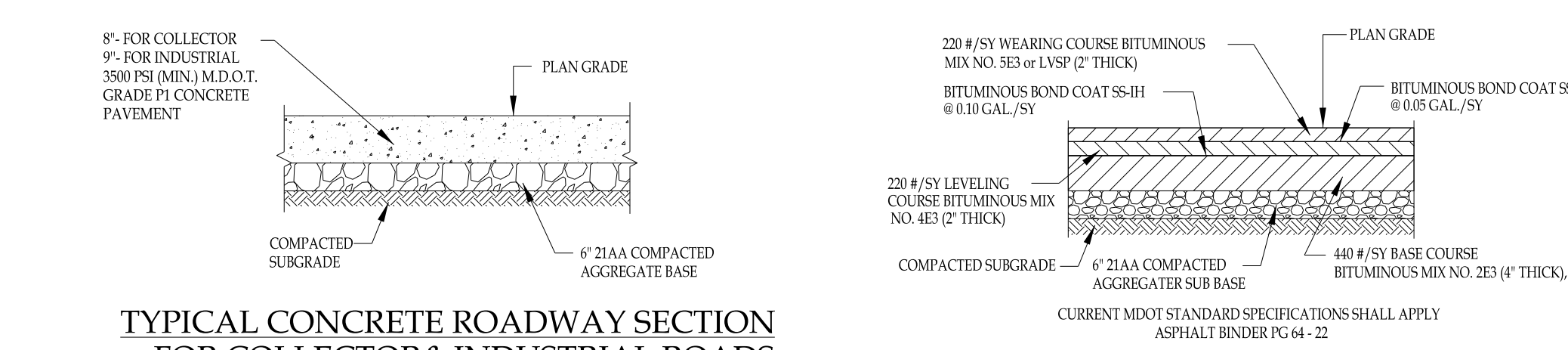
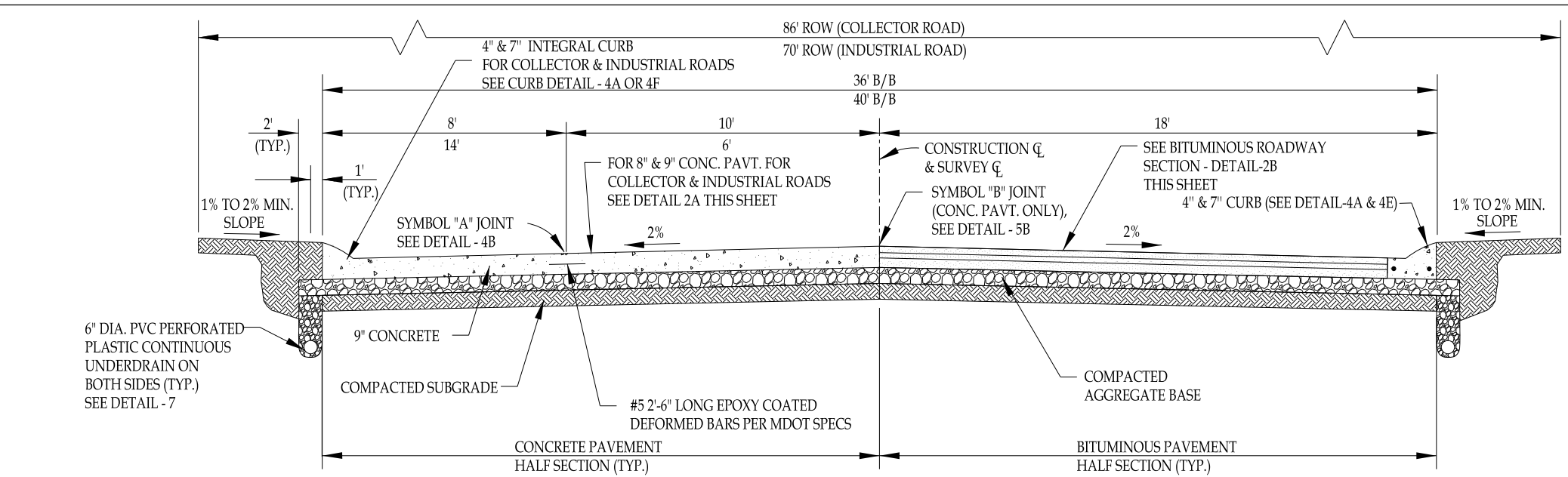


TYPICAL CONCRETE ROADWAY SECTION FOR RESIDENTIAL ROAD
DETAIL - 1A
NOT TO SCALE

TYPICAL BITUMINOUS ROADWAY SECTION FOR RESIDENTIAL ROAD
DETAIL - 1B
NOT TO SCALE

TYPICAL CROSS SECTION DETAIL - 1
RESIDENTIAL ROAD PAVEMENT (28' B/B)
NOT TO SCALE



TYPICAL CONCRETE ROADWAY SECTION FOR COLLECTOR & INDUSTRIAL ROADS
DETAIL - 2A
NOT TO SCALE

TYPICAL BITUMINOUS ROADWAY SECTION FOR COLLECTOR & INDUSTRIAL ROADS
DETAIL - 2B
NOT TO SCALE

TYPICAL CROSS SECTION DETAIL - 2
COLLECTOR AND INDUSTRIAL ROAD PAVEMENT (36' & 40' B/B)
NOT TO SCALE

GENERAL NOTES

1. EXISTING TOPSOIL, VEGETATION AND ORGANIC MATERIALS SHALL BE STRIPPED AND REMOVED FROM PROPOSED PAVEMENT AREA PRIOR TO PLACEMENT OF BASE MATERIALS. TREE ROOTS SHALL BE COMPLETELY REMOVED.
2. EXCAVATE TO THE DEPTH OF THE FINAL SUBGRADE ELEVATION TO ALLOW FOR GRADE CHANGES AND THE PLACEMENT OF THE RECOMMENDED PAVEMENT SYSTEM.
3. THE PAVEMENT SUBGRADE SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY (MODIFIED PROCTOR) PRIOR TO PLACEMENT OF PROPOSED PAVEMENT. THE FINAL SUBGRADE SHALL BE THOROUGHLY PROOF-ROLLED IN THE PRESENCE OF A GEOTECHNICAL/PAVEMENT ENGINEER TO DETERMINE STABILITY. LOOSE OR YIELDING AREAS WHICH CANNOT BE MECHANICALLY STABILIZED SHALL BE REMOVED AND REPLACED WITH CLASS II SAND OR AS DIRECTED BY THE ENGINEER. ALL FILL MATERIAL AND BASE MATERIAL SHALL BE TESTED AND ITS PLACEMENT AND SUITABILITY FOR ACCEPTANCE OF THE BASE MATERIAL AND PAVEMENT SHALL BE CERTIFIED BY SAID TESTING FIRM.
4. IF IN THE OPINION OF THE INSPECTOR/ENGINEER, FIELD CONDITIONS WARRANT ADDITIONAL TESTING, THE DEVELOPER SHALL ARRANGE FOR AND PAY FOR ALL REQUIRED ADDITIONAL TESTING.
5. 21AA AGGREGATE BASE SHALL BE COMPACTED TO ACHIEVE A 95% COMPACTION LEVEL (MODIFIED PROCTOR - ASTM D 1557-99). THE BASE SHALL EXTEND A MINIMUM OF 2 FEET BEYOND THE BACK OF CURB OR THE PAVEMENT EDGE.
6. CONCRETE PAVEMENT TESTING SHALL BE REQUIRED FOR ALL PROJECTS.
7. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE MACOMB COUNTY DEPARTMENT OF ROADS (MCDOR), AND THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, CURRENT EDITION.
8. FOR ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY, THE CONTRACTOR SHALL ARRANGE FOR ALL INSPECTION.
9. 10 INCH AND 20 INCH EXPANSION JOINTS SHALL BE INSTALLED PER MCDOR STANDARDS.
10. FILL AREAS SHALL BE MACHINE COMPACTED IN UNIFORM LIFTS NOT EXCEEDING 9 INCHES THICK TO 95% OF THE MAXIMUM DRY DENSITY (MODIFIED PROCTOR) PRIOR TO PLACEMENT OF PROPOSED PAVEMENT.
11. 6" UNDERDRAIN WRAPPED IN GEOTEXTILE FABRIC FILTER SHALL BE INSTALLED ON BOTH SIDES OF ALL ROADS. (SEE DETAIL 7).
12. CONSTRUCTION TRAFFIC SHALL BE MINIMIZED ON THE NEW BITUMINOUS PAVEMENT. IF CONSTRUCTION TRAFFIC IS ANTICIPATED ON THE PAVEMENT STRUCTURE, SUBJECT TO MCDOR APPROVAL, THE PLACEMENT OF THE FINAL LIFT SHALL BE DELAYED UNTIL THE MAJORITY OF THE CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED BY THE DEVELOPER. PAVEMENT SHALL BE OF THE TYPE, THICKNESS AND CROSS SECTION AS INDICATED ON THE PLANS.

PAVING NOTES

CONCRETE PAVEMENT

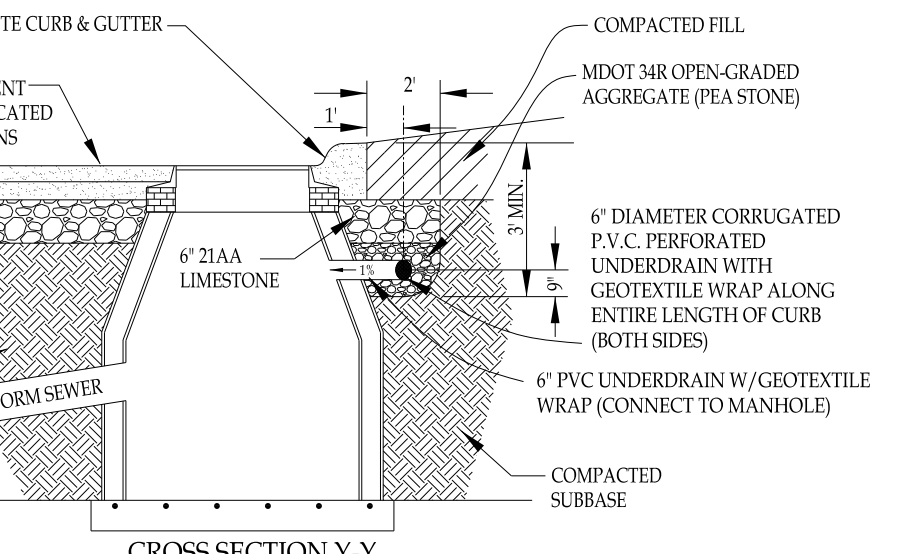
1. CONCRETE SHALL CONSIST OF PORTLAND CEMENT TYPE I (AIR-ENTAINED) WITH A MINIMUM CEMENT CONTENT OF SIX (6) BAGS PER CUBIC YARD, MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI AND A SLUMP OF 1 1/2 TO 3 INCHES. PAVEMENT SHALL CONFORM TO M.D.O.T. GRADE PL.
2. ALL CONCRETE PAVEMENT, DRIVEWAYS, CURB & GUTTER, ETC., SHALL BE SPRAY CURED WITH WHITE MEMBRANE CURING COMPOUND IMMEDIATELY FOLLOWING FINISHING OPERATION.
3. THE CONCRETE BATCH PLANT SHALL BE M.D.O.T. CERTIFIED WITH LOCATION APPROVED BY THE MACOMB COUNTY DEPARTMENT OF ROADS.
4. NO CONCRETE PAVING SHALL BE ALLOWED PRIOR TO MAY 1, OR AFTER NOVEMBER 1 (UNLESS APPROVED BY THE MACOMB COUNTY DEPARTMENT OF ROADS).
5. AIR TEMPERATURE AT POINT OF PLACEMENT, AWAY FROM ARTIFICIAL HEAT SHALL BE MINIMUM 25°F AND RISING.
6. TEMPERATURE OF CONCRETE AT TIME OF PLACEMENT SHALL BE BETWEEN 40°F AND 90°F.
7. CONCRETE PAVING MIXTURES SHALL MEET ALL PROVISIONS OF SECTION 641 OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND FOR THE COARSE AGGREGATE 6A-A-SECTION 02. THE COARSE AGGREGATE FOR CONCRETE MIXTURES FROM NATURAL AGGREGATE SOURCES, THE ABSORPTION DETERMINED IN ACCORDANCE WITH ASTM C 127 SHALL NOT EXCEED 2.5%.

BITUMINOUS PAVEMENT

1. BITUMINOUS MIXTURE SHALL CONSIST OF: BASE COURSE - MDOBT BITUMINOUS MIXTURE NO. 2E3; LEVELING COURSE - MDOBT BITUMINOUS MIXTURE NO. 4E3; WEARING COURSE - MDOBT BITUMINOUS MIXTURE NO. 5E3 OR LVSP; ASPHALT CEMENT PERFORMANCE GRADE 85-100 (PG 64-22).
2. ALL BITUMINOUS MATERIAL SHALL BE COMPACTED TO A DENSITY OF 97% OF THE FIELD CONTROL DENSITY AS DETERMINED BY THE MARSHALL METHOD.
3. A BOND COAT OF 85-110 EMULSION IS REQUIRED BETWEEN THE BASE COURSE AND LEVELING COURSE AND BETWEEN THE LEVELING COURSE AND WEARING COURSE WHEN EITHER 48 HOURS HAVE ELAPSED BETWEEN PLACEMENT OF THE BITUMINOUS COURSES OR THE SURFACE OF THE PAVEMENT HAS BEEN CONTAMINATED WITH DIRT, DUST, OR FOREIGN MATERIAL. THE BOND COAT SHALL BE APPLIED IN A UNIFORM MANNER OVER THE SURFACE AT A RATE OF 0.10 GALLON/SY. (BETWEEN LEVELING COURSE AND BASE COURSE) & 0.05 GALLON/SY. (BETWEEN WEARING COURSE AND LEVELING COURSE) THE COATS MAY DIFFER. IN THE EVENT A BOND COAT IS NOT REQUIRED, THE LEVELING COURSE MAY REQUIRE LOCALIZED BROOM CLEANING.
4. UNLESS OTHERWISE APPROVED BY THE DIRECTOR OF ROADS, TEMPERATURE AND SEASONAL REQUIREMENTS FOR PLACING HMA WILL BE ACCORDING TO CURRENT MDOBT STANDARD SPECIFICATIONS FOR CONSTRUCTION. TARGET PLACEMENT TEMPERATURES FOR CONSTRUCTION, THE MCDOR WILL NOT ALLOW PAVING BELOW THESE MINIMUM TEMPERATURES, NOR WHEN FROST IS ON OR IN THE GRADE OR ON THE EXISTING SURFACE.
5. PLACEMENT OF HMA OR APPLICATION OF BOND COAT IS PROHIBITED WHEN PRECIPITATION IS IMMINENT OR WHEN MOISTURE ON THE EXISTING SURFACE WILL PREVENT SATISFACTORY CURING.
6. RECYCLED HOT MIX ASPHALT MIXTURE. LIMITS RECYCLED ASPHALT MATERIAL (RAP) TO A MAXIMUM OF 15% BINDER BY WEIGHT OF THE TOTAL BINDER IN THE MIXTURE. ASPHALT SHINGLES AND TIRS ARE NOT ALLOWED.

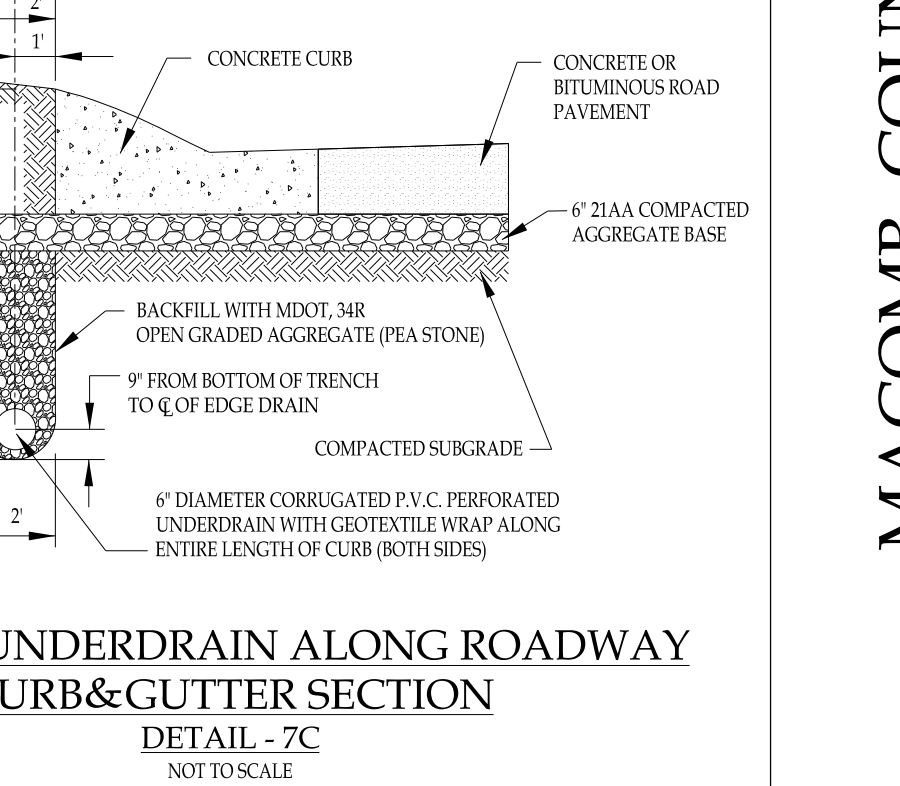
UNDERDRAIN NOTES

1. UNDERDRAIN SHALL BE PLACED ALONG THE ENTIRE LENGTH OF CURB (BOTH SIDES).
2. UNDERDRAIN TO BE 6" PVC AASHTO M 28 MEETING ASTM D 2751, SDR-35 WITH PERFORATIONS MEETING AASHTO M 278.
3. PIPE SHALL BE WRAPPED IN GEOTEXTILE FABRIC AND INSTALLED WITH THE PERFORATIONS FACING DOWNWARD.
4. PROPOSED UNDERDRAIN PIPE LAYOUT, FLOW LINE ELEVATION AND DETAILS SHALL BE APPROVED PRIOR TO CONSTRUCTION.

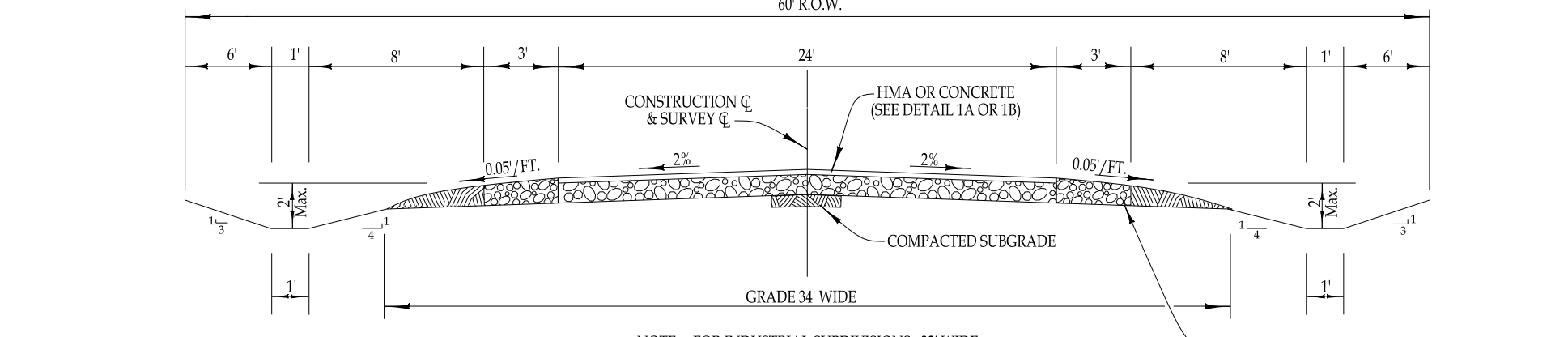


UNDERDRAIN WITH CATCH BASIN ALONG ROADWAY CURB & GUTTER (TYP.)
DETAIL - 7A
NOT TO SCALE

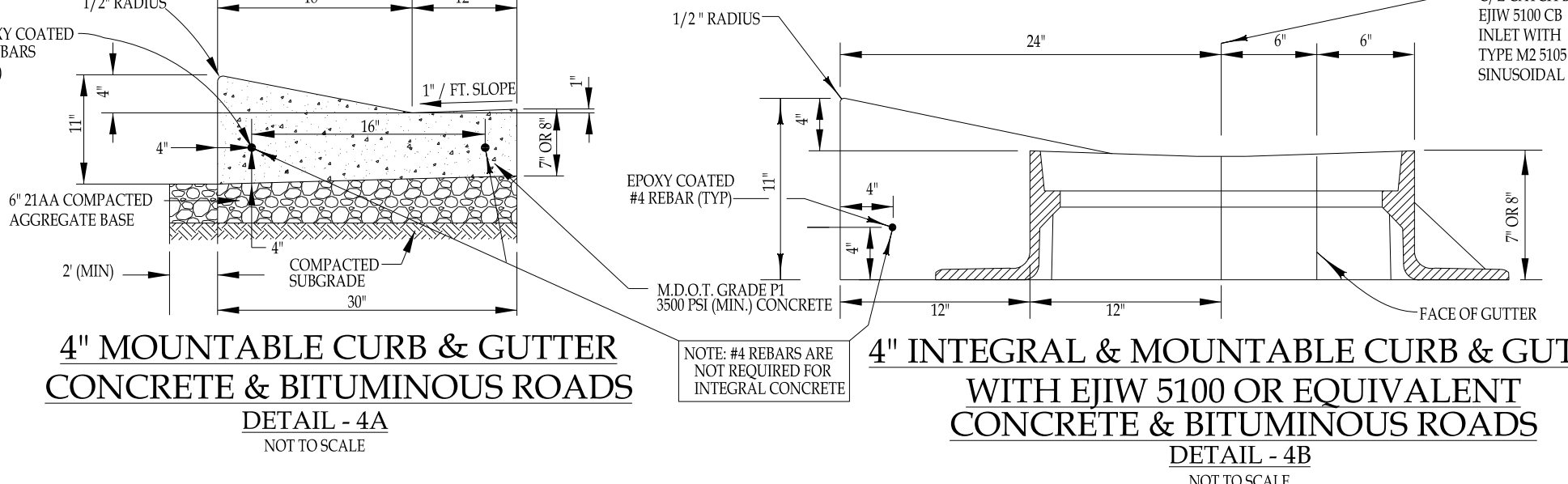
6" UNDERDRAIN WITH CATCH BASIN ALONG ROADWAY CURB & GUTTER (TYP.)
DETAIL - 7B
NOT TO SCALE



TYPICAL UNDERDRAIN ALONG ROADWAY CURB & GUTTER SECTION
DETAIL - 7C
NOT TO SCALE

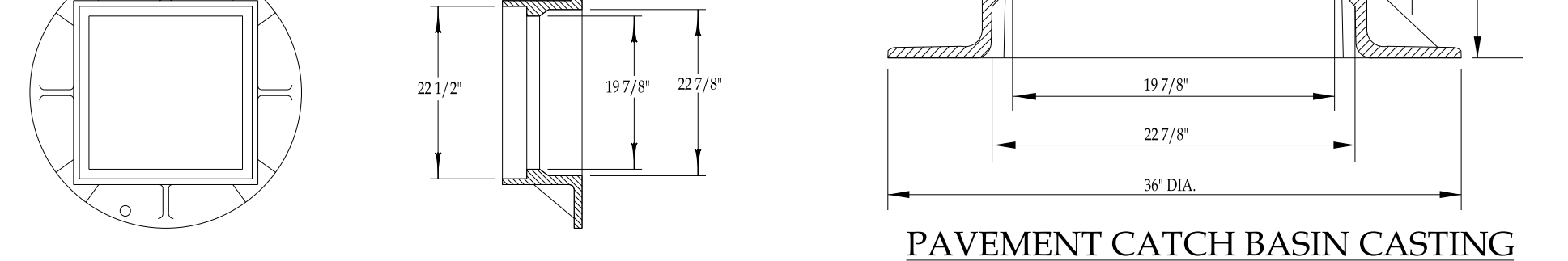


TYPICAL RESIDENTIAL ROAD CROSS SECTION DETAIL - 3
FOR OPEN DITCH CONSTRUCTION
NOT TO SCALE

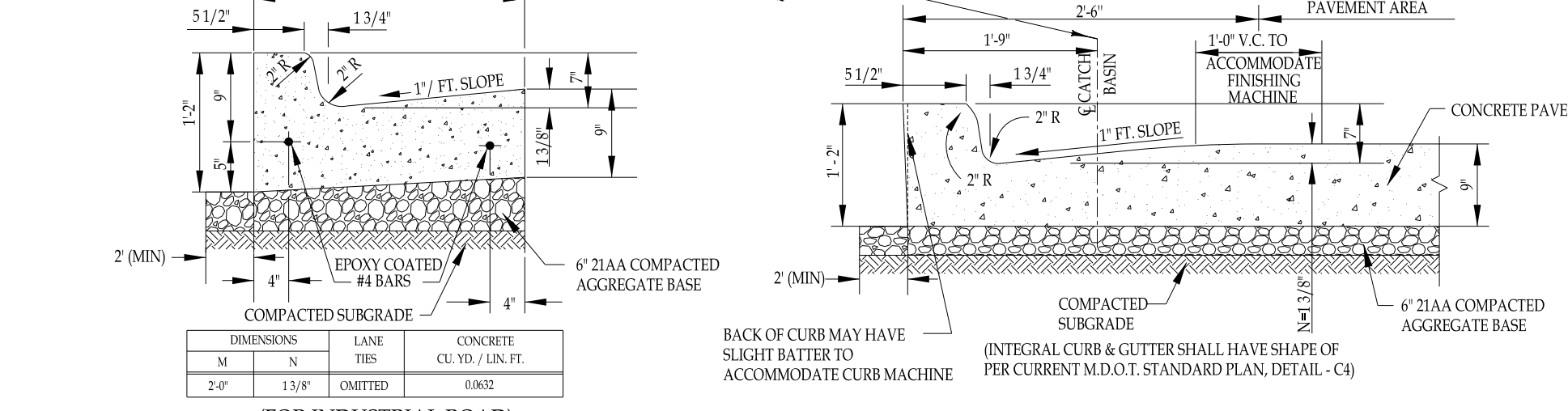


4" MOUNTABLE CURB & GUTTER CONCRETE & BITUMINOUS ROADS
DETAIL - 4A
NOT TO SCALE

4" INTEGRAL & MOUNTABLE CURB & GUTTER WITH EJIW 5100 OR EQUIVALENT CONCRETE & BITUMINOUS ROADS
DETAIL - 4B
NOT TO SCALE

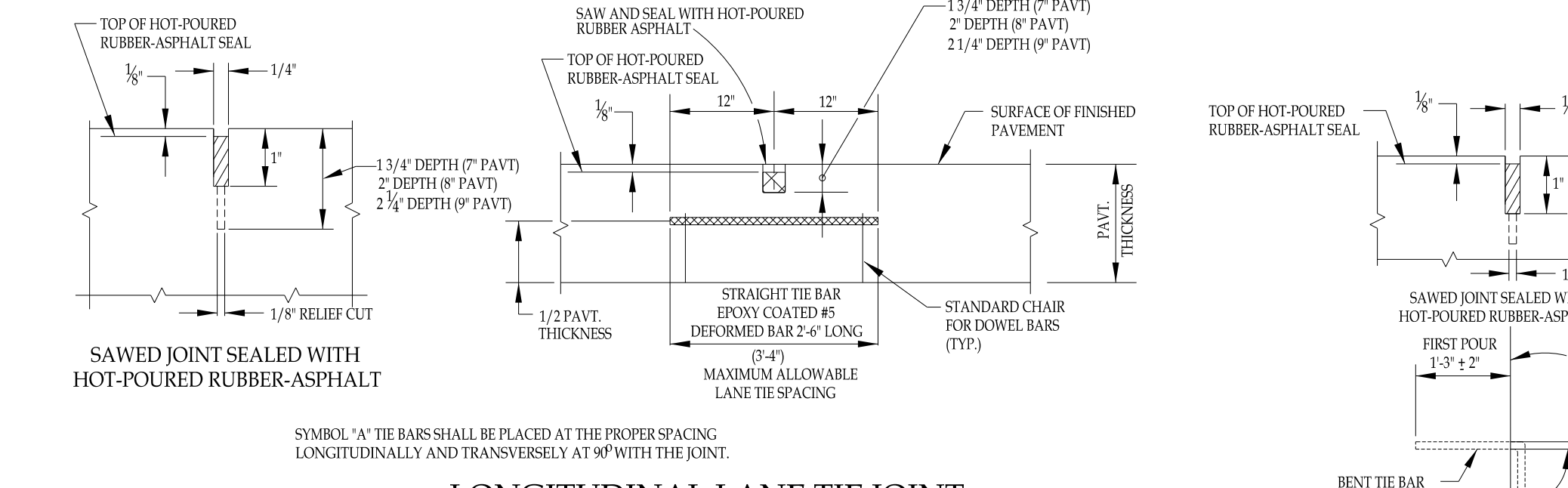
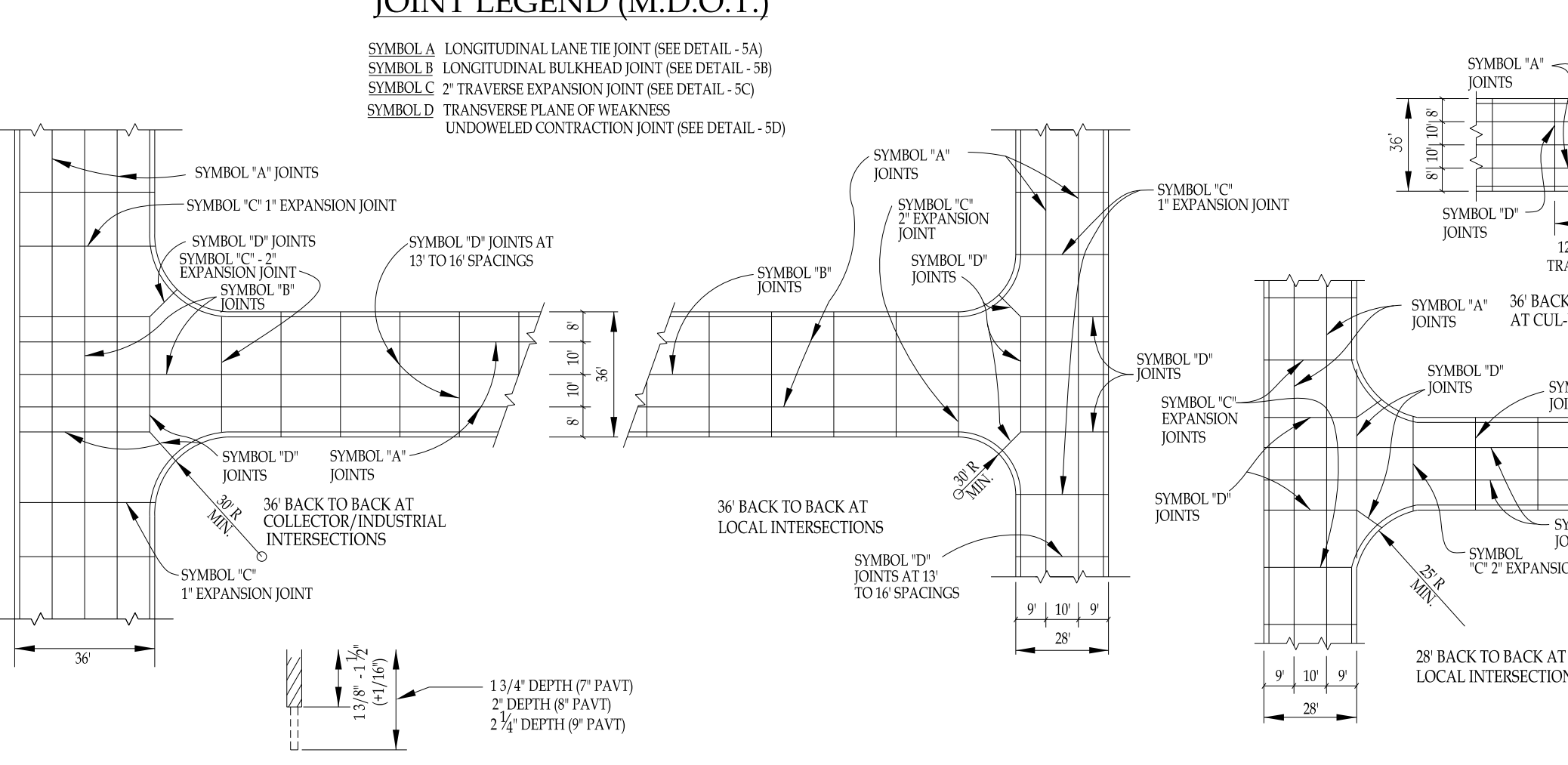


EJIW 5100Z FRAME SECTION OR EQUIVALENT
DETAIL - 4C
NOT TO SCALE

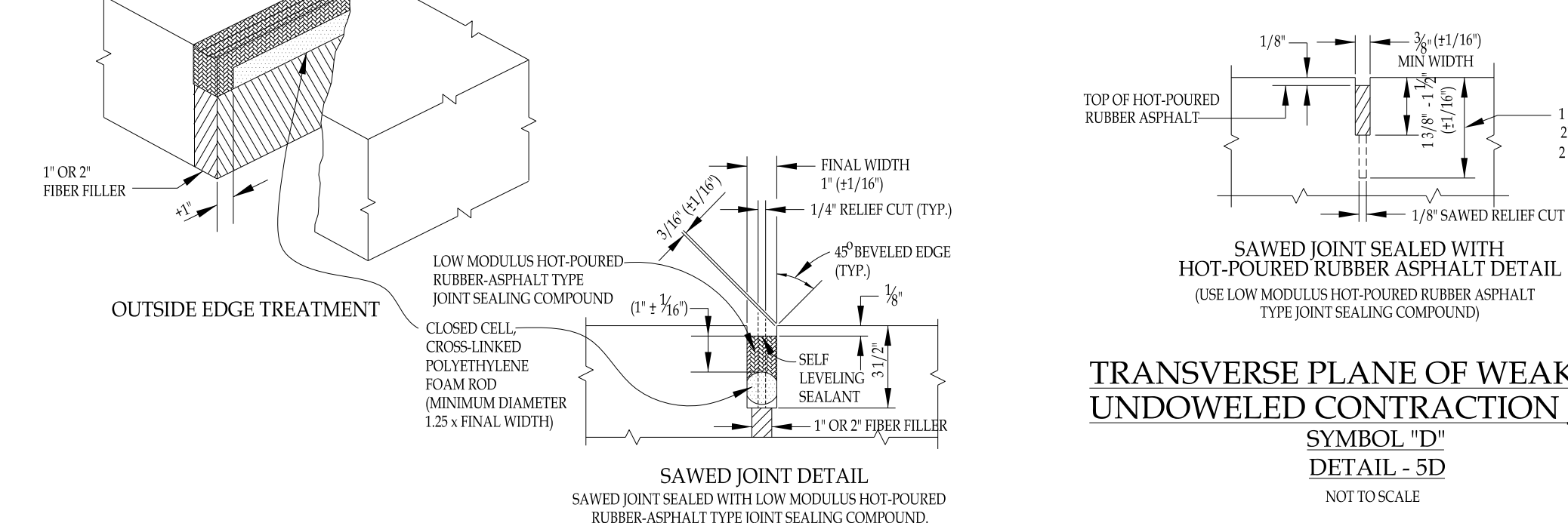


PAVEMENT CATCH BASIN CASTING EJIW 5100 OR EQUIVALENT (FOR CONCRETE/BITUMINOUS ROADS WITHIN RESIDENTIAL AREAS)
DETAIL - 4D
NOT TO SCALE

0 = MISC/RCMC SPECS/DET-PAV-1.DGN I PLOT * 10 * 1

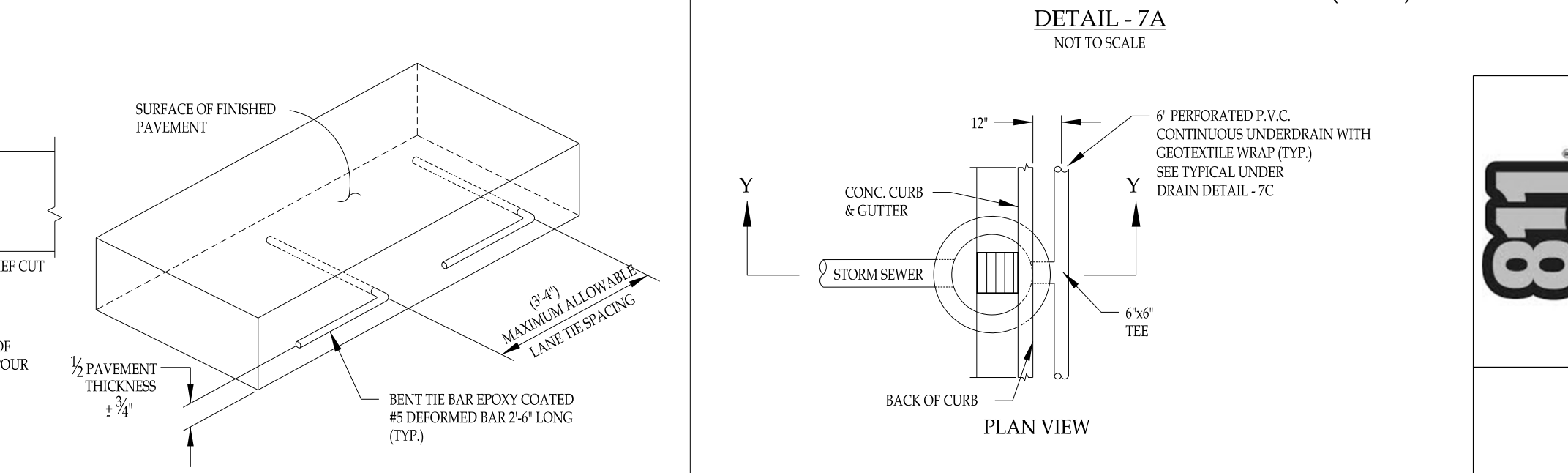
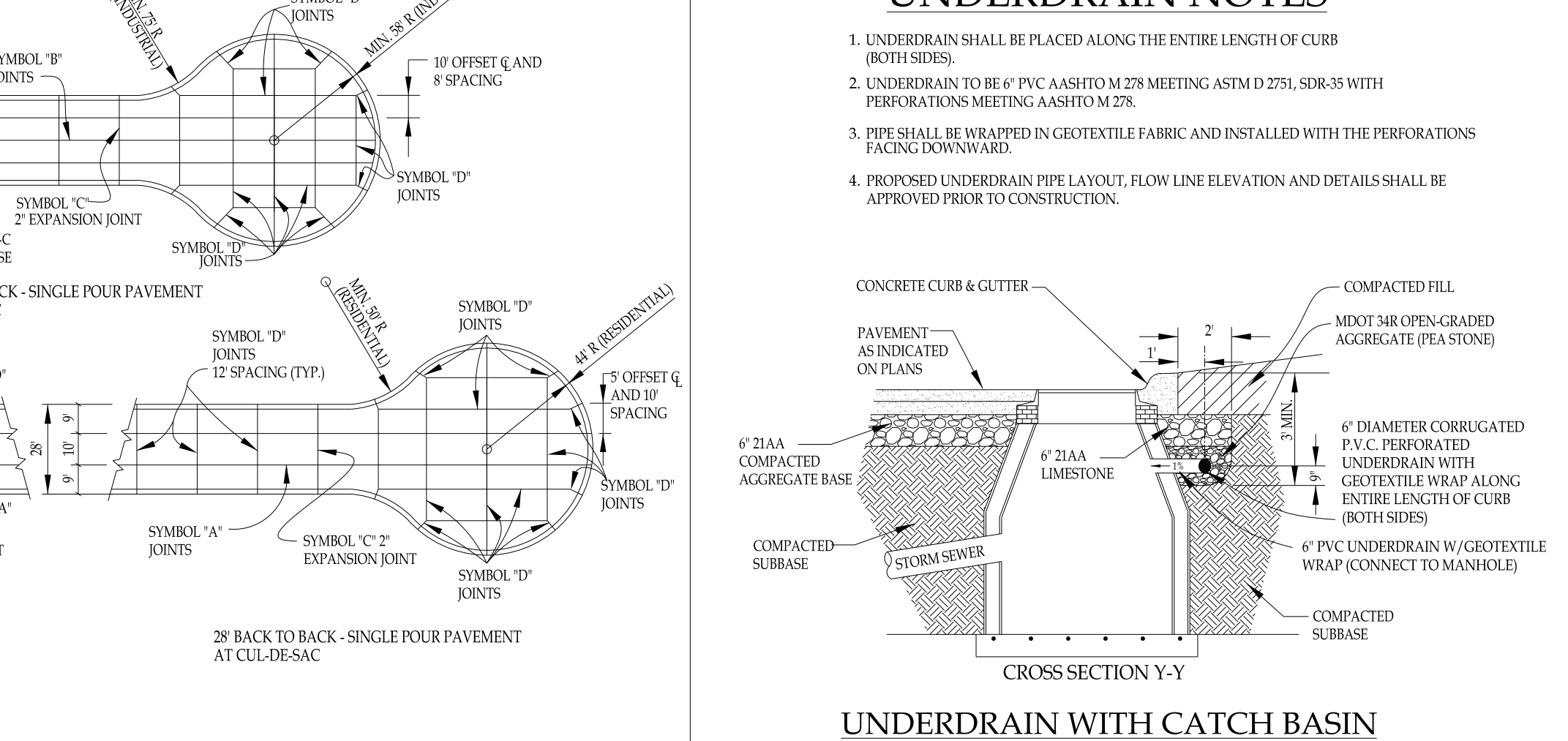


LONGITUDINAL LANE TIE JOINT
SYMBOL "A"
DETAIL - 5A
NOT TO SCALE

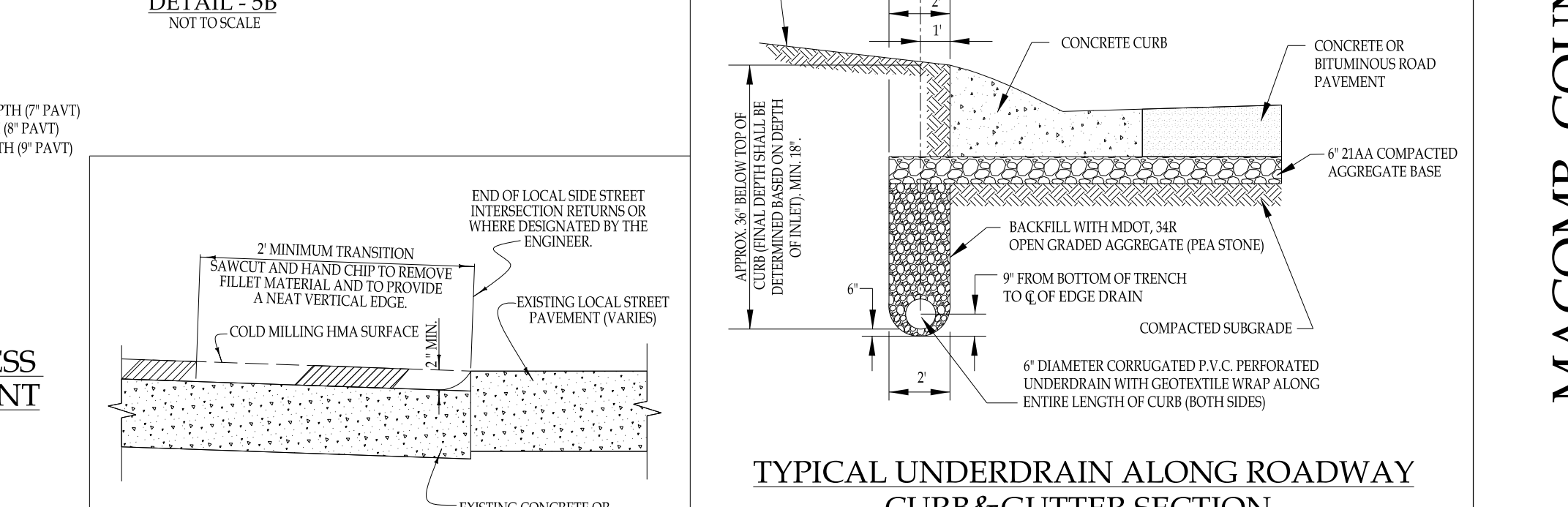


TRANSVERSE EXPANSION JOINT
SYMBOL "C"
DETAIL - 5C
NOT TO SCALE

0 = MISC/RCMC SPECS/DET-PAV-1.DGN I PLOT * 10 * 1



TRANSVERSE PLANE OF WEAKNESS UNDOWELED CONTRACTION JOINT
SYMBOL "D"
DETAIL - 5D
NOT TO SCALE



TERMINAL BUTT JOINT
DETAIL - 6
NOT TO SCALE

0 = MISC/RCMC SPECS/DET-PAV-1.DGN I PLOT * 10 * 1

PAVING STANDARD DETAILS

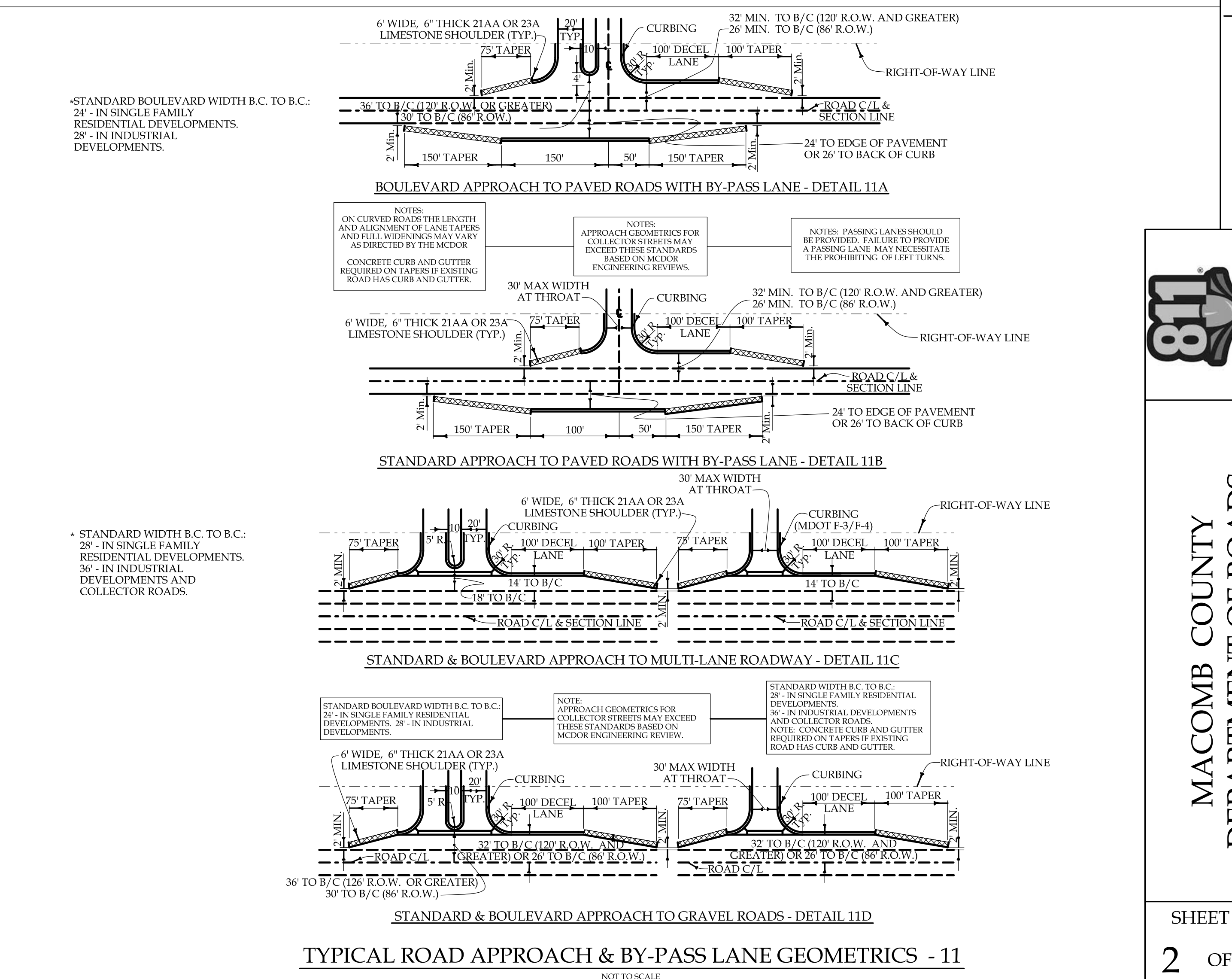
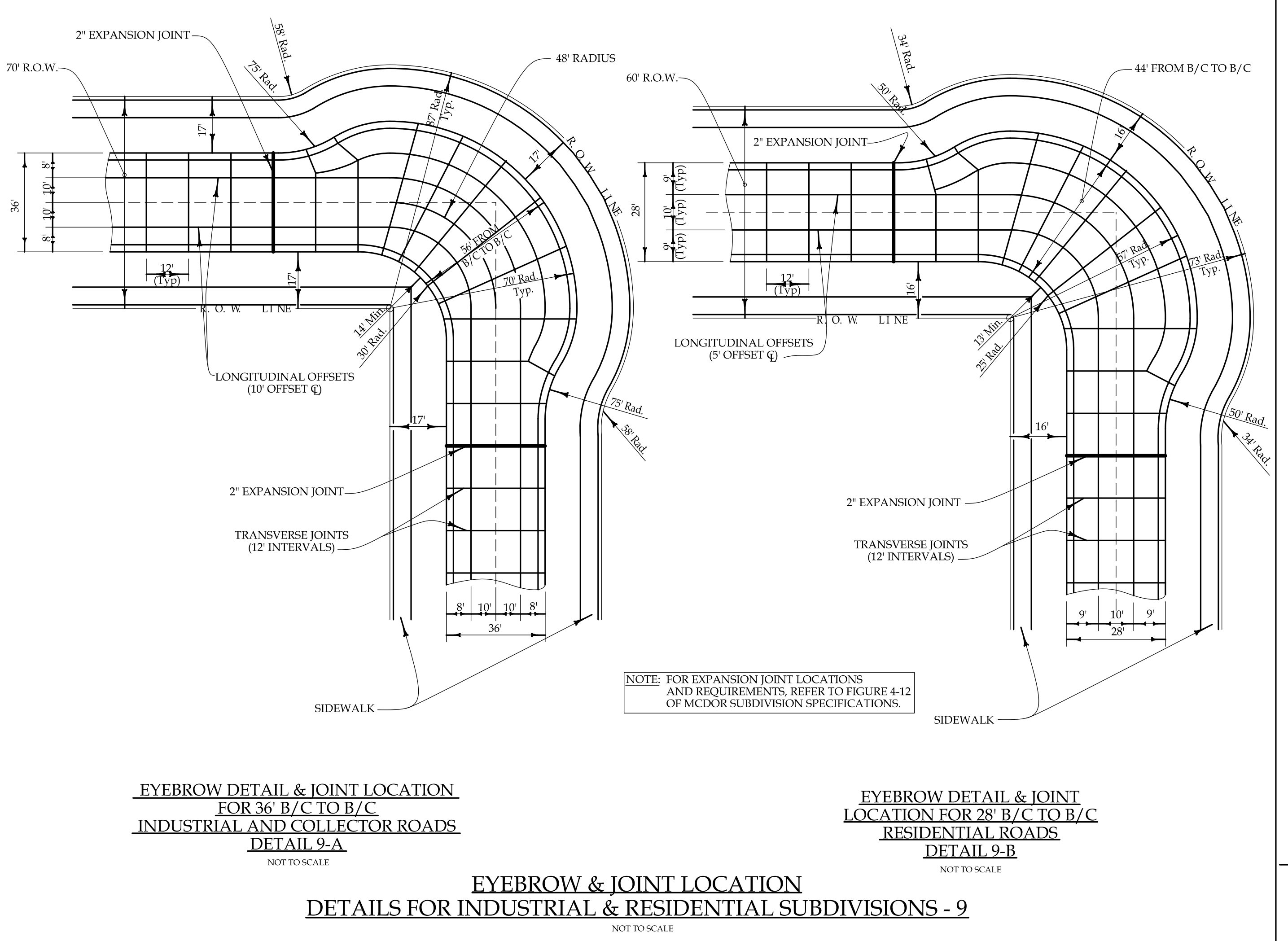
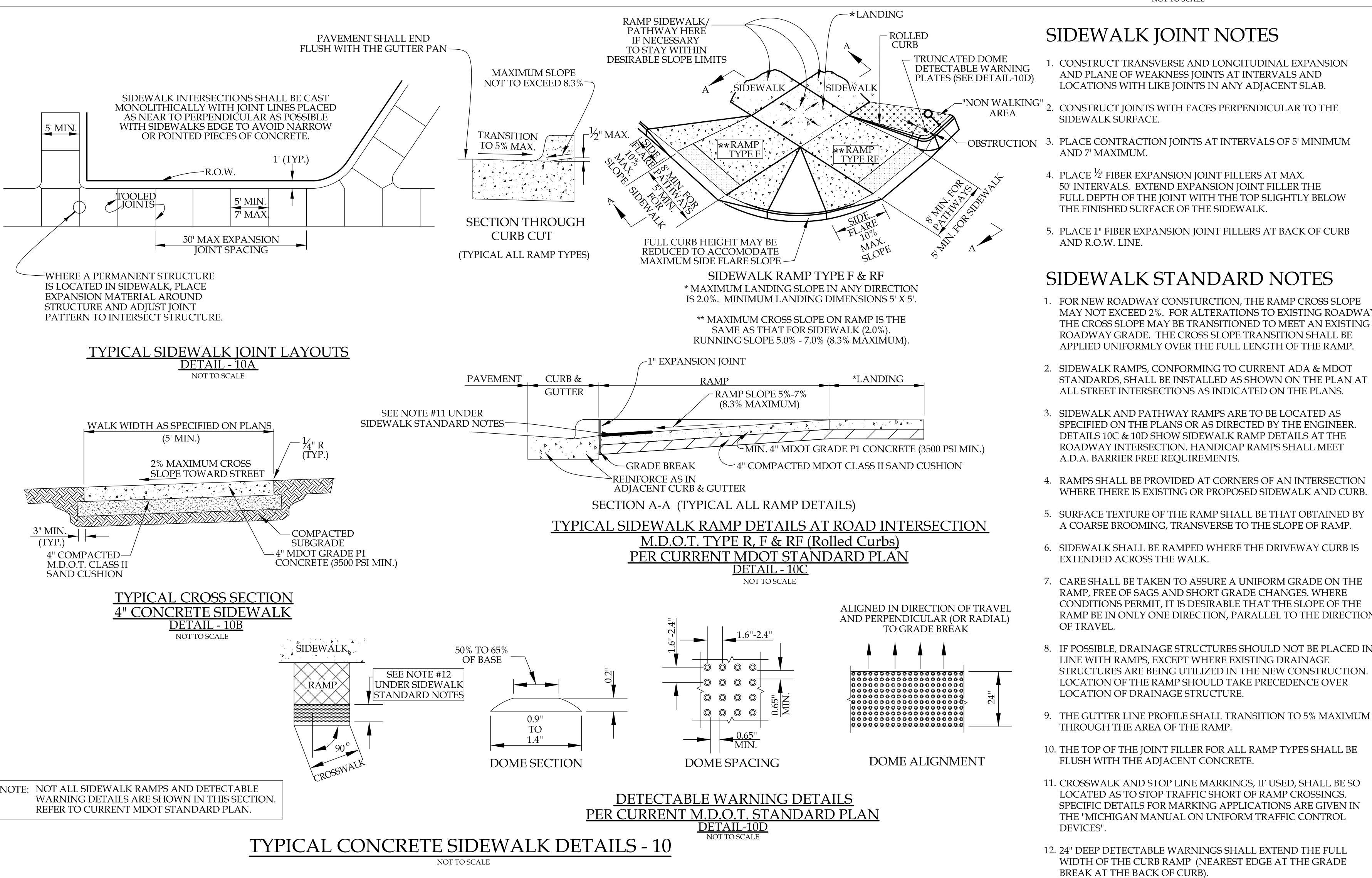
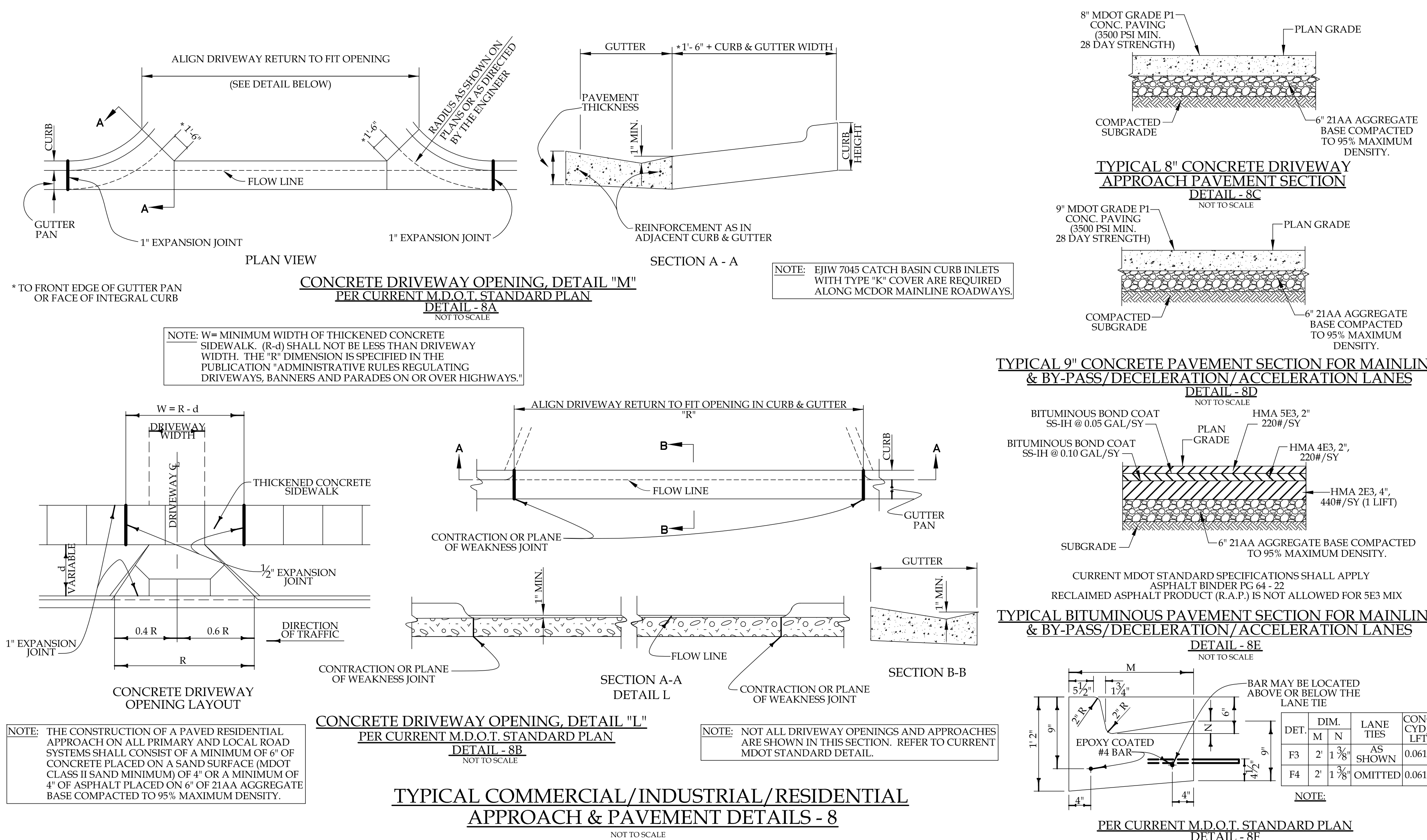
SCALE NTS

DATE REVISIED MARCH 2018



MACOMB COUNTY DEPARTMENT OF ROADS

SHEET NO. 1 OF 2



PAVING STANDARD DETAILS

SCALE
NTS

DATE
REVISED
MARCH 2020



MACOMB COUNTY
DEPARTMENT OF ROADS

SHEET NO.
2 OF 2