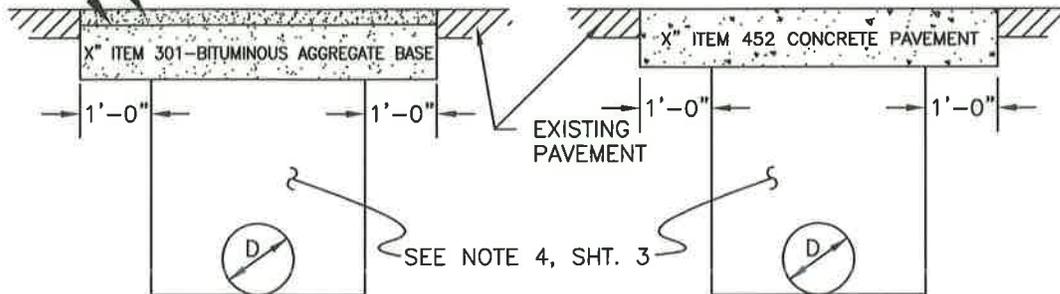


ITEM 407, TACK COAT @ 0.10 GAL/SQ. YD.

2 1/2" ITEM 448 TYPE 1 ASPHALT CONC.



TYPE-A

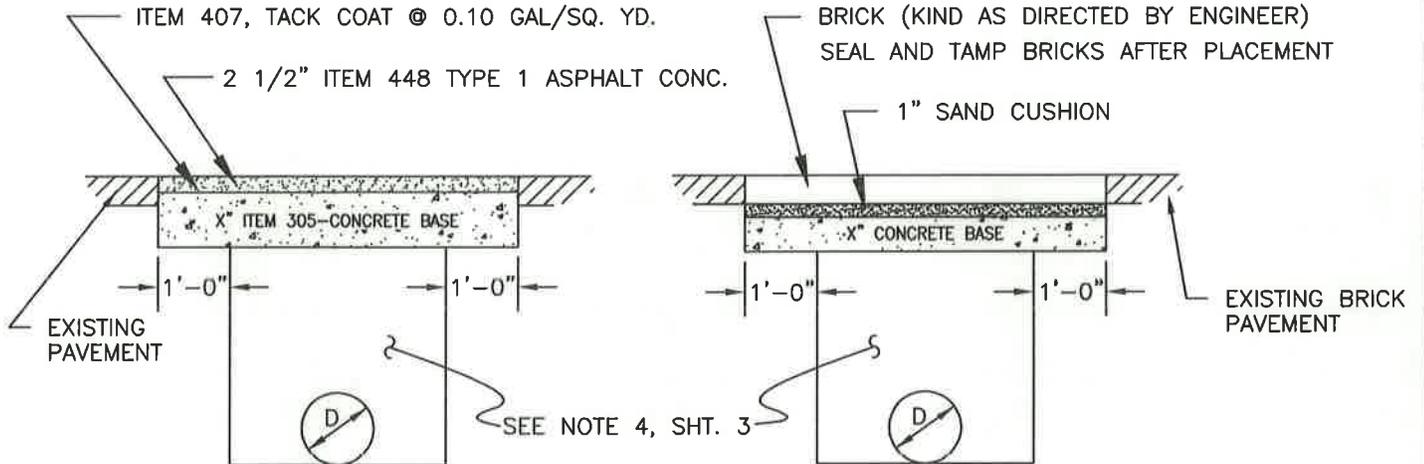
FLEXIBLE STREETS

TYPE-B

CONCRETE STREETS

ITEM 407, TACK COAT @ 0.10 GAL/SQ. YD.

2 1/2" ITEM 448 TYPE 1 ASPHALT CONC.



TYPE-C

BITUMINOUS AND BRICK
STREETS

TYPE-D

BRICK STREETS

APPROVED 1-15-16

Brad Faguel
CITY ENGINEER

REVISED: 14 JAN 16

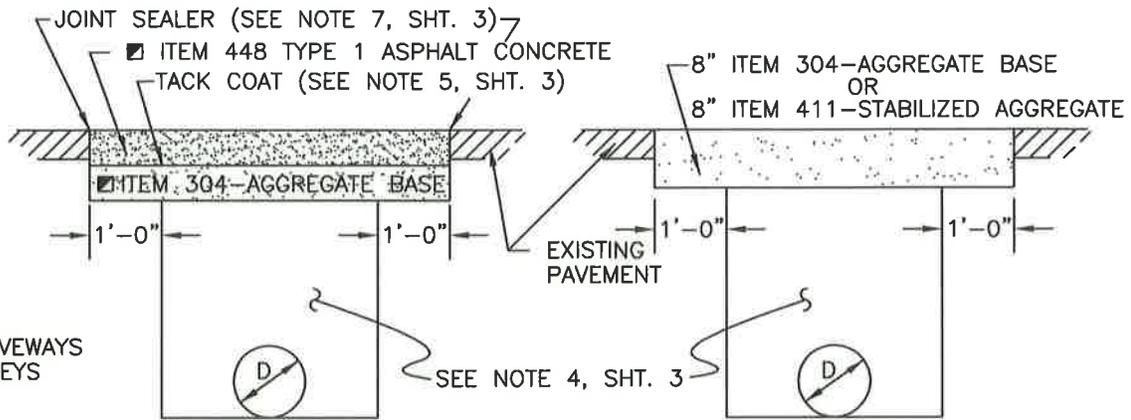
TYPICAL
PAVEMENT
REPLACEMENT
FOR STREETS,
ALLEYS & DRIVES,
AND BIKE PATHS

CITY OF LANCASTER, OHIO
DEPARTMENT OF ENGINEERING

STANDARD
CONSTRUCTION DRAWING

DWG. BY: ...SWW...
CHK'D BY: ...MN...

FILE NUMBER
P-1 1 of 3

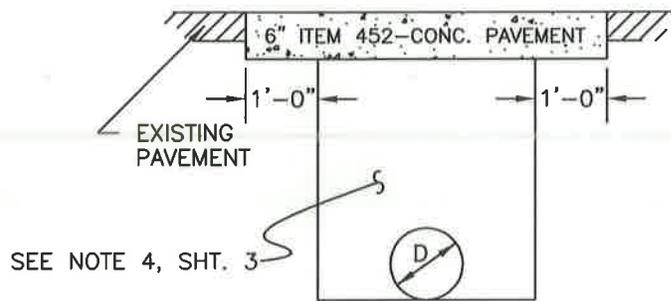


TYPE-E

ASPHALT ALLEYS AND DRIVEWAYS

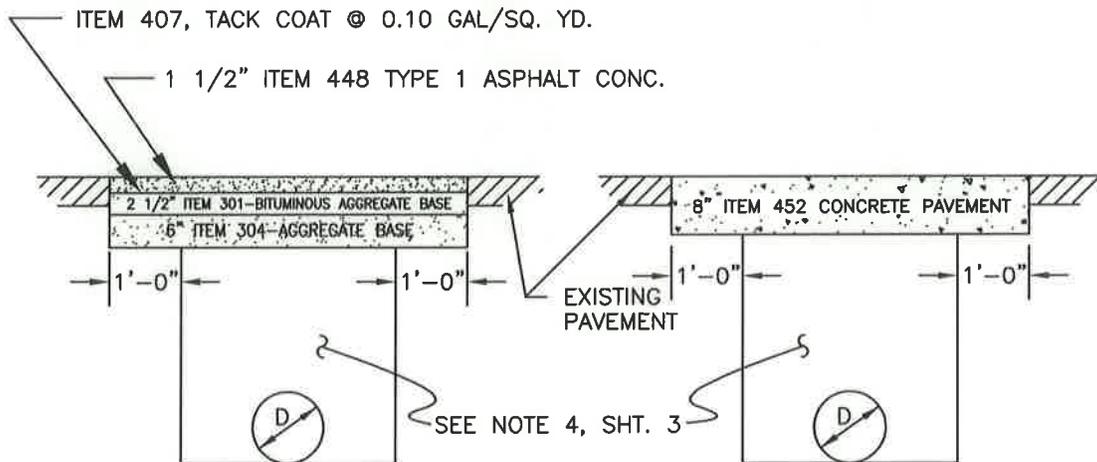
TYPE-F

GRAVEL ALLEYS AND DRIVEWAYS



TYPE-G

CONCRETE ALLEYS AND DRIVEWAYS



TYPE-H

ASPHALT BIKE PATHS

TYPE-I

CONCRETE BIKE PATHS

APPROVED 1-15-16

Brad Fagrell
CITY ENGINEER

REVISED: 14 JAN 16

TYPICAL
PAVEMENT
REPLACEMENT
FOR STREETS,
ALLEYS & DRIVES,
AND BIKE PATHS

CITY OF LANCASTER, OHIO
DEPARTMENT OF ENGINEERING

STANDARD
CONSTRUCTION DRAWING

DWG. BY: ...SWW...
CHK'D BY: ...MN...

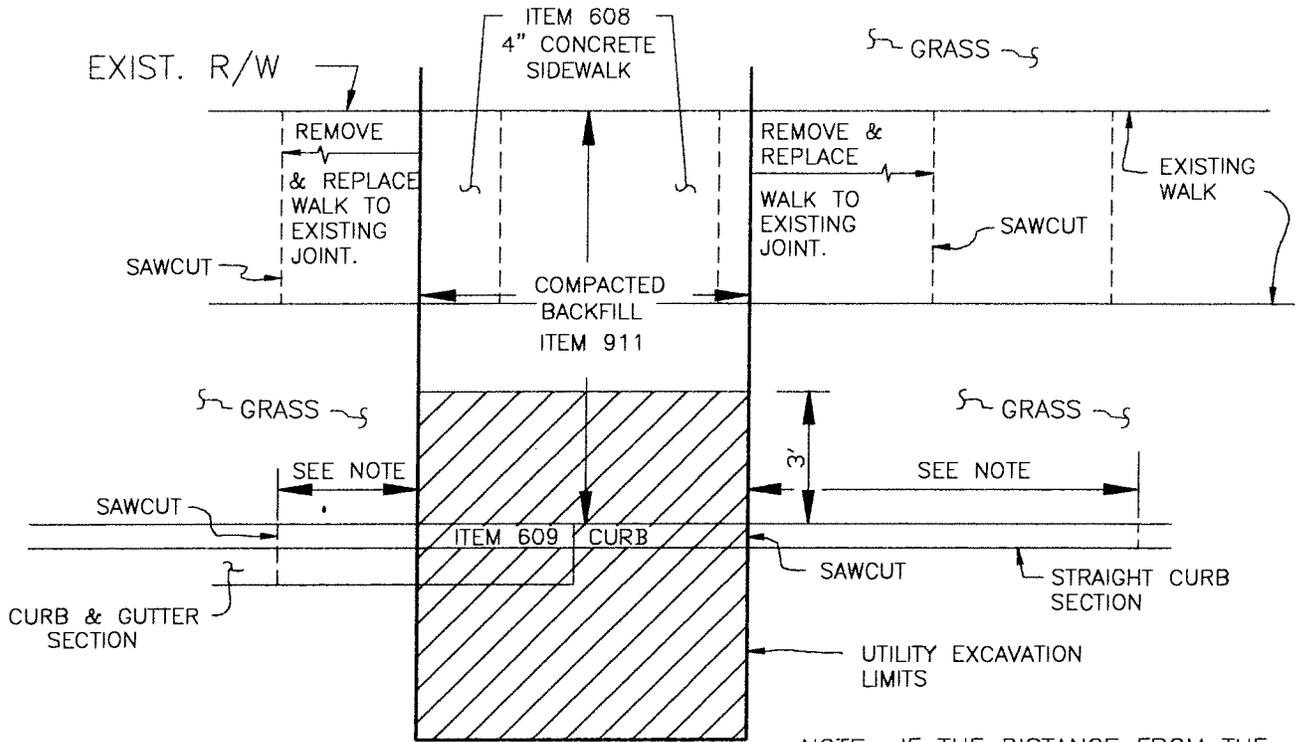
FILE NUMBER
P-1 2 of 3

NOTES:

1. PERMANENT PAVEMENT REPLACEMENT SHALL NOT BE PLACED UNTIL APPROVED BY THE ENGINEER.
2. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE PERTINENT SECTION OF CMSL.
3. EDGES OF THE EXISTING PAVEMENT SHALL BE CUT PER ITEM 255.03 VERTICAL AND TRIMMED TO PROVIDE A STRAIGHT LINE JUNCTURE BETWEEN EXISTING AND NEW PAVEMENT. NO RAGGED EDGES SHALL BE PERMITTED.
4. ALL TRENCH BACK FILL SHALL BE EITHER COMPACTED GRANULAR BACK FILL PER CMSL ITEM 912 OR LOW STRENGTH MORTAR BACKFILL PER ODOT CMS ITEM 613. WHERE SAND IS USED AS BEDDING AROUND CONDUIT SUCH AS WATER AND GAS, THE BEDDING SHALL NOT EXTEND MORE THAN 6 INCHES ABOVE THE CONDUIT.
5. TACK COAT SHALL MEET THE REQUIREMENTS OF ITEM 407 OR PG64-22 PER 702.01 AND SHALL BE APPLIED AT A RATE OF 0.25 GAL/SY TO THE SIDES OF THE SAWN PAVEMENT AND BASE MATERIAL BEFORE PLACING ASPHALT CONCRETE.
6. WEARING COURSE LESS THAN 2 FEET WIDE ADJACENT TO CURB OR EDGE OF PAVEMENT SHALL BE REMOVED AND REPLACED TO THE CURB OR EDGE OF PAVEMENT.
7. JOINT SEALER SHALL MEET THE REQUIREMENTS OF 702.01 PG64-22 HOT APPLIED.
8. SURFACE JOINTS SHALL BE SEALED BY A SQUEEGEE APPLICATION OF 702.01 PG64-22 ASPHALT BINDER MATERIAL AT 0.30 GAL/SQ.YD. FOLLOWED BY AN APPLICATION OF 407.02 COVER AGGREGATE AT 0.008 CU.YD./SQ.YD.
9. WHERE THE PLANS CALL FOR PAVEMENT REPAIRS WITH "HEAT WELDING", THE AREA TO BE HEAT WELDED IS TO INCLUDE THE PAVEMENT REPAIR AREA AND EXTENDING FOR 6 INCHES BEYOND EACH SIDE OF THE PAVEMENT REPAIR AREA FOR A NOMINAL DEPTH OF 2 INCHES.
10. WHERE THE PAVEMENT REPAIR DETAIL HAS AN "X" INDICATING THE THICKNESS OF THE BASE COURSE MATERIAL, 7" OF 301, 7" OF 452 AND 7" OF 305 SHALL BE DEEMED THE MINIMUM ACCEPTABLE THICKNESS. IN NO CASE SHALL THE THICKNESS OF THE PAVEMENT REPAIR AREA BE LESS THAN THE THICKNESS OF THE ORIGINAL PAVEMENT, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
11. THE MINIMUM WIDTH OF PAVEMENT REPAIR AREA SHALL BE OF SUFFICIENT WIDTH TO ALLOW FOR THE PROPER PLACEMENT AND COMPACTION OF THE ASPHALT CONCRETE.
12. WHERE THE REPAIR CALLS FOR MORE THAN 1 1/2" OF ITEM 448 TYPE 1 ASPHALT CONCRETE, THE ITEM 448 ASPHALT CONCRETE SHALL BE PLACED IN TWO COMPACTED LIFTS.
13. WHENEVER UNDERDRAIN IS DISTURBED IN THE COURSE OF CONSTRUCTION, IT SHALL BE REPLACED WITH ITEM 605, PIPE UNDERDRAIN OF THE SAME MATERIAL AND DIAMETER TO THE SATISFACTION OF THE CITY ENGINEER.

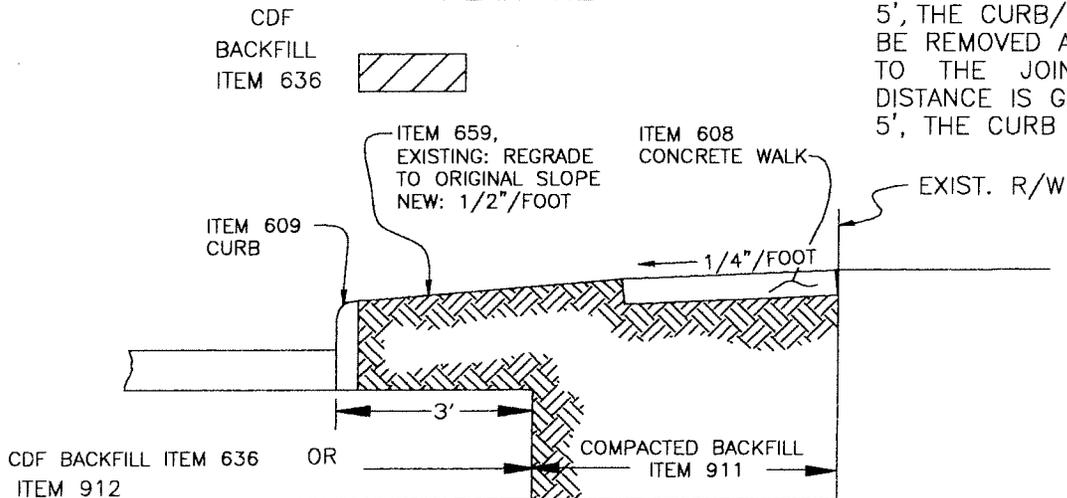
APPROVED <u>1-15-16</u>  CITY ENGINEER	TYPICAL PAVEMENT REPLACEMENT FOR TRENCHES ALLEYS & DRIVES	CITY OF LANCASTER, OHIO DEPARTMENT OF ENGINEERING	
REVISED: 14 JAN 16		STANDARD CONSTRUCTION DRAWING DWG. BY: ... <u>SWW</u> ... CHK'D BY: ... <u>MN</u> ... FILE NUMBER P-1 3 of 3	

SIDEWALK AND CURB REPAIR DETAILS



PLAN VIEW

NOTE: IF THE DISTANCE FROM THE CUT TO THE NEAREST JOINT IN THE CURB IS LESS THAN 5', THE CURB/GUTTER SHALL BE REMOVED AND REPLACED TO THE JOINT. IF THE DISTANCE IS GREATER THAN 5', THE CURB MAY REMAIN.



BOTTOM OF EXCAVATION

ALL GRASS AREAS SHALL BE SEEDED IN ACCORDANCE WITH ITEM 659 SEEDING AND MULCHING, LAWN MIXTURE.

APPROVED 1-22-01

Keith Houston
CITY ENGINEER

REVISED:

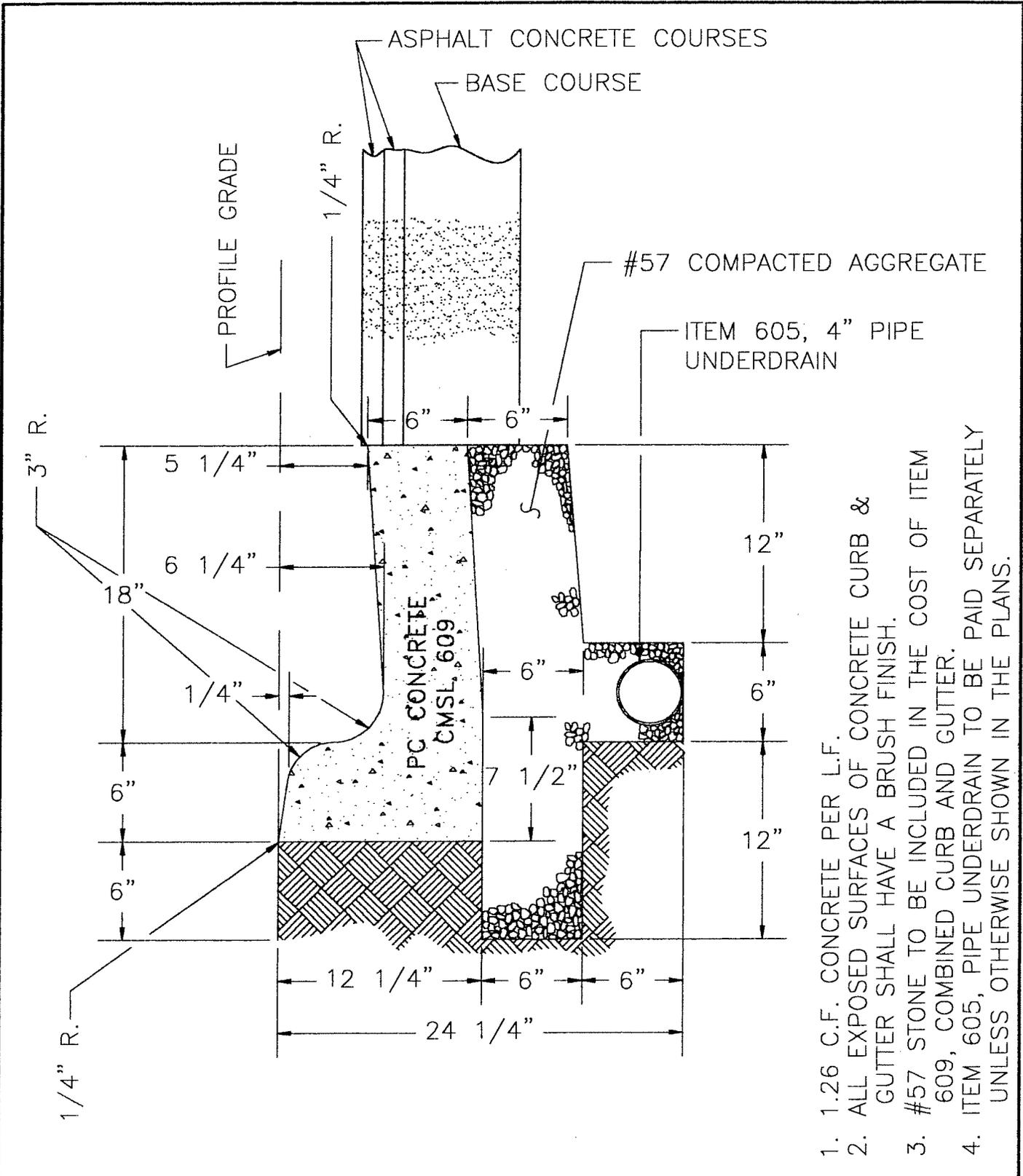
TYPICAL
PAVEMENT
AND UTILITY
CUT REPAIR
STANDARDS

CITY OF LANCASTER, OHIO
DEPARTMENT OF ENGINEERING

STANDARD
CONSTRUCTION DRAWING

DWG. BY: DDK
CHK'D BY: RM

FILE NUMBER
P-2 1 of 1



1. 1.26 C.F. CONCRETE PER L.F.
2. ALL EXPOSED SURFACES OF CONCRETE CURB & GUTTER SHALL HAVE A BRUSH FINISH.
3. #57 STONE TO BE INCLUDED IN THE COST OF ITEM 609, COMBINED CURB AND GUTTER.
4. ITEM 605, PIPE UNDERDRAIN TO BE PAID SEPARATELY UNLESS OTHERWISE SHOWN IN THE PLANS.

APPROVED *2/12/01*

Kent Hultman
CITY ENGINEER

REVISED: 2/12/01

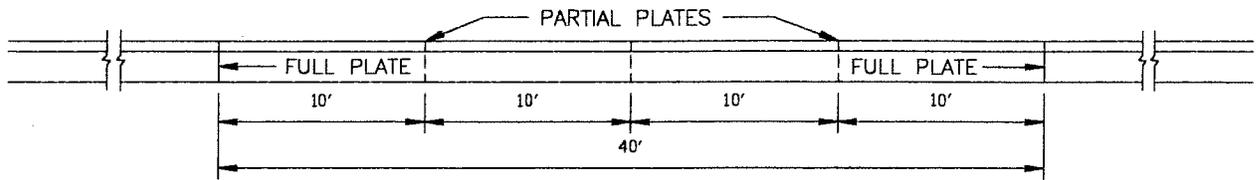
TYPICAL CURB AND GUTTER

CITY OF LANCASTER, OHIO
DEPARTMENT OF ENGINEERING

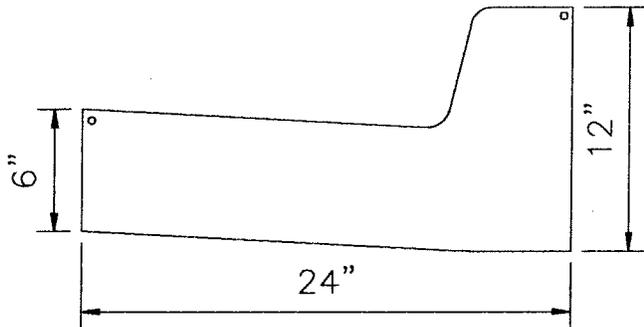
STANDARD
CONSTRUCTION DRAWING

DWG. BY: DDK
CHK'D BY: RM

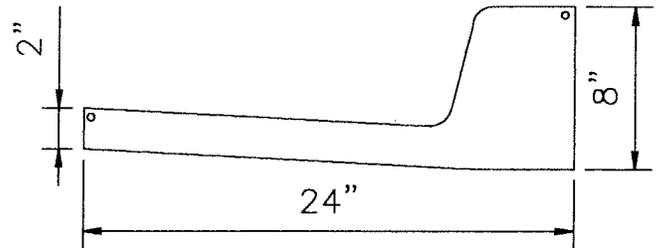
FILE NUMBER
P-3 of 2



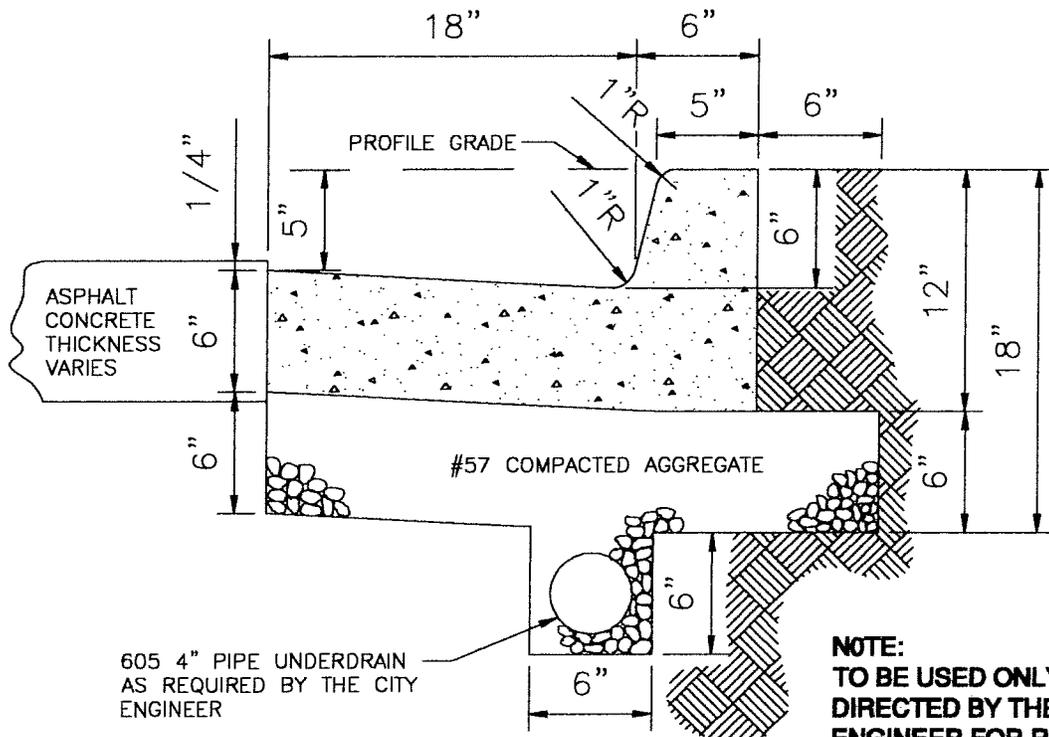
SPACING FOR CURB DIVISION PLATES



STD. FULL DIVISION PLATE



STD. PARTIAL DIVISION PLATE



NOTE:
 TO BE USED ONLY AS
 DIRECTED BY THE CITY
 ENGINEER FOR REPLACING
 EXISTING LIKE SECTIONS OF
 CURB.

APPROVED 2/20/01

Kent Huston
 CITY ENGINEER

REVISED: 02/16/01

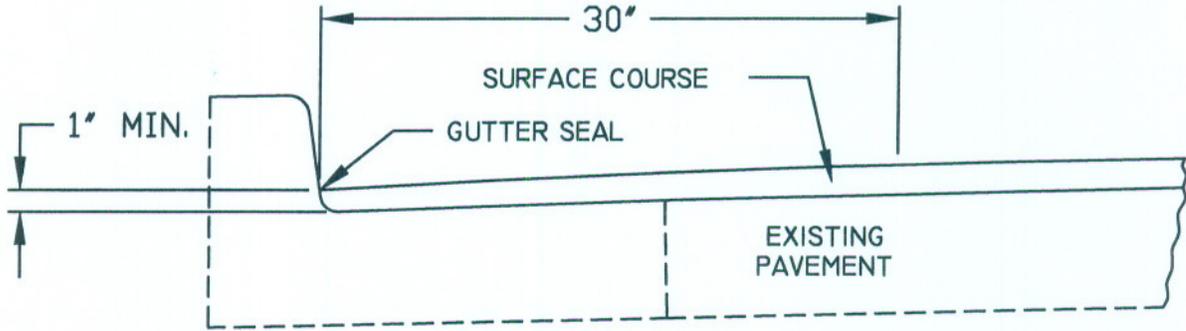
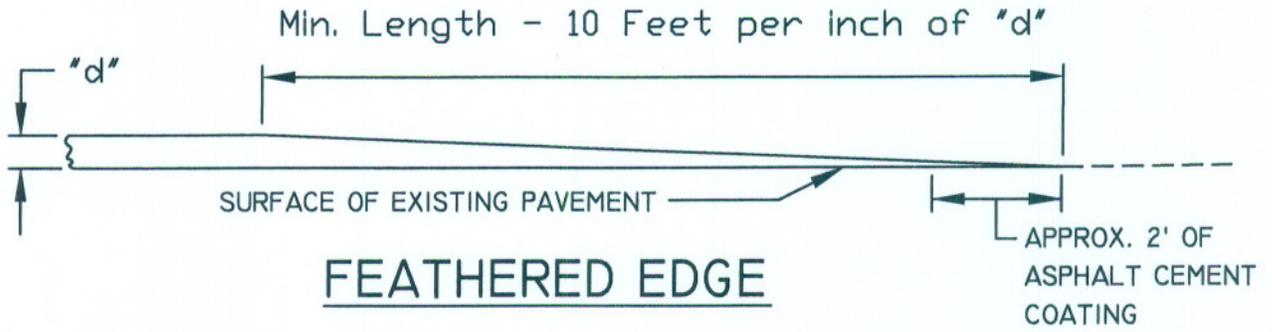
SPECIAL
 CURB &
 GUTTER

CITY OF LANCASTER, OHIO
 DEPARTMENT OF ENGINEERING

STANDARD
 CONSTRUCTION DRAWING

DWG. BY: DDK
 CHK'D BY: RM
 FILE NUMBER
 P-3 2 of 2

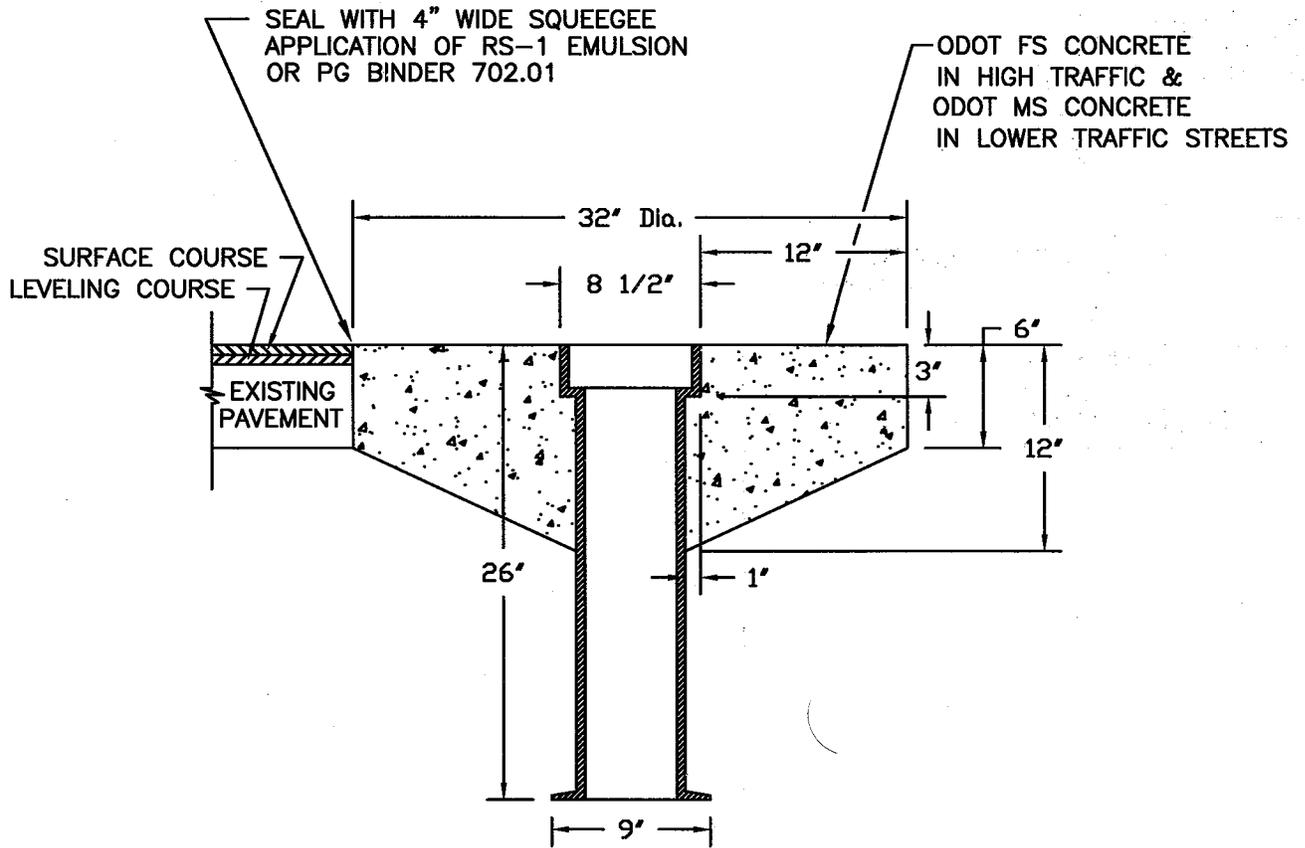
NOTE: GUTTER TO BE SEALED WITH ASPHALT CEMENT



GUTTER FINISH

PREVIOUSLY 007AI

APPROVED <u>3/17/10</u> <u>Brad Fagrell</u> CITY ENGINEER	TYPICAL PAVEMENT FEATHERING	CITY OF LANCASTER, OHIO DEPARTMENT OF ENGINEERING	
REVISED: 2 FEB 10		STANDARD CONSTRUCTION DRAWING DWG. BY: DDK CHK'D BY: <u>RM</u> FILE NUMBER <u>P-4</u>	



VALVE BOX TOP

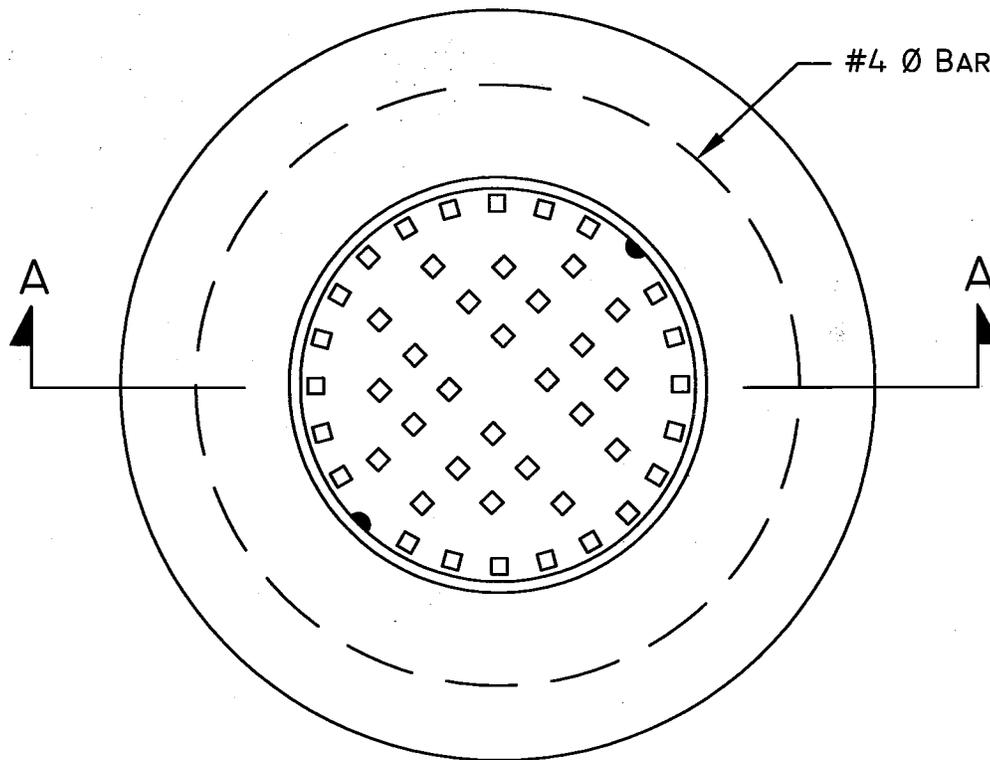
NOTES:

ALL VALVE BOX CASTINGS SHALL CONFORM TO THIS ADJUSTMENT DETAIL.

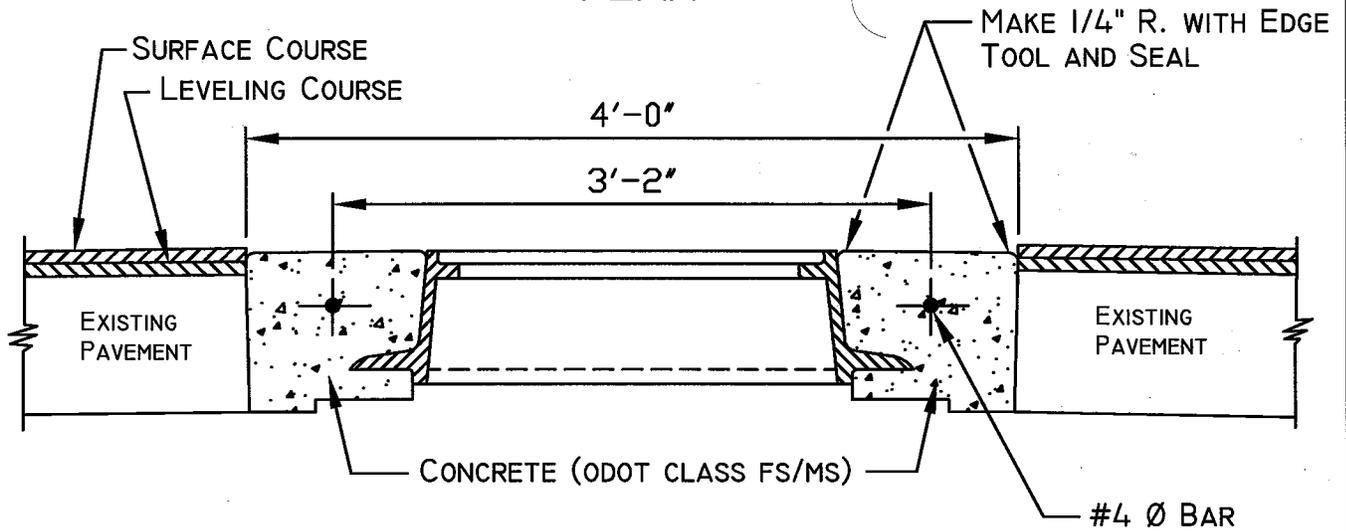
ADJUSTMENT OF UTILITY CASTINGS

UTILITY CASTINGS WILL BE ADJUSTED TO GRADE IF THE UTILITY CASTING IS MORE THAN 1/8" (MAX) BELOW OR ABOVE THE FINISHED PAVEMENT SURFACE. THE ENGINEER SHALL MAKE A DETERMINATION OF THOSE UTILITY CASTINGS TO BE ADJUSTED AFTER THE PLACEMENT OF THE FINAL ASPHALT PAVEMENT COURSE. THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PERTINENT ODOT CMS SPECIFICATION.

APPROVED <u>3-11-13</u>	TYPICAL CONSTRUCTION FOR UTILITY CASTING ADJUSTMENT	CITY OF LANCASTER, OHIO DEPARTMENT OF ENGINEERING			
<i>Brad Faguell</i> CITY ENGINEER		STANDARD CONSTRUCTION DRAWING			
REVISED: 8 MAR 13		<table border="1" style="width: 100%;"> <tr> <td style="width: 50%;"> DWG. BY: DDK CHK'D BY: <i>RM</i> </td> <td style="width: 50%;"> FILE NUMBER P-5 </td> </tr> <tr> <td colspan="2" style="text-align: right;"> SHEET 1 OF 2 </td> </tr> </table>	DWG. BY: DDK CHK'D BY: <i>RM</i>	FILE NUMBER P-5	SHEET 1 OF 2
DWG. BY: DDK CHK'D BY: <i>RM</i>	FILE NUMBER P-5				
SHEET 1 OF 2					



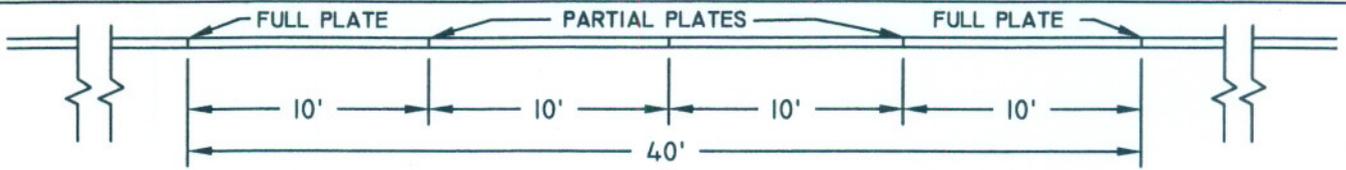
PLAN



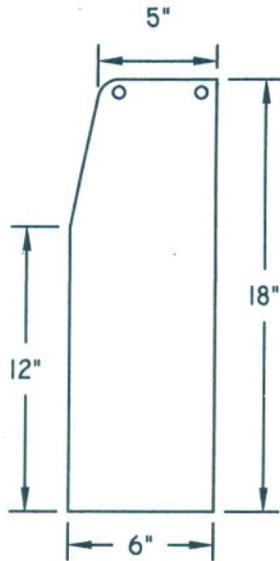
SECTION A - A

A STANDARD DRUM WITH WARNING LIGHT PER OMUTCD C-8 SHALL BE PLACED ON THE MANHOLE UNTIL SUFFICIENT TIME HAS ELAPSED FOR THE CONCRETE TO CARRY TRAFFIC.

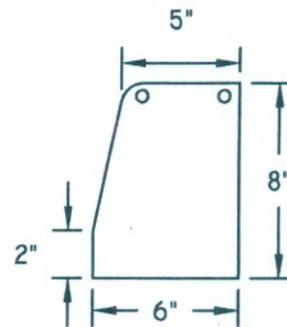
APPROVED <u>3-11-13</u>  CITY ENGINEER	TYPICAL CONSTRUCTION FOR UTILITY CASTING ADJUSTMENT	CITY OF LANCASTER, OHIO DEPARTMENT OF ENGINEERING
REVISED: 8 MAR 13		STANDARD CONSTRUCTION DRAWING DWG. BY: DDK CHK'D BY: RM FILE NUMBER P-5 SHEET 2 OF 2



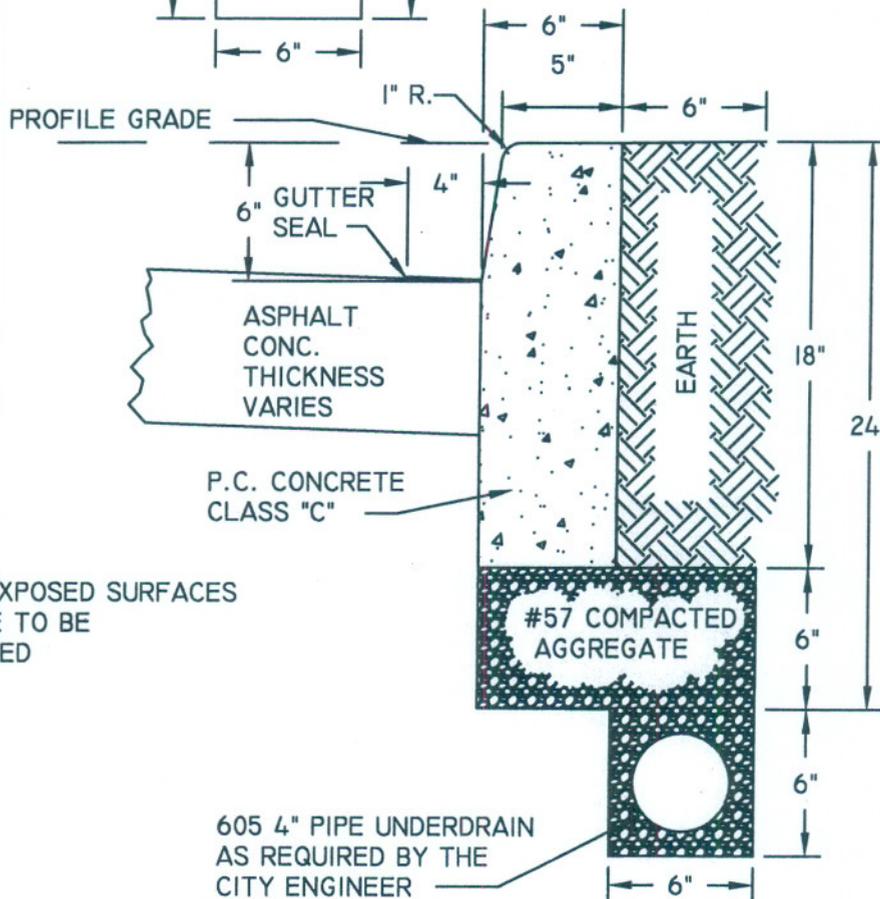
SPACING FOR CURB DIVISION PLATES



STD. FULL DIVISION PLATE



STD. PARTIAL DIVISION PLATE



NOTE : ALL EXPOSED SURFACES OF CONCRETE TO BE FLOAT FINISHED

∇ CONC. / LIN. FT. = 0.73 CU. FT.

APPROVED 3/17/10

Brad Fagrell
CITY ENGINEER

REVISED: 2 FEB 10

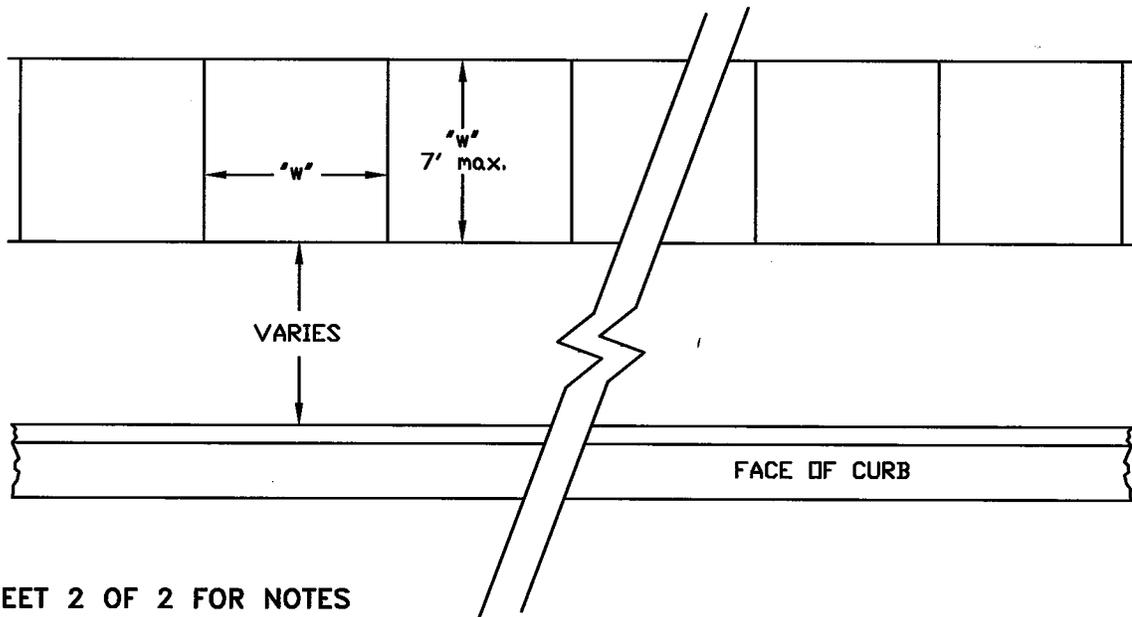
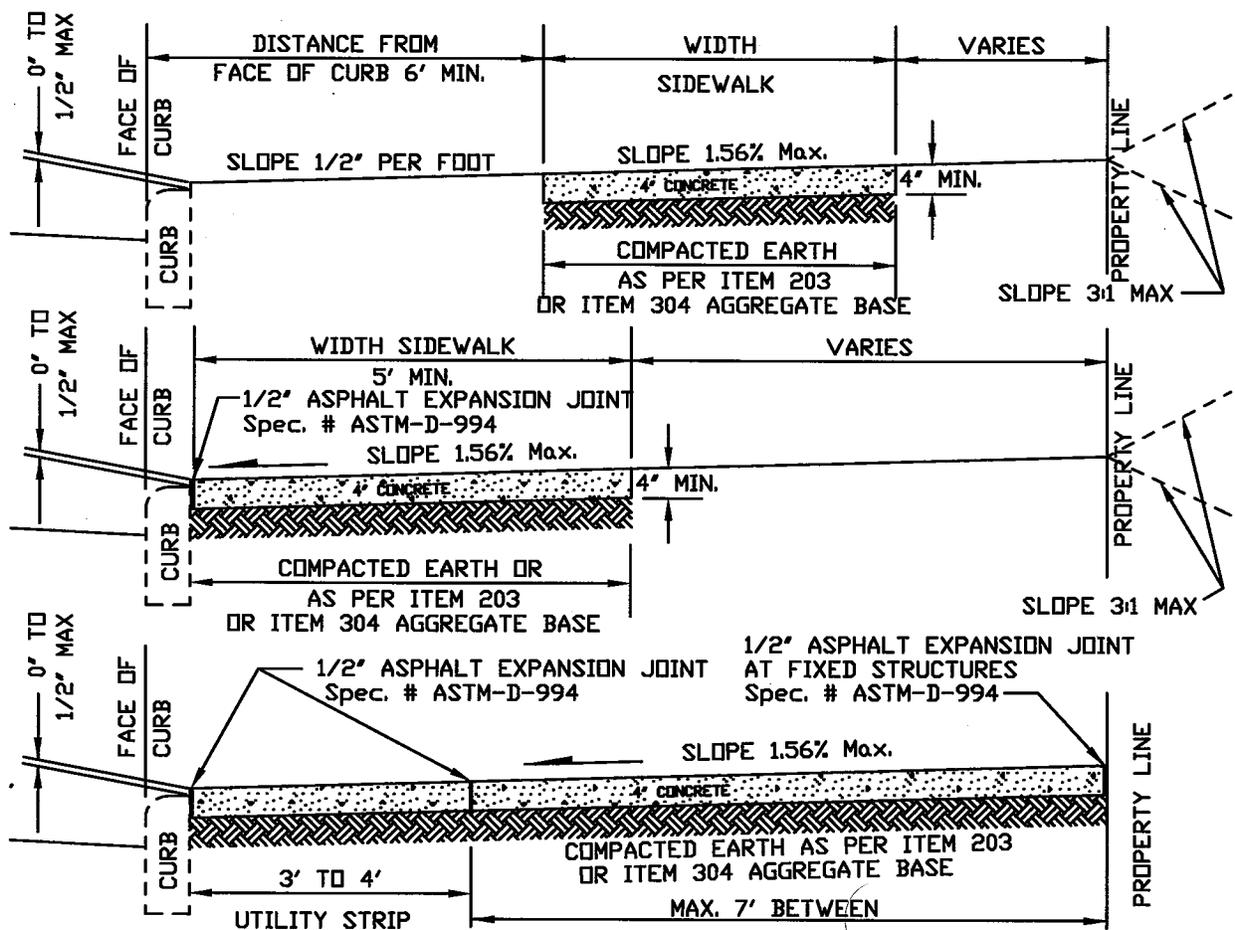
TYPICAL
STRAIGHT CURB
ITEM 609

CITY OF LANCASTER, OHIO
DEPARTMENT OF ENGINEERING

STANDARD
CONSTRUCTION DRAWING

DWG. BY: DDK
CHK'D BY: *AM*

FILE NUMBER
P-6



SEE SHEET 2 OF 2 FOR NOTES

APPROVED 3-11-13

Brad Fagrell
CITY ENGINEER

REVISED: 8 MAR 13

ITEM 608
PORTLAND CEMENT
CONCRETE SIDEWALK

CITY OF LANCASTER, OHIO
DEPARTMENT OF ENGINEERING

STANDARD
CONSTRUCTION DRAWING

DWG. BY: DDK
CHK'D BY: *RM*

FILE NUMBER
P-7 SHEET 1 OF 2

ALL WORK AND MATERIALS SHALL CONFORM TO CMSL ITEM 608, CONCRETE WALK, AND TO THE PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES UNDER THE AMERICANS WITH DISABILITIES ACT (ADA).

THE OUTSIDE EDGE OF SIDEWALK SHALL BE PARALLEL, CONCENTRIC ON CURVES, TO THE RIGHT-OF-WAY LINE, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. THE GRADE OF THE SIDEWALK SHALL FOLLOW THE GRADE OF THE CURB AND/OR EDGE OF STREET PAVEMENT. SIDEWALKS SHALL SLOPE TOWARD THE STREET UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. SIDEWALK WIDTHS SHALL BE PER THE APPROVED STREET PLAN, OR AS DESIGNATED BY THE CITY ENGINEER.

P.C. CONCRETE SIDEWALKS SHALL BE 6 INCHES THICK THROUGH THE DRIVEWAY.

FORMS SHALL BE MADE OF LUMBER 2 INCH NOMINAL THICKNESS OR OF EQUALLY RIGID METAL.

SUBGRADE SHALL BE MOISTENED THOROUGHLY IMMEDIATELY PRIOR TO PLACING CONCRETE.

SIDEWALKS SHALL BE CONSTRUCTED WITH P.C. CONCRETE (CLASS C, PER ITEM 499) WITH 5% TO 8% ENTRAINED AIR AND A 3-INCH MAXIMUM SLUMP.

NO CONCRETE SHALL BE PLACED UNTIL THE TEMPERATURE IS 35° F AND RISING. ONCE PLACED CONCRETE SHALL BE PROTECTED FROM FREEZING UNTIL SPECIMEN BEAMS ATTAIN A MODULUS OF RUPTURE OF 600 PSI.

THE SURFACE OF WALKS SHALL BE DIVIDED INTO EQUALLY SPACED BLOCKS WITH TRANSVERSE JOINTS AT INTERVALS EQUAL TO THE WALK WIDTH TO FORM RECTANGULAR BLOCKS NO GREATER THAN 7 FOOT IN ANY DIMENSION. SAW OR FORM TRANSVERSE JOINTS TO A DEPTH NOT LESS THAN ONE-FOURTH THE SLAB THICKNESS AND BE 1/8 INCH WIDE.

ALL CONCRETE SHALL BE PLACED IN ONE COURSE, STRUCK-OFF AND SMOOTHED WITH A FLOAT TO A SANDY TEXTURE. AFTER THE CONCRETE HAS SET SOMEWHAT, A SOFT-BRISTLE BROOM SHALL BE LIGHTLY DRAWN ACROSS THE SURFACE TO PRODUCE A NON-SLIP SURFACE. NO PLASTERING IS PERMITTED, ALL OUTSIDE EDGES AND JOINTS SHALL BE EDGED WITH 1/4 INCH RADIUS EDGING TOOL. ALL CONCRETE WORK MUST SHOW FINISH TOOL MARKS AFTER BROOMING, PROVIDING A "PICTURE FRAME" TO EACH BLOCK.

EXPANSION JOINTS SHALL BE PLACED WHERE NEW CONCRETE TOUCHES EXISTING CONSTRUCTION, AT ANY FIXED STRUCTURE, AT THE JUNCTURE WITH CURBS, AND AT INTERVALS NOT EXCEEDING 30 FEET. EXPANSION JOINT FILLER SHALL BE 1/2 INCH THICK ASPHALT, (SPEC. # ASTM-D-994), NON-EXTRUDING, EXTENDING THE FULL DEPTH OF THE WALK.

IMMEDIATELY AFTER FINISHING, CONCRETE SHALL BE CURED IN AN APPROVED MANNER PER ITEM 451.

MANHOLE LIDS AND VALVE BOXES IN THE SIDEWALK AREA SHALL BE ADJUSTED TO PROPER GRADE.

WHEN A SIDEWALK IS CONSTRUCTED FOR THE ENTIRE WIDTH FROM CURB TO RIGHT-OF-WAY LINE, THE WALK SHALL BE CONSTRUCTED PART WIDTH AT A TIME, ALLOWING SUFFICIENT UNOBSTRUCTED AREA FOR SAFE MOVEMENT OF PEDESTRIAN TRAFFIC.

ROOF DRAINS SHALL BE EXTENDED UNDER THE SIDEWALK AND THROUGH THE CURB PER STANDARD CONSTRUCTION DRAWING P-22.

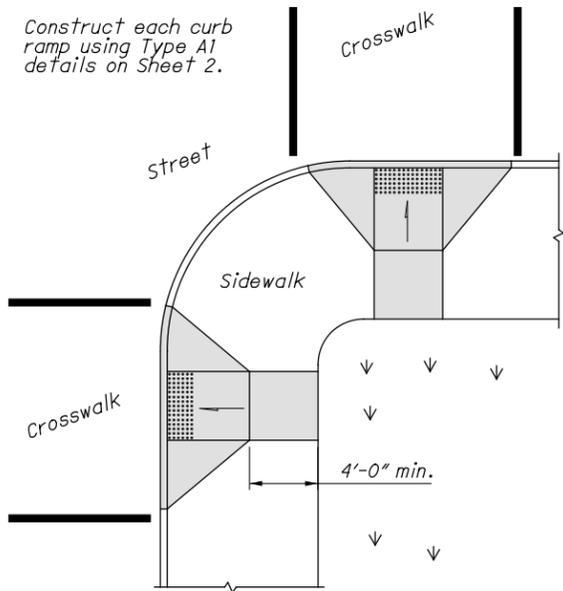
APPROVED <u>3-11-13</u>	ITEM 608 PORTLAND CEMENT CONCRETE SIDEWALK	CITY OF LANCASTER, OHIO DEPARTMENT OF ENGINEERING	
<u>Brad Fagrell</u> CITY ENGINEER		STANDARD CONSTRUCTION DRAWING	
REVISED: 8 MAR 13		DWG. BY: DDK CHK'D BY: <u>RM</u>	FILE NUMBER <u>P-7</u> SHEET 2 OF 2

The City uses the Ohio Department of Transportation's (ODOT) *Standard Roadway Construction Drawings* for curb ramps.

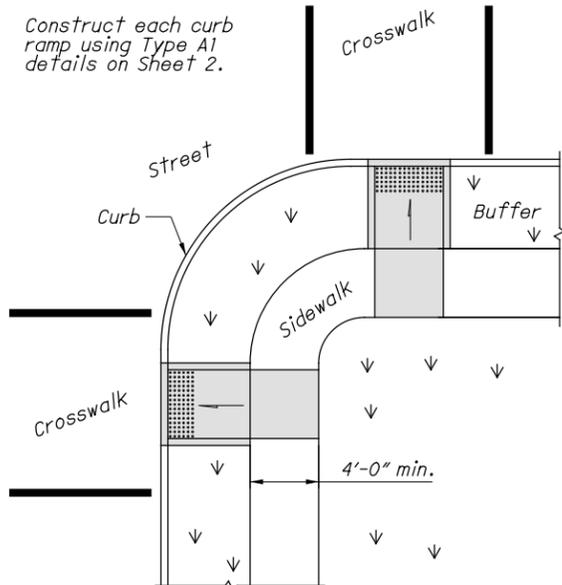
For new ramps, use the newest revision of BP-7.1 that may be found on the ODOT website at:

<http://www.dot.state.oh.us/Divisions/Engineering/Roadway/DesignStandards/roadway/Pages/StandardConstructionDrawing.aspx>

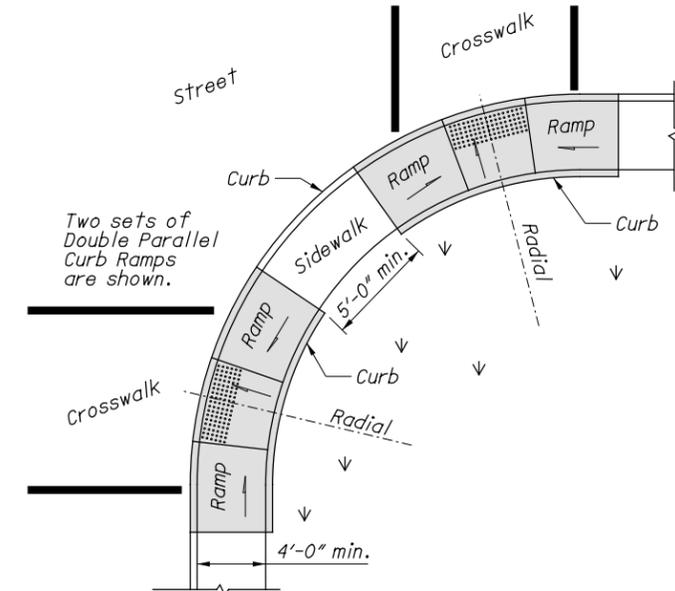
APPROVED _____ _____ CITY ENGINEER	TYPICAL CURB RAMP STANDARDS	CITY OF LANCASTER, OHIO DEPARTMENT OF ENGINEERING	
REVISED: 15 SEP 14		STANDARD CONSTRUCTION DRAWING	
		DWG. BY: CHK'D BY:	FILE NUMBER P-8



Construct each curb ramp using Type A1 details on Sheet 2.

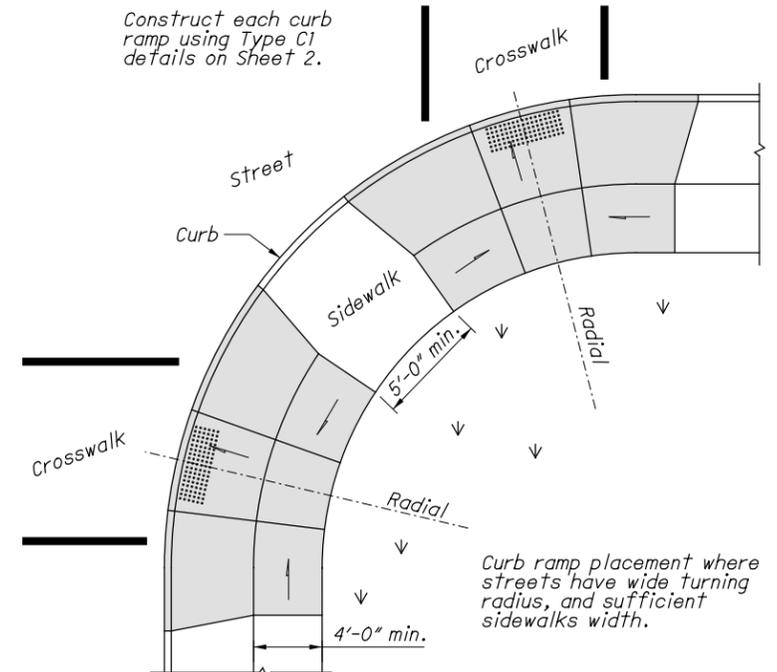


Construct each curb ramp using Type A1 details on Sheet 2.



Two sets of Double Parallel Curb Ramps are shown.

Place on streets having wide turning radius and where sidewalks are narrow.



Construct each curb ramp using Type C1 details on Sheet 2.

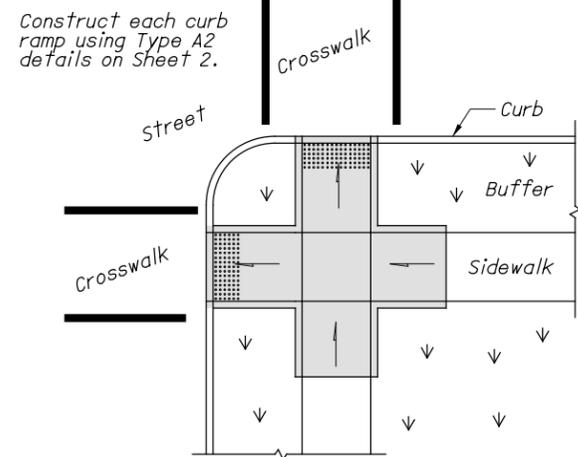
Curb ramp placement where streets have wide turning radius, and sufficient sidewalks width.

PERPENDICULAR CURB RAMPS

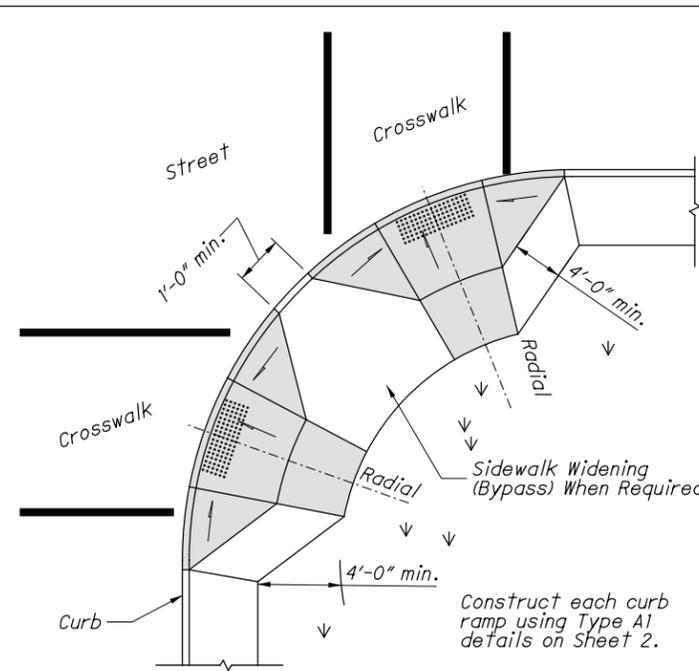
PARALLEL CURB RAMPS

COMBINATION CURB RAMPS

PREFERRED CONSTRUCTION PLACEMENT



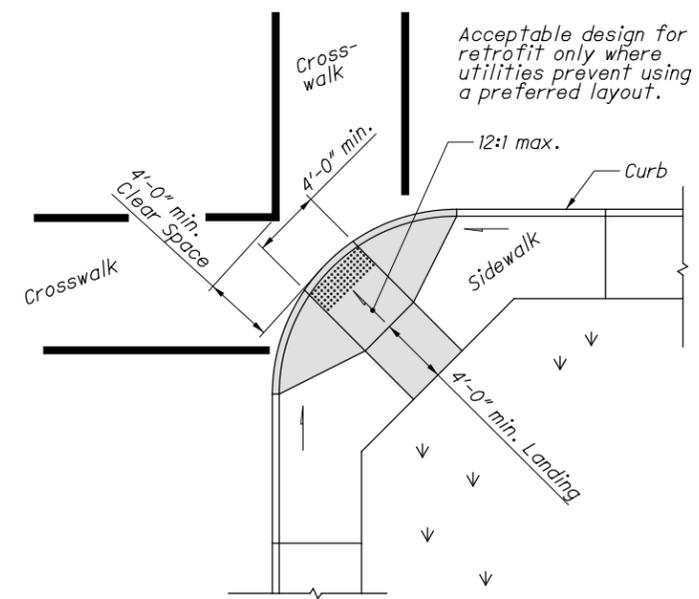
Construct each curb ramp using Type A2 details on Sheet 2.



Construct each curb ramp using Type A1 details on Sheet 2.

Acceptable design on corners with wide turning radius where user is able to maneuver within crosswalk limits so as not to encroach into adjacent traveled lanes.

PERPENDICULAR RAMPS



Acceptable design for retrofit only where utilities prevent using a preferred layout.

Use this design only for existing walks, and when site constraints prohibit other designs. The diagonal Type D ramp may be constructed as either a Perpendicular, Parallel or Combination curb ramp type. Avoid using where curb radii are less than 20'-0".

DIAGONAL RAMP (Type D)

ACCEPTABLE CONSTRUCTION PLACEMENT

NOTES

GENERAL: This drawing shows curb ramp types details and placement examples for curb ramp construction, including the installation of detectable warnings.

Curb ramp types are shown on Sheet 2 and include Perpendicular, Parallel, and Combined types as specified to be constructed in the locations shown on the project plans.

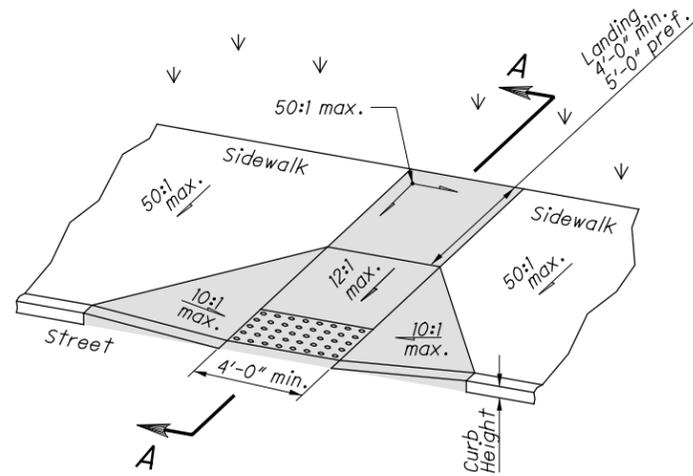
Curb ramps added to an existing intersection or walk should be individually detailed on the project plans to assure that the design is appropriate for site constraints and all items can be constructed to ADA standards. The contractor may adjust the placement of curb ramps if existing field conditions warrant with the approval of the Engineer.

PAYMENT: Measure and pay for the ramp area within the shaded limits of this drawing as Item 608 Curb Ramp, Square Foot. This includes the cost of any curb or curb and gutter, detectable warnings, landing areas and any additional materials, installation, grading, forming, and finishing required within the shaded area.

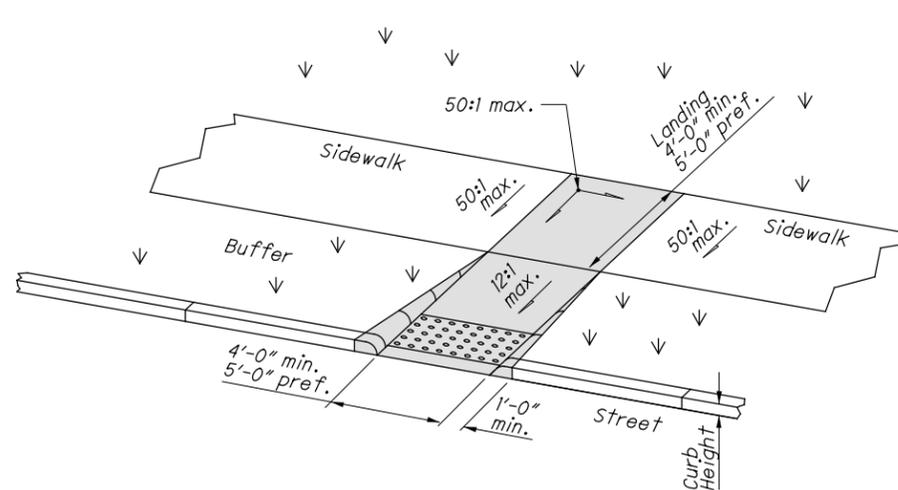
Work beyond the shaded ramp/landing area is paid for as curb (609) and walk (608). Removal of existing curb, walk (or existing curb ramps) are paid under Item 202.

For at-grade crossing locations where only detectable warnings are required in order to achieve ADA compliance, measure and pay for the strip of detectable warnings as Item 608 Detectable Warning, Square Foot. The work to cast the tiles in place will also require removal of existing pavement (Item 202) to the nearest joint, or if no joint exists, a minimum of 4 feet.

STATE OF OHIO DEPARTMENT OF TRANSPORTATION ADMINISTRATOR	REVISION DATE
David L. Holstein	7-20-2018
STANDARD ROADWAY CONSTRUCTION DRAWING NEW CURB RAMPS (with Detectable Warnings)	OFFICE OF ROADWAY ENGINEERING
D. Fisher	ENGINEER
THIS DRAWING REPLACES BP-7.1 DATED 7-18-14.	SCD NUMBER
	BP-7.1
	1 / 3

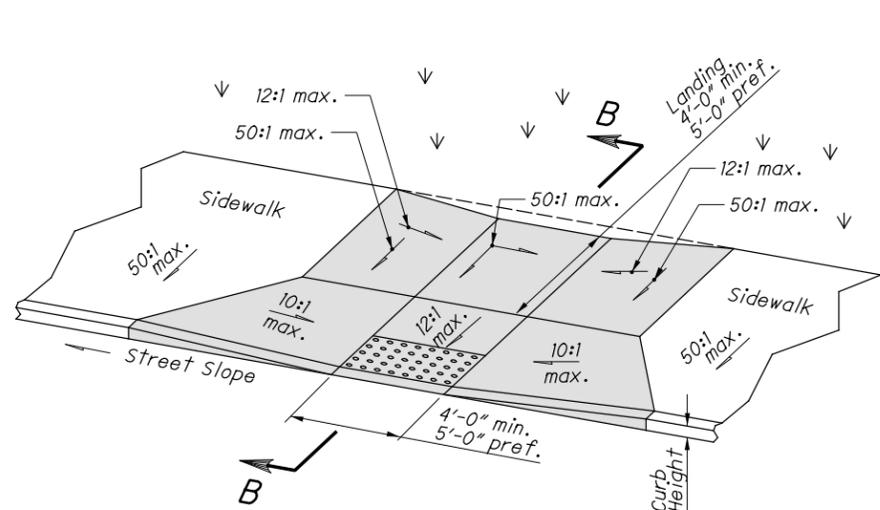


Type A1 (Perpendicular with flared sides)

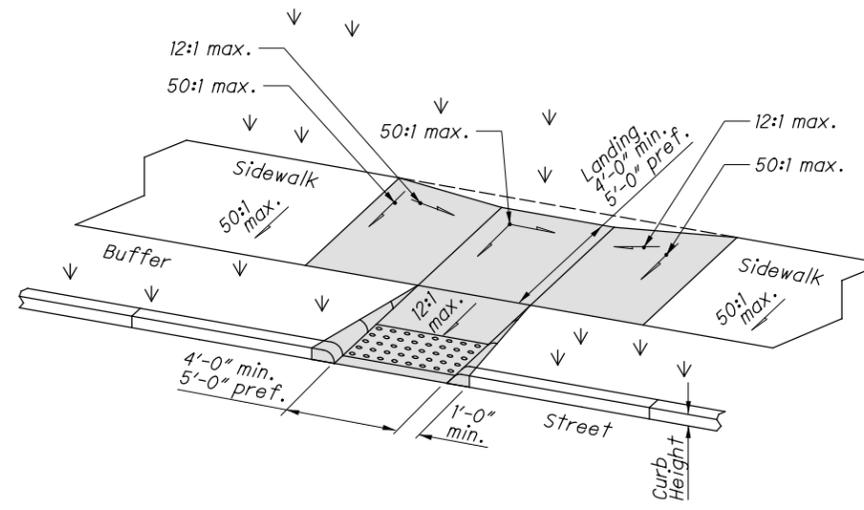


Type A2 (Perpendicular with returned curb)

PERPENDICULAR CURB RAMP DETAILS

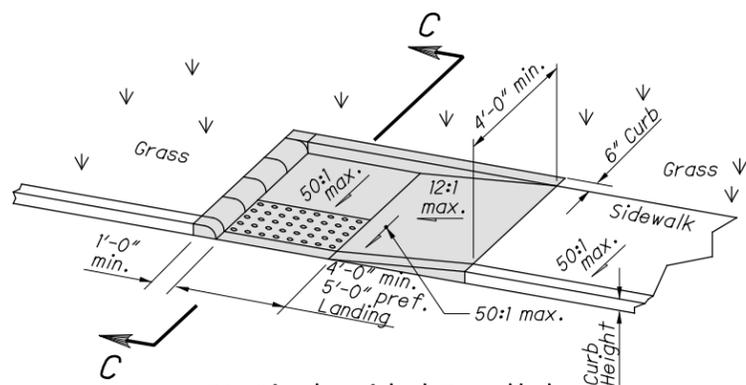


Type C1 (Combined with flared sides)

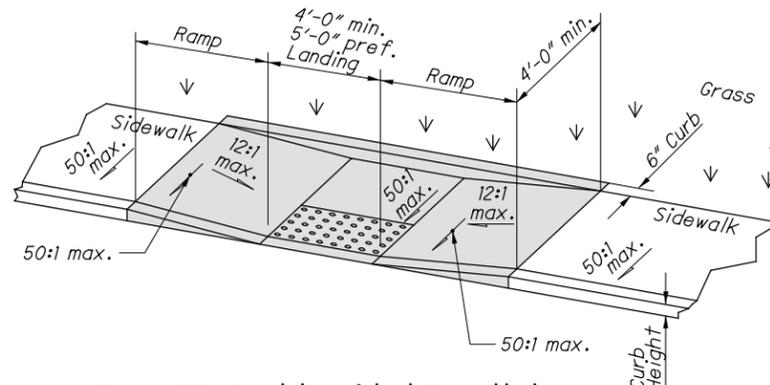


Type C2 (Combined with returned curb)

COMBINED CURB RAMP DETAILS

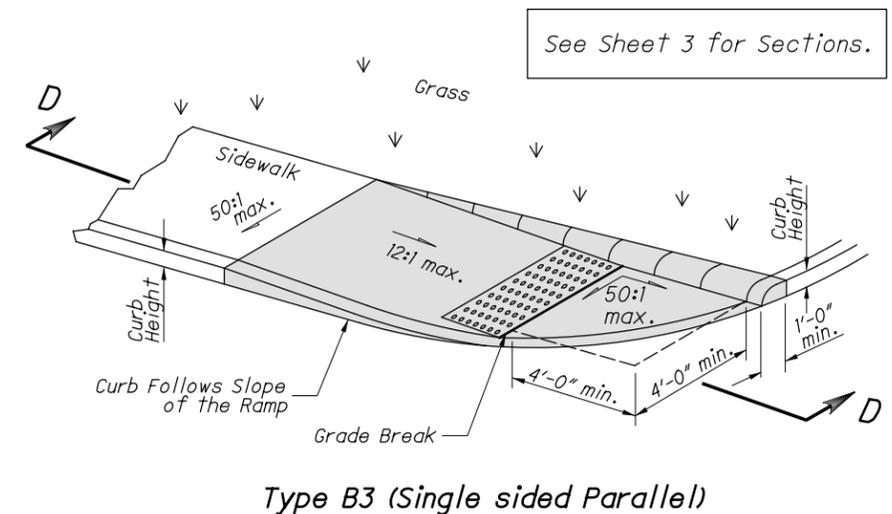


Type B1 (Single sided Parallel)



Type B2 (Double sided Parallel)

PARALLEL CURB RAMP DETAILS



Type B3 (Single sided Parallel)

NOTES CONTINUED

The running slope of the curb ramp shall be a 12:1 maximum or flatter. In existing sidewalks, where the maximum ramp slope is not feasible due to site constraints (e.g. utility poles or vaults, right-of-way limits) it may be reduced as follows:

- A) 10:1 for a max. rise of 6",
- B) 8:1 for a max. rise of 3",
- C) 6:1 over a max. run of 2'-0" for historic areas where a flatter slope is not feasible.

To prevent chasing the grade indefinitely, the transition from existing sidewalk to the shaded curb ramp area is not required to exceed 15 feet in length.

While ramps may be skewed to the crosswalk, the entire lower landing area must fall within the cross walk that the ramp serves and cannot be located in the traveled lane of opposing traffic.

The counter slope of the gutter or street at the foot of a curb ramp, landing, or blended transitions shall be 20:1 or flatter.

The bottom edge of the ramp shall change planes perpendicular to the landing.

The edge of the curb shall be flush with the edge of the adjacent pavement and gutter and surface slopes that meet grade breaks shall also be flush.

Ramp landings shall be 4' min. x 4' min. with a 50:1 or flatter cross slope and running slope.

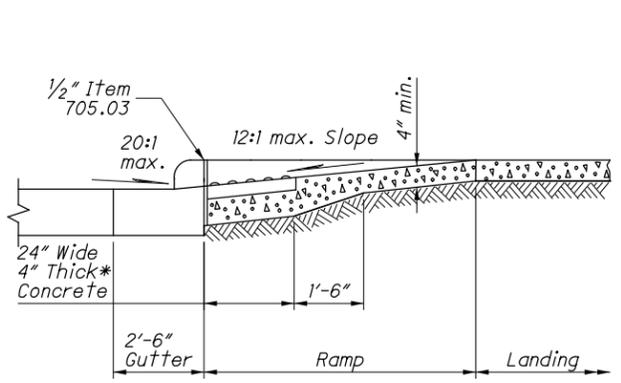
DETECTABLE WARNINGS: Install Detectable Warnings on each curb ramp with approved materials, as shown on Sheet 3. Install these proprietary products as per manufacturer's written instructions.

DRAINAGE: Contractor is to ensure the base of each constructed curb ramp allows for proper drainage, without exceeding allowable cross slope or ramp slopes. Vertical change in level exceeding 1/8" between the 1) pavement and gutter, and 2) gutter and ramp, are not allowed.

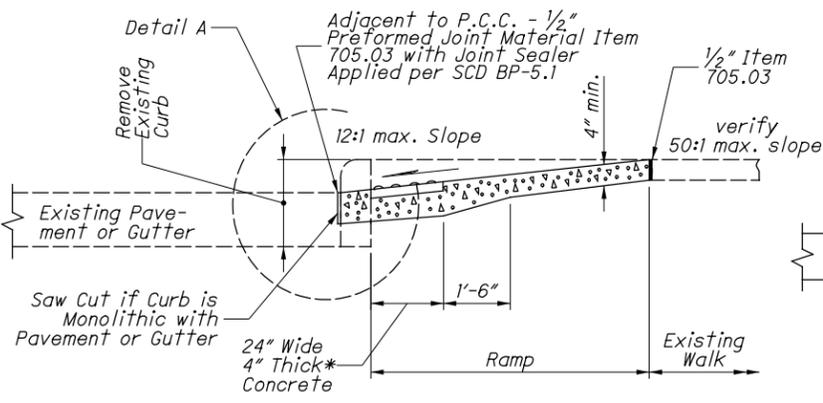
SURFACE TEXTURE: Texture concrete surfaces by coarse brooming transverse to the ramp slopes to be rougher than the adjacent walk.

JOINTS: Provide expansion joints in the curb ramp as extensions of walk joints and consistent with Item 608.03 requirements for a new concrete walk. Provide a 1/2" Item 705.03 expansion joint filler around the edge of ramps built in existing concrete walks. Lines shown on this drawing indicate the ramp edges and slope changes, and do not necessarily indicate joint lines.

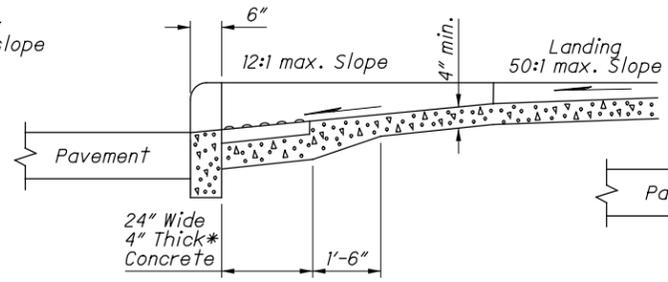
See Sheet 3 for Sections.



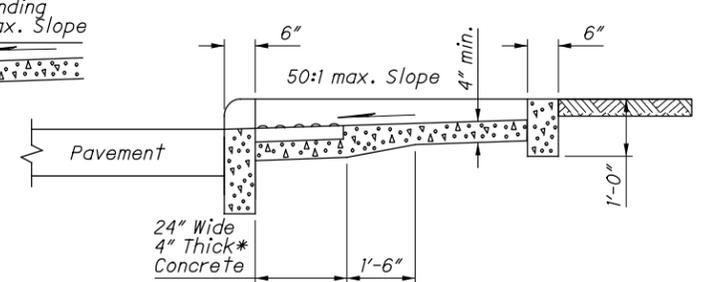
New gutter shown.
**SECTION A-A
NORMAL DETAIL**
See Sheet 2.



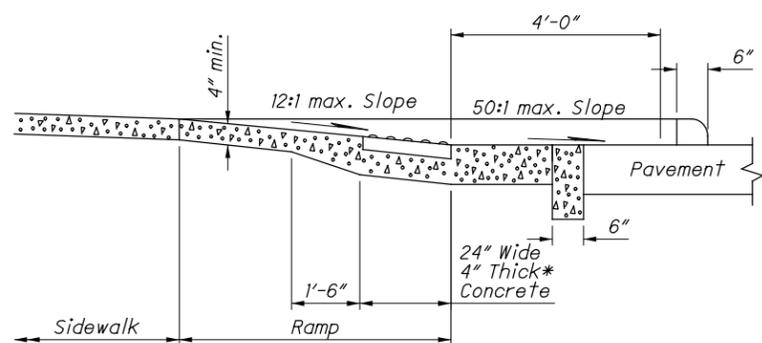
**SECTION A-A
EXISTING WALK DETAIL**
See Sheet 2.



SECTION B-B
See Sheet 2.

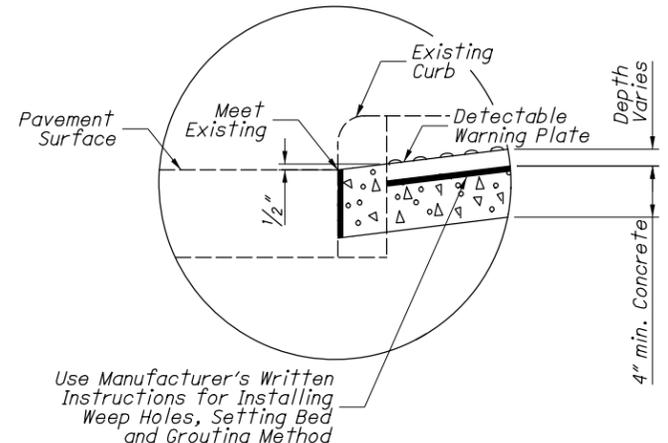


SECTION C-C
See Sheet 2.



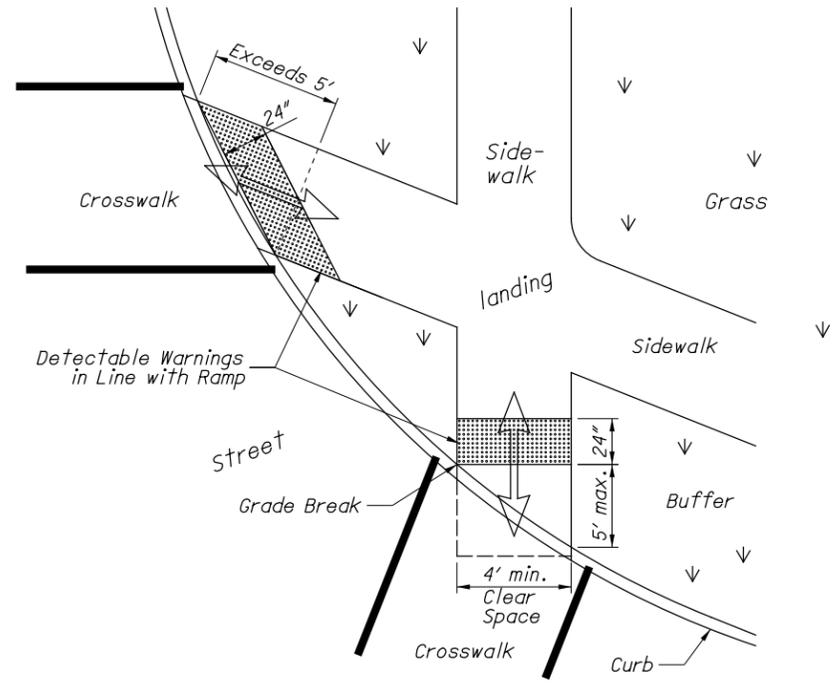
SECTION D-D
See Sheet 2.

*Where possible, pour ramp area integral with the curb, otherwise use 6" thick walk.



Use Manufacturer's Written Instructions for Installing Weep Holes, Setting Bed and Grouting Method

DETAIL A



DETECTABLE WARNING ALIGNMENT

DETECTABLE WARNINGS NOTES

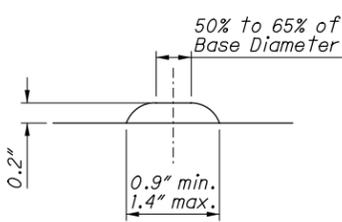
GENERAL: Detectable Warnings are a distinctive surface pattern of truncated domes which are detectable by cane or underfoot to alert people with vision impairments of their approach to streets and hazardous drop-offs.

PLACEMENT: Detectable warnings are to be installed at any location where pedestrians might cross paths with vehicular traffic lanes, such as the base of curb ramps or at blended curbs. A 24" strip of domes is to be installed for the full width of the ramp or walk. Typical street corner placement locations are shown on Sheet 1.

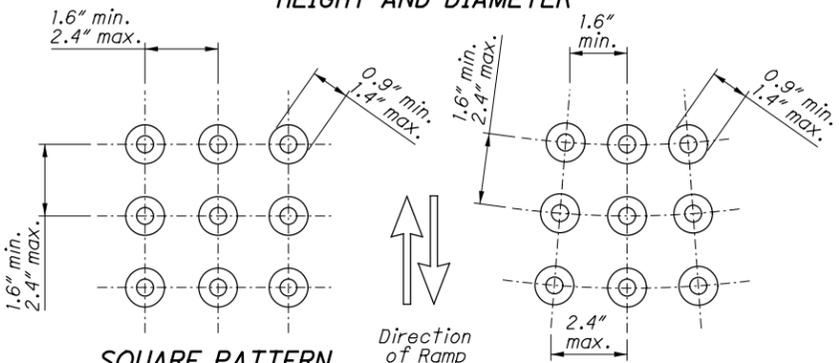
The depth of concrete underneath detectable warning products shall be a minimum of 4". See DETAIL A.

ALIGNMENT: Truncated domes should be aligned with the primary direction of the ramp as shown on the DETECTABLE WARNING ALIGNMENT Detail. Normally the detectable warnings should be flush with the back of the curb, but for skewed conditions see DETECTABLE WARNING ALIGNMENT Detail. For non-standard layouts, detectable warning materials may have to be mitered and placed segmentally.

PRODUCTS & COLORS: Color of the detectable warnings should contrast with surrounding concrete walk and ramp. Black is not an acceptable color. Approved products and guidance on color may be found on the Office of Roadway Engineering Service's Detectable Warnings Approved List. Install products as per manufacturer's printed instructions.

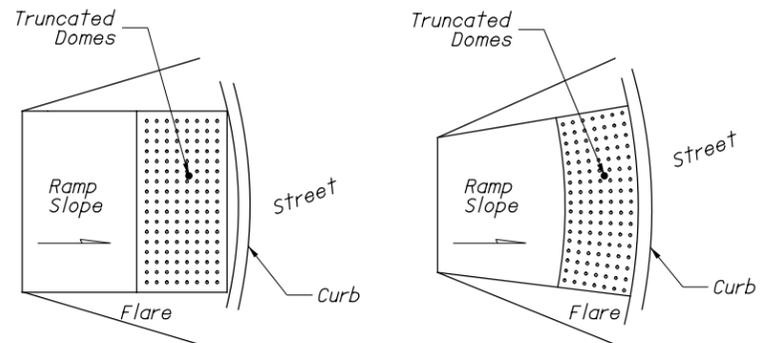


HEIGHT AND DIAMETER

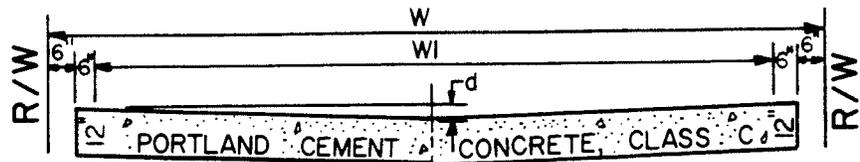


SQUARE PATTERN, PARALLEL ALIGNMENT
RADIAL ALIGNMENT

TRUNCATED DOMES DETAILS



DOME ALIGNMENT ON RADIUS CURB



NO. 8 OR NO. 57 AGGREGATE 4" PIPE UNDERDRAIN (OPTIONAL)

CONCRETE PAVEMENT

TYPE A

W	W1	d
20'	18'	3 1/2"
18'	16'	3 1/4"
16'	14'	3"
15'	13'	2 3/4"
12'	10'	2"

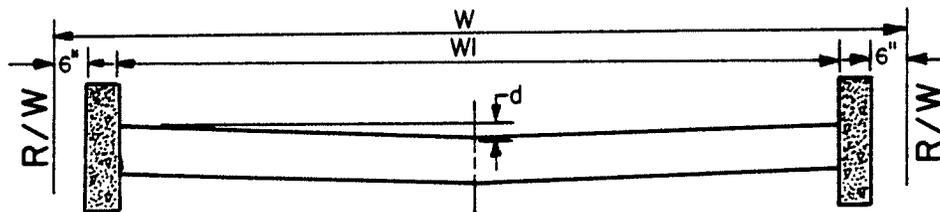


404 2 1/2" ASPHALT CONCRETE 301 4" BITUMINOUS AGGREGATE BASE 4" PIPE UNDERDRAIN (OPTIONAL AS ABOVE)

ASPHALT PAVEMENT

TYPE B

RAISED EDGE OR CURB ON ALLEY SECTION WILL BE INCLUDED IN AREA OF CONCRETE PAVING AND PAID FOR UNDER THIS ITEM.



NOTE: 6" x 18" CONCRETE CURB NOT TO EXTEND FURTHER THAN PROPERTY OR R/W LINE OF STREET.

ASPHALT OR CONCRETE PAVEMENT W/CURBS

TYPE C

PREVIOUSLY 020 A1

APPROVED 20 MAY 1986
DATE

Perry J. Payne
CITY ENGINEER

REVISED:

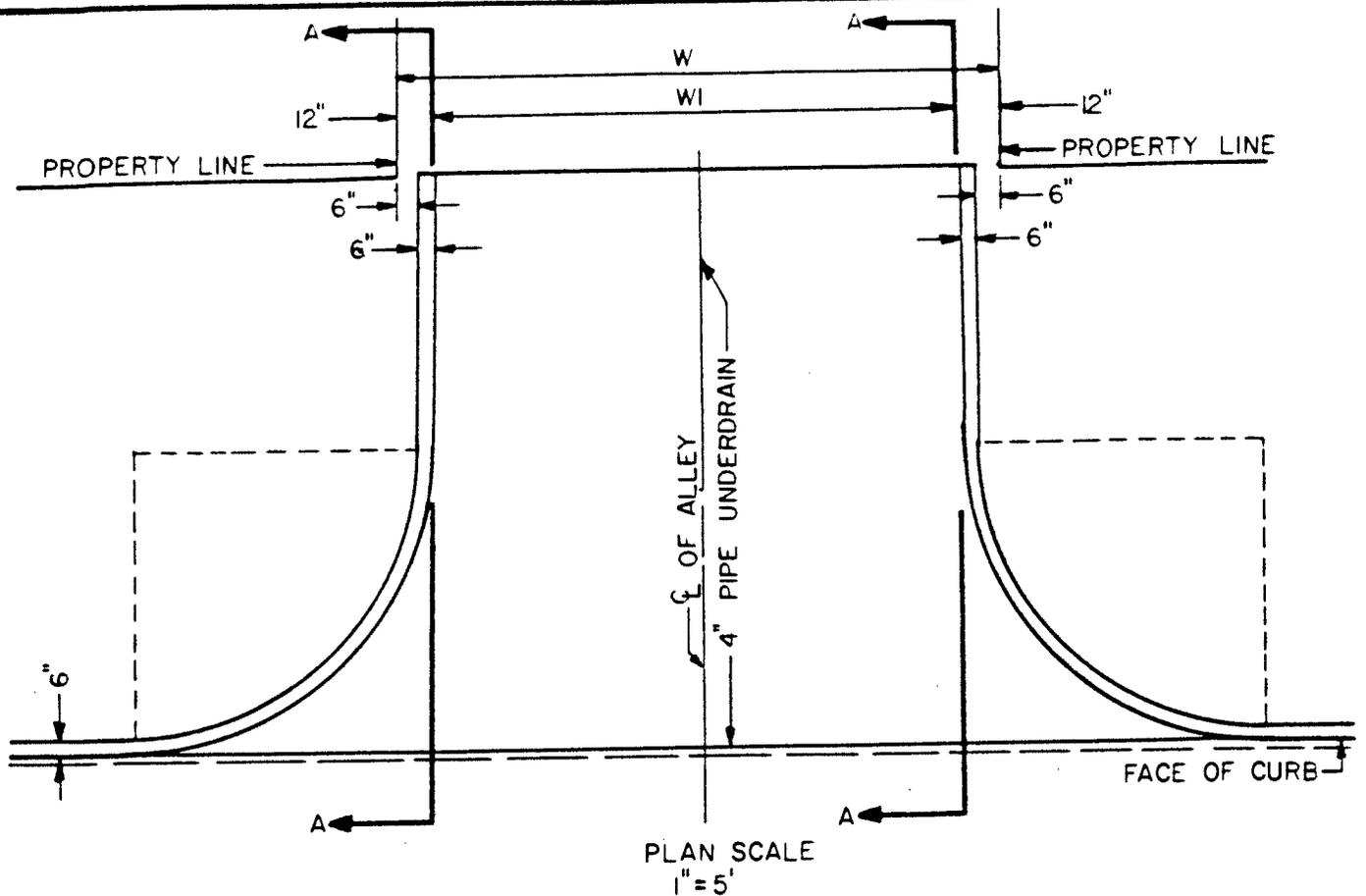
TYPICAL
ALLEY
SECTION

CITY OF LANCASTER, OHIO
DEPARTMENT OF ENGINEERING

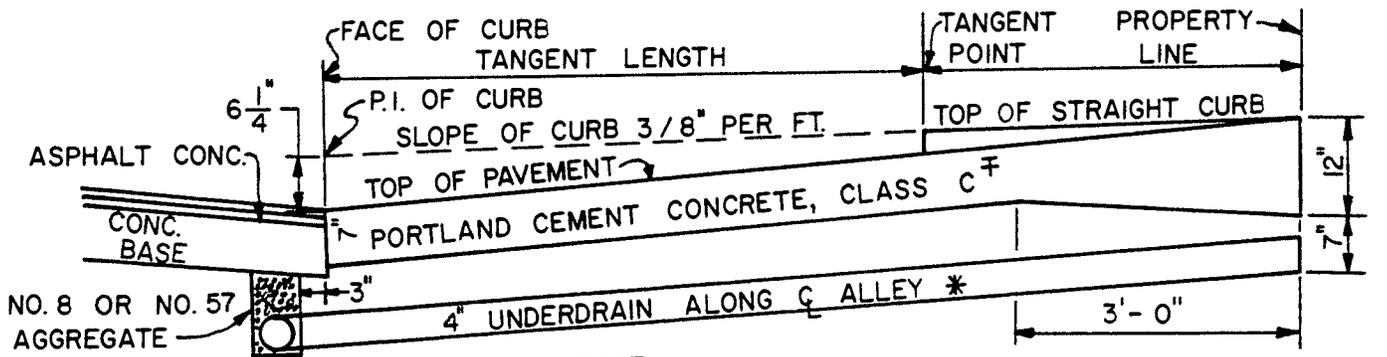
STANDARD
CONSTRUCTION DRAWING

DWG. BY: SLH
CHK'D BY: P.M.

FILE NUMBER
P-9



PLAN SCALE
1" = 5'



SECTION A-A
SCALE 1" = 2'

* - PER OPTION OF CITY ENGINEER.

W	WI
20'	18'
18'	16'
16'	14'
15'	13'
12'	10'

‡ - FOR BITUMINOUS PAVEMENT SECTION MAINTAIN CONSTANT PAVEMENT DEPTH PER STANDARD DRAWING P-9.

RAISED EDGE OR CURB ON ALLEY SECTION WILL BE INCLUDED IN AREA OF CONCRETE PAVING AND PAID FOR UNDER THIS ITEM.

PREVIOUSLY 020A2

APPROVED 23 MAY 1986
DATE

Perry D. Payne
CITY ENGINEER

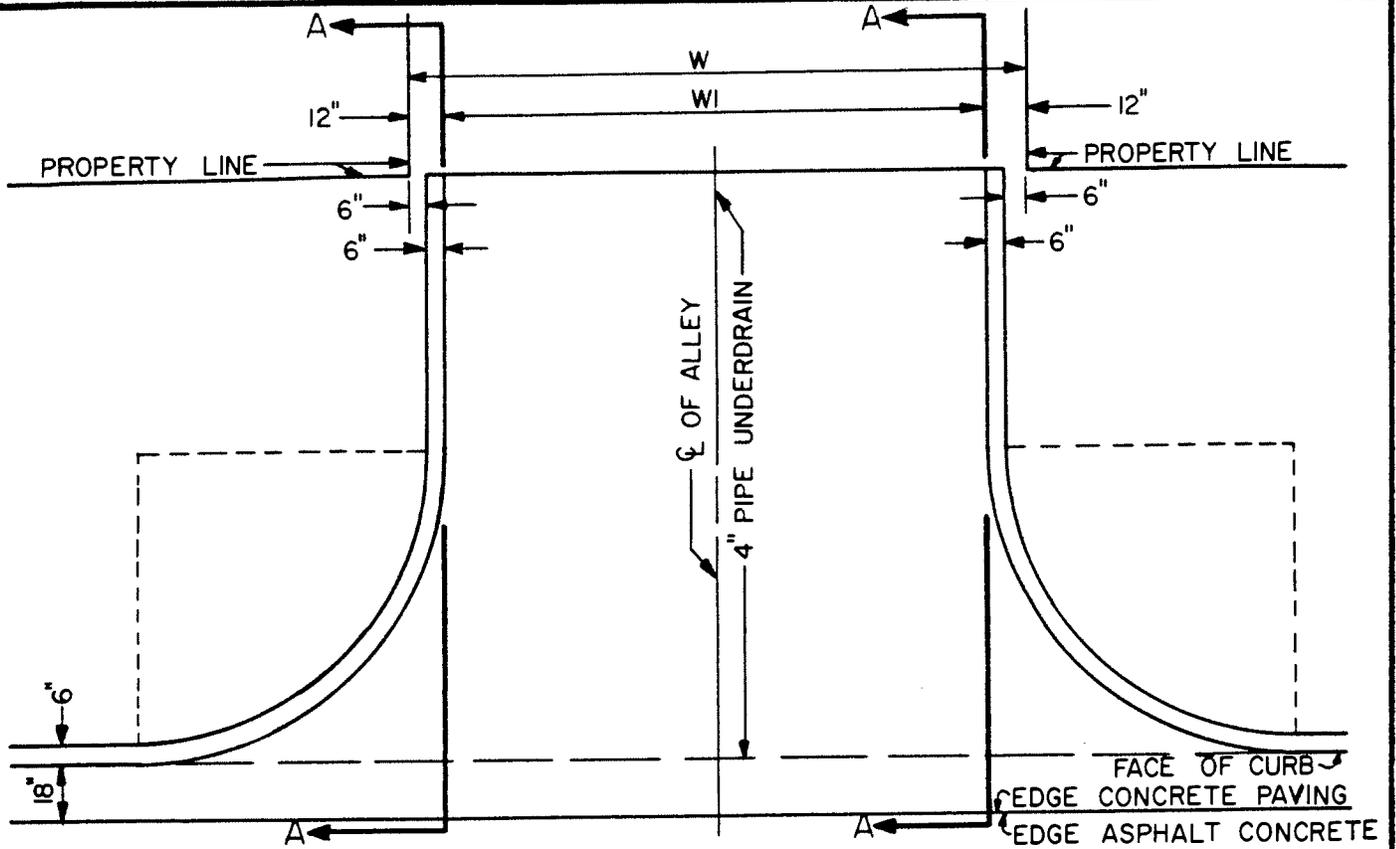
REVISED:

TYPICAL ALLEY
INTERSECTION
WITH STRAIGHT
CURB

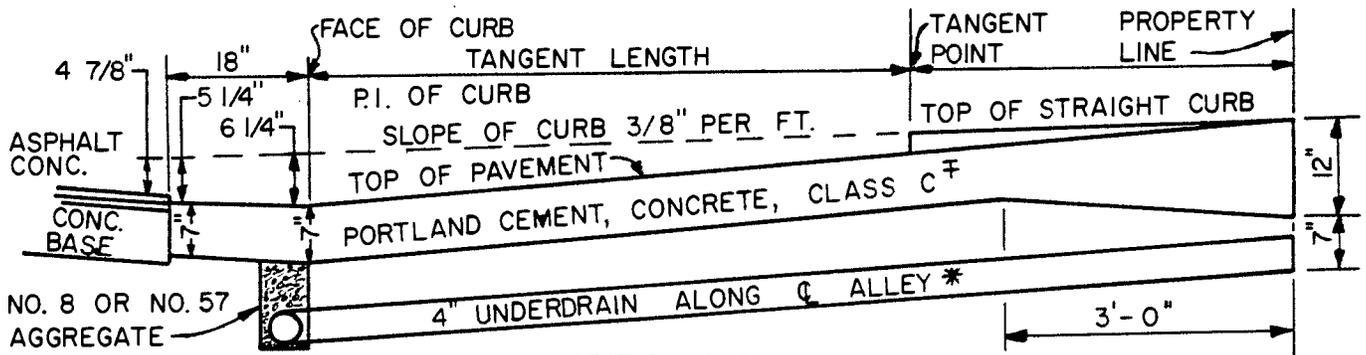
CITY OF LANCASTER, OHIO
DEPARTMENT OF ENGINEERING

STANDARD
CONSTRUCTION DRAWING

DWG. BY: SLH FILE NUMBER
CHK'D BY: P.M. P-10



PLAN SCALE
1" = 5'



SECTION A-A
SCALE 1" = 2'

* - PER OPTION OF CITY ENGINEER

W	WI
20'	18'
18'	16'
16'	14'
15'	13'
12'	10'

‡ - FOR BITUMINOUS PAVEMENT SECTION MAINTAIN CONSTANT PAVEMENT DEPTH PER STANDARD DRAWING P-9.

RAISED EDGE OR CURB ON ALLEY SECTION WILL BE INCLUDED IN AREA OF CONCRETE PAVING AND PAID FOR UNDER THIS ITEM.

FOR JOINT DETAILS SEE STANDARD DRAWING P-12

APPROVED 23 MAY 86 DATE

Perry J. Payne
CITY ENGINEER

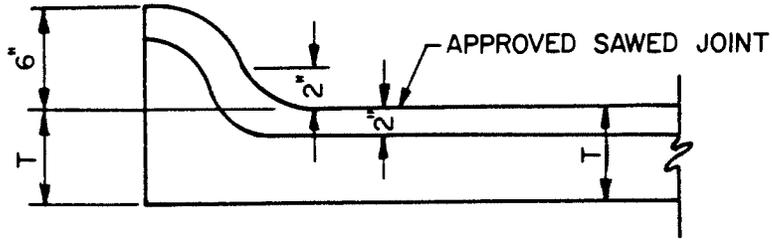
REVISED:

TYPICAL ALLEY
INTERSECTION
WITH CURB
AND GUTTER

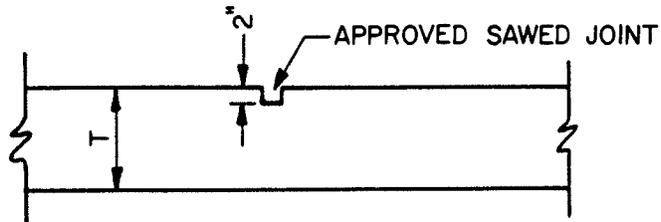
CITY OF LANCASTER, OHIO
DEPARTMENT OF ENGINEERING

STANDARD
CONSTRUCTION DRAWING

DWG. BY: SLH
CHK'D BY: R.M.
FILE NUMBER
P-11

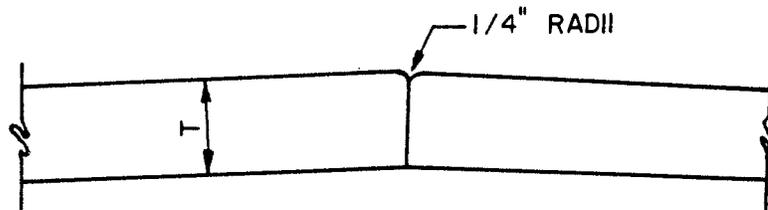


TRANVERSE CONTRACTION JOINT AT INTEGRAL CURB

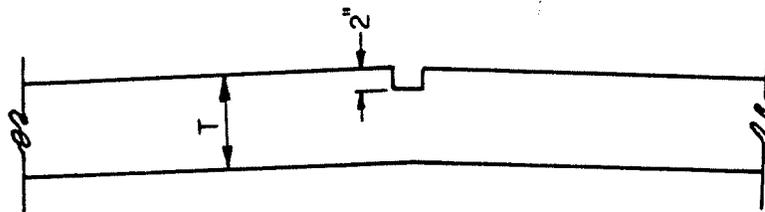


TRANVERSE CONTRACTION JOINT

PROVISION FOR LONGITUDINAL CONTRACTION IN CONCRETE PAVEMENT SHALL BE MADE BY SAWING JOINTS AT INTERVALS OF 18' MAX. JOINTS SHALL BE 2" IN DEPTH AT RIGHT ANGLES TO THE ϕ OF THE PAVEMENT. THIS OPERATION SHALL BE PERFORMED AS SOON AS THE INITIAL SETTING OF THE CONCRETE WILL PERMIT MOVEMENT OF THE SAWING EQUIPMENT WITHOUT DAMAGE TO THE SURFACE.



ϕ CONSTRUCTION LONGITUDINAL JOINT



ϕ SAWED LONGITUDINAL JOINT

APPROVED 27 MAY 86
DATE

Perry J. Payne
CITY ENGINEER

REVISED:

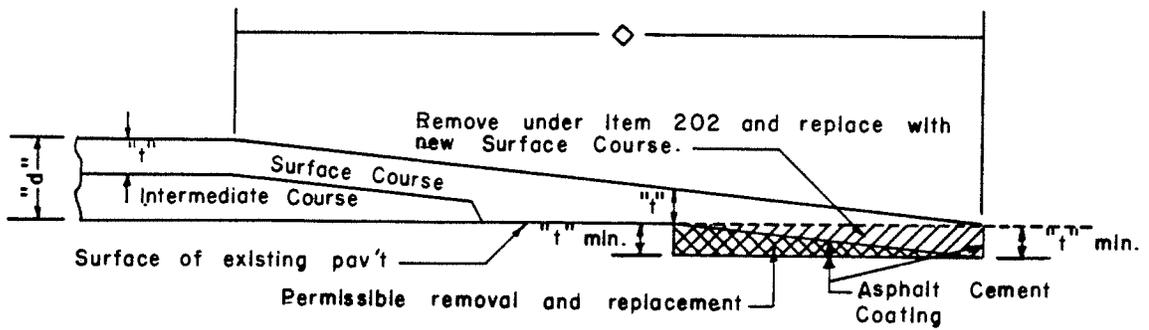
JOINT DETAILS
FOR PORTLAND
CEMENT CONCRETE
PAVING

CITY OF LANCASTER, OHIO
DEPARTMENT OF ENGINEERING

STANDARD
CONSTRUCTION DRAWING

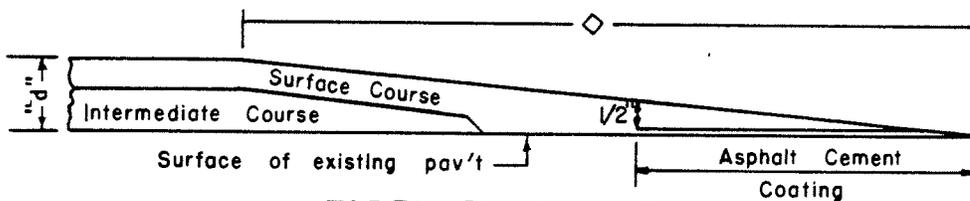
DWG. BY: SLH
CHK'D BY: RM

FILE NUMBER
P-12



BUTT JOINT TYPE

◇ Min length = 10 feet per inch of "d".
 Unless otherwise directed use 25 feet per
 inch of "d" for 50 mph or greater speeds.



TAPER EDGE TYPE

NOTE: Either butt or taper type may be used
 unless type is specified by the plan

APPROVED 4/26/90 DATE
Kent Huston
 CITY ENGINEER

RESURFACING
 END FEATHER
 DETAILS

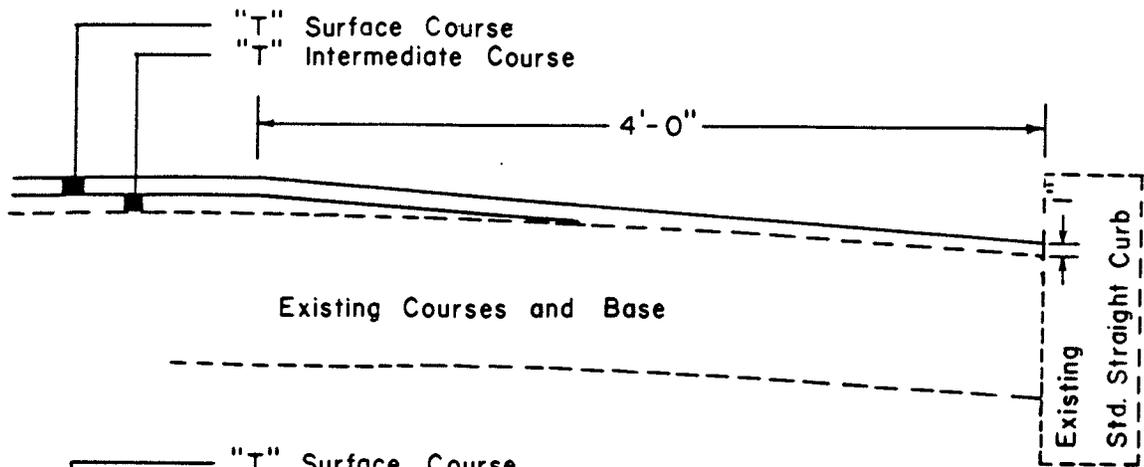
CITY OF LANCASTER, OHIO
 DEPARTMENT OF ENGINEERING

STANDARD
 CONSTRUCTION DRAWING

DWG. BY: *R.F.M.*
 CHK'D BY: *RM*

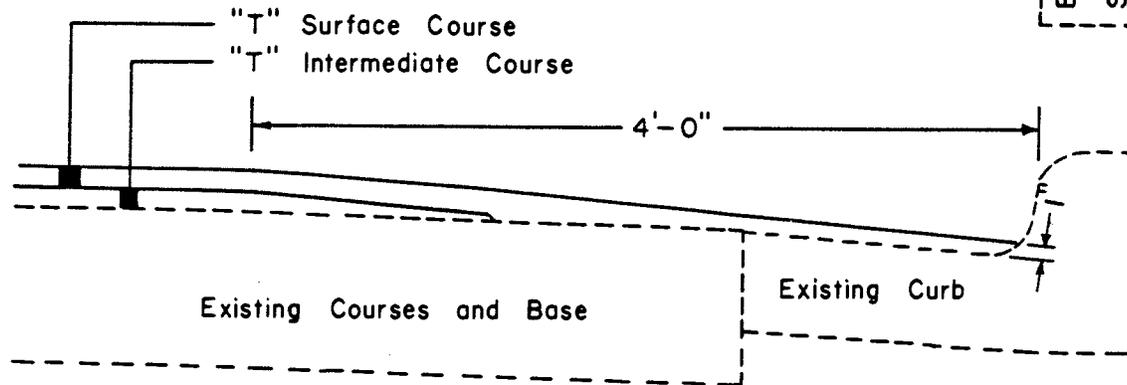
FILE NUMBER
 P-13

REVISED:



Existing Courses and Base

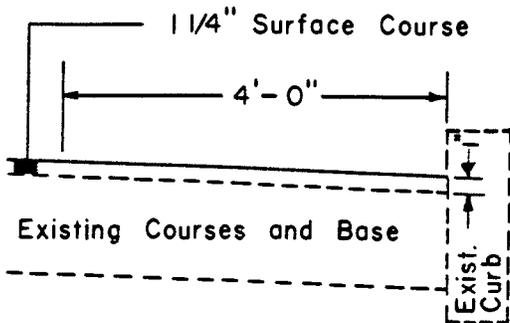
Existing Std. Straight Curb



Existing Courses and Base

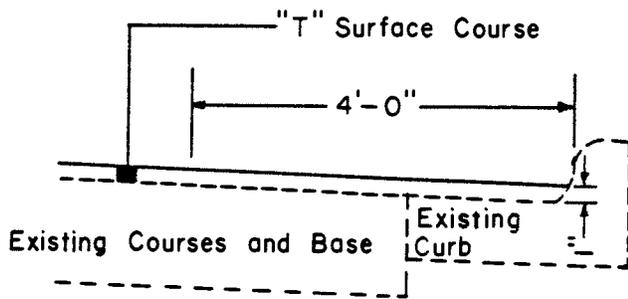
Existing Curb

TYPE 1



Existing Courses and Base

Exist. Curb



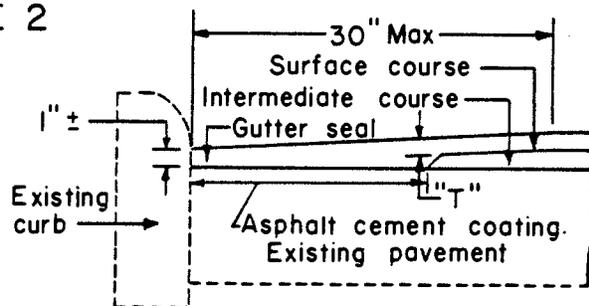
Existing Courses and Base

Existing Curb

TYPE 2

"T" = depth of overlay in inches

NOTE: Special care shall be taken during construction to obtain maximum compaction of bituminous concrete in gutters.



TYPE 3

APPROVED 4/26/90 DATE

Kent Huston CITY ENGINEER

REVISED:

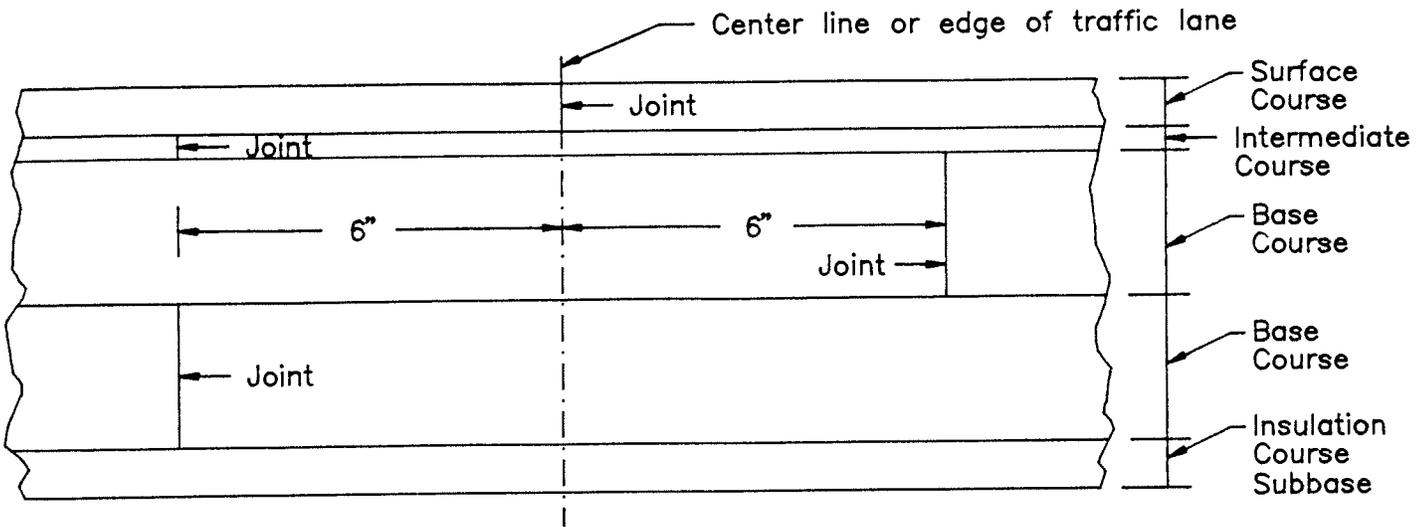
RESURFACING
GUTTER
FEATHERING
DETAILS

CITY OF LANCASTER, OHIO
DEPARTMENT OF ENGINEERING

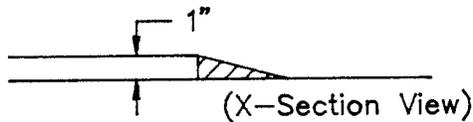
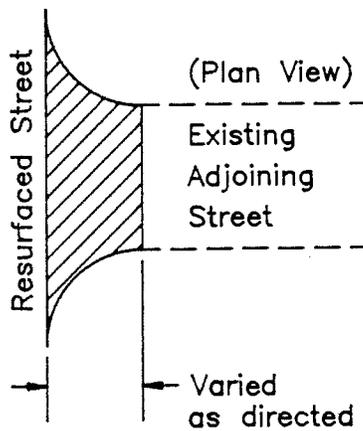
STANDARD
CONSTRUCTION DRAWING

DWG. BY: R.F.M.
CHKD BY: RM

FILE NUMBER
P-14



LAPPING LONGITUDINAL JOINTS



FEATHERING AT ADJOINING STREETS

APPROVED 5-14-93

Kent Huston
CITY ENGINEER

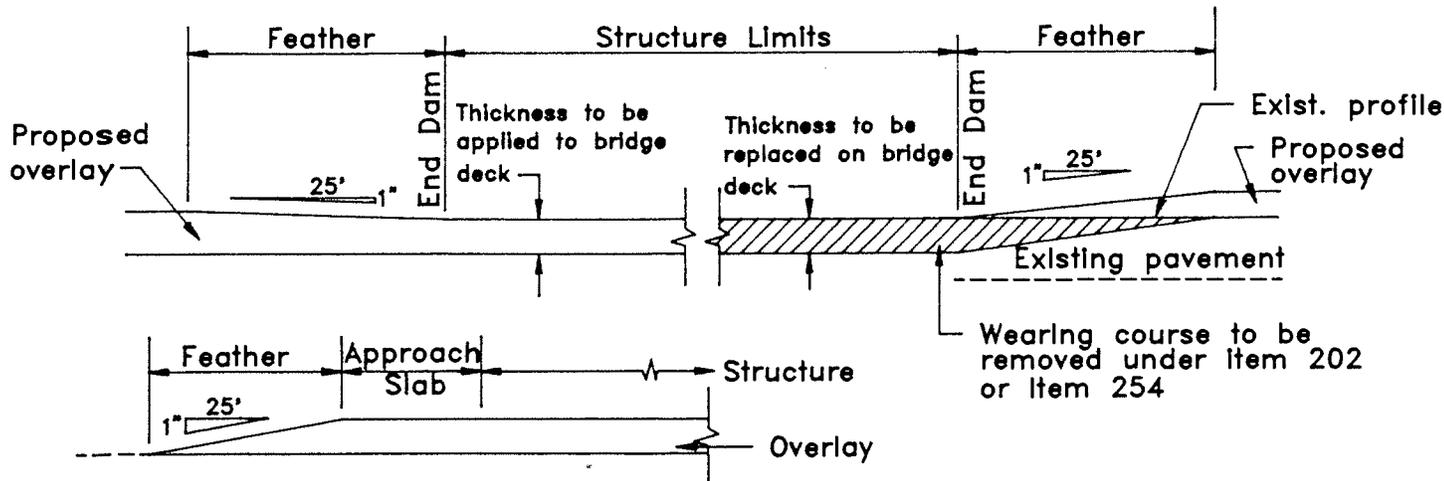
REVISED: 5-3-93

RESURFACING
MISCELLANEOUS
DETAILS

CITY OF LANCASTER, OHIO
DEPARTMENT OF ENGINEERING

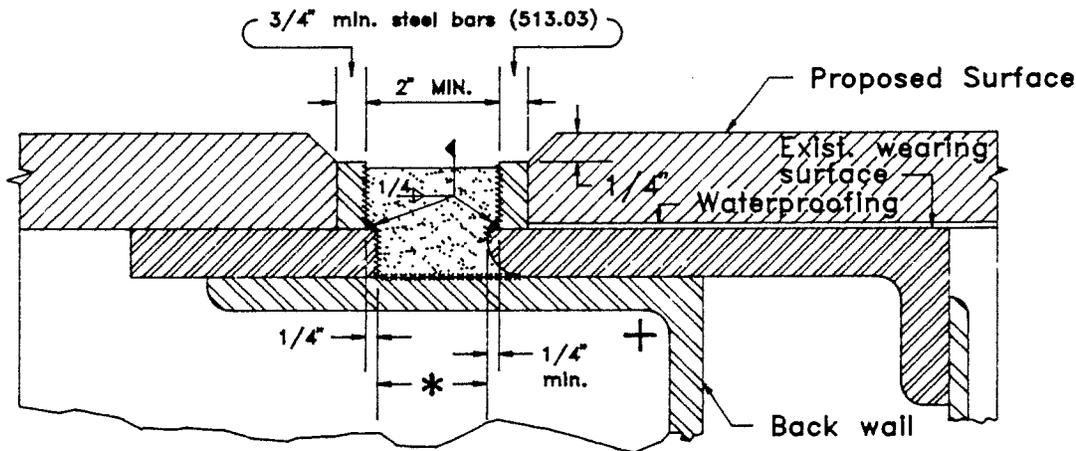
STANDARD
CONSTRUCTION DRAWING

DWG. BY: <u>C.S.W.</u>	FILE NUMBER
CHK'D BY: <u>R.M.</u>	<u>P-15</u>



Detail assume non-settled approach slabs. Smoothing of the profile for settlement is required per plan grade or as directed by the Engineer.

- + Increase as necessary to maintain 2" min. opening.
- * Vertical extension of joints found to be closed to 1/2" or less may be non-performed as directed by the Engineer.



Seal joint with a hot applied bridge deck waterproofing material meeting the requirements of 705.04. Sandblast vertical surfaces (±) and wipe clean. Seal joint before rust forms. Use bond breaker on the horizontal surface. Payment of the aforesaid work shall be included in the unit price for Item 516.

Maintenance of Traffic: Generally the base shall be welded while the lane is closed. If traffic is routed over the bars before resurfacing, temporary ramps shall be constructed using 402 or 404 feathering at a maximum slope of 6 ft/in. The ramps shall be removed before resurfacing. Payment for placing and removing the ramp shall be included in the lump sum bid for Item 614.

APPROVED 5-14-93

Kent Huston
CITY ENGINEER

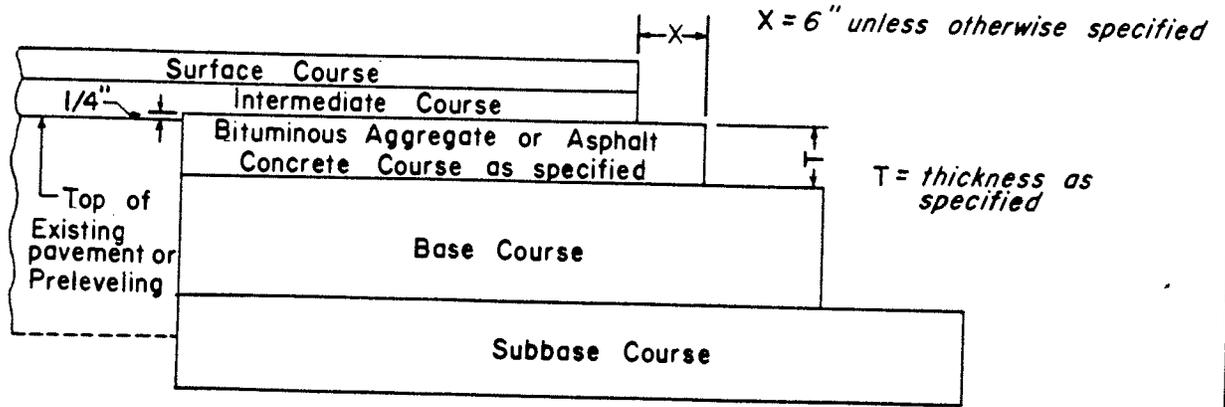
REVISED: 5-3-93

RESURFACING
AT STRUCTURE
DETAILS

CITY OF LANCASTER, OHIO
DEPARTMENT OF ENGINEERING

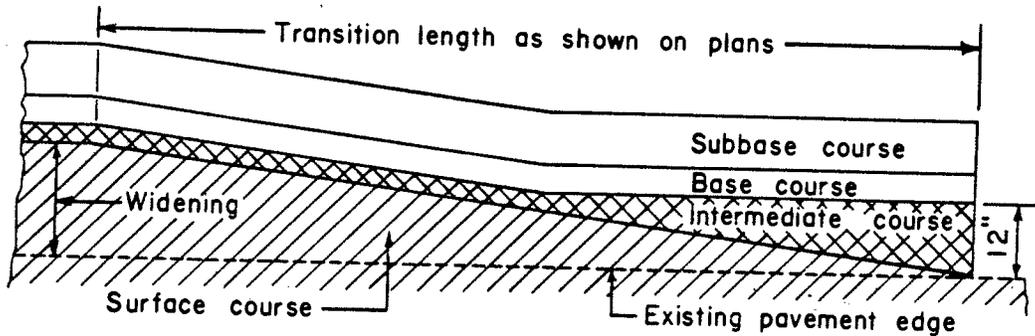
STANDARD
CONSTRUCTION DRAWING

DWG. BY: C.S.W. FILE NUMBER
CHK'D BY: RM P-16



The Bituminous Aggregate in the upper part of the base widening shall finish approximately $\frac{1}{4}$ " above the edge of the existing pavement where no preleveling is used. Where a preleveling (using intermediate course material) is specified it shall be placed prior to excavation of the widening trench and the upper course of the base widening shall finish approximately $\frac{1}{4}$ " above the preleveling.

COURSE DETAIL FOR WIDENING



MERGING EDGE OF PAVEMENT WIDENING WITH EDGE OF EXISTING PAVEMENT

APPROVED 4/26/90 DATE

Kent Huston
CITY ENGINEER

REVISED:

PAVEMENT WIDENING DETAILS

011231 P17.34D

CITY OF LANCASTER, OHIO
DEPARTMENT OF ENGINEERING

STANDARD
CONSTRUCTION DRAWING

DWG. BY: R.F.M.

CHK'D BY: RM

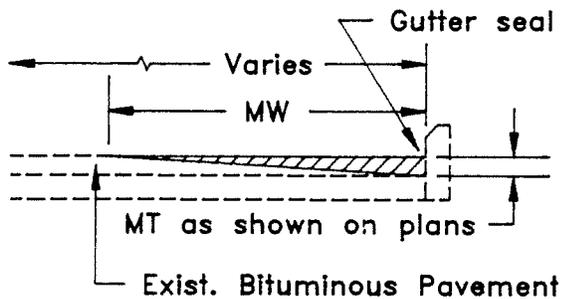
FILE NUMBER

P-17

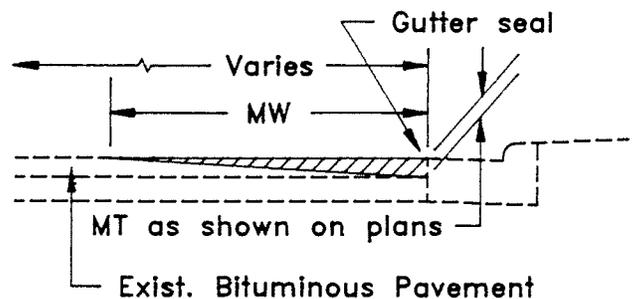
PAVEMENT PLANING, BITUMINOUS, PARTIAL WIDTH

THE PAVEMENT FOR THE STREETS AND LIMITING STATIONS SHOWN BELOW SHALL BE PLANED WITHOUT HEAT ON BOTH SIDES AS SHOWN IN THE DETAIL BELOW. THESE AREAS ARE WHERE THE CONCRETE GUTTER IS EXPOSED OR WHERE THERE IS LIMITED CURB EXPOSURE. THE PLANING SHALL BE TO THE DEPTH SHOWN AT THE CURB OR GUTTER AND FEATHER TO 0" IN A DISTANCE MW AS SHOWN IN THE PLANS. PAYMENT WILL BE FOR THE ACTUAL NUMBER OF SQUARE YARDS PLANED AS MEASURED BY THE ENGINEER, AFTER THE PLANING OPERATION IS PERFORMED, THE ENTIRE PAVEMENT WIDTH BETWEEN THE CONCRETE GUTTERS SHALL BE OVERLAID WITH THE SAME THICKNESS OF ASPHALT CONCRETE AS THE REMAINING UNPLANED SECTION OF THE STREET. QUANTITIES ARE CONTAINED IN THE GENERAL SUMMARY FOR THE ABOVE PURPOSE. THE PLANING SHALL BE FEATHERED AT 1 INCH IN 25 FEET AT BOTH ENDS OF THE PLANED AREA.

ITEM SP-1-PAVEMENT PLANING, BITUMINOUS, WITHOUT HEATING, PARTIAL WIDTH.



PAVEMENT PLANING AT STRAIGHT CURB



PAVEMENT PLANING AT CURB AND GUTTER

APPROVED 5-14-93

Kent Huston
CITY ENGINEER

REVISED: 5-3-93

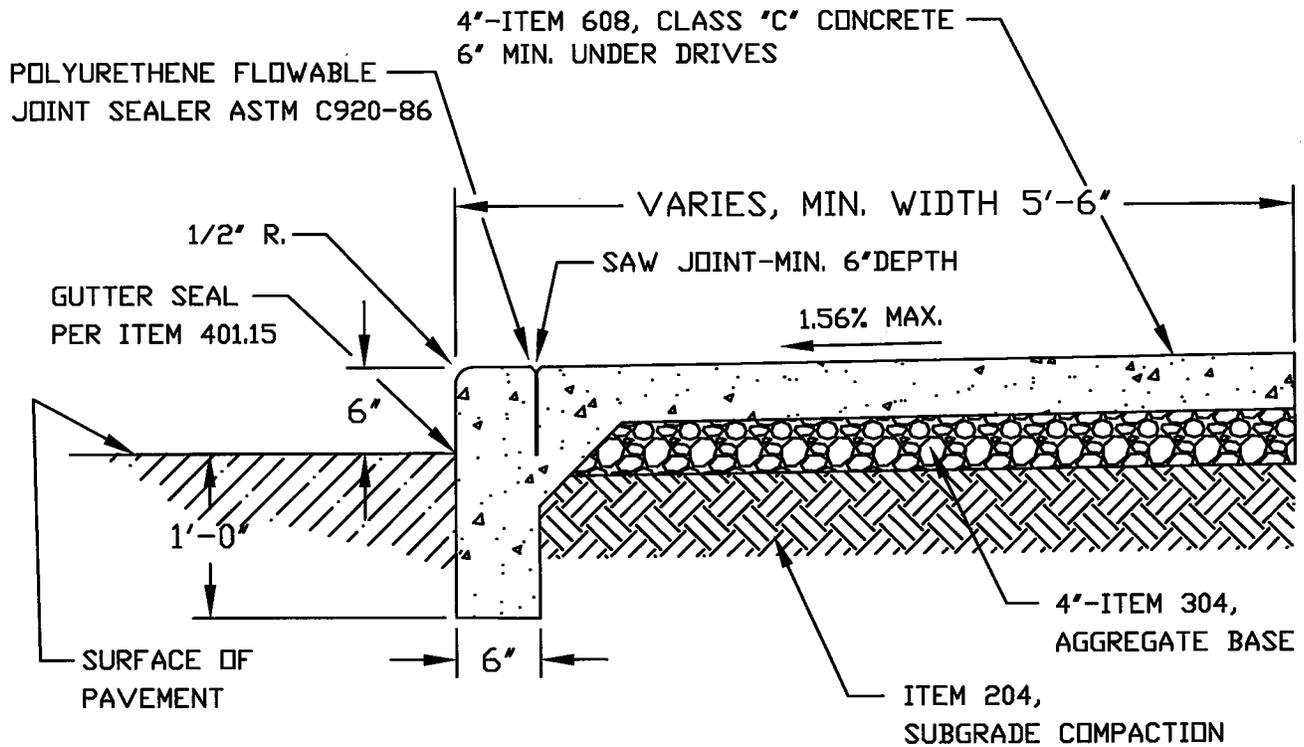
RESURFACING
PARTIAL WIDTH
PAVEMENT PLANING

CITY OF LANCASTER, OHIO
DEPARTMENT OF ENGINEERING

STANDARD
CONSTRUCTION DRAWING

DWG. BY: C.S.W.
CHK'D BY: RM

FILE NUMBER
P-18



NOTE:

1. WORK SHALL BE PER THE PERTINENT SECTIONS OF THE LATEST ADDITION TO THE OHIO DEPARTMENT OF TRANSPORTATION'S CONSTRUCTION AND MATERIAL SPECIFICATIONS.
2. ALL WORK SHALL BE UNDER THE STREET SUPERINTENDENT'S SUPERVISION. FAILURE TO REQUEST INSPECTIONS SHALL BE CAUSE FOR REMOVAL OF THE WORK AT CONTRACTOR'S EXPENSE.
3. THIS DETAIL SHALL ONLY BE USED WITH WRITTEN APPROVAL OF THE LANCASTER TRANSPORTATION SUPERINTENDENT, WHEN SPECIFICALLY ISSUED IN AN APPROVED SET OF CONSTRUCTION DRAWINGS OR WHEN ISSUED WITH A CITY RIGHT-OF-WAY PERMIT.
4. INSPECTIONS OF THIS WORK ARE REQUIRED AFTER THE FORMS ARE SET BUT BEFORE THE CONCRETE IS POURED, AND AT THE COMPLETION OF WORK. CALL 740-687-6668 FOR INSPECTIONS.

APPROVED <u>11-9-13</u> <i>Brad Fagrell</i> CITY ENGINEER	INTEGRAL CURB & SIDEWALK	CITY OF LANCASTER, OHIO DEPARTMENT OF ENGINEERING
REVISED: 28 OCT 13		STANDARD CONSTRUCTION DRAWING
		DWG. BY: DDK CHK'D BY: <i>RM</i>
		FILE NUMBER P-19

Item numbers refer to the latest edition of the Ohio Department of Transportation, Construction and Material Specifications.

Curb or Combined Curb and Gutter shall be taken out and replaced with concrete, separated from the ramp by 1/2" premolded expansion joint. When less than 5' of a curb section remains after the curb cut is located, it shall also be removed and replaced. Curb shall be constructed in minimum 5' sections and maximum 10' sections.

Fills, if required, shall be Item 310, Subbase or Item 411, Stabilized Crushed Aggregate, compacted in layers not exceeding 4".

Notify the City Engineer's Office when forms will be ready for inspection, at least 24 hours before concrete is to be placed (Telephone 687-6614). In no case shall concrete be placed without approval of form work by the inspector.

Driveways and sidewalks shall be constructed of Plain Portland Cement Concrete, Item 452, 5% to 8% air entrained, containing six and one-half (6 1/2) bags of Cement (Cl. C, Sec.499) per C.Y., and 3" max. slump.

Curb and combined curb and gutter shall conform to Standard Construction Drawings P-6 and P-3 and Item 609, Class C concrete with max. 3" slump, 6-1/2 bag mix, 5-8% air entrainment.

Expansion Joints shall be placed to form utility strips where required at the back of curb between sidewalk and/or drive aprons, and wherever new concrete touches existing concrete or other surface.

Forms shall consist of wood 2" nominal thickness or metal of equal strength.

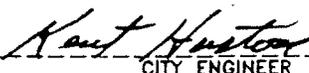
A Standard Curing Compound shall be properly applied immediately after finish.

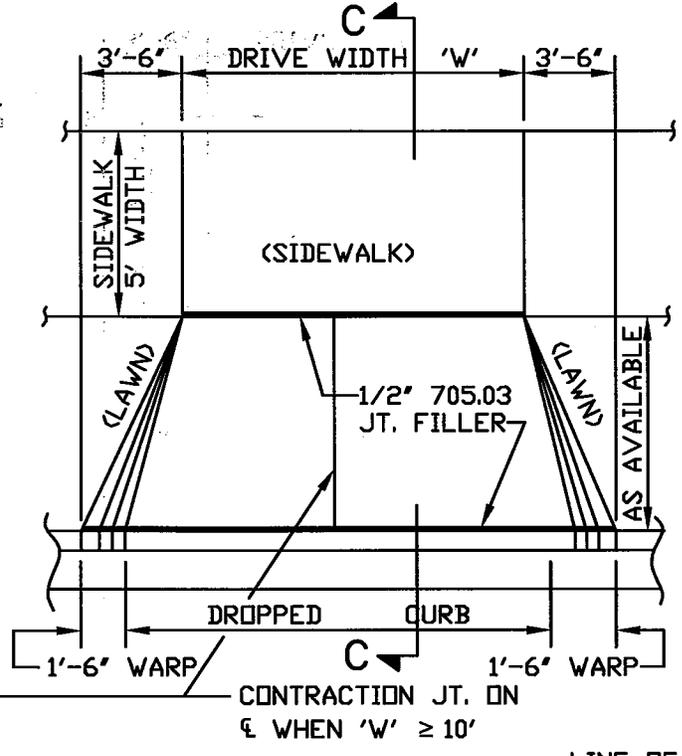
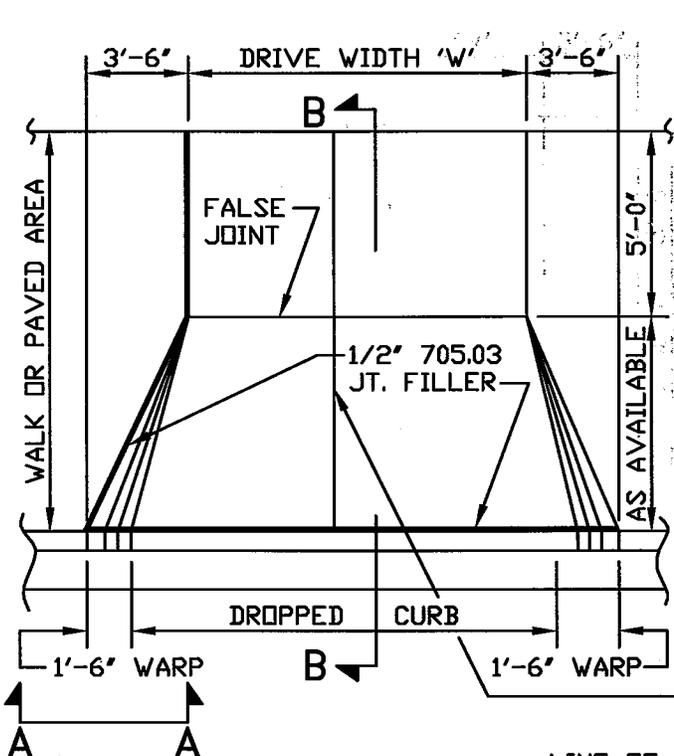
Where Sidewalk is next to curb, sidewalk may be sloped longitudinal, not to exceed 3/8" per ft., to ease the slope on the driveway ramp.

No concrete shall be placed until the temperature is 35 degrees Minimum. Concrete shall be protected in accordance with section 511.12 of Item 511.

Sandstone or limestone curbs are the property of the City. Where stone curbs are to be replaced, the existing stone curbs shall be carefully removed without cutting or marring them in any way. Upon removal of the curbs they shall be placed in a safe location and the City Street Department (687-6668) shall be notified that the curbs are ready to be picked up.

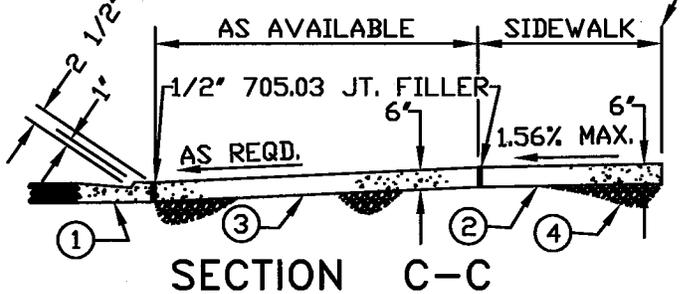
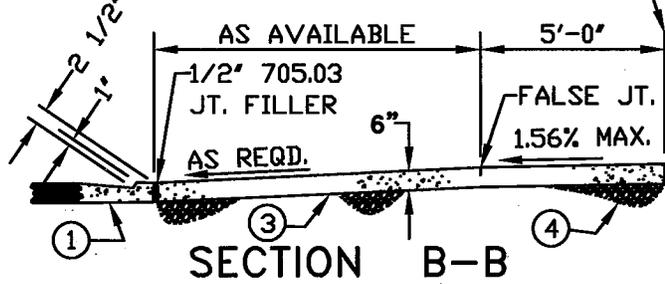
A curb cut or access permit is needed from the Department of Engineering before beginning any removal of curb or curb and gutter in a public right-of-way.

APPROVED <u>8-9-93</u>	DRIVE APPROACH NOTES	CITY OF LANCASTER, OHIO DEPARTMENT OF ENGINEERING
 CITY ENGINEER		STANDARD CONSTRUCTION DRAWING
REVISED:		DWG. BY: <u>C.S.W.</u> CHK'D BY: <u>RM</u>



STANDARD SECTION WHEN WALK IS NEXT TO CURB

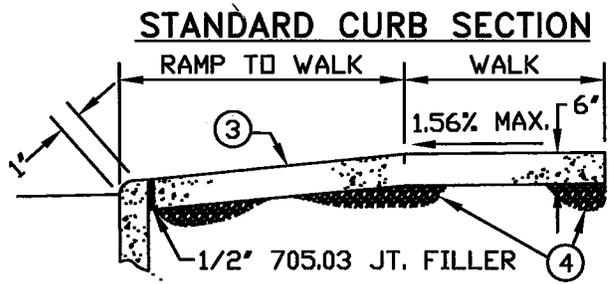
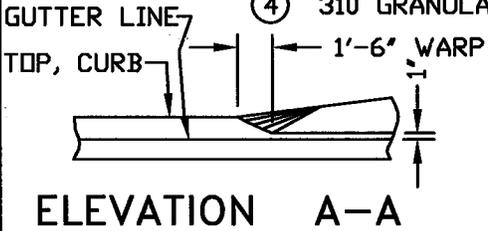
STANDARD COMBINED CURB AND GUTTER SECTION



DRIVE LEGEND

- ① 609 PCC CURBING
- ② 608 PCC SIDEWALK
- ③ 452 PCC DRIVE
- ④ 310 GRANULAR BED COURSE

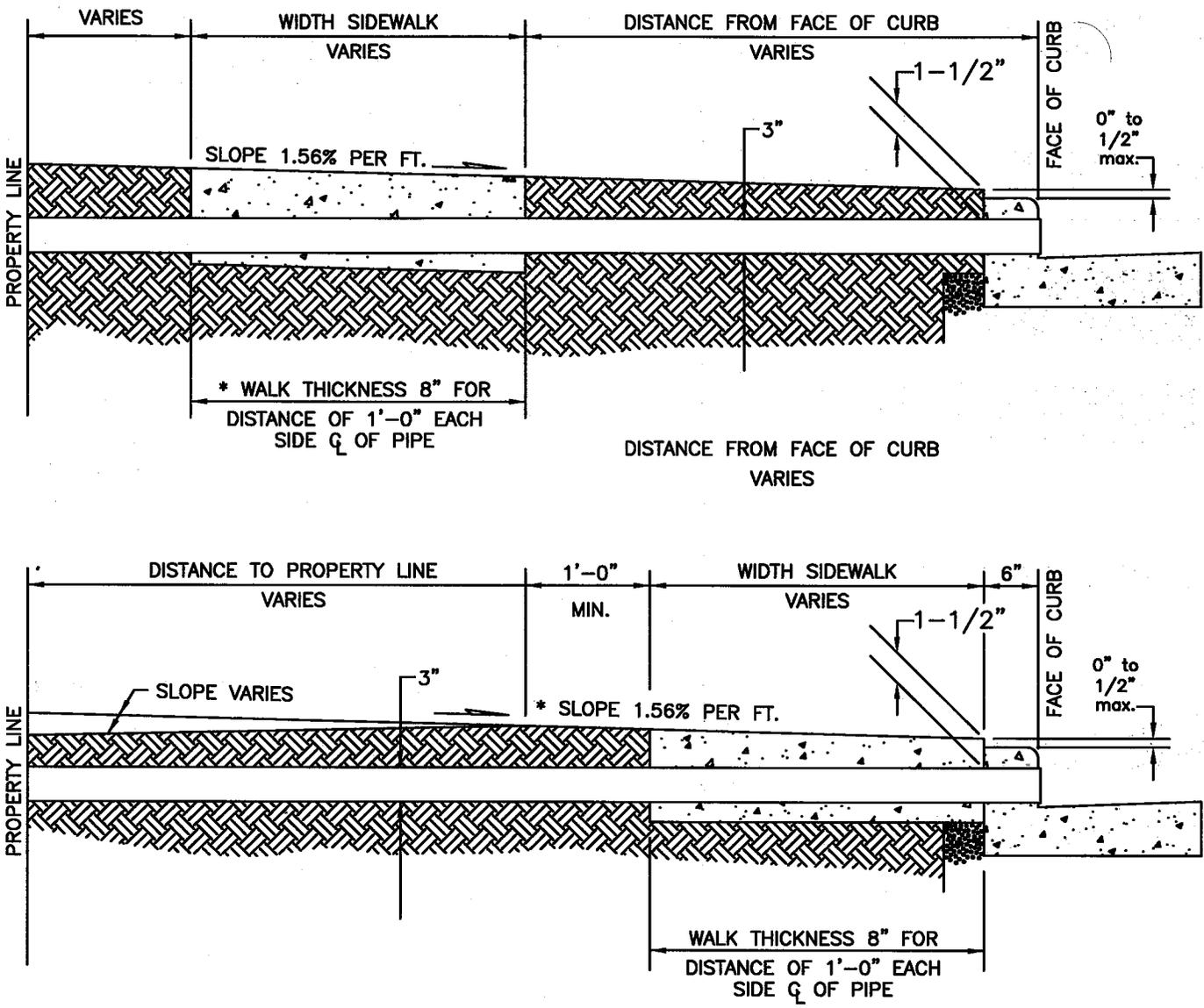
NOTE: See Std. Const. Dwg. P-20 for Notes



APPROVED 3-11-13
Brad Fagell
 CITY ENGINEER
 REVISED: 8 MAR 13

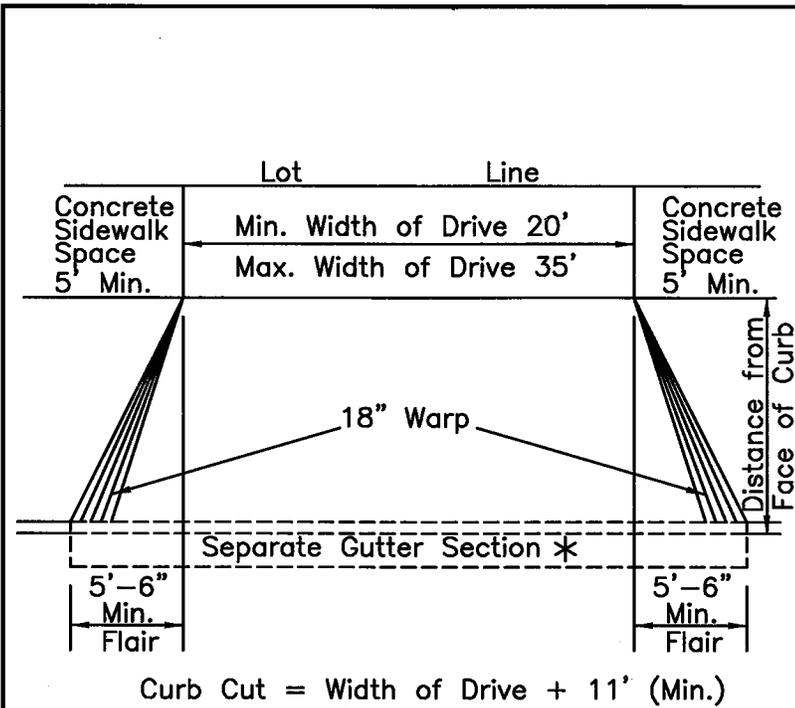
RESIDENTIAL
 DRIVE APPROACH
 FOR CURBED STREETS

CITY OF LANCASTER, OHIO
 DEPARTMENT OF ENGINEERING
 STANDARD CONSTRUCTION DRAWING
 DWG. BY: ...DDK...
 CHK'D BY: ...RM...
 FILE NUMBER
 P-21

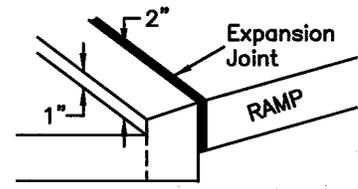


* APPLICABLE ONLY WHERE THICKNESS OF CONCRETE OVER PIPE IS LESS THAN 4".
 EXISTING CURB MUST BE CORE DRILLED FOR ROOF DRAIN OPENING.

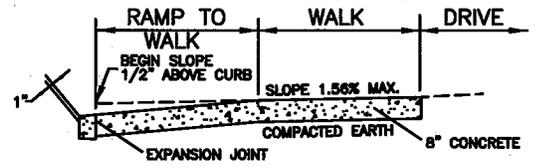
APPROVED <u>3-11-13</u> <i>Brad Fagrell</i> CITY ENGINEER	PIPE ROOF DRAIN, ITEM 618	CITY OF LANCASTER, OHIO DEPARTMENT OF ENGINEERING	
REVISED: 8 MAR 13		STANDARD CONSTRUCTION DRAWING	
		DWG. BY: DDK CHK'D BY: <i>RJ</i>	FILE NUMBER P-22



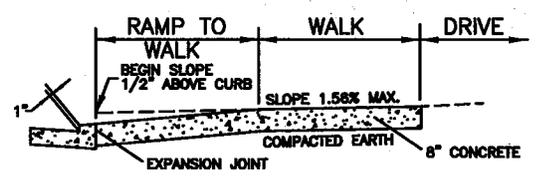
Curb Cut = Width of Drive + 11' (Min.)



CURB DETAIL



STANDARD CURB SECTION



STANDARD CURB & GUTTER SECTION

Curb or Combined Curb and Gutter shall be taken out and replaced with concrete, separated from the ramp by 1/2" premolded expansion joint per ASTM D-994. When less than 5' of a curb section remains after the curb cut is located, it shall be removed and replaced. Curb removal may be by sawing only if pre-approved by the Engineer.

Fills if required shall be of earth compacted in 2" layers, or of Item 304, Aggregate Base, Compacted in layers not Exceeding 4".

Driveways and Sidewalks shall be Constructed of plain portland cement concrete, Item 452, 5% to 8% Air Entrained, (CL.C, Sect. 499) Per C.Y. and 3" Max. slump (as shown in details.)

Expansion joints shall be placed to form utility strips where required, and wherever new concrete touches existing construction. Expansion material shall be 1/2" asphalt, non-extruding and meet ASTM D-994. It shall extend the full-depth of the concrete.

Forms shall consist of wood 2" nominal thickness or metal of equal strength.

A standard curing compound shall be properly applied immediately after finish.

Item numbers Construction and Material Specifications of Lancaster, Ohio, current Edition. All work shall be done in accordance with these specifications.

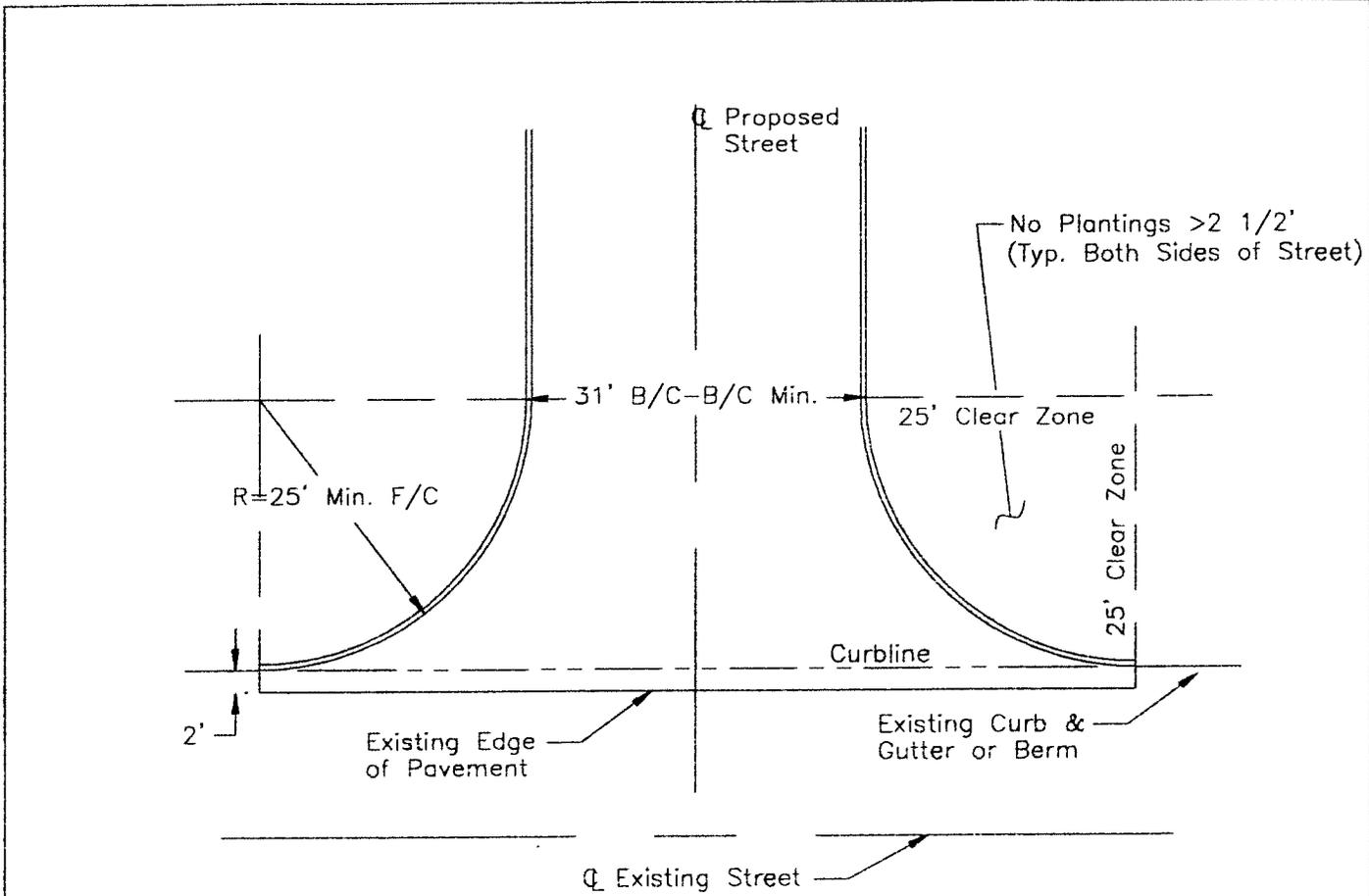
Notify Department of Engineering when forms will be ready for inspection, at least 24 hours before concrete is to be placed. Telephone 687-6614. In no case shall concrete be placed without approval of form work by the inspector

* Curb shall be constructed in minimum 5' sections and maximum 10' sections.

No concrete shall be placed until temperature is 35° F. Min. Concrete shall be protected in accordance with section 451.10 of Item 451.

Where the adjoining sidewalk is less than 5', the walk portion of the driveway shall not be less than 5'.

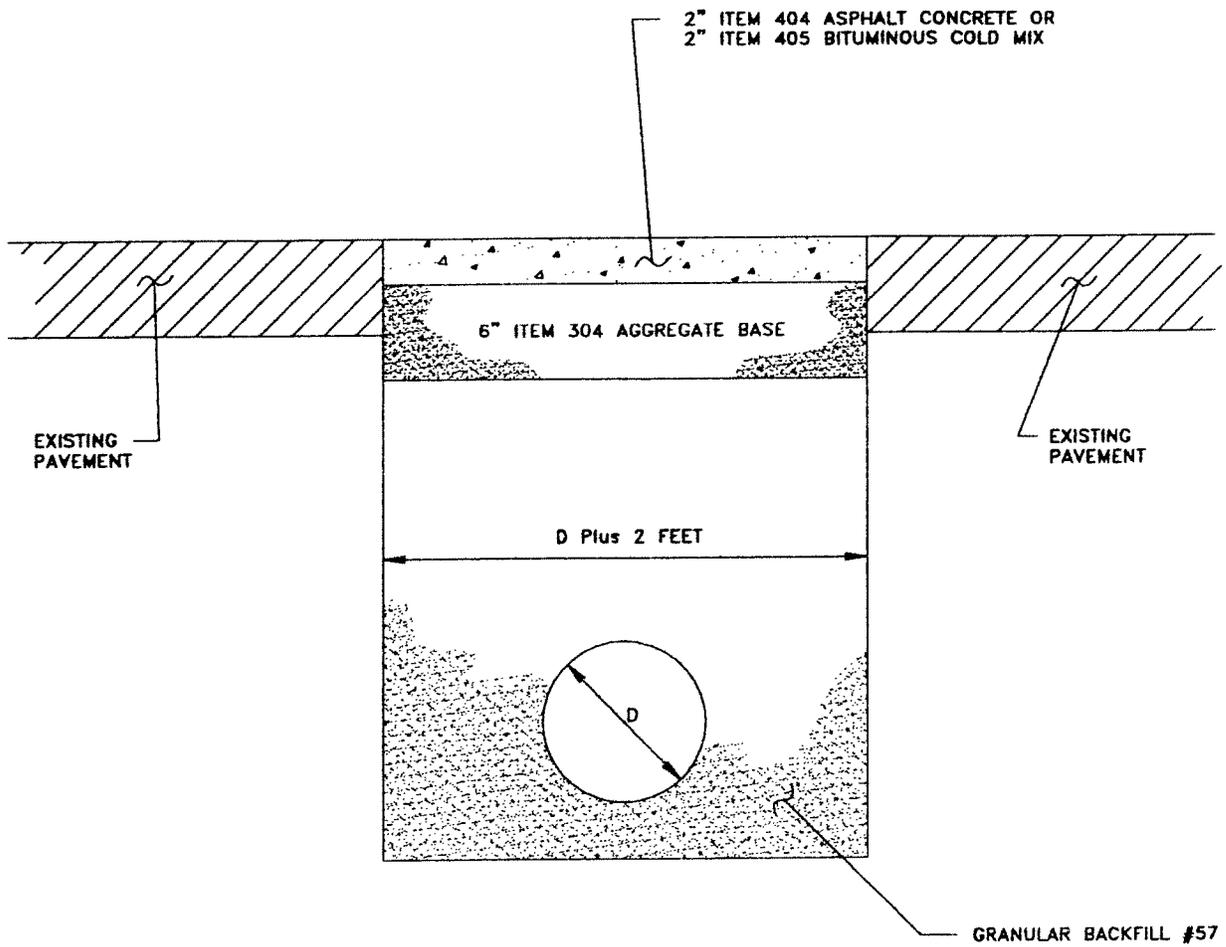
APPROVED <u>3-11-13</u>  CITY ENGINEER	STANDARD DRIVEWAY (COMERCIAL) ON PUBLIC R/W & SPECIFICATIONS (NON ARTERIAL STREET)	CITY OF LANCASTER, OHIO DEPARTMENT OF ENGINEERING	
REVISED: <u>8 MAR 13</u>		STANDARD CONSTRUCTION DRAWING DWG. BY: DDK CHK'D BY: RM FILE NUMBER <u>P-23</u>	



NOTES:

1. Proposed curb and gutter to match existing curb and gutter at curb return.
2. Where existing street has no curb & gutter the proposed curb shall taper from 6" to 0" in last 10 feet.
3. Contractor shall sawcut existing edge of pavement to provide smooth edge and apply ODOT Item 413 Crack Seal.
4. Catch Basins shall be provided as needed for adequate drainage.
5. Minimum gutter slope is 0.5%.
6. The maximum slope from the existing gutterline is 3% in the first 90 feet.

<p>APPROVED <u>11-6-00</u></p> <p><i>Kent Huston</i> CITY ENGINEER</p>	<p>TYPICAL STREET CONNECTION</p>	<p>CITY OF LANCASTER, OHIO DEPARTMENT OF ENGINEERING</p>	
<p>REVISED:</p>		<p>STANDARD CONSTRUCTION DRAWING</p>	<p>FILE NUMBER</p>
		<p>DWG. BY: DDK CHK'D BY: <i>[Signature]</i></p>	<p>P-24</p>



NOTES:

1. TEMPORARY PAVEMENT SHALL BE PROVIDED AS SOON AS THE EXCAVATION HAS BEEN BACKFILLED.
2. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE PERTINENT SECTION OF CMSL.

APPROVED 11-E-00

Karl Heston
CITY ENGINEER

REVISED:

TEMPORARY
PAVEMENT
REPLACEMENT

CITY OF LANCASTER, OHIO
DEPARTMENT OF ENGINEERING

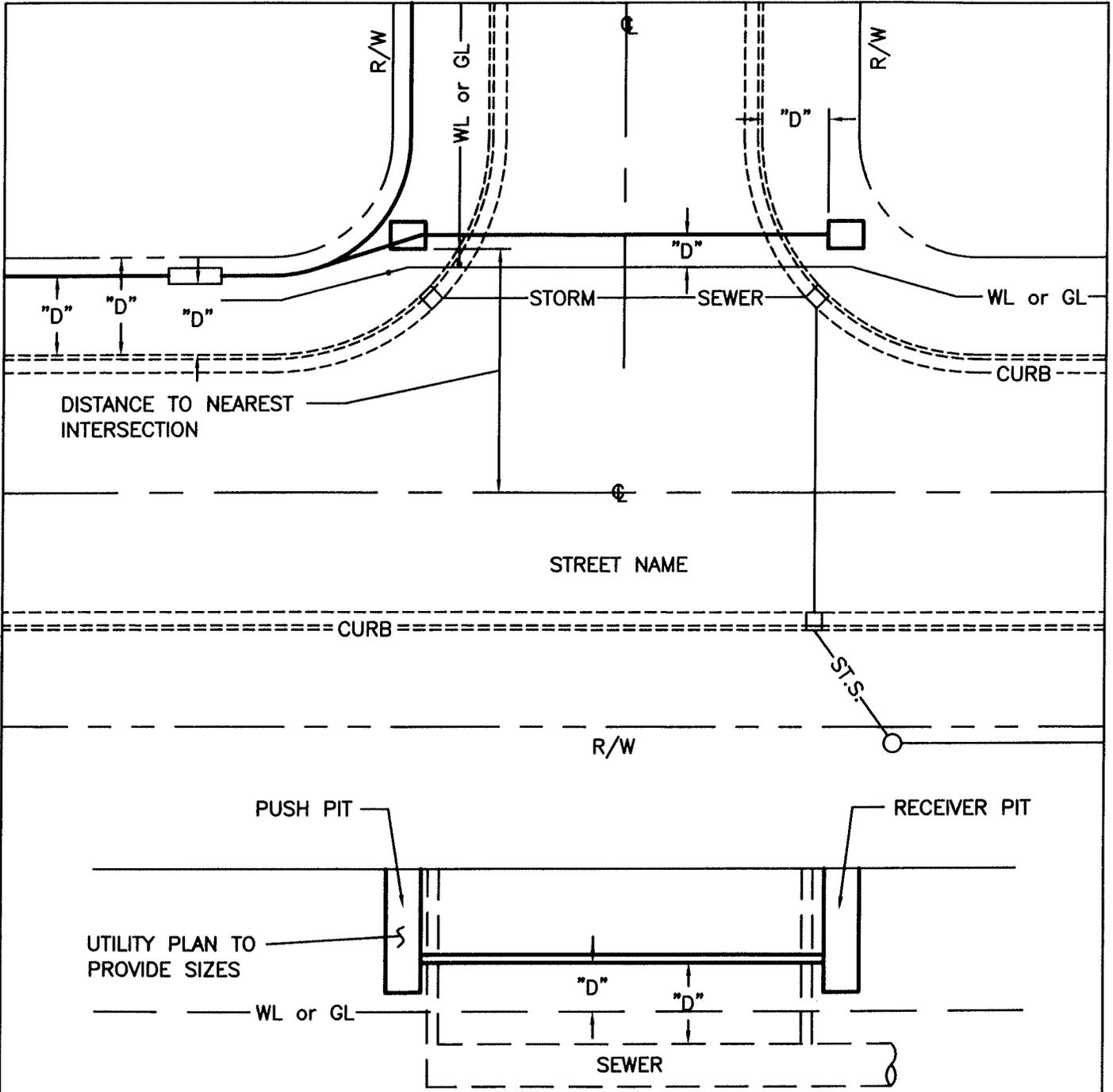
STANDARD
CONSTRUCTION DRAWING

DWG. BY: DDK

CHK'D BY: *D.C.*

FILE NUMBER

P-25



"D" DENOTES WHERE DIMENSIONS ARE NEEDED

PAVEMENT REPLACEMENT SHALL
BE AS PER STANDARD DRAWING P-1

APPROVED 3/4/09
Brad Fagell
CITY ENGINEER

TYPICAL UTILITY
EXCAVATION PLAN DETAIL
REQUIREMENTS

CITY OF LANCASTER, OHIO
DEPARTMENT OF ENGINEERING

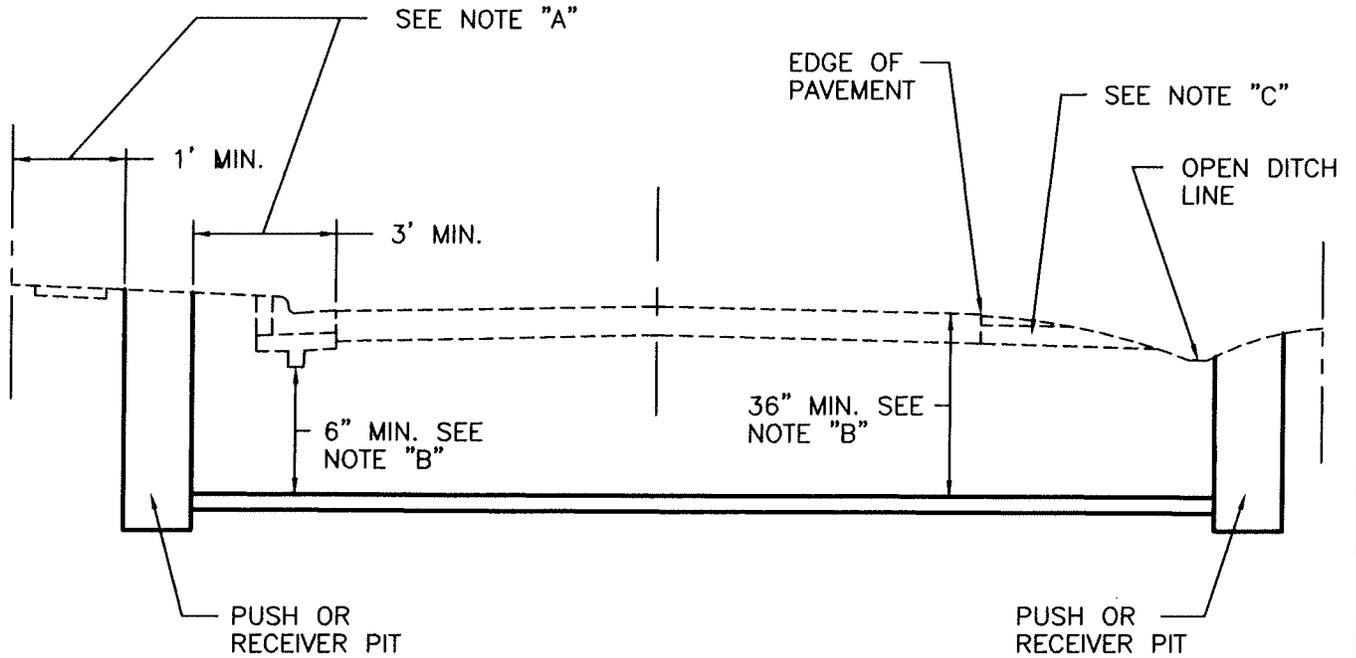
STANDARD
CONSTRUCTION DRAWING

REVISED: 03MAR09

DWG. BY: DDK
CHK'D BY: *EM* FILE NUMBER
P-26 SHEET 1 of 2

TYPICAL LOCATION
FOR CURBED STREETS

TYPICAL LOCATION
FOR UNCURBED STREETS



NOTES:

"A" MINIMUM OFF SETS SHALL BE 1 FOOT FROM RIGHT-OF-WAY LINES OR 3 FEET FROM EDGE OF PAVEMENT OR EDGE OF SHOULDER.

"B" MINIMUM DEPTH FROM TOP OF PUSH TO TOP OF CURB FOR STANDARD COMBINED CURB AND GUTTER IS 30", STRAIGHT CURB 36", AND FLEXIBLE PAVEMENT 36" BELOW TOP OF PAVEMENT.

"C" IF AGGREGATE DRAINS ARE DISTURBED, THEY MUST BE REPLACED.

APPROVED 3/4/09

Brad Faguell
CITY ENGINEER

REVISED: 03MAR09

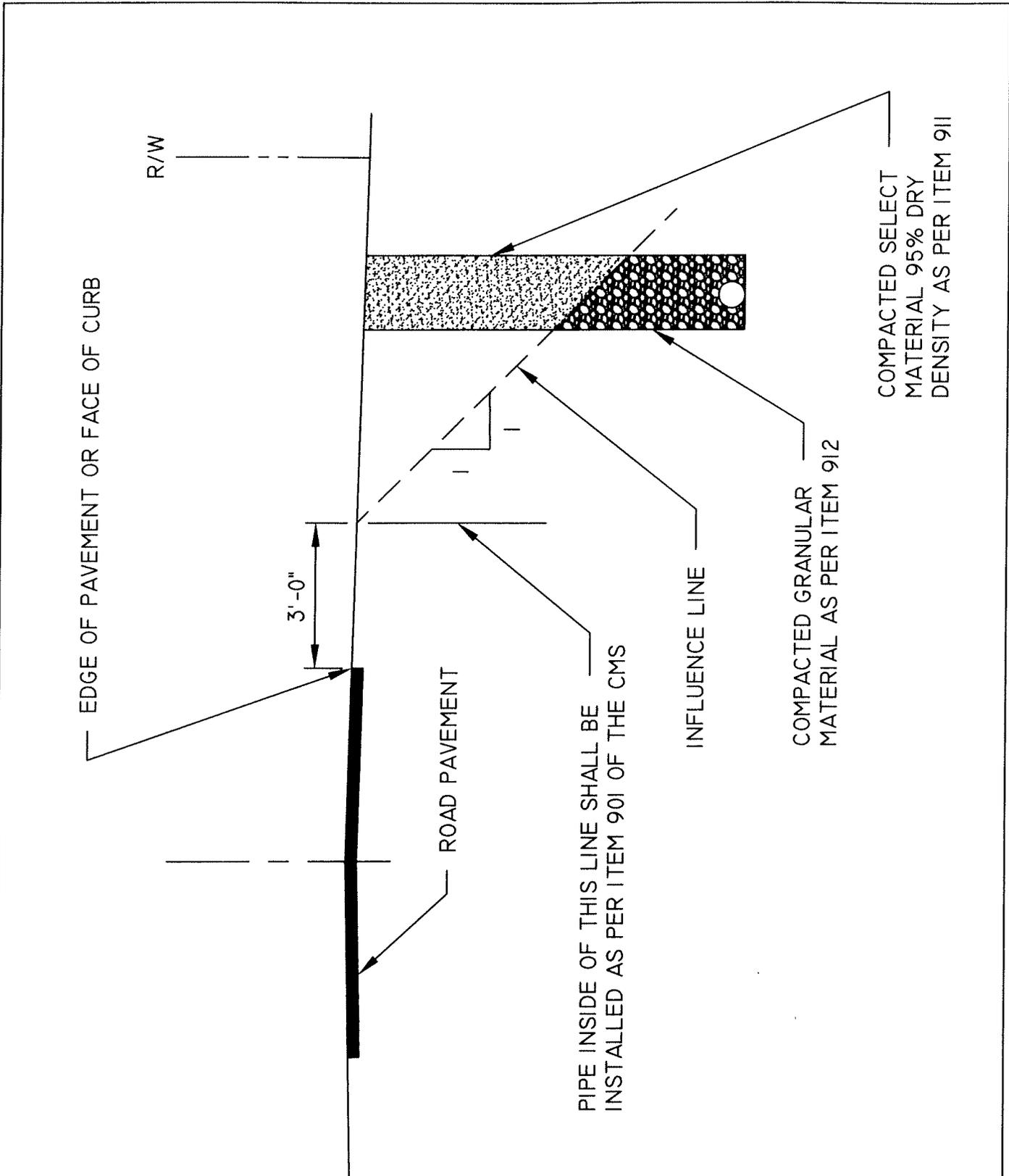
TYPICAL UTILITY
EXCAVATION PLAN DETAIL
REQUIREMENTS

CITY OF LANCASTER, OHIO
DEPARTMENT OF ENGINEERING

STANDARD
CONSTRUCTION DRAWING

DWG. BY: DDK
CHK'D BY: RM

FILE NUMBER
P-26 SHEET
2 of 2



APPROVED 3/4/09

Brad Fagrell
CITY ENGINEER

REVISED:

BACKFILLING WITHIN
HIGHWAY
RIGHT-OF-WAY

CITY OF LANCASTER, OHIO
DEPARTMENT OF ENGINEERING

STANDARD
CONSTRUCTION DRAWING

DWG. BY: DDK
CHK'D BY: *EM*

FILE NUMBER
P-27

APPROVED 1-12-16
Brad Fagrell
 CITY ENGINEER

REVISED:

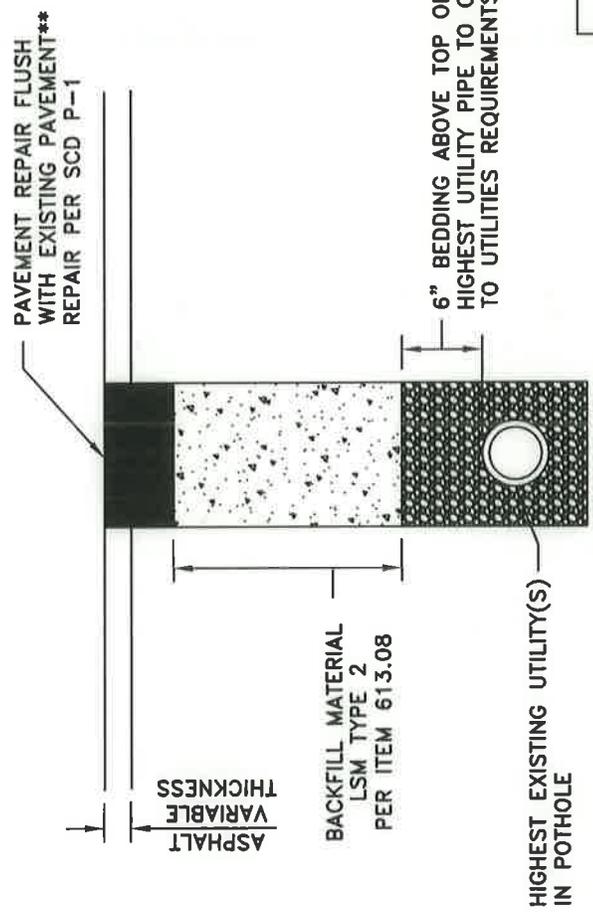
UTILITY
 POTHOLE
 REPAIR

CITY OF LANCASTER, OHIO
 DEPARTMENT OF ENGINEERING

STANDARD
 CONSTRUCTION DRAWING

DWG. BY: DDK
 CHK'D BY: MN

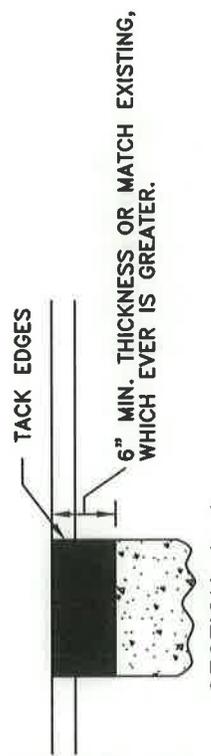
FILE NUMBER
P-28 1 of 4



SECTION VIEW



PLAN VIEW



SECTION A-A

TYPE A-PAVEMENT REPAIR

NOTES:

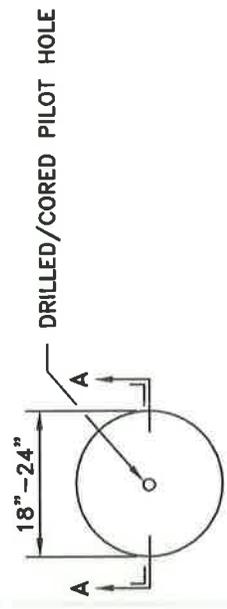
1. DIMENSIONS ARE NOMINAL.
2. EDGES SHALL BE CUT TO A NEAT VERTICAL FACE.
3. PLACE LSM BACKFILL IN ACCORDANCE WITH SECTION 613.08.
4. PLACE ASPHALT CONCRETE IN MAXIMUM 2" LIFTS, PER SCD P-1.

- * WATER: FILL SAND PER ITEM 802.18
 - SEWER: #57 AGGREGATE PER 901.11
 - GAS: FILL SAND PER 703.02A
- CONTACT NON-CITY UTILITIES FOR THEIR REQUIREMENTS
- ** PAVEMENT PATCH SHALL BE HEAT-WELDED IF PAVEMENT IS ≤ 5 YEARS OLD.

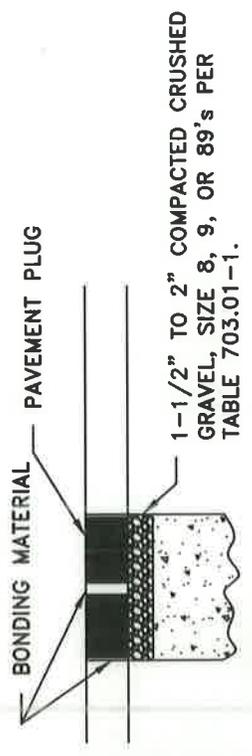
TYPE B-PAVEMENT REPAIR

NOTES:

1. CUT, REMOVE AND REPLACE PAVEMENT PLUG IN ACCORDANCE WITH SECTION 259.07
2. PLACE BACKFILL IN ACCORDANCE WITH SECTION 259.06
3. BONDING MATERIAL SHALL BE AS SPECIFIED IN SECTION 259.03E



PLAN VIEW



SECTION A-A

ITEM 259 KEYHOLE POTHOLE EXCAVATION AND PAVEMENT RESTORATION

259.01 GENERAL

THIS SPECIFICATION COVERS THE REQUIREMENTS FOR KEYHOLE CORING, VACUUM EXCAVATION, BEDDING, BACKFILLING, AND REINSTATEMENT OF THE KEYHOLE CORE IN ASPHALT OR CONCRETE PAVEMENTS TO ALLOW FOR UNDERGROUND UTILITY REPAIRS AND UNDERGROUND EXPLORATORY POTHOLING.

259.02 DEFINITIONS

- A. KEYHOLE CORING: THE OPERATION OF CORING A CIRCULAR HOLE THROUGH THE ROADWAY PAVEMENT USING DIAMOND CORE DRILLING EQUIPMENT.
- B. ITEM ###: A REFERENCE TO ITEM WITH A NUMBER FOLLOWING IT REFERS TO A CONSTRUCTION AND MATERIAL SPECIFICATION OF LANCASTER.

259.03 MATERIALS GENERAL

- A. THE MATERIAL AND PLACEMENT REQUIREMENTS IN THE FINAL BEDDING AREA SHALL BE PER THE UTILITY OWNERS' REQUIREMENTS.
- B. THE MATERIAL AND PLACEMENT REQUIREMENTS IN THE FINAL BACKFILL AREA SHALL BE IN ACCORDANCE WITH ITEM 613 LOW STRENGTH MORTAR BACKFILL, TYPE 2.
- C. IF PERMITTED BY THE ENGINEER IN WRITING, A GRANULAR BACKFILL MAY BE USED. IN THIS INSTANCE, THE MATERIAL AND PLACEMENT REQUIREMENTS IN THE FINAL BACKFILL AREA SHALL BE IN ACCORDANCE WITH ITEM 603.11, "TRENCH EXCAVATION AND BACKFILL."
- D. PAVEMENT KEYHOLE CORES REMOVED SHALL EITHER BE REMOVED FROM THE WORK SITE OR STORED IN A SAFE AND SECURE ON-SITE LOCATION. THE CORES SHALL BE MADE READILY AVAILABLE FOR RESTORING THE PAVEMENT AFTER BACKFILLING IS COMPLETE AND APPROVED.
- E. BONDING AGENT: THE BONDING AGENT SHALL BE A SINGLE COMPONENT CEMENTITIOUS, RAPID HARDENING, HIGH STRENGTH, WATERPROOF BONDING AGENT CONFORMING TO THE PHYSICAL PROPERTIES SHOWN IN TABLE 1.
 - 1. THE BONDING MATERIAL SHALL BE IMPERVIOUS TO WATER PENETRATION AT THE JOINT AFTER APPLICATION.
 - 2. THE BONDING MATERIAL SHALL SECURELY BOND THE UNDAMAGED KEYHOLE CORE TO THE PAVEMENT AND SHALL COMPLETELY FILL THE ANNULAR SPACE AT THE JOINT.
 - 3. THE BONDING MATERIAL SHALL, WITHIN 30 MINUTES AT AN AMBIENT TEMPERATURE OF 70 DEGREES FAHRENHEIT, ALLOW THE CORE TO SUPPORT AN EQUIVALENT TRAFFIC LOAD CONDITION OF AT LEAST THREE (3) TIMES THE AASHTO H-25 STANDARD.
 - 4. THE BONDING MATERIAL SHALL BE UTILIBOND, MANUFACTURED BY UTILICOR TECHNOLOGIES, INC., OR AN ENGINEER APPROVED EQUAL.

APPROVED 1-12-16
Brad Fagell
CITY ENGINEER
REVISED:

UTILITY
POTHOLE
REPAIR

CITY OF LANCASTER, OHIO
DEPARTMENT OF ENGINEERING
STANDARD
CONSTRUCTION DRAWING
DWG. BY: DDK
CHK'D BY: MN
FILE NUMBER
P-28 2 of 4

**TABLE I
BONDING MATERIAL REQUIREMENTS**

PROPERTY	ASTM TEST METHOD	REQUIREMENTS
BOND STRENGTH (SLANT SHEAR), PSI (70 DEGREES F, 30 MINUTE CURE)	C882	200 MIN.
COMPRESSIVE STRENGTH, PSI (70 DEGREES F, 60 MINUTE CURE)	C109	1500 MIN.

259.05 POTHOLE EXCAVATION, GENERAL

A. THE CONTRACTOR SHALL PLACE A TEMPORARY MARK ON THE PAVEMENT AREA WHERE THE KEYHOLE CORE WILL BE TAKEN PRIOR TO CUTTING TO INSURE THAT THE REMOVED SECTION IS REPLACED IN THE SAME ORIENTATION AS ORIGINALLY FOUND IN THE PAVEMENT.

B. THE VERTICAL ALIGNMENT OF THE KEYHOLE CORING SHALL BE PERPENDICULAR TO THE HORIZON, AND THE CUTTING SHALL EXTEND TO THE FULL DEPTH OF THE EXISTING PAVEMENT SECTION.

C. UNLESS OTHERWISE APPROVED BY THE ENGINEER IN WRITING, KEYHOLE CORES SHALL NOT BE GREATER THAN 24-INCHES IN DIAMETER. ADJACENT CORES SHALL NOT BE CLOSER THAN 3 FEET FROM EACH OTHER (EDGE TO EDGE), SHALL NOT CONTAIN A JOINT OR ANY PAVEMENT CRACKS GREATER THAN 1/8-INCH WIDE, AND SHALL NOT BE PERFORMED IN PAVEMENTS WHERE THE SECTION IS LESS THAN 4-INCHES THICK.

D. CORING SHALL BE PERFORMED WITH A KEYHOLE CORING SAW CAPABLE OF REMOVING AN INTACT CORE OF PAVEMENT.

E. SOILS WITHIN POTHOLES SHALL BE REMOVED BY AIR/VACUUM EXTRACTION METHODS TO EXPOSE UTILITIES. THE ZONE OF SOIL REMOVAL SHALL REMAIN ESSENTIALLY WITHIN A VERTICAL PLANE EXTENDING BELOW THE EDGES OF THE REMOVED PAVEMENT.

F. THE CONTRACTOR SHALL REMOVE ALL MATERIALS EXCAVATED FROM THE SITE AND DISPOSE OF IT TO A SPOIL SITE APPROVED BY THE ENGINEER.

259.06 POTHOLE BEDDING, BACKFILL AND COMPACTION

A. THE CONTRACTOR SHALL CAREFULLY PLACE THE BEDDING MATERIAL AROUND THE UTILITY LINE SO AS TO NOT DAMAGE OR HARM THE LINE. THE CONTRACTOR SHALL PLACE THE BEDDING MATERIAL SO AS TO ENSURE ALL VOIDS AROUND THE UTILITY LINE ARE FILLED. THE CONTRACTOR SHALL CAREFULLY COMPACT THE FILL MATERIAL TO THE LIMITS REQUIRED BY THE UTILITY OWNER.

B. BACKFILLING SHALL BE PERFORMED IN ACCORDANCE WITH ITEM 613.08 "PLACING MORTAR".

C. A 1-INCH OR LESS LAYER OF No. 9 AGGREGATE MAY BE PLACED OVER THE LOW STRENGTH MORTAR BACKFILL TO ALLOW SETTING THE KEYHOLE CORE AT THE PROPER ELEVATION.

D. WHERE GRANULAR BACKFILL HAS BEEN PERMITTED IN LIEU OF LOW STRENGTH MORTAR BACKFILL, BACKFILLING SHALL BE COMPLETED IN ACCORDANCE WITH ITEM 603.11, "TRENCH EXCAVATION AND BACKFILL." UNLESS OTHERWISE APPROVED BY THE ENGINEER, THE BACKFILL MATERIAL SHALL BE PLACED IN MAXIMUM 6-INCH LOOSE LIFTS. BACKFILL COMPACTION SHALL CONFORM TO THE REQUIREMENTS OF ITEM 203.07, "COMPACTION AND MOISTURE REQUIREMENTS."

APPROVED <u>1-12-16</u>	UTILITY POTHOLE REPAIR	CITY OF LANCASTER, OHIO DEPARTMENT OF ENGINEERING	
<i>Brad Fagell</i> CITY ENGINEER		STANDARD CONSTRUCTION DRAWING	
		DWG. BY: DDK CHK'D BY: MN	FILE NUMBER P-28 3 of 4
REVISED:			

259.07 PAVEMENT RESTORATION

- A. THE SURFACE CUT BY KEYHOLE CORING RESTORED TO ITS ORIGINAL CONDITION WITH THE REINSTATED CORE FLUSH WITH AND IN THE ORIGINAL ORIENTATION AS THE EXISTING SURFACE, MATCHING EXISTING PAVEMENT SURFACE APPEARANCE.
- B. EXCESS BONDING MATERIAL SHALL BE REMOVED FROM THE RESTORED SURFACE. A PATCHED APPEARANCE SHALL BE AVOIDED IN SURFACE RESTORATION WHEREVER POSSIBLE.
- C. UNLESS OTHERWISE APPROVED BY THE ENGINEER, THE CONTRACTOR SHALL REINSTATE THE BONDED KEYHOLE CORE WITHIN 24 HOURS OF CUTTING THE PAVEMENT. OPENINGS ALLOWED TO BE LEFT OPEN GREATER THAN 24 HOURS SHALL BE COVERED WITH AN APPROVED STEEL ROAD PLATE CAPABLE OF SUPPORTING TRAFFIC LOADS.
- D. SURFACE TOLERANCES: THE REINSTATED CORE SHALL BE FLUSH AND LEVEL WITH THE ADJACENT PAVEMENT. GAPS ATTRIBUTABLE TO THE POSITIONING OF THE CORE SHALL BE LESS THAN 1/16-INCH BETWEEN THE BOTTOM OF A MINIMUM 3-FOOT LONG STRAIGHTEDGE AND THE SURFACE OF THE PAVEMENT IN ANY DIRECTION ON THE SURFACE OF THE KEYHOLE CORE.

259.08 DEFICIENCIES

- A. WHERE THE KEYHOLE CORE IS FOUND TO BE FRACTURED OR DEFECTIVE UPON REMOVAL, OR BECOMES DAMAGED AFTER REMOVAL AND PRIOR TO REINSTATEMENT, THE CORE SHALL NOT BE USED TO RESTORE THE PAVEMENT. THE PAVEMENT AT DAMAGED KEYHOLE CORE LOCATIONS SHALL BE CUT AND A PERMANENT PATCH SHALL BE INSTALLED IN ACCORDANCE WITH ITEM 253, PAVEMENT REPAIR.
- B. A KEYHOLE CORE SHALL BE CONSIDERED UNACCEPTABLE WHEN ONE OF THE FOLLOWING CONDITIONS EXIST:
 - 1. THE KEYHOLE CORE CONTAINS ANY VERTICAL CRACKS WIDER THAN 1/8-INCH EXTENDING FULL DEPTH THROUGH THE CORE; OR
 - 2. ANY DETERIORATED PIECE OF THE KEYHOLE CORE IS LARGER THAN TEN PERCENT OF THE OVERALL AREA OF THE CORE; TWO OR MORE SUCCESSIVE LAYERS OF PAVEMENT IN THE KEYHOLE CORE BECOME HORIZONTALLY DELAMINATED AND CANNOT BE RE-BONDED TO EACH OTHER WITH THE BONDING MATERIAL.
- C. ALL KEYHOLE CORES THAT ARE DAMAGED OR DO NOT MEET THE SURFACE TOLERANCES SHALL BE REMOVED, AND THE CONTRACTOR SHALL CUT AND INSTALL A PERMANENT PATCH IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING P-1 AND ITEM 253, PAVEMENT REPAIR.

259.09 METHOD OF MEASUREMENT

UNLESS OTHERWISE SHOWN IN THE CONTRACT DRAWINGS, THIS ITEM, KEYHOLE POTHOLE EXCAVATION AND PAVEMENT RESTORATION, WILL BE PAID AT AN EACH FOR EACH REPAIR COMPLETED AND ACCEPTED.

259.10 BASIS OF PAYMENT

PAYMENT WILL BE MADE FOR ITEM 259, KEYHOLE POTHOLE EXCAVATION AND PAVEMENT RESTORATION FOR ACCEPTED QUANTITIES AT THE CONTRACT PRICE AS FOLLOWS:

ITEM	UNIT	DESCRIPTION
259	EACH	KEYHOLE PAVEMENT CORE AND REPAIR, ____INCH DIA.

APPROVED <u>1-12-16</u>  CITY ENGINEER REVISED:	UTILITY POTHOLE REPAIR	CITY OF LANCASTER, OHIO DEPARTMENT OF ENGINEERING	
		STANDARD CONSTRUCTION DRAWING	
		DWG. BY: DDK CHK'D BY: MN	FILE NUMBER P-28 4 of 4