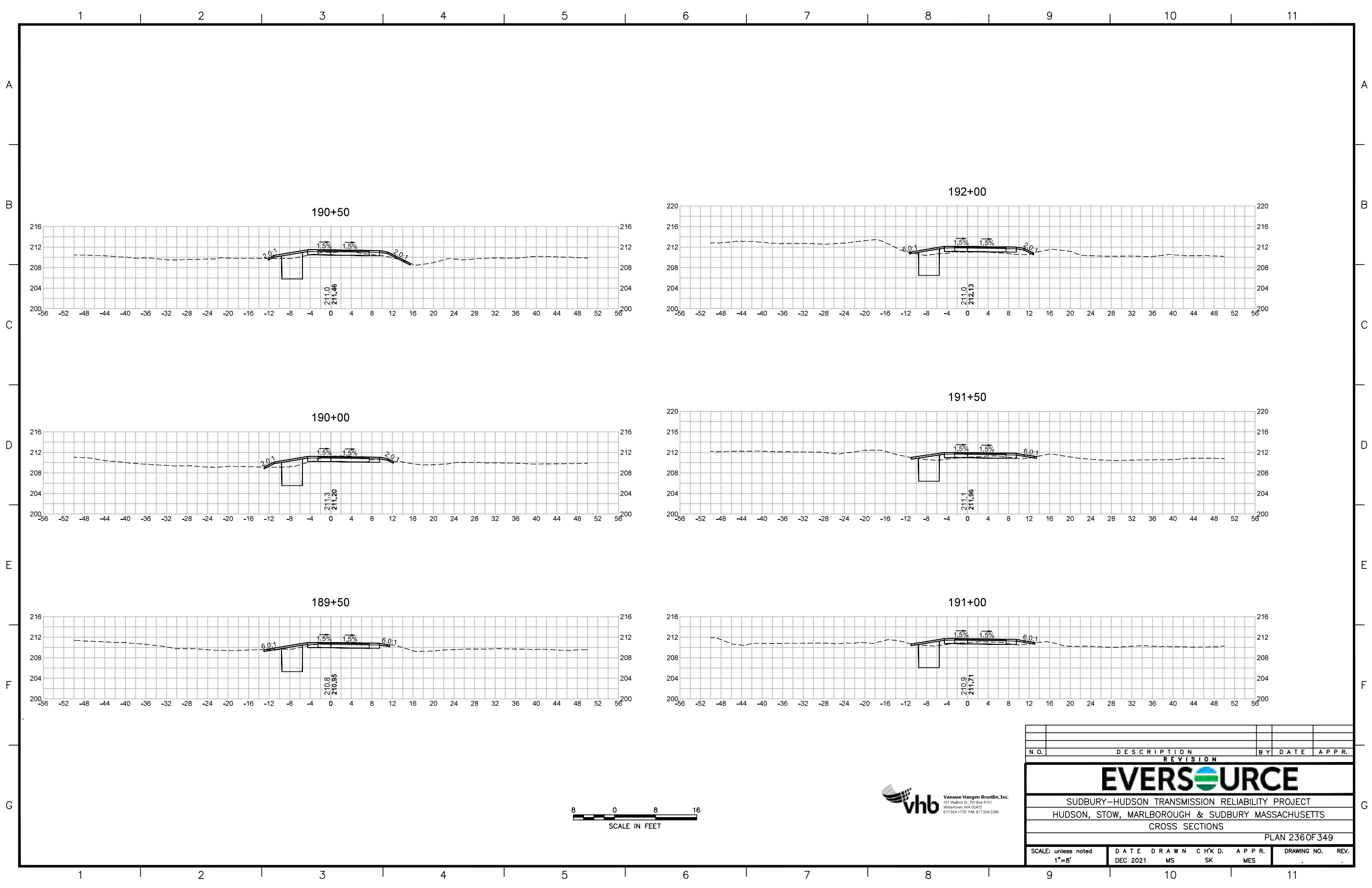
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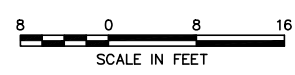
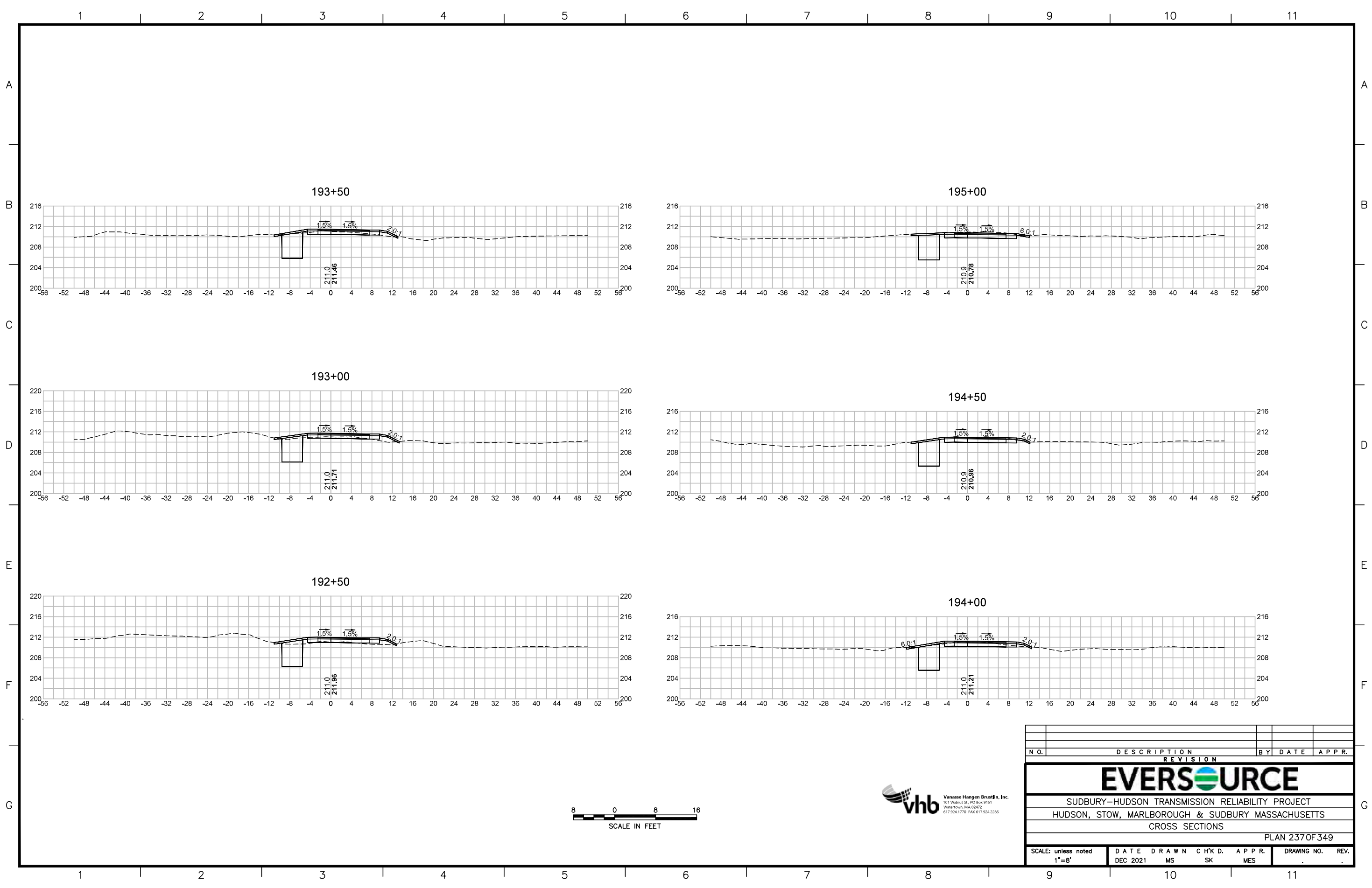
Vanasse Hangen Brustlin, Inc.
101 Walnut St., P.O. Box 9151
Watertown, MA 02472
617.924.1770 FAX 617.924.2386

| N.O. | DESCRIPTION | BY | DATE | APPR. |
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| REVISION | | | | |
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 235 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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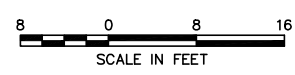
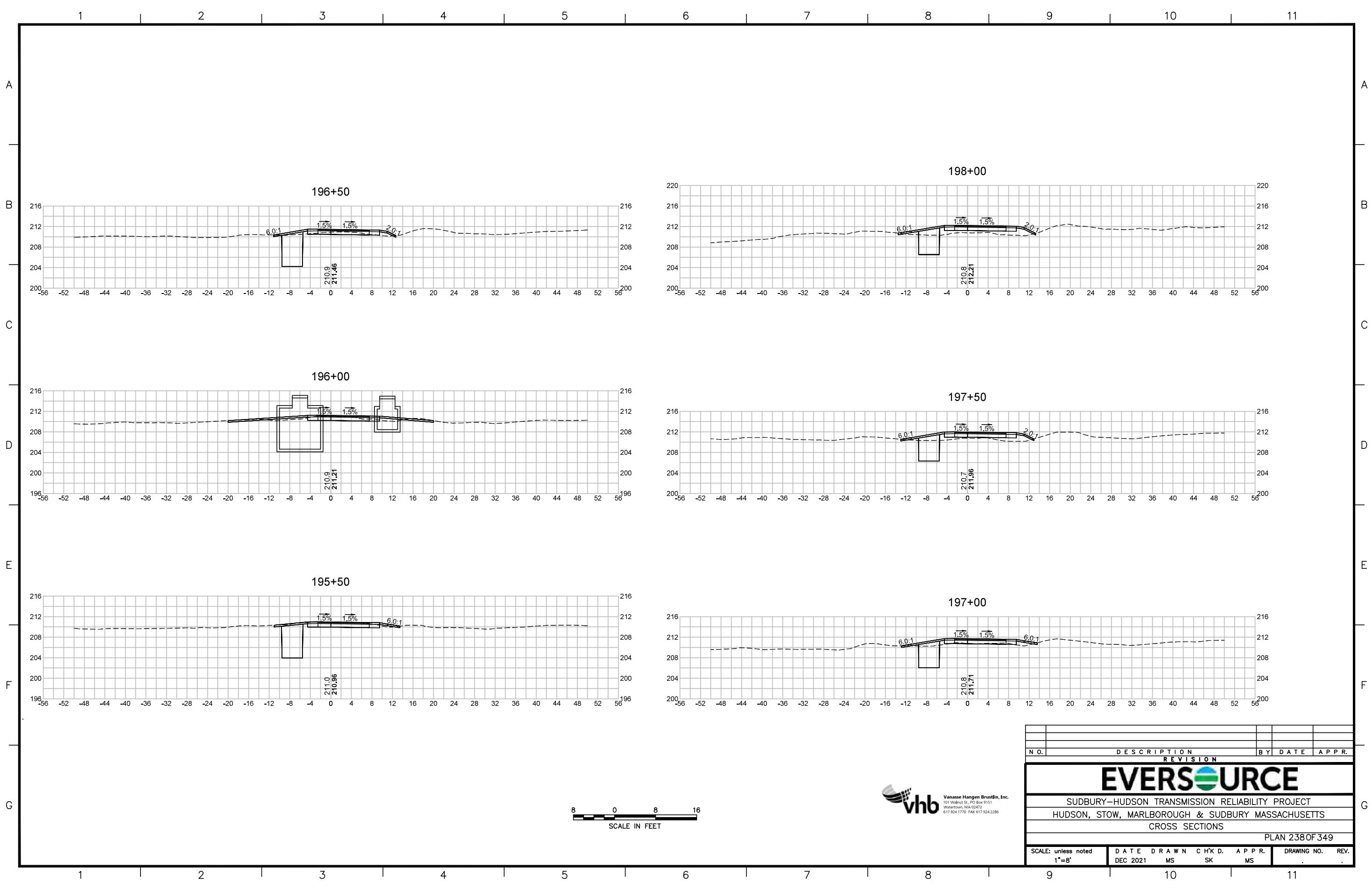
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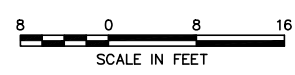
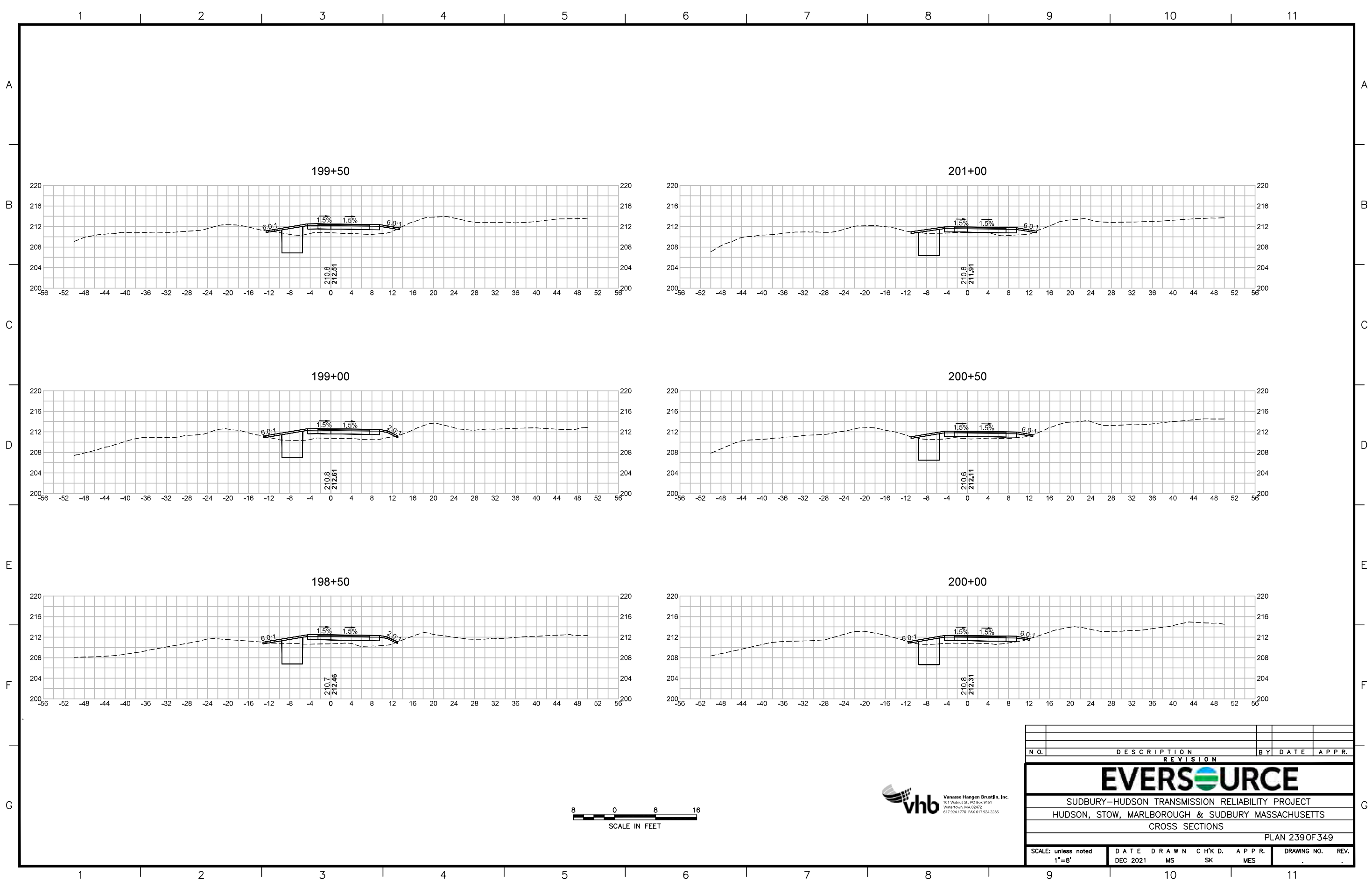
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 236 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



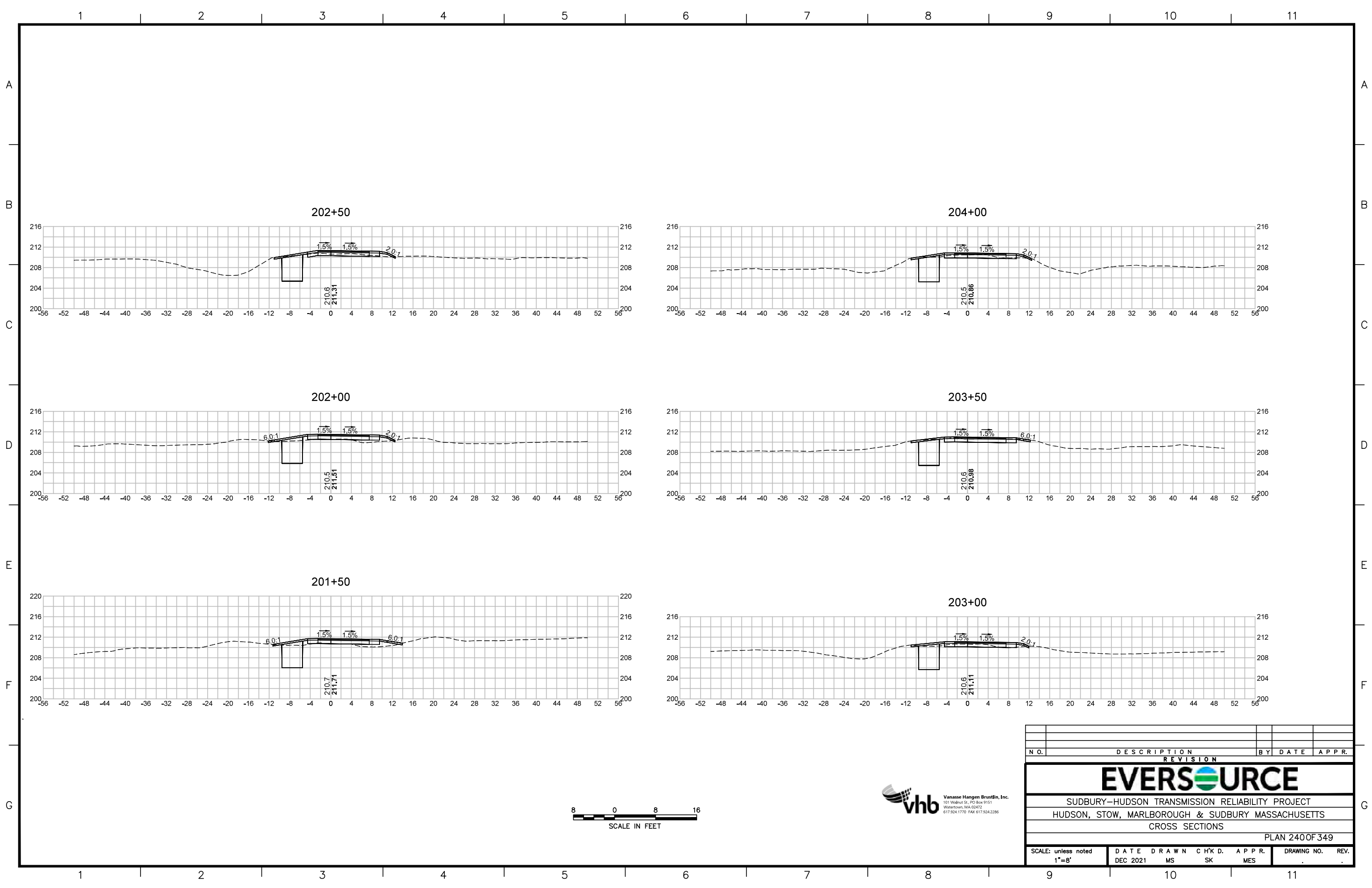
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 237 OF 349 | | | | |
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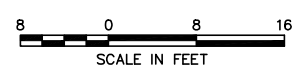
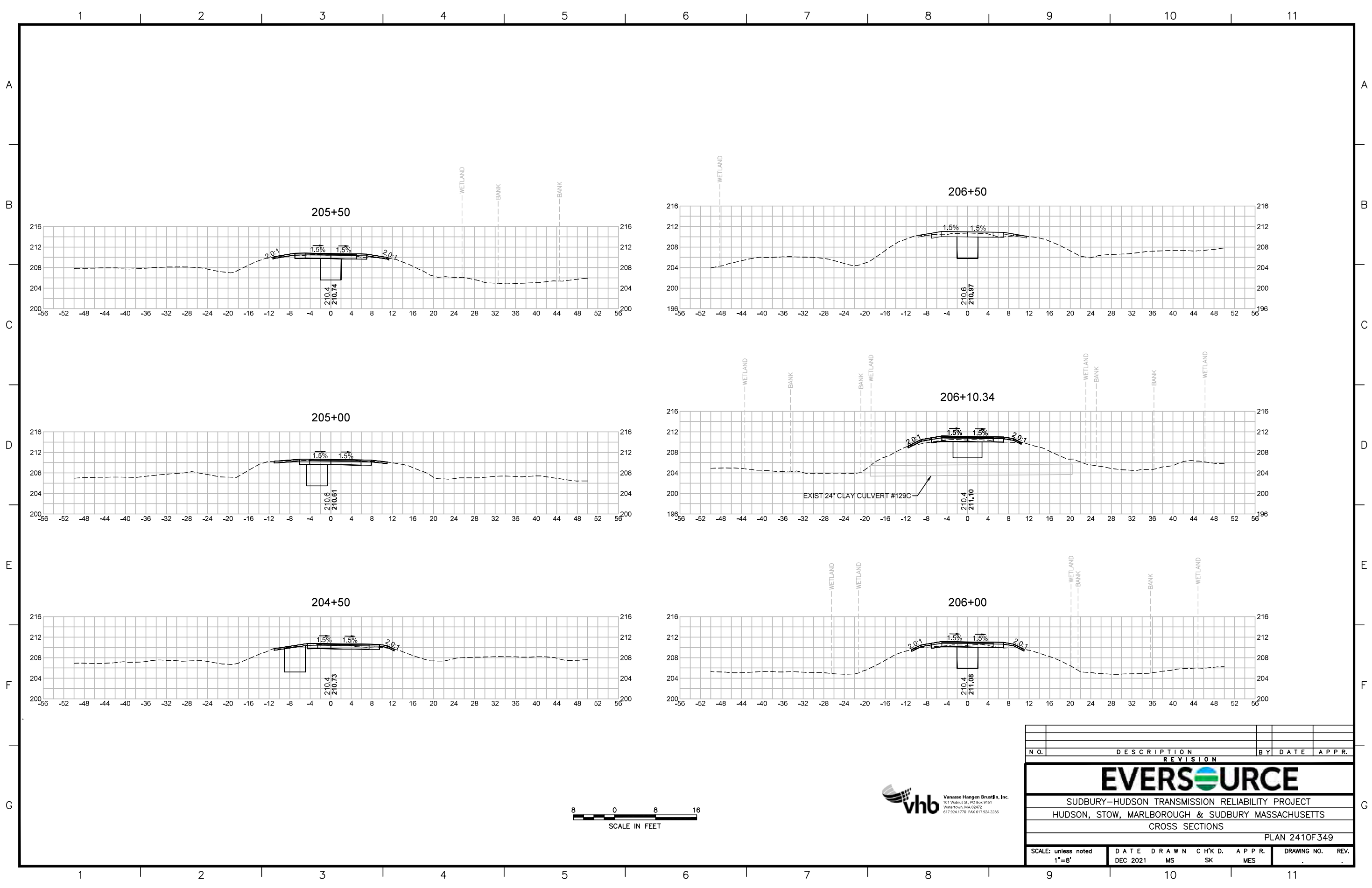
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
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| PLAN 238 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MS |
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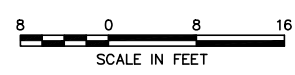
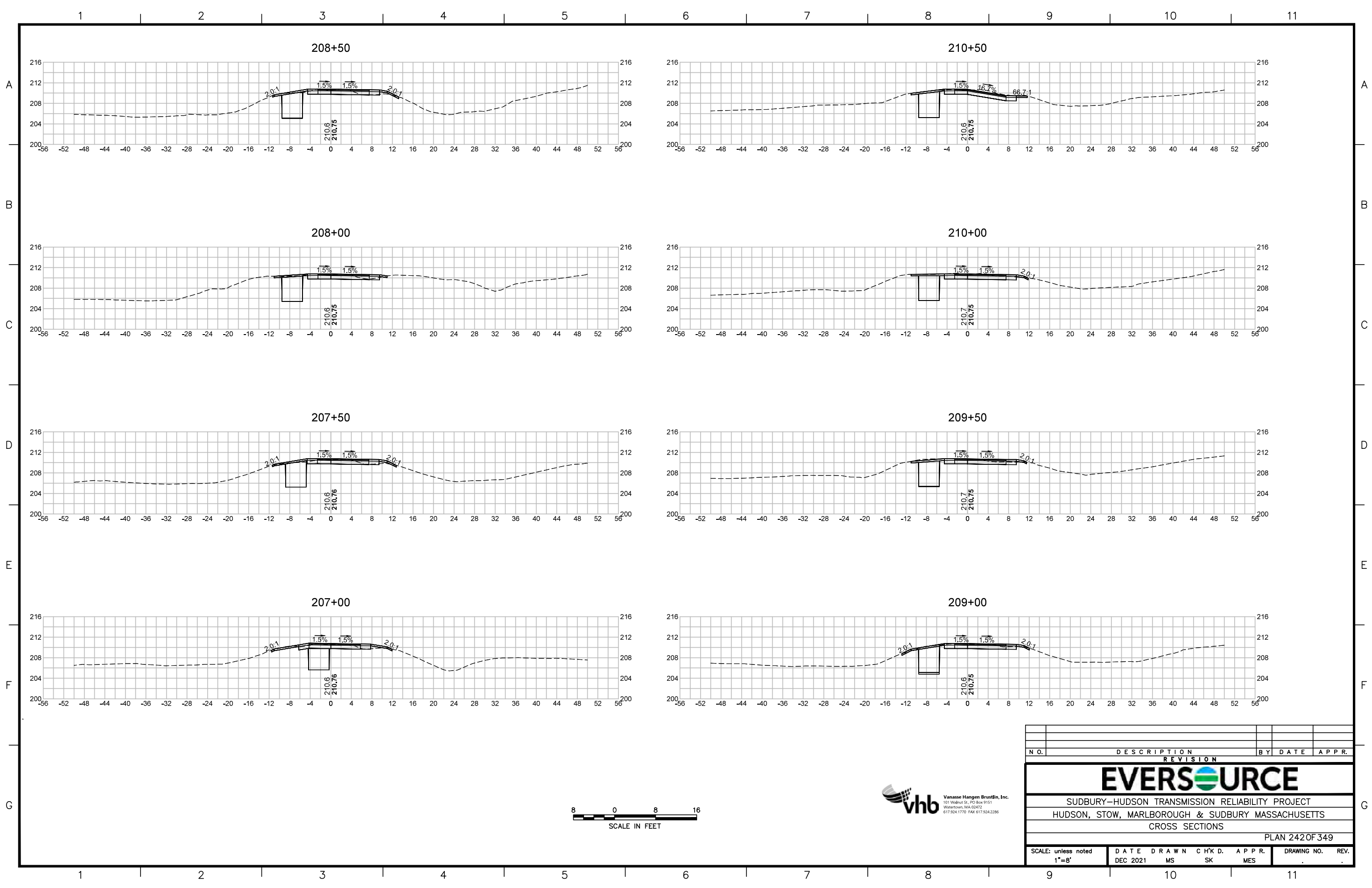
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
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| PLAN 239 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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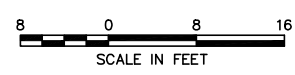
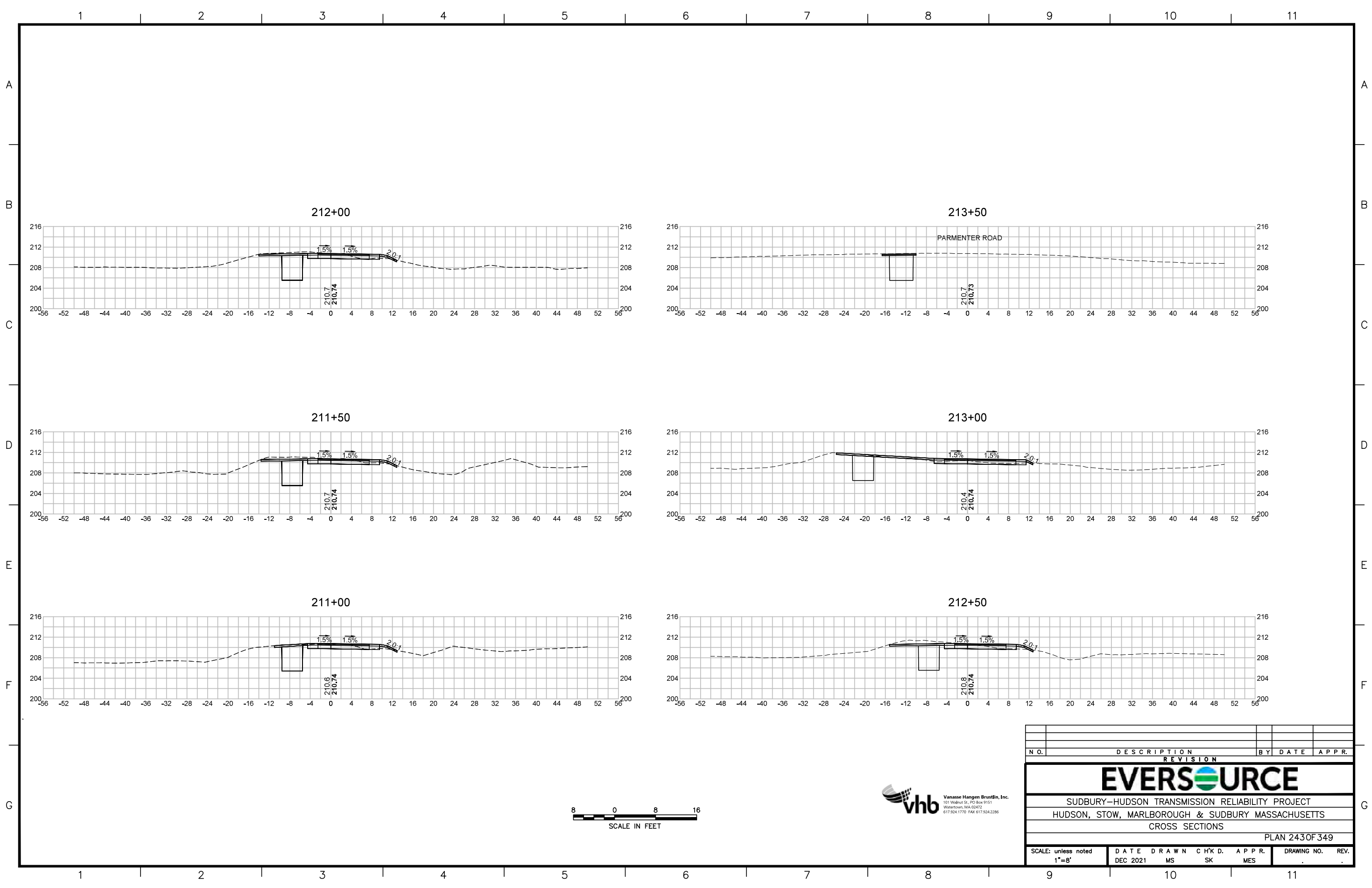
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
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| PLAN 2400F 349 | | | | |
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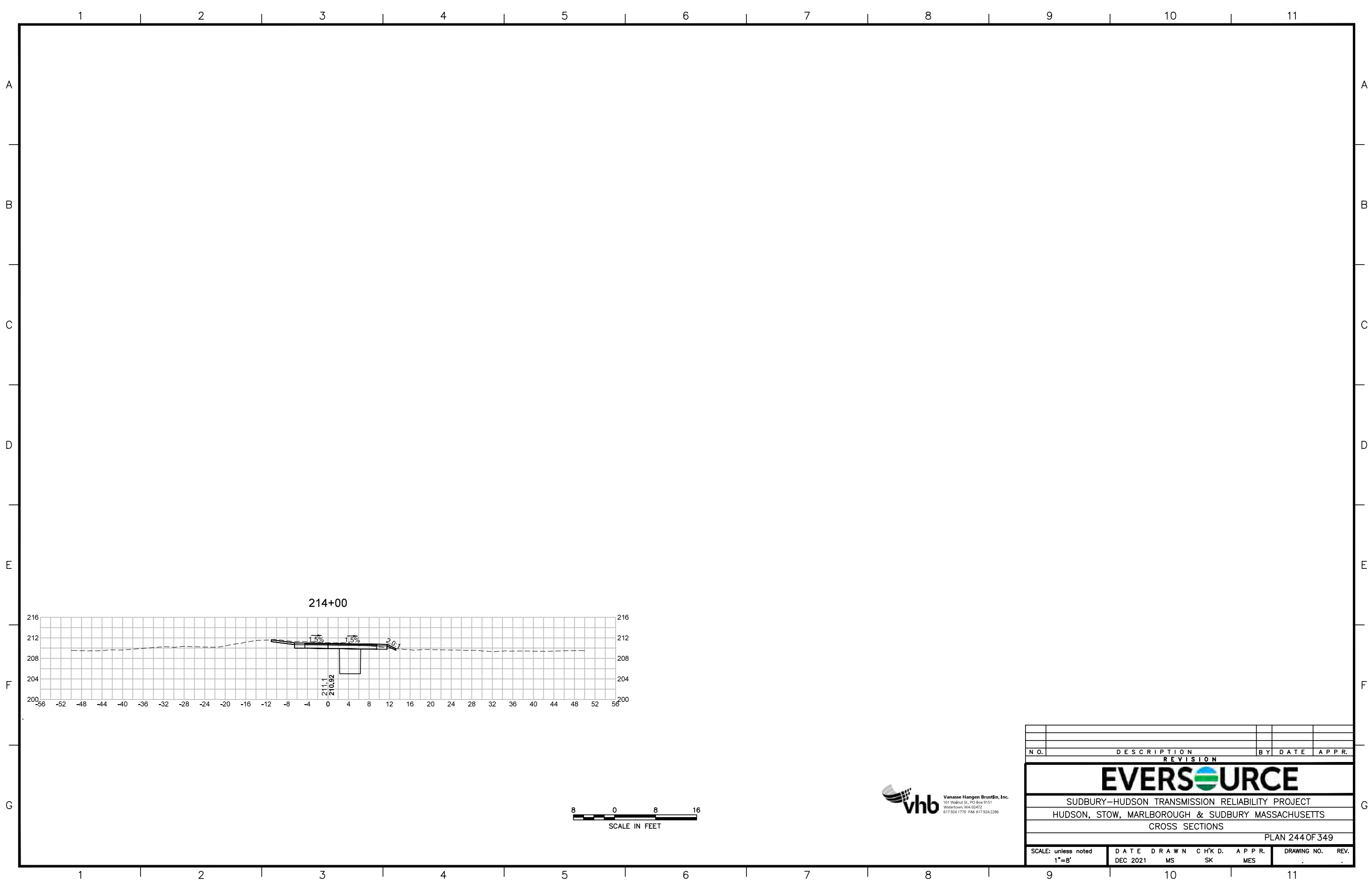
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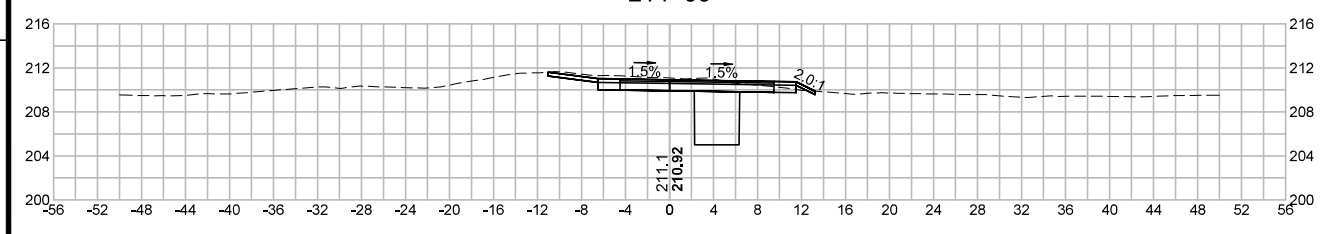
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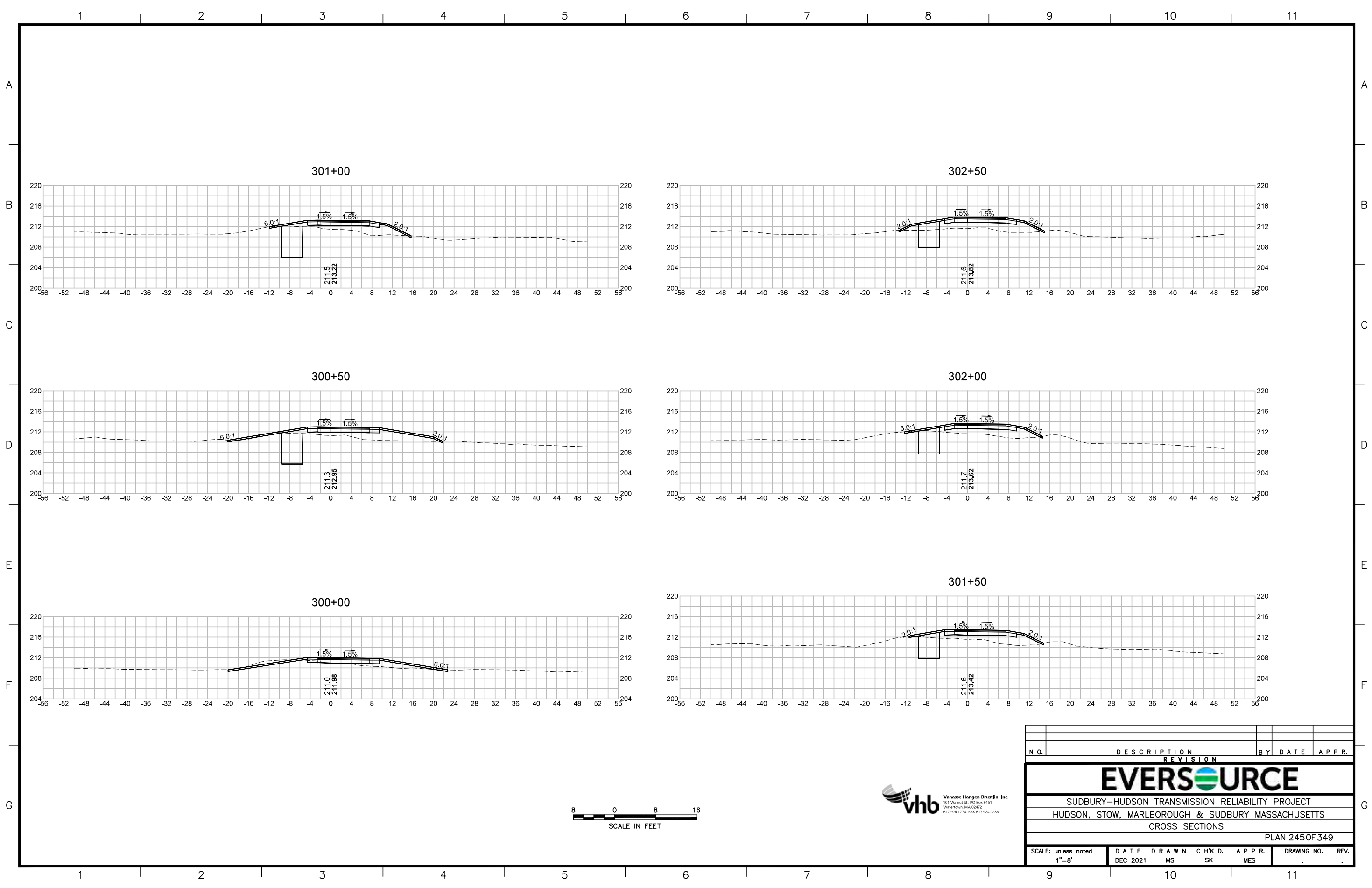
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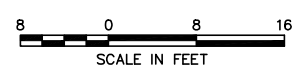
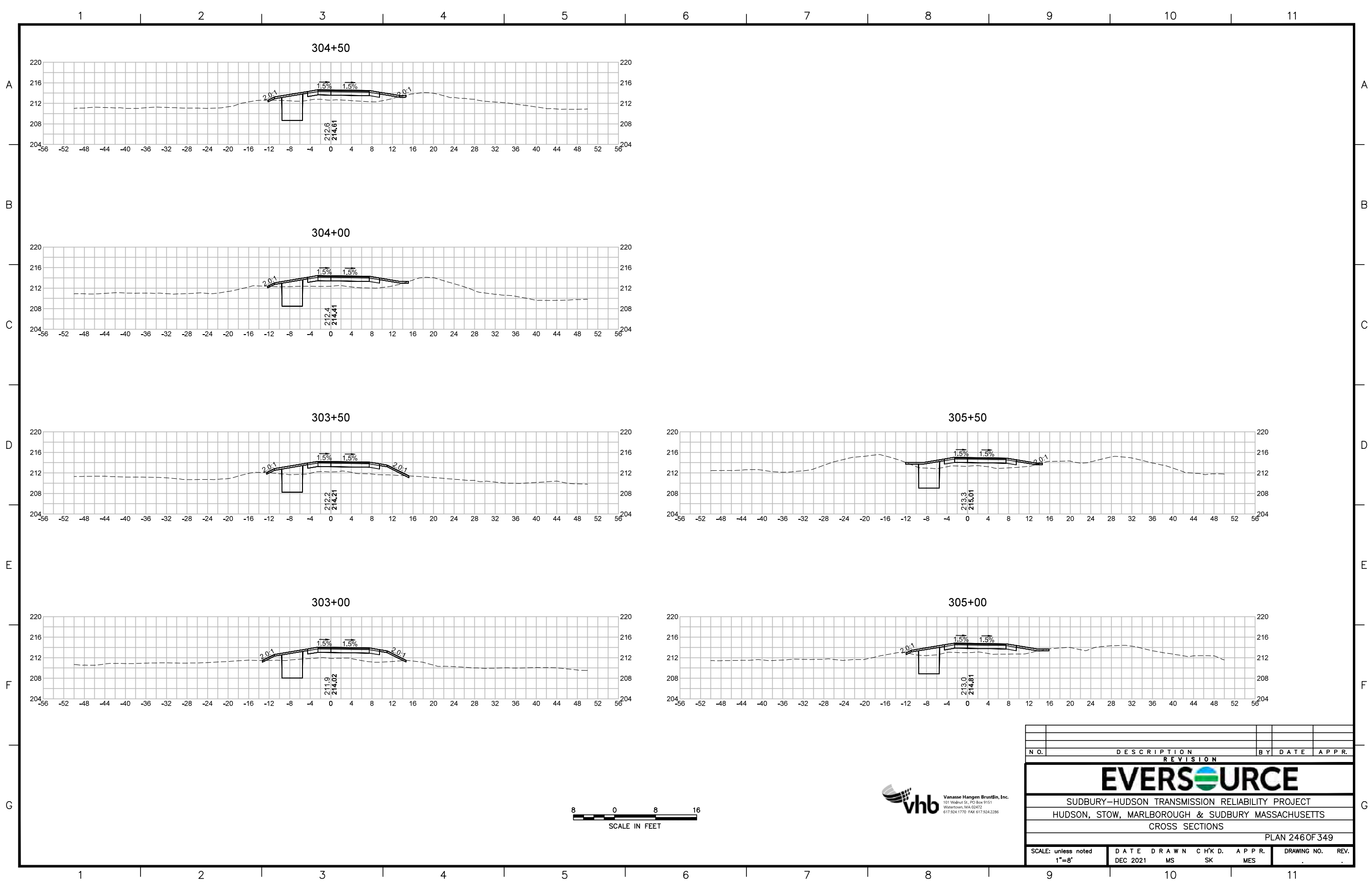
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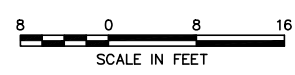
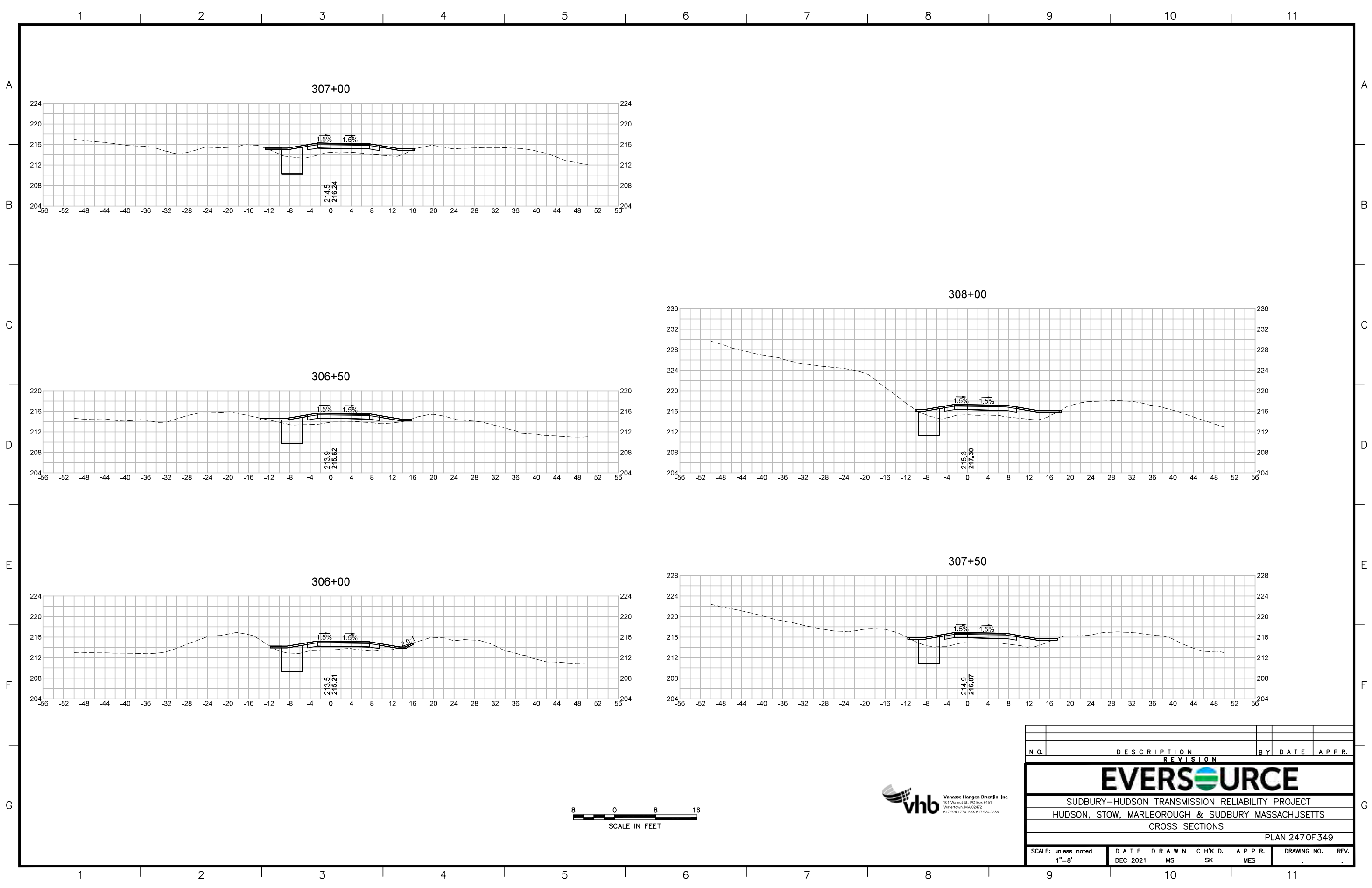
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 244 OF 349 | | | | |
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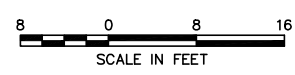
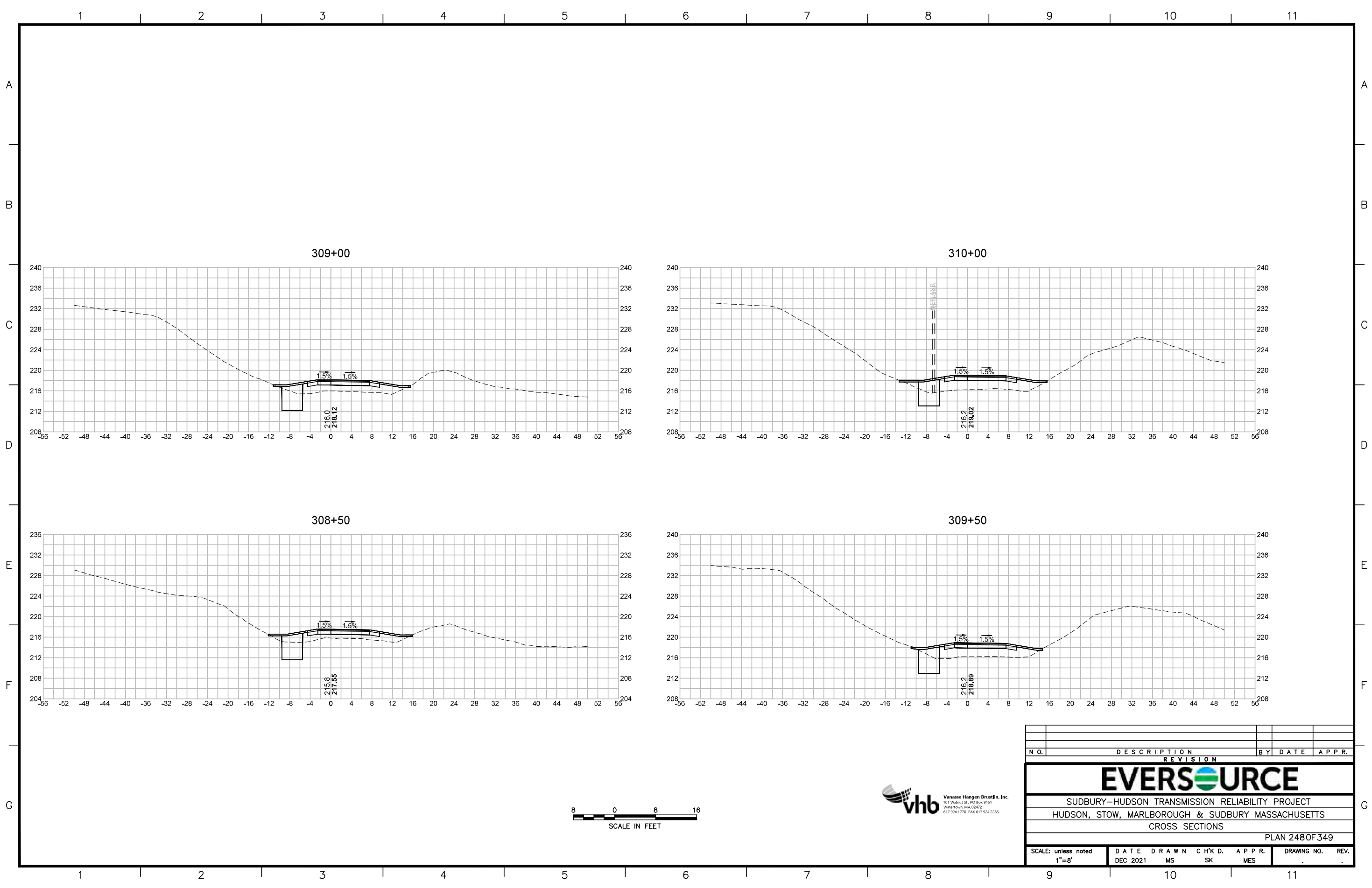
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 245 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | A P P R. MES |
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| N.O. | DESCRIPTION | BY | DATE | APPR. |
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 246 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | |
| CROSS SECTIONS | | | | | | |
| PLAN 247 OF 349 | | | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES | DRAWING NO. | REV. |



| N.O. | DESCRIPTION | BY | DATE | APPR. |
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 248 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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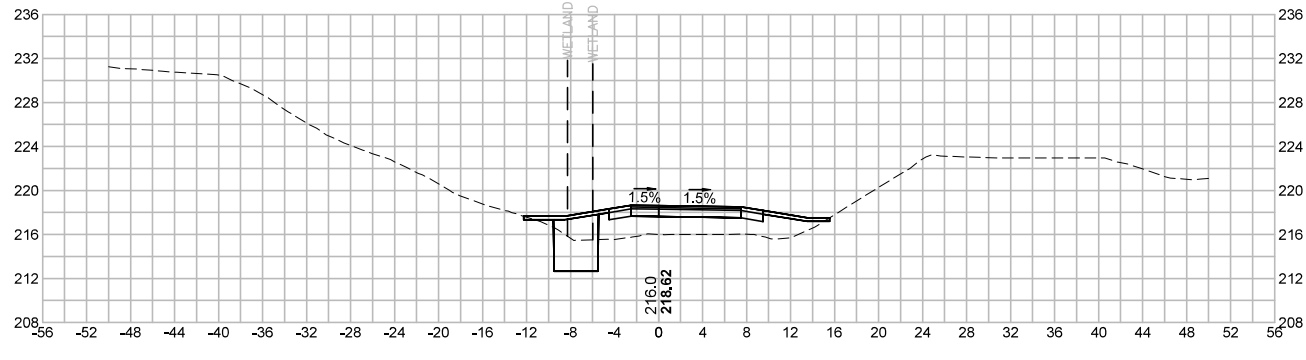
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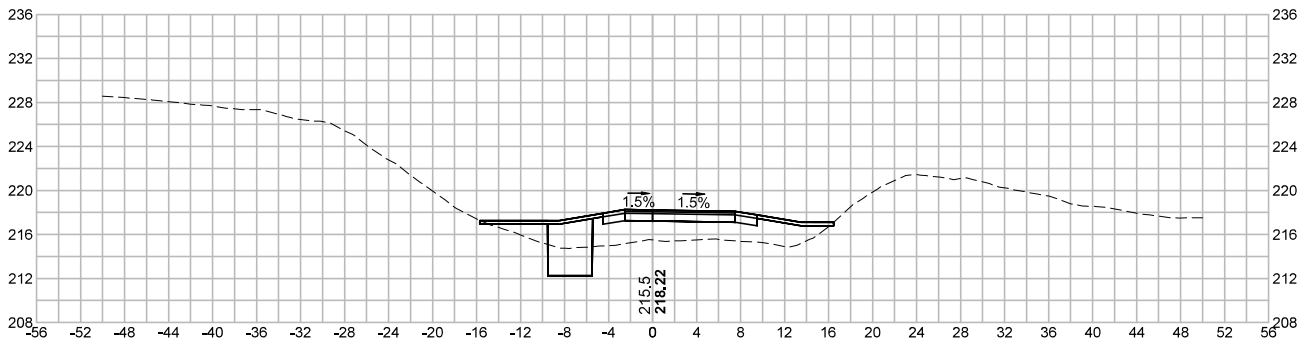
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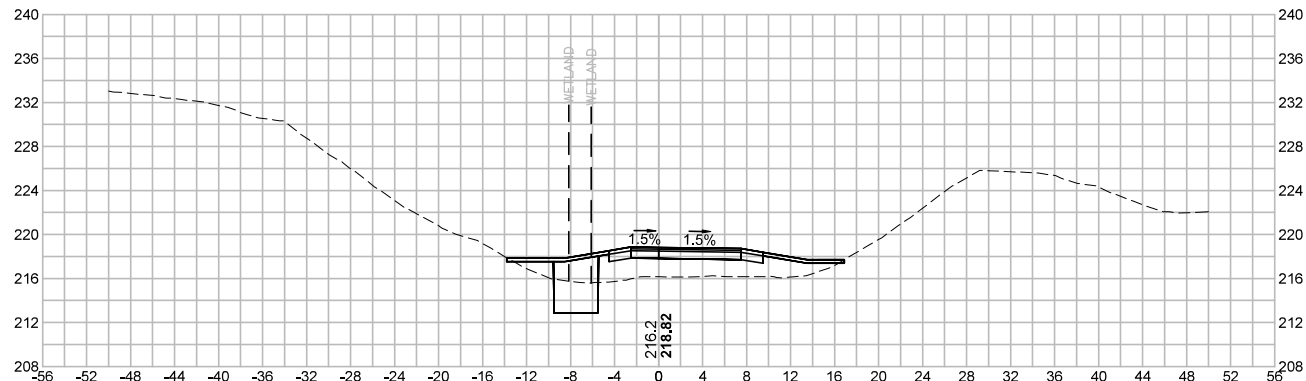
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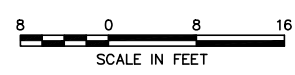
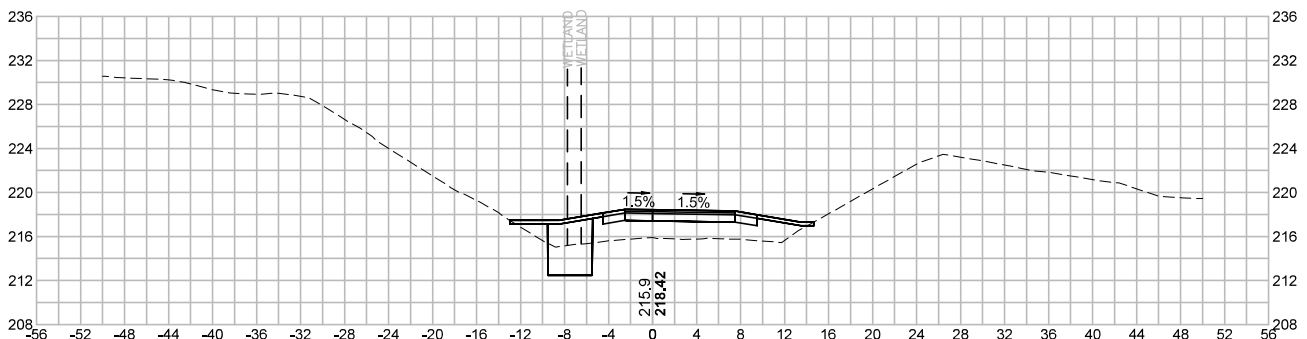
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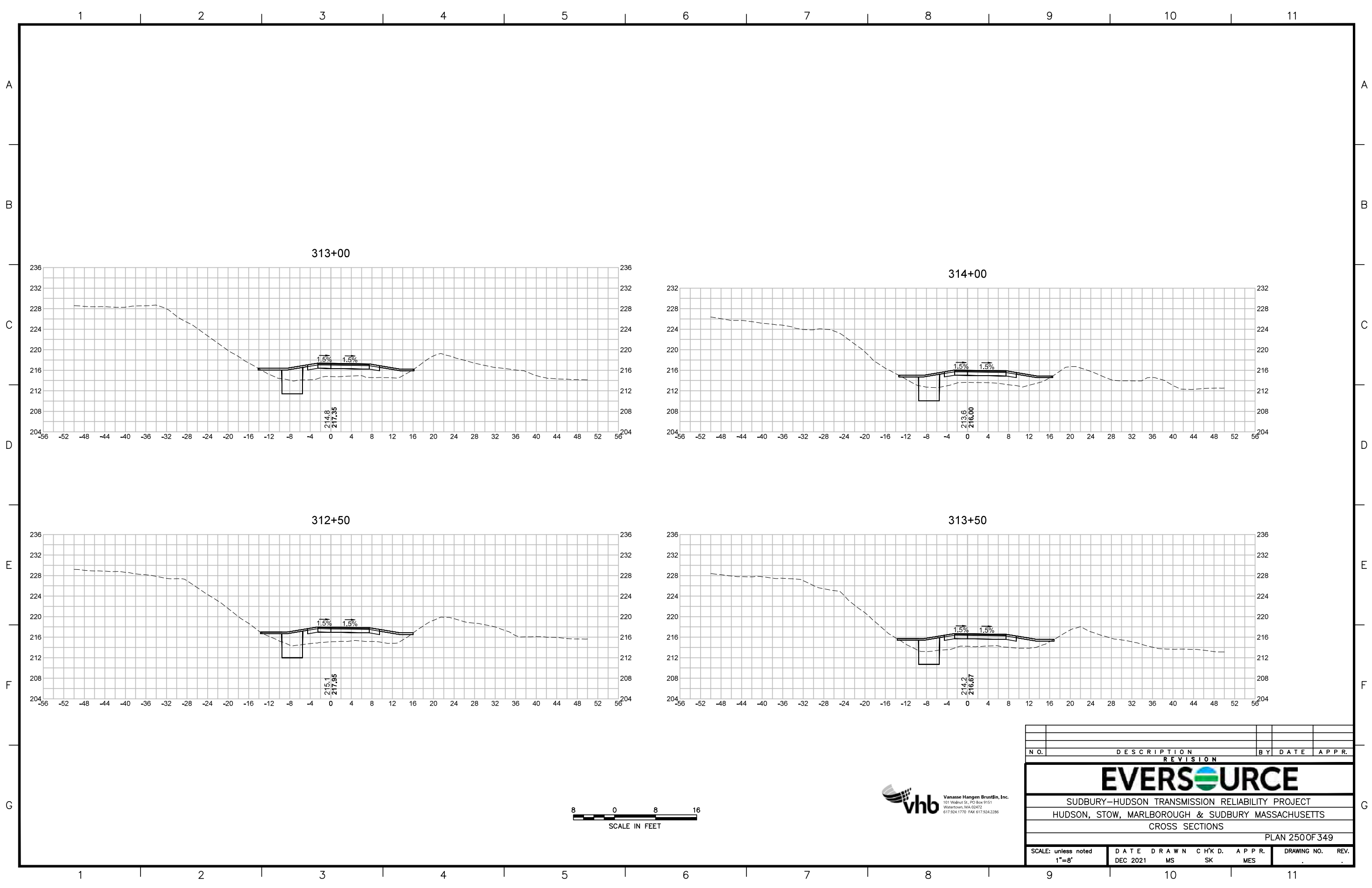


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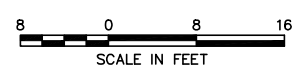
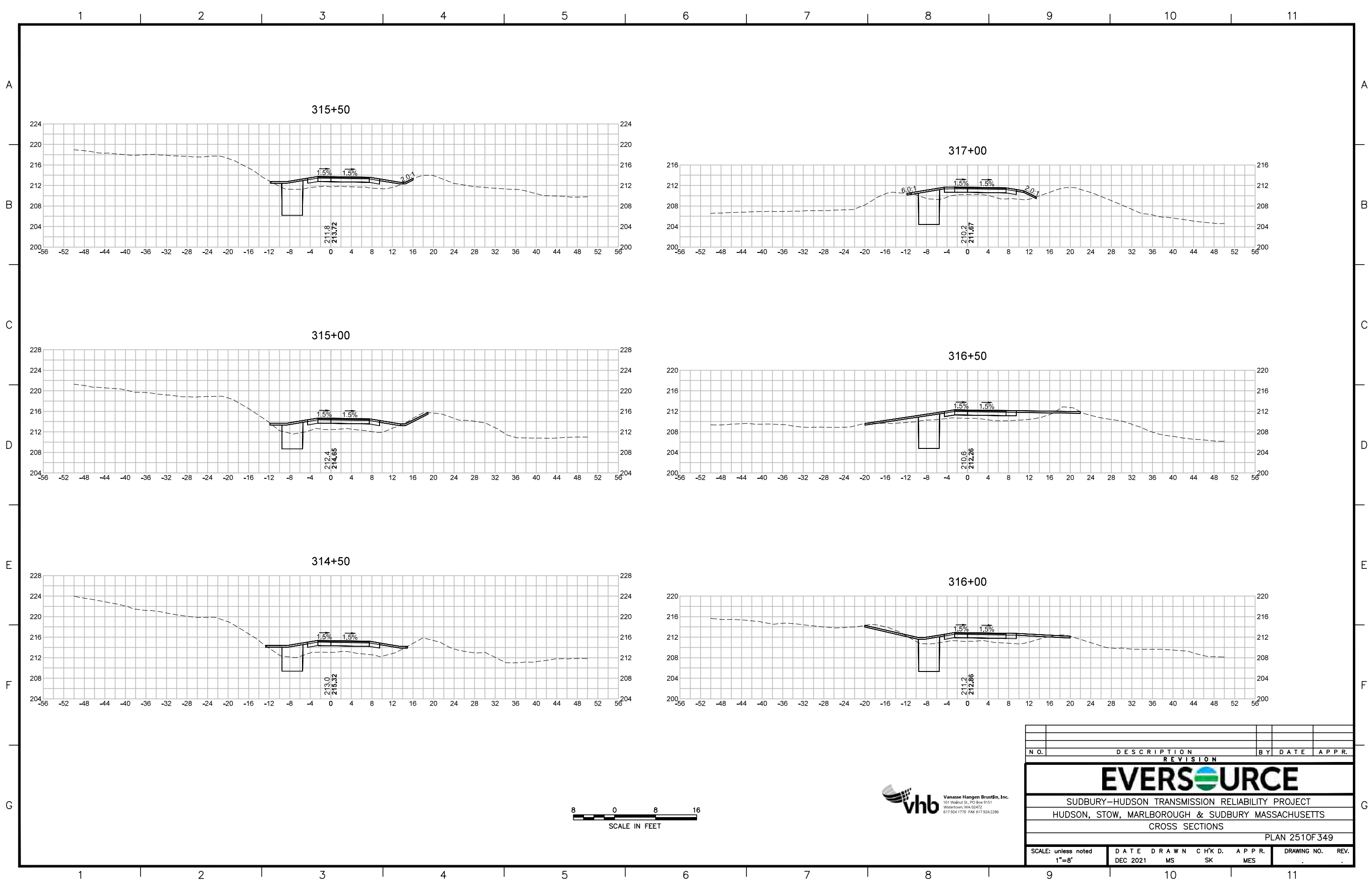


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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 249 OF 349 | | | | |
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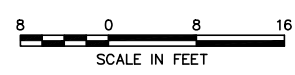
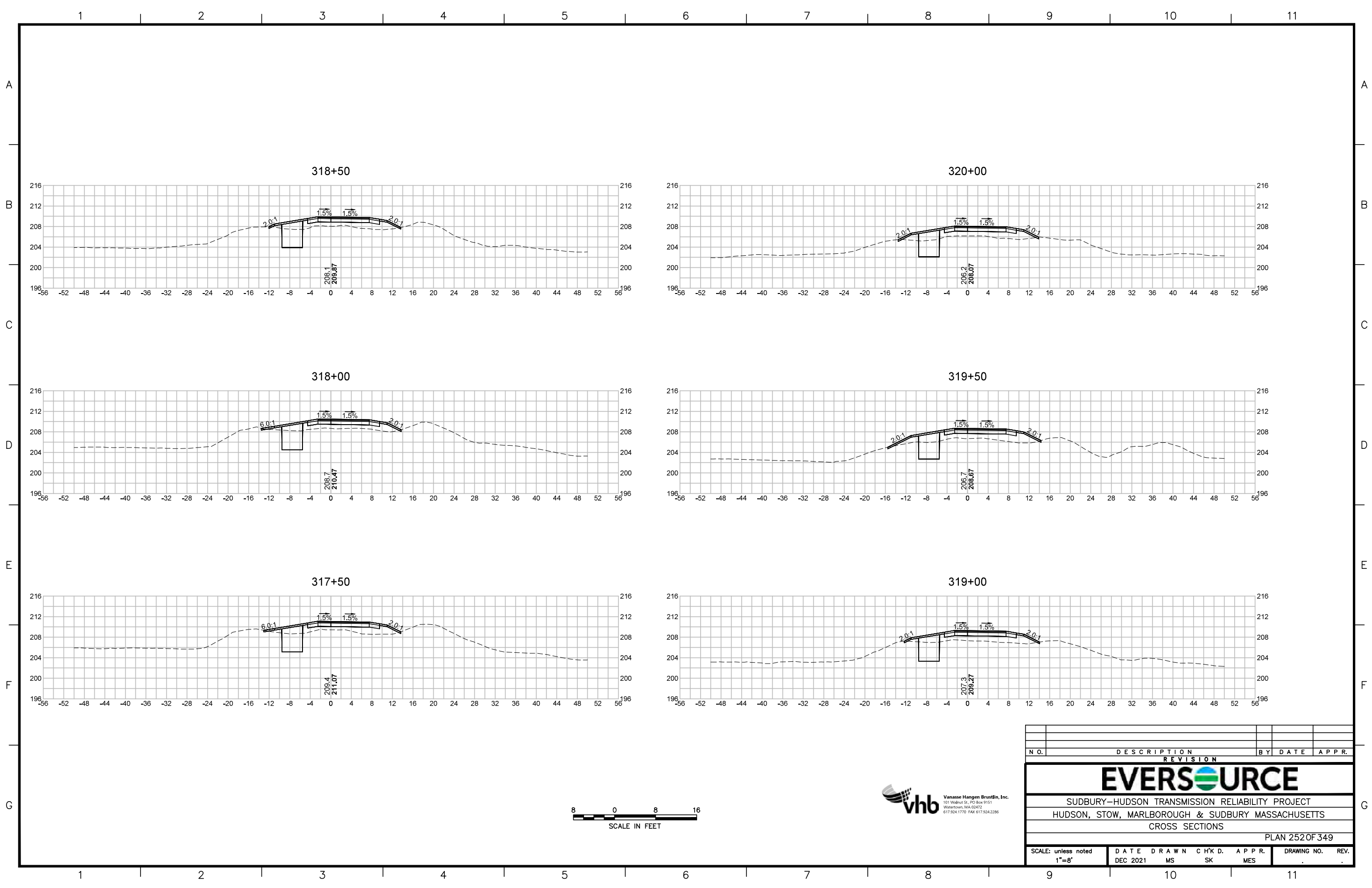
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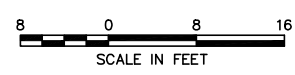
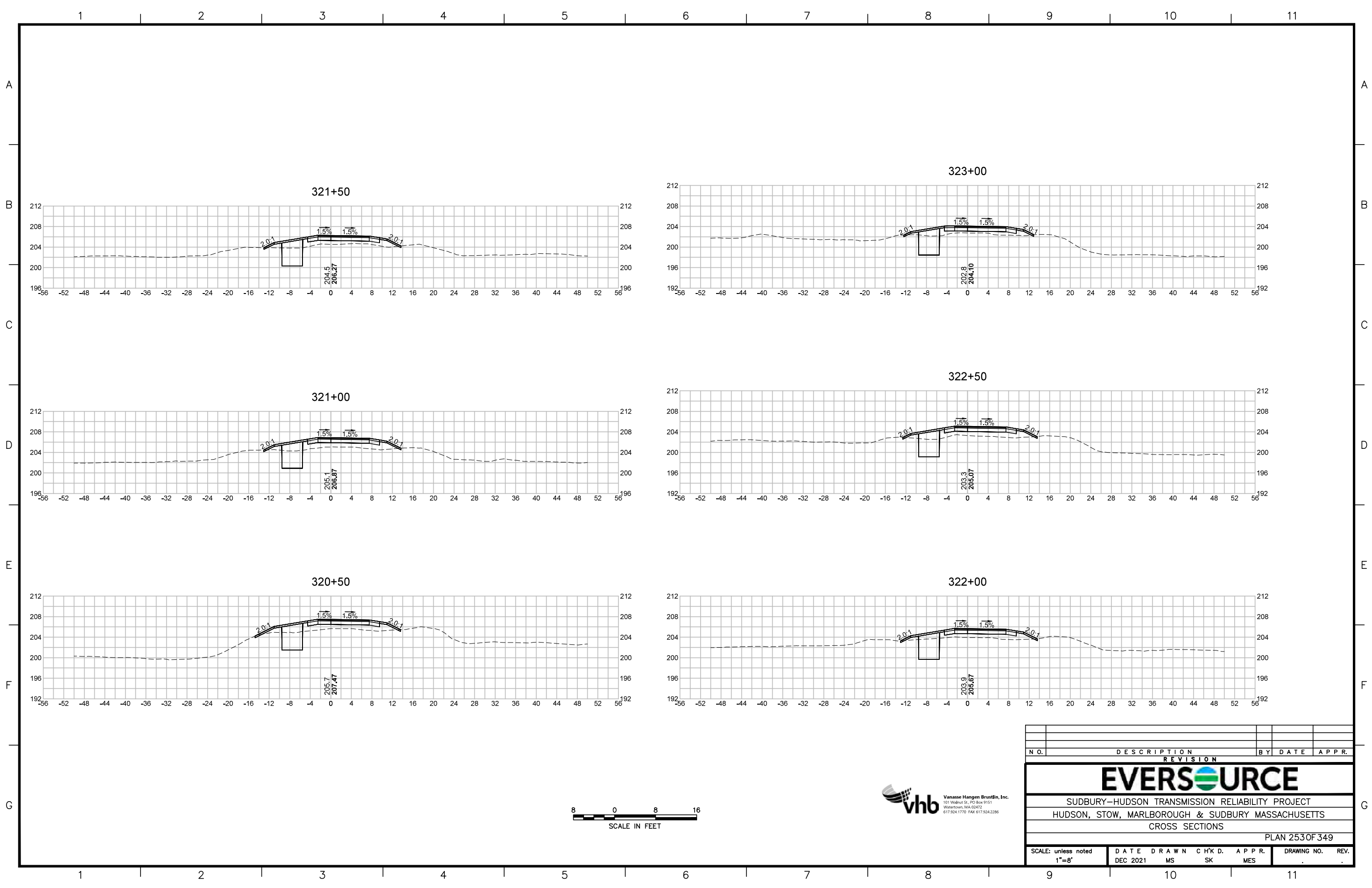
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 2500F 349 | | | | |
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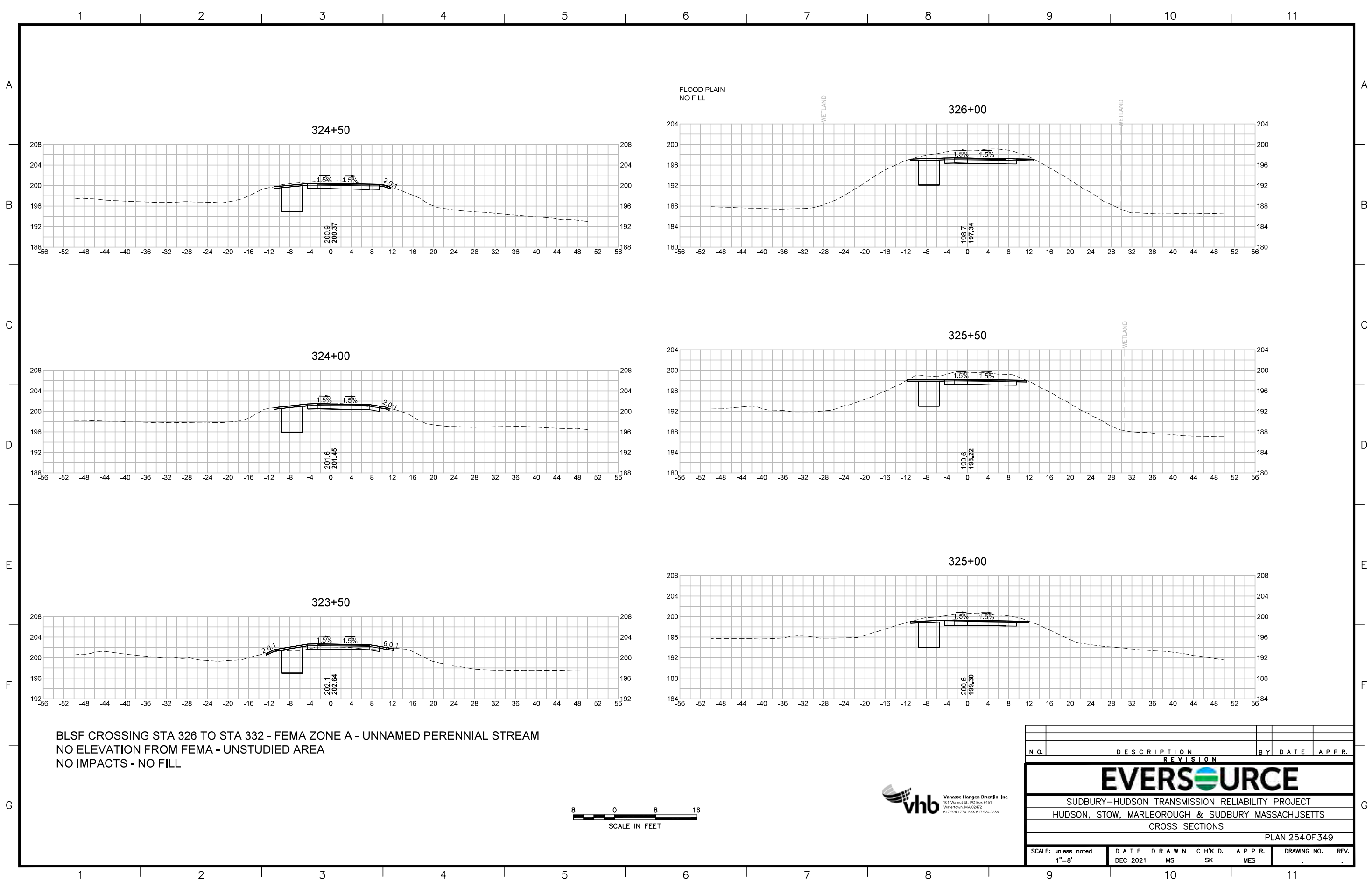
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
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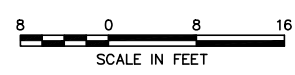
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 252 OF 349 | | | | |
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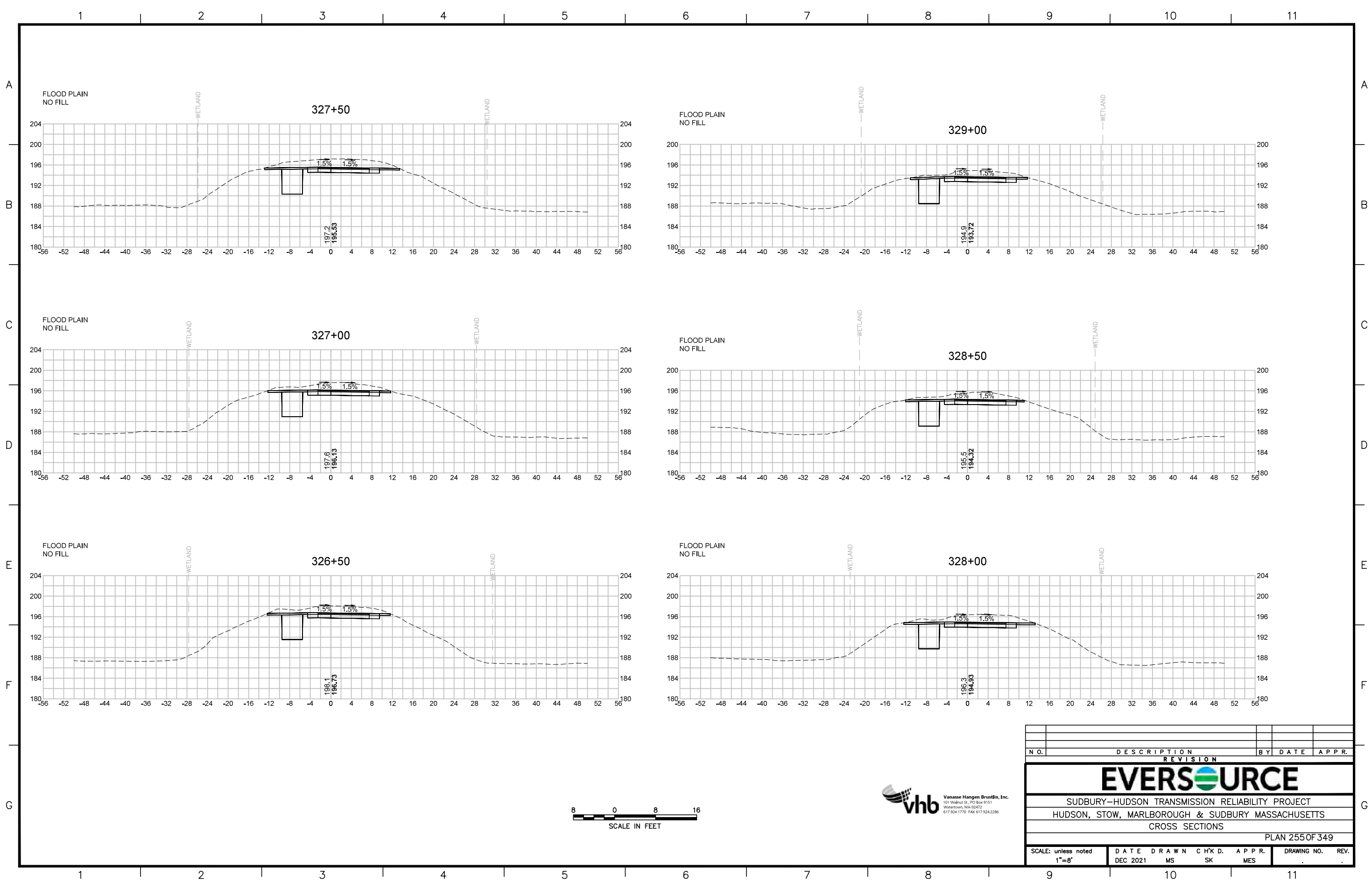
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 253 OF 349 | | | | |
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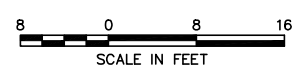
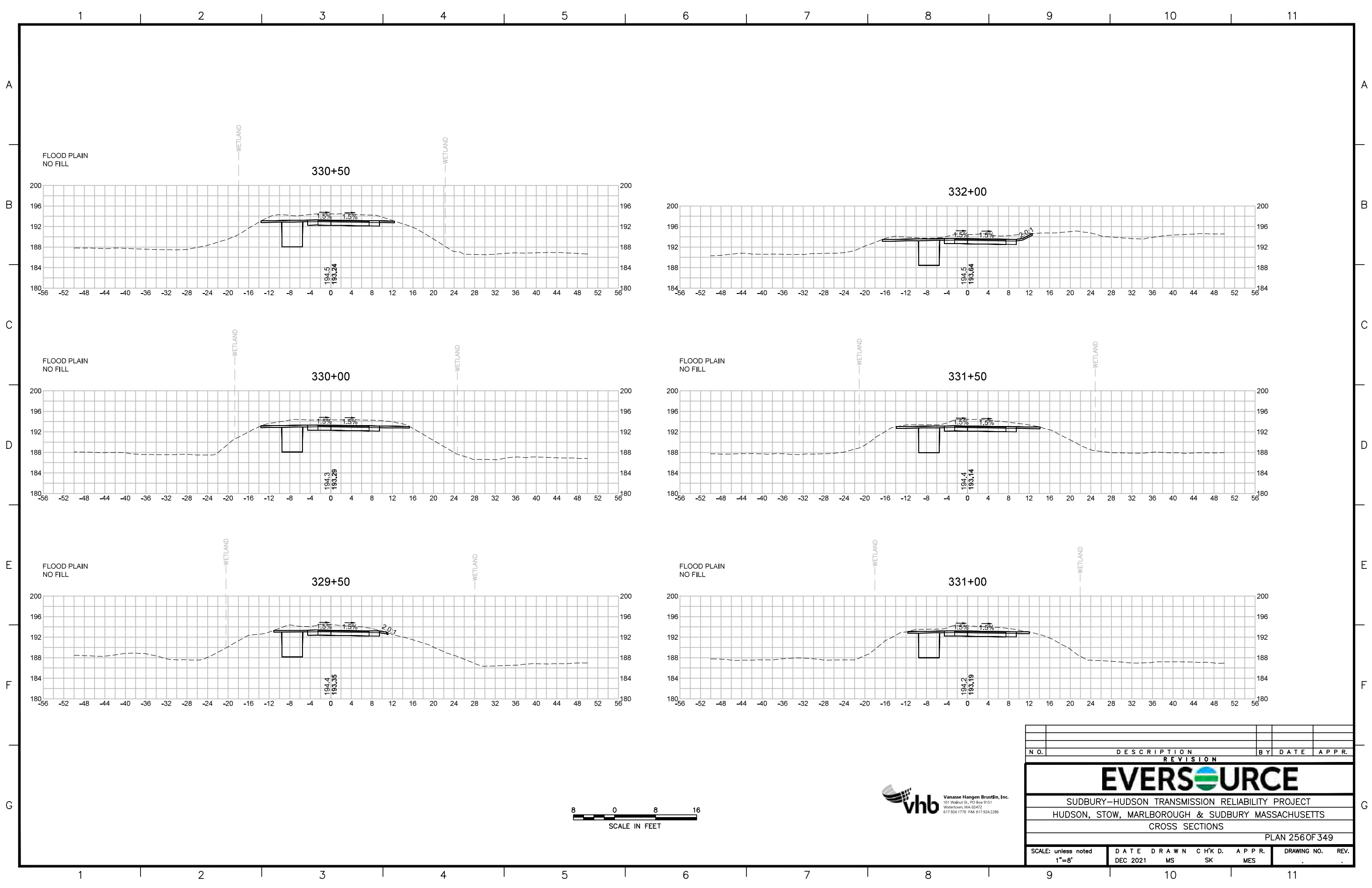
BLSF CROSSING STA 326 TO STA 332 - FEMA ZONE A - UNNAMED PERENNIAL STREAM
 NO ELEVATION FROM FEMA - UNSTUDIED AREA
 NO IMPACTS - NO FILL



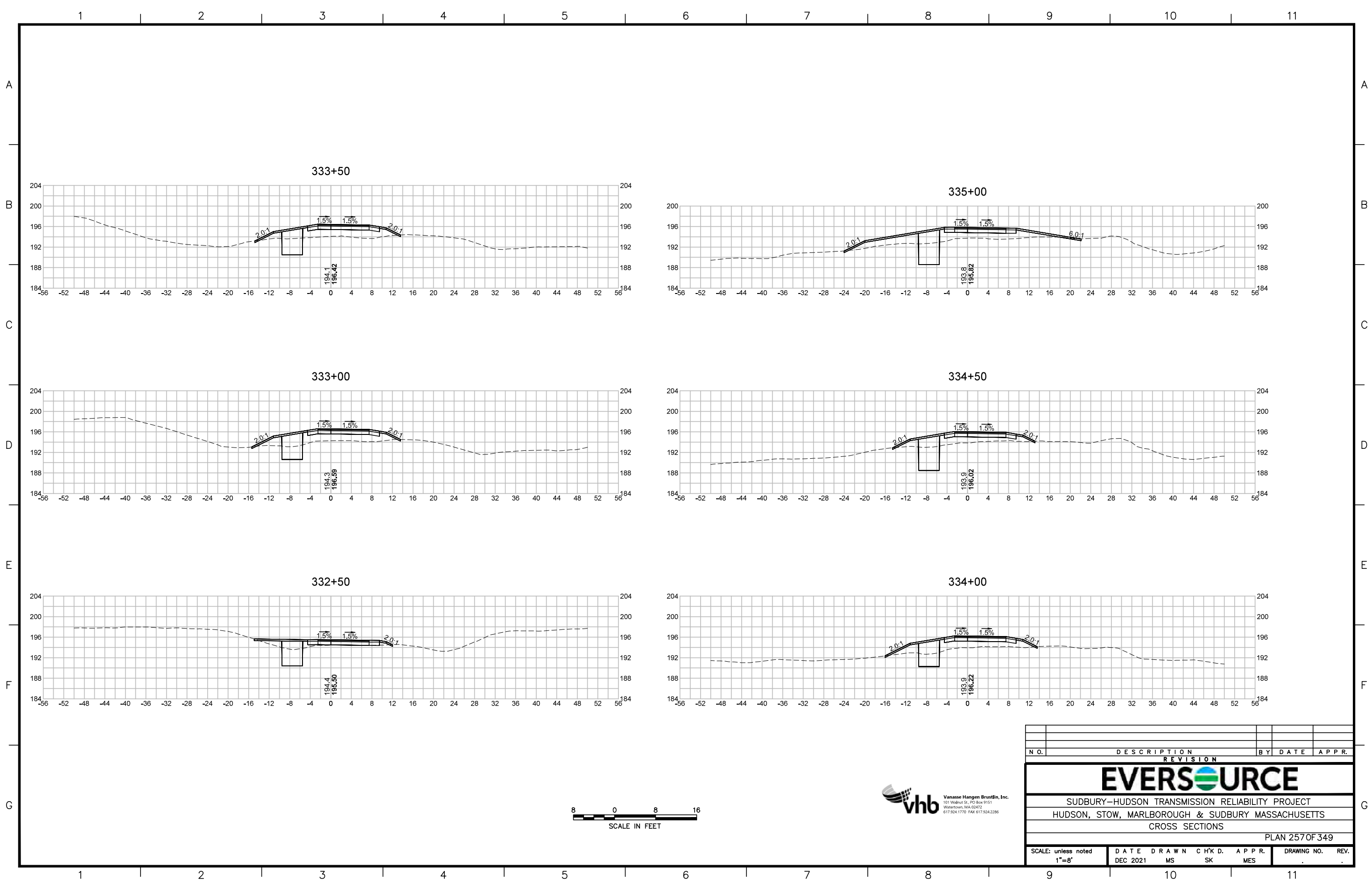
| N.O. | DESCRIPTION | BY | DATE | APPR. |
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| REVISION | | | | |
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 254 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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| N.O. | DESCRIPTION | BY | DATE | APPR. |
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 255 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



| N.O. | DESCRIPTION | BY | DATE | APPR. |
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 256 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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| N.O. | DESCRIPTION | BY | DATE | APPR. |
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 257 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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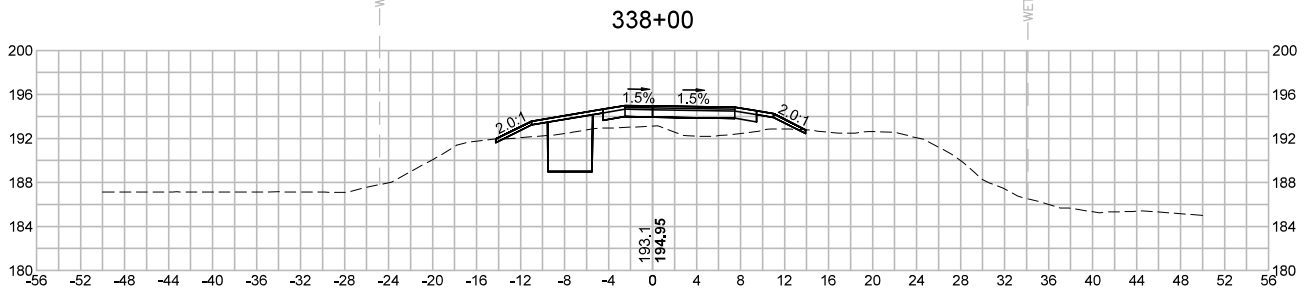
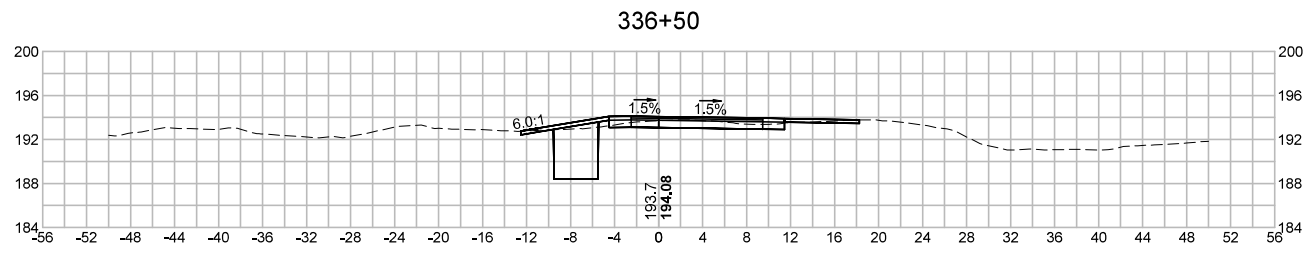
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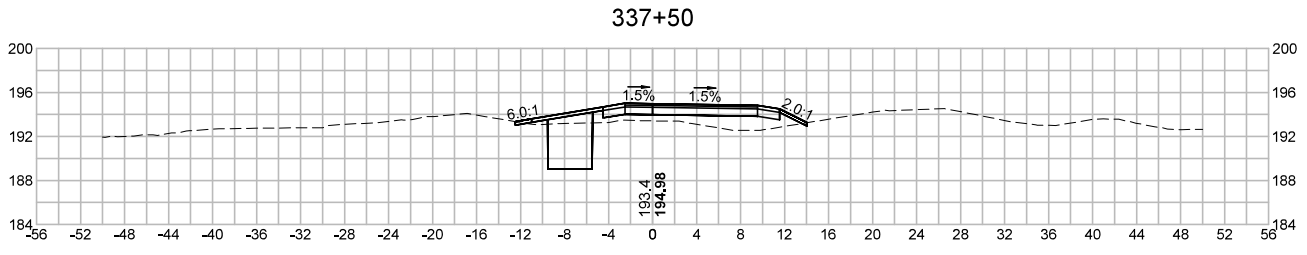
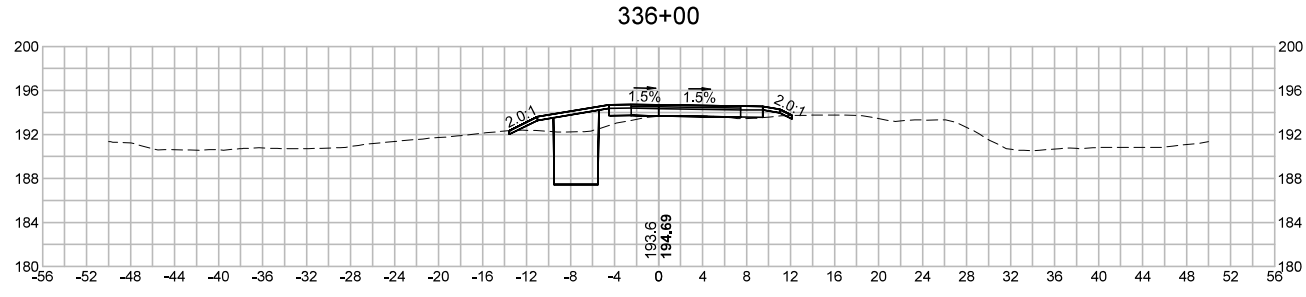


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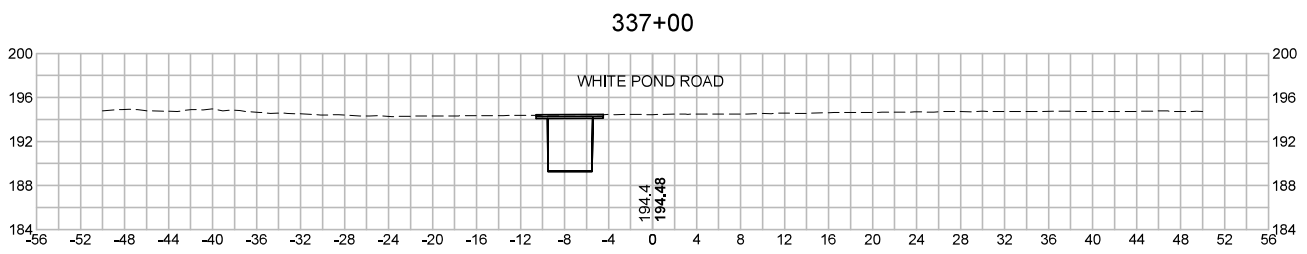
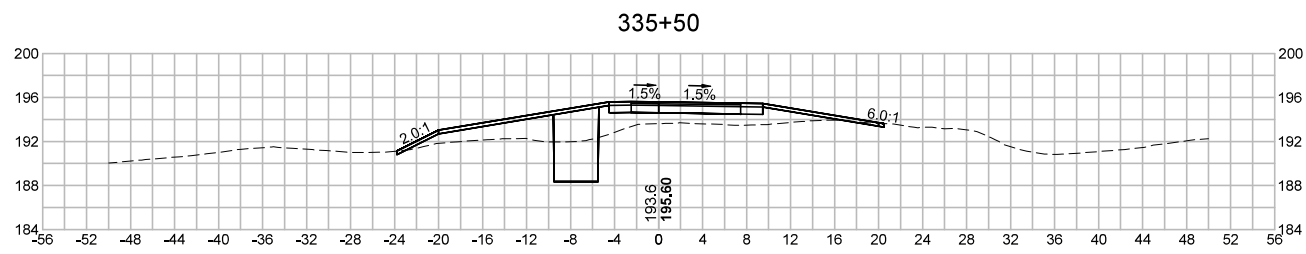


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Vanasse Hangen Brustlin, Inc.
101 Walnut St., P.O. Box 9151
Watertown, MA 02472
617.924.1770 FAX 617.924.2386

| N. O. | DESCRIPTION | BY | DATE | APPR. |
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| REVISION | | | | |
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 258 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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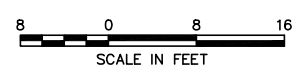
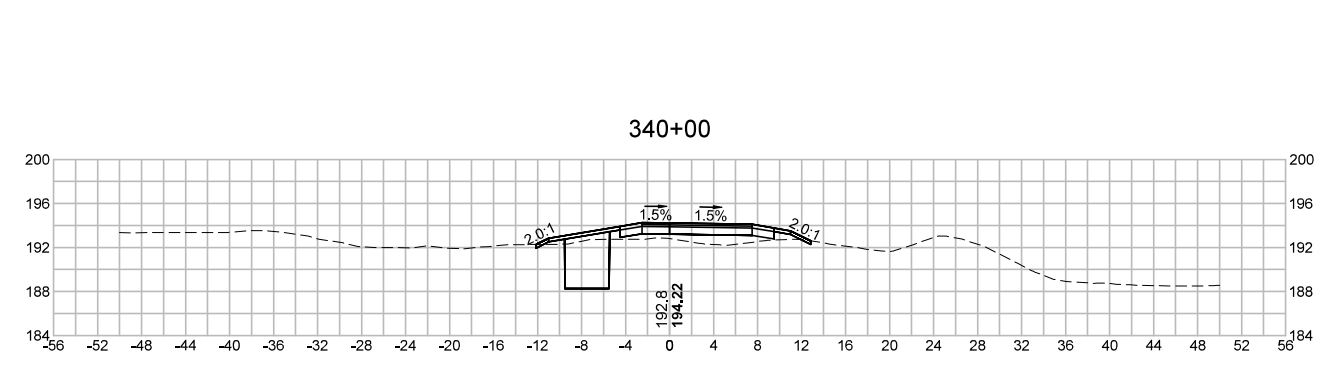
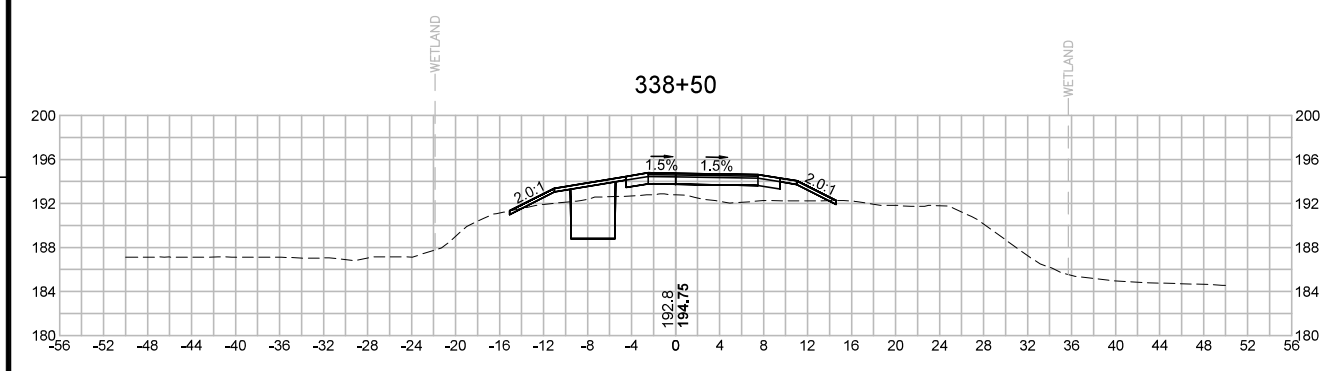
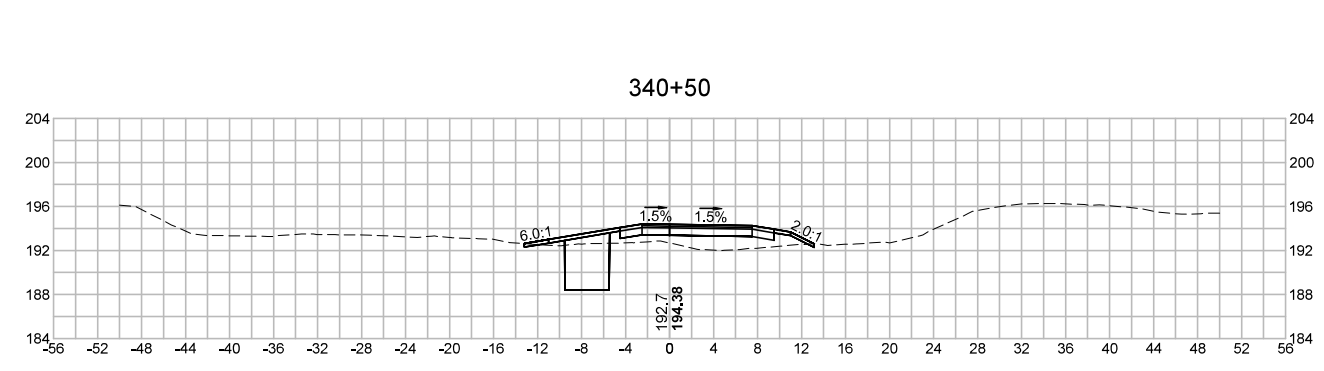
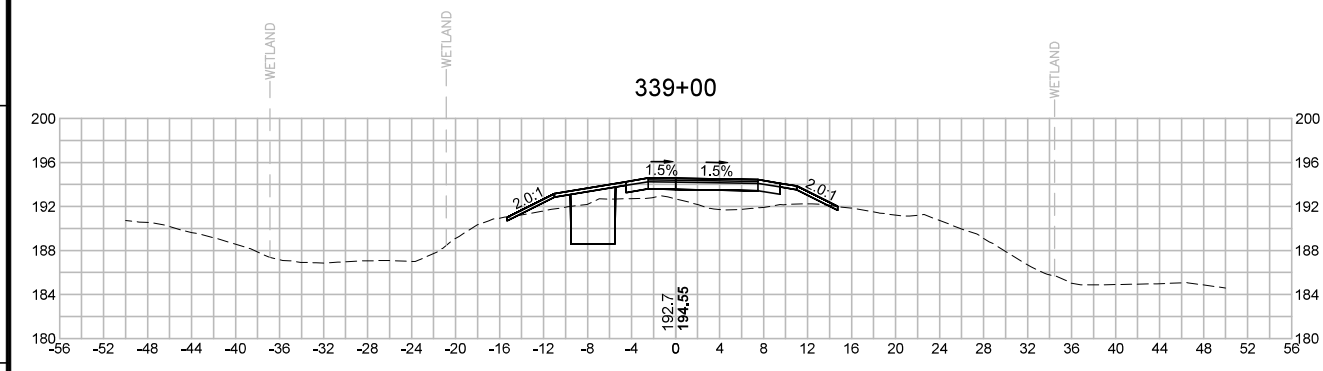
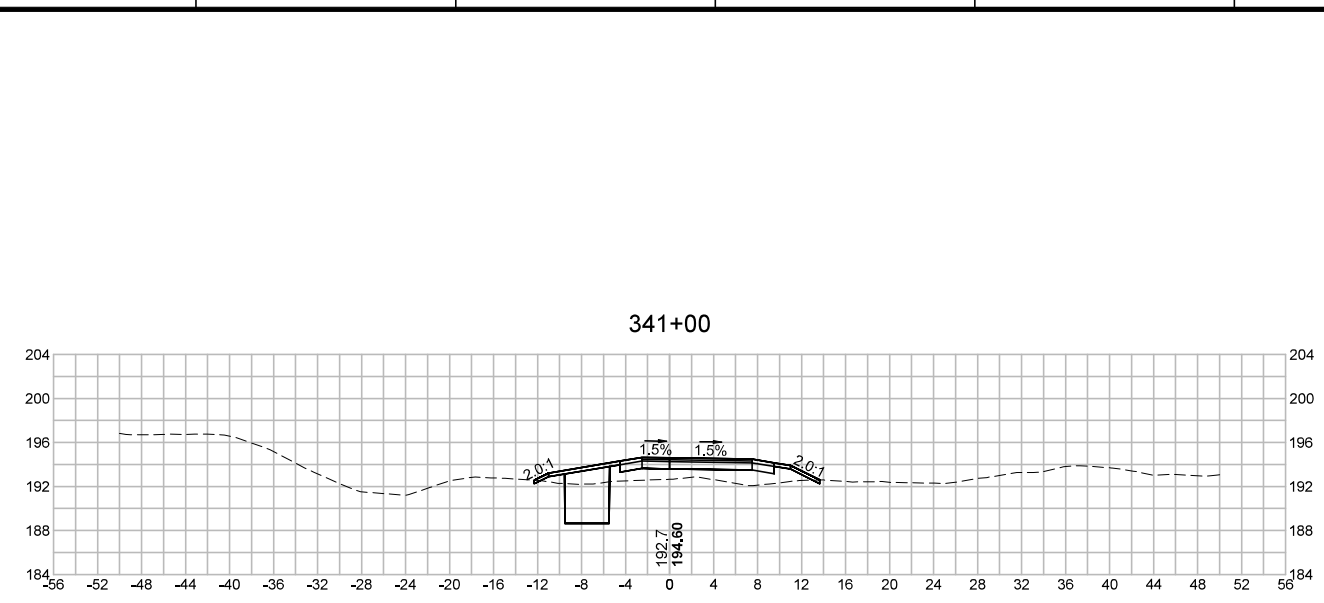
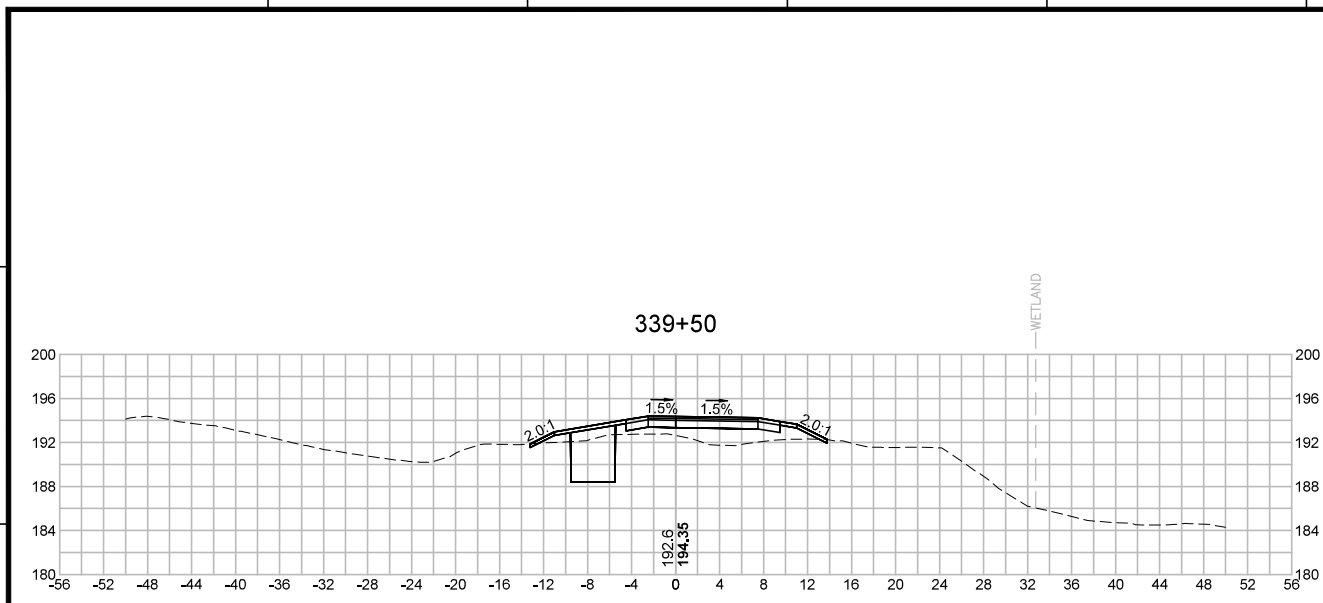
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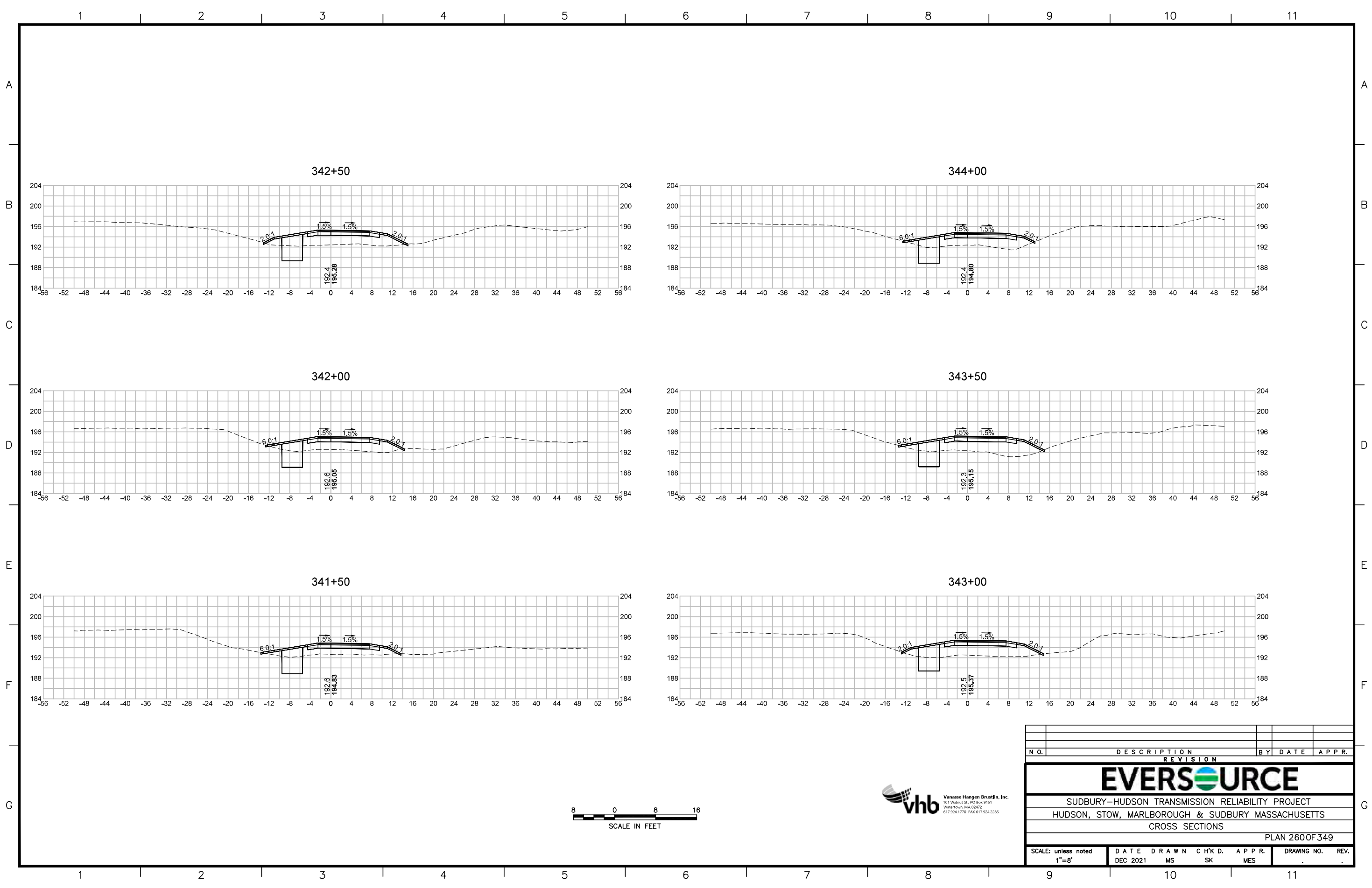
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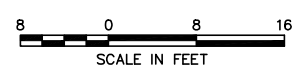
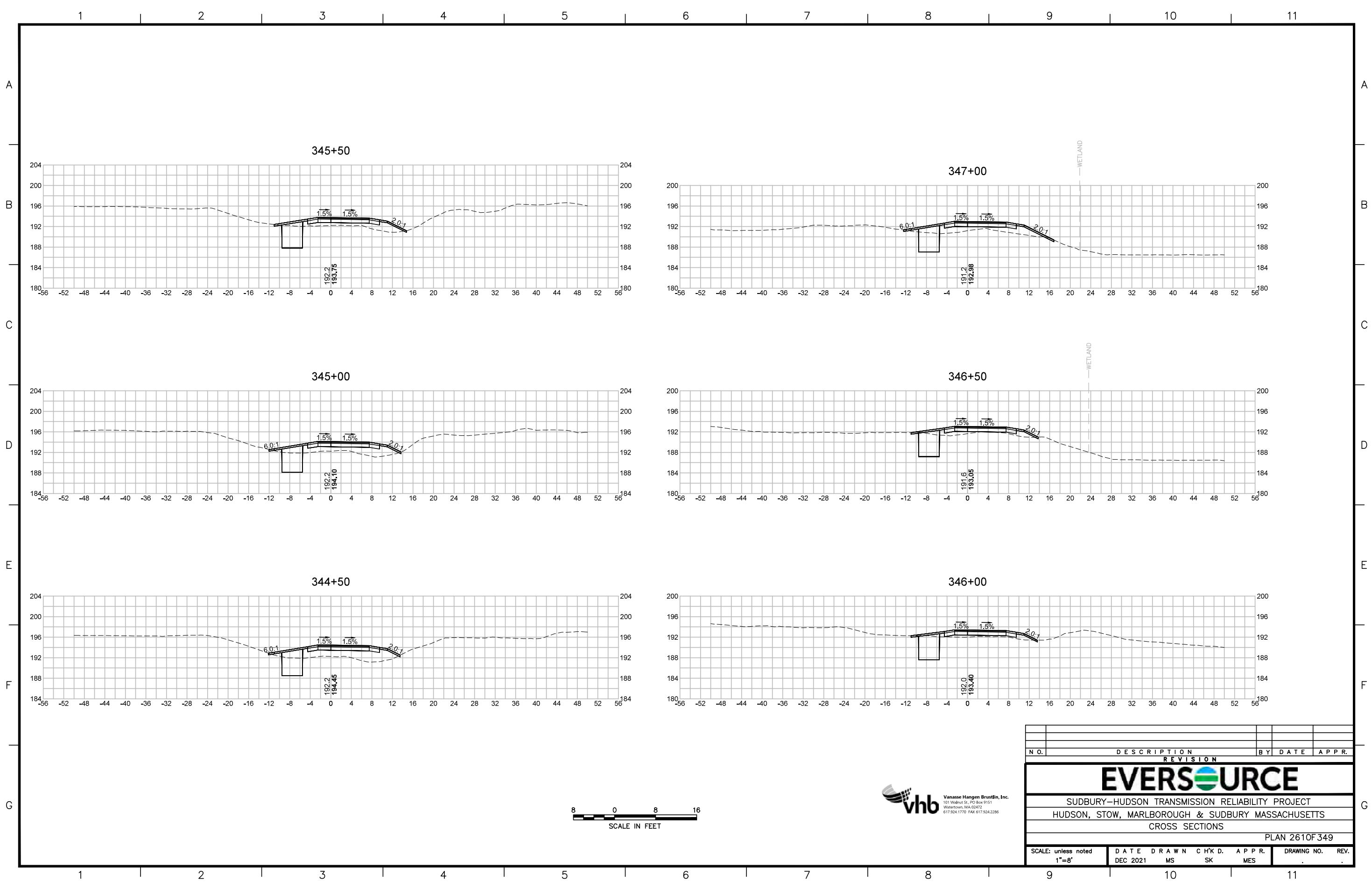


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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 259 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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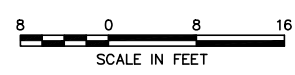
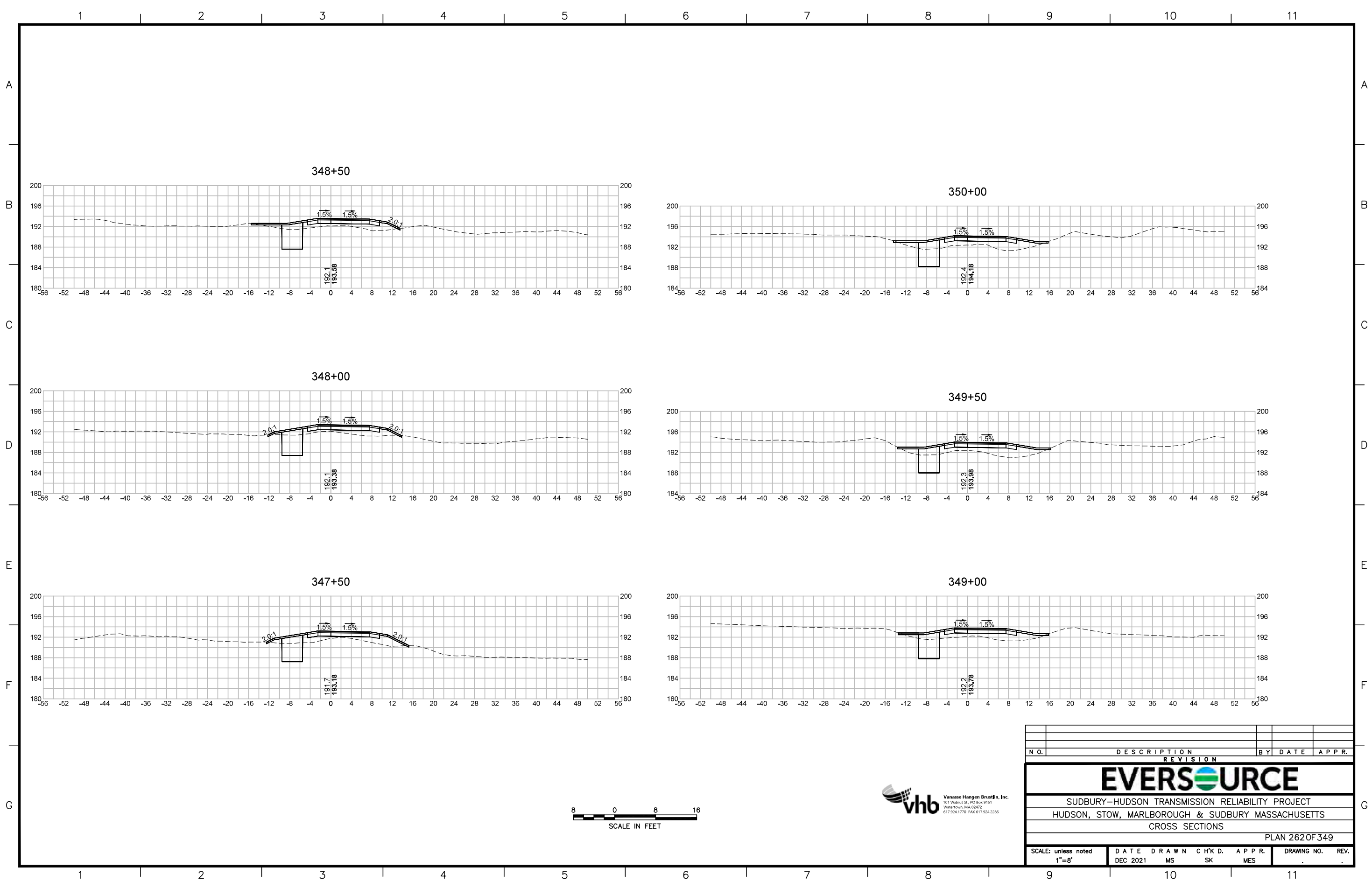
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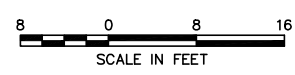
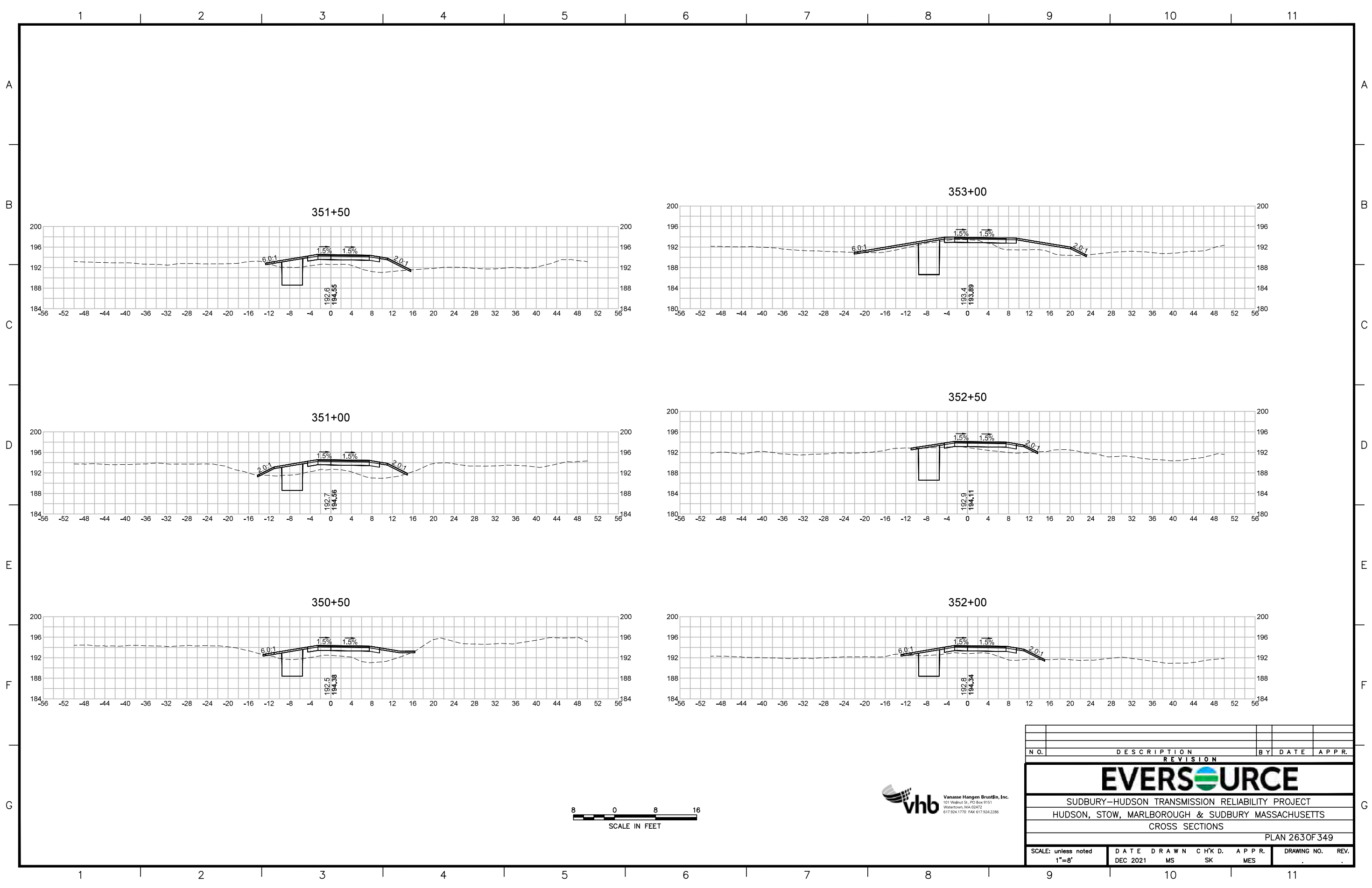
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 2600F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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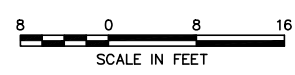
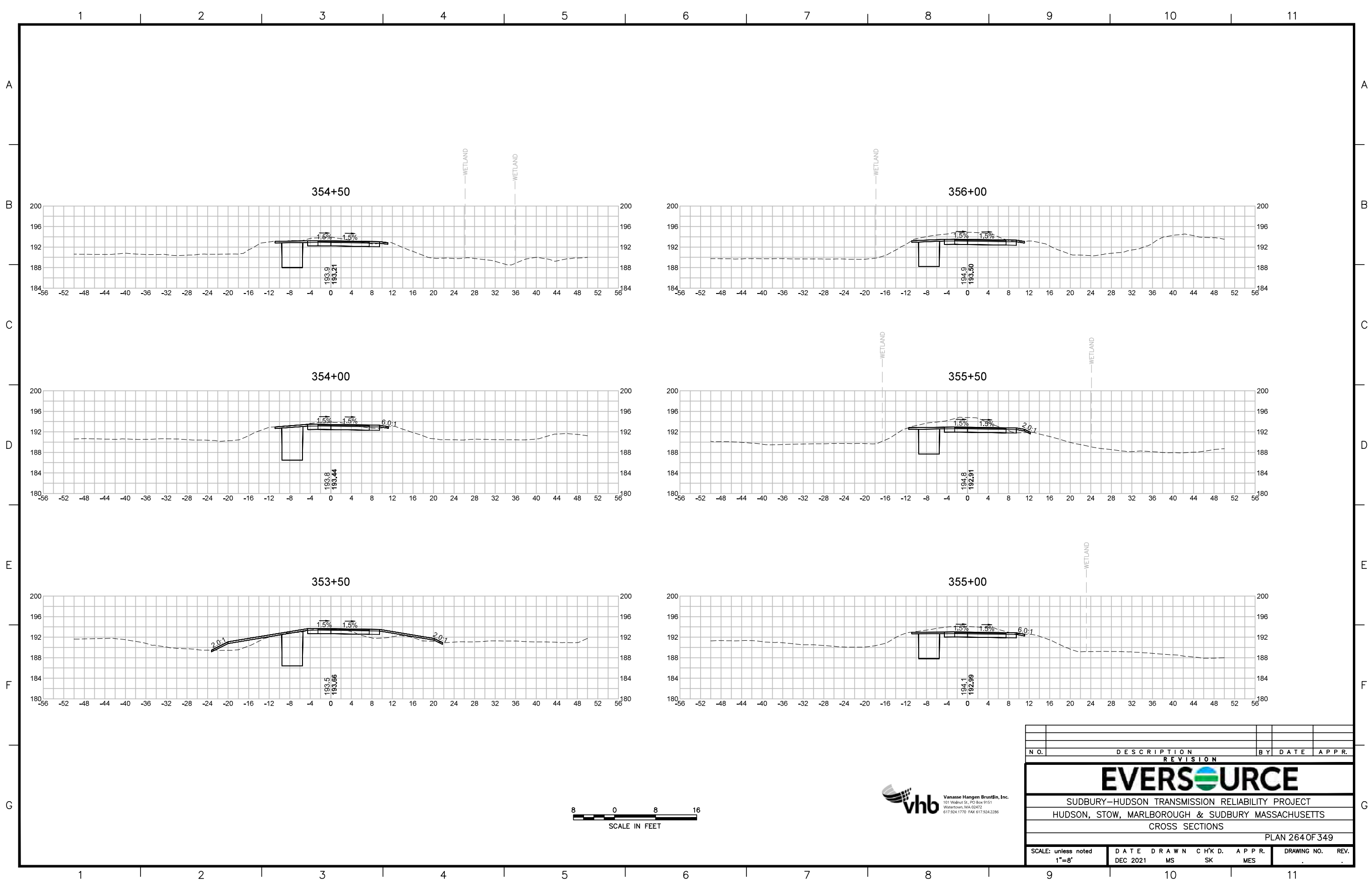
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
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| PLAN 2610F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 262 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 263 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



| N. O. | DESCRIPTION | BY | DATE | APPR. |
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 264 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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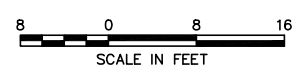
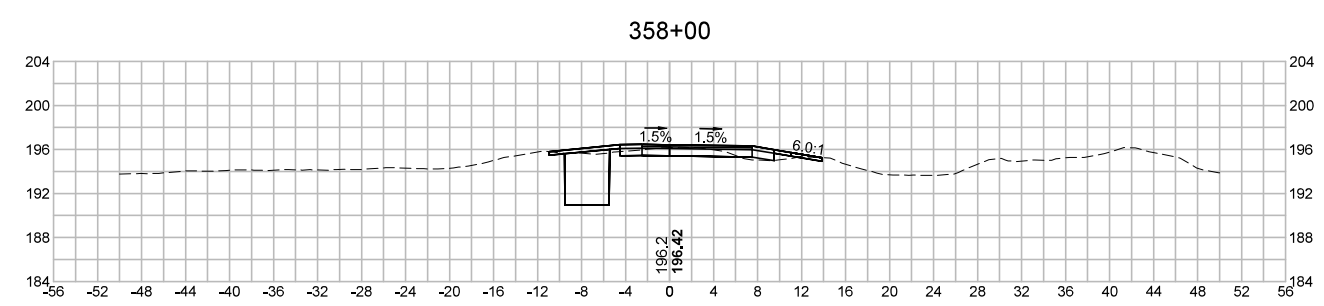
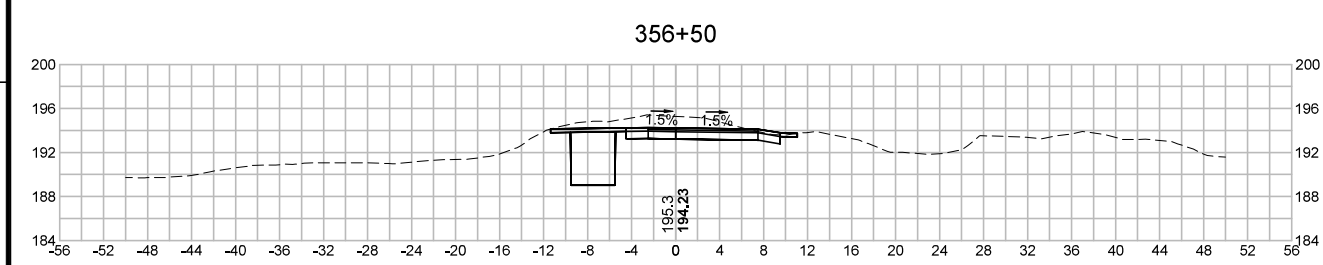
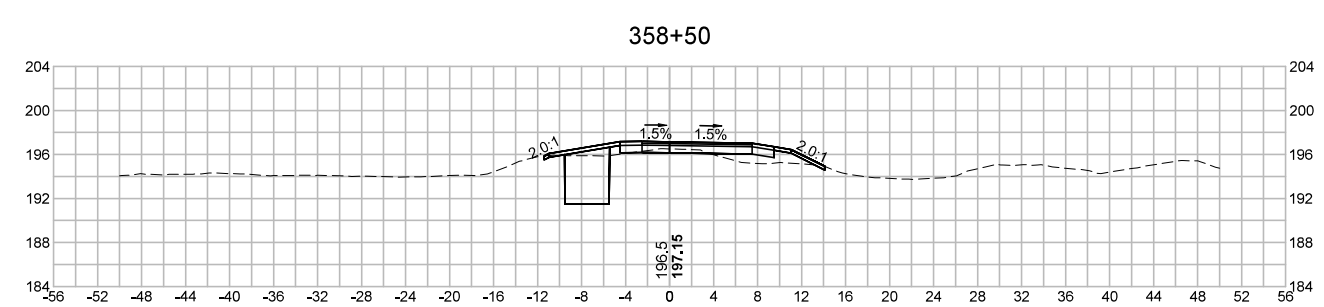
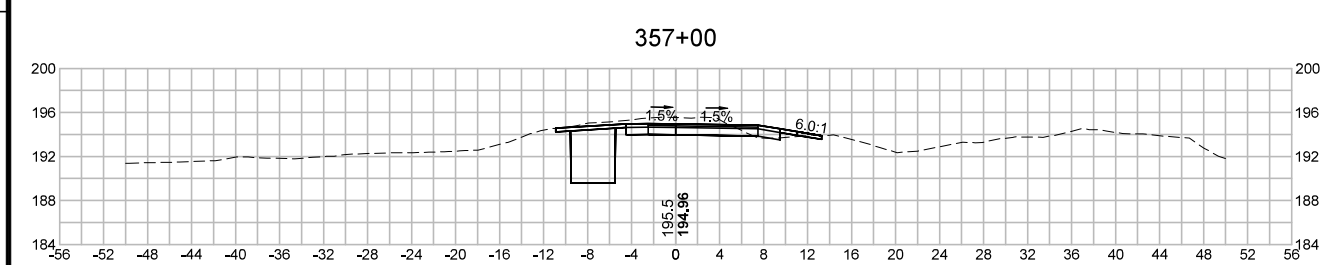
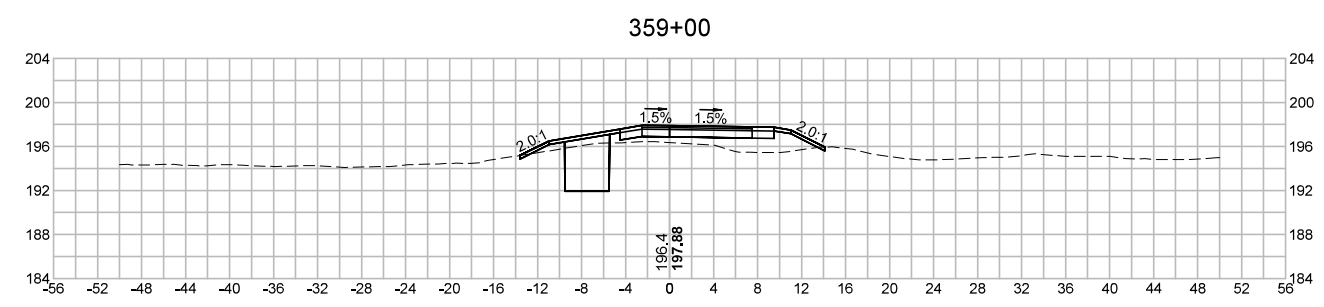
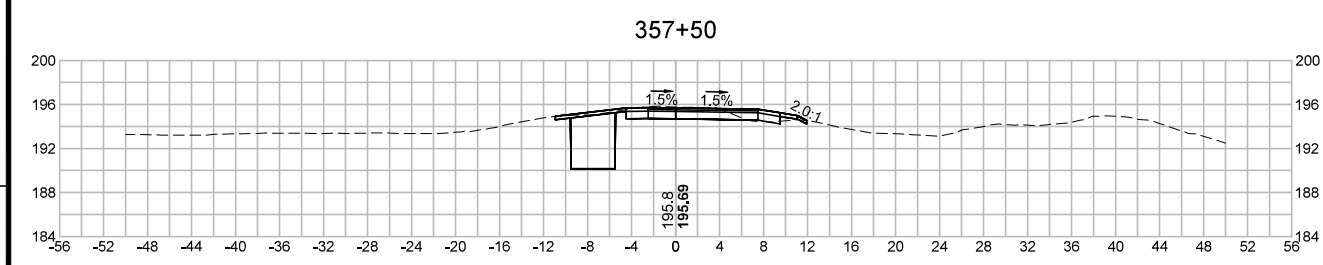
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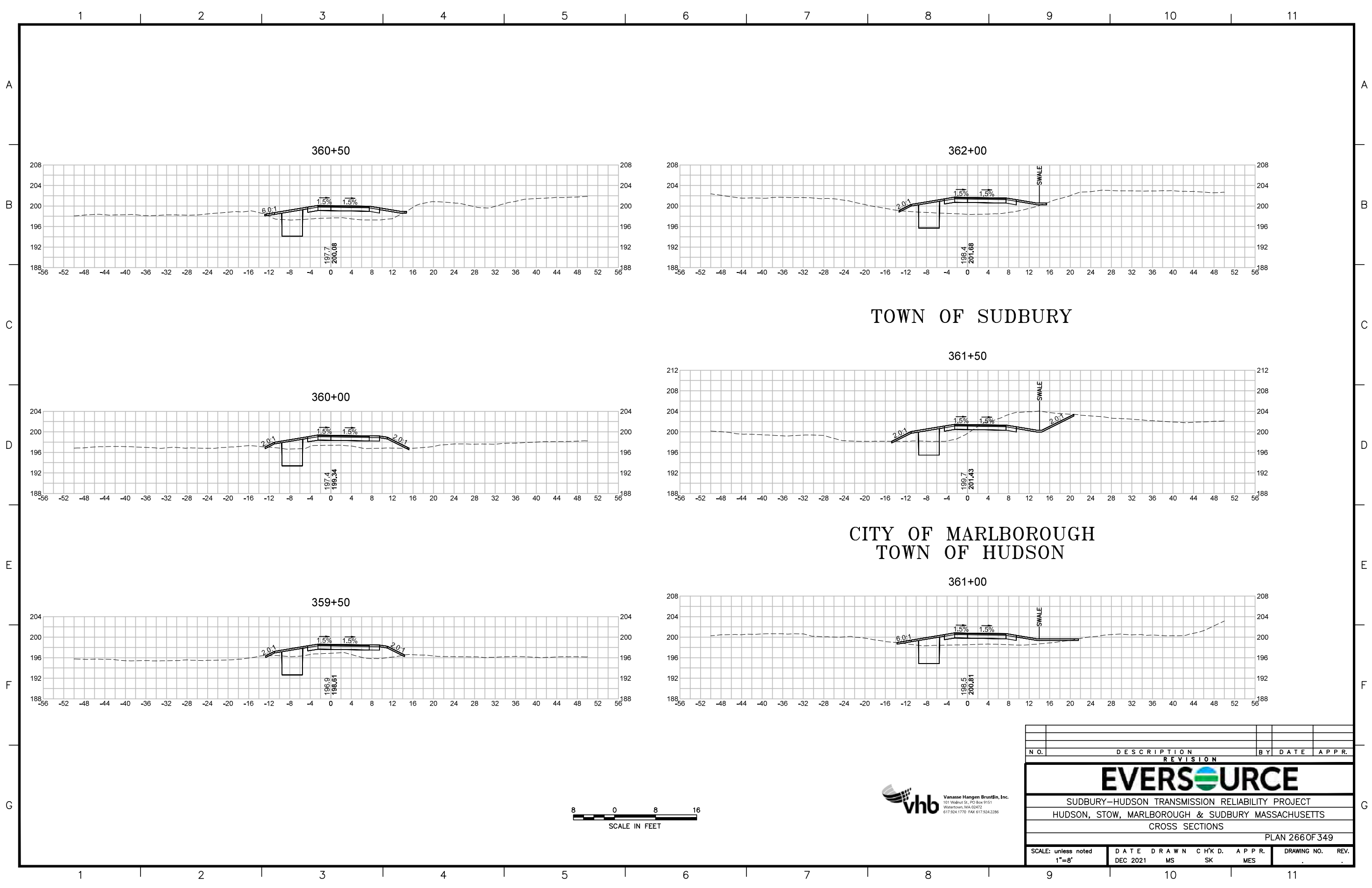
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Vanasse Hangen Brustlin, Inc.
101 Walnut St., P.O. Box 9151
Watertown, MA 02472
617.924.1770 FAX 617.924.2386

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|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 265 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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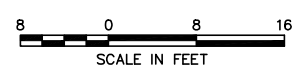
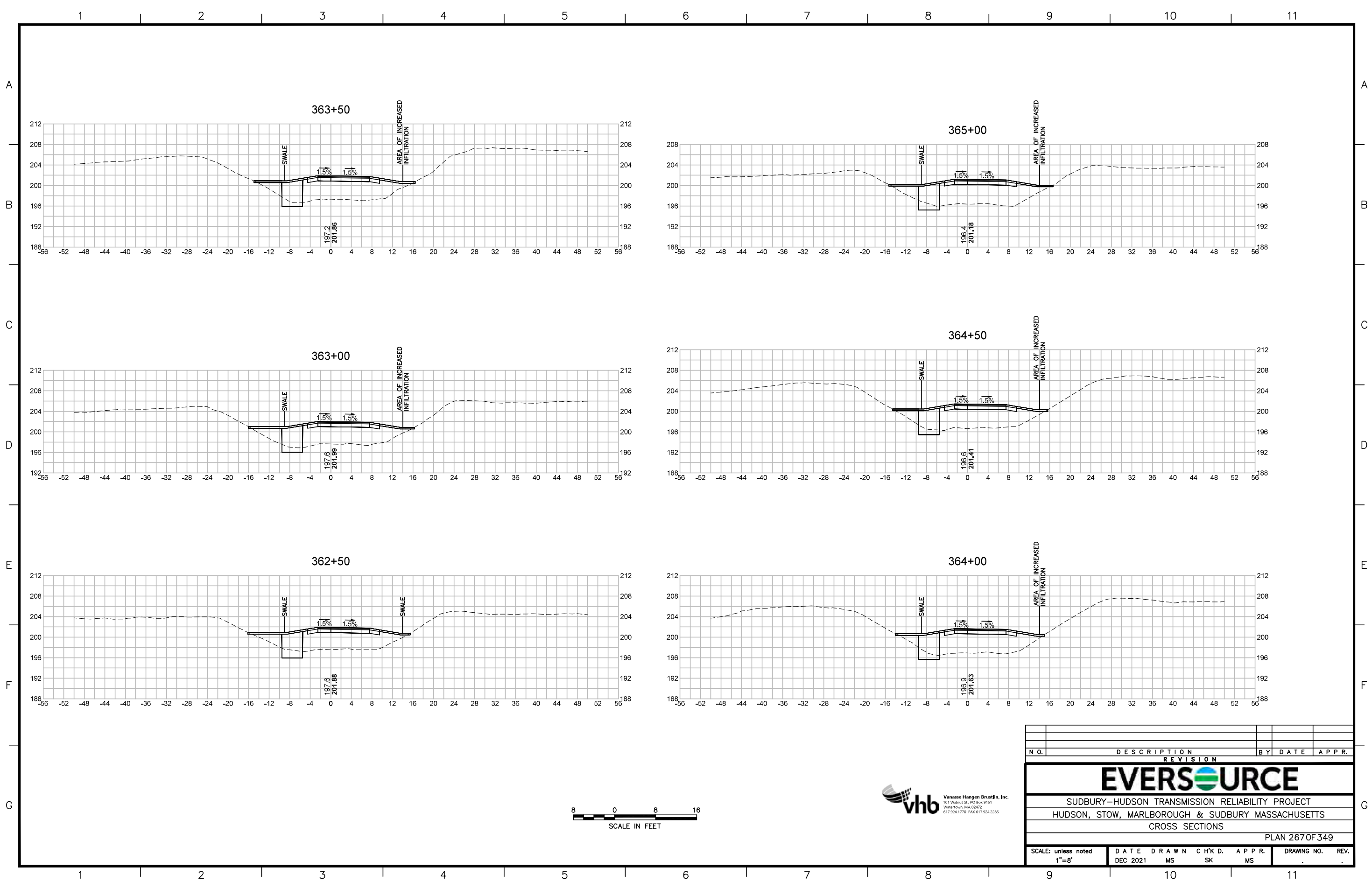


TOWN OF SUDBURY

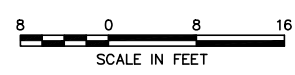
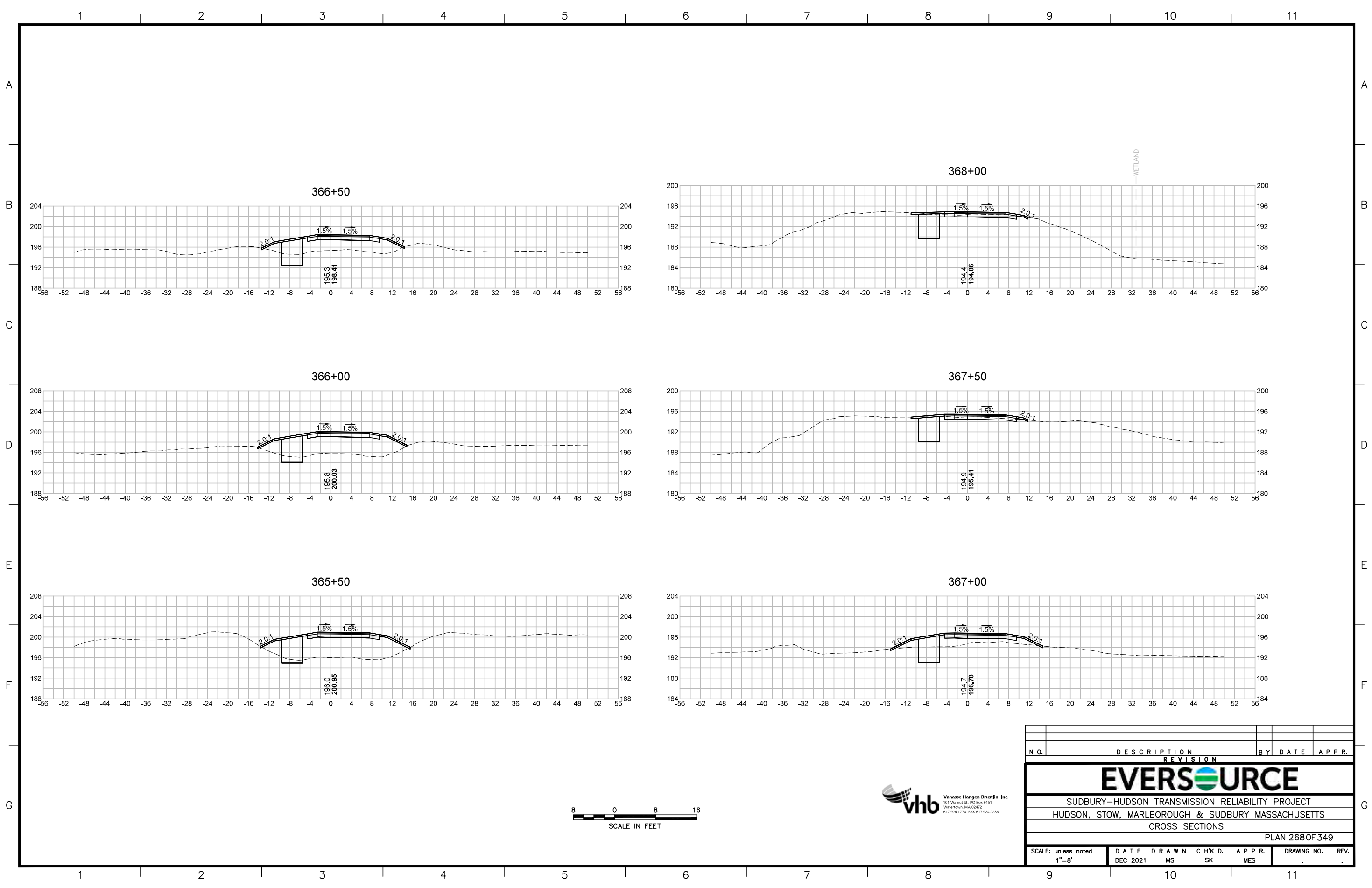
CITY OF MARLBOROUGH
TOWN OF HUDSON



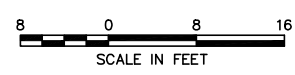
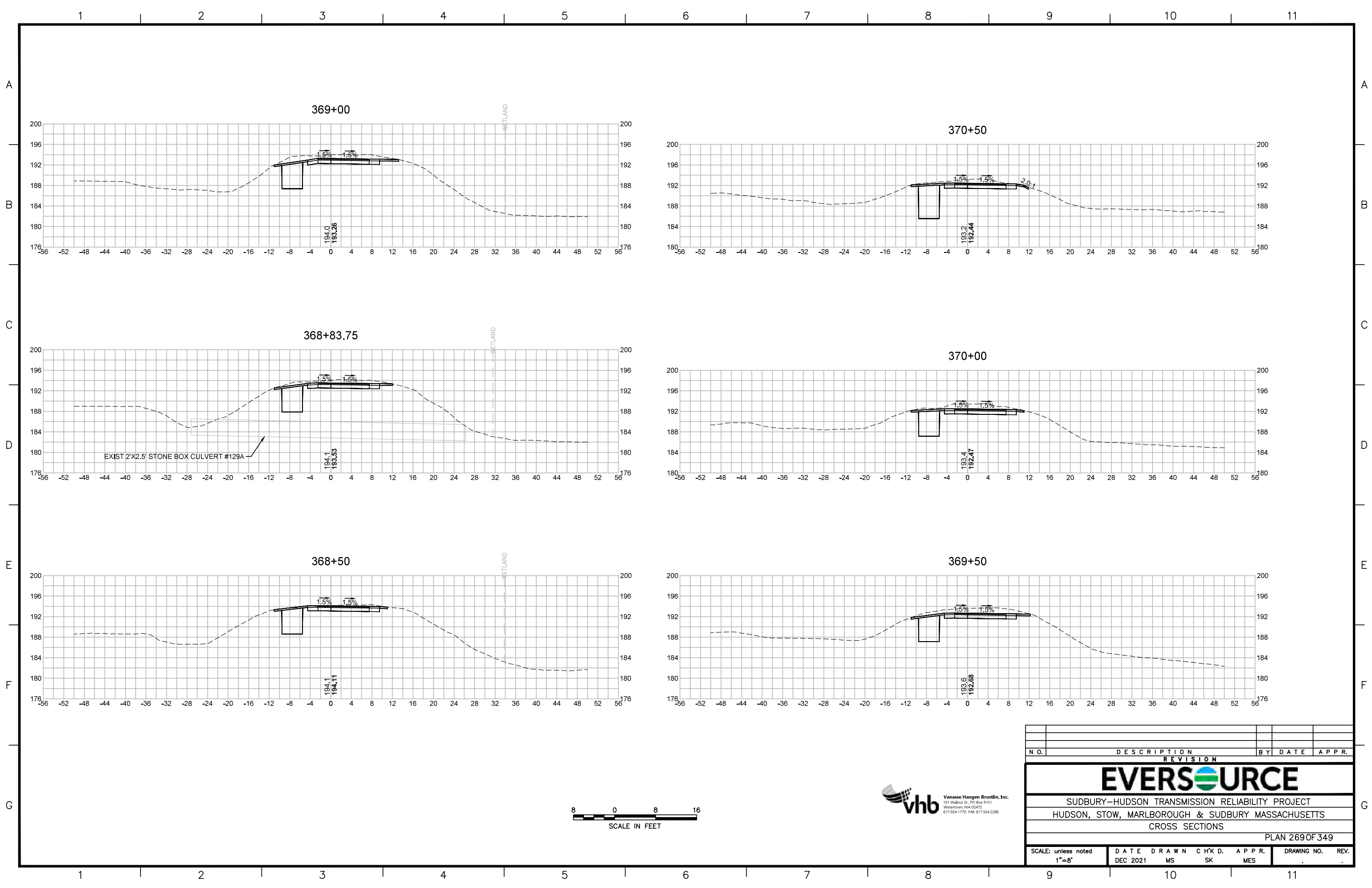
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 266 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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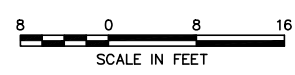
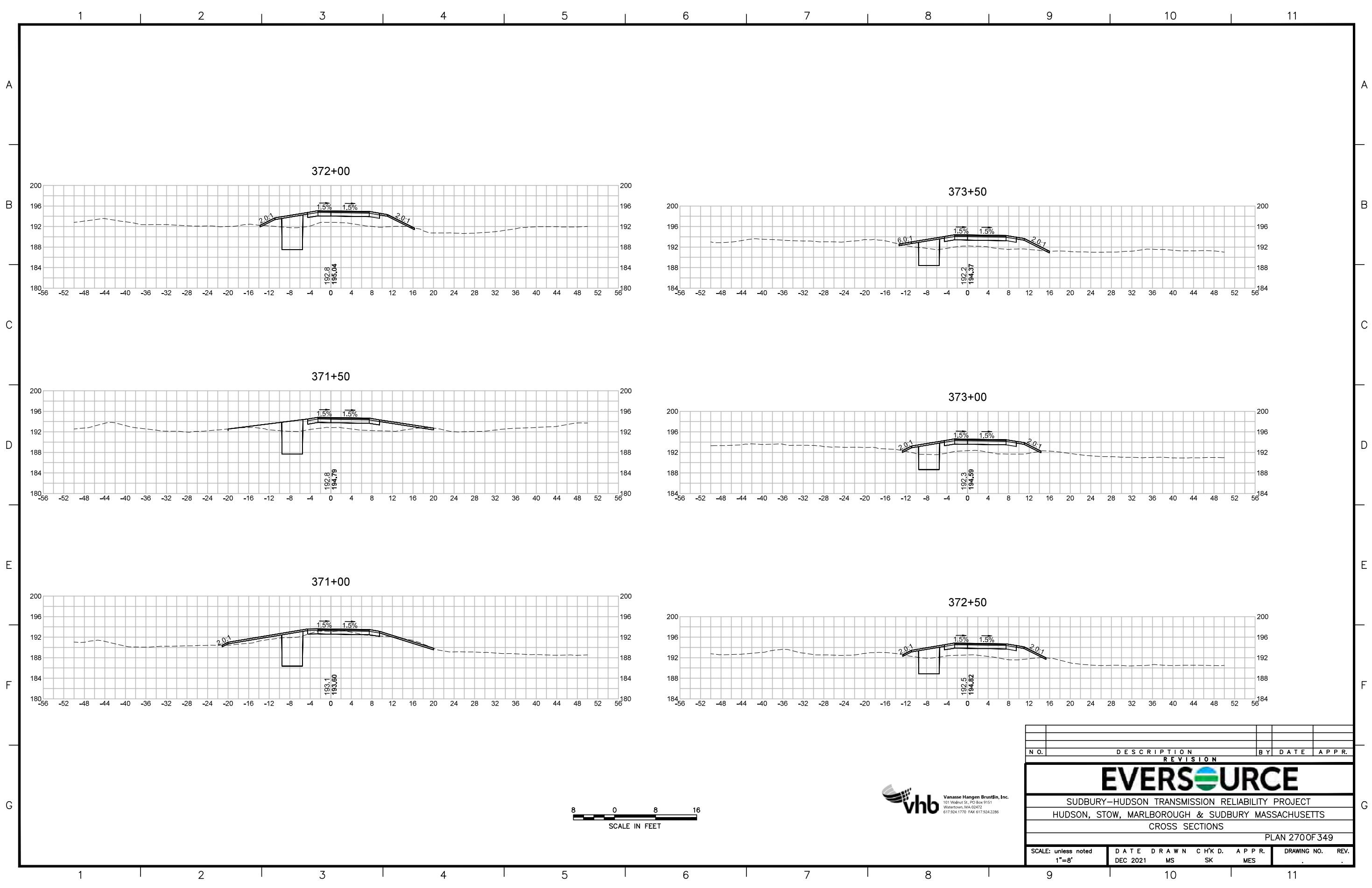
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 267 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MS |
| DRAWING NO. | | REV. | | |



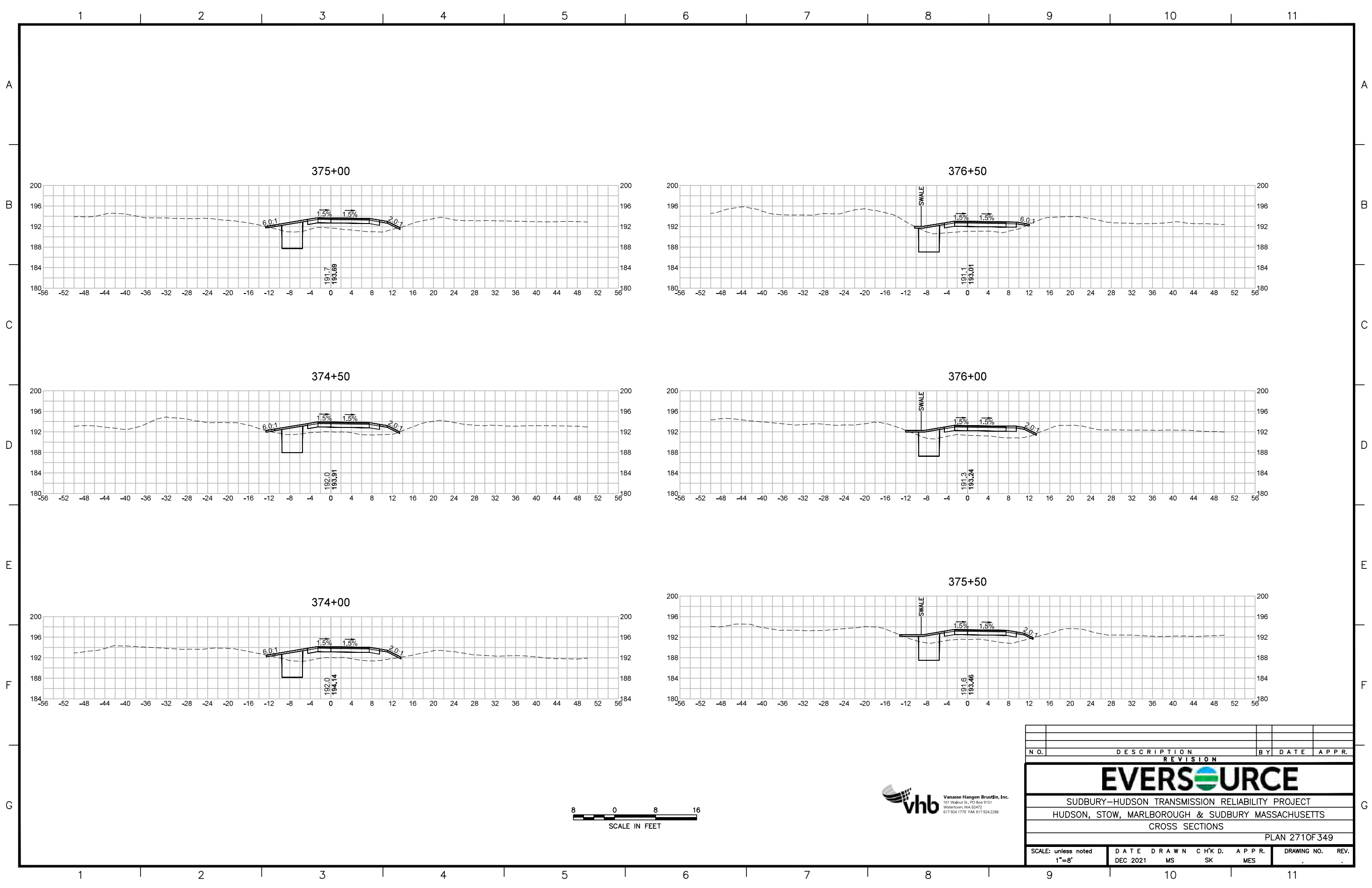
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 268 OF 349 | | | | |
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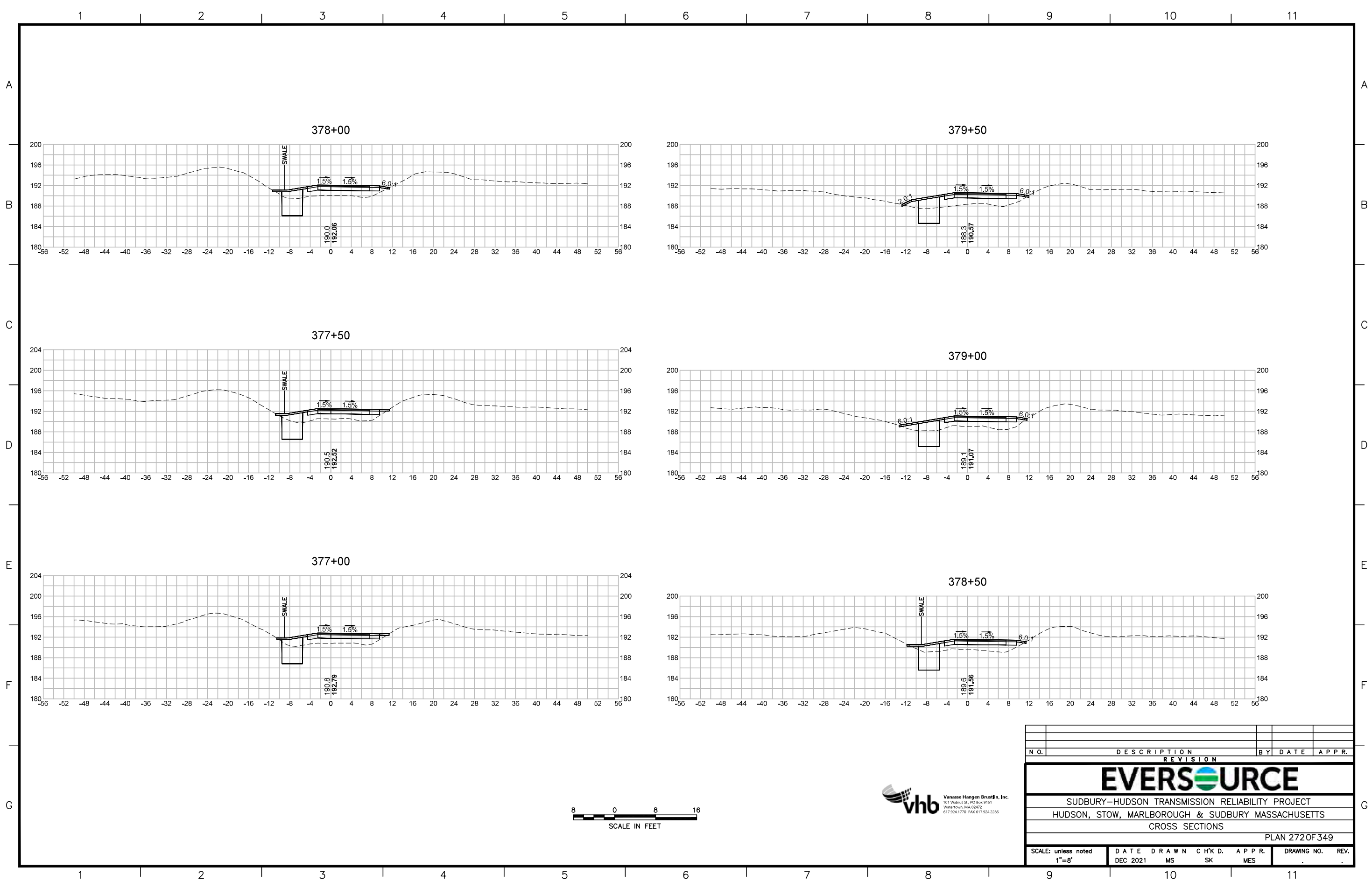
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
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| PLAN 269 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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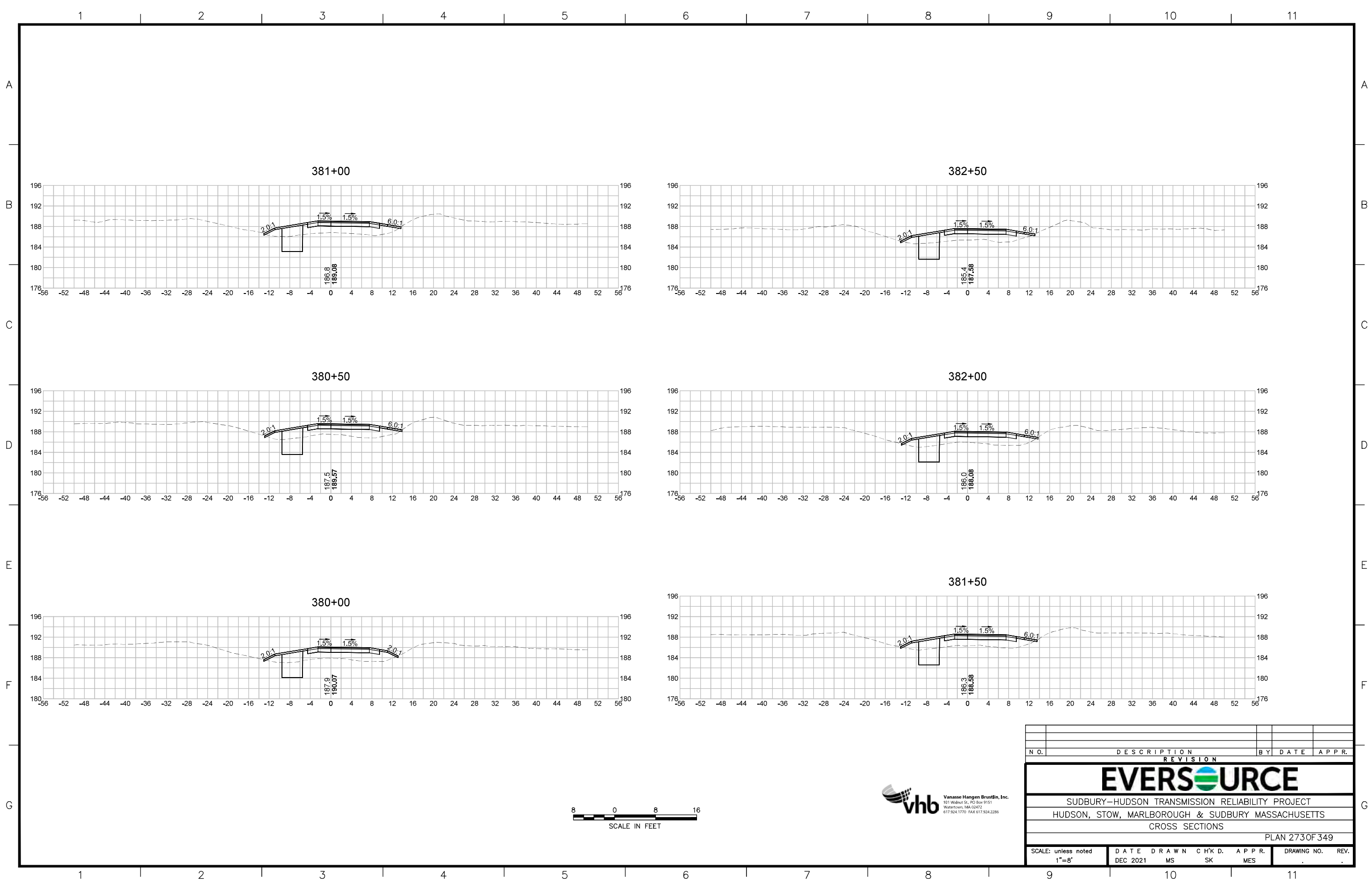
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
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| PLAN 2700F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
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| PLAN 2710F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
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| PLAN 2730F 349 | | | | |
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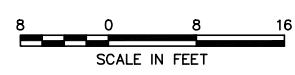
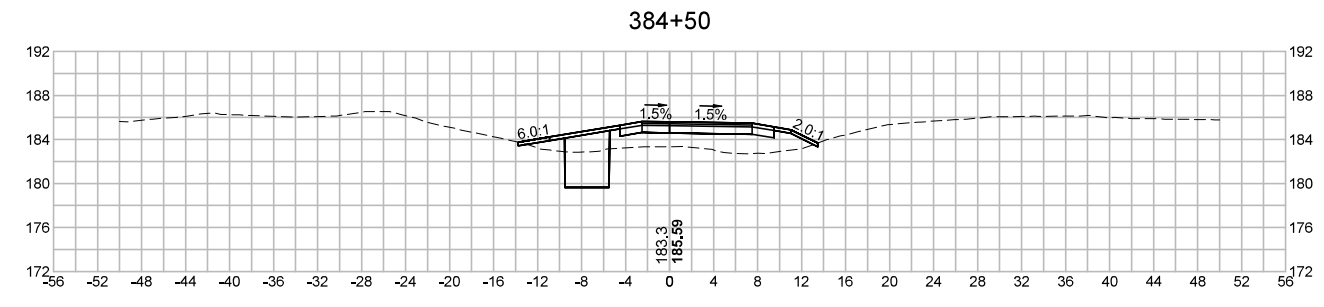
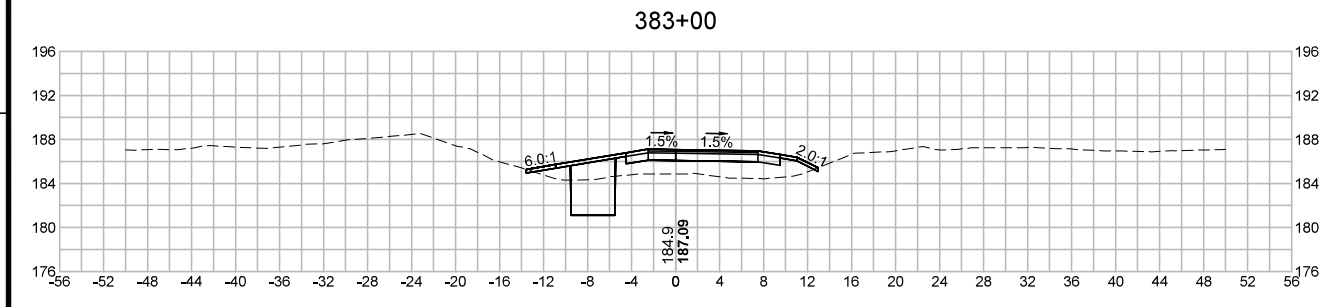
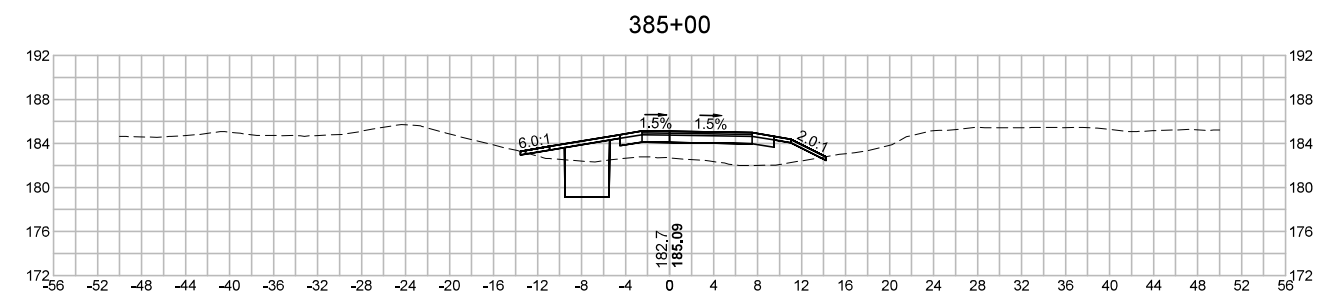
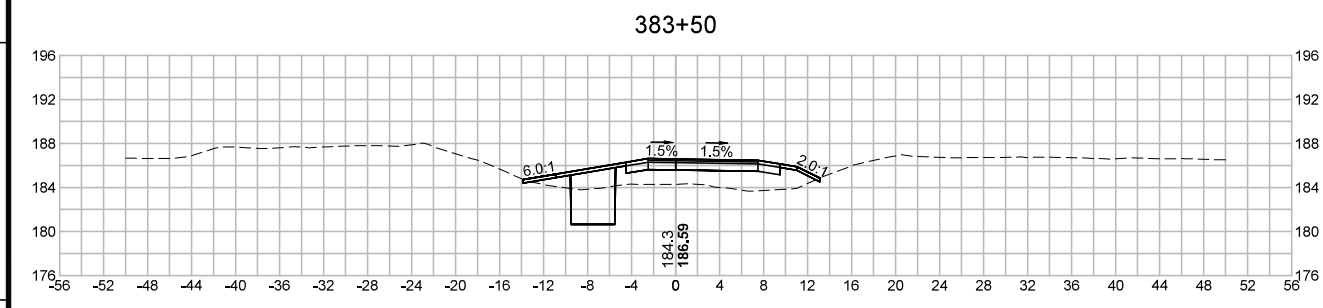
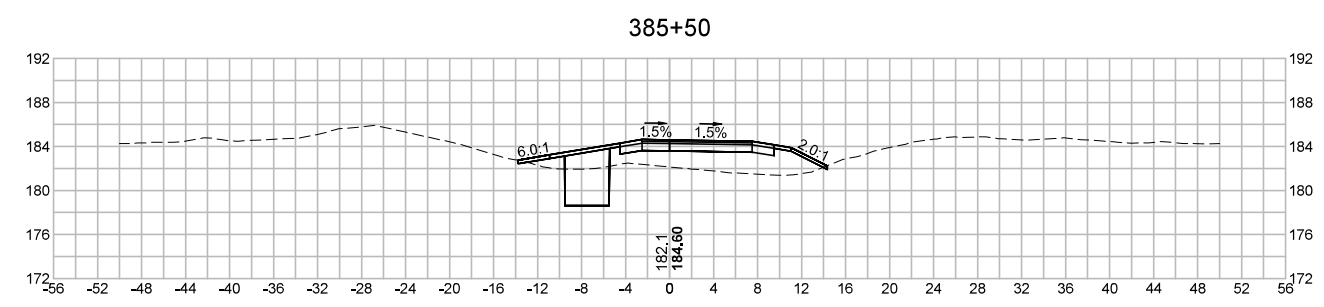
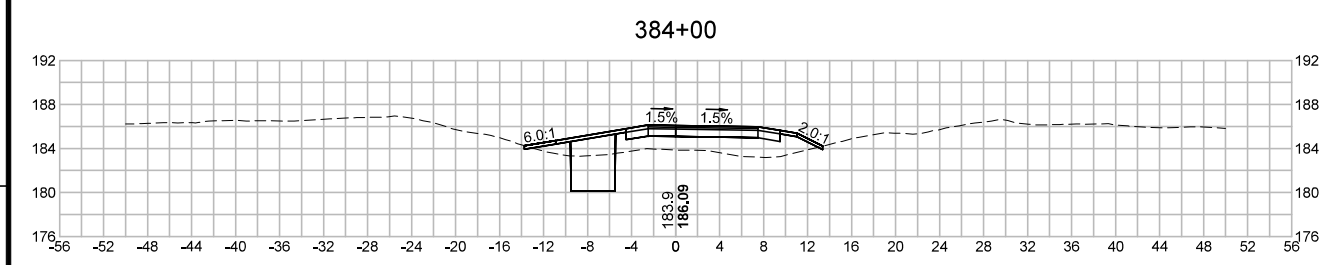
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| N.O. | DESCRIPTION | BY | DATE | APPR. |
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| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 274 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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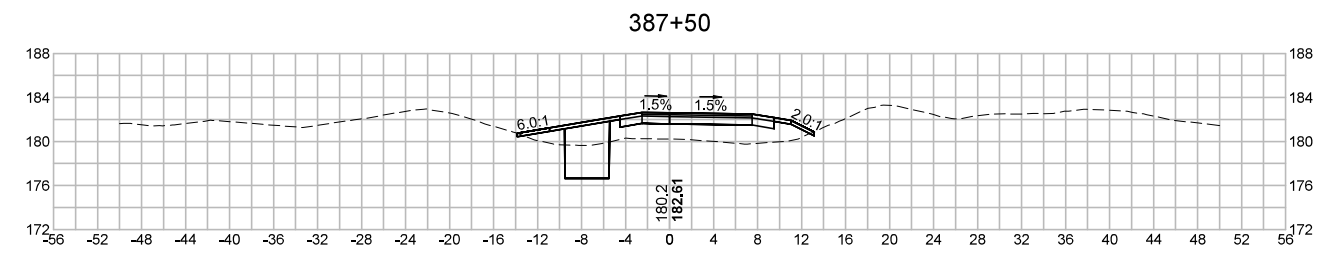
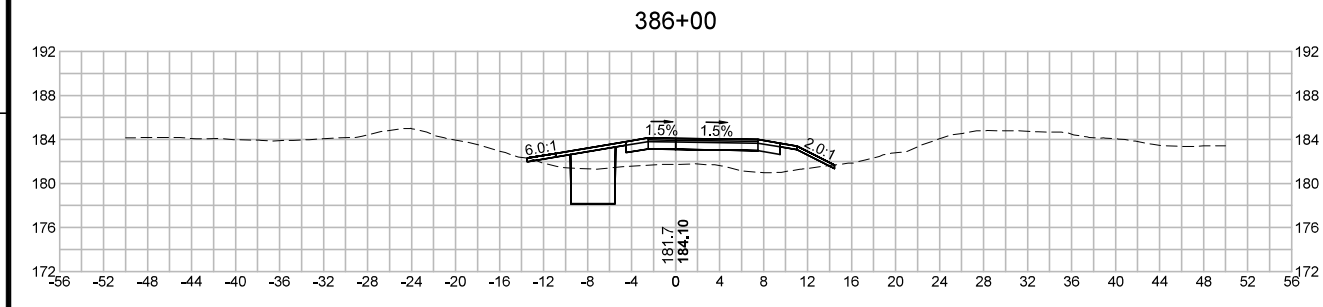
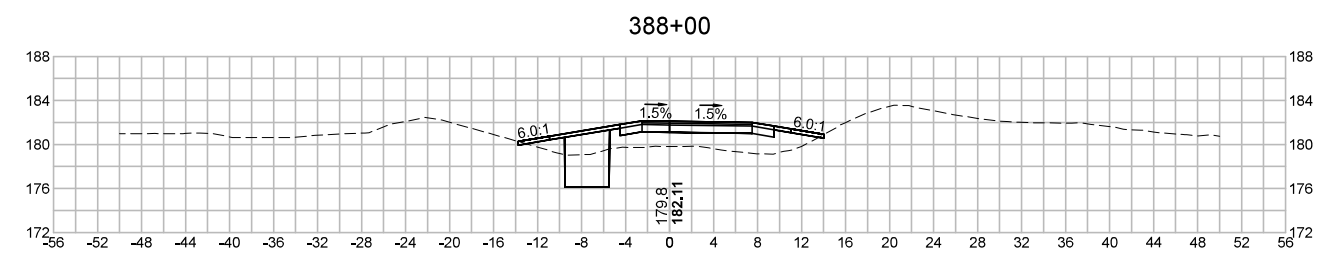
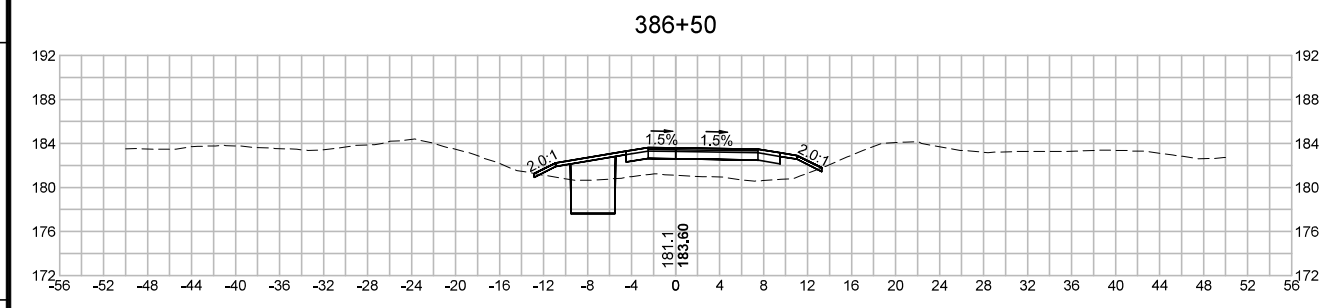
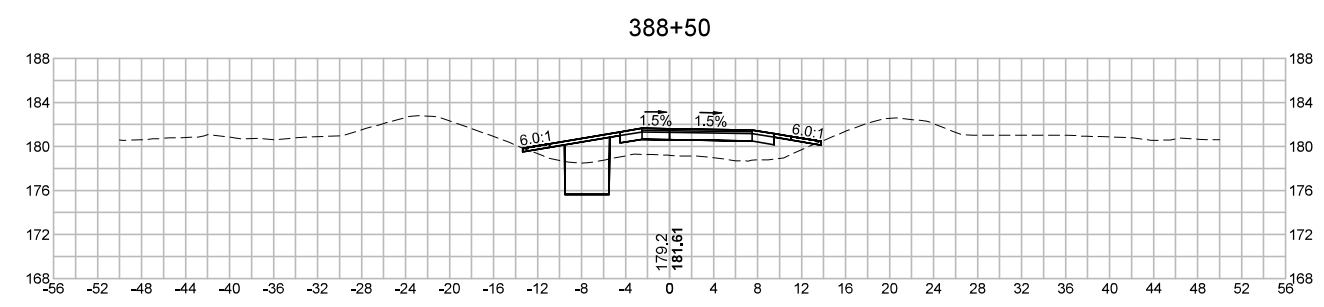
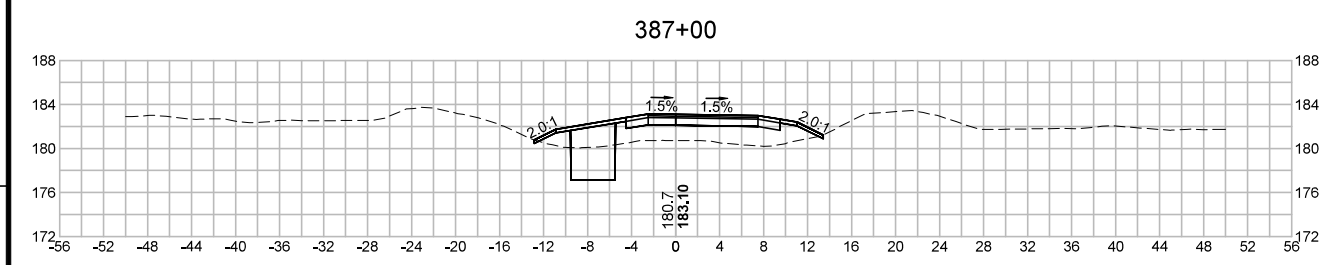
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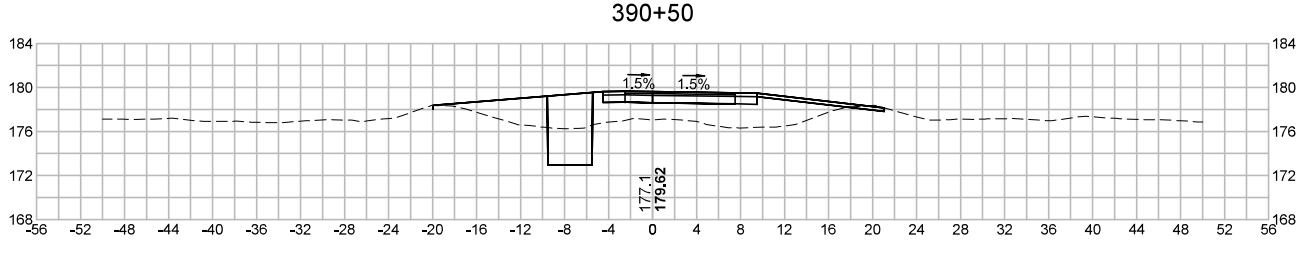
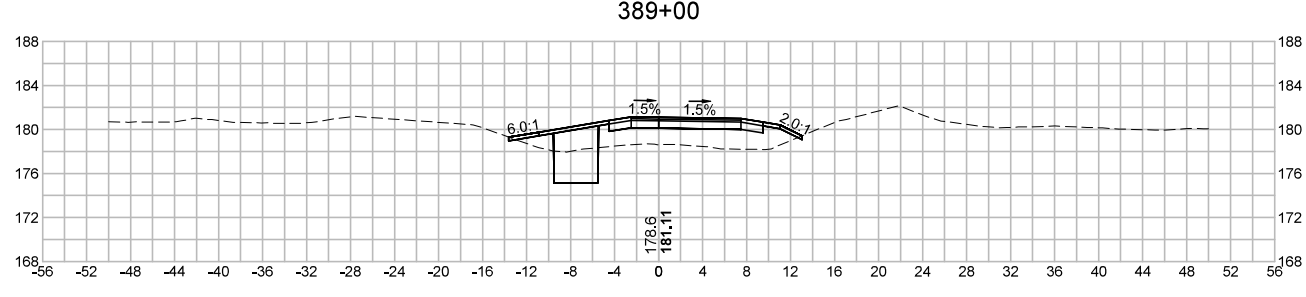
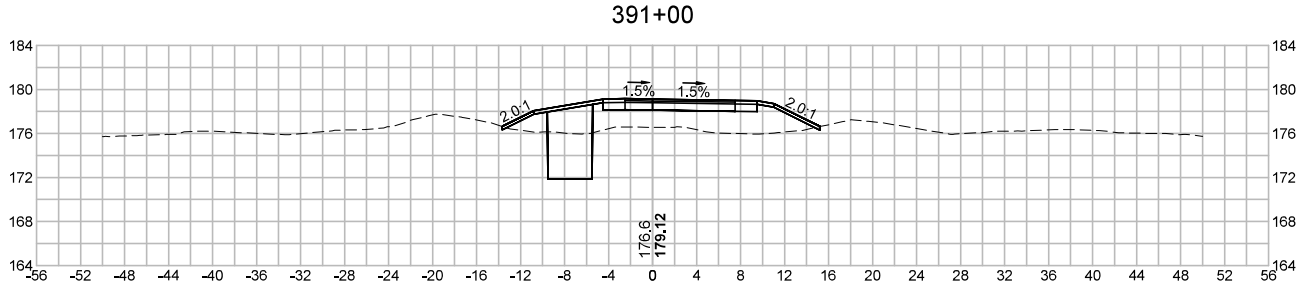
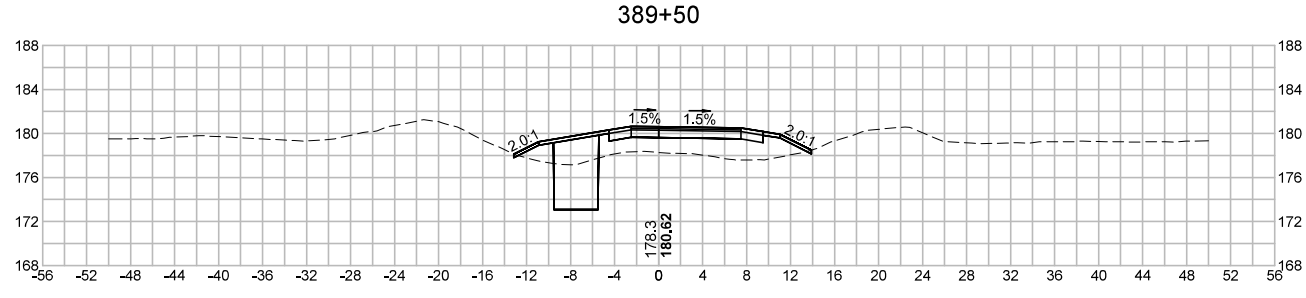
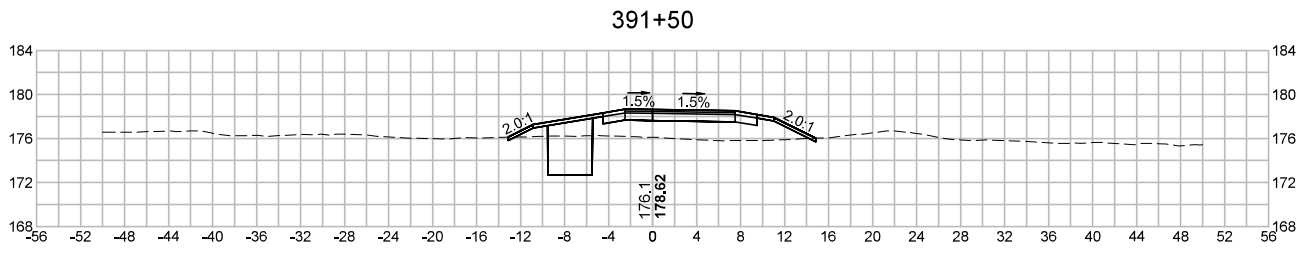
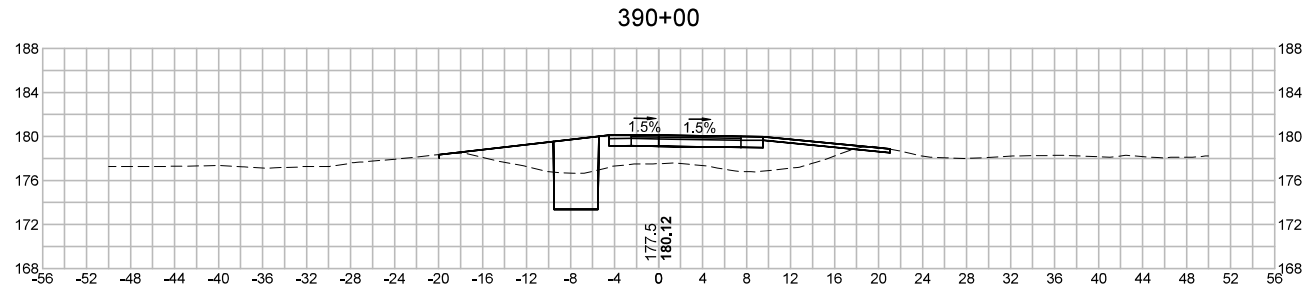


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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 275 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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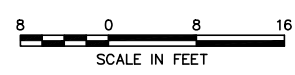
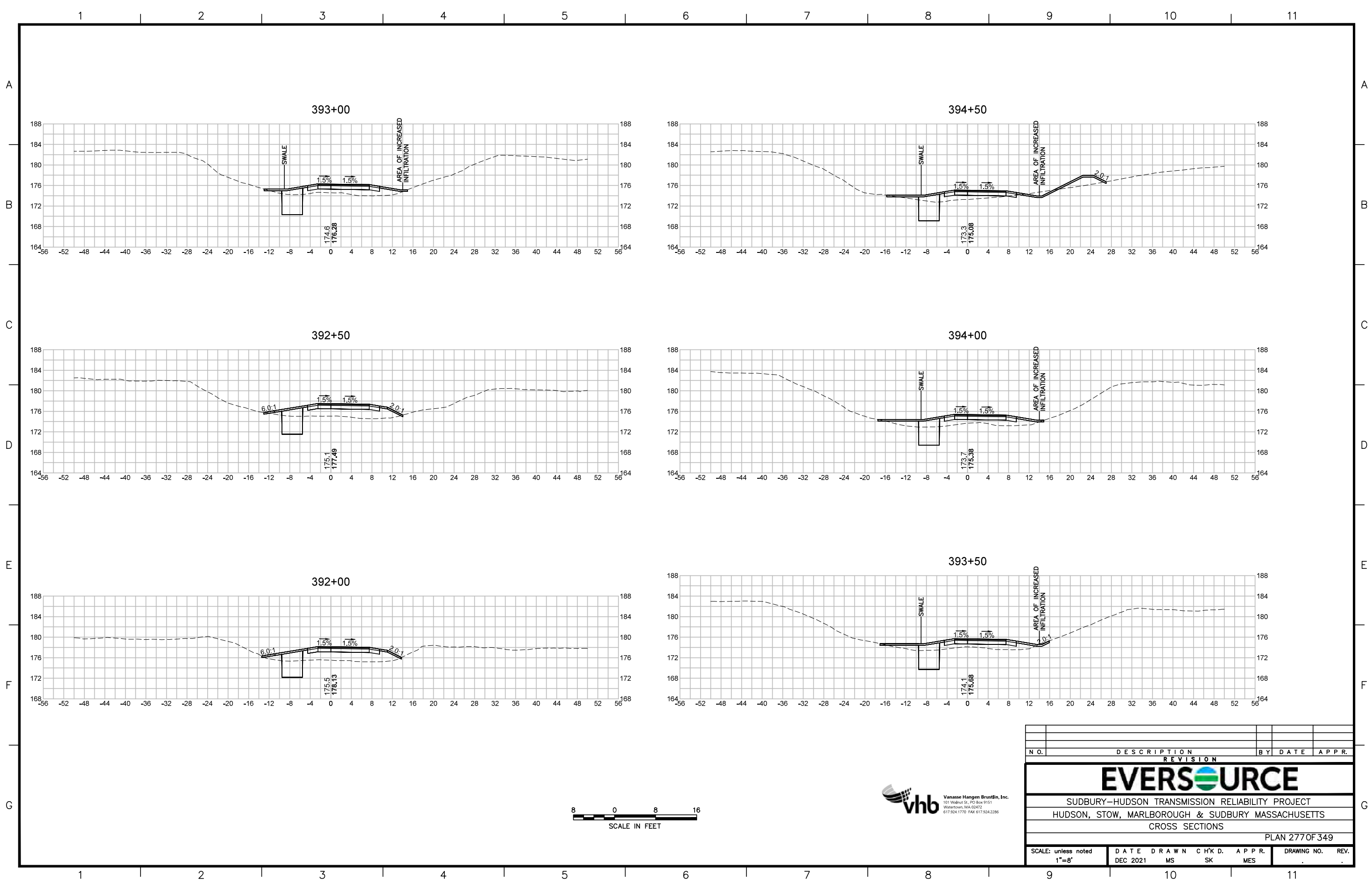


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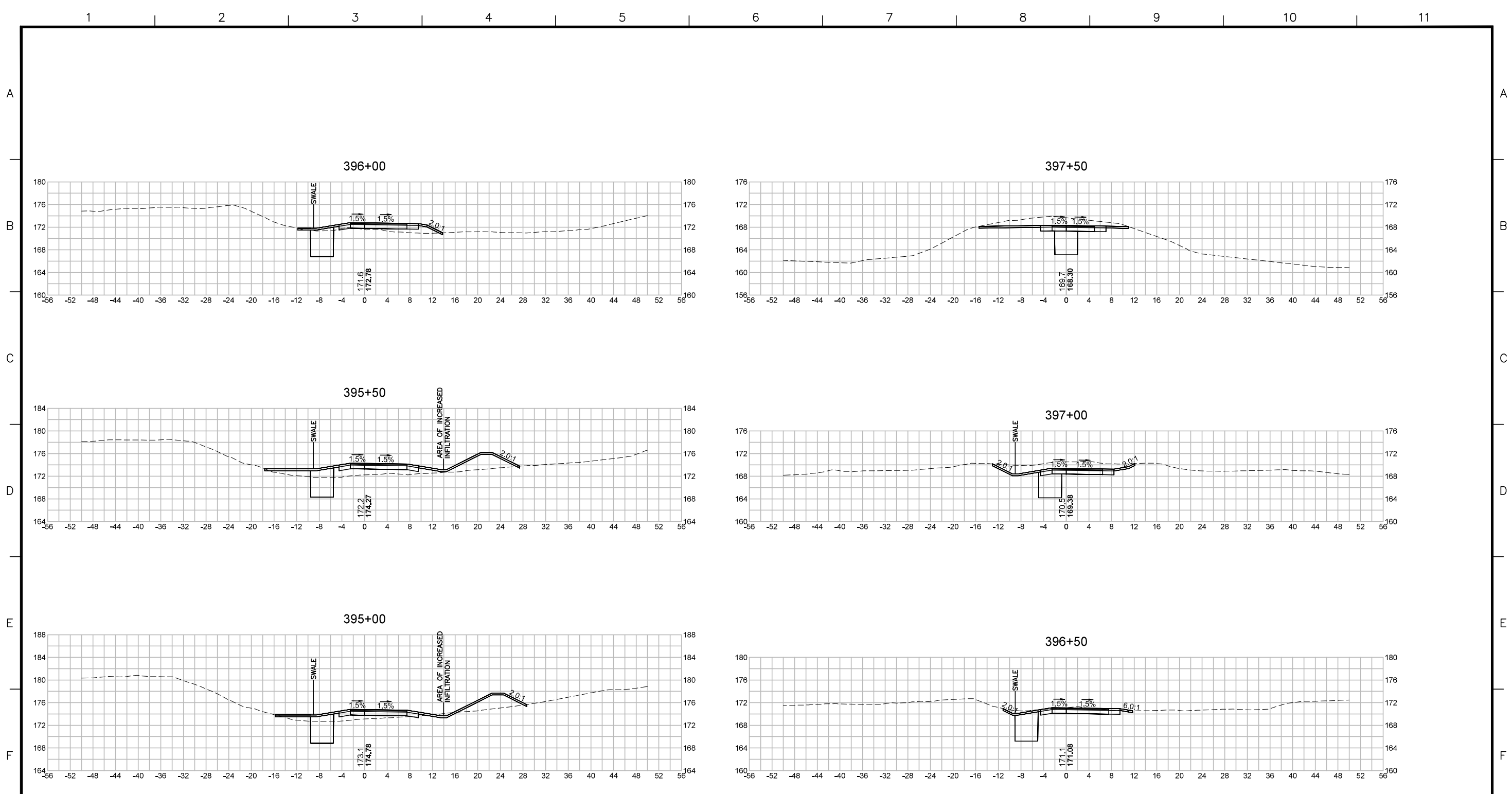


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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 276 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | REV. | | | |

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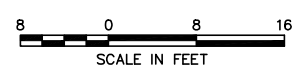
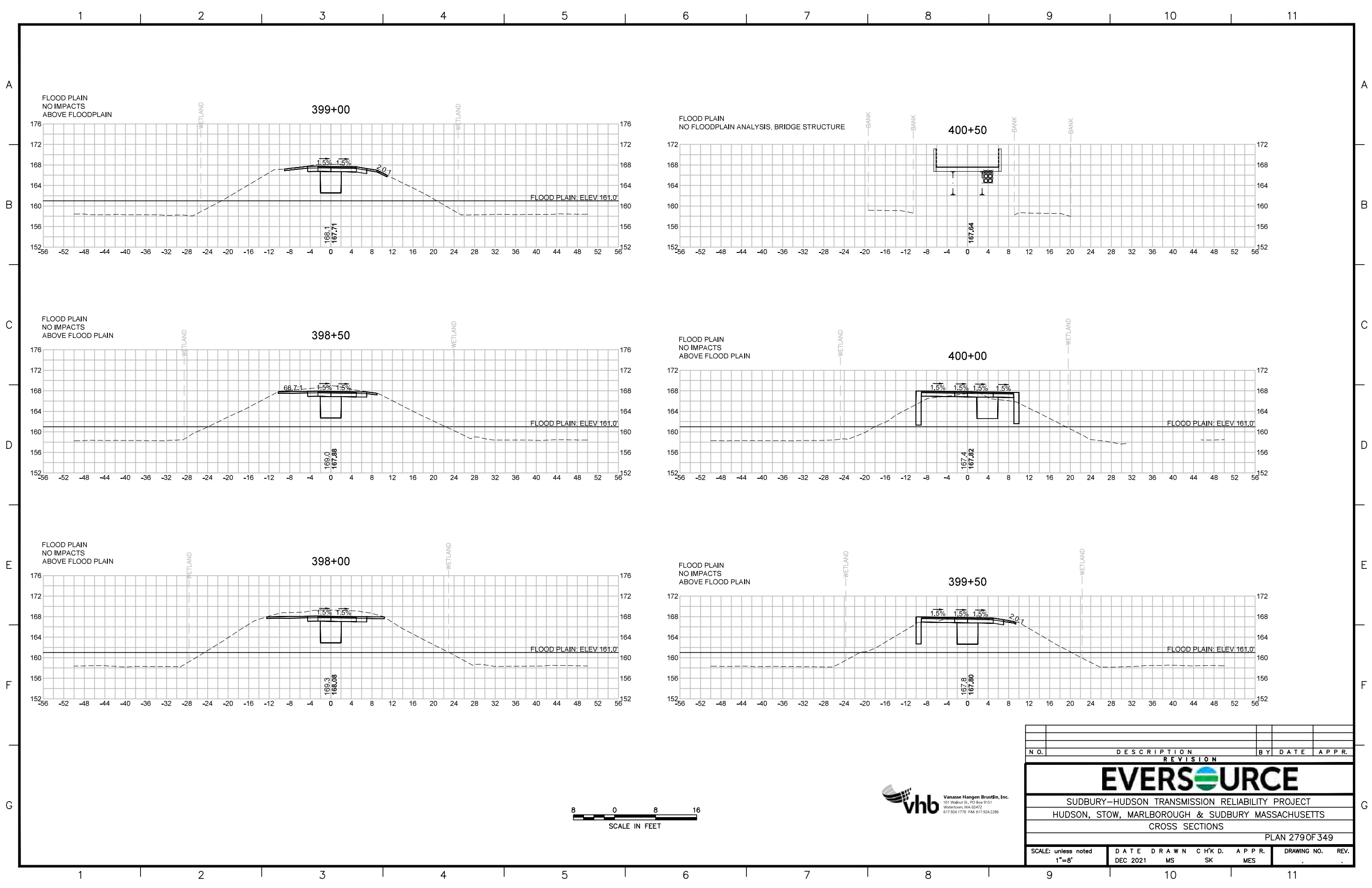
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| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 277 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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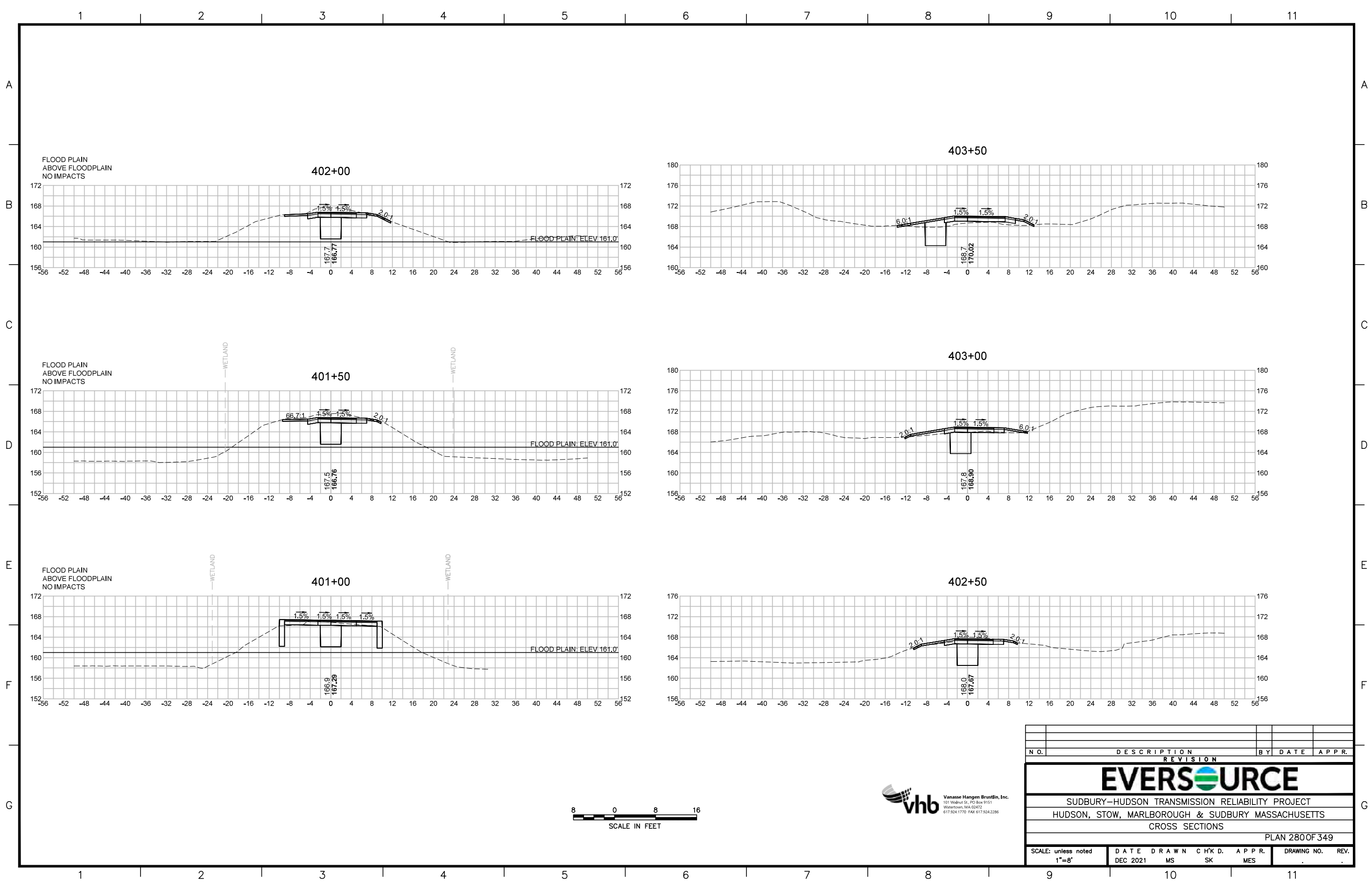
BLSF CROSSING STA 398 TO STA 403 - FEMA ZONE AE - HOP BROOK
 FEMA ELEVATION: 161.0'
 FILL:
 160'-161': 0.95 CY
 159'-160': 0.33 CY
 CUT:
 160'-161': 4.04 CY
 159'-160': 1.17 CY



| N.O. | DESCRIPTION | BY | DATE | APPR. |
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 2780F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



| N.O. | DESCRIPTION | BY | DATE | APPR. |
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| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 2790F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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FLOOD PLAIN
ABOVE FLOODPLAIN
NO IMPACTS

402+00

403+50

FLOOD PLAIN
ABOVE FLOODPLAIN
NO IMPACTS

401+50

403+00

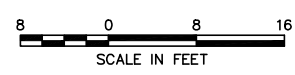
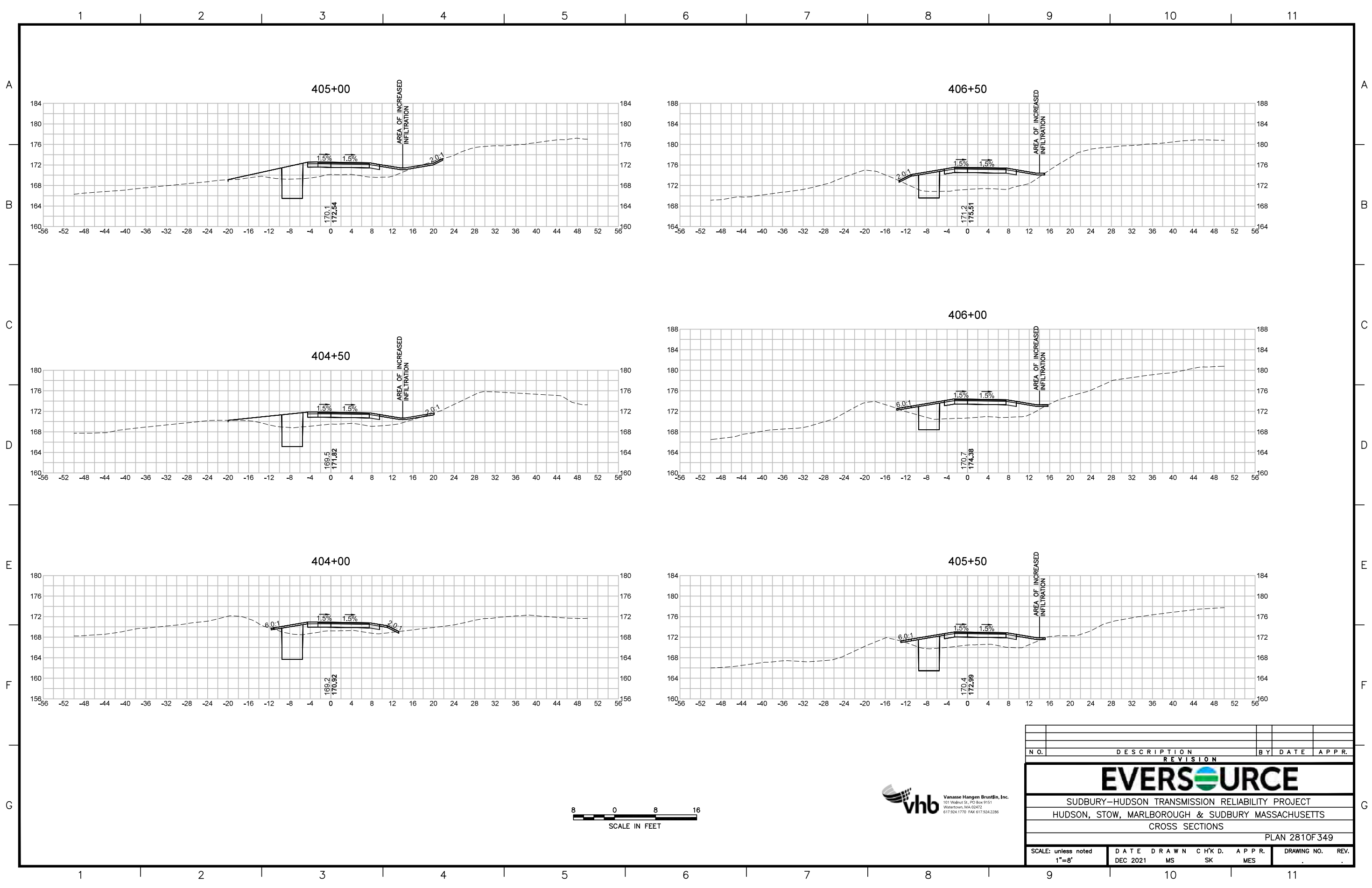
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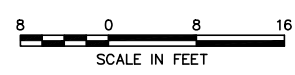
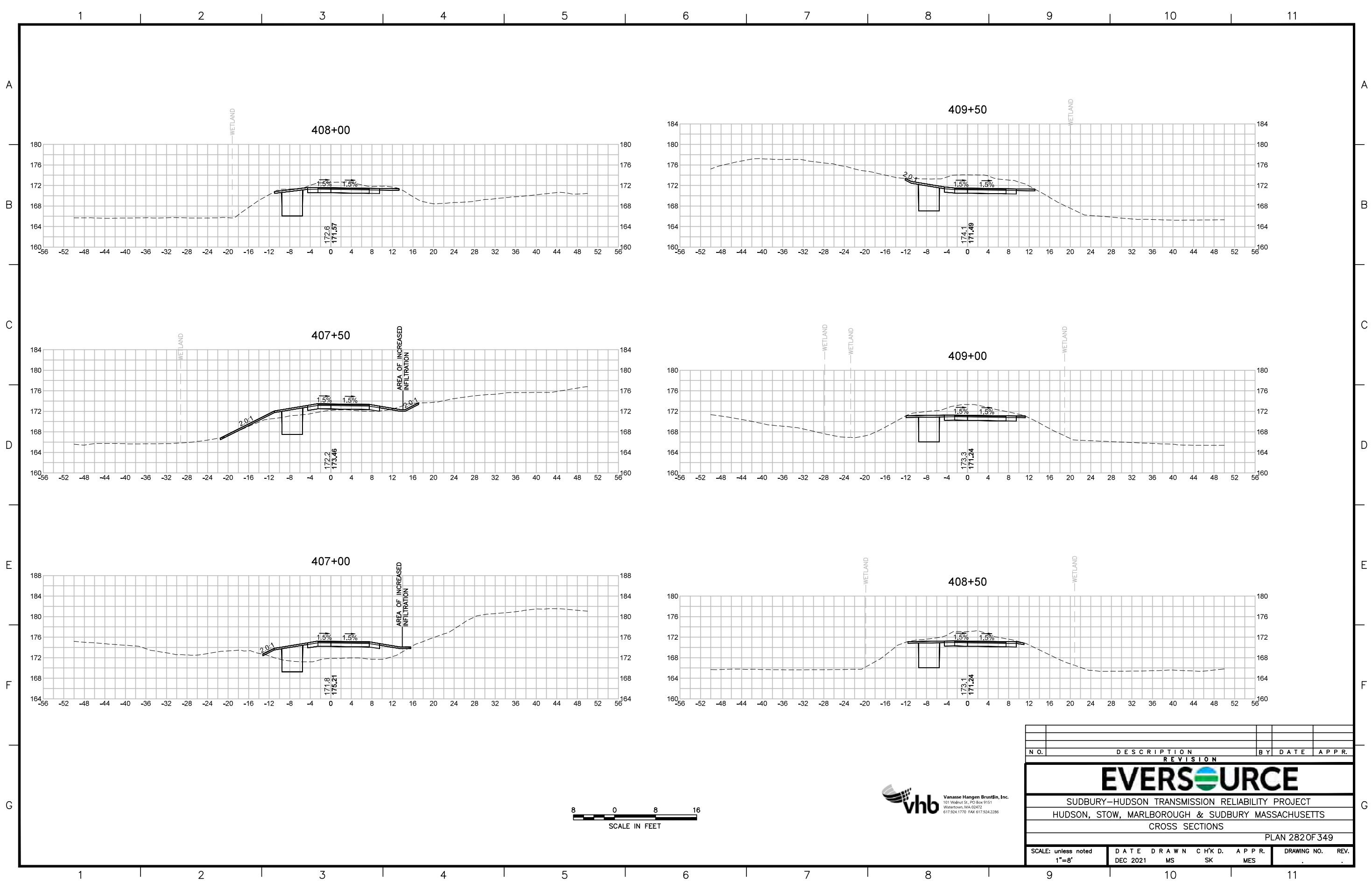
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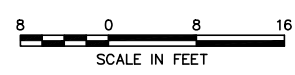
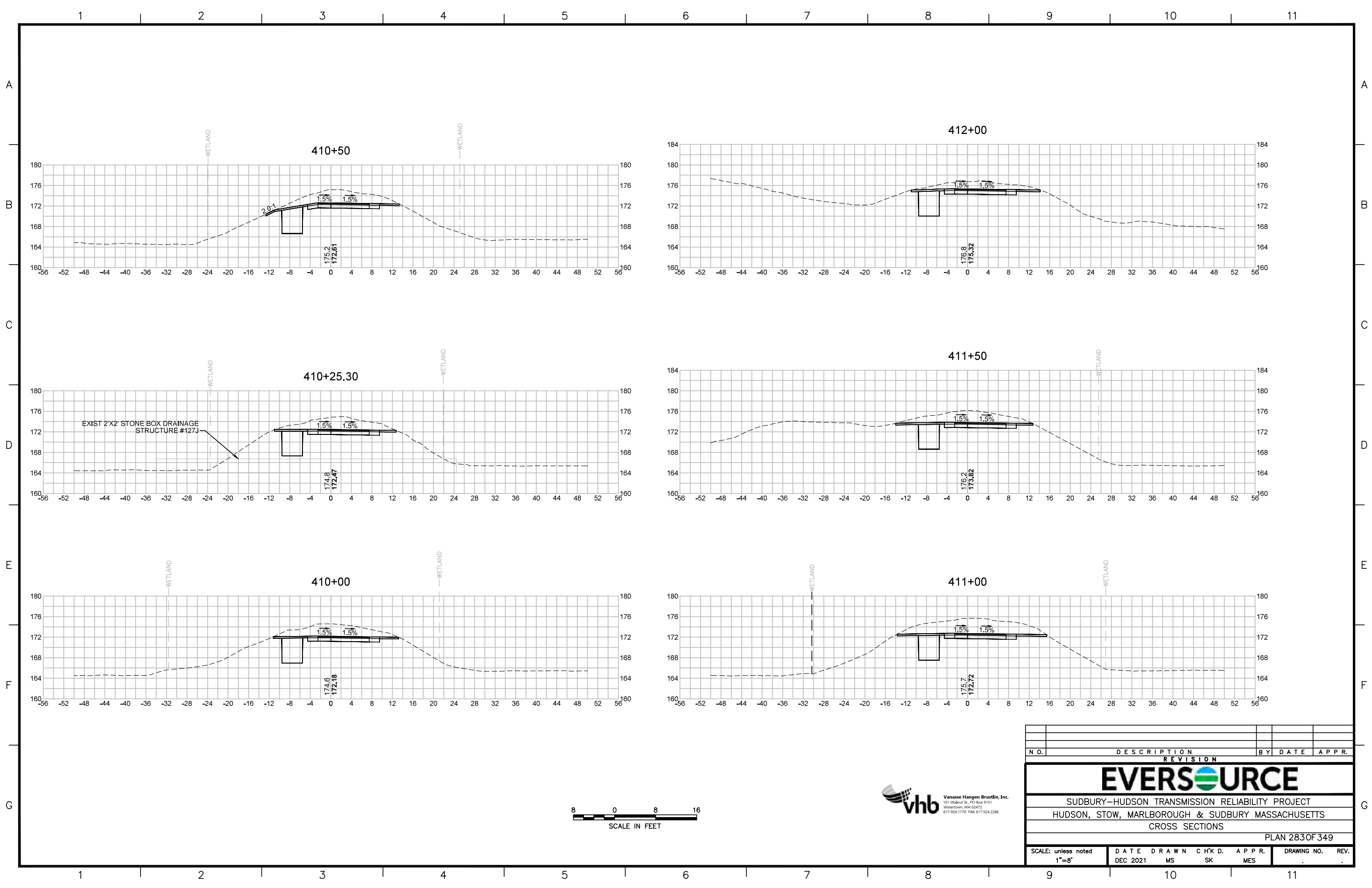
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| EVERSOURCE | | | | |
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 2800F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



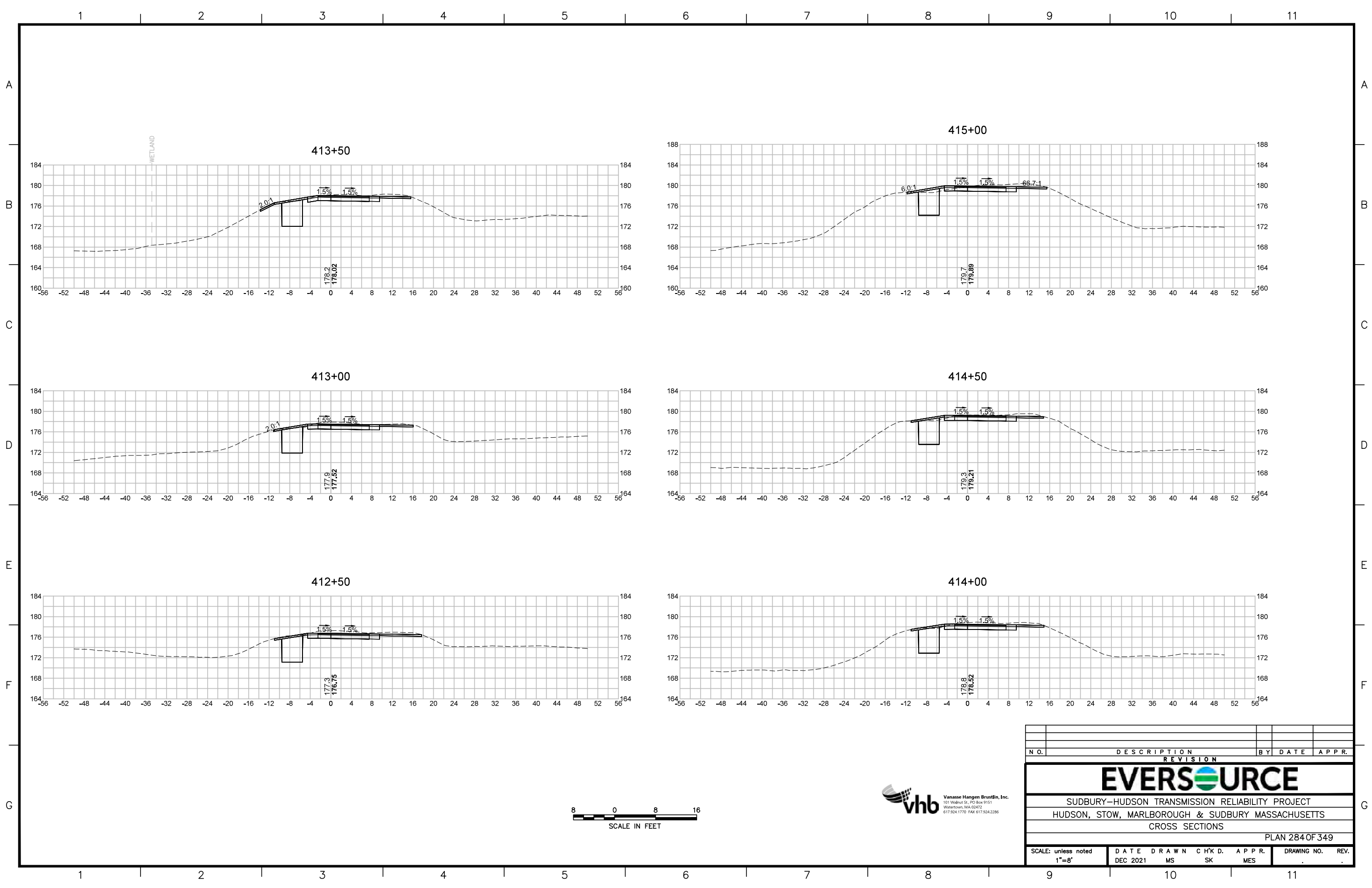
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 2810F 349 | | | | |
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| DRAWING NO. | | REV. | | |



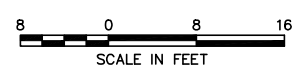
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 282 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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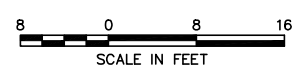
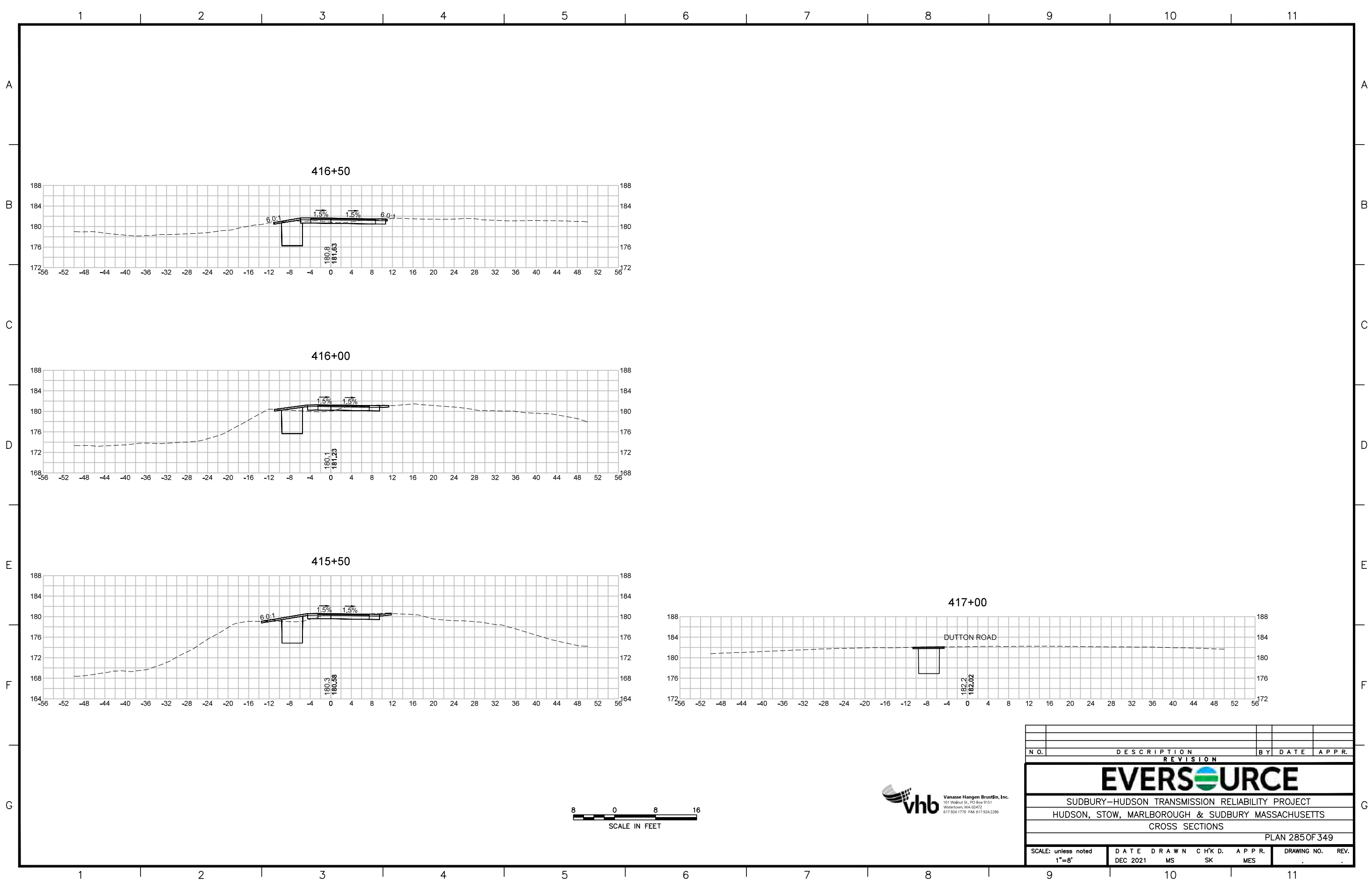


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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
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| PLAN 2830F 349 | | | | |
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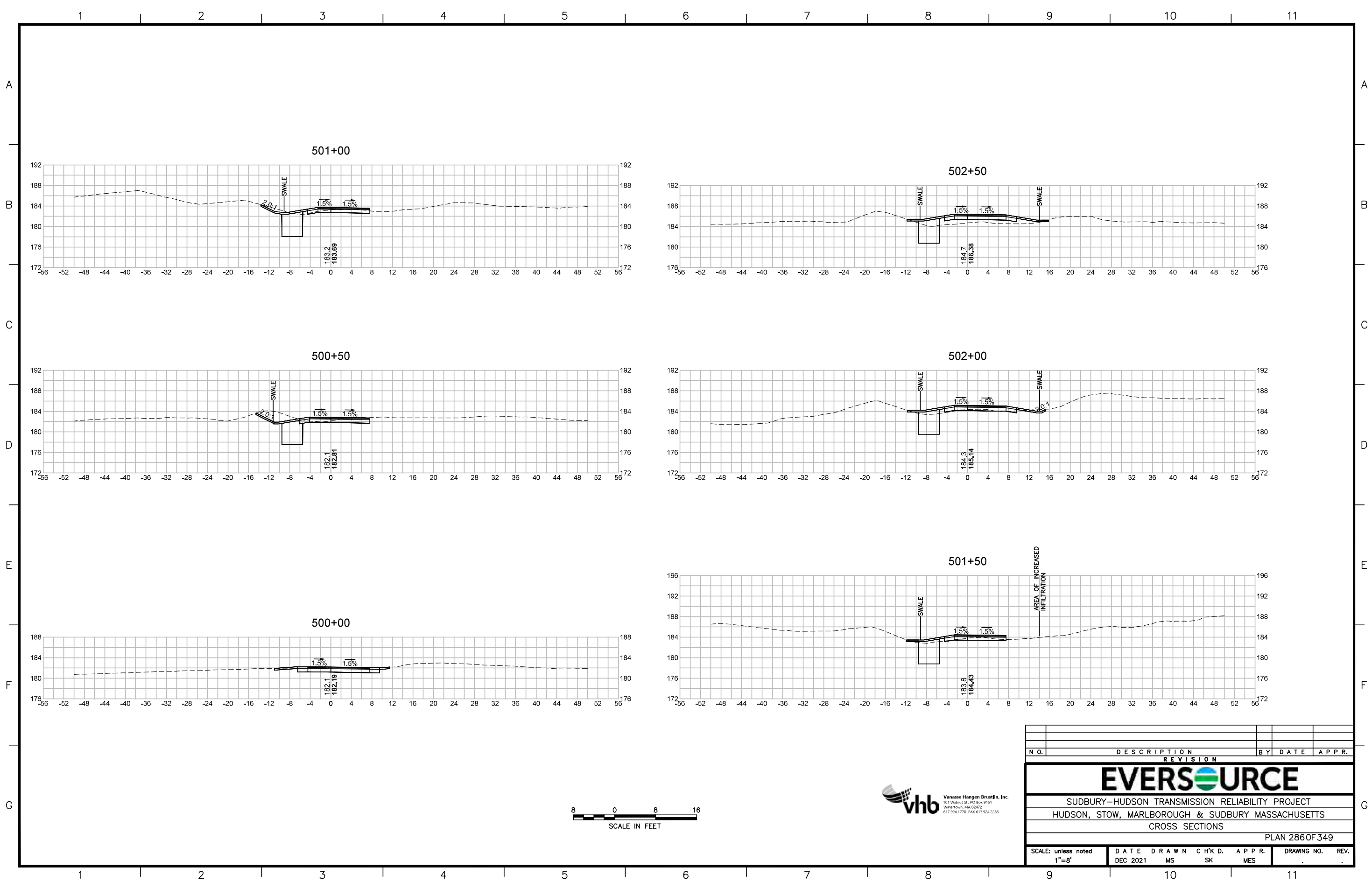


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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 284 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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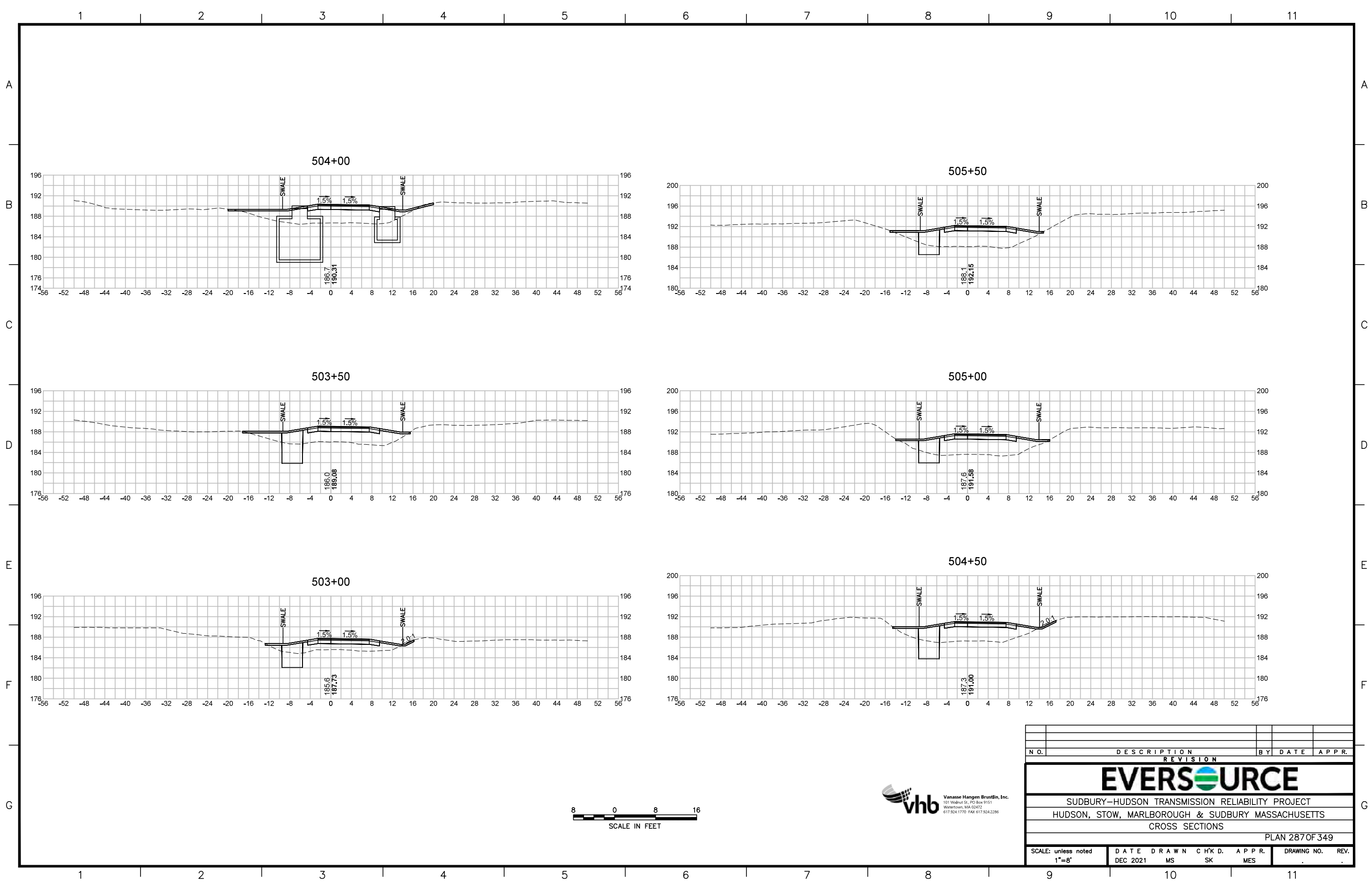




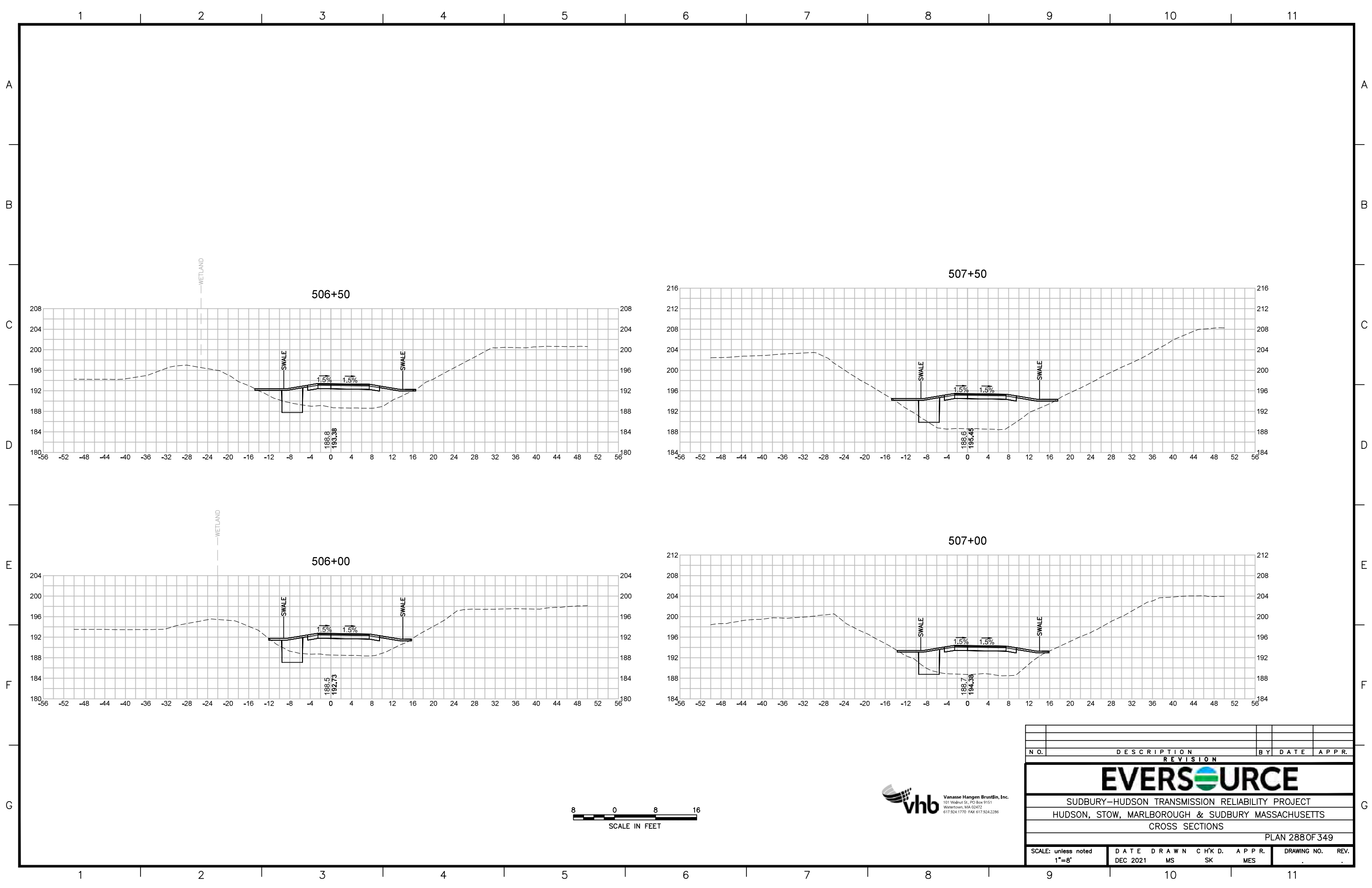
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 285 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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| PLAN 286 OF 349 | | | | |
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
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| PLAN 287 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
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| PLAN 288 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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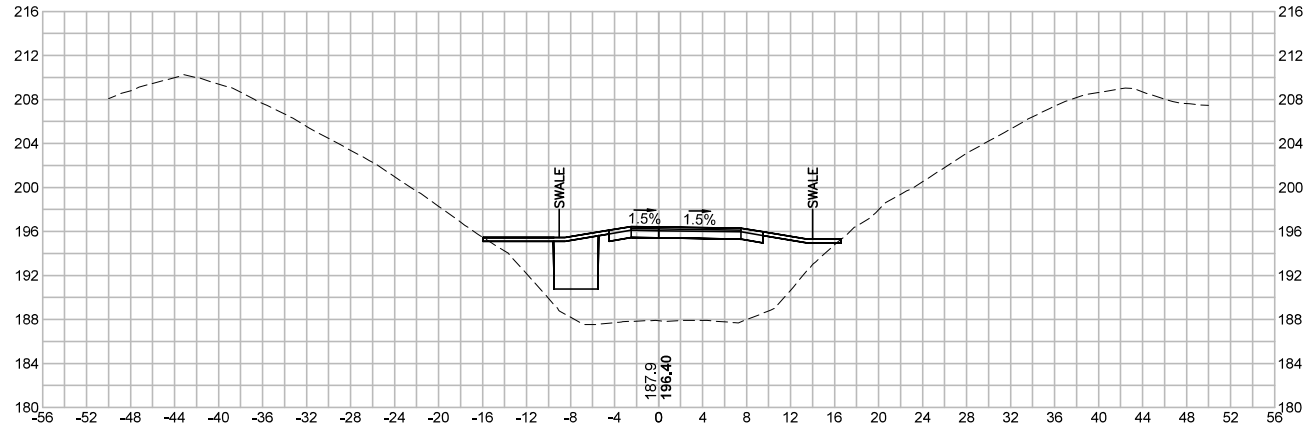
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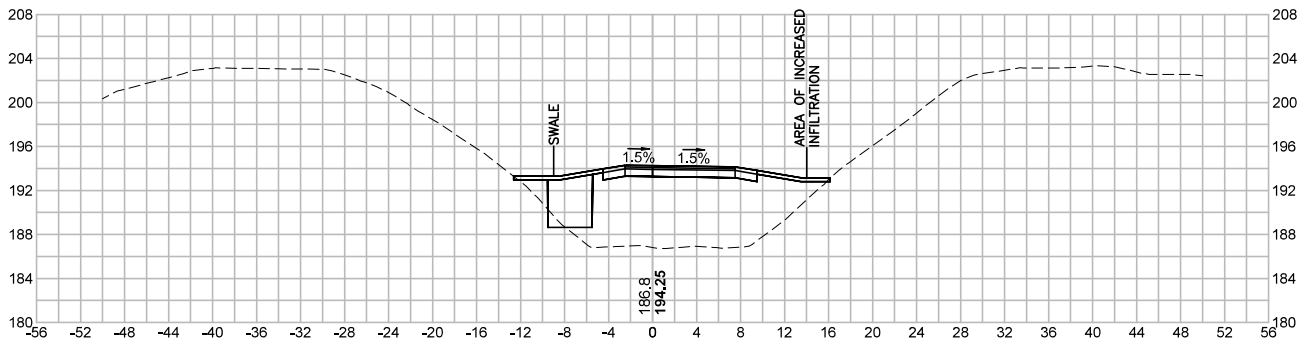
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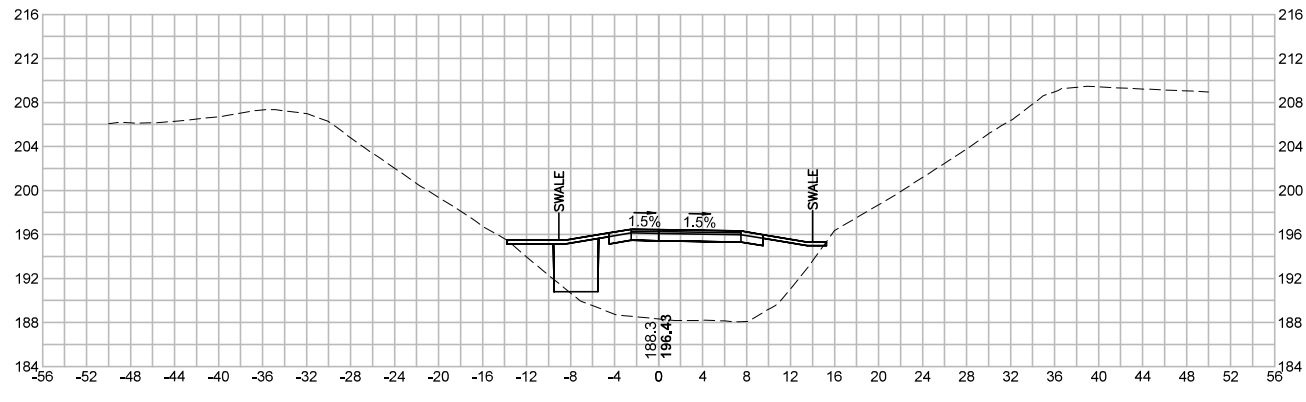
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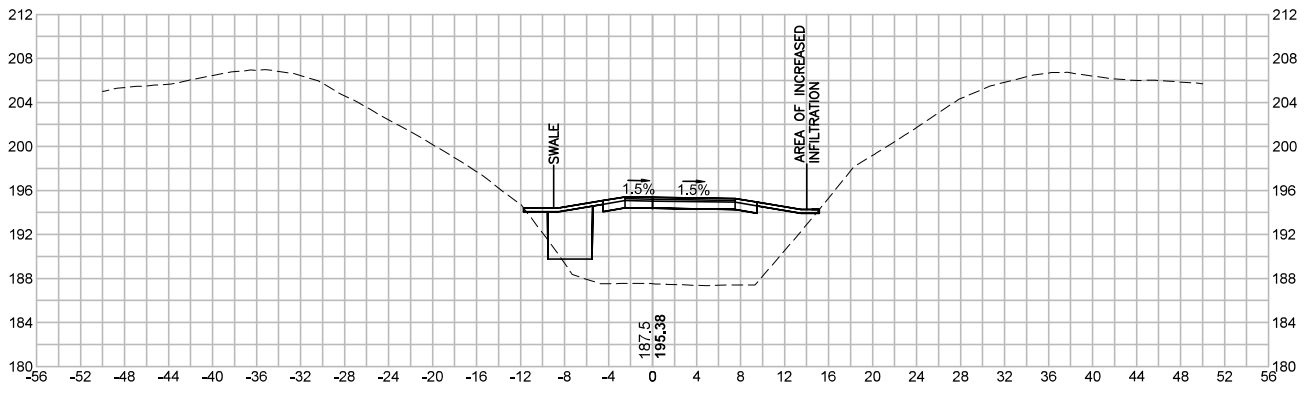
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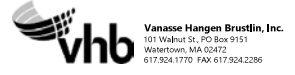
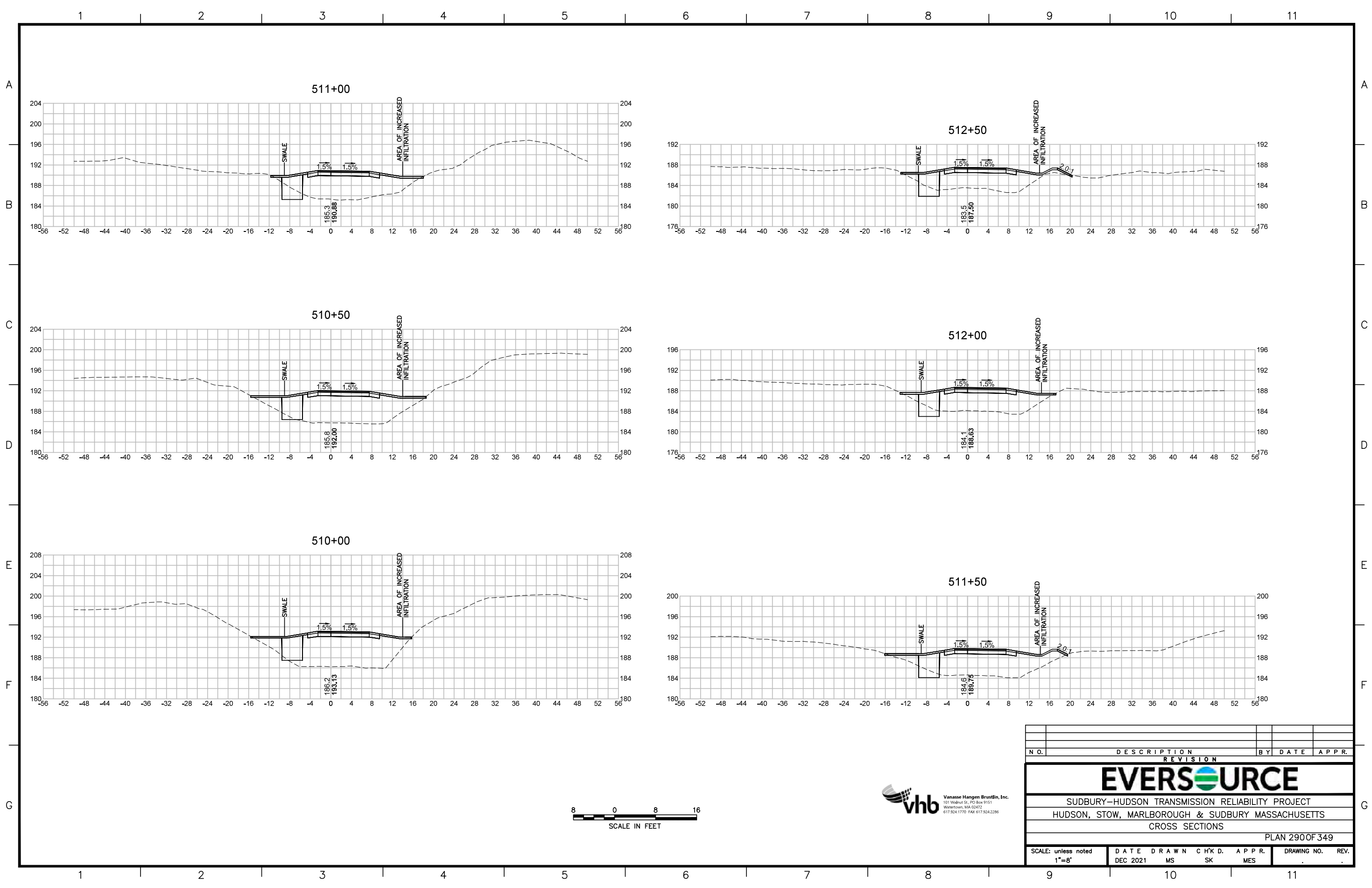


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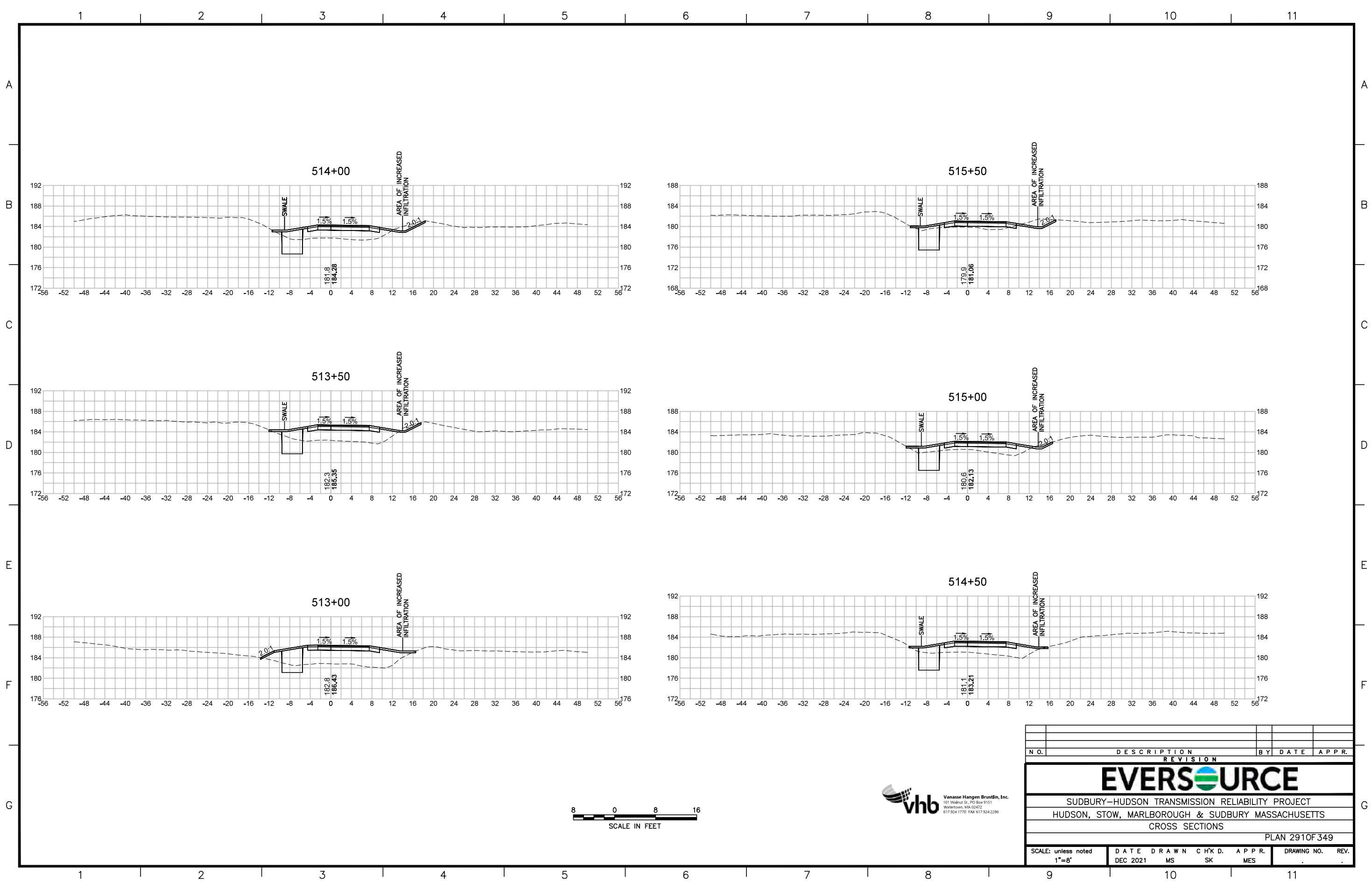


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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 289 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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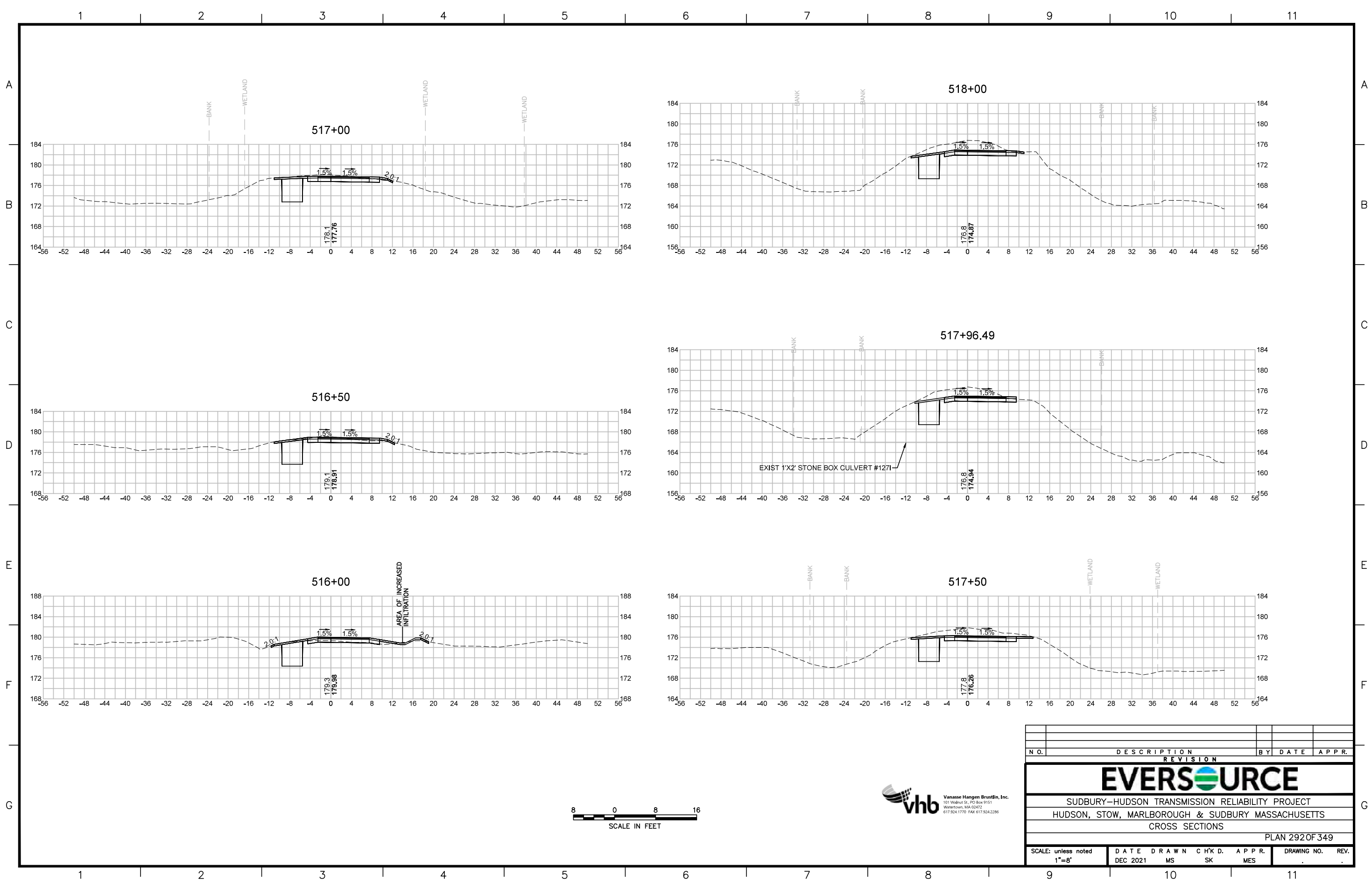
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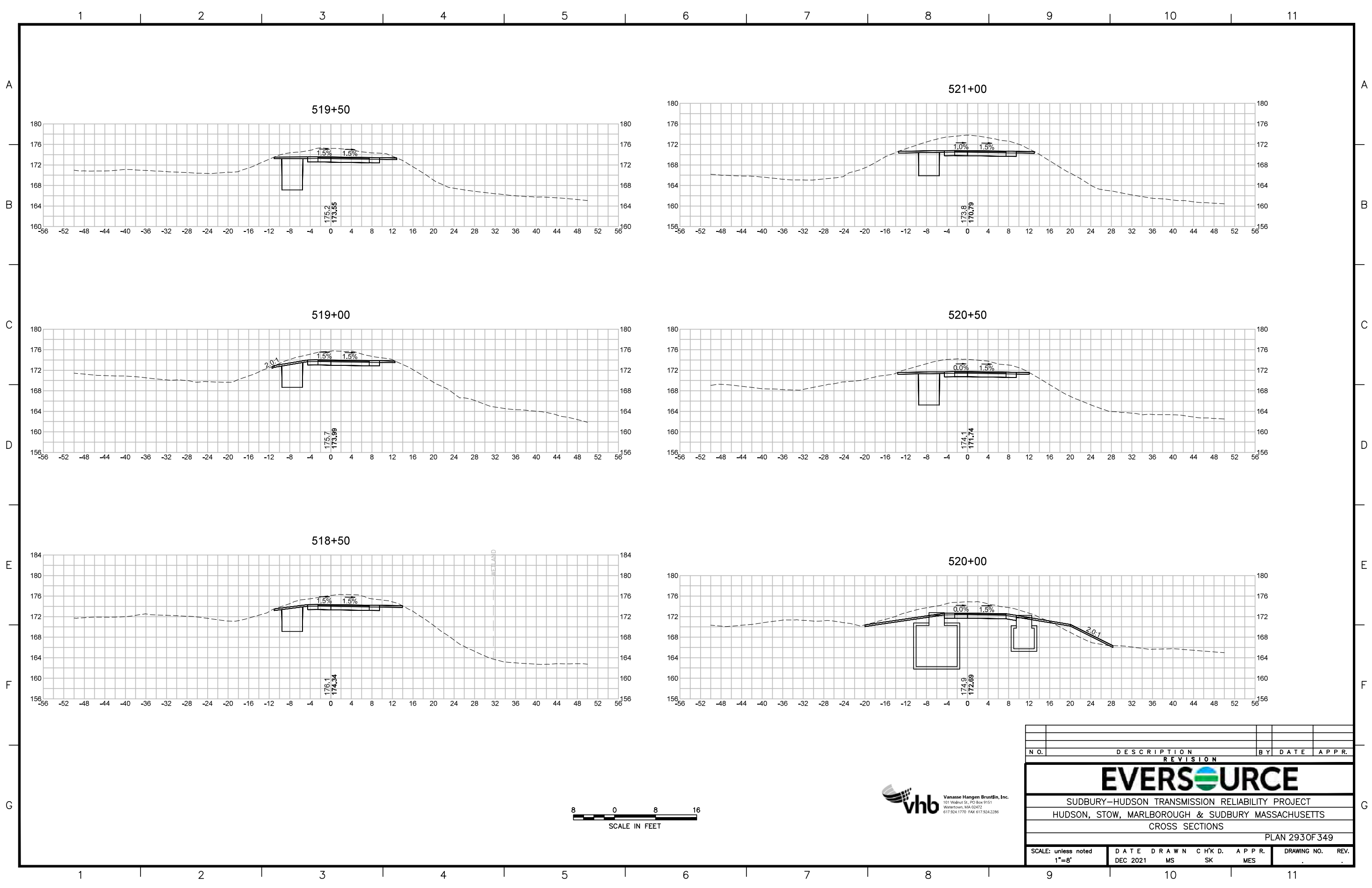
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
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| PLAN 2900F 349 | | | | |
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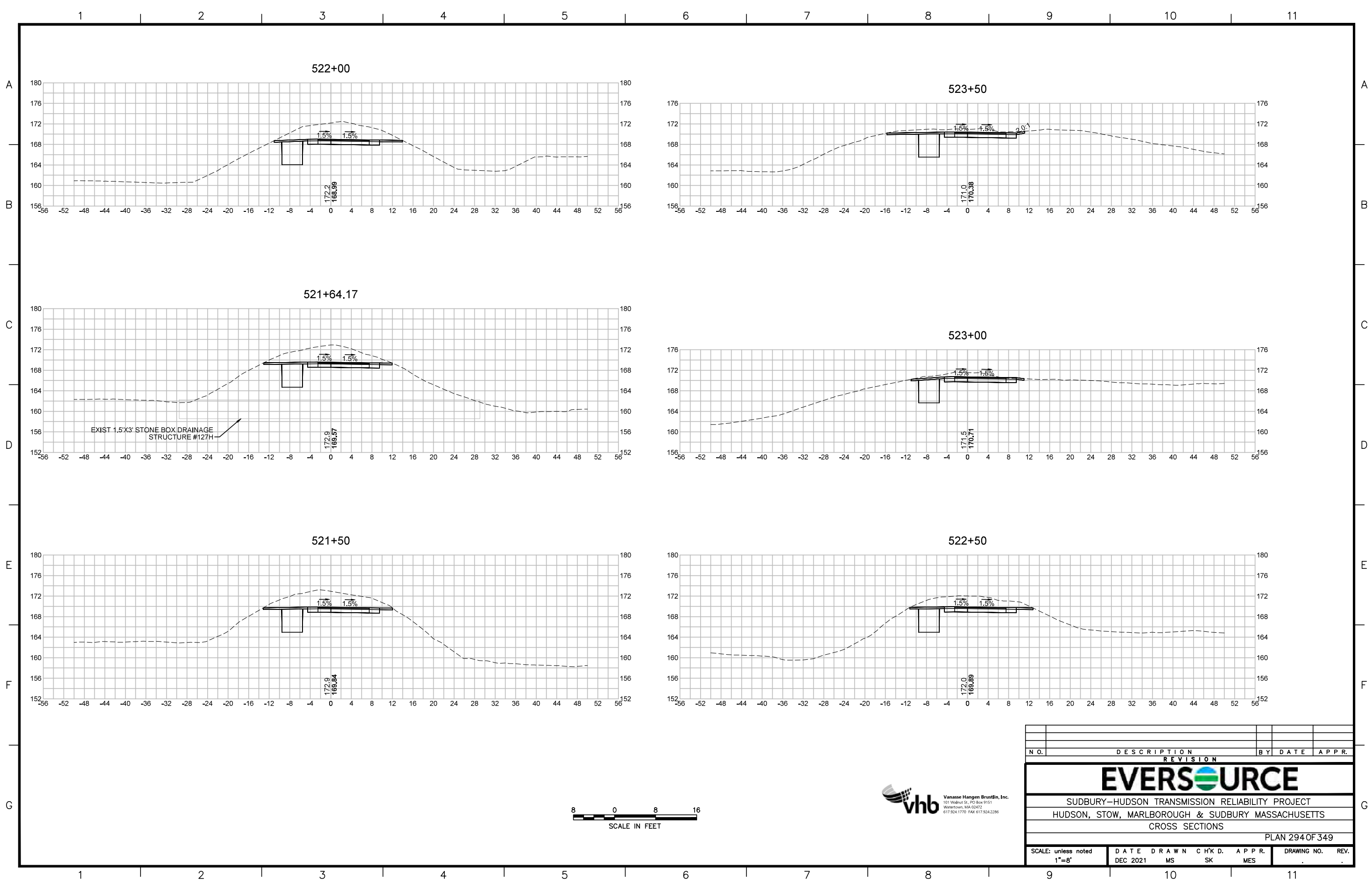
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
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| PLAN 2910F 349 | | | | |
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 2920F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 2930F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
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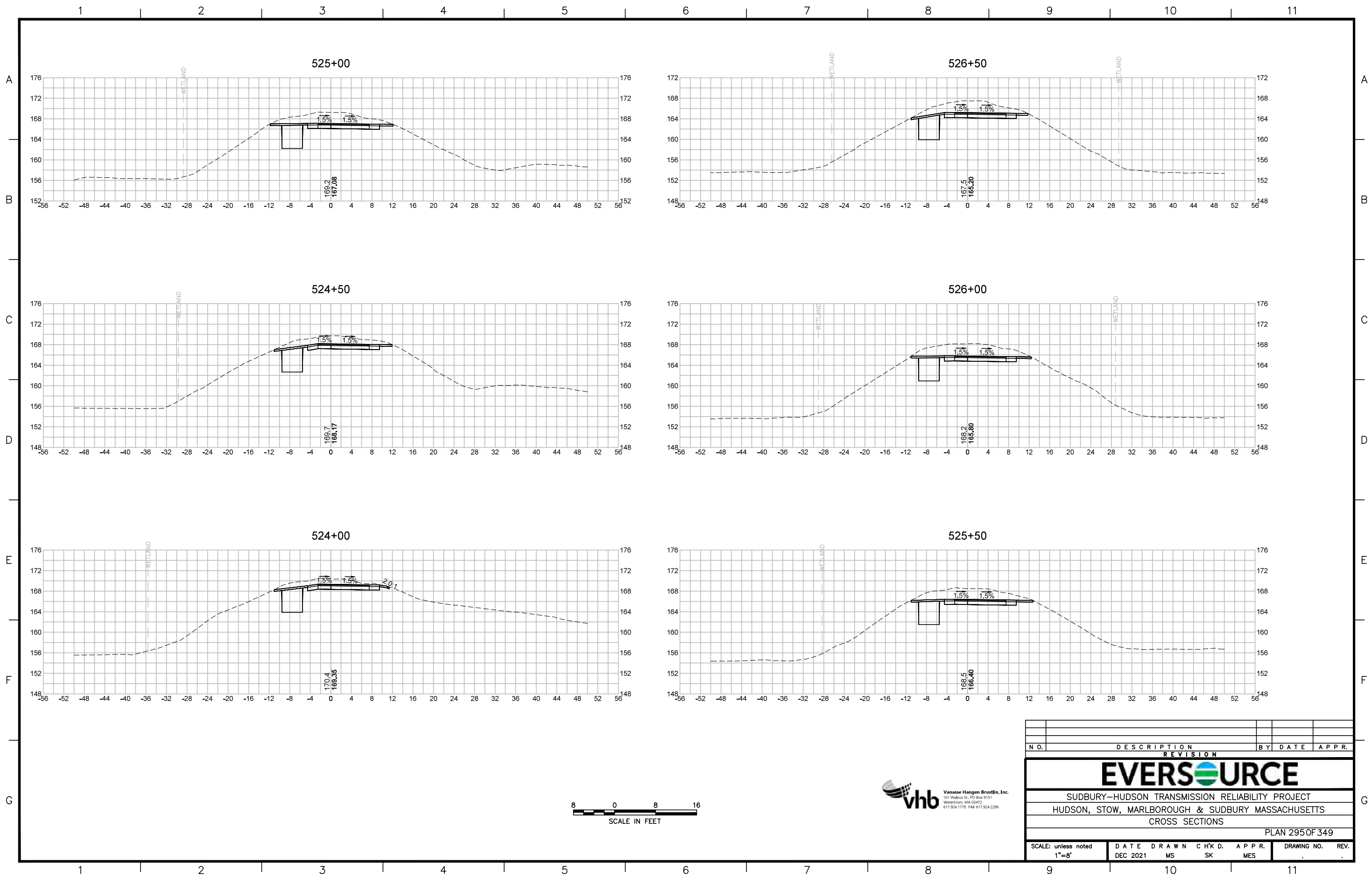
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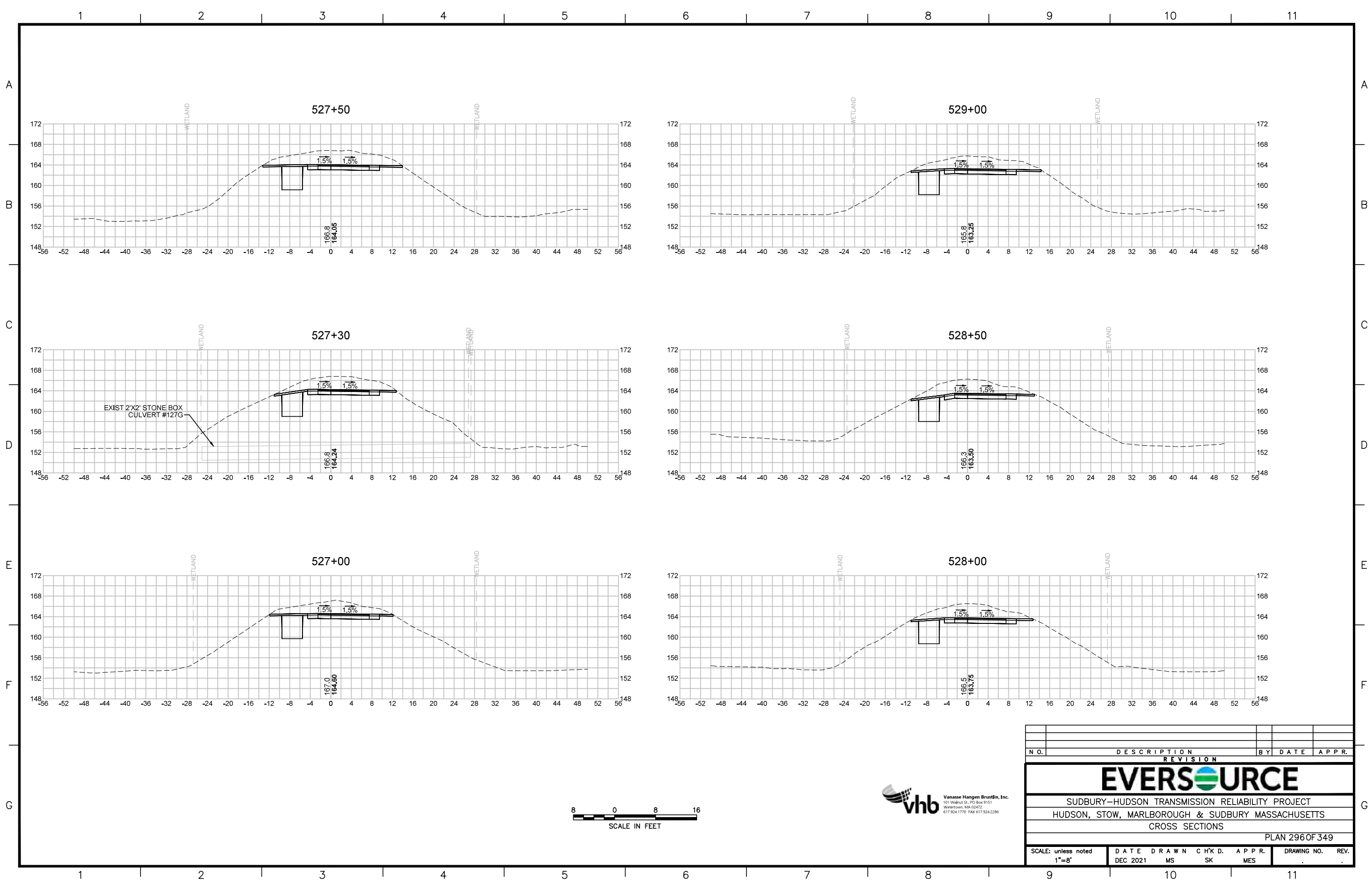
1 2 3 4 5 6 7 8 9 10 11



| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|-------------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 294 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| | | | | DRAWING NO. 11 |
| | | | | REV. |



| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 295 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | | | REV. |



527+50

529+00

527+30

528+50

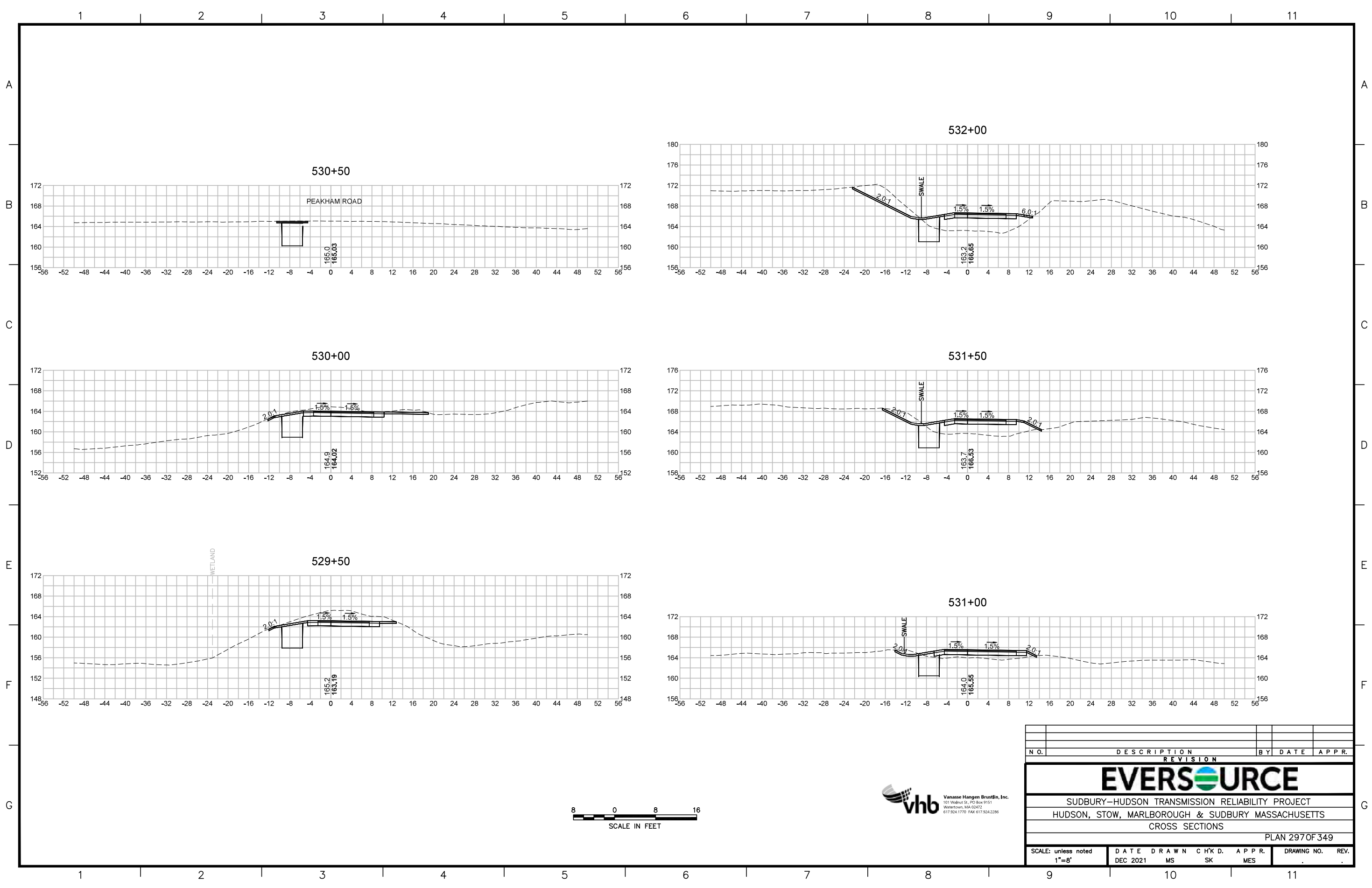
527+00

528+00

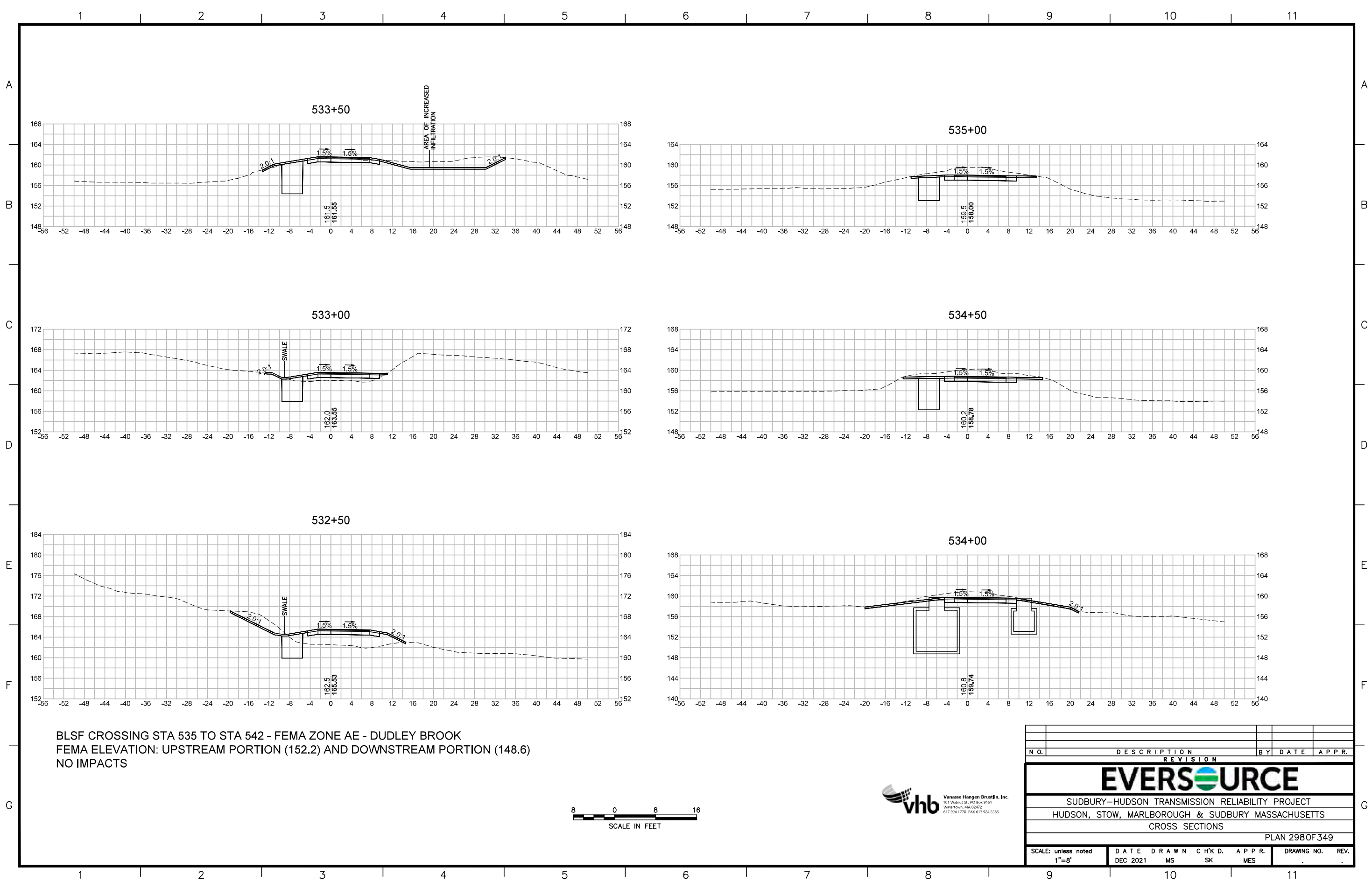
EXIST 2'X2' STONE BOX
CULVERT #127G



| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 296 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



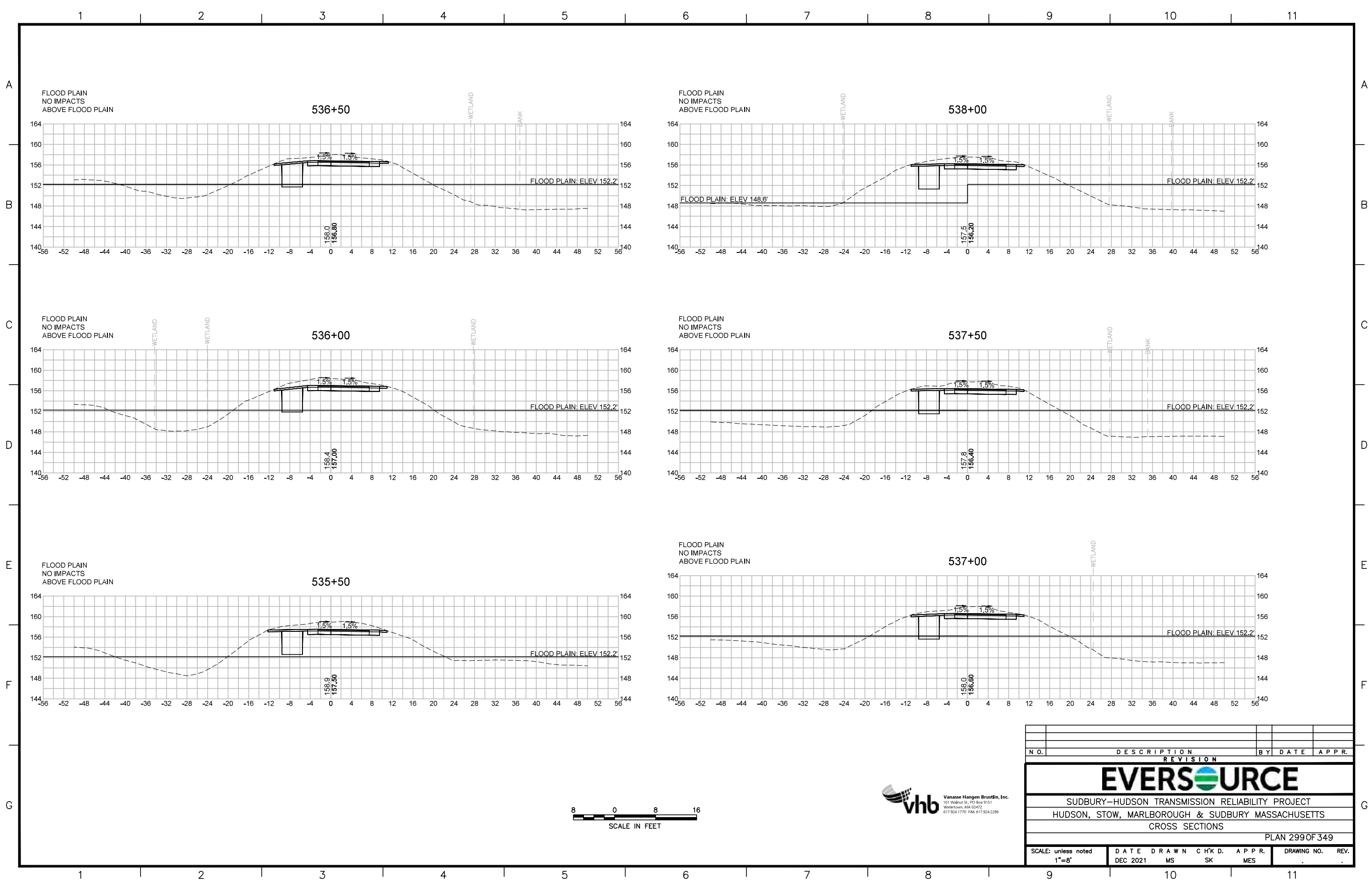
| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 297 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



BLSF CROSSING STA 535 TO STA 542 - FEMA ZONE AE - DUDLEY BROOK
 FEMA ELEVATION: UPSTREAM PORTION (152.2) AND DOWNSTREAM PORTION (148.6)
 NO IMPACTS

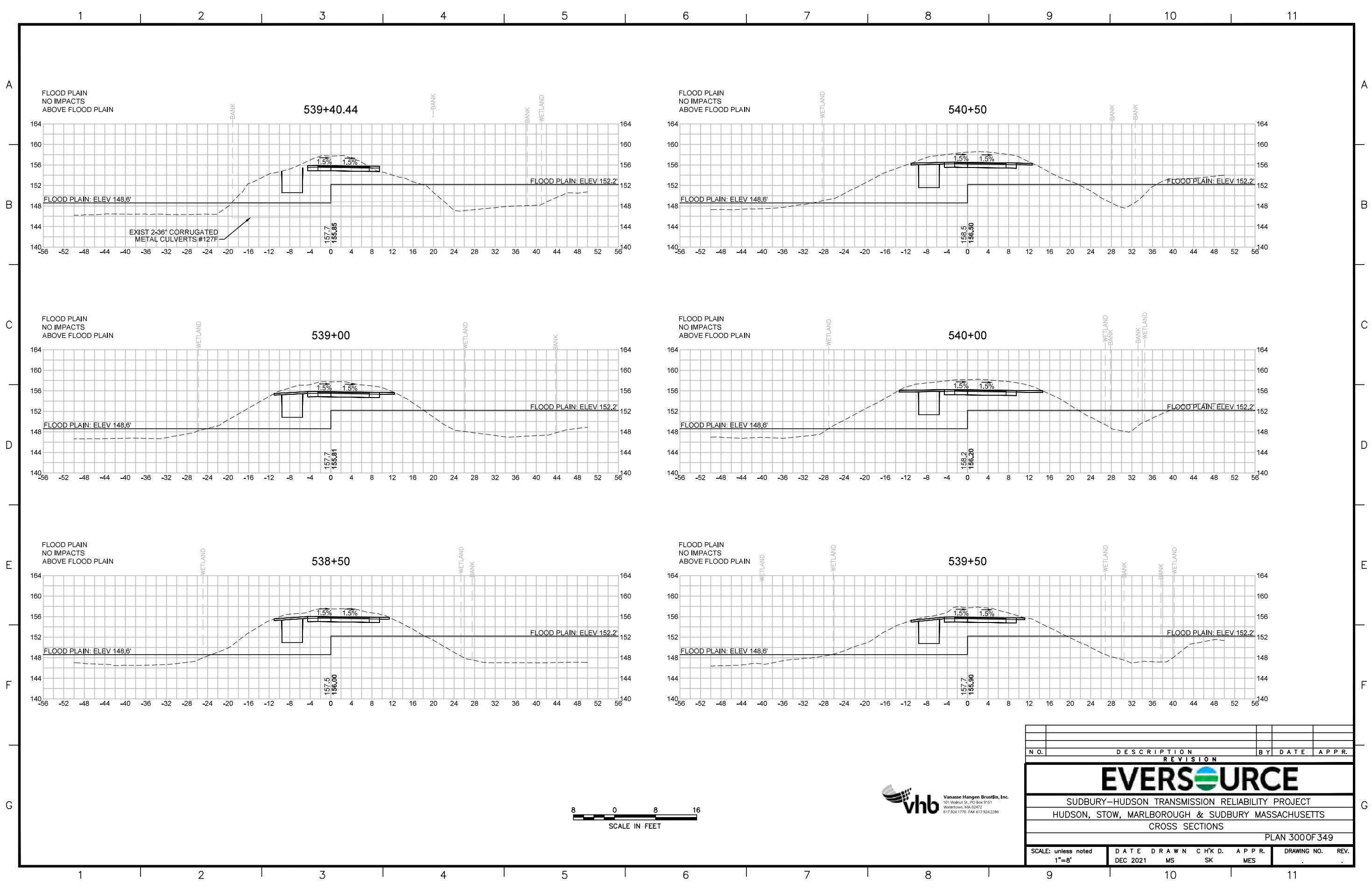


| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 298 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |

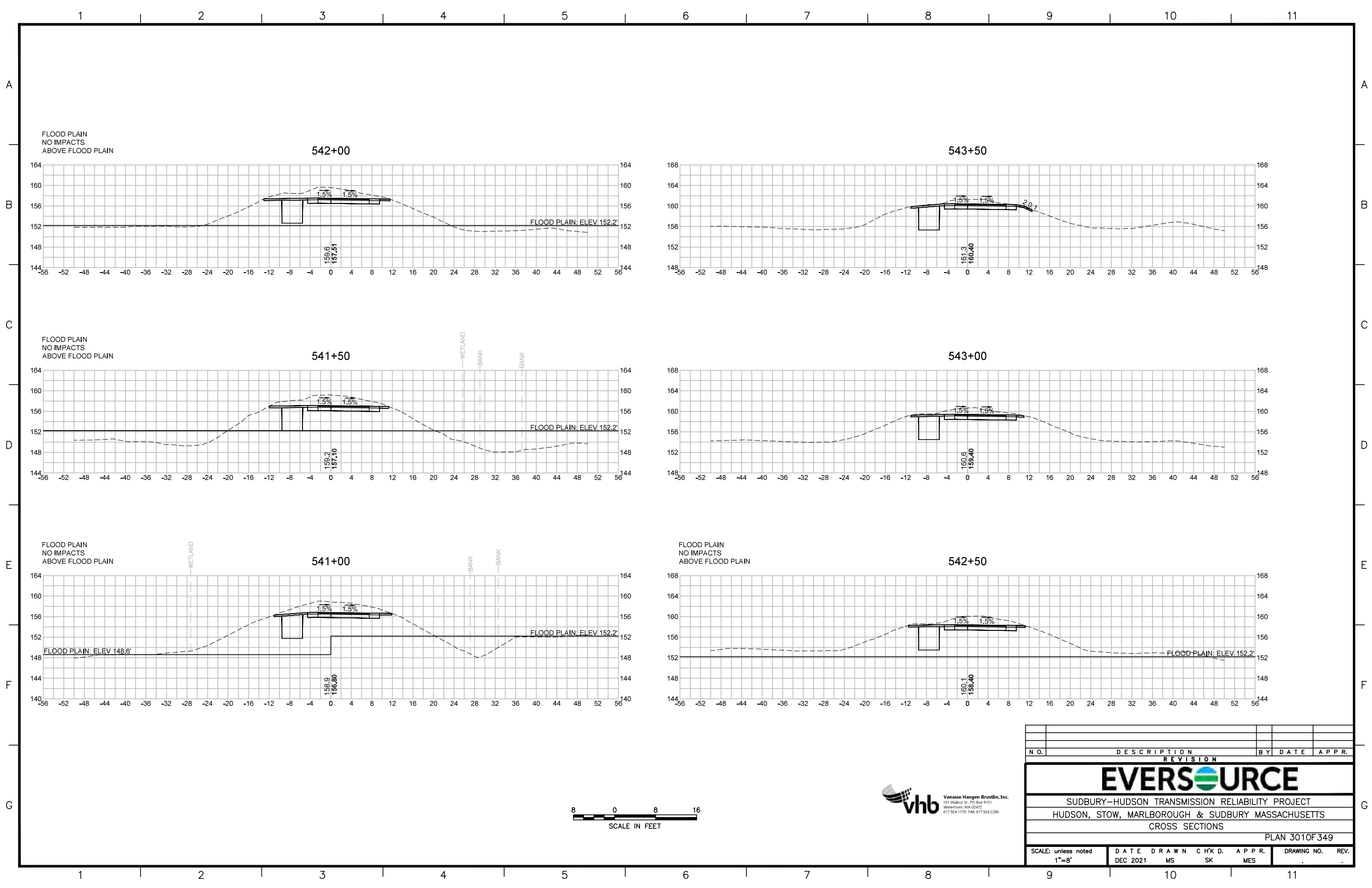


| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 299 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |

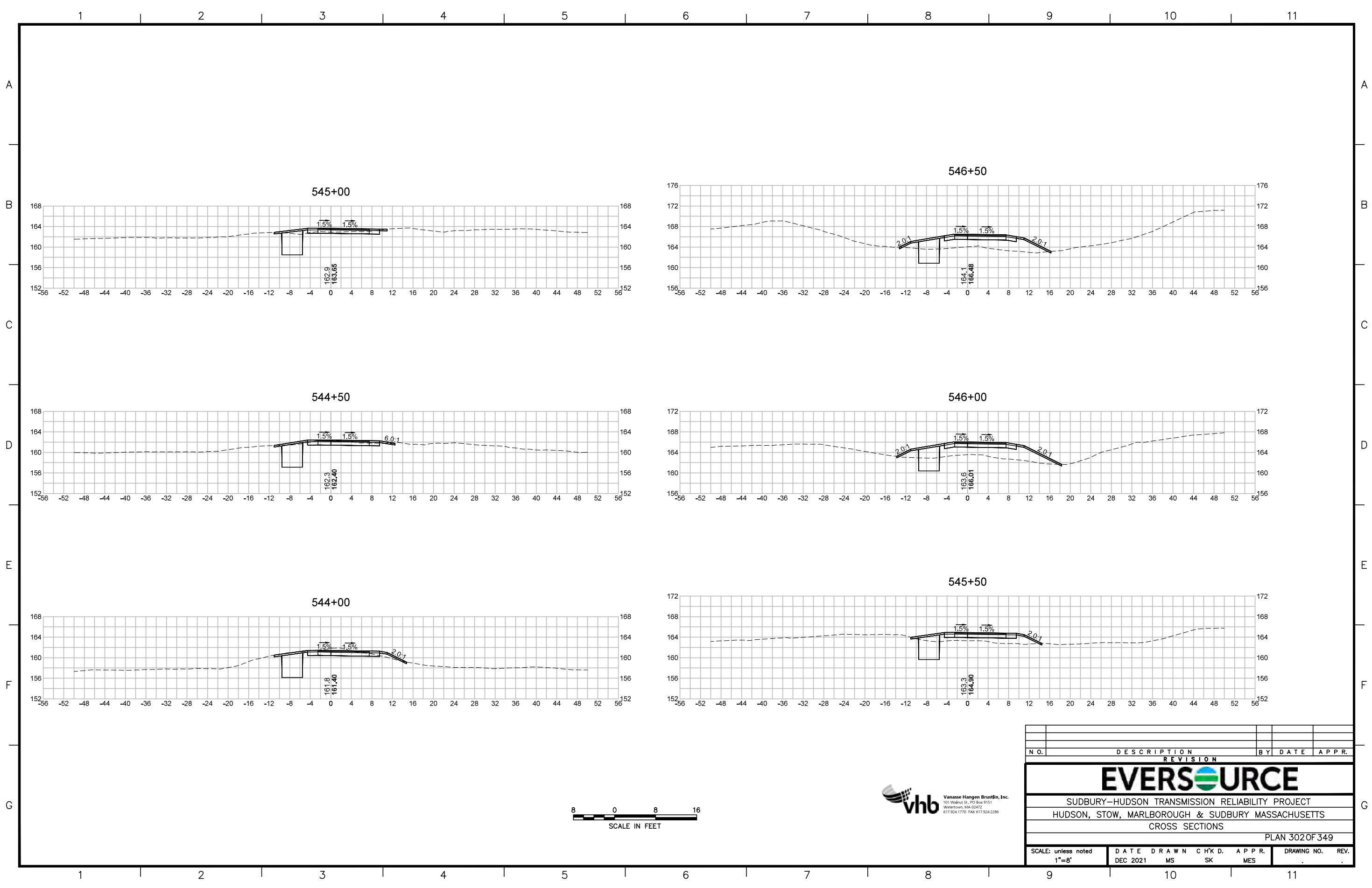




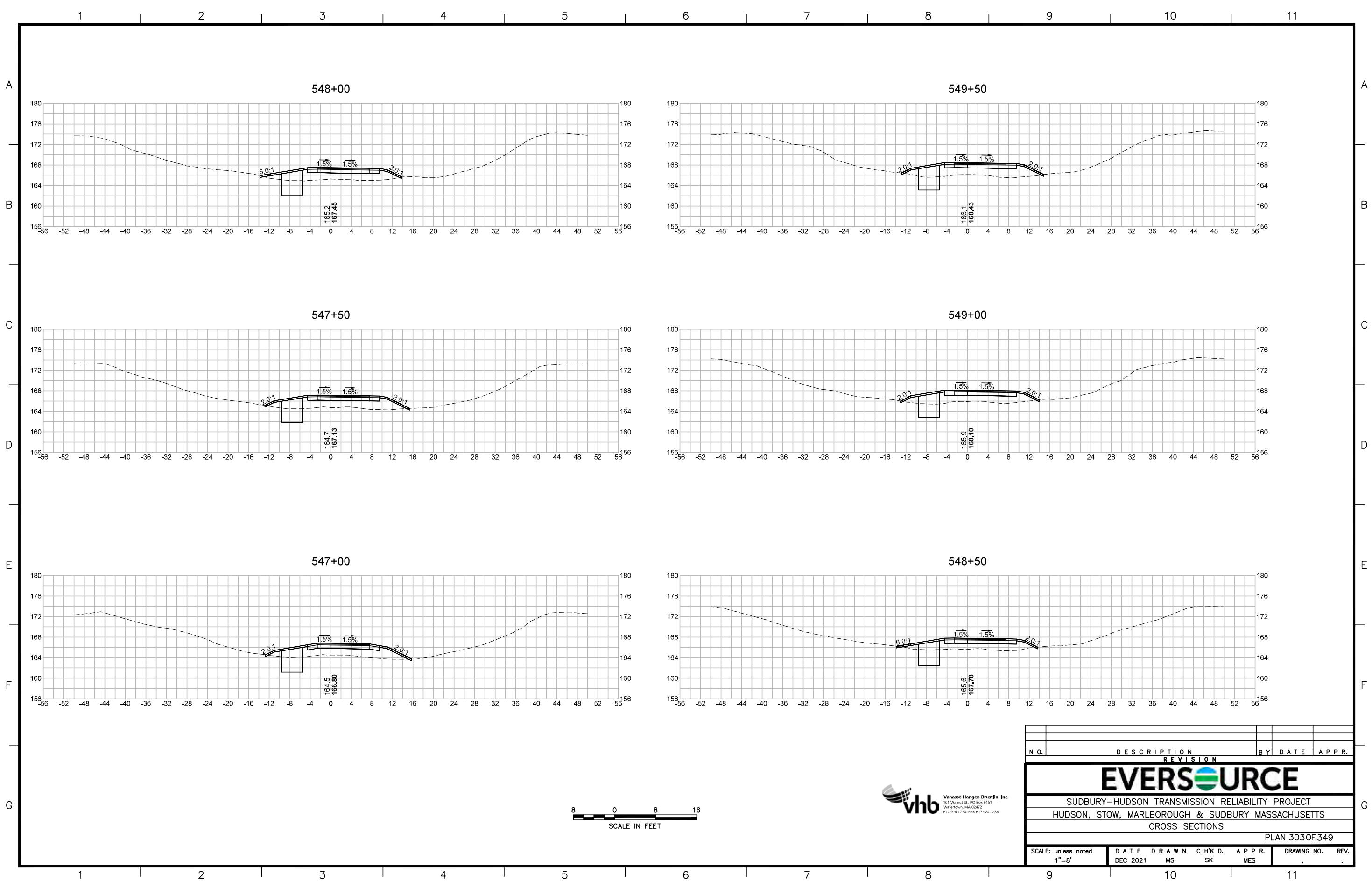
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|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 3000F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



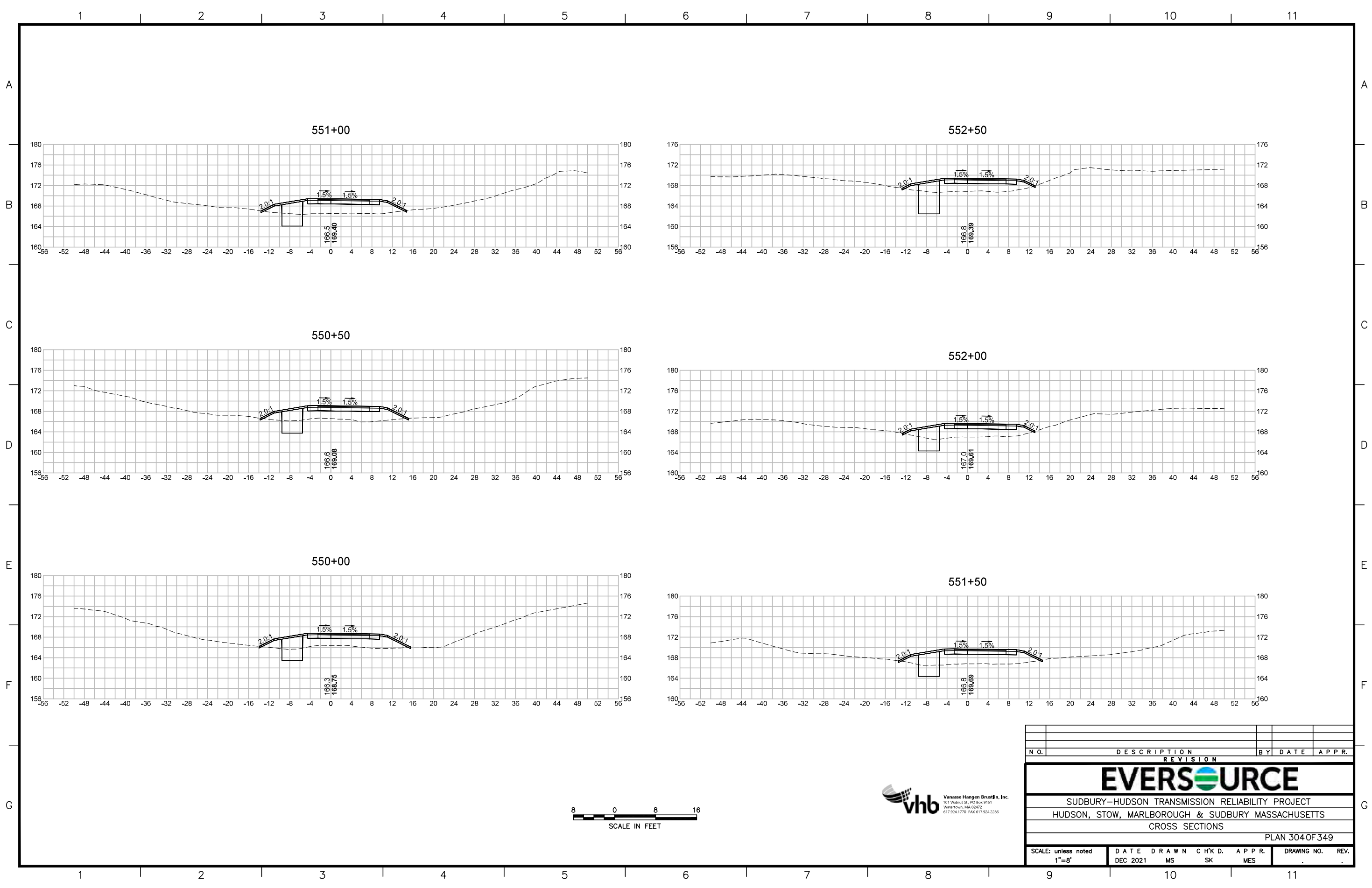
| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|-------------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 3010F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| | | | | DRAWING NO. 11 |



| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 302 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| | | | | DRAWING NO. |
| | | | | REV. |

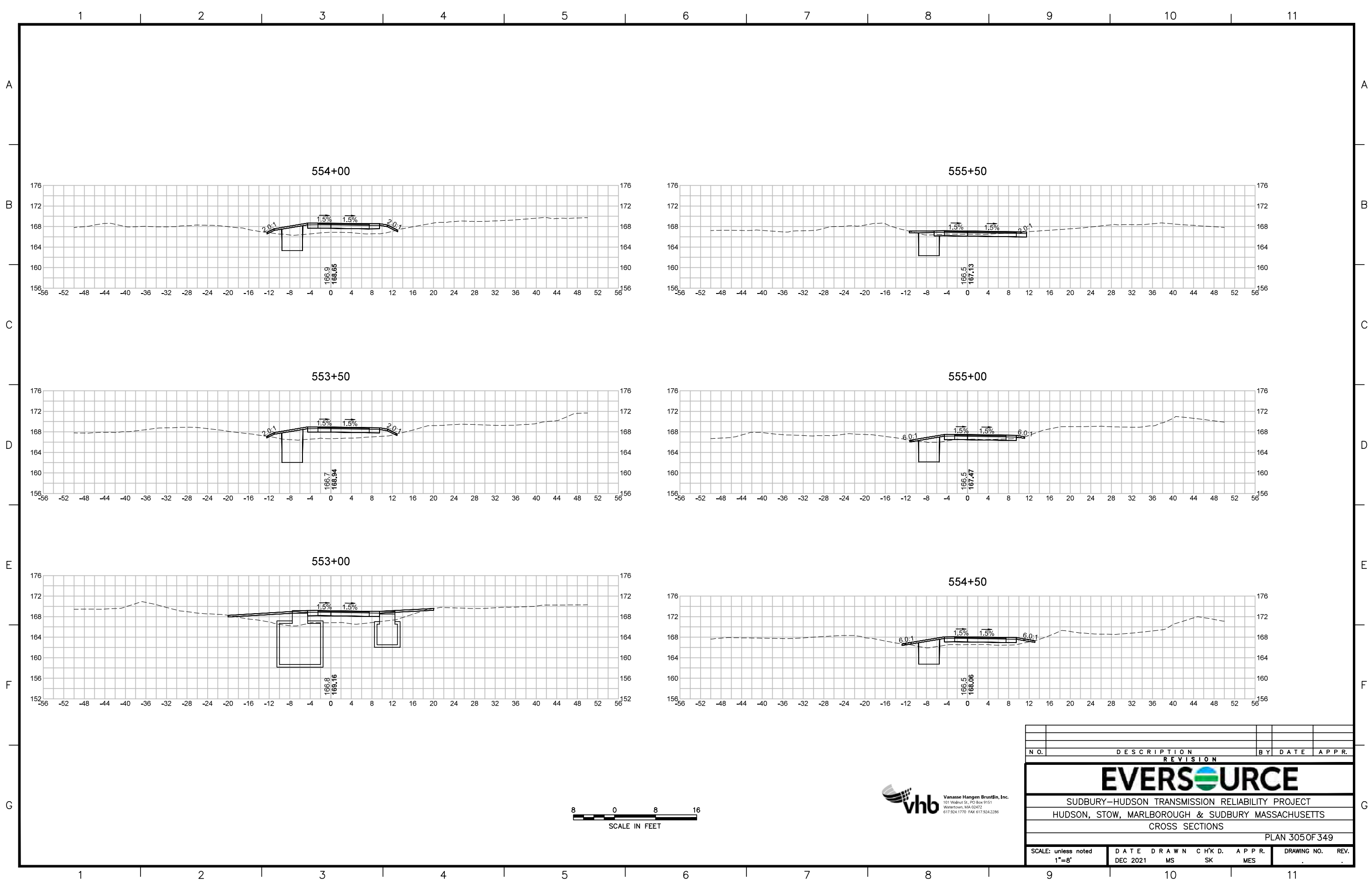


| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 303 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |

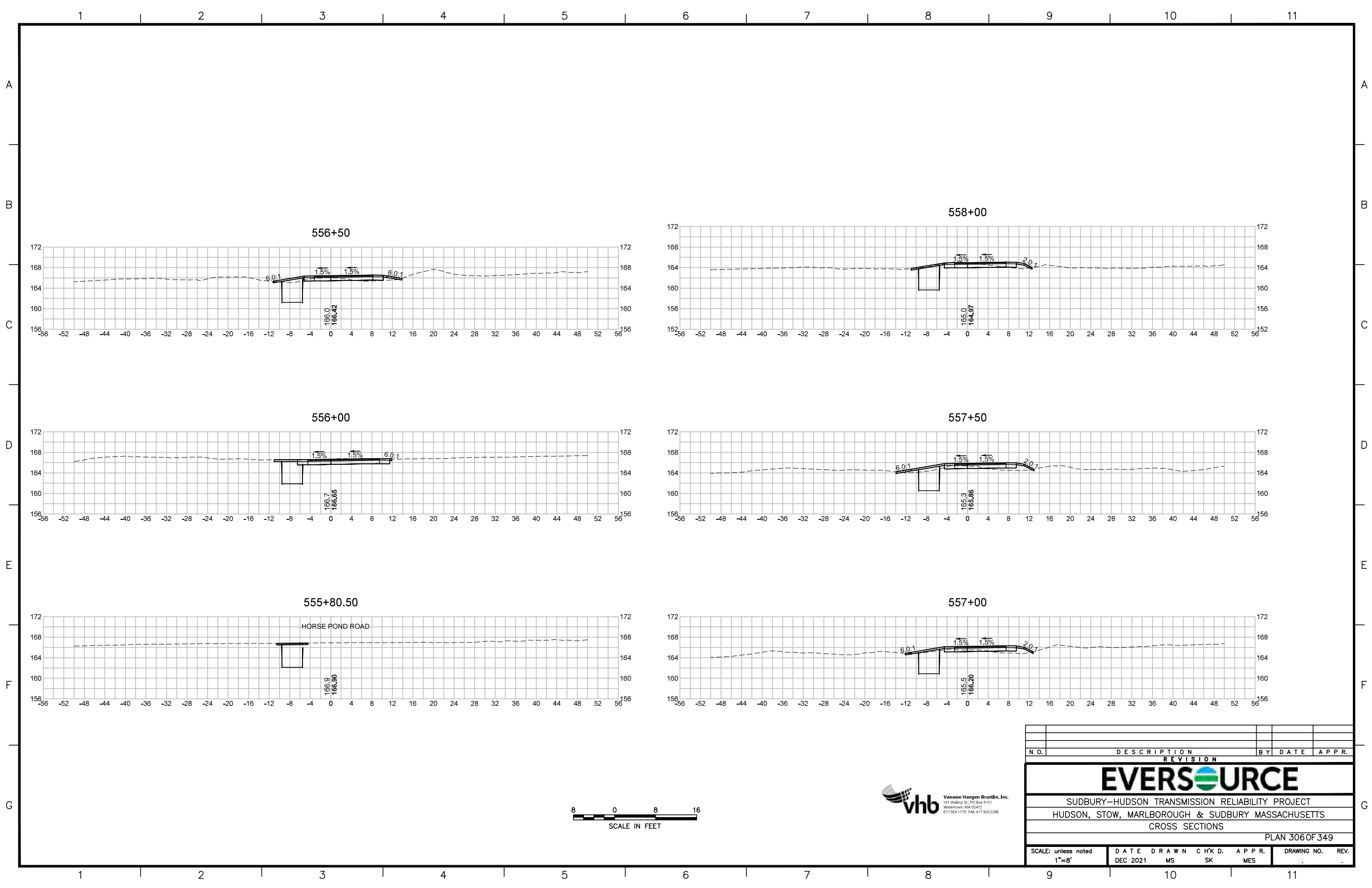


vhb
 Vanasse Hangen Brustlin, Inc.
 101 Walnut St., P.O. Box 9151
 Watertown, MA 02472
 617.924.1770 FAX 617.924.2386

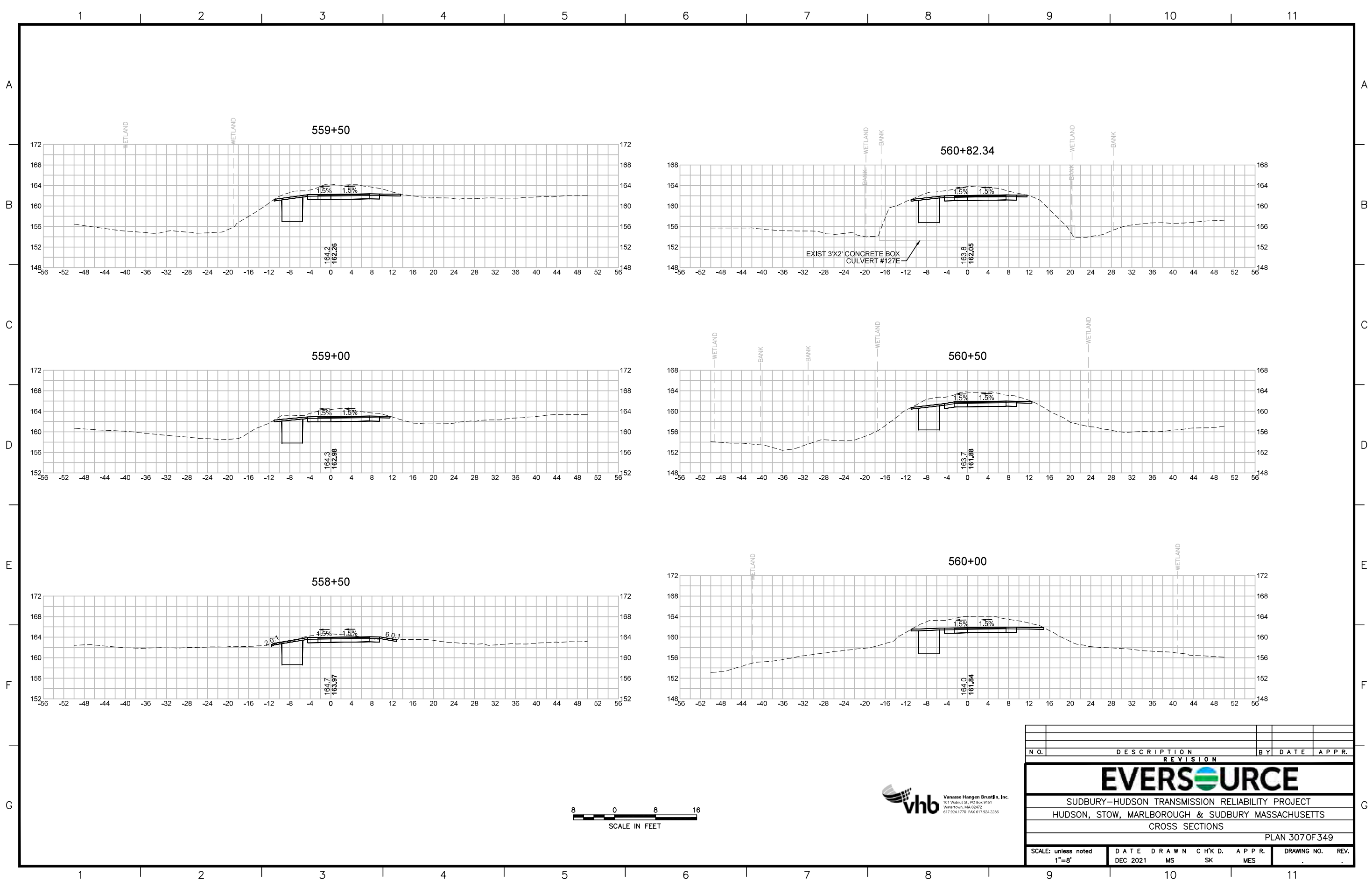
| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 304 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



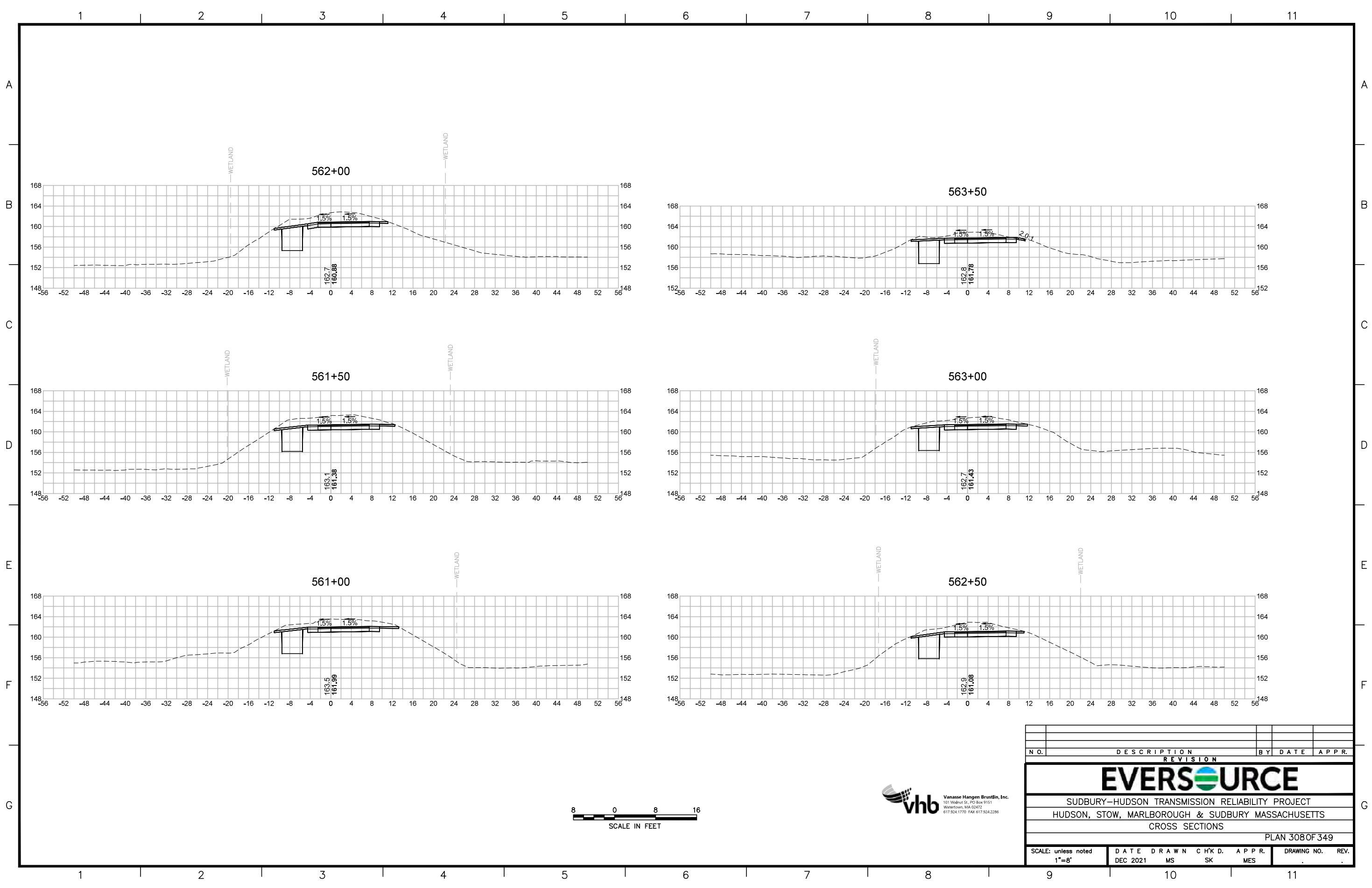
| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|-------------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 305 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| | | | | DRAWING NO. 11 |



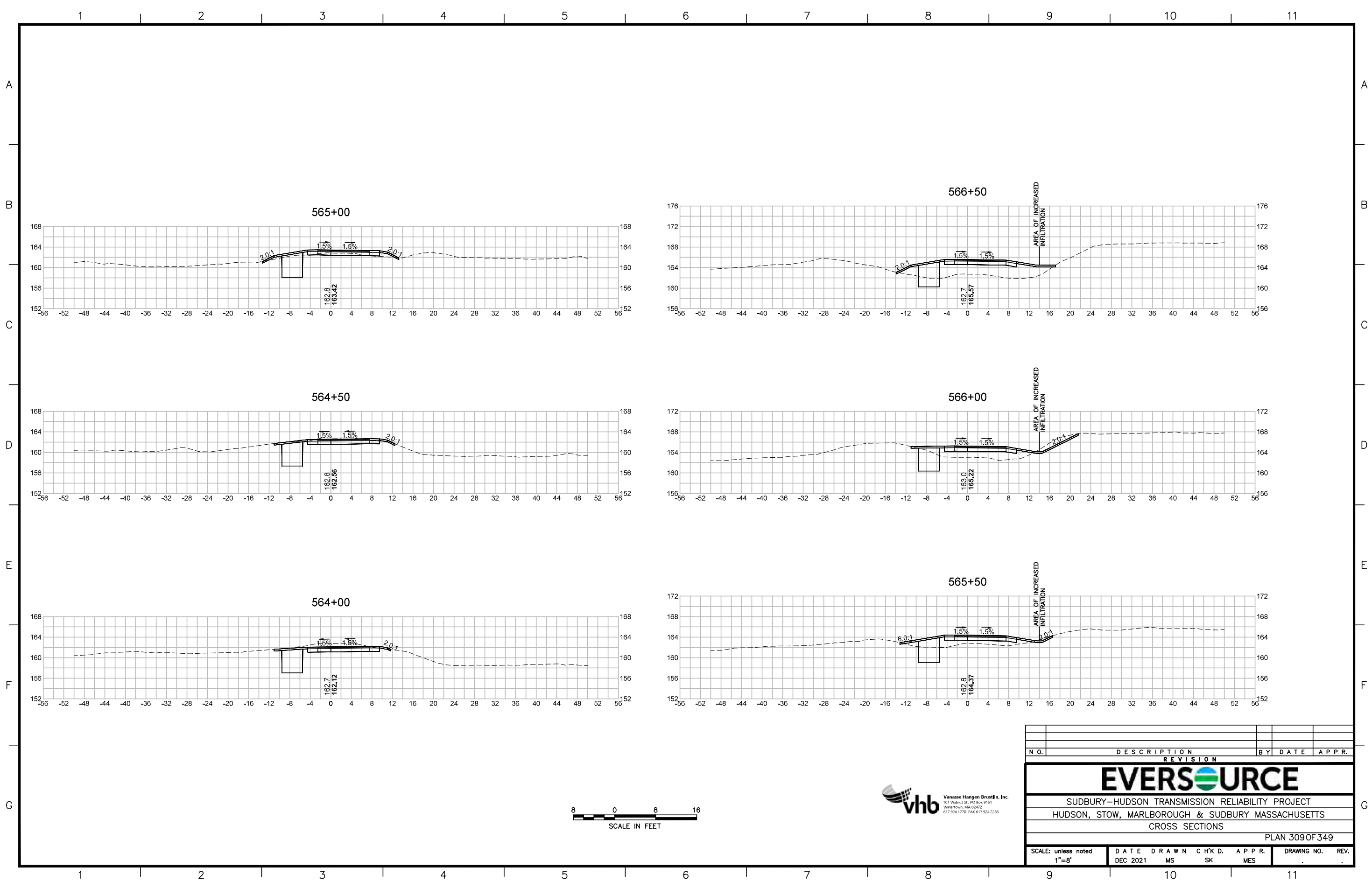
| NO. | | DESCRIPTION | | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|-------------|-------|
| REVISION | | | | | | |
| EVERSOURCE | | | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | |
| CROSS SECTIONS | | | | | | |
| PLAN 306 OF 349 | | | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES | DRAWING NO. | REV. |
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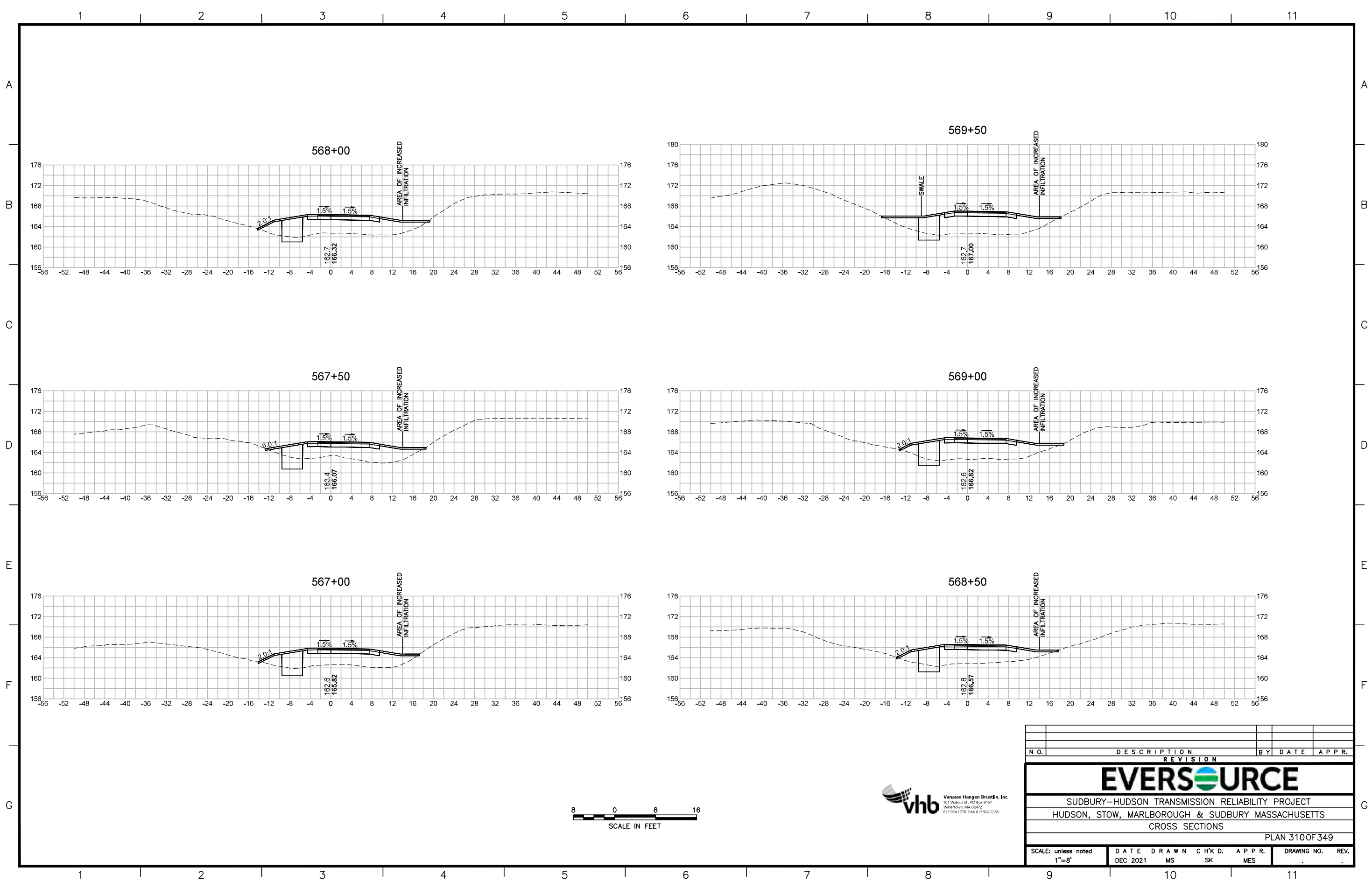
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|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 307 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



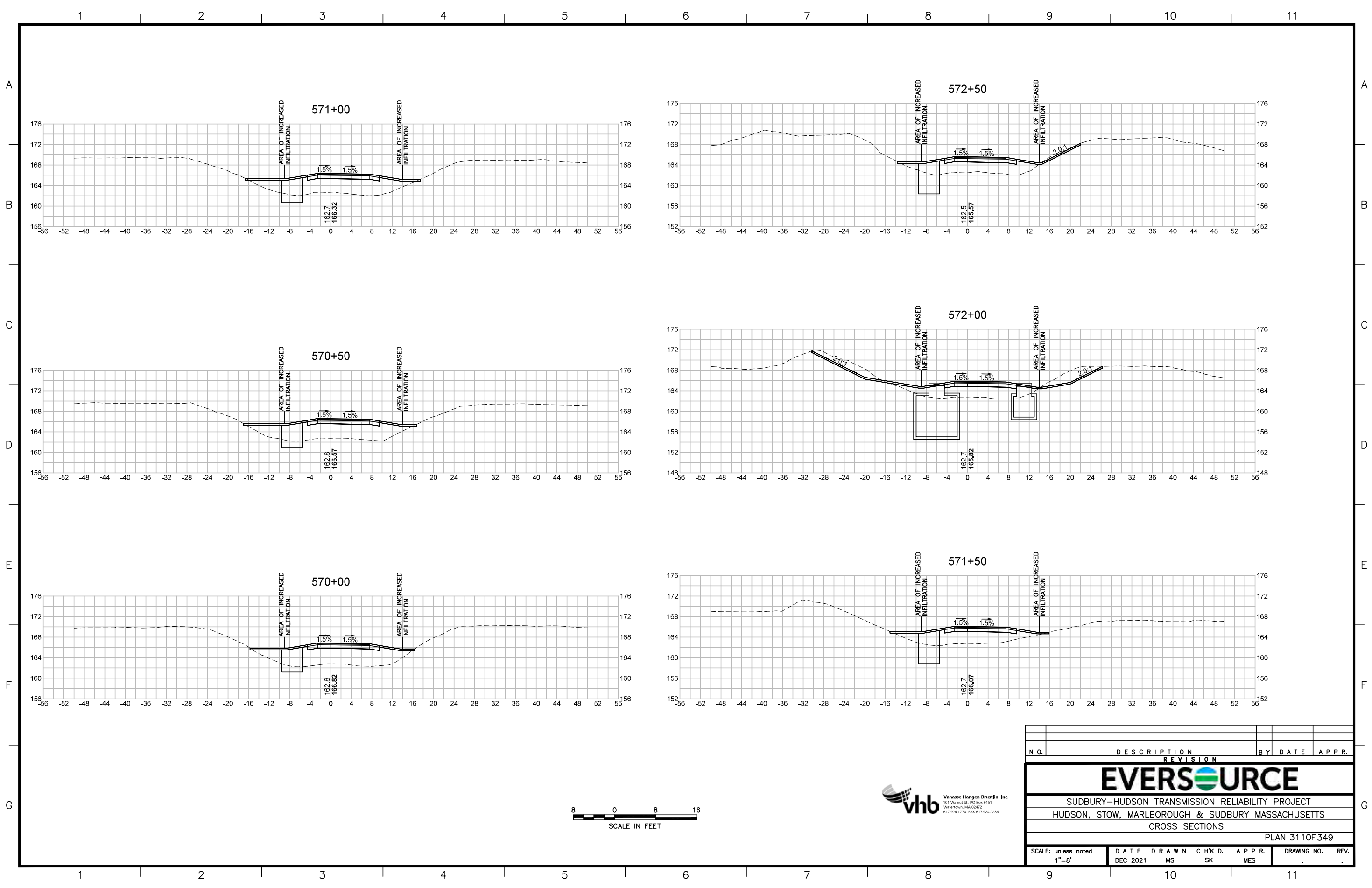
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|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 308 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



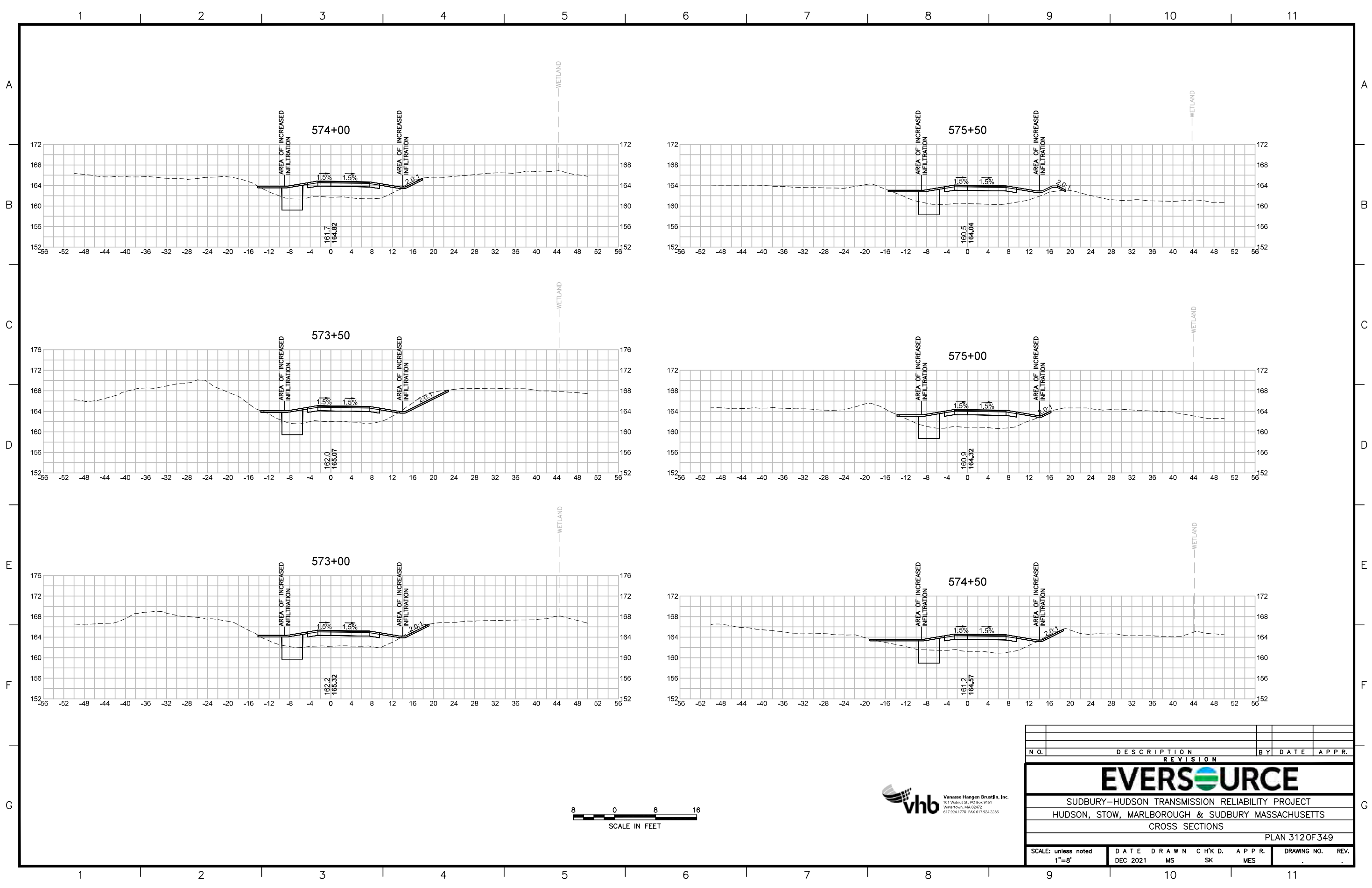
| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 309 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



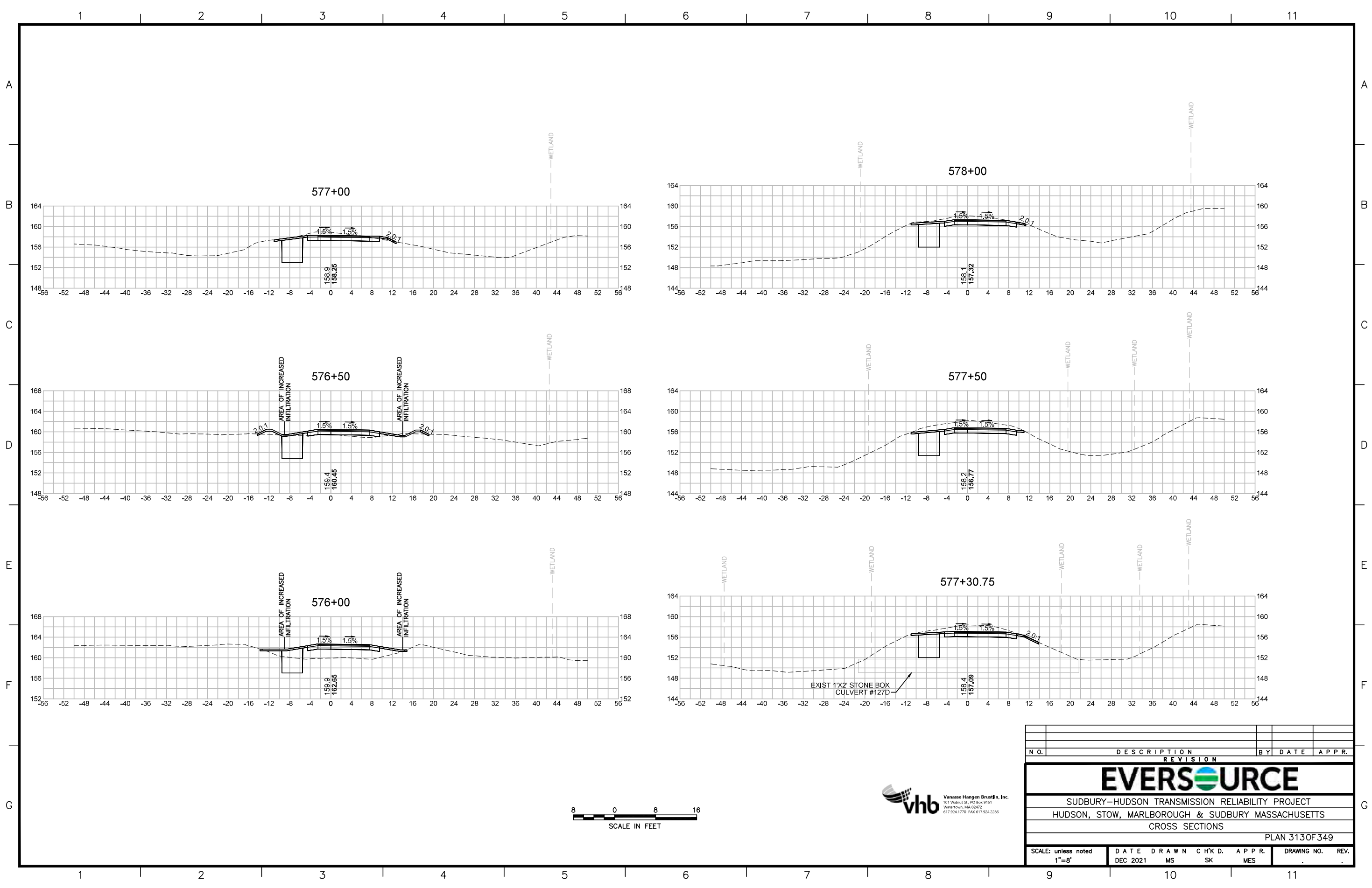
| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|-------------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 3100F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| | | | | DRAWING NO. 11 |



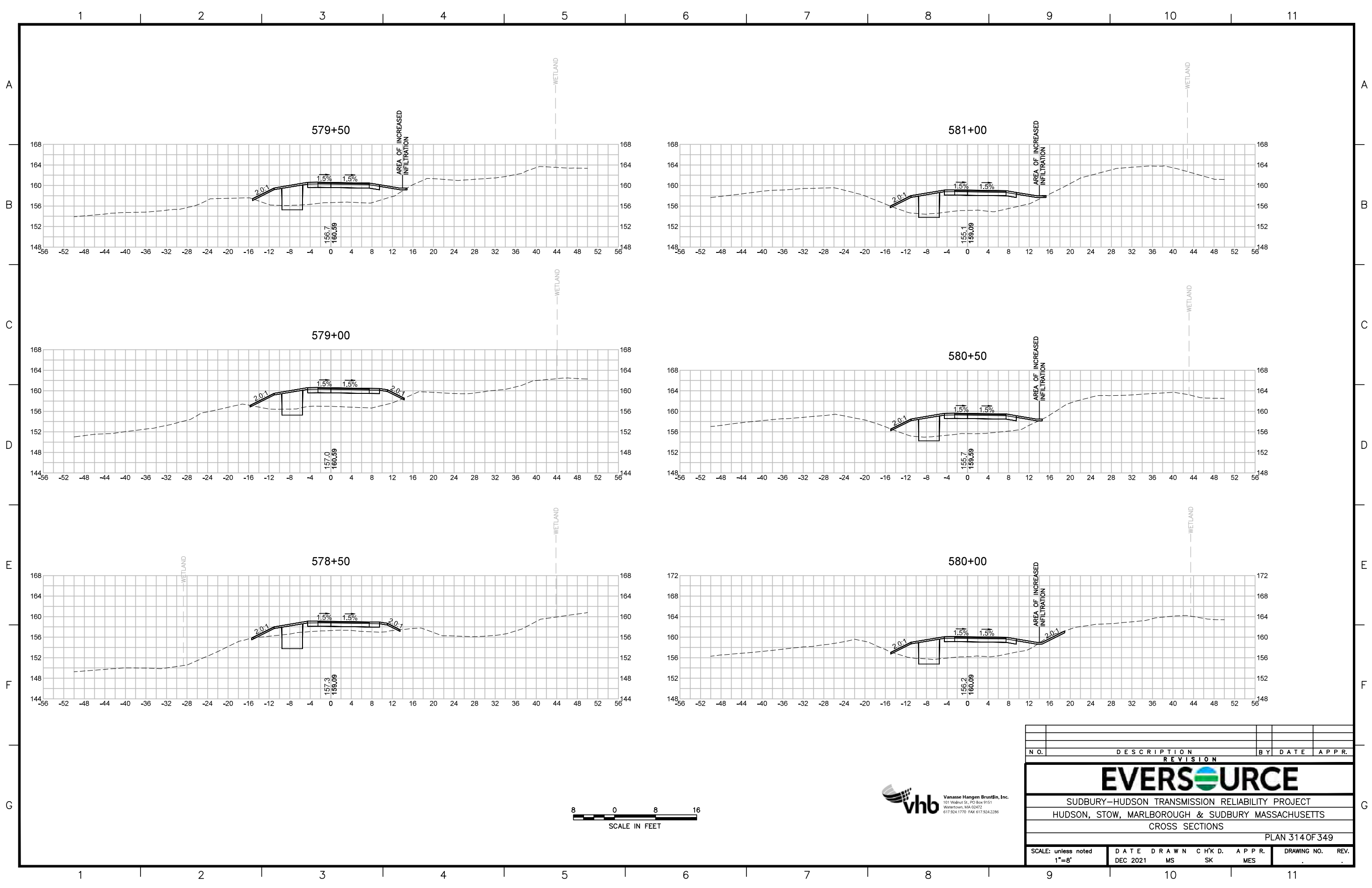
| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 3110F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



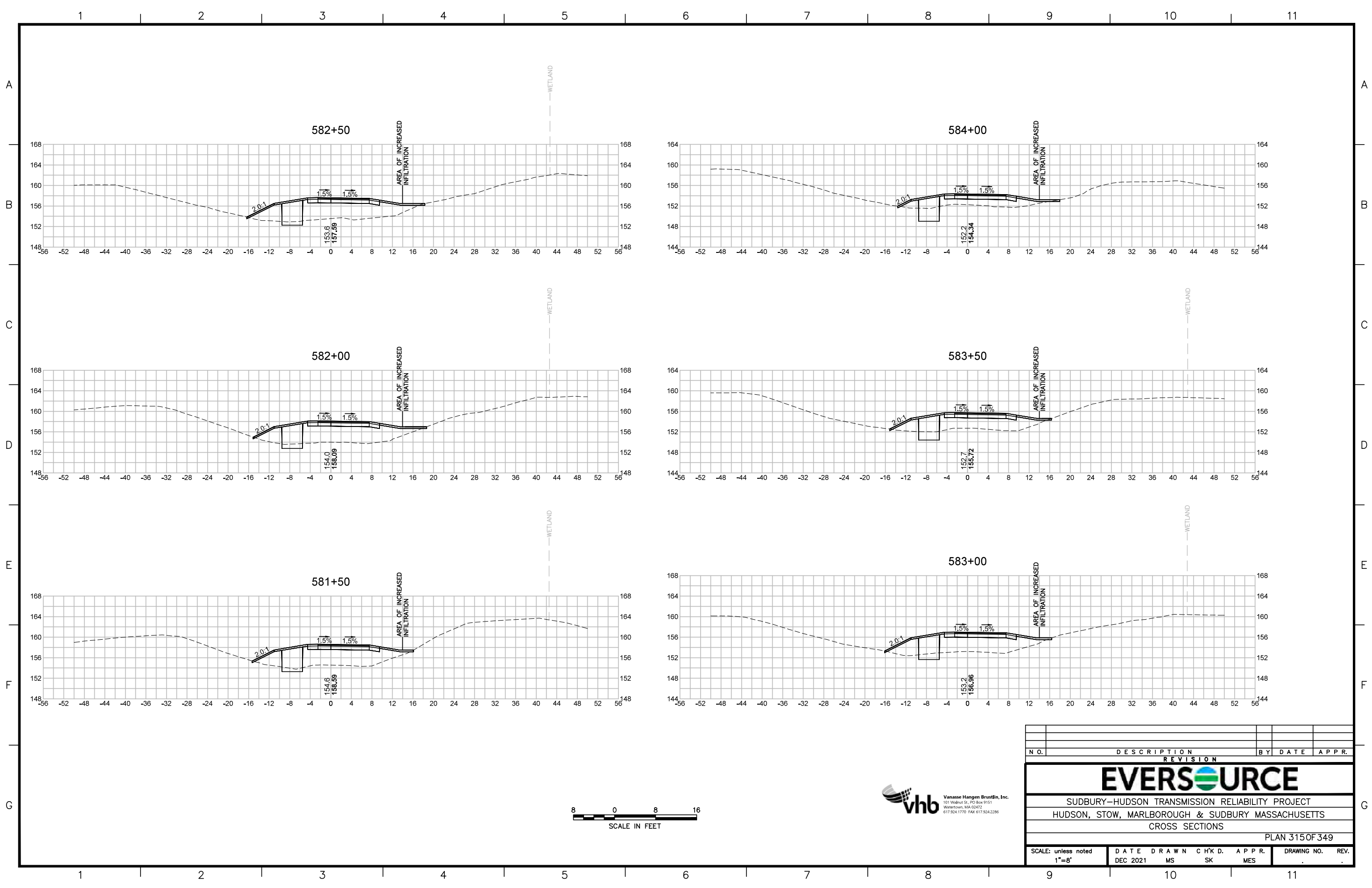
| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 3120F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



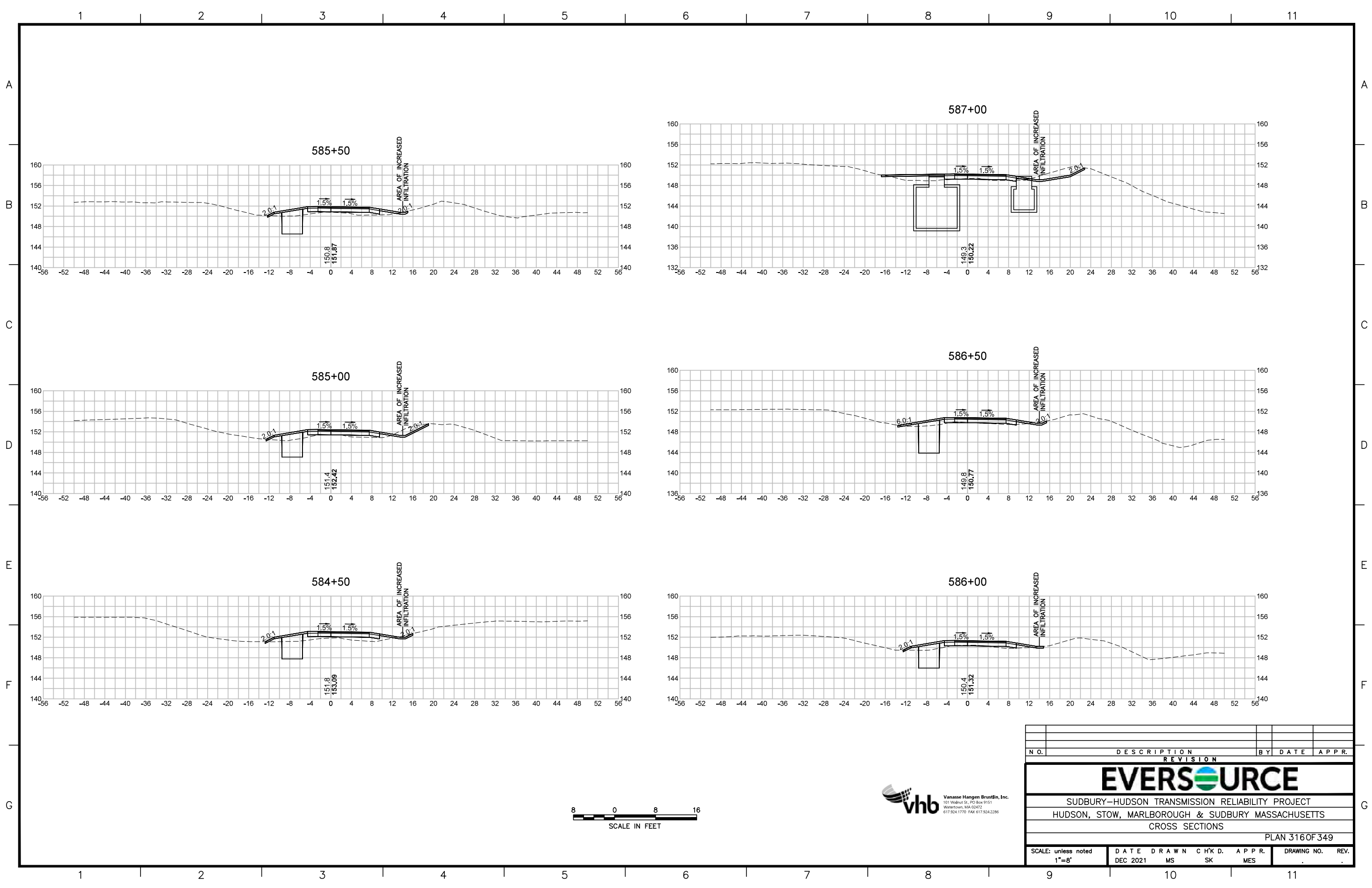
| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 3130F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



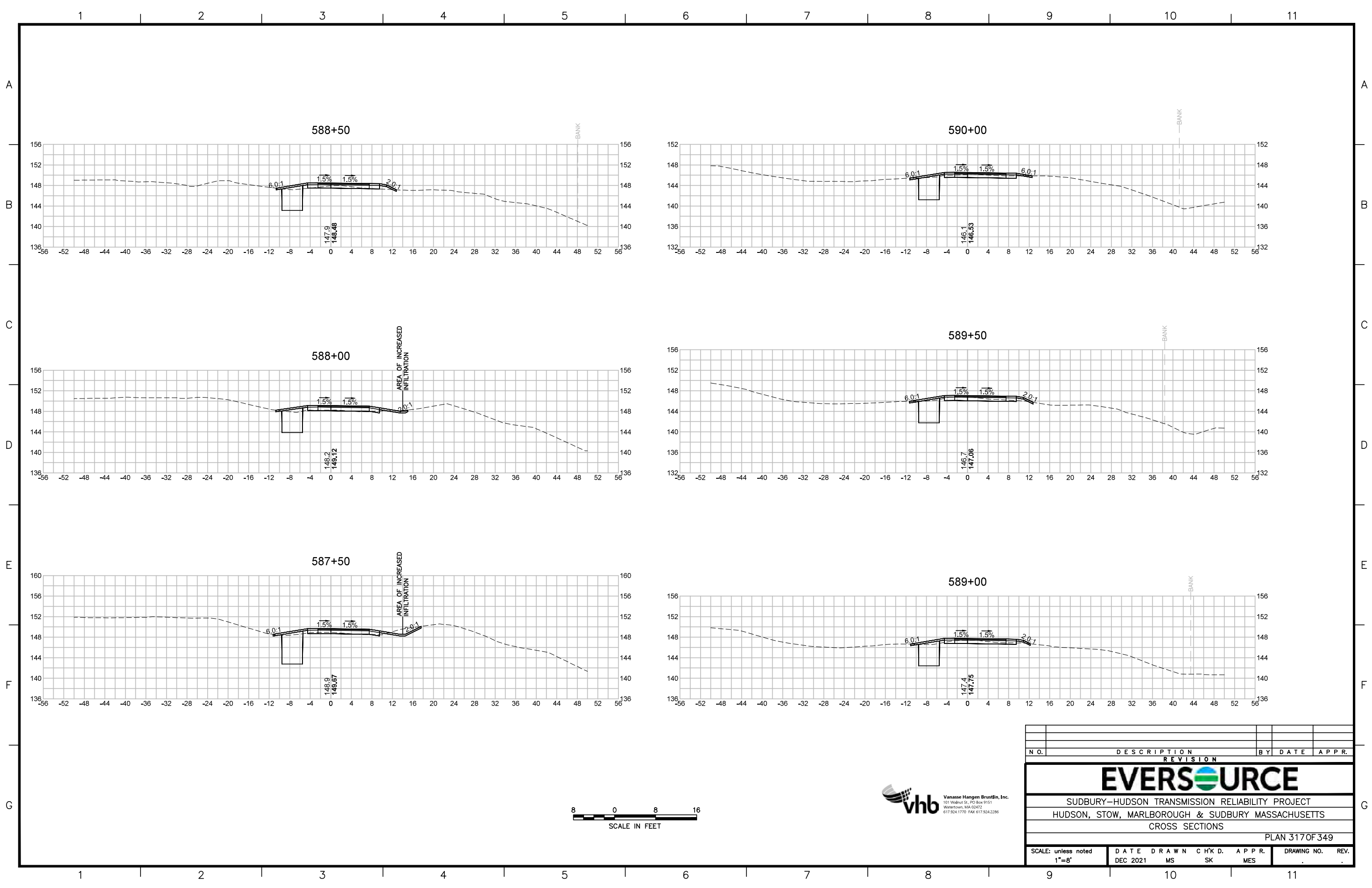
| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 314 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



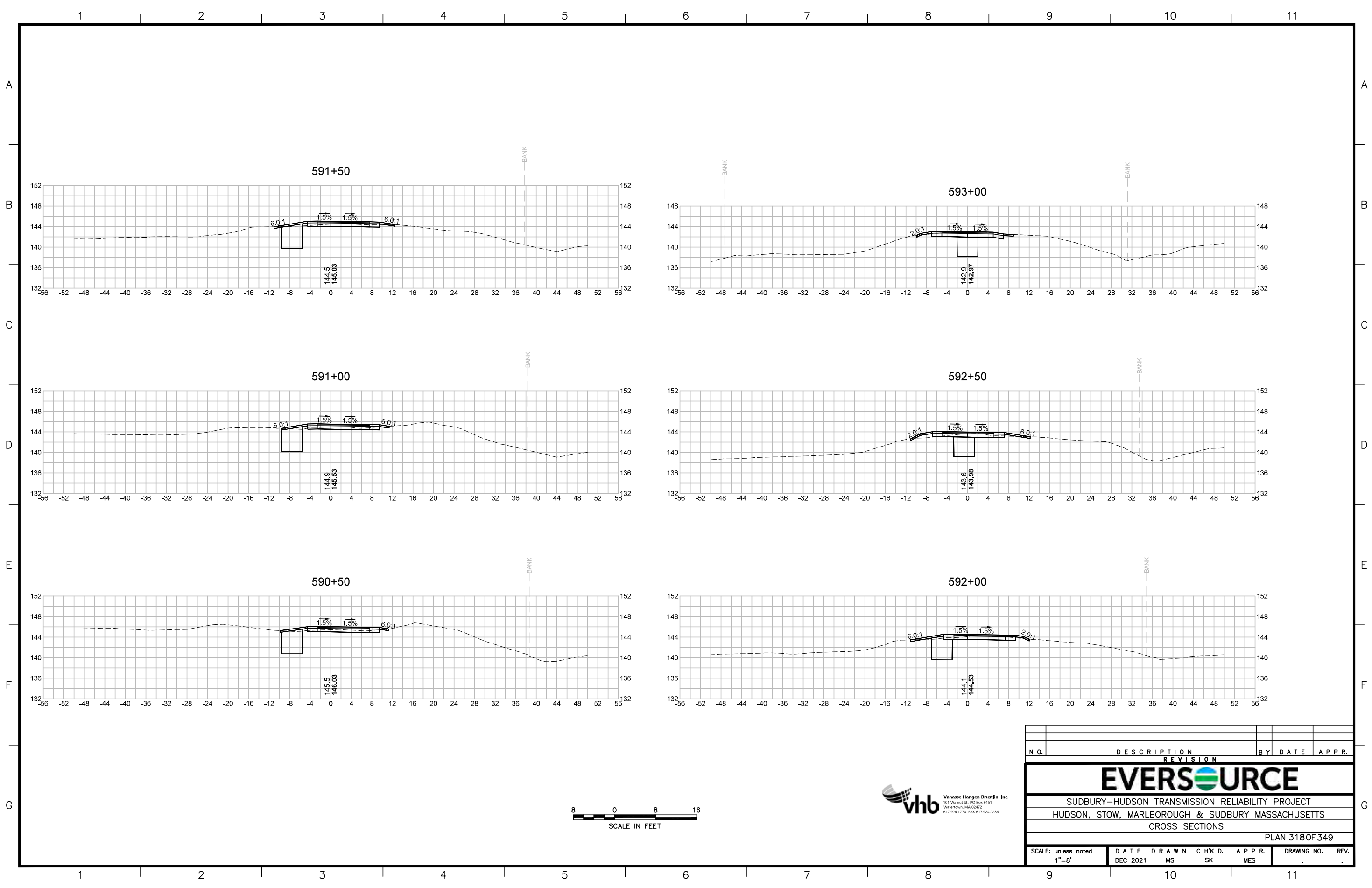
| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 3150F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | | | REV. |



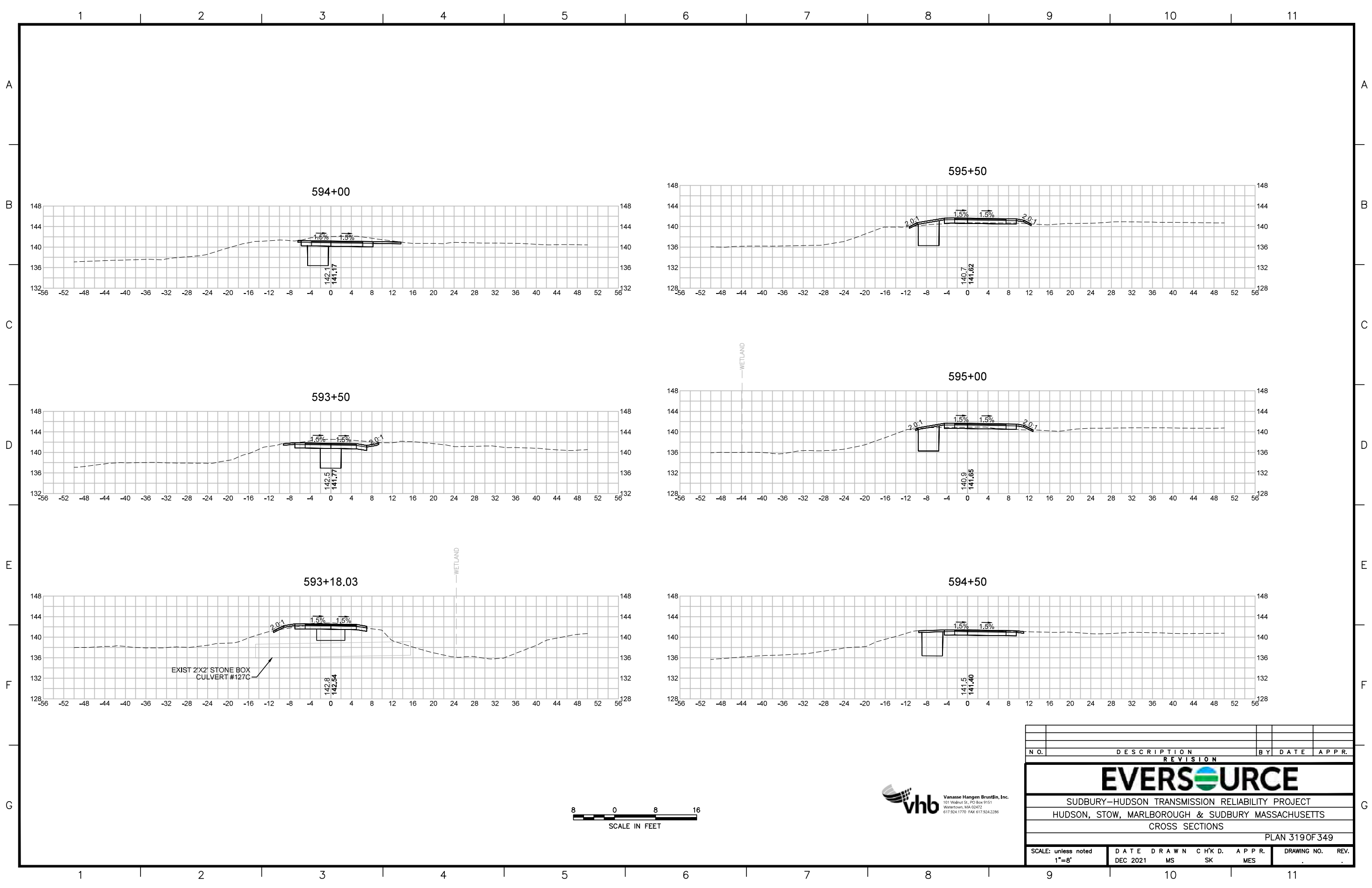
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|---|------------------|-------------|----------------|-------------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 3160F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| | | | | DRAWING NO. 11 |



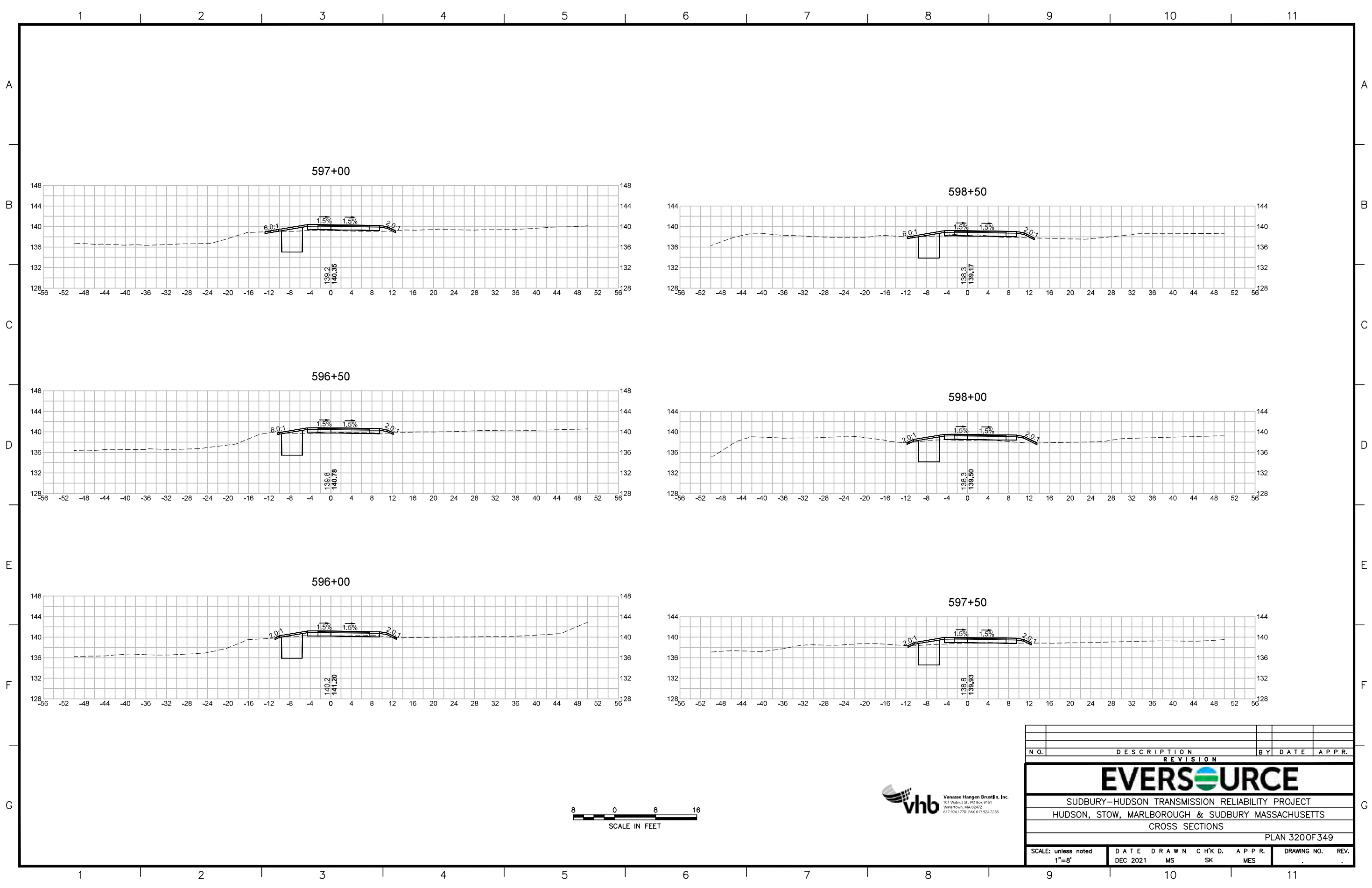
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|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 317 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



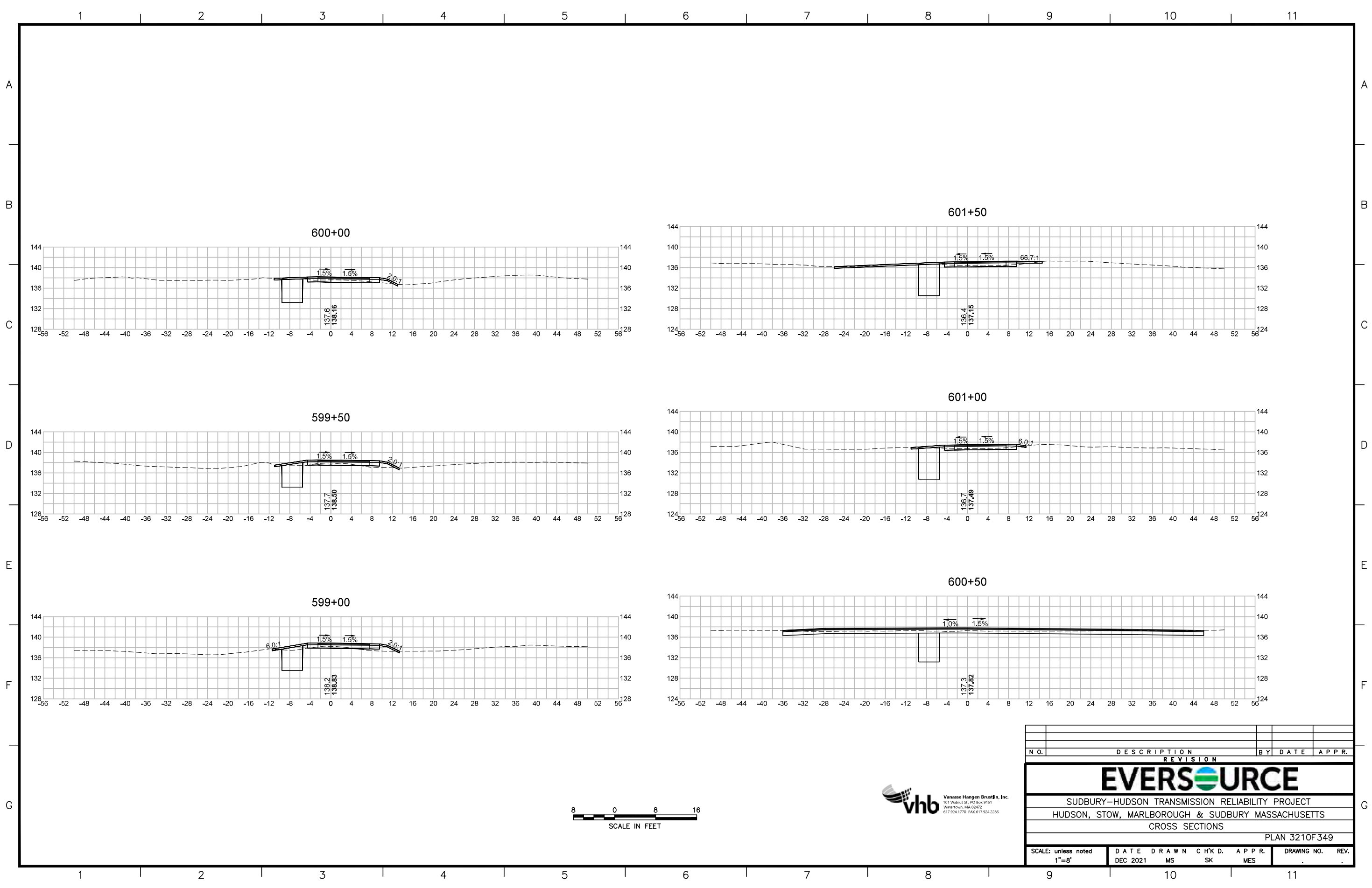
| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 3180F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



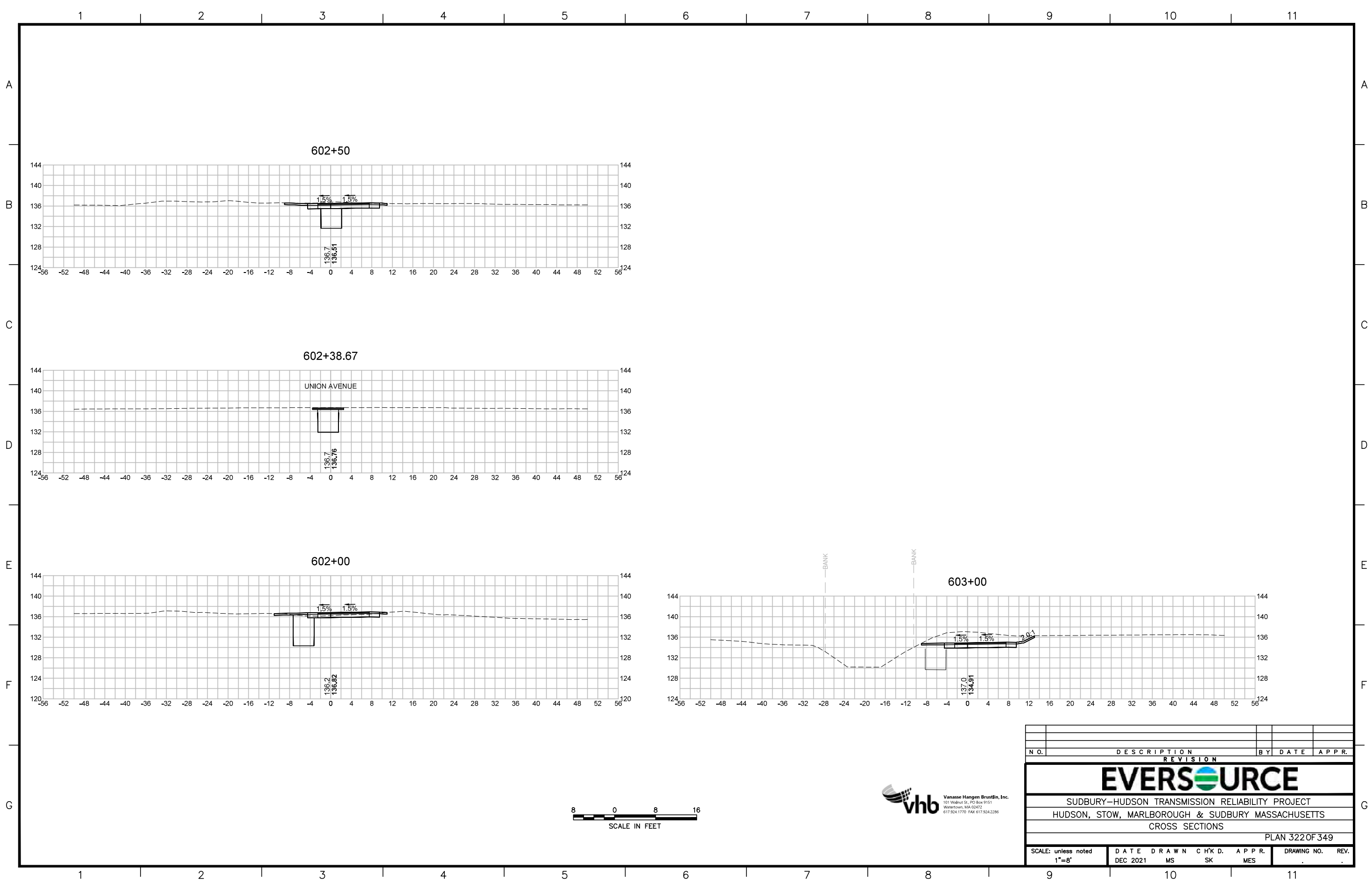
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| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 3190F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| | | | | DRAWING NO. |
| | | | | REV. |



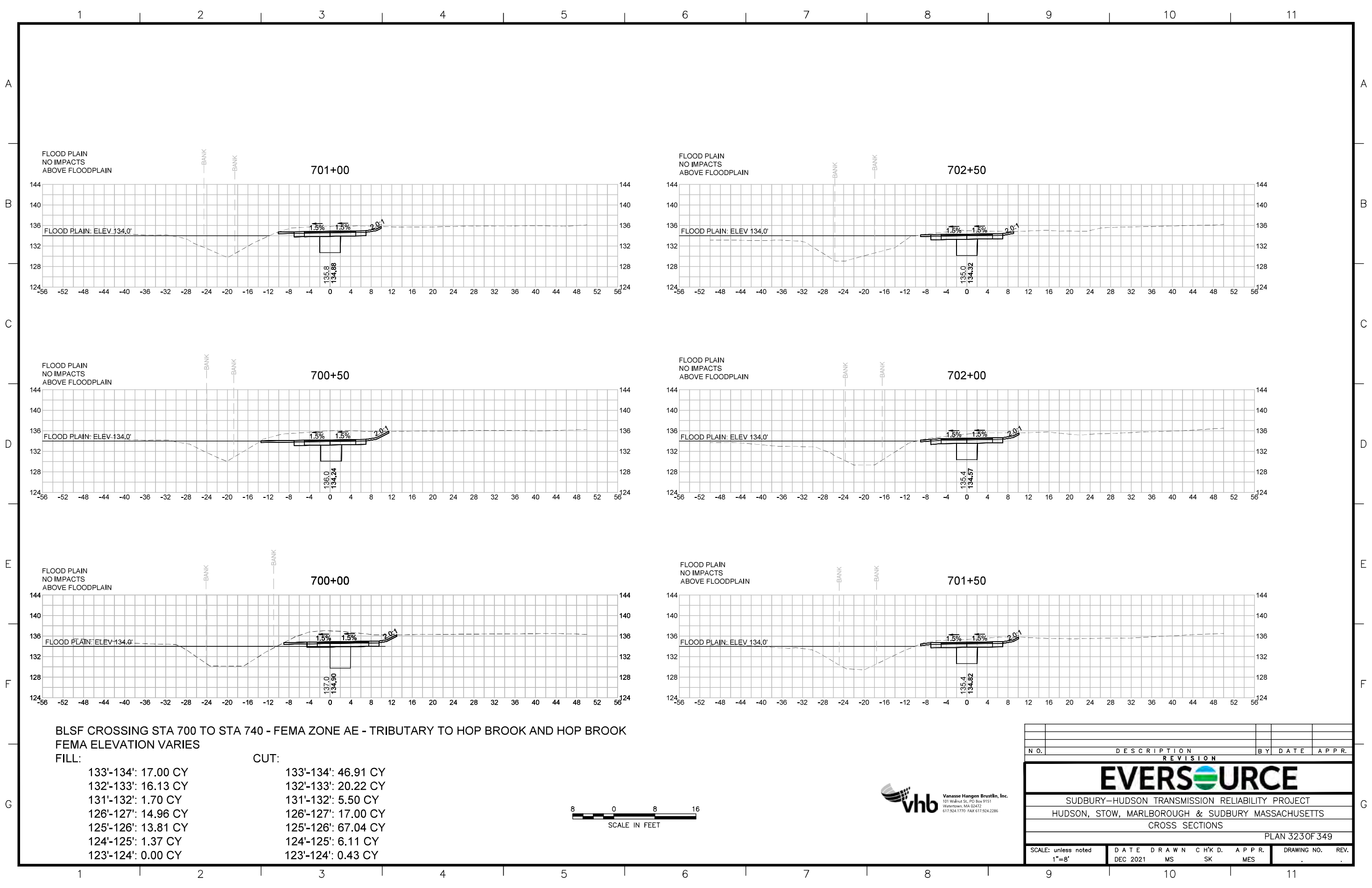
| N.O. | DESCRIPTION | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|
| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 3200F 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



| NO. | | DESCRIPTION | | BY | DATE | APPR. |
|---|------------------|-------------|----------------|--------------|-------------|-------|
| REVISION | | | | | | |
| EVERSOURCE | | | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | |
| CROSS SECTIONS | | | | | | |
| PLAN 3210F 349 | | | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES | DRAWING NO. | REV. |
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| N.O. | DESCRIPTION | BY | DATE | APPR. |
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| REVISION | | | | |
| EVERSOURCE | | | | |
| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 322 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | APPR. MES |
| DRAWING NO. | | REV. | | |



BLSF CROSSING STA 700 TO STA 740 - FEMA ZONE AE - TRIBUTARY TO HOP BROOK AND HOP BROOK
 FEMA ELEVATION VARIES

| | |
|---------------------|---------------------|
| FILL: | CUT: |
| 133'-134': 17.00 CY | 133'-134': 46.91 CY |
| 132'-133': 16.13 CY | 132'-133': 20.22 CY |
| 131'-132': 1.70 CY | 131'-132': 5.50 CY |
| 126'-127': 14.96 CY | 126'-127': 17.00 CY |
| 125'-126': 13.81 CY | 125'-126': 67.04 CY |
| 124'-125': 1.37 CY | 124'-125': 6.11 CY |
| 123'-124': 0.00 CY | 123'-124': 0.43 CY |

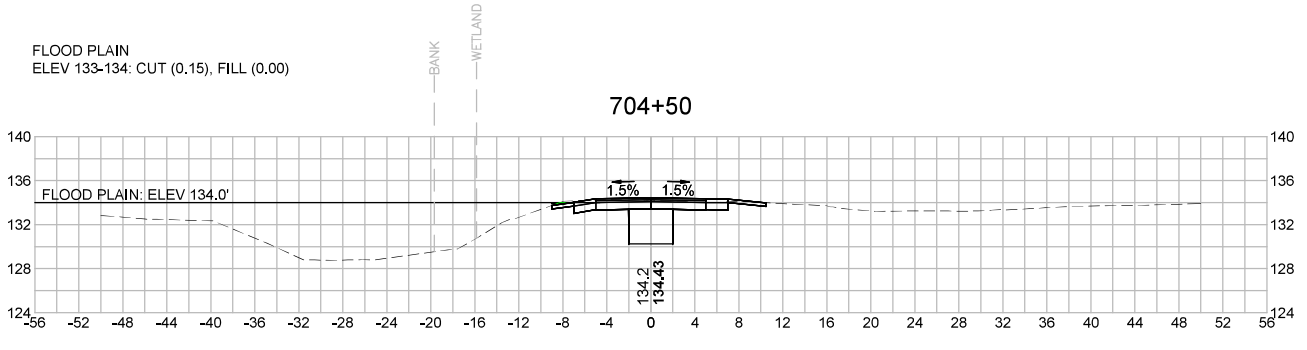
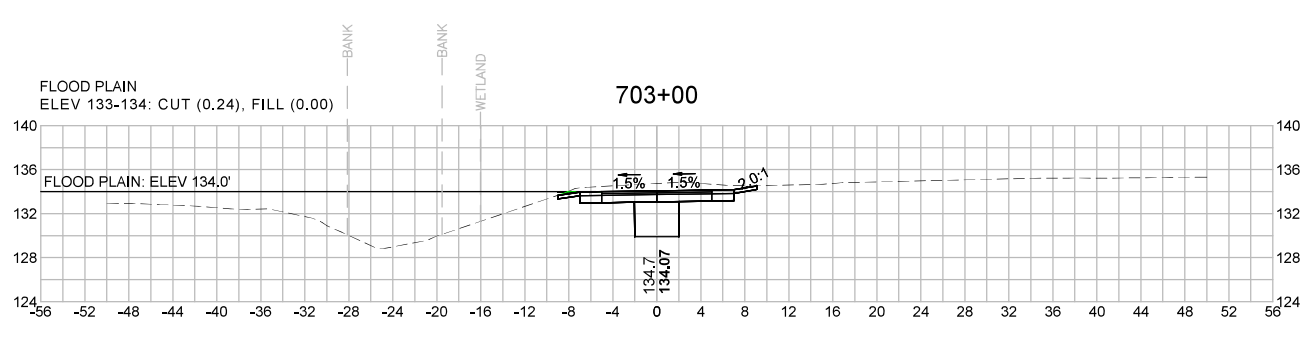
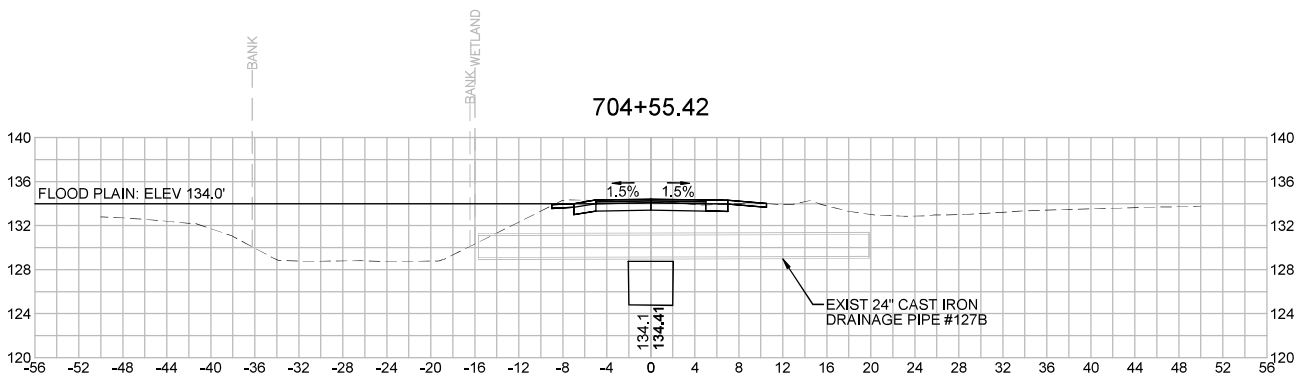
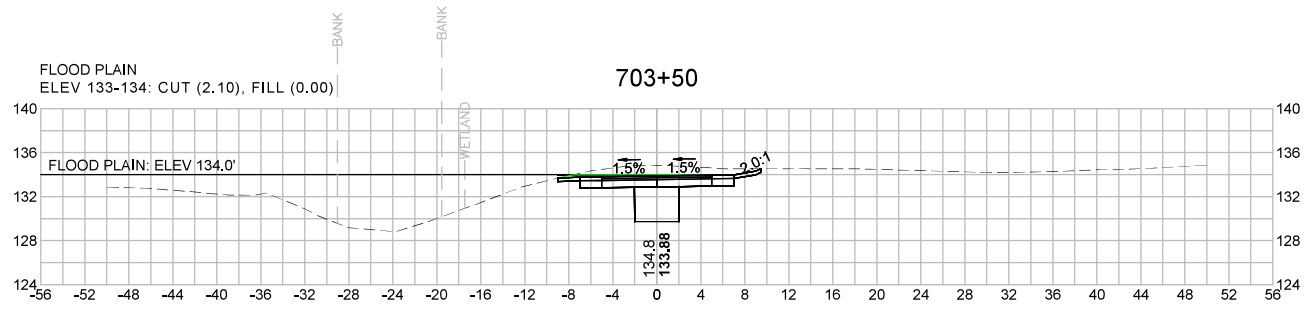
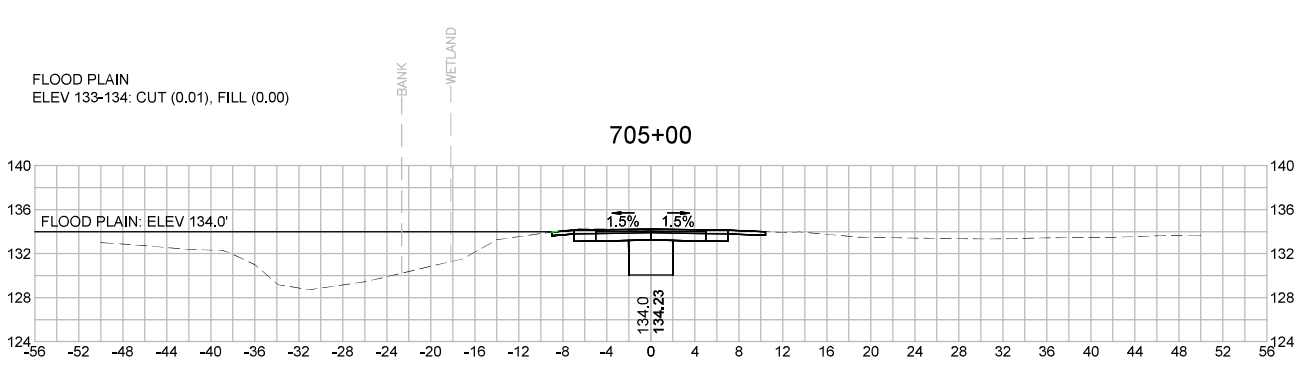
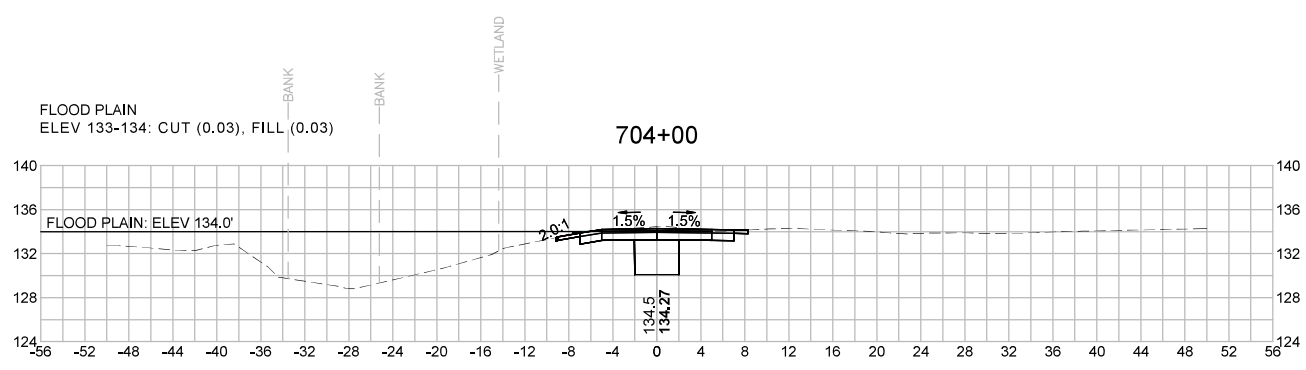


| N.O. | DESCRIPTION | BY | DATE | APPR. |
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 3230F349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | CHECKED SK | APPROVED MES |
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1 2 3 4 5 6 7 8 9 10 11

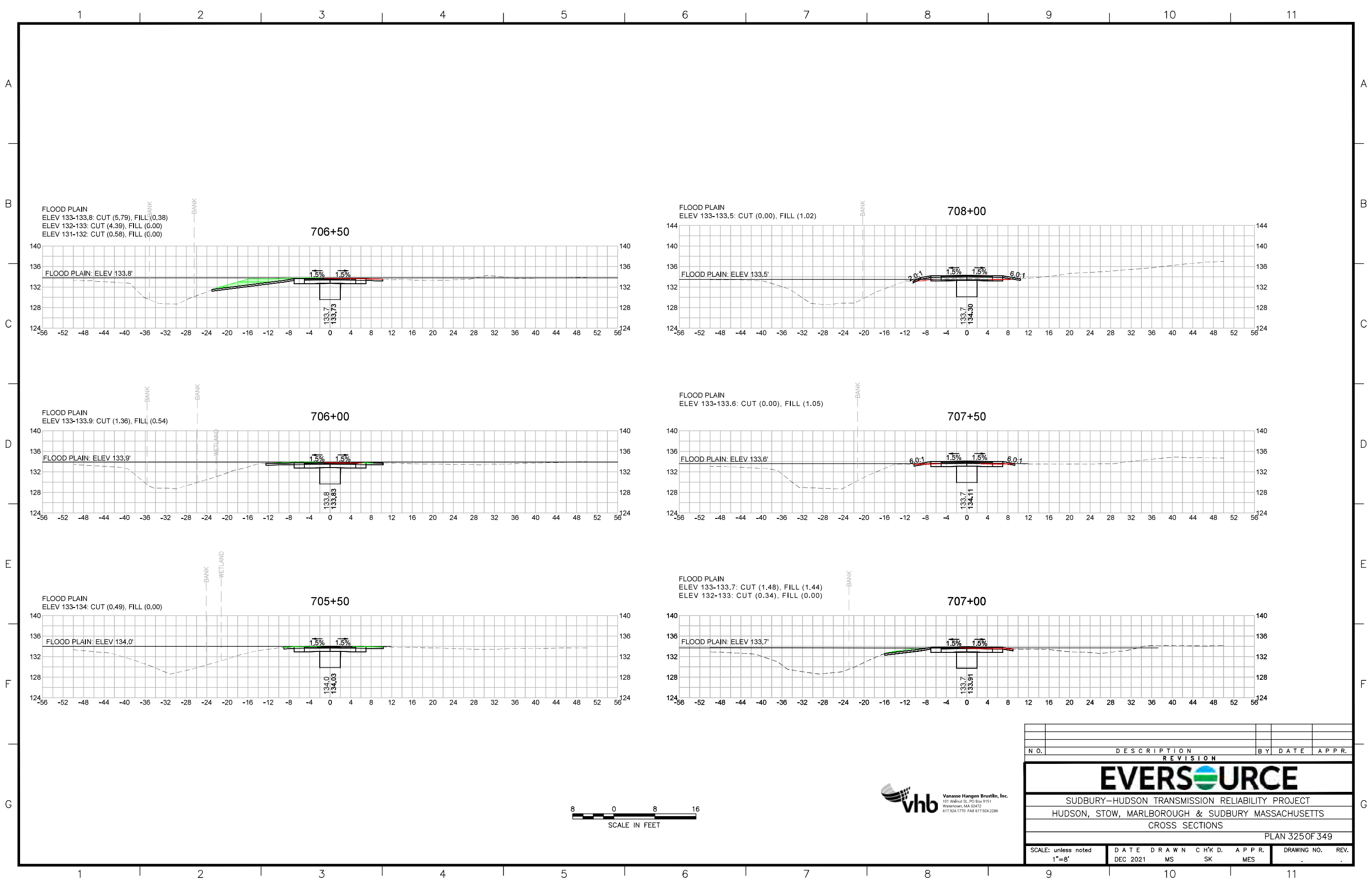
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | |
| CROSS SECTIONS | | | | | | |
| PLAN 324 OF 349 | | | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | A P P R. MES | DRAWING NO. | REV. |

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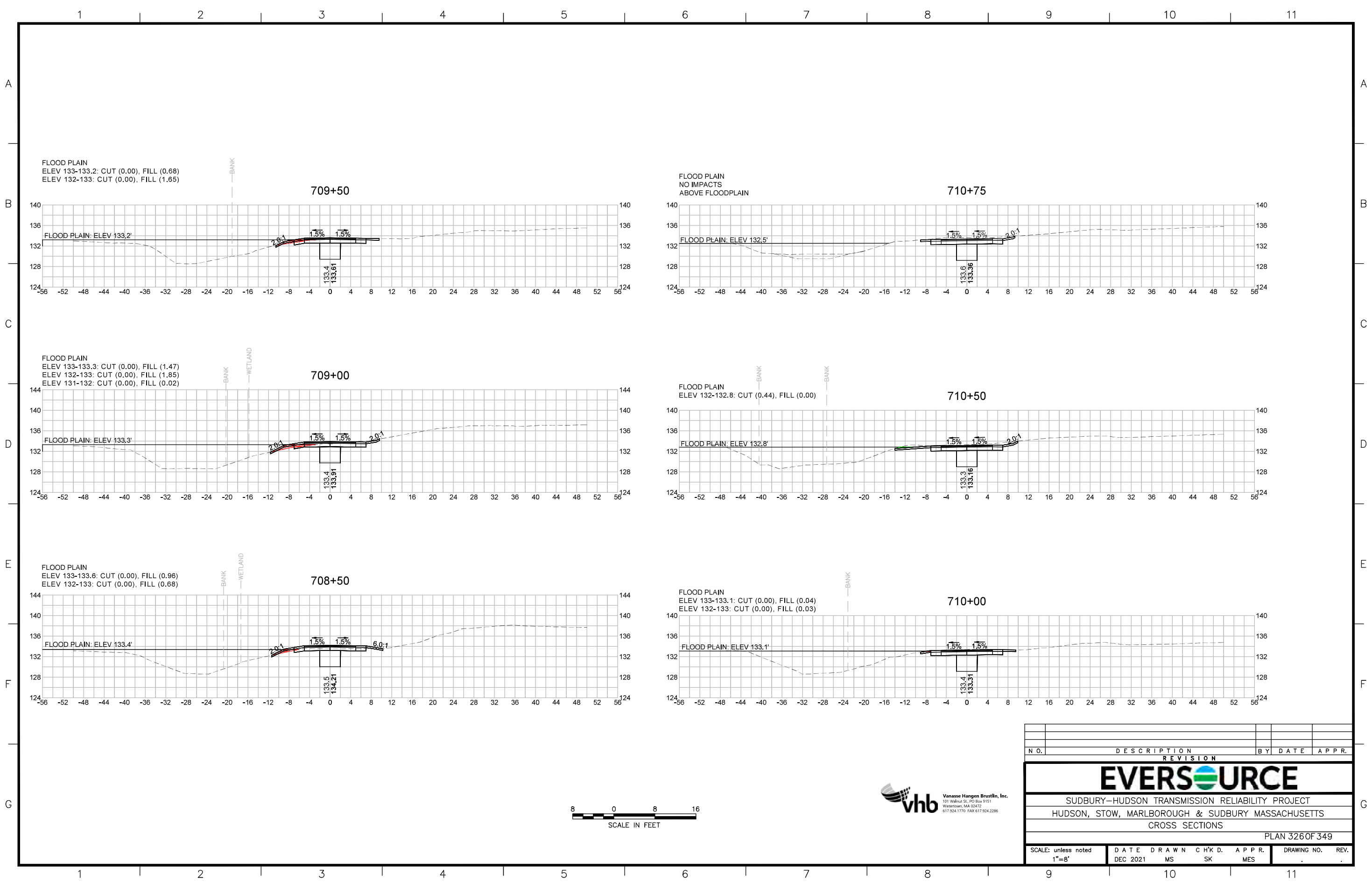
SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT
HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS
CROSS SECTIONS

PLAN 325 OF 349

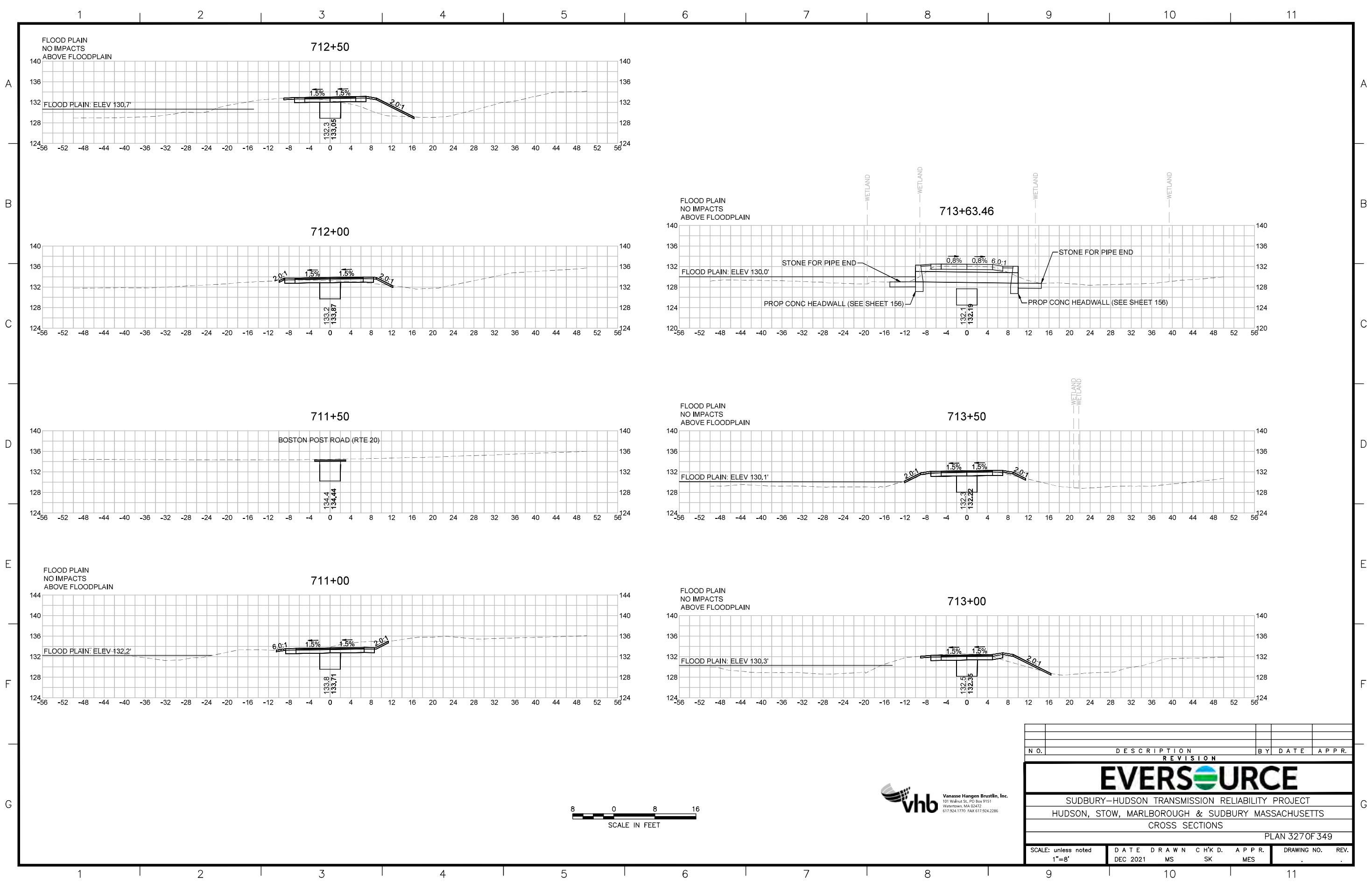
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vhb
 Vanasse Hangen Brustlin, Inc.
 101 Walnut St., PO Box 9151
 Watertown, MA 02472
 617.924.1770 FAX 617.924.2286

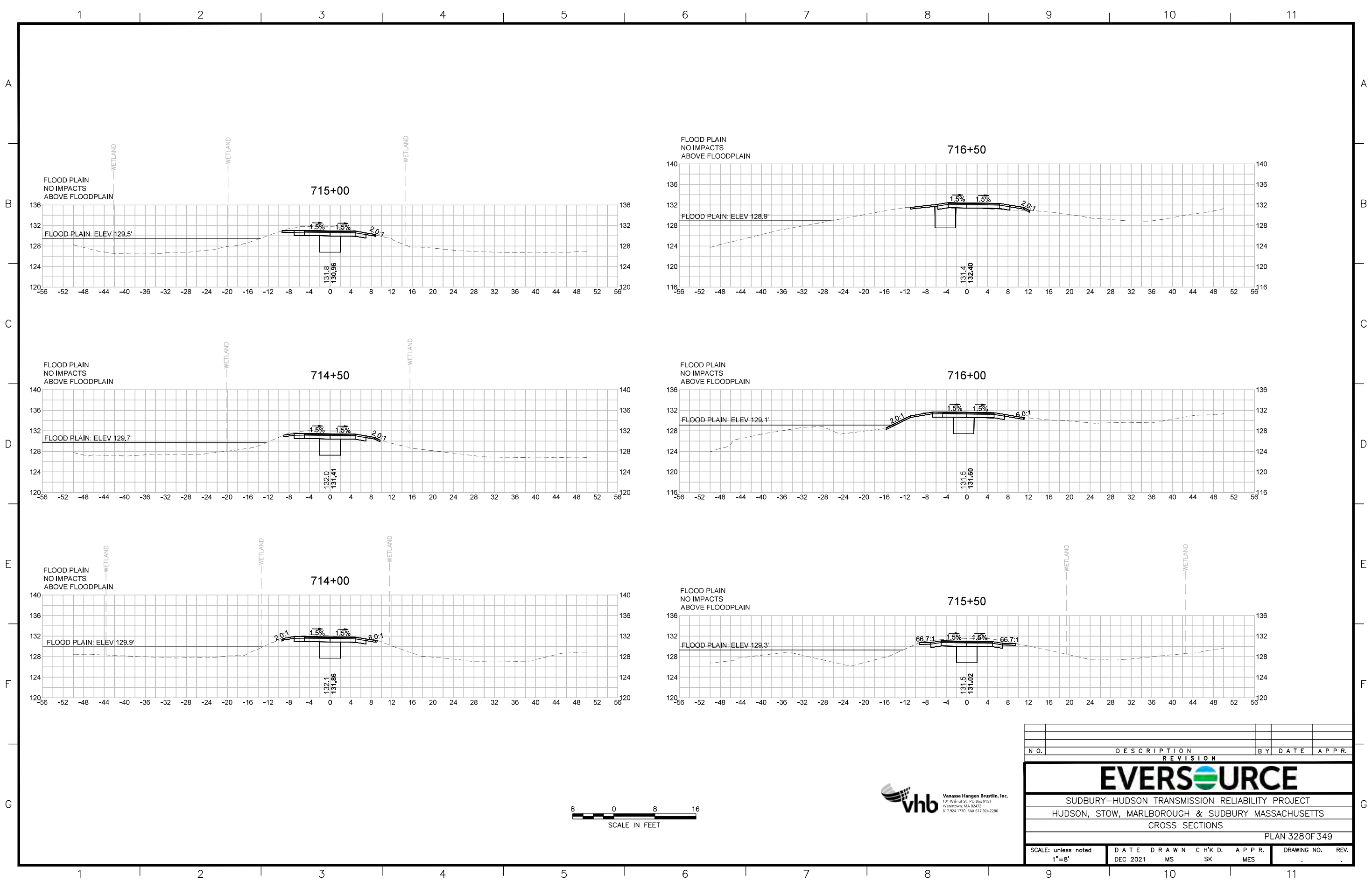


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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | | | | |
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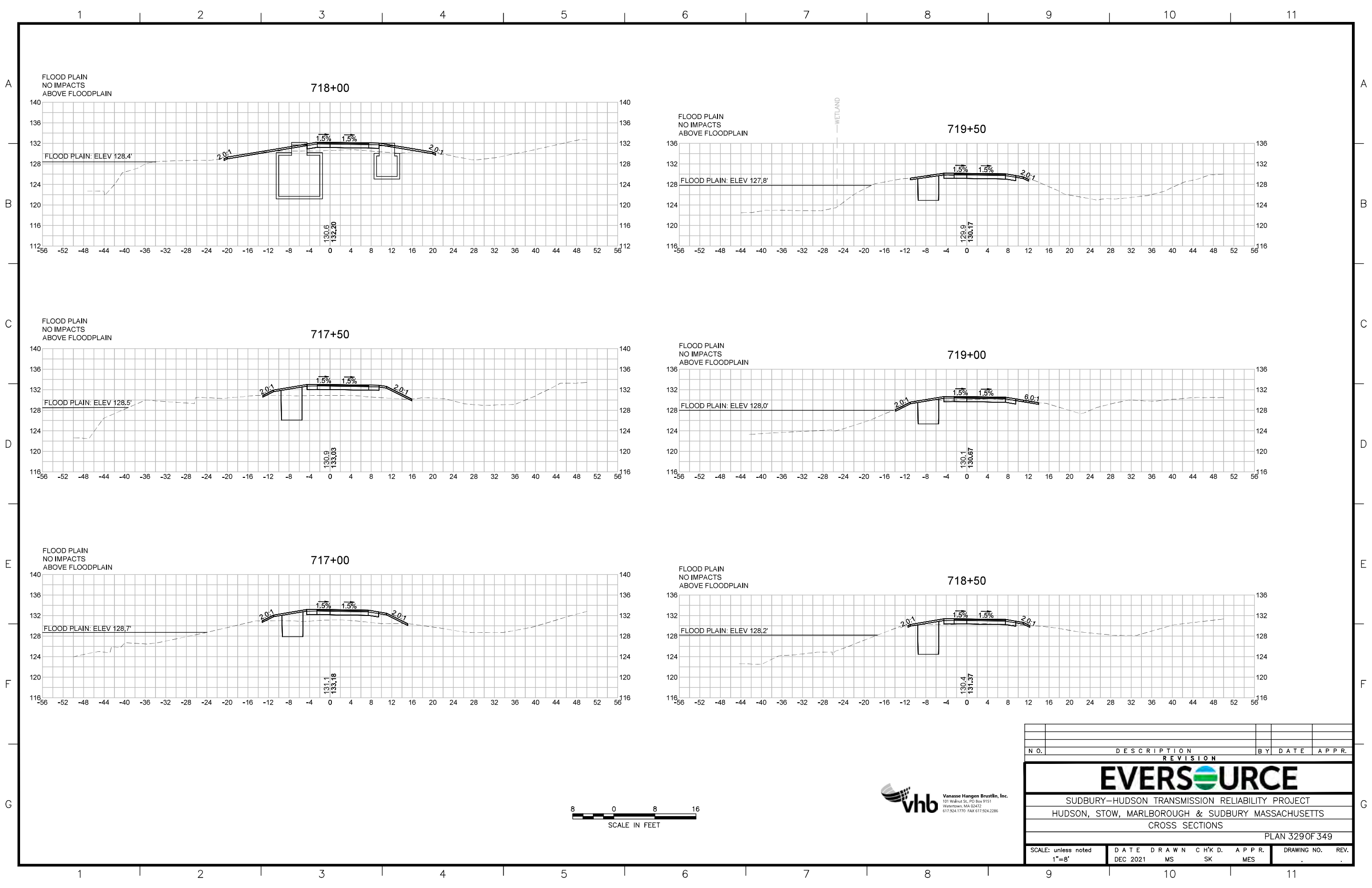


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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | |
| CROSS SECTIONS | | | | | | |
| PLAN 327 OF 349 | | | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | CHECKED SK | APPROVED MES | DRAWING NO. | REV. |

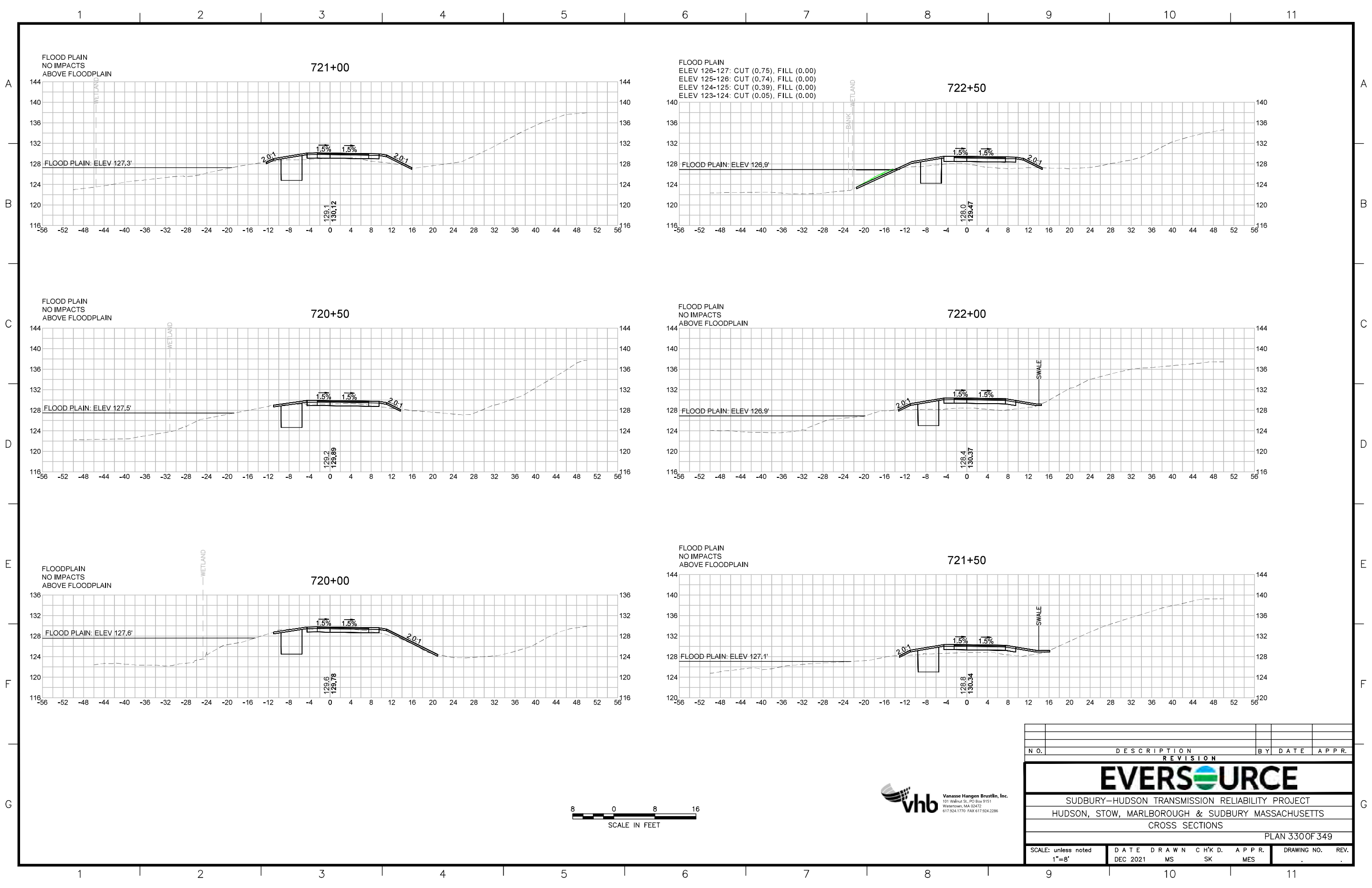




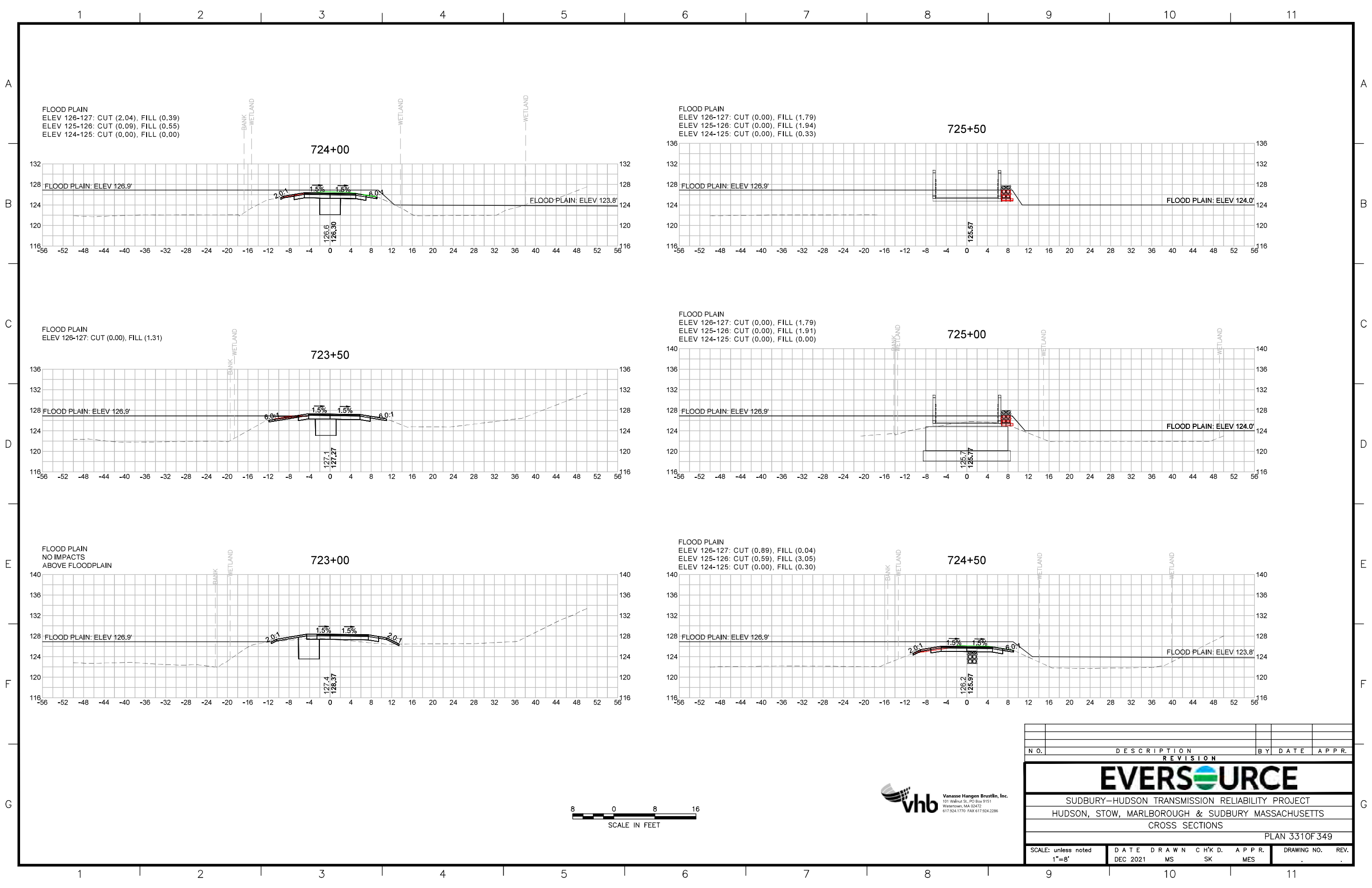
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 328 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | CHECKED SK | APPROVED MES |
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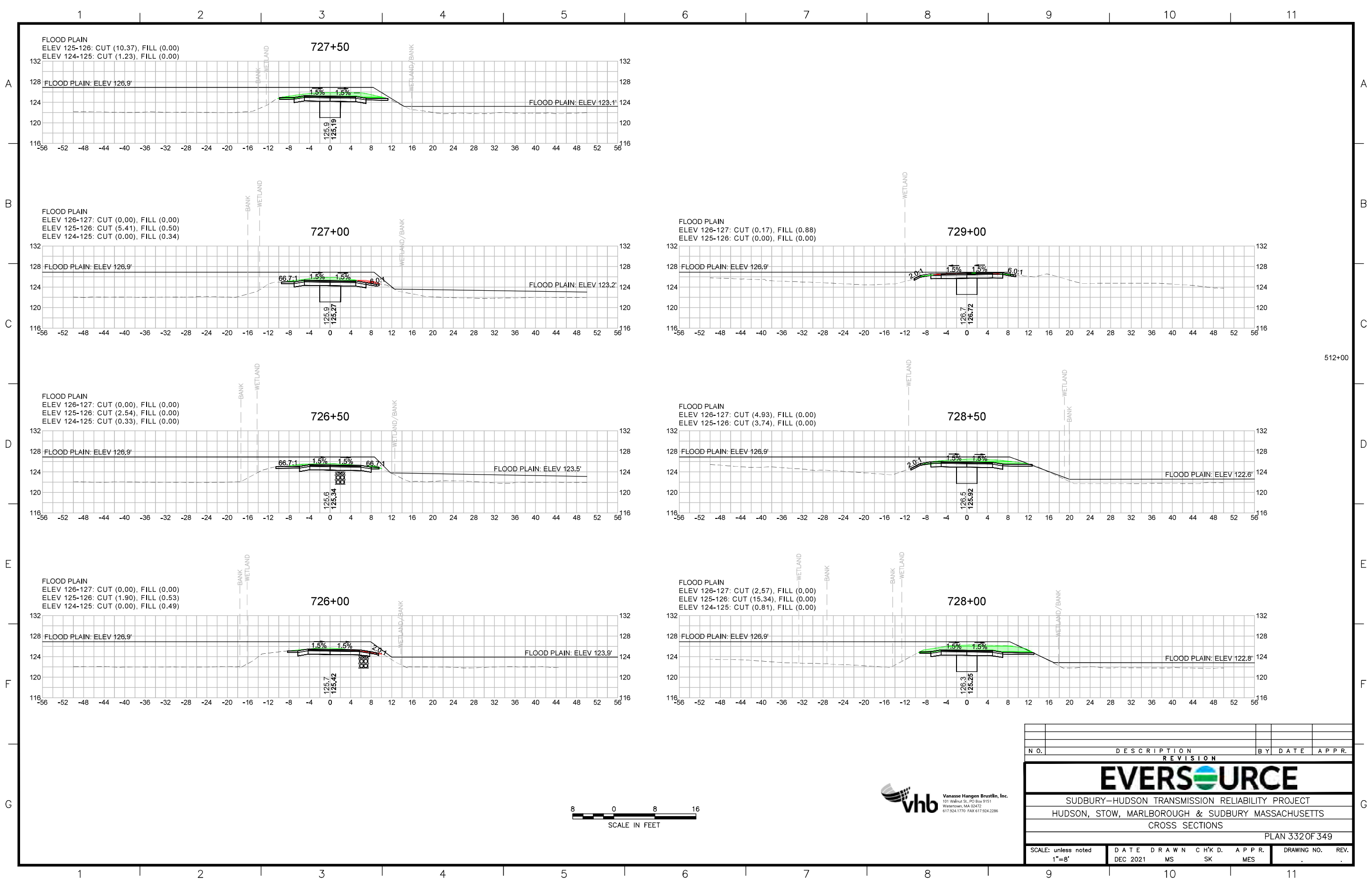
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | |
| CROSS SECTIONS | | | | | | |
| PLAN 3290F349 | | | | | | |
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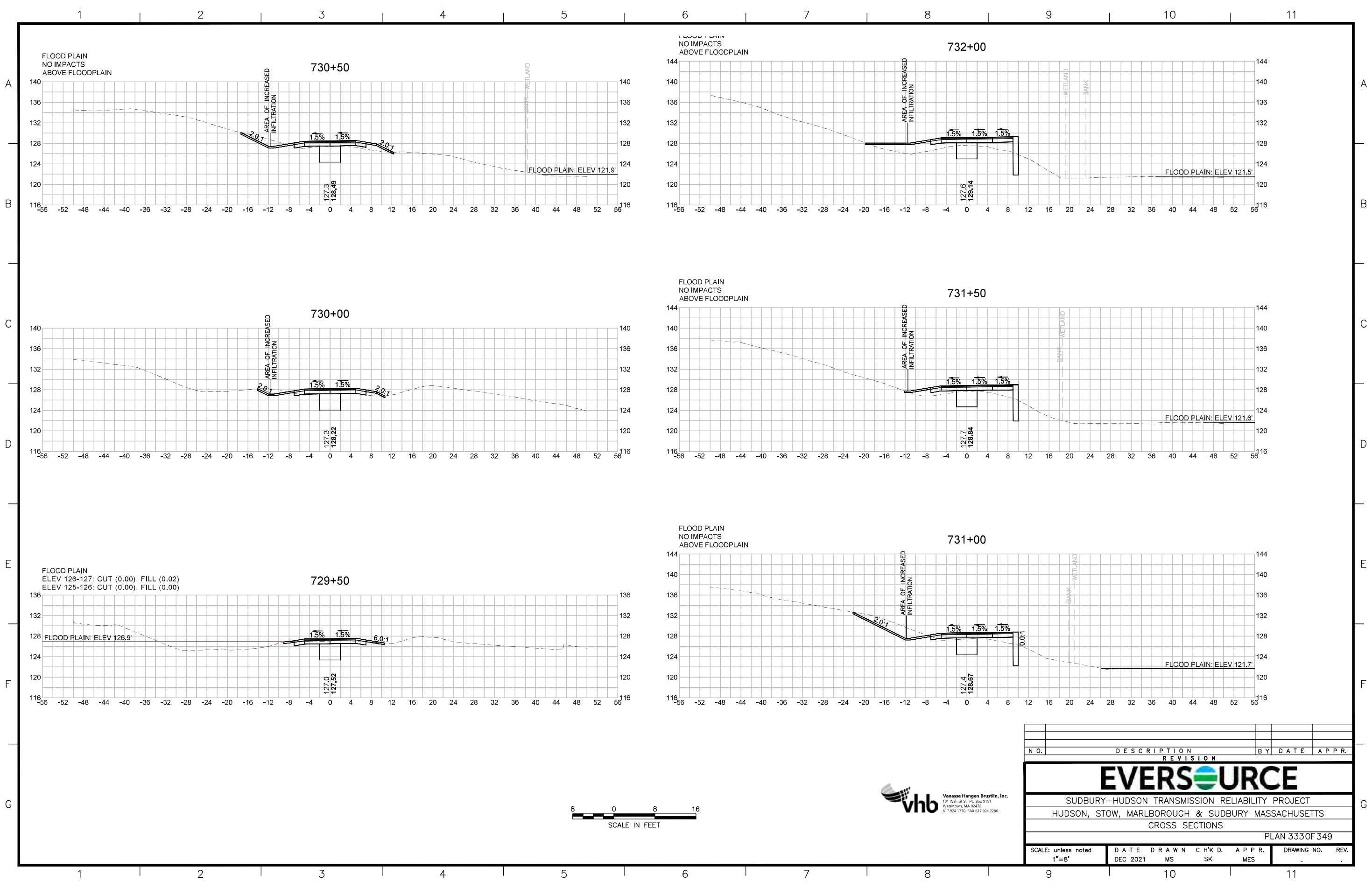
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 3300F349 | | | | |
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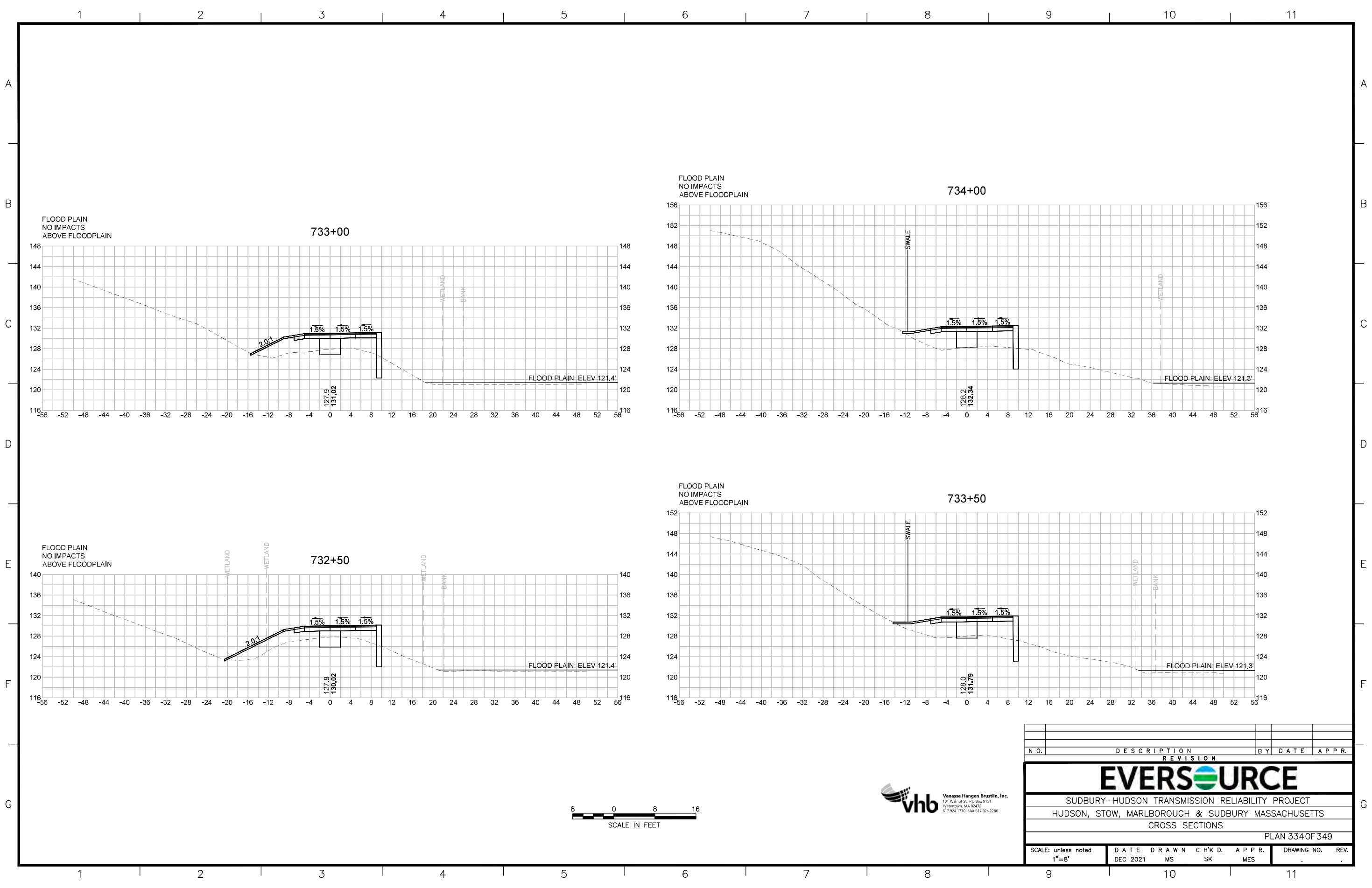
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| CROSS SECTIONS | | | | |
| PLAN 3310F349 | | | | |
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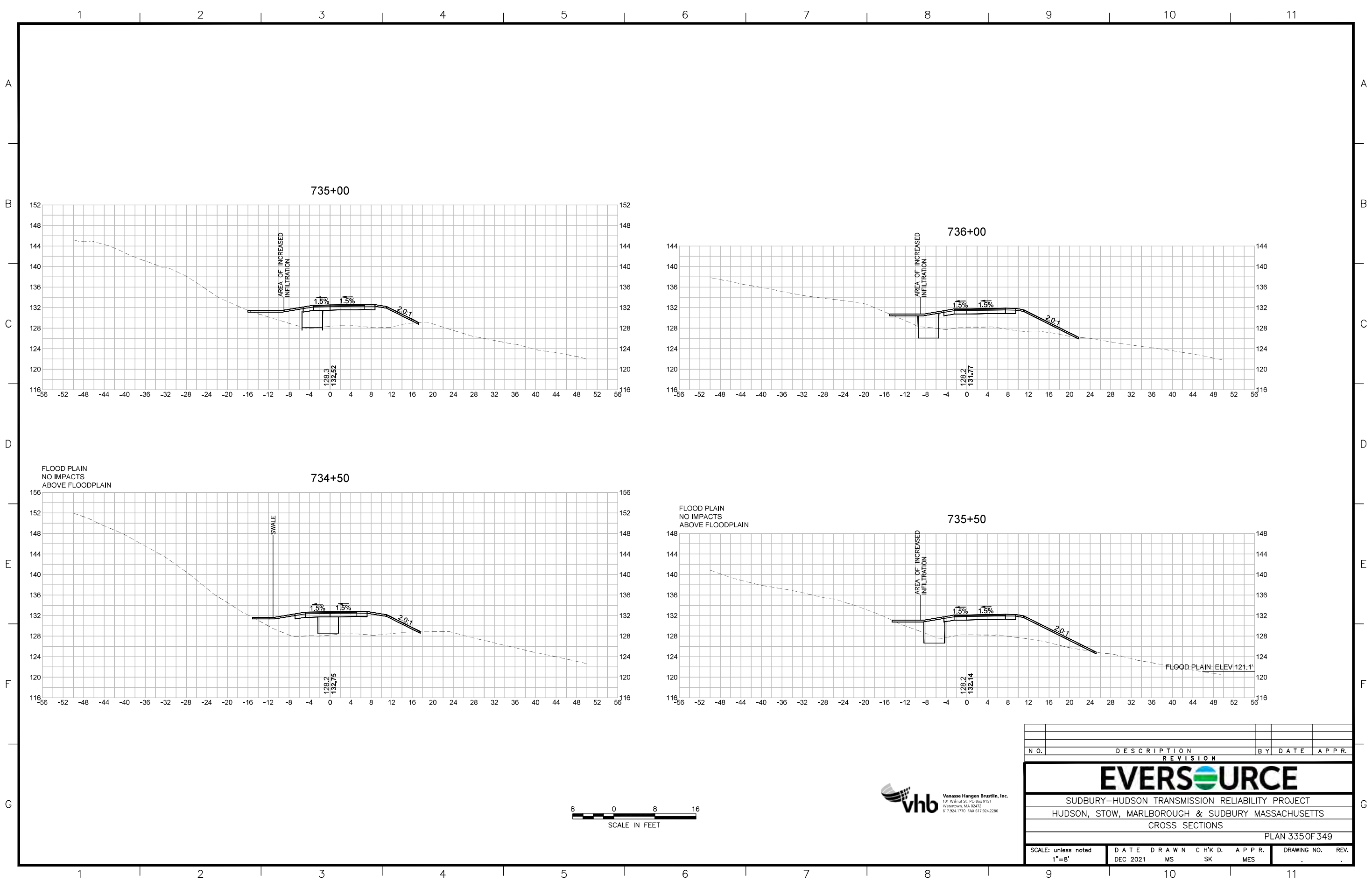
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 332 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | CHECKED SK | APPROVED MES |
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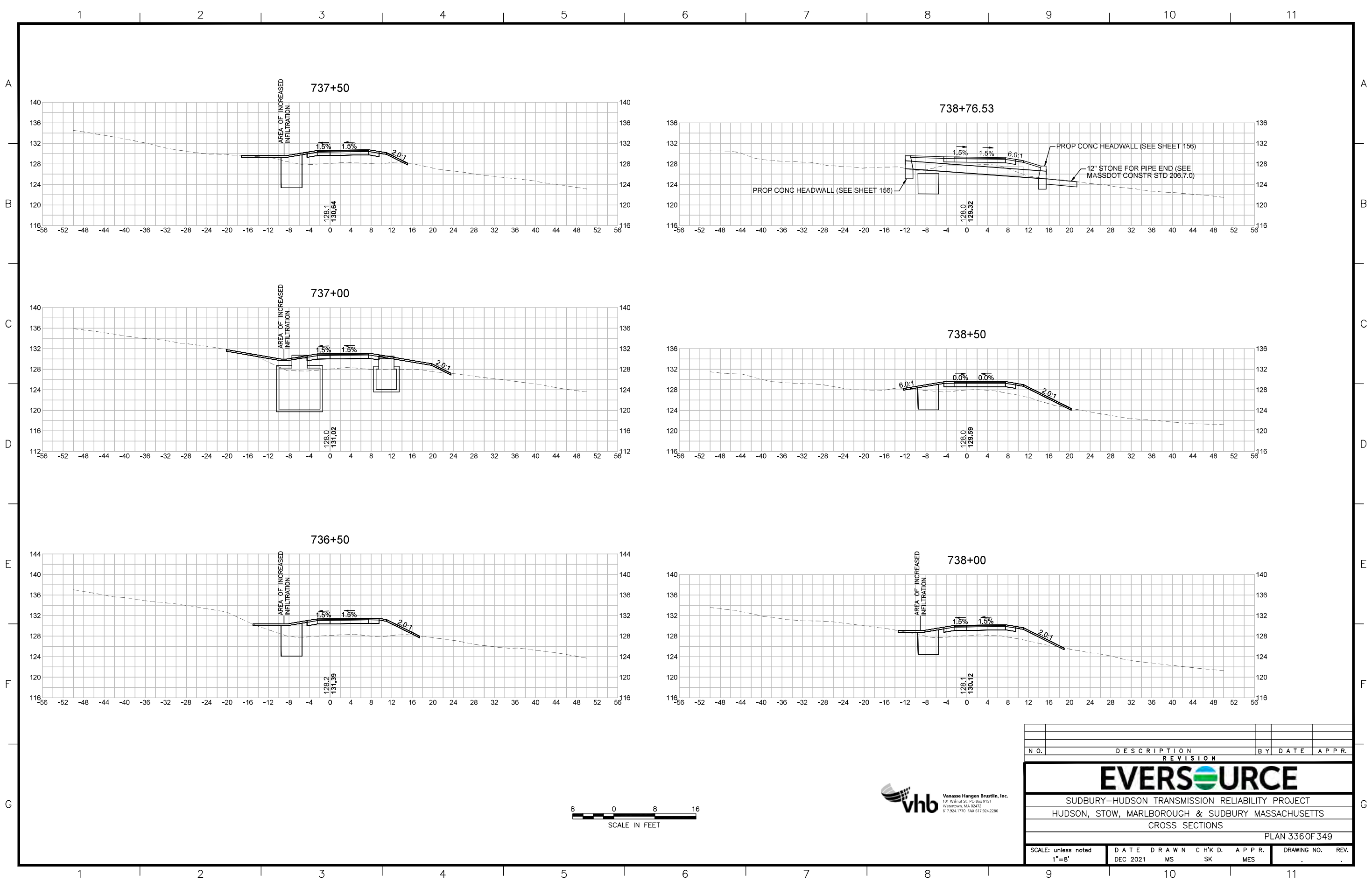
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 3330F349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | CHECKED SK | APPROVED MES |
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 334 OF 349 | | | | |
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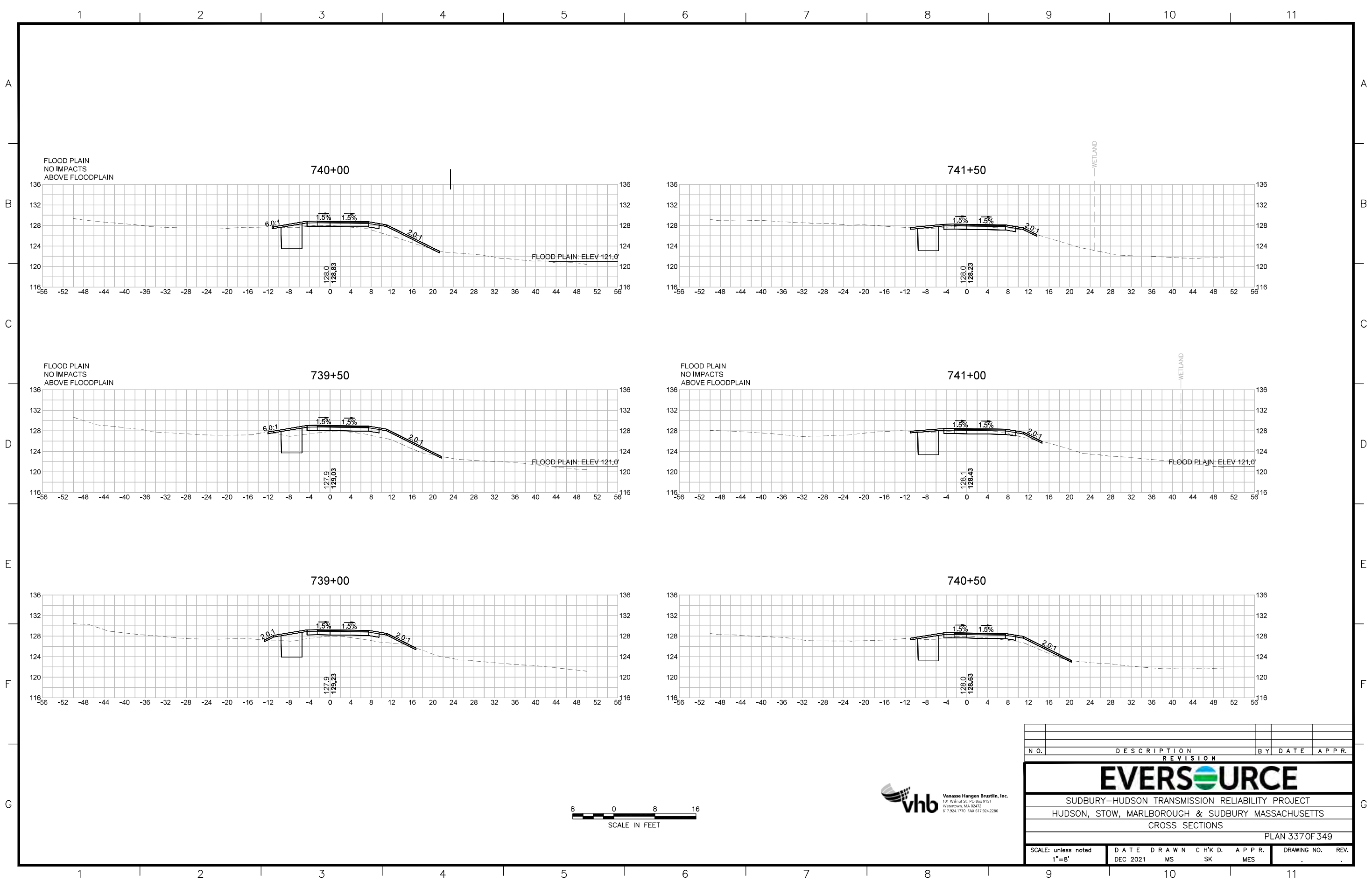


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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 335 OF 349 | | | | |
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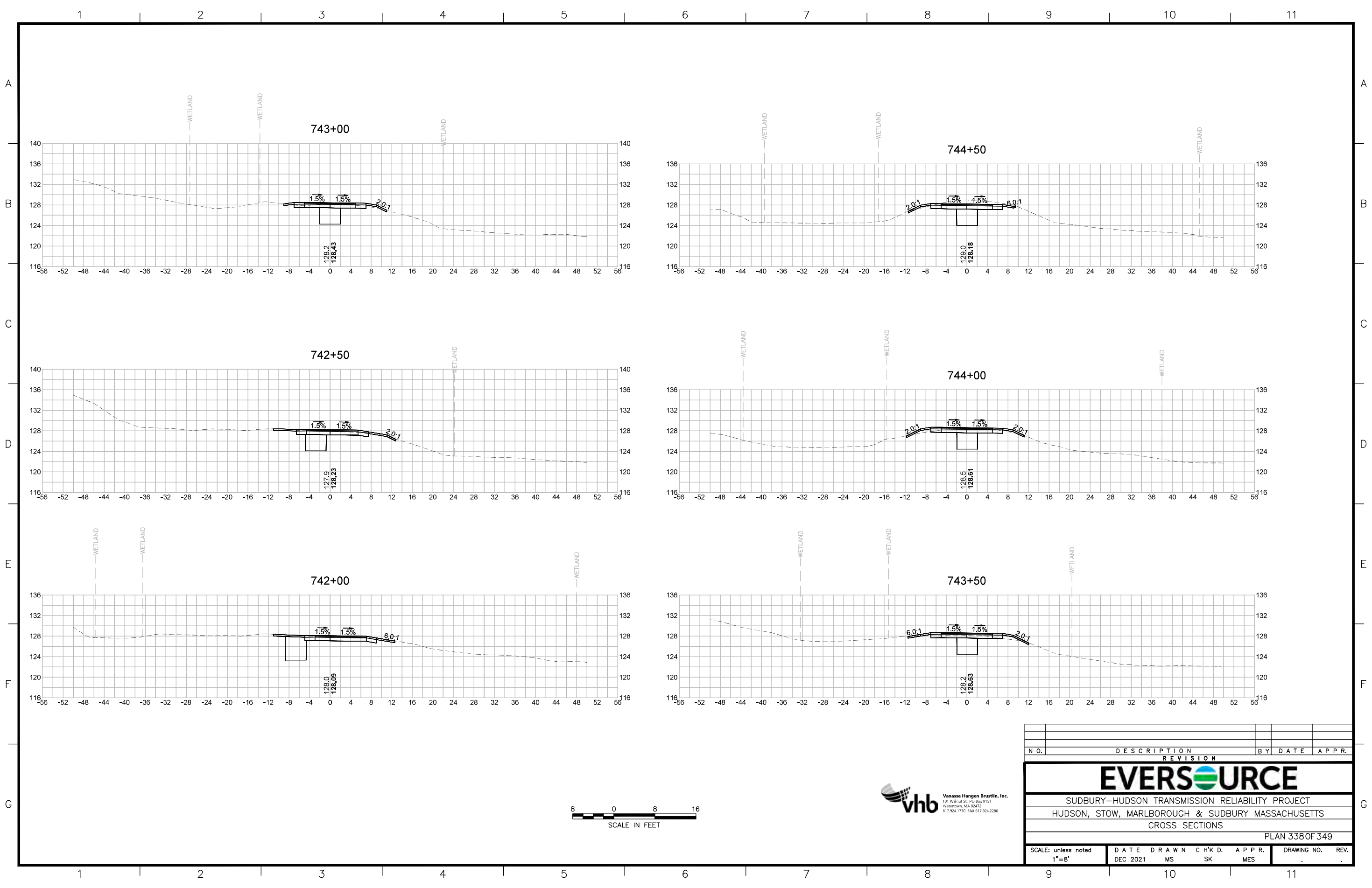


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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 336 OF 349 | | | | |
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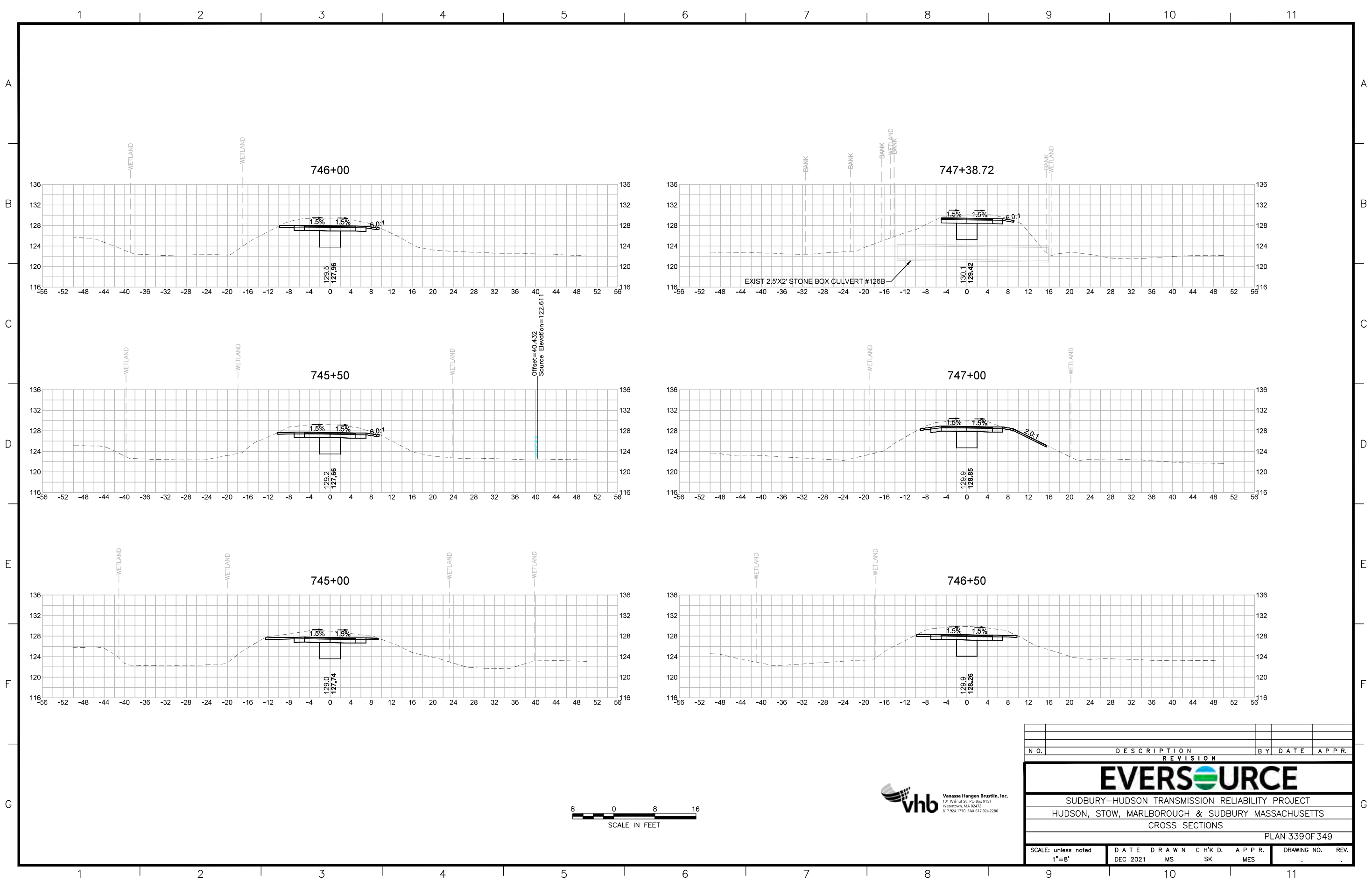




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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
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| PLAN 337 OF 349 | | | | |
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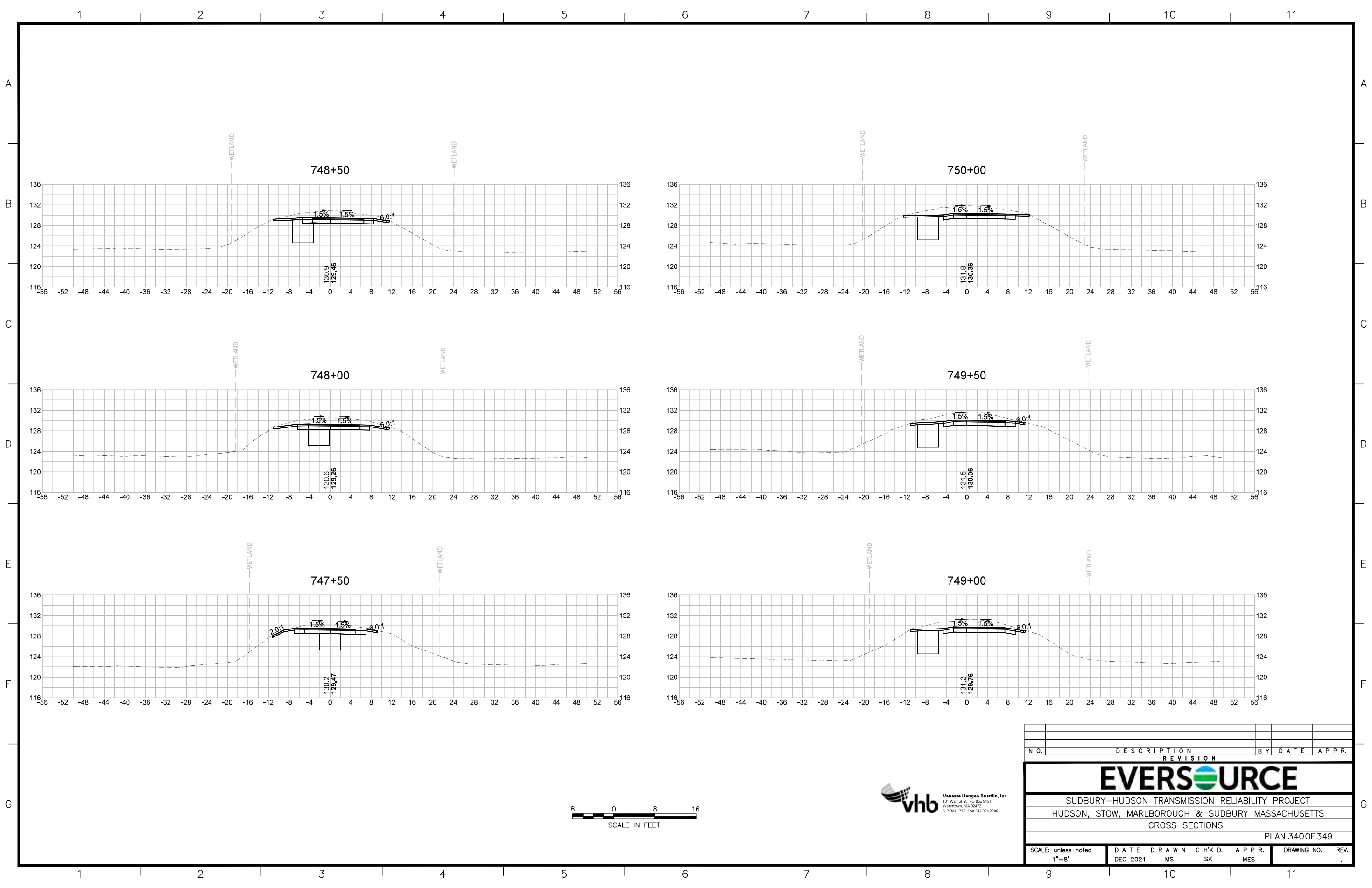
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
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| PLAN 338 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | CHECKED SK | APPROVED MES |
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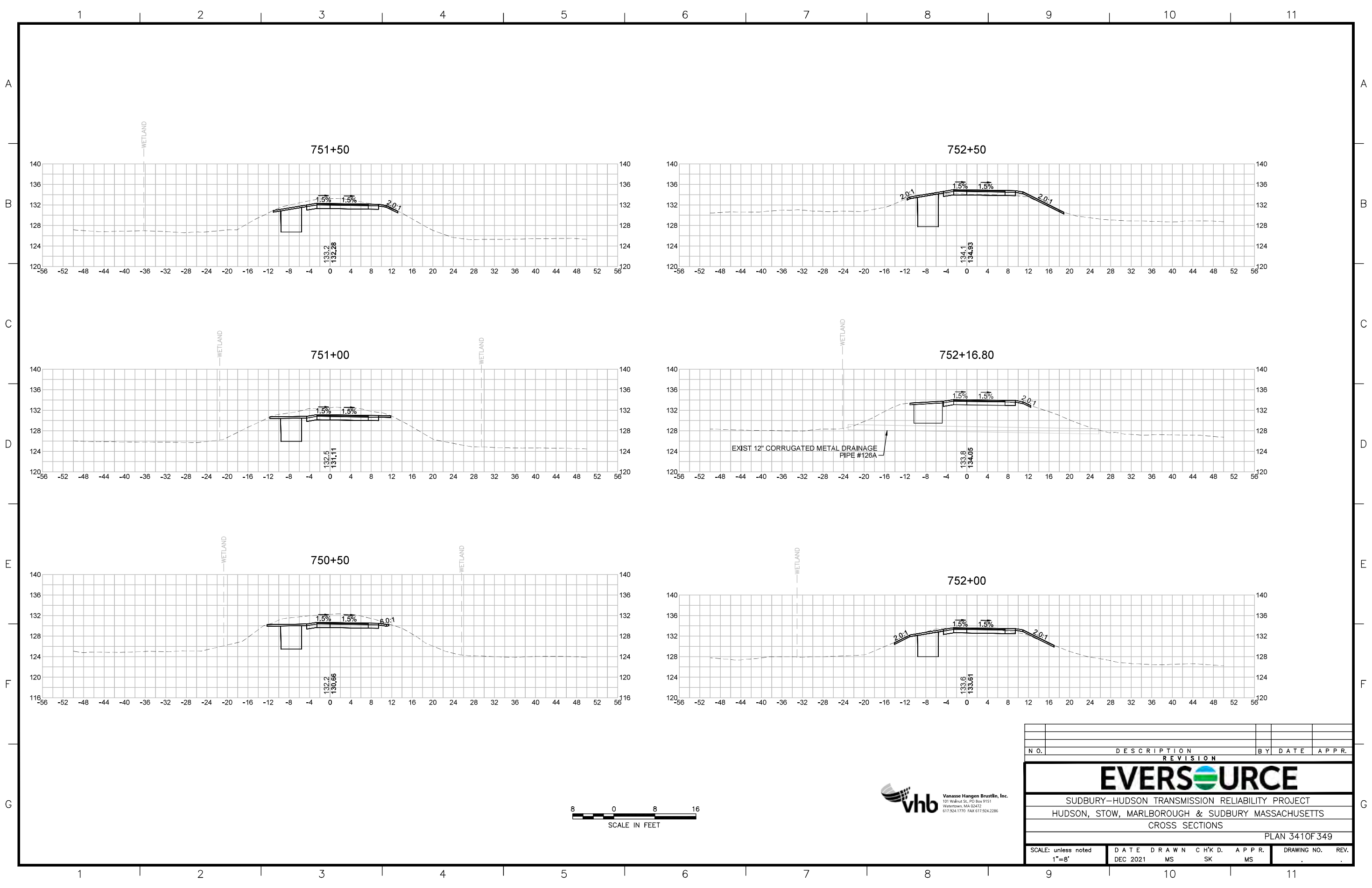


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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 339 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | CHECKED SK | APPROVED MES |
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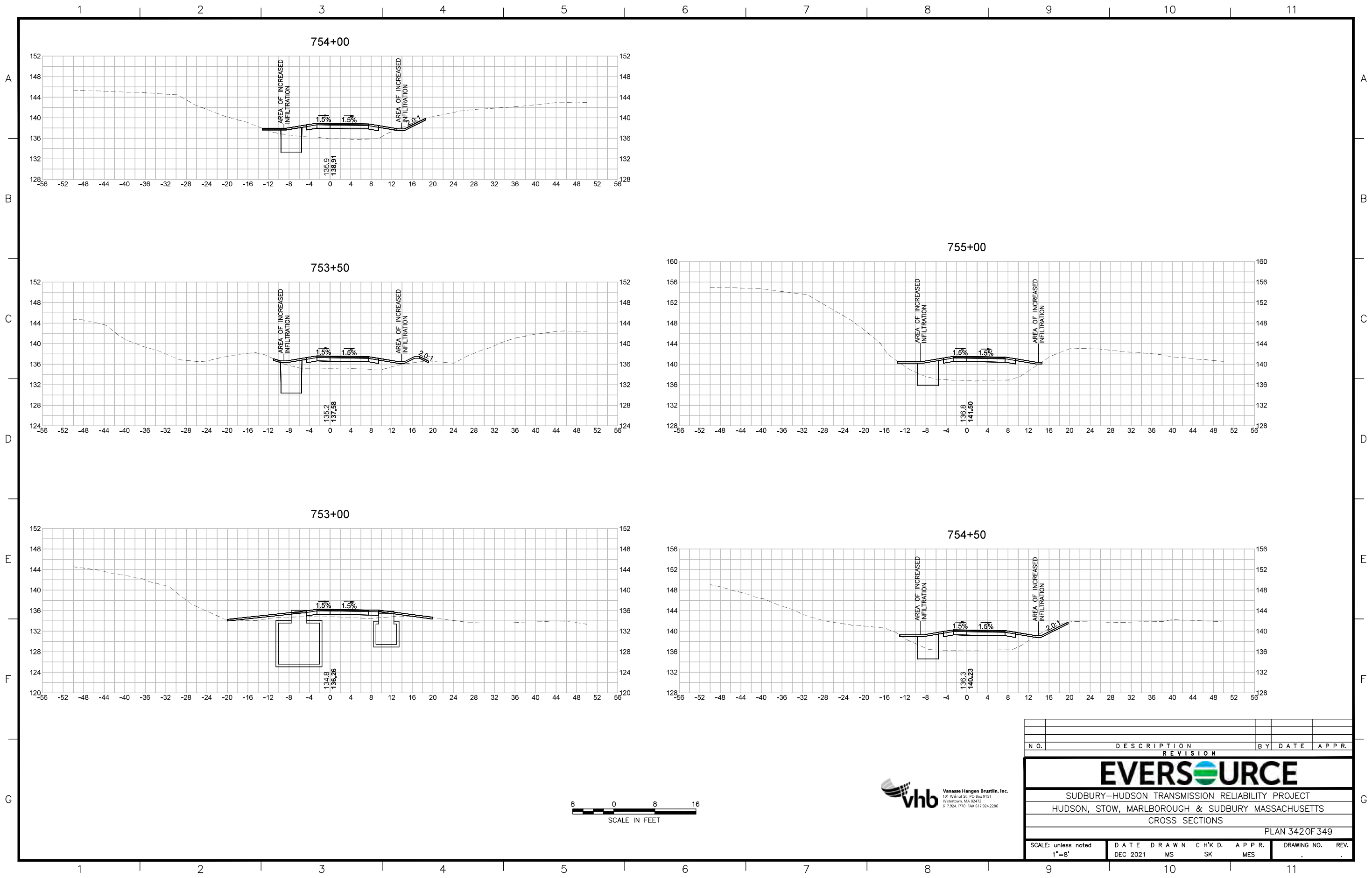



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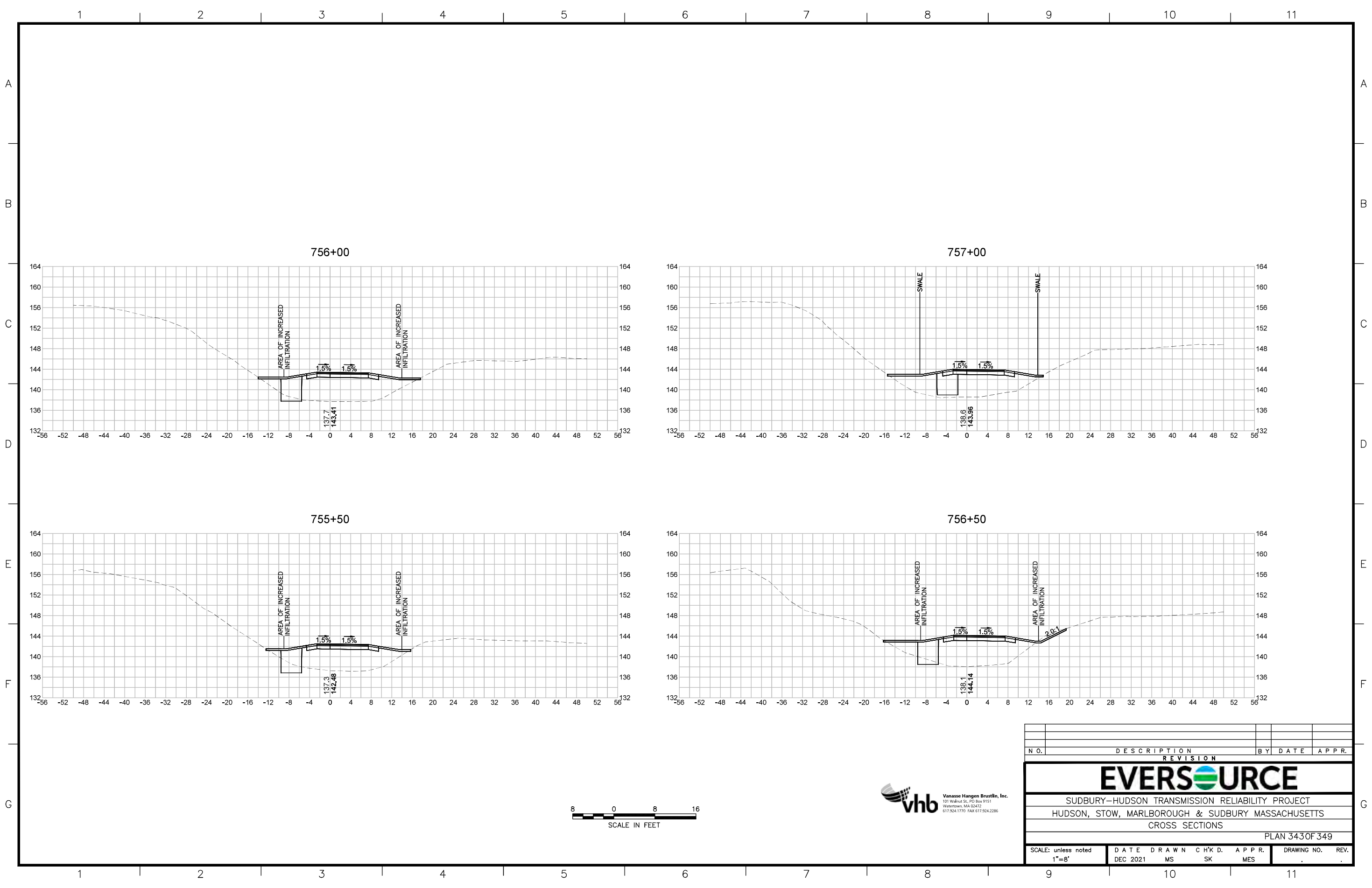
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 3400F349 | | | | |
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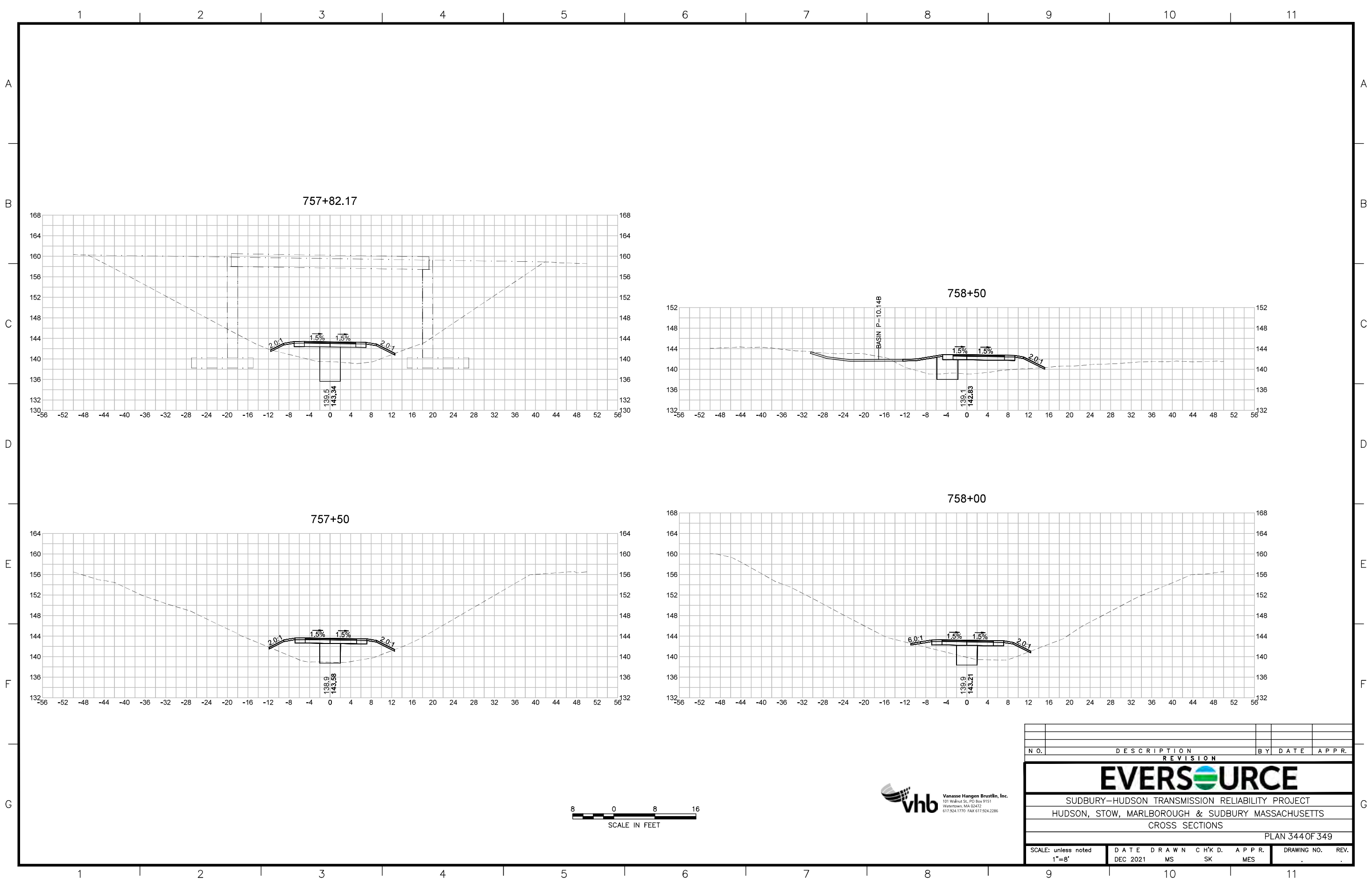
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 3410F349 | | | | |
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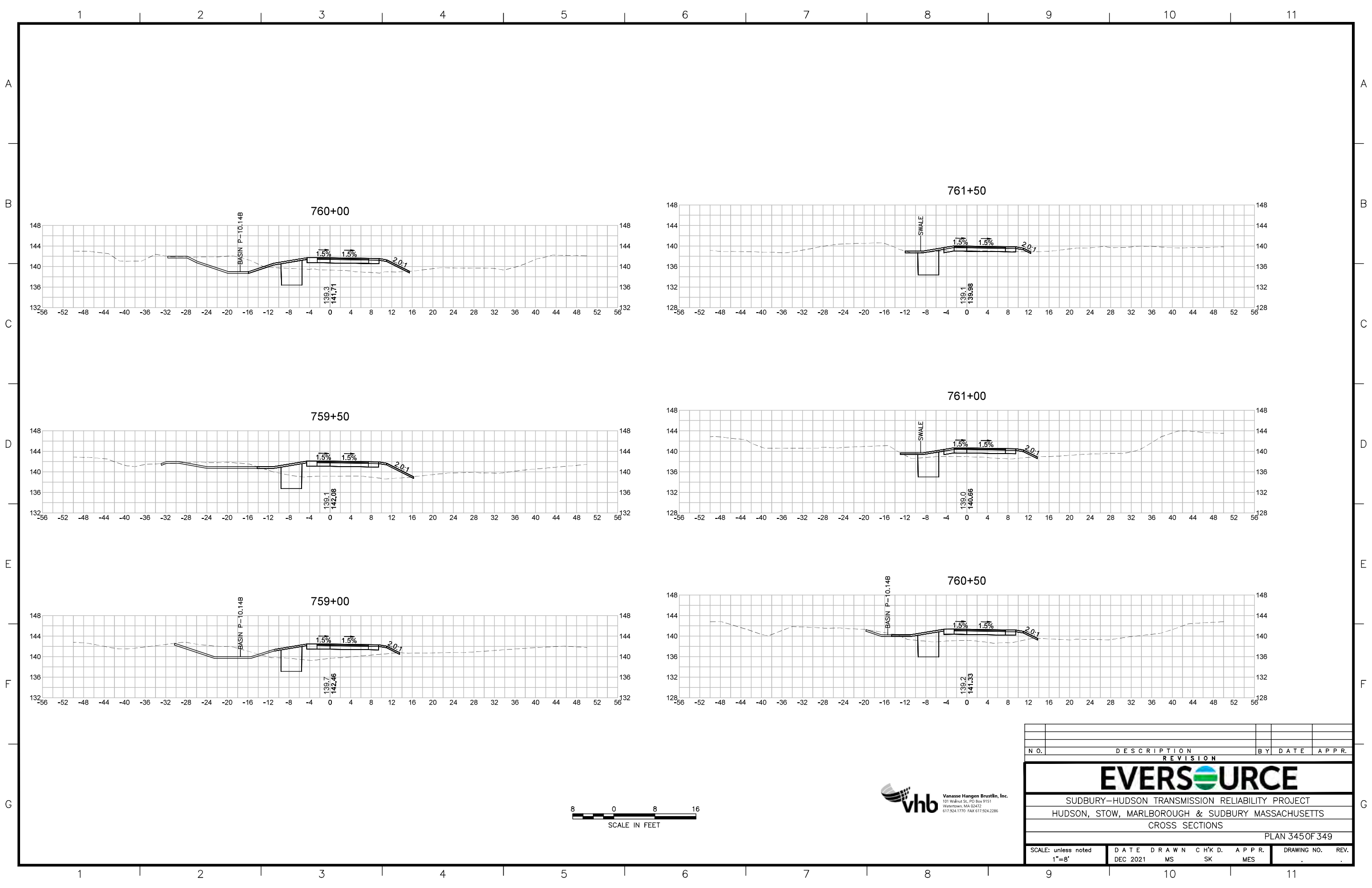
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | | |
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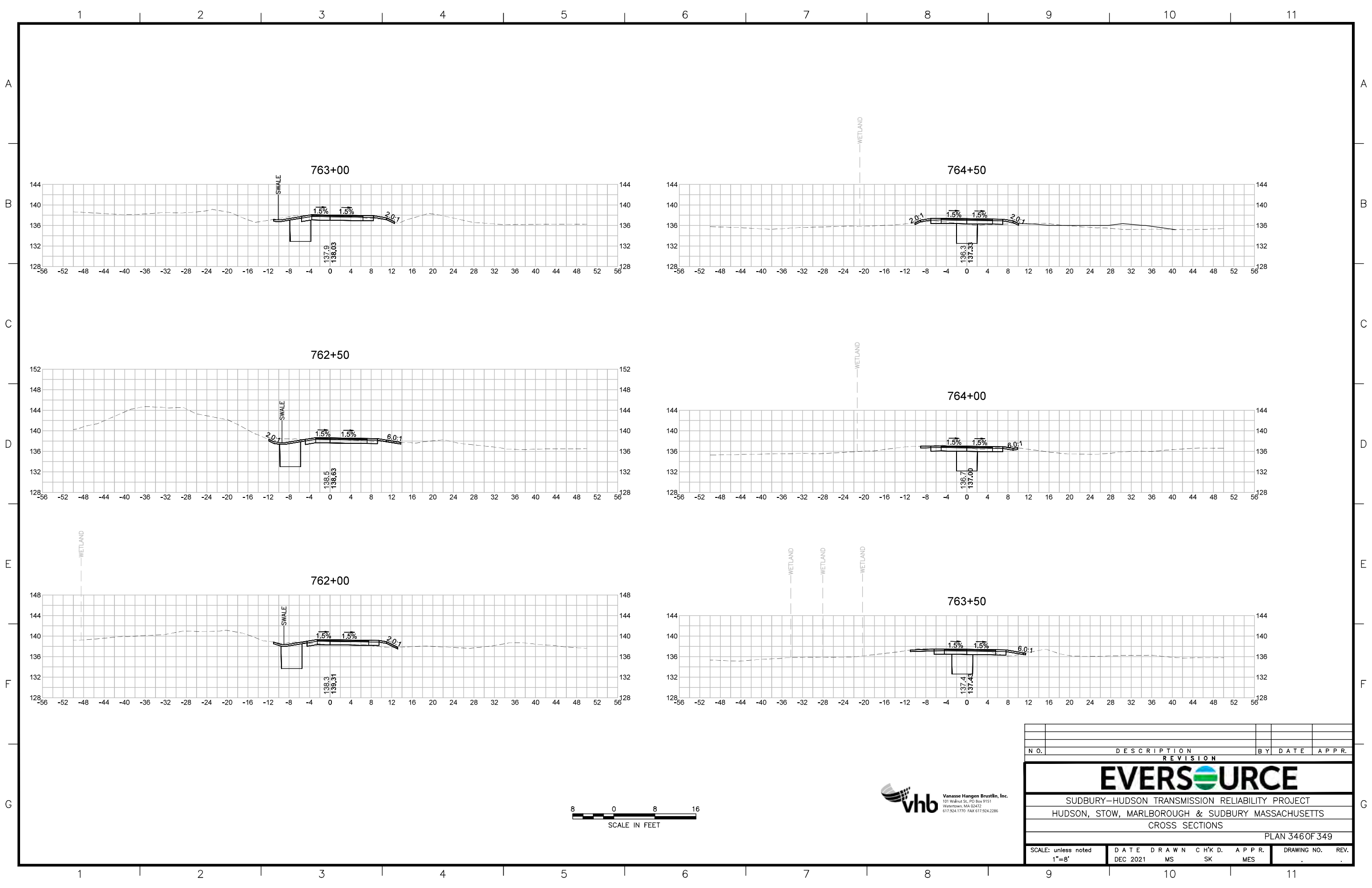
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | |
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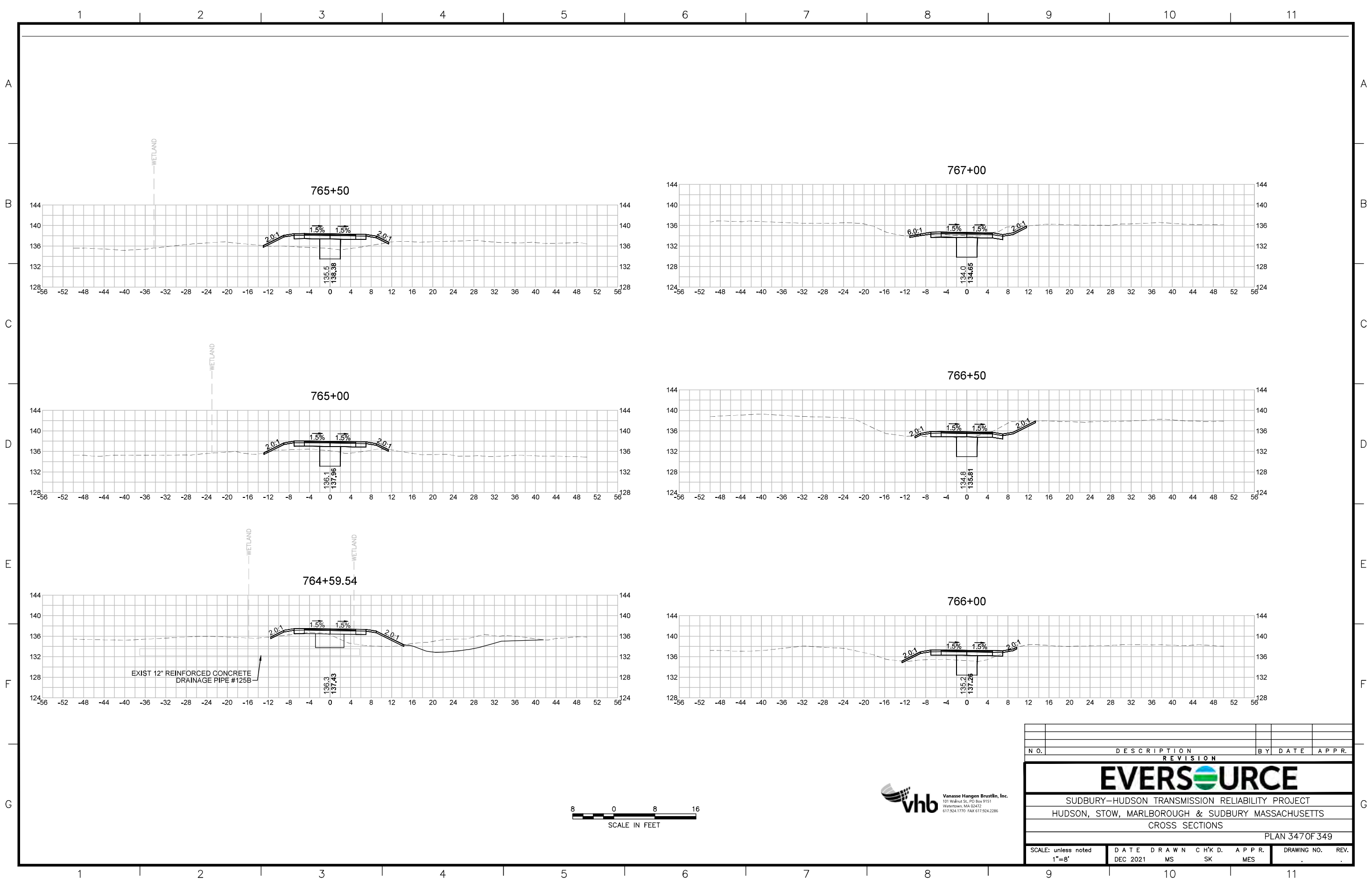
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | |
| CROSS SECTIONS | | | | | | |
| PLAN 344 OF 349 | | | | | | |
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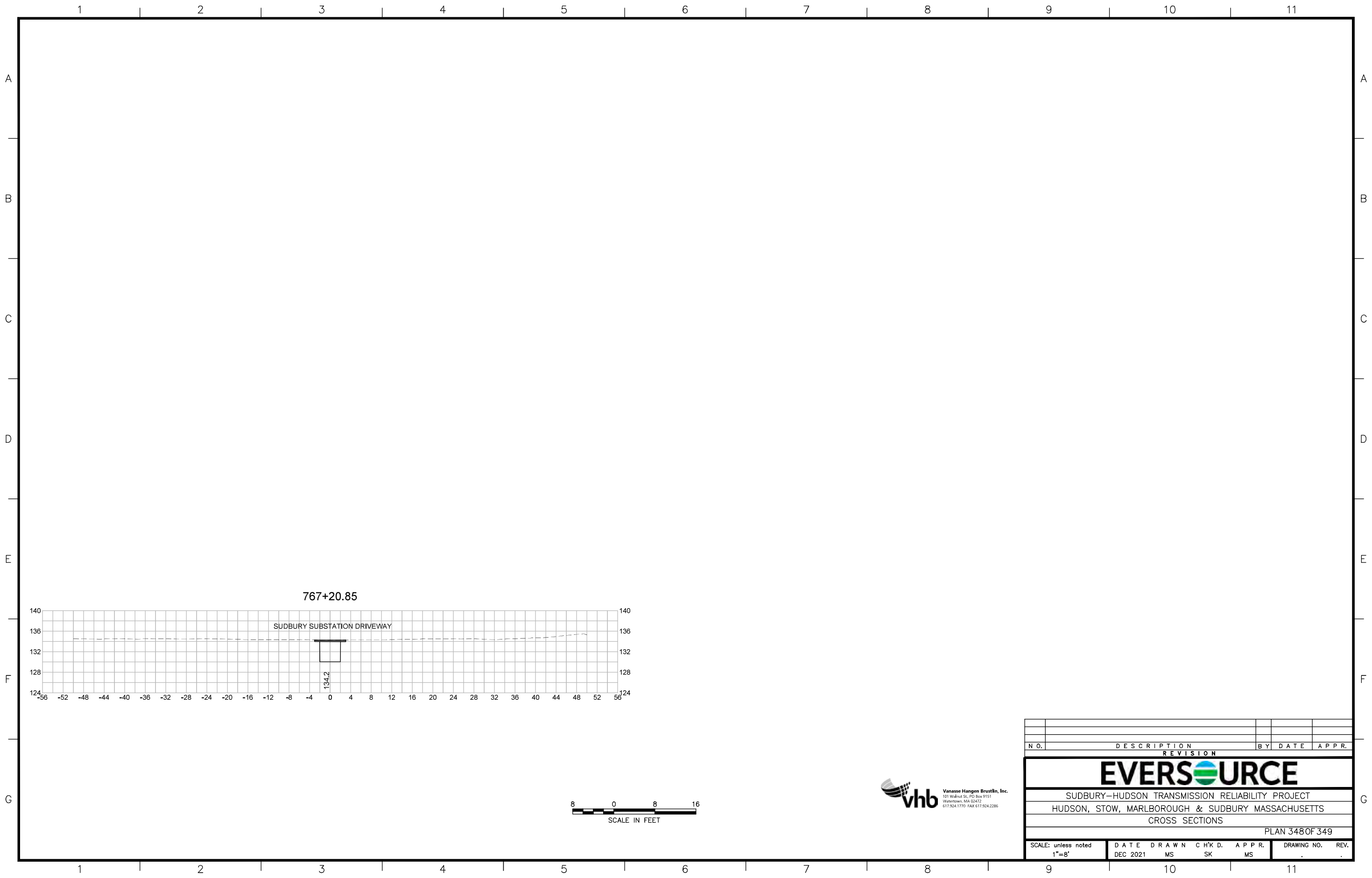
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| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 345 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | C H'K D. SK | A P P R. MES |
| DRAWING NO. | | REV. | | |



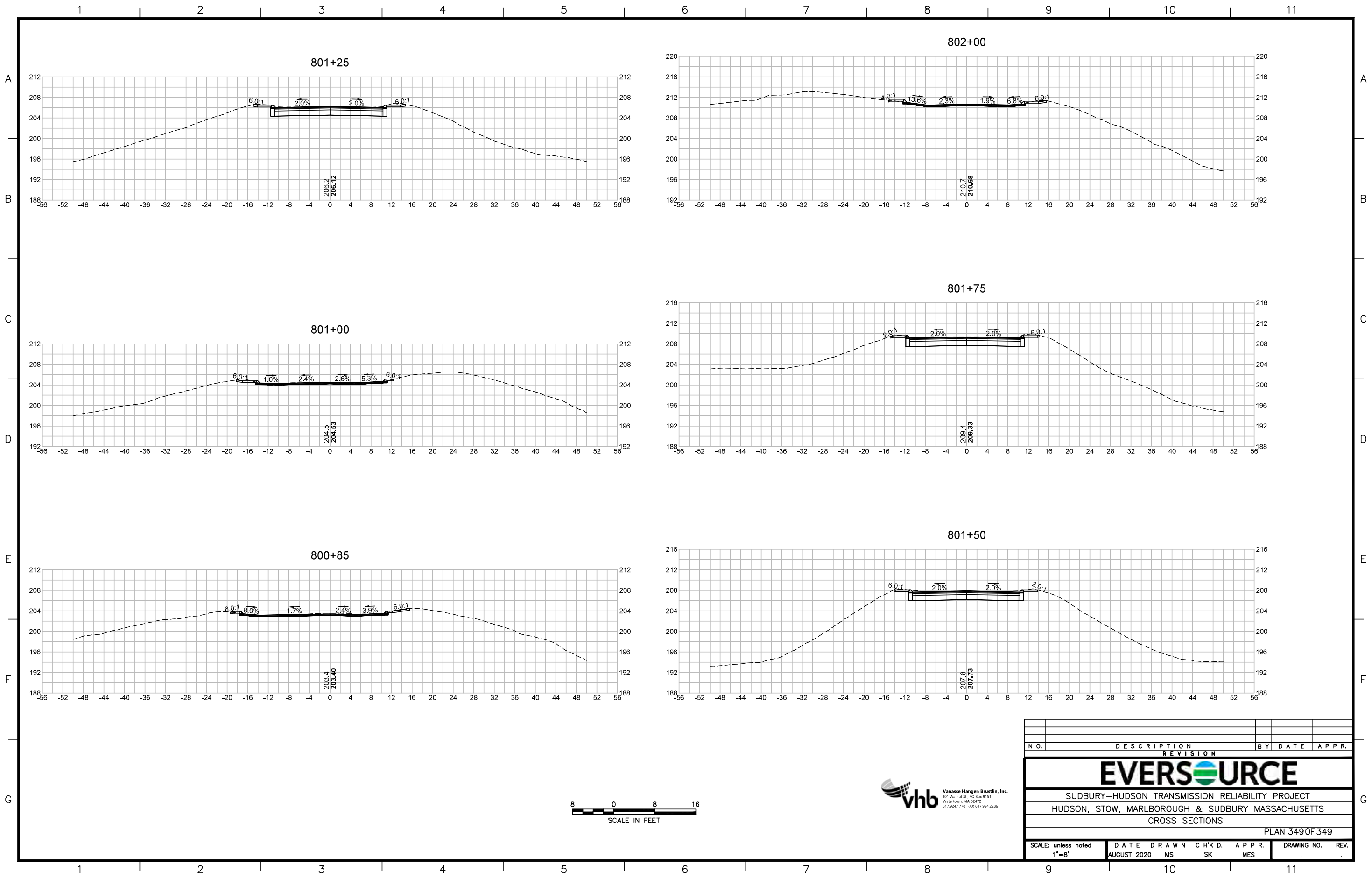
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | | |
| CROSS SECTIONS | | | | | | | |
| PLAN 346 OF 349 | | | | | | | |
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| N.O. | DESCRIPTION | BY | DATE | APPR. |
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 347 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | CHECKED SK | APPROVED MES |
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| NO. | | DESCRIPTION | | BY | DATE | APPR. |
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | | | |
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| PLAN 348 OF 349 | | | | | | |
| SCALE: unless noted 1"=8' | DATE DEC 2021 | DRAWN MS | CHECKED SK | APPROVED MS | DRAWING NO. | REV. |
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| SUDBURY-HUDSON TRANSMISSION RELIABILITY PROJECT | | | | |
| HUDSON, STOW, MARLBOROUGH & SUDBURY MASSACHUSETTS | | | | |
| CROSS SECTIONS | | | | |
| PLAN 349 OF 349 | | | | |
| SCALE: unless noted 1"=8' | DATE AUGUST 2020 | DRAWN MS | C H'K D. SK | APPR. MES |
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