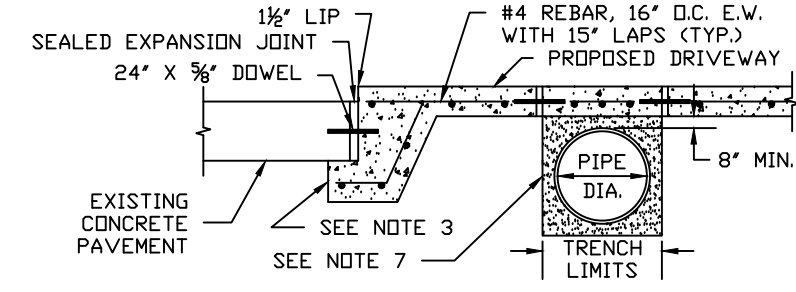
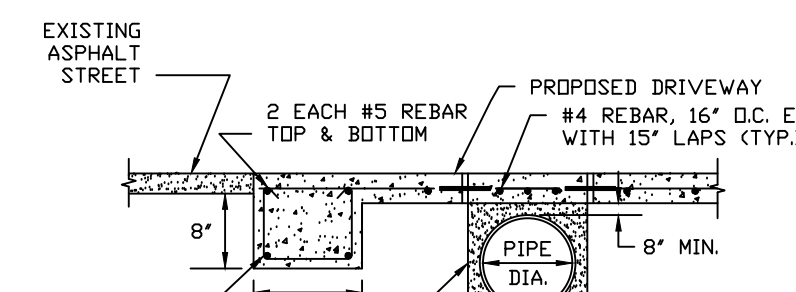


PLAN - ALL STREETS



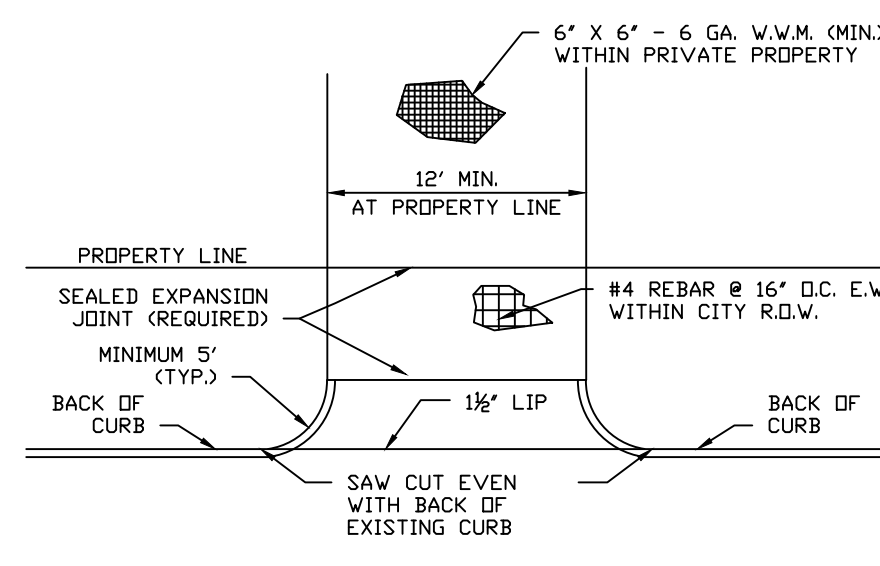
PROFILE - CONCRETE STREETS



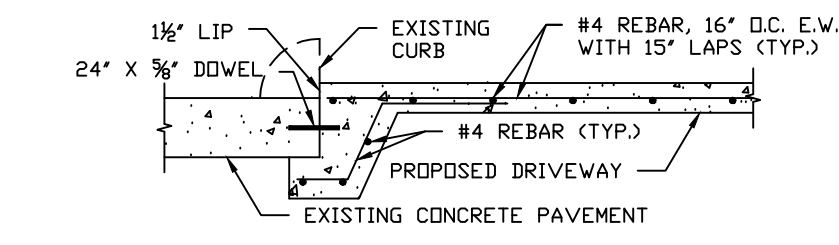
PROFILE - ASPHALT STREETS

RESIDENTIAL CONCRETE DRIVEWAY (OPEN DITCH STREETS)

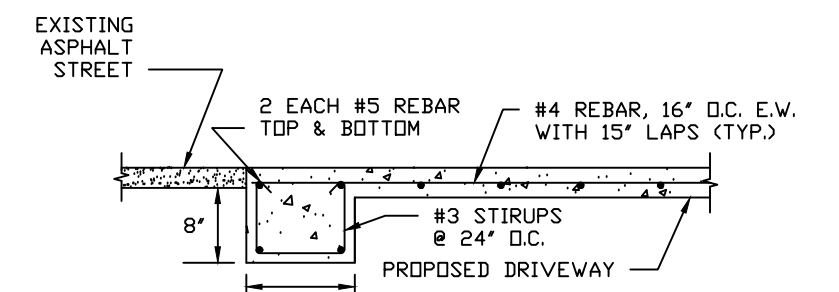
- NOTES:
- EXPANSION JOINT ON CONCRETE STREETS SHALL BE NOMINAL REDWOOD OR ASPHALTIC EXPANSION JOINT MATERIAL WITH 1\"/>
 - 1/4\"/>
 - CONCRETE PAVEMENT HEADERS SHALL BE BUILT IN ACCORDANCE WITH CITY OF FRIENDSWOOD PAVING DETAILS.
 - CONNECTION TO EXISTING ASPHALT STREETS SHALL BE MADE BY BLOCKING NEW CONCRETE WITH EDGE OF PAVEMENT. A 8\"/>
 - DAMAGE TO EXISTING STREETS, WHETHER ASPHALT OR CONCRETE, SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.
 - ALL CONCRETE SHALL BE CLASS \"A\", 3,000 PSI AT TWENTY-EIGHT DAYS.
 - USE MATERIAL AND DIMENSION AS SPECIFIED IN STORM SEWER DETAILS FOR TRENCH WIDTHS AND BACKFILL.
 - NO MORE THAN ONE (1) DRIVEWAY ON LOTS WITH LESS THAN 120\"/>



PLAN - ALL STREETS

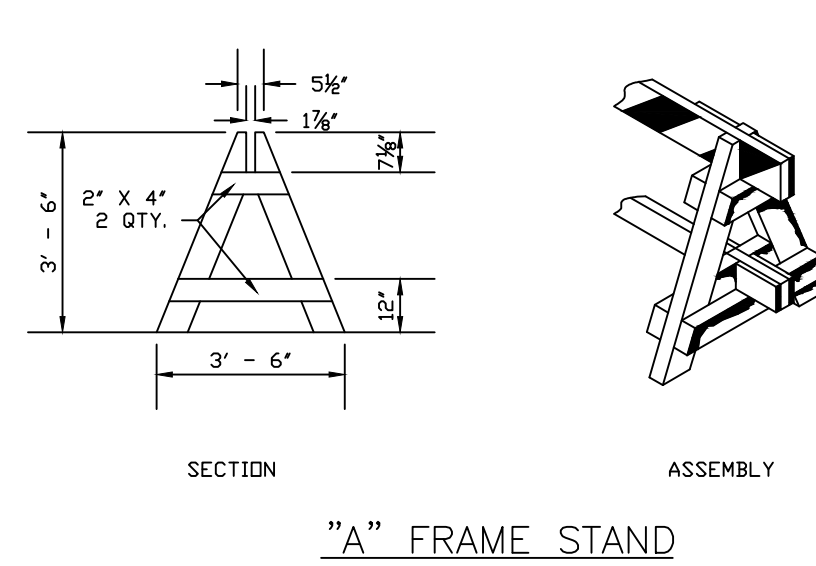


PROFILE - CONCRETE STREETS

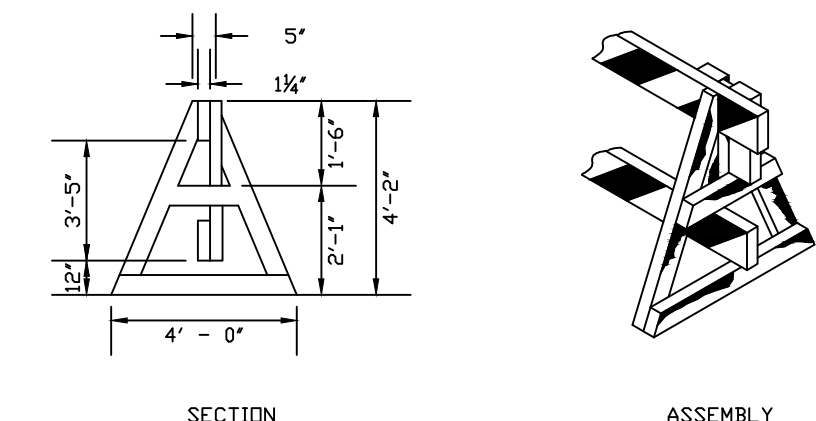


PROFILE - ASPHALT STREETS
RESIDENTIAL CONCRETE DRIVEWAY (CURB & GUTTER STREETS)

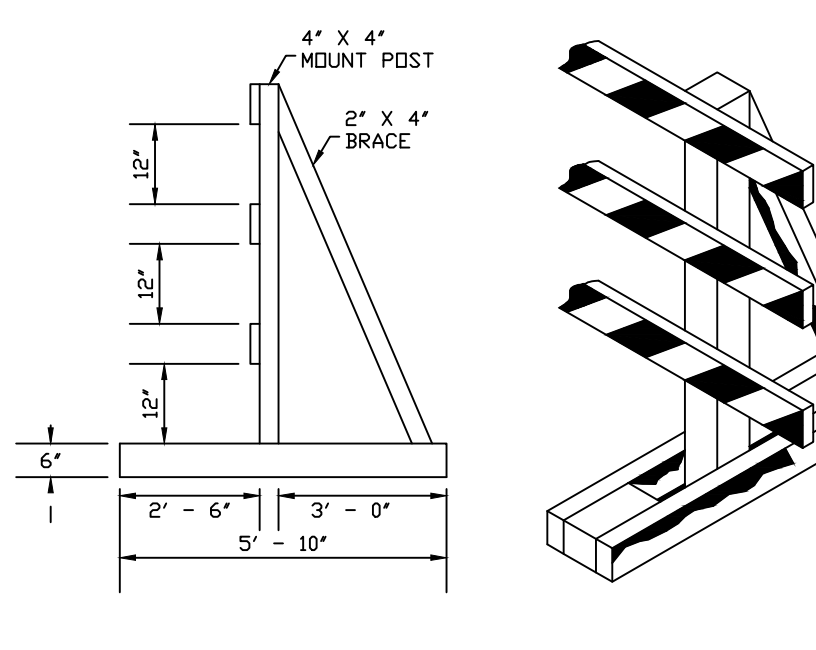
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 - 1/4\"/>
 - CONCRETE PAVEMENT HEADERS SHALL BE BUILT IN ACCORDANCE WITH CITY OF FRIENDSWOOD PAVING DETAILS.
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 - DAMAGE TO EXISTING STREETS, WHETHER ASPHALT OR CONCRETE, SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.
 - ALL CONCRETE SHALL BE CLASS \"A\", 3,000 PSI AT TWENTY-EIGHT DAYS.



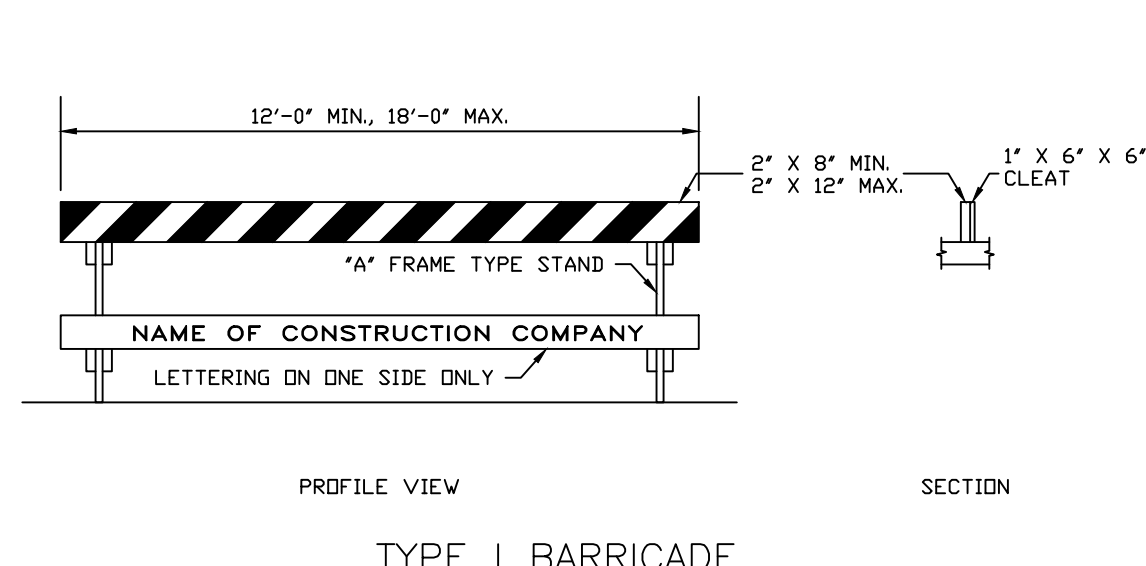
SECTION ASSEMBLY
\"A\" FRAME STAND



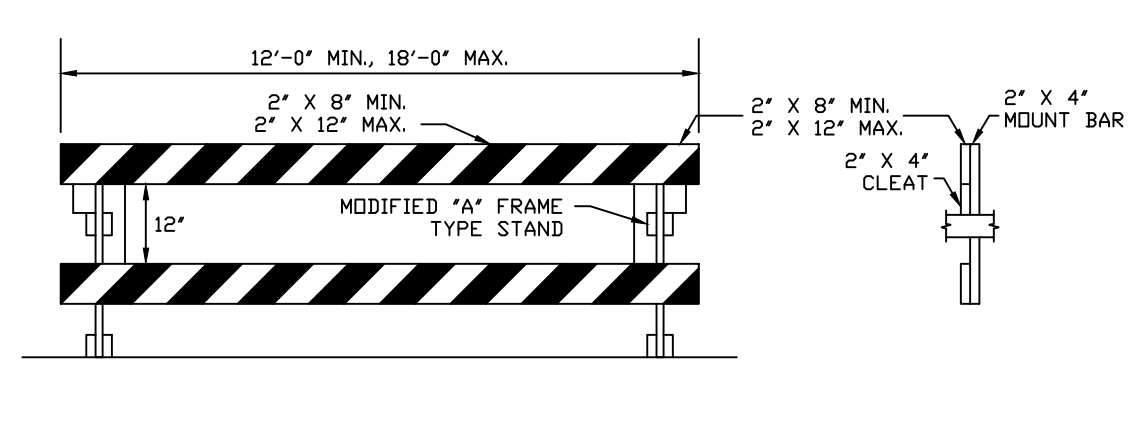
SECTION ASSEMBLY
MODIFIED \"A\" FRAME STAND



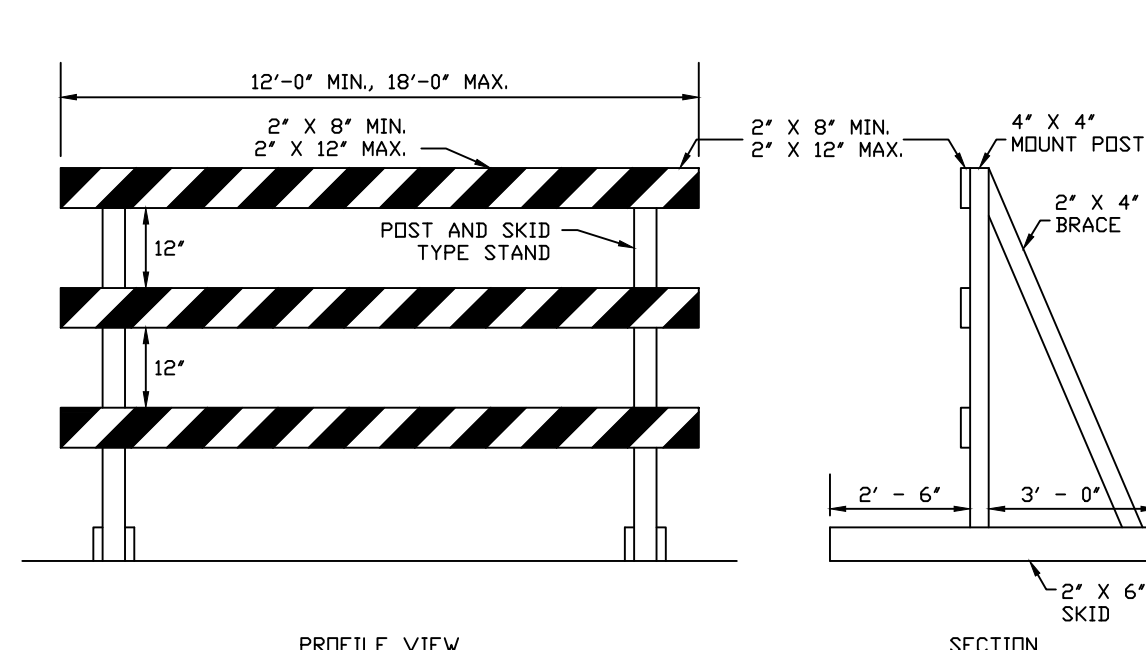
SECTION ASSEMBLY
SKID & POST STAND
BARRICADE STANDS



PROFILE VIEW SECTION
TYPE I BARRICADE



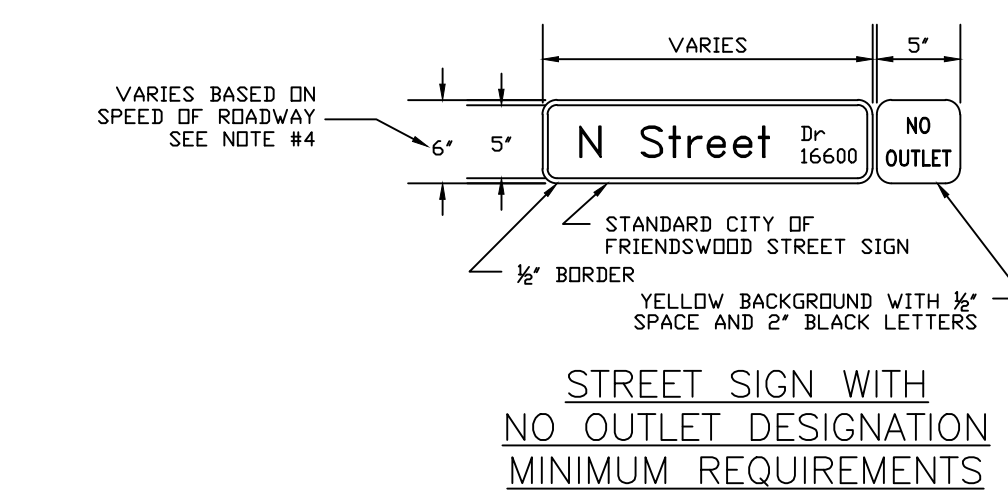
PROFILE VIEW SECTION
TYPE II BARRICADE



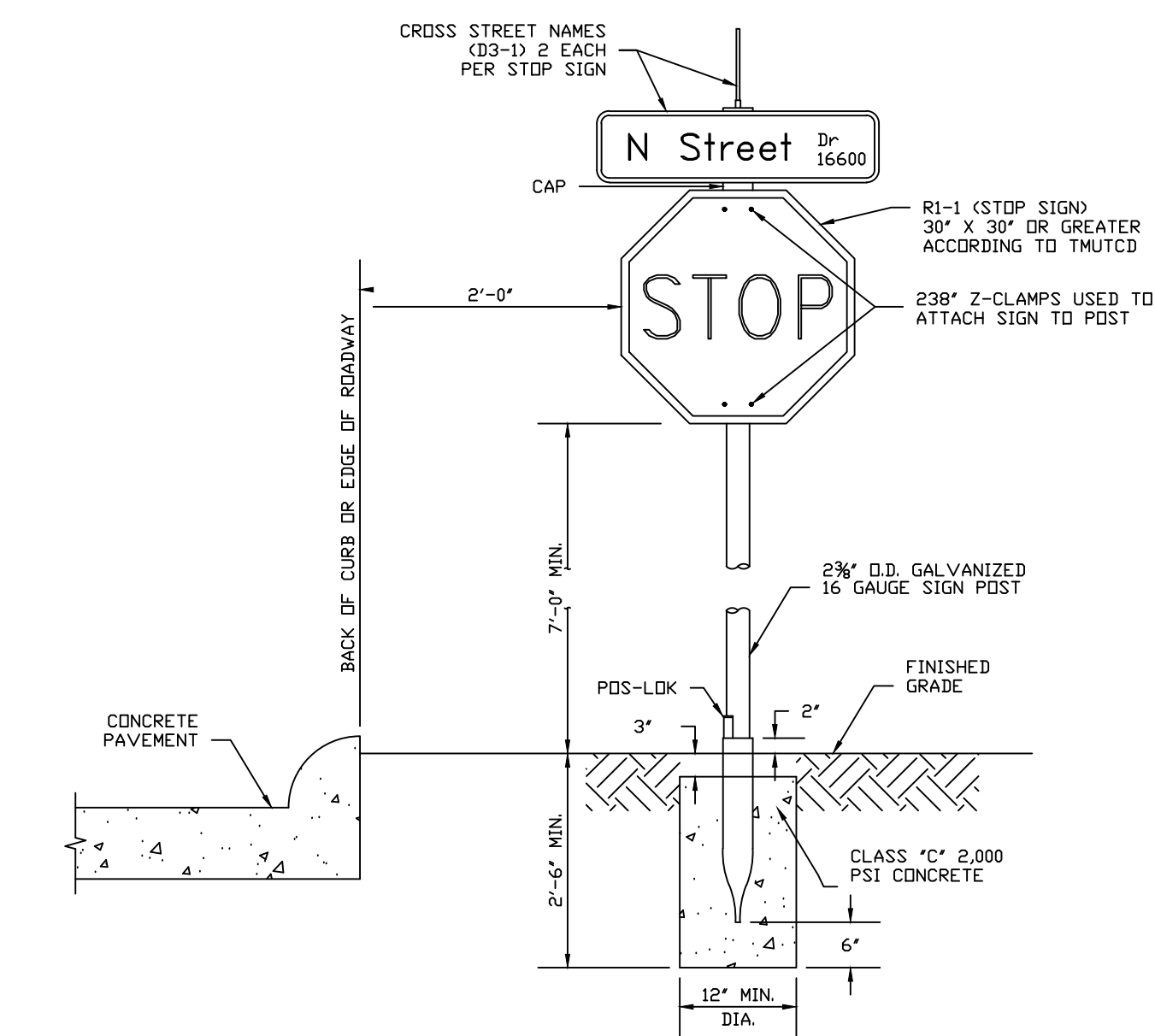
PROFILE VIEW SECTION
TYPE III BARRICADE
TEMPORARY BARRICADES

BARRICADE CONSTRUCTION NOTES:

- BARRICADES SHALL BE CONSTRUCTED OF CLEAN SOUND LUMBER SURFACED ON TWO SIDES CUT TO THE NOMINAL DIMENSION SHOWN ON THESE DETAILS. BARRICADES SHALL BE PAINTED WITH TWO (2) COATS OF AN APPROVED BRAND OF WHITE PAINT TO PROVIDE THOROUGH COVERAGE AND A UNIFORM WHITE COLOR. THE PAINT FOR BARRICADE STRIPES SHALL BE AN APPROVED BRAND OF RED OR ORANGE AND WHITE PAINT APPLIED TO PROVIDE UNIFORM COLOR, AND THEY SHALL BE REFLECTORIZED.
- REFLECTORIZATION FOR BARRICADES OR SIGNS MAY BE BY MEANS OF APPROVED REFLECTIVE COATINGS ON THE SIGN BACKGROUND WHICH SHALL CONSIST OF EITHER GLASS BEADS ON PAINT, REFLECTIVE SHEETING, REFLECTIVE LIQUID, OR RETRO-DIRECTIVE REFLECTORS. THE RETRO-DIRECTIVE REFLECTORS MAY BE EITHER GLASS OR CRYSTAL PLASTIC REFLECTOR BUTTONS. ALL REFLECTING ELEMENTS SHALL REFLECT WHITE LIGHT, UNLESS OTHERWISE INDICATED IN THE DETAILS.
- ALL BARRICADES EXTENDING ACROSS MOVING LANES OR FOR DELINEATION THROUGH A PROJECT SHALL BE SUPPLEMENTED BY LIGHTS, PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF REFLECTOR BUTTONS OR REFLECTORIZED SURFACES. THESE LIGHTS SHALL BE MAINTAINED IN CONTINUOUS OPERATION FROM SUNSET TO SUNRISE AND SHALL BE OF THE FLASHING ELECTRIC TYPE, WITH THE RATE OF FLASHING BETWEEN SEVENTY (70) AND ONE HUNDRED-TWENTY (120) FLASHES PER MINUTE. FLASHING ELECTRIC LIGHTS SHALL NOT BE CONNECTED IN SERIES. ALL LIGHTS SHALL BE OF THE COLOR YELLOW.
- BARRICADE TYPE III SHALL BE TREATED WITH EIGHT POUND (8 LB.) PENTACHLOROPHENOL (OR SIMILAR TREATMENT ALLOWED BY AWWA) WOOD PRESERVATIVE AND PAINTED WITH A PRIME COAT CONSISTING OF SPAR VARNISH VEHICLE ALUMINUM PAINT, FOLLOWED WITH ONE (1) COAT OF EXTERIOR GRADE WHITE PAINT STRIPED WITH ALTERNATE DIAGONAL ORANGE OR RED REFLECTIVE STRIPES WHERE SPECIFIED.
- BARRICADES FOR CONSTRUCTION SHALL BE ALTERNATE ORANGE AND WHITE STRIPES SLOPING DOWNWARD AT AN ANGLE OF FORTY-FIVE DEGREES (45°) IN THE DIRECTION TRAFFIC IS TO PASS. BARRICADES USED OTHER THAN FOR CONSTRUCTION SHALL BE ALTERNATE RED AND WHITE STRIPES. THE ORANGE AND WHITE, AND RED AND WHITE MARKINGS SHALL NOT BE INTERMIXED IN THE SAME INSTALLATION AREA.
- PERMANENT BARRICADES SHALL HAVE RED AND WHITE STRIPING.
- TEMPORARY CONSTRUCTION BARRICADES SHALL HAVE ORANGE AND WHITE STRIPING.
- SIGNS FOR BARRICADES SHALL BE MADE FROM WOOD, HARDBOARD, METAL OR PLASTIC CONFORMING WITH THESE REQUIREMENTS:
 - METAL OR PLASTIC - SIGNS SHALL CONSIST OF STEEL, ALUMINUM ALLOY, OR PLASTIC WITH SUFFICIENT THICKNESS TO RETAIN RIGIDITY UNDER NORMAL CONDITIONS.
 - WOOD - SIGN STOCK SHALL BE TWO INCH (2\") STOCK B & B GRADE, KILN-DRIED LUMBER, OR EQUAL, OR WATERPROOF RESIN-BONDED EXTERIOR GRADE PLYWOOD, DOUGLAS FIR PLYWOOD ASSOCIATION OR EQUAL. ALL WOODEN SIGNS CONSTRUCTED OF TWO (2) OR MORE BOARDS SHALL HAVE A ONE INCH (1\") BY SIX INCH (6\") CLEAT FASTENED TO THE BACK OF THE SIGN AT EACH END AND EXTENDING FULL DEPTH OF THE SIGN. IN ADDITION TO CLEATS, THE BOARDS SHALL BE FASTENED TOGETHER WITH ONE-HALF INCH (1/2\") CORRUGATED FASTENERS SPACED AT NOT MORE THAN TWELVE INCH (12\") CENTERS DRIVEN FROM THE BACK OF THE SIGN. IT IS RECOMMENDED THAT WOOD USED FOR SIGNS BE TREATED WITH EITHER CHROMATED ZINC CHLORIDE, WOLMAN SALTS OR PENTACHLOROPHENOL. ALL WOOD PRESERVATIVES SHALL BE OF A TYPE WHICH WILL PROHIBIT THE BLEEDING OF PRESERVATIVE THROUGH PAINT COATINGS.
 - HARDBOARD - SIGN STOCK SHALL BE TEMPERED DUOLUX, THREE-EIGHTHS INCH (3/8\") NOMINAL THICKNESS, LAMINATED WITH WATERPROOF CASEIN GLUE, OR EQUAL.
- REGULATORY SIGN LETTERING SHALL BE WELL-DEFINED, REFLECTIVE, OPEN ROUNDED TYPE CAPITAL LETTERS, AS APPROVED BY THE JOINT COMMITTEE ON UNIFORM TRAFFIC CONTROL DEVICES AND PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO EXCAVATION. DURING THE COURSE OF ANY AND ALL CLEARING, GRUBBING, FILL, GRADING, EXCAVATION OR OTHER CONSTRUCTION, CONTRACTOR SHALL ENSURE THAT STORM DRAINAGE PATHWAYS ARE MAINTAINED AND REMAIN OPEN TO ENSURE POSITIVE DRAINAGE AND THAT SUCH CONVEYANCES ARE NOT IMPEDED OR BLOCKED IN ANY WAY. STORM SEWER INLETS SHALL BE PROTECTED FROM ENTRY OF SILT, TRASH, DEBRIS, AND ANY SUBSTANCES DELETERIOUS TO THE STORM SEWER SYSTEM AND/OR WATERWAYS RECEIVING STORM WATER RUNOFF. CONTRACTOR SHALL, AT COMPLETION OF WORK, FILL LOW SPOTS AND GRADE ALL RIGHTS-OF-WAY AND UTILITY EASEMENTS AND REGRADE/RESTORE DITCHES AS NECESSARY TO MAINTAIN AND/OR ESTABLISH POSITIVE DRAINAGE.

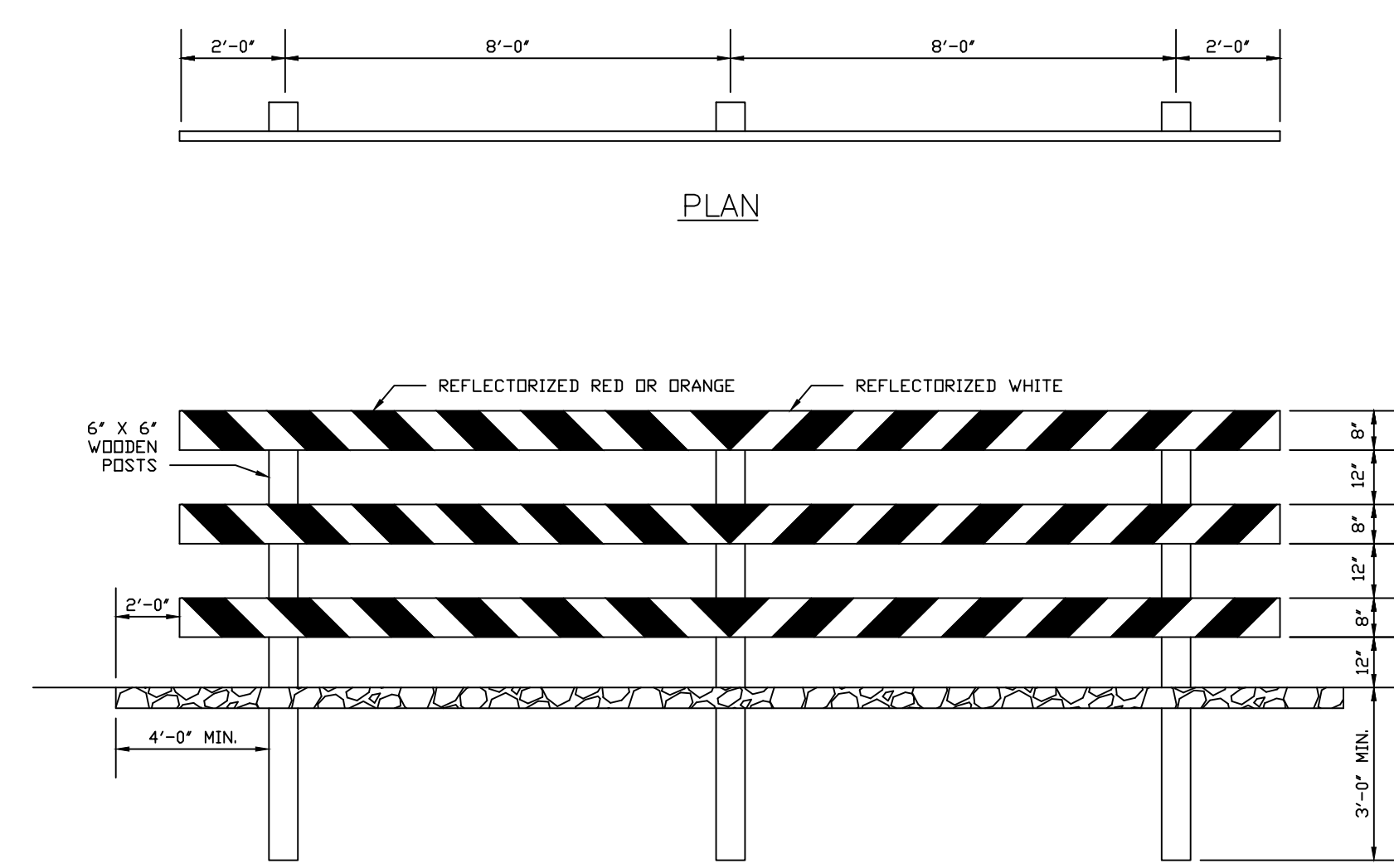


STREET SIGN WITH NO OUTLET DESIGNATION MINIMUM REQUIREMENTS



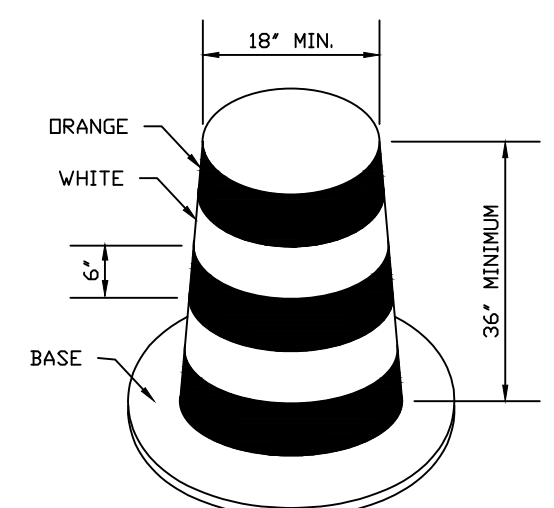
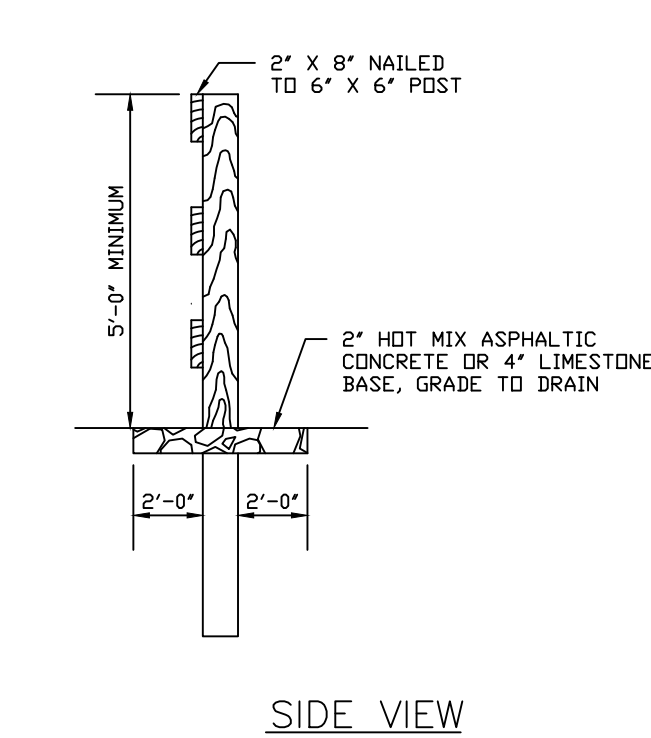
TYPICAL SIGN MOUNT DETAIL

- NOTES:
- SIGN MATERIAL CONSISTS OF PRESSURE ACTIVATED WHITE BACKING MADE OF SUPER HIGH DENSITY OR DIAMOND/PRISMATIC VINYL WITH MINIMUM TEN (10) YEAR REFLECTIVITY WARRANTY. LETTERING CUT OUT OF SIGN MAKING FILM E.S.M. OR 3M TRANSPARENT VINYL SHEETING CUT ON CAD SIGN PLOTTER.
 - SIGN BLANKS SHALL BE 80% FLAT TRAFFIC GRADE (COSE) ALUMINUM.
 - STREET NAME SIGN BLANKS SHALL BE COVERED WITH WHITE DIAMOND/PRISMATIC VINYL. LETTERS IN FONT TYPE \"B\", CUT OUT OF GREEN TRANSPARENT VINYL SHALL BE PLACED OVER THE WHITE DIAMOND/PRISMATIC VINYL TO PROJECT WHITE LETTERING WITH GREEN BACKGROUND.
 - PER T.M.U.C.D. ALL POST-MOUNTED STREET NAME SIGNS ON MULTI-LANE ROADWAYS WITH A SPEED LIMIT MORE THAN 40 MPH SHALL USE AN 8\"/>
 - POST-MOUNTED SIGNS ON MULTI-LANE ROADWAYS WITH A SPEED LIMIT OF 40 MPH OR LESS SHALL USE A 6\"/>
 - 2-LANE ROADWAYS FOR ALL SPEEDS SHALL USE A 6\"/>
 - UPPER CASE LETTERS WITH 3\"/>
 - STREET NAME SIGNS SHALL INCLUDE BLOCK NUMBER INFORMATION.
 - ALL CURB-TO-SAC STREETS SHALL HAVE A SIGN WITH A \"NO OUTLET\" DESIGNATION.
 - NO OUTLET SIGN TO BE REMOVED IF STREET BECOMES A THRU STREET.
 - STOP SIGNS SHALL BE RED 3M REFLECTIVE COATING ON WHITE DIAMOND/PRISMATIC VINYL BACKING. SEE T.M.U.C.D. FOR STOP SIGN SIZE REQUIREMENTS.
 - SIGN POST SHALL BE 2 3/4\"/>
 - SIGN POST SHALL BE MOUNTED WITH \"POS-LOCK\" OR SIMILAR SYSTEM CONSISTING OF 2\"/>



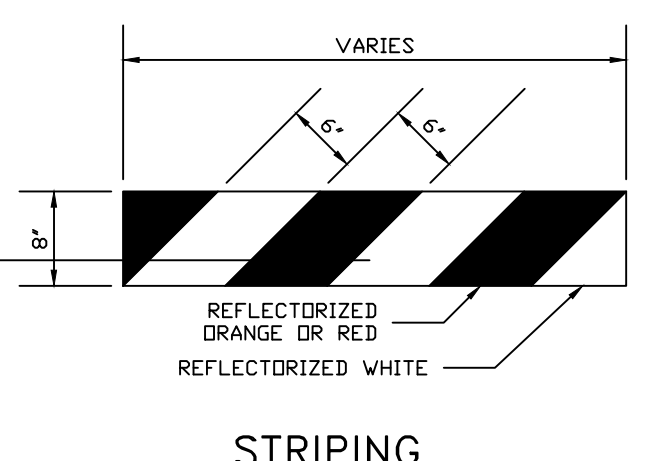
FRONT VIEW
PERMANENT TYPE III BARRICADE

- NOTE:
- USE ORANGE AND WHITE REFLECTORIZED STRIPES DURING CONSTRUCTION ONLY. ALL OTHER TIMES RED AND WHITE REFLECTORIZED STRIPES SHALL BE USED.

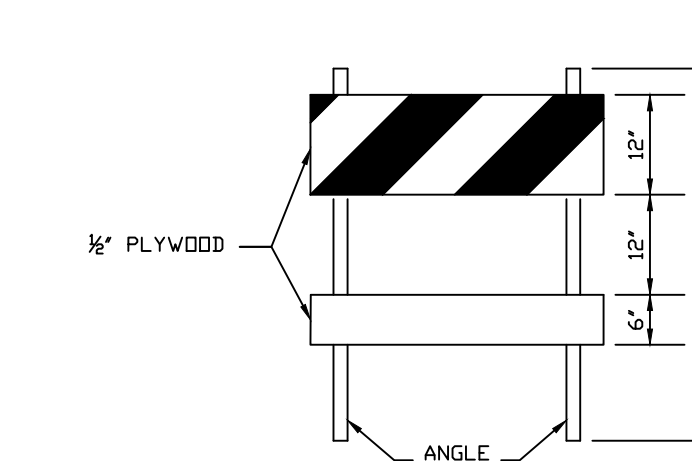


BARREL DETAIL

- NOTES:
- TWO (2) WHITE STRIPES SHALL BE REFLECTORIZED AND SHALL BE 4\"/>
 - FLASHING OR STEADY BURN LIGHTS SHALL BE USED ON BARRICADES, PANELS AND BARRELS AS NEEDED.
 - METAL BARRELS ARE NOT PERMITTED.



STRIPING



PORTABLE TYPE I BARRICADE

BARRICADE AND MISCELLANEOUS DETAILS			DEPARTMENT OF ENGINEERING & PROJECTS	
FILE NAME: BAMS0 - 2019.DWG	DATE APPROVED: JULY 1, 2017		PROJECT NUMBER:	DATE SUBMITTED:
SCALE: NTS		REVISED DATE: OCTOBER 2019		