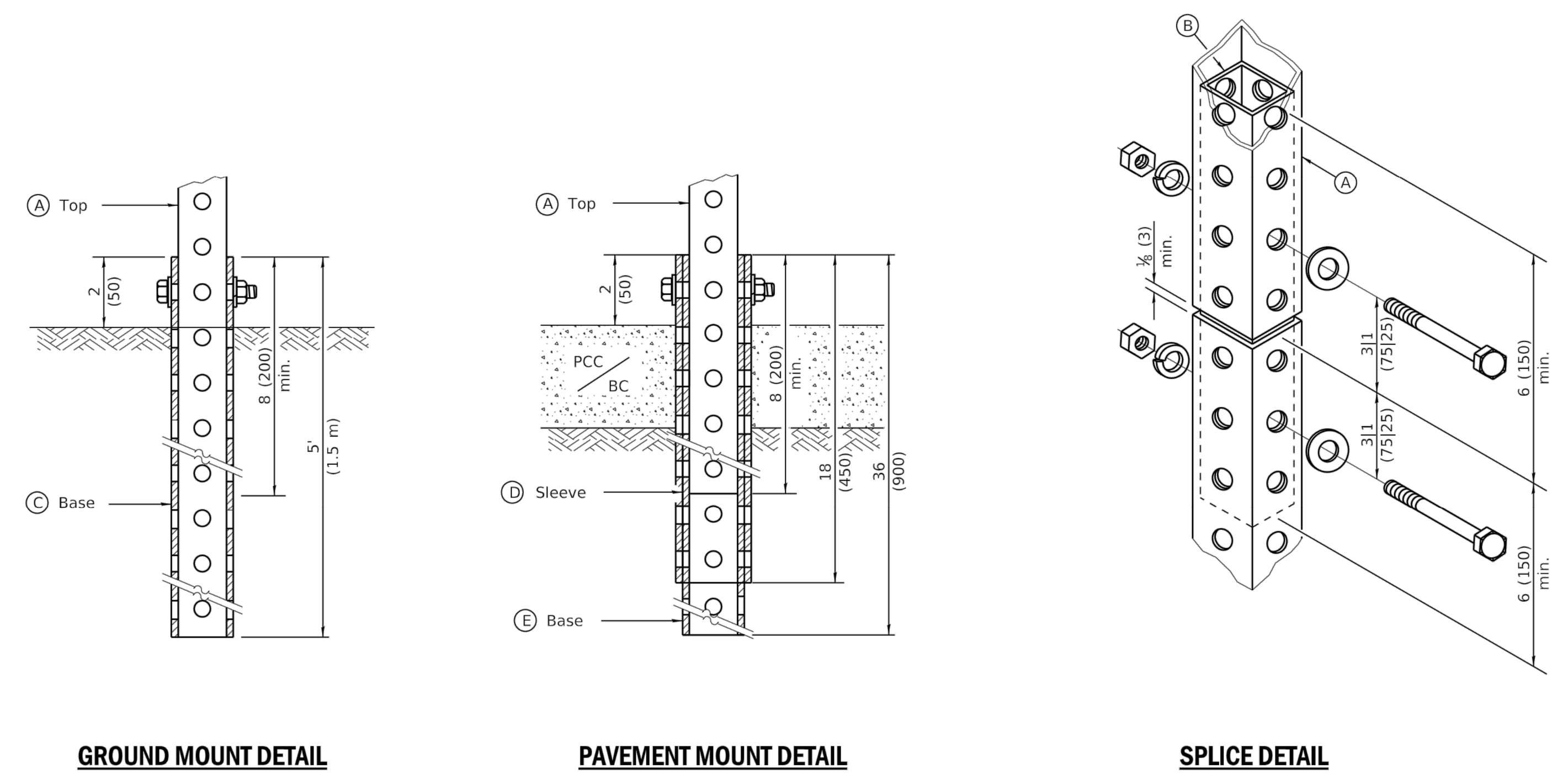


(A)	2 x 2 x var. (51 x 51 var.)
(B)	1¾ x 1¾ x 12 (44 x 44 x 300)
(C)	2¼ x 2¼ x 60 (57 x 57 x 1500)
(D)	2½ x 2½ x 18 (64 x 64 x 450)
(E)	2¼ x 2¼ x 36) (57 x 57 x 900)

GENERAL NOTES

All bolts ⅜ (M10) hex head zinc or cadmium plated.

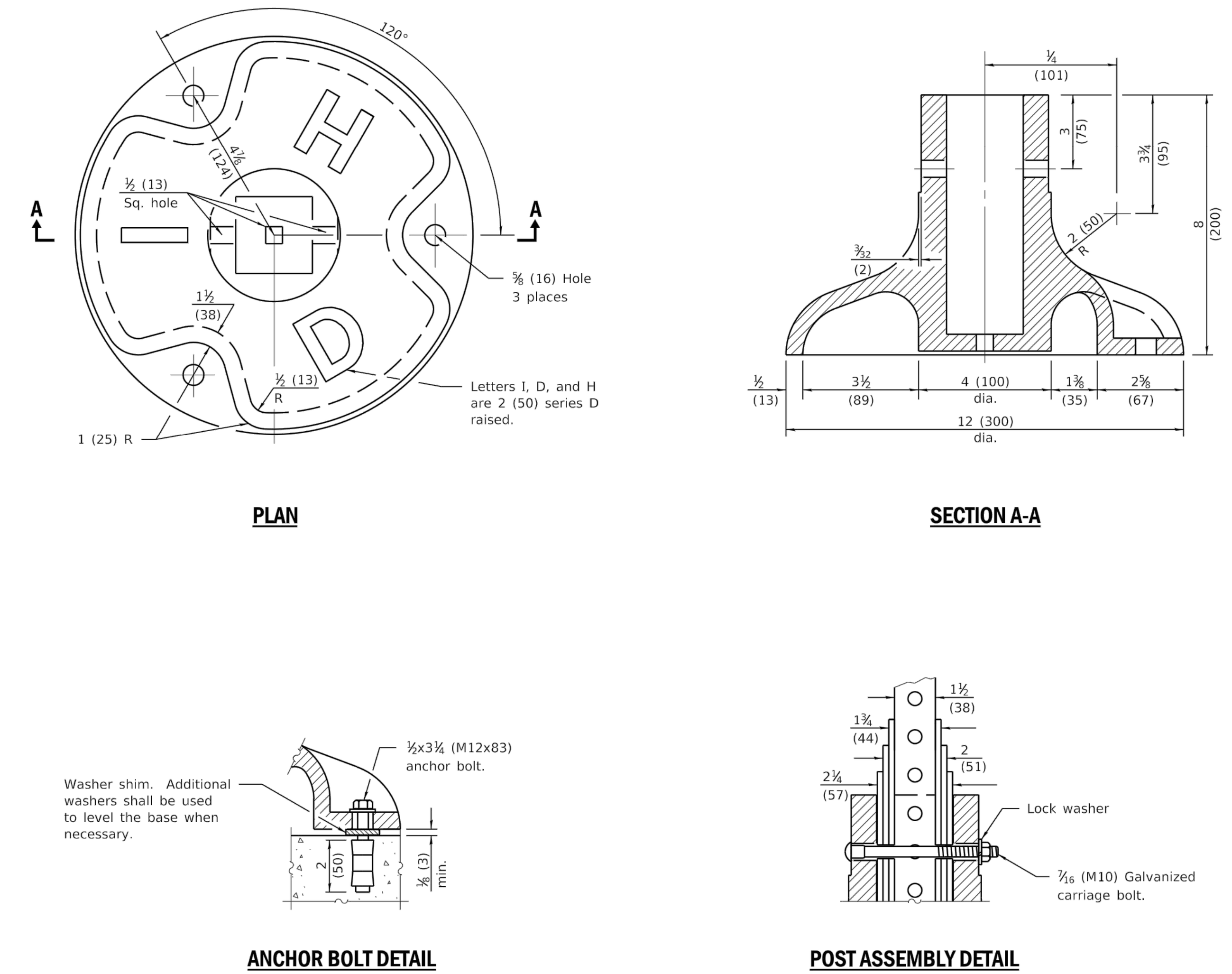
All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation
PASSED January 1, 2009 — ENGINEER OF OPERATIONS
APPROVED January 1, 2009 — ENGINEER OF DESIGN AND ENVIRONMENT

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-07	New Standard. Used to be part of Standard 720006.

TELESCOPING STEEL SIGN SUPPORT

STANDARD 728001-01



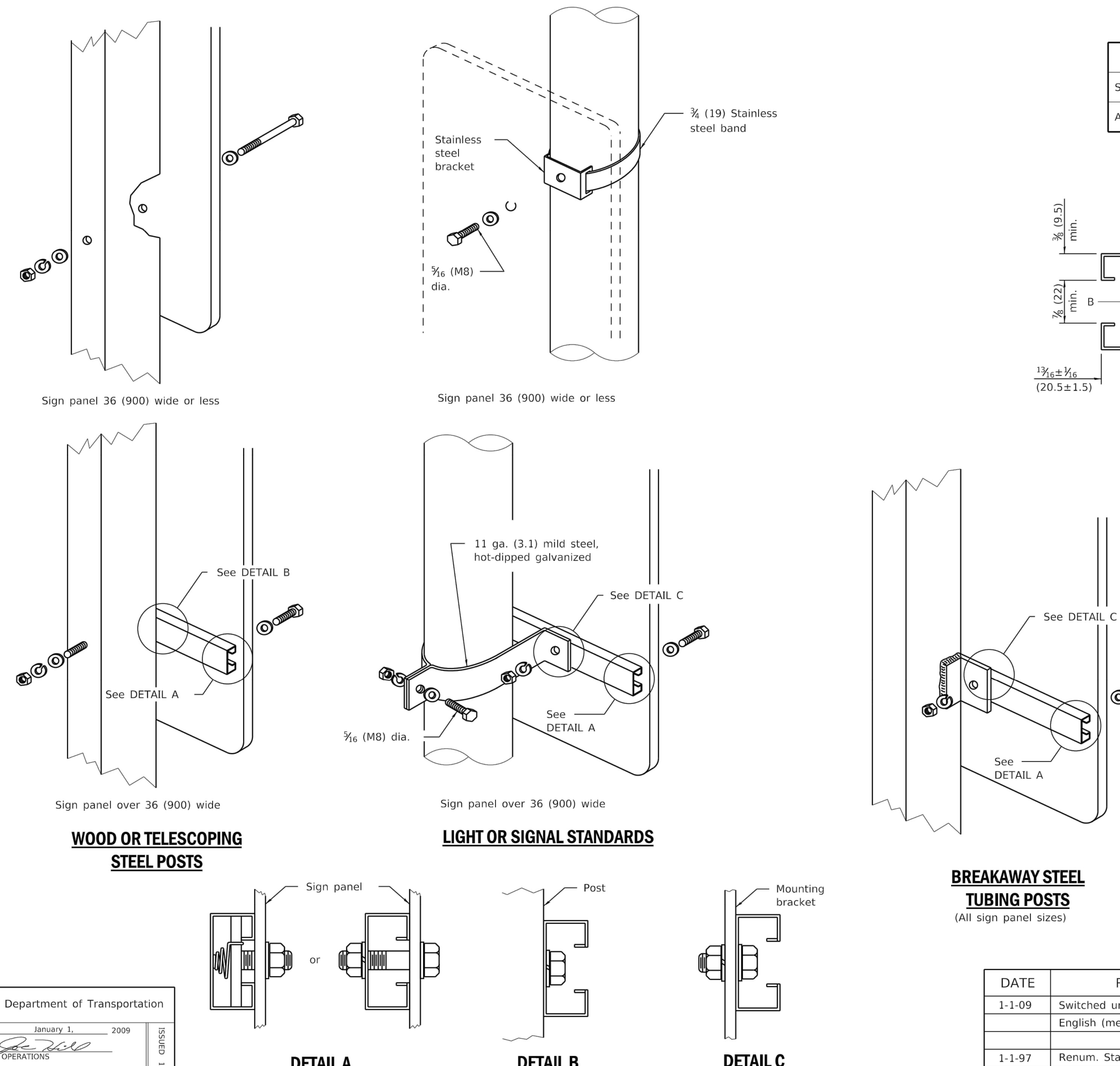
All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation
PASSED January 1, 2009 — ENGINEER OF OPERATIONS
APPROVED January 1, 2009 — ENGINEER OF DESIGN AND ENVIRONMENT

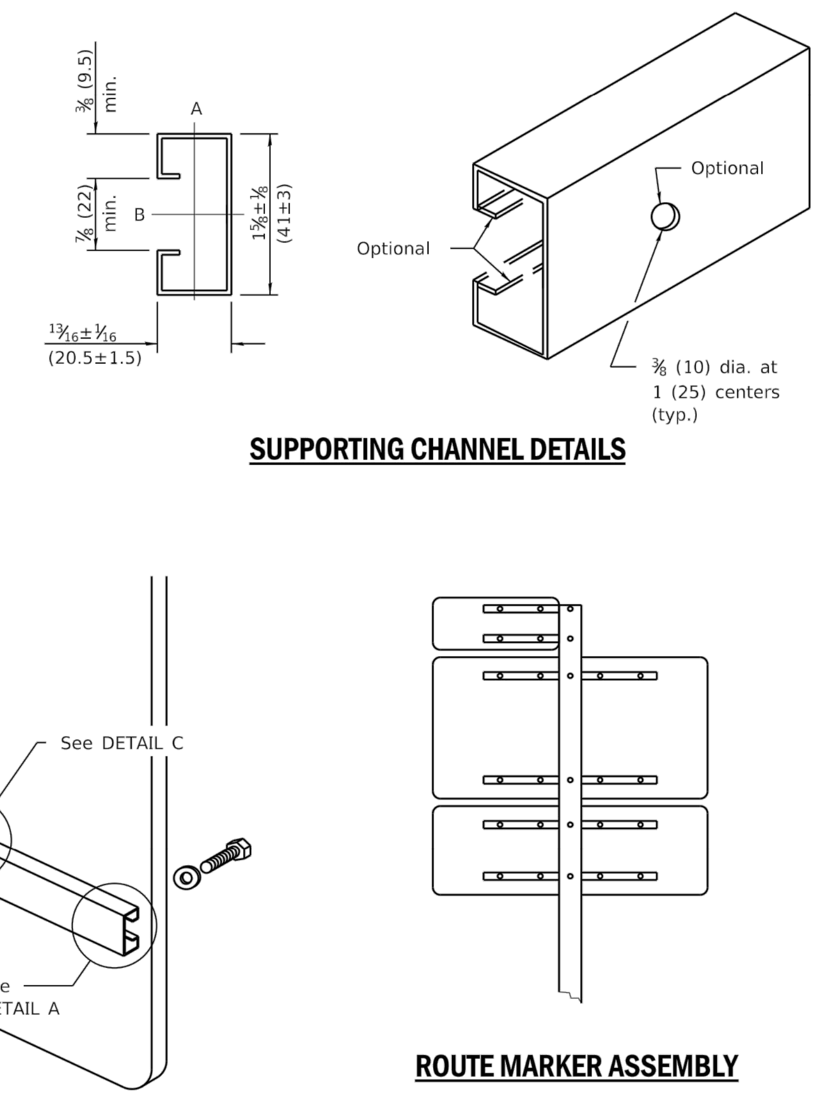
DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-07	New Standard. Used to be part of Standard 720006.

BASE FOR TELESCOPING STEEL SIGN SUPPORT

STANDARD 731001-01



Section modulus (minimum)	Axis A	Axis B
Steel	0.050 in.³ (819 mm³)	0.105 in.³ (1720 mm³)
Aluminum	0.150 in.³ (2458 mm³)	0.315 in.³ (5162 mm³)



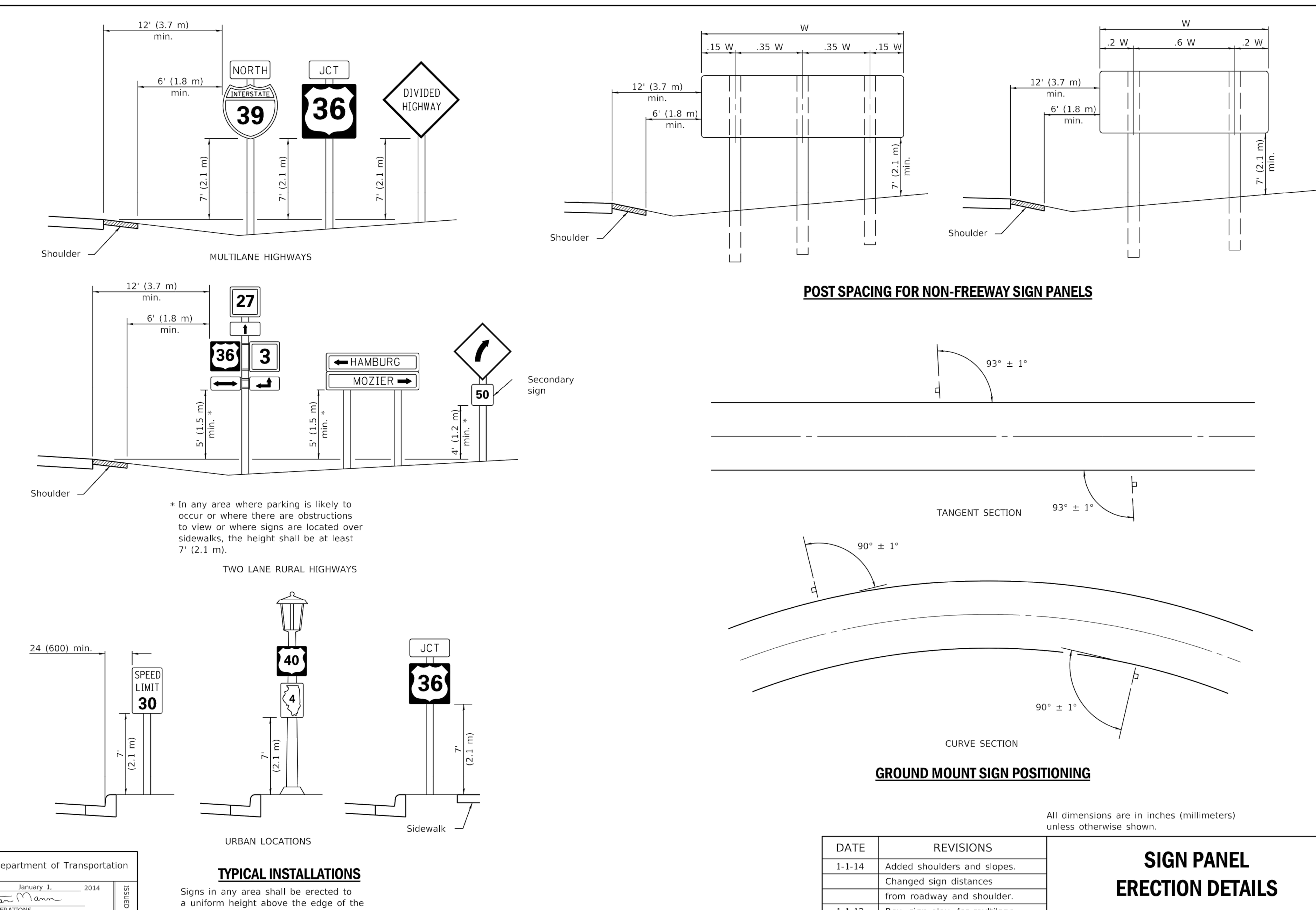
All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation
PASSED January 1, 2009 — ENGINEER OF OPERATIONS
APPROVED January 1, 2009 — ENGINEER OF DESIGN AND ENVIRONMENT

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-97	Renum. Standard 2319-6.

SIGN PANEL MOUNTING DETAILS

STANDARD 720001-01



All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation
PASSED January 1, 2014 — ENGINEER OF OPERATIONS
APPROVED January 1, 2014 — ENGINEER OF DESIGN AND ENVIRONMENT

DATE	REVISIONS
1-1-14	Added shoulders and slopes. Changed sign distances from roadway and shoulder.
1-1-12	Rev. sign elev. for multilane hwy's. Revised sign elev. and dist. to curb for rural loc.

SIGN PANEL ERECTION DETAILS

STANDARD 720006-04

2200 CABOT DRIVE
SUITE 325
LISLE, IL 60532
P: 630.598.0007
WWW.CAGECIVIL.COM

CAGE CIVIL ENGINEERING

AARON J BRUDER 062-071413 LICENSED PROFESSIONAL ENGINEER OF ILLINOIS
Signed: 08/30/2024
Expires: 11/30/2025

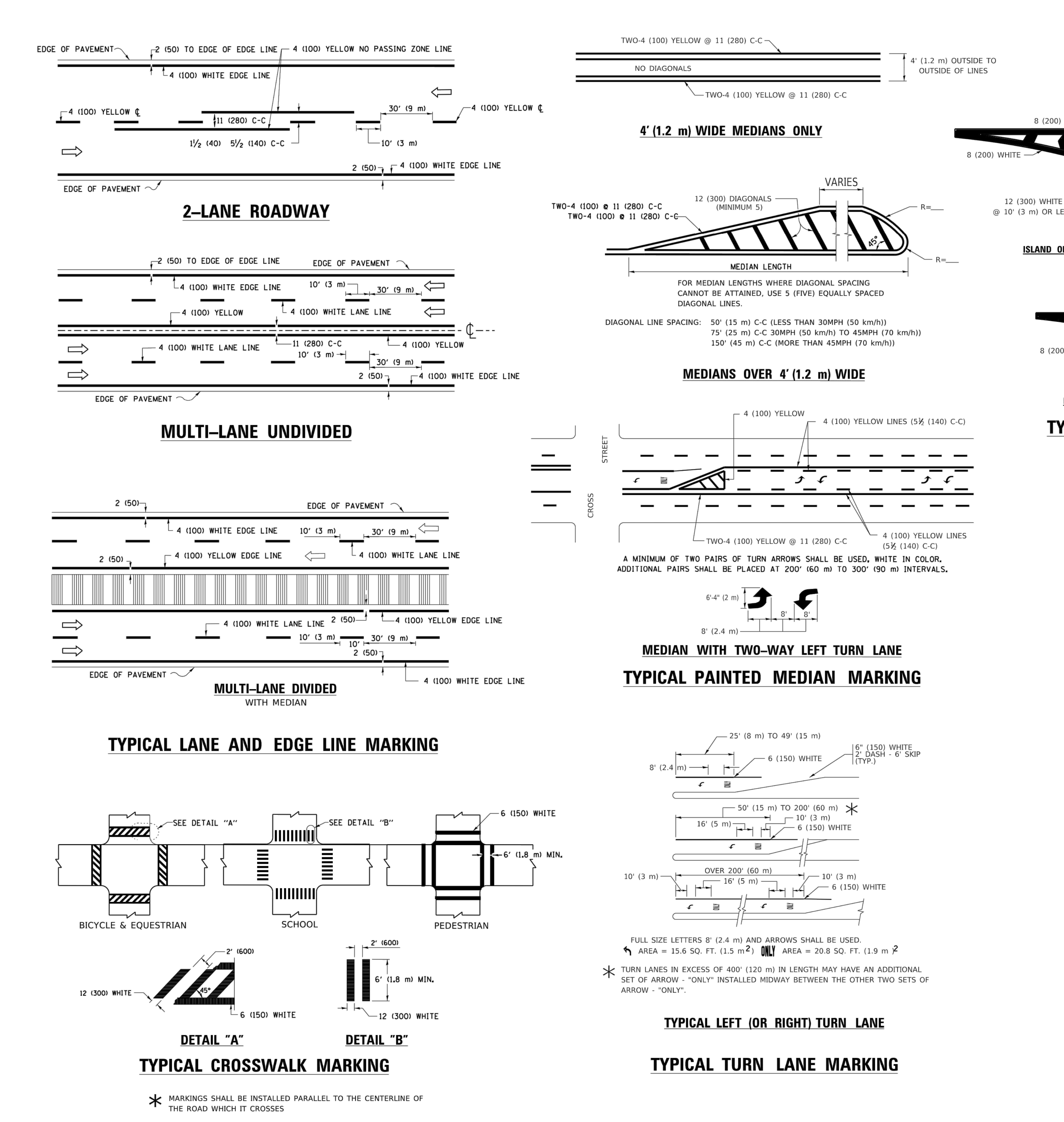
REVISIONS

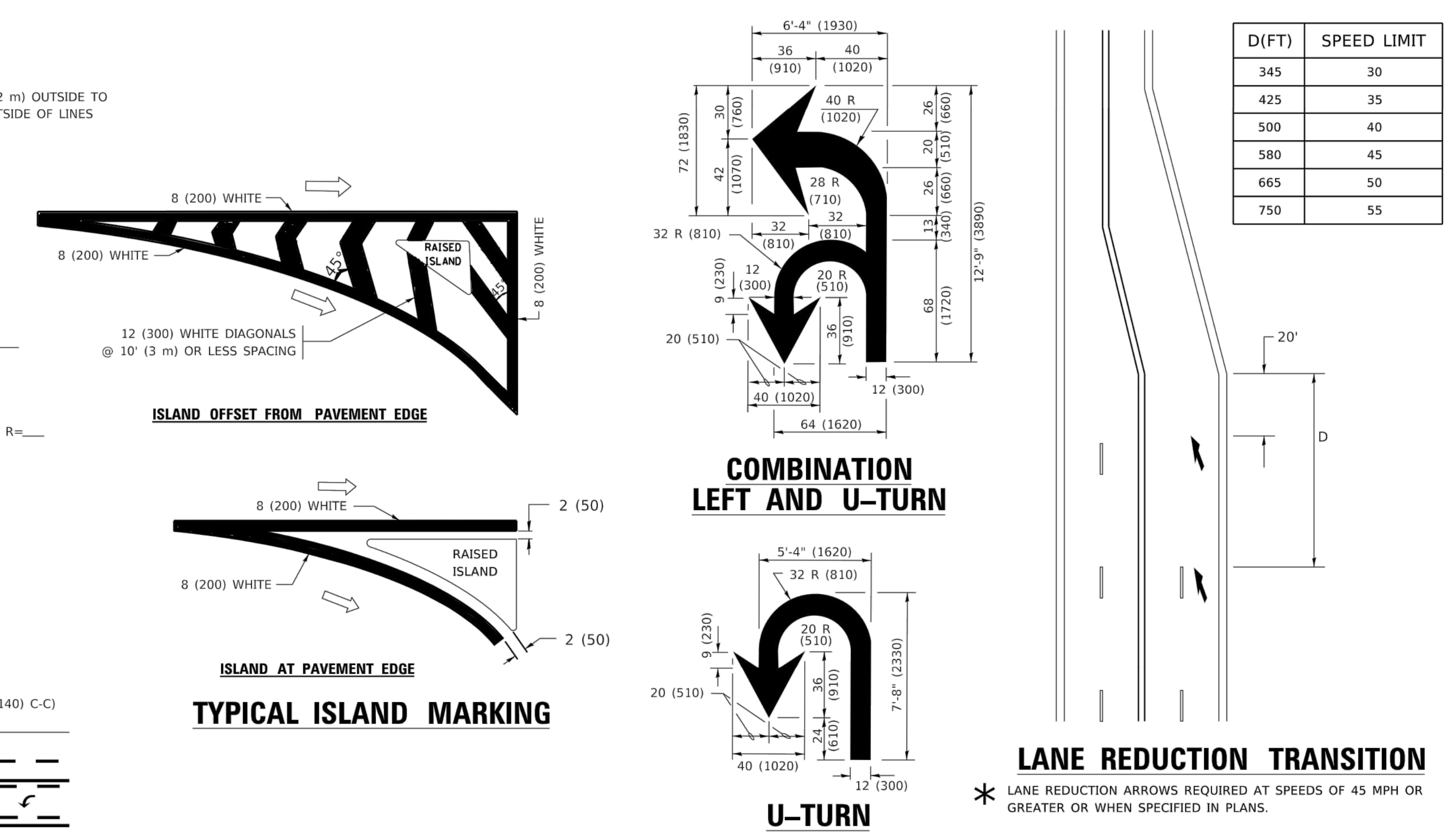
RS DEVELOPERS, LLC
SCHAUMBURG TOWNHOME DEVELOPMENT
818-860 ROSELLE ROAD
SCHAUMBURG, IL

PROJ NO: 240062
ENG: AJB
DATE: 08/30/2024

SHEET TITLE
IDOT CONSTRUCTION DETAILS

SHEET NUMBER
C6.7





D(FT)	SPEED LIMIT
345	30
425	35
500	40
580	45
665	50
750	55

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE ON 2 LANE PAVEMENT	4 (100)	SKIP-DASH	YELLOW	10' (3 m) LINE WITH 30' (9 m) SPACE
CENTERLINE ON MULTI-LANE UNDIVIDED PAVEMENT	2 @ 4 (100)	SOLID	YELLOW	11 (280) C-C
NO PASSING ZONE LINES: FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 (100) 2 @ 4 (100)	SOLID SOLID	YELLOW YELLOW	5½ (140) C-C FROM SKIP-DASH CENTERLINE 11 (280) C-C OMIT SKIP-DASH CENTERLINE BETWEEN
LANE LINES	4 (100) 5 (125) ON FREEWAYS	SKIP-DASH SKIP-DASH	WHITE WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE
DOTTED LINES (EXTENSIONS OF CENTER, LANE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' (600) LINE WITH 6' (1.8 m) SPACE
EDGE LINES	4 (100)	SOLID	YELLOW-LEFT WHITE-RIGHT	OUTLINE MEDIANS IN YELLOW
TURN LANE MARKINGS	6 (150) LINE; FULL SIZE LETTERS & SYMBOLS (8' (2.4m))	SOLID	WHITE	SEE TYPICAL TURN LANE MARKING DETAIL
TWO WAY LEFT TURN MARKING	2 @ 4 (100) EACH DIRECTION 8' (2.4m) LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' (3 m) LINE WITH 30' (9 m) SPACE FOR SKIP-DASH; 5½ (140) C-C BETWEEN SOLID LINE AND SKIP-DASH LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK LINES (PEDESTRIAN) A. DIAGONALS (BIKE & EQUESTRIAN) B. LONGITUDINAL BARS (SCHOOL)	2 @ 6 (150) 12 (300) @ 45° 12 (300) @ 90°	SOLID SOLID SOLID	WHITE WHITE WHITE	NOT LESS THAN 6' (1.8 m) APART 2' (600) APART 2' (600) APART SEE TYPICAL CROSSWALK MARKING DETAILS.
STOP LINES	24 (600)	SOLID	WHITE	PLACE 4' (1.2 m) IN ADVANCE OF AND PARALLEL TO CROSSWALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT. PARALLEL TO CROSSROAD CENTERLINE, WHERE POSSIBLE
PAINTED MEDIANS	2 @ 4 (100) WITH 12 (300) DIAGONALS @ 45° NO DIAGONALS USED FOR 4' (1.2 m) WIDE MEDIANS	SOLID	YELLOW: TWO WAY TRAFFIC WHITE: ONE WAY TRAFFIC	11 (280) C-C FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING.
GORE MARKING AND CHANNELIZING LINES	8 (200) WITH 12 (300) DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS: 15' (4.5 m) C-C (LESS THAN 30MPH (50 km/h)) 20' (6 m) C-C 30MPH (50 km/h) TO 45MPH (70 km/h)) 30' (9 m) C-C (OVER 45MPH (70 km/h))
RAILROAD CROSSING	24 (600) TRANSVERSE LINES; "RR" IS 6' (1.8 m) LETTERS; 16 (400) LINE FOR "X"	SOLID	WHITE	SEE STATE STANDARD 780001 AREA OF: "R"=3.6 SQ. FT. (0.33 m^2) EACH "X"=54.0 SQ. FT. (5.0 m^2)
SHOULDER DIAGONALS (REQUIRED FOR SHOULDERS ≥ 8')	12 (300) @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50' (15 m) C-C (LESS THAN 30MPH (50 km/h)) 75' (25 m) C-C (30 MPH (50 km/h) TO 45MPH (70 km/h)) 150' (45 m) C-C (OVER 45MPH (70 km/h))
U TURN ARROW	SEE DETAIL	SOLID	WHITE	16.3 SF
2 ARROW COMBINATION LEFT AND U TURN	SEE DETAIL	SOLID	WHITE	30.4 SF

FOR FURTHER DETAILS ON PAVEMENT MARKING REFER TO STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND STATE STANDARD 780001.

All dimensions are in inches (millimeters) unless otherwise shown.

MODEL: Default
FILE NAME: pw:\\IL084EBIDINTEG.illinois.gov:PWIDOT\Doc...

USER NAME = footemj	DESIGNED - EVERS	REVISED - C. JUCIUS 09-09-09	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED - C. JUCIUS 07-01-13	
PLOT SCALE = 50.0000 ' / in.	CHECKED -	REVISED - C. JUCIUS 12-21-15	
PLOT DATE = 3/4/2019	DATE - 03-19-90	REVISED - C. JUCIUS 04-12-16	

DISTRICT ONE
TYPICAL PAVEMENT MARKINGS

SCALE: NONE | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	TC-13	CONTRACT NO.		
	ILLINOIS	FED. AID PROJECT		

/4/2019 10:34:37 AM User=footemj

SPECIAL PROVISION FOR LIGHTWEIGHT RAISED REFLECTIVE PAVEMENT MARKER (PCC)

Effective: 2/22/21

Description. This work shall consist of installing lightweight reflective pavement markers on Portland cement concrete (PCC) pavement surfaces. A pavement marker consists of a reflector housing ("housing") and a prismatic reflector ("reflector"). Lightweight raised reflective pavement markers shall not be placed in HMA pavement surfaces or placed on bridges or bridge approach slabs.

Materials. Materials shall conform to Article 1096.01 of the *Standard Specifications for Road and Bridge Construction* with the following exceptions:

Replace paragraph 1096.01(a) with following:
(a) The markers shall be low-profile units consisting of lightweight, high-impact polymeric plastic housing to which is attached a replaceable prismatic retroreflector for reflecting light from one or two directions as specified. The housing shall have steel rub rails molded into the top side, and be shaped to deflect a snowplow blade upward, and thus preventing damage to the reflectors. The bottom of the housing shall incorporate two parallel keels and a bow-shaped web designed to fit into a grooved road surface. The housing shall have leveling tabs to ensure proper embedment and shall be fastened to the road surface using an epoxy adhesive. The epoxy used shall meet the requirements of AASHTO M 237 specification for epoxy adhesive. The housing shall be designed for bidirectional plowing. The housing shall be marked with the manufacturer's name and the model number of the marker shall be visible after.

Replace paragraph 1096.01(b) with the following:
(b) The housing shall be approximately 9.37 inches long, 5.75 inches wide, and 1.87 inches high. The surface of the keel and web shall be free of scale, dirt, rust, oil, grease, or any other contaminant which may reduce bond.

Construction Requirements. The installation of lightweight raised reflective pavement markers shall meet the requirements of Article 781.03 of the *Standard Specifications for Road and Bridge Construction* with the following exceptions:

Add the following to 781.03(a)

Sufficient weight shall be placed on top of the holder to ensure all leveling tabs contact the pavement for the duration of the epoxy curing time.

To ensure proper installation of the new raised reflective pavement markers, the markers shall be located fore or aft of any existing casting or holder location and on the existing alignment, or as directed by the Engineer.

Replace paragraph 781.03(c) with the following:

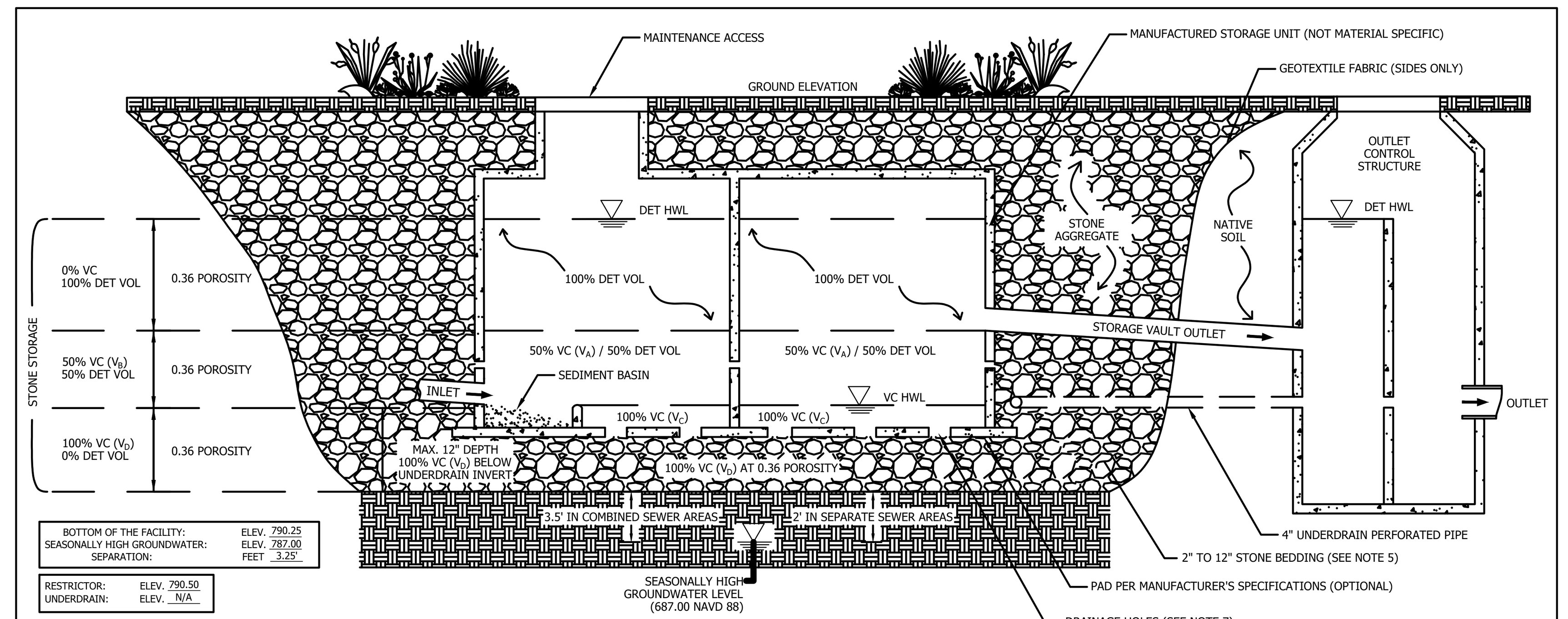
The Contractor shall make certain the housing surface is dry and free of dirt and debris prior to placing the reflector in the housing. The reflector shall be laminated to an elastomeric pad and adhesively attached to the housing. The protective paper or plastic film covering the adhesive pad shall be removed immediately prior to placing the reflector on the housing. Once the film covering is removed, extreme care shall be taken to avoid contamination of the exposed pad surface. An adhesive meeting the marker manufacturer's specifications shall be used. The adhesive shall be placed either on the reflector or on the housing in sufficient quantity so as to ensure complete coverage of the contact area with no voids present and with a slight excess after the reflector is pressed in place. Adhesive material shall not be permitted on the reflective surface of the prismatic reflector.

i. Replacement Lightweight Raised Pavement Marker Housing (PCC): Surrounding pavement surface shall be free of cracking, spalling, or other defects. The recessed area shall be cleaned free of all loose material and old epoxy, and dry before the placement of the replacement housing in the existing cut. All excess material resulting from the removal of the old epoxy shall be completely removed from the surface of the roadway by means of vacuum sweeper truck. The epoxy used shall meet the requirements of AASHTO M 237 specification for epoxy adhesive.

ii. Replacement Lightweight Raised Pavement Marker Reflector (PCC): The Contractor shall make certain the housing surface is dry and free of dirt, debris, and old adhesives prior to placing the reflector in the housing. The reflector shall be laminated to an elastomeric pad and adhesively attached to the housing. The protective paper or plastic film covering the adhesive pad shall be removed immediately prior to placing the reflector on the housing. Once the film covering is removed, extreme care shall be taken to avoid contamination of the exposed pad surface. An adhesive meeting the marker manufacturer's specifications shall be used. The adhesive shall be placed either on the reflector or on the housing in sufficient quantity so as to ensure complete coverage of the contact area with no voids present and with a slight excess after the reflector is pressed in place. Adhesive material shall not be permitted on the reflective surface of the prismatic reflector.

Inspection. Inspection and acceptance for lightweight raised reflective pavement markers shall conform to Article 781.04 of the *Standard Specifications for Road and Bridge Construction*.

Basis of Payment. This work will be paid for at the contract unit price per EACH for LIGHTWEIGHT RAISED REFLECTIVE PAVEMENT MARKER (PCC), REPLACEMENT LIGHTWEIGHT REFLECTIVE PAVEMENT MARKER HOUSING (PCC), REPLACEMENT LIGHTWEIGHT RAISED PAVEMENT MARKER REFLECTOR (PCC).



BOTTOM OF THE FACILITY:	ELEV.	790.25
SEASONALLY HIGH GROUNDWATER:	ELEV.	787.00
SEPARATION:	FEET	3.25'

RESTRICTOR:	ELEV.	790.50
UNDERDRAIN:	ELEV.	N/A

NOTES:

1. THE PERIMETER OF THE VOLUME CONTROL FACILITY SHALL MAINTAIN THE MINIMUM HORIZONTAL SEPARATION DISTANCE OF: 10-FEET FROM FOUNDATIONS, UNLESS WATERPROOFED; 20-FEET FROM ROADWAY GRAVEL SHOULDER; AND 100-FEET FROM POTABLE WATER WELLS, SEPTIC TANKS/FIELDS, OR OTHER UNDERGROUND TANKS.
2. SANITARY OR COMBINED SEWERS SHALL NOT BE LOCATED WITHIN THE VOLUME CONTROL FACILITY. SANITARY OR COMBINED SEWERS SHALL NOT BE LOCATED BELOW THE FOOTPRINT OF THE VOLUME CONTROL FACILITY. WHEN LOCAL CONDITIONS PREVENT THE SEWER FROM BEING LOCATED OUTSIDE THE FOOTPRINT OF THE FACILITY THE SEWER SHALL BE CONSTRUCTED TO WATER MAIN QUALITY STANDARDS, AND IT SHALL BE ENCASED WITH A WATER MAIN QUALITY CARRIER PIPE WITH THE ENDS SEALED.
3. MINIMUM DISTANCE OF 2 FEET (3.5 FEET IN COMBINED SEWER AREAS) BETWEEN BOTTOM OF THE VOLUME CONTROL FACILITY AND SEASONALLY HIGH GROUNDWATER LEVEL.
4. STONE STORAGE OPTIONS ARE IDOT CA-1, IDOT CA-3, IDOT CA-7, OR APPROVED ALTERNATE. NO RECYCLED MATERIALS.
5. UNDERDRAINS ARE REQUIRED IN TYPICAL CLAYEY SOILS WHERE INFILTRATION RATES ARE LESS THAN 0.5 INCH/HOUR. NO MORE THAN 1 UNDERDRAIN EVERY 30 FEET ON CENTER. MINIMUM UNDERDRAIN BEDDING OF 2 INCHES, MAXIMUM OF 12 INCHES.
6. APPROPRIATE MAINTENANCE ACCESS SHALL BE PROVIDED TO ENSURE THAT EACH SEGMENT OF THE SYSTEM IS ACCESSIBLE BY A VACUUM, JET HOSE, OR A TELEVISING DEVICE. ACCESS IS RECOMMENDED NEAR ALL ENTRY/EXIT POINT FOR SEDIMENT REMOVAL. EGRESS RUNGS SHALL BE PROVIDED FOR SYSTEMS DEEPER THAN 42-INCHES.
7. DRAINAGE OPENINGS SHOULD COVER AT LEAST 3% OF THE PAD'S FOOTPRINT. DESIGNER / MANUFACTURER RESPONSIBLE FOR THE STRUCTURAL INTEGRITY OF THE MANUFACTURED STORAGE UNIT.
8. COMBINED SEWER AREAS REQUIRE BACKFLOW PREVENTER.
9. AVOID COMPACTION OF NATIVE SOILS WITHIN THE VOLUME CONTROL FOOTPRINT TO MAXIMIZE INFILTRATION.

VOLUME CONTROL SUMMARY

VOLUME TYPE	DEPTH	POROSITY	STORAGE VOLUME	VOLUME PROVIDED
V_A : VAULT STORAGE (BELOW THE OUTLET)	N/A	1.00	1.00 X 0.50 X V_A	N/A
V_B : COARSE AGGREGATE (ABOVE U.D. INVERT)	N/A	0.36	0.50 X 0.36 X V_B	N/A
V_C : VAULT STORAGE (BELOW U.D. INVERT)	0.53'	1.00	1.00 X V_C	8,524.82 CF
V_D: COARSE AGGREGATE (BELOW U.D. INVERT)	N/A	0.36	0.36 X V_D	N/A
* VOLUME INTENDED FOR DETENTION NOT INCLUDED *			TOTAL	8,524.82 CF

NOT TO SCALE

TECHNICAL GUIDANCE MANUAL — 10/2/2018
UNDERGROUND VAULT VOLUME CONTROL/DETENTION TYPICAL DETAIL — STD. DWG. NO.XX — PAGE NO.XX

MWRD UNDERGROUND VAULT VOLUME CONTROL DETAIL

Scale: NOT TO SCALE

CAGE CIVIL ENGINEERING

2200 CABOT DRIVE
SUITE 325
LISLE, IL 60532
P: 630.598.0007
WWW.CAGECIVIL.COM

AARON J BRUDER 062-071413 LICENSED PROFESSIONAL ENGINEER OF ILLINOIS
Signed: 08/30/2024
Expires: 11/30/2025

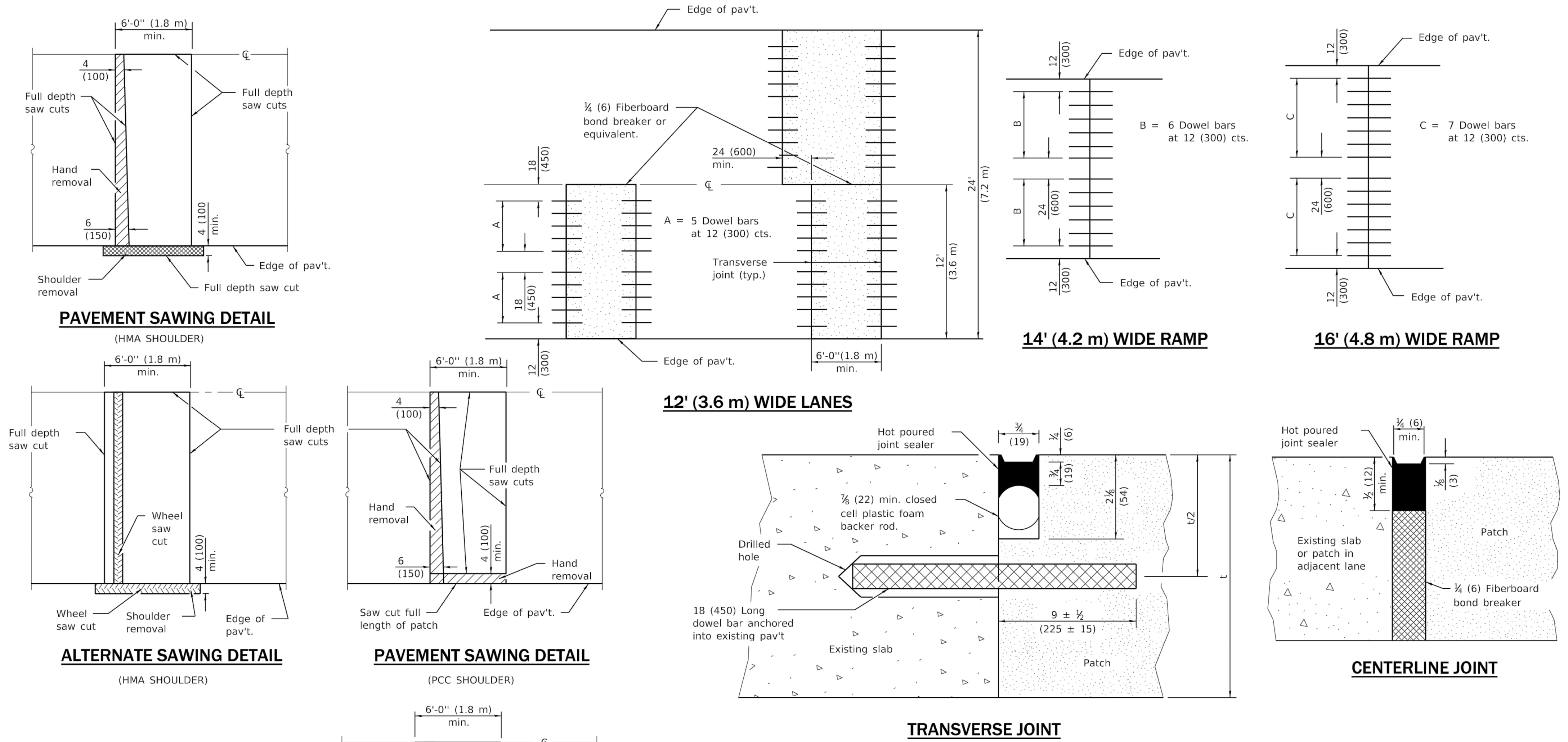
REVISIONS

RS DEVELOPERS, LLC
SCHAUMBURG TOWNHOME DEVELOPMENT
818-860 ROSELLE ROAD
SCHAUMBURG, IL

PROJ NO: 240062
ENG: AJB
DATE: 08/30/2024

SHEET TITLE
CONSTRUCTION DETAILS

SHEET NUMBER
C6.8



PAVEMENT SAWING DETAIL

(HMA SHOULDER)

12' (3.6 m) WIDE LANES

14' (4.2 m) WIDE RAMP

16' (4.8 m) WIDE RAMP

ALTERNATE SAWING DETAIL

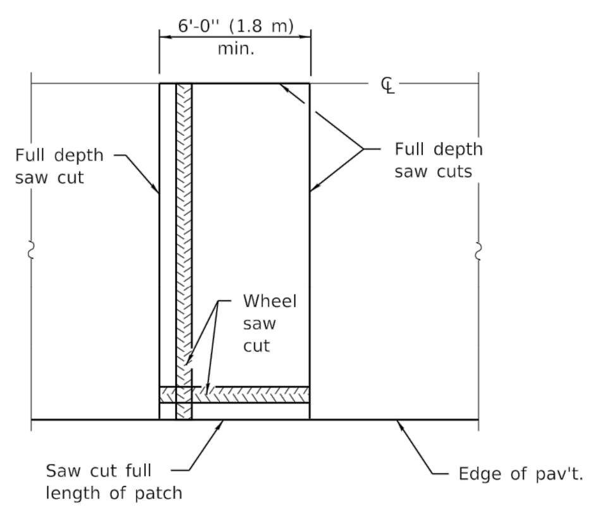
(HMA SHOULDER)

PAVEMENT SAWING DETAIL

(PCC SHOULDER)

TRANSVERSE JOINT

CENTERLINE JOINT



ALTERNATE SAWING DETAIL

(PCC SHOULDER)

DOWEL BAR TABLE		
PAVEMENT THICKNESS	DOWEL BAR DIAMETER	HOLE DIAMETER
10 (250) or greater	1½ (38)	1⅝ (41)
8 (200) thru 9.99 (249)	1¼ (32)	1⅜ (35)
Less than 8 (200)	1 (25)	1⅛ (29)

GENERAL NOTES

The transverse joints for Class B patches shall align with joints or cracks in the adjacent lane whenever possible.

See Standard 420701 for details of welded wire reinforcement.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-19	Revised reference to Standard 420701 in General Notes.
1-1-18	Revised DOWEL BAR TABLE.

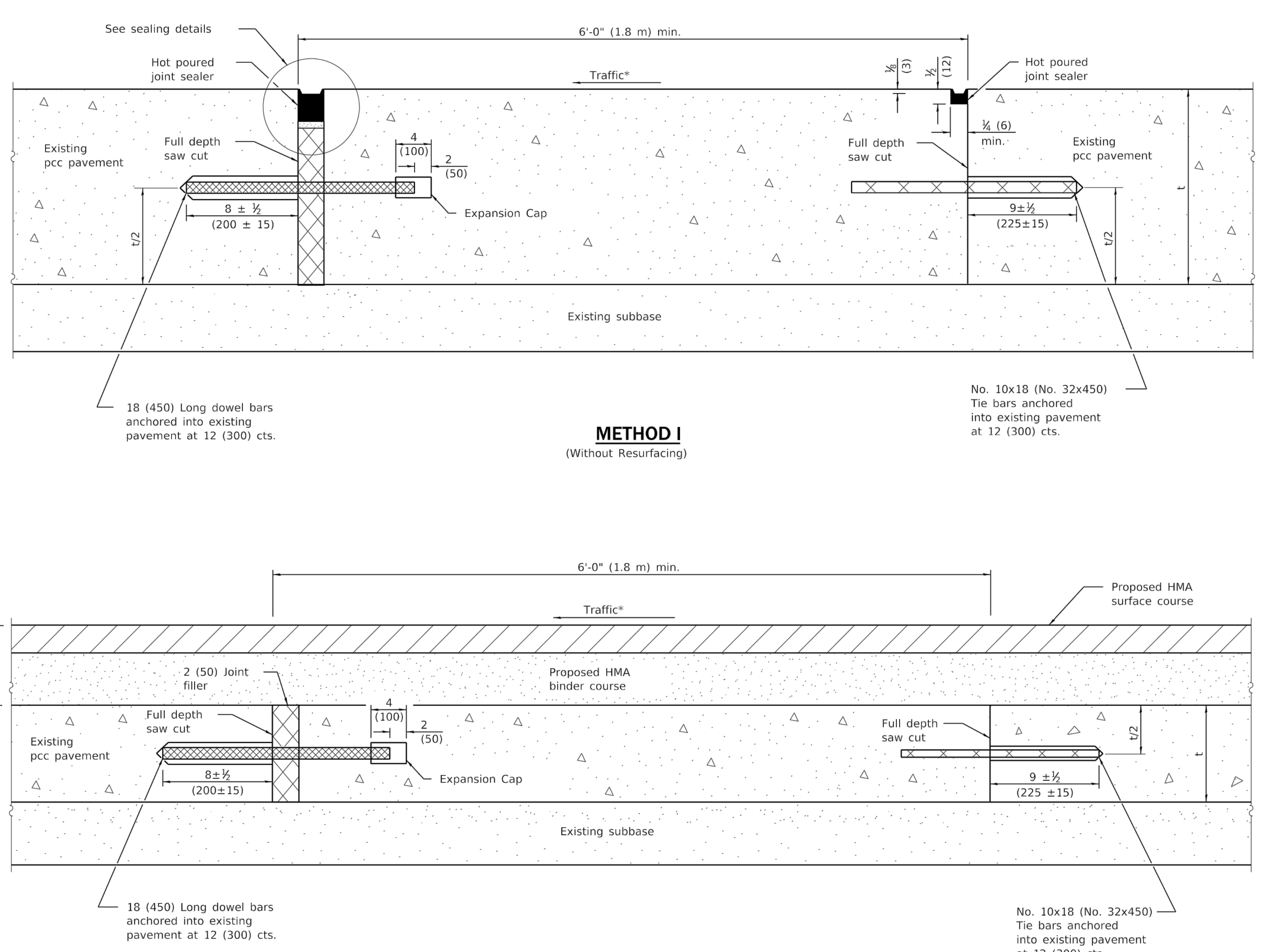
Illinois Department of Transportation
PASSED January 1, 2019
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2019
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-97

CLASS B PATCHES

(Sheet 1 of 2)

STANDARD 442101-09

TRANSVERSE EXPANSION JOINTS

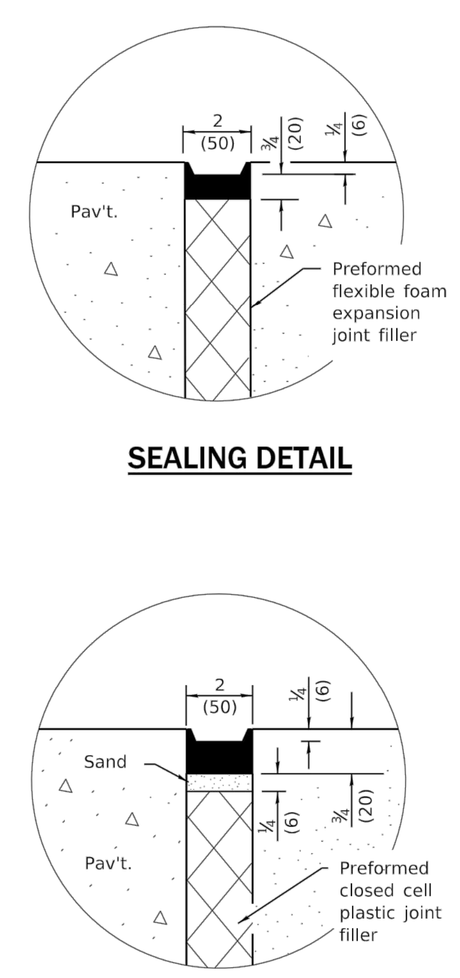


METHOD I

(Without Resurfacing)

METHOD II

(With Resurfacing)



SEALING DETAIL

SEALING DETAIL

NOTE

* When re-establishing a transverse expansion joint on a two-lane, two-way road, reverse the orientation of the dowel bars with respect to traffic for one of the patches such that the joint will be continuous across both lanes.

Illinois Department of Transportation
PASSED January 1, 2019
ENGINEER OF POLICY AND PROCEDURES
APPROVED January 1, 2019
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-97

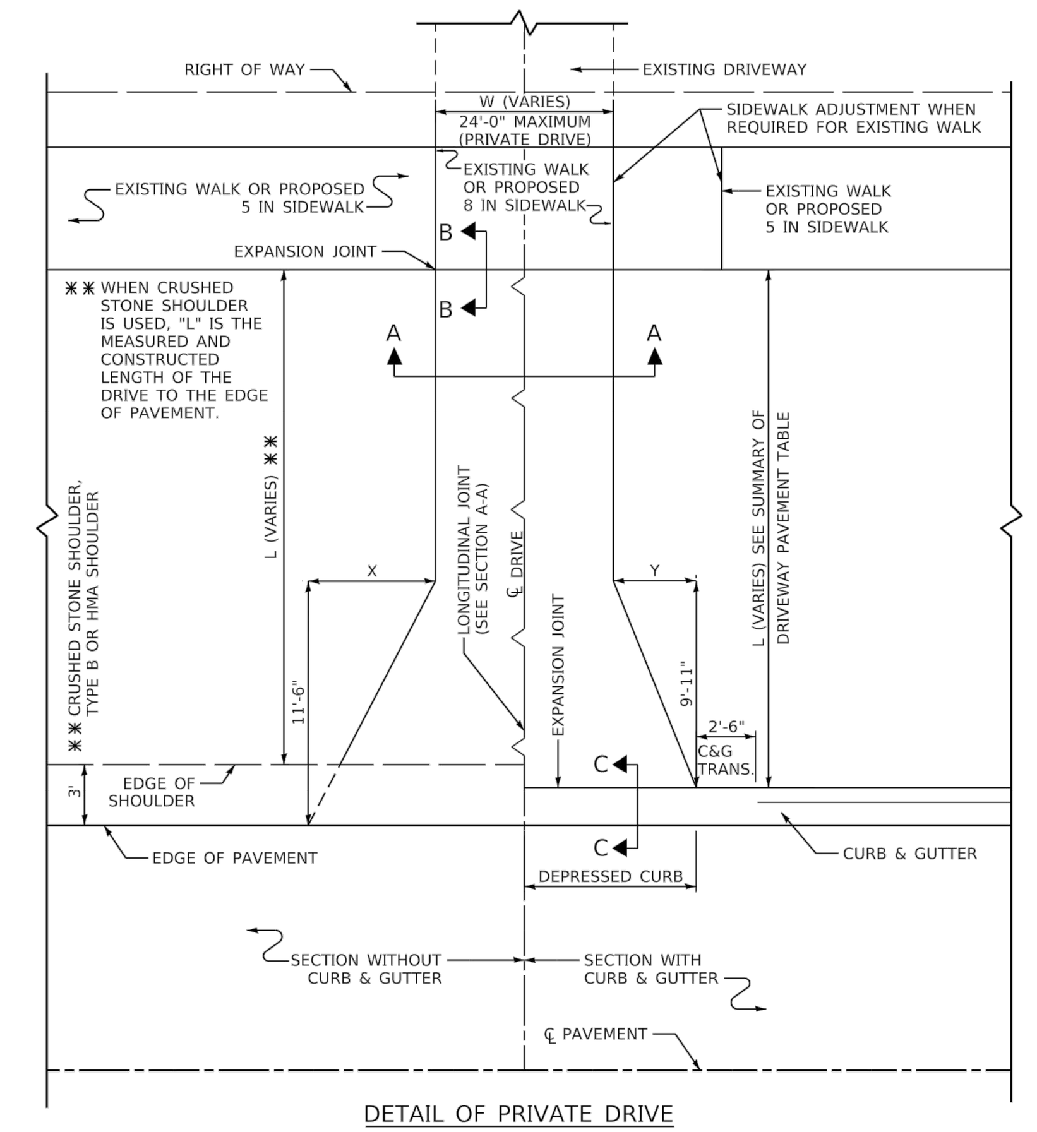
CLASS B PATCHES

(Sheet 2 of 2)

STANDARD 442101-09

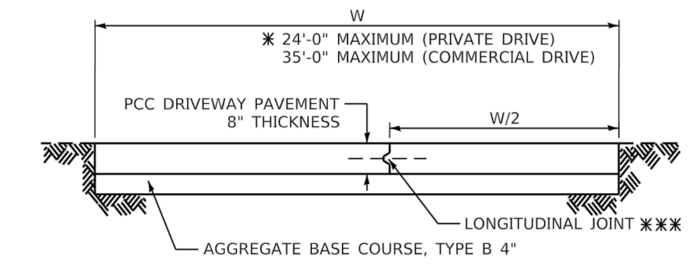
IDOT STANDARD DETAILS

Scale: NOT TO SCALE



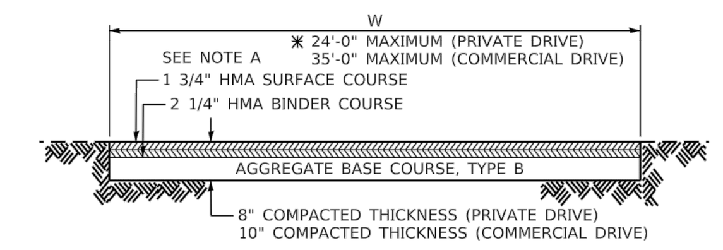
DETAIL OF PRIVATE DRIVE

SUMMARY OF DRIVEWAY PAVEMENT									
STATION	"L"	"W"	SQ YD PCC DRIVEWAY PAVEMENT	SQ YD HMA DRIVEWAY PAVEMENT	STATION	"L"	"W"	SQ YD PCC DRIVEWAY PAVEMENT	SQ YD HMA DRIVEWAY PAVEMENT

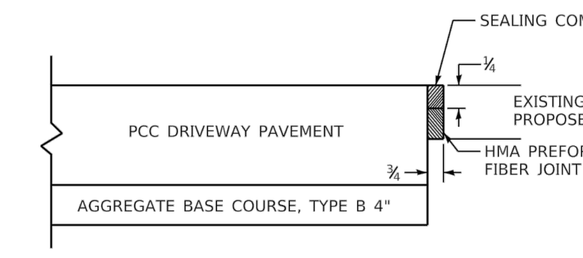


✱✱✱ WHEN 'W' IS GREATER THAN 16'-0", A LONGITUDINAL CONSTRUCTION JOINT AS DETAILED ON IDOT HIGHWAY STANDARD 420001 SHALL BE USED AS SHOWN.

SECTION A-A PCC DRIVEWAY

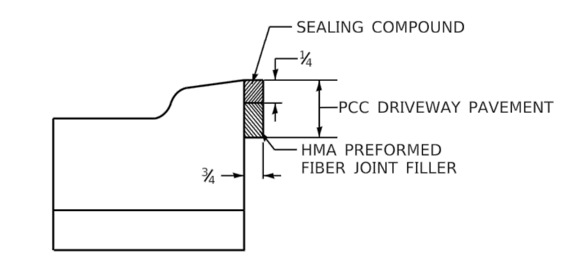


SECTION A-A HMA DRIVEWAY



SECTION B-B

THE EXPANSION JOINT SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR PORTLAND CEMENT CONCRETE SIDEWALK OR PER SQUARE YARD FOR PORTLAND CEMENT CONCRETE DRIVEWAY.



SECTION C-C

GUIDE FOR DRIVEWAY LENGTH

1. MEET EXISTING WALK (USE JOINT FOR PCC PAVEMENT SECTION B-B)
2. IF THERE IS NO EXISTING OR PROPOSED WALK, EXTEND TO RIGHT OF WAY LINE
3. IF THERE IS NO EXISTING WALK BUT A PROPOSED WALK IS REQUIRED, CONSTRUCT 8 INCH WALK FOR FULL DRIVEWAY WIDTH (SECTION B-B)
4. IF THERE IS A WALK ADJUSTMENT, CONSTRUCT 8" WALK FOR FULL DRIVEWAY WIDTH AND 5" WALK BEYOND.

QUANTITIES SHALL BE COMPUTED ON THE BASIS OF THE DRIVES EXTENDING TO SIDEWALK OR RIGHT OF WAY LINE AS SHOWN ON THE PLANS. HOWEVER, IT SHALL BE THE RESPONSIBILITY OF THE FIELD ENGINEER TO DETERMINE THE ACTUAL LIMITS OF EACH INSTANCE.

CHART

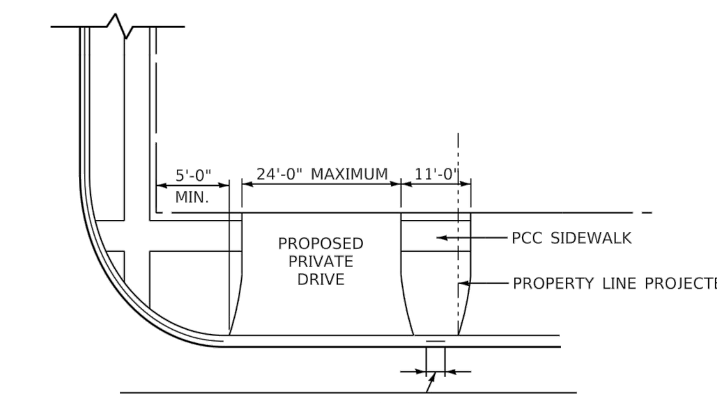
FOR DRIVEWAY WIDTH - W ✱ (FT)	X (FT)	Y (FT)
12	6.0	4.2
14 - 16	4.9	3.4
17 - 18	4.0	2.9
OVER 18	3.2	2.3

✱ PRIVATE DRIVES: 12'-0" MINIMUM, 24'-0" MAXIMUM

COMMERCIAL DRIVES: 12'-0" MINIMUM, 24'-0" MAXIMUM FOR 1-WAY OPERATION 24'-0" MINIMUM, 35'-0" MAXIMUM FOR 2-WAY OPERATION

MAXIMUM DRIVEWAY SLOPE

PROPERTY	URBAN	RURAL	RURAL (PERMIT WORK ONLY)
COMMERCIAL	6%	6%	10%
NON-COMMERCIAL	8%	8%	12%



DESIRABLE DISTANCE OF FULL CURB HEIGHT BETWEEN ADJACENT DRIVES SHALL BE 6'-0". IT IS DESIRABLE THAT THE DRIVE RETURNS TERMINATE WITHIN THE PROPERTY LINE AS PROJECTED.

LIMITATIONS UPON PRIVATE DRIVES

AT STREET INTERSECTIONS
MAXIMUM WIDTH & MINIMUM DISTANCE
BETWEEN DRIVES

NOTE A

FOR HMA DRIVEWAYS: AS AN ALTERNATE TO THE 1 3/4" HOT-MIX ASPHALT SURFACE COURSE, MIX "D", IL-12.5 OR 9.5, N70, AND THE 2 1/4" HOT-MIX ASPHALT CONCRETE BINDER COURSE, IL-19, N70 4" HOT-MIX ASPHALT SURFACE COURSE, MIX "D", IL-12.5 OR 9.5 N70 MAY BE USED. IN THE EVENT THE CONTRACTOR ELECTS TO USE THIS ALTERNATE, THE ADDITIONAL 2 1/4" OF HOT-MIX ASPHALT SURFACE COURSE, MIX "D", IL-12.5 OR 9.5 N70 SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR HOT-MIX ASPHALT BINDER COURSE, IL-19, N70.

GENERAL NOTE:

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SHOWN.

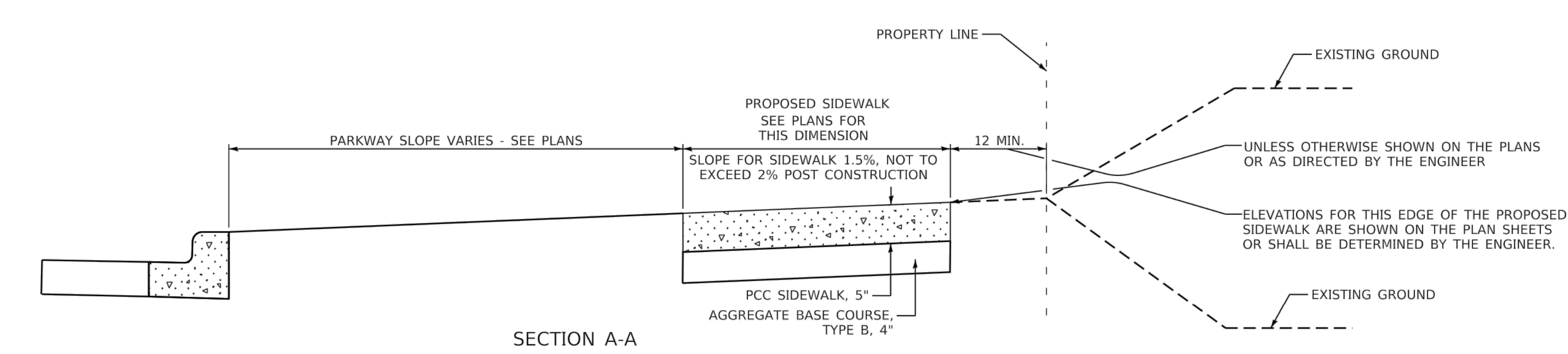
MUNICIPALITY, IL | COUNTY HIGHWAY: XXX
MUNICIPALITY, IL | FISCAL YEAR: XXXX
NAME TOWNSHIP | SECTION: XX-XXXXX-XX-XX

COUNTY OF COOK
DEPARTMENT OF TRANSPORTATION AND HIGHWAYS

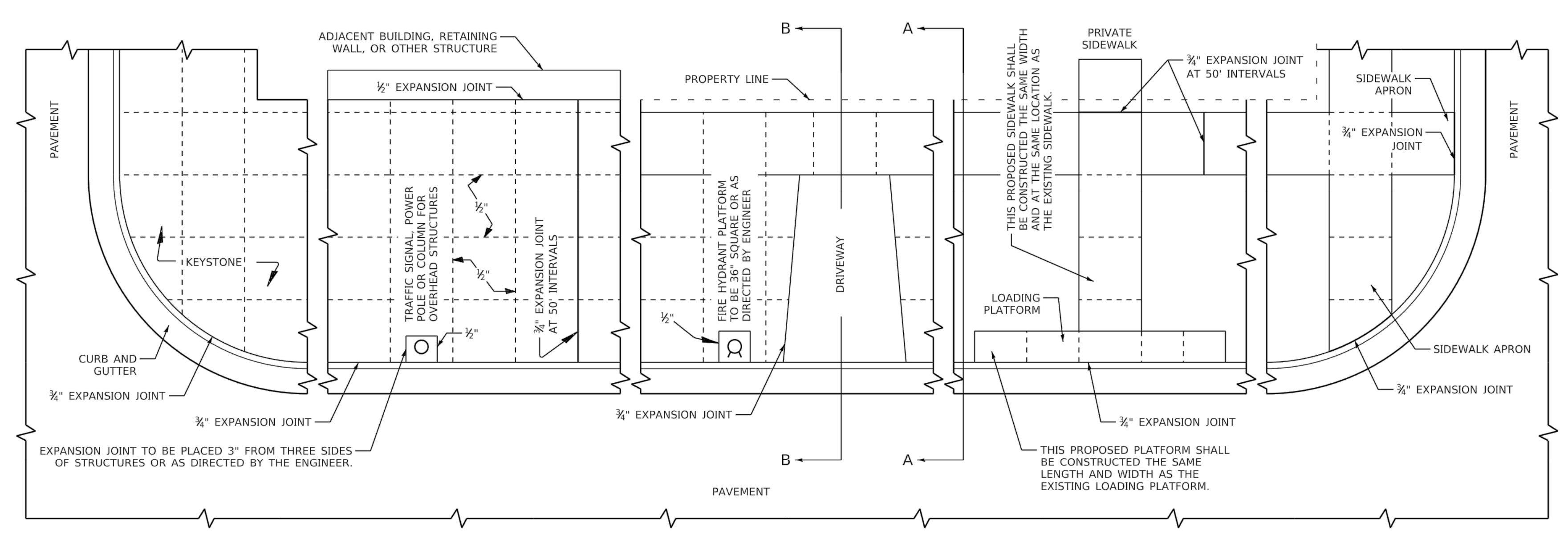
COMPUTED: XXX | REVISIONS GENERAL | DATE 1/1/20
DRAWN: XXX
CHECKED: XXX

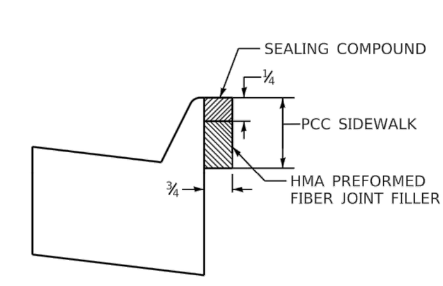
PRIVATE AND COMMERCIAL DRIVE DETAIL
COOK COUNTY DEPARTMENT OF TRANSPORTATION AND HIGHWAYS
STANDARD C-002

C-XXX
NOT TO SCALE SHEET X

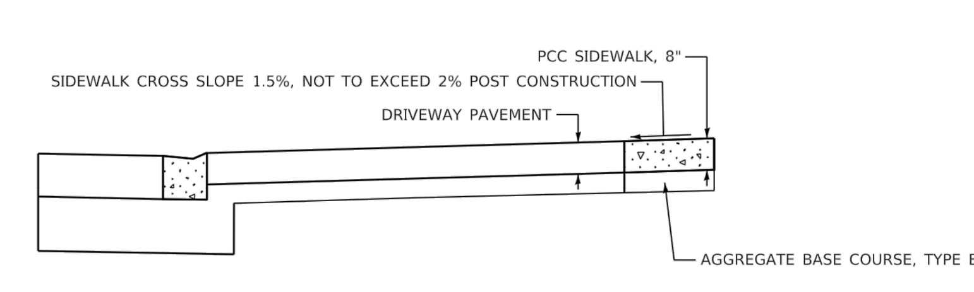


SECTION A-A





EXPANSION JOINT DETAIL



SECTION B-B

GENERAL NOTES:

ALL EXPANSION JOINTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 424.07 OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER SQUARE FOOT FOR PORTLAND CEMENT CONCRETE SIDEWALK OF THE THICKNESS SPECIFIED.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SHOWN.

MUNICIPALITY, IL | COUNTY HIGHWAY: XXX
MUNICIPALITY, IL | FISCAL YEAR: XXXX
NAME TOWNSHIP | SECTION: XX-XXXXX-XX-XX

COUNTY OF COOK
DEPARTMENT OF TRANSPORTATION AND HIGHWAYS

COMPUTED: XXX | REVISIONS GENERAL | DATE 1/1/20
DRAWN: XXX
CHECKED: XXX

PORTLAND CEMENT CONCRETE SIDEWALK CONSTRUCTION DETAIL
COOK COUNTY DEPARTMENT OF TRANSPORTATION AND HIGHWAYS
STANDARD C-003

C-XXX
NOT TO SCALE SHEET X

COOK COUNTY DEPARTMENT OF TRANSPORTATION AND HIGHWAYS DETAILS

Scale: NOT TO SCALE

2200 CABOT DRIVE
SUITE 325
LISLE, IL 60532
P: 630.598.0007
WWW.CAGECIVIL.COM

CAGE CIVIL ENGINEERING

AARON J BRUDER
062-071413
LICENSED PROFESSIONAL ENGINEER OF ILLINOIS
Signed: 08/30/2024
Expires: 11/30/2025

REVISIONS △

RS DEVELOPERS, LLC
SCHAUMBURG TOWNHOME DEVELOPMENT
818-860 ROSELLE ROAD
SCHAUMBURG, IL

PROJ NO: 240062
ENG : AJB
DATE : 08/30/2024

SHEET TITLE
CONSTRUCTION DETAILS

SHEET NUMBER
C6.9

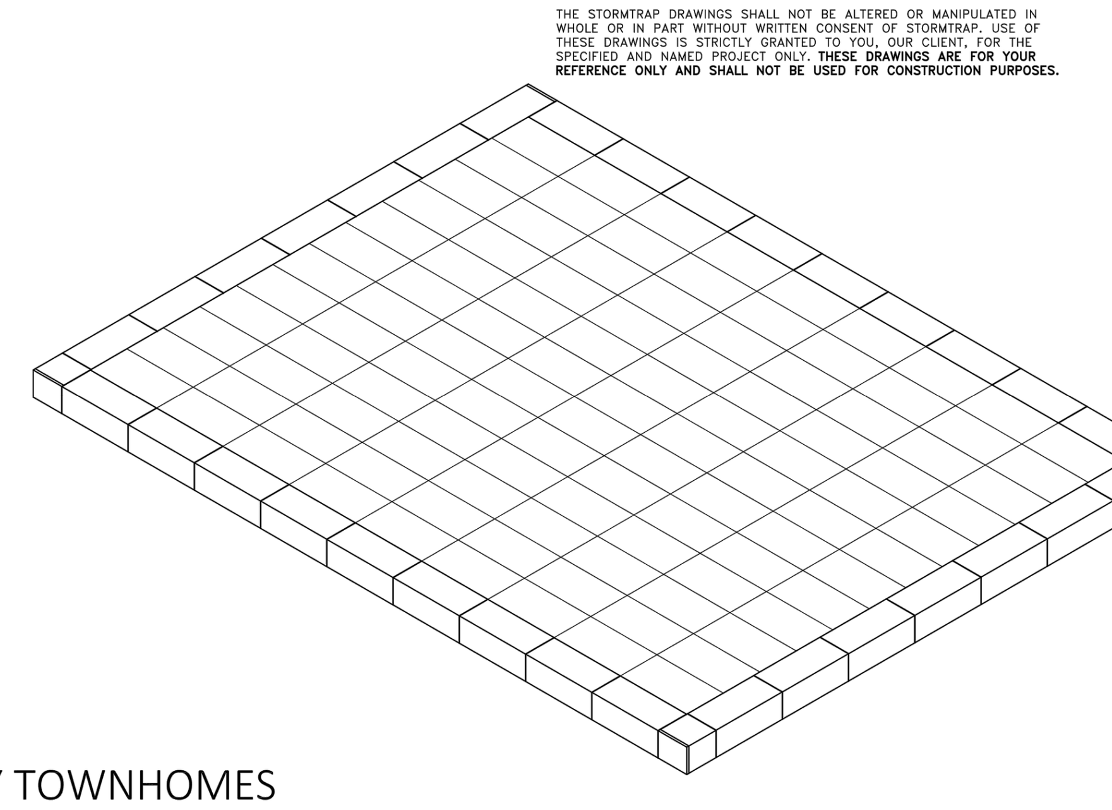
SINGLETRAP — EVERLY TOWNHOMES

Sheet 0.0 — Cover Sheet

StormTrap®

MODULAR CONCRETE STORMWATER MANAGEMENT

STORMTRAP CONTACT INFORMATION	
STORMTRAP SUPPLIER:	STORMTRAP
CONTACT NAME:	KATIE OAKES
CELL PHONE:	630-470-5214
SALES EMAIL:	KOAKES@STORMTRAP.COM



EVERLY TOWNHOMES
SCHAUMBURG, IL

StormTrap®
PATENTS LISTED AT: [HTTP://STORMTRAP.COM/PATENT]
1287 WINDHAM PARKWAY
ROMEOVILLE, IL 60446
P:815-941-4549 / F:331-318-5347

ENGINEER INFORMATION:
CAGE CIVIL ENGINEERING
2200 CABOT DR #325
LISLE, IL 60532
630-598-0007

PROJECT INFORMATION:
EVERLY TOWNHOMES
SCHAUMBURG, IL

CURRENT ISSUE DATE: 8/04/2022

ISSUED FOR: PRELIMINARY

REV.	DATE:	ISSUED FOR:	DWN BY:
2	8/04/2022	PRELIMINARY	DS
1	7/28/2022	PRELIMINARY	JH

SCALE: NTS

SHEET TITLE: COVER SHEET

SHEET NUMBER: 0.0

Sheet 1.0 — SingleTrap Design Criteria

STRUCTURAL DESIGN LOADING CRITERIA	
LIVE LOADING:	AASHTO HS-20 HIGHWAY LOADING
GROUND WATER TABLE:	BELOW INVERT OF SYSTEM
SOIL BEARING PRESSURE:	3000PSF
SOIL DENSITY:	120 PCF
EQUIVALENT UNSATURATED LATERAL ACTIVE EARTH PRESSURE:	35 PSF / FT.
EQUIVALENT SATURATED LATERAL ACTIVE EARTH PRESSURE:	80 PSF/FT. (IF WATER TABLE PRESENT)
APPLICABLE CODES:	ASTM C857 ACI-318
BACKFILL TYPE:	SEE SHEET 4.0 FOR BACKFILL OPTIONS

STORMTRAP SYSTEM INFORMATION	
UNIT HEADROOM:	5'-0" SINGLETRAP

SITE SPECIFIC DESIGN CRITERIA

1. STORMTRAP UNITS SHALL BE MANUFACTURED AND INSTALLED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER OF RECORD. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/ OUTLET PIPE TYPES, SIZES, INVERT ELEVATIONS AND SIZE OF OPENINGS.
2. COVER RANGE: MIN. 3.45' MAX. 9.95' CONSULT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
3. ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE REQUIRED TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO STORMTRAP INSTALLATION.
4. FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE IS ASSUMED TO BE BELOW INVERT OF SYSTEM IF WATER TABLE IS DIFFERENT THAN ASSUMED, CONTACT STORMTRAP.
5. SYSTEM DESIGN MAY ALLOW FOR INCIDENTAL LEAKAGE AND WILL NOT BE SUBJECT TO LEAKAGE TESTING.

VCBMP VOLUME CALCULATION

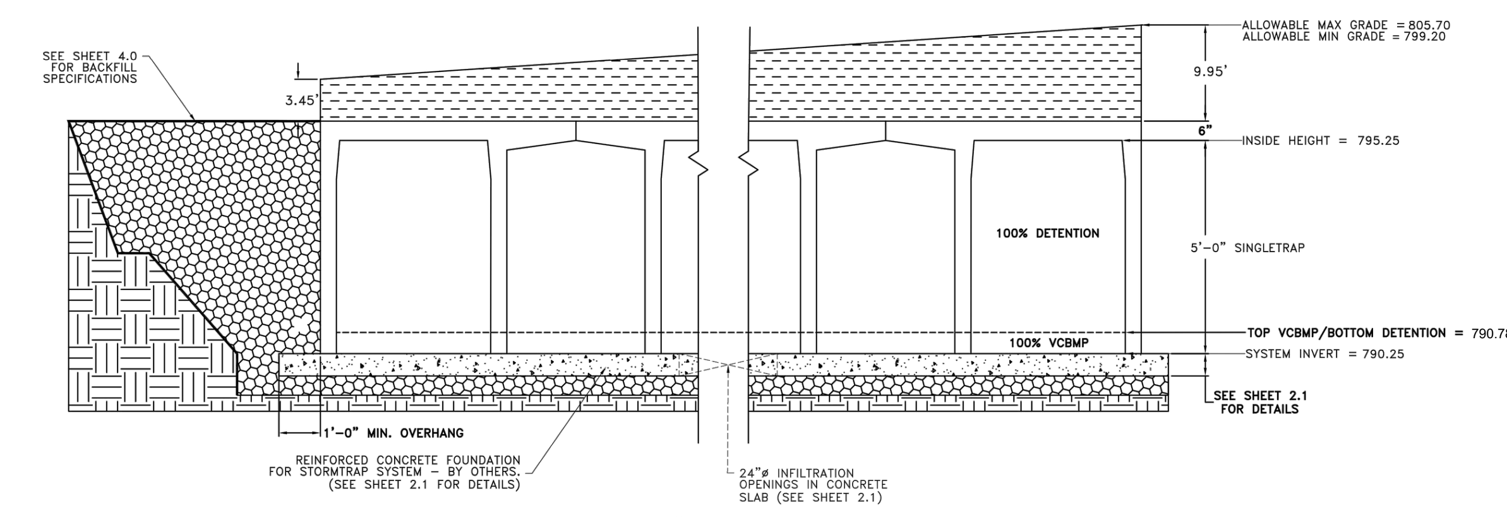
- TOTAL VCBMP STORAGE REQUIRED = 8,400.00 CUBIC FEET
- TOTAL VCBMP STORAGE PROVIDED = 8,524.82 CUBIC FEET (ELEV 790.78 – ELEV 790.25, 100% IN SYSTEM)

DETENTION VOLUME CALCULATION

- TOTAL WATER STORAGE REQUIRED = 71,480.00 CUBIC FEET
- TOTAL WATER STORAGE PROVIDED = 71,897.99 CUBIC FEET (ELEV 795.17 – ELEV 790.78, 100% IN SYSTEM)

SEASONAL HIGH WATER TABLE

- SHWT = 787.00' (ELEVATION) *TO BE VERIFIED BY OTHERS
- VCBMP BOTTOM TO SHWT = 3.25' (DISTANCE)
- AMOUNT OF NATIVE SOIL ABOVE SHWT = 2.50' (DISTANCE)



5'-0" SINGLETRAP

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SHEET TITLE: SINGLETRAP DESIGN CRITERIA

SHEET NUMBER: 1.0

Sheet 2.0 — SingleTrap System Layout

BILL OF MATERIALS			
QTY.	UNIT TYPE	DESCRIPTION	WEIGHT
108	I	5'-0" SINGLETRAP	15493
0	II	5'-0" SINGLETRAP	17906
30	III	5'-0" SINGLETRAP	15412
2	IV	5'-0" SINGLETRAP	16618
0	VII	5'-0" SINGLETRAP	0
2	SPIV	5'-0" SINGLETRAP	VARIES
0	T2 PANEL	6" THICK PANEL	3472
4	T4 PANEL	6" THICK PANEL	2733
0	T7 PANEL	6" THICK PANEL	0
28	JOINTWRAP	150' PER ROLL	
56	JOINTTAPE	14.5' PER ROLL	
TOTAL PIECES = 142			
TOTAL PANELS = 4			
HEAVIEST PICK WEIGHT = 17,906			

LOADING DISCLAIMER:

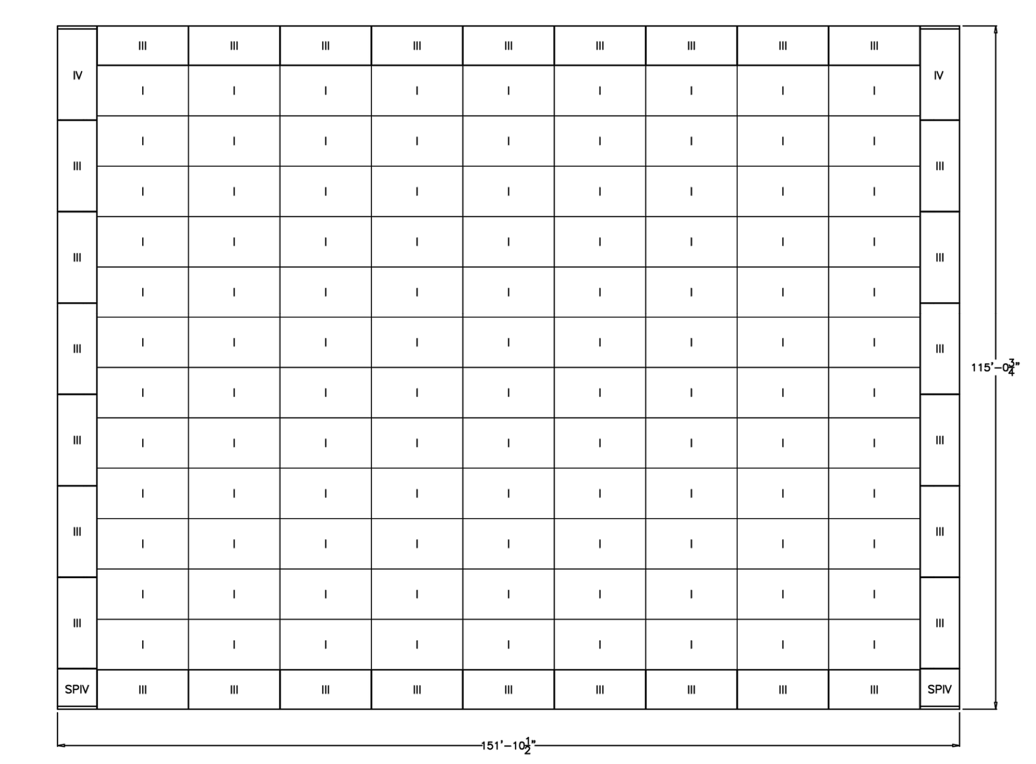
STORMTRAP IS NOT DESIGNED TO ACCEPT ANY ADDITIONAL LOADINGS FROM NEARBY STRUCTURES NEXT TO OR OVER THE TOP OF STORMTRAP. IF ADDITIONAL LOADING CONSIDERATIONS ARE REQUIRED FOR STRUCTURAL DESIGN OF STORMTRAP, PLEASE CONTACT STORMTRAP IMMEDIATELY.

TREE LOADING DISCLAIMER:

THE STORMTRAP SYSTEM HAS NOT BEEN DESIGNED TO SUPPORT THE ADDITIONAL WEIGHT OF ANY TREES. FURTHERMORE, THE ROOTS OF THE TREES MUST BE CONTAINED TO PREVENT FUTURE DAMAGE TO THE STORMTRAP SYSTEM. STORMTRAP ACCEPTS NO LIABILITY FOR DAMAGES CAUSED BY TREES OR OTHER VEGETATION PLACE AROUND OR ON TOP OF THE SYSTEM.

DESIGN CRITERIA
ALLOWABLE MAX GRADE = 805.70
ALLOWABLE MIN GRADE = 799.20
INSIDE HEIGHT ELEVATION = 795.25
SYSTEM INVERT = 790.25

NOTES:
1. DIMENSIONING OF STORMTRAP SYSTEM SHOWN BELOW ALLOW FOR A 3/4" GAP BETWEEN EACH MODULE.
2. ALL DIMENSIONS TO BE VERIFIED IN THE FIELD BY OTHERS.
3. SEE SHEET 3.0 FOR INSTALLATION SPECIFICATIONS.
4. SP – INDICATES A MODULE WITH MODIFICATIONS.
5. P – INDICATES A MODULE WITH A PANEL ATTACHMENT.
6. CONTRACTORS RESPONSIBILITY TO ENSURE CONSISTENCY/ACCURACY TO FINAL ENGINEER OF RECORD PLAN SET.



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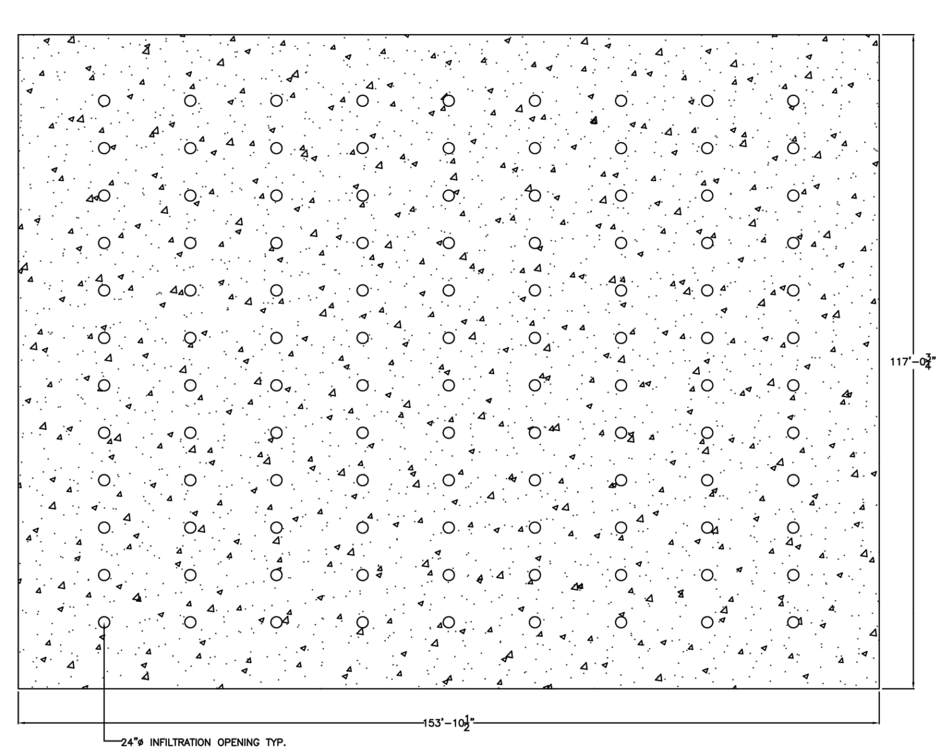
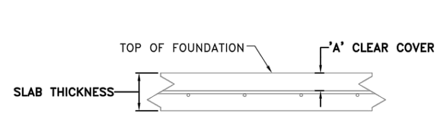
SHEET TITLE: SINGLETRAP SYSTEM LAYOUT

SHEET NUMBER: 2.0

Sheet 2.1 — SingleTrap Foundation Layout



CONCRETE FOUNDATION NOTES:
1. CONCRETE FOUNDATION TO BE SUPPLIED AND INSTALLED BY OTHERS.
2. CONCRETE STRENGTH @ 28 DAYS, 5%-8% ENTRAINED AIR, 4" MAX SLUMP.
3. NET ALLOWABLE SOIL PRESSURE AS INDICATED ON SHEET 1.0.
4. SOIL CONDITIONS TO BE VERIFIED ON SITE BY OTHERS.
5. REBAR: ASTM A615 GRADE 60, BLACK BAR.
6. DIMENSION OF FOUNDATION MUST HAVE 1'-0" OVERHANG BEYOND EXTERNAL FACE OF MODULE.
7. DIMENSION OF STORMTRAP SYSTEM ALLOW FOR A 3/4" GAP BETWEEN EACH MODULE.
8. ALL DIMENSIONS TO BE VERIFIED IN THE FIELD BY OTHERS.
9. SEE SHEET 3.0 FOR INSTALLATION SPECIFICATIONS.



STORMTRAP FOUNDATION DETAIL

HS-20 & HS-25 LOADING – (ACI 318, ST2)				
MAXIMUM SYSTEM COVER	SLAB THICKNESS	CONCRETE STRENGTH	REINFORCEMENT (BOTH DIRECTIONS)	'A' CLEAR COVER
1'-0"	8"	4000 PSI	#4 @ 18" O.C.	3.5"
1'-1" – 2'-0"	8"	4000 PSI	#4 @ 16" O.C.	3.5"
2'-1" – 3'-0"	8"	4000 PSI	#4 @ 12" O.C.	3.5"
3'-1" – 4'-0"	8"	4000 PSI	#4 @ 12" O.C.	3.5"
4'-1" – 5'-0"	8"	4000 PSI	#5 @ 18" O.C.	3.375"
5'-1" – 6'-0"	8"	4000 PSI	#5 @ 16" O.C.	3.375"
6'-1" – 7'-0"	8"	4000 PSI	#5 @ 12" O.C.	3.375"
7'-1" – 8'-0"	9"	4000 PSI	#5 @ 12" O.C.	3.875"
8'-1" – 9'-0"	9"	4000 PSI	#5 @ 12" O.C.	3.875"
9'-1" – 10'-0"	9"	4000 PSI	#5 @ 12" O.C.	3.875"

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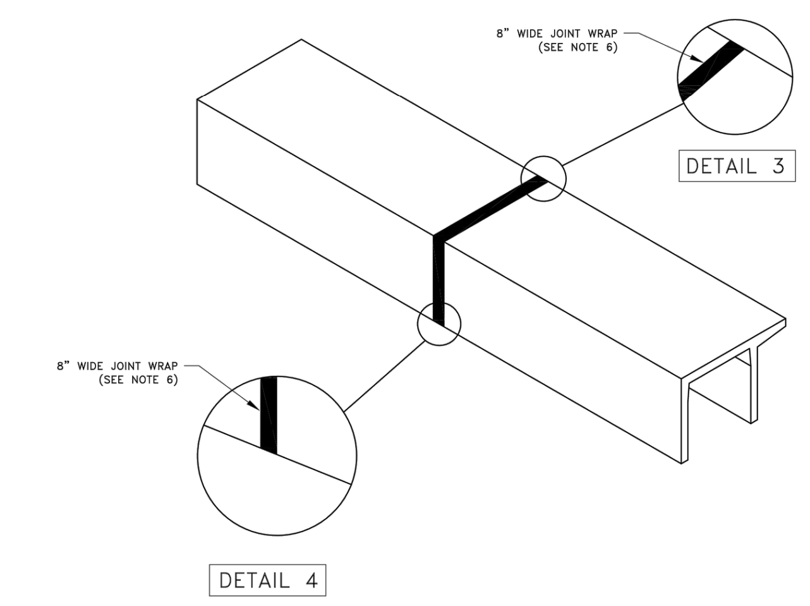
SHEET TITLE: SINGLETRAP FOUNDATION LAYOUT

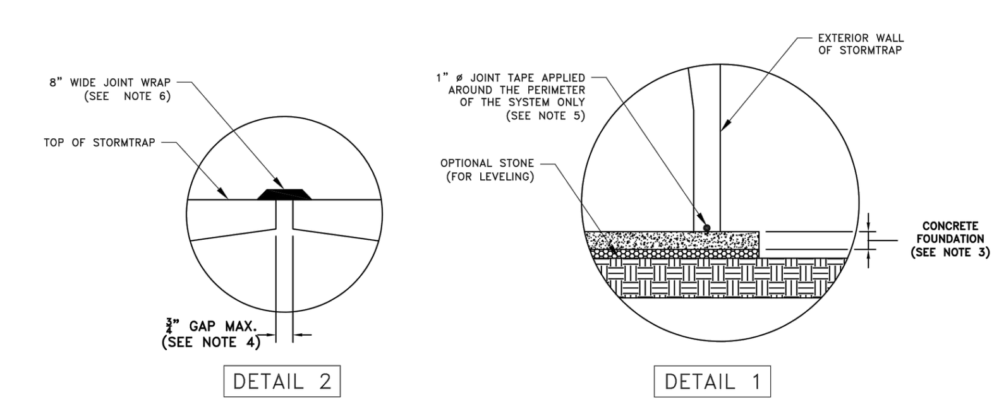
SHEET NUMBER: 2.1

Sheet 3.0 — SingleTrap Installation Specifications

STORMTRAP INSTALLATION SPECIFICATIONS

1. STORMTRAP SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C891, STANDARD FOR INSTALLATION OF UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES, THE FOLLOWING ADDITIONS AND/OR EXCEPTIONS SHALL APPLY:
2. IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO ENSURE THAT PROPER/ADEQUATE EQUIPMENT IS USED TO SET/INSTALL THE MODULES.
3. STORMTRAP MODULES SHALL BE PLACED ON A LEVEL CONCRETE FOUNDATION (SEE SHEET 2.1) WITH A 1'-0" OVERHANG ON ALL SIDES THAT SHALL BE POURED IN PLACE BY INSTALLING CONTRACTOR. A QUALIFIED GEOTECHNICAL ENGINEER WILL BE EMPLOYED, BY OWNER, TO PROVIDE ASSISTANCE IN EVALUATING THE EXISTING SOIL CONDITIONS TO ENSURE THAT THE SOIL BEARING PRESSURE MEETS OR EXCEEDS THE STRUCTURAL DESIGN LOADING CRITERIA AS SPECIFIED ON SHEET 1.0.
4. THE STORMTRAP MODULES SHALL BE PLACED SUCH THAT THE MAXIMUM SPACE BETWEEN ADJACENT MODULES DOES NOT EXCEED ¾" (SEE DETAIL 2). IF THE SPACE EXCEEDS ¾", THE MODULES SHALL BE RESET WITH APPROPRIATE ADJUSTMENT MADE TO LINE AND GRADE TO BRING THE SPACE INTO SPECIFICATION.
5. THE PERIMETER HORIZONTAL JOINT BETWEEN THE STORMTRAP MODULES AND THE CONCRETE FOUNDATION SHALL BE SEALED TO THE FOUNDATION WITH PRE-FORMED MASTIC JOINT SEALER ACCORDING TO ASTM C891, 8.8 AND 8.12 (SEE DETAIL 1). THE MASTIC JOINT TAPE DOES NOT PROVIDE A WATERTIGHT SEAL.
6. ALL EXTERIOR ROOF AND EXTERIOR VERTICAL WALL JOINTS BETWEEN ADJACENT STORMTRAP MODULES SHALL BE SEALED WITH 8" WIDE PRE-FORMED, COLD-APPLIED, SELF-ADHERING ELASTOMERIC RESIN, BONDED TO A WOVEN, HIGHLY PUNCTURE RESISTANT POLYMER WRAP, CONFORMING TO ASTM C891 AND SHALL BE INTEGRATED WITH PRIMER SEALANT AS APPROVED BY STORMTRAP (SEE DETAILS 2, 3, & 4). THE JOINT WRAP DOES NOT PROVIDE A WATERTIGHT SEAL. THE SOLE PURPOSE OF THE JOINT WRAP IS TO PROVIDE A SILT AND SOIL TIGHT SYSTEM. THE ADHESIVE EXTERIOR JOINT WRAP SHALL BE INSTALLED ACCORDING TO THE FOLLOWING INSTALLATION INSTRUCTIONS:
   - 6.1. USE A BRUSH OR WET CLOTH TO THOROUGHLY CLEAN THE OUTSIDE SURFACE AT THE POINT WHERE JOINT WRAP IS TO BE APPLIED.
   - 6.2. A RELEASE PAPER PROTECTS THE ADHESIVE SIDE OF THE JOINT WRAP. PLACE THE ADHESIVE TAPE (ADHESIVE SIDE DOWN) AROUND THE STRUCTURE, REMOVING THE RELEASE PAPER AS YOU GO. PRESS THE JOINT WRAP FIRMLY AGAINST THE STORMTRAP MODULE SURFACE WHEN APPLYING.
7. IF THE CONTRACTOR NEEDS TO CANCEL ANY SHIPMENTS, THEY MUST DO SO 48 HOURS PRIOR TO THEIR SCHEDULED ARRIVAL AT THE JOB SITE. IF CANCELED AFTER THAT TIME, PLEASE CONTACT THE PROJECT MANAGER.
8. IF THE STORMTRAP MODULE(S) IS DAMAGED IN ANY WAY PRIOR, DURING, OR AFTER INSTALL, STORMTRAP MUST BE CONTACTED IMMEDIATELY TO ASSESS THE DAMAGE AND DETERMINE WHETHER OR NOT THE MODULE(S) WILL NEED TO BE REPLACED. IF ANY MODULE ARRIVES AT THE JOBSITE DAMAGED DO NOT UNLOAD IT; CONTACT STORMTRAP IMMEDIATELY. ANY DAMAGE NOT REPORTED BEFORE THE TRUCK IS UNLOADED WILL BE THE CONTRACTOR'S RESPONSIBILITY.
9. STORMTRAP MODULES CANNOT BE ALTERED IN ANY WAY AFTER MANUFACTURING WITHOUT WRITTEN CONSENT FROM STORMTRAP.





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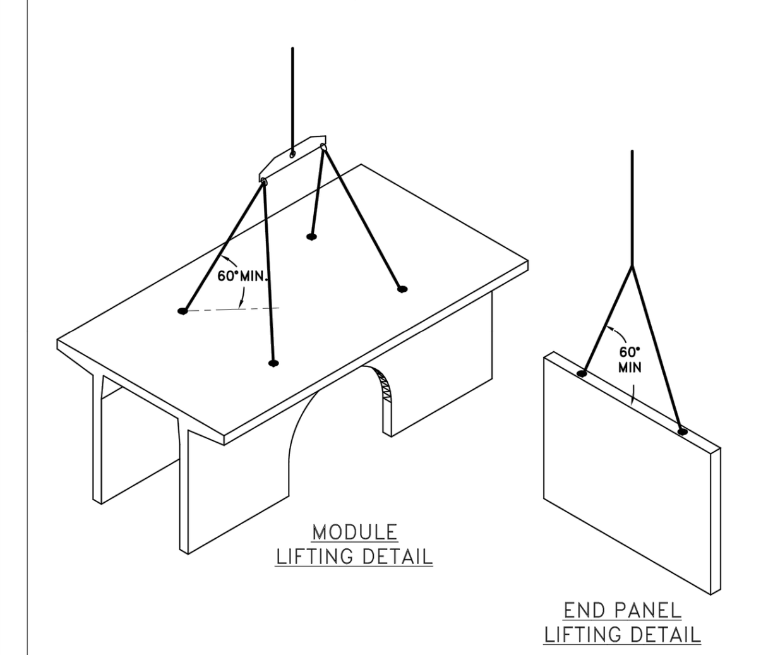
SHEET TITLE: SINGLETRAP INSTALLATION SPECIFICATIONS

SHEET NUMBER: 3.0

Sheet 3.1 — SingleTrap Installation Specifications

STORMTRAP MODULE LIFTING INSTALLATION NOTES

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL (4) CHAINS/CABLES ARE SECURED PROPERLY TO THE LIFTING ANCHORS AND IN EQUAL TENSION WHEN LIFTING THE STORMTRAP MODULE (SEE RECOMMENDATIONS 2 & 3).
2. MINIMUM 7'-0" CHAIN/CABLE LENGTH TO BE USED TO LIFT STORMTRAP MODULES (SUPPLIED BY CONTRACTOR).
3. CONTRACTOR TO ENSURE MINIMUM LIFTING ANGLE IS 60° FROM TOP SURFACE OF STORMTRAP MODULE. SEE DETAIL.
4. IT IS UNDERSTOOD AND AGREED THAT AT ALL TIMES DURING WHICH HOISTING AND RIGGING EQUIPMENT IS BEING SUPPLIED TO THE PURCHASER, OPERATOR OF SUCH EQUIPMENT SHALL BE IN CHARGE OF HIS ENTIRE EQUIPMENT AND SHALL AT ALL TIMES BE THE JUDGE OF THE SAFETY AND PROPERTY OF ANY SUGGESTION TO HIM FROM THE SELLER, ITS AGENTS OR EMPLOYEES. PURCHASER AGREES TO SAVE, INDEMNIFY AND HOLD HARMLESS SELLER FROM ALL LOSS, CLAIMS, DEMANDS OR CAUSES OF ACTION, WHICH MAY ARISE FROM THE EXISTENCE OR OPERATION OF SAID EQUIPMENT.

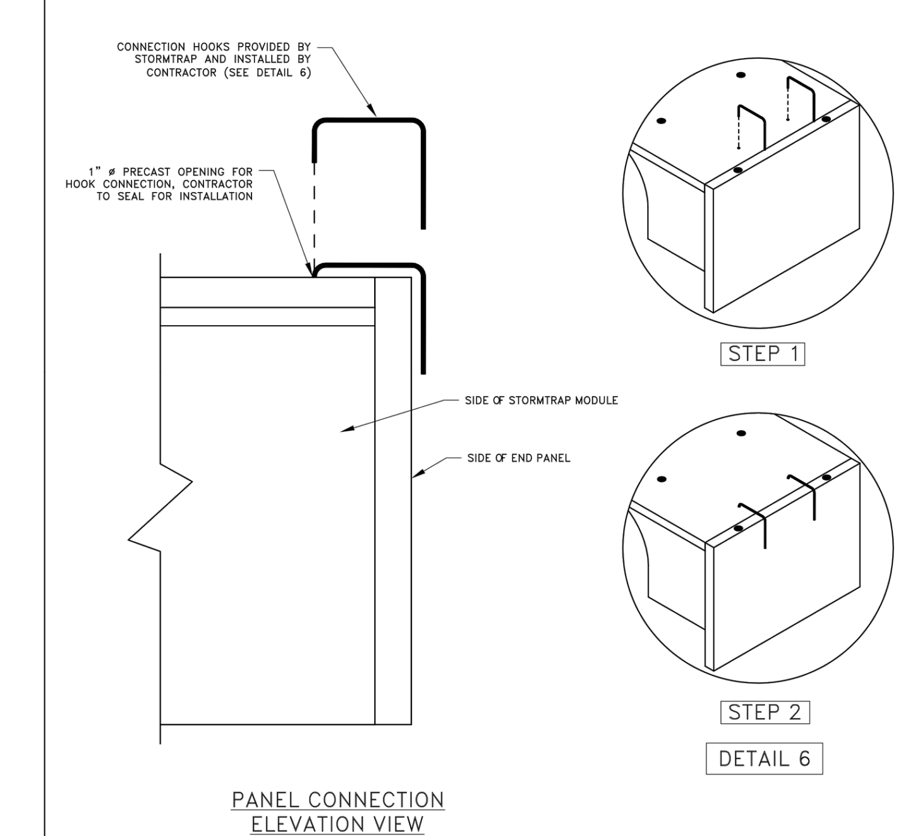


MODULE LIFTING DETAIL

END PANEL LIFTING DETAIL

END PANEL ERECTION/INSTALLATION NOTES

1. END PANELS WILL BE SUPPLIED TO CLOSE OFF OPEN ENDS OF ROWS.
2. PANELS SHALL BE INSTALLED IN A TILT UP FASHION DIRECTLY ADJACENT TO OPEN END OF MODULE (REFER TO SHEET 2.0 FOR END PANEL LOCATIONS).
3. CONNECTION HOOKS WILL BE SUPPLIED WITH END PANELS TO SECURELY CONNECT PANEL TO ADJACENT STORMTRAP MODULE (SEE PANEL CONNECTION ELEVATION VIEW).
4. ONCE CONNECTION HOOK IS ATTACHED, LIFTING CLUTCHES MAY BE REMOVED.
5. JOINT WRAP SHALL BE PLACED AROUND PERIMETER JOINT PANEL (SEE SHEET 3.0).



PANEL CONNECTION ELEVATION VIEW

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SHEET TITLE: SINGLETRAP INSTALLATION SPECIFICATIONS

SHEET NUMBER: 3.1

Sheet 4.0 — SingleTrap Backfill Specifications

ZONE CHART		
ZONES	ZONE DESCRIPTIONS	REMARKS
ZONE 1	FOUNDATION AGGREGATE	#5 (¾") STONE AGGREGATE (SEE NOTE 4 FOR DESCRIPTION)
ZONE 2	BACKFILL	UNIFIED SOILS CLASSIFICATION (GW, GP, SW, SP) OR SEE BELOW FOR APPROVED BACKFILL OPTIONS
ZONE 3	FINAL COVER OVERTOP	MATERIALS NOT TO EXCEED 120 PCF

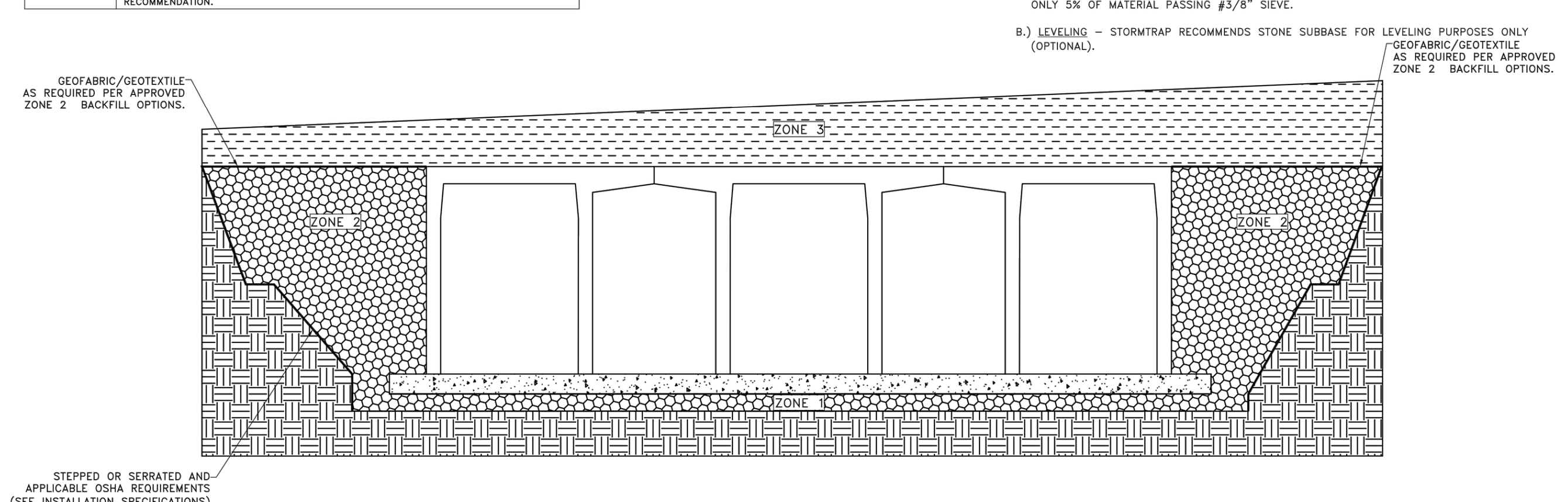
FILL DEPTH	TRACK WIDTH	MAX VEHICLE WEIGHT (KIPS)	MAX GROUND PRESSURE
12"	12"	51.8	1690 psf
	18"	56.1	1219 psf
	24"	68.1	1111 psf
	30"	76.7	1000 psf
	36"	85.0	924 psf

NOTE:
TRACK LENGTH NOT TO EXCEED 15'-4".
ONLY TWO TRACKS PER VEHICLE.

APPROVED ZONE 2 BACKFILL OPTIONS	
OPTION	REMARKS
¾" STONE AGGREGATE	THE STONE AGGREGATE SHALL CONSIST OF CLEAN AND FREE DRAINING ANGULAR MATERIAL. THE SIZE OF THIS MATERIAL SHALL HAVE 100% PASSING THE 1" SIEVE WITH 0% TO 5% PASSING THE #8 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE BACKFILL (ASTM SIZE #57) AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
SAND	IMPORTED PURE SAND IS PERMITTED TO BE USED AS BACKFILL IF IT IS CLEAN AND FREE DRAINING. THE SAND USED FOR BACKFILLING SHALL HAVE LESS THAN 40% PASSING #40 SIEVE AND LESS THAN 5% PASSING #200 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE SAND BACKFILL.
CRUSHED CONCRETE AGGREGATE	CLEAN, FREE DRAINING CRUSHED CONCRETE AGGREGATE MATERIAL CAN BE USED AS BACKFILL FOR STORMTRAP'S MODULES. THE SIZE OF THIS MATERIAL SHALL HAVE 100% PASSING THE 1" SIEVE WITH 0% TO 5% PASSING THE #8 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE BACKFILL.
ROAD PACK	STONE AGGREGATE 100% PASSING THE 1-1/2" SIEVE WITH LESS THAN 12% PASSING THE #200 SIEVE (ASTM SIZE #467). GEOFABRIC AS PER GEOTECHNICAL ENGINEER RECOMMENDATION.

STORMTRAP ZONE INSTALLATION SPECIFICATIONS/PROCEDURES

1. THE FILL PLACED AROUND THE STORMTRAP MODULES MUST DEPOSITED ON BOTH SIDES AT THE SAME TIME AND TO APPROXIMATELY THE SAME ELEVATION. AT NO TIME SHALL THE FILL BEHIND ONE SIDE WALL BE MORE THAN 2'-0" HIGHER THAN THE FILL ON THE OPPOSITE SIDE. BACKFILL SHALL EITHER BE COMPACTED AND/OR VIBRATED TO ENSURE THAT BACKFILL AGGREGATE/STONE MATERIAL IS WELL SEATED AND PROPERLY INTER LOCKED. CARE SHALL BE TAKEN TO PREVENT ANY WEDGING ACTION AGAINST THE STRUCTURE, AND ALL SLOPES WITHIN THE AREA TO BE BACKFILLED MUST BE STEPPED OR SERRATED TO PREVENT WEDGING ACTION. CARE SHALL ALSO BE TAKEN AS NOT TO DISRUPT THE JOINT WRAP FROM THE JOINT DURING THE BACKFILL PROCESS. BACKFILL MUST BE FREE-DRAINING MATERIAL. SEE ZONE 2 BACKFILL CHART ON THIS PAGE FOR APPROVED BACKFILL OPTIONS. IF NATIVE EARTH IS SUSCEPTIBLE TO MIGRATION, CONFIRM WITH GEOTECHNICAL ENGINEER AND PROVIDE PROTECTION AS REQUIRED (PROVIDED BY OTHERS).
2. DURING PLACEMENT OF MATERIAL OVERTOP THE SYSTEM, AT NO TIME SHALL MACHINERY BE USED OVERTOP THAT EXCEEDS THE DESIGN LIMITATIONS OF THE SYSTEM. WHEN PLACEMENT OF MATERIAL OVERTOP, MATERIAL SHALL BE PLACED SUCH THAT THE DIRECTION OF PLACEMENT IS PARALLEL WITH THE OVERALL LONGITUDINAL DIRECTION OF THE SYSTEM WHENEVER POSSIBLE.
3. THE FILL PLACED OVERTOP THE SYSTEM SHALL BE PLACED AT A MINIMUM OF 6" LIFTS. AT NO TIME SHALL MACHINERY OR VEHICLES GREATER THAN THE DESIGN HS-20 LOADING CRITERIA TRAVEL OVERTOP THE SYSTEM WITHOUT THE MINIMUM DESIGN COVERAGE. IF TRAVEL IS NECESSARY OVERTOP THE SYSTEM PRIOR TO ACHIEVING THE MINIMUM DESIGN COVER, IT MAY BE NECESSARY TO REDUCE THE ULTIMATE LOAD/BURDEN OF THE OPERATING MACHINERY SO AS TO NOT EXCEED THE DESIGN CAPACITY OF THE SYSTEM. IN SOME CASES, IN ORDER TO ACHIEVE REQUIRED COMPACTION, HAND COMPACTION MAY BE NECESSARY IN ORDER NOT TO EXCEED THE ALLOTTED DESIGN LOADING. SEE CHART FOR TRACKED VEHICLE WIDTH AND ALLOWABLE MAXIMUM PRESSURE PER TRACK.
4. STONE AGGREGATE FOUNDATION IN ZONE 1 MAY BE REQUIRED FOR THE FOLLOWING:
   - A.) INFILTRATION – IF INFILTRATION IS REQUIRED, A FREE DRAINING MATERIAL SHALL BE USED AT A DEPTH DETERMINED BY THE EOR. FREE DRAINING AGGREGATE IS DEFINED AS 80% AGGREGATE RETAINED ON ½" SIEVE, MAJORITY OF AGGREGATE SIZE BETWEEN ½" AND 1", AND ONLY 5% OF MATERIAL PASSING #3/8" SIEVE.
   - B.) LEVELING – STORMTRAP RECOMMENDS STONE SUBBASE FOR LEVELING PURPOSES ONLY (OPTIONAL).



BACKFILL DETAIL

StormTrap® PATENTS LISTED AT: [HTTP://STORMTRAP.COM/PATENT] 1287 WINDHAM PARKWAY ROMEOVILLE, IL 60446 P:815-941-4549 / F:331-318-5347 ENGINEER INFORMATION: CAGE CIVIL ENGINEERING 2200 CABOT DR #325 LISLE, IL 60532 630-598-0007 PROJECT INFORMATION: EVERLY TOWNHOMES SCHAUMBURG, IL CURRENT ISSUE DATE: 8/04/2022 ISSUED FOR: PRELIMINARY REV. 2 8/04/2022 PRELIMINARY DS; 1 7/28/2022 PRELIMINARY JH SCALE: NTS

SHEET TITLE: SINGLETRAP BACKFILL SPECIFICATIONS

SHEET NUMBER: 4.0

Sheet 5.0 — Recommended Pipe / Access Opening Specifications

RECOMMENDED ACCESS OPENING SPECIFICATION

1. A TYPICAL ACCESS OPENING FOR THE STORMTRAP SYSTEM ARE 2'-0" IN DIAMETER. ACCESS OPENINGS LARGER THAN 3'-0" IN DIAMETER NEED TO BE APPROVED BY STORMTRAP. ALL OPENINGS MUST RETAIN AT LEAST 1'-0" OF CLEARANCE FROM THE END OF THE STORMTRAP MODULE UNLESS NOTED OTHERWISE. ALL ACCESS OPENINGS TO BE LOCATED ON INSIDE LEG UNLESS OTHERWISE SPECIFIED.
2. PLASTIC COATED STEEL STEPS PRODUCED BY M.A. INDUSTRIES PART #PS3-PFC OR APPROVED EQUAL (SEE STEP DETAIL) ARE PROVIDED INSIDE ANY MODULE WHERE DEEMED NECESSARY. THE HIGHEST STEP IN THE MODULE IS TO BE PLACED A DISTANCE OF 1'-0" FROM THE INSIDE EDGE OF THE STORMTRAP MODULES. ALL ENSUING STEPS SHALL BE PLACED AT A DISTANCE BETWEEN 10" MIN AND 14" MAX BETWEEN THEM. STEPS MAY BE MOVED OR ALTERED TO AVOID OPENINGS OR OTHER IRREGULARITIES IN THE MODULE.
3. STORMTRAP LIFTING INSERTS MAY BE RELOCATED TO AVOID INTERFERENCE WITH ACCESS OPENINGS OR THE CENTER OF GRAVITY OF THE MODULE AS NEEDED.
4. STORMTRAP ACCESS OPENINGS MAY BE RELOCATED TO AVOID INTERFERENCE WITH INLET AND/OR OUTLET PIPE OPENINGS SO PLACEMENT OF STEPS IS ATTAINABLE.
5. ACCESS OPENINGS SHOULD BE LOCATED IN ORDER TO MEET THE APPROPRIATE MUNICIPAL REQUIREMENTS. STORMTRAP RECOMMENDS AT LEAST TWO ACCESS OPENINGS PER SYSTEM FOR ACCESS AND INSPECTION.
6. USE PRECAST ADJUSTING RINGS AS NEEDED TO MEET GRADE. STORMTRAP RECOMMENDS FOR COVER OVER 2' TO USE PRECAST BARREL OR CONE SECTIONS. (PROVIDED BY OTHERS)

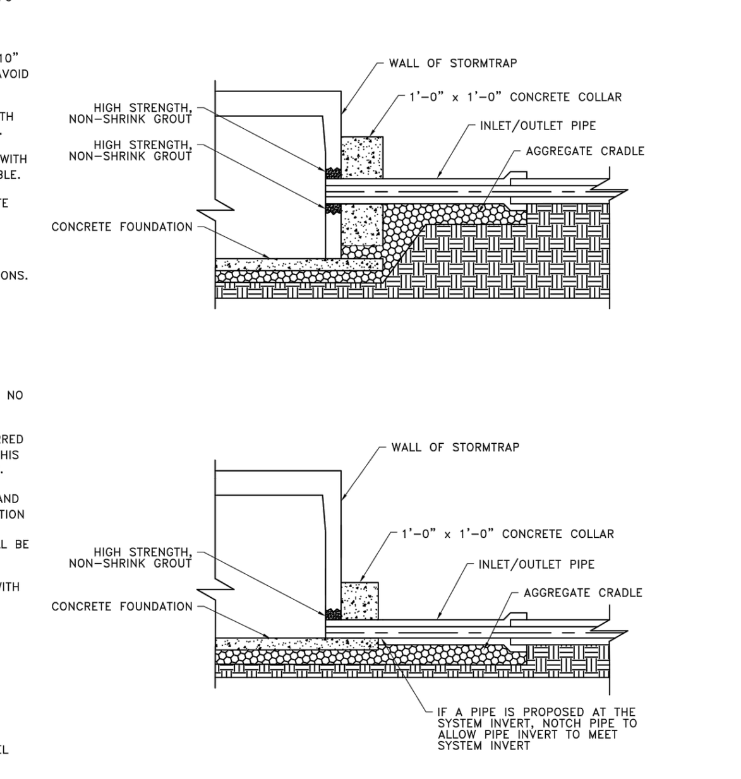
RECOMMENDED PIPE OPENING SPECIFICATION

1. MINIMUM EDGE DISTANCE FOR AN OPENING ON THE OUTSIDE WALL SHALL BE NO LESS THAN 1'-0".
2. MAXIMUM OPENING SIZE TO BE DETERMINED BY THE MODULE HEIGHT. PREFERRED OPENING SIZE ø 36" OR LESS. ANY OPENING NEEDED THAT DOES NOT FIT THIS CRITERIA SHALL BE BROUGHT TO THE ATTENTION OF STORMTRAP FOR REVIEW.
3. CONNECTING PIPES SHALL BE INSTALLED WITH A 1'-0" CONCRETE COLLAR, AND AN AGGREGATE CRADLE FOR AT LEAST ONE PIPE LENGTH (SEE PIPE CONNECTION DETAIL). A STRUCTURAL GRADE CONCRETE OR HIGH STRENGTH, NON-SHRINK GROUT WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI SHALL BE USED.
4. THE ANNULAR SPACE BETWEEN THE PIPE AND THE HOLE SHALL BE FILLED WITH HIGH STRENGTH NON-SHRINK GROUT.

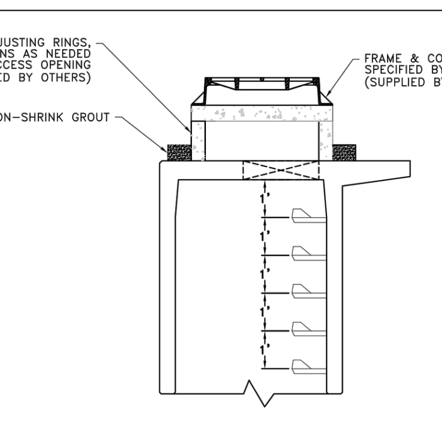
RECOMMENDED PIPE INSTALLATION INSTRUCTIONS

1. CLEAN AND LIGHTLY LUBRICATE ALL OF THE PIPE TO BE INSERTED INTO STORMTRAP.
2. IF PIPE IS CUT, CARE SHOULD BE TAKEN TO ALLOW NO SHARP EDGES. BEVEL AND LUBRICATE LEAD END OF PIPE.
3. ALIGN CENTER OF PIPE TO CORRECT ELEVATION AND INSERT INTO OPENING.

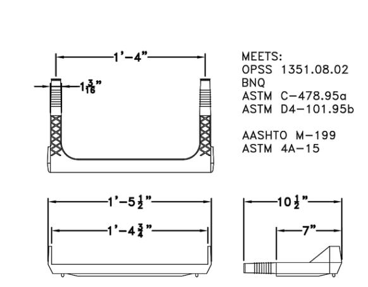
NOTE: ALL ANCILLARY PRODUCTS/SPECIFICATIONS RECOMMENDED AND SHOWN ON THIS SHEET ARE RECOMMENDATIONS ONLY AND SUBJECT TO CHANGE PER THE INSTALLING CONTRACTOR AND/OR PER LOCAL MUNICIPAL CODE/REQUIREMENTS.



PIPE CONNECTION DETAIL



RISER/STAIR DETAIL



STEP DETAIL

*** NOTICE *** 03-25-2022
DUE TO CURRENT INCONSISTENCIES IN THE 16" STEP SUPPLY, STORMTRAP MAY SUBSTITUTE THE 16" STEP WITH THE CLOSEST ALTERNATIVE LENGTH STEP UNTIL THE SUPPLY CHAIN ISSUE IS RESOLVED.

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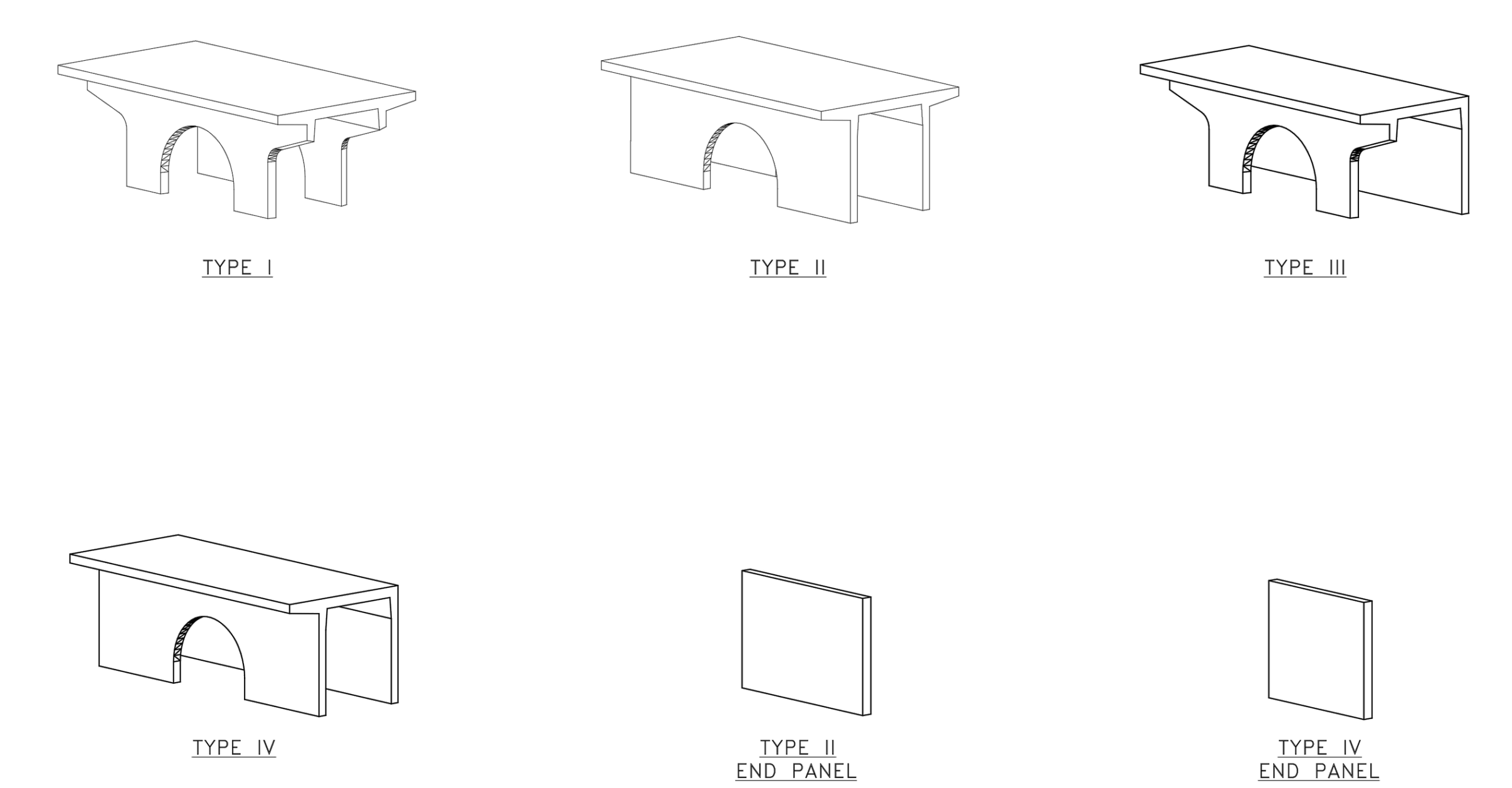
SHEET TITLE: RECOMMENDED PIPE / ACCESS OPENING SPECIFICATIONS

SHEET NUMBER: 5.0

Sheet 6.0 — SingleTrap Module Types



NOTES:
1. OPENING LOCATIONS AND SHAPES MAY VARY.
2. SP – INDICATES A MODULE WITH MODIFICATIONS.
3. P – INDICATES A MODULE WITH A PANEL ATTACHMENT.
4. POCKET WINDOW OPENINGS ARE OPTIONAL.

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SHEET TITLE: SINGLETRAP MODULE TYPES

SHEET NUMBER: 6.0

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CAGE CIVIL ENGINEERING

AARON J BRUDER
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LICENSED PROFESSIONAL ENGINEER OF ILLINOIS
Signed: 08/30/2024
Expires: 11/30/2025

REVISIONS △

RS DEVELOPERS, LLC

SCHAUMBURG TOWNHOME DEVELOPMENT

818-860 ROSELLE ROAD
SCHAUMBURG, IL

PROJ NO: 240062
ENG: AJB
DATE: 08/30/2024

SHEET TITLE
CONSTRUCTION DETAILS

SHEET NUMBER
C6.10