

# TOWN OF AVON HENDRICKS COUNTY, INDIANA CONSTRUCTION STANDARDS



UPDATED JANUARY 15, 2026  
 REV #1 JANUARY 21, 2026  
 REV #2 FEBRUARY 2, 2026

TOWN OF AVON - STAFF

TOWN MANAGER - RYAN CANNON  
 TOWN PUBLIC WORKS DIRECTOR - STEVE MOORE  
 PLANNING DIRECTOR - LINDA AHLBRAND

TOWN HALL - (317) 272-0948



*Kevin L. Miller*

KEVIN L. MILLER, P.E.  
 INDIANA REG. NO. PE10910592



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**GENERAL NOTES FOR ROADS**

- THE RIGHT-OF-WAY WIDTHS, PAVEMENT WIDTHS, AND EASEMENT WIDTHS ARE FOUND IN THE AVON UNIFIED DEVELOPMENT ORDINANCE (UDO). GREATER WIDTHS MAY BE PROVIDED. THE CONTRACTOR SHALL REVIEW THE PLAN AND THE PLANS TO CONFIRM THE VARIOUS WIDTHS INDICATED ON THE PLANS AND SHALL REPORT ANY DISCREPANCY TO THE TOWN PUBLIC WORKS DIRECTOR PRIOR TO PROCEEDING WITH CONSTRUCTION.
- WHERE ANY ROAD MODIFICATION IS MADE, VIA A NEW STREET APPROACH, ADDITION OF AN ACCELERATION LANE, DECELERATION LANE, TURN LANE, ADDED LANE WIDTH, MILL AND OVERLAY, STREET CUT, ETC., THE ENTIRE EXISTING PAVEMENT WIDTH, CURB TO CURB, SHOULDER TO SHOULDER, EDGE OF PAVEMENT TO EDGE OF PAVEMENT SHALL BE SURFACE MILLED AND RESURFACED WHEN SURFACING THE NEW PAVEMENT TO PROVIDE A UNIFORM GRADE AND NEW, HOMOGENEOUS SURFACE. IF PAVEMENT INTERLAYER IS PRESENT, IT MUST BE REPLACED IN KIND. ALL NEW ASPHALT PAVEMENT SHALL BE SURFACE TREATED WITH AN APPLICATION OF A TOWN APPROVED PRESERVATIVE SEALER (RECLAIMITE), INCLUDING 12 INCHES OF ADJACENT EXISTING ASPHALT PAVEMENT. ALL COLD JOINTS AND CURB INTERFACE WITH NEW ASPHALT SHALL BE SEALED WITH INDOT APPROVED RAPID PENETRATING EMULSION (RPE). STONE SHOULDER SHALL BE REESTABLISHED AND/OR CONTRACTED TO TOWN STANDARDS.
- ALL BENCHMARKS AND ELEVATIONS SHALL BE PER THE NATIONAL GEODETIC VERTICAL DATUM 1988 (NAVD 88).
- CURRENT INDIANA DEPARTMENT OF TRANSPORTATION (INDOT) STANDARD SPECIFICATIONS, SECTIONS 105.04, 105.06, 108.04, AND 200-900 SHALL BE FOLLOWED FOR ALL PROJECTS. SECTIONS 502 THROUGH 508, 604, 605, AND 610 ARE OF SPECIFIC RELEVANCE TO ALL PROJECTS. SEE APPLICABLE DETAILS FOLLOWING THIS SECTION. CURRENT INDOT STANDARD DRAWINGS SHALL BE USED FOR ALL MATERIALS AND STRUCTURES WHERE APPLICABLE AND AS SHOWN ON THE PLANS.  
WHEREVER IN THE SPECIFICATIONS "INDIANA DEPARTMENT OF TRANSPORTATION", OR "DEPARTMENT" ARE REFERENCED, IT SHALL BE INTERPRETED TO MEAN "TOWN OF AVON".  
WHEREVER THERE IS A CONFLICT BETWEEN THE TOWN OF AVON CONSTRUCTION STANDARDS AND INDOT STANDARD SPECIFICATIONS, THE TOWN OF AVON CONSTRUCTION STANDARDS SHALL HOLD OVER THE INDOT STANDARD SPECIFICATIONS.  
WHEREVER THERE IS A CONFLICT BETWEEN STANDARDS AND CONTRACT DOCUMENTS, THE FOLLOWING ORDER SHALL GOVERN:
  - TOWN OF AVON CONTRACT DOCUMENTS
  - TOWN OF AVON CONSTRUCTION STANDARDS
  - TOWN OF AVON UNIFIED DEVELOPMENT ORDINANCE (UDO)
  - AVON SUBDIVISION CONTROL ORDINANCE
  - INDOT STANDARDS AND SPECIFICATIONS
  - DEVELOPER PLANS AND SPECIFICATIONS
- WHEREVER PROPRIETARY BRANDS ARE SPECIFIED, ALL PROPOSALS FOR SUBSTITUTION SHALL BE SUBMITTED TO THE TOWN AND SHALL BE SUBJECT TO THE APPROVAL OF THE TOWN PUBLIC WORKS DIRECTOR.
- EXISTING UTILITIES: CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES AT LEAST 24 HOURS PRIOR TO ANY CONSTRUCTION OR EXCAVATION, INCLUDING UTILITIES THAT DO NOT SUBSCRIBE TO INDIANA 811. DURING CONSTRUCTION, ALL UTILITIES SHALL BE ADEQUATELY SUPPORTED TO MINIMIZE DAMAGE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING DAMAGED UTILITIES TO THE SATISFACTION OF THE TOWN OF AVON AND THE OWNER OF THE AFFECTED UTILITY.
- THE LOCATION OF PROPOSED UTILITIES IS BASED UPON THE EXPERIENCE OF THE TOWN OF AVON TO ENSURE THE ORDERLY DEVELOPMENT OF THE LAND. STRICT ADHERENCE TO THE DESIGNATED LOCATION IS REQUIRED. REQUESTS TO CHANGE THE LOCATION OF THE PROPOSED UTILITIES

- SHALL BE SUBMITTED IN WRITING TO THE TOWN PUBLIC WORKS DIRECTOR, UTILITIES NOT MEETING THESE REQUIREMENTS SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE TOWN PUBLIC WORKS DIRECTOR.
- COMPACTED GRANULAR BACKFILL IN ACCORDANCE WITH THE MOST RECENT INDOT STANDARD SPECIFICATIONS SHALL BE REQUIRED WHENEVER THE TRENCH OPENING ENCROACHES WITHIN 5 FEET OF AN EXISTING OR PROPOSED STREET OR SIDEWALK. APPROVED BACKFILL MAY BE USED UNDER PROPOSED SIDEWALKS PROVIDED SIDEWALKS ARE CONSTRUCTED 6 MONTHS AFTER BACKFILLING OF TRENCH. SEE DETAIL, SHEET 2. DENSITY REPORTS MUST BE SUBMITTED TO THE TOWN PRIOR TO PLACEMENT OF ANY PAVING MATERIALS.
- INSTALLATION OF, OR PROVISIONS FOR THE INSTALLATION OF, ALL UNDERGROUND UTILITIES (INCLUDING SERVICE LATERALS) TO BE PLACED UNDER PAVEMENT AREAS SHALL BE ESTABLISHED PRIOR TO THE CONSTRUCTION OF THE PAVEMENT.
- ALL CONSTRUCTION ACTIVITIES SHALL COMPLY WITH THE EROSION CONTROL REQUIREMENTS OF THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (IDEM), INDIANA DEPARTMENT OF NATURAL RESOURCES (INDR), AND ALL OTHER JURISDICTIONAL GOVERNMENT AGENCIES. THIS INCLUDES, BUT IS NOT LIMITED TO, THE REQUIREMENTS OF THE CONSTRUCTION STORMWATER GENERAL PERMIT (CSGP) UNLESS OTHERWISE REQUIRED BY IDEM, STORM WATER POLLUTION PREVENTION PLANS SHALL BE CONSISTENT WITH THE CURRENT EDITION OF THE INDIANA STORM WATER QUALITY MANUAL (FORMERLY THE INDIANA HANDBOOK FOR EROSION CONTROL) UNLESS OTHERWISE APPROVED BY IDEM.

**PAVEMENT CONSTRUCTION**

- SUBGRADE TREATMENT SHALL BE SUBGRADE TREATMENT TYPE IBC AS DEFINED BY INDOT SPECIFICATIONS.  
SUBBASE AND SUBGRADE FILL MATERIAL SHALL BE AT LEAST 100 PERCENT OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D698. COMPACTION TESTS SHALL BE PERFORMED BY AN INDOT APPROVED INDEPENDENT LABORATORY ON ALL FILL SECTIONS AT THE CONTRACTOR'S EXPENSE. TEST RESULTS SHALL BE SUBMITTED TO THE TOWN PUBLIC WORKS DIRECTOR PRIOR TO PLACING ANY MATERIAL ON THE SUBBASE SUBGRADE. ONE PASSING IN-PLACE DENSITY TEST SHALL BE COMPLETED FOR EACH LIFT FOR EVERY 400 LINEAR FEET OF TRAFFIC LANES. THE CONTRACTOR SHALL NOTIFY THE INSPECTING ENGINEER CONCERNING THE TESTING SCHEDULE AT LEAST 48 HOURS IN ADVANCE.
- ADEQUACY OF EXISTING SUBGRADES SHALL BE DETERMINED SOLELY BY THE TOWN, BASED ON A CONTRACTOR PERFORMED PROOFROLL WITH THE FOLLOWING PARAMETERS:
  - TRUCK WEIGHT (TIRE PRESSURE): 20 TO 25 tons (120 TO 150 psi)
  - MAXIMUM DEFLECTION OBSERVED: MAX 1"
  - MAXIMUM TRUCK SPEED (LIFT THICKNESS): MAX 5 mph (MAX 12" LIFTS)
- A PROOFROLL SHALL BE PERFORMED ON ALL STREET SUBGRADE PRIOR TO PLACING AGGREGATE, INSTALLING CURB, OR PLACING PAVEMENT MATERIALS. AGGREGATE SECTIONS MUST BE PROOFROLLED PRIOR TO PLACING HMA PAVEMENT MATERIALS. ALL AREAS SHALL BE RETESTED IF EXPOSED TO RAIN OR FREEZING PRIOR TO PLACEMENT OF THE NEXT LIFT OF MATERIAL. ALL EARTHWORK SHALL CONFORM TO THE CURRENT INDOT STANDARD SPECIFICATIONS. CONSTRUCTION TRAFFIC IS SPECIFICALLY PROHIBITED FROM TRANSVERSING THE AGGREGATE AND HMA PAVEMENT AREAS EXCEPT FOR THE PLACEMENT OF SAID PAVEMENT MATERIALS. ALTERNATE CONSTRUCTION TRAFFIC ACCESS SHALL BE PROVIDED.
- ALL MATERIALS SHALL COME FROM INDOT CERTIFIED PLANTS AND SOURCES. INDOT SECTION 402 SHALL APPLY WITH THE EXCEPTIONS NOTED HEREIN. THE CURRENT VERSION OF INDOT SPECIFICATIONS, RECURRING SPECIAL PROVISIONS, AND SUPPLEMENTAL SPECIFICATIONS ARE APPLICABLE. BINDERS

- SHALL BE PG 64-22 FOR LOCAL AND COLLECTOR STREETS INTERMEDIATE AND BASE AND FOR ARTERIAL BASE, COLLECTOR STREET SURFACE AND ARTERIAL STREET SURFACE AND INTERMEDIATE SHALL BE PG 70-22.
- RECYCLED ASPHALT MATERIAL (RAP): RECYCLED MATERIALS, UP TO 25%, MAY BE USED AS A SUBSTITUTE FOR A PORTION OF THE NEW MATERIAL REQUIRED TO PRODUCE HMA MIXTURES. WHEN USING GREATER THAN 15% RAP THE PG BINDERS LISTED ABOVE SHALL BE CHANGED AS FOLLOWS:
  - PG 64-22 TO PG 58-28
  - PG 70-22 TO PG 64-28
  - PG 76-22 TO PG 70-28
- PLACE TACK COAT IN ACCORDANCE WITH THE MOST RECENT INDOT STANDARD SPECIFICATIONS FOR ASPHALT PAVEMENT SECTIONS.
- WHEREVER RIGID PAVEMENT IS TO BE USED, THE CONTRACTOR SHALL SUBMIT A DETAILED PAVING PLAN TO THE TOWN PUBLIC WORKS DIRECTOR. THE PAVING PLAN SHALL SHOW THE LOCATION AND TYPE OF JOINTING TO BE USED IN THE CONSTRUCTION. CONCRETE MATERIALS AND METHODS, INCLUDING THE LOCATION AND TYPE OF JOINTING, SHALL MEET THE REQUIREMENTS OF THE MOST RECENT INDOT STANDARD SPECIFICATIONS AND DETAILS.
- SUBGRADE STABILIZATION IS TO BE USED, THE CONTRACTOR SHALL SUBMIT A WRITTEN PLAN DETAILING THE APPLICATION METHOD, THIS PLAN MUST COMPLY WITH INDOT STANDARD SPECIFICATIONS, STATE OF INDIANA ENVIRONMENTAL STANDARDS, AND BE APPROVED BY THE TOWN PUBLIC WORKS DIRECTOR. TEST RESULTS, PER INDOT FREQUENCY MANUAL, SHALL BE PROVIDED TO THE TOWN PRIOR TO PLACEMENT OF ANY PAVING MATERIALS.
- SHOULDER PAVEMENT SECTIONS SHALL BE THE SAME AS THE ROAD PAVEMENT SECTIONS.
- ROAD CLASSIFICATIONS ARE BASED ON THE AVON UNIFIED DEVELOPMENT ORDINANCE (UDO).
- PAVEMENT FABRIC FOR PAVEMENT TIE-IN SHALL BE GLASSGRID 8502 OR APPROVED EQUAL.
- CONCRETE PLACED FOR RIGID PAVEMENT AND CURBS SHALL BE TESTED FOR COMPLIANCE WITH THE CURRENT INDOT SPECIFICATIONS. TESTS SHALL BE PERFORMED BY AN INDOT APPROVED INDEPENDENT LABORATORY AT THE CONTRACTOR'S EXPENSE. AS A MINIMUM, THE TESTING SHALL INCLUDE MEASUREMENT FOR BOTH SLUMP AND AIR ENTRAINMENT. A MINIMUM OF 4 CYLINDERS SHALL BE TAKEN TO VERIFY THE CONCRETE COMPRESSIVE STRENGTH AT 7 DAYS AND 28 DAYS. THESE TESTS SHALL BE PERFORMED EVERY 2,500 SYS AND AT LEAST ONCE PER DAY. IN THE EVENT OF NON-CONFORMING MATERIAL, THE TOWN PUBLIC WORKS DIRECTOR MAY REQUIRE REPEITION OF THESE TESTS AS NECESSARY TO VERIFY THE QUALITY OF MATERIAL USED.

**RESIDENTIAL DRIVES**

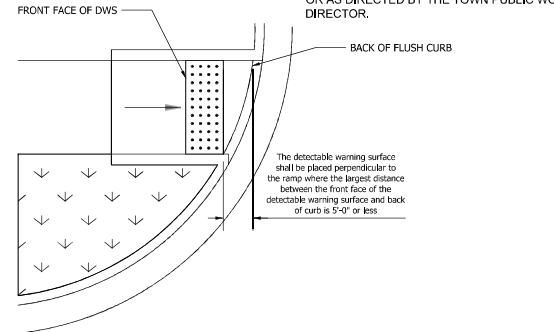
- THE MAXIMUM ALGEBRAIC DIFFERENCE IN GRADE FOR ANY 10-FOOT INTERVAL SHALL NOT EXCEED 8% FOR CREST VERTICAL CURVES OR 10% FOR SAG VERTICAL CURVES.
- ALL DRIVES SHALL DRAIN TO ADJACENT STREETS EXCEPT WITH THE PRIOR APPROVAL OF THE TOWN PUBLIC WORKS DIRECTOR.
- CONCRETE DRIVES REQUIRE CONTROL JOINTS SHALL BE ORIENTED PERPENDICULARLY AT A MAXIMUM OF 10 FEET SPACING.

**CURB RAMP CONSTRUCTION**

- ALL CURB RAMPS SHALL MEET THE REQUIREMENTS OF THE CURRENT AMERICAN DISABILITIES ACT (ADA) AND THE MOST RECENT INDOT STANDARD SPECIFICATIONS AND STANDARDS DRAWINGS. CURB MODIFICATIONS REQUIRED FOR CURB RAMPS SHALL BE PROVIDED AT TIME OF INITIAL CONSTRUCTION.
- CURB RAMP WIDTHS SHALL MATCH THE ADJACENT SIDEWALK OR TRAIL AND BE A MINIMUM OF 4 FEET NOT INCLUDING FLARES. MAXIMUM SLOPE OF RAMPS AND FLARES SHALL BE 12:1.
- CURB RAMPS ARE TO BE LOCATED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE TOWN PUBLIC WORKS DIRECTOR.
- ALL PROPOSED NEW OR RECONSTRUCTED CURB

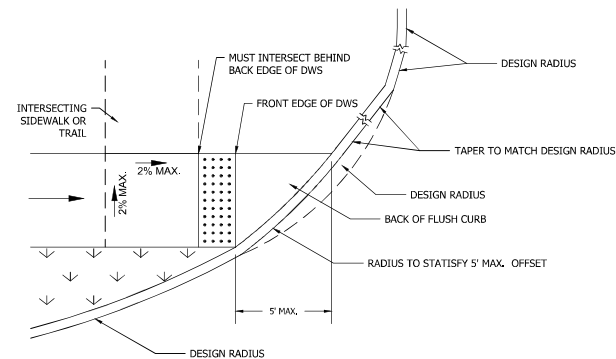
RAMPS SHALL BE DETAILED BY THE DESIGNER AS APPLICABLE TO THE SPECIFIC CURB RAMP LOCATION FOR APPROVAL BY THE TOWN. INDOT STANDARD DRAWINGS 604-SWCR-01 TO 604-SWCR 04, 06, 08, 11 AND 14 SHALL BE FOLLOWED. AT CORNERS OF STREET INTERSECTIONS WITH CROSSINGS IN BOTH DIRECTIONS, PAIRED PERPENDICULAR TYPE RAMPS (INDOT STANDARD DRAWING 604-SWCR-03) ARE PREFERRED WHERE FEASIBLE. PAIRED PARALLEL TYPE RAMPS (INDOT STANDARD DRAWING 604-SWCR-07) SHALL BE ACCEPTABLE WHEN PAIRED PERPENDICULAR RAMPS ARE NOT FEASIBLE. AT "T" INTERSECTIONS WITH ONE CROSSING DIRECTION, ONE-WAY DIRECTIONAL PERPENDICULAR TYPE RAMPS (INDOT STANDARD DRAWING 604-SWCR-06) SHALL BE USED. FOR MID-BLOCK CROSSINGS, SINGLE PERPENDICULAR (INDOT STANDARD DRAWING 604-SWCR-04) OR PARALLEL (INDOT STANDARD DRAWING 604-SWCR-08) TYPE RAMPS SHALL BE USED AS APPLICABLE. ALL RAMPS AND TACTILE WARNING DEVICES (TRUNCATED DOMES) SHALL BE ORIENTATED DIRECTLY TOWARDS THE RECEIVING RAMP (NEVER AIMED TOWARD THE MIDDLE OF THE INTERSECTION). IN A RADIUS, THE TACTILE WARNING DEVICES (TRUNCATED DOMES), SHALL BE INSTALLED AT THE TANGENT POINT CLOSEST TO THE RADIUS, BUT NOT INSTALLED

- WITHIN THE RADIUS, TACTILE WARNING DEVICES MUST BE CAST IRON.
- SURFACE TEXTURE OF THE RAMP SHALL BE AS DELINEATED ON THE INDOT STANDARD DRAWINGS AND IN ACCORDANCE WITH THE CURRENT ADA GROOVES ON RAMPS ARE NOT PERMITTED.
- SIDEWALK TRANSITIONS AT DRIVEWAY CROSSINGS SHALL FOLLOW INDOT STANDARD DRAWINGS 604-SDWK-01 TO 604-SDWK-03.
- CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON ALL RAMPS WITH NO BREAKS IN GRADE.
- DRAINAGE STRUCTURES SHALL NOT BE PLACED IN LINE WITH THE RAMPS EXCEPT WHERE EXISTING DRAINAGE STRUCTURES ARE BEING UTILIZED IN THE NEW CONSTRUCTION. LOCATION OF THE RAMPS SHALL TAKE PRECEDENCE OVER LOCATION OF DRAINAGE STRUCTURES.
- THE NORMAL GUTTER LINE PROFILE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
- EXPANSION JOINTS FOR THE RAMP SHALL BE A MAXIMUM 1/2" WIDE, THE TOP OF THE JOINT FILLER FOR ALL RAMP TYPES SHALL BE PER THE SIDEWALK EXPANSION JOINT DETAIL.
- CROSSWALK AND STOP LINE MARKINGS, IF USED, SHALL BE SO LOCATED AS TO STOP TRAFFIC A MINIMUM OF 4-FEET PRIOR TO A RAMP CROSSING, OR AS DIRECTED BY THE TOWN PUBLIC WORKS DIRECTOR.



**NOTE:**

- ALL TRUNCATED DOMES SHALL BE TRANSVERSE AND BE DIRECTED TO A RECEIVING RAMP.
- NO DOMES ARE PERMITTED IN RADIUS.
- THE CURB RAMP DESIGN RADIUS SHALL COMPLY WITH 5 FT. MAXIMUM FROM BACK OF CURB. IF THE ROAD DESIGN RADIUS CREATES A GREATER DISTANCE THAN THE 5 FT. ALLOWED, THE RAMP RADIUS DICTATES AND A COMBINATION RADIUS AT THE RAMP WITH TAPER TO THE ROAD WILL BE DESIGNED TO ACCOMMODATE BOTH REQUIREMENTS.



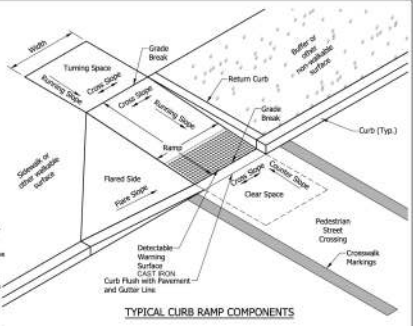
TOWN OF AVON CONSTRUCTION STANDARDS  
PAVEMENT DESIGN NOTES

NO.	DESCRIPTION	DATE	REVISED
1	2026 UPDATE	JRE	01/15/26
2	GENERAL NOTE #2	JRE	01/05/26



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- GENERAL NOTES:**
- All slopes are absolute rather than relative to the sidewalk or roadway grade. Slopes at least 0.5% less than the maximum are preferred.
  - Ramp or Blended Transition: A ramp or blended transition shall be used to lower or raise the sidewalk to connect with the street or highway.
  - Turning Space: A turning space shall be provided at the top of a perpendicular ramp, bottom of a parallel ramp, or where the pedestrian travel requires a change in direction. A common turning space may be shared or adjacent ramps. The turning space shall have a minimum clear dimension of 4 ft x 4 ft. Where the turning space is constrained at the back of the sidewalk by a curb, retaining wall, building, or feature over 2 inches in height, the minimum clear dimension shall be 4 ft x 3 ft, with the 3-ft dimension in the direction of the ramp running slope.
  - Flared Side: A flared side shall be used adjacent to a walkable surface. A flared side may be used adjacent to a non-walkable surface. A flared side shall have a maximum slope of 10.00% measured parallel to the back of the curb.
  - Return Curb: A return curb is placed perpendicular to the roadway curb. A return curb may be used adjacent to a non-walkable surface. A return curb shall not be used adjacent to a walkable surface. The return curb may be omitted where the non-walkable surface is flared and the curb adjacent the roadway is flared to meet the flared curb at the bottom of the ramp.
  - Clear Space: A clear space shall be provided beyond the bottom grade break of a curb ramp which contained within the crosswalk and wholly outside the parallel vehicular travel path. The clear space shall have a minimum clear dimension of 4 ft x 4 ft.
  - Detectable Warning Surface: A detectable warning surface shall consist of truncated domes and be placed at each street, highway, or railroad crossing. The detectable warning surface shall extend a minimum of 2 ft in the direction of pedestrian travel and be placed the entire width of a ramp, blended transition, or turning space.
  - Running Slope: The running slope of a ramp, blended transition, or turning space shall be measured parallel to the direction of pedestrian travel.
    - A running slope of 2.00% or less is considered level.
    - A ramp shall have a maximum running slope of 6.7% but shall not receive a ramp length to exceed 15 ft.
    - A blended transition shall have a maximum running slope of 5.00%.
    - A turning space shall have a maximum running slope of 2.00%.
  - Width: Unless otherwise noted, minimum width of a ramp, blended transition, or turning space, excluding flared sides or return curbs, shall be 4 ft.
  - Grade Break: A grade break at the top and bottom of a ramp, blended transition, or turning space shall be perpendicular to the running slope. Grade breaks shall not be within the crosswalk, blended transition, turning space, or detectable warning surface. Grade breaks shall be flush. Vertical discontinuity shall not be greater than 1/2 in. Where a discontinuity is greater than 1/2 in. the surface shall be beveled with a slope not steeper than 1V:2H.
  - Cross Slope Exceptions: The cross slope of a ramp, blended transition, or turning space shall be measured perpendicular to the direction of pedestrian travel.
    - The maximum cross slope of a pedestrian street crossing without posted speed or stop control shall be 5.00%.
    - The maximum cross slope of a pedestrian street crossing with posted speed or stop control shall be 2.00%.
    - The maximum cross slope at a road crossing shall be the established grade of the adjacent roadway.
  - Counter Slope: A counter slope is the cross slope of the gutter or street adjacent the running slope of the ramp, blended transition, or turning space. See Standard Drawing E 604-SWCR-14 for counter slope details.
  - Objects such as a utility cover, vault frame, and grating shall be placed outside the curb ramp.
  - Curb ramps shall be placed within the marked crosswalk area.
  - Drainage inlets should be located uphill from a curb ramp to prevent ponding in the path of pedestrian travel.

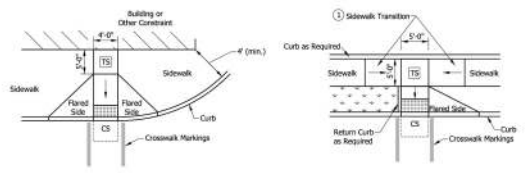


TYPICAL CURB RAMP COMPONENTS

INDIANA DEPARTMENT OF TRANSPORTATION  
CURB RAMP DRAWING INDEX AND GENERAL NOTES  
SEPTEMBER 2018  
STANDARD DRAWING NO. E 604-SWCR-01

ELIZABETH W. PHILLIPS  
DESIGN STANDARDS ENGINEER  
No. 10200124  
DATE 03/29/18

JOHN LUCKE  
CHIEF ENGINEER  
DATE 04/25/18



PERPENDICULAR CURB RAMP ADJACENT WALKABLE SURFACE

TIERED PERPENDICULAR CURB RAMP



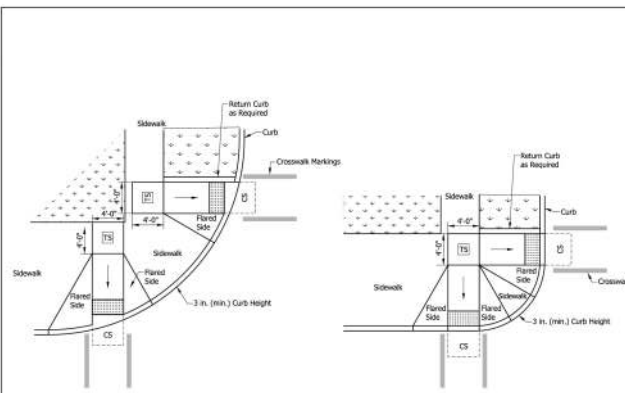
PERPENDICULAR CURB RAMP ADJACENT NON-WALKABLE SURFACE

- NOTES:**
- Where insufficient width between the curb and back of sidewalk prevent a standard perpendicular curb ramp running slope, a sidewalk transition may be used to lower the sidewalk grade. The sidewalk transition running slope shall not exceed 6.13%. See Standard Drawing Series E 604-SWCR for sidewalk details.
  - The turning space shall have a minimum clear dimension of 4 ft x 4 ft and a running slope of 2.00% maximum. Where the turning space is constrained at the back of the sidewalk, the minimum clear dimension shall be 4 ft x 3 ft, with the 3-ft dimension in the direction of the ramp running slope.

INDIANA DEPARTMENT OF TRANSPORTATION  
PERPENDICULAR CURB RAMP TYPICAL PLACEMENT  
SEPTEMBER 2018  
STANDARD DRAWING NO. E 604-SWCR-02

ELIZABETH W. PHILLIPS  
DESIGN STANDARDS ENGINEER  
No. 10200124  
DATE 03/29/18

JOHN LUCKE  
CHIEF ENGINEER  
DATE 04/25/18



PAIRED PERPENDICULAR CURB RAMP AT LARGE RADIUS

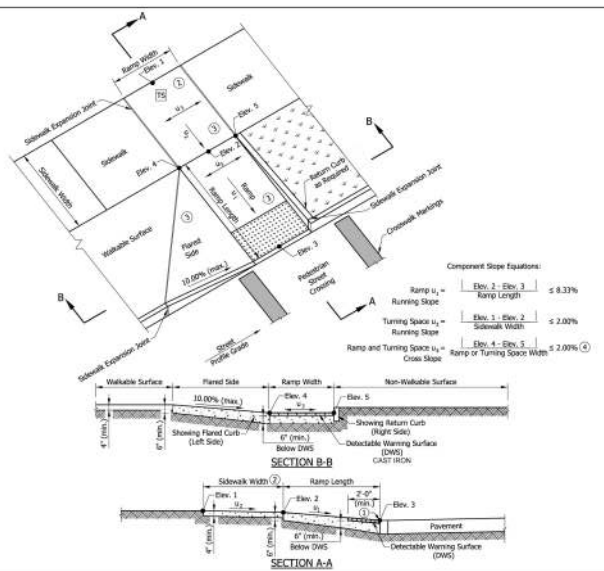
PAIRED PERPENDICULAR CURB RAMP AT SMALL RADIUS

- NOTE:**
- The turning space shall have a minimum clear dimension of 4 ft x 4 ft and a running slope of 2.00% maximum. Where the turning space is constrained at the back of the sidewalk, the minimum clear dimension shall be 4 ft x 3 ft, with the 3-ft dimension in the direction of the ramp running slope.

INDIANA DEPARTMENT OF TRANSPORTATION  
PAIRED PERPENDICULAR CURB RAMP TYPICAL PLACEMENT  
SEPTEMBER 2016  
STANDARD DRAWING NO. E 604-SWCR-03

ELIZABETH W. PHILLIPS  
DESIGN STANDARDS ENGINEER  
No. 10200124  
DATE 03/29/18

MARK A. MILLER  
CHIEF ENGINEER  
DATE 03/28/18



- NOTES:**
- The bottom edge of the ramp and top of curb shall be flush with the edge of adjacent pavement and gutter line.
  - The turning space shall have a minimum clear dimension of 4 ft x 4 ft. Where the turning space is constrained at the back of the sidewalk, the minimum clear dimension shall be 4 ft x 3 ft, with the 3-ft dimension in the direction of the ramp running slope. Where a flared perpendicular curb ramp is used, a constrained turning space shall have a minimum clear dimension of 3 ft x 3 ft.
  - Curb ramp surface shall be coarse broomed transverse to the running slope.
  - See Standard Drawing E 604-SWCR-03 for cross slope exceptions.
  - See Standard Drawing E 604-SWCR-11, -13, and -14 for Detectable Warning Surface placement, configuration, and details.
  - See Standard Drawing E 604-CES-01 for sidewalk expansion joint details.

INDIANA DEPARTMENT OF TRANSPORTATION  
PERPENDICULAR CURB RAMP COMPONENT DETAILS  
SEPTEMBER 2018  
STANDARD DRAWING NO. E 604-SWCR-04

ELIZABETH W. PHILLIPS  
DESIGN STANDARDS ENGINEER  
No. 10200124  
DATE 03/29/18

JOHN LUCKE  
CHIEF ENGINEER  
DATE 04/25/18

NO.	DESCRIPTION	DATE	BY	CHKD
1	2026 UPDATE	JRE	01/15/26	



**NOTES:**

- The bottom edge of the ramp or setback and top of curb shall be flush with the edge of adjacent pavement and gutter line.
- A turning space is not required at the top of the ramp for a one-way directional perpendicular curb ramp.
- Curb ramp surface shall be coarse broomed transverse to the running slope.
- See Standard Drawing E 604-SWCR-01 for cross slope exceptions.
- See Standard Drawing E 604-SWCR-12, -13, and -14 for Detectable Warning Surface placement, configuration, and details.
- See Standard Drawing E 604-CCS-01 for sidewalk expansion joint details.

**LEGEND:**

- Buffer or Other Non-Walkable Surface
- Detectable Warning Surface
- Ramp
- Turning Space

**INDIANA DEPARTMENT OF TRANSPORTATION**  
SEPTEMBER 2018  
STANDARD DRAWING NO. E 604-SWCR-06

DESIGNED BY: *A/ Elizabeth W. Phillips* 01/29/18  
DESIGN ENGINEER  
CHECKED BY: *A/ John Lodge* 04/25/18  
CHIEF ENGINEER

**NOTES:**

- The bottom edge of the turning space and top of curb shall be flush with the edge of adjacent pavement and gutter line.
- The turning space shall have a minimum clear dimension of 4 ft x 4 ft and a running slope of 2.00% maximum. Where the turning space is constrained at the back of the sidewalk, the preferred minimum clear dimension shall be 4 ft x 5 ft, with the 5-ft dimension in the direction of the ramp running slope.
- Curb ramp surface shall be coarse broomed transverse to the running slope.
- Where there is no buffer between the sidewalk and curb, the preferred minimum sidewalk width is 6 ft, where a buffer is placed between the sidewalk and curb, the preferred minimum sidewalk width is 5 ft. See Standard Drawing Series E 604-SWCR for sidewalk details.
- See Standard Drawing E 604-SWCR-01 for cross slope exceptions.
- See Standard Drawing E 604-SWCR-12, -13, and -14 for Detectable Warning Surface placement, configuration, and details.
- See Standard Drawing E 604-CCS-01 for sidewalk expansion joint details.

**LEGEND:**

- Ramp
- Detectable Warning Surface
- Turning Space

**INDIANA DEPARTMENT OF TRANSPORTATION**  
PARALLEL CURB RAMP  
COMPONENT DETAILS  
SEPTEMBER 2018  
STANDARD DRAWING NO. E 604-SWCR-08

DESIGNED BY: *A/ Elizabeth W. Phillips* 03/29/18  
DESIGN ENGINEER  
CHECKED BY: *A/ John Lodge* 04/25/18  
CHIEF ENGINEER

**NOTES:**

- The minimum width of a median cut-through and median perpendicular curb ramp shall be 3 ft.
- Where in-line or offset perpendicular curb ramps are used within a median, the turning space shall have a minimum clear dimension of 4 ft x 5 ft.
- Where a median cut through is used the running slope shall be 5.00% maximum.
- Where median width is less than 6 ft, detectable warning surfaces shall not be placed.
- The bottom edge of the median cut-through or median perpendicular curb ramp and the top of curb shall be flush with the edge of adjacent pavement gutter line.
- See Standard Drawing E 604-SWCR-01 for cross slope exceptions.
- See Standard Drawing E 604-SWCR-12, -13, and -14 for Detectable Warning Surface placement, configuration, and details.
- See Standard Drawing E 604-CCS-01 for sidewalk expansion joint details.

**LEGEND:**

- Ramp
- Detectable Warning Surface
- Turning Space

**INDIANA DEPARTMENT OF TRANSPORTATION**  
MEDIAN CUT-THROUGH AND  
MEDIAN PERPENDICULAR CURB RAMP  
TYPICAL PLACEMENT  
SEPTEMBER 2023  
STANDARD DRAWING NO. E 604-SWCR-11

DESIGNED BY: *Sarah Ballantyne* 04/28/2023  
DESIGN ENGINEER  
CHECKED BY: *John Lodge* 05/12/2023  
CHIEF ENGINEER

**NOTES:**

- A detectable warning surface shall be placed at each street, highway or railroad crossing. See Standard Drawing E 604-SWCR-03 for a detectable warning surface placement at a sidewalk driveway crossing.
- The detectable warning surface shall extend a minimum of 2 ft in the direction of pedestrian travel and extend the full width as shown. The detectable warning surface shall not be placed across a grade break.
- Where the distance from the face of the detectable warning surface is 5 ft or less from the back of curb, the detectable warning surface shall be placed perpendicular to the ramp. Where the distance from the face of the detectable warning surface is more than 5 ft from the back of curb, the detectable warning surface shall be placed at the back of curb as shown or in an alternate placement configuration. See Standard Drawing E 604-SWCR-13 for alternate detectable warning surface placement.
- The detectable warning surface on a parallel curb ramp shall be placed on the turning space at the flush transition between the street and turning space at the back of curb.

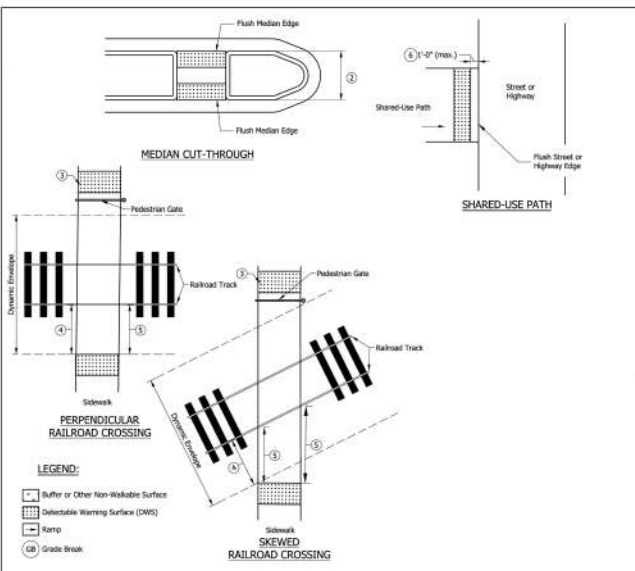
**LEGEND:**

- Buffer or Other Non-Walkable Surface
- Detectable Warning Surface (DWS)
- Ramp
- Grade Break

**INDIANA DEPARTMENT OF TRANSPORTATION**  
DETECTABLE WARNING SURFACE  
PLACEMENT AND CONFIGURATION  
SEPTEMBER 2018  
STANDARD DRAWING NO. E 604-SWCR-12

DESIGNED BY: *A/ Elizabeth W. Phillips* 03/29/18  
DESIGN ENGINEER  
CHECKED BY: *A/ John Lodge* 04/25/18  
CHIEF ENGINEER

REVISION	DATE	BY	CHKD.
1	2026 UPDATE	JRE	01/15/26

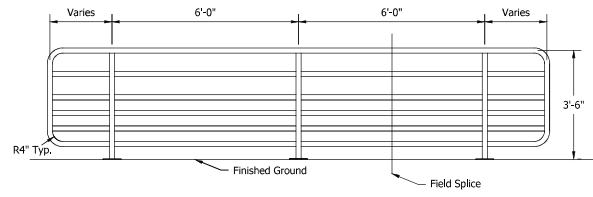
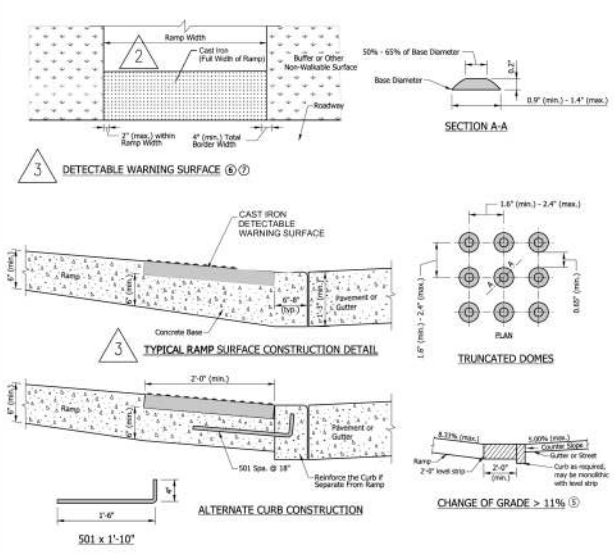


- NOTES:**
- The detectable warning surface shall extend a minimum length of 2 ft in the direction of pedestrian travel and extend the full width as shown. The detectable warning surface shall not be placed across a grade break. The edges of adjacent panels shall be parallel and tightly abutted.
  - The detectable warning surface on a median cut-through shall be placed at the flush transition between the street and median cut-through. Where a median is less than 6 ft, a detectable warning surface shall not be placed.
  - When a pedestrian gate is provided at a railroad crossing, the detectable warning surface shall be placed on the side of the gate opposite the railroad crossing.
  - The detectable warning surface shall be outside of the railroad dynamic envelope, 6 ft min. from the centerline of the nearest rail.
  - The edge of the detectable warning surface shall not be within the dynamic envelope and no greater than 15 ft from the centerline of the nearest rail.
  - Where shared-use path intersects a street or highway, the detectable warning surface shall be placed on the shared-use path within 1.8 ft of the street or highway edge.
  - DWS panel ends shall be placed at the back of curb. The distance between the back of curb and the front face of the detectable warning surface shall not exceed 6 in. between the ends.
- B. See Standard Drawing E 604-SWCR-14 for detectable warning surface details.

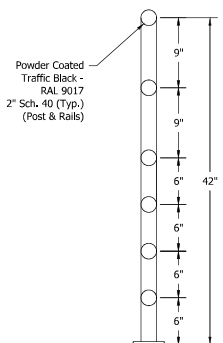
INDIANA DEPARTMENT OF TRANSPORTATION  
DETECTABLE WARNING SURFACE  
PLACEMENT AND CONFIGURATION  
SEPTEMBER 2023  
STANDARD DRAWING NO. E 604-SWCR-13

NO. 12000143  
DESIGN STANDARDS ENGINEER  
DATE 04/28/2023

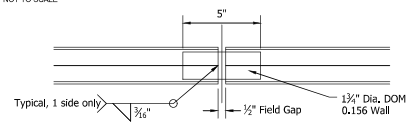
CHEF ENGINEER  
DATE 05/08/2023



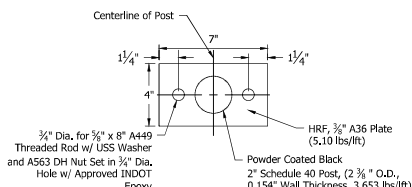
**HANDRAIL PANEL**  
NOT TO SCALE



**HANDRAIL SECTION**  
NOT TO SCALE

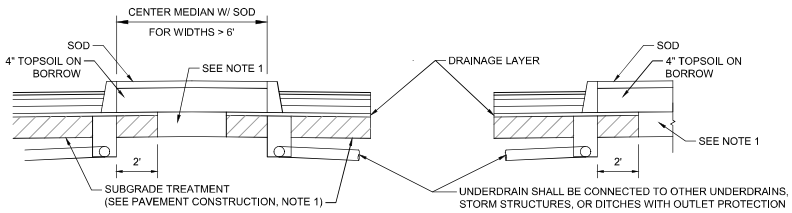
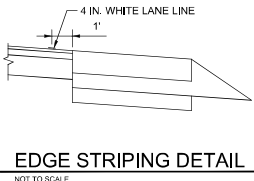


**HANDRAIL SPLICE**  
NOT TO SCALE



**HANDRAIL BASE PLATE**  
NOT TO SCALE

NO.	DESCRIPTION	CHN	DATE
1	2026 UPDATE	JRE	01/15/26
2	DWS FULL WIDTH	JRE	01/15/26
3	REVISED TITLE	JRE	01/15/26



## Engineering Standards: Roadway Development

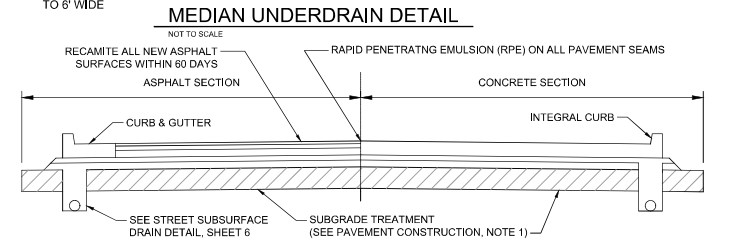


Design Standards	Alleys	Neighborhood Side Street with Tree Lawn	Neighborhood or Business Collector with Tree Lawn	Local Boulevard with Tree Lawn	Rural Collector	Urban Collector	Rural Minor Arterial	Urban Minor
Street Section Figure#	N/A	1A	1B	2A	2B	3A	3B	4
Maximum Design Posted Speed	20 mph	20 mph	20 mph	25 mph	25 mph	25 mph	40 mph	40 mph
Minimum RW Width	20 ft	50 ft	50 ft	60 ft	70 ft	70 ft	80 ft	100 ft
Maximum Number of Through Lanes	2	2	2	2	2	2	2	4
Maximum Number of Turn Lanes	N/A	N/A	N/A	N/A	N/A	3	3	3
Minimum Pavement Width	15 ft	22 ft	22 ft	24 ft	24 ft	24 ft	36 ft	40 ft
Minimum Travel Lane Width	8 ft	11 ft	10 ft	12 ft	11 ft	12 ft	12 ft	12 ft
On-Street Parking Permitted	NO	YES	YES	YES	YES	NO	NO	NO
Sidewalk Required on Both Side	NO	YES	YES	YES	YES	YES	YES	YES
Minimum Sidewalk Width	N/A	5 ft	5 ft	5 ft	5 ft	8 ft	6 ft	8 ft
Multi-use Path Required on One Side					YES	YES	YES	YES
Minimum Multi-use Path Width					10 ft	10 ft	10 ft	10 ft
Minimum Curb Corner Radius	10 ft	10 ft	15 ft	15 ft	INDOT	INDOT	INDOT	INDOT
Maximum Curb Corner Radius	15 ft	15 ft	20 ft	25 ft	INDOT	INDOT	INDOT	INDOT
Minimum Centerline Radius	100 ft	100 ft	100 ft	100 ft	INDOT	INDOT	INDOT	INDOT
Maximum Centerline Radius	300 ft	300 ft	300 ft	300 ft	INDOT	INDOT	INDOT	INDOT
Minimum Road Centerline Grade	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Maximum Road Centerline Grade	8%	8%	8%	8%	8%	8%	8%	8%
Minimum Tangent Section Between Curve or Traffic Calming Device	50 ft	50 ft	100 ft	100 ft	INDOT	INDOT	INDOT	INDOT
Minimum Tangent Section Between Curve	300 ft	300 ft	300 ft	300 ft	N/A	N/A	N/A	N/A
Minimum Tangent Section at Intersection	0 ft	0 ft	50 ft	50 ft	100 ft	100 ft	100 ft	100 ft
Maximum Tangent Section at Intersection	N/A	300 ft	300 ft	300 ft	N/A	N/A	N/A	N/A
Minimum Distance Between Intersections with same or higher order streets	1/4 Mile	2/4 Mile	2/4 Mile	2/4 Mile	1/4 mile	1/4 mile	1/2 mile	1/2 mile
Maximum Distance Between Intersections with same or higher order streets	400 ft	500 ft	1000 ft	1000 ft	1/2 mile	1/2 mile	1 mile	1 mile
Distance Between Public Roadway Intersections and Full Access Commercial/Industrial Curb Cuts	N/A	100 ft	150 ft	150 ft	300 ft	300 ft	400 ft	400 ft
Distance Between Public Roadway Intersections and Right-in/Right-out Commercial/Industrial Curb Cuts	N/A	100 ft	150 ft	150 ft	300 ft	300 ft	300 ft	300 ft
Minimum Cui-de-Sac Street Length	N/A	300 ft	N/A	N/A	N/A	N/A	N/A	N/A
Maximum Cui-de-Sac Street Length	N/A	800 ft	N/A	N/A	N/A	N/A	N/A	N/A
Minimum Cui-de-Sac Pavement Radius	N/A	50 ft	N/A	N/A	N/A	N/A	N/A	N/A
Minimum Cui-de-Sac RW Radius	N/A	60 ft	N/A	N/A	N/A	N/A	N/A	N/A
Minimum Cui-de-Sac Center Island Radius	N/A	20 ft	N/A	N/A	N/A	N/A	N/A	N/A
Minimum Street Vertical Curve Length from Onset	K=10	K=10	K=10	K=10	INDOT	INDOT	INDOT	INDOT
Minimum Street Vertical Curve Length from Sag	K=30	K=30	K=30	K=30	INDOT	INDOT	INDOT	INDOT
Minimum Stopping Sight Distance	130 ft	130 ft	200 ft	200 ft	INDOT	INDOT	INDOT	INDOT
Minimum Intersection Sight Distance	200 ft	200 ft	300 ft	300 ft	INDOT	INDOT	INDOT	INDOT
Required Pavement Markings	NO	NO	NO	NO	YES per IMUTCD	YES per IMUTCD	YES per IMUTCD	YES per IMUTCD
Required Regulatory Signs	YES per IMUTCD	YES per IMUTCD	YES per IMUTCD	YES per IMUTCD	YES per IMUTCD	YES per IMUTCD	YES per IMUTCD	YES per IMUTCD
Intersections - Minimum Angle	80 deg	80 deg	80 deg	80 deg	85 deg	85 deg	85 deg	85 deg
Intersections - Oblique Angle	50 deg	50 deg	50 deg	50 deg	50 deg	50 deg	50 deg	50 deg

- Parking restricted 100 feet from intersections measured from road edge
- Cui-de-Sac Center Island must use mountable (rolled) curb
- Dedicated Left Turn lanes required for all intersections and commercial/industrial curb cuts on Thoroughfares
- Distance between intersections and curb cuts measured from the stop bar to the closest edge of driveway
- Parking not permitted on Cui-de-Sac Grade
- Installation of No Parking signs, where needed, are the responsibility of the developer

**CENTER ISLAND DETAIL**  
1. WHERE CENTER MEDIANS UTILIZE SOD, ENTIRE WIDTH OF MEDIAN SHALL INCLUDE COMPACTED STONE NO. 53 FOR WIDTHS LESS THAN OR EQUAL TO 6' WIDE

**ROUNDABOUT ISLAND DETAIL**  
1. WHERE CENTER MEDIANS UTILIZE SOD, ENTIRE WIDTH OF MEDIAN SHALL INCLUDE COMPACTED STONE NO. 53 FOR WIDTHS LESS THAN 8' WIDE



**LOCAL STREETS (ALLEY, NEIGHBORHOOD STREETS, OR LOCAL BOULEVARD)**  
ASPHALT SECTION d=13"  
① 165 lb/ysy HMA (1.5"), TYPE A, SURFACE, 9.5mm ON  
② 385 lb/ysy HMA (3.5"), TYPE A, BASE, 25.0mm ON  
③ 8" OF COMPACTED STONE, NO. 53, BASE  
ASPHALT SECTION d=10"  
① 165 lb/ysy HMA (1.5"), TYPE A, SURFACE, 9.5mm ON  
② 275 lb/ysy HMA (2.5"), TYPE A, INTERMEDIATE, 19.0mm ON  
③ 220 lb/ysy HMA (2"), TYPE A, INTERMEDIATE, 19.0mm ON  
④ 440 lb/ysy HMA (4"), TYPE A, BASE, 25.0mm

**ARTERIAL STREETS (PRIMARY AND SECONDARY)**  
ASPHALT SECTION d=18"  
① 165 lb/ysy HMA (1.5"), TYPE B, SURFACE, 9.5mm ON  
② 275 lb/ysy HMA (2.5"), TYPE B, INTERMEDIATE, 19mm ON  
③ 680 lb/ysy HMA (6"), TYPE B, BASE, 25.0mm ON  
④ 8" OF COMPACTED STONE, NO. 53, BASE  
ASPHALT SECTION d=13"  
① 165 lb/ysy HMA (1.5"), TYPE B, SURFACE, 9.5mm ON  
② 275 lb/ysy HMA (2.5"), TYPE B, INTERMEDIATE, 19.0mm ON  
③ 440 lb/ysy HMA (4"), TYPE B, BASE, 25.0mm ON  
④ 550 lb/ysy HMA (5"), TYPE B, BASE, 25.0mm

**CONCRETE SECTION d=13"**  
① 7" PCPP ON  
② 3" OF COARSE AGGREGATE, NO. 8, BASE ON  
③ 4" OF COMPACTED AGGREGATE, NO. 53, BASE

**CONCRETE SECTION d=15"**  
① 8" PCPP ON  
② 3" OF COARSE AGGREGATE, NO. 8, BASE ON  
③ 4" OF COMPACTED AGGREGATE, NO. 53, BASE

**BUSINESS COLLECTORS AND COLLECTORS**  
ASPHALT SECTION d=16.5"  
① 165 lb/ysy HMA (1.5"), TYPE A, SURFACE, 9.5mm ON  
② 275 lb/ysy HMA (2.5"), TYPE A, INTERMEDIATE, 19.0mm ON  
③ 485 lb/ysy HMA (4.5"), TYPE A, BASE, 25.0mm ON  
④ 8" OF COMPACTED STONE, NO. 53, BASE

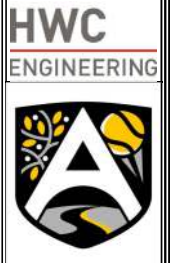
**CONSERVATION LOCAL STREETS**  
CONCRETE SECTION d=13"  
① 7" PERVIOUS CONCRETE PAVEMENT (3 ksi COMP STRENGTH) ON  
② 3" OF COMPACTED STONE, NO. 8, BASE ON  
③ 3" OF COMPACTED STONE, NO. 53, BASE

**ASPHALT SECTION d=12"**  
① 165 lb/ysy HMA (1.5"), TYPE A, SURFACE, 9.5mm ON  
② 275 lb/ysy HMA (2.5"), TYPE A, INTERMEDIATE, 19.0mm ON  
③ 440 lb/ysy HMA (4"), TYPE A, BASE, 25.0mm ON  
④ 440 lb/ysy HMA (4"), TYPE A, BASE, 25.0mm  
**CONCRETE SECTION d=14"**  
① 7" PCPP ON  
② 3" OF COMPACTED STONE, NO. 8, BASE ON  
③ 4" OF COMPACTED STONE, NO. 53, BASE

**CONSERVATION COLLECTOR STREETS**  
CONCRETE SECTION d=14"  
① 7" PERVIOUS CONCRETE PAVEMENT (3 ksi COMP STRENGTH) ON  
② 3" OF COMPACTED STONE, NO. 8, BASE ON  
③ 4" OF COMPACTED STONE, NO. 53, BASE

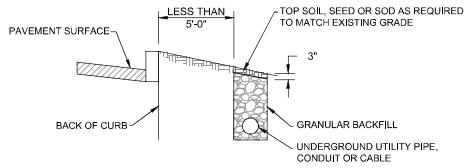
### PAVEMENT DESIGN DIAGRAM / SCHEDULE (FOR THOROUGHFARE AND/OR SUBDIVISION ROADS)

- NOTES:**
- PAVEMENT SECTIONS ABOVE ARE BASED ON MINIMUM RESILIENT MODULI OF 2,900 psi FOR NATURAL SUBGRADE, AND 7,400 psi FOR IMPROVED SUBGRADE (SUBGRADE TREATMENT). THESE SECTIONS MAY ONLY BE USED IF A GEOTECHNICAL ANALYSIS CONFIRMS THESE MODULI CAN BE MET WITH THE NATURAL SUBGRADE AND THE SUBGRADE TREATMENT RECOMMENDED BY THE GEOTECHNICAL ANALYSIS. IF THESE MODULI CANNOT BE ACHIEVED, A FULL PAVEMENT DESIGN MUST BE SUBMITTED TO THE TOWN FOR APPROVAL.
  - WIDENED ROADWAYS SHALL USE THE MATERIAL SECTION APPROPRIATE TO MATCH THE MATERIAL OF THE EXISTING ROAD BEING WIDENED. RECONSTRUCTED ROADWAYS SHALL USE THE MATERIAL SECTION APPROPRIATE TO MATCH THE MATERIAL OF THE EXISTING ROAD BEING RECONSTRUCTED. IF A NEW ROADWAY WILL BE OWNED AND MAINTAINED BY A PRIVATE ENTITY, THE DEVELOPER MAY CHOOSE BETWEEN THE MATERIAL SECTIONS ABOVE. IF A NEW ROADWAY WILL BE OWNED AND MAINTAINED BY THE TOWN, THE DEVELOPER OR CONTRACTOR SHALL REQUEST THE MATERIAL SECTION TO BE USED FROM THE TOWN.
  - ALL CONCRETE SECTIONS ARE BASED ON 18" TRANSVERSE JOINT SPACING, WITH DOWEL BARS SPACED AT 12.0" ON CENTER THROUGH THE JOINTS. DOWEL BAR DIAMETER SHALL BE 1.25" FOR CONCRETE PAVEMENT THICKNESSES OF 9.0" AND BELOW. DOWEL BAR DIAMETER SHALL BE 1.50" FOR CONCRETE PAVEMENT THICKNESSES OVER 9.0".
  - NO COMPOUND CROSS SLOPES ARE PERMITTED BETWEEN THE CROWN AND THE EDGE OF PAVEMENT.

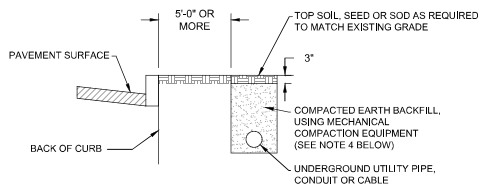


TOWN OF AVON CONSTRUCTION STANDARDS PAVEMENT DIAGRAM & ROADWAY DEVELOPMENT STANDARDS

NO.	DESCRIPTION	DATE	BY
1	2026 UPDATE	JRE	01/15/26
2	REVISED MAT'L TYPE	JRE	01/15/26



TYPICAL SECTION (WHERE GRANULAR BACKFILL IS REQUIRED)



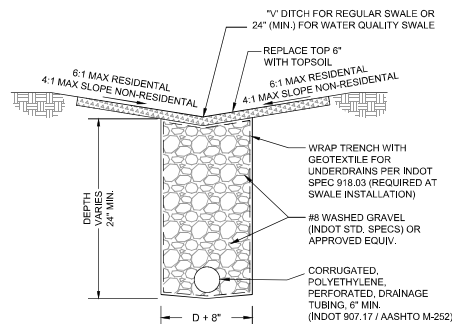
TYPICAL SECTION (WHERE GRANULAR BACKFILL IS NOT REQUIRED)

NOTES:

1. GRANULAR BACKFILL WILL NOT BE REQUIRED WHEN ENTIRE TRENCH AREA IS 5'-0" OR MORE BEYOND THE EDGE OF ROADWAY SURFACE.
2. ALL EXCAVATED AREAS UNDER PAVED ROADWAYS OR WITHIN 5'-0" OF THE PAVEMENT EDGE, OR BACK EDGE OF CURB SHALL BE BACKFILLED WITH GRANULAR MATERIAL TO WITHIN 5" OF THE TOP OF THE TRENCH (OR TO FINAL GRADE UNDER PAVEMENT). THIS GRANULAR BACKFILL SHALL BE PLACED IN 12" LIFTS AND EACH LAYER SHALL BE COMPACTED BY MECHANICAL MEANS TO AT LEAST 95% OF ITS STANDARD MAXIMUM DRY DENSITY. HOWEVER, GRANULAR BACKFILL MAY BE PLACED IN 24" LIFTS PROVIDED EACH LAYER IS COMPACTED TO 95% OF ITS MODIFIED MAXIMUM DRY DENSITY. DENSITY REPORTS SHALL BE PROVIDED TO THE TOWN.
3. IF ANY PORTION OF TRENCH AREA IS NEARER THAN 5'-0" FROM THE EDGE OF THE ROADWAY SURFACE, THE ENTIRE TRENCH MUST BE BACKFILLED WITH GRANULAR MATERIAL.
4. EARTH BACKFILL COMPACTION PROCEDURE IS NOT REQUIRED FOR UNIMPROVED AREA OR WHERE PROBLEMS RELATED TO TRENCH SETTLEMENT IS NEGLIGIBLE.

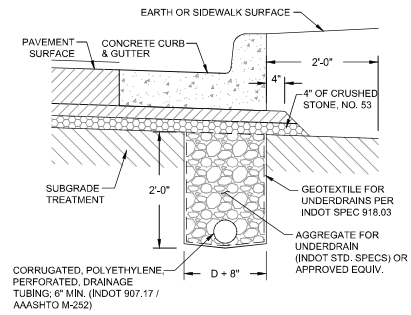
**RESIDENTIAL STREET STANDARD TRENCH BACKFILL REQUIREMENTS**

NOT TO SCALE



**SWALE UNDERDRAIN DETAIL**

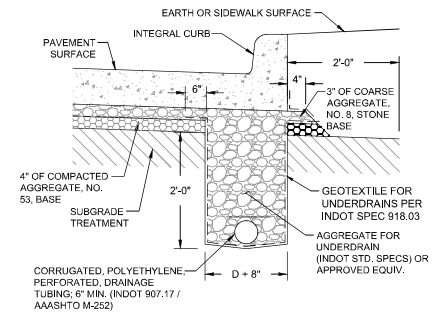
NOT TO SCALE



**STREET / ISLAND / ROUNDABOUT SUB-SURFACE DRAIN DETAIL - ASPHALT**

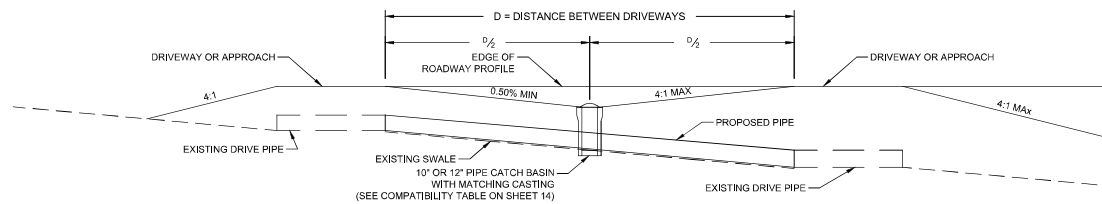
NOT TO SCALE

- NOTE: BOTTOM LAYER ASPHALT AND/OR AGGREGATE TO EXTEND UNDER CURB
- NOTE: INTERIOR ISLAND AND ROUNDABOUT DRAINS TO CONNECT TO STORM SYSTEM OR OUTLET TO DITCH



**STREET / ISLAND / ROUNDABOUT SUB-SURFACE DRAIN DETAIL - CONCRETE**

NOT TO SCALE

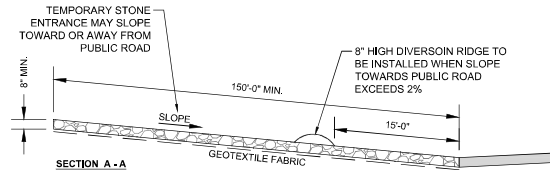
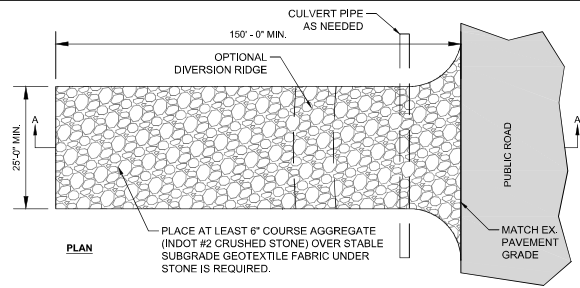


**ENCLOSED PIPE SWALE**

NOT TO SCALE



NO.	DESCRIPTION	DATE	BY	CHKD.
1	2025 UPDATE	JRE	02/13/25	



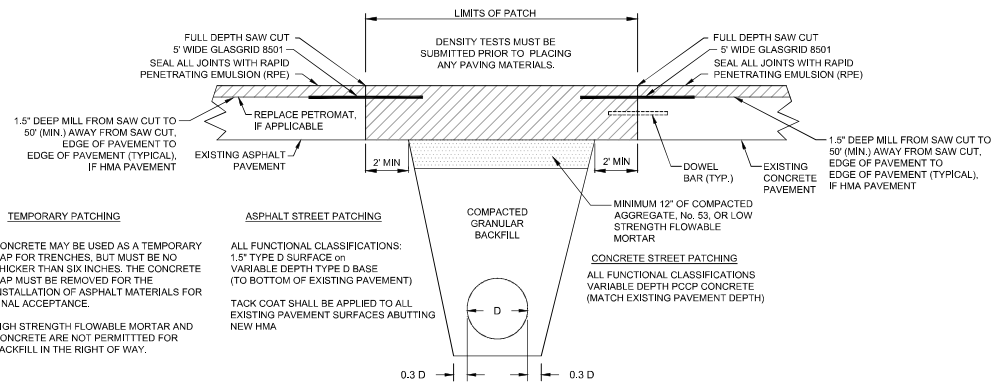
TEMPORARY CONSTRUCTION INGRESS/EGRESS PAD

MAINTENANCE REQUIREMENTS:

1. INSPECT DAILY.
2. RESHAPE PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL.
3. TOP DRESS WITH CLEAN AGGREGATE AS NEEDED.
4. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADS.
5. FLUSHING SHOULD ONLY USED IF THE WATER CAN BE CONVEYED INTO A SEDIMENT TRAP OR BASIN.

### CONSTRUCTION ENTRANCE

NOT TO SCALE



#### TEMPORARY PATCHING

CONCRETE MAY BE USED AS A TEMPORARY CAP FOR TRENCHES, BUT MUST BE NO THICKER THAN SIX INCHES. THE CONCRETE CAP MUST BE REMOVED FOR THE INSTALLATION OF ASPHALT MATERIALS FOR FINAL ACCEPTANCE.

HIGH STRENGTH FLOWABLE MORTAR AND CONCRETE ARE NOT PERMITTED FOR BACKFILL IN THE RIGHT OF WAY.

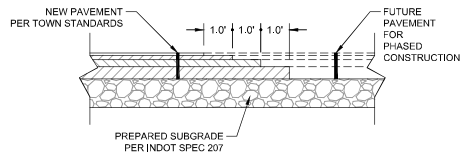
#### ASPHALT STREET PATCHING

ALL FUNCTIONAL CLASSIFICATIONS:  
1.5\"/>

CONCRETE STREET PATCHING  
ALL FUNCTIONAL CLASSIFICATIONS  
VARIABLE DEPTH POCC CONCRETE  
(MATCH EXISTING PAVEMENT DEPTH)

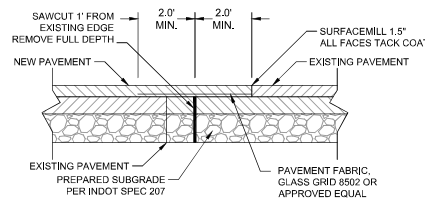
### UTILITY TRENCH DETAIL

NOT TO SCALE



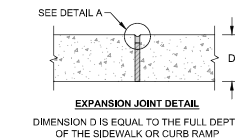
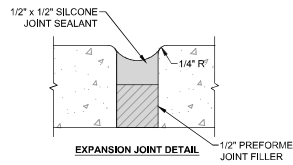
### STAGED CONSTRUCTION TIE-IN

NOT TO SCALE



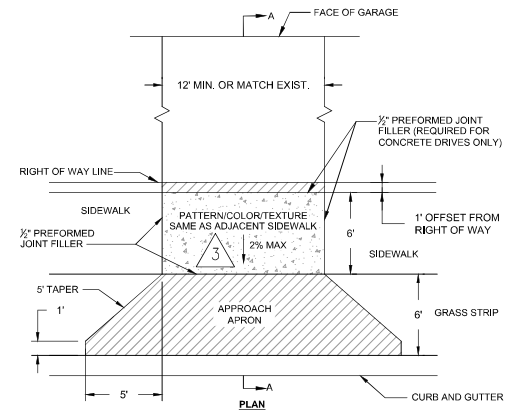
### TYPICAL PAVEMENT TIE-IN

NOT TO SCALE



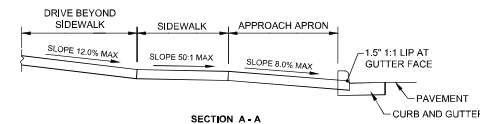
### SIDEWALK EXPANSION JOINT DETAIL

NOT TO SCALE



#### NOTES:

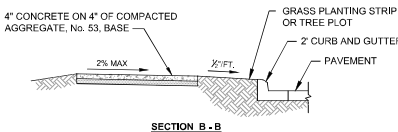
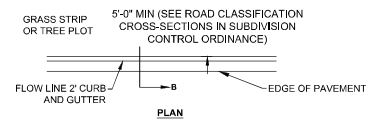
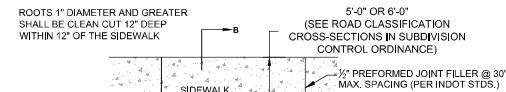
1. APRONS AND DRIVES SHALL BE EITHER 6\"/>
2. SUBGRADE UNDER ALL CURBS, SIDEWALK AND DRIVES SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 207 OF CURRENT INDOT STANDARD SPECIFICATIONS. DENSITY REPORTS SHALL BE PROVIDED TO THE TOWN.
3. SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH AVON AND INDOT STANDARDS AND SIDEWALK PATTERN, COLOR AND TEXTURE ADJACENT TO DRIVES SHALL BE EXTENDED ACROSS THE DRIVEWAY. CONCRETE SIDEWALK THICKNESS IS NOT PERMITTED IN DRIVEWAY FOOTPRINT.



#### SECTION A-A

### THOROUGHFARE ROAD PRIVATE DRIVEWAY APPROACH DETAILS

NOT TO SCALE



### SIDEWALK WITH GRASS STRIP OR TREE PLOT

NOT TO SCALE



NO.	DESCRIPTION	DATE	BY	CHK.
1	2026 UPDATE	JRE	01/15/26	
2	ADDED DETAIL	JRE	01/15/26	
3	ADDED MAX SLOPE	JRE	01/15/26	

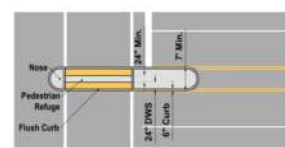


**GENERAL NOTES FOR REFUGE ISLANDS**

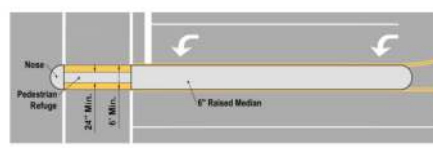
1. A REFUGE ISLAND IS A MEDIAN AREA THAT IS INTENDED TO HELP PROTECT PEDESTRIANS WHO ARE CROSSING A MULTILANE ROAD AND TO FUNCTION AS A REFUGE.
2. WHEN PEDESTRIAN REFUGE ISLAND ARE CONSTRUCTED USING CENTER CURB, THE REFUGE ISLAND SHALL BE AT LEAST 6 FEET WIDE, MEASURED FROM THE OUTSIDE EDGE OF THE DETECTABLE WARNING SURFACES (DWS).
3. WHEN PEDESTRIAN REFUGE ISLANDS ARE CONSTRUCTED USING CURBING, THE DETECTABLE WARNINGS SURFACE SHALL BE PLACED FLUSH WITH THE BACK OF CURB, WITH AT LEAST 7 FEET WIDEN MEASURED FROM FACE OF CURB TO FACE OF CURB.
4. PEDESTRIAN REFUGE ISLANDS CAN BE INSTALLED ON ANY STREET WHICH HAVE TWO OR MORE TRAVEL LANES (ONE PER DIRECTION) AND THE SPEED LIMIT IS BETWEEN 30 & 40 MPH, AS OUTLINED IN TABLE A.
5. PEDESTRIAN REFUGE ISLAND WIDTHS OF 8 TO 10 FEET ARE PREFERRED WHERE PEDESTRIAN VOLUMES ARE HIGH, WHERE PEOPLE WITH MOBILITY DEVICES CROSS, OR WHERE BICYCLISTS CROSS.
6. CUT-THROUGH OPENINGS SHALL MATCH THE WIDTH OF THE CORRESPONDING CROSSWALK. THE CROSSWALK WIDTH IS MEASURED FROM THE CENTER OF THE CROSSWALK TRANSVERSE LINES.
7. A "NOSE" THAT EXTENDS PAST THE CROSSWALK TOWARD THE INTERSECTION SHALL BE PROVIDED TO SEPARATE PEOPLE WAITING ON THE PEDESTRIAN ISLAND FROM MOTORISTS AND TO SLOW TURNING MOTORISTS. NECESSARY TURNING RADIUS SHALL BE ASSESSED EARLY IN DESIGN TO ENSURE FEASIBILITY OF RAMP AND ISLAND PLACEMENT. THE DESIGNER SHALL ENSURE PLACEMENT OF THE "NOSE" ACCOMMODATES LEFT TURN MOVEMENT BY THE DESIGN VEHICLE.
8. THE MINIMUM LENGTH OF THE "NOSE" ON THE INTERSECTION SIDE OF THE PEDESTRIAN ISLAND SHALL BE 4 FEET. THE MINIMUM LENGTH OF THE ISLAND ON THE NON-INTERSECTION SIDE OF THE PEDESTRIAN ISLAND SHALL BE 8 FEET. THE NOSE HEIGHT SHALL TAPER FROM 2 INCHES TO THE FULL HEIGHT OF 6 INCHES OVER A LENGTH OF 10 FEET (OR THE LENGTH OF THE NOSE/ISLAND IF LESS THAN 10 FEET).
9. TRAFFIC CONTROL EQUIPMENT, VEGETATION, AND OTHER AESTHETIC TREATMENTS MAY BE INCORPORATED, BUT SHALL NOT OBSCURE PEDESTRIAN VISIBILITY.

**SIGNAGE FOR REFUGE ISLANDS**

1. THE STANDARD SIGNAGE APPLICATION WITHIN PEDESTRIAN REFUGE ISLANDS AT CONTROLLED CROSSWALKS AT INTERSECTIONS AND AT MID-BLOCK LOCATIONS SHALL BE CROSSWALK WARNING SIGNS (W11-2) WITH DIAGONAL ARROW PLQUES (W16-7P).
2. CROSSWALK WARNING SIGNS SHOULD BE INSTALLED BACK-TO-BACK WITHIN THE PEDESTRIAN REFUGE ISLAND INSTEAD OF TWO SEPARATE SIGN INSTALLATIONS WITHIN THE ISLAND.
3. WHERE PEDESTRIAN REFUGE ISLANDS EXTEND LESS THAN 10 FEET FROM THE PEDESTRIAN PASS-THROUGH, ADDITIONAL SIGNS, SUCH AS KEEP RIGHT SIGNS (R4-7), SHALL NOT BE USED WITHIN THE PEDESTRIAN REFUGE ISLAND. YELLOW FLEXIBLE DELINEATOR POSTS OR OTHER CRASHWORTHY VERTICAL ELEMENTS WITH RETROREFLECTIVE MATERIALS SHALL BE INSTALLED AT ENDS OF PEDESTRIAN REFUGE ISLANDS THAT DO NOT FEATURE KEEP RIGHT SIGNS (R4-7) OR OBJECT MARKERS TO INCREASE VISIBILITY.
4. IF THE PEDESTRIAN REFUGE ISLAND EXTENDS BETWEEN 10 FEET AND 50 FEET FROM THE PEDESTRIAN PASS-THROUGH, A YELLOW AND BLACK RECTANGULAR OBJECT MARKER (OM-3L) MOUNTED AT A HEIGHT OF 4 FEET SHALL BE PLACED AT THE BEGINNING OF THE MEDIAN ISLAND IN ADDITION TO THE CROSSWALK WARNING SIGNS PLACED AT THE CROSSWALK.
5. IF THE PEDESTRIAN REFUGE ISLAND EXTENDS 50 FEET OR MORE FROM THE PEDESTRIAN PASS-THROUGH, A KEEP RIGHT SIGN (R4-7) WITH A YELLOW AND BLACK RECTANGULAR OBJECT MARKER (OM-3L) SHALL BE PLACED AT THE BEGINNING OF THE MEDIAN ISLAND IN ADDITION TO THE CROSSWALK WARNING SIGNS PLACED AT THE CROSSWALK.
6. AT TRAIL CROSSINGS, TRAIL WARNING SIGNS (W11-15) SHALL BE USED INSTEAD OF CROSSWALK WARNING SIGNS (W11-2).
7. AT SIGNALIZED INTERSECTIONS, CROSSWALK WARNING SIGNS SHALL NOT BE USED IN THE PEDESTRIAN REFUGE ISLAND. INSTEAD, KEEP RIGHT SIGNS (R4-7) WITH A YELLOW AND BLACK RECTANGULAR OBJECT MARKER (OM-3L) SHALL BE PLACED AT EITHER END OF THE PEDESTRIAN REFUGE ISLAND.



**PEDESTRIAN REFUGE ISLAND CONSTRUCTED WITH CURBING**  
NOT TO SCALE

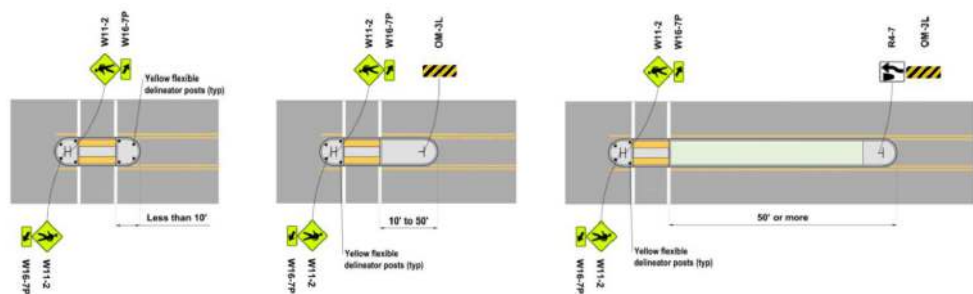


**PEDESTRIAN REFUGE ISLAND CONSTRUCTED WITH CENTER CURB**  
NOT TO SCALE

ROADWAY CONFIGURATION	POSTED SPEED LIMIT & AADT								
	AADT < 9,000			AADT 9,000 - 15,000			AADT > 15,000		
	≤ 30 MPH	35 MPH	≥ 40 MPH	≤ 30 MPH	35 MPH	≥ 40 MPH	≤ 30 MPH	35 MPH	≥ 40 MPH
2 lanes (1 lane in each direction)	X	X	X	X	X	X	X	X	X
3 lanes with raised median (1 lane in each direction)									
3 lanes w/o raised median (1 lane in each direction with a two-way left-turn lane)	X	X	X	X	X	X	X	X	X
4+ lanes with raised median (2 or more lanes in each direction)									
4+ lanes w/o raised median (2 or more lanes in each direction)	X	Y	Y	Y	Y	Y	Y	Y	Y

X - THAT THE COUNTERMEASURE IS A CANDIDATE TREATMENT AT A MARKED UNCONTROLLED CROSSING LOCATION.  
Y - THAT THE COUNTERMEASURE SHOULD ALWAYS BE CONSIDERED, BUT NOT MANDATED OR REQUIRED, BASED UPON ENGINEERING JUDGMENT AT A MARKED UNCONTROLLED CROSSING LOCATION.  
TABLE BASED ON FHWA "STEP GUIDE" MATRIX FOR SELECTING COUNTERMEASURES (FHWA SA-17-072)

**TABLE A - APPLICATION OF PEDESTRIAN REFUGE ISLAND**



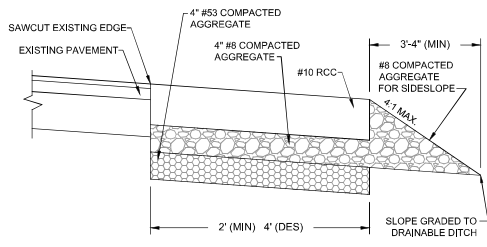
**TYPICAL SIGNAGE FOR PEDESTRIAN REFUGE ISLANDS**  
NOT TO SCALE

**SIGNALIZED INTERSECTIONS**

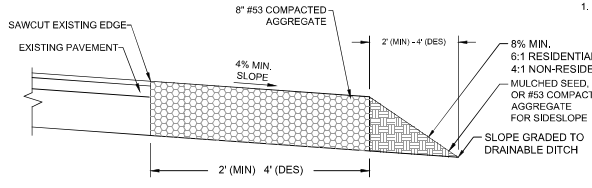
1. IT IS PREFERRED FOR PEDESTRIANS TO CROSS THE ENTIRE STREET IN ONE MOVEMENT AT SIGNALIZED INTERSECTIONS. PEDESTRIAN SIGNAL HEADS SHALL NOT BE PROVIDED WITHIN THE PEDESTRIAN REFUGE ISLAND WHEN THERE IS SUFFICIENT PEDESTRIAN CLEARANCE TIME TO ALLOW PEDESTRIANS TO CROSS IN ONE PHASE.
2. AT SIGNALIZED LOCATIONS WHERE PEDESTRIANS ARE EXPECTED TO CROSS IN TWO STAGES BY WAITING IN A PEDESTRIAN REFUGE ISLAND AND THE SIGNAL IS TIMED ACCORDINGLY, THE PEDESTRIAN REFUGE ISLAND SHALL BE AT LEAST 6 FEET IN WIDTH. PEDESTRIAN SIGNAL HEADS WITHIN THE PEDESTRIAN REFUGE ISLAND SHALL BE PROVIDED. PEDESTRIAN PUSHBUTTONS SHALL BE PROVIDED WITHIN THE ISLAND WHERE THE APPROACH IS NOT ON PEDESTRIAN RECALL.
3. A MEDIAN ISLAND LESS THAN 6 FEET WIDE IS NOT CONSIDERED A PEDESTRIAN REFUGE. ON SUCH CROSSINGS, THE PEDESTRIAN CLEARANCE TIME SHALL BE SUFFICIENT TO ALLOW FOR FULL CROSSING OF THE ROADWAY IN A SINGLE PHASE.
4. PEDESTRIAN PUSHBUTTONS SHALL BE LOCATED IN ACCORDANCE WITH THE CURRENT EDITION OF INDIANA'S MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND THE PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG).

NO.	DESCRIPTION	DATE	BY
1	2026 UPDATE	JRE	01/15/26
2	ADDED SHEET	JRE	01/05/26

SHEET NUMBER



**ROLLER COMPACTED CONCRETE PAVEMENT DETAIL FOR SHOULDERS**  
NOT TO SCALE



NOTES:  
1. ALL PAVING PROJECTS MUST INSTALL/REFRESH STONE SHOULDER WHERE THERE ARE NO CONCRETE CURBS.

**SHOULDER DETAIL**  
NOT TO SCALE

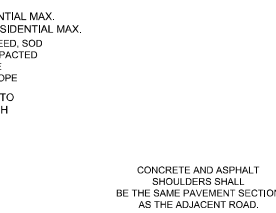
**ROLLER COMPACTED CONCRETE (RCC) REQUIREMENTS**

- 20-YEAR DESIGN LIFE
- ALLOWANCE FOR USE**  
ROLLER COMPACTED CONCRETE PAVEMENT SHALL BE ALLOWED FOR USE AS THE SHOULDER MATERIAL FOR ROADWAYS WITHIN THE TOWN LIMITS OF AVON, INDIANA.
  - DESCRIPTION**  
RCC IS A RELATIVELY STIFF MIXTURE OF AGGREGATE (MAXIMUM SIZE NOT LARGER THAN 3/4") CEMENTITIOUS MATERIALS AND WATER THAT IS LAID BY A PAVING MACHINE (USUALLY A MODIFIED HOT MIX ASPHALT PAVER), COMPACTED BY VIBRATORY ROLLERS, AND HARDENED INTO CONCRETE, WHEN RCC IS USED AS A SURFACE COURSE, A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI CONCRETE SHALL BE USED.  
THE MATERIALS FOR RCC ARE BLENDED IN A MIXING PLANT INTO A HETEROGENEOUS MASS WITH A CONSISTENCY OF DAMP GRAVEL OR ZERO SLUMP CONCRETE. IT IS PLACED IN LAYERS NOT THICKER THAN 10" COMPACTED THICKNESS, LONGITUDINAL JOINTS WILL NOT BE PLACED FOR SHOULDER WORK; HOWEVER, 30' WIDE NON-DOWELED TRANSVERSE JOINTS SHALL BE WORKED INTO THE SHOULDER TO CONTROL CRACKING. PLACEMENT OF RCC PAVEMENT SHALL BE PERFORMED BY AN ASPHALT PAVER MODIFIED AS NECESSARY BY ENLARGING THE GATES BETWEEN THE FEED HOPPER AND SCREED. THE SPREADING SCREWS IN FRONT OF THE SCREED SHALL BE ADJUSTED TO UNIFORMLY SPREAD THE MATERIAL IN FRONT OF THE SCREED TO ENSURE THE CONCRETE IS UNIFORMLY ACROSS THE WIDTH OF THE SHOULDER SIMILAR TO THE PLACEMENT OF HOT MIX ASPHALT. THE PAVER SHALL BE EQUIPPED WITH AUTOMATIC GRADE CONTROL DEVICES SUCH AS A TRAVELING SKI OR ELECTRONIC STRING LINE GRADE CONTROL DEVICE.
  - MATERIALS**  
AGGREGATES SHALL COMPRISE 75% TO 85% OF THE VOLUME OF RCC PAVEMENT. AGGREGATES USED IN RCC PAVEMENT SHALL CONTAIN BOTH FINE (FINER THAN NO. 4 SIEVE) AND COARSE FRACTIONS PRE-BLENDED AND STOCKPILED AS A SINGLE AGGREGATE. COARSE AGGREGATE SHALL CONSIST OF CRUSHED GRAVEL. FINE AGGREGATE SHALL CONSIST OF NATURAL SAND, MANUFACTURED SAND, OR A COMBINATION OF BOTH. BOTH COARSE AND FINE AGGREGATE FRACTIONS SHOULD BE COMPOSED OF HARD DURABLE PARTICLES TESTED PER ASTM C33. THE LARGEST NOMINAL SIZE AGGREGATE SHALL NOT EXCEED 3/4".  
CEMENTITIOUS MATERIALS USED IN RCC PAVEMENT SHALL BE TYPE I OR TYPE II PORTLAND CEMENT, CLASS F OR CLASS C FLY ASH, OR BLENDED HYDRAULIC CEMENT AND MAY INCLUDE POZZOLAN OR A GROUND

- GRANULATED BLAST FURNACE SLAG, HYDRAULIC CEMENTS SHALL BE SELECTED PER THE CONDITIONS FOUND IN ACI 225R, FLY ASH CONTENTS SHALL RANGE FROM 15% TO 20% OF THE TOTAL VOLUME OF THE CEMENTITIOUS MATERIAL. POZZOLAN AND OTHER FINELY DIVIDED MINERAL ADMIXTURES FOR USE IN RCC PAVEMENT SHALL BE SELECTED FOR USE BASED ON ACI 226R. CEMENTITIOUS MATERIAL SHALL RANGE IN PROPORTION FROM 10% TO 17% BY DRY WEIGHT WHICH CORRESPONDS TO 350 TO 600 LBS OF CEMENTITIOUS MATERIAL PER CUBIC YARD OF RCC PAVEMENT.  
WATER QUALITY REQUIREMENTS FOR RCC SHALL BE THE SAME AS PER THE REQUIREMENTS FOR CONVENTIONAL CONCRETE. OPTIMUM MOISTURE CONTENT SHALL BE GOVERNED BY PRE-TESTING CYLINDER SPECIMENS OF THE AGGREGATE AND CEMENTITIOUS MATERIALS FOR STRENGTH AT VARYING WATER-CEMENT RATIOS UNTIL THE OPTIMUM MOISTURE CONTENT OF THE MIXTURE IS DETERMINED. A CURVE OF THE STRENGTH VERSUS CEMENTITIOUS MATERIAL CONTENT SHALL BE GIVEN TO THE TOWN OF AVON FOR THEIR RECORDS PRIOR TO THE PLACEMENT OF RCC PAVEMENT.  
ADMIXTURES FOR THE AIR-ENTRAIMENT OR RETARDING SETTING SHALL NOT BE USED FOR RCC PAVEMENT.
- TESTING**  
CONVENTIONAL ASTM TESTING METHODS USED TO FABRICATE TEST SPECIMENS SHALL NOT BE USED FOR RCC PAVEMENT TESTING. SPECIMEN CREATION SHALL INVOLVE VIBRATING THE FRESH RCC SAMPLE ON A VIBRATING TABLE (VEBE TABLE OR THOSE MEETING THE REQUIREMENTS OF THE RELATIVE DENSITY TEST FOR COHESIONLESS SOILS USING ASTM D-425 OR D-4254 AND MEETING THE REQUIREMENTS OF ASTM C-192) UNDER A SURCHARGE OF BETWEEN 1 TO 7 PSI OR COMPACTING WITH A COMPACTIONS HAMMER FOLLOWING THE PROCEDURE IN ASTM D-1557. FUTURE TESTING REQUIREMENTS ARE BEING DETERMINED BY ASTM SUBCOMMITTEE C09.45 AND MAY CHANGE THESE TESTING PROCEDURES IN THE FUTURE. FLEXURAL STRENGTH SHALL BE DETERMINED BY SAWING BEAM SPECIMENS WHILE COMPRESSION STRENGTH SHALL BE DETERMINED BY CORING THE PAVEMENT AT 7, 14, 28 AND 90 DAYS.  
GRADATION TESTS SHALL BE RUN 3 TIMES DAILY DURING OPERATIONS OR EVERY 50 CUBIC YARDS. AGGREGATE MOISTURE TESTS SHALL BE TAKEN DAILY USING A MICROWAVE OVEN. DENSITY TESTS SHALL BE PERFORMED EVERY 300 LINEAR FEET BY NUCLEAR DENSITY GAGES, AND THE NUCLEAR DENSITY GAGE SHALL BE CHECKED AGAINST A STANDARDIZED BLOCK OF RCC PAVEMENT.

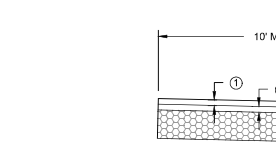
**MODIFIED ROLL CURB AND GUTTER**

NOT TO SCALE  
NOTES:  
1. CURB TYPE TO BE INSTALLED ADJACENT TO ROUNDABOUT TRUCK APRON, OR AS DIRECTED BY THE TOWN PUBLIC WORKS DIRECTOR.



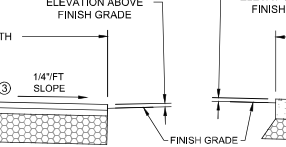
**INTEGRAL CURB**

NOT TO SCALE  
NOTES:  
1. CURB DETAIL PER INDOT STANDARD DRAWING "E-605-CCIN-01"  
2. CURB TYPE TO BE INSTALLED ON CONCRETE COLLECTOR, INDUSTRIAL, OR ARTERIAL STREETS, OR AS DIRECTED BY THE TOWN PUBLIC WORKS DIRECTOR.  
3. ALTERNATE REINFORCEMENT ALLOWED PER INDOT STANDARD DRAWING "E-605IN-01"



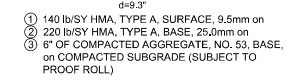
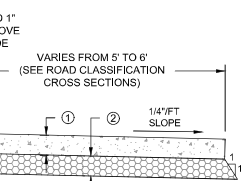
**ROLL CURB AND GUTTER**

NOT TO SCALE  
NOTES:  
1. CURB DETAIL PER INDOT STANDARD DRAWING "E-605-CCJG-01"  
2. CURB TYPE TO BE INSTALLED ON ASPHALT LOCAL STREETS, OR AS DIRECTED BY THE TOWN PUBLIC WORKS DIRECTOR.

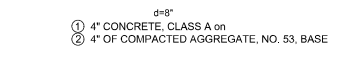


**COMBINED VERTICAL CURB AND GUTTER**

NOT TO SCALE  
NOTES:  
1. CURB DETAIL PER INDOT STANDARD DRAWING "E-605-CCJG-01"  
2. CURB TYPE TO BE INSTALLED ON ASPHALT COLLECTOR, INDUSTRIAL, OR ARTERIAL STREETS, OR AS DIRECTED BY THE TOWN PUBLIC WORKS DIRECTOR.

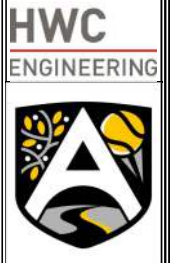


**TYPICAL MULTI-USE PATH**  
NOT TO SCALE



**TYPICAL SIDEWALK**  
NOT TO SCALE

- COMPACTION**  
RCC PAVEMENT SHALL BE COMPACTED WITH A 10 TON DRUM VIBRATORY ROLLER IMMEDIATELY AFTER THE CONCRETE IS PLACED. THE ROLLER PATTERN INVOLVED MAKING TWO STATIC PASSES ON THE CONCRETE SURFACE TO SET THE SURFACE BEFORE VIBRATORY ROLLING BEGINS. FOUR OR MORE VIBRATORY PASSES ARE MADE UNTIL COMPACTION IS MET. AFTER VIBRATORY COMPACTION IS COMPLETE, A 10 TO 20 TON RUBBER TIRE ROLLER MAY BE USED TO TIGHTEN THE SURFACE TEXTURE PER DIRECTION FROM THE TOWN OF AVON. IF THE RUBBER TIRE ROLLER IS USED, A STATIC ROLLER SHALL BE USED TO REMOVE ANY ROLLER MARKS LEFT BEHIND.
- JOINT COMPACTION**  
TRANSVERSE JOINTS SHALL BE SAWED AT A SPACING OF 30'. THE DEPTH OF THE SAWED JOINT SHALL RANGE FROM 1/4 TO 1/3 OF THE PAVEMENT DEPTH. THE RESULTING JOINTS SHALL BE SEALED. ALL COMPLETED JOINTS SHALL HAVE THE SAME TEXTURE DENSITY AND SMOOTHNESS AS THE OTHER SECTIONS OF PAVEMENT. SAWING OF JOINTS SHALL BE PERFORMED TO THE REQUIRED ALIGNMENT WITHOUT CHIPPING, SPALLING, TEARING, OR CRACKING OF THE CONCRETE.
- BASE COURSE**  
PRIOR TO PAVING OPERATIONS, THE BASE COURSE SHALL BE CHECKED FOR DENSITY AND GRADE. THE GRADE SHALL BE CHECKED TO ENSURE THE PROPER THICKNESS IS LAID FOR THE RCC PAVEMENT, AND THE DENSITY IS CHECKED EVERY 300'. THE BASE COURSE SHALL BE MOISTENED PRIOR TO GRADING.
- SURFACE SMOOTHNESS**  
SURFACE SMOOTHNESS SHALL BE CHECKED USING A STRAIGHTEDGE OR PROFILEMETER. TOLERANCES SHALL RANGE FROM 1/4" TO 3/8" DEVIATION FROM A 10' STRAIGHT EDGE.



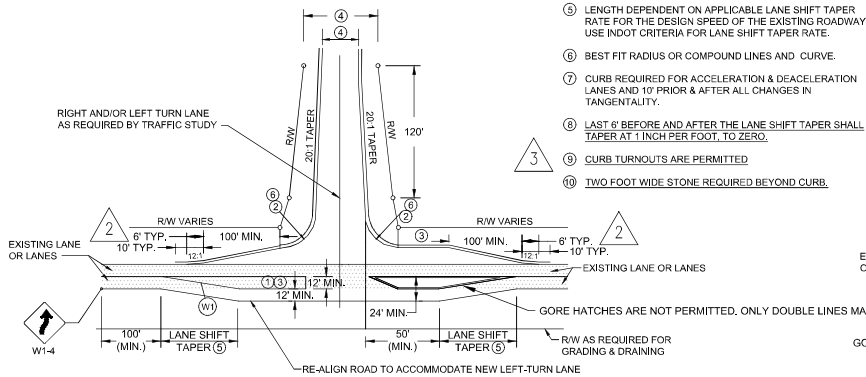
TOWN OF AVON CONSTRUCTION STANDARDS  
ROADWAY, CURBS, TRAILS,  
AND SIDEWALK DETAILS

NO.	DESCRIPTION	DATE	BY
1	2026 UPDATE	JRE	09/15/26

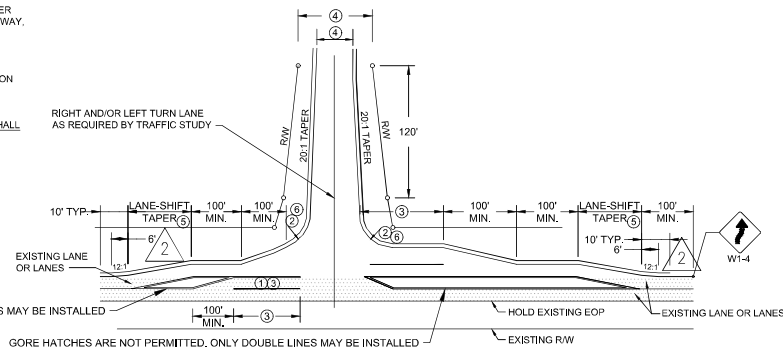
SHEET NUMBER:  
**9**



**HOLD EXISTING CENTERLINE**



**HOLD EXISTING EDGE OF PAVEMENT**



- NOTES:**
- ① DEDICATED LEFT TURN LANE REQUIRED BY THE TOWN
  - ② MINIMUM ENTRANCE EFFECTIVE RADIUS REQUIREMENTS:  
RESIDENTIAL = 40'  
COMMERCIAL/INDUSTRIAL = 50'
  - ③ MINIMUM TURN/DECELERATION LANE REQUIREMENTS:  
WIDTH = 12'  
LENGTH (RESIDENTIAL) = 100'  
LENGTH (COMMERCIAL/INDUSTRIAL) = 150'  
\* SUBJECT TO TOWN DISCRETION AND TO SPEED LIMIT
  - ④ RW AND ROAD WIDTH REQUIREMENTS PER ROAD CLASSIFICATION
  - ⑤ LENGTH DEPENDENT ON APPLICABLE LANE SHIFT TAPER RATE FOR THE DESIGN SPEED OF THE EXISTING ROADWAY. USE INDOT CRITERIA FOR LANE SHIFT TAPER RATE.
  - ⑥ BEST FIT RADIUS OR COMPOUND LINES AND CURVE.
  - ⑦ CURB REQUIRED FOR ACCELERATION & DECELERATION LANES AND 10' PRIOR & AFTER ALL CHANGES IN TANGENTIALITY.
  - ⑧ LAST 6" BEFORE AND AFTER THE LANE SHIFT TAPER SHALL TAPER AT 1 INCH PER FOOT TO ZERO.
  - ⑨ CURB TURNOUTS ARE PERMITTED
  - ⑩ TWO FOOT WIDE STONE REQUIRED BEYOND CURB.

**MINIMUM PUBLIC ROAD, INDUSTRIAL OR COMMERCIAL DRIVE TO PUBLIC ROAD ENTRANCE REQUIREMENTS - OPTION 1**

NOT TO SCALE

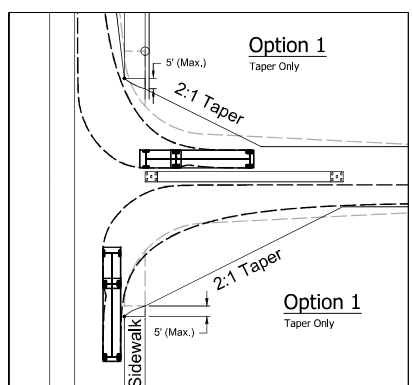
**NOTE:**  
1. THIS DRAWING REPRESENTS THE MINIMUM REQUIREMENTS FOR A NEW PUBLIC ROAD ENTRANCE. LARGER AND/OR LONGER ACCELERATION AND DECELERATION LANES MAY BE REQUIRED WHEN DEEMED NECESSARY BY THE TOWN OF AVON TO ADEQUATELY SERVE THE ANTICIPATED TYPES AND VOLUMES OF TRAFFIC. LENGTH OF ACCELERATION AND DECELERATION LANES MAY BE MODIFIED WHEN WARRANTED AT THE DISCRETION OF THE TOWN.

2. A SCALED AND DIMENSIONED DRAWING OF PUBLIC ROAD, INDUSTRIAL OR COMMERCIAL DRIVE IS REQUIRED TO BE SUBMITTED AS PART OF TAC REVIEW.

**LEGEND:**  
W1 LINE, WHITE DOTTED

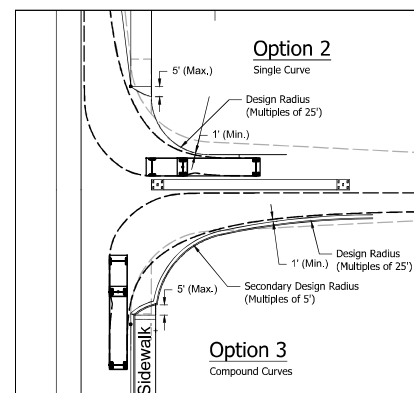
**MINIMUM PUBLIC ROAD, INDUSTRIAL OR COMMERCIAL DRIVE TO PUBLIC ROAD ENTRANCE REQUIREMENTS - OPTION 2**

NOT TO SCALE



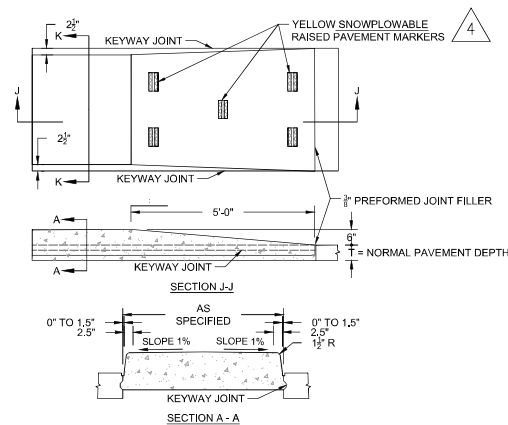
**OPTION 1  
DETECTABLE WARNING @ APPROACHES TAPERS ONLY**

NOT TO SCALE



**OPTION 2 & 3  
DETECTABLE WARNING @ APPROACHES SIGNAL OR COMPOUND CURVE(S)**

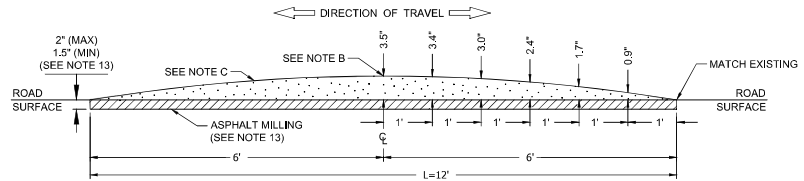
NOT TO SCALE



**CONCRETE CENTER CURB TYPE D**

NOT TO SCALE

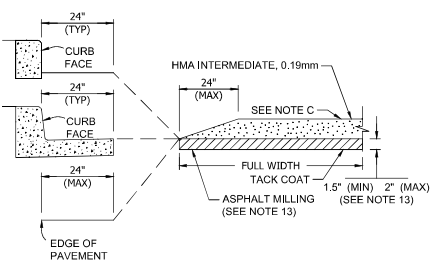
NO.	DESCRIPTION	DATE	BY	CHECKED
1	2026 UPDATE	JRE	01/15/26	
2	LAST 6" (12:1)	JRE	01/15/26	
3	ADDED NOTES 8-10	JRE	01/15/25	
4	SNOW PLOWABLE	JRE	01/15/25	



HMA, TYPE B	22	24	26	27	30	33	36	44
VOLUME* (CYD)	2.9	3.2	3.5	3.6	4.0	4.9	5.4	5.9

\* VOLUME ASSUMES MINIMUM ASPHALT MILLING

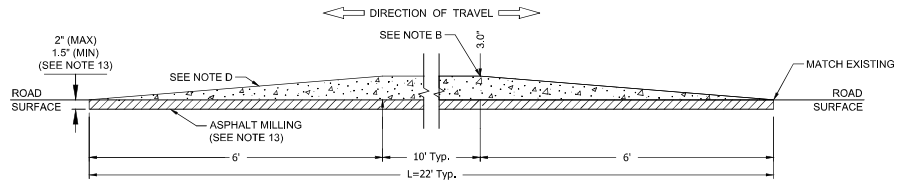
**SECTION A-A (PARABOLIC PROFILE)**  
NOT TO SCALE



**SECTION B-B (EDGE DETAIL)**  
NOT TO SCALE

**GENERAL NOTES**

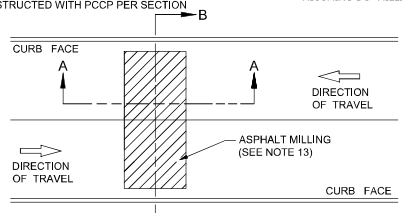
- SPEED HUMPS SHALL BE CONSTRUCTED AT LOCATIONS DESIGNATED BY PUBLIC WORKS DIRECTOR.
- SPEED HUMPS SHALL BE COMPRISED OF HMA ASPHALT AS OUTLINED IN THE TECHNICAL SPECS.
- CONTRACTOR SHALL CONTACT THE PUBLIC WORKS DIRECTOR BEFORE ANY STREET IS TEMPORARILY CLOSED FOR CONSTRUCTION.
- THE SPEED HUMP SHALL MEASURE 12 FEET LONG IN THE DIRECTION OF TRAVEL AND SHALL HAVE A MAXIMUM HEIGHT OF 3.5 INCHES AT THE MIDPOINT AS DETAILED IN SECTION A-A OF THIS SHEET.
- THE PUBLIC WORKS DIRECTOR WILL APPROVE ALL SPEED HUMPS AND SIGN LOCATIONS AS IDENTIFY BY CONTRACTOR OR ENGINEER.
- NO PART OF A SPEED HUMP SHALL BE LOCATED IN FRONT OF A DRIVEWAY. SPEED HUMPS SHOULD BE A MINIMUM OF 6 FEET FROM EDGE OF DRIVEWAY, WHERE PRACTICAL.
- SPEED HUMPS AND TRAFFIC SIGNS SHOULD BE PLACED AS CLOSE AS POSSIBLE TO PROPERTY LINES.
- SPEED HUMPS SHALL BE INSTALLED PERPENDICULAR TO THE CENTER LINE OF THE ROADWAY.
- TRAFFIC SIGNS AND PAVEMENT MARKINGS SHALL CONFORM TO THE INDIANA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- ALL TRAFFIC SIGNS AND PAVEMENT MARKINGS SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR.
- CONTRACTOR SHALL PROVIDE VERIFICATION OF CROSS SECTION DIMENSIONS BOTH THROUGH ELEVATION MEASUREMENTS AND PROFILE COMPLIANCE. IT IS ADVISABLE THAT THE CONTRACTOR CONSTRUCT A TEMPLATE TO VERIFY THE ACCURACY OF THE SPEED HUMP PROFILE TO ENSURE THE DESIRED VERTICAL DIMENSIONS ARE ATTAINED WITHIN A 0.5" TOLERANCE.
- COMPACTION SHALL BE OBTAINED BY FIRST USING OF A PNEUMATIC ROLLER FOLLOWED BY A VIBRATORY STEEL DOUBLE DRUM ROLLER (MINIMUM 10 TON) FOR FINAL MATERIAL COMPACTION.
- THE ROAD SURFACE SHALL BE MILLED A MINIMUM DEPTH OF 1.5" OR THE MAXIMUM DEPTH OF 2" FOR THE FULL AREA OF THE SPEED HUMP AS ILLUSTRATED IN SECTION A-A AND SECTION B-B ON THIS SHEET.
- CONTRACTOR SHALL INSTALL PERMANENT PAVEMENT MARKINGS NO LATER THAN 7 CALENDAR DAYS AFTER SPEED HUMP CONSTRUCTION.
- CONTRACTOR SHALL OBTAIN APPROVAL FROM PUBLIC WORKS DIRECTOR PRIOR TO OPENING SPEED HUMP TO TRAFFIC.



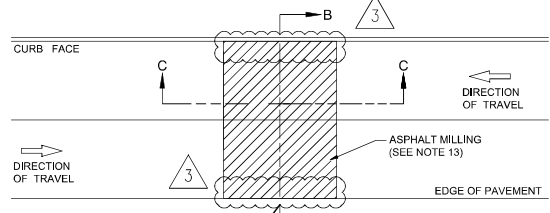
PCCP (CYD)*	22	24	26	27	30	33	36	44
6' XWALK	4.3	4.7	5.1	5.3	5.8	6.4	7.0	8.6
8' XWALK	4.9	5.3	5.8	6.0	6.7	7.3	8.0	9.8
10' XWALK	5.5	6.0	6.5	6.8	7.5	8.3	9.0	11.0
12' XWALK	6.1	6.7	7.2	7.5	8.3	9.2	10.0	12.2

\* ASSUMING 1.5" MILLING

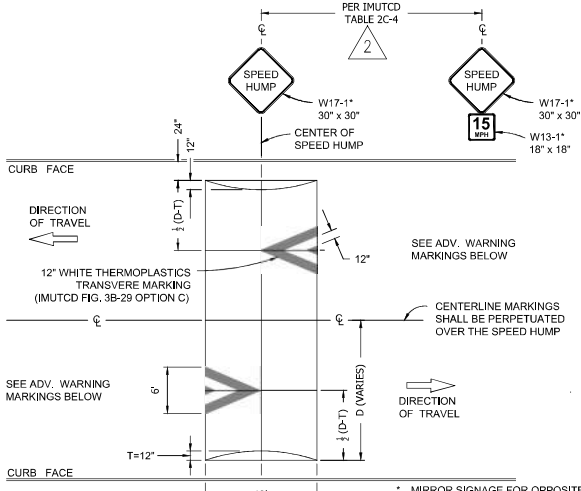
**SECTION C-C**  
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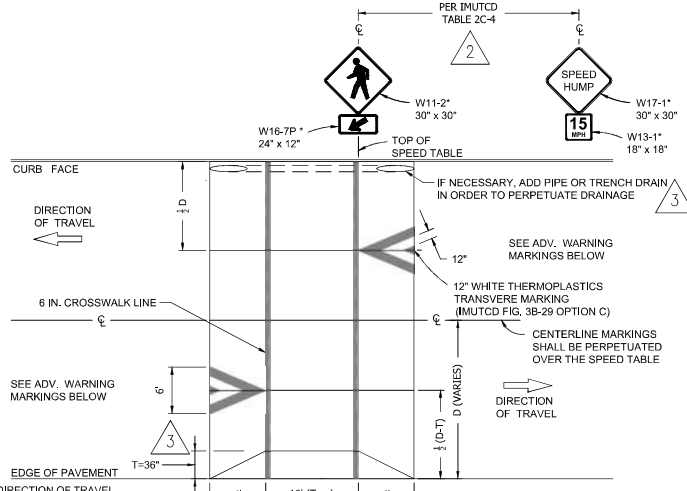
**ASPHALT MILLING DETAIL**  
NOT TO SCALE



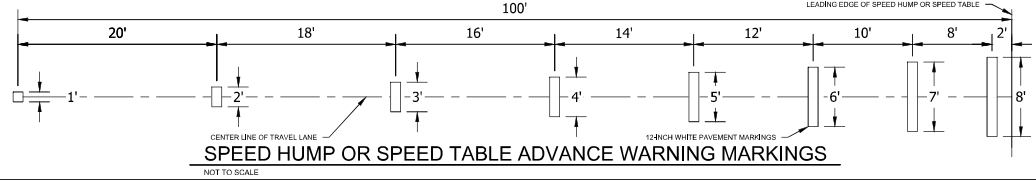
**ASPHALT MILLING DETAIL**  
NOT TO SCALE



**SPEED HUMP MARKING DETAIL**  
NOT TO SCALE



**SPEED TABLE MARKING DETAIL**  
NOT TO SCALE



**SPEED HUMP OR SPEED TABLE ADVANCE WARNING MARKINGS**  
NOT TO SCALE

NO.	DESCRIPTION	DATE	BY
1	2026 UPDATE	JRE	01/15/26
2	PLACEMENT DISTANCE	JRE	01/15/26
3	REVISED ACCESSIBILITY	JRE	01/21/26



**GENERAL NOTES**

- INDOT STANDARD SPECIFICATIONS SHALL BE USED UNLESS OTHERWISE NOTED IN THE AVON TOWN STANDARDS. GENERALLY, THE APPLICABLE INDOT REFERENCES ARE:
  - 715 PIPE CULVERTS AND STORM AND SANITARY SEWERS
  - 718 UNDERDRAINS
  - 719 TIE DRAINS
  - 720 MANHOLES, INLETS, AND CATCH BASINS
  - 901 PCC MATERIALS
  - 903 CLASSIFICATION OF SOILS
  - 904 AGGREGATES
  - 907 CONCRETE, CLAY, AND PLASTIC DRAINAGE COMPONENTS
- ACCEPTABLE MATERIALS ARE LISTED BELOW.
- MINIMUM STORM SEWER SIZE SHALL BE 12-INCH. MINIMUM UNDERDRAIN SIZE SHALL BE 8-INCH.
- STORM SEWER PIPE OF OTHER MATERIAL OR MATERIAL NOT MEETING THESE SPECIFICATIONS SHALL REQUIRE THE PRIOR WRITTEN APPROVAL OF THE TOWN PUBLIC WORKS DIRECTOR.
- THE CONTRACTOR SHALL SUBMIT INFORMATION TO THE TOWN PUBLIC WORKS DIRECTOR SHOWING CONFORMANCE WITH THESE SPECIFICATIONS UPON REQUEST.
- AS-BUILT ELECTRONIC FILES SHALL BE SUBMITTED TO THE TOWN OF AVON IN THE LATEST AUTOCAD VERSION AND FULL-SIZE PDF FORMATS.
- ALL CONSTRUCTION ACTIVITIES SHALL COMPLY WITH THE EROSION CONTROL REQUIREMENTS OF THE INDIANA DEPARTMENTS OF ENVIRONMENTAL MANAGEMENT (IDEM) AND NATURAL RESOURCES (IDNR), AND GOVERNMENT AGENCIES, THIS INCLUDES, BUT IS NOT LIMITED TO, THE REQUIREMENTS OF INDIANA RULE 5 GENERAL PERMIT (327 IAC 15-5 STORM WATER RUN OFF ASSOCIATED WITH CONSTRUCTION ACTIVITY) UNLESS OTHERWISE REQUIRED BY IDEM. STORMWATER POLLUTION PREVENTION PLANS SHALL BE CONSISTENT WITH THE CURRENT EDITION OF THE INDIANA STORM WATER QUALITY MANUAL, (FORMERLY THE INDIANA HAND BOOK FOR EROSION CONTROL) UNLESS OTHERWISE APPROVED BY IDEM.
- INSPECT PIPE, FITTINGS, STRUCTURES, AND APPURTENANCES PRIOR TO INSTALLATION AND PROMPTLY REMOVE DAMAGED OR UNSUITABLE MATERIALS FROM THE JOB SITE. REPLACE DAMAGED OR UNSUITABLE MATERIALS WITH NEW AND UNSUED MATERIALS.
- INSTALL ALL PIPES, FITTINGS, STRUCTURES, AND APPURTENANCES AS SHOWN ON THE STANDARD DETAILS AND AS SPECIFIED IN THIS SECTION. DO NOT INSTALL PIPE WHEN, IN THE OPINION OF THE TOWN PUBLIC WORKS DIRECTOR, TRENCH CONDITIONS ARE UNSUITABLE.
- FOLLOW MANUFACTURER'S INSTALLATION PROCEDURES WHEN INSTALLING PIPE, FITTINGS, STRUCTURES, AND APPURTENANCES.
- ALL CONSTRUCTION OPERATIONS MUST COMPLY WITH OSHA STANDARDS. INSPECTION PERSONNEL WILL PAY SPECIAL ATTENTION TO TRENCHES AND SLOPES.

**EXAMINATION**

- VERIFY CONDITIONS
- BEFORE INSTALLING PIPING, VERIFY LOCATION, DEPTH, TYPE OF JOINT NEEDED, AND SIZE OF PIPE TO WHICH CONNECTION IS PROPOSED.
  - ASSURE THAT LINES CAN BE RUN AS PROPOSED, NOTIFY TOWN PUBLIC WORKS DIRECTOR IMMEDIATELY FOR APPROVAL OF ANY NECESSARY DEVIATION BEFORE LINES ARE RUN.
  - WORK ALL LENGTHS OF PIPE INTO PLACE WITHOUT FORCING.

**MATERIALS AND STANDARDS**

- REINFORCED CONCRETE PIPE (RCP) (RIGID PIPE TRENCH)**
- RCP MAY BE USED IN ALL STORMWATER CONVEYANCE APPLICATIONS.
  - REINFORCED CONCRETE PIPE SHALL BE CLASS III, WALL B, CONFORMING WITH ASTM C-507, AASHTO M170, AND INDOT STANDARD SPECIFICATION 907.
  - REINFORCED ELLIPTICAL CONCRETE PIPE SHALL BE CLASS HE-III OR HE-IV AS SPECIFIED IN ASTM C-507, AASHTO M207, AND INDOT STANDARD SPECIFICATION 907.
  - LIFT HOLES ARE NOT ALLOWED FOR PIPE LESS THAN 24-INCHES IN DIAMETER. A MAXIMUM OF 2 LIFT HOLES ARE ALLOWED FOR PIPE 24-INCHES IN DIAMETER OR LARGER. LIFT HOLES SHALL BE REPAIRED ACCORDING TO MOST RECENT INDOT STANDARD SPECIFICATIONS.
  - FITTINGS AND SPECIALTIES SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS FOR THE TYPE OF PIPE BEING USED.
  - EACH PIPE SECTION SHALL BE MARKED WITH DATE OF MANUFACTURE, SIZE, AND CLASS OF PIPE, SPECIFICATION DESIGNATION, MANUFACTURER, AND PLANT IDENTIFICATION.

- PIPE SHALL BE FURNISHED WITH A BELL OR GROOVE ON ONE END OF A UNIT OF PIPE AND A SPIGOT OR TONGUE ON THE ADJACENT END OF THE ADJOINING PIPE. ALL JOINTS SHALL HAVE A GASKET ON THE SPIGOT FOR PLACEMENT OF A RUBBER 'O'-RING OR PROFILE GASKET IN ACCORDANCE WITH ASTM C-443. THE GASKET SHALL BE A CONTINUOUS RING WHICH FITS SNUGLY INTO THE ANNULAR SPACE BETWEEN THE OVERLAPPING SURFACES OF THE ASSEMBLED PIPE JOINT.
- INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM RECOMMENDED PRACTICE D-1147/9.

**POLYVINYL CHLORIDE (PVC) PIPE (FLEXIBLE PIPE TRENCH)**

- PVC PIPE MAY BE USED FOR STORMWATER CONVEYANCE SYSTEMS IN RESIDENTIAL AND COMMERCIAL DEVELOPMENTS OUTSIDE THE PUBLIC RIGHT-OF-WAY.
- PIPE DIAMETERS OF 12-INCHES THROUGH 15-INCHES SHALL MEET OR EXCEED ALL THE REQUIREMENTS OF ASTM D-3034, AND SHALL HAVE A MINIMUM CELL CLASSIFICATION OF 12454-C. REFERENCE SHOULD BE MADE TO ASTM D-1784 FOR A SUMMARIZATION OF CELL CLASS PROPERTIES. PIPE DIAMETERS GREATER THAN 15-INCHES SHALL MEET OR EXCEED ALL REQUIREMENTS OF ASTM F-679, AND SHALL HAVE A MINIMUM CELL CLASSIFICATION OF 12454-C.
- THE MINIMUM WALL THICKNESS FOR PIPES OF 12-INCHES THROUGH 15-INCHES DIAMETER SHALL CONFORM TO SDR 35, TYPE PSM, AS SPECIFIED IN ASTM D-3034. THE MINIMUM WALL THICKNESS FOR PIPE DIAMETERS GREATER THAN 15-INCHES SHALL CONFORM TO 1-1 AS SPECIFIED IN ASTM F-679.
- PVC PIPE SHALL HAVE A MINIMUM PIPE STIFFNESS OF 46 POUNDS PER SQUARE INCH FOR EACH DIAMETER WHEN MEASURED AT 5 PERCENT DEFLECTION AND TESTED IN ACCORDANCE WITH ASTM D-2412.
- FOR INSTALLATIONS WHERE COVER IS LESS THAN 3 FEET OR GREATER THAN 10 FEET, SDR 26 OR SDR 21 PIPE SHALL BE USED. SDR 26 OR 21 PIPE MAY BE APPROPRIATE FOR LOW CLEARANCE UTILITY CONFLICTS.
- PIPE JOINTS SHALL HAVE A BELL WALL, GASKET GROOVE, AND SPIGOT WHICH IS INTEGRAL WITH THE PIPE. THE ASSEMBLY OF JOINTS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND ASTM D-3212. NO SOLVENT CEMENT JOINTS SHALL BE ALLOWED. GASKET MATERIAL SHALL BE CONSTRUCTED OF STYRENE BUTADIENE OR BUTYL RUBBER AND MEET THE REQUIREMENTS OF ASTM F-477.
- EACH PIPE SECTION SHALL BE MARKED WITH NAME OF MANUFACTURER, TRADEMARK OR TRADE SCHOOL NAME, NOMINAL PIPE SIZE, PRODUCTION/EXTRUSION CODE, MATERIAL AND CELL CLASS DESIGNATION AND ASTM NUMBER.
- INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D-2321.
- INSTALLED PIPE SHALL NOT EXCEED A DEFLECTION OF 5%.

**HIGH DENSITY POLYETHYLENE (HDPE) CORRUGATED PIPE (FLEXIBLE PIPE TRENCH)**

- HDPE PIPE MAY BE USED FOR STORMWATER CONVEYANCE SYSTEMS IN RESIDENTIAL AND COMMERCIAL DEVELOPMENTS OUTSIDE THE PUBLIC RIGHT-OF-WAY, EXCEPT AS NOTED.
- HDPE CLASS I PIPE 12-INCHES THROUGH 36-INCHES IN DIAMETER MAY BE USED WITHIN THE PUBLIC RIGHT-OF-WAY OF LOCAL STREETS, SUBJECT TO THE BEDDING REQUIREMENTS FOR FLEXIBLE PIPE. HDPE PIPE GREATER THAN 36-INCHES IN DIAMETER SHALL NOT BE ALLOWED FOR USE WITHIN THE PUBLIC RIGHT-OF-WAY IN THE TOWN OF AVON.
- REQUIREMENTS FOR TEST METHODS, DIMENSIONS, AND MARKINGS ARE THOSE FOUND IN AASHTO SPECIFICATIONS M-252 AND M-294.
- PIPE AND FITTINGS SHALL BE MADE OF POLYETHYLENE COMPOUNDS WHICH MEET OR EXCEED THE REQUIREMENTS OF TYPE III, GRADE PE50 OR PE33, PER ASTM D-3350 WITH THE APPLICABLE REQUIREMENTS DEFINED IN ASTM D-3350.
- MINIMUM PIPE STIFFNESS VALUES SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATIONS M-294.
- THE HDPE CORRUGATED PIPE SHALL HAVE AN INTERNALLY FORMED SMOOTH INTERIOR.
- MALE AND FEMALE PIPE ENDS WHICH ALLOW THE CONSTRUCTION OF OVERLAPPING GASKET JOINTS SHALL BE MADE IN CONFORMANCE WITH ASTM D-3212. NEOPRENE GASKETS SHALL ASTM F-477.
- INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM RECOMMENDED PRACTICE D-2321.
- INSTALLED PIPE SHALL NOT EXCEED A DEFLECTION OF 5%.
- HDPE CLASS III PIPE GREATER THAN 60-INCHES IN DIAMETER SHALL NOW BE ALLOWED FOR USE IN THE TOWN OF AVON.

**ALUMINIZED TYPE 2 (AL2CMP) CORRUGATED METAL PIPE (FLEXIBLE PIPE TRENCH)**

- ALUMINIZED TYPE 2 CORRUGATED METAL PIPE MAY BE USED FOR CULVERTS THROUGH EMBANKMENTS, DRIVEWAY CULVERTS IN RESIDENTIAL AND COMMERCIAL DEVELOPMENTS, AND ROADSIDE DITCH.
- ALUMINIZED TYPE 2 CORRUGATED METAL PIPE INTENDED FOR THE USE IN THE CONSTRUCTION OF STORM SEWERS SHALL MEET THE APPLICABLE REQUIREMENTS OF AASHTO M-36. SHEET MATERIAL SHALL MEET THE LATEST REVISION OF ASTM A525 AND AASHTO M-274. THE COILS FROM WHICH THE PIPE IS PRODUCED SHALL BE COATED WITH 1.0 OUNCE PER SQUARE FOOT OF COMMERCIAL PURE ALUMINUM.
- PIPE SHALL BE FURNISHED CIRCULAR OR A PIPE-ARCH SHAPE AS REQUIRED AND SHALL BE FABRICATED WITH HELICAL CORRUGATION AND A CONTINUOUS WELDED SEAM EXTENDING FROM END TO END OF EACH LENGTH OF PIPE.
- EACH END OF EACH PIPE WITH A WELDED SEAM SHALL HAVE TWO ANNUAL CORRUGATIONS REFORMED TO PERMIT JOINING WITH HUGGER BANDS.
- COUPLING BANDS SHALL BE HUGGER BANDS.
- INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM RECOMMENDED PRACTICE.

**POLYPROPYLENE PIPE (PP) (FLEXIBLE PIPE TRENCH)**

- FOR PIPE SIZES 12-INCH TO 60-INCH:
- PP PIPE MAY BE USED IN ALL STORMWATER CONVEYANCE APPLICATIONS.
  - PP PIPE 12"-60" DIAMETER MAY BE USED WITHIN THE PUBLIC RIGHT-OF-WAY SUBJECT TO BEDDING REQUIREMENTS FOR FLEXIBLE PIPE.
  - ADS N-12 HP POLYPROPYLENE PIPE IS ACCEPTABLE FOR STORMWATER CONVEYANCE APPLICATIONS IN 12"-60" DIAMETER. THE PIPE SHALL BE DOUBLE WALL CORRUGATED POLYPROPYLENE PIPE WITH A CO-EXTRUDED SMOOTH INTERIOR LINER. SINGLE WALL PIPE SHALL NOT BE USED.
  - ADS SANITITE HP POLYPROPYLENE TRIPLE WALL IS AN ACCEPTABLE STORM SEWER PIPE FOR USE IN THE INSTALLATION OF GRAVITY SEWERS FOR PIPE SIZES OF 30-INCH THROUGH 60-INCH DIAMETER. THE PIPE SHALL BE TRIPLE WALL CORRUGATED POLYPROPYLENE PIPE WITH AN INTERIOR WALL, EXTERIOR WALL, AND AN ANNULAR CORRUGATED PROFILE MIDDLE WALL. SINGLE-WALL PIPE SHALL NOT BE USED.
  - PIPE MATERIAL AND PERFORMANCE REQUIREMENTS SHALL CONFORM TO ASTM F2881, F2764, AND AASHTO M330.
  - PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321.
  - MINIMUM COVER SHALL BE 1 FOOT ABOVE THE TOP OF PIPE TO THE BOTTOM OF ASPHALT BINDER, EXCEPT FOR PIPES 60 INCHES AND LARGER WHICH SHALL BE 2 FEET.
  - MAXIMUM COVER (INSTALLATION DEPTH) SHALL BE PER MANUFACTURER'S RECOMMENDATIONS BASED ON BACKFILL MATERIAL CLASSIFICATION AND COMPACTION (RECOMMENDED MAXIMUM COVER DEPTH VARIES FROM 16 TO 40 FEET).
  - ONLY MANUFACTURED FITTINGS SHALL BE USED DURING ORIGINAL CONSTRUCTION.
  - PP PIPE JOINTS SHALL BE GASKETED INTEGRAL BELL AND SPIGOT MEETING THE REQUIREMENTS OF ASTM F2881, F2764, AND AASHTO M330.
  - LEAKAGE TESTING, WHEN REQUESTED, SHALL BE PERFORMED IN ACCORDANCE WITH ASTM F1417 OR ASTM F2487.
  - INSTALLED PIPE SHALL MEET DEFLECTION REQUIREMENTS SET FORTH IN INDOT 715.09.
  - PP PIPE GREATER THAN 60-INCHES IN DIAMETER SHALL NOT BE ALLOWED FOR USE IN THE TOWN OF AVON.

**DUCTILE IRON PIPE (DIP) (FLEXIBLE PIPE TRENCH)**

- DUCTILE IRON PIPE MAY BE USED IN GRAVITY STORM SEWER APPLICATIONS WHERE NECESSARY TO RESOLVE UTILITY CONFLICTS OR WHERE LACK OF COVER MAKES OTHER MATERIALS UNSUITABLE.
- DUCTILE IRON PIPE SHALL NOT BE USED WITHOUT THE WRITTEN AUTHORIZATION OF THE TOWN PUBLIC WORKS DIRECTOR.
- DUCTILE IRON PIPE SHALL CONFORM TO THE CURRENT REQUIREMENTS OF AWWA C151, PRESSURE CLASS 350, WITH PUSH ON JOINTS UNLESS OTHERWISE NOTED ON DRAWINGS.
- THE INTERIOR OF THE PIPE SHALL BE CEMENT MORTAR LINED WITH BITUMINOUS SEAL COAT IN ACCORDANCE WITH THE CURRENT REQUIREMENTS OF AWWA C104. THE EXTERIOR OF ALL PIPE, UNLESS OTHERWISE SPECIFIED, SHALL RECEIVE EITHER COAL TAR OR ASPHALT BASE COATING A MINIMUM OF 1 MIL THICK.
- EACH PIECE OF PIPE SHALL BEAR THE MANUFACTURER'S NAME OR TRADEMARK, THE YEAR IN WHICH IT WAS PRODUCED AND THE LETTERS "DI" OR THE WORD

"DUCTILE". PIPE MANUFACTURER SHALL FURNISH NOTATED CERTIFICATE OF COMPLIANCE TO THE ABOVE AWWA OR ANSI SPECIFICATIONS.

- THE CLEANING AND ASSEMBLY OF PIPE AND FITTING JOINTS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D-2321.
- POLYETHYLENE ENCASEMENT SHALL BE USED ON ALL DUCTILE IRON PIPE IN ACCORDANCE WITH ANSII/AWWA C105/A21.5. POLYETHYLENE ENCASEMENT FOR DUCTILE IRON PIPE SYSTEMS.
- POLYETHYLENE ENCASEMENT FOR USE WITH DUCTILE IRON PIPE SYSTEMS SHALL CONSIST OF THREE LAYERS OF CO-EXTRUDED LINEAR LOW DENSITY POLYETHYLENE (LLDPE), FUSED INTO A SINGLE THICKNESS OF NOT LESS THAN 8 MILS.
- THE INSIDE SURFACE OF THE POLYETHYLENE WRAP TO BE IN CONTACT WITH THE PIPE EXTERIOR SHALL BE INFUSED WITH A BLEND OF ANTI-MICROBIAL BIOCIDES TO MITIGATE MICROBIOLOGICALLY INFLUENCED CORROSION AND A VOLATILE CORROSION INHIBITOR TO CONTROL GALVANIC CORROSION.

**PIPE EMBEDMENT & BACKFILL MATERIALS (PER ASTM D2321)**

- CLASSES OF EMBEDMENT AND BACKFILL MATERIALS ARE DEFINED IN ASTM D2321. EMBEDMENT MATERIALS ARE THOSE USED FOR BEDDING, HAUNCHING AND INITIAL BACKFILL.
- CLASS 1A AND CLASS 2 MATERIALS ARE ACCEPTABLE FOR PIPE EMBEDMENT. CLASS 1A MATERIALS INCLUDE INDOT #8, #9, #11, AND #12 CRUSHED STONE. CLASS 2 MATERIALS INCLUDE COARSE SANDS AND GRAVEL & SAND MIXTURES (1" MAXIMUM SIZE).
- CLASS 1, 2, 3, AND 4A MATERIALS ARE ACCEPTABLE FOR FINAL BACKFILL. COMPACTED 95% STANDARD PROCTOR DENSITY EXCEPT THAT CLASS 4A MATERIAL MUST BE COMPACTED TO 95% STANDARD PROCTOR DENSITY AND CLASS 4A MATERIAL IS NOT ALLOWED FOR BACKFILL UNDER PAVEMENT OR TRAFFIC AREAS OR IN TRENCHES WHERE WATER CONTENT MAY CAUSE INSTABILITY OF UNCONTROLLED WATER CONTENT.
- NO ROCKS LARGER THAN 3" SHALL BE INCORPORATED INTO THE FINAL BACKFILL MATERIALS.
- CLASS 1A MANUFACTURED AGGREGATES, OPEN GRADED CLEAN, ANGULAR, CRUSHED STONE OR ROCK, THESE MATERIALS COMPACT WITH LITTLE OR NO MECHANICAL EFFORT.
- CLASS 1B MANUFACTURED, PROCESSED AGGREGATE: DENSE GRADED CLEAN, ANGULAR CRUSHED STONE, COMPACT TO 85% STANDARD PROCTOR DENSITY WITH HAND TAMPERS OR VIBRATORY COMPACTION.
- CLASS 2: CLEAN, COARSE-GRAINED MATERIALS, SUCH AS GRAVEL, COARSE SANDS, AND GRAVEL/SAND MIXTURES (1-INCH MAXIMUM SIZE). THE MATERIALS ARE CLASSIFIED BY THE UNIFIED SOIL CLASSIFICATION SYSTEM AS GW, GP, SW, SP, AND GW-GC OR SP-SM. HAND TAMPING OR MECHANICAL VIBRATION IS REQUIRED TO PROVIDE THE NECESSARY 95% STANDARD PROCTOR DENSITY.
- CLASS 3: COARSE-GRAINED MATERIALS WITH FINES INCLUDING SILTY OR CLAYEY GRAVELS OR SANDS. GRAVEL OR SAND MUST COMPRISE MORE THAN 50% OF CLASS 3 MATERIALS (1-INCH MAXIMUM SIZE). SOILS CLASSIFIED AS GM, GC, SM OR SC MEETS THESE REQUIREMENTS. HAND TAMPING OR MECHANICAL VIBRATION IS REQUIRED TO PROVIDE THE NECESSARY 90% STANDARD PROCTOR DENSITY.
- CLASS 4: FINE-GRAINED MATERIALS, SUCH AS FINE SANDS AND SOILS, CONTAINING 50% OR MORE CLAY OR SILT. SOILS CLASSIFIED AS CLASS 4A (ML OR CL) HAVE MEDIUM TO LOW PLASTICITY. SOILS CLASSIFIED AS CLASS 4B (MH OR CH) HAVE HIGH PLASTICITY AND ARE NOT ALLOWED AS EMBEDMENT OR BACKFILL MATERIALS.

**STORM STRUCTURES AND APPURTENANCES**

- SWALES SHALL BE CONSTRUCTED WITH A MINIMUM OF 1.0 PERCENT PROFILE GRADE. A 6-INCH DIAMETER PERFORATED UNDERDRAIN IS REQUIRED FOR ALL SWALES. SEE SWALE UNDERDRAIN DETAIL, SHEET 2.
- END SECTIONS SUITABLE FOR THE PIPE MATERIAL SHALL BE USED FOR DEPTH OF PIPE NOT CONNECTED TO AN INLET OR MANHOLE. SAFETY/TRASH GUARDS SHALL BE INSTALLED ON ALL END SECTIONS GREATER THAN 18-INCHES AND ALL END SECTIONS IN PONDS.
- INDOT TYPE "J, K, L, M, & N" MANHOLES AS DETAILED ON SHEET 7 REQUIRE A CERTAIN MINIMUM DEPTH, IN CASES WHERE THE DEPTH OF THE STORM SEWER IS NOT SUFFICIENT TO MEET THE MINIMUM DEPTH AS REQUIRED BY THE DETAIL, "F" DIAMETER MANHOLE SECTION MAY BE USED THROUGHOUT THE DEPTH OF THE MANHOLE.
- MANHOLES SHALL CONFORM TO ASTM C-478. JOINTS SHALL CONFORM TO ASTM C-443. THE USE OF CAST-IN-PLACE CONCRETE STRUCTURES SHALL REQUIRE THE PRIOR WRITTEN APPROVAL OF THE TOWN PUBLIC WORKS DIRECTOR.

DIRECTOR, REGARDLESS OF THE TYPE OF CASTING USED, THE CASTING SHALL BE POSITIONED OVER THE MANHOLE STEPS FOR ACCESSIBILITY AND SET IN A MORTAR BED.

- MANHOLE STEPS SHALL BE MADE FROM A STEEL REINFORCING ROD ENCASED IN A COPOLYMER POLYPROPYLENE RESIN. THE MANHOLE STEPS SHALL EQUAL OR EXCEED OSHA REQUIREMENTS, PS-1-IPF MANHOLE STEPS MANUFACTURED BY M.A. INDUSTRIES, INC. OR EQUAL ARE ACCEPTABLE.
- SEE COMPATIBILITY OF DRAINAGE STRUCTURES AND CASTINGS FOR APPROPRIATE STRUCTURES AND CASTING SELECTIONS.
- NO STRUCTURAL MODIFICATION TO A NEW OR EXISTING STRUCTURE WILL BE PERMITTED WITHOUT PRIOR TOWN WRITTEN APPROVAL OF SHOP DRAWINGS PREPARED AND CERTIFIED BY AN INDIANA LICENSED PROFESSIONAL ENGINEER.

**INSTALLATION**

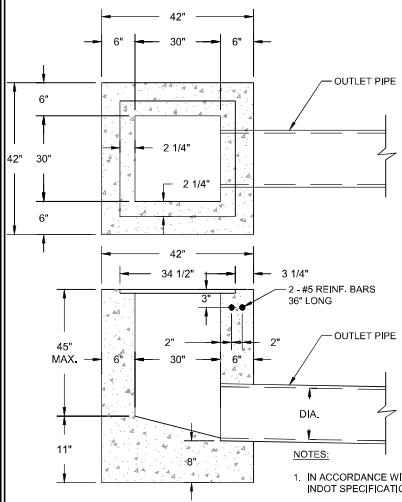
**CULVERT PIPE, STORM SEWER PIPE, AND ACCESSORIES**

- MAINTAIN 24 INCHES OF VERTICAL SEPARATION AND 10 FEET OF HORIZONTAL SEPARATION BETWEEN NEW STORM SEWER AND NEW OR EXISTING WATER MAINS UNLESS OTHERWISE DIRECTED. NOTIFY TOWN PUBLIC WORKS DIRECTOR IMMEDIATELY OF ALL INSTANCES WHERE SEPARATION CANNOT BE MAINTAINED.
- LAY CULVERT PIPE AND STORM SEWER PIPE UNIFORMLY TO LINE AND GRADE SO THAT FINISHED CULVERT OR STORM SEWER WILL PRESENT A UNIFORM CONDUIT.
- MINIMUM ALLOWABLE COVER SHALL BE 12 INCHES OVER THE TOP OF CULVERT AND STORM SEWER PIPES UNDER OR WITHIN 5 FEET OF PAVEMENT LIMITS. MINIMUM ALLOWABLE COVER SHALL BE 24 INCHES OVER THE TOP OF CULVERT AND STORM SEWER PIPES IN ALL OTHER LOCATIONS. COVER SHALL BE MEASURED TO THE BOTTOM OF PAVEMENT WHERE STRUCTURES RUN UNDER PAVEMENT. SHALLOWER DEPTH OF COVER MAY BE CONSIDERED BY THE TOWN PUBLIC WORKS DIRECTOR UNDER CONDITIONS WHERE ENGINEERING DESIGN WILL ALLEVIATE CONCERN FOR SURFACE LOADINGS AND FROST HEAVE.
- SET LINE AND GRADE BY MEANS OF LASER BEAM AND TARGET FOR ALIGNMENT AND GRADE.
- PLACE AND ROUGH GRADE BEDDING PRIOR TO PIPE INSTALLATIONS. LAY CULVERT PIPE AND STORM SEWER PIPE PROGRESSIVELY UPGRADE IN A MANNER TO FORM CLOSE, CONCENTRIC JOINTS WITH SMOOTH BOTTOM INVERTS.
- AFTER JOINT IS MADE, PLACE AND SHOVEL SLICE SUFFICIENT HAUNCHING MATERIAL TO THE SPRING LINE ALONG EACH SIDE OF THE PIPE TO PREVENT CONDITIONS THAT MIGHT TEND TO MOVE THE PIPE OFF LINE OR GRADE.
- REPAIR ANY LIFT HOLES IN A CLEAN, WORKMANLIKE MANNER USING A CONICAL SHAPED PRECAST CONCRETE PLUG, PROPERLY SEAL INTO PLACE USING NON-SHRINK CEMENT GROUT. MASTIC SEALER SHALL NOT BE USED.
- TEMPORARILY PLUG INSTALLED PIPING SYSTEMS AT END OF EACH DAY'S WORK OR OTHER INTERRUPTION OF PROGRESS ON A GIVEN LINE. PLUG SHALL BE ADEQUATE TO PREVENT ENTRY OF ANIMALS AND ENTRANCE OR INSERTION OF DELETERIOUS MATERIALS AND SHALL BE INSTALLED IN A MANNER SATISFACTORY TO THE TOWN PUBLIC WORKS DIRECTOR.
- SECURELY ATTACH FABRICATED BRANCHES FOR WYES AND TEES TO WALL OF PIPE IN SUCH A MANNER AS TO NOT RESTRICT OR OTHERWISE INTERFERE WITH FLOW CHARACTERISTICS OF THE PIPE.
- INSTALL BOOT AND SADDLE CONNECTORS FOR ALL TAPS TO CONCRETE AND RCP PIPE.
- COMPLETE ALL FIELD-CUTTING OF PVC PIPE IN A NEAT, TRIM MANNER USING A HAND OR POWER SAW. FIELD CUTTING OF CLOSED PROFILE PIPE REQUIRES ANY EXPOSED CHANNELS BE SEALED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.
- PLACE THE END OF THE CONNECTING PIPE IN THE CONCRETE END SECTION SO THAT FLOW LINES ARE FLUSH. FILL THE JOINT COMPLETELY WITH MORTAR.
- TRANSITION FROM THE SPECIFIED FILL SLOPE TO THE SLOPE OF THE END SECTION TO CREATE A SMOOTH TRANSITION APPROXIMATELY 10 FEET IN LENGTH.
- INSTALL TRASH GUARDS ON ALL PIPE END SECTIONS 18-INCHES AND LARGER IN DIAMETER.
- IF ANY EXISTING DRAINAGE TILE SYSTEMS ARE ENCOUNTERED DURING CONSTRUCTION, RECONSTRUCT THE TILE TO ITS ORIGINAL CONDITIONS OR CONNECT TILE TO THE NEW STORM SEWER SYSTEM AS APPROVED BY THE TOWN PUBLIC WORKS DIRECTOR.



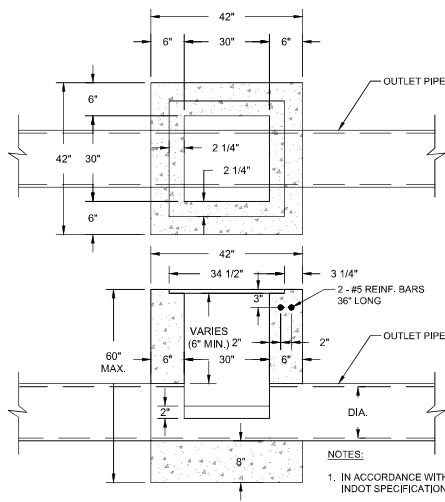
TOWN OF AVON CONSTRUCTION STANDARDS  
STORMWATER NOTES

NO.	DESCRIPTION	DATE	BY
1	2026 UPDATE	JRE	01/15/26
2	PER STPM (Cp 4 Sec C)	JRE	01/21/26
3	PER STPM (Cp 4 Sec C)	JRE	01/21/26



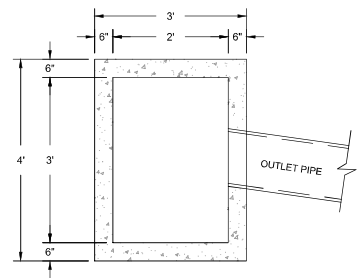
**PRECAST INLET TYPE "E"**  
NOT TO SCALE

- NOTES:
1. IN ACCORDANCE WITH INDOT SPECIFICATIONS
  2. MINIMUM CONCRETE COMPRESSIVE STRENGTH 4000 PSI.
  3. PRECAST ADJUSTING SECTIONS ONLY.



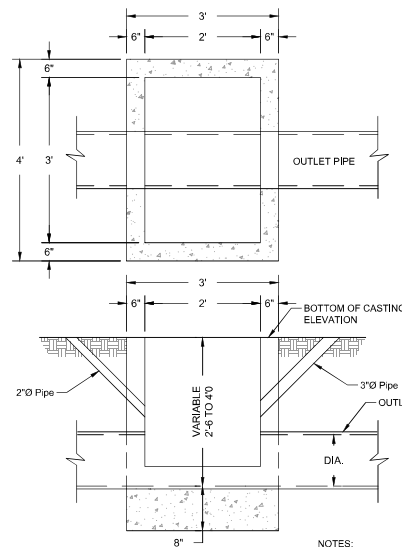
**PRECAST INLET TYPE "F"**  
NOT TO SCALE

- NOTES:
1. IN ACCORDANCE WITH INDOT SPECIFICATIONS
  2. MINIMUM CONCRETE COMPRESSIVE STRENGTH 4000 PSI.
  3. PRECAST ADJUSTING SECTIONS ONLY.



**PRECAST INLET TYPE "J"**  
NOT TO SCALE

- NOTES:
1. IN ACCORDANCE WITH INDOT SPECIFICATIONS
  2. MINIMUM CONCRETE COMPRESSIVE STRENGTH 4000 PSI.
  3. PRECAST ADJUSTING SECTIONS ONLY.



**PRECAST INLET TYPE "M"**  
NOT TO SCALE

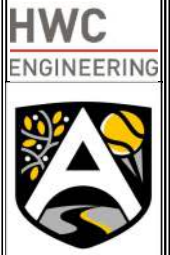
- NOTES:
1. IN ACCORDANCE WITH INDOT SPECIFICATIONS
  2. MINIMUM CONCRETE COMPRESSIVE STRENGTH 4000 PSI.
  3. PRECAST ADJUSTING SECTIONS ONLY.

COMPATIBILITY OF DRAINAGE STRUCTURES AND CASTINGS						
INLET TYPE	DESCRIPTION	CASTING FRAME OUTS/DE FLANGE DIMENSIONS (INCHES) [1]	EJ	NEENAH	CORRESPONDING INDOT STRUCTURE(S)	COMMENTS
ROLL CURB INLET	SUBDIVISION USE (On Tangent Grade)	38 X 29-3/4	7495 M1 (M2)	R-3501-TR (TL)	INLET TYPE A INLET TYPE J INLET TYPE M	EJ - TYPE M1 FOR RIGHT, TYPE M2 FOR LEFT NEENAH -TR FOR RIGHT, TL FOR LEFT
	SUBDIVISION USE (At Sag Location)	43 X 31-3/4	7495 M4	R-3501-TB	INLET TYPE A INLET TYPE J INLET TYPE M	
COMBINED CURB AND GUTTER INLET	INDOT CASTING TYPE 8 FRAME, VANE GRATE AND CURB BOX	33-5/8 X 33-3/8	7520 TYPE M2 GRATE AND T2 BACK	R-3286-BV	INLET TYPE A-N MANHOLE TYPE A-N CATCH BASIN TYPE A,W	
	INDOT CASTING TYPE 10 FRAME, VANE GRATE AND CURB BOX	43-1/2 X 31-1/2	7505 TYPE M3 VANE GRATE AND T4 BACK	R-3287-10V	INLET TYPE J,M CATCH BASIN TYPE J,K	
	INDOT CASTING TYPE 15 FRAME, GRATE AND CURB BOX	55-1/2 X 35-1/2	7565 WITH TYPE 5425 M2 GRATE AND T3 BACK WITH "DUMP NO WASTE!"	R-3287-15	INLET TYPE B,C	
STORM MANHOLE (ROUND)	INDOT MANHOLE CASTING TYPE 4 RING AND COVER (SOLID)	33-1/4 (EJ) 33-15/32 (NEENAH)	1925	R-1714	ANY MANHOLE	"STORM SEWER" TEXT ON LID PREFERRED
	(SOLID)	36 DIA.	1045 TYPE A COVER	R-2501 WITH R-1642 SOLID LID, NON-ROCKINGS	ANY MANHOLE	
YARD INLET	(OPEN)	36 DIA.	1045 TYPE M1 GRATE	R-2501 TYPE C GRATE	INLET TYPE A ANY MANHOLE	
	BEEHIVE - 6-IN	36 DIA.	1045 TYPE 02 GRATE	R-2560-E1	INLET TYPE A ANY MANHOLE	
	BEEHIVE - 9-IN	36 DIA.	1045 FRAME W/ TYPE 03 GRATE	R-2560-E2	INLET TYPE A ANY MANHOLE	
DITCH INLET	PIPE CATCH BASIN	12 - 24 DIA	6532-O, 6533-O 6534-O & 6536-O	4350 B,C,D & E	CATCH BASIN PIPE	OR EQUAL
	INDOT TYPE 7 SQUARE GRATE	34 X 34	6610	R-4215-C	INLET TYPE E,F,G CATCH BASIN TYPE E	GRATE SITS DIRECTLY ON STRUCTURE, NO FRAME
OPEN PAVEMENT NO CURBS	STOOL TYPE ROUND GRATE	33 DIA.	6489	R-4342	INLET TYPE A ANY MANHOLE CATCH BASIN TYPE A	GRATE SITS DIRECTLY ON STRUCTURE, NO FRAME
	INDOT FLAT TOP GRATE CASTING TYPE 2, SQUARE INLET (OPEN)	34 X 34 (EJ) 30 X 30 (NEENAH)	5250	R-3402-E	INLET TYPE A ANY MANHOLE CATCH BASIN TYPE A	
		36 DIA.	1045 TYPE M1 GRATE	R-2501 TYPE C GRATE	INLET TYPE A ANY MANHOLE	STORM MANHOLE - OPEN

[1] FLANGE DIMENSIONS VARY SLIGHTLY BY MANUFACTURER

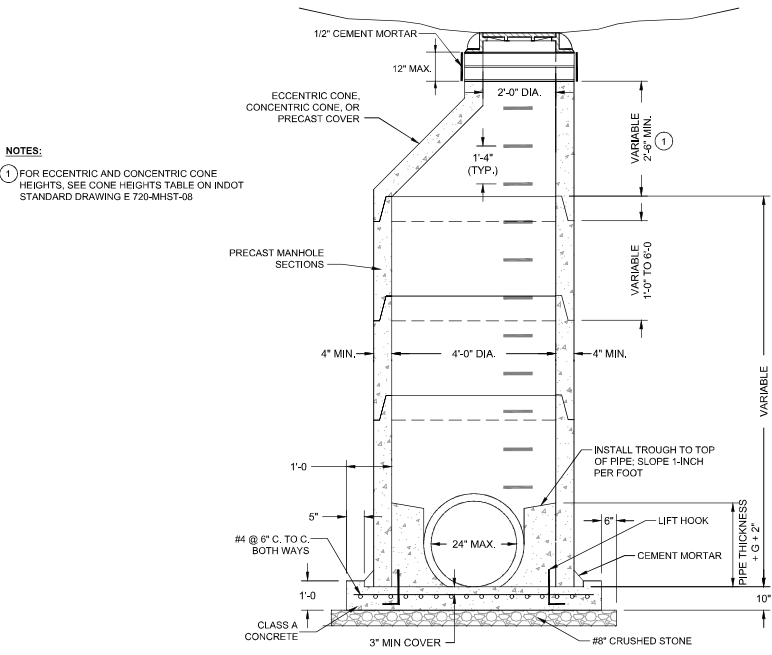
INLET CAPACITY OF SELECTED STORM CASTINGS											
INLET TYPE	DESCRIPTION	EAST JORDAN			NEENAH						
		EAST JORDAN	NEENAH	GRATE OPEN AREA (SQ FT) [1]	INLET TYPE	DESCRIPTION	EAST JORDAN	NEENAH	GRATE OPEN AREA (SQ FT) [1]		
COMBINED CURB AND GUTTER INLET	ROLL CURB INLET	7495 M1 (M2)		1.7	YARD INLET	BEEHIVE - 6-IN	1045 TYPE 02		1.3		
			R-3501-TR (TL)	1.4				R-2560-E1		1.4	
	INDOT TYPE 8 CASTING	7520 M2		1.0				1045 TYPE 03		1.1	
				R-3286-BV		0.7				R-2560-E2	2.0
	INDOT TYPE 10 CASTING	7505 M3		2.78			12-IN PCB	6532-O	4350 B	0.4	
				R-3287-10V		2.1		15-IN PCB	6533-O	4350 C	0.6
STREET OR YARD INLET	INDOT TYPE 15 CASTING	7565 - 5425 M2 GRATE		3.05		18-IN PCB	6534-O	4350 D	1.0		
				3.2		24-IN PCB	6535-O	4350 E	1.7		
				0.8	OPEN PAVEMENT - NO CURBS	INLET	5250		1.5		
	SQUARE GRATE	6610		1.2				R-3402-E, GRATE A OR C	2.1		
			3.0			MANHOLE	1045 TYPE M1		1.3		
ROUND GRATE	6489		1.5					R-2501 GRATE C	1.2		
			2.0								

[1] GRATE OPEN AREAS TAKEN FROM EJ CATALOG 18 AND NEENAH CATALOG 14TH EDITION. NO ALLOWANCE FOR VERTICAL OPENING IN CURB INLETS.

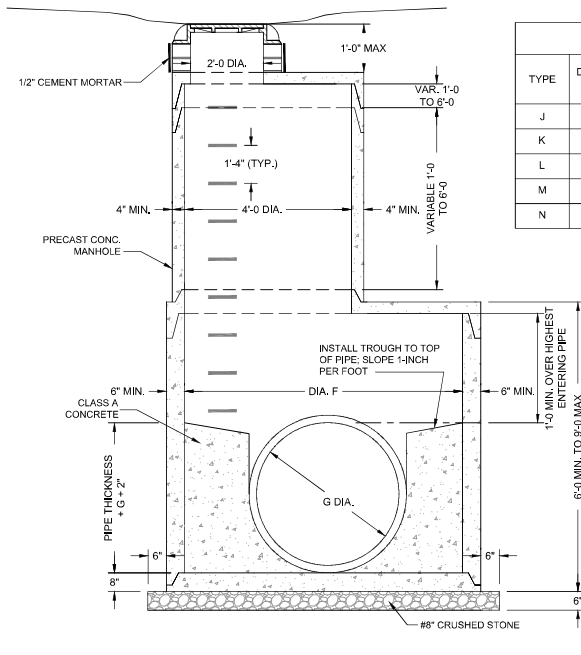


TOWN OF AVON CONSTRUCTION STANDARDS  
STORM INLET AND CASTING DETAILS

NO.	DESCRIPTION	DATE	BY	CHECKED
1	2026 UPDATE	JRE	01/15/26	
2	ADDED TYPE A	JRE	01/15/26	



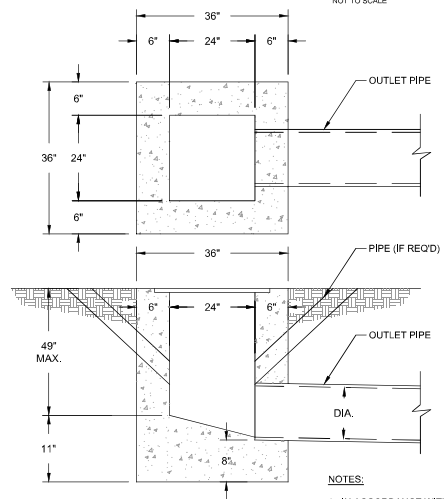
**PRECAST STORM MANHOLE TYPE "C" MODIFIED**



**PRECAST STORM MANHOLE TYPES "J", "K", "L", "M", AND "N" MODIFIED**

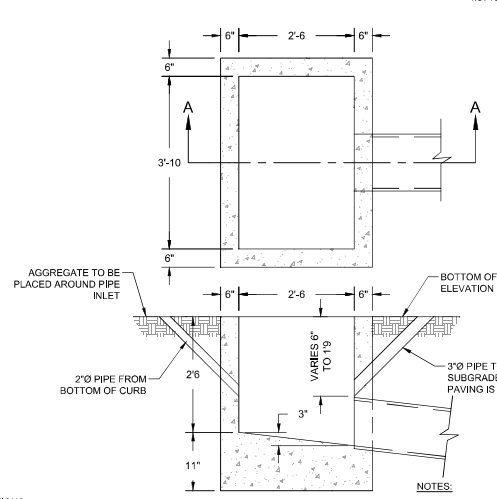
MANHOLE PIPE SIZES				
TYPE	DIAMETER "G" (IN.)	DIAMETER "F" (FT. IN.)	MAX. PIPE SIZE, RT. ANGLE TO MAINLINE (IN.)	MAX. PIPE SIZE FOR MAINLINE (IN.)
J	24 TO 36	5'-0"	30	36
K	36 TO 48	6'-0"	36	48
L	48 TO 54	8'-0"	48	54
M	54 TO 72	8'-0"	66	72
N	72 TO 84	9'-0"	72	84

- NOTES:**
- DROP PIPE MAY BE USED WITH MANHOLES TYPE "H", "J", "K", "L", "M", OR "N". SUCH MANHOLES SHALL BE REFERRED TO AS DROP MANHOLES TYPE "H", "J", "K", "L", "M", OR "N". FOR DETAILS OF CONSTRUCTION, SEE INDOT STANDARD DRAWING E 720-MHST-03.
  - SEE INDOT STANDARD DRAWING E 720-MHST-06 FOR DETAILS A, B AND C.
  - MANHOLES TYPE "C", "D", "E" OR "F" MAY BE SUBSTITUTED FOR MANHOLES TYPE "H", "J", "K", "L", "M", OR "N" FOR COMPARABLE PIPE SIZES. SEE INDOT STANDARD DRAWINGS E 720-MHST-02 AND -04 FOR MANHOLES TYPE "D", "E", "F", OR "G" DETAILS.
  - ALL STRUCTURES MUST BE PRECAST BY AN INDOT APPROVED MANUFACTURER.



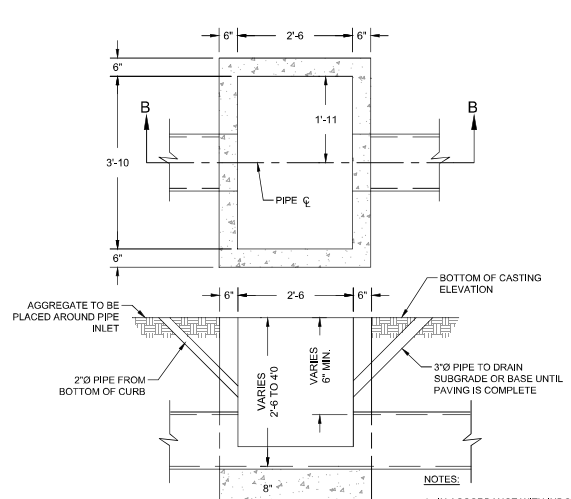
**PRECAST INLET TYPE "A" (MODIFIED)**

- NOTES:**
- IN ACCORDANCE WITH INDOT SPECIFICATIONS
  - MINIMUM CONCRETE COMPRESSIVE STRENGTH 4000 PSI.
  - PRECAST ADJUSTING SECTIONS ONLY.



**PRECAST INLET TYPE "B" (MODIFIED)**

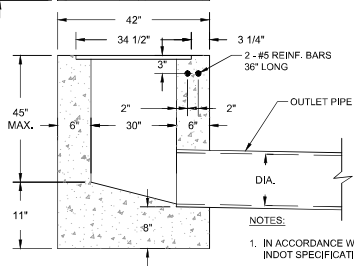
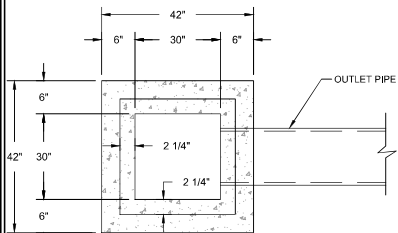
- NOTES:**
- IN ACCORDANCE WITH INDOT SPECIFICATIONS
  - MINIMUM CONCRETE COMPRESSIVE STRENGTH 4000 PSI.
  - PRECAST ADJUSTING SECTIONS ONLY.



**PRECAST INLET TYPE "C" (MODIFIED)**

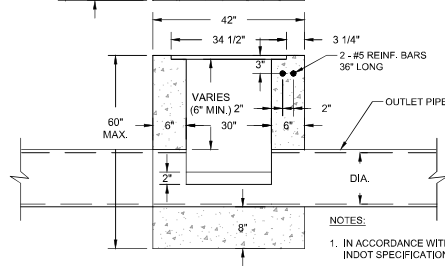
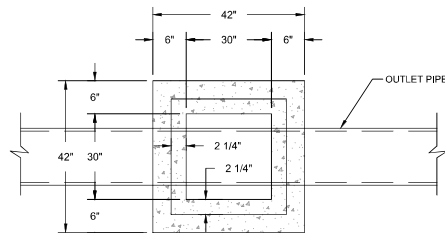
- NOTES:**
- IN ACCORDANCE WITH INDOT SPECIFICATIONS
  - MINIMUM CONCRETE COMPRESSIVE STRENGTH 4000 PSI.
  - PRECAST ADJUSTING SECTIONS ONLY.

NO.	DESCRIPTION	BY	DATE
1	2026 UPDATE	JRE	01/15/26



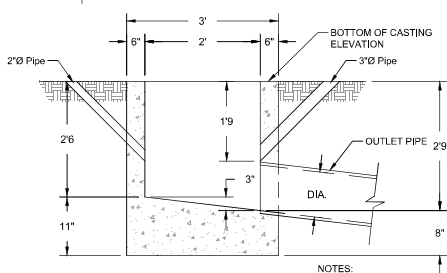
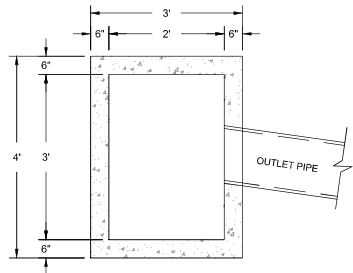
- NOTES:**
1. IN ACCORDANCE WITH INDOT SPECIFICATIONS
  2. MINIMUM CONCRETE COMPRESSIVE STRENGTH 4000 PSI.
  3. PRECAST ADJUSTING SECTIONS ONLY.

**PRECAST INLET TYPE "E"**  
NOT TO SCALE



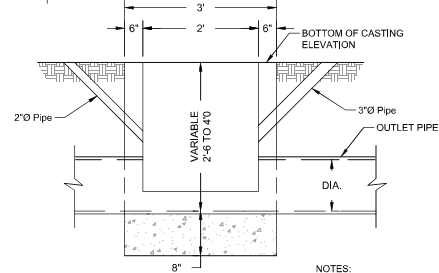
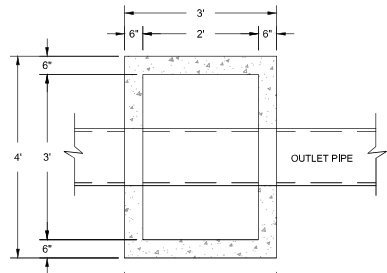
- NOTES:**
1. IN ACCORDANCE WITH INDOT SPECIFICATIONS
  2. MINIMUM CONCRETE COMPRESSIVE STRENGTH 4000 PSI.
  3. PRECAST ADJUSTING SECTIONS ONLY.

**PRECAST INLET TYPE "F"**  
NOT TO SCALE



- NOTES:**
1. IN ACCORDANCE WITH INDOT SPECIFICATIONS
  2. MINIMUM CONCRETE COMPRESSIVE STRENGTH 4000 PSI.
  3. PRECAST ADJUSTING SECTIONS ONLY.

**PRECAST INLET TYPE "J"**  
NOT TO SCALE



- NOTES:**
1. IN ACCORDANCE WITH INDOT SPECIFICATIONS
  2. MINIMUM CONCRETE COMPRESSIVE STRENGTH 4000 PSI.
  3. PRECAST ADJUSTING SECTIONS ONLY.

**PRECAST INLET TYPE "M"**  
NOT TO SCALE

**COMPATIBILITY OF DRAINAGE STRUCTURES AND CASTINGS**

INLET TYPE	DESCRIPTION	CASTING FRAME OUTSIDE FLANGE DIMENSIONS (INCHES) [1]	EJ	NEENAH	CORRESPONDING (INDOT STRUCTURE(S))	COMMENTS
ROLL CURB INLET	SUBDIVISION USE (On Tangent Grade)	38 X 29-3/4	7495 M1 (M2)	R-3501-TR (TL)	INLET TYPE J INLET TYPE M	EJ - TYPE M1 FOR RIGHT, TYPE M2 FOR LEFT NEENAH - TR for RIGHT, TL FOR LEFT
	SUBDIVISION USE (At Sag Location)	43 X 31-3/4	7495 M4	R-3501-TB	INLET TYPE J INLET TYPE M	
COMBINED CURB AND GUTTER INLET	INDOT CASTING TYPE 8 FRAME, VANE GRATE AND CURB BOX	33-5/8 X 33-3/8	7520 TYPE M2 GRATE AND T2 BACK	R-3286-8V	INLET TYPE A MAN-HOLE TYPE A-N CATCH BASIN TYPE A,W	
	INDOT CASING TYPE 10 FRAME, VANE GRATE AND CURB BOX	43-1/2 X 31-1/2	7505 TYPE M3 VANE GRATE AND T4 BACK	R-3287-10V	INLET TYPE J,M CATCH BASIN TYPE J,K	
	INDOT CASTING TYPE 15 FRAME, GRATE AND CURB BOX	55-1/2 X 35-1/2	7565 WITH TYPE 5425 M2 GRATE AND T3 BACK WITH "DUMP NO WASTE"	R-3287-15	INLET TYPE B,C	
STORM MANHOLE (ROUND)	INDOT MANHOLE CASTING TYPE 4 RING AND COVER (SOLID)	33-1/4 (EJ) 33-15/32 (NEENAH)	1925	R-1714	ANY MANHOLE	"STORM SEWER" TEXT ON LID PREFERRED
	(SOLID)	36 DIA.	1045 TYPE A COVER	R-2501 WITH R-1642 SOLID LID, NON-ROCKING	ANY MANHOLE	
YARD INLET	(OPEN)	36 DIA.	1045 TYPE M1 GRATE	R-2501 TYPE C GRATE	INLET TYPE A ANY MANHOLE	
	BEEHIVE - 6-IN	36 DIA.	1045 TYPE 02 GRATE	R-2560-E1	INLET TYPE A ANY MANHOLE	
	BEEHIVE - 9-IN	36 DIA.	1045 FRAME W/ TYPE 03 GRATE	R-2560-E2	INLET TYPE A ANY MANHOLE	
	PIPE CATCH BASIN	12 - 24 DIA	6532-O, 6533-O 6534-O & 6536-O	4350 B,C,D & E	CATCH BASIN PIPE	OR EQUAL
DITCH INLET	INDOT TYPE 7 SQUARE GRATE	34 X 34	6610	R-4215-C	INLET TYPE E,F,G CATCH BASIN TYPE E	GRATE SITS DIRECTLY ON STRUCTURE, NO FRAME
	STOOL TYPE ROUND GRATE	33 DIA.	6489	R-4342	INLET TYPE A,G ANY MANHOLE CATCH BASIN TYPE A	GRATE SITS DIRECTLY ON STRUCTURE, NO FRAME
OPEN PAVEMENT NO CURBS	INDOT FLAT TOP GRATE CASTING TYPE 2, SQUARE INLET (OPEN)	34 X 34 (EJ) 30 X 30 (NEENAH)	5250	R-3402-E	INLET TYPE A ANY MANHOLE CATCH BASIN TYPE A	
		36 DIA.	1045 TYPE M1 GRATE	R-2501 TYPE C GRATE	INLET TYPE A ANY MANHOLE	STORM MANHOLE - OPEN

[1] FLANGE DIMENSIONS VARY SLIGHTLY BY MANUFACTURER

**INLET CAPACITY OF SELECTED STORM CASTINGS**

INLET TYPE	DESCRIPTION	EAST JORDAN			NEENAH			GRATE OPEN AREA (SQ. FT) [1]
		EAST JORDAN	NEENAH	GRATE OPEN AREA (SQ. FT) [1]	EAST JORDAN	NEENAH	GRATE OPEN AREA (SQ. FT) [1]	
COMBINED CURB AND GUTTER INLET	ROLL CURB INLET	7495 M1 (M2)		1.7			1.3	
			R-3501-TR (TL)	1.4			1.4	
	INDOT TYPE 8 CASTING	7520 M2		1.0			1.1	
			R-3286-8V	0.7			2.0	
	INDOT TYPE 10 CASTING	7505 M3		2.78			0.4	
			R-3287-10V	2.1			0.6	
STREET OR YARD INLET	INDOT TYPE 15 CASTING	7565 - 5425 M2 GRATE		3.05			1.0	
			R-3287-15	3.2			1.7	
	OPEN	1022 TYPE M1		0.8			1.5	
			R-2502 GRATE C	1.2			2.1	
DITCH INLET	SQUARE GRATE	6610		3.0			1.3	
			R-4215-C	3.3			1.2	
DITCH INLET	ROUND GRATE	6489		1.5				
			R-4342	2.0				

[1] GRATE OPEN AREAS TAKEN FROM EJ CATALOG 18 AND NEENAH CATALOG 14TH EDITION. NO ALLOWANCE FOR VERTICAL OPENING IN CURB INLETS.



NO.	DESCRIPTION	DATE	BY
1	2026 UPDATE	JRE	01/15/26

**LIGHTING REQUIREMENTS**

- STREET LIGHTING SHALL CONSIST OF FURNISHING AND INSTALLING STREET LIGHTING PER THE FOLLOWING SPECIFICATIONS AND IN ACCORDANCE WITH INDOT SPECIFICATION SECTION 807 AND DUKE ENERGY REQUIREMENTS.
- POLES SHALL BE INSTALLED SUCH THAT THE LUMINAIRE IS ORIENTED PERPENDICULAR TO THE NEAREST CURB LINE, AND POST DOOR IS POSITIONED AWAY FROM THE ROADWAY.
- LIGHT POLES SHALL HAVE ONE LUMINAIRE ARM, SIDE MOUNTED ON THE TOP OF THE POLE. A PHOTOCELL SHALL BE INCLUDED, POLE AND LUMINAIRE EXTERIOR SHALL BE FINISHED WITH BLACK POLYESTER POWDER PAINT COATING.
- LIGHTING SERVICE POINT EQUIPMENT SHALL CONFORM TO INDOT REQUIREMENTS FOR A TYPE II LIGHTING SERVICE POINT, AND HAVE A STANDARD TRAFFIC SIGNAL CABINET HANDLE, LOCK AND KEY, PLUS POWER COMPANY GUIDELINES FOR CUSTOMER-OWNED PERMANENT UNDERGROUND SERVICE ENCLOSURE WITH A SINGLE METER POSITION. THE SERVICE ENCLOSURE SHALL BE BLACK POWDER COATED AND MOUNTED ON A SINGLE ALUMINUM POST. INSTALLATION SHALL BE IN ACCORDANCE WITH INDOT SPECIFICATION SECTION 807 AND POWER COMPANY RECOMMENDATIONS.
- MATERIALS SHALL BE MANUFACTURED BY KIM LIGHTING OR APPROVED EQUAL.
  - ARCHTYPE LED SERIES:
    - 1A/ARA2/81L-700/4K7/3/6/UNV/BSL/7PR
  - MOUNTING: 6 = SIDE ARM MOUNT 6" O.D. POLE
  - FIXTURE:
    - (a) HOUSING SIZE: ARA2
    - (b) DISTRIBUTION: 3 = TYPE III
    - (c) OPTIC: P = PICOPRISM
    - (d) CURRENT: 70 = 700 mA
    - (e) LENS OPTIONS: NONE
    - (f) HOUSE SIDE SHIELD: NONE
  - ELECTRICAL MODULE:
    - (a) SOURCE: 61L = 81 LED'S
    - (b) COLOR TEMPERATURE: 4K = 4000K
    - (c) VOLTAGE: UNV = 120/277
    - (d) FINISH: BLS = BLACK GLOSS SMOOTH
    - (e) PHOTOCELL CONTROL: 7PR = 7-PIN PHOTOCELL RECEPTACLE
    - (f) ROUND ALUMINUM NON-TAPERED POLE
      - (a) RS430D6-4-BA= X=30", Y=6", THICKNESS=0.188"
      - (b) FINSH: BA = BLACK POWDER COATED
    - (g) SQUARE BASE COVER (4 HOLE WITH BOLT COVERS)
      - (a) 83140P-BA => BUTT DIA=8", BOLT CIRCLE DIA=9" TO 10"
      - (b) BOLT SIZE = 0.75" x 30" x 3"
      - (c) FINISH: BA = BLACK POWDER COATED
- STREET LIGHTS IN THE TOWN'S RIGHT OF WAY OR ON TOWN PROPERTY SHALL BE METERED. COORDINATE WITH TOWN PUBLIC WORKS DIRECTOR ON CASE BY CASE BASIS TO SET UP NEW ACCOUNT.

**SIGN REQUIREMENTS**

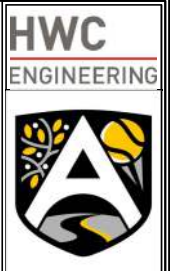
- GENERAL:
  - SIGNS SHOULD BE ERECTED ON SEPARATE POSTS EXCEPT WHERE ONE SIGN SUPPLEMENTS ANOTHER OR WHERE ROUTE OR DIRECTIONAL SIGNS MUST BE GROUPED. LOCATE SIGNS ON RIGHT HAND SIDE OF THE ROAD UNLESS SPECIFIC STANDARDS REQUIRE OTHERWISE. SIGNS SHOULD NOT OBSCURE EACH OTHER OR BE HIDDEN FROM VIEW BY OTHER OBJECTS.
  - CONCRETE FOUNDATIONS FOR SQUARE SIGN POSTS ARE NOT PERMITTED.
  - STREET SIGN POSTS SHALL BE PLACED ON THE CORNER OF AN INTERSECTION AS ADJACENT INTERSECTIONS. GENERALLY, STREET SIGN POSTS SHOULD BE PLACED ON THE RIGHT HAND SIDE OF THE MAJOR STREET AND ON THE OPPOSITE CORNER OF A STOP SIGN. IF PRESENT, OR WHERE A STOP SIGN WOULD NORMALLY BE INSTALLED, VISIBILITY SHOULD BE CONSIDERED WHERE TWO CORNERS ARE BOTH OTHERWISE EQUAL.
  - POST ANCHORS SHALL BE INSTALLED WITH 2" - 3" EXPOSED ABOVE GRADE. THE CORNER BOLT SHALL BE INSTALLED IN THE TOP ANCHOR BASE HOLES, OPPOSITE THE TWO MOST PROMINENT ADJACENT DIRECTIONS OF TRAVEL. A DRIVE ANCHOR SHALL BE INSTALLED IN THE ANCHOR BASE POST, IN EITHER HOLE DIRECTLY BELOW CORNER BOLT.
  - A NYLON OR PLASTIC WASHER MUST BE INSTALLED BETWEEN ANY FASTENER AND SIGN SHEETING. FAILURE TO DO SO WILL REQUIRE NOTCHING THE BOTTOM EDGE OF THE DAMAGED SIGN TO THE WHITE BORDER (BEFORE REMOVAL) AND REPLACEMENT OF THE SIGN. NOTCHED, OR OTHERWISE DAMAGED SIGNS CAN NOT BE USED IN THE TOWN OF AVON.



- STOP SIGN:
  - DESIGNATION: REGULATORY SIGN "STOP" R1-1 (MUTCD TABLE 2B-1)
  - DESIGN: STOP SIGNS SHALL BE CONSTRUCTED OF HIGH-INTENSITY REFLECTORIZED SHEETING AND SHALL COMPLY WITH THE URBAN STANDARDS ESTABLISHED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (AASHTO, SECT C2.4.2.3).
  - RETROFLECTIVITY AND ILLUMINATION:
    - STOP SIGNS SHALL BE RETROREFLECTIVE OR ILLUMINATED TO SHOW THE SAME SHAPE AND SIMILAR COLOR BY BOTH DAY AND NIGHT. THE REQUIREMENTS FOR SIGN ILLUMINATION SHALL NOT BE CONSIDERED TO BE SATISFIED BY STREET OR HIGHWAY LIGHTING (MUTCD SECT 2A.07).
    - MINIMUM RETROFLECTIVITY SHALL BE AT OR ABOVE THE MINIMUM LEVEL FOR WHITE ON RED PER MUTCD MANUAL (MUTCD SECT 2A.08, AND TABLE 2A-3).
    - SHAPE: STOP SIGNS SHALL BE OCTAGON (MUTCD, SECT 2B.05) AND THE CORNERS SHALL NOT BE ROUNDED (MUTCD SECT 2A.14).
    - COLOR AND BORDER: STOP SIGNS SHALL HAVE A WHITE LEGEND AND WHITE BORDER ON A RED BACKGROUND (MUTCD SECT 2B.05, 2A.14).
    - DIMENSIONS: STOP SIGNS SHALL BE 30"x30" (MUTCD, TABLE 2B-1).
    - TEXT: STOP SIGN LETTERING SHALL BE ALL UPPER-CASE LETTERS THAT ARE 10" TALL (MUTCD).
    - MOUNTING HEIGHT: THE MINIMUM HEIGHT OF STOP SIGNS, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE TOP OF THE CURB, OR IN THE ABSENCE OF CURB, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE ELEVATION OF THE NEAR EDGE OF THE TRAVELED WAY, SHALL BE 7 FEET (MUTCD SECT 2A.18).
    - LOCATION: STOP SIGNS SHALL BE LOCATED ON THE RIGHT-HAND SIDE OF THE ROADWAY WHERE THEY ARE EASILY RECOGNIZED AND UNDERSTOOD BY ROAD USERS. (MUTCD SECT 2A.16).
    - STOP SIGNS AND STREET SIGNS CANNOT BE ON THE SAME POST OR BE PLACED ON THE SAME CORNER.
    - PROXIMITY TO OTHER SIGNS: SIGNS REQUIRING SEPARATE DECISIONS BY THE ROAD USER SHALL BE SPACED SUFFICIENTLY FAR APART FOR THE APPROPRIATE DECISIONS TO BE MADE. ONE OF THE FACTORS CONSIDERED WHEN DETERMINING THE APPROPRIATE SPACING SHALL BE POSTED OR 85TH-PERCENTILE SPEED (MUTCD SECT 2A.16).

- OTHER REGULATORY SIGNS:
  - ALL OTHER REGULATORY SIGNS SHALL BE AS DESCRIBED IN MUTCD.
  - INSTALLATION IS TO BE THE SAME AS FOR STOP SIGNS.
  - STREET NAME SIGN: INSTALLATION IS TO BE SIMILAR FOR STOP SIGNS.
    - DESIGNATION: STREET NAME SIGN D3-1 (MUTCD TABLE 2D-1).
    - DESIGN: STREET NAME SIGNS SHALL BE CONSTRUCTED OF HIGH-INTENSITY REFLECTORIZED SHEETING AND SHALL COMPLY WITH THE URBAN STANDARDS ESTABLISHED IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (AASHTO SECT C2.4.2.3).
    - CONSTRUCTION: STREET NAME SIGNS SHALL BE SINGLE-SIDED, DOUBLE BLADE, NO TWO-SIDED STREET NAME SIGNS WILL BE PERMITTED.
    - RETROFLECTIVITY AND ILLUMINATION: STREET NAME SIGNS SHALL BE RETROREFLECTIVE OR ILLUMINATED TO SHOW THE SAME SHAPE AND SIMILAR COLOR BY BOTH DAY AND NIGHT. THE REQUIREMENTS FOR SIGN ILLUMINATION SHALL NOT BE CONSIDERED TO BE SATISFIED BY STREET OR HIGHWAY LIGHTING (MUTCD SECT 2D.43).
    - SHAPE: STREET NAME SIGNS SHALL BE RECTANGULAR PANEL/SIGNS BLADES WITH ROUNDED CORNERS.
    - COLOR AND BORDER: STREET NAME SIGNS SHALL HAVE A WHITE LEGEND ON A GREEN BACKGROUND WITHOUT A BORDER (AVON, MUTCD TABLE 2A-5).
    - DIMENSIONS: THE HEIGHT OF THE STREET NAME SIGN BLADES SHALL BE BASED ON THE TYPE OF ROAD AS OUTLINED BELOW: (AVON, MUTCD TABLE 2D-1)
      - MULTI-LANE ROADS (OVERSIZED): ON MULTI-LANE STREETS WITH SPEED LIMITS GREATER THAN 40 MPH, SIGN BLADES SHALL BE 16" TALL AND VARIABLE LENGTH.

- LOCAL ROADS (MINIMUM): ON LOCAL ROADS WITH SPEED LIMITS OF 25 MPH OR LESS, SIGN BLADES SHALL BE 8" TALL AND VARIABLE LENGTH.
- ALL OTHER ROADS (CONVENTIONAL): ON ALL OTHER ROADS, SIGN BLADES SHALL BE 12" TALL AND VARIABLE LENGTH.
- TEXT:
  - LETTERING: THE LETTERING FOR NAMES OF STREETS SHALL BE COMPOSED OF A COMBINATION OF LOWER-CASE LETTERS WITH INITIAL UPPER-CASE LETTERS. LETTER HEIGHT SHALL BE BASED ON THE TYPE OF ROAD AS OUTLINED BELOW (MUTCD SECT 2D.43 AND TABLE 2D-2):
    - MULTI-LANE ROADS: ON MULTI-LANE STREETS WITH SPEED LIMITS GREATER THAN 40 MPH, UPPER-CASE LETTERS SHALL BE AT LEAST 8" IN HEIGHT AND LOWER-CASE LETTERS SHALL BE AT LEAST 6" IN HEIGHT (MUTCD SECT 2D.43).
    - LOCAL ROADS: ON LOCAL ROADS WITH SPEED LIMITS OF 25 MPH OR LESS, UPPER-CASE LETTERS SHALL BE AT LEAST 4" IN HEIGHT AND LOWER-CASE LETTERS SHALL BE AT LEAST 3" IN HEIGHT (MUTCD SECT 2D.43).
    - ALL OTHER ROADS: UPPER-CASE LETTERS SHALL BE AT LEAST 6" IN HEIGHT AND LOWER-CASE LETTERS SHALL BE AT LEAST 4.5" IN HEIGHT (MUTCD SECT 2D.43).
  - ABBREVIATIONS: WHEN THE WORD MESSAGES NEED TO BE ABBREVIATED, THE ABBREVIATIONS SHOWN IN TABLE 1A-1 SHALL BE USED (MUTCD SECT 1A.15).
- MOUNTING HEIGHT: THE MINIMUM HEIGHT, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE TOP OF THE CURB, OR IN THE ABSENCE OF CURB, MEASURED VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE ELEVATION OF THE NEAR EDGE OF THE TRAVELED WAY, SHALL BE 7 FEET (MUTCD SECT 2A.18).
- LOCATION: STREET NAME SIGNS SHALL BE LOCATED AT ALL STREET INTERSECTIONS. STREET NAME SIGNS SHALL BE MOUNTED WITH THEIR FACE PARALLEL TO THE STREET THEY NAME. AT INTERSECTION CROSSROADS WHERE THE SAME ROAD HAS TWO DIFFERENT STREET NAMES FOR EACH DIRECTION OF TRAVEL, BOTH STREET NAMES MAY BE DISPLAYED ON THE SAME SIGN ALONG WITH DIRECTIONAL ARROWS (AVON, MUTCD SECT 2D.43).
- LATERAL OFFSET: THE MINIMUM LATERAL OFFSET SHOULD BE 4 FEET FROM BACK OF CURB OR 12 FEET FROM THE EDGE OF THE TRAVELED WAY, IF A SHOULDER WIDER THAN 6 FEET EXISTS, THE MINIMUM LATERAL OFFSET SHOULD BE 6 FEET FROM THE EDGE OF THE SHOULDER (MUTCD SECT 2A.19).
- POSTS AND MOUNTINGS: POST SPECIFICATIONS SHALL BE AS FOLLOWS: (AVON)
  - ONE SQUARE SIGN POST 2 1/2" X 2 1/2" X VARIABLE HEIGHT X 12 GA.
  - ONE SQUARE ANCHOR 2 1/2" X 2 1/2" X 3" X 12 GA.
  - NINE DRIVE RIVETS (OR 2 FOR EACH SIGN, ONE BELOW THE CORNER BOLT).
  - ONE CORNER BOLT
  - ONE RAIN CAP, EITHER PRESS-FIT OR ADHERED WITH SILICONE CAULK OR SIMILAR
  - TWO PVC SPACERS AND RIVETS PER MATCHED PAIR OF BLADES
  - A NYLON WASHER MUST BE INSTALLED BETWEEN ANY FASTENER AND SIGN SHEETING. THE NYLON WASHER IS TO PROTECT THE SIGN SHEETING FROM ANY DAMAGE BY THE RIVET, STEEL WASHER OR DRIVE ANCHOR
- STREET SPEED LIMIT SIGNS ARE TO BE LOCATED ONLY AT THE ENTRANCE(S) TO THE SUBDIVISIONS. SPEED LIMIT SHALL BE 25MPH UNLESS OTHERWISE DIRECTED BY THE TOWN PUBLIC WORKS DIRECTOR.
- ALL REINSTALLED SIGNS MUST MEET CURRENT STANDARDS.
- STREET NAME SIGNS SHALL BE INSTALLED ON A TANGENT, NOT IN A RADIUS, THEY SHALL BE ACROSS THE STREET FROM STOP SIGNS WHERE POSSIBLE. IF NOT POSSIBLE, THEY MUST BE ON A DIFFERENT TANGENT FROM THE STOP SIGN (AROUND THE CORNER). STREET NAME SIGNS ARE NOT PERMITTED AT THE TOP OF A T-INTERSECTION OR IN ISLANDS, EXCEPT FOR IN ROUNDABOUTS.



TOWN OF AVON CONSTRUCTION STANDARDS  
SIGNS AND LIGHTING NOTES

NO.	DESCRIPTION	DATE	BY
1	2026 UPDATE	JRE	01/15/26
2	LIGHTING NOTE 4	JRE	01/15/26

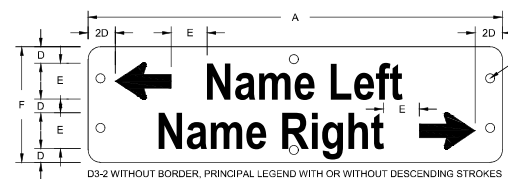



**TABLE 1A-1\*  
ACCEPTABLE ABBREVIATIONS**

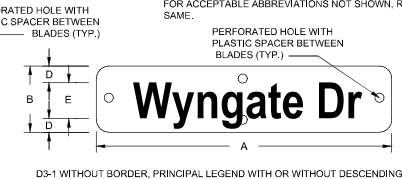
WORD MESSAGE	STD. ABBREVIATION
AVENUE	Ave
BOULEVARD	Bld
CIRCLE	Cir
COURT	Ct
DRIVE	Dr
LANE	Ln
PARKWAY	Pkwy
PLACE	Pl
ROAD	Rd
STREET	St
TERRACE	Ter
TRAIL	Tr

ROAD TYPE	A	B	D	E	F
MINIMUM	VAR	8	2	4 D	15
CONVENTIONAL	VAR	12	3	6 D	21
OVERSIZED	VAR	18	5	8 D	30

\* TABLE IS EXCERPTED FROM MUTCD, 11th EDITION, PAGE 213.  
FOR ACCEPTABLE ABBREVIATIONS NOT SHOWN, REFER TO SAME.



**ROAD NAME SWITCH  
STREET SIGN BLADE DETAIL**  
NOT TO SCALE

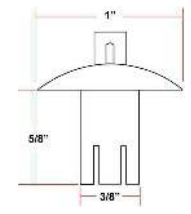


**STREET SIGN BLADE DETAIL**  
NOT TO SCALE

COLORS:  
LEGEND - WHITE (RETROREFLECTIVE)  
BACKGROUND - GREEN (RETROREFLECTIVE) (PUBLIC STREETS)  
BACKGROUND - BLUE (RETROREFLECTIVE) (PRIVATE STREETS)

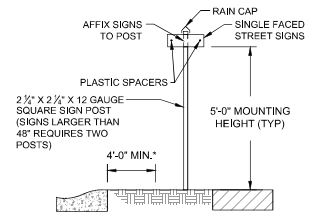
COLORS:  
LEGEND - WHITE (RETROREFLECTIVE)  
BACKGROUND - GREEN (RETROREFLECTIVE) (PUBLIC STREETS)  
BACKGROUND - BLUE (RETROREFLECTIVE) (PRIVATE STREETS)

**NOTE:**  
1. ALL SIGN LOCATIONS SHALL BE FIELD APPROVED BY THE AVON PUBLIC WORKS DEPARTMENT PRIOR TO INSTALLATION.



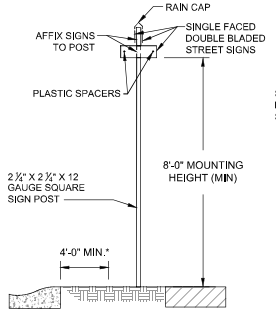
**DRIVE RIVET  
DETAIL**

NOT TO SCALE  
ATTACH SIGN BY DRIVING RIVET FLUSH WITH THE HEAD WHILE POST IS STILL ON THE GROUND AND BEFORE POST ANCHOR IS INSTALLED



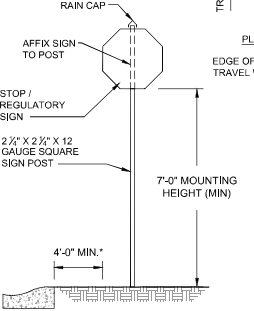
**ROUNDABOUT STREET  
SIGN DETAIL**

NOT TO SCALE  
\* CONTRACTOR SHALL MAINTAIN APPROPRIATE SPACING BETWEEN SIDEWALK AND STREET BASED ON SIGN BLADE LENGTH.



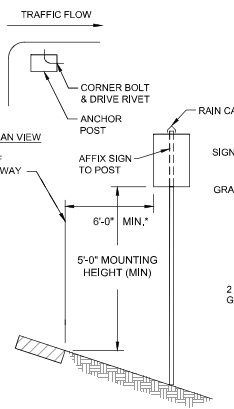
**STREET SIGN  
AND POST DETAIL**

NOT TO SCALE  
\* CONTRACTOR SHALL MAINTAIN APPROPRIATE SPACING BETWEEN SIDEWALK AND STREET BASED ON SIGN BLADE LENGTH.



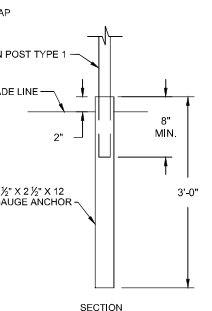
**REGULATORY SIGN  
AND POST DETAIL**

NOT TO SCALE  
\* CONTRACTOR SHALL MAINTAIN APPROPRIATE SPACING BETWEEN SIDEWALK AND STREET BASED ON SIGN WIDTH.



**ROADSIDE SIGN  
WITH SLOPE**

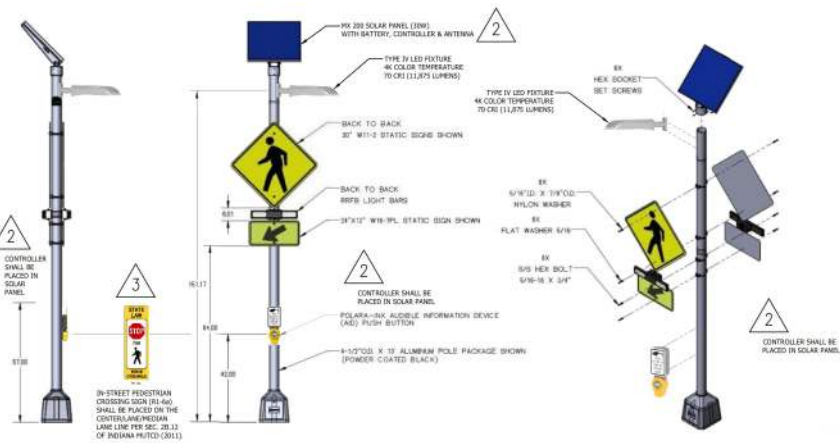
NOT TO SCALE  
REFER TO REGULATORY SIGN AND POST DETAIL FOR ADDITIONAL INFORMATION.



**SIGN POST  
BASE DETAIL**

NOT TO SCALE  
REFER TO PLAN VIEW ON SHEET 17 FOR CORNER BOLT PLACEMENT, PER 13.

NO.	DESCRIPTION	DATE	BY	CHKD.
1	2026 UPDATE	JRE	01/15/26	
2	ADDED NOTE 1	JRE	01/21/26	



- NOTES:**
- ORIENT SOLAR PANEL TOWARDS SOUTHERN SKY FOR MAXIMUM SOLAR EXPOSURE.
  - SWAY LOCKS ARE PROVIDED. STANCHION 3-1/4\"/>

### CARMANAH R920-MX SOLAR RECTANGULAR RAPID FLASHING BEACON (RRFB)

NOT TO SCALE

### INX FEATURES

- Instructional 9"x12" retro-reflective sign with tamper-resistant screws.
  - ADA-compliant push button with field adjustable directional arrow.
  - 50-watt audio amplifier.
  - Microphone to automatically adjust sounds to ambient noise level.
  - Weather resistant modular speaker, field-replaceable.
  - Spanish audio message available.
  - Firmware updates, audio, volume, and other configurations set over Bluetooth® with the Free Polara Field Service App, (iOS® & Android®).
  - Warranty: 3 year limited.
- FHWA & MUTCD Compliant:**
- Meets Audible Information Device requirements.
  - One yellow LED that flashes when warning lights are flashing.
  - Standard Message: "Warning lights are flashing" (repeats twice).
  - Locator Tone.
  - No vibrotactile or percussive motions.



### POLARA - INX AUDIBLE INFORMATION DEVICE (ADA PUSH BUTTON)

NOT TO SCALE

### INX SPECIFICATIONS

Operating Specifications	
Parameter	Rating
Operating Temp. Range	-34°C to +74°C (-30°F to +165°F)
Storage Temp. Range	-45°C to +85°C (-50°F to +185°F)
Operating Force	3.0 lbs max, option of 3 adjustable programmed forces
Switch Operating Life	Greater than 20 million operations
Max. Volume	100 dB @ 1 meter

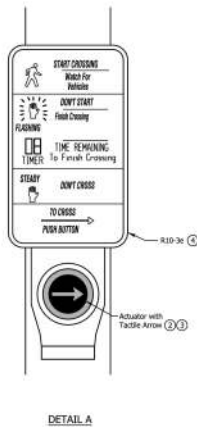
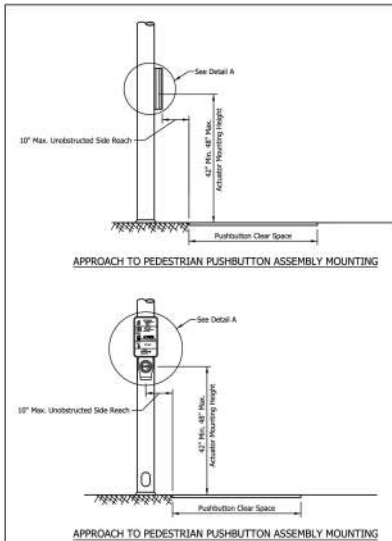
Notes: Designed to comply with applicable sections of referenced standards. All specifications are subject to change without notice. All specifications are typical unless otherwise specified.

Electrical Properties	
DO NOT APPLY AC VOLTAGE TO THIS SYSTEM!	
DC In.	10-24 VDC
Button	7-32 VDC
Lights In.	7-32 VDC
Min Current Draw	~19mA @ 12 VDC (Locate Tone With Default Settings)
Peak Current Draw	~500mA with Voice Message at maximum

Mechanical Properties	
Physical	
Enclosure Type	Plastic sealed housing, powdercoated cast aluminum cover and backplate
Insulation	3/4" or weather handling or 2 spaced 1/4"-20 holes on 6" centers; 1/2" or larger hole for wire access
Dimensions	
Width	9" (with 9x12" sign) / 5.5" (without sign)
Length	18.2" (with 9x12" sign) / 14" (without sign)
Maximum Height	2.6"

Design Compliance	
Functionality Test Type	Compliance
Functionality	MUTCD 2009-4E
Temperature and Humidity	NEMA TS2
Mechanical Shock and Vibration	NEMA TS2
INX Enclosure	NEMA 250 Type 4X

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#### NOTES:

- The face of a pedestrian pushbutton assembly shall be aligned parallel to the direction of pedestrian travel on the associated crosswalk.
- The actuator shall be a 2-1/4" maximum diameter and the color shall contrast with the housing or mounting. The actuator for an accessible pedestrian signal shall vibrate during the walk interval.
- For an accessible pedestrian signal, a tactile arrow shall be provided. The tactile arrow can be part of the actuator or can be directly above or below the actuator. The tactile arrow color shall contrast with the background.
- Pedestrian signal signs applicable to pedestrian activation shall be mounted irremovably above or incorporated into the pedestrian pushbutton assembly. For an extended actuator press function, the R10-3P sign shall be mounted adjacent to or integral with the pedestrian pushbutton assembly.
- Where pole placement is limited, a 6 in. or 12 in. pushbutton assembly extension may be used to meet the side reach requirements.
- See Standard Drawing E 805-PPBA-02 and -03 for Typical Pedestrian Pushbutton Assembly Locations.

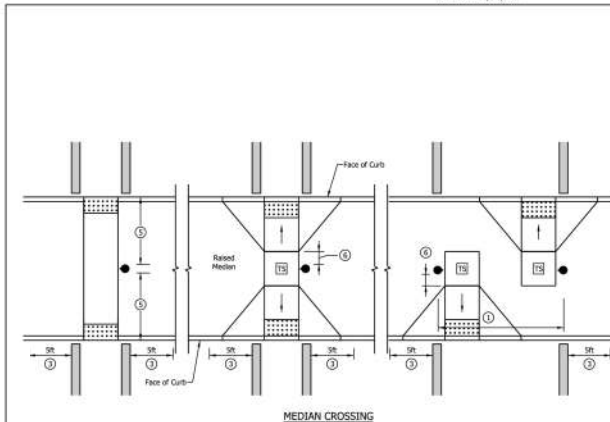
#### INDIANA DEPARTMENT OF TRANSPORTATION

#### PEDESTRIAN PUSHBUTTON ASSEMBLY DETAILS

SEPTEMBER 2017

STANDARD DRAWING NO. E 805-PPBA-01

	<i>/s/ David H. Baruff</i> DESIGN STANDARDS ENGINEER DATE: 10/26/16
	<i>/s/ Mark A. Miller</i> CHIEF ENGINEER DATE: 11/01/16



#### NOTES:

- Where two pedestrian pushbutton assemblies are provided on the same corner or median, the pedestrian pushbutton assemblies should be separated by at least 10 ft. Where constraints prevent a 10 ft separation, pedestrian pushbutton assemblies may be placed closer together or on the same pole. Where accessible pedestrian signal pushbutton assemblies are closer than 10 ft, the assemblies shall be in accordance with MUTCD 6E.11.
- A pedestrian pushbutton assembly should be adjacent a pushbutton clear space. A pushbutton clear space shall have a minimum clear dimension of 4 ft x 4 ft.
- The pedestrian pushbutton assembly should not be placed more than 5 ft outside the crosswalk.
- A pedestrian pushbutton assembly should not be placed adjacent a ramp with a running slope greater than 2%.
- The distance from the nearest face of a pedestrian pushbutton assembly to face of the curb or edge of pavement should be between 3.5 ft and 6 ft and should not be greater than 10 ft.
- The distance from the nearest face of a pedestrian pushbutton assembly to a grade break should not be less than 1.5 ft.
- See Standard Drawing E 805-PPBA-01 for Pedestrian Pushbutton Assembly Details.

#### INDIANA DEPARTMENT OF TRANSPORTATION

#### TYPICAL PEDESTRIAN PUSHBUTTON ASSEMBLY LOCATIONS

SEPTEMBER 2017

STANDARD DRAWING NO. E 805-PPBA-03

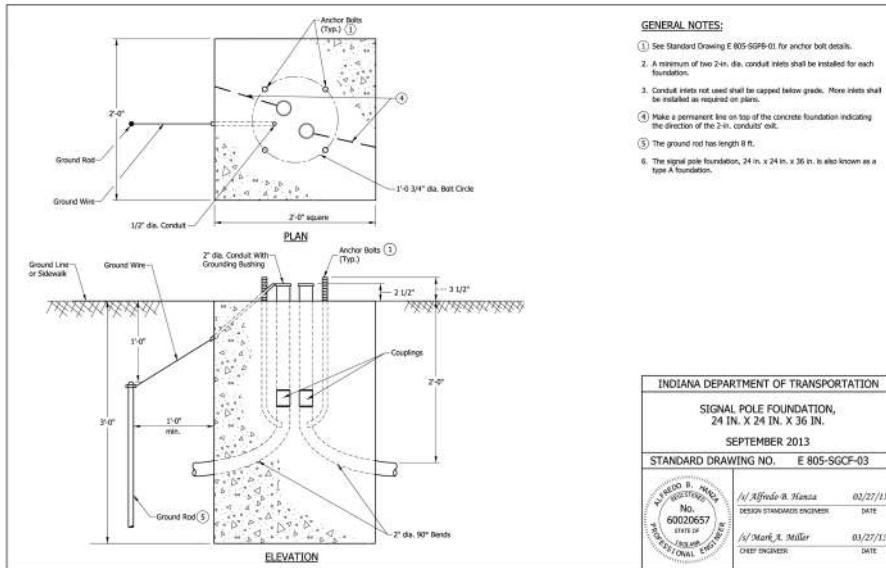
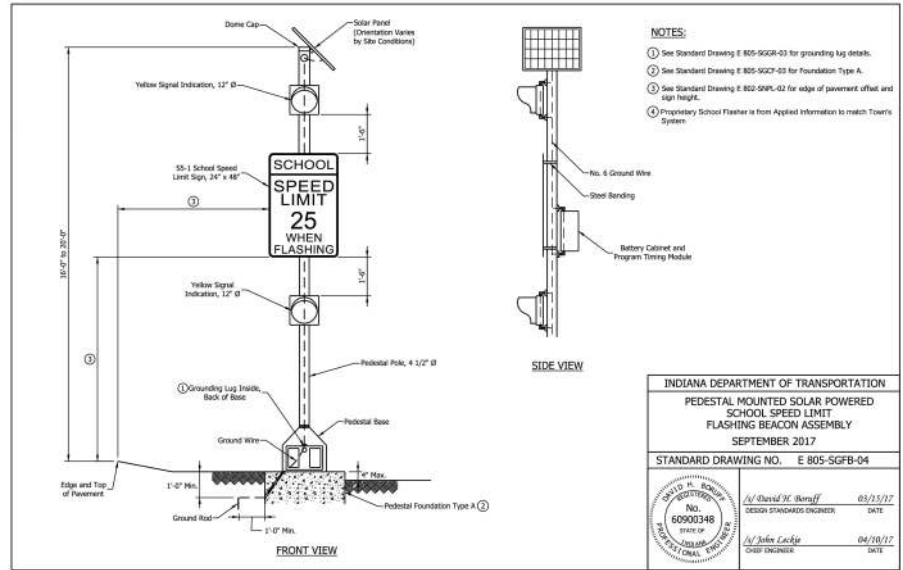
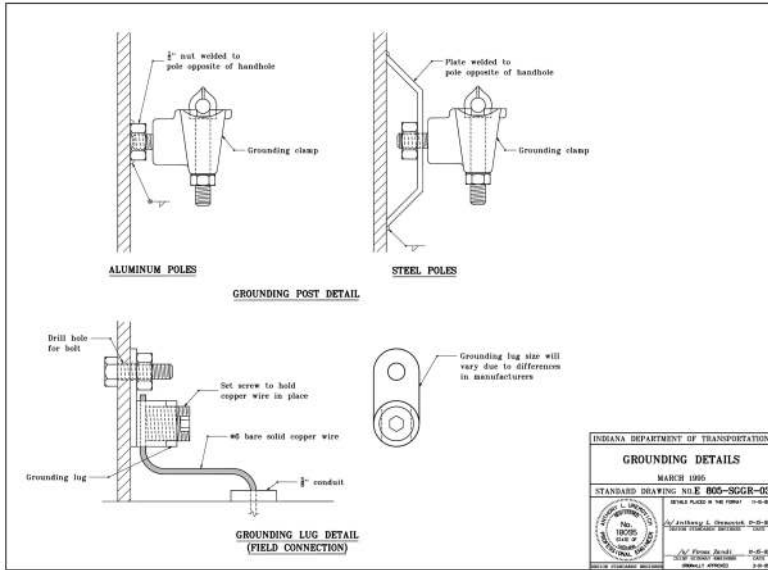
	<i>/s/ David H. Baruff</i> DESIGN STANDARDS ENGINEER DATE: 10/26/16
	<i>/s/ Mark A. Miller</i> CHIEF ENGINEER DATE: 11/01/16

#### LEGEND:

- Detachable Warning Surface
- Ramp
- Pedestrian Pushbutton Assembly
- Turning Space/Pushbutton Clear Space



NO.	DESCRIPTION	DATE	BY
1	2026 UPDATE	01/15/26	JRE
2	CTRL'R IN SOLAR PANEL	01/15/26	JRE
3	ADDED R1-6a SIGN	01/15/26	JRE



TYPE OF ROADWAY	INTERSTATE AND DIVIDED HIGHWAY WITH SHOULDER, RURAL & URBAN	DIVIDED HIGHWAY WITH CURB, RURAL & URBAN	NON-DIVIDED HIGHWAY, RURAL OR CITY STREET	NON-DIVIDED HIGHWAY, URBAN
CLEARANCE				
VERTICAL EDGE OF TRAVELED WAY PAVEMENT TO BOTTOM OF SIGN OR SIGNS	7 ft TO 7.5 ft ①	7 ft TO 7.5 ft ②	5 ft TO 5.5 ft ③	7 ft TO 7.5 ft ④
HORIZONTAL EDGE OF TRAVELED WAY PAVEMENT TO EDGE OF SIGN OR SIGNS	12 ft min. or 6 ft min. from the shoulder, whichever is greater	6 ft min. ①	12 ft min. or 6 ft min. from the shoulder, whichever is greater	12 ft min. or 6 ft min. from the shoulder, whichever is greater ①

**NOTES:**

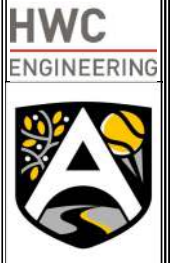
① If a secondary sign is mounted below another sign, the secondary sign shall be installed at least 5 ft. above the level of the pavement edge.

② The height to the bottom of a secondary sign mounted below another sign may be 1 ft. less than the height specified above.

③ In urban areas where lateral offsets are limited, a minimum lateral offset of 2 ft. may be used. A minimum offset of 1 ft. from the face of the curb may be used in urban areas where sidewalk width is limited or where existing poles are close to the curb.

④ Where parking or pedestrian movements occur on an expected receiving base, the clearance to the bottom of the sign shall be at least 7 ft.

INDIANA DEPARTMENT OF TRANSPORTATION  
**HORIZONTAL AND VERTICAL SHEET SIGN CLEARANCE**  
 SEPTEMBER 2003  
 STANDARD DRAWING NO. E 802-SNPL-02  
 No. 60020657  
 DESIGN STANDARDS ENGINEER  
 No. 01/15/06  
 CHECK ENGINEER



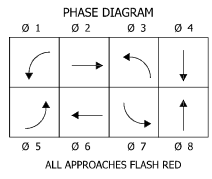
TOWN OF AVON CONSTRUCTION STANDARDS  
 SCHOOL FLASHER DETAILS

REVISION	DATE	BY	CHKD
1	2026 UPDATE	JRE	01/15/26

SHEET NUMBER  
**20**

**TRAFFIC SIGNAL REQUIREMENTS**

- TRAFFIC SIGNAL INSTALLATION SHALL CONSIST OF FURNISHING AND INSTALLING A SPAN AND CATENARY TRAFFIC SIGNAL PER THE FOLLOWING SPECIFICATIONS AND IN ACCORDANCE WITH INDOT SPECIFICATION SECTION 805.
  - POLES SHALL BE INSTALLED SUCH THAT THE EDGE OF THE POLE IS AT LEAST 3 FEET FROM THE FACE OF CURB OR 10' FROM THE EDGE OF SHOULDER. POLES SHALL BE PLACED ACCORDING TO THE ELECTRIC COMPANY'S CURRENT LATERAL AND VERTICAL STANDARD.
  - THE POLE FOUNDATION SHALL BE 3 FEET IN DIAMETER AND 12 FEET IN DEPTH WITH A REINFORCING STEEL CAGE.
  - CONTROLLER SHALL BE AN INTELIGHT TS2 TYPE I CONTROLLER FROM Q-FREE AND SHALL BE PLACED IN A P-1 CABINET ON A P-1 FOUNDATION.
  - EMERGENCY VEHICLE DETECTION SHALL CONSIST OF BOTH GPS AND INFRARED:
    - OPTICOM MODEL 3100 GPS RADIO UNIT
    - OPTICOM MODEL 1070 GPS CABLE
- INFRARED**
- A COMBINATION OF ONE OF THE FOLLOWING:
- OPTICOM MODEL 711 (ONE DIRECTION - SINGLE CHANNEL)
  - OPTICOM MODEL 722 (DUAL DIRECTION - DUAL CHANNEL)
- AND:
- OPTICOM MODEL 575 (CONFIRMATION LIGHT)
  - WIRING: 3C/14 & 4C/20
- VIDEO VEHICLE DETECTION SHALL CONSIST OF:
    - TWO MIOVISION SMARTVIEW 360 BELL CAMERA POSITIONED ON OPPOSITE CORNERS OF THE TRAFFIC SIGNAL WITH A ETHERNET CABLE PER CAMERA.
    - ONE MIOVISION SMARTVIEW APPROACH CAMERA (PER APPROACH) WITH A SHIELDED CAT5e CABLE PER CAMERA.
  - ALL POLES, PUSH BUTTONS, LIGHTING MAST ARMS AND PEDESTALS SHALL BE POWDER COATED BLACK.
  - NEW LOOP DETECTORS, NEW DETECTOR HOUSINGS AND NEW WIRE (FROM DETECTOR HOUSING TO CABINET) ARE REQUIRED AT EXISTING SIGNAL LOCATIONS WITH LOOP DETECTORS WHENEVER LOOP DETECTORS ARE REQUIRED TO BE REPLACED.
  - TRAFFIC SIGNAL ELECTRICAL SERVICE SHALL BE INSTALLED ON THE POLE NEAREST THE SIGNAL CONTROL CABINET (MAY NOT BE INSTALLED ON THE SIGNAL CONTROL CABINET), PER NEC, INDOT AND THE UTILITY STANDARDS. UNDERGROUND FEED IS DESIRED.

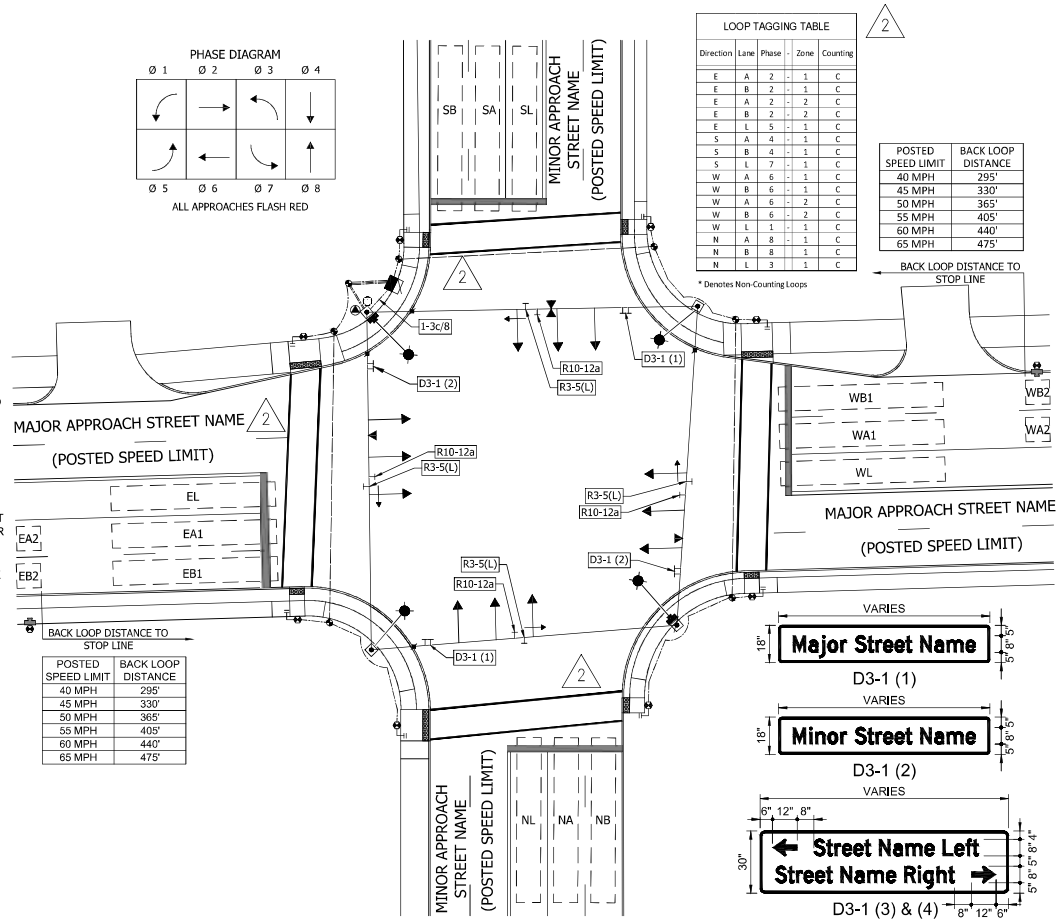


**LOOP TAGGING TABLE**

Direction	Lane	Phase	Zone	Counting
E	A	2	-1	C
E	B	2	-1	C
E	A	2	-2	C
E	B	2	-2	C
E	L	5	-1	C
S	A	4	-1	C
S	B	4	-1	C
S	L	7	-1	C
W	A	6	-1	C
W	B	6	-1	C
W	A	6	-2	C
W	B	6	-2	C
W	L	1	-1	C
N	A	8	-1	C
N	B	8	-1	C
N	L	3	-1	C

\* Denotes Non-Counting Loops

POSTED SPEED LIMIT	BACK LOOP DISTANCE
40 MPH	295'
45 MPH	330'
50 MPH	365'
55 MPH	405'
60 MPH	440'
65 MPH	475'



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40 MPH	295'
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- LEGEND**
- TRAFFIC SIGNAL HEAD, BLACK, 3 FACE, 12" RED, AMBER & GREEN
  - TRAFFIC SIGNAL HEAD, BLACK, 4 FACE, 12" RED, AMBER ARROW, AMBER FLASHING ARROW & GREEN ARROW
  - TRAFFIC SIGNAL HEAD, BLACK, 5 FACE, 12" RED, AMBER, GREEN, AMBER ARROW & GREEN ARROW
  - CONTROLLER & CABINET, TYPE P-1, ON P-1 FOUNDATION
  - 18" PEDESTRIAN SIGNAL HEAD, BLACK, WITH ADA COMPLIANT APS PUSH BUTTON & R10-3e SIGN
  - OVERHEAD STREET NAME SIGN, INTERNALLY ILLUMINATED
  - SERVICE POINT, TYPE II
  - LUMINAIRE WITH 20' MAST ARM, BLACK POWDER COATED
  - OVERHEAD REGULATORY SIGN W/ MUTCD SIGN CODE
  - DISCONNECT HANGER
  - DETECTION ZONE
  - VIDEO DETECTION UNIT, MIOVISION SMARTVIEW APPROACH
  - VIDEO DETECTION UNIT, MIOVISION SMARTVIEW 360 BELL
  - PROPOSED PEDESTAL, BLACK POWDER COATED & FOUNDATION
  - PROPOSED ETHERNET CABLE FOR VIDEO DETECTION
  - PROPOSED SHIELDED CAT5E WITH DRAIN WIRE CABLE FOR VIDEO DETECTION
  - 3C/14 & 4C/20 SIGNAL CABLE FOR EVD & CONFIRMATION LIGHT
  - EMERGENCY VEHICLE DETECTOR, GTT MODEL 711 & CONFIRMATION LIGHT, GTT MODEL 575
  - DUAL EMERGENCY VEHICLE DETECTOR, GTT MODEL 722 & CONFIRMATION LIGHT, GTT MODEL 575
  - GPS EMERGENCY VEHICLE DETECTOR, GTT MODEL 3100
  - GPS CABLE, GTT MODEL 1070
  - 36" STEEL STRAIN POLE, BLACK POWDER COATED & FOUNDATION
  - SIGNAL HANDHOLE, TYPE II
  - CONDUIT, 2", HDPE, SCHEDULE 80
  - CONDUIT, 2", PVC, SCHEDULE 40

**TYPICAL LEGEND**

**SIGNALIZED INTERSECTION**

NOT TO SCALE

**SPAN MOUNTED STREET NAME SIGN**

NOT TO SCALE

CODE	MESSAGE	SIZE
R3-2 (L or R)	NO LEFT (RIGHT) TURN	30" x 36"
R3-5 (L or R)	LEFT (RIGHT) TURN ONLY	30" x 36"
R3-6 (L or R)	LEFT (RIGHT) & THRU	30" x 36"
R10-3e	TO CROSS - PUSH BUTTON	9" x 15"
R10-5	LEFT ON GREEN ARROW ONLY	24" x 30"
R10-7	DO NOT BLOCK INTERSECTION	24" x 30"
R10-10 (L or R)	LEFT (RIGHT) TURN SIGNAL	24" x 30"
R10-11a	NO TURN ON RED	24" x 30"
R10-12	LEFT TURN YIELD ON GREEN	24" x 30"
R10-12a	LEFT TURN YIELD ON FLASHING YELLOW	24" x 30"
R10-23	CROSSWALK - STOP ON RED	24" x 30"
R10-23a	CROSSWALK - STOP ON RED - PROCEED ON FLASHING RED WHEN CLEAR	24" x 30"
R10-Y5a	LEFT ON ARROW ONLY	24" x 30"
R10-Y14	WAIT DELAYED SIGNAL	24" x 30"

**COMMON SIGNAL OVERHEAD SIGNS**

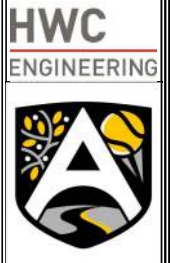
CABLE	CROSS SECTIONAL AREA
2C/8	0.17
3C/8	0.25
3C/14	0.11
5C/14	0.14
7C/14	0.17
9C/14	0.29
10C/14	0.30
12C/14	0.32
14C/14	0.38
2C/16	0.03
4C/20	0.04

CABLES CROSS SECTIONAL AREA SHALL NOT EXCEED 95% OF THE CONDUIT.

**SIGNAL CABLE CROSS SECTIONAL AREA**

FROM FIXTURE	WIRE SIZE	TO FIXTURE
5 SECTION	7C/14	DISCONNECT
4 SECTION	7C/14	DISCONNECT
3 SECTION	5C/14	DISCONNECT
PEDESTRIAN	7C/14	CONTROLLER
SIDE MOUNTED	7C/14	CONTROLLER
DISCONNECT HANGER	9C/14	CONTROLLER
PUSH BUTTON	5C/14	CONTROLLER
SERVICE POINT CABLE	3C/8	CONTROLLER
CONFIRMATION LIGHT	3C/14 & 4C/20	CONTROLLER
CAMERA	3C/14 & CAT 5e	CONTROLLER

**SIGNAL CABLE LIMITS**



TOWN OF AVON CONSTRUCTION STANDARDS  
TRAFFIC SIGNAL DETAILS

NO.	DESCRIPTION	DATE	BY
1	2026 UPDATE	JRE	01/15/26
2	ADDED LOOP TAG TABLE	JRE	01/21/26