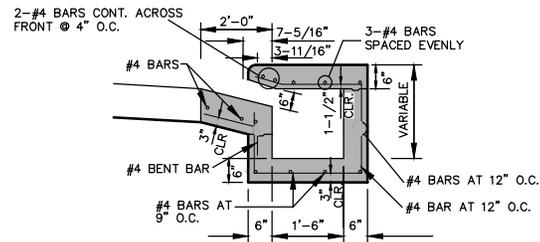
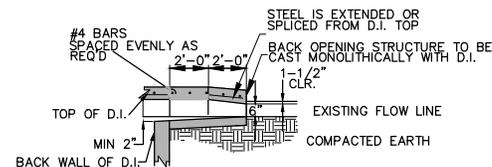


SECTION A-A

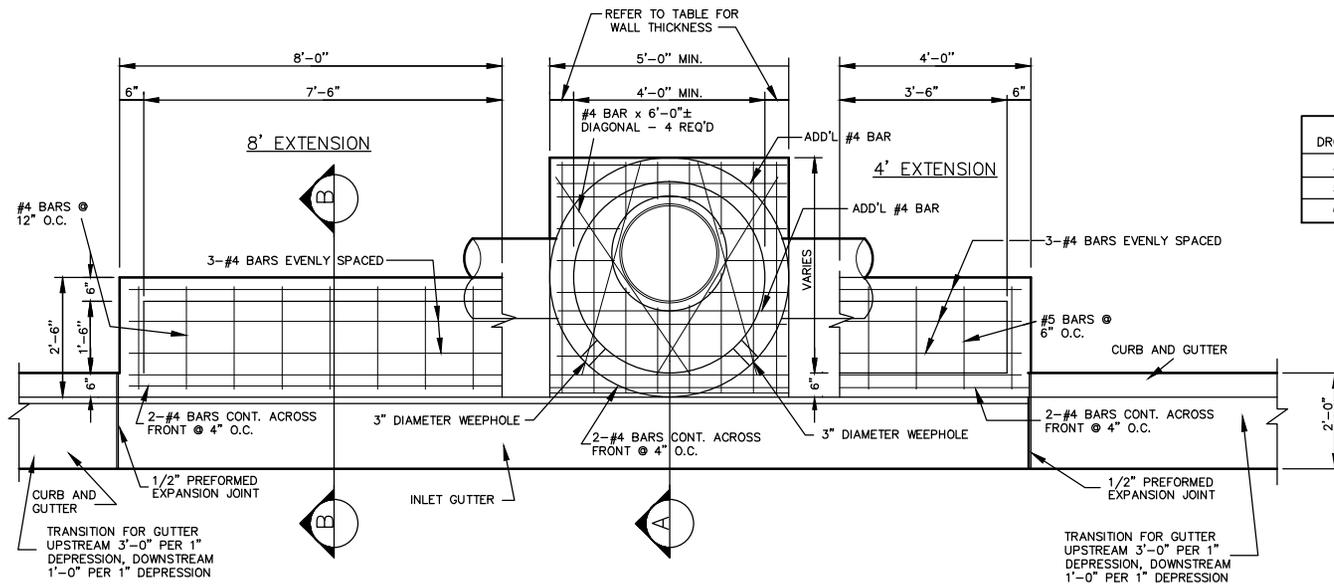


SECTION B-B

SECTIONS - CIRCULAR DROP INLET
N.T.S.



BACK OPENING
N.T.S.

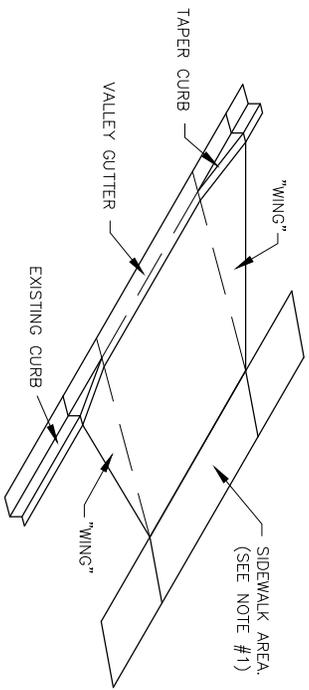


CIRCULAR DROP INLET SECTION
N.T.S.

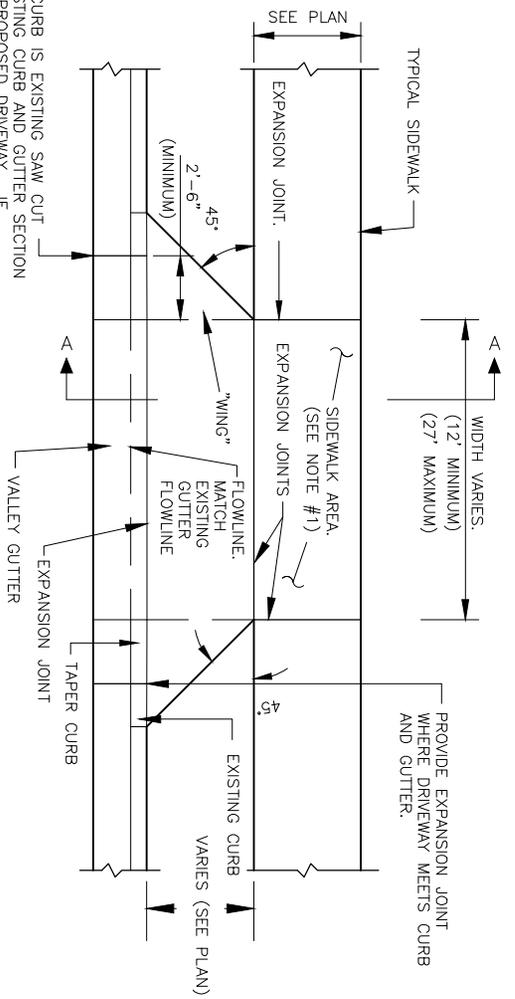
CIRCULAR DROP INLET
N.T.S.

REINFORCING TABLE

I.D. OF DROP INLET	TOP CONCRETE SLAB REINFORCING
4' I.D.	#4'S @ 8" O.C. E.W.
5' I.D.	#4'S @ 7" O.C. E.W.
6' I.D.	#5'S @ 9" O.C. E.W.

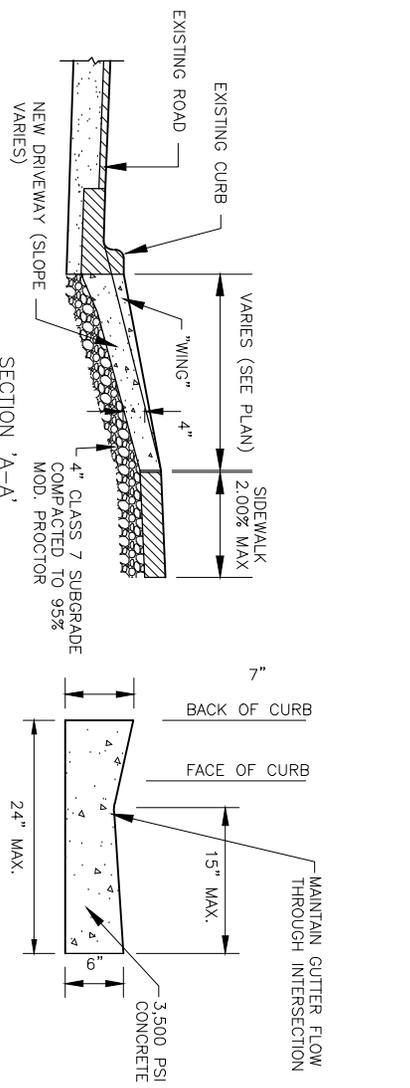


ORTHOGRAPHIC VIEW

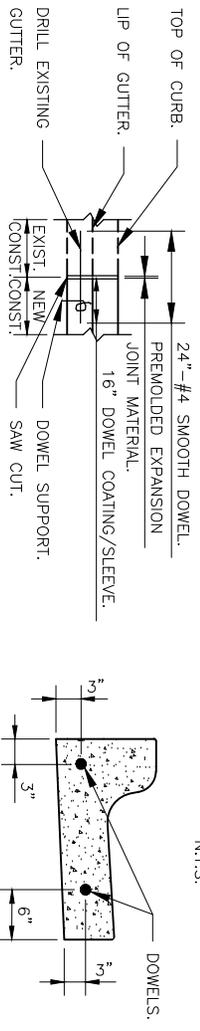


PLAN

IF CURB IS EXISTING SAW CUT EXISTING CURB AND GUTTER SECTION AT PROPOSED DRIVEWAY. IF NEAREST EXPANSION JOINT IS 5 FEET OR LESS FROM DRIVEWAY WING, EXISTING CURB AND GUTTER SECTION SHALL BE REMOVED AND REPLACED TO THE NEAREST EXPANSION JOINT.



SECTION 'A-A'



EXPANSION JOINT DETAIL

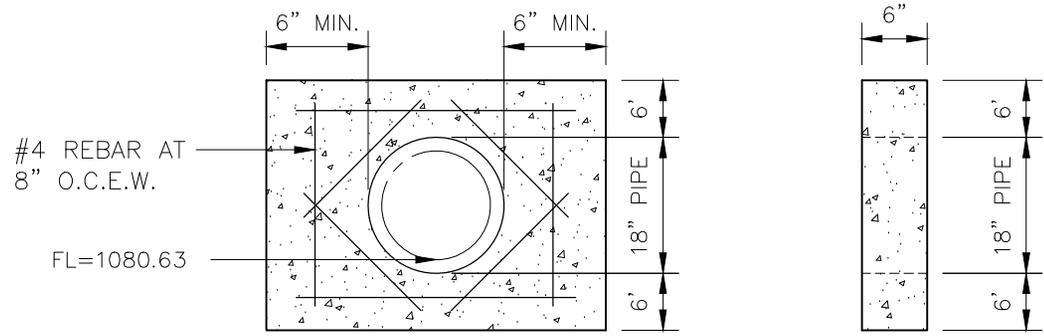
SECTION

NOTE:

1. THE SIDEWALK AREA OF THE DRIVEWAY SHALL SLOPE TOWARD THE STREET PAVING AT NO MORE THAN 2%.

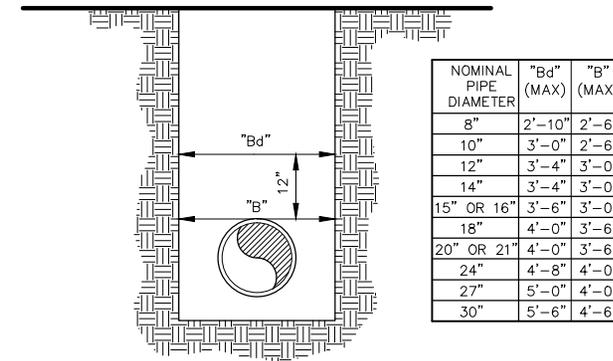
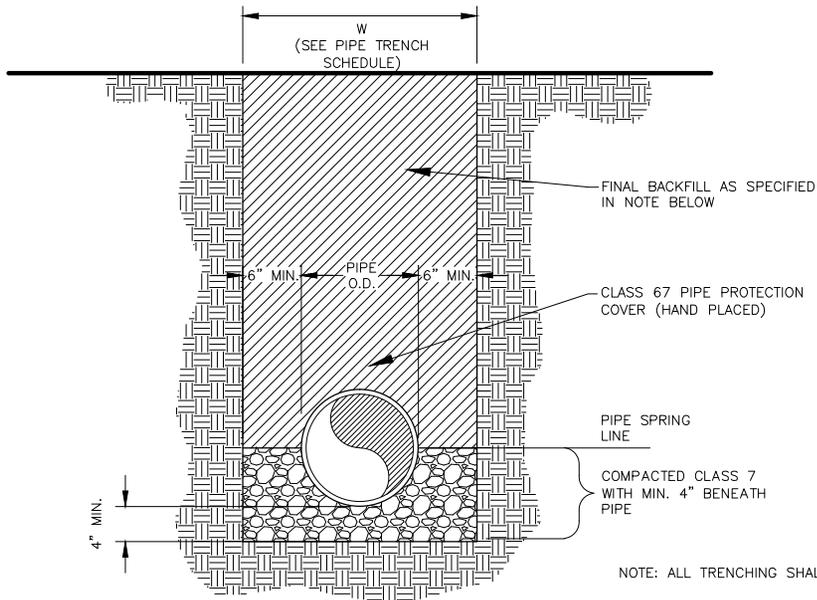
CONCRETE DRIVEWAY

N.T.S.



- NOTE:
1. PIPE SURFACES SHALL BE CLEANED OF ALL FOREIGN MATERIAL BEFORE CONCRETE COLLAR IS Poured.
 2. SIDES OF HEADWALL SHALL EXTEND, AS NEEDED TO MATCH EXISTING GROUTED RIP RAP.

CONCRETE HEADWALL
N.T.S.



PIPE TRENCH SCHEDULE
N.T.S.

INITIAL BEDDING

1. PIPE BEDDING SHALL BE CRUSHED STONE (ASTM C33 CLASS 67 w/ 1" MAX PARTICLE SIZE WITH A MIN OF 90% PASSING A 3/4" SIEVE)

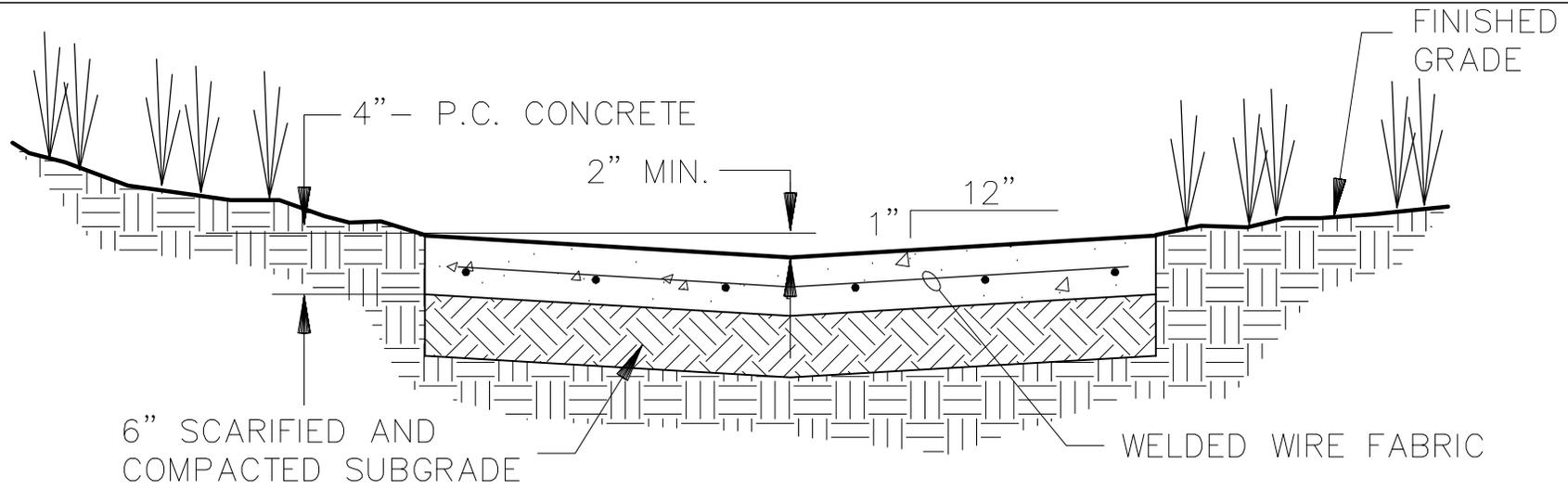
FINAL BACKFILL

1. ALL TRENCH BACKFILL SHALL BE COMPACTED TO A MINIMUM DENSITY OF 85% OF THAT OF THE ADJACENT UNDISTURBED SOIL AND SHALL CONSIST OF NO MATERIAL LARGER THAN 8" IN DIAMETER.
2. WHERE TRENCHES ARE UNDER EXISTING OR PROPOSED PAVED AREAS, THE ENTIRE TRENCH ABOVE THE PIPE EMBEDMENT, UP TO A POINT 2' BELOW EXISTING OR PROPOSED SUBGRADE, SHALL BE BACKFILLED WITH AHTD CLASS 7 BASE AND BE COMPACTED TO 90% MODIFIED PROCTOR DENSITY. THE REMAINING 2' SHALL BE BACKFILLED WITH AHTD CLASS 7 BASE IN 6" LIFTS AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY.
3. WHERE TRENCHES ARE UNDER EXISTING OR PROPOSED PUBLIC STREETS OF THE CITY, THE ENTIRE TRENCH ABOVE THE EMBEDMENT SHALL BE BACKFILLED UP TO SUBGRADE WITH AHTD CLASS 7 BASE PLACED IN 4-6" LIFTS AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY.

NOTES

1. THE MINIMUM TRENCH WIDTH FOR ALL PIPES SIZES SHALL BE THAT WHICH FOLLOWS A 6" WORKING DISTANCE ON EACH SIDE OF THE BELL.
2. CAST OR DUCTILE IRON PIPE REQUIRED WHEN EXISTING OR FINISHED GRADE, WHICHEVER IS LESS, PROVIDES LESS THAN 30" OF COVER.

CONCRETE STORM PIPE TRENCH
N.T.S.



SUBGRADE NOTES

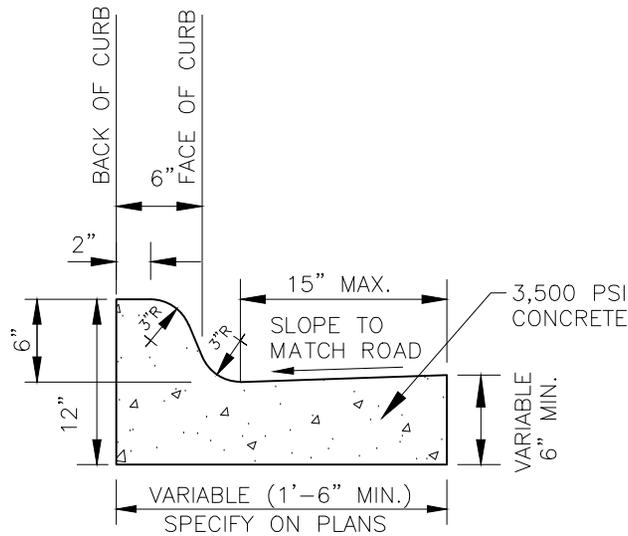
1. COMPACT TO 95% MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698 (STANDARD PROCTOR) AT \pm 2% OF PROCTOR OPTIMUM MOISTURE CONTENT.

CONCRETE NOTES

1. COMPRESSIVE STRENGTH: 3,500 P.S.I. MINIMUM AT 28 DAYS.
2. FLOAT OR SMOOTH FINISH.
3. REINFORCEMENT: WELDED WIRE FABRIC – 6"X6" – W 2.1 X W 2.1, 2" FROM BOTTOM.
4. WEAKENED-PLANE CONTROL JOINTS 15' O.C. AND FILLED/SEALED. SEE SPECIFICATIONS FOR APPROVED FILLER/SEALERS.

CONCRETE TRICKLE CHANNEL

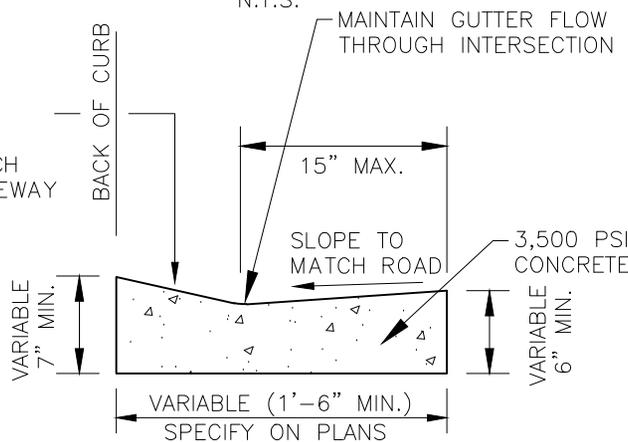
N.T.S.



TYPE A

N.T.S.

IF CURB IS
ADJACENT TO
DRIVEWAY MATCH
SLOPE TO DRIVEWAY



MODIFIED CURB

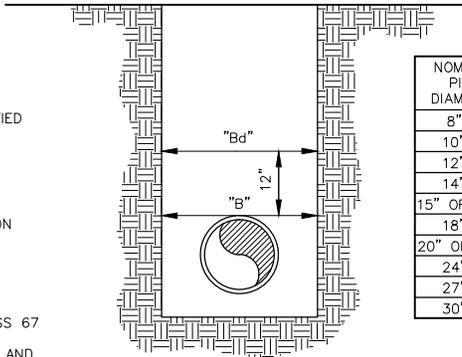
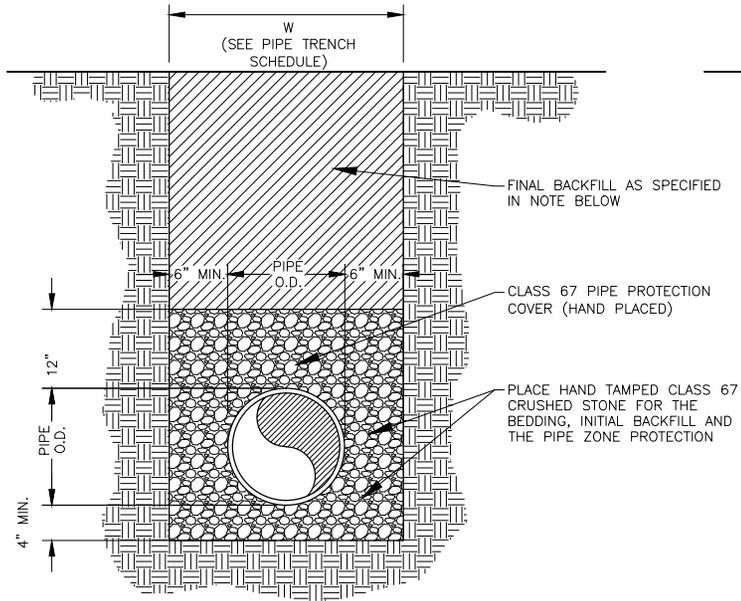
N.T.S.

CURB & GUTTER DETAIL

N.T.S.

NOTE:

1. EXPANSION JOINTS SHALL BE FORMED WITH BITUMINOUS PRE FORMED EXPANSION JOINTS MATERIAL 3/4 INCH THICK OR AS SPECIFIED ON THE PLANS AND PRECUT TO EXACT CROSS SECTION OF CURB AND SHALL BE PLACED AT ALL DRIVEWAY RADII, INTERSECTION RADII, STATIONARY STRUCTURES AND AT INTERVALS OF NOT MORE THAN TWO HUNDRED FEET, AND AT THE LOCATIONS SHOWN ON THE PLANS OR STANDARD DRAWINGS, SO THAT THEY ARE NOT MOVED BY DEPOSITING AND COMPACTING THE CONCRETE AT THE JOINTS. PRE FORMED EXPANSION JOINT FILLER SHALL BE OF NON-EXTRUDING TYPE AND SHALL CONFORM TO ASTM DESIGNATION D1781.
2. CONTRACTION JOINTS SHALL BE SAWED OR FORMED WITH TEMPLATES AT INTERVALS NOT GREATER THAN 20 FEET AND AT THE LOCATION SHOWN ON THE PLANS OR STANDARD DRAWINGS AND SHALL BE SAWED TO A DEPTH OF 1-1/2" AND A WIDTH OF 1/8"-3/8". MATERIAL USED IN FILLING THESE JOINTS SHALL BE A GRAY SELF LEVELING POLYURETHANE SEALANT. CONTRACTION JOINTS IN PROPOSED MEDIANS AND SIDEWALKS SHALL MATCH THE LOCATION OF JOINTS IN PAVEMENT. ALL CONTRACTION JOINTS SHALL BE COMPLETED WITHIN 24 HOURS OF CONCRETE BEING PLACED.
3. SEE PAVING DETAILS FOR PAVEMENT SECTIONS, SUBBASE, SUBGRADE AND COMPACTION REQUIREMENTS.
4. GUTTER SLOPE TO MATCH ADJACENT PAVEMENT SLOPE.
5. MINIMUM LENGTH OF CURB BETWEEN CONTRACTION JOINTS IS 10' ANY SECTION SHORTER THAN 10' SHALL BE REMOVED AND RECONSTRUCTED.



NOMINAL PIPE DIAMETER	"Bd" (MAX)	"B" (MAX)
8"	2'-10"	2'-6"
10"	3'-0"	2'-6"
12"	3'-4"	3'-0"
14"	3'-4"	3'-0"
15" OR 16"	3'-6"	3'-0"
18"	4'-0"	3'-6"
20" OR 21"	4'-0"	3'-6"
24"	4'-8"	4'-0"
27"	5'-0"	4'-0"
30"	5'-6"	4'-6"

NOTE: ALL TRENCHING SHALL COMPLY WITH APPLICABLE OSHA SAFETY STANDARDS

FLEXIBLE STORM PIPE TRENCH

N.T.S.

NOTES

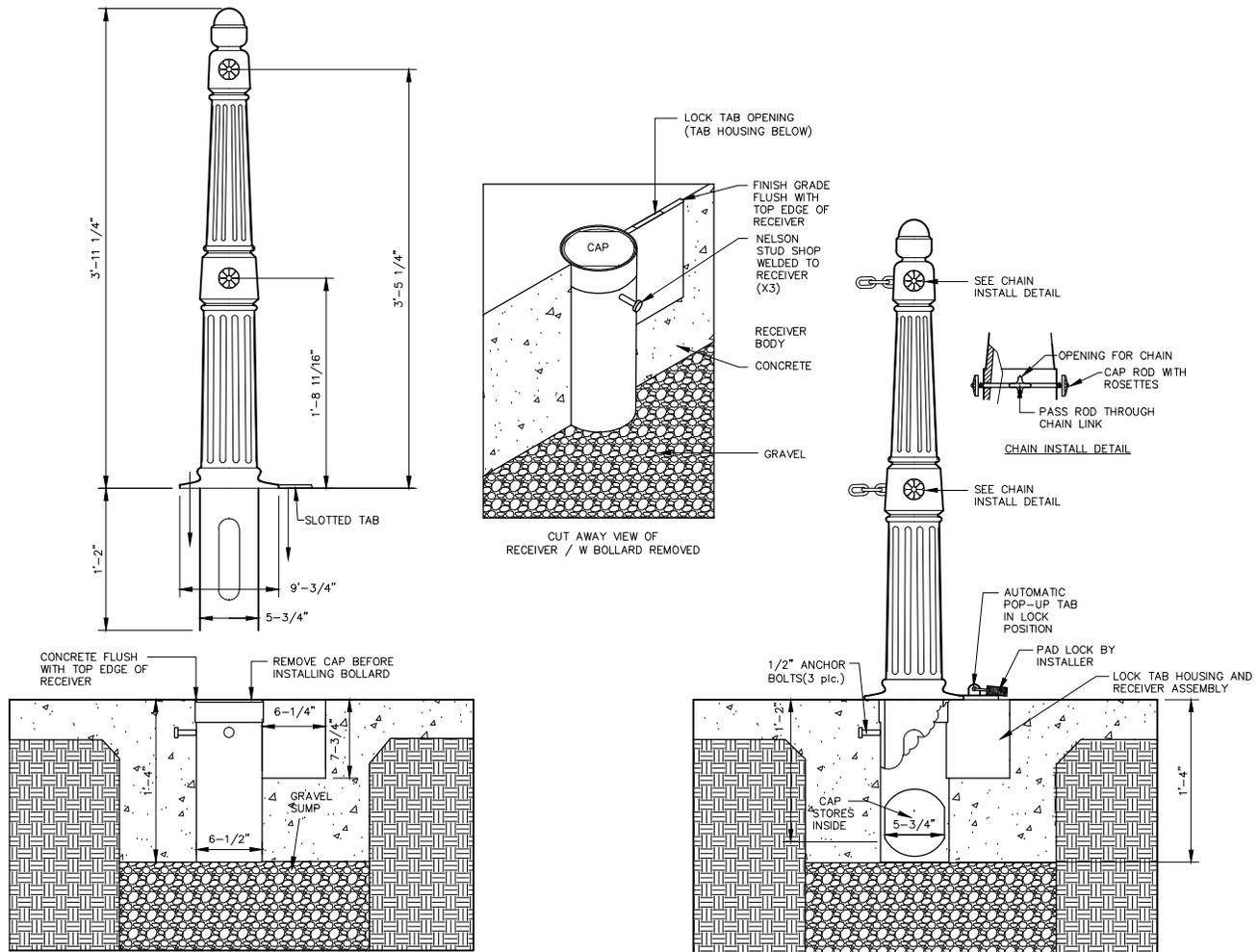
1. THE MINIMUM TRENCH WIDTH FOR ALL PIPES SIZES SHALL BE THAT WHICH FOLLOWS A 6" WORKING DISTANCE ON EACH SIDE OF THE BELL.
2. CAST OR DUCTILE IRON PIPE REQUIRED WHEN EXISTING OR FINISHED GRADE, WHICHEVER IS LESS, PROVIDES LESS THAN 30" OF COVER.

INITIAL BEDDING

1. PIPE BEDDING SHALL BE CRUSHED STONE (ASTM C33 CLASS 67 w/ 1" MAX PARTICLE SIZE WITH A MIN OF 90% PASSING A 3/4" SIEVE)

FINAL BACKFILL

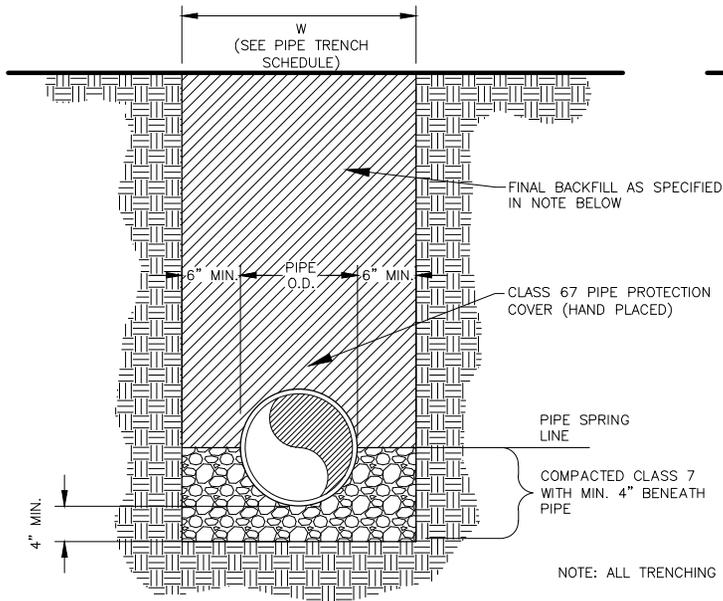
1. ALL TRENCH BACKFILL SHALL BE COMPACTED TO A MINIMUM DENSITY OF 85% OF THAT OF THE ADJACENT UNDISTURBED SOIL AND SHALL CONSIST OF NO MATERIAL LARGER THAN 8" IN DIAMETER.
2. WHERE TRENCHES ARE UNDER EXISTING OR PROPOSED PAVED AREAS, THE ENTIRE TRENCH ABOVE THE PIPE EMBEDMENT, UP TO A POINT 2' BELOW EXISTING OR PROPOSED SUBGRADE, SHALL BE BACKFILLED WITH AHTD CLASS 7 BASE AND BE COMPACTED TO 90% MODIFIED PROCTOR DENSITY. THE REMAINING 2' SHALL BE BACKFILLED WITH AHTD CLASS 7 BASE IN 6" LIFTS AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY.
3. WHERE TRENCHES ARE UNDER EXISTING OR PROPOSED PUBLIC STREETS OF THE CITY, THE ENTIRE TRENCH ABOVE THE EMBEDMENT SHALL BE BACKFILLED UP TO SUBGRADE WITH AHTD CLASS 7 BASE PLACED IN 4-6" LIFTS AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY.



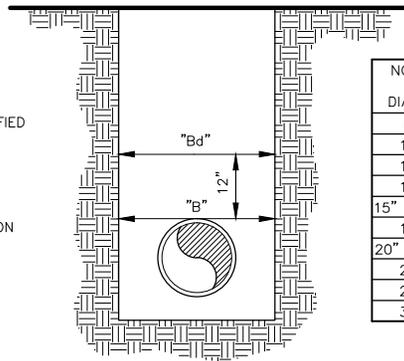
1. DEPTH VARIES BY BOLLARD MODEL.
2. GRAVEL BASE IS SUGGESTED FOR DRAINAGE. RECEIVER IS OPEN AT THE BOTTOM.
3. CONCRETE PROFILE AND SUMP DEPTH TO BE DETERMINED BY INSTALLER BASED ON SITE CONDITIONS.
4. LOCK TAB OPENING MUST BE KEPT CLEAR. PROTECT WITH TAPE DURING CONCRETE POUR.
5. THE SUPPLIED CAP IS FOR TEMPORARY SHORT TERM COVERAGE AND NOT FOR HIGH SPEED VEHICLE TRAFFIC. AN OPTIONAL LONG TERM CAP MAY BE ORDERED.
6. BOLLARD SHALL BE MANUFACTURED BY IRONSMITH, INC. OR APPROVED EQUAL

ORNAMENTAL BOLLARD

N.T.S.



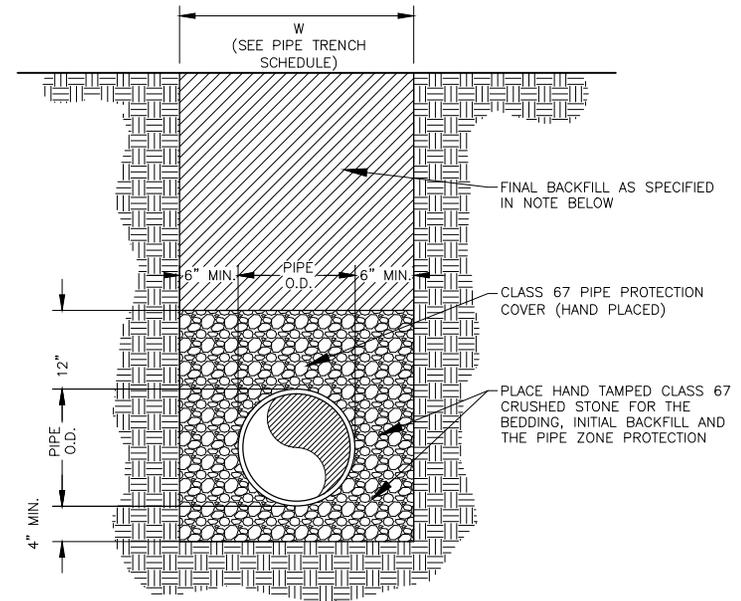
CONCRETE PIPE TRENCH



NOMINAL PIPE DIAMETER	"Bd" (MAX)	"B" (MAX)
8"	2'-10"	2'-6"
10"	3'-0"	2'-6"
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PIPE TRENCH SCHEDULE
N.T.S.

NOTE: ALL TRENCHING SHALL COMPLY WITH APPLICABLE OSHA SAFETY STANDARDS



FLEXIBLE STORM PIPE TRENCH

NOTES

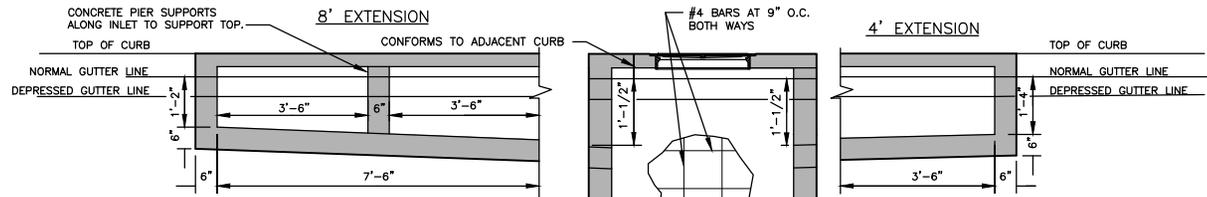
1. THE MINIMUM TRENCH WIDTH FOR ALL PIPES SIZES SHALL BE THAT WHICH FOLLOWS A 6" WORKING DISTANCE ON EACH SIDE OF THE BELL.
2. CAST OR DUCTILE IRON PIPE REQUIRED WHEN EXISTING OR FINISHED GRADE, WHICHEVER IS LESS, PROVIDES LESS THAN 30" OF COVER.

INITIAL BEDDING

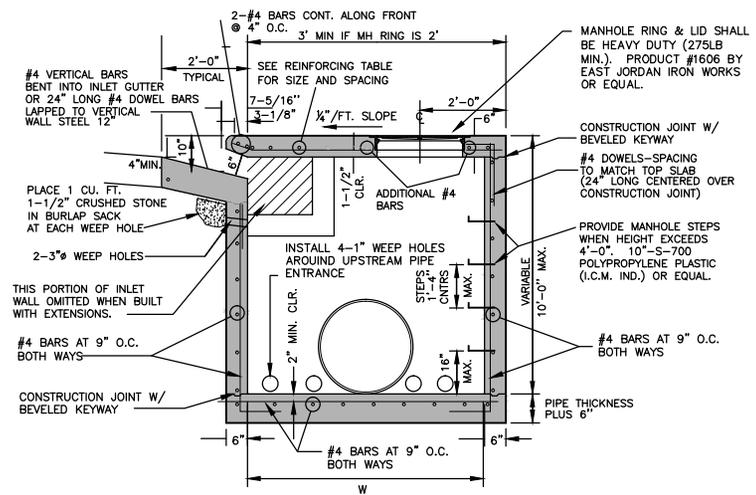
1. PIPE BEDDING SHALL BE CRUSHED STONE (ASTM C33 CLASS 67 w/ 1" MAX PARTICLE SIZE WITH A MIN OF 90% PASSING A 3/4" SIEVE)

FINAL BACKFILL

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3. WHERE TRENCHES ARE UNDER EXISTING OR PROPOSED PUBLIC STREETS OF THE CITY, THE ENTIRE TRENCH ABOVE THE EMBEDMENT SHALL BE BACKFILLED UP TO SUBGRADE WITH AHTD CLASS 7 BASE PLACED IN 4-6" LIFTS AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY.



SECTION - RECTANGULAR DROP INLET
N.T.S.



SECTION
N.T.S.

REINFORCING TABLE

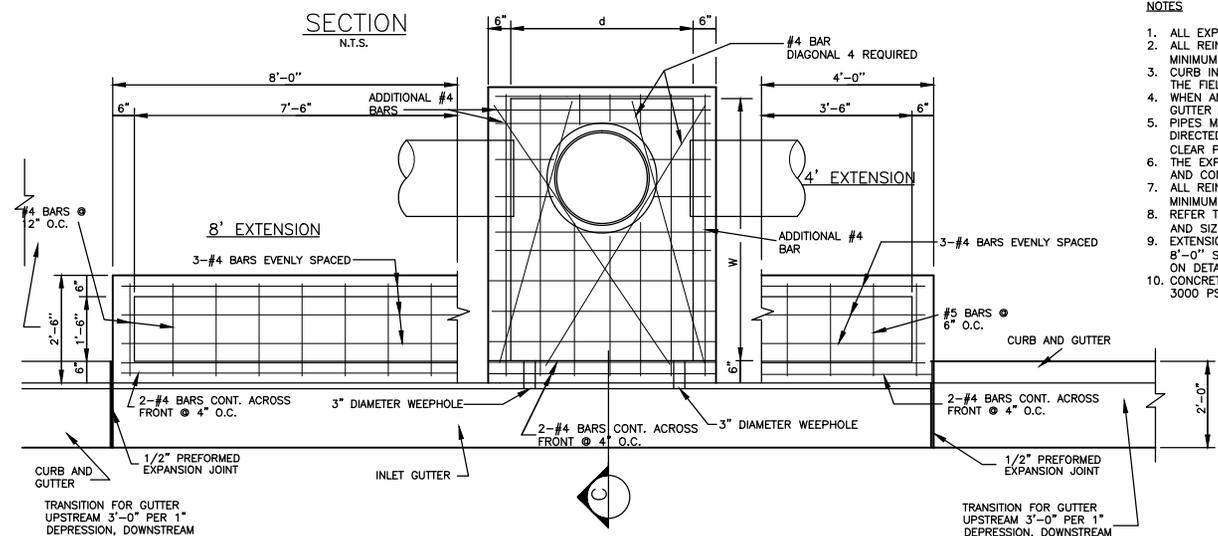
WIDTH OF DROP INLET	TOP CONCRETE SLAB REINFORCING
4'	#4'S @ 8" O.C. E.W.
5'	#4'S @ 7" O.C. E.W.
6'	#5'S @ 9" O.C. E.W.

INLET SIZING TABLE

PIPE SIZE	W	d
18"	4'	4'
24"	4'	4'
30"	5'	5'
36"	5'	5'
42"	6'	6'
48"	6'	6'

NOTES

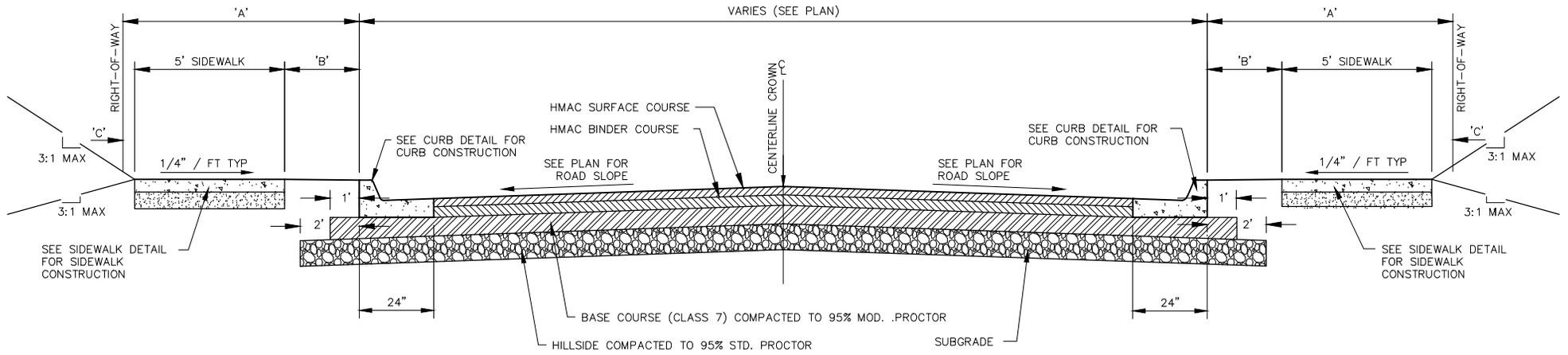
1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
2. ALL REINFORCEMENT BARS SHALL BE GRADE 60 AND SHALL HAVE A MINIMUM 1-1/2" COVER UNLESS OTHERWISE NOTED.
3. CURB INLET BACK OPENING LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
4. WHEN AN INLET IS PLACED ADJACENT TO CONCRETE PAVEMENT THE GUTTER DEPRESSION SHALL BE FORMED IN CONCRETE PAVEMENT.
5. PIPES MAY ENTER BOX FROM ANY ANGLE OR ELEVATION AS DIRECTED BY THE ENGINEER. REINFORCING BARS SHALL BE CUT TO CLEAR PIPE BY 1-1/2"
6. THE EXPANSION JOINT SHALL HAVE A THICKNESS OF ONE-HALF INCH AND CONFORM TO AASHTO M213.
7. ALL REINFORCEMENT BARS SHALL BE GRADE 60 AND SHALL HAVE A MINIMUM OF 1-1/2" COVER UNLESS OTHERWISE NOTED.
8. REFER TO PLAN AND PROFILE SHEETS TO DETERMINE EXTENSIONS AND SIZE (IF ANY) ACCOMPANYING DROP INLET.
9. EXTENSIONS WITH LENGTHS DESIGNATED ON THE PLANS EXCEEDING 8'-0" SHALL HAVE THE SAME INSIDE DEPTH DIMENSIONS AS STATED ON DETAILS UNLESS OTHERWISE NOTED.
10. CONCRETE FOR RECTANGULAR DROP INLETS SHALL BE CLASS A, 3000 PSI, 5.5 BAG MIX WITH 4-7% AIR ENTRAINMENT.



PLAN - RECTANGULAR DROP INLET
N.T.S.

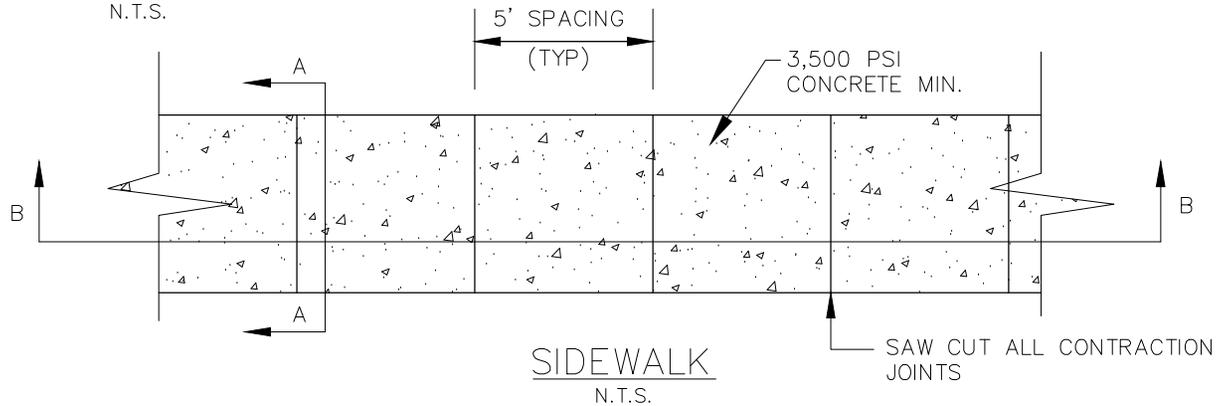
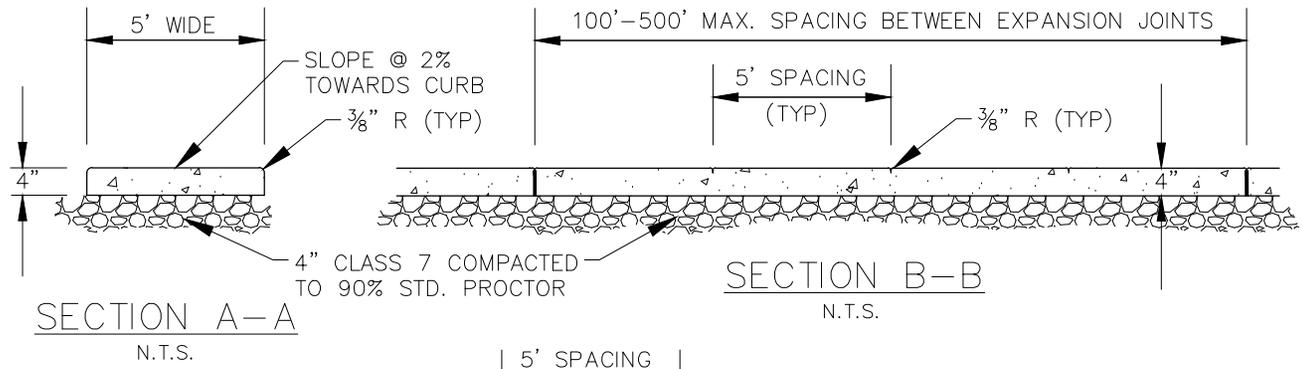
RECTANGULAR DROP INLET
N.T.S.

STREET TYPE	ROW WIDTH	BOC WIDTH	CROWN HEIGHT	'A'	'B'	'C'
LOCAL	50'	30'	5'	10'	4'	1'
MAJOR LOCAL	50'	32'	5'	9'	3'	1'
COLLECTOR	60'	38'	6'	11'	5'	1'



ROADWAY SECTION

N.T.S.



- NOTES:
1. CONCRETE FOR CURB, GUTTERS, AND SIDEWALKS SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 3,500 P.S.I.
 2. CONTRACTION AND EXPANSION JOINTS IN SIDEWALK SHALL ALIGN.

SIDEWALK
N.T.S.

#3 REBAR AT 12" CENTERS
BOTH WAYS, PLACED 4.5"
FROM FINISHED SURFACE

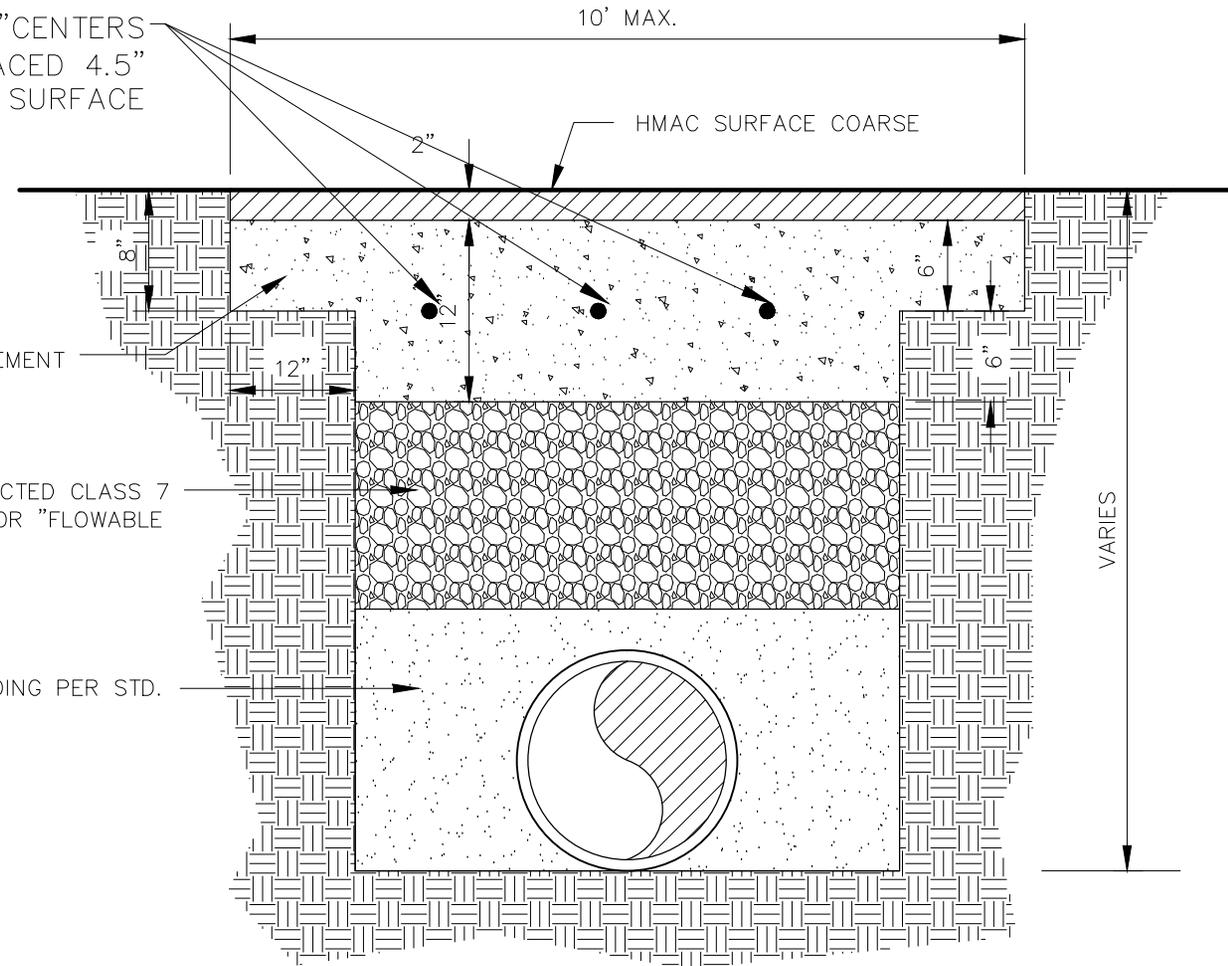
10' MAX.

HMAC SURFACE COARSE

PORTLAND CEMENT
CONCRETE

COMPACTED CLASS 7
BASE OR "FLOWABLE
FILL"

PIPE BEDDING PER STD.
SPECS.



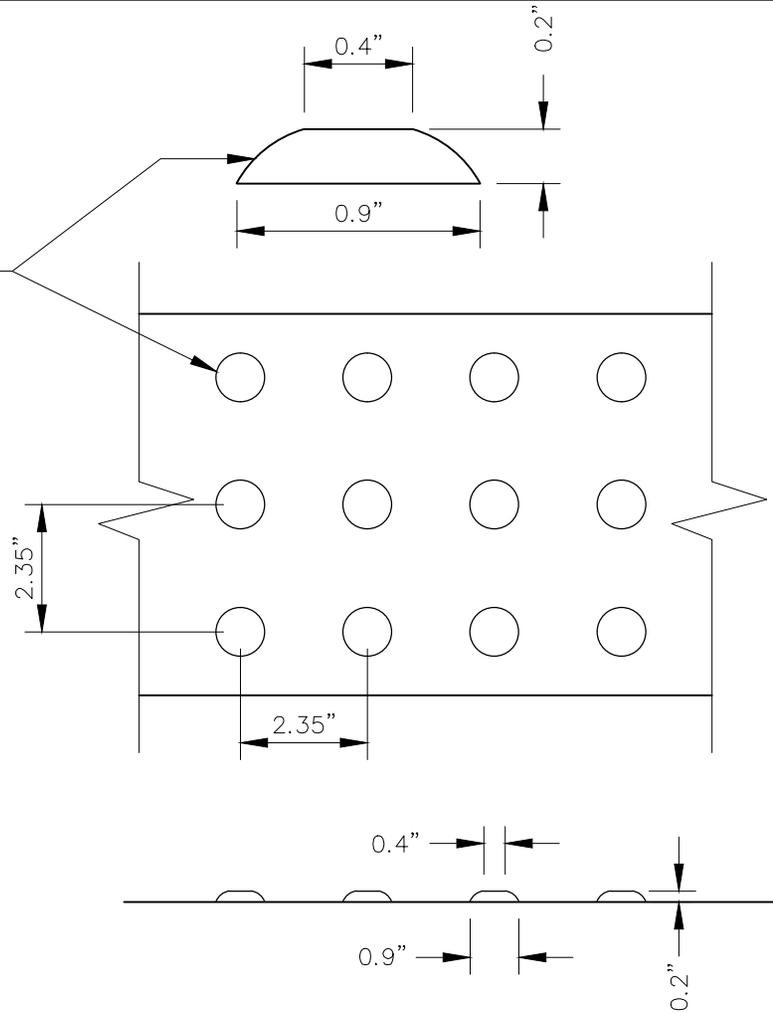
VARIES

NOTE:
AN ALTERNATIVE TO USING HMAC IS TO
PLACE FULL DEPTH CONCRETE AND DYE
SURFACE BLACK

STREET REPAIR

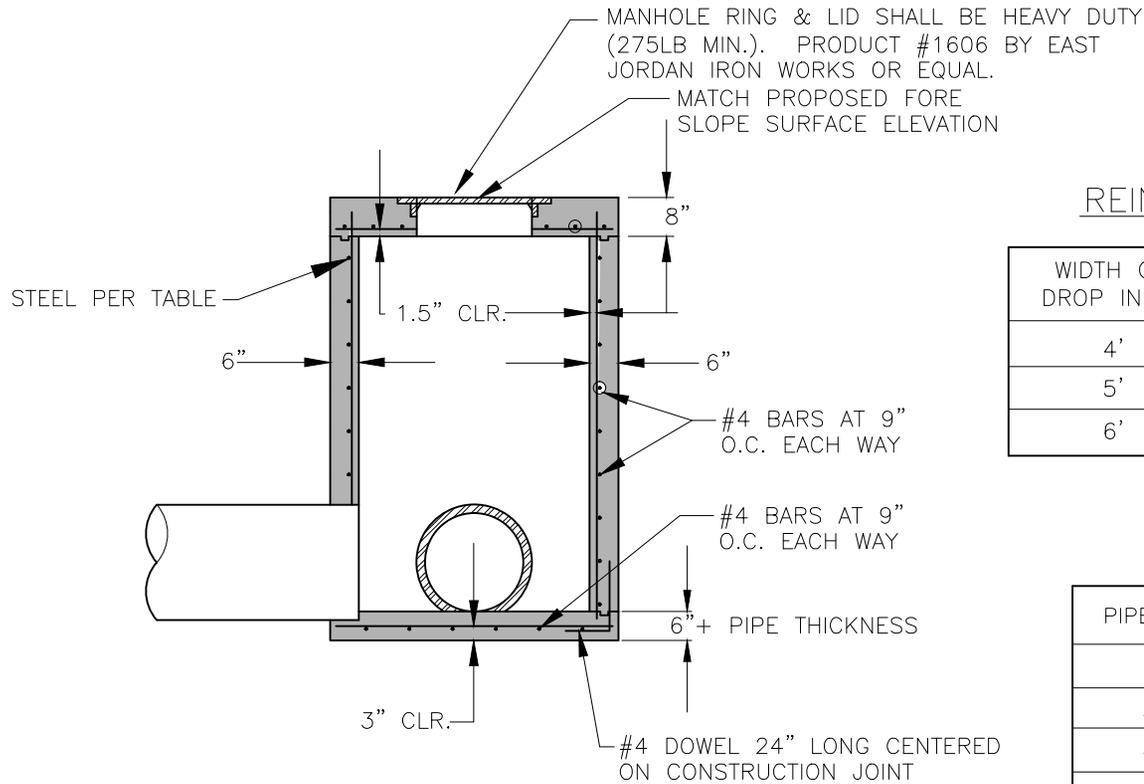
N.T.S.

TRUNCATED DOME



TRUNCATED DOMES (PER ADA)

N.T.S.



REINFORCING TABLE

WIDTH OF DROP INLET	TOP CONCRETE SLAB REINFORCING
4'	#4'S @ 8" O.C. E.W.
5'	#4'S @ 7" O.C. E.W.
6'	#5'S @ 9" O.C. E.W.

PIPE TABLE

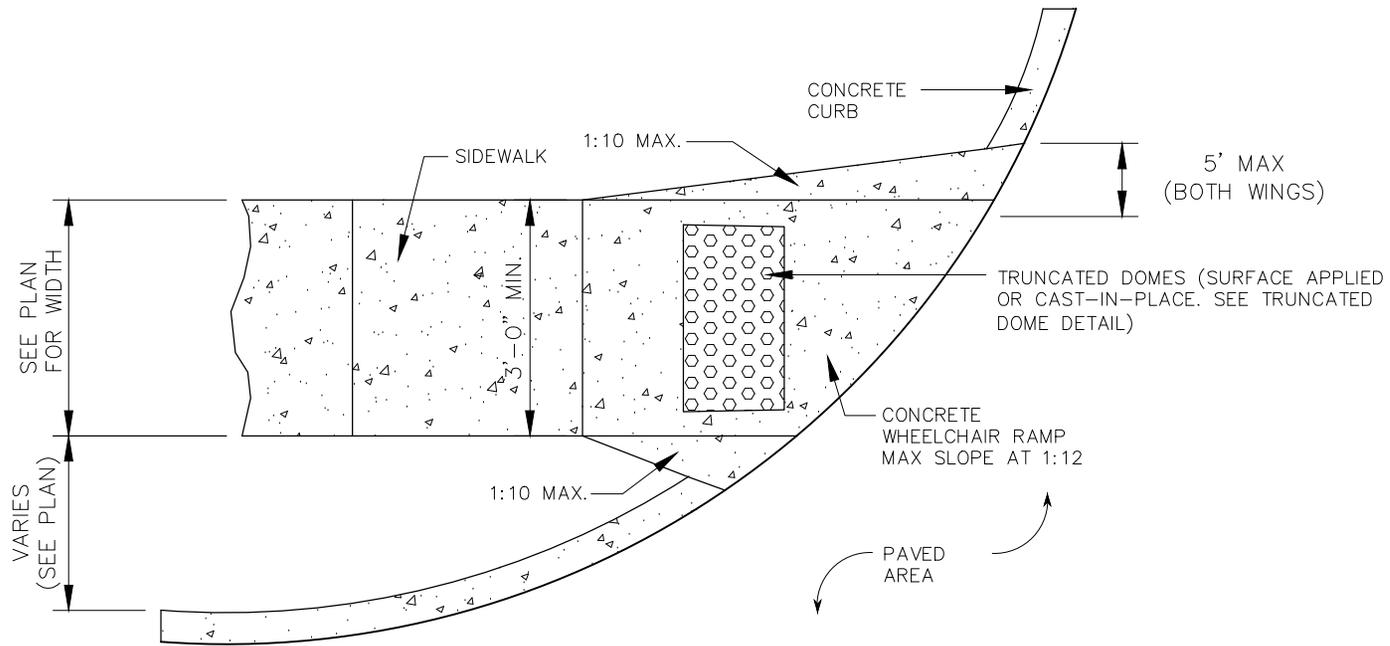
PIPE SIZE	W	d
18"	4'	4'
24"	4'	4'
30"	5'	5'
36"	5'	5'
42"	6'	6'
48"	6'	6'

NOTES:

1. PIPES MAY ENTER BOX FROM ANY ANGLE OR ELEVATION AS APPROVED BY ENGINEER.
2. REINFORCING BARS SHALL BE CUT TO CLEAR PIPE BY 1-1/2".
3. PROVIDE 3/4" CHAMFER ON ALL EXPOSED CORNERS.
4. ALL REINFORCING BARS SHALL HAVE 1-1/2" MINIMUM COVER.
5. EXTENSION LENGTHS SHOWN ON THE PLANS SHALL BE TAKEN TO MEAN CLEAR OPENING LENGTH, NOT INCLUDING WIDTHS OF SUPPORTS.
6. CONCRETE FOR JUNCTION BOXES TO BE CLASS A, 3000 PSI, 5.5 BAG MIX WITH 4-7% AIR ENTRAINMENT.

TYPICAL JUNCTION BOX

N.T.S.



WHEELCHAIR RAMP DETAIL

N.T.S.