2015 Standard Drawings for

Construction Within the Right-Of-Way

Prepared by
Louisville Metro Public Works
January 9, 2015

Reviewed and Approved by

Daniel P. O'Dea
Daniel O'Dea, PE
Assistant Director Public Works

1/9/2015
Date

Jeff Brown, PE
Assistant Director Public Works

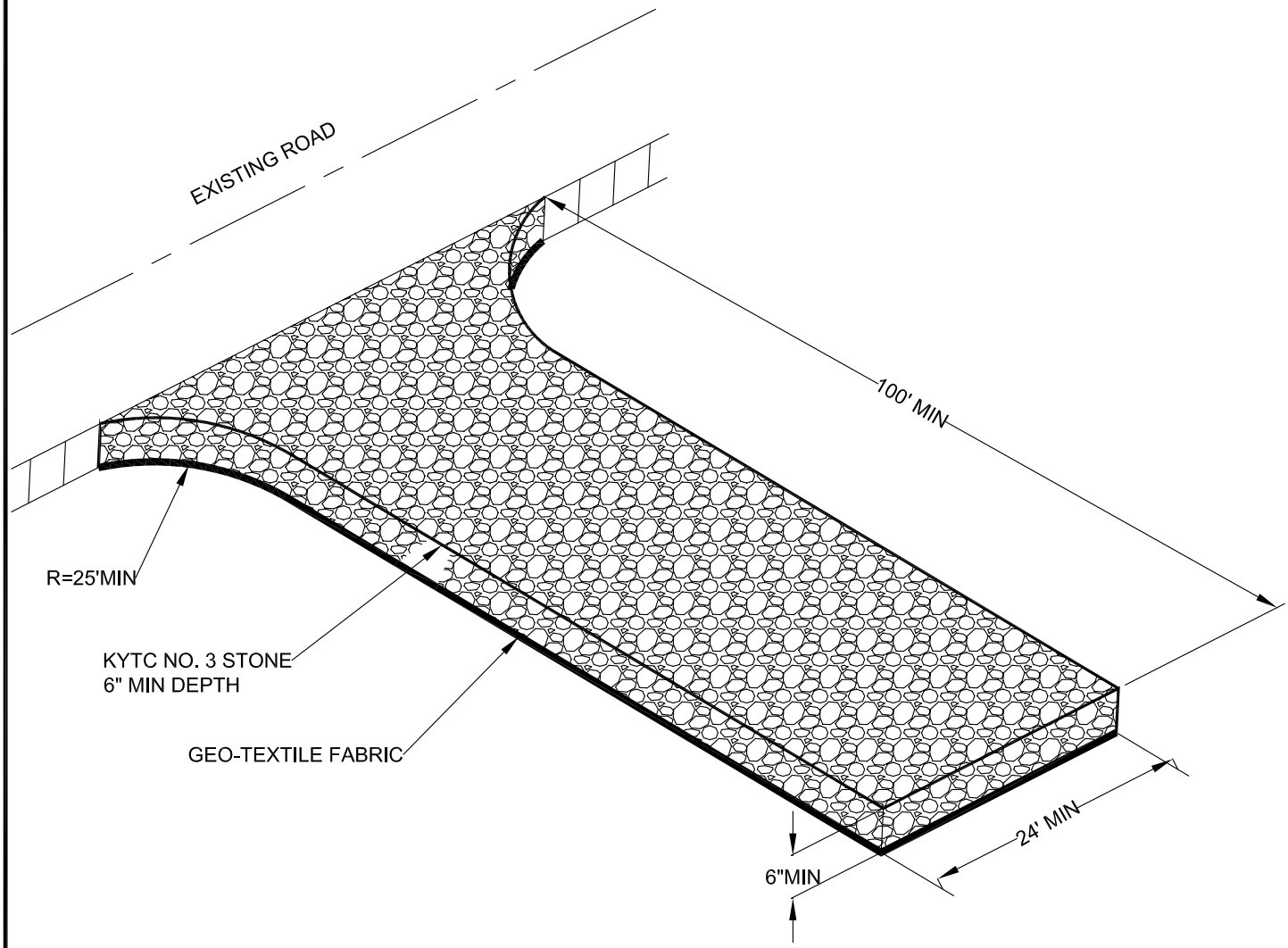
1/9/15
Date

Vanessa Burns
Vanessa Burns
Director Public Works

1/9/15
Date

STANDARD PLAN NO **030**

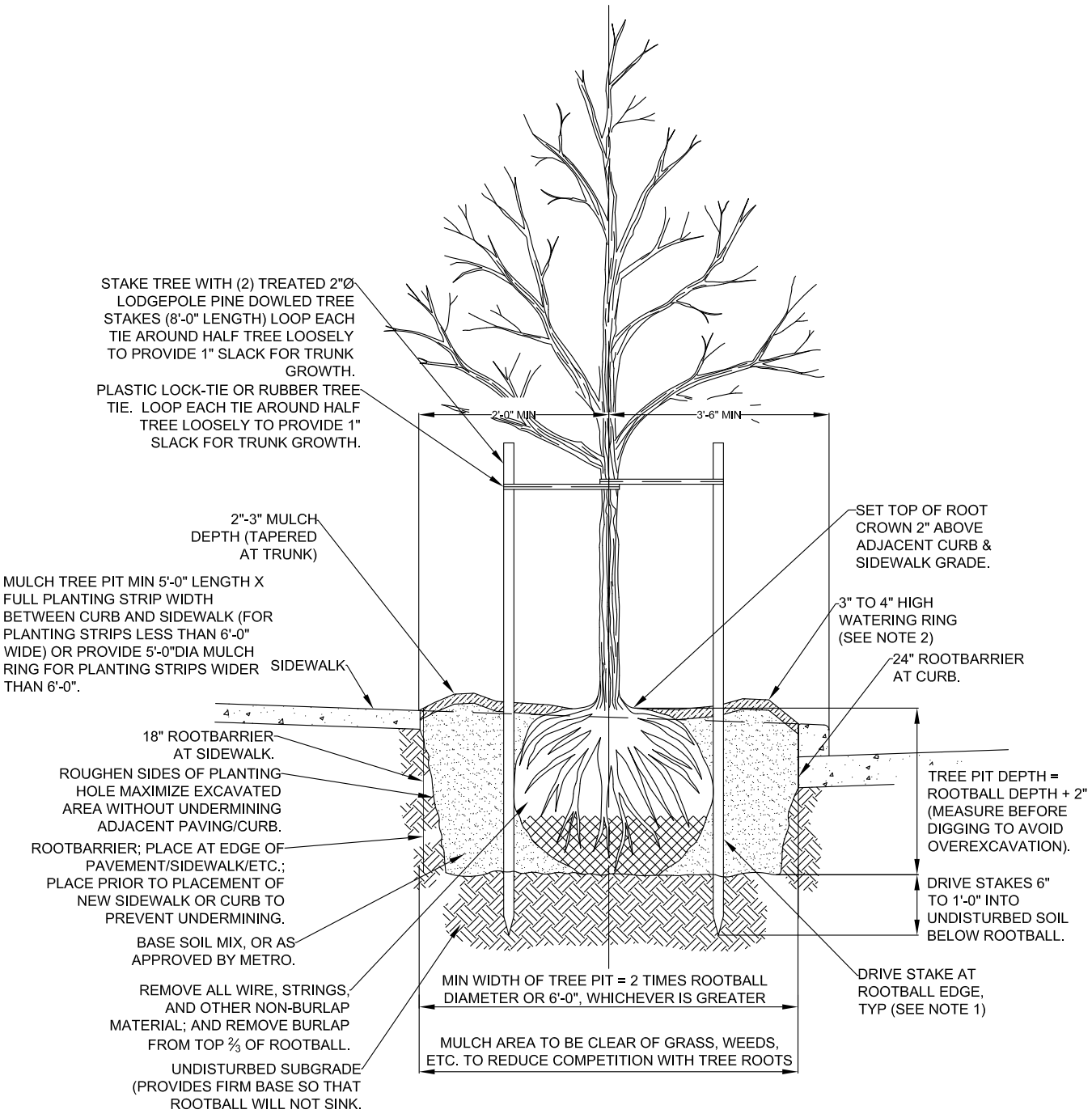
REV DATE: JAN 2015



NOTE:
REFER TO MSD STANDARD DRAWINGS

LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	STABILIZED CONSTRUCTION ENTRANCE

REV DATE: JAN 2015

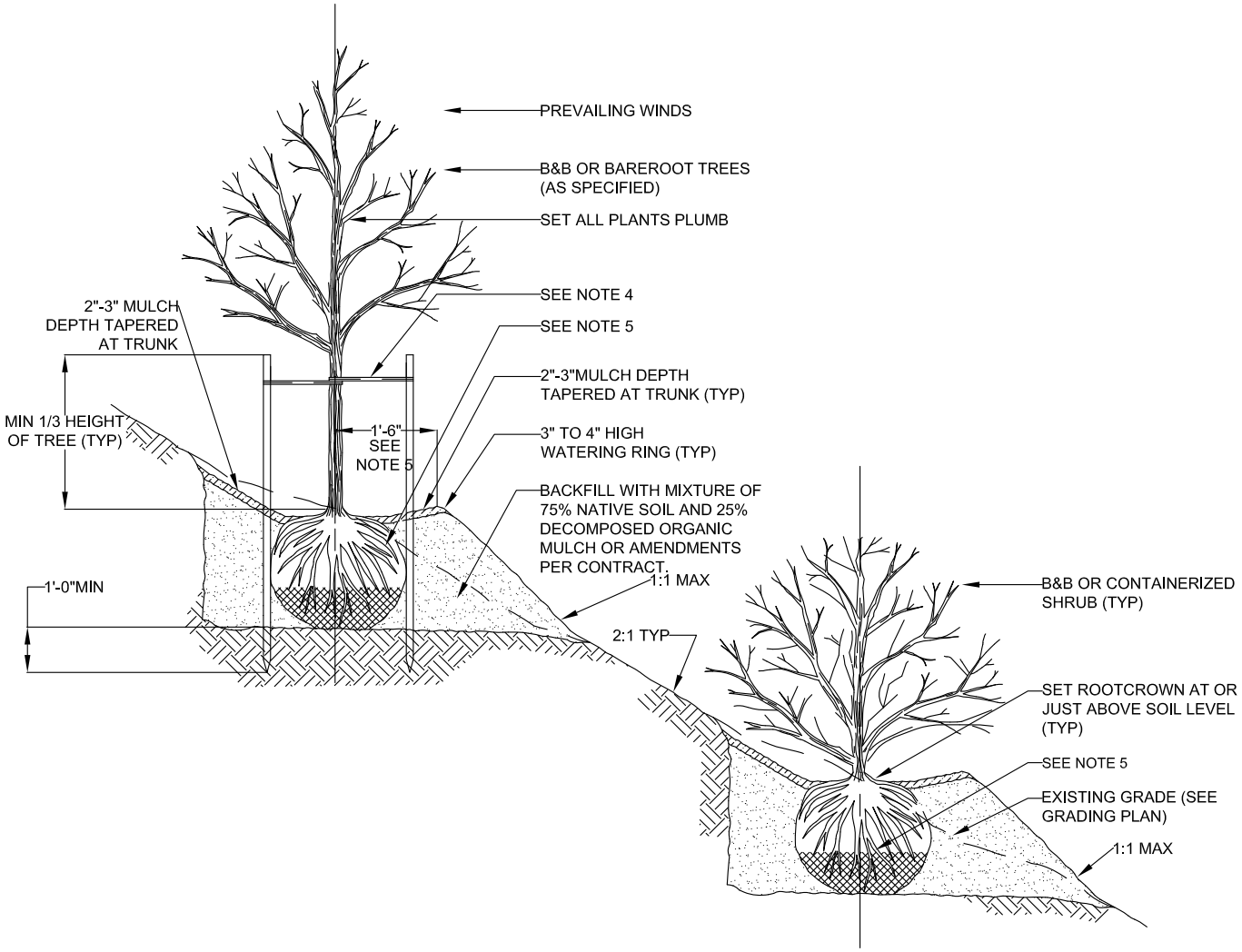


NOTES:

1. PLANTING INCLUDES REMOVAL OF STAKES ONE YEAR AFTER INSTALLATION.
2. SHAPE SOIL SURFACE TO PROVIDE 3" DIAM WATERING RING.
3. ADJUST TREE TIES DURING ESTABLISHMENT TO ALLOW ROOM FOR GROWTH (~1" SLACK).
4. ROOT BARRIER REQUIRED ALONG EDGE OF ROADWAY, CURB, DRIVEWAY, TRAIL, SIDEWALK, OR OTHER STRUCTURES WHERE ROOTBALL IS WITHIN TWO FEET.

LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	STREET TREE PLANTING

REV DATE: JAN 2015

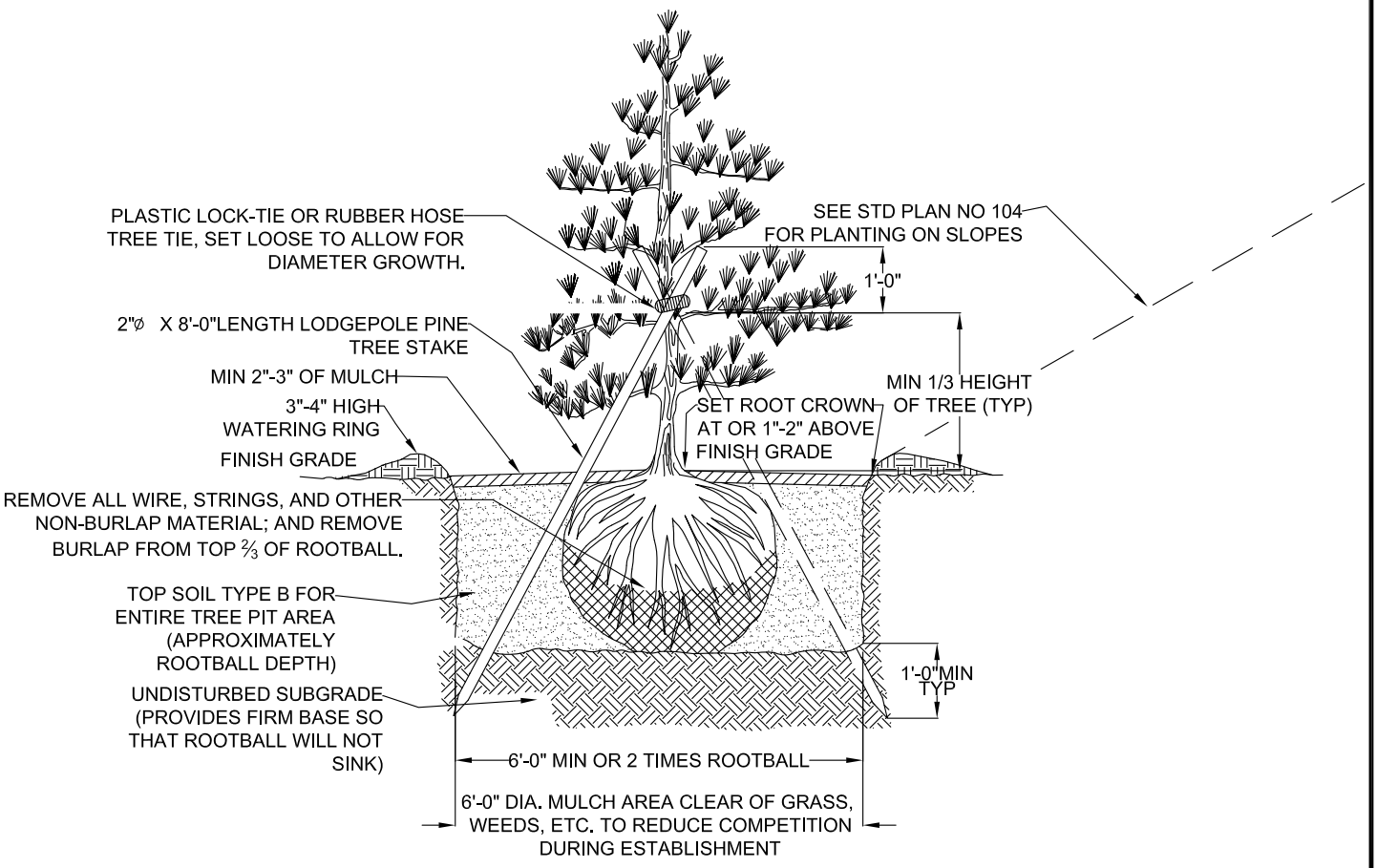


NOTES:

1. PLANTING INCLUDES REMOVAL OF STAKES ONE YEAR AFTER INSTALLATION.
2. SHAPE SOIL SURFACE TO PROVIDE 3" DIAM WATERING RING.
3. ADJUST TREE TIES DURING ESTABLISHMENT TO ALLOW ROOM FOR GROWTH (~1" SLACK).
4. ROOT BARRIER REQUIRED ALONG EDGE OF ROADWAY, CURB, DRIVEWAY, TRAIL, SIDEWALK, OR OTHER STRUCTURES WHERE ROOTBALL IS WITHIN TWO FEET.

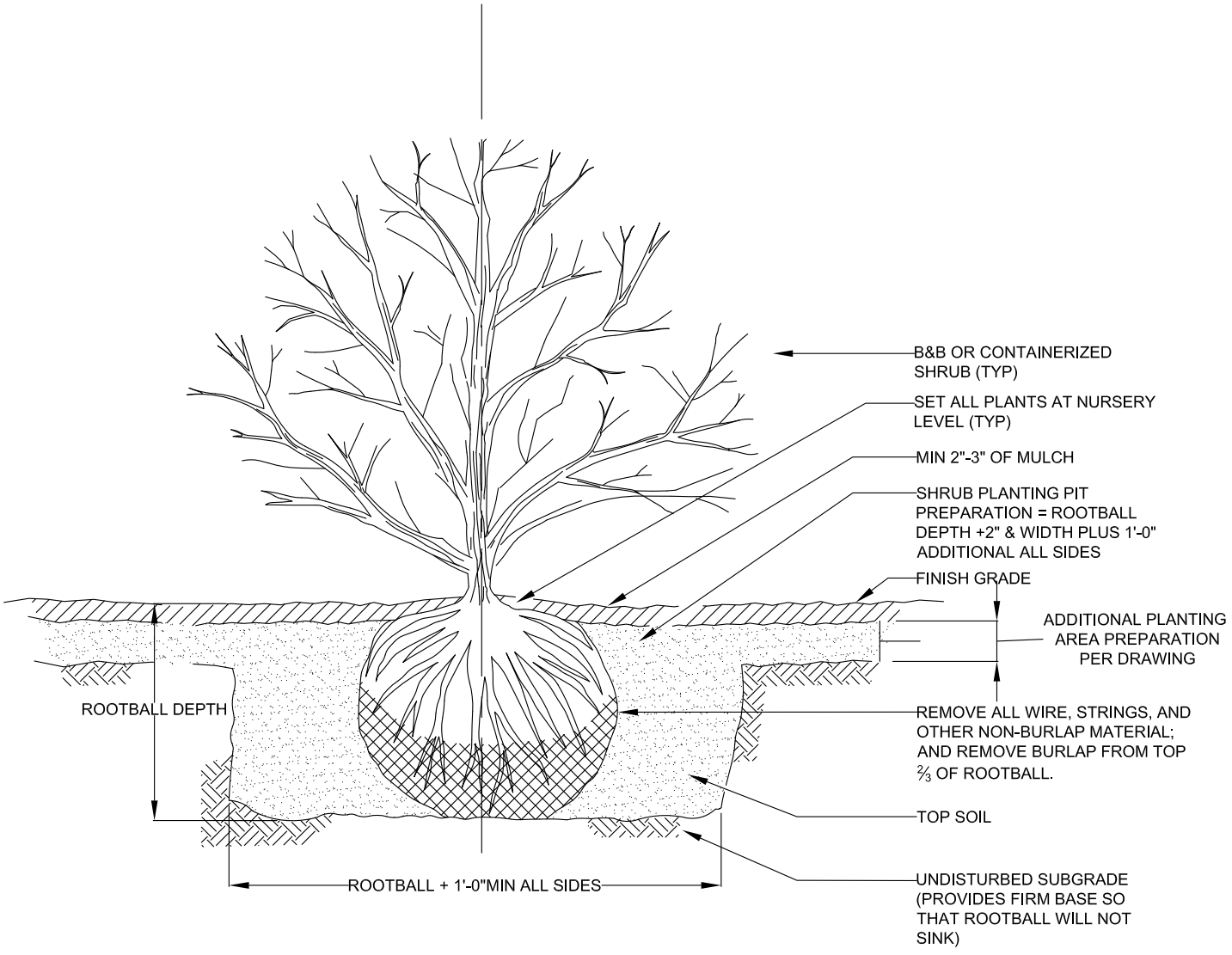
LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	TREE AND SHRUB PLANTING ON SLOPES

REV DATE: JAN 2015



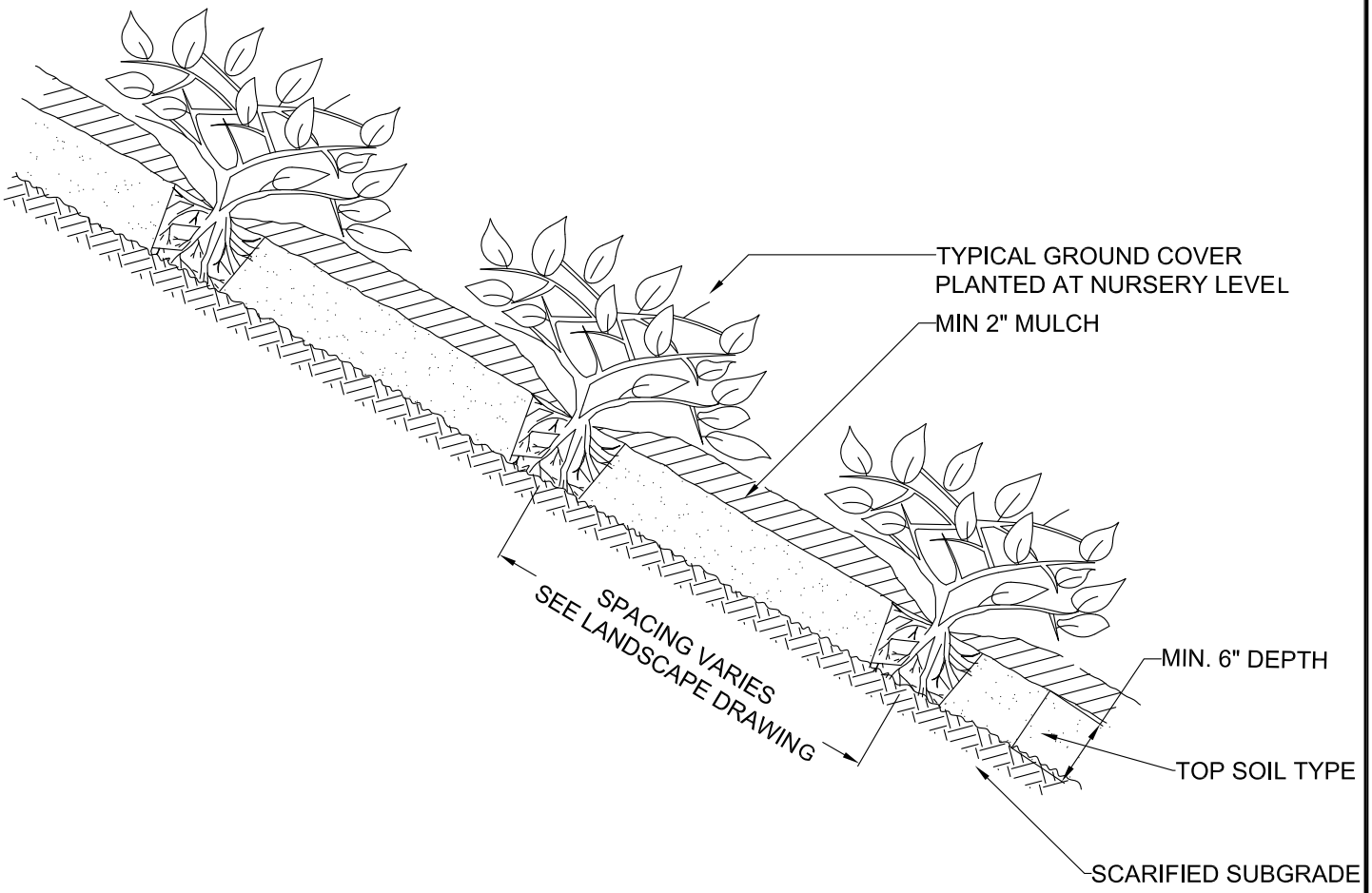
LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	CONIFEROUS TREE PLANTING

REV DATE: JAN 2015



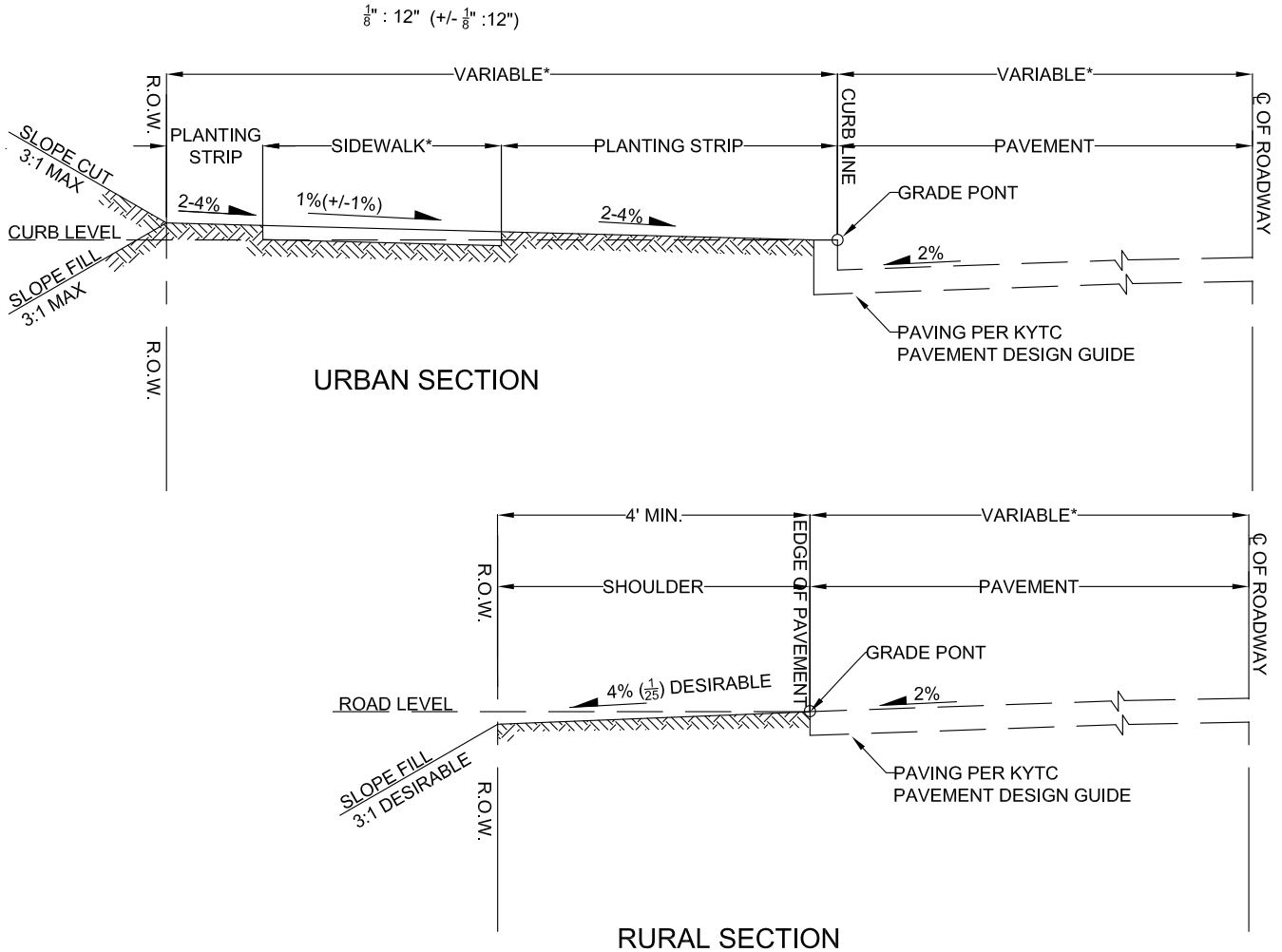
LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	SHRUB PLANTING

REV DATE: JAN 2015



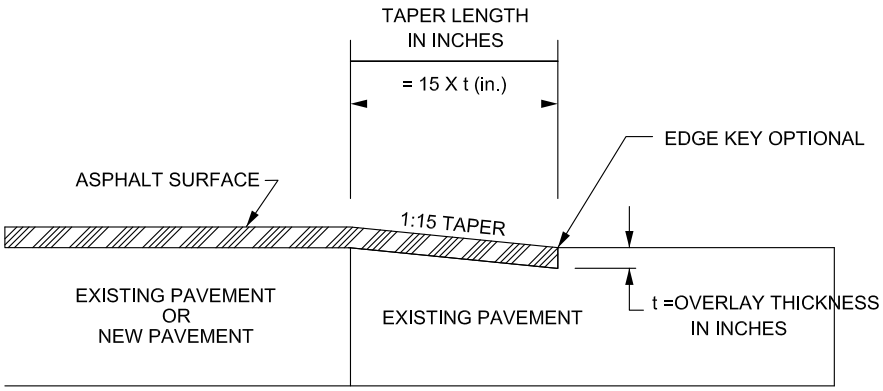
LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	GROUND COVER PLANTING

REV DATE: JAN 2015



URBAN SECTION

RURAL SECTION



EDGE KEY DETAIL

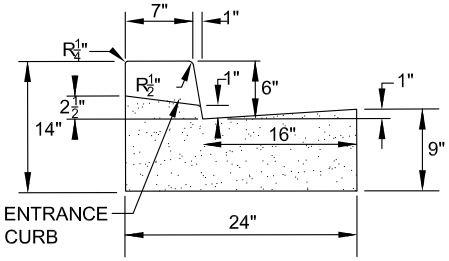
LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	ROADWAY HALF SECTION EDGE KEY

REV DATE: JAN 2015

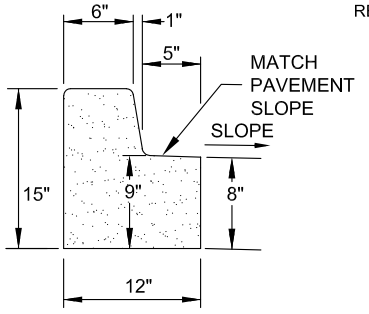
UTILITY TRENCH RESTORATION
RESERVED

LOUISVILLE METRO PUBLIC WORKS		NOT TO SCALE	UTILITY TRENCH RESTORATION

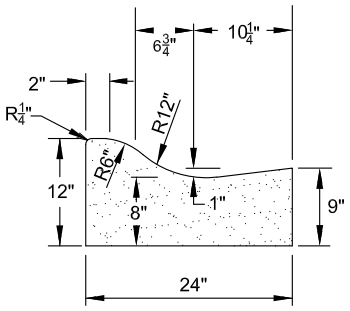
REV DATE: JAN 2015



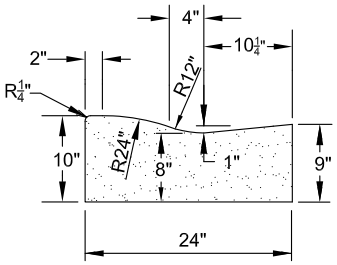
VERTICAL CURB AND GUTTER



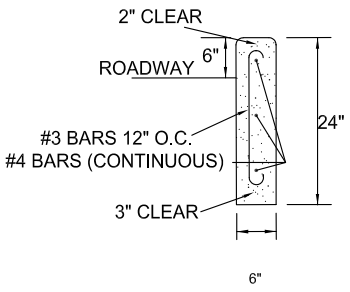
MEDIAN CURB



STANDARD ROLL CURB



DEPRESSED ROLL CURB

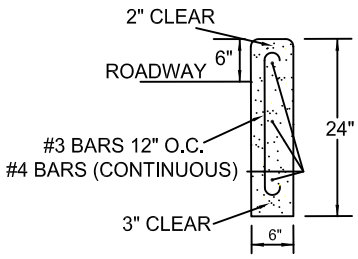


SIMULATED LIMESTONE HEADER CURB

- USE HISTORIC MIX
- ½" EXPANSION AT EACH 30' STOP STEEL AT ALL EXPANSION JOINTS.
- COLD JOINT EACH 10' (SAW)
- CAULK ALL JOINTS
- GREASED SMOOTH ½" STEEL ROD 12" LONG, 6" DOWN FROM TOP + 6" UP FROM BOTTOM SPANNING ALL EXPANSION JOINTS

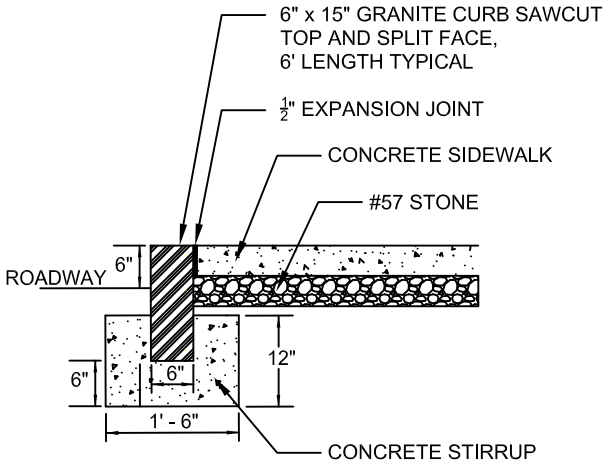
1. CURBS (EXCEPT SIMULATED LIMESTONE) SHALL BE CONSTRUCTED OF KYTC CLASS A (3,500 PSI COMPRESSIVE STRENGTH IN 28 DAYS) CONCRETE.
2. CONSTRUCT EXPANSION JOINTS AT ALL BREAKS IN ALIGNMENT, AT ALL DRAINAGE BOXES AND OTHER FIXED OBJECTS, AT THE BEGINNING AND ENDING POINTS OF CURVES, AND AT THE BEGINNING, QUARTER, MIDDLE, AND ENDING POINTS OF SEMICIRCULAR CURVES, EXCEPT AT THE QUARTER POINTS FOR SEMICIRCLES HAVING RADII OF 5 FEET OR LESS.
3. CONTROL JOINTS SHALL BE CONSTRUCTED PERPENDICULAR TO THE GUTTER. JOINTS ARE TO BE SAWED TO A DEPTH OF 2-INCHES WITHIN 24 HOURS. CONTROL JOINTS SHALL BE INSTALLED AT REGULAR INTERVALS NOT EXCEEDING 10 FEET.
4. FOR CURB TO CATCH BASIN TRANSITION DETAIL, REFER TO MSD STANDARD DRAWING NO. PC-03-01.
5. FOR OTHER CURB AND GUTTER SPECIFICATIONS, REFER TO KYTC STANDARD DRAWING NO. RPM-100-09.
6. FOR DRIVEWAY TRANSITIONS, REFER TO STANDARD PLAN NO. 431.

LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	CURB DETAILS



- USE HISTORIC MIX
- ½" EXPANSION AT EACH 30' STOP STEEL AT ALL EXPANSION JOINTS.
- COLD JOINT EACH 10' (SAW)
- CAULK ALL JOINTS
- GREASED SMOOTH ½" STEEL ROD 12" LONG, 6" DOWN FROM TOP + 6" UP FROM BOTTOM SPANNING ALL EXPANSION JOINTS

SIMULATED LIMESTONE HEADER CURB



GRANITE CURB

OLD LOUISVILLE HISTORIC MIX

SAND-GROUT CONCRETE MIX DESIGN

MIX ID: 6-1/2 BAG GROUT - 4,000 PSI

WEIGHTS PER CUBIC YARD (SATURATED SURFACE-DRY)

		YIELD, CU. FT.
TYPE I PORTLAND	630	3.21
CEMENT CLASS F FLY	10	0.70
ASH (LBS.) CLASS A SAND	2729	17.02
(LBS.) WATER (GAL. LBS)	295	4.73
TOTAL AIR (%)	5.0E1.0	1.35
		TOTAL: 27.00 CU. FT.
ADD MIXTURE RUSS TECH, FINISHEASE NC (OZ.)	29.60	
AIR ENTRAIN RUSS TECH, RSA-10 (OZ.-US)	5.9	
WATER/CEMENT RATIO (LBS.)	0.40	
SLUMP (IN.)	4.00	
CONCRETE UNIT WEIGHT (LBS./CU. FT.)	139.4	

COMPENSATION FOR THE FREE AND NEGATIVE MOISTURE WILL BE MADE AT THE TIME OF BATCHING

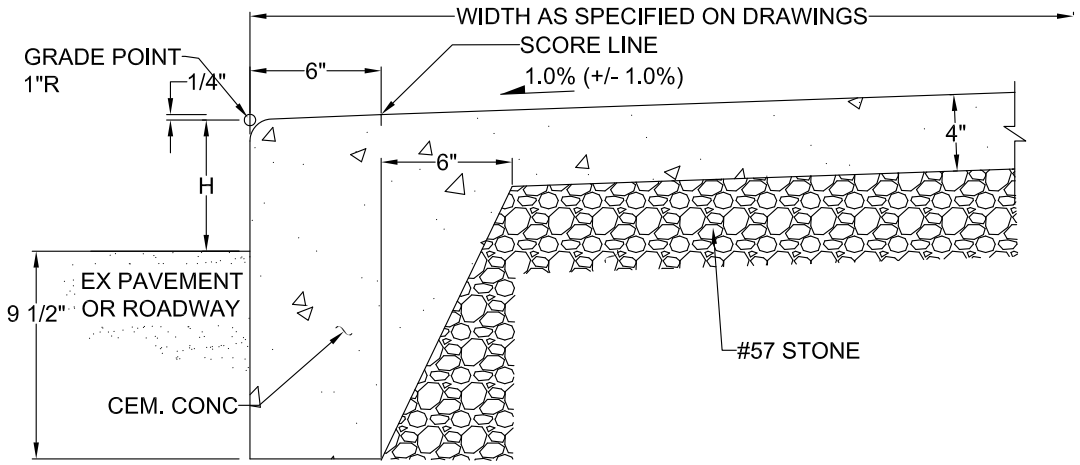
CONSTRUCTION TYPE: GENERAL
PLACEMENT: HANDS ON

THE KEY TO THE FINAL PRODUCT IS THE LIGHT SPRAY WASH (WATER) UNDERTAKEN AT THE PROPER TIME - A FIELD DECISION (NO RETARDENT)

SAMPLES PREPARED FOR WALKWAY AND CURB CONSTRUCTION WITH ST. JAMES COURT.

LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	CURB DETAILS

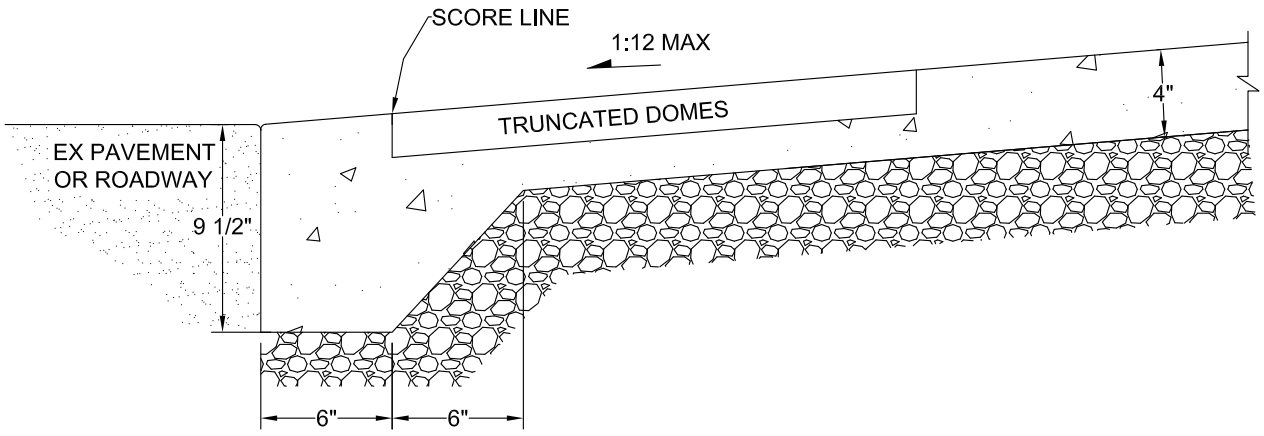
REV DATE: JAN 2015



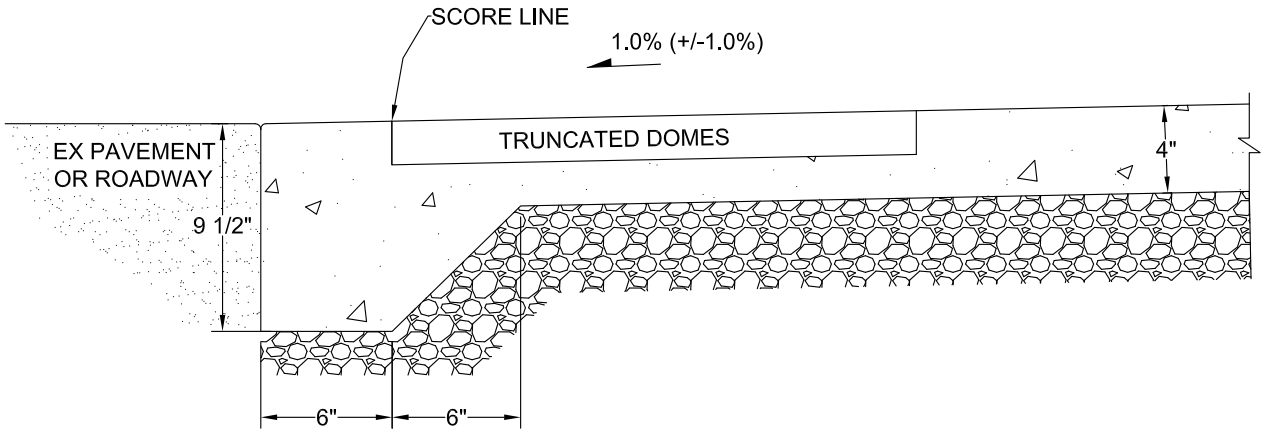
SIDEWALK WITH INTEGRAL CURBING

NOTES:

1. "H" SHALL BE 6" FROM FINISHED ROADWAY GRADE UNLESS OTHERWISE SPECIFIED



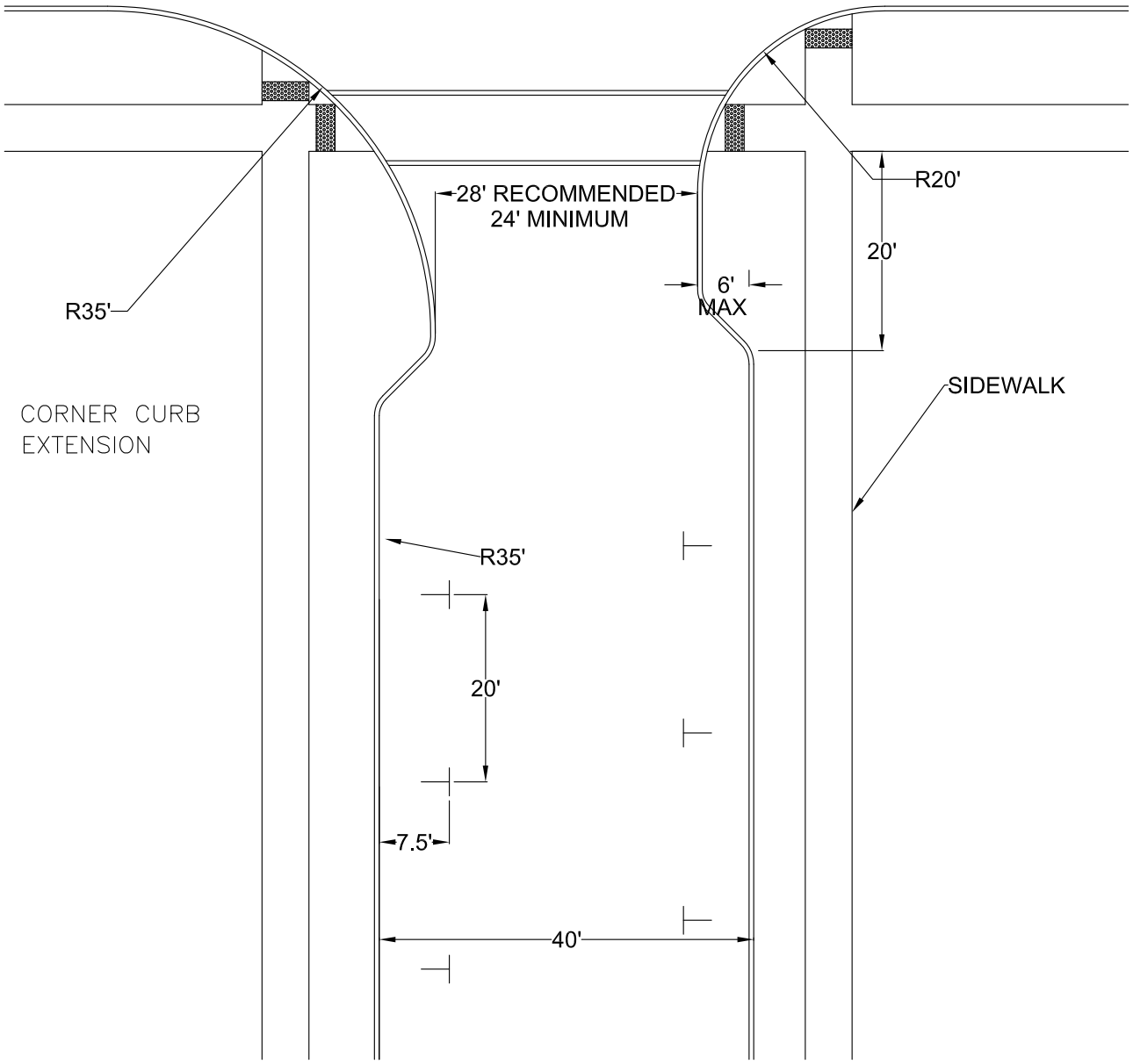
RAMP WITH INTEGRAL CURBING



LANDING WITH INTEGRAL CURBING

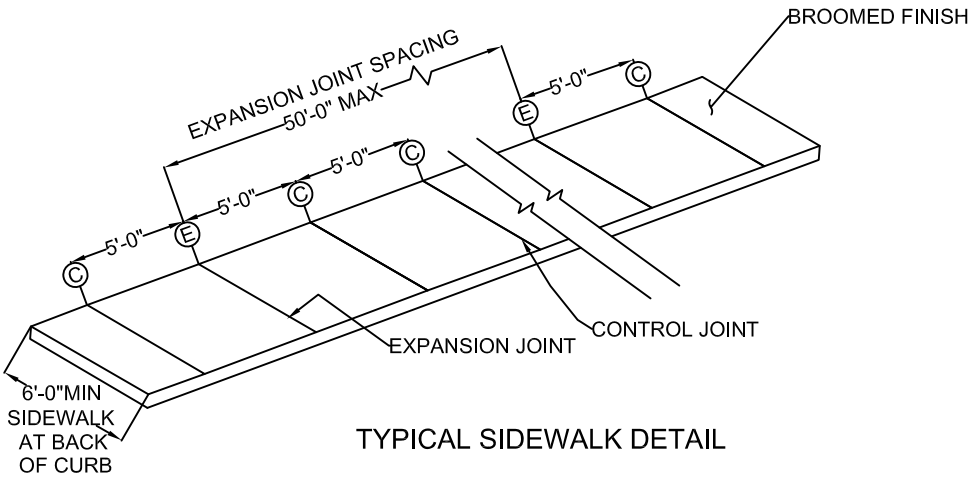
LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	SIDEWALK AND RAMP WITH INTEGRAL CURB

REV DATE: JAN 2015

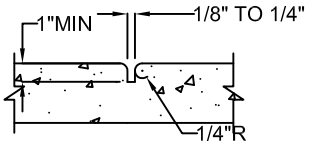


LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	CURB EXTENSIONS

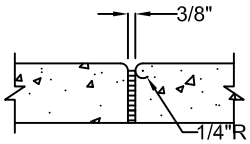
REV DATE: JAN 2015



TYPICAL SIDEWALK DETAIL



(C) CONTROL JOINT

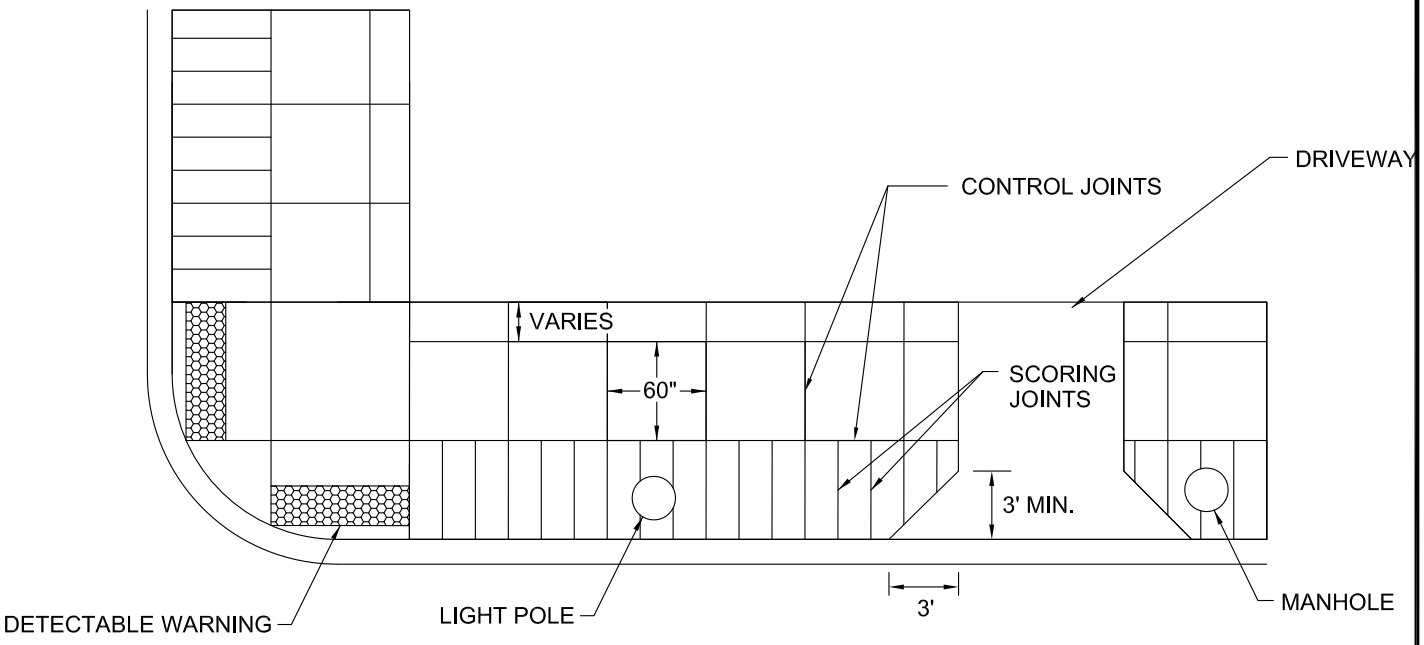


(E) EXPANSION JOINT

1. NEW SIDEWALKS, SHARED–USE PATHS (WITHIN RIGHT–OF–WAY), RAMPS AND DRIVEWAY APRONS SHALL BE CONSTRUCTED OF CLASS A (3,500 PSI COMPRESSIVE STRENGTH IN 28 DAYS) CONCRETE HAVING A SLUMP BETWEEN 2 AND 4 INCHES. SIDEWALKS SHALL HAVE A MINIMUM UNIFORM THICKNESS OF 4 INCHES WHERE INTENDED SOLELY FOR PEDESTRIAN TRAFFIC, PLACED OVER MINIMUM 4 INCHES THICKNESS KYTC NO. 57 STONE OVER COMPACTED SUBGRADE (NO. 57 STONE MAY BE REPLACED WITH 4 INCHES COMPACTED DGA WITH METRO APPROVAL).
2. SIDEWALK CROSS SLOPE: 1.5% (+/–0.5%). LONGITUDINAL SLOPE: 5% MAX., UNLESS THE ADJACENT ROADWAY GRADE IS OF A STEEPER GRADE, IN WHICH CASE THE SIDEWALK GRADE SHALL NOT EXCEED THE ROADWAY GRADE.
3. IN HISTORIC DISTRICT, WHEN CONCRETE IS USED ON SIDEWALKS, REPLACE UTILIZING HISTORIC MIX OR REPLACE IN KIND.
4. CONTROL JOINTS SHALL BE CONSTRUCTED PERPENDICULAR TO THE SURFACE OF THE SIDEWALK OR BIKEPATH. JOINTS ARE TO BE TO A DEPTH OF ¼ THE SLAB THICKNESS WITH ¼" ROUNDOVER OR SAWED ¼ THE SLAB THICKNESS WITHIN 24 HOURS. MAXIMUM SPACING BETWEEN CONTROL JOINTS IS THE WIDTH OF THE SIDEWALK OR BIKEPATH, NOT TO EXCEED 10 FEET
5. FULL DEPTH TRANSVERSE EXPANSION JOINTS SHALL BE CONSTRUCTED PERPENDICULAR TO THE SURFACE OF THE SIDEWALK AT INTERVALS NOT TO EXCEED 50 FEET. EXPANSION JOINT MATERIAL 3/8" SHALL BE PROVIDED WHERE THE NEW CONSTRUCTION ABUTS AN EXISTING STRUCTURE OR DRIVEWAY. SIMILAR EXPANSION MATERIAL SHALL BE PLACED AROUND OBSTRUCTIONS PROTRUDING THROUGH THE SIDEWALK.
6. THE SLAB SURFACE SHALL BE BROOM FINISHED TO BE SLIP RESISTANT, AND SHALL MATCH AS CLOSELY AS POSSIBLE THE FINISH OF EXISTING ADJACENT SLABS AND ALL EDGES SHALL BE TOOLED TO ELIMINATE SHARP CORNERS. (UNLESS UTILIZING HISTORIC MIX, WHICH MUST HAVE WASHED FINISH)
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING THE FINISHED SLAB FROM ALL DAMAGE AND VANDALISM UNTIL METRO ACCEPTS OR APPROVES THE WORK. ANY SLAB SECTION DAMAGED OR VANDALIZED PRIOR TO ACCEPTANCE OR APPROVAL SHALL BE CUT OUT BETWEEN JOINTS AND REPLACED.
8. ALL FORMS SHALL BE REMOVED PRIOR TO ACCEPTANCE OR APPROVAL AND THE DISTURBED GROUND SHALL BE BACKFILLED, REGRADED, AND SEEDED SO THAT THE WEAR SURFACE OF THE CONCRETE IS REASONABLY FLUSH WITH THE ADJACENT GRADE.

LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	CONCRETE SIDEWALK DETAILS

REV DATE: JAN 2015



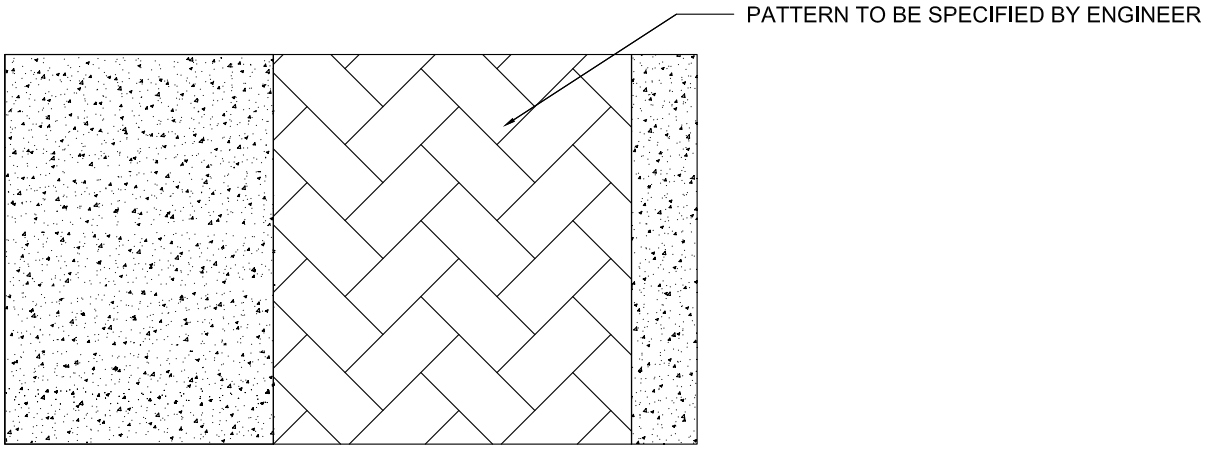
PLAN VIEW

NOTES:

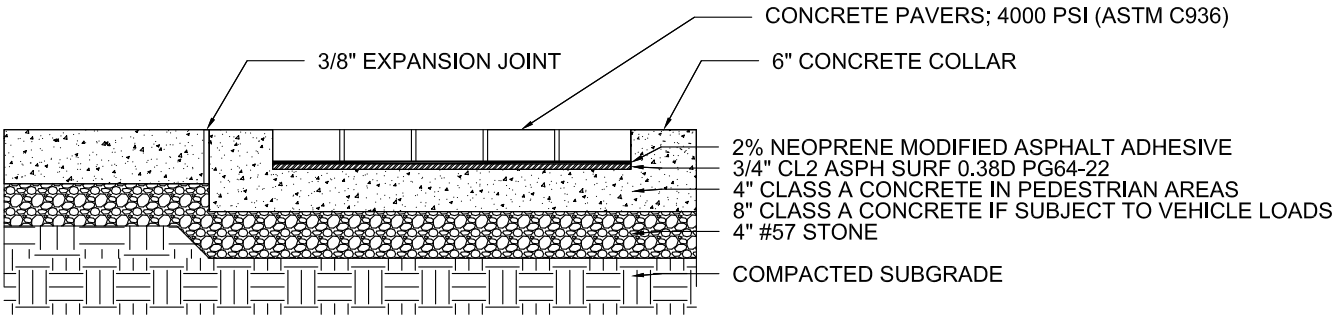
1. A CONTINUOUS STRAIGHT LONGITUDINAL CONTROL (CONTRACTION) JOINT EITHER SAWED (PREFERABLE) WITHIN 24 HOURS OR HAND GROOVED, SHALL BE INSTALLED 5 FEET ON CENTER EACH WAY TO A MINIMUM DEPTH OF 1".
2. SCORE JOINTS ARE TO BE SAWED TO A DEPTH OF 1/2" WITHIN 24 HOURS.
3. EXPANSION JOINTS SHALL BE APPROVED NON-EXTRUDING PREFORMED STRIPS 3/8" WIDE, EXTEND FULL DEPTH OF WALK AND BE PROVIDED AT FOLLOWING LOCATIONS:
   A) PARALLEL TO THE LINE OF WALK AT BACK OF CURB AND AGAINST THE BUILDING FOR FULL WIDTH WALKS
   B) AT DRIVEWAYS, ON BOTH SIDES AGAINST THE SIDEWALK
   C) AROUND FIXED OBJECTS SUCH AS LIGHT POLES, FIRE HYDRANTS,ETC., ABUTTING OR WITHIN THE SIDEWALK AREA
4. IN THE AREA OF MANHOLES, CATCH BASINS, SMALL FOUNDATIONS, OR OTHER BUILT IN STRUCTURES, JOINTS SHALL BE LAID OUT AS TO MEET THE CORNERS OF THE STRUCTURES, TO THE GREATEST EXTENT POSSIBLE.
5. IN AREAS WHERE BASEMENTS OR VAULTS EXIST UNDER THE SIDEWALK, THE CONTRACTOR SHALL SUBMIT, FOR APPROVAL, DRAWINGS SIGNED BY A REGISTERED ENGINEER THAT DETAIL THE DESIGN AND METHOD OF CONSTRUCTION.

LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	SIDEWALK FOR CENTRAL BUSINESS DISTRICT

REV DATE: JAN 2015



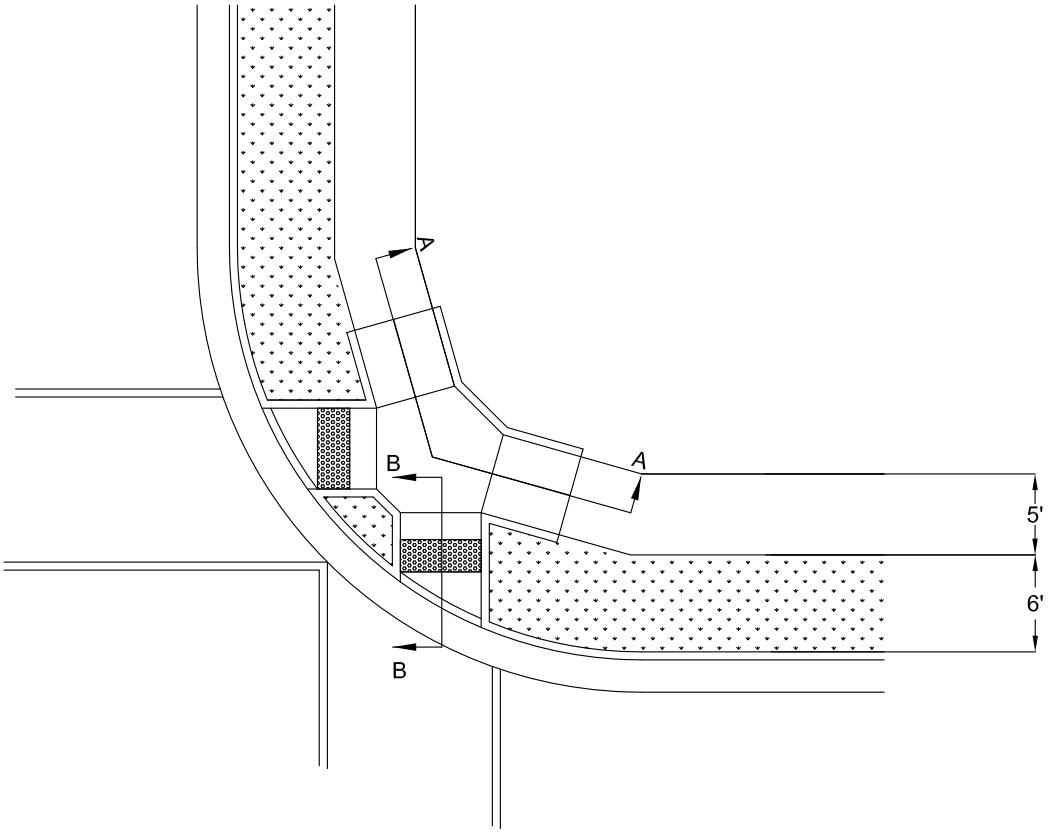
PLAN VIEW



TYPICAL SECTION

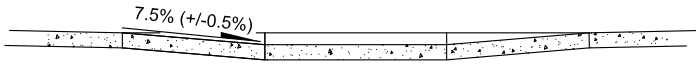
LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	PAVER DETAIL

REV DATE: JAN 2015

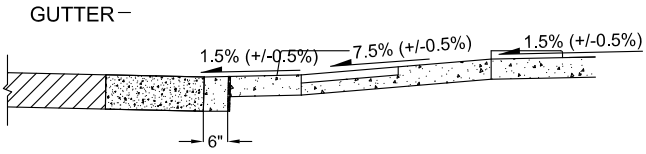


NOTES

1. NEW SIDEWALKS, SHARED-USE PATHS, AND RAMPS SHALL BE CONSTRUCTED OF CLASS A (3,500 PSI COMPRESSIVE STRENGTH IN 28 DAYS) CONCRETE HAVING A SLUMP BETWEEN 2 AND 4 INCHES.
2. SIDEWALK AND RAMP REPLACEMENT SHALL BE METRO HISTORIC MIX (SEE DRAWING 220) HAVING A SLUMP BETWEEN 2 AND 4 INCHES.
3. SIDEWALK MINIMUM UNIFORM THICKNESS OF 4 INCHES, PLACED OVER A MINIMUM 4 INCHES THICKNESS KYTC NO. 57 STONE OVER COMPACTED SUBGRADE. (NO. 57 STONE MAY BE REPLACED WITH 4 INCHES COMPACTED DGA WITH METRO APPROVAL).
4. RAMP MIN. WIDTH 5'-0", RAMP GRADE: 7.5% (+/-0.5%), CROSS SLOPE : 1.5% (+/-0.5%)
5. FIVE (5) FEET SQUARE LANDING MINIMUM. SLOPE TO DRAIN TO STREET. CROSS SLOPE IN ALL DIRECTIONS : 1.5% (+/-0.5%)
6. TRUNCATED DOMES, SEE KYTC RGX-040
7. 3/8" EXPANSION JOINT AT BACK OF CURB LINE AND AT SIDEWALK LINE.
8. CROSSWALK WIDTH SHALL BE AT LEAST THE WIDTH OF THE SIDEWALK AND RAMP, MIN. CROSSWALK WIDTH OF 6 FEET.



SECTION A-A



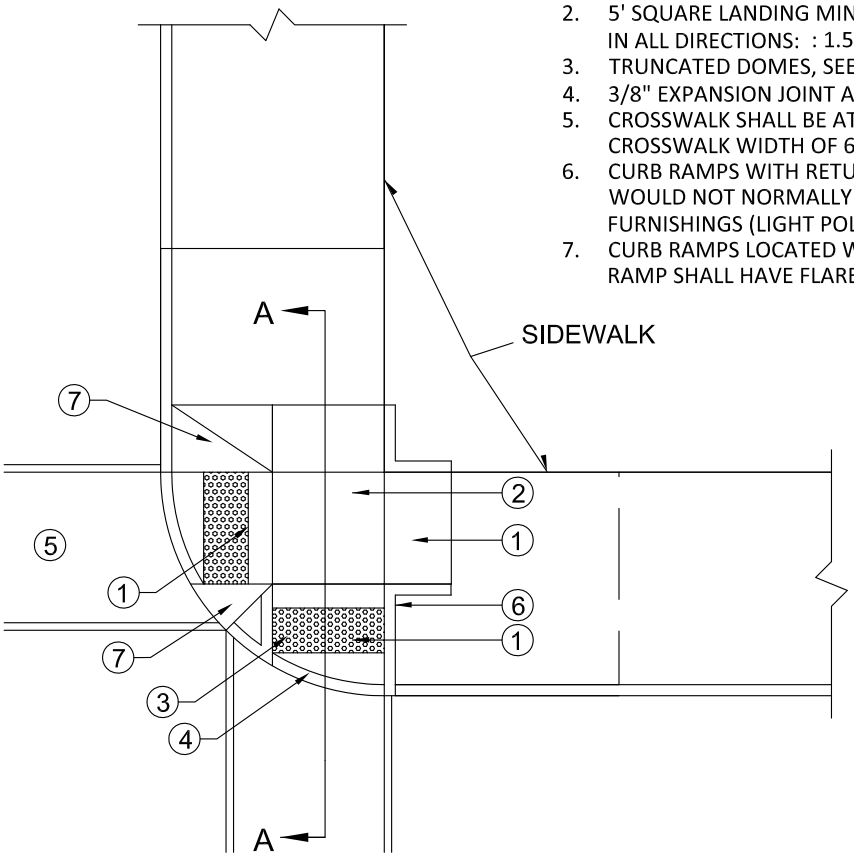
SECTION B-B

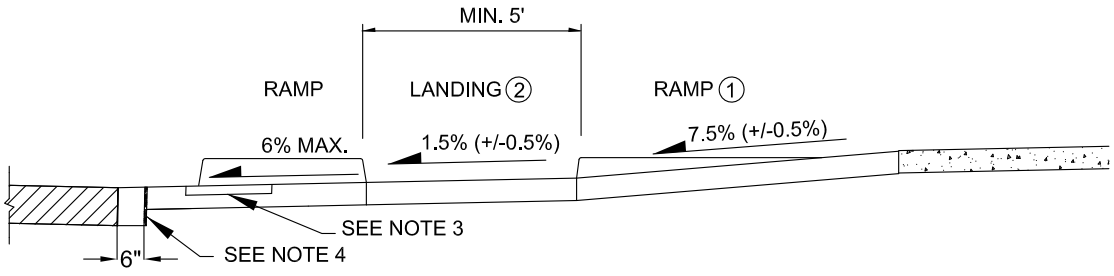
LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	CURB RAMPS

REV DATE: JAN 2015

NOTES
NEW SIDEWALKS, SHARED-USE PATHS, AND RAMPS SHALL BE CONSTRUCTED OF CLASS A (3,500 PSI COMPRESSIVE STRENGTH IN 28 DAYS) CONCRETE HAVING A SLUMP BETWEEN 2 AND 4 INCHES. SIDEWALK AND RAMP REPLACEMENT SHALL BE METRO HISTORIC MIX (SEE DRAWING 220) HAVING A SLUMP BETWEEN 2 AND 4 INCHES.
MINIMUM UNIFORM THICKNESS OF 4 INCHES. MINIMUM 4 INCHES THICKNESS KYTC No. 57 STONE PLACED OVER COMPACTED SUBGRADE.

1. RAMP MIN. WIDTH 5'-0", RAMP GRADE: 7.5% (+/-0.5%) , CROSS SLOPE : 1.5% (+/-0.5%)
2. 5' SQUARE LANDING MINIMUM. SLOPE TO DRAIN TO STREET. CROSS SLOPE IN ALL DIRECTIONS: : 1.5% (+/-0.5%)
3. TRUNCATED DOMES, SEE KYTC RGX-040
4. 3/8" EXPANSION JOINT AT BACK OF CURB LINE AND AT SIDEWALK LINE.
5. CROSSWALK SHALL BE AT LEAST AS WIDE AS THE SIDEWALK WITH A MIN. CROSSWALK WIDTH OF 6 FEET.
6. CURB RAMPS WITH RETURNED CURBS MAY BE USED WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP DUE TO UTILITIES OR FURNISHINGS (LIGHT POLES, TRASH RECEPTACLES, ETC.)
7. CURB RAMPS LOCATED WHERE PEDESTRIANS MUST WALK ACROSS THE RAMP SHALL HAVE FLARED SIDES WITH A MAXIMUM SLOPE OF 1:10.





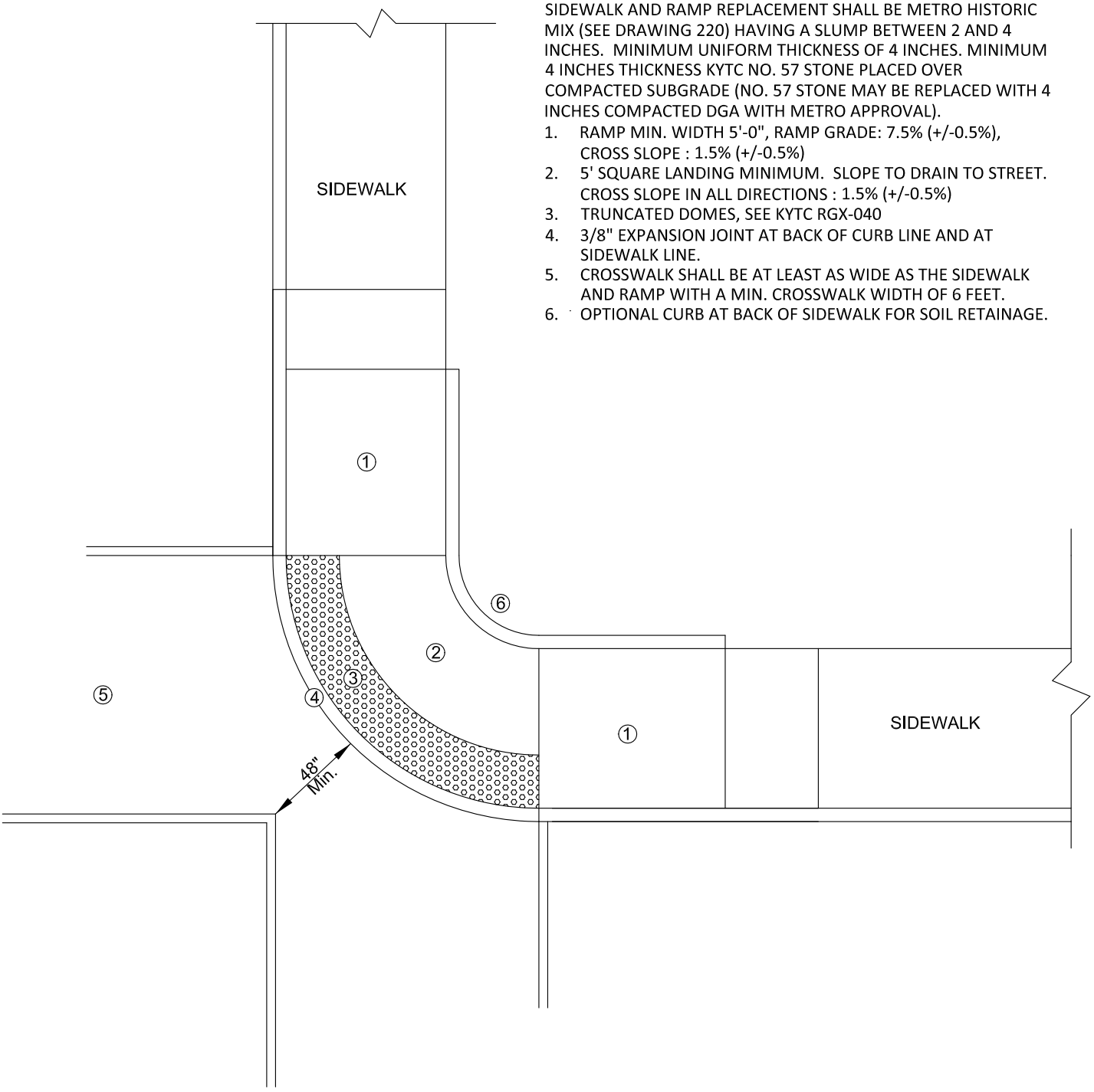
SECTION A-A

LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	CURB RAMPS

REV DATE: JAN 2015

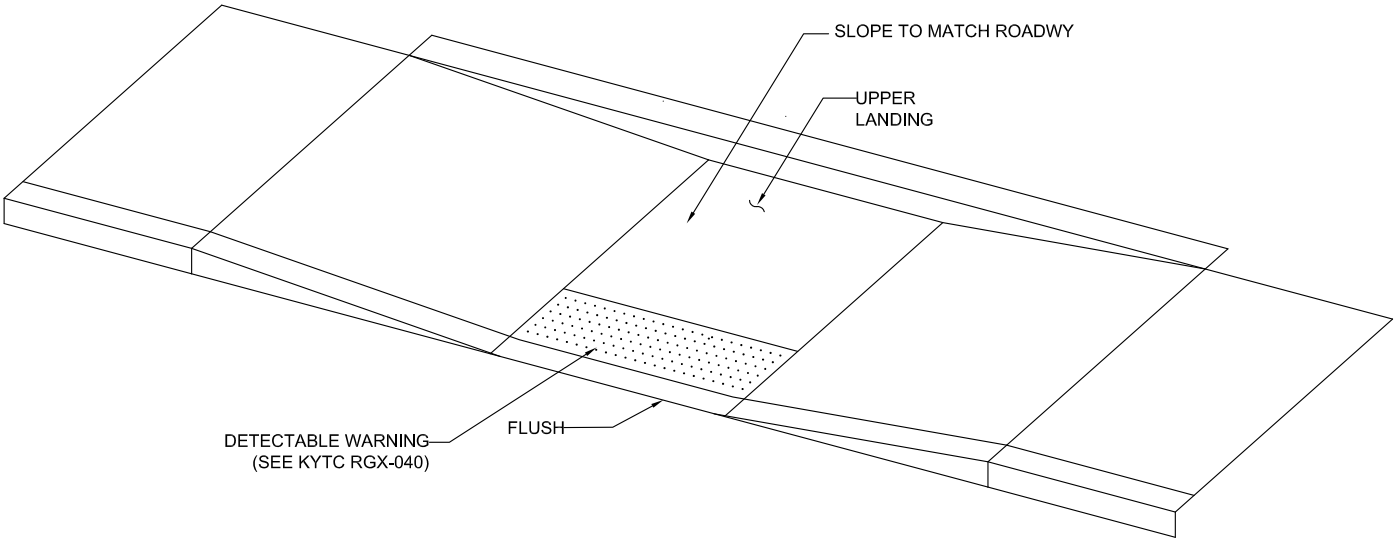
NOTES:
NEW SIDEWALKS, SHARED-USE PATHS, AND RAMPS SHALL BE CONSTRUCTED OF CLASS A (3,500 PSI COMPRESSIVE STRENGTH IN 28 DAYS) CONCRETE HAVING A SLUMP BETWEEN 2 AND 4 INCHES. SIDEWALK AND RAMP REPLACEMENT SHALL BE METRO HISTORIC MIX (SEE DRAWING 220) HAVING A SLUMP BETWEEN 2 AND 4 INCHES. MINIMUM UNIFORM THICKNESS OF 4 INCHES. MINIMUM 4 INCHES THICKNESS KYTC NO. 57 STONE PLACED OVER COMPACTED SUBGRADE (NO. 57 STONE MAY BE REPLACED WITH 4 INCHES COMPACTED DGA WITH METRO APPROVAL).

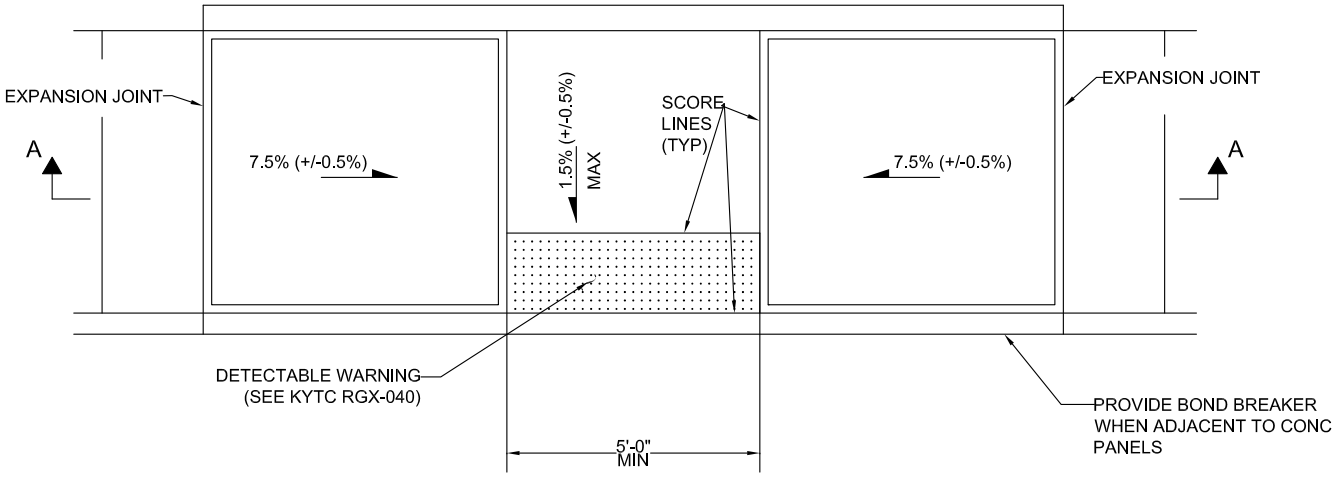
1. RAMP MIN. WIDTH 5'-0", RAMP GRADE: 7.5% (+/-0.5%), CROSS SLOPE : 1.5% (+/-0.5%)
2. 5' SQUARE LANDING MINIMUM. SLOPE TO DRAIN TO STREET. CROSS SLOPE IN ALL DIRECTIONS : 1.5% (+/-0.5%)
3. TRUNCATED DOMES, SEE KYTC RGX-040
4. 3/8" EXPANSION JOINT AT BACK OF CURB LINE AND AT SIDEWALK LINE.
5. CROSSWALK SHALL BE AT LEAST AS WIDE AS THE SIDEWALK AND RAMP WITH A MIN. CROSSWALK WIDTH OF 6 FEET.
6. OPTIONAL CURB AT BACK OF SIDEWALK FOR SOIL RETAINAGE.



LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	CURB RAMPS

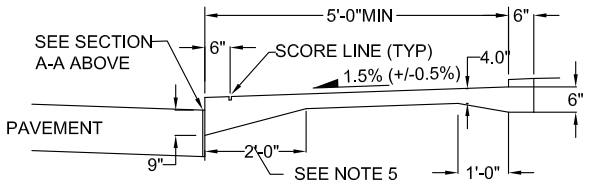
REV DATE: JAN 2015





PARALLEL CURB RAMP

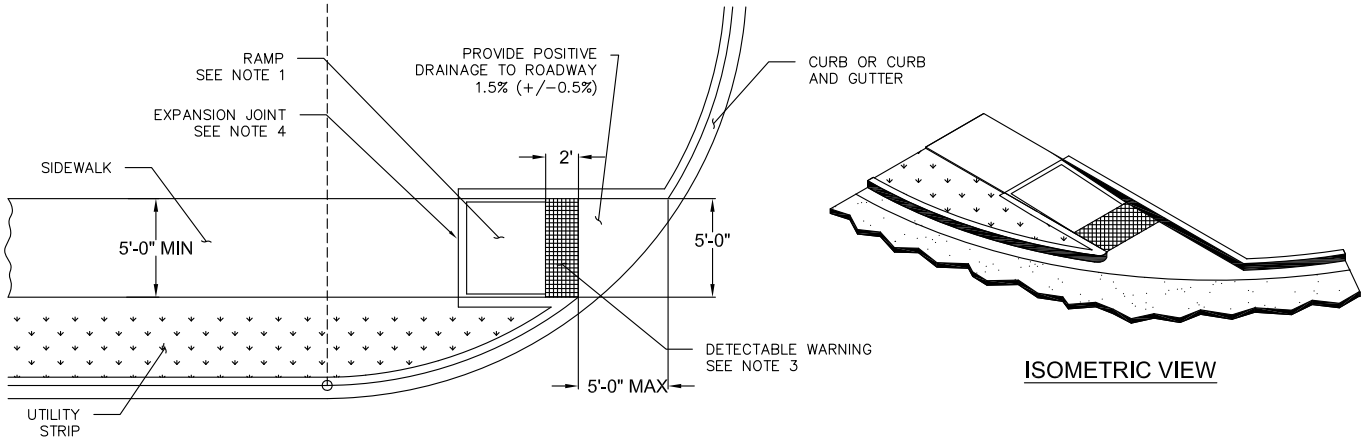
USE PARALLEL CURB RAMPS ONLY WHEN SHOWN IN DRAWINGS OR WITH APPROVAL OF ENGINEER.
PARALLEL CURB RAMPS MAY ALSO BE USED ON CURVES; ALL REQUIREMENTS SHALL APPLY.



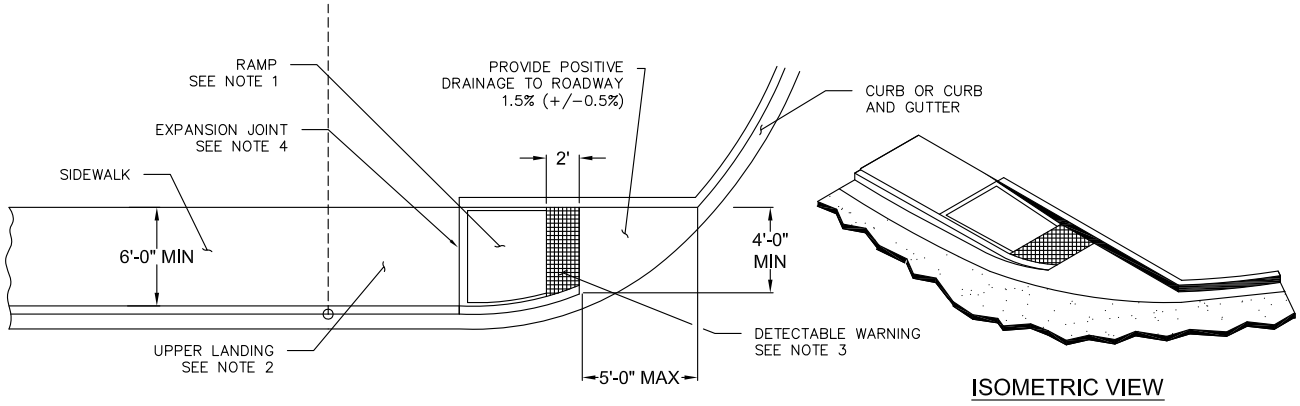
SECTION A-A

LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	PARALLEL CURB RAMP DETAIL

REV DATE: JAN 2015



DIRECTIONAL CURB RAMP
WITH UTILITY STRIP



DIRECTIONAL CURB RAMP
AT BACK OF CURB

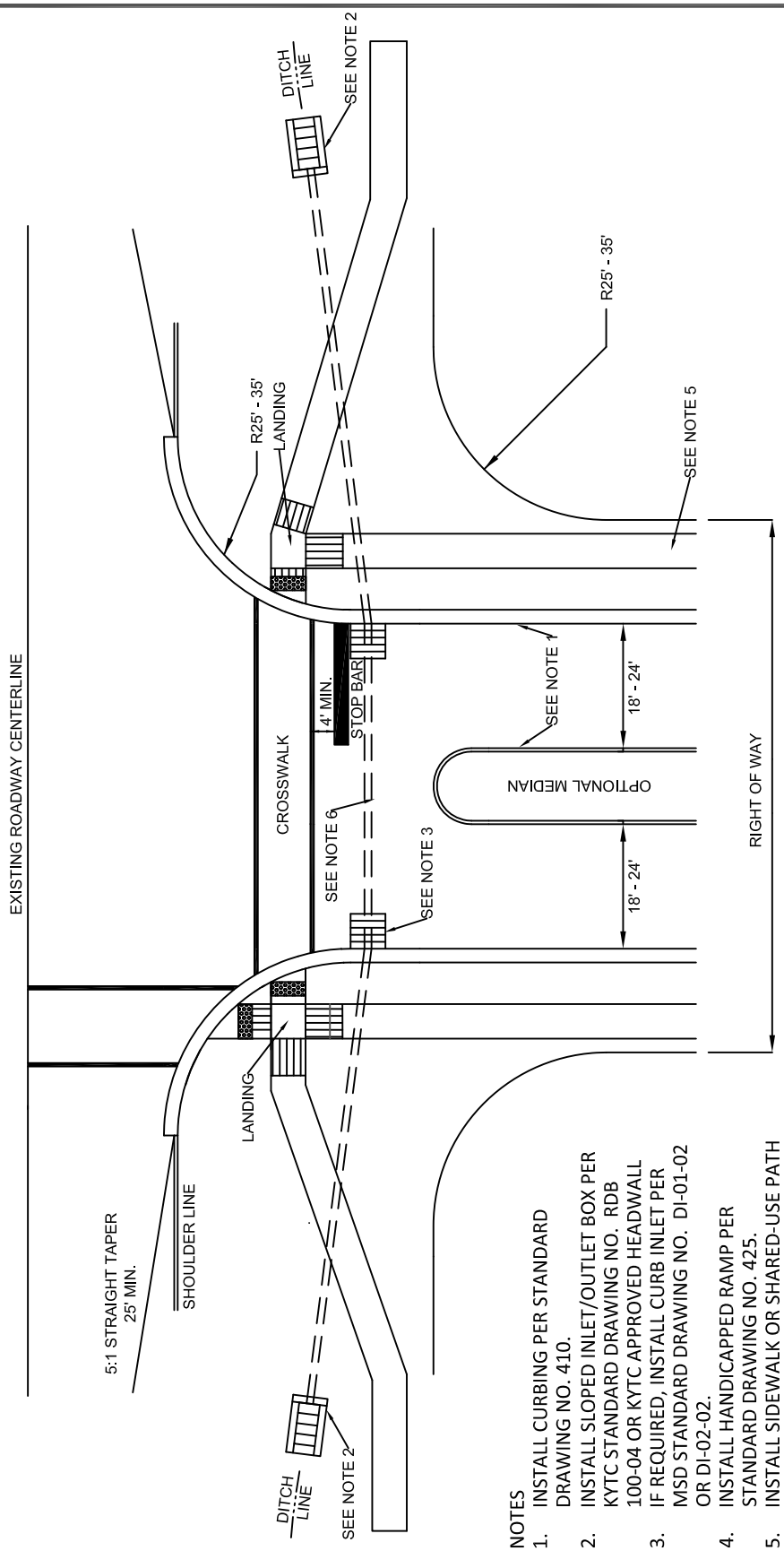
NOTES

SIDEWALKS, SHARED-USE PATHS, AND RAMPS SHALL BE CONSTRUCTED OF CLASS A (3,500 PSI COMPRESSIVE STRENGTH IN 28 DAYS) CONCRETE HAVING A SLUMP BETWEEN 2 AND 4-INCHES. MINIMUM UNIFORM THICKNESS OF 4 INCHES. MINIMUM 4 INCHES THICKNESS KYTC No. 57 STONE PLACED OVER COMPACTED SUBGRADE.

1. RAMP MIN. WIDTH 5'-0", RAMP GRADE: 7.5% (+/-0.5%), CROSS SLOPE : 1.0%
2. TRUNCATED DOMES, SEE KYTC RGX-040
3. 1/2" EXPANSION JOINT AT BACK OF CURB LINE AND AT SIDEWALK LINE.
4. MIN. CROSSWALK WIDTH SHALL BE 6 FEET.
5. CURB RAMPS WITH RETURNED CURBS MAY BE USED WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP DUE TO UTILITIES OR FURNISHINGS (LIGHT POLES,TRASH RECEPTACLES, ETC.).
6. CURB RAMPS LOCATED WHERE PEDESTRIANS MUST WALK ACROSS THE RAMP SHALL HAVE FLARED SIDES WITH A MAXIMUM SLOPE OF 1:10.

LOUISVILLE METRO PUBLIC WORKS		NOT TO SCALE	DIRECTIONAL CURB RAMP

REV DATE: JAN 2015



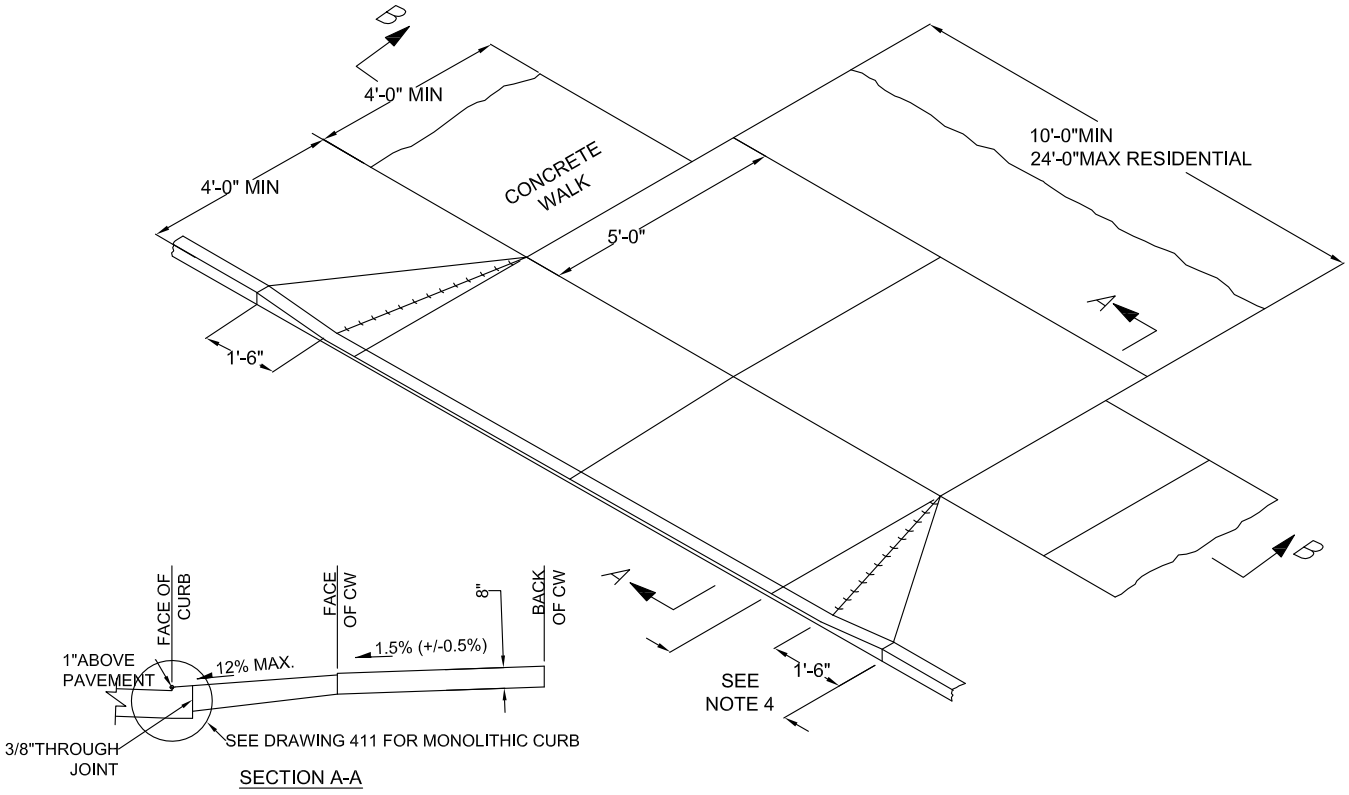
TYPICAL SUBDIVISION ENTRANCE

NOTES

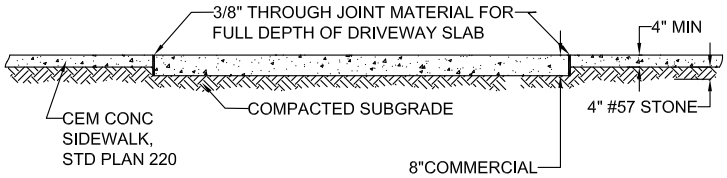
1. INSTALL CURBING PER STANDARD DRAWING NO. 410.
2. INSTALL SLOPED INLET/OUTLET BOX PER KYTC STANDARD DRAWING NO. RDB 100-04 OR KYTC APPROVED HEADWALL
3. IF REQUIRED, INSTALL CURB INLET PER MSD STANDARD DRAWING NO. DI-01-02 OR DI-02-02.
4. INSTALL HANDICAPPED RAMP PER STANDARD DRAWING NO. 425.
5. INSTALL SIDEWALK OR SHARED-USE PATH PER STANDARD DRAWING NO. 420.
6. OPTIONAL MEDIAN, PLACE NOSE AT LEAST BEHIND THE EXTENSION OF THE RIGHT-OF-WAY LINE. AASHTO SIGHT DISTANCE STANDARDS APPLY.
7. MIN. CROSSWALK WIDTH SHALL BE 6 FEET.
8. ALL PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.

LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	TYPICAL SUBDIVISION ENTRANCE

REV DATE: JAN 2015



SECTION A-A



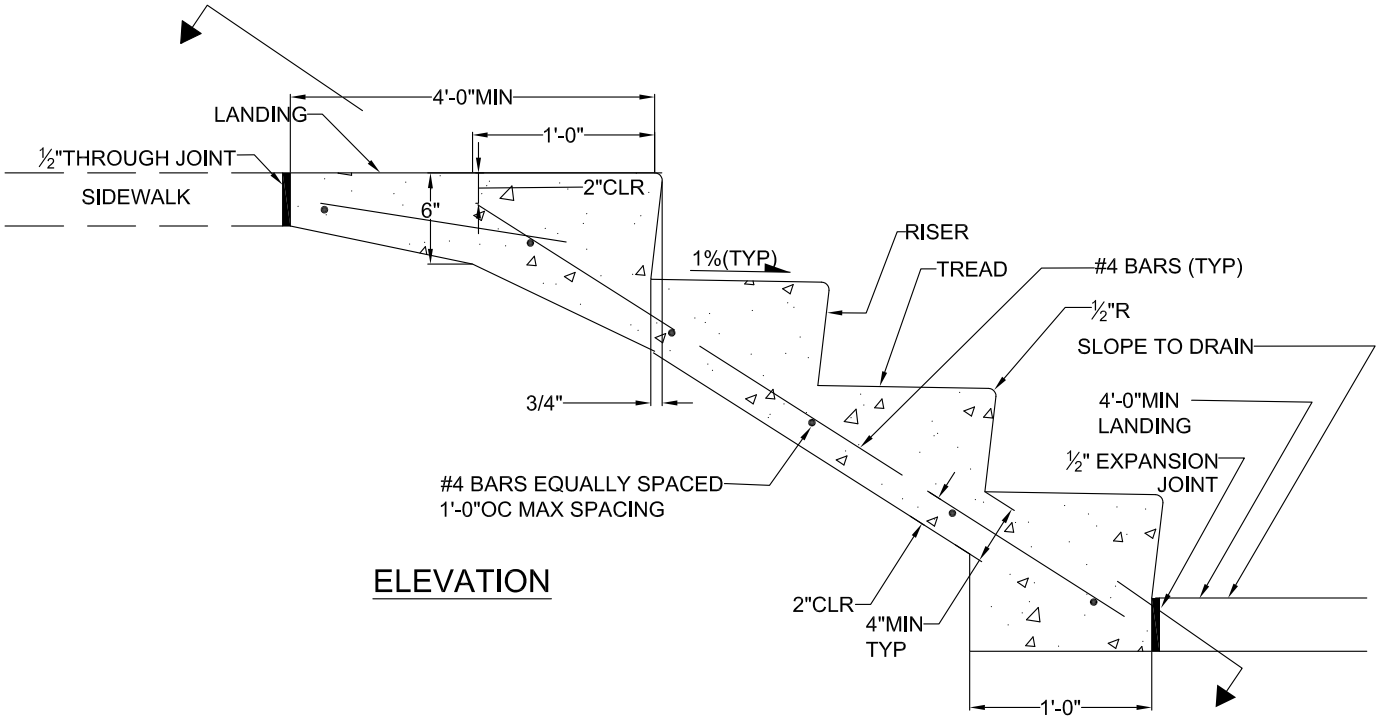
SECTION B-B

NOTES:

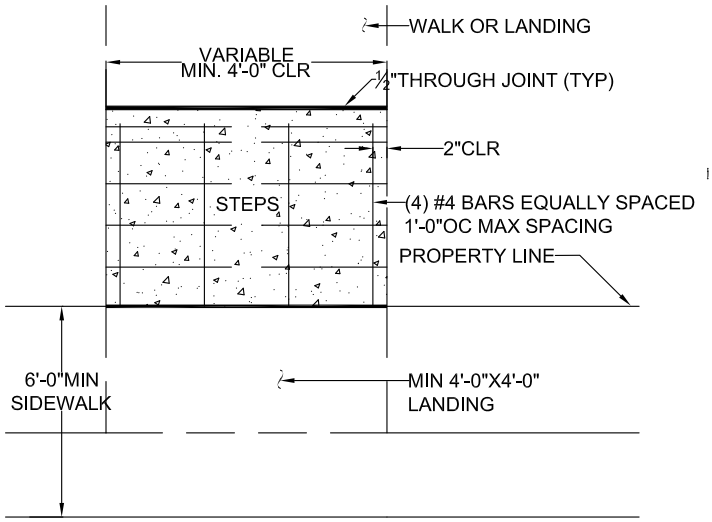
1. RESIDENTIAL DRIVEWAYS SHALL BE CLASS A CONCRETE MINIMUM UNIFORM THICKNESS 6" RESIDENTIAL AND 8" COMMERCIAL..
2. DRIVEWAY WIDTH GREATER THAN 15'-0" AND LESS THAN OR EQUAL TO 24' SHALL HAVE TRANSVERSE EXPANSION JOINTS AT IT'S CENTER.
3. DRIVEWAY GREATER THAN 24'-0" REQUIRES METRO APPROVAL AND SHALL HAVE TRANSVERSE EXPANSION JOINTS EVENLY PLACED SO THE DISTANCE BETWEEN EXPANSION JOINTS, OR BETWEEN THE EDGE THROUGH JOINTS AND EXPANSION JOINTS IS NOT GREATER THAN 15'-0".
4. WING WIDTH ON ARTERIAL STREETS WHERE TRAVEL LANE IS NEXT TO THE CURB SHALL BE 5'-0". OTHERWISE, WING WIDTH SHALL BE 3'-0".
5. CONCRETE DRIVEWAYS WITH A WIDTH GREATER THAN 15'-0" SHALL HAVE A 3/8" TRANSVERSE EXPANSION JOINT NEAR THE CENTERLINE OF DRIVEWAY.
6. SLOPE IN THE 5'-0" MINIMUM WIDE AREA CONNECTING TO WALK ON EACH SIDE OF THE DRIVEWAY SHALL BE 1.0%
7. ALL CHANGES IN LEVEL ACROSS JOINTS SHALL BE FLUSH WITH A MAXIMUM DIFFERENCE IN ELEVATION OF $\frac{3}{16}$" .

LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	DRIVEWAY

REV DATE: JAN 2015



ELEVATION



SECTION A-A

NOTES:

1. CEMENT CONCRETE SHALL BE CLASS A TROWEL FINISH OVER 4" #57 STONE.
2. NUMBER OF STEPS SHALL SUIT INDIVIDUAL CONDITIONS WITH UNIFORM TREAD AND RISER DIMENSIONS AS FOLLOWS:
   A. TREADS SHALL BE 11"MIN - 1'-0"MAX
   B. RISERS SHALL BE 5"MIN - 7"MAX
3. STEP WIDTH SHALL MATCH WIDTH OF EXISTING WALK, BUT SHALL BE NO LESS THAN 2'-6"WIDE .
4. ALL STAIRWAYS WITH 2 OR MORE STEPS SHALL INCLUDE A HANDRAIL ON BOTH SIDES.
5. TREAD SLOPES OUTWARD @1%

LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	CEMENT CONCRETE STEPS

REV DATE: JAN 2015

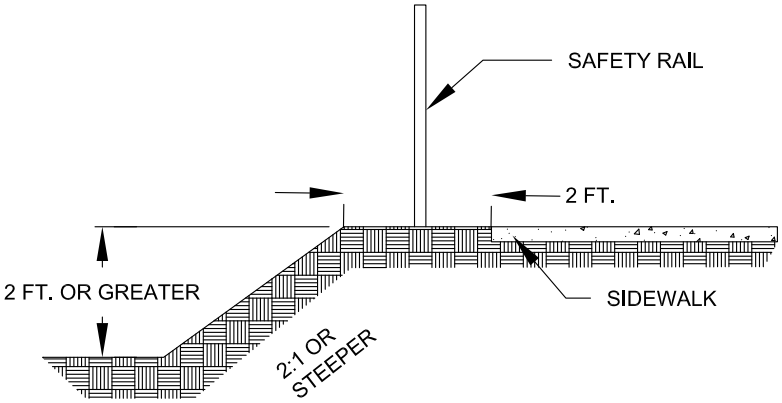


DIAGRAM A
SLOPED DROPOFF AT BACK OF SIDEWALK

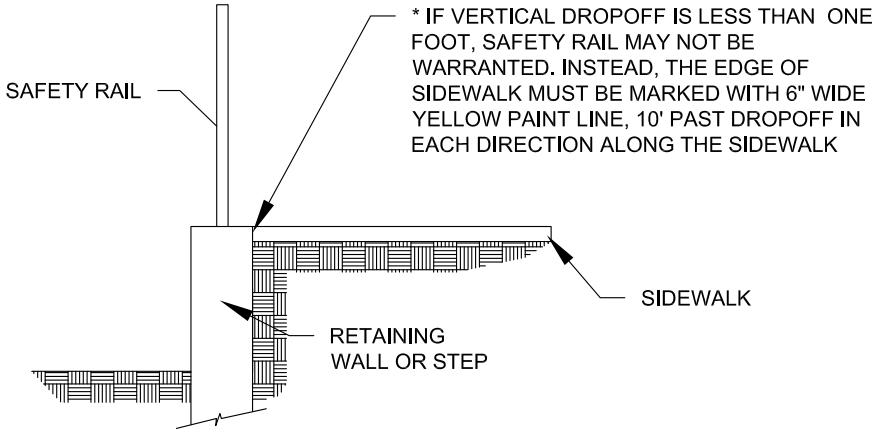


DIAGRAM B
VERTICAL DROPOFF AT BACK OF SIDEWALK

WARRANTS:
STANDARD SAFETY RAIL SHALL BE INSTALLED UNDER ANY OF THE FOLLOWING CIRCUMSTANCES IN BOTH NEW CONSTRUCTION AND IN RETROFITTING OR RECONSTRUCTION OF EXISTING ROADWAYS OR SITES.

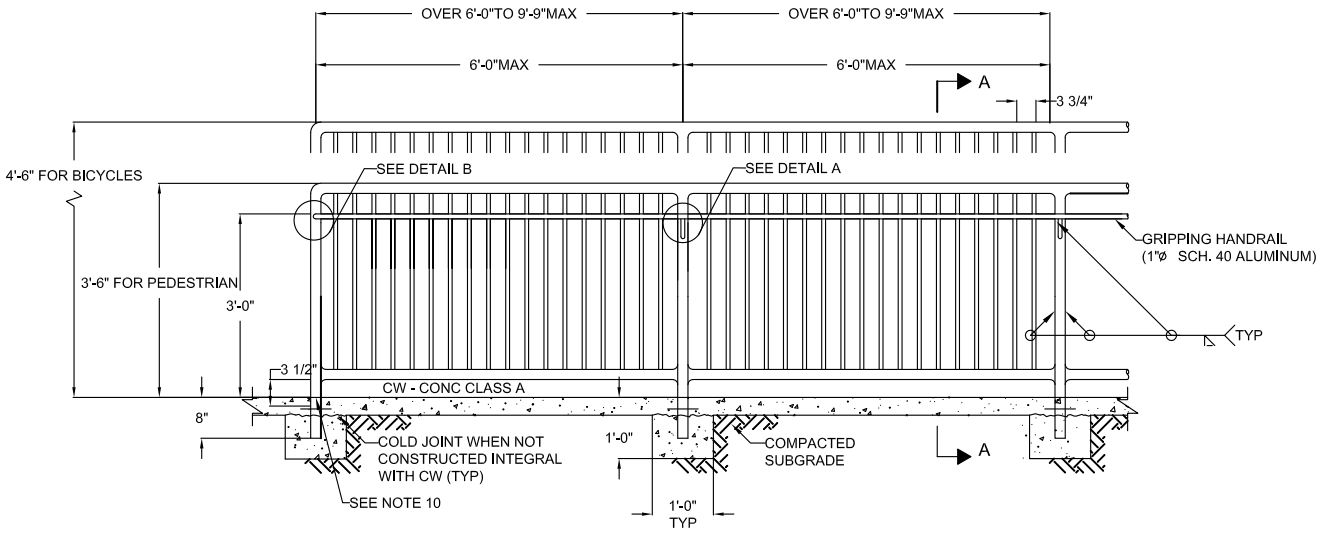
1. IF THERE IS A TWO FOOT OR GREATER DROPOFF WITHIN 2 FEET OF THE EDGE OF THE SIDEWALK (SEE DIAGRAM A).
2. IF THERE IS A ONE FOOT OR GREATER DROPOFF DIRECTLY ADJACENT TO THE SIDEWALK EDGE (SEE DIAGRAM B).
3. AT THE TOP OF ANY DROPOFF WITHIN THE PEDESTRIAN CLEAR ZONE OR WHERE PEDESTRIANS CAN REASONABLY BE EXPECTED IN THE VICINITY
4. AT THE DIRECTION OF METRO PUBLIC WORKS BASED ON FIELD CONDITIONS

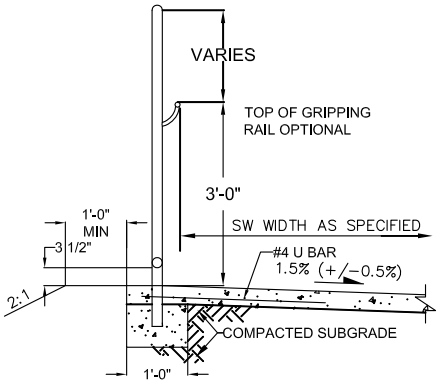
DEFINITIONS:

- DROPOFF -- A SLOPE OF 2:1 OR STEEPER. EXAMPLES INCLUDE HEADWALLS, RETAINING WALLS, AND CULVERTS.
- PEDESTRIAN CLEAR ZONE -- 10 FEET OF ANY COMBINATION OF SIDEWALK, SLOPE, AND SHOULDER SLOPED AT 6:1 OR FLATTER. SIDEWALK DOES NOT NEED TO BE PRESENT.
- SIDEWALK -- FOR PURPOSES OF THIS STANDARD, THE TERM "SIDEWALK" IS USED GENERICALLY AND SHALL MEAN ANY PATH OR SURFACE TO BE USED FOR BICYCLE AND/OR PEDESTRIAN TRANSPORTATION. EXAMPLES INCLUDE, BUT ARE NOT LIMITED TO, SIDEWALKS, BIKE PATHS, SHARED-USE PATHS, PEDESTRIAN PATHS, AND GREENWAYS.

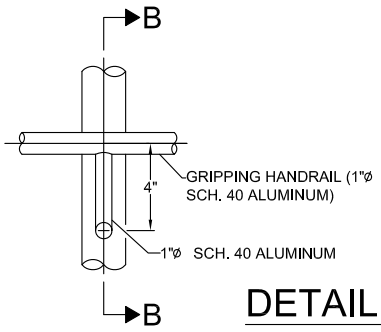
LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	SAFETY HANDRAIL WARRANTS

REV DATE: JAN 2015

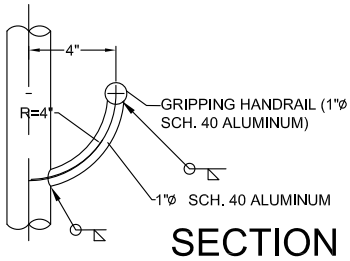




SECTION A-A



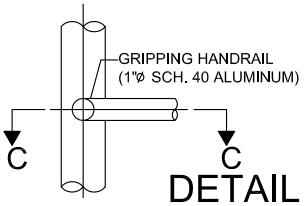
DETAIL A



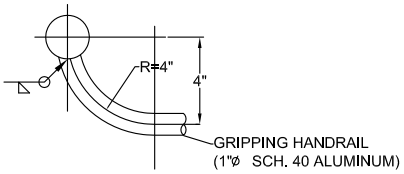
SECTION B-B

NOTES:

1. ALL POSTS SHALL BE PLUMB AND RAILS PARALLEL TO GRADE
2. IF THE CONCRETE WALK SLOPE IS 5% OR GREATER A GRIPPING HANDRAIL IS REQUIRED
3. TOP RAIL, BOTTOM RAIL AND POST TO BE Ø 1 $\frac{1}{2}$" SCH. 40 ALUMINUM OR STEEL PIPE.
4. PICKETS TO BE 3/4" Ø SCH. 40 ALUMINUM OR STEEL PIPE.
5. MAX. OPEN SPACE BETWEEN PICKETS TO BE 3 $\frac{3}{4}$".
6. ALL POST TO RAIL CONNECTIONS TO BE COPED AND WELDED SOLID.
7. MAX. LENGTH OF RAIL SECTION IS 18'-0".
8. TOP RAIL AT TERMINATION TO HAVE 1" INSIDE RADIUS TO POST.
9. RAIL SYSTEM TO HAVE ONE PRIME COAT OF FAST CURE EPOXY AND TWO TOP COATS OF HI-SOLIDS POLYURETHANE. TOP COAT TO BE GLOSS BLACK.
10. POSTS TO BE SET INTO 3 $\frac{1}{2}$" Ø X 4" CORE DRILLED HOLE USING HYDRAULIC GROUT.
11. RAILS TO HAVE A 1" INTERNAL EXPANSION JOINT Ø 54'-0" MAX. SPACING. (EVERY RAIL SECTION).



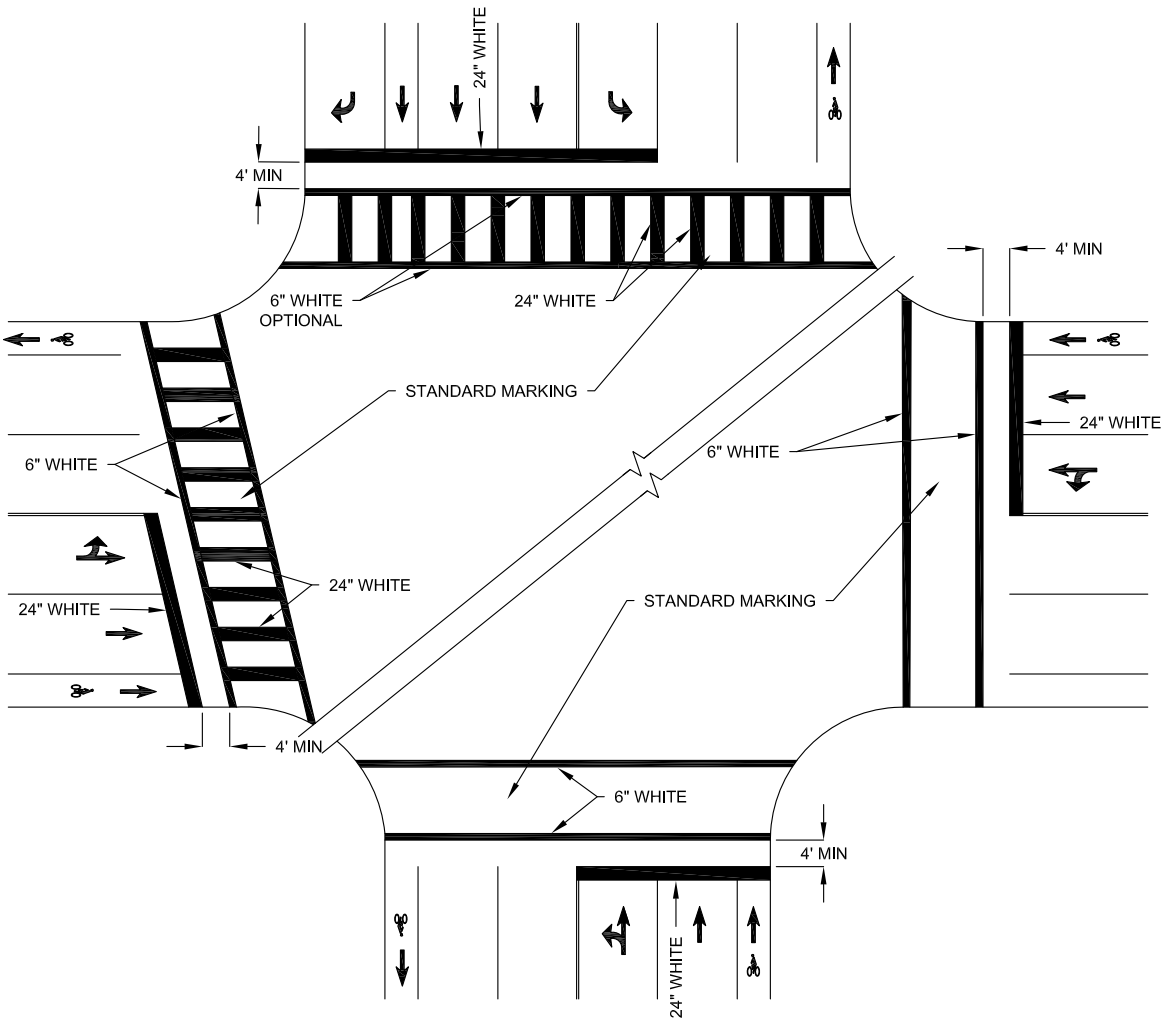
DETAIL B



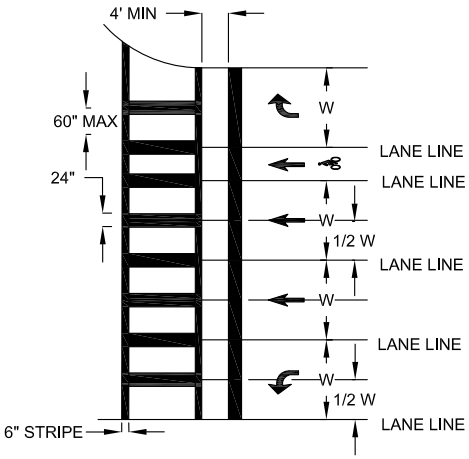
SECTION C-C

LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	PIPE RAILING

REV DATE: JAN 2015



HIGHVISIBILITY AND STANDARD CROSSWALKS SIGNALIZED
OR STOP SIGN CONTROLLED INTERSECTION



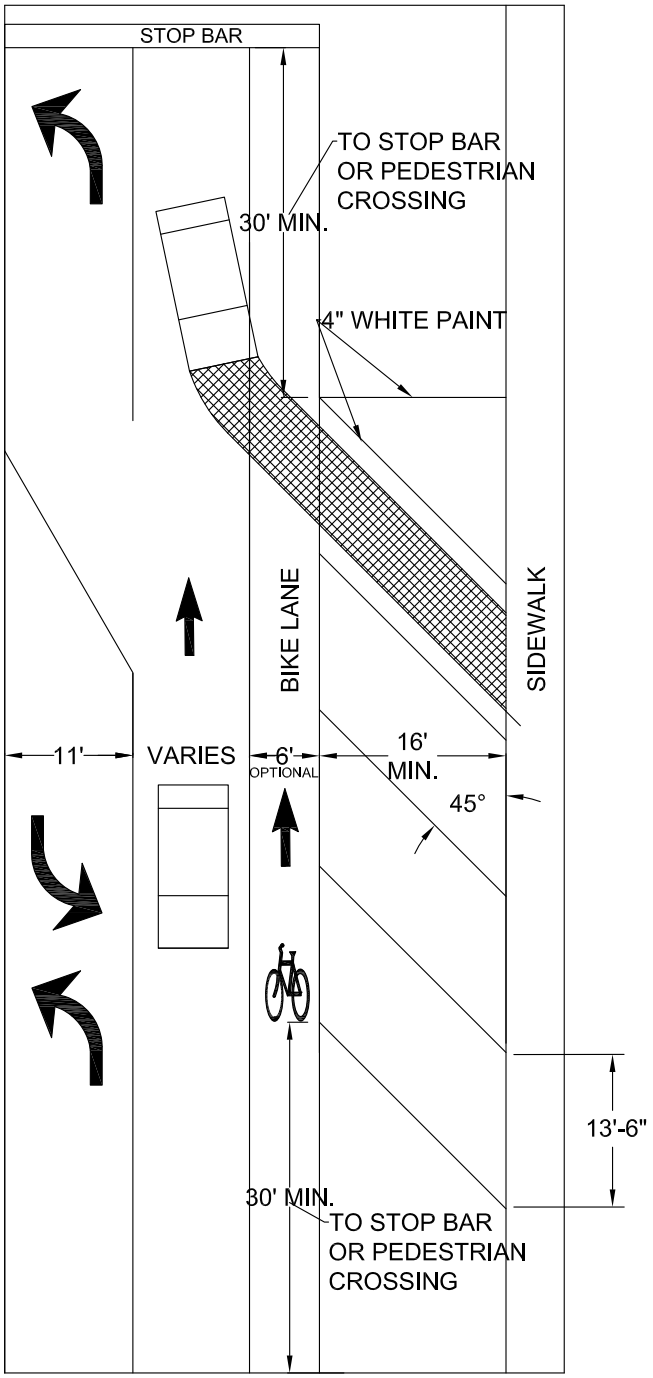
SPECIAL EMPHASIS
CROSSWALK MARKING
DETAIL

NOTES

1. ALL CROSSWALK MARKINGS SHALL BE WHITE AND COMPLY WITH ALL OTHER MUTCD STANDARDS
2. LONGITUDINAL LINES IN HIGH VISIBILITY CROSSWALK SHALL BE 24" WIDE AND SPACED TO AVOID THE WHEELPATH OF VEHICLES AS SHOWN IN DETAIL. THE MAXIMUM SPACE BETWEEN MARKINGS SHALL NOT EXCEED 60". A LONGITUDINAL MARKING SHALL BE CENTERED AT EACH LANE LINE. ADDITIONAL LONGITUDINAL MARKINGS SHALL BE PLACED AT THE CENTER OF EACH LANE ($\frac{1}{2}$ W).
3. WHERE THE CROSSWALK IS SKEWED TO THE LANE LINES, THE HIGH VISIBILITY LONGITUDINAL LINES SHOULD BE PARALLEL TO THE LANE LINE.

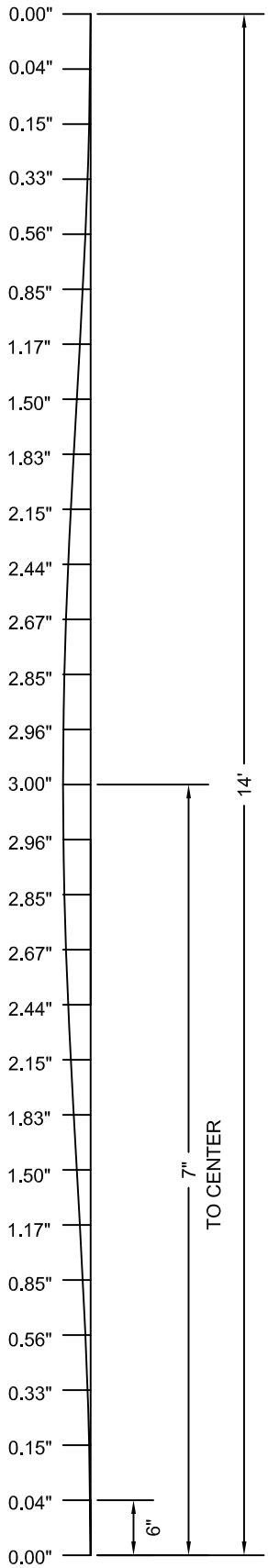
LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	CROSSWALKS

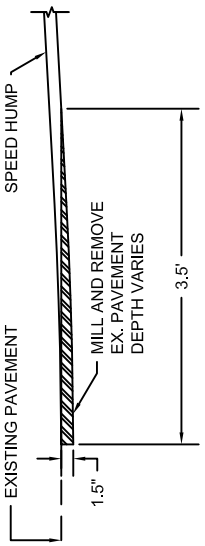
REV DATE: JAN 2015

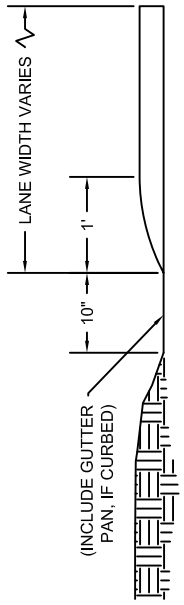


LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	BACK-IN/ HEAD-OUT ANGLE PARKING

REV DATE: JAN 2015

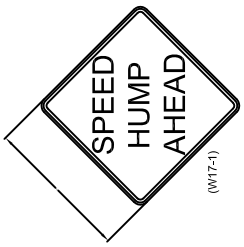


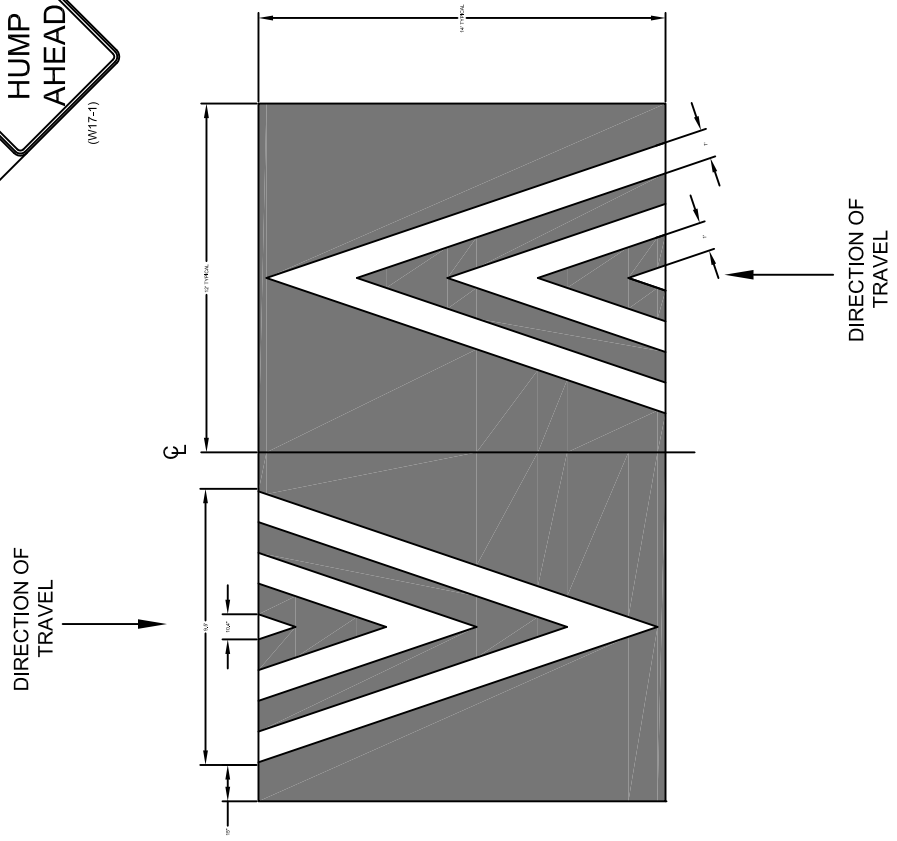




NOTES:

1. SPEED HUMPS SHALL NOT BE PLACED OVER MANHOLES, JUNCTION BOXES, WATER VALVES, GAS VALVES, ETC.
2. SPEED HUMPS SHALL BE CONSTRUCTED SO AS NOT TO IMPEDE DRAINAGE IN OUTER LINES OR ALONG FACE OF CURBS.
3. SPEED HUMPS SHALL BE CONSTRUCTED OF TYPE S-1 ASPHALTIC CONCRETE.
4. APPLY TACK COAT AT A RATE OF 0.04-0.06 GALLONS PER SQUARE YARD.
5. CONTRACTOR SHALL CUT AN EDGE KEY IN EXISTING SURFACE AS SHOWN IN EDGE KEY DETAIL, SO THAT NEW SURFACE MAY HEEL INTO THE EXISTING SURFACE. CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL OF MATERIAL REMOVED.
6. CONTRACTOR SHALL FABRICATE A TEMPLATE TO INSURE SPECIFIED DIMENSIONS. CONSTRUCTION TOLERANCE SHALL BE ± $\frac{1}{4}$" ON HEIGHT ALONG THE PROFILE OF THE SPEED HUMP.
7. SPEED HUMP MARKINGS SHALL BE MACHINE APPLIED, SCREED EXTRUDED THERMOPLASTIC AND SHALL BE APPLIED IN CONFORMANCE WITH MUTCD AND INSTALLED IN ACCORDANCE WITH THE KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
8. ALL SIGNS SHALL BE IN CONFORMANCE WITH MUTCD AND INSTALLED IN ACCORDANCE WITH THE KENTUCKY DEPARTMENT OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.





LOUISVILLE METRO PUBLIC WORKS	NOT TO SCALE	SPEED HUMPS