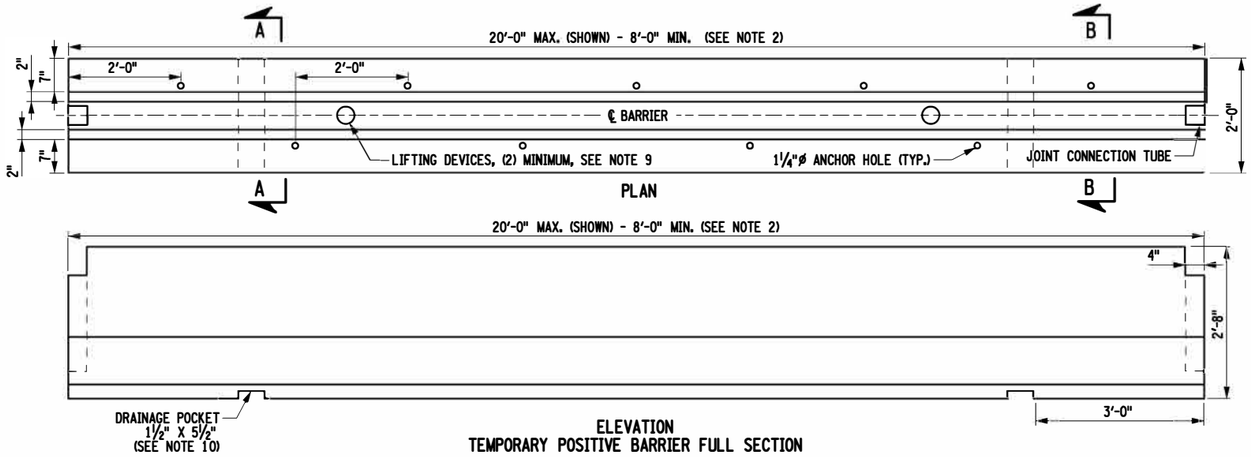
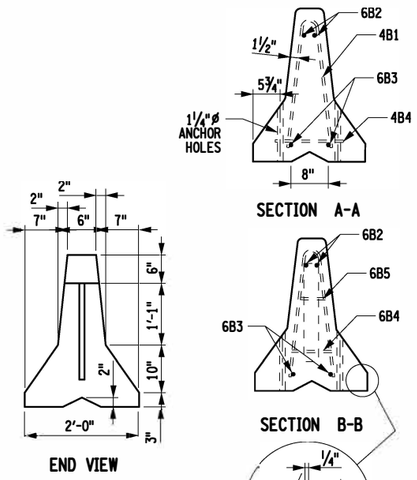
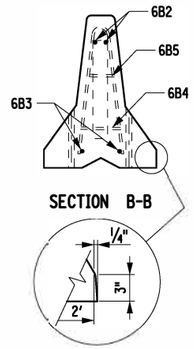


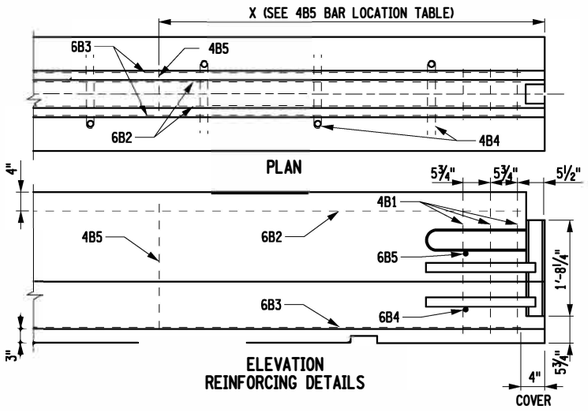




OPTIONAL BATTERED BOTTOM CORNER DETAIL

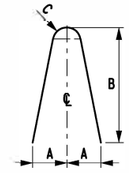
NOTES:

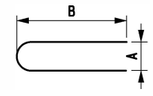
1. TEMPORARY POSITIVE BARRIER SHALL BE PRECAST IN ACCORDANCE WITH THE REQUIREMENTS OF §704-05 PRECAST CONCRETE BARRIER.
2. TEMPORARY POSITIVE BARRIER SHALL BE PRECAST UNITS OF ONE OF THE FOLLOWING NOMINAL LENGTHS 8', 10', 12', 14', 16', 18', 20'.
3. STEEL PLATE REINFORCEMENT SHALL BE ASTM A36M, A572M, GRADE 345 STEEL, TUBE REINFORCEMENT SHALL BE ASTM A500, GRADE B OR C, AND REINFORCING BARS SHALL BE A615, GRADE 420. EPOXY BARS ARE NOT REQUIRED.
4. ALL WELDING SHALL BE PERFORMED BY A WELDER QUALIFIED IN ACCORDANCE WITH SECTION 8 OF THE NYS STEEL CONSTRUCTION MANUAL.
5. SURFACES TO BE WELDED SHALL BE FREE OF SLAG, RUST, MOISTURE, GREASE OR ANY OTHER MATERIAL THAT WILL PREVENT PROPER WELDING OR PRODUCE OBJECTIONABLE FUMES.
6. WELDING SHALL BE SHIELDED METAL ARC WELDING USING PROPERLY DRIED 5/32" E7018 ELECTRODES CONFORMING TO THE REQUIREMENTS OF SECTION 7 OF THE NYS STEEL CONSTRUCTION MANUAL.
7. THE LENGTH OF THE 6B2 AND 6B3 BARS WILL VARY WITH THE LENGTH OF THE BARRIER SEGMENT.
8. CONCRETE CLEAR COVER FOR REINFORCING BARS SHALL BE 1½" (MIN.) UNLESS OTHERWISE SPECIFIED.
9. A MINIMUM OF (2) TWO RECESSED LIFTING DEVICES, EACH WITH THE CAPACITY TO LIFT A MASS OF 6 TONS (MINIMUM), SHALL BE INSTALLED ON EACH SEGMENT. SEGMENT MASS IS APPROXIMATELY 400 LBS/FT.
10. ONE DRAINAGE POCKET SHALL BE INCLUDED IN THE CENTER OF 8'-0" AND 10'-0" SEGMENTS, TWO DRAINAGE POCKETS IN ALL OTHER SEGMENTS.
11. CONNECTION KEY COVER PLATE SHALL BE INSTALLED FLUSH WITH THE BARRIER TOP.
12. 1"ø ASTM A36M ANCHOR PINS SHALL BE PLACED IN FOUR ANCHOR HOLES OF EACH SEGMENT TO BE PINNED. PINS SHALL BE PLACED ON THE WORKZONE SIDE OF THE BARRIER, UNLESS OTHERWISE SPECIFIED ON THE PLANS OR DIRECTED BY THE ENGINEER.
13. BASED ON SEGMENT LENGTH AND MAXIMUM JOINT ROTATION, TEMPORARY POSITIVE BARRIER CANNOT BE INSTALLED ON RADII TIGHTER THAN THE FOLLOWING MINIMUMS: 8' - 92', 10' - 115', 12' - 138', 14' - 161', 16' - 184', 18' - 207', 20' - 230'.

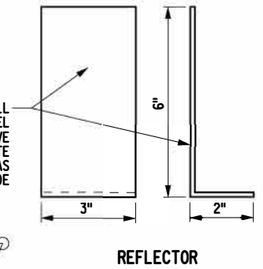


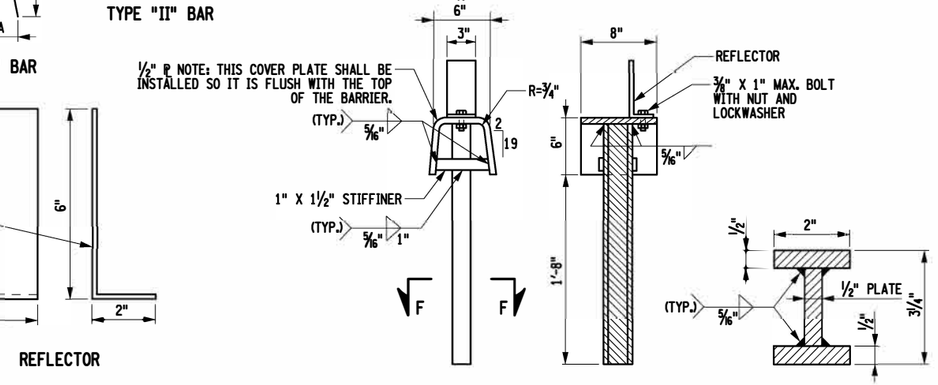
FULL SECTION BAR LIST								
MARK	SIZE	NUMBER PER SECTION	LENGTH	TYPE	A	B	C	LOCATION
4B1	4	6	4'-11"	I	5"	28"	1"	STIRRUPS
4B4	4	1 PER RECESS	3'-1"	II	4"	15½"		ANCHOR RECESS HOOPS
4B5	4	SEE TABLE	4'-11"	I	5"	28"	1"	STIRRUPS
6B2	6	2	SEE NOTE 7	STR.				LONGITUDINAL (TOP)
6B3	6	2	SEE NOTE 7	STR.				LONGITUDINAL (BOTTOM)
6B4	6	2	1'-2"	STR.				TRANSVERSE (BOTTOM)
6B5	6	2	6"	STR.				TRANSVERSE (TOP)

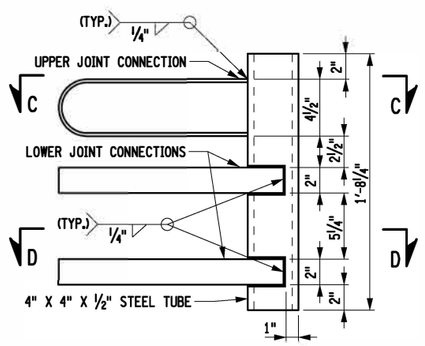
4B5 BAR LOCATION TABLE		
NOMINAL LENGTH OF BARRIER UNIT	X	NO. EACH SECTION
20'	6'-11"	2
18'	6'-5"	2
16'	5'-11"	2
14'	7'	1
12'	6'	1
10'	5'	1
8'	N/A	0
"X" DISTANCE FROM END OF BARRIER TO 4B5 BAR		

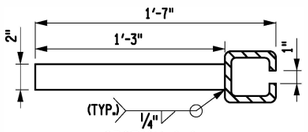


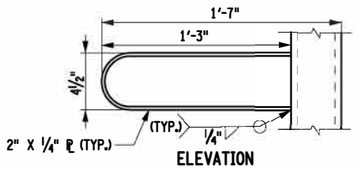


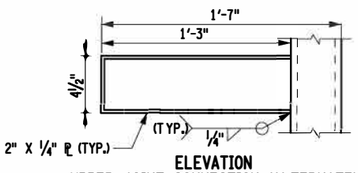


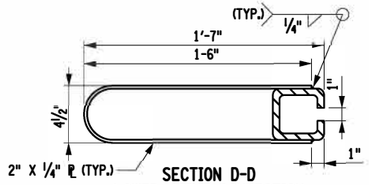


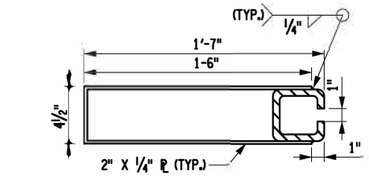


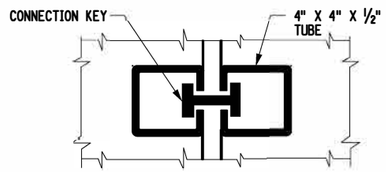












NEW YORK STATE OF OPPORTUNITY. **Department of Transportation**

U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL TEMPORARY POSITIVE BARRIER (SHEET 1 OF 7)

APPROVED DECEMBER 2, 2021

Robert Limoges

ROBERT LIMOGES, P.E.
DIRECTOR, OTSM

ISSUED UNDER EI 21-028

619-001

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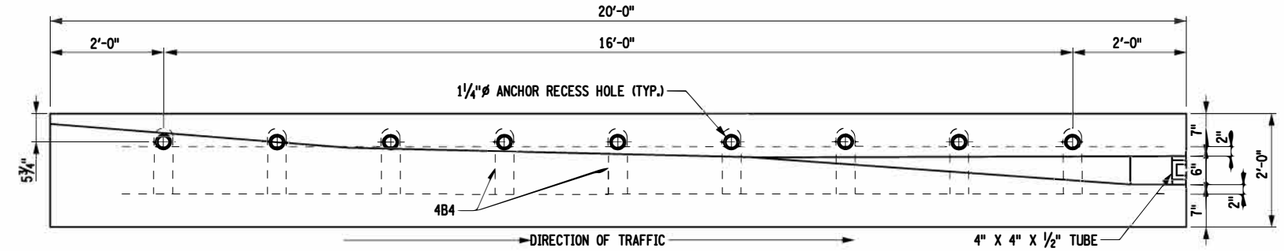


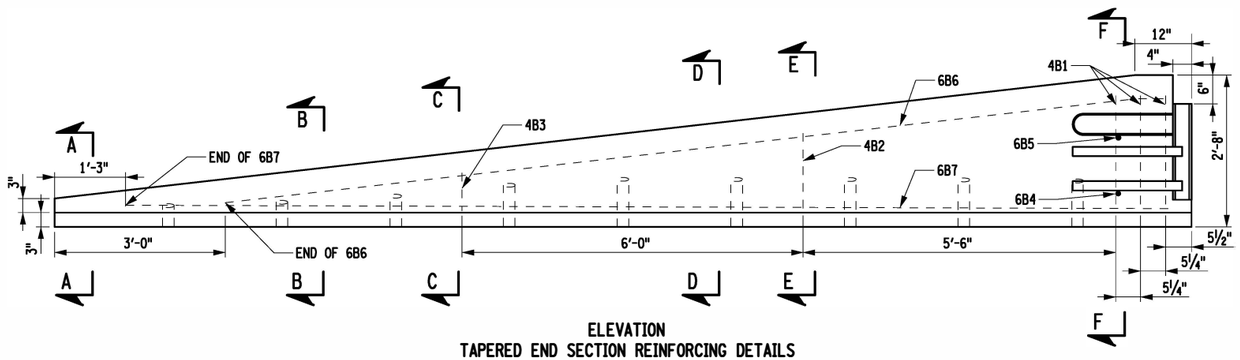
PLAN

NOTES:

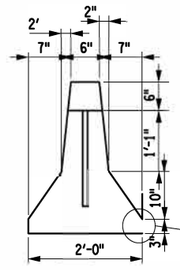
1. STEEL PLATE SHALL BE ASTM A36M, A572M, GRADE 345, TUBE STEEL SHALL BE ASTM A500 GRADE B OR C, AND REINFORCING BARS SHALL BE A615 GRADE 420.

3. ALL CORNERS ON THE TOP OF THE SEGMENT SHALL BE ROUNDED TO A 1" RADIUS. THE SEGMENT SHALL HAVE A SMOOTH TRANSITION TO A 6" END-OF-SECTION HEIGHT. ALL END SECTIONS SHALL BE PINNED UNLESS OTHERWISE NOTED.

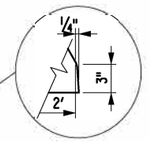
3. THE DETAILS SHOWN FOR THE END SECTIONS ON THIS SHEET ARE FOR APPROACH ENDS WHICH ARE TO BE LOCATED TO THE LEFT OF THE TRAFFIC FLOW ON ONE-WAY OPERATIONS OR BETWEEN OPPOSING FLOWS OF TRAFFIC ON TWO-WAY OPERATIONS. WHEN AN APPROACH END IS TO BE LOCATED TO THE RIGHT OF THE TRAFFIC FLOW, THE END SEGMENT SHALL BE CONSTRUCTED SO THAT IT IS OPPOSITE-HAND (REVERSED IN ALL CONFIGURATIONS, ANCHOR HOLE LOCATIONS AND REINFORCEMENT).



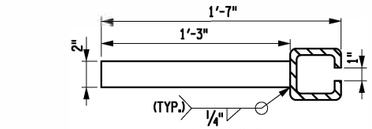
ELEVATION
TAPERED END SECTION REINFORCING DETAILS



END VIEW

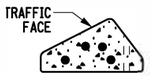


OPTIONAL BATTERED BOTTOM CORNER DETAIL

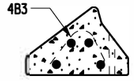


SECTION G-G

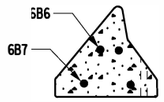
SECTION A-A



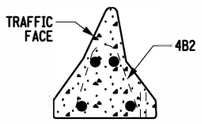
SECTION B-B



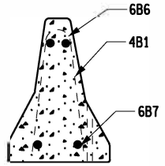
SECTION C-C



SECTION D-D

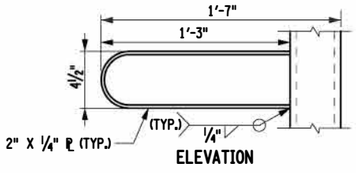


SECTION E-E

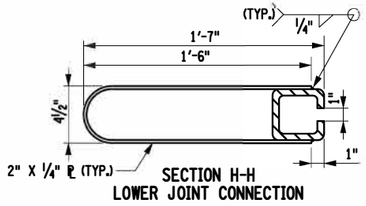


SECTION F-F

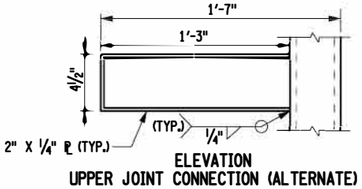
TRANSITION SECTIONS



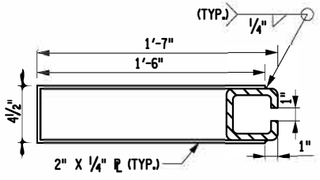
ELEVATION



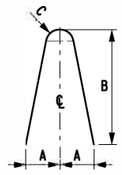
SECTION H-H
LOWER JOINT CONNECTION



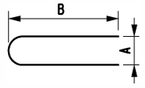
ELEVATION
UPPER JOINT CONNECTION (ALTERNATE)



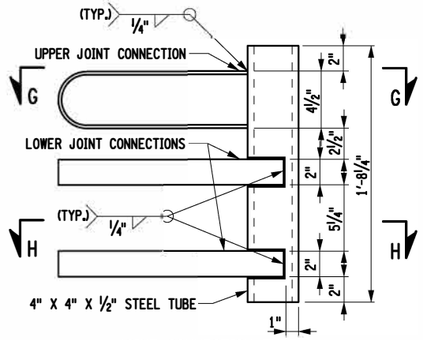
SECTION H-H
LOWER JOINT CONNECTION (ALTERNATE)



TYPE "I" BAR



TYPE "II" BAR



JOINT CONNECTION TUBE

TAPERED END SECTION BAR LIST								
MARK	SIZE	NUMBER PER SECTION	LENGTH	TYPE	A	B	C	LOCATION
4B1	13	3	4'-11"	I	5"	28"	1"	STIRRUPS
4B2	13	1	3'-3"	I	5"	18"	1"	STIRRUPS
4B3	13	1	1'-8"	I	5"	8"	1"	STIRRUPS
4B4	13	9	3'-1"	II	4"	15½"		HOOPS
6B4	19	1	1'-2"	STR.				TRANSVERSE (BOTTOM)
6B5	19	1	6"	STR.				TRANSVERSE (TOP)
6B6	19	2	16'-7"	STR.				
6B7	19	2	18'-2"	STR.				

NEW YORK STATE OF OPPORTUNITY. **Department of Transportation**

U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL
TEMPORARY POSITIVE BARRIER
(SHEET 2 OF 7)

APPROVED DECEMVBER 2, 2021

Robert Limoges
ROBERT LIMOGES, P.E.
DIRECTOR, OTSM

ISSUED UNDER EI 21-028

619-001

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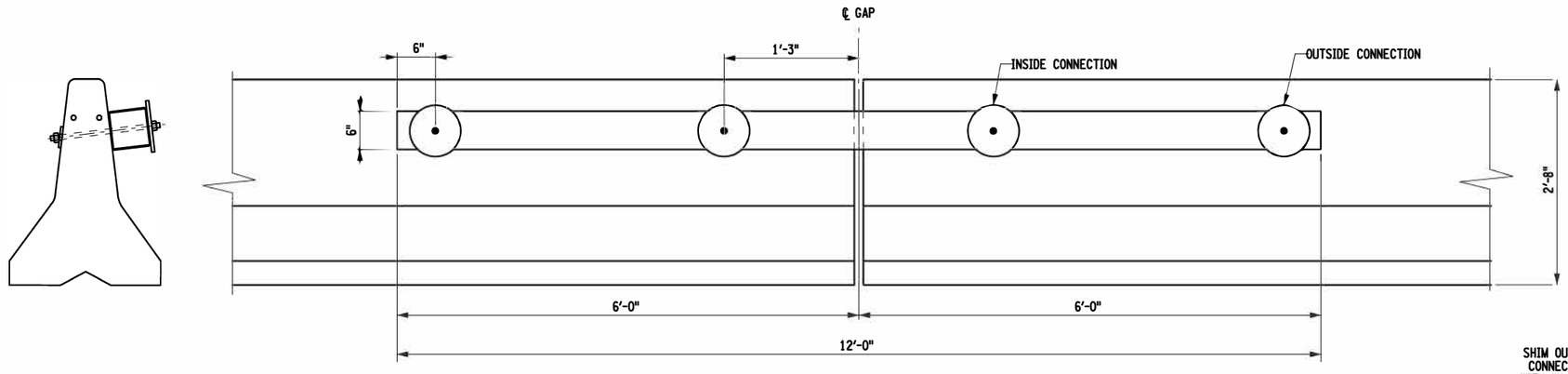
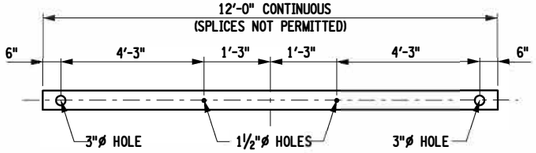
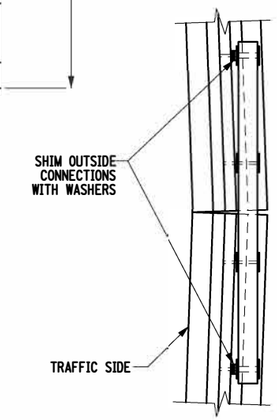


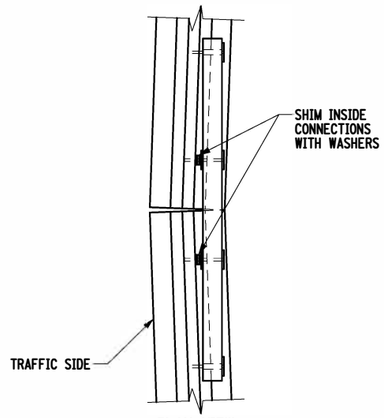
SIDE VIEW
(CONSTRUCTION SIDE)



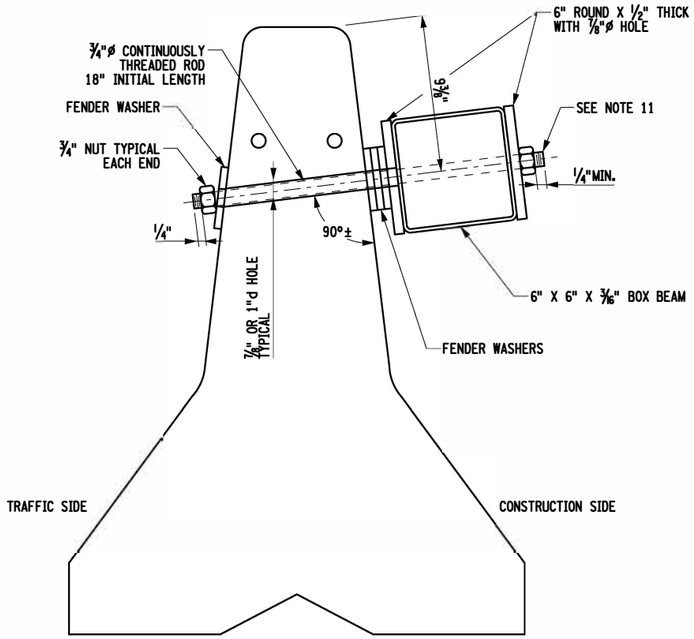
BOX BEAM GUIDE RAIL
HOLE LAYOUT DETAIL



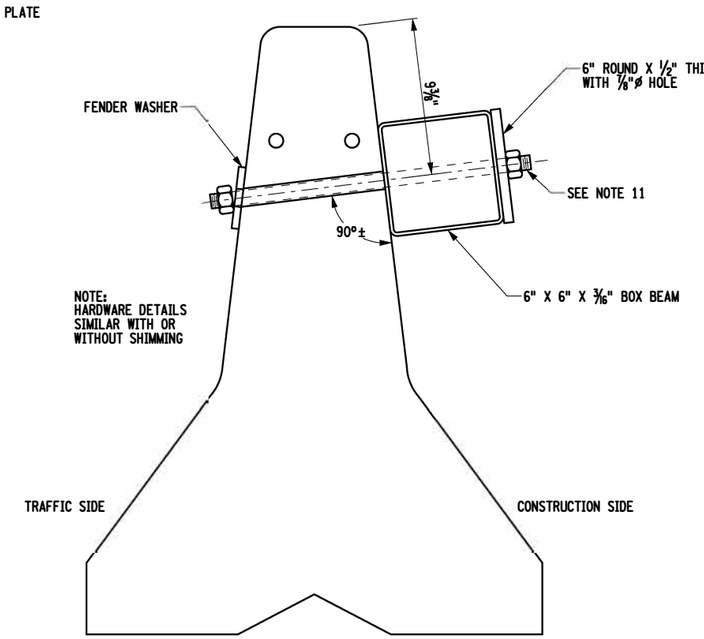
PLAN VIEW
TCB CURVING
TOWARD TRAFFIC



PLAN VIEW
TCB CURVING
AWAY FROM TRAFFIC



SECTION WITH SHIMMING



SECTION WITHOUT SHIMMING

BOX BEAM STIFFENING OF TEMPORARY POSITIVE BARRIER

NOTES:

1. TEMPORARY POSITIVE BARRIER (TCB) SHALL BE PRECAST IN ACCORDANCE WITH THE REQUIREMENTS OF § 704-05 PRECAST CONCRETE BARRIER AND STANDARD SHEET TITLED "TEMPORARY POSITIVE BARRIER - SHEET 1 OF 6" AND "TEMPORARY POSITIVE BARRIER - SHEET 2 OF 6".
2. BOX BEAM SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF §710-21, BOX BEAM RAILING AND MEDIAN BARRIER, RAILS.
   A. HOWEVER, THE BOX BEAM NEED NOT BE NEW.
   B. THE GALVANIZING REMAINING ON THE OLD PIECES SHALL BE SUFFICIENT TO ENSURE THE STEEL IS STRUCTURALLY INTACT.
3. TCB WITH BOX BEAM STIFFENER SHALL BEGIN AT LEAST 50'-0" PRIOR TO, BE CONTINUOUS THROUGH AND EXTEND AT LEAST 50'-0" BEYOND THE AREA REQUIRING LIMITED DEFLECTIONS. WHERE SPACE LIMITS SUCH EXTENSIONS, THE FIRST/LAST TCB SEGMENT SHOULD BE PINNED WITH 4 PINS ON THE CONSTRUCTION SIDE, UNLESS OTHERWISE SPECIFIED ON THE PLANS OR DIRECTED BY THE ENGINEER.
4. TEMPORARY POSITIVE BARRIER WITH BOX BEAM STIFFENER MAY ONLY BE USED WITH TCB SEGMENTS 14'-0" OR LONGER.
5. WHERE TEMPORARY POSITIVE BARRIERS ARE PLACED ON A RADIUS, THE RESULTING GAPS BETWEEN THE BOX BEAM AND CONCRETE BARRIER SHALL BE SHIMMED.
6. THE SHIMMING SHALL CONSIST OF 8" X 1#2" ROUND PLATE, AND FENDER WASHERS AS NEEDED TO SNUG THE BOX BEAM STIFFENER TO THE TCB.
7. FENDER WASHERS SHALL BE 3" NOMINAL O.D.
8. HARDWARE OTHER THAN THE BOX BEAM NEED NOT BE GALVANIZED.
9. THE PRESENCE OF NORMAL HOLES DRILLED PER THIS SHEET WILL NOT AFFECT THE REUSABILITY OF THE CONCRETE SEGMENTS.
10. GRIND EXPOSED EDGES OF STEEL TO REMOVE SHARP EDGES.
11. COVER THREADED ROD END WITH ¾" PLASTIC BOLT CAP ON CONSTRUCTION SIDE.

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL
TEMPORARY POSITIVE BARRIER
(SHEET 3 OF 7)

APPROVED DECEMBER 2, 2021

Robert Limoges

ROBERT LIMOGES, P.E.
DIRECTOR, OTSM

ISSUED UNDER EI 21-028

619-001

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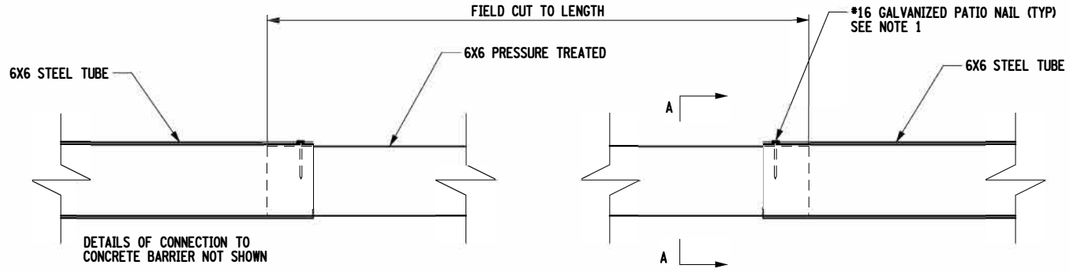
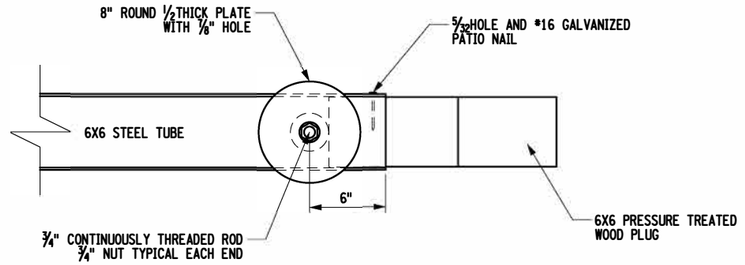
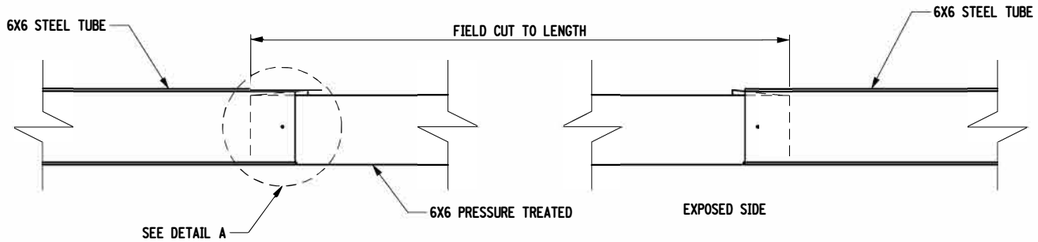


ELEVATION
CONTINUOUS BEAM OPTION



ELEVATION
PLUG OPTION



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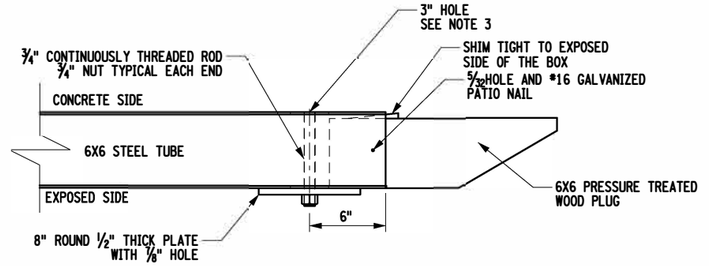
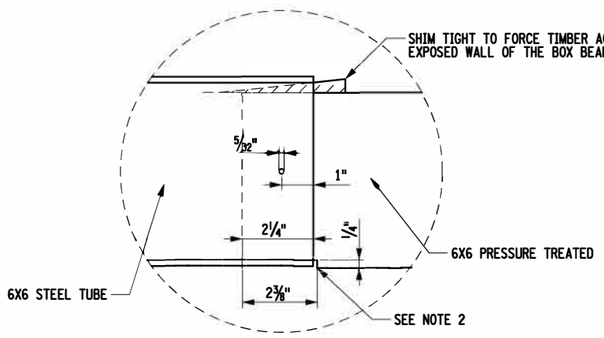
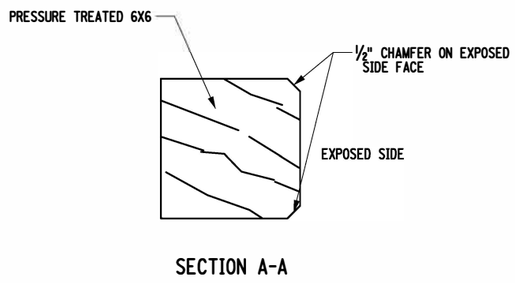
CONTINUOUS BEAM OPTION



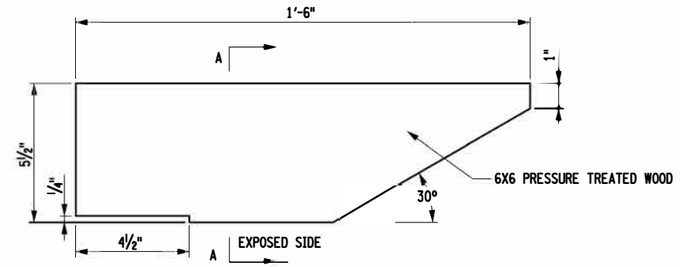
PLAN
PLUG OPTION



DETAIL A



SECTION A-A



PLUG DETAIL

NOTES:

1. THE FOLLOWING MODIFICATIONS SHOULD BE MADE TO THE BOX-BEAM-STIFFENING DETAILS ON SHEET 3 OF 6.
   - A. THE EDGES OF THE PLATES FACING THE EXPOSED SIDE SHALL BE GROUND TO REMOVE SHARP EDGES AND BURRS.
   - B. THE ENDS OF THE RODS HOLDING THE BOX BEAM TO THE CONCRETE BARRIER SHALL BE COVERED WITH PLASTIC BOLT CAPS.
   - C. THE ENDS OF THE BOX BEAM SHALL HAVE THE EXPOSED EDGES GROUND TO ELIMINATE SHARP EDGES AND BURRS.
   - D. THE ENDS OF THE BOX BEAM SHALL BE PLUGGED WITH ONE OF THE TWO OPTIONS SHOWN ON THIS SHEET.
2. RABBET FACE ¼" DEEP AND 2⅜" ON EACH END OF EXPOSED SIDE.
3. FOR CONNECTION WITH THE CONCRETE BARRIER SEE STANDARD SHEET 619-001, SHEET 3 OF 6.

NEW YORK STATE OF OPPORTUNITY. **Department of Transportation**

U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL TEMPORARY POSITIVE BARRIER (SHEET 4 OF 7)

APPROVED DECEMBER 2, 2021

Robert Limoges

ROBERT LIMOGES, P.E.
DIRECTOR, OTSM

ISSUED UNDER EI 21-028

619-001

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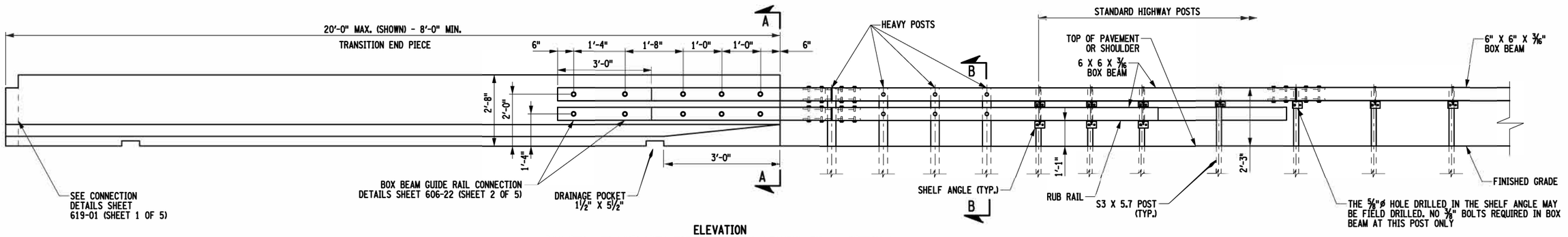
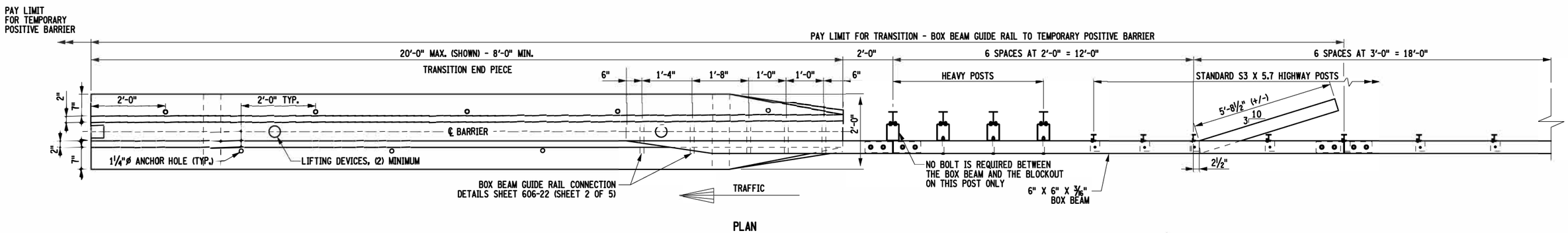
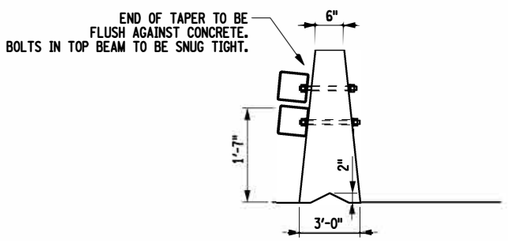


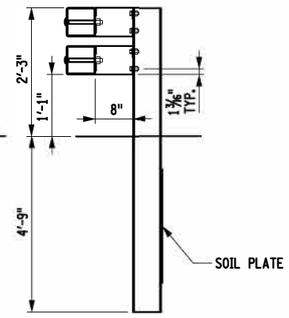
ELEVATION
BOX BEAM TO UNFLARED TCB TRANSITION (LEADING END) - OPTION A



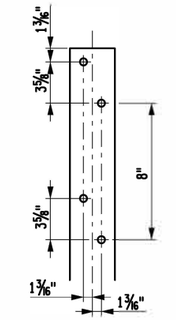
PLAN



END VIEW A-A



SECTION B-B
SEE 606-22 FOR BLOCKOUT AND POST DETAILS



BOLT LOCATION DETAIL

NOTES:

1. THE DETAILS SHOWN ON THIS SHEET REPRESENT AN ACCEPTABLE MEANS OF TRANSITIONING FROM BOX BEAM TO TEMPORARY POSITIVE BARRIER (TCB). OTHER MEANS MAY ALSO BE ACCEPTABLE IF APPROVED BY NYSDOT DESIGN ENGINEER.
2. REFER TO SHEET 619-001, (SHEET 1) FOR ADDITIONAL NOTES.
3. THE 6B2 AND 6B3 BARS SHALL BE 1'-0" SHORTER THAN THE NOMINAL LENGTH OF THE BARRIER SEGMENTS.
4. AT A MINIMUM, 1"ø ASTM A36 ANCHOR PINS SHALL BE PLACED IN FOUR WORKERS-SIDE ANCHOR HOLES AT EACH END OF TCB RUN. EMBEDMENT LENGTH SHALL BE AS REQUIRED BY THE STANDARD SPECIFICATION SECTION 619.
5. RAILS THROUGH SECTION B-B MAY NOT BE RE-USED IN REGULAR RUNS.

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL
TEMPORARY POSITIVE BARRIER
(SHEET 5 OF 7)
TRANSITION FROM BOX BEAM - OPTION A

APPROVED DECEMBER 2, 2021
Robert Limoges
ROBERT LIMOGES, P.E.
DIRECTOR, OTSM

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619-001

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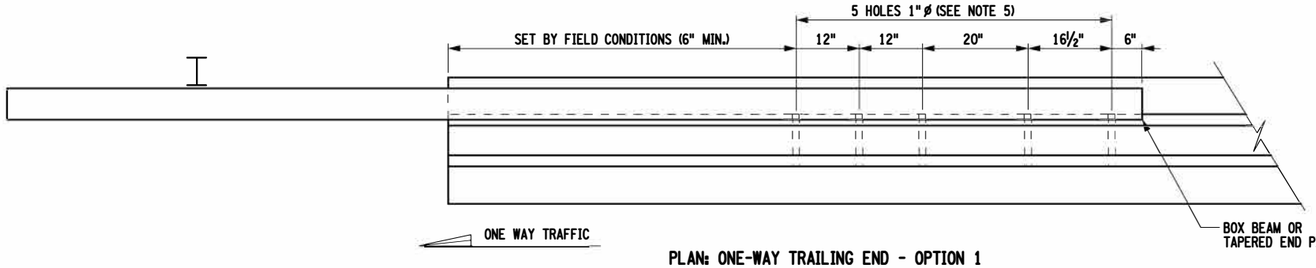
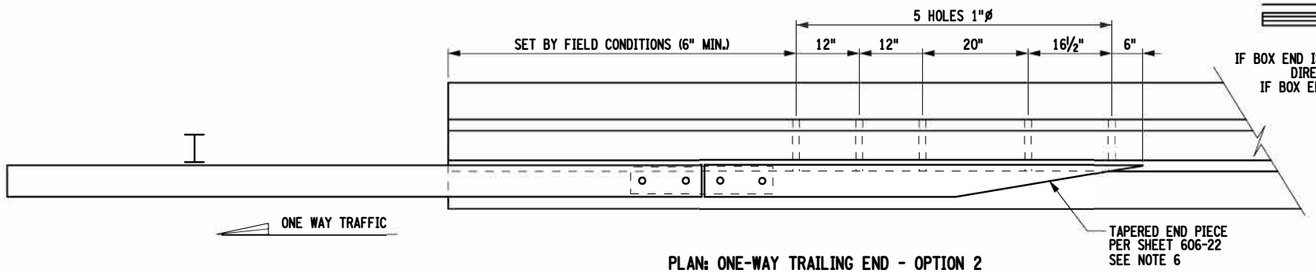
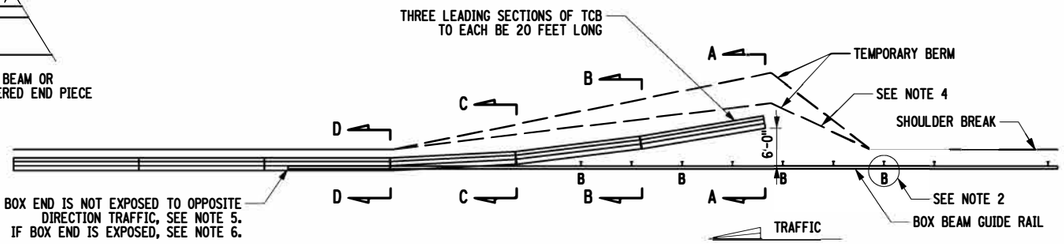


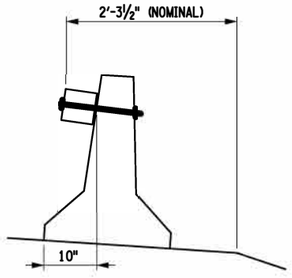
PLAN: ONE-WAY TRAILING END - OPTION 1
TEMPORARY POSITIVE BARRIER BACK TO BOX BEAM TRANSITION



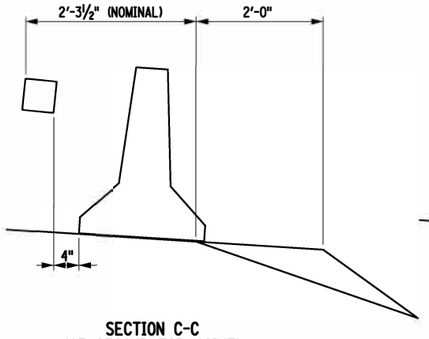
PLAN: ONE-WAY TRAILING END - OPTION 2
TEMPORARY POSITIVE BARRIER FACE TO BOX BEAM TRANSITION



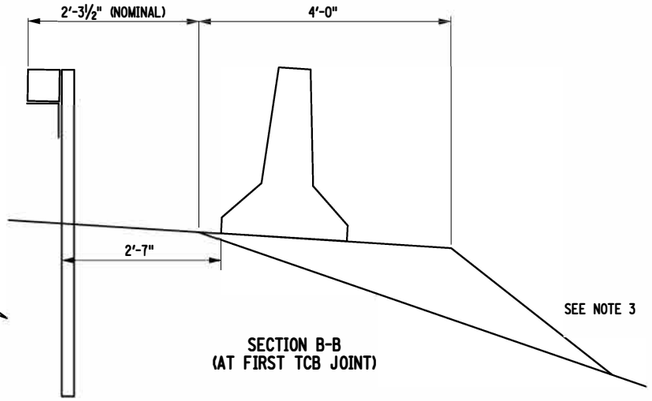
BOX BEAM TO FLARED TCB TRANSITION (LEADING END) - OPTION B
PLAN



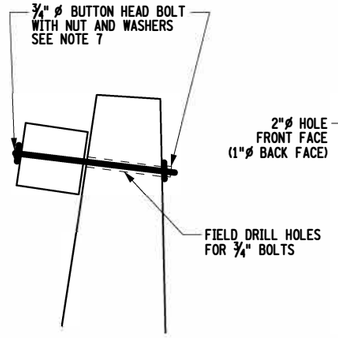
SECTION D-D
(AT THIRD TCB JOINT)



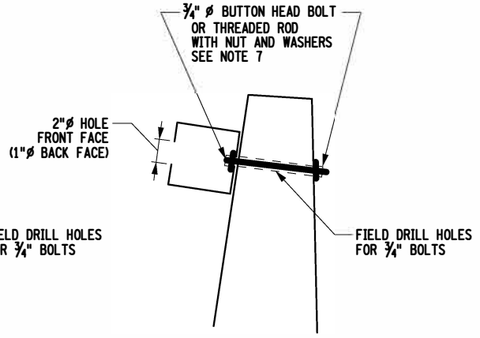
SECTION C-C
(AT SECOND TCB JOINT)



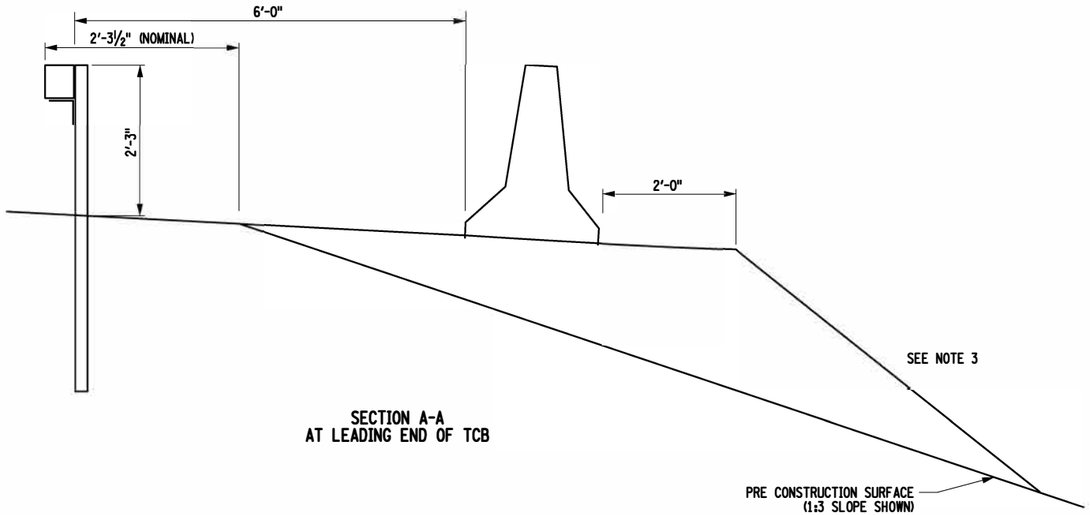
SECTION B-B
(AT FIRST TCB JOINT)



BOLTING OPTION A



BOLTING OPTION B



SECTION A-A
AT LEADING END OF TCB

NOTES:

1. THE DETAILS SHOWN ON THIS SHEET REPRESENT ACCEPTABLE MEANS OF TRANSITIONING FROM BOX BEAM TO TEMPORARY POSITIVE BARRIER (TCB) AND BACK. OTHER MEANS MAY ALSO BE ACCEPTABLE, IF APPROVED BY THE DESIGNER.
2. BACKUP POSTS SHALL BE ADDED AS NEEDED TO ENSURE THAT POST SPACING WITHIN 15 FEET OF THE UPSTREAM END OF THE TCB DOES NOT EXCEED 3 FEET.
3. THE BERM'S TOP SLOPE SHALL BE THE SAME AS THE SLOPE OF THE SHOULDER. THE FACE OF THE BERM SHALL BE NO STEEPER THAN A 1:2 SLOPE, UNLESS THE HEIGHT IS 3 FEET OR LESS, WHICH MAY BE PLACED AS A 1:1.5. BERM MATERIAL SHALL SATISFY 203.03 EMBANKMENT IN PLACE. ALL BERM MATERIAL SHALL BE REMOVED WHEN TCB IS REMOVED AND SLOPE SHALL BE SEEDED.
4. THE LEADING TOP EDGE OF THE BERM SHALL DIVERGE FROM THE SHOULDER BREAK ON A 1:2 OR LONGER FLARE.
5. BOX BEAM END MAY BE BOLTED TO TCB, OR MAY BE SUPPORTED ON JUST POSTS WITH A MINIMUM OVERLAP OF 80 FEET. AT UPSTREAM END OF TCB, OVERLAP SHALL EXTEND DOWNSTREAM FROM POINT OF TANGENCY. WHERE BOX BEAM RESUMES BEHIND THE TCB, OVERLAP SHALL EXTEND UPSTREAM FROM END OF TCB. SECTIONS OF BOX BEAM THAT ARE DRILLED FOR HORIZONTAL BOLTS SHALL BE REPLACED WITH INTACT SECTIONS WHEN THE TCB IS REMOVED.
6. LEADING BOX BEAM END SHALL BE FASTENED TO TCB WITH A 7'-11½" TAPERED END CONNECTION USING FIVE ¾" BOLTS AS SHOWN ON 606-22.
7. ALL-THREAD BAR WITH NUTS AND WASHERS MAY BE USED IN LIEU OF HEX BOLTS. END OF BAR ON TRAFFIC SIDE TO BE FLUSH WITH NUT.
8. AT A MINIMUM, 1" ø ASTM A36 ANCHOR PINS SHALL BE PLACED IN FOUR WORKERS-SIDE ANCHOR HOLES AT EACH END OF TCB RUN. EMBEDMENT LENGTH SHALL BE AS REQUIRED BY THE STANDARD SPECIFICATIONS (SECTION 619).

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL
TEMPORARY POSITIVE BARRIER
(SHEET 6 OF 7)
TRANSITIONS TO AND FROM BOX BEAM

APPROVED DECEMBER 2, 2021

Robert Limoges
ROBERT LIMOGES, P.E.
DIRECTOR, OTSM

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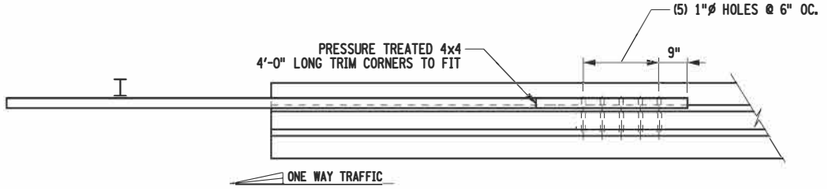
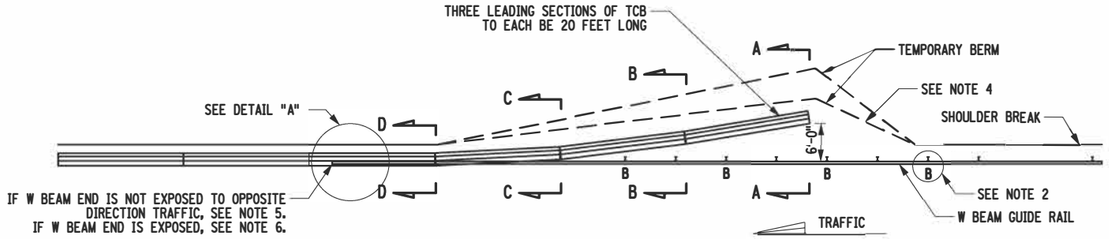
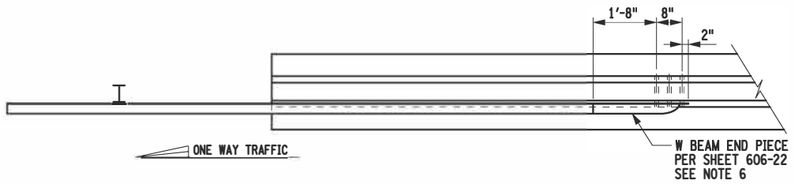


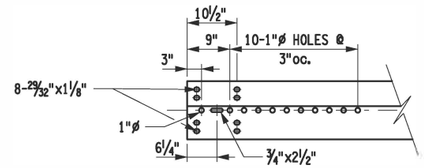
PLAN: ONE-WAY TRAILING END - OPTION 1
TEMPORARY CONCRETE BARRIER BACK TO W BEAM TRANSITION



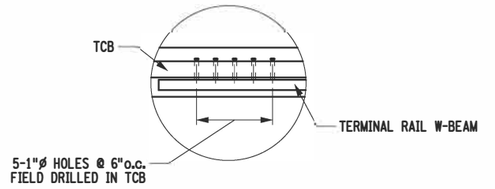
W BEAM TO FLARED TCB TRANSITION (LEADING END) PLAN



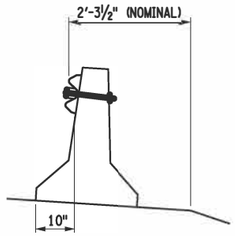
PLAN: ONE-WAY TRAILING END - OPTION 2
TEMPORARY CONCRETE BARRIER FACE TO W BEAM TRANSITION



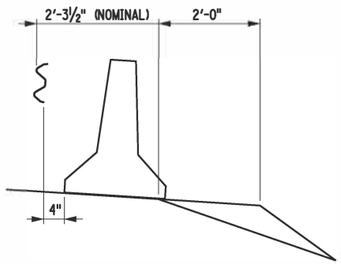
TERMINAL RAIL END



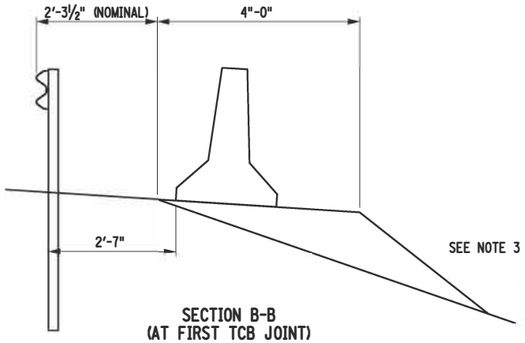
DETAIL A



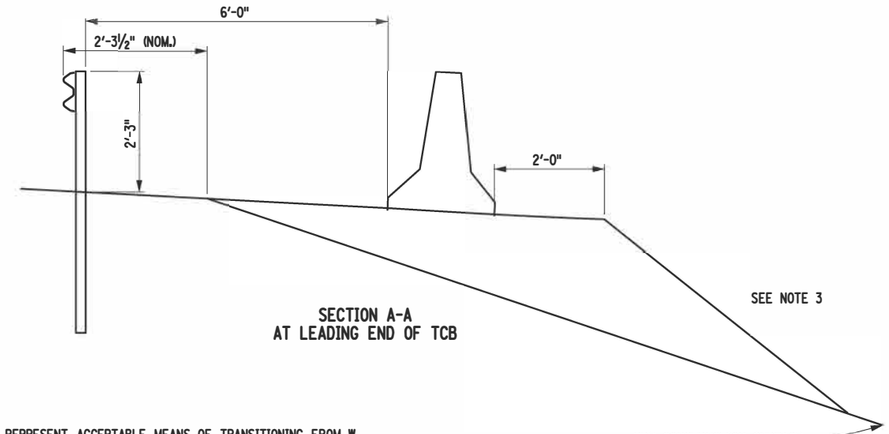
SECTION D-D
(AT THIRD TCB JOINT)



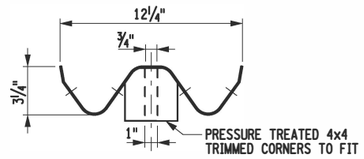
SECTION C-C
(AT SECOND TCB JOINT)

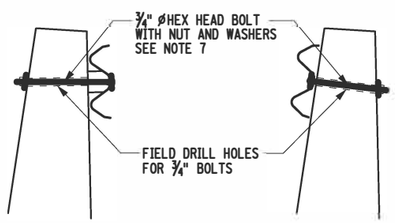


SECTION B-B
(AT FIRST TCB JOINT)



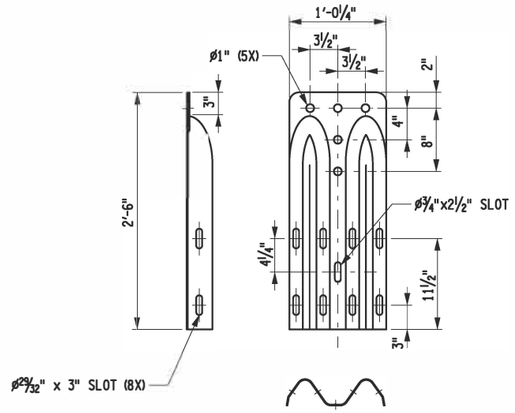
SECTION A-A
AT LEADING END OF TCB





BOLTING - OPTION 1

BOLTING - OPTION 2



W BEAM END PIECE DETAIL

NOTES:

1. THE DETAILS SHOWN ON THIS SHEET REPRESENT ACCEPTABLE MEANS OF TRANSITIONING FROM W BEAM TO TEMPORARY CONCRETE BARRIER (TCB) AND BACK. OTHER MEANS MAY ALSO BE ACCEPTABLE, IF APPROVED BY THE DESIGNER.
2. WHEN TRANSITIONING FROM WEAK POST W-BEAM, BACKUP POSTS SHALL BE ADDED AS NEEDED TO ENSURE THAT POST SPACING WITHIN 15 FEET OF THE UPSTREAM END OF THE TCB DOES NOT EXCEED 3'-1½". POST SPACING FOR THE 50 FEET UPSTREAM FROM THAT SHALL NOT EXCEED 6'-3". BACKUP POSTS ADDED TO ACHIEVE A 6'-3" POST SPACING MAY BE LEFT IN PLACE PERMANENTLY.
3. THE BERM'S TOP SLOPE SHALL BE THE SAME AS THE SLOPE OF THE SHOULDER. THE FACE OF THE BERM SHALL BE NO STEEPER THAN A 1:2 SLOPE, UNLESS THE HEIGHT IS 3 FEET OR LESS, WHICH MAY BE PLACED AS A 1:1.5. BERM MATERIAL SHALL SATISFY 203.03 EMBANKMENT IN PLACE. ALL BERM MATERIAL SHALL BE REMOVED WHEN TCB IS REMOVED AND SLOPE SHALL BE SEEDED.
4. THE LEADING TOP EDGE OF THE BERM SHALL DIVERGE FROM THE SHOULDER BREAK ON A 1:2 OR LONGER FLARE.
5. W BEAM END MAY BE BOLTED TO TCB, OR MAY BE SUPPORTED ON JUST POSTS WITH A MINIMUM OVERLAP OF 80 FEET. AT UPSTREAM END OF TCB, OVERLAP SHALL EXTEND DOWNSTREAM FROM POINT OF TANGENCY. WHERE W BEAM RESUMES BEHIND THE TCB, OVERLAP SHALL EXTEND UPSTREAM FROM END OF TCB. SECTIONS OF W BEAM THAT ARE DRILLED FOR HORIZONTAL BOLTS SHALL BE REPLACED WITH INTACT SECTIONS WHEN THE TCB IS REMOVED.
6. LEADING W BEAM END SHALL BE FASTENED TO TCB WITH A W BEAM END PIECE USING FIVE ¾" BOLTS.
7. ALL-THREAD BAR WITH NUTS AND WASHERS MAY BE USED IN LIEU OF BOLTS. END OF BAR ON TRAFFIC SIDE TO BE FLUSH WITH NUT.
8. AT A MINIMUM, 1" ø ASTM A36 ANCHOR PINS SHALL BE PLACED IN FOUR WORKERS-SIDE ANCHOR HOLES AT EACH END OF TCB RUN. EMBEDMENT LENGTH SHALL BE AS REQUIRED BY THE STANDARD SPECIFICATIONS (SECTION 619).

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL
TEMPORARY CONCRETE BARRIER
(SHEET 7 OF 7)
TRANSITIONS TO AND FROM CORRUGATED BEAM

APPROVED January 18, 2022
DEPUTY CHIEF ENGINEER
(DESIGN)

ISSUED UNDER EI 22-004

619-001

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