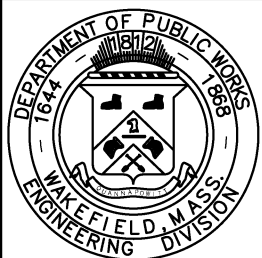


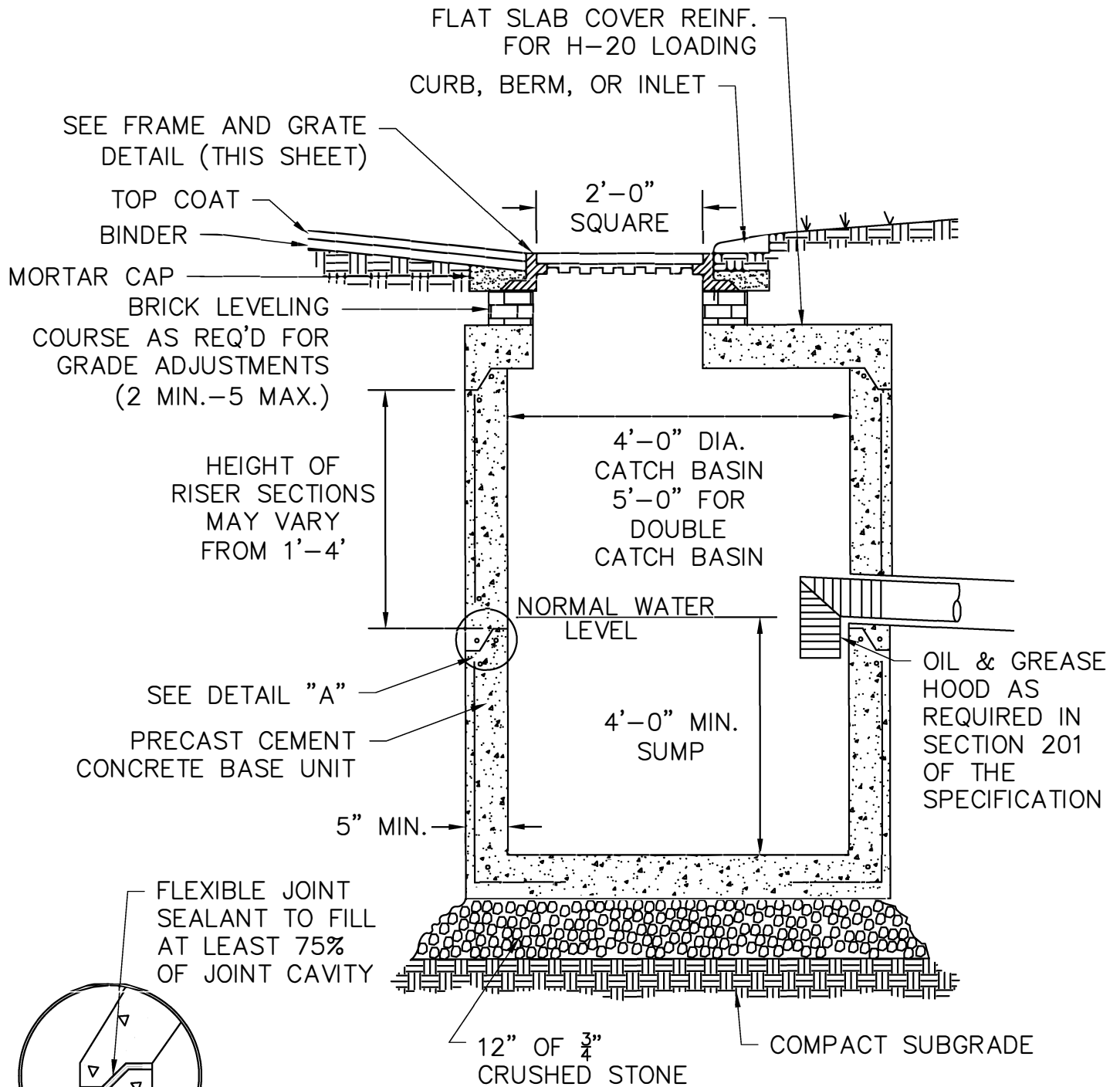
DR-1	STANDARD CATCH BASIN
DR-1A	CATCH BASIN FRAME AND GRATE
DR-2	CATCH BASIN WITH GUTTER INLET
DR-3	BIO-RETENTION AREA
DR-4	DRAINAGE LEACHING BASIN
DR-5	STANDARD DRAINAGE MANHOLE
DR-5A	DRAINAGE MANHOLE FRAME AND COVER
DR-6	BLOCK DRAINAGE STRUCTURE
DR-7	TYPICAL TRENCH FOR DRAIN PIPE
DR-8	UNDER-DRAIN TRENCH
DR-9	UTILITY SUPPORT
DR-10	RIP RAP AT HEADWALL
DR-10A	RIP RAP AT HEAD WALL CROSS SECTION
DR-11	FIELD STONE HEADWALL
DR-12	INFILTRATION BASIN
DR-12A	INFILTRATION BASIN CROSS SECTION
DR-13	BASIN BERM CROSS SECTION
DR-14	FOREBAY BERM
DR-15	EMERGENCY SPILLWAY
DR-16	OUTLET CONTROL STRUCTURE
DR-16A	OUTLET CONTROL STRUCTURE GRATE
DR-17	ALTERNATE TOP FOR SHALLOW MH



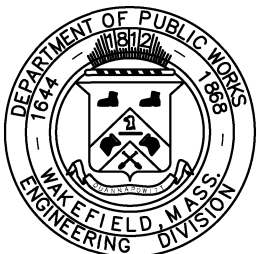
TOWN OF WAKEFIELD PUBLIC WORKS DESIGN & CONSTRUCTION STANDARDS

INDEX — EROSION & SEDIMENT CONTROL

SCALE: NTS	DATE : 4/20/2020
REVISED: —	
DETAIL NUMBER: EC-00	



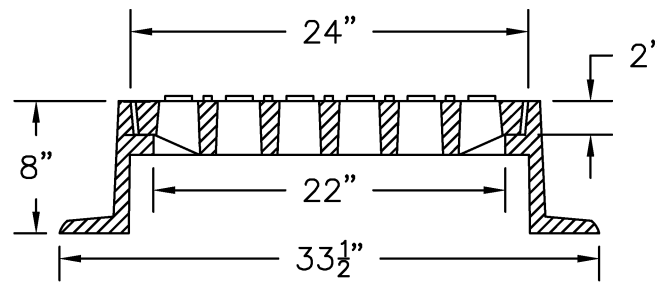
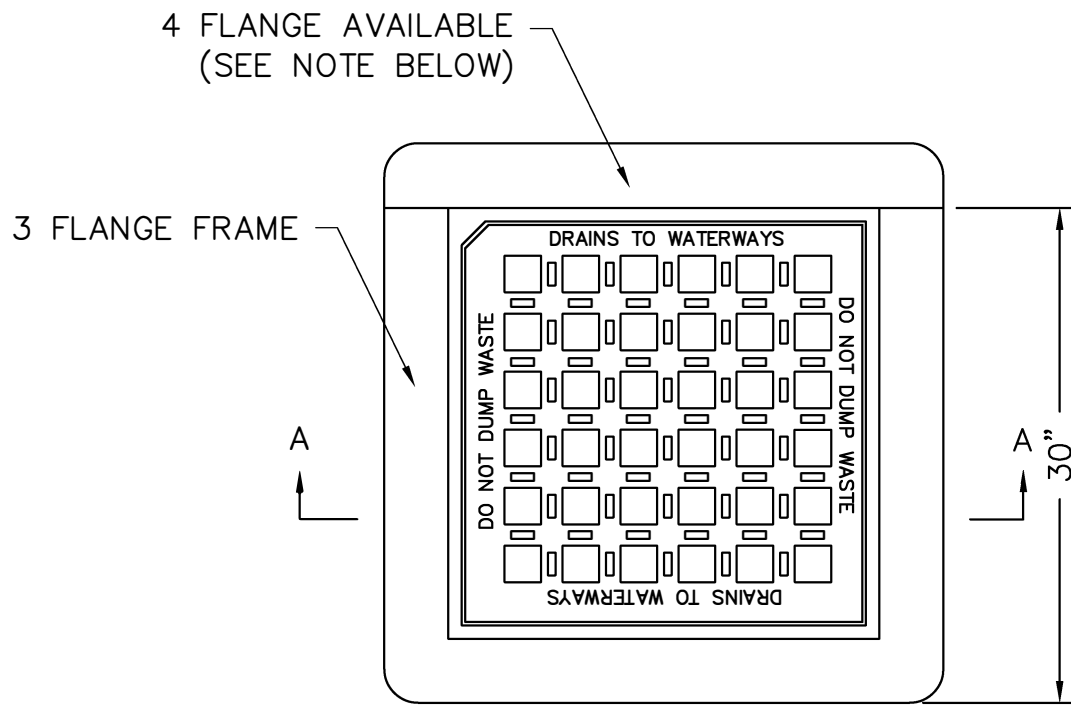
NOTE: PRECAST REINFORCED CONCRETE CATCH BASIN TO BE CAPABLE OF SUPPORTING H-20 LOADING.



TOWN OF WAKEFIELD PUBLIC WORKS DESIGN & CONSTRUCTION STANDARDS

STANDARD CATCH BASIN DETAIL

SCALE: NTS	DATE: 5/11/2017
REVISED: -	
DETAIL NUMBER: DR-1	



SECTION A-A

NOTE:

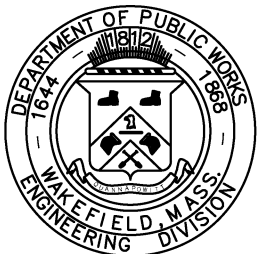
FRAME EJ CATALOG NO. OMA552000029

GRATE EJ CATALOG NO. OMA552000075

OR APPROVED EQUAL.

3 FLANGE FRAMES TO BE USED WHERE INLET IS ADJACENT TO CURB STONES, 4 FLANGE FRAME TO BE USED ELSEWHERE.

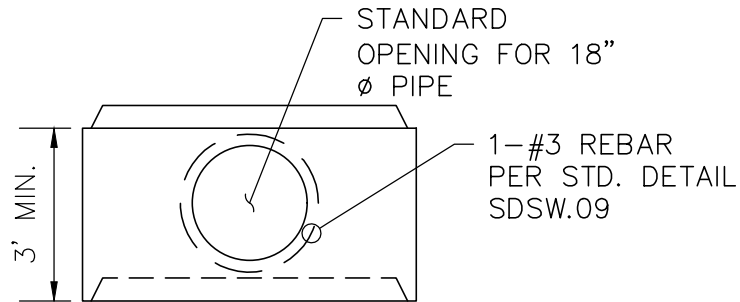
"DO NOT DUMP WASTE, DRAINS TO WATERWAYS" SHALL BE FORGED INTO THE GRATE.



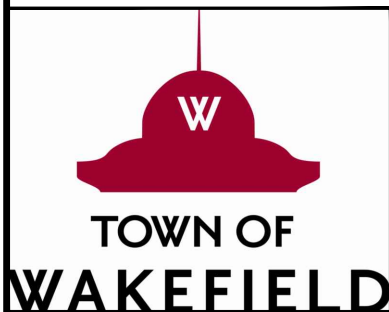
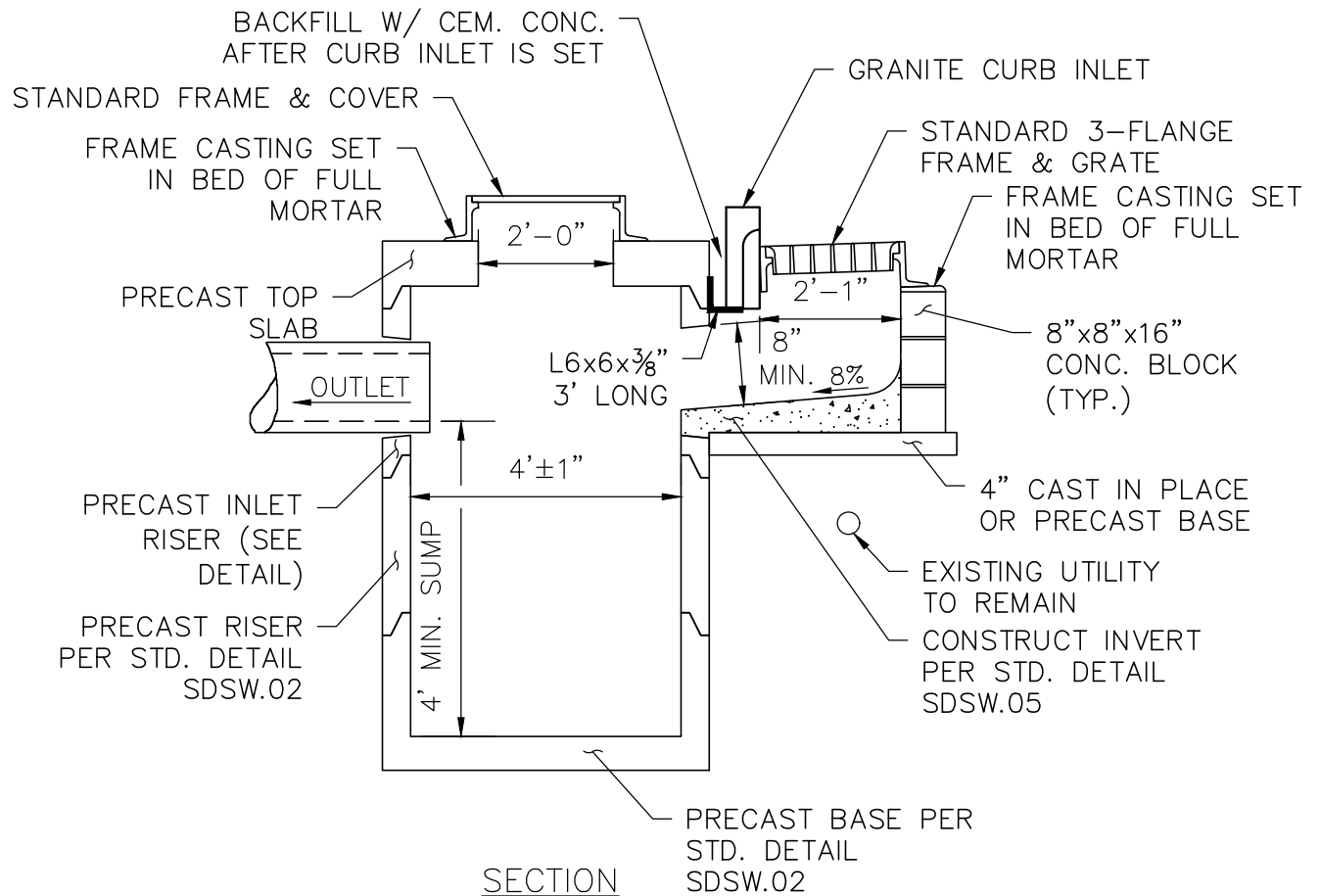
TOWN OF WAKEFIELD PUBLIC WORKS
DESIGN & CONSTRUCTION STANDARDS

CATCH BASIN FRAME & GRATE DETAIL

SCALE: NTS	DATE : 12/31/2015
REVISED: -	
DETAIL NUMBER: DR-1A	



INLET RISER

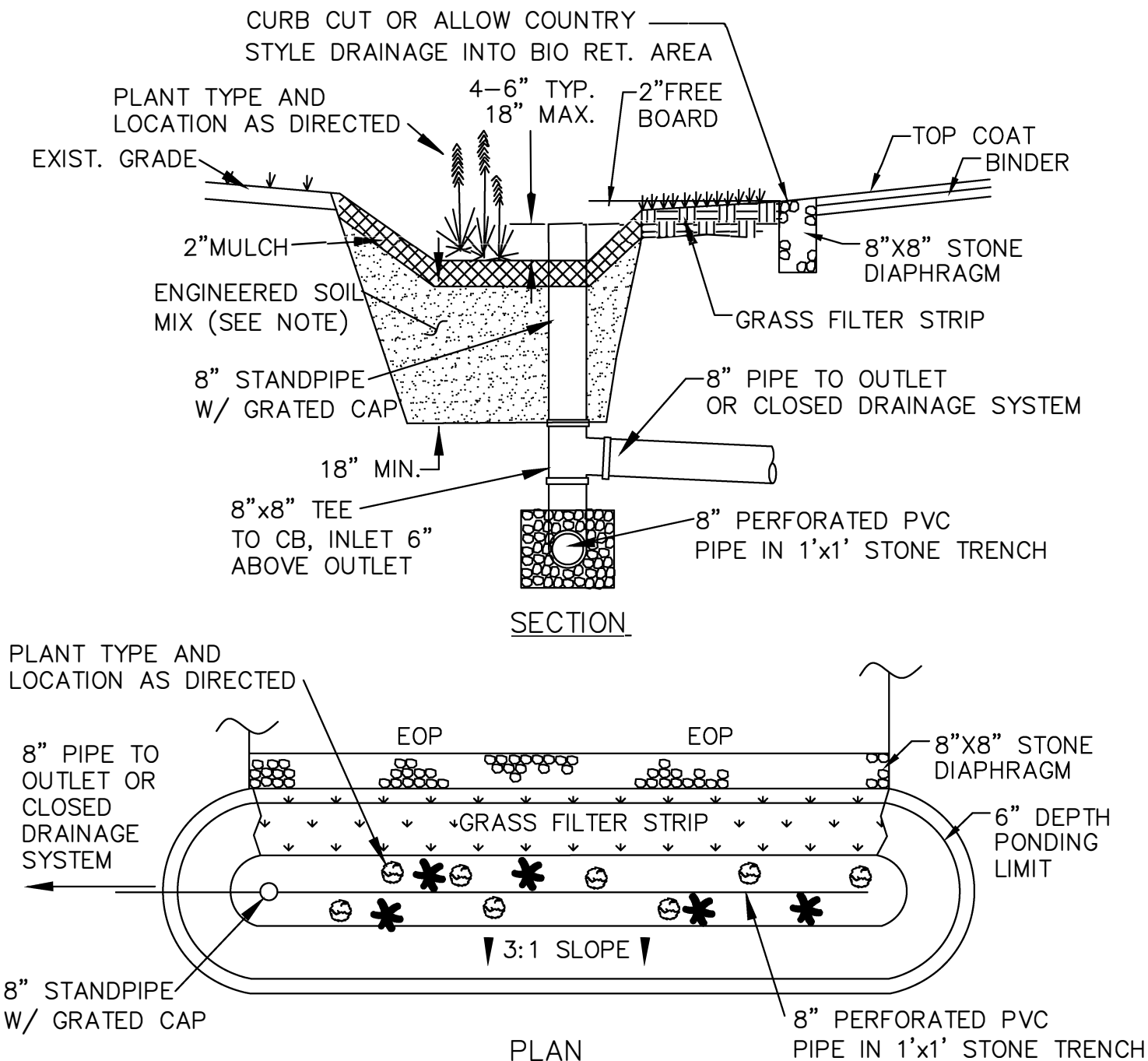


ENGINEERING DIVISION - WAKEFIELD PUBLIC WORKS

DESIGN & CONSTRUCTION STANDARDS
CATCH BASIN WITH GUTTER INLET DETAIL

SCALE: NTS

DATE: OCT 20, 2021



NOTES:

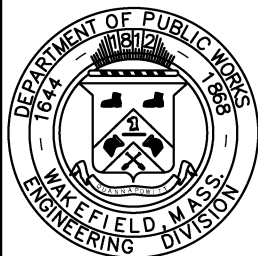
1. SNOW SHOULD NEVER BE STORED IN BIO-RETENTION AREAS.
2. THE SOIL MIX FOR BIO-RETENTION AREAS SHOULD BE A MIX OF SAND COMPOST AND SOIL.

-40% SAND

-20 TO 30% TOPSOIL AND,

-30 TO 40% COMPOST

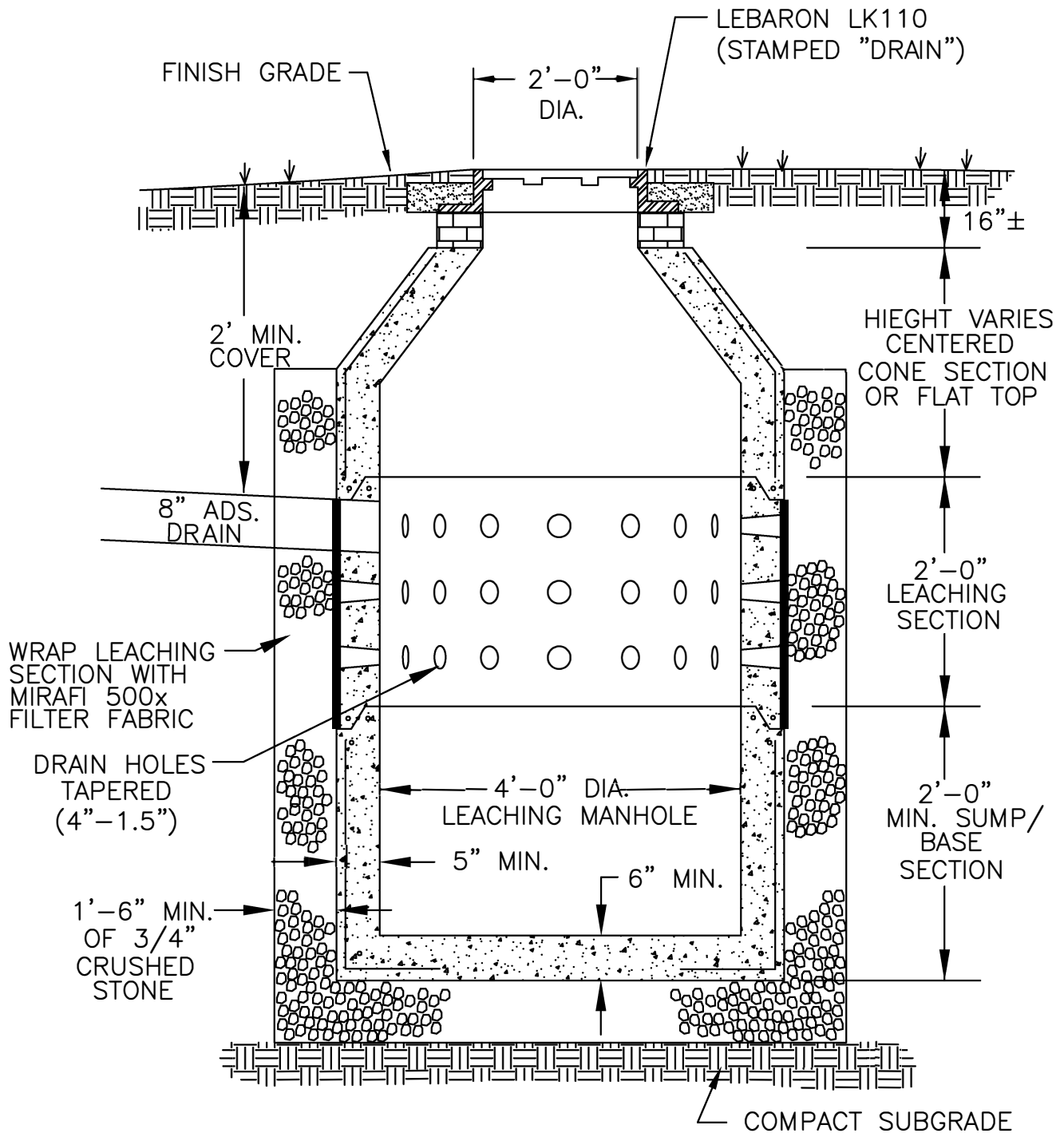
AND SHOULD CONFORM TO THE SPECIFICATIONS IN THE STORM-WATER HANDBOOK ('08) VOL. 2 CH. 2 PAGE 26.



TOWN OF WAKEFIELD PUBLIC WORKS DESIGN & CONSTRUCTION STANDARDS

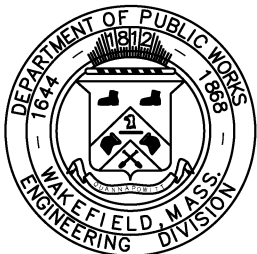
BIORETENTION DETAIL

SCALE: NTS	DATE: 3/29/2010
REVISED:	-
DETAIL NUMBER:	DR-3



NOTE:

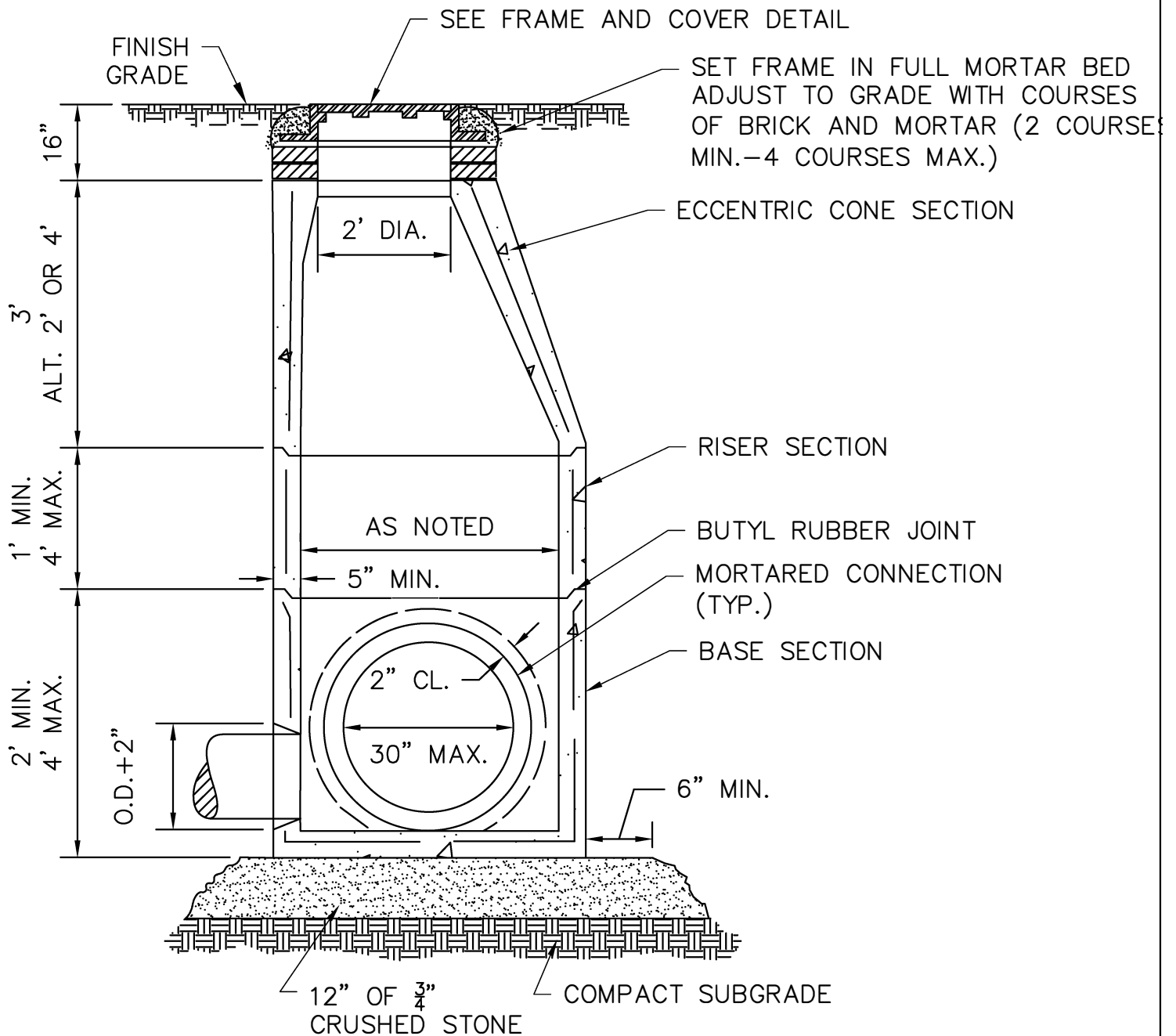
LEACHING MANHOLE TO BE 4' DIAMETER MANHOLE WITH LEACHING SECTION AS MANUFACTURED BY WILLIAM N. LAMARRE CONCRETE PRODUCTS, INC. OR APPROVED EQUAL. MANHOLE SHALL MEET H-20 LOADING REQUIREMENTS.



TOWN OF WAKEFIELD PUBLIC WORKS
DESIGN & CONSTRUCTION STANDARDS

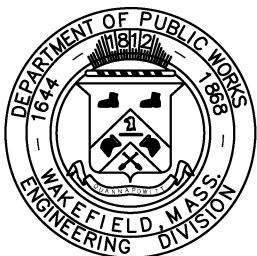
DRAINAGE LEACHING BASIN DETAIL

SCALE: NTS	DATE : 3/29/2010
REVISED: -	
DETAIL NUMBER: DR-4	



NOTE:

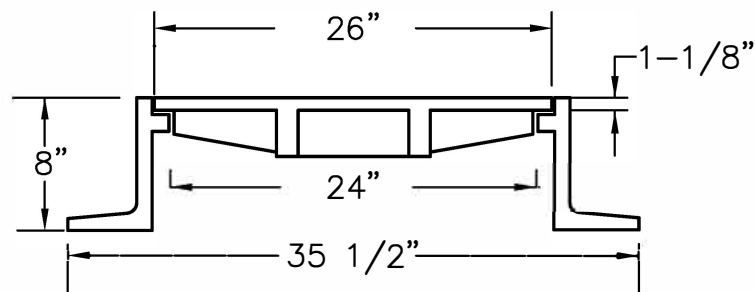
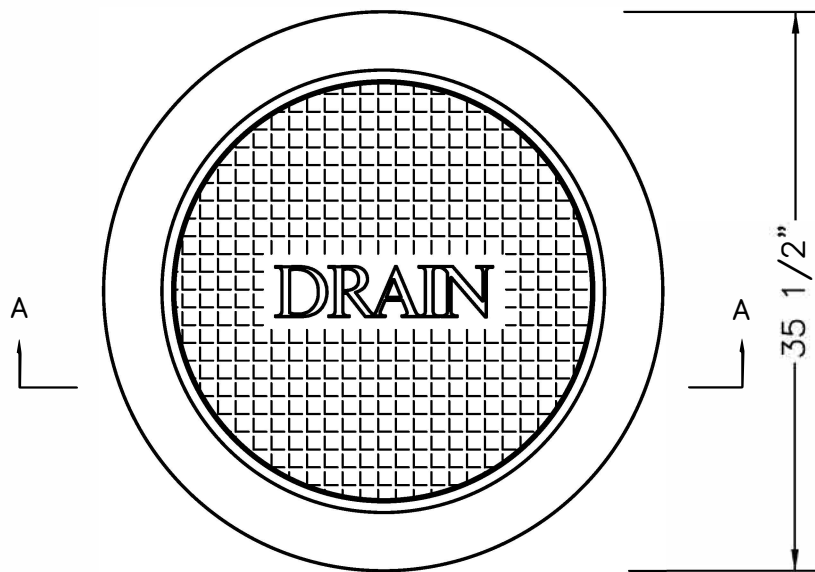
PRECAST REINFORCED CONCRETE MANHOLE TO BE CAPABLE OF SUPPORTING H-20 LOADING



TOWN OF WAKEFIELD PUBLIC WORKS
DESIGN & CONSTRUCTION STANDARDS

STANDARD PRECAST DRAIN MANHOLE DETAIL

SCALE: NTS	DATE : 12/31/2015
REVISED: -	
DETAIL NUMBER: DR-5	



SECTION A-A

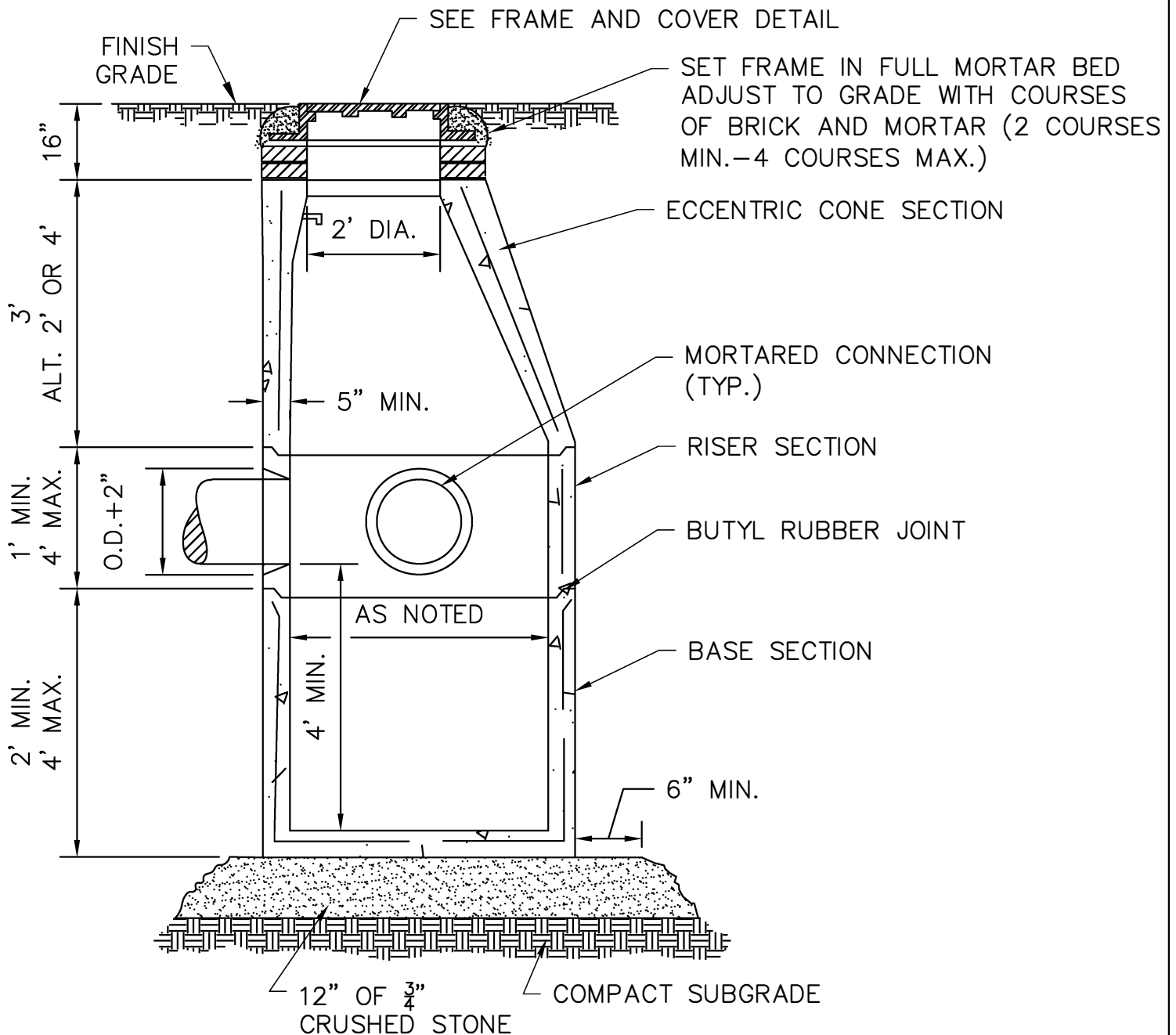
NOTE:
 FRAME EJ CATALOG NO. OMA211000038
 COVER EJ CATALOG NO. OMA211000041
 OR APPROVED EQUAL.



TOWN OF WAKEFIELD PUBLIC WORKS
 DESIGN & CONSTRUCTION STANDARDS

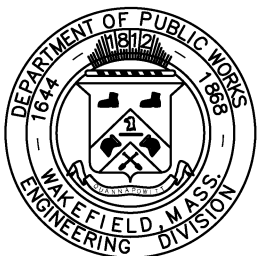
DRAIN MANHOLE FRAME & COVER DETAIL

SCALE: NTS	DATE : 12/31/2015
REVISED: —	
DETAIL NUMBER: DR-5A	



NOTE:

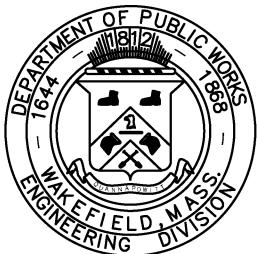
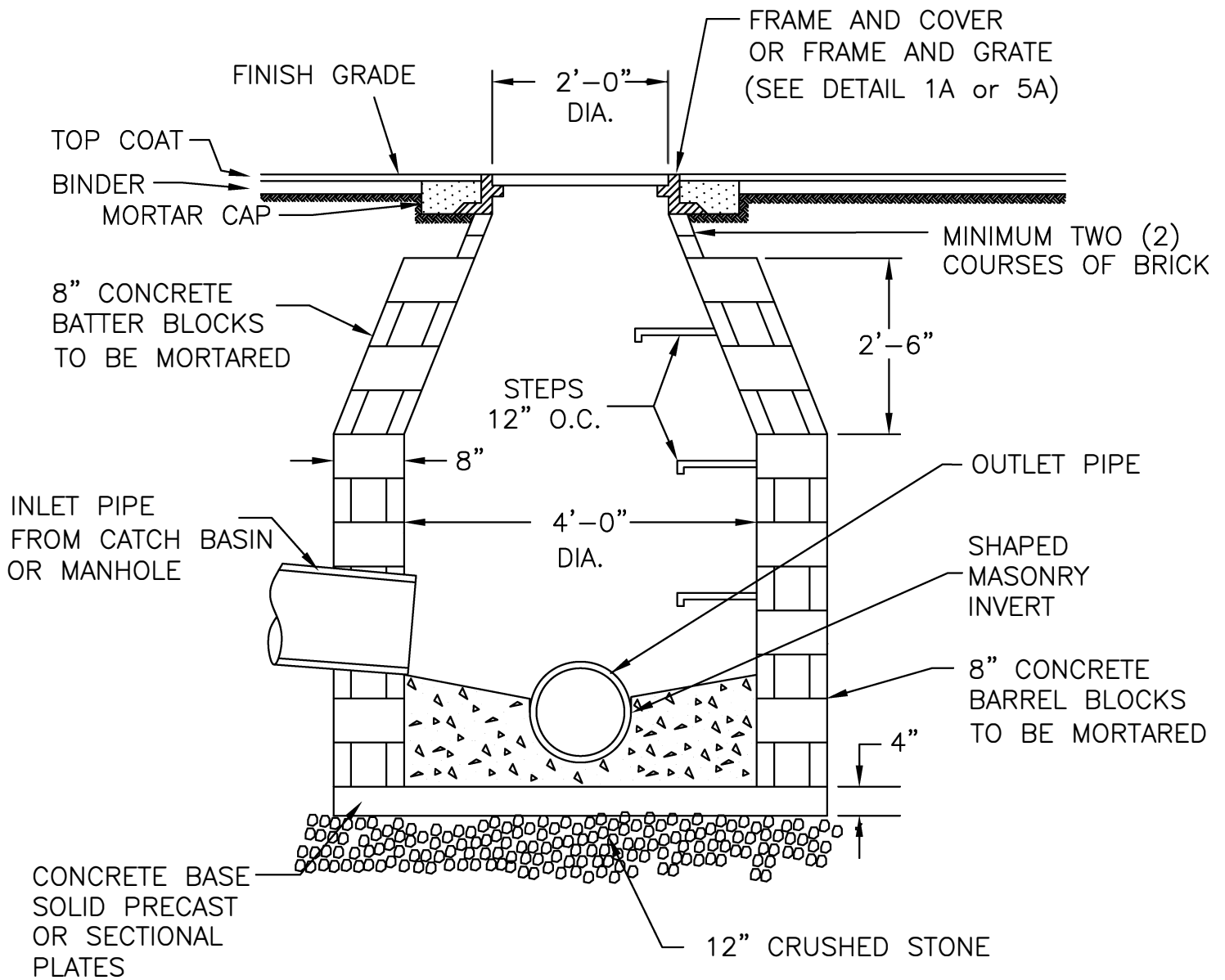
PRECAST REINFORCED CONCRETE MANHOLE TO BE CAPABLE OF SUPPORTING H-20 LOADING



TOWN OF WAKEFIELD PUBLIC WORKS
DESIGN & CONSTRUCTION STANDARDS

PRECAST DRAIN MANHOLE WITH SUMP DETAIL

SCALE: NTS	DATE: 10/19/2020
REVISED: -	
DETAIL NUMBER: DR-5B	



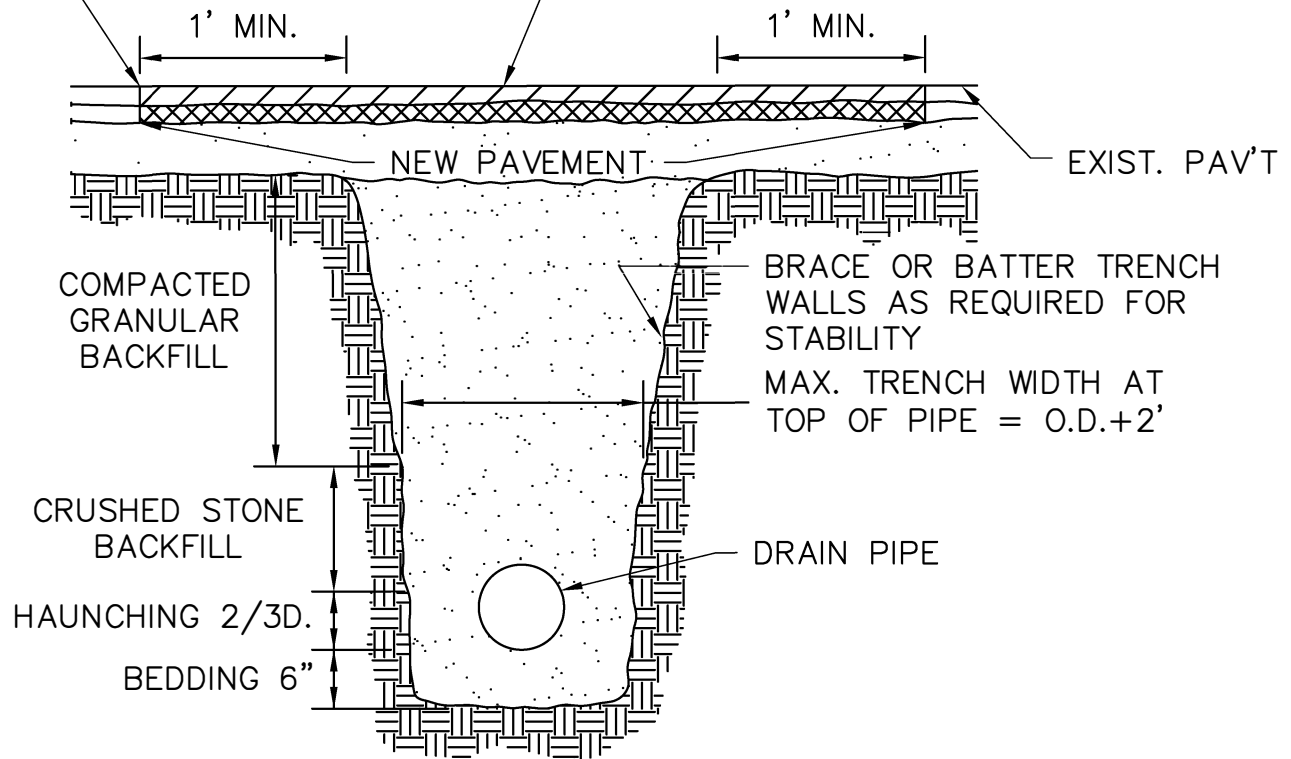
TOWN OF WAKEFIELD PUBLIC WORKS DESIGN & CONSTRUCTION STANDARDS

BLOCK DRAINAGE STRUCTURE DETAIL

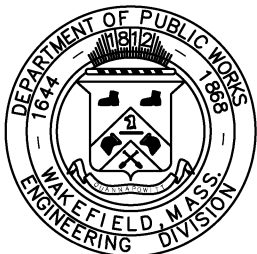
SCALE: NTS	DATE : 3/29/2010
REVISED: -	
DETAIL NUMBER: DR-6	

SAW CUT EXIST. BIT. CONC. PAV'T.
AFTER EXCAVATION TRENCH.
PROVIDE HOT BITUMEN SEAL
WHERE NEW BIT. CONC. MEETS
EXIST.

REFER TO DETAIL RS-2
FOR TRENCH PAVEMENT
DETAIL AND INSTRUCTIONS



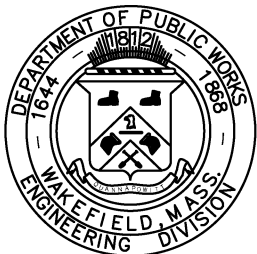
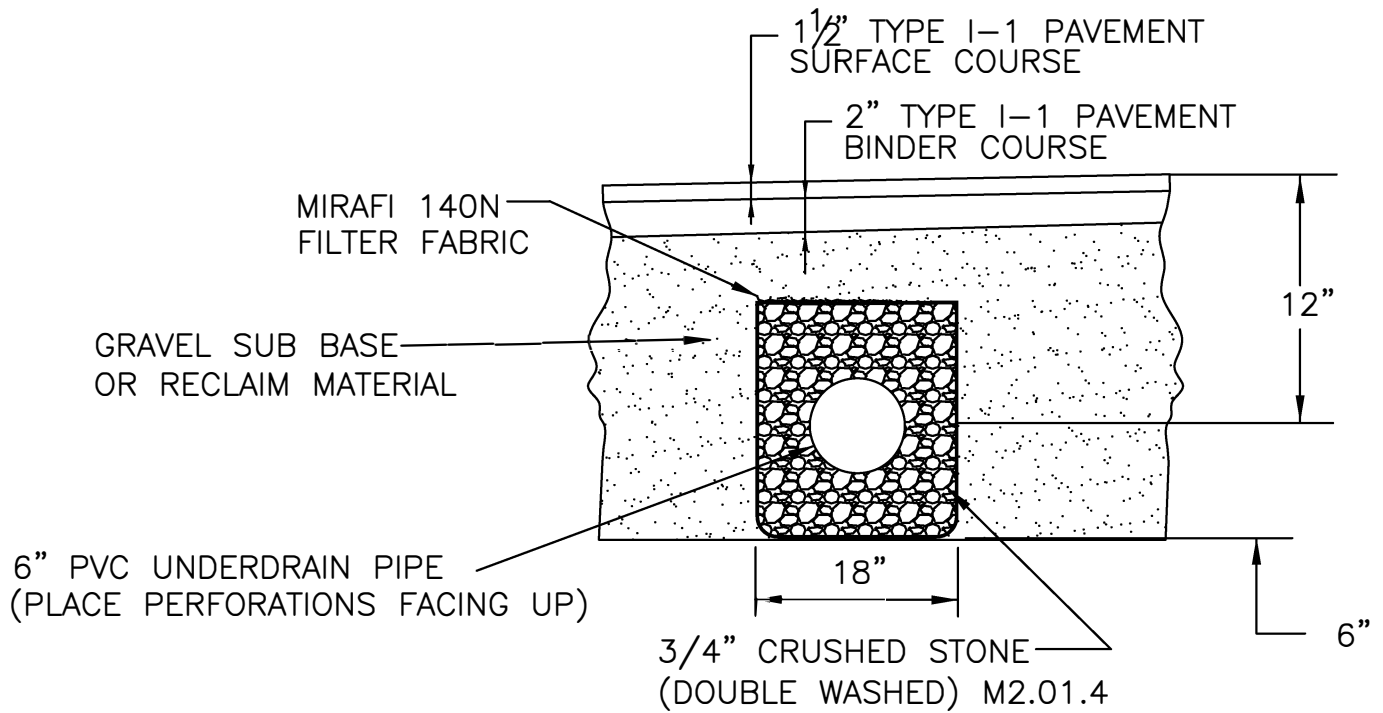
NOTE:
BEDDING AND HAUNCHING
SHALL BE 3/4" STONE



TOWN OF WAKEFIELD PUBLIC WORKS DESIGN & CONSTRUCTION STANDARDS

TRENCH FOR DRAIN PIPE

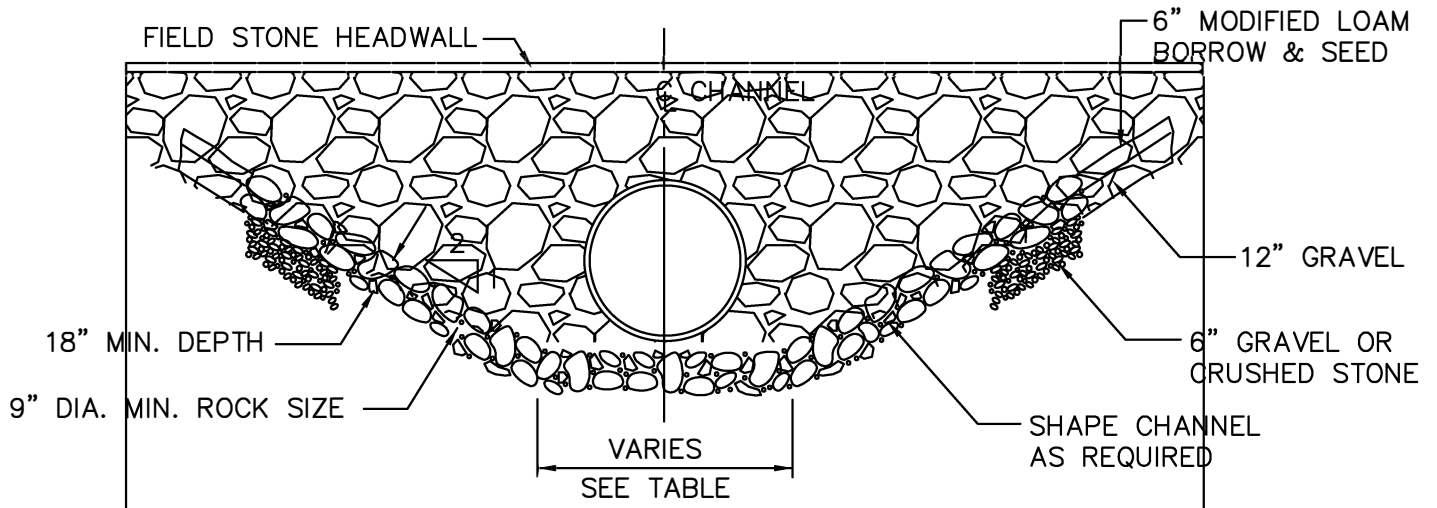
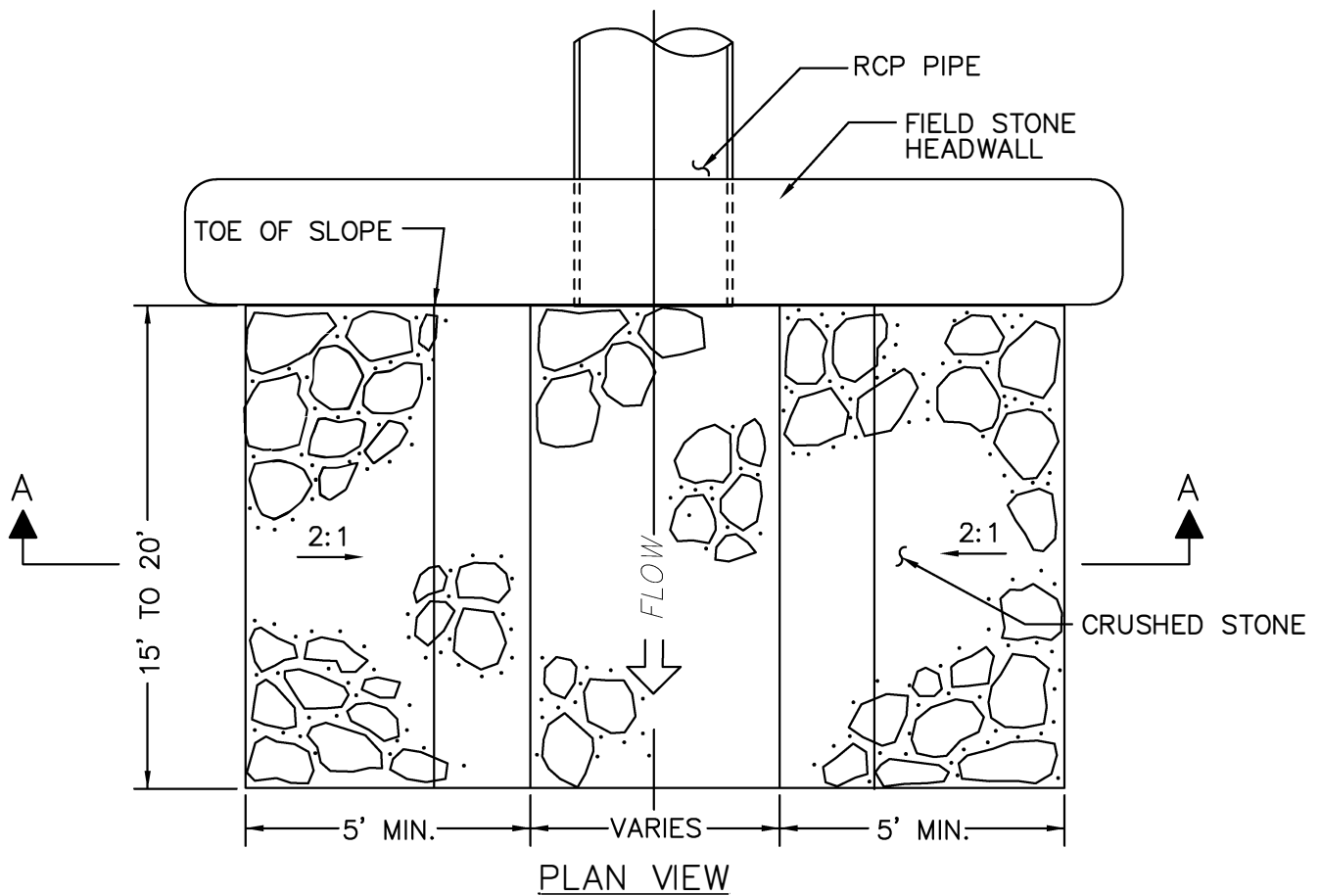
SCALE: NTS	DATE : 12/27/2018
REVISED: -	
DETAIL NUMBER: DR-07	



TOWN OF WAKEFIELD PUBLIC WORKS DESIGN & CONSTRUCTION STANDARDS

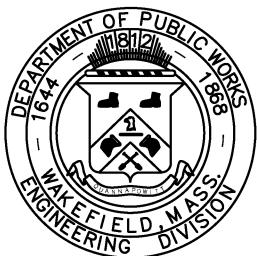
UNDER-DRAIN DETAIL

SCALE: NTS	DATE : 12/27/2018
REVISED: -	
DETAIL NUMBER: DR-08	



DIMENSION TABLE:

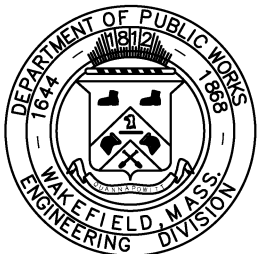
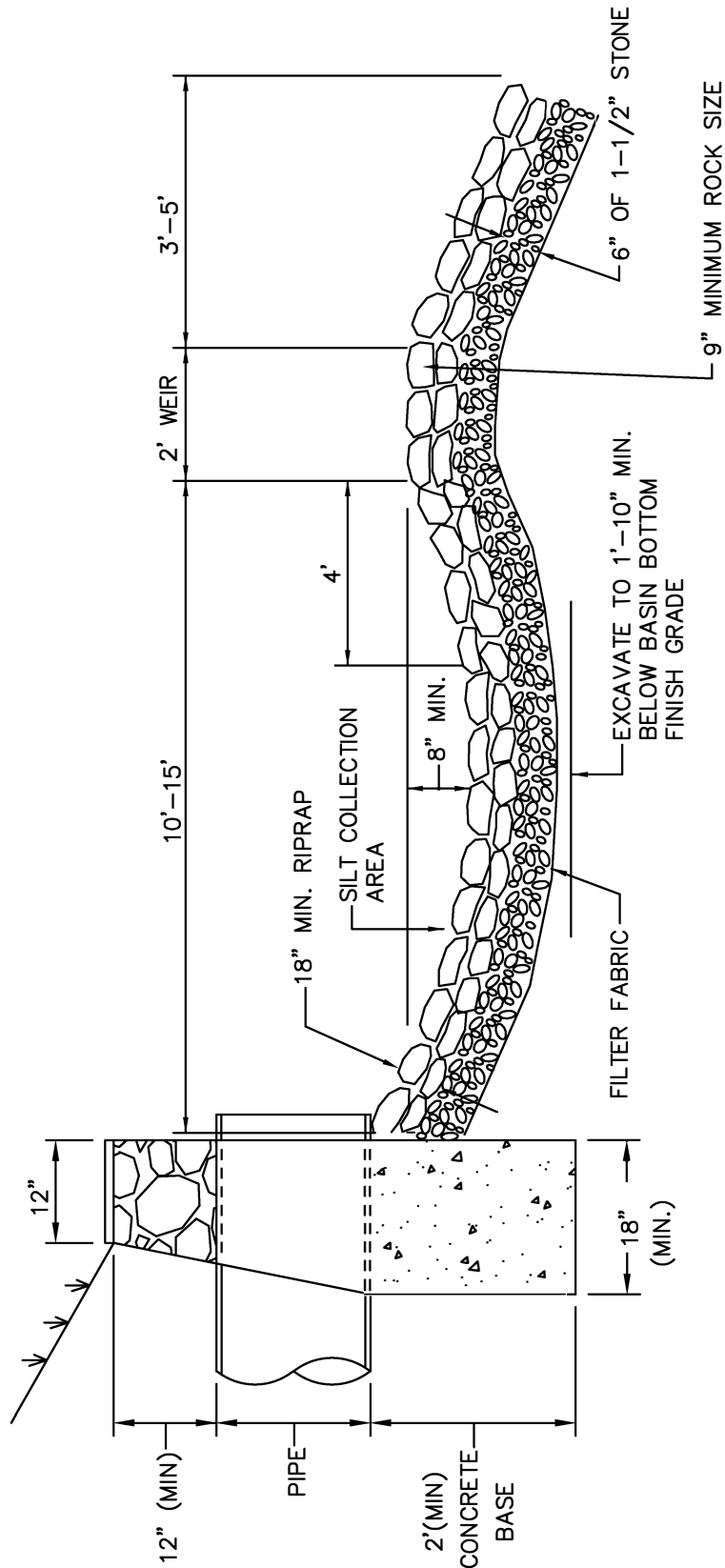
PIPE DIA.	CHANNEL WIDTH
12"	2'-6"
15"	3'-0"
18"	3'-7"
24"	4'-8"



TOWN OF WAKEFIELD PUBLIC WORKS DESIGN & CONSTRUCTION STANDARDS

OUTLET EROSION PROTECTION

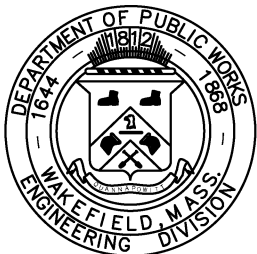
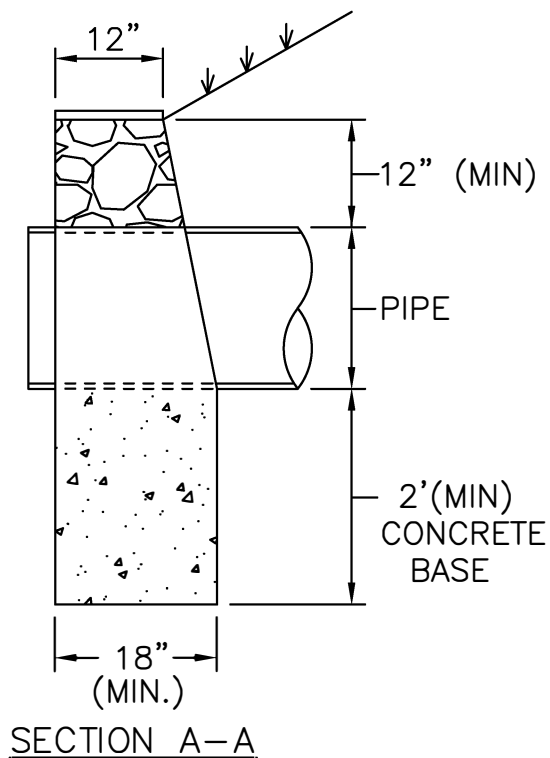
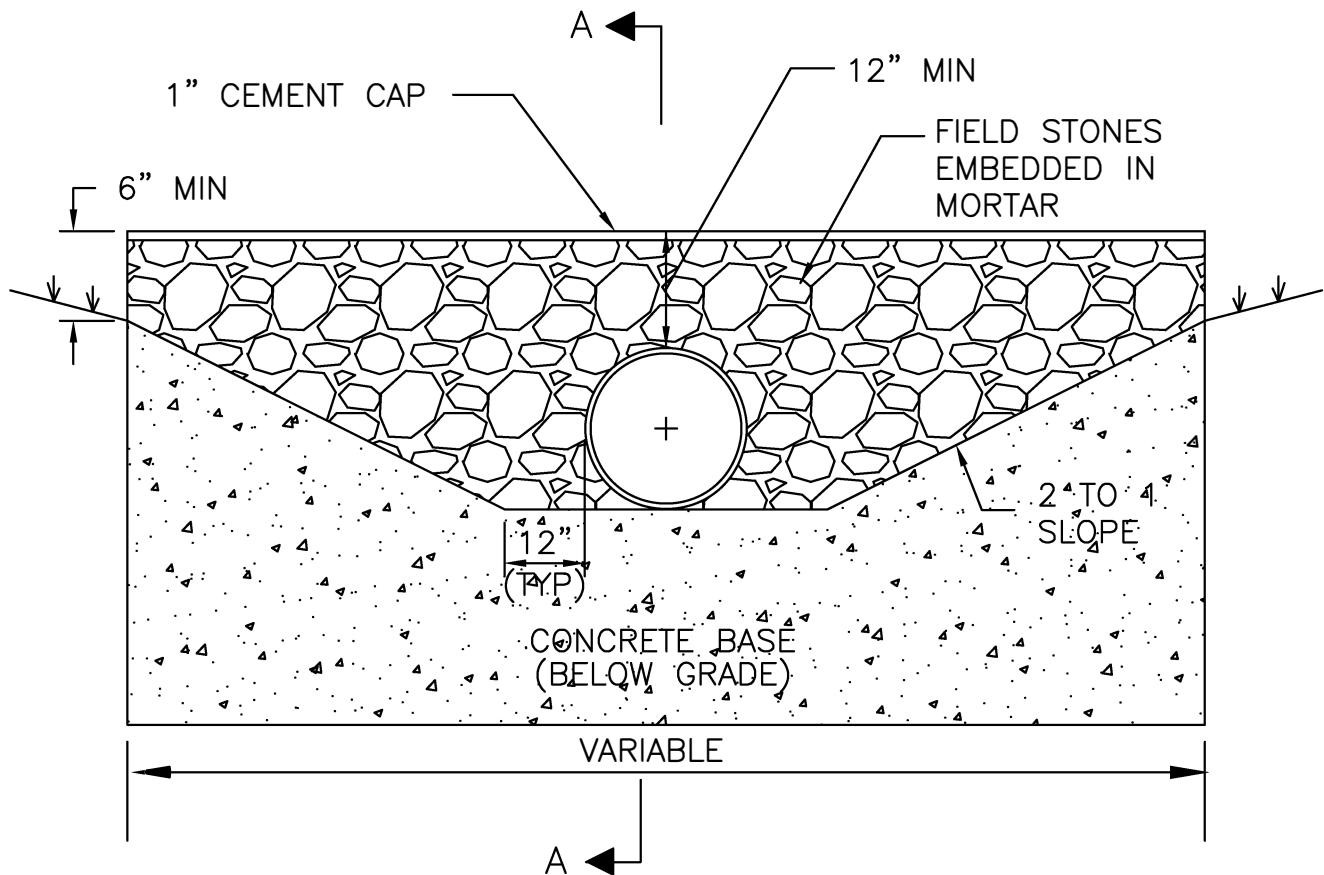
SCALE: NTS	DATE : 12/27/2018
REVISED: -	
DETAIL NUMBER: DR-10	



TOWN OF WAKEFIELD PUBLIC WORKS DESIGN & CONSTRUCTION STANDARDS

OUTLET EROSION PROTECTION CROSS SECTION DETAIL

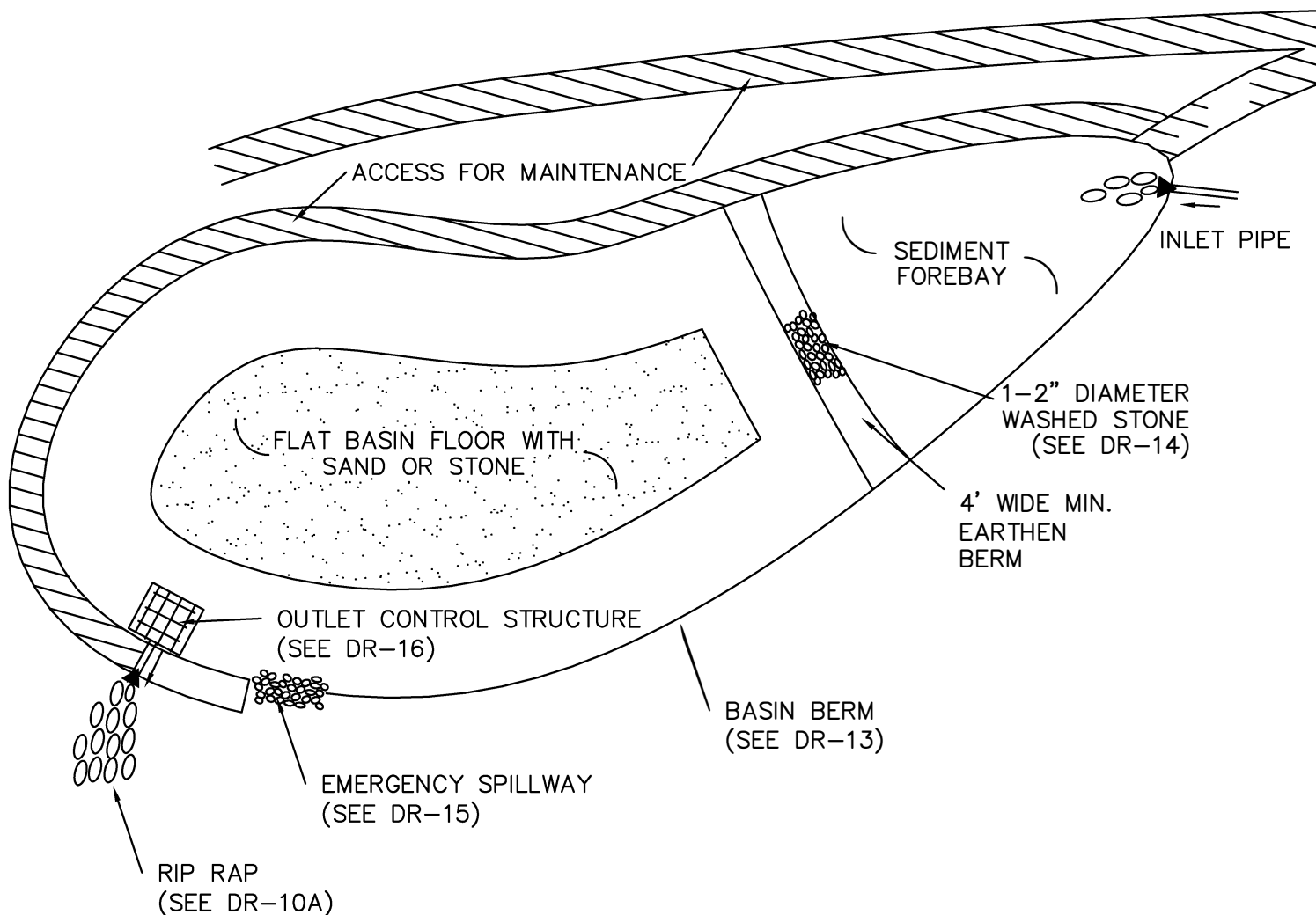
SCALE: NTS	DATE : 4/20/2020
REVISED: -	
DETAIL NUMBER: DR-10A	



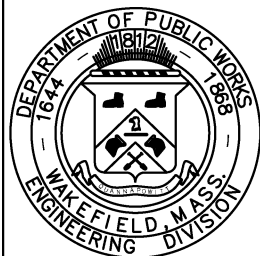
TOWN OF WAKEFIELD PUBLIC WORKS DESIGN & CONSTRUCTION STANDARDS

FIELD-STONE HEADWALL DETAIL

SCALE: NTS	DATE : 4/20/2020
REVISED:	-
DETAIL NUMBER:	DR-11



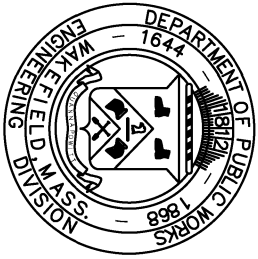
NOTE:
 THE INFILTRATION BASIN SHALL BE DESIGNED BY A PROFESSIONAL
 ENGINEER, AND SHALL COMPLY WITH ALL ASPECTS OF THE
 MA-DEP STORMWATER HANDBOOK.



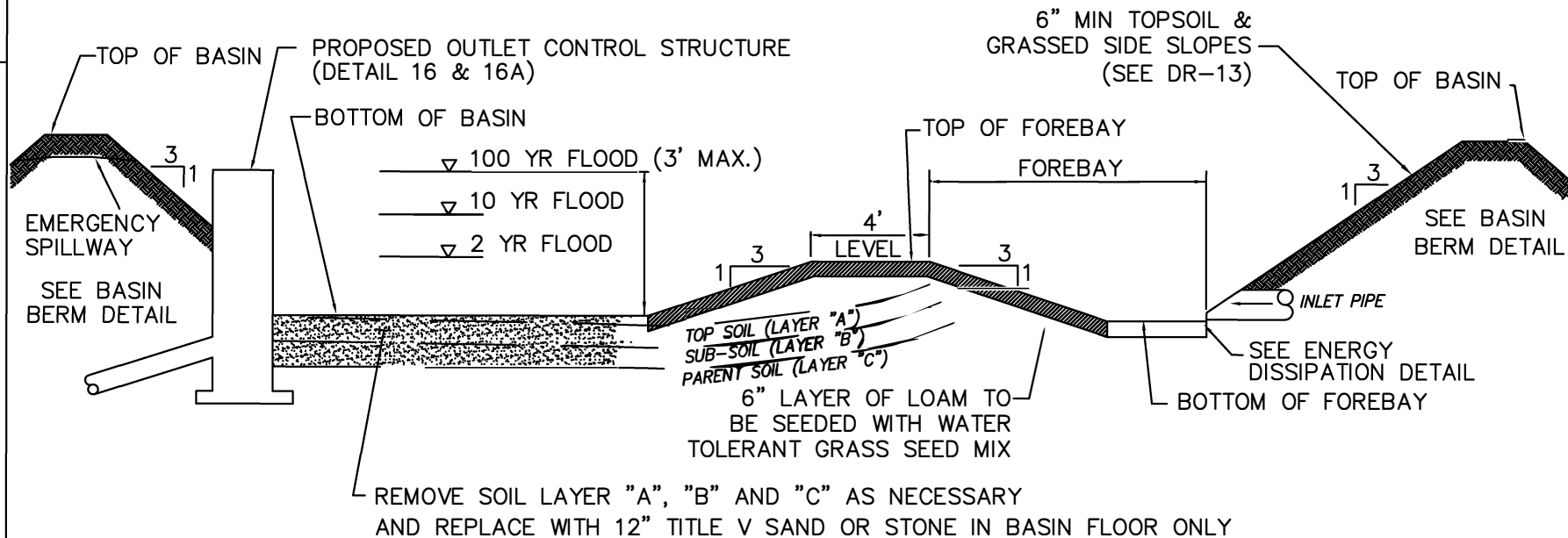
TOWN OF WAKEFIELD PUBLIC WORKS DESIGN & CONSTRUCTION STANDARDS

DETENTION BASIN DETAIL

SCALE: NTS	DATE : 4/20/2020
REVISED: -	
DETAIL NUMBER: DR-12	



TOWN OF WAKEFIELD PUBLIC WORKS
DESIGN & CONSTRUCTION STANDARDS
DETENTION BASIN CROSS-SECTION



NOTES:

- 1.) THE INFILTRATION PORTION OF EACH BASIN SHALL BE SET A MINIMUM OF 2' ABOVE THE SEASONALLY HIGH GROUNDWATER TABLE. ALL OTHER PORTIONS OF THE BASIN SHALL BE SET A MINIMUM OF 2' ABOVE THE SEASONALLY HIGH GROUNDWATER TABLE.
- 2.) THE LOWEST PORTION OF THE BASIN FLOOR SHALL CONSIST OF A MINIMUM OF 12" OF TITLE V SAND OR STONE PLACED DIRECTLY OVER NATIVE "C" LAYER SOILS.
- 3.) THE INFILTRATION CAPACITY SHALL BE DETERMINED UTILIZING THE RAWLS TABLE AS WELL AS ALL OTHER ASPECTS IN THE STORMWATER HANDBOOK.

SCALE: NTS
DATE: 4/20/2020

REVISED: -

DETAIL NUMBER: DR-12A

NEW ENGLAND EROSION CONTROL/
RESTORATION MIX FOR DETENTION
BASINS AND MOIST SITES.
MIX BY NEW ENGLAND WETLAND
PLANTS, INC.

5'-0" MINIMUM
(10' FOR AREAS USED
FOR MAINTENANCE ACCESS)

6" TOPSOIL

3:1 SIDE SLOPE

3:1 SIDE SLOPE

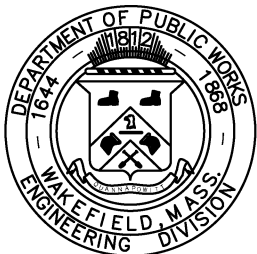
EXISTING GRADE

EXISTING GRADE

LOW PERMEABILITY
SOIL PLACED IN BERM CORE

24" MIN

UNDISTURBED SOIL



TOWN OF WAKEFIELD PUBLIC WORKS DESIGN & CONSTRUCTION STANDARDS

BASIN BERM DETAIL

SCALE:
NTS

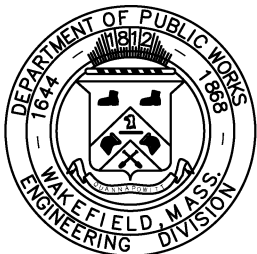
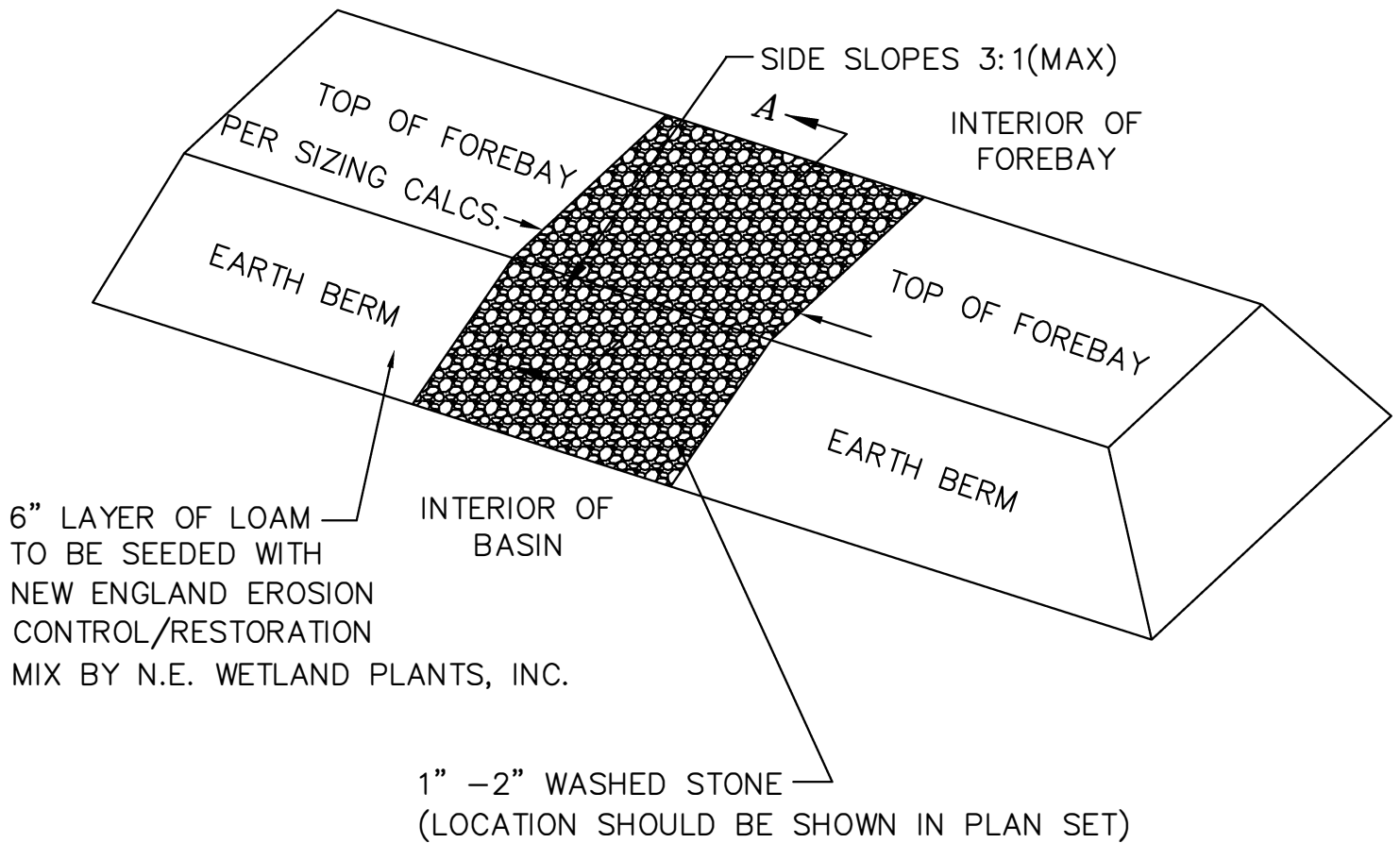
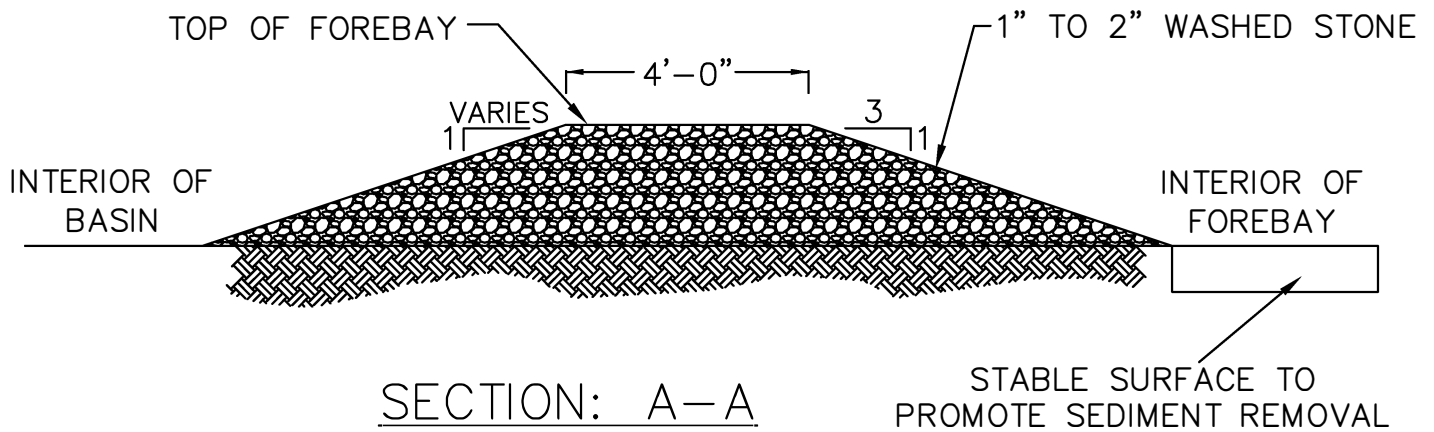
DATE :
4/20/2020

REVISED:

-

DETAIL NUMBER:

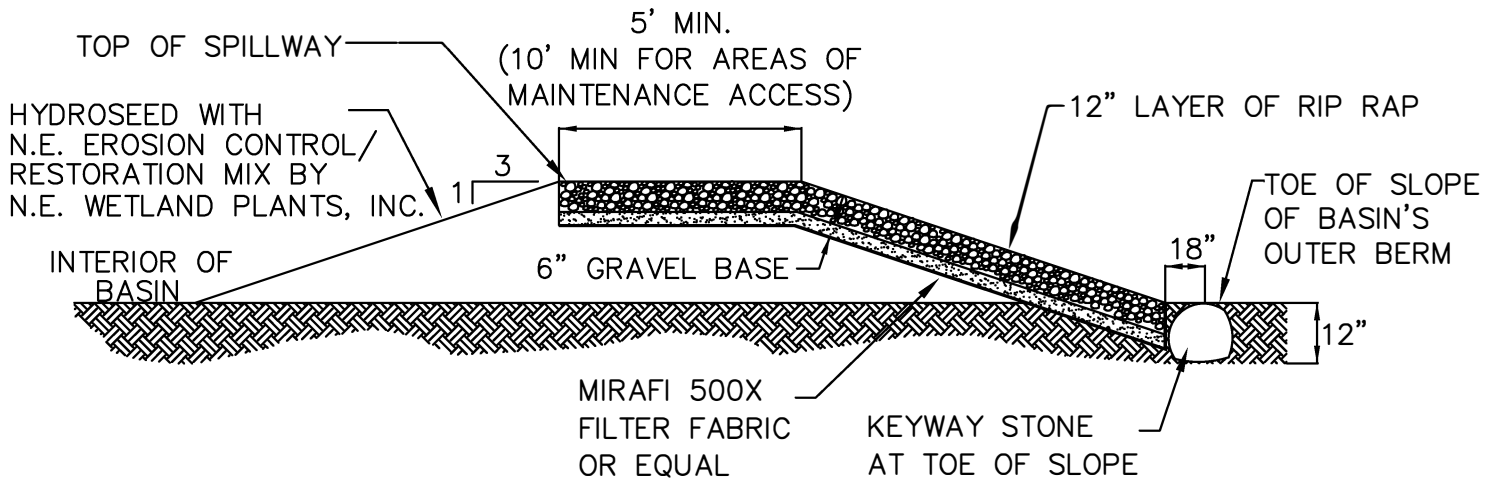
DR-13



TOWN OF WAKEFIELD PUBLIC WORKS DESIGN & CONSTRUCTION STANDARDS

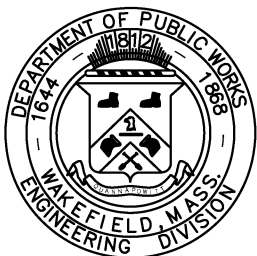
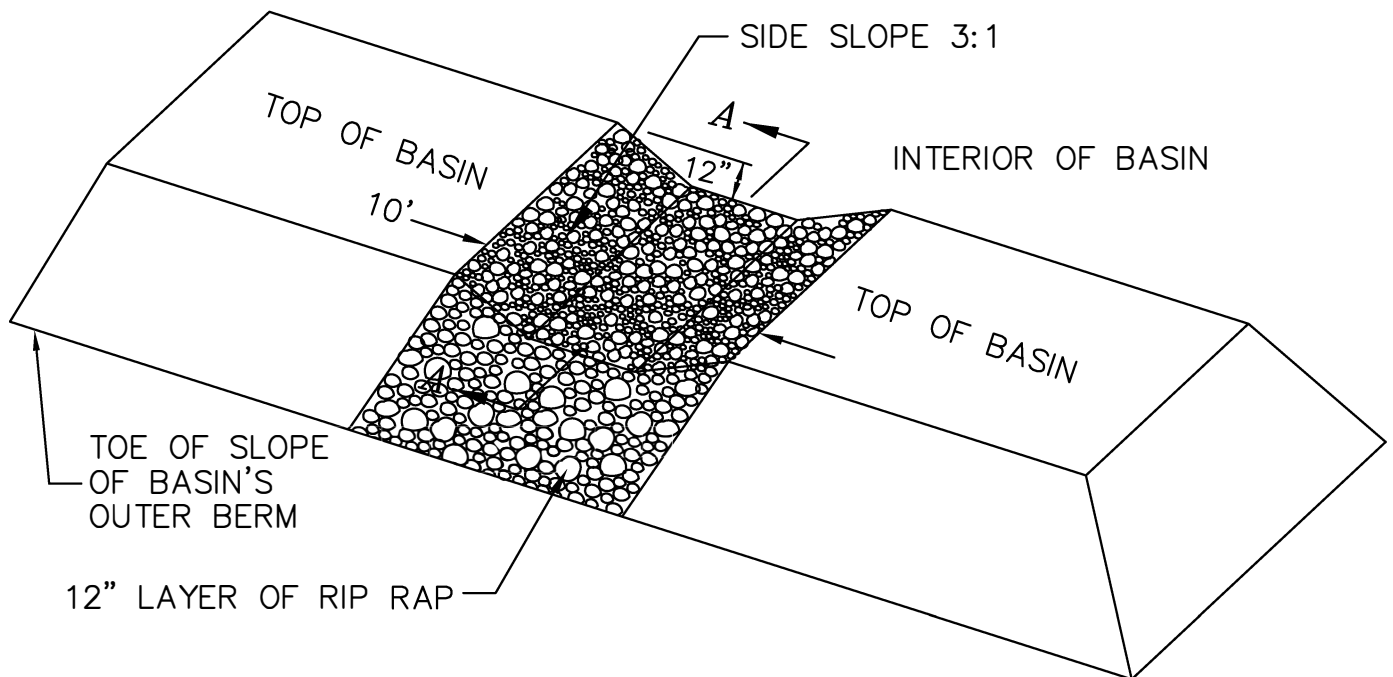
FOREBAY BERM DETAIL

SCALE: NTS	DATE : 4/20/2020
REVISED:	-
DETAIL NUMBER:	DR-14



NOTE: 60% OF THE RIP RAP SHALL BE 6" OR MORE AND IN ACCORDANCE WITH M.D.P.W. STD. SPEC. 258.20.

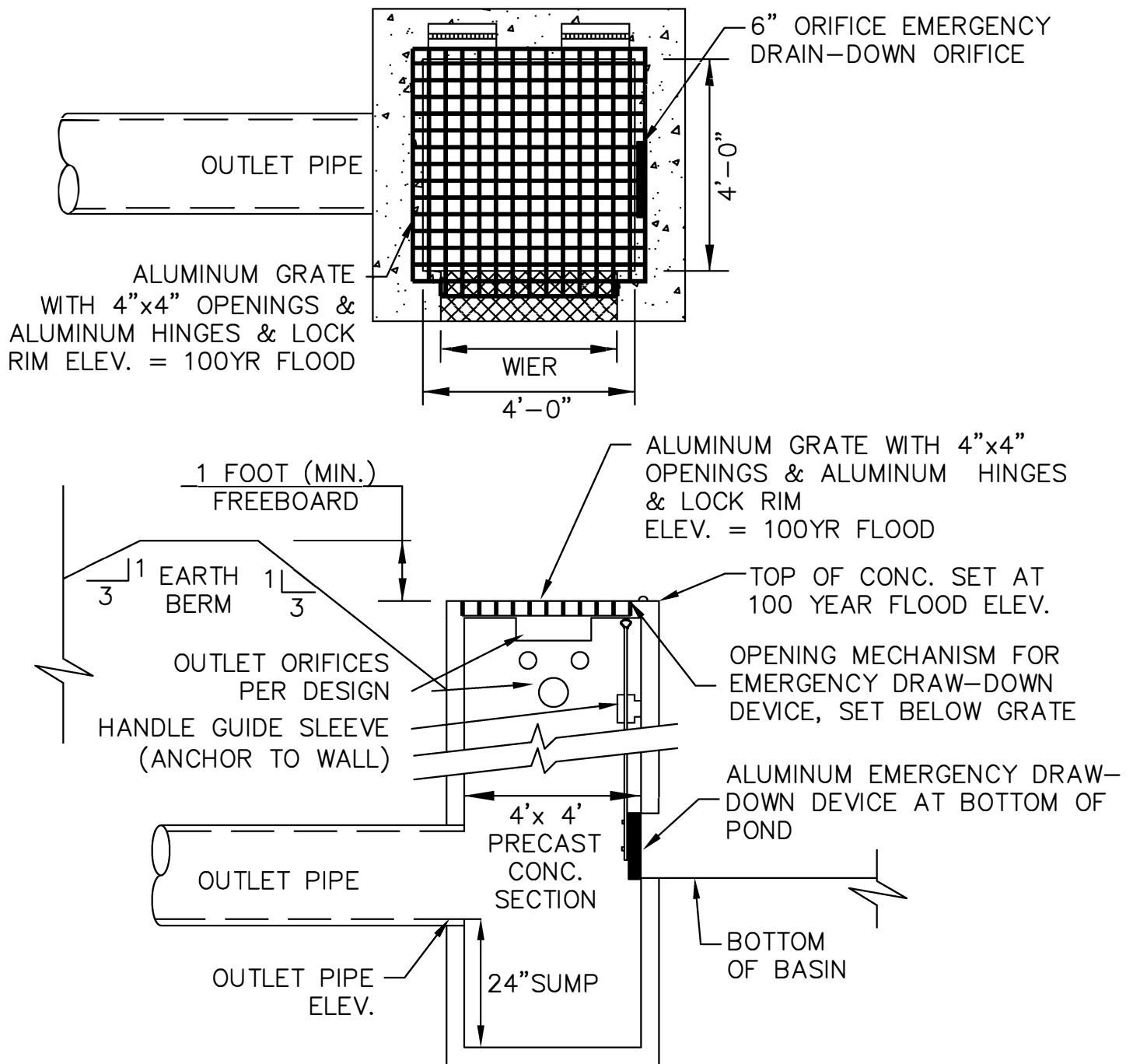
SECTION: A-A



TOWN OF WAKEFIELD PUBLIC WORKS DESIGN & CONSTRUCTION STANDARDS

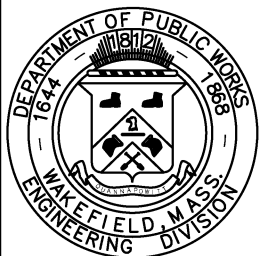
EMERGENCY SPILLWAY DETAIL

SCALE: NTS	DATE : 4/20/2020
REVISED: -	
DETAIL NUMBER: DR-15	



NOTES:

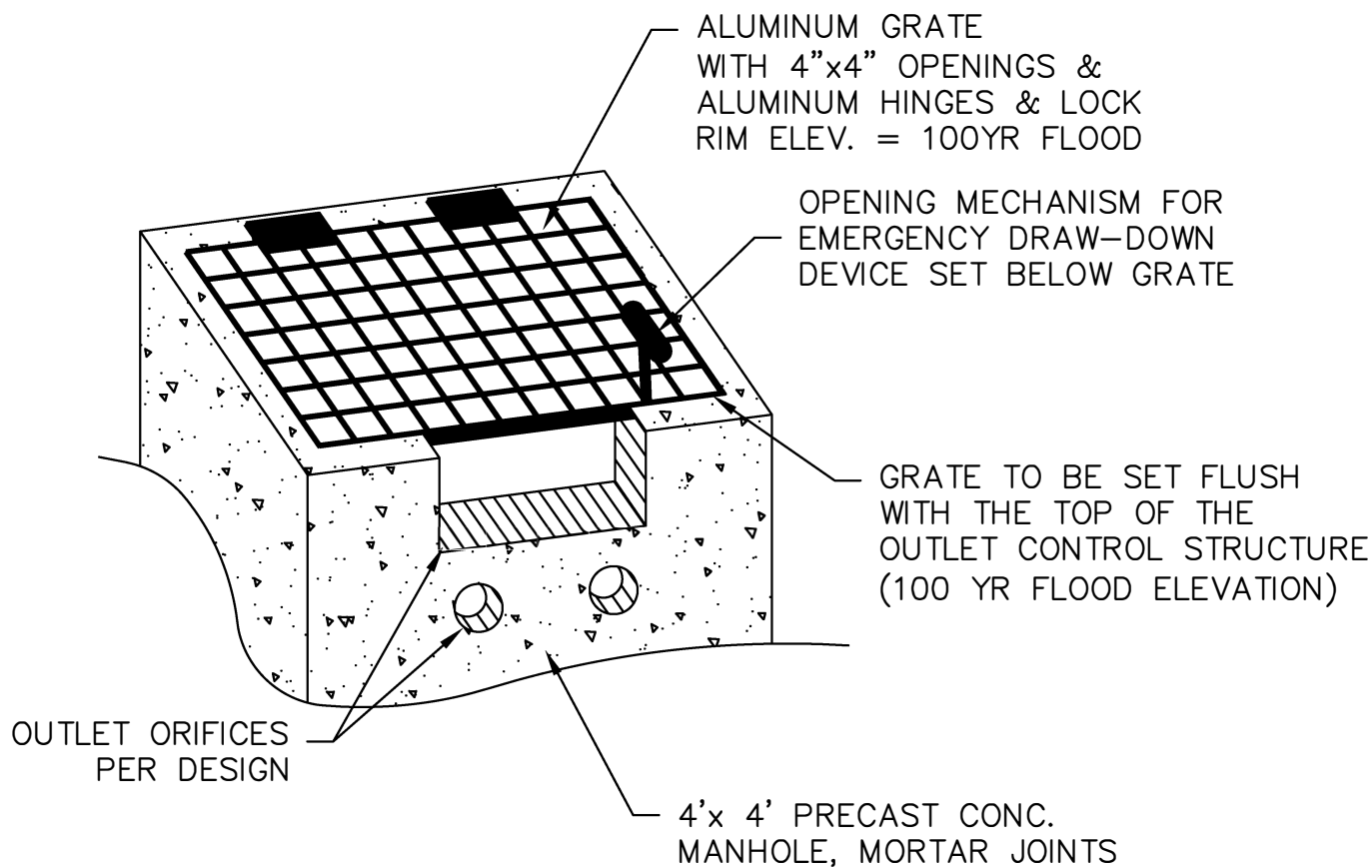
- 1.) ORIFICE ELEVATIONS SHALL BE SHOWN ON DESIGN PLANS.
- 2.) CONTRACTOR SHALL CONFIRM INVERT GRADES IN FIELD PRIOR TO STRUCTURE INSTALLATION.
- 3.) THE EMERGENCY DRAW-DOWN DEVICE IS PROVIDED TO ALLOW THE BASIN TO BE MANUALLY DRAINED IF NECESSARY. THE MECHANISM SHALL BE REMAIN CLOSED DURING NORMAL CONDITIONS.



TOWN OF WAKEFIELD PUBLIC WORKS DESIGN & CONSTRUCTION STANDARDS

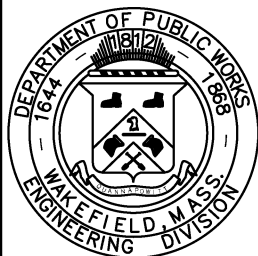
OUTLET CONTROL STRUCTURE

SCALE: NTS	DATE: 4/20/2020
REVISED: -	
DETAIL NUMBER: DR-16	



NOTES:

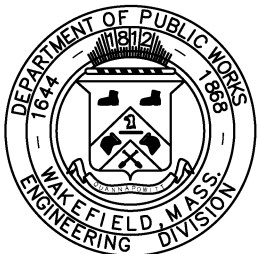
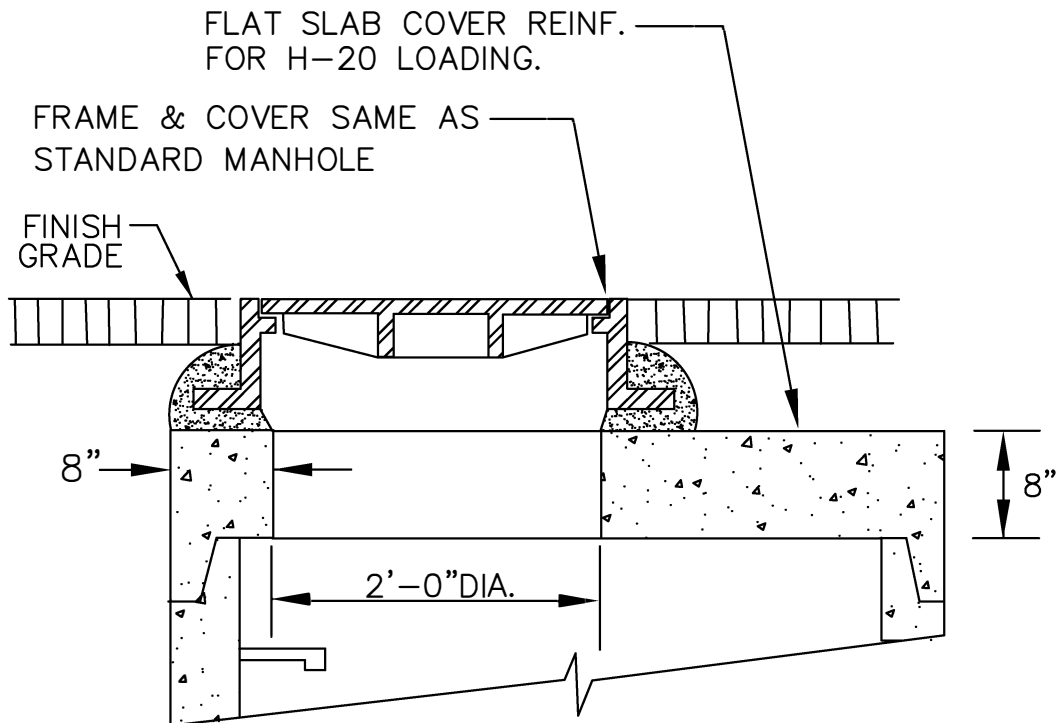
- 1.) ORIFICE ELEVATIONS SHALL BE SHOWN ON DESIGN PLANS.
- 2.) CONTRACTOR SHALL CONFIRM INVERT GRADES IN FIELD PRIOR TO STRUCTURE INSTALLATION.
- 3.) THE EMERGENCY DRAW-DOWN DEVICE IS PROVIDED TO ALLOW THE BASIN TO BE MANUALLY DRAINED IF NECESSARY. THE MECHANISM SHALL BE REMAIN CLOSED DURING NORMAL CONDITIONS.



TOWN OF WAKEFIELD PUBLIC WORKS DESIGN & CONSTRUCTION STANDARDS

OUTLET CONTROL STRUCTURE GRATE DETAIL

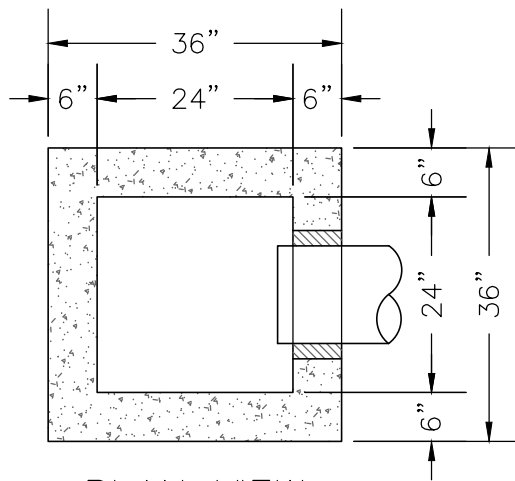
SCALE: NTS	DATE : 4/20/2020
REVISED: —	
DETAIL NUMBER: DR-16	



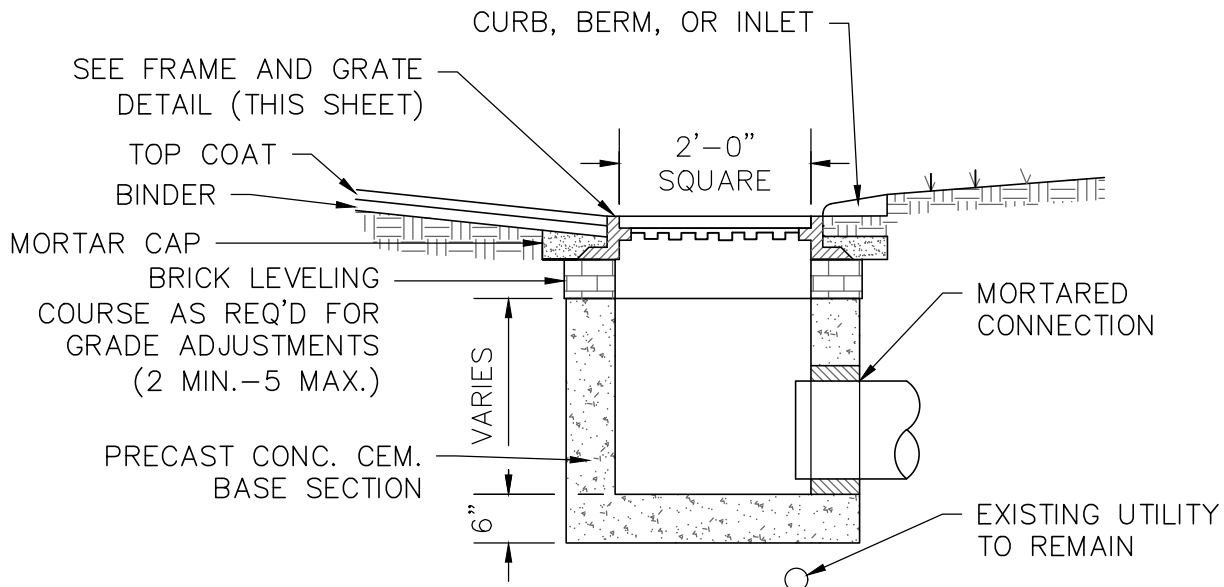
TOWN OF WAKEFIELD PUBLIC WORKS DESIGN & CONSTRUCTION STANDARDS

ALTERNATE TOP FOR
SHALLOW MANHOLE

SCALE: NTS	DATE : 4/20/2020
REVISED: -	
DETAIL NUMBER: DR-18	



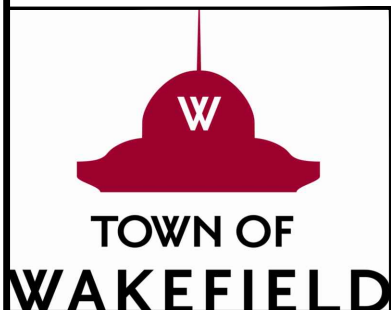
PLAN VIEW



SECTION VIEW

NOTES:

1. PRECAST REINFORCED CONCRETE GUTTER INLET TO BE CAPABLE OF SUPPORTING H-20 LOADING.
2. GUTTER INLET MUST OUTLET TO STRUCTURE WITH MIN. 4' SUMP

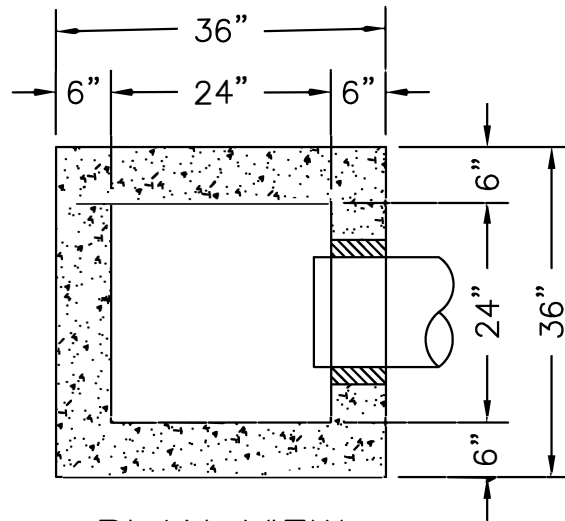


ENGINEERING DIVISION - WAKEFIELD PUBLIC WORKS

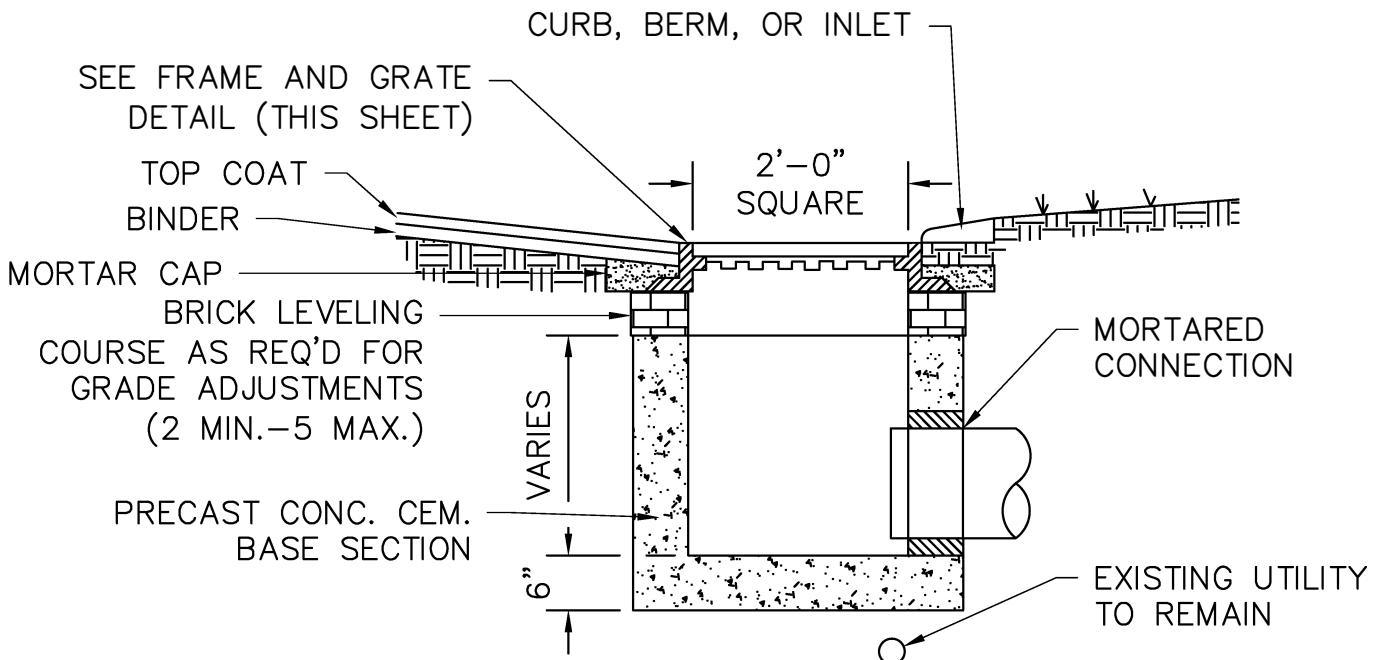
DESIGN & CONSTRUCTION STANDARDS
GUTTER INLET DETAIL

SCALE: NTS

DATE: OCT 20, 2021



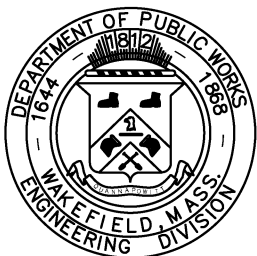
PLAN VIEW



SECTION VIEW

NOTES:

1. PRECAST REINFORCED CONCRETE GUTTER INLET TO BE CAPABLE OF SUPPORTING H-20 LOADING.
2. GUTTER INLET MUST OUTLET TO STRUCTURE WITH MIN. 4' SUMP



TOWN OF WAKEFIELD PUBLIC WORKS
DESIGN & CONSTRUCTION STANDARDS

GUTTER INLET DETAIL

SCALE: NTS	DATE : 10/19/2020
REVISED: -	
DETAIL NUMBER: DR-XX	