



DEPARTMENT OF PUBLIC WORKS

TOWN OF ARLINGTON
51 Grove Street
Arlington, Massachusetts 02476

Engineering Division

Telephone (781) 316-3320

Fax (781) 316-3281

Standard Construction Details

DETAIL #	DESCRIPTION
C-01	Drain/Sewer Manhole
C-02	Payment Lines for Rock Excavation in Trenches
C-03	ADA Ramp A
C-04	ADA Ramp B
C-05	ADA Ramp C
C-06	Driveway Apron (with Grass Strip)
C-07	Driveway Apron (with Sidewalk)
C-08	Utility Pipe Trench
C-09	Temporary Water Main Protection Detail
C-10	Typical Sidewalk Section
C-11	Hydrant Assembly Detail
C-12	Water Service Connection
C-13	Vertical Granite Curb Setting
C-14	Temporary Pedestrian Ramp Detail
C-15	Concrete Sidewalk Joints
C-16	Sewer Building Connection
C-17	Sewer Building Connection (with Chimney)
C-18	Roadway Underdrain
C-19	Flared End Section
C-20	Drainage Catch Basin
C-21	Sewer Drop Manhole
C-22	Sump Pump Recharge/Infiltration System
C-23	Oil and Gas Separator

24" STANDARD
MANHOLE FRAME AND
COVER, MARKED
"DRAIN" OR "SEWER"

SET CASTING IN GROUT

BRICKS MAY BE USED FOR
GRADE ADJUSTMENT. SEAL
INSIDE AND OUTSIDE OF BRICK
WITH HYDRAULIC CEMENT.

COAT EXTERIOR WITH 2
COATS OF BITUMINOUS
WATERPROOFING
(SEWER ONLY)

PRECAST CONCRETE
RISER SECTION
(1' TO 4' LENGTHS)

PRECAST CONCRETE
BASE SECTION
(MIN 3' LENGTHS)

FLEXIBLE
RUBBER BOOT
CONNECTION

BUTYL
RUBBER
JOINT

STEEL REINFORCED
MANHOLE STEP
(12" OC)

5" MIN

48" DIA.

BRICK SHELF
(SLOPE AT 1"
PER 1')

2" CLR
GROUT RING

INVERTED ARCH
FORMED WITH
CONCRETE AND
BRICK

PIPE
DIA

8" MIN

12"

6" MIN OF 3/4"
CRUSHED STONE

NOTES:

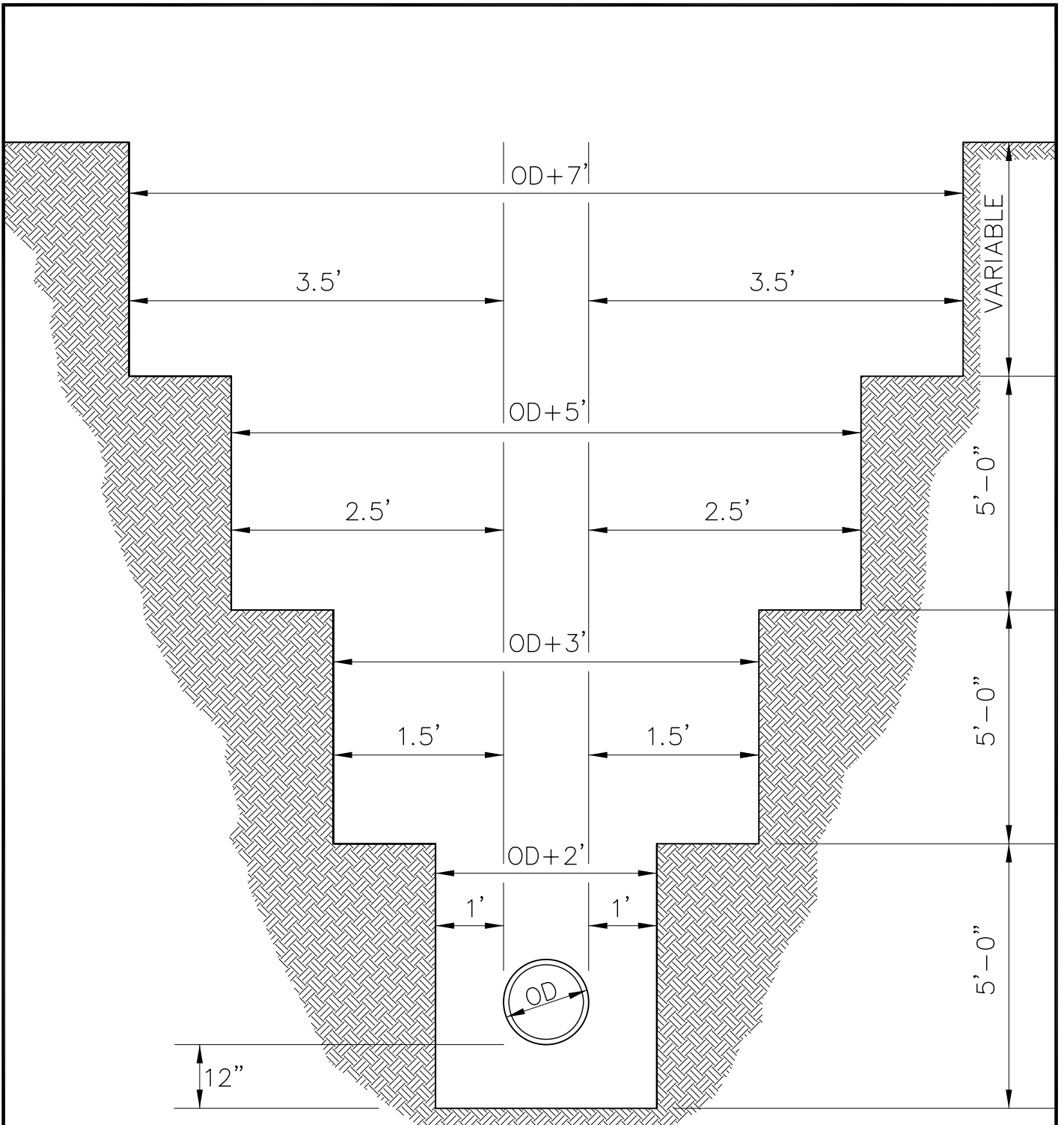
1. MANHOLE SECTIONS AND STEEL REINFORCEMENT SHALL CONFORM TO ASTM C478 AND BE SUITABLE FOR HS-20 LOADING.
2. REINFORCING STEEL SHALL BE MIN. 0.12 SQ. IN. STEEL PER VERTICAL FOOT, PLACED ACCORDING TO AASHTO DESIGNATION M199.



**TOWN OF ARLINGTON, MA
STANDARD DETAILS**

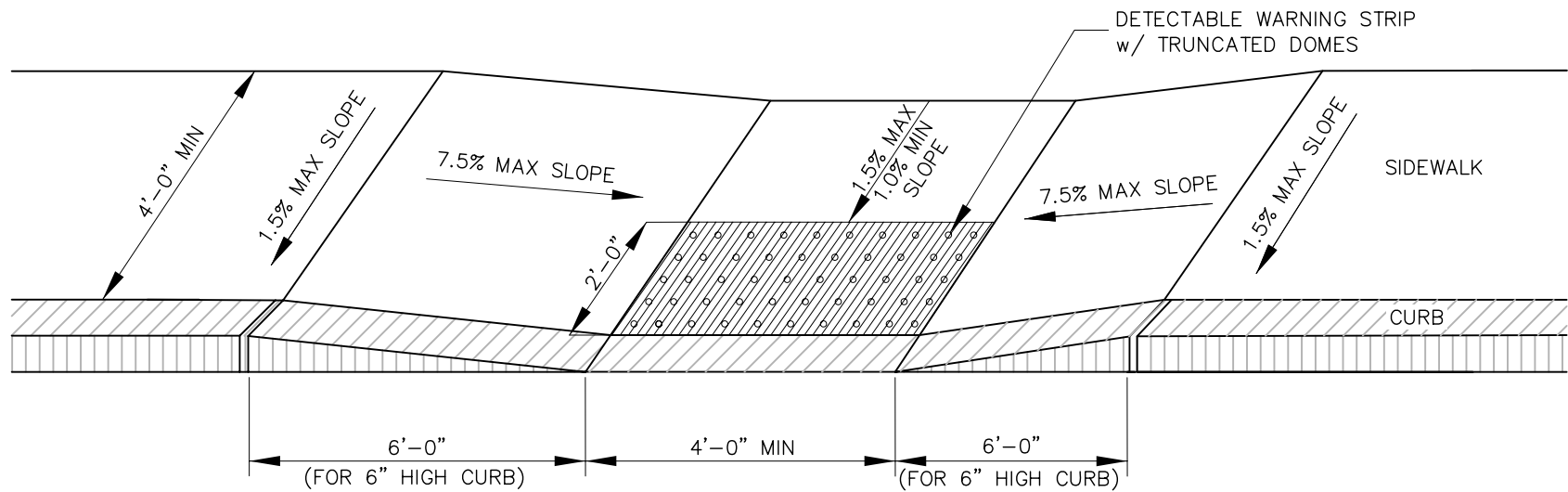
DRAIN/SEWER MANHOLE

DETAIL C-01
SCALE: N.T.S.
DATE: 01-28-2011



TOWN OF ARLINGTON, MA
 STANDARD DETAILS
 PAYMENT LINES FOR ROCK
 EXCAVATION IN TRENCHES

DETAIL C-02
 SCALE: N.T.S.
 DATE: 01-28-2011



NOTES:

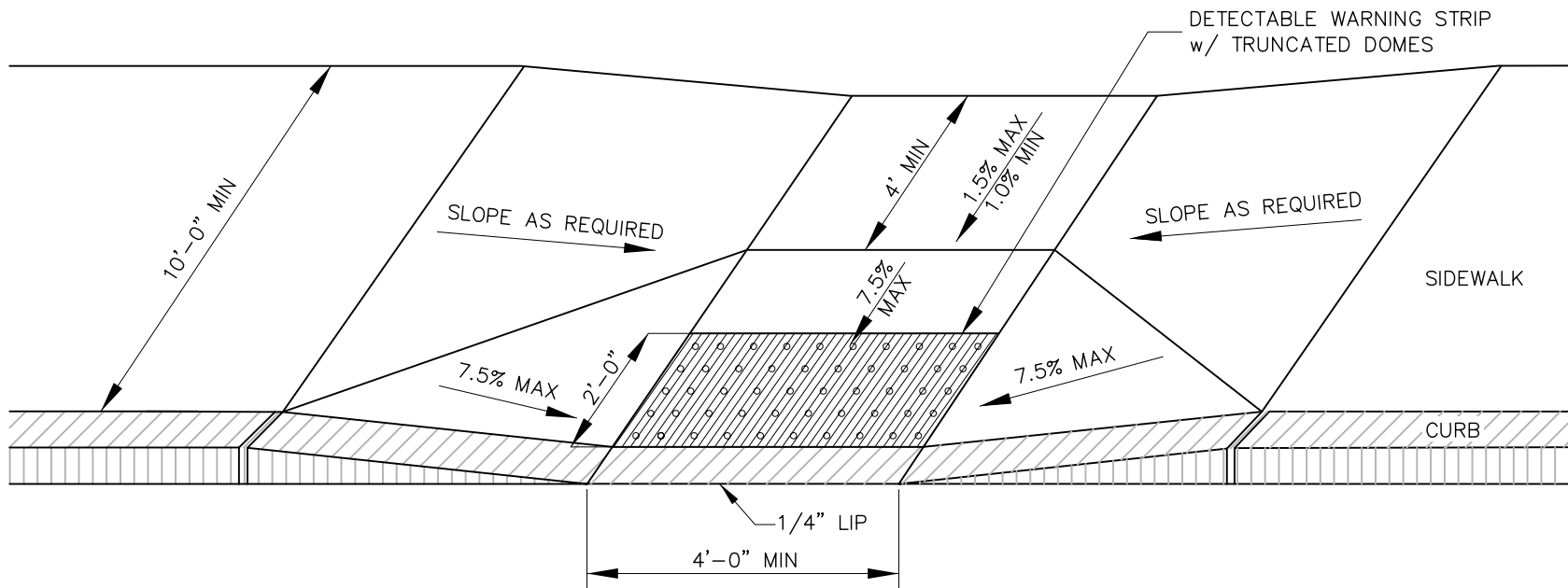
1. RAMP AND ADJACENT PAVEMENT SHALL BE GRADED TO PREVENT PONDING.
2. THE MAXIMUM CROSS SLOPES SHALL BE 1.5% AND THE MINIMUM SHALL BE 1.0%
3. THE MAXIMUM CURB RAMP SLOPE SHALL BE 7.5%
4. RAMP MUST MEET STANDARDS OF THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD AT TIME OF CONSTRUCTION.
5. RAMP MUST BE REVIEWED BY TOWN OF ARLINGTON ENGINEERING DEPARTMENT PRIOR TO CONCRETE POUR.



TOWN OF ARLINGTON, MA
STANDARD DETAILS

ADA RAMP A

DETAIL C-03
SCALE: N.T.S.
DATE: 01-28-2011



NOTES:

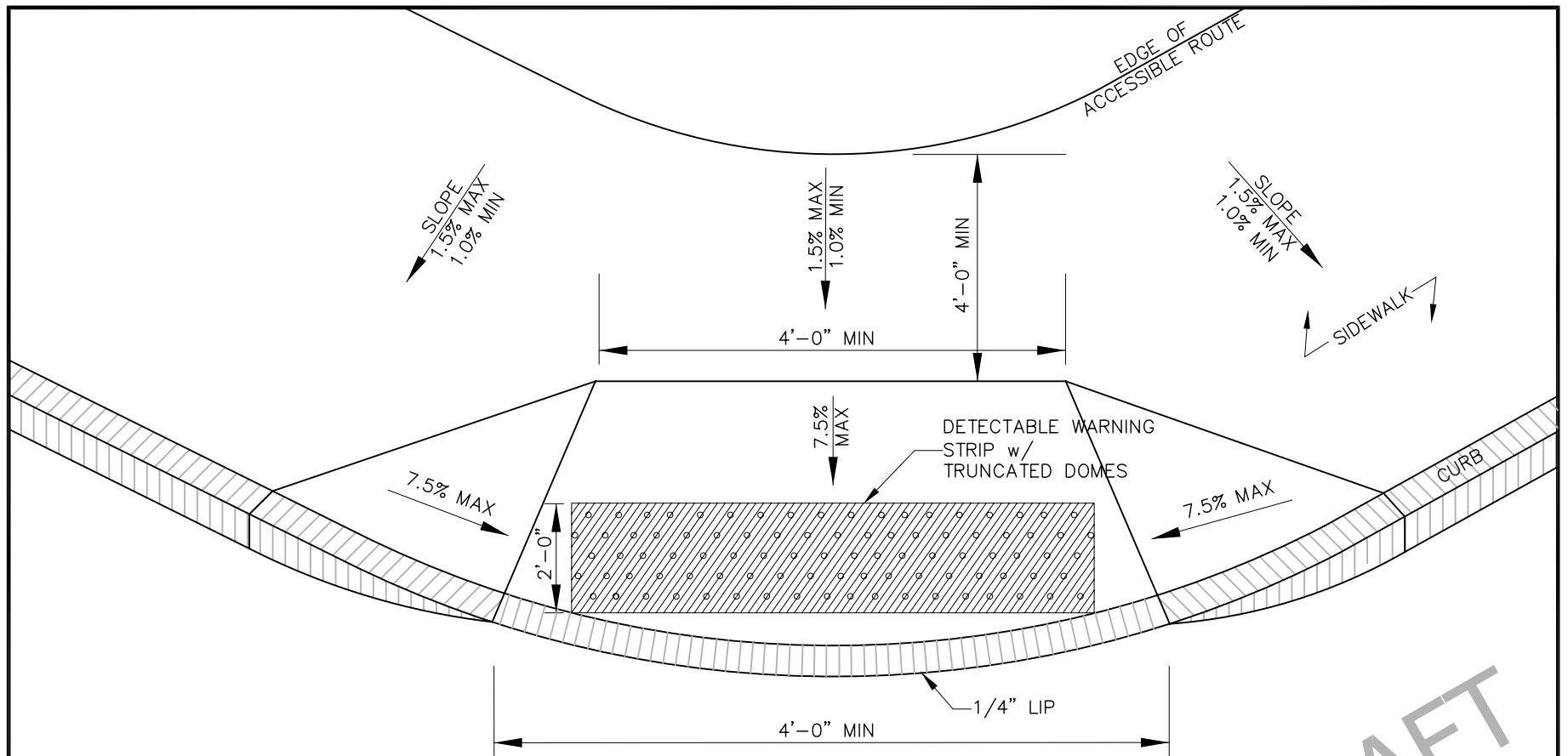
1. RAMP AND ADJACENT PAVEMENT SHALL BE GRADED TO PREVENT PONDING.
2. THE MAXIMUM CROSS SLOPES SHALL BE 1.5% AND THE MINIMUM SHALL BE 1.0%
3. THE MAXIMUM CURB RAMP SLOPE SHALL BE 7.5%.
4. RAMP MUST MEET STANDARDS OF THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD AT TIME OF CONSTRUCTION.
5. RAMP MUST BE REVIEWED BY TOWN OF ARLINGTON ENGINEERING DEPARTMENT PRIOR TO CONCRETE POUR.



**TOWN OF ARLINGTON, MA
STANDARD DETAILS**

ADA RAMP B

DETAIL C-04
SCALE: N.T.S.
DATE: 01-28-2011



DRAFT

NOTES:

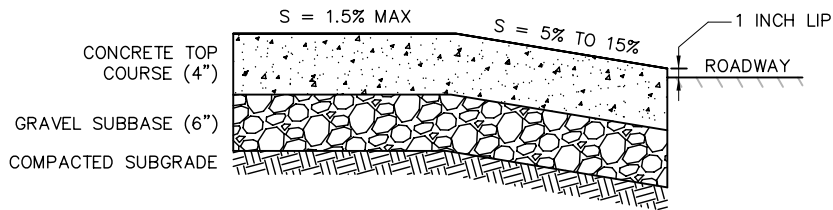
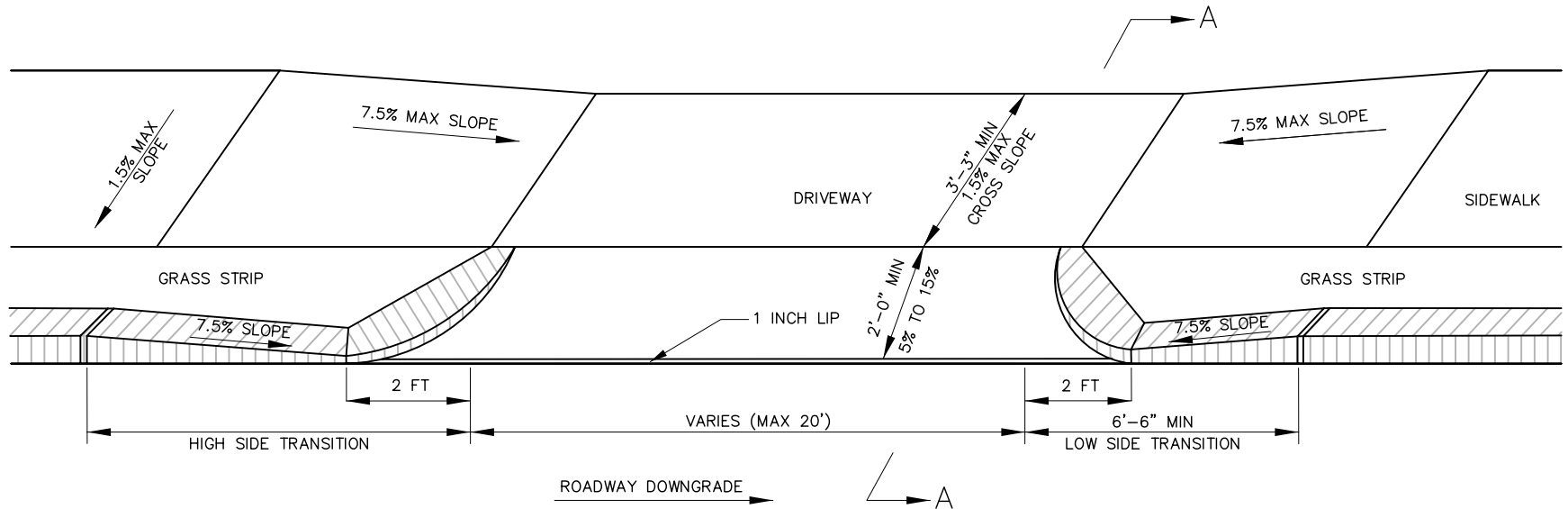
1. RAMP AND ADJACENT PAVEMENT SHALL BE GRADED TO PREVENT PONDING.
2. THE MAXIMUM CROSS SLOPES SHALL BE 1.5% AND THE MINIMUM SHALL BE 1.0%
3. THE MAXIMUM CURB RAMP SLOPE SHALL BE 7.5%.
4. RAMP MUST MEET STANDARDS OF THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD AT TIME OF CONSTRUCTION.
5. RAMP MUST BE REVIEWED BY TOWN OF ARLINGTON ENGINEERING DEPARTMENT PRIOR TO CONCRETE POUR.



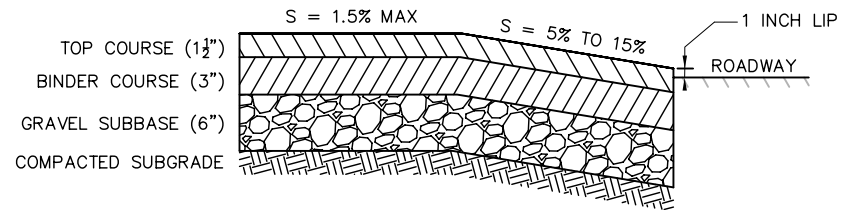
TOWN OF ARLINGTON, MA
STANDARD DETAILS

ADA RAMP C

DETAIL C-05
SCALE: N.T.S.
DATE: 01-28-2011



SECTION A-A
(CONCRETE DRIVEWAY)

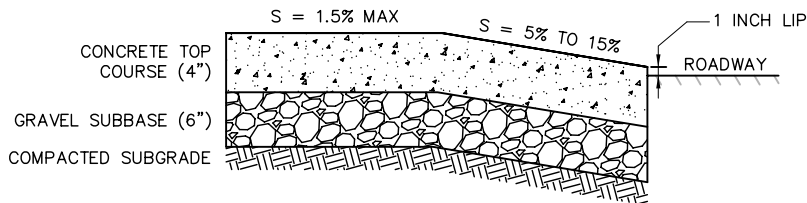
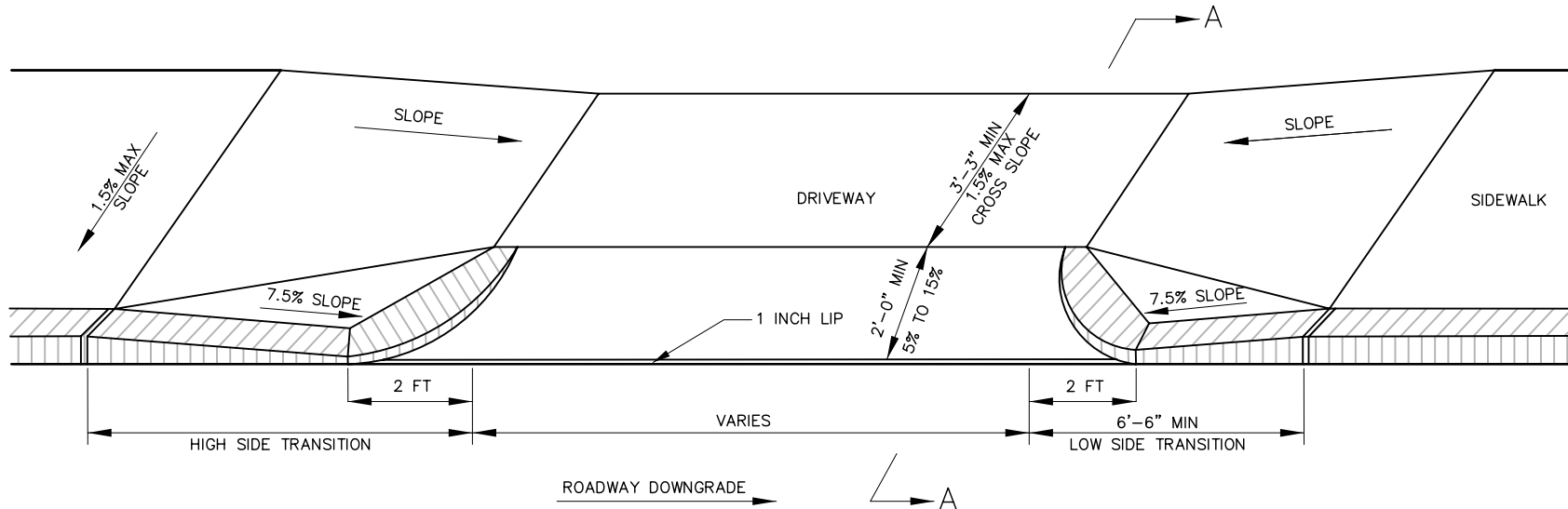


SECTION A-A
(ASPHALT DRIVEWAY)

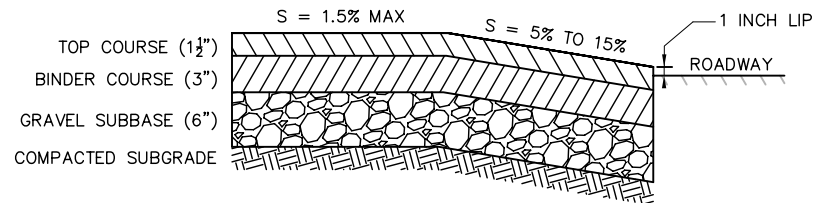


TOWN OF ARLINGTON, MA
STANDARD DETAILS
DRIVEWAY APRON
(WITH GRASS STRIP)

DETAIL C-06
SCALE: N.T.S.
DATE: 01-28-2011



SECTION A-A
(CONCRETE DRIVEWAY)

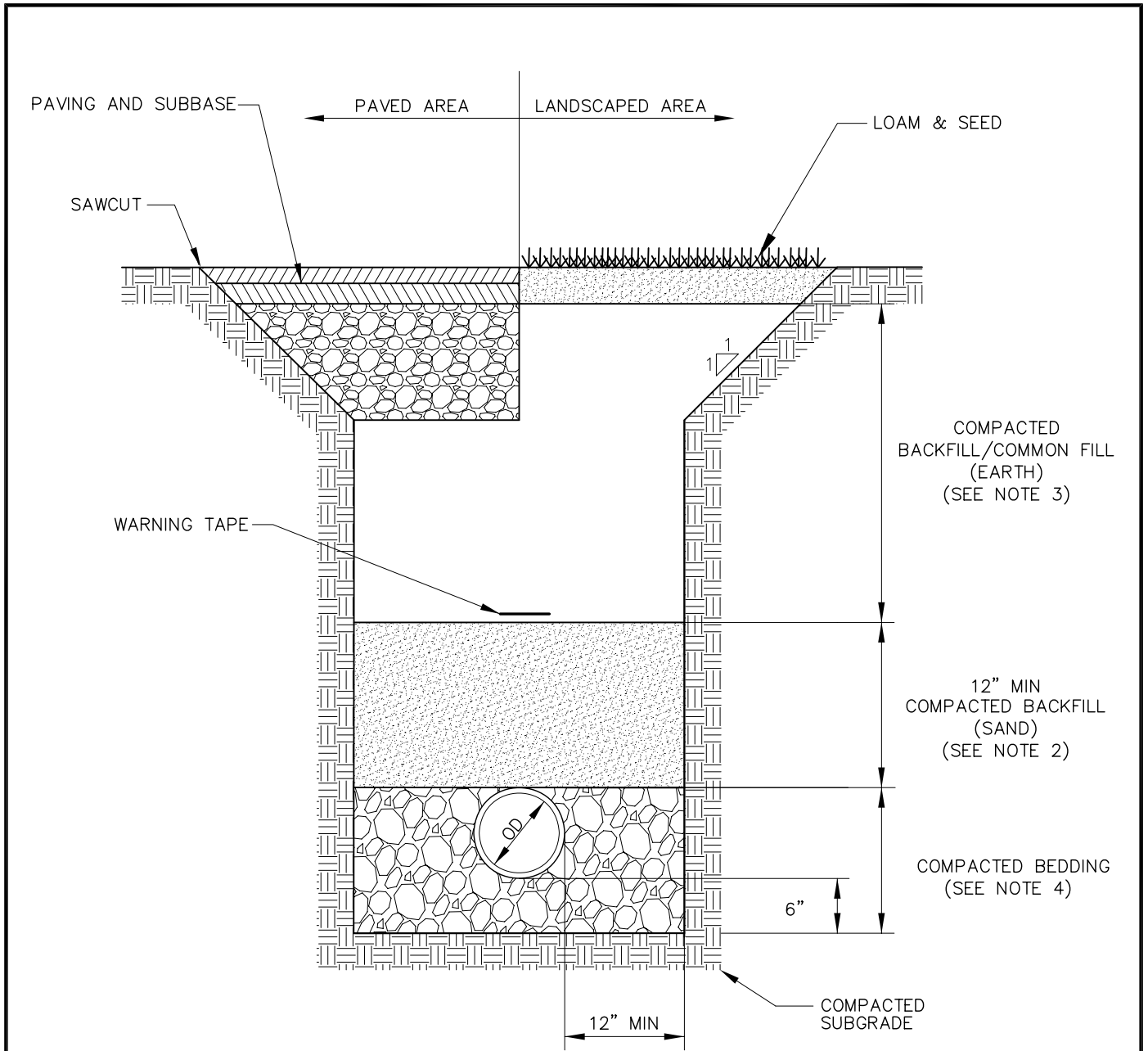


SECTION A-A
(ASPHALT DRIVEWAY)



TOWN OF ARLINGTON, MA
STANDARD DETAILS
DRIVEWAY APRON
(WITH SIDEWALK)

DETAIL C-07
SCALE: N.T.S.
DATE: 01-28-2011



NOTES:

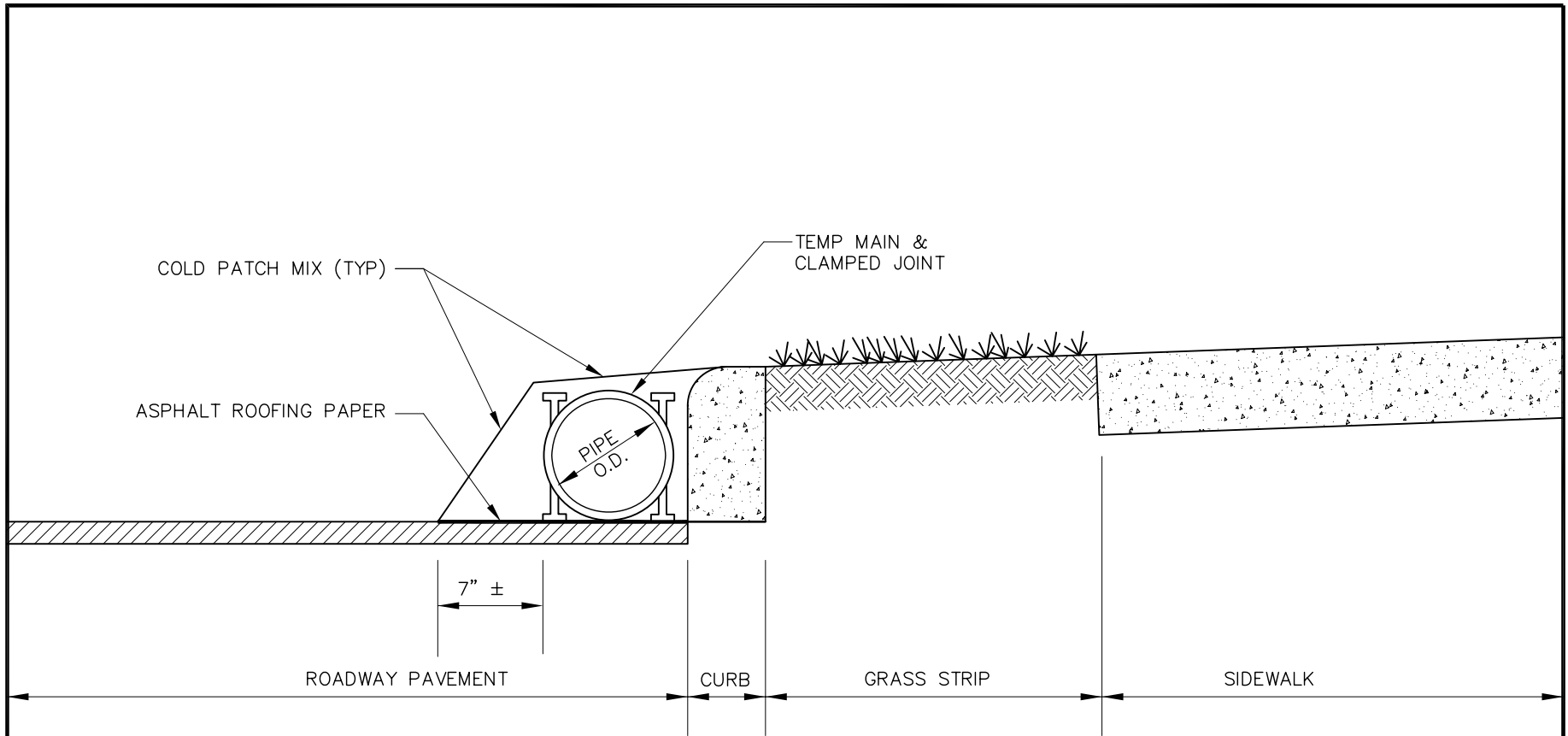
1. COMPACT BACKFILL IN 12" LIFTS
2. BACKFILL MATERIAL FOR THIS ZONE SHALL CONTAIN STONES NO LARGER THAN 3 INCHES IN DIAMETER.
3. BACKFILL MATERIAL FOR THIS ZONE SHALL CONTAIN STONES NO LARGER THAN 6 INCHES IN DIAMETER.
4. PIPE BEDDING FOR WATER SERVICE SHALL BE SAND.
PIPE BEDDING FOR SEWER AND STORM DRAIN LINES SHALL BE 3/4" MAX DIA. CRUSHED STONE.



**TOWN OF ARLINGTON, MA
STANDARD DETAILS**

UTILITY PIPE TRENCH

DETAIL C-08
SCALE: N.T.S.
DATE: 01-28-2011



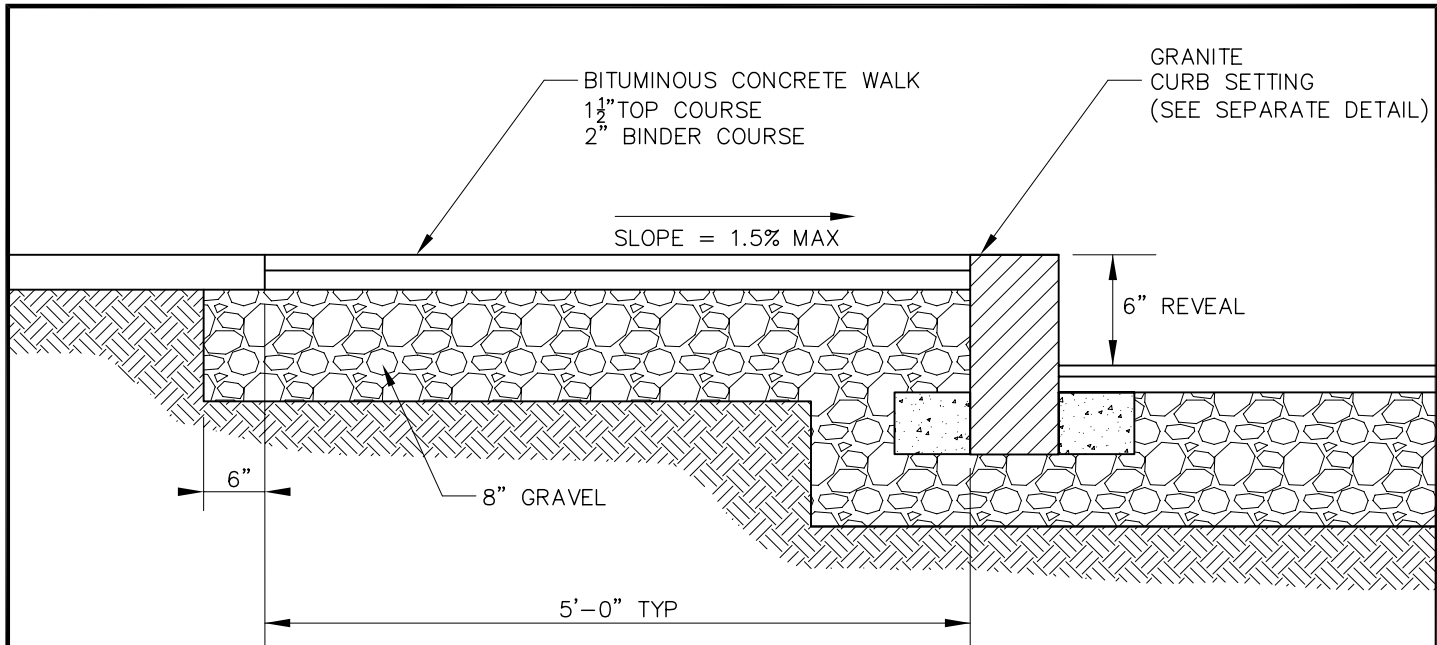
NOTES:

1. INSTALL COLD PATCH MIX AS INDICATED AT EACH CLAMPED JOINT.

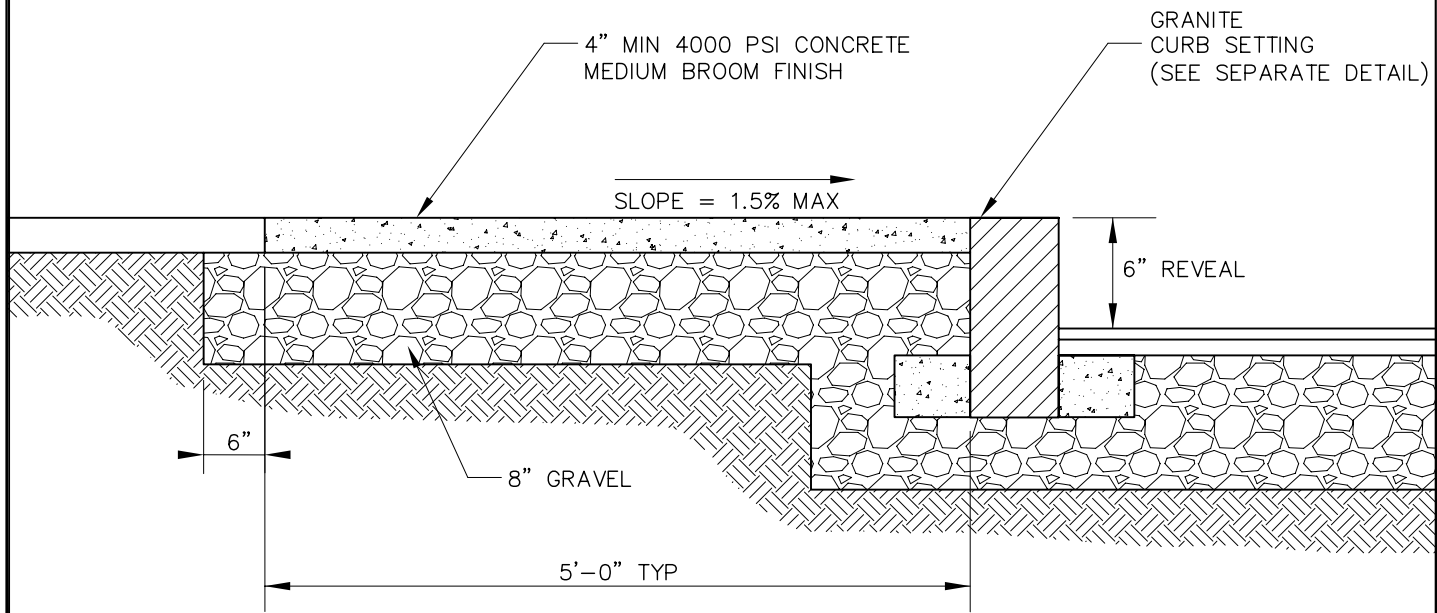


**TOWN OF ARLINGTON, MA
STANDARD DETAILS
TEMPORARY WATER MAIN PROTECTION
DETAIL**

DETAIL C-09
SCALE: N.T.S.
DATE: 01-28-2011



BITUMINOUS SIDEWALK



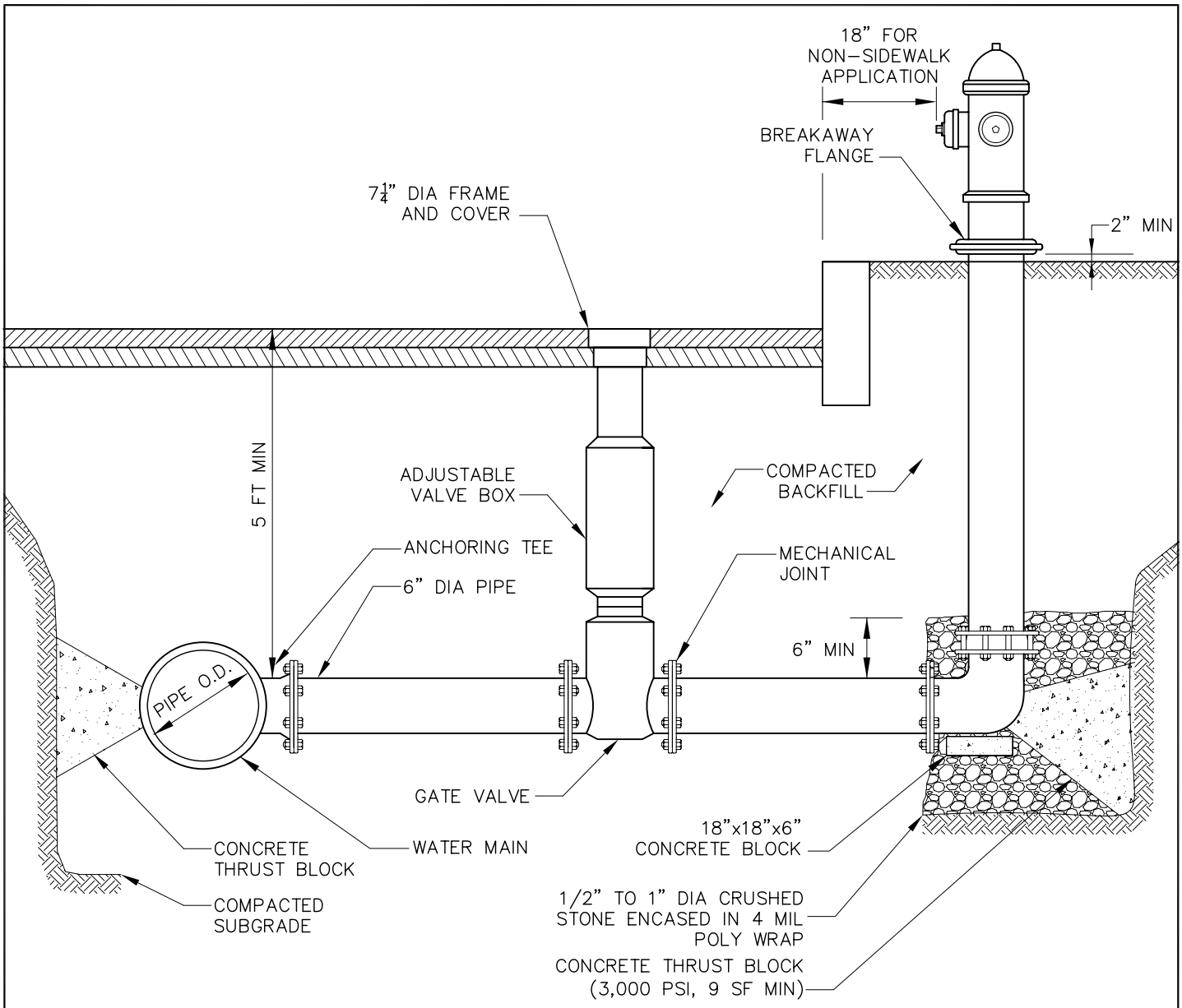
CONCRETE SIDEWALK



TOWN OF ARLINGTON, MA
STANDARD DETAILS

TYPICAL SIDEWALK SECTION

DETAIL C-10
SCALE: N.T.S.
DATE: 01-28-2011



NOTES:

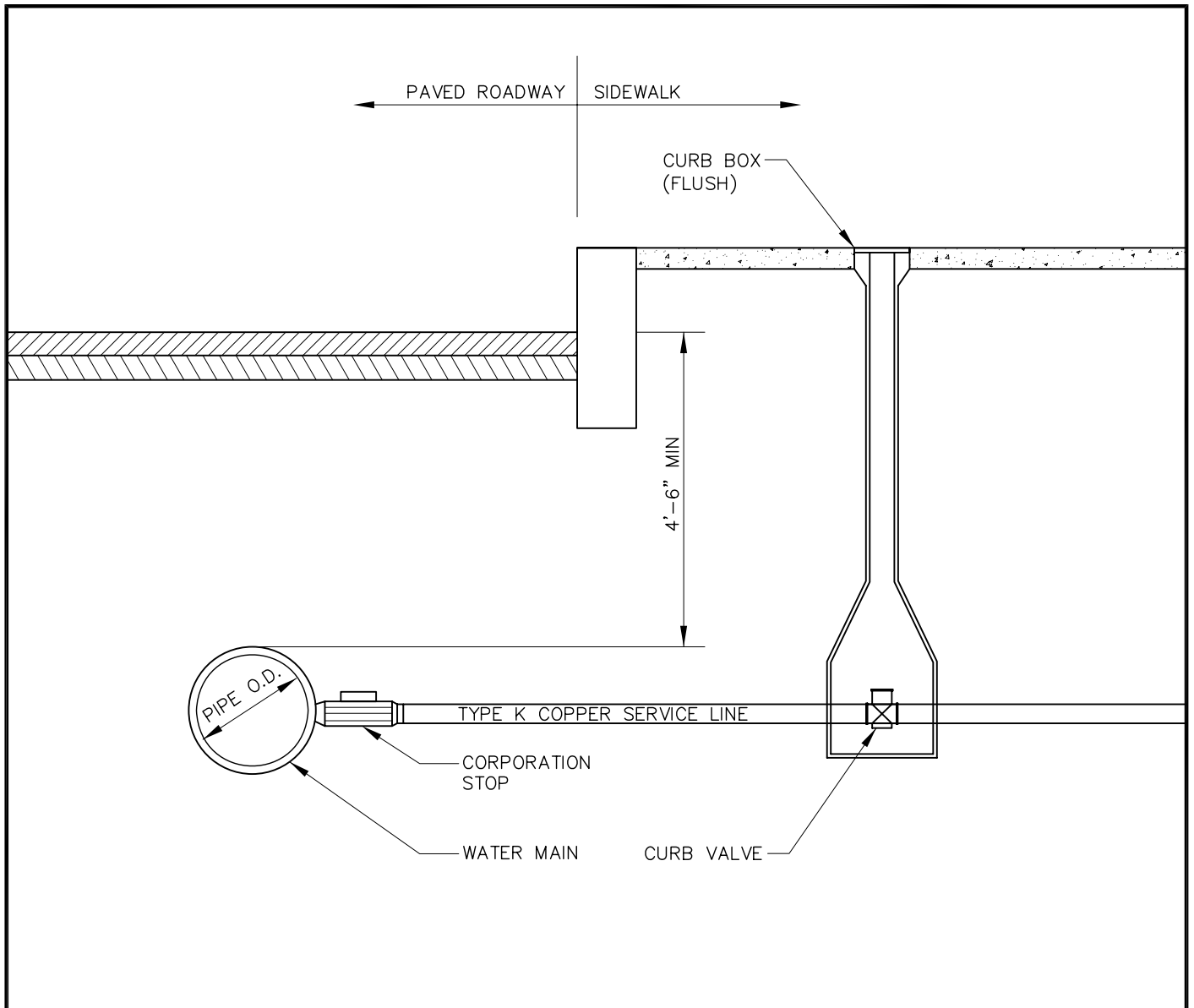
1. INSTALLATIONS SHALL CONFORM TO TOWN OF ARLINGTON WATER REGULATIONS AND SPECIFICATIONS.
2. ENSURE HYDRANT DRAIN IS NOT BLOCKED.
3. PROVIDE 3 FT MINIMUM CLEAR WIDTH AT SIDEWALK.
4. HYDRANT AND GATE VALVES SHALL OPEN RIGHT.



**TOWN OF ARLINGTON, MA
STANDARD DETAILS**

HYDRANT ASSEMBLY DETAIL

DETAIL C-11
SCALE: N.T.S.
DATE: 01-28-2011



NOTE:

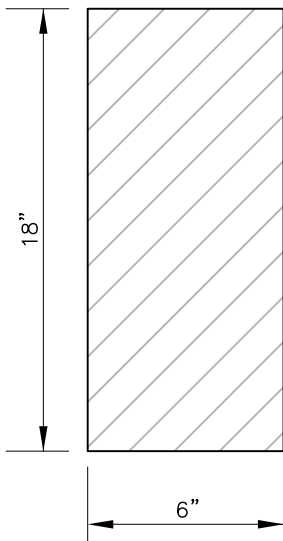
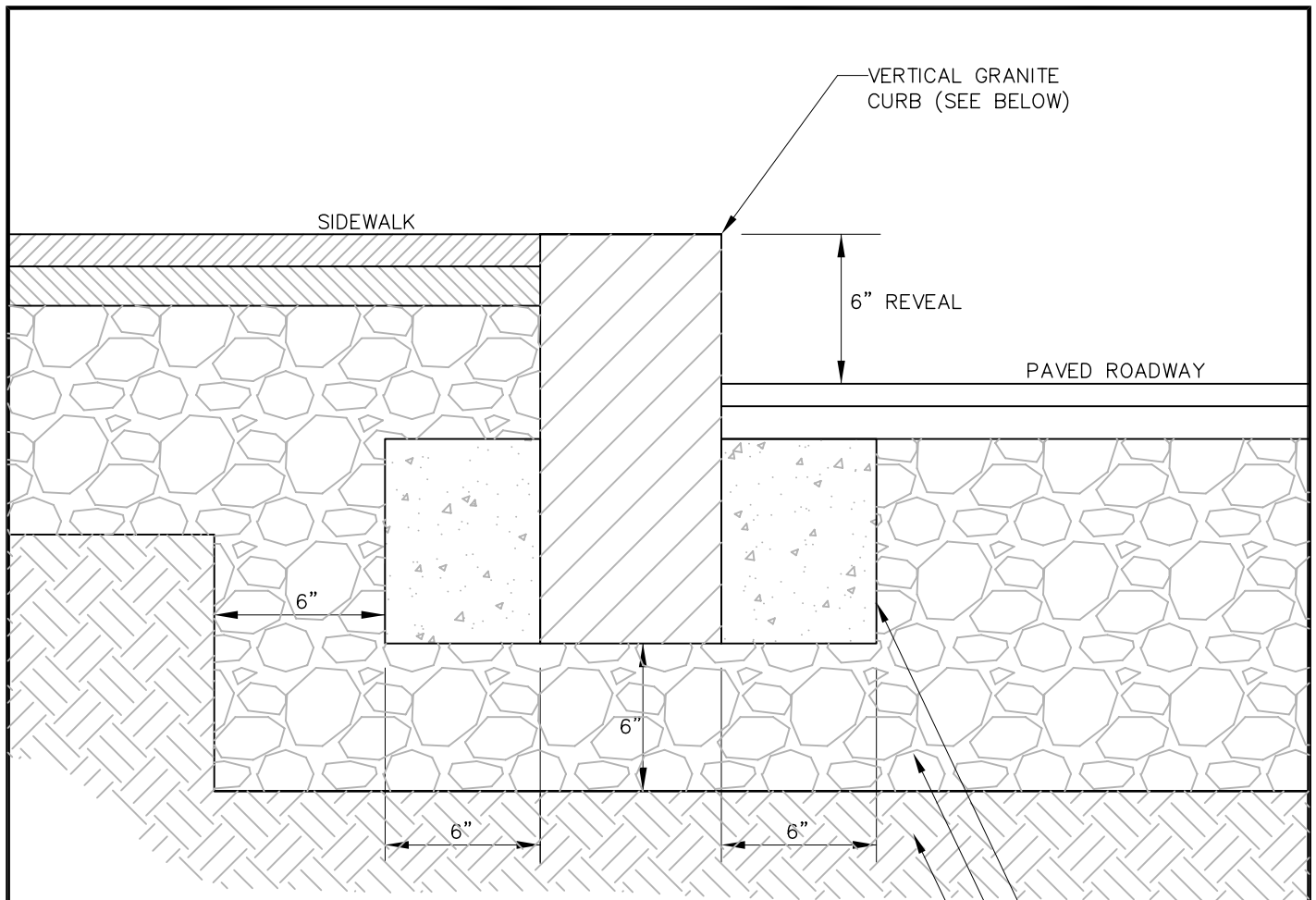
1. INSTALLATIONS SHALL CONFORM TO TOWN OF ARLINGTON WATER REGULATIONS AND SPECIFICATIONS.



**TOWN OF ARLINGTON, MA
STANDARD DETAILS**

WATER SERVICE CONNECTION

DETAIL C-12
SCALE: N.T.S.
DATE: 01-28-2011



- 2500 PSI CONCRETE (TYP)
- COMPACTED GRAVEL
- COMPACTED SUBGRADE

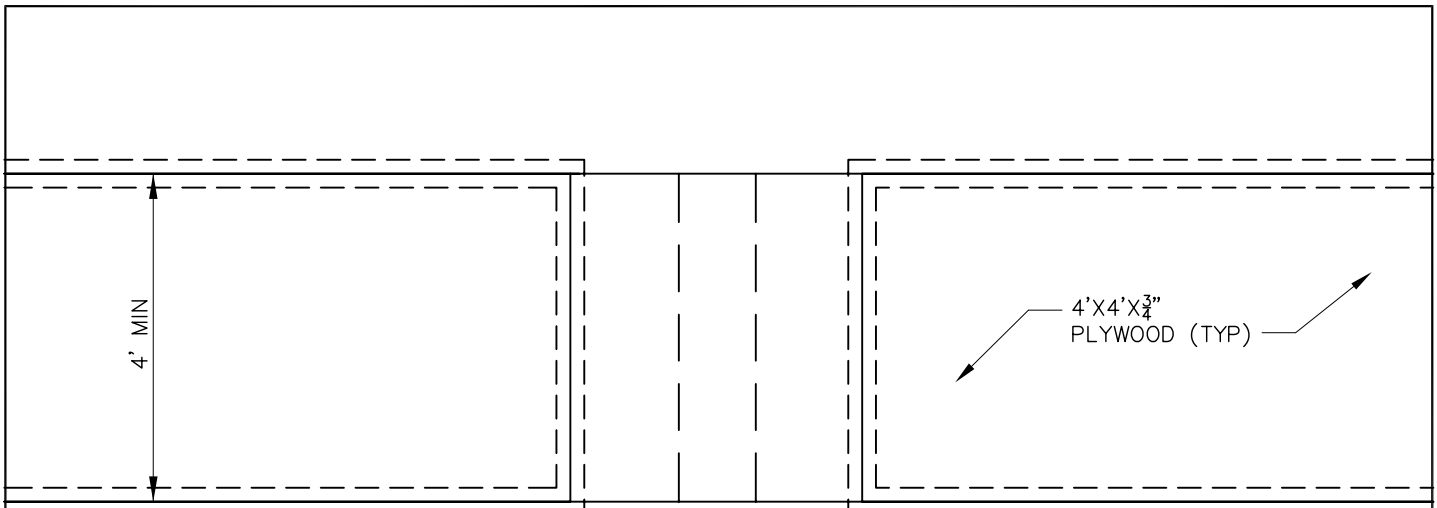
NOTE:
 1. CURB SHALL BE SET IN 6 FT LENGTHS.



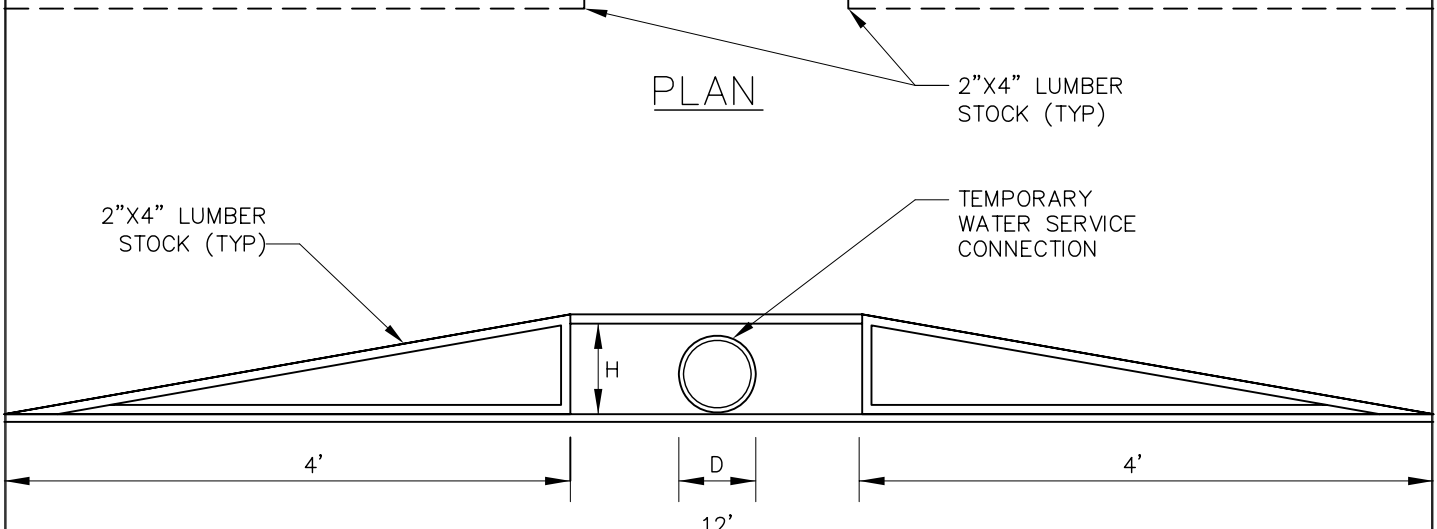
TOWN OF ARLINGTON, MA
STANDARD DETAILS

VERTICAL GRANITE CURB SETTING

DETAIL C-13
 SCALE: N.T.S.
 DATE: 01-28-2011



PLAN



PROFILE

NOTES:

1. ADDITIONAL RAMPS TO BE INSTALLED AS DIRECTED BY THE ENGINEER.
2. FLASHING BARRIERS ARE REQUIRED ON STREET SIDE OF ALL RAMPS. ADDITIONAL BARRIERS TO BE SUPPLIED AS REQUIRED BY THE ENGINEER.
3. RAMP SECTIONS SHALL BE FASTENED TOGETHER TO PROVIDE STABILITY.

TABLE A:

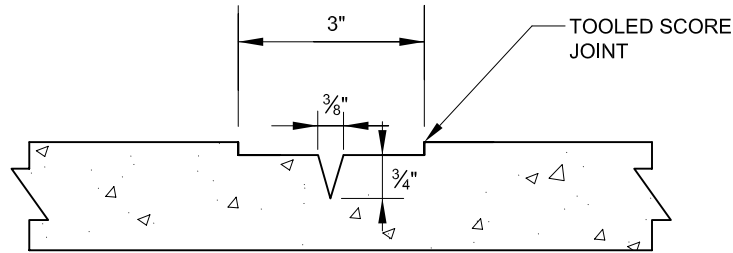
D	H
2"	4"
4"	6"
5"	8"



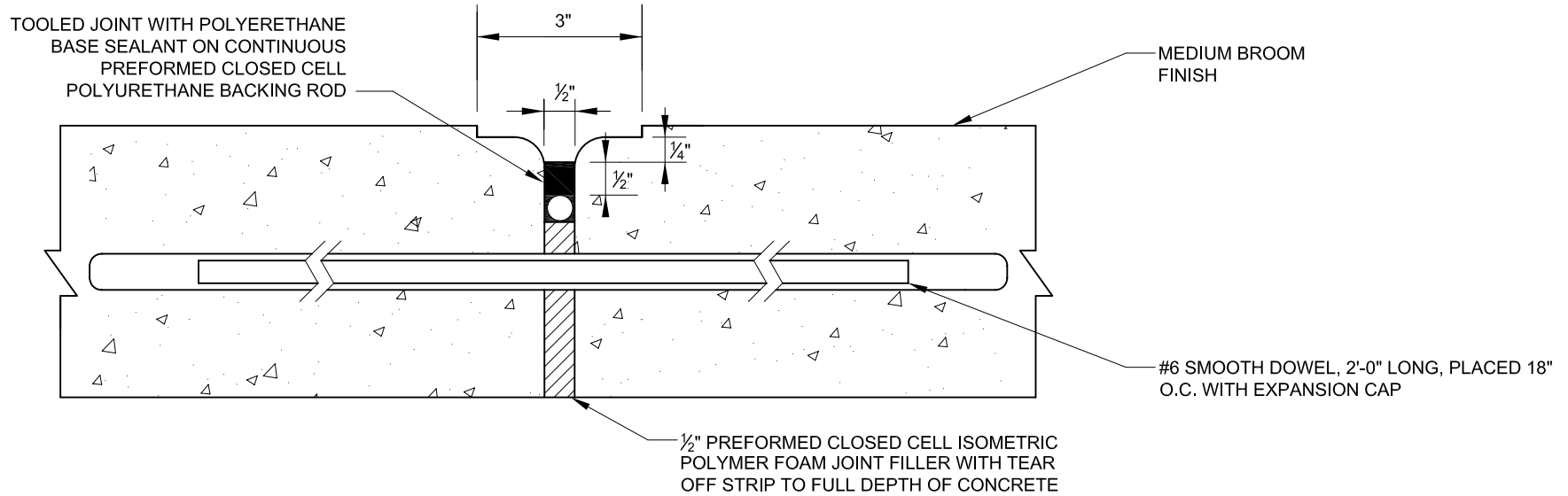
TOWN OF ARLINGTON, MA
STANDARD DETAILS

TEMPORARY PEDESTRIAN RAMP DETAIL

DETAIL C-14
SCALE: N.T.S.
DATE: 01-28-2011



CONTROL JOINT



EXPANSION JOINT

NOTE:

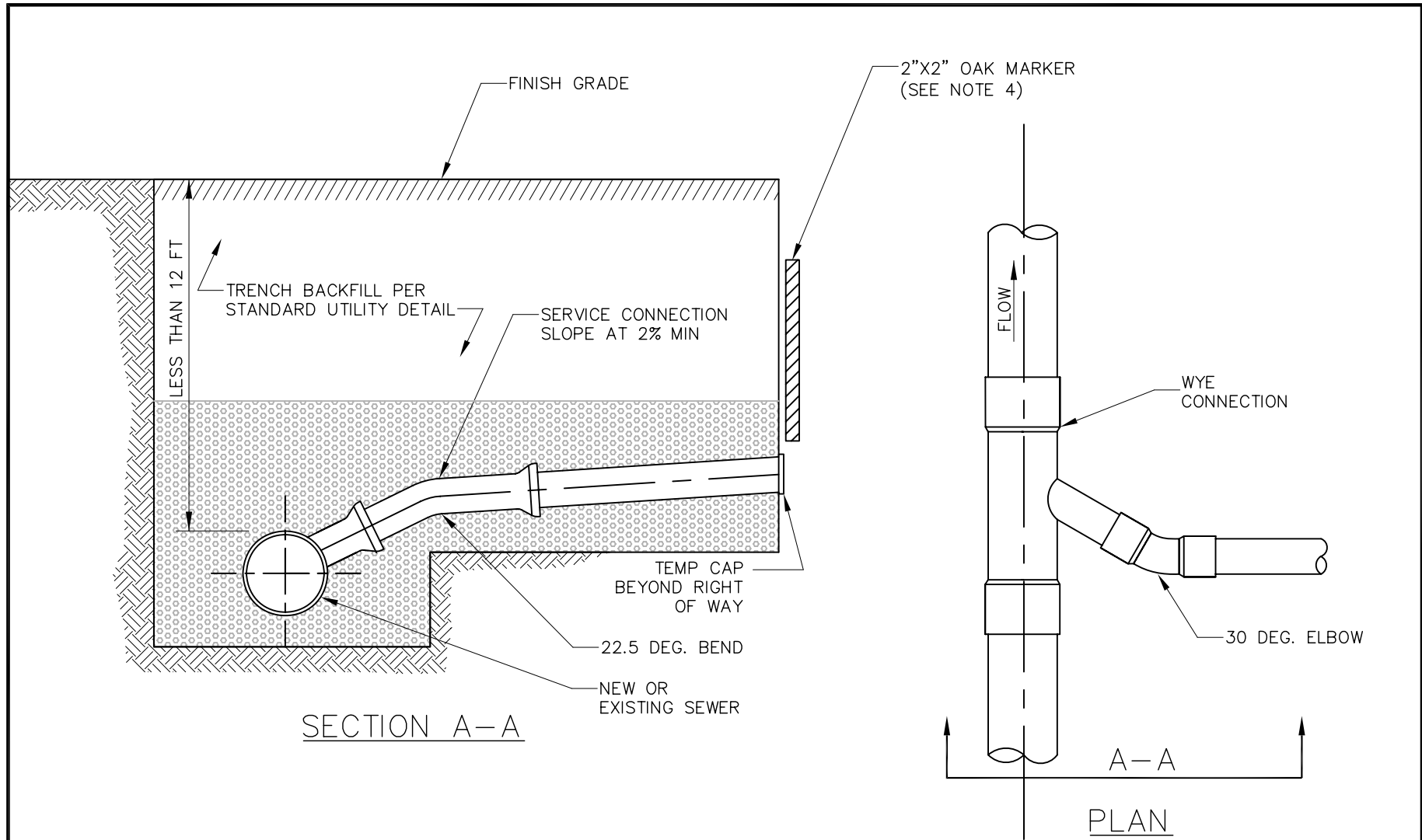
1. EXPANSION JOINTS SHALL BE PLACED 20 FT O.C.



**TOWN OF ARLINGTON, MA
STANDARD DETAILS**

CONCRETE SIDEWALK JOINTS

DETAIL C-15
SCALE: N.T.S.
DATE: 01-28-2011



NOTES:

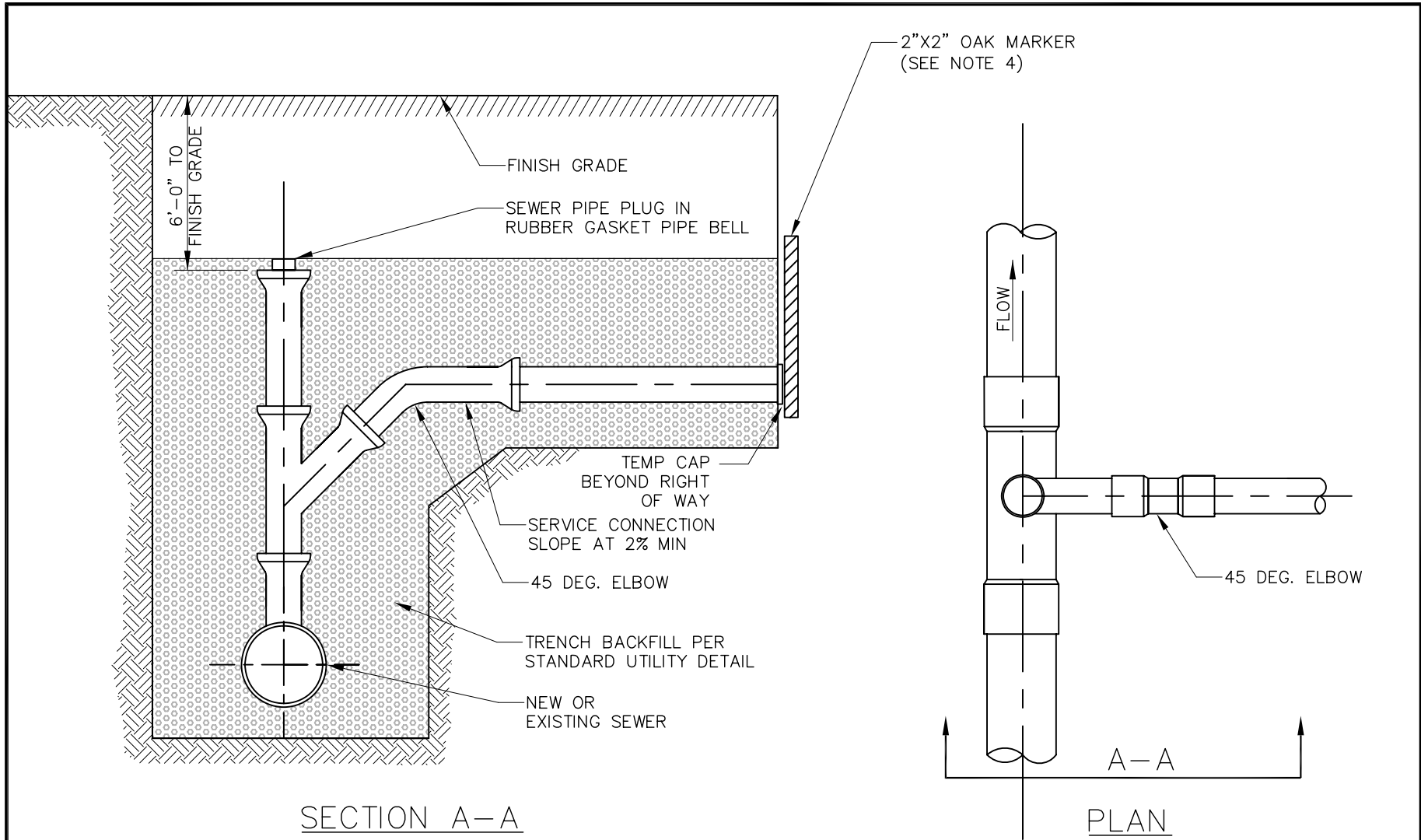
1. SEE TOWN REGULATIONS FOR MINIMUM CLEARANCE TO OTHER UTILITIES.
2. PIPE BEDDING SHALL BE PER STANDARD UTILITY TRENCH DETAIL.
3. MINIMUM LATERAL SIZES SHALL BE 6" FOR SEWER SERVICE AND 8" FOR DRAIN SERVICE.
4. MARKER REQUIRED FOR FUTURE BUILDING CONNECTIONS ONLY.



**TOWN OF ARLINGTON, MA
STANDARD DETAILS**

SEWER BUILDING CONNECTION

DETAIL C-16
SCALE: N.T.S.
DATE: 01-28-2011



SECTION A-A

PLAN

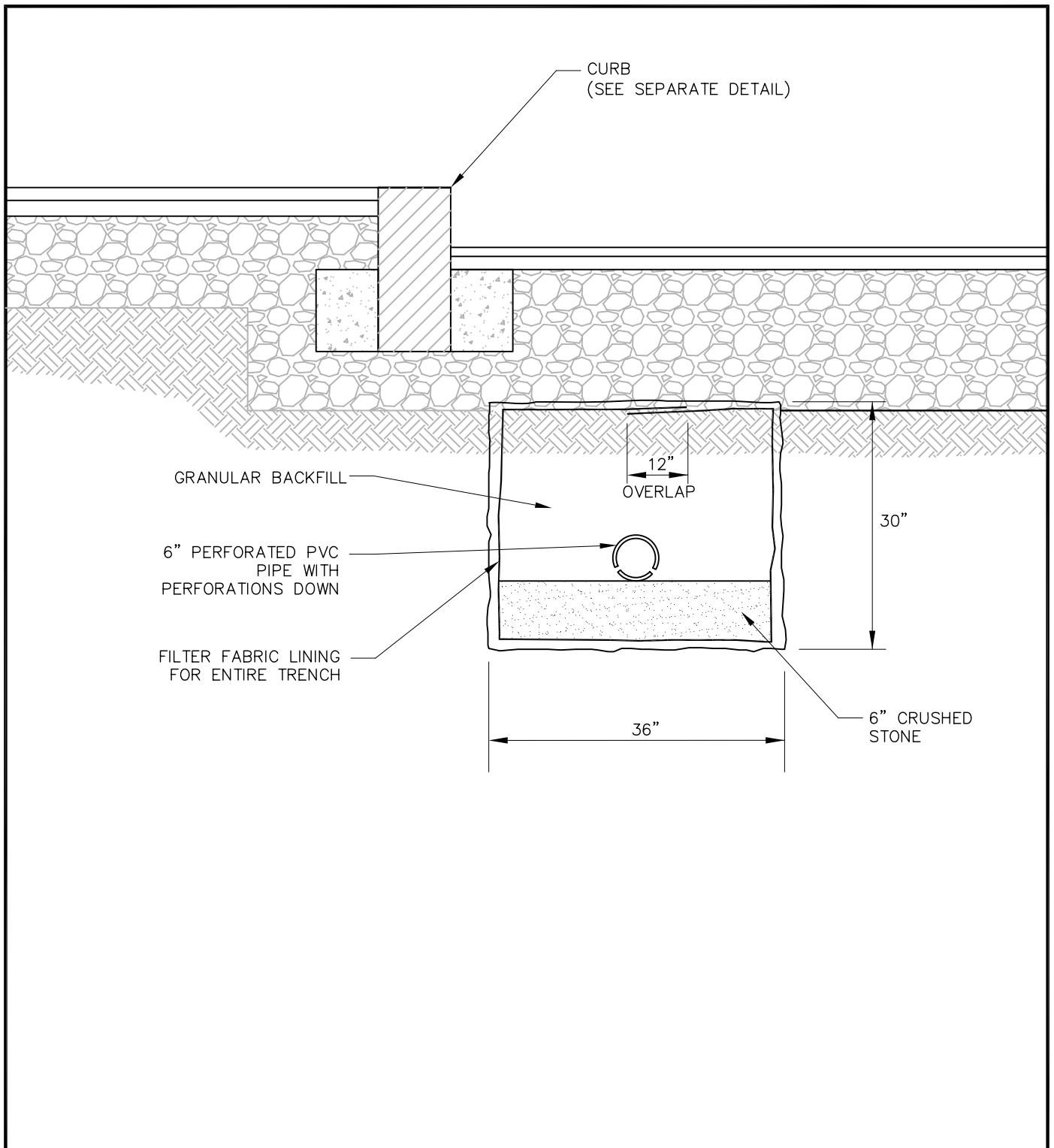
NOTES:

1. SEE TOWN REGULATIONS FOR MINIMUM CLEARANCE TO OTHER UTILITIES.
2. PIPE BEDDING SHALL BE PER STANDARD UTILITY TRENCH DETAIL.
3. MINIMUM LATERAL SIZES SHALL BE 6" FOR SEWER SERVICE AND 8" FOR DRAIN SERVICE.
4. MARKER REQUIRED FOR FUTURE BUILDING CONNECTIONS ONLY.



**TOWN OF ARLINGTON, MA
STANDARD DETAILS
SEWER BUILDING CONNECTION
WITH CHIMNEY (> 12 FT DEEP)**

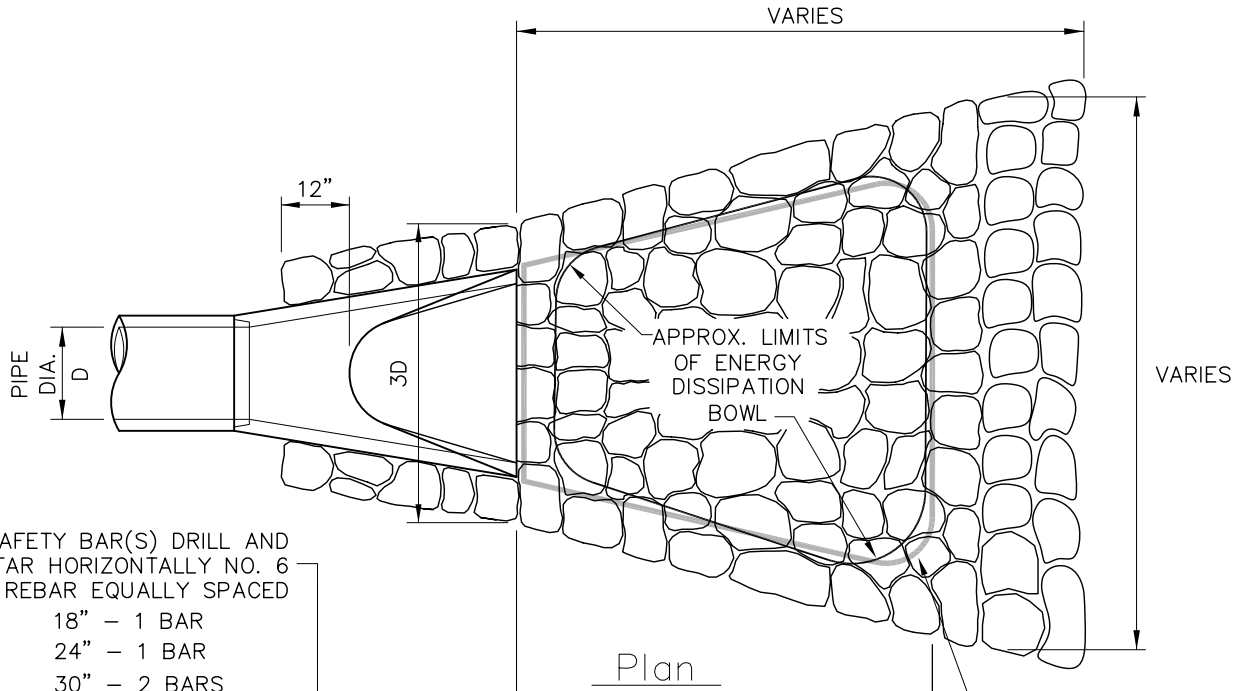
DETAIL C-17
SCALE: N.T.S.
DATE: 01-28-2011



TOWN OF ARLINGTON, MA
STANDARD DETAILS

ROADWAY UNDERDRAIN

DETAIL C-18
SCALE: N.T.S.
DATE: 01-28-2011

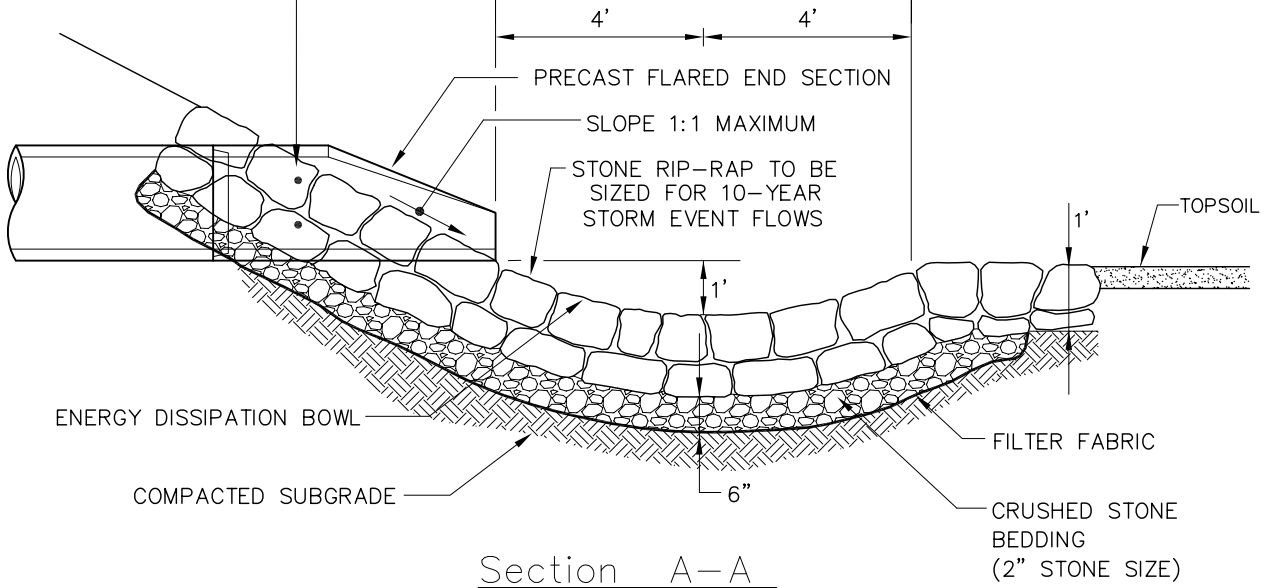


SAFETY BAR(S) DRILL AND MORTAR HORIZONTALLY NO. 6 REBAR EQUALLY SPACED

- 18" - 1 BAR
- 24" - 1 BAR
- 30" - 2 BARS
- 36" - 2 BARS
- 48" - 3 BARS

Note: SAFETY BARS TO BE OMITTED WHERE INDICATED ON PLANS.

Plan



Section A-A



TOWN OF ARLINGTON, MA STANDARD DETAILS

TYPICAL FLARED END SECTION

DETAIL C-19

SCALE: N.T.S.

DATE: 01-28-2011

FINISH GRADE

SEE NOTE 3

CONCENTRIC CONE SECTION
SEE ALTERNATE TOP SLAB

RISER SECTION(S)
AS REQ'D.

MONOLITHIC BASE SECTION

8" 24" 8"

48" DIA. (MIN.)

INVERT
4' (MIN.)

HOOD

BUTYL RUBBER JOINT

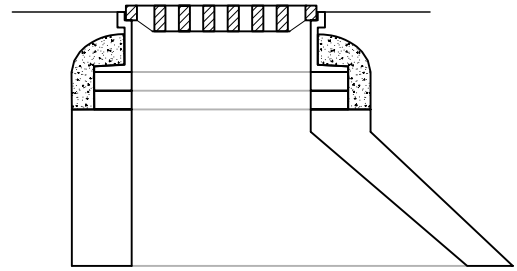
OUTLET

DIA. VARIES

FLEXIBLE RUBBER BOOT CONNECTION

12"
(TYP.)

6" MIN OF 3/4" CRUSHED STONE



ALTERNATE ECCENTRIC CONE SECTION

NOTES:

1. MANHOLE SECTIONS AND STEEL REINFORCEMENT SHALL CONFORM TO ASTM C478 AND BE SUITABLE FOR HS-20 LOADING.
2. REINFORCING STEEL SHALL BE MIN. 0.12 SQ. IN. STEEL PER VERTICAL FOOT, PLACED ACCORDING TO AASHTO DESIGNATION M199.
3. CATCH BASIN FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM).

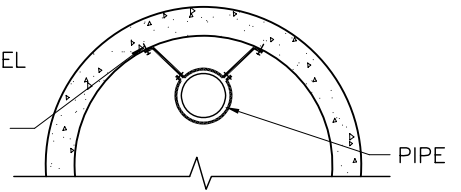


TOWN OF ARLINGTON, MA
STANDARD DETAILS

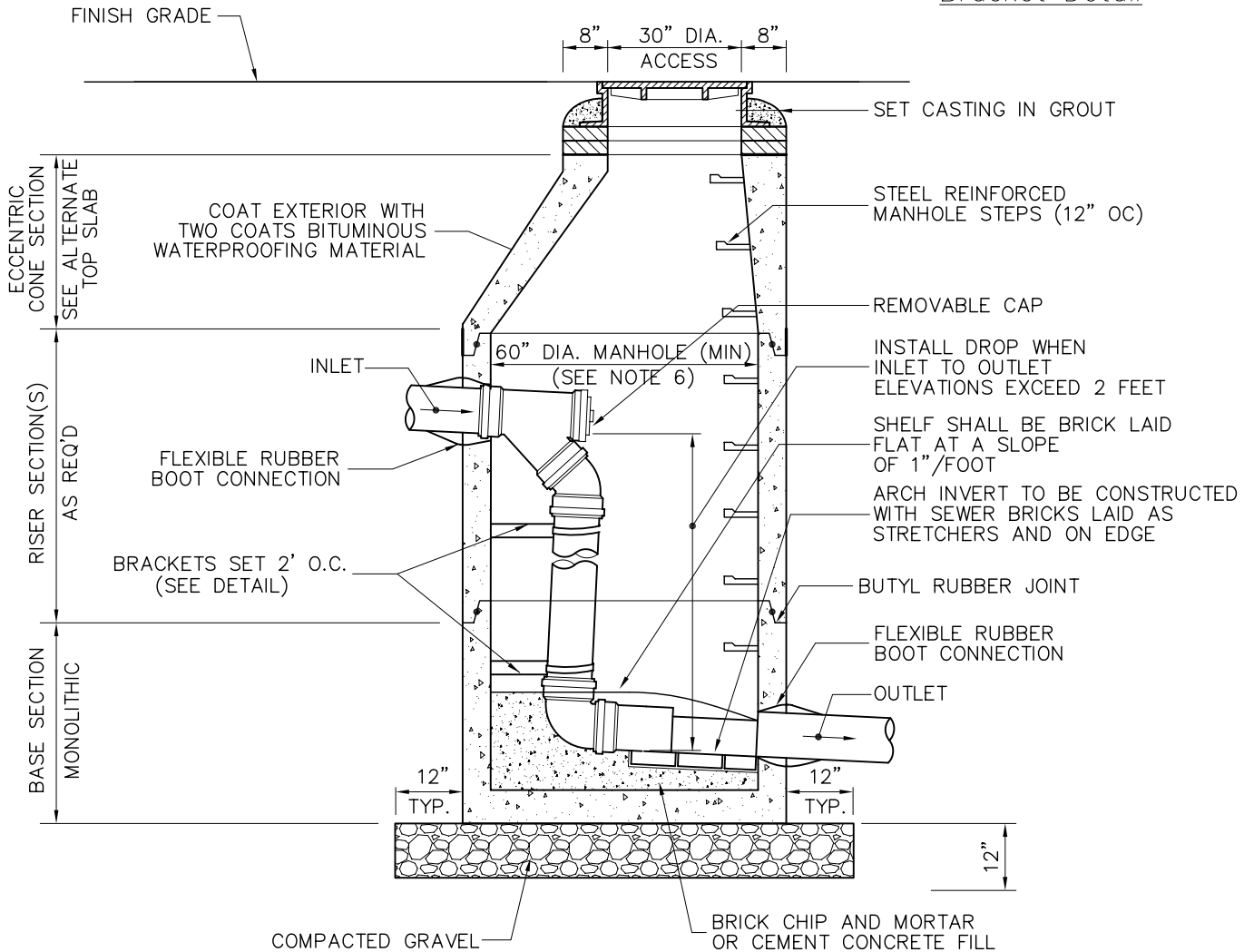
DRAINAGE CATCH BASIN

DETAIL C-20
SCALE: N.T.S.
DATE: 01-28-2011

STAINLESS STEEL
BRACKET AND
FASTENERS
2" X 2" THICK



Bracket Detail



NOTES:

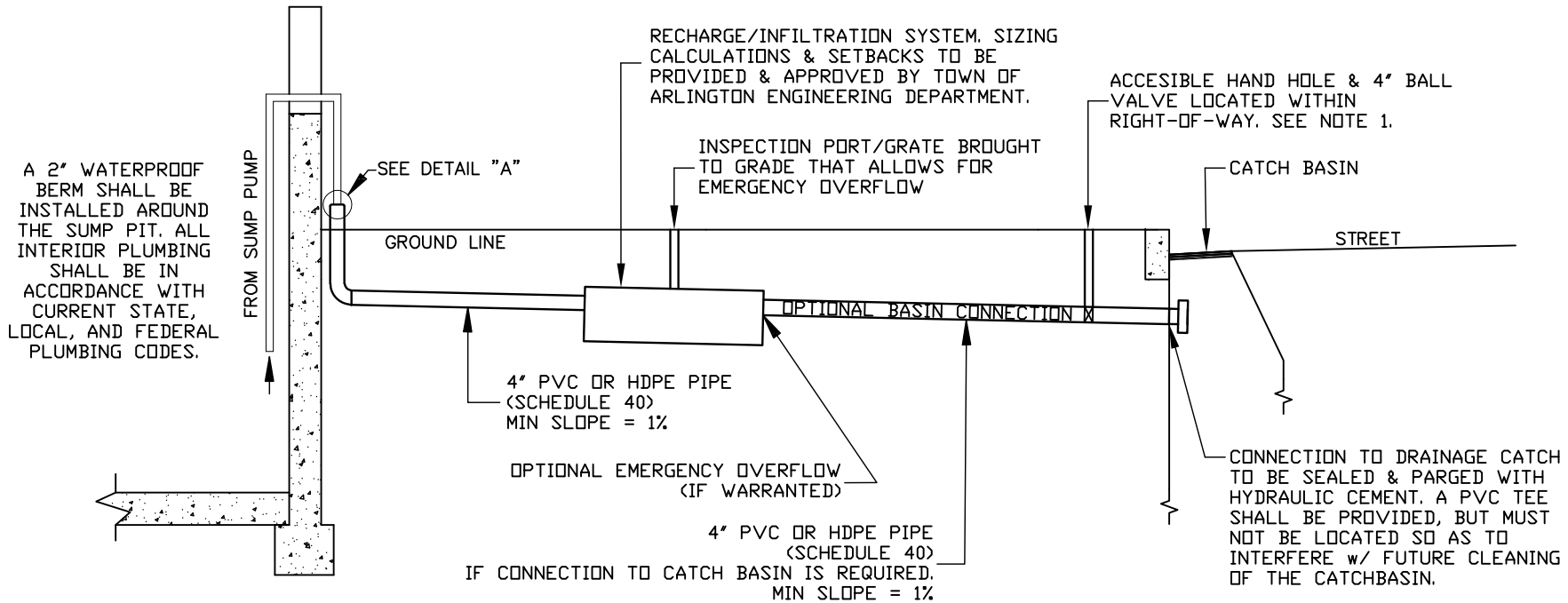
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**TOWN OF ARLINGTON, MA
STANDARD DETAILS**

SEWER DROP MANHOLE

DETAIL C-21
SCALE: N.T.S.
DATE: 01-28-2011



A 2" WATERPROOF BERM SHALL BE INSTALLED AROUND THE SUMP PIT. ALL INTERIOR PLUMBING SHALL BE IN ACCORDANCE WITH CURRENT STATE, LOCAL, AND FEDERAL PLUMBING CODES.

RECHARGE/INFILTRATION SYSTEM. SIZING CALCULATIONS & SETBACKS TO BE PROVIDED & APPROVED BY TOWN OF ARLINGTON ENGINEERING DEPARTMENT.

ACCESSIBLE HAND HOLE & 4" BALL VALVE LOCATED WITHIN RIGHT-OF-WAY. SEE NOTE 1.

INSPECTION PORT/GRATE BROUGHT TO GRADE THAT ALLOWS FOR EMERGENCY OVERFLOW

GROUND LINE

STREET

4" PVC OR HDPE PIPE (SCHEDULE 40) MIN SLOPE = 1%

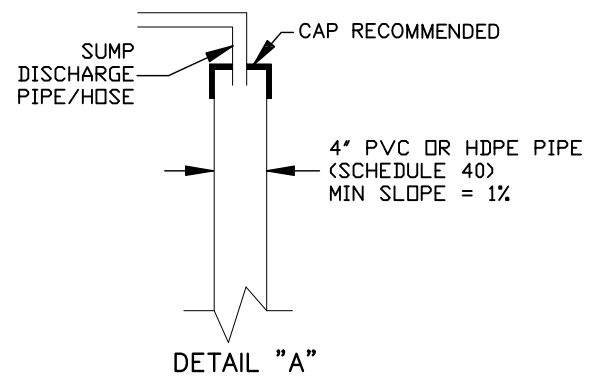
OPTIONAL EMERGENCY OVERFLOW (IF WARRANTED)

4" PVC OR HDPE PIPE (SCHEDULE 40) IF CONNECTION TO CATCH BASIN IS REQUIRED. MIN SLOPE = 1%

CONNECTION TO DRAINAGE CATCH TO BE SEALED & PARGED WITH HYDRAULIC CEMENT. A PVC TEE SHALL BE PROVIDED, BUT MUST NOT BE LOCATED SO AS TO INTERFERE w/ FUTURE CLEANING OF THE CATCHBASIN.

NOTES:

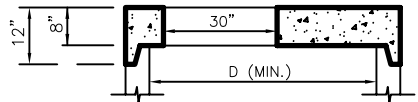
1. ACCESSIBLE HAND HOLE SHALL BE INSTALLED WITHIN THE RIGHT-OF-WAY (BUT OFF OF ROADWAY SURFACE) TO PROVIDE ACCESS TO A 4" BALL VALVE SHUTOFF. HAND HOLE SHALL BE INSULATED AND COVER SHALL BE FULLY COMPLIANT WITH ALL REQUIREMENTS FOR SIDEWALKS, WALKWAYS, AND ACCESSIBILITY STANDARDS OF THE AMERICANS WITH DISABILITIES ACT (ADA).
2. WARNING TAPE SHALL BE INSTALLED 6" ABOVE THE ENTIRE LENGTH OF 4" LATERAL.
3. THIS STANDARD DETAIL SKETCH IS INTENDED TO BE USED FOR RECCOMENDATIONS/GUIDANCE ONLY. EACH INDIVIDUAL SITE HAS SPECIFIC RESTRICTIONS AND/OR FEATURES THAT SHOULD BE CONSIDERED IN THE PLANNING STAGE, PRIOR TO IMPROVEMENTS.
4. ALL CONNECTIONS TO TOWN UTILITIES OR INTERESTS ARE SUBJECT TO PERMITTING REQUIREMENTS AND APPROVALS THROUGH THE TOWN OF ARLINGTON ENGINEERING DEPARTMENT AND WATER/SEWER DEPARTMENT.



**TOWN OF ARLINGTON, MA
STANDARD DETAILS
SUMP PUMP
RECHARGE/INFILTRATION SYSTEM**

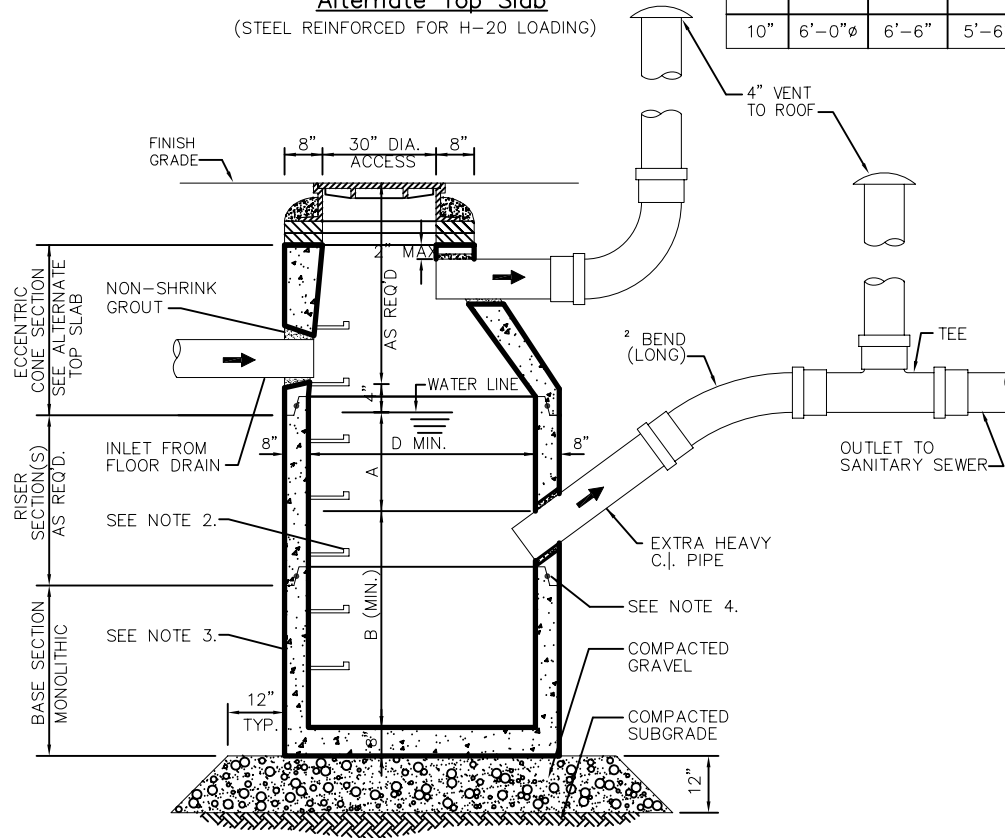
DETAIL C-22
SCALE: N.T.S.

DATE: 01-11-2012



Alternate Top Slab
(STEEL REINFORCED FOR H-20 LOADING)

INLET SIZE	D	A	B
4"	3'-6"Ø	3'-0"	2'-6"
5"	4'-0"Ø	3'-6"	3'-0"
6"	4'-0"Ø 5'-0"Ø	5'-0" 3'-6"	4'-6" 3'-0"
8"	5'-0"Ø 6'-0"Ø	6'-0" 4'-0"	5'-0" 3'-6"
10"	6'-0"Ø	6'-6"	5'-6"



Notes:

- STRUCTURE SHALL BE DESIGNED FOR HS-20 LOADING.
- COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE STRUCTURE.
- EXTERIOR SURFACES SHALL BE GIVEN TWO COATS OF BITUMINOUS WATERPROOFING MATERIAL.
- JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
- STANDARD SEWER MANHOLE FRAME AND COVER SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM).
- STRUCTURE TO BE LOCATED OUTSIDE OF BUILDING WHERE POSSIBLE.
- THE STRUCTURE SHALL BE SO LOCATED AND CONSTRUCTED THAT SURFACE WATER SHALL BE EXCLUDED.
- INLET PIPE SHALL BE AT LEAST FOUR INCHES ABOVE NORMAL WATER LINE.
- WHERE SUBJECT TO FROST OR CRUSHING CONDITIONS, OUTLET SHALL BE AT LEAST THREE FEET BELOW THE SURFACE.
- THE NEW SEPARATOR MUST BE FILLED WITH CLEAN WATER BEFORE USING, AND AFTER BEING EMPTIED FOR PERIODIC CLEANING.
- OIL AND GASOLINE MUST BE REMOVED BEFORE CLEANING OUT THE BASIN, AND MUST NOT BE DISCHARGED INTO THE SEWER THROUGH OTHER FIXTURES.
- SPECIFICATIONS FOR COVERING SPECIAL CASES OR CONDITIONS, SHALL BE APPROVED BY THE LOCAL AUTHORITIES, AND THE AUTHORITIES OF THE M.W.R.A.
- BOTH VENTS SHALL BE EXTENDED INDEPENDENTLY 18" ABOVE THE ROOF, OR AS APPROVED BY THE LOCAL AUTHORITIES, AND THE AUTHORITIES OF THE M.W.R.A.
- ALL PIPING AND VENT MATERIAL TO BE EXTRA HEAVY CAST IRON OR DUCTILE IRON.



**TOWN OF ARLINGTON, MA
STANDARD DETAILS
OIL AND GAS SEPARATOR**

DETAIL C-23
SCALE: N.T.S.
DATE: 02-02-2012