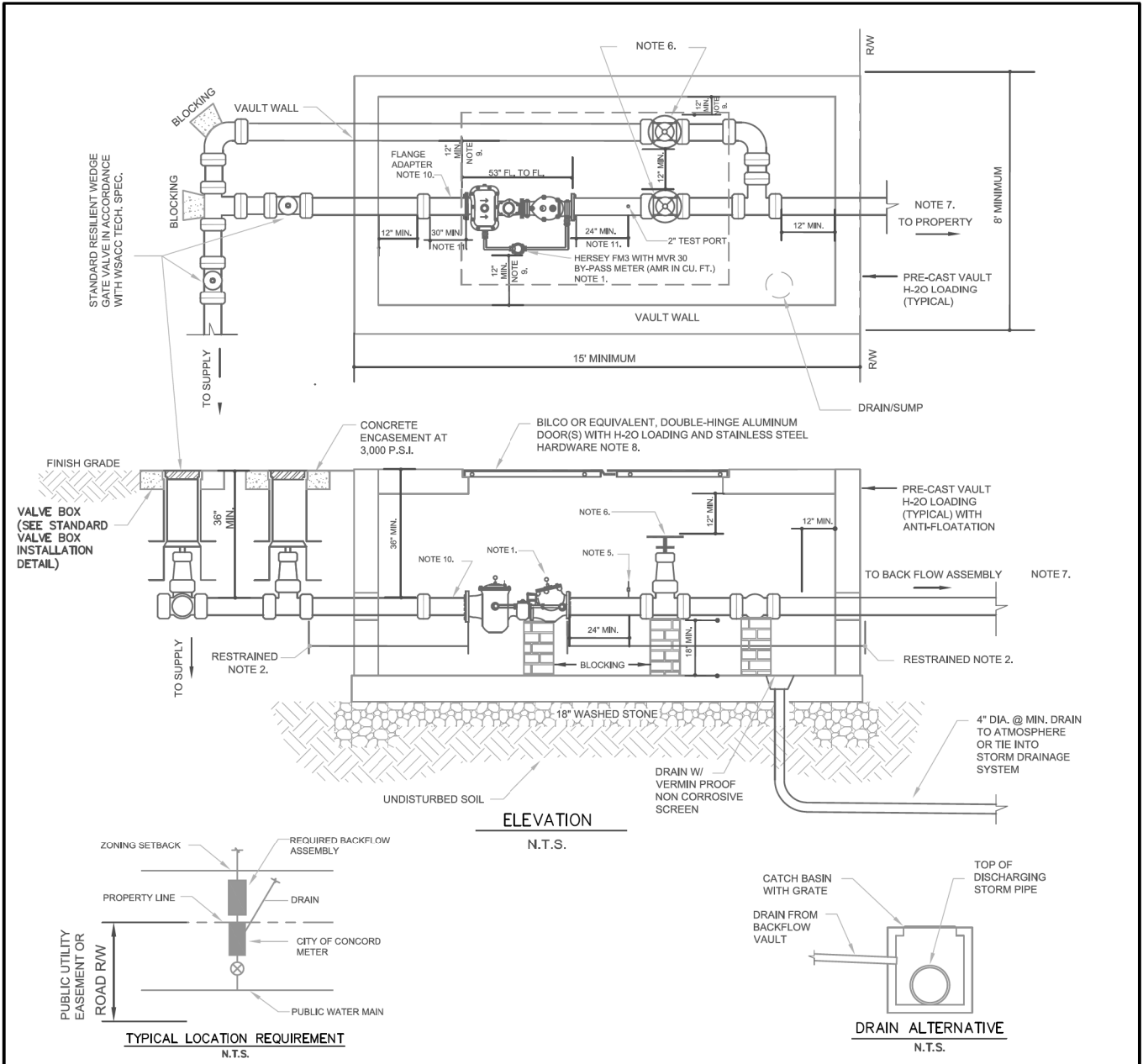



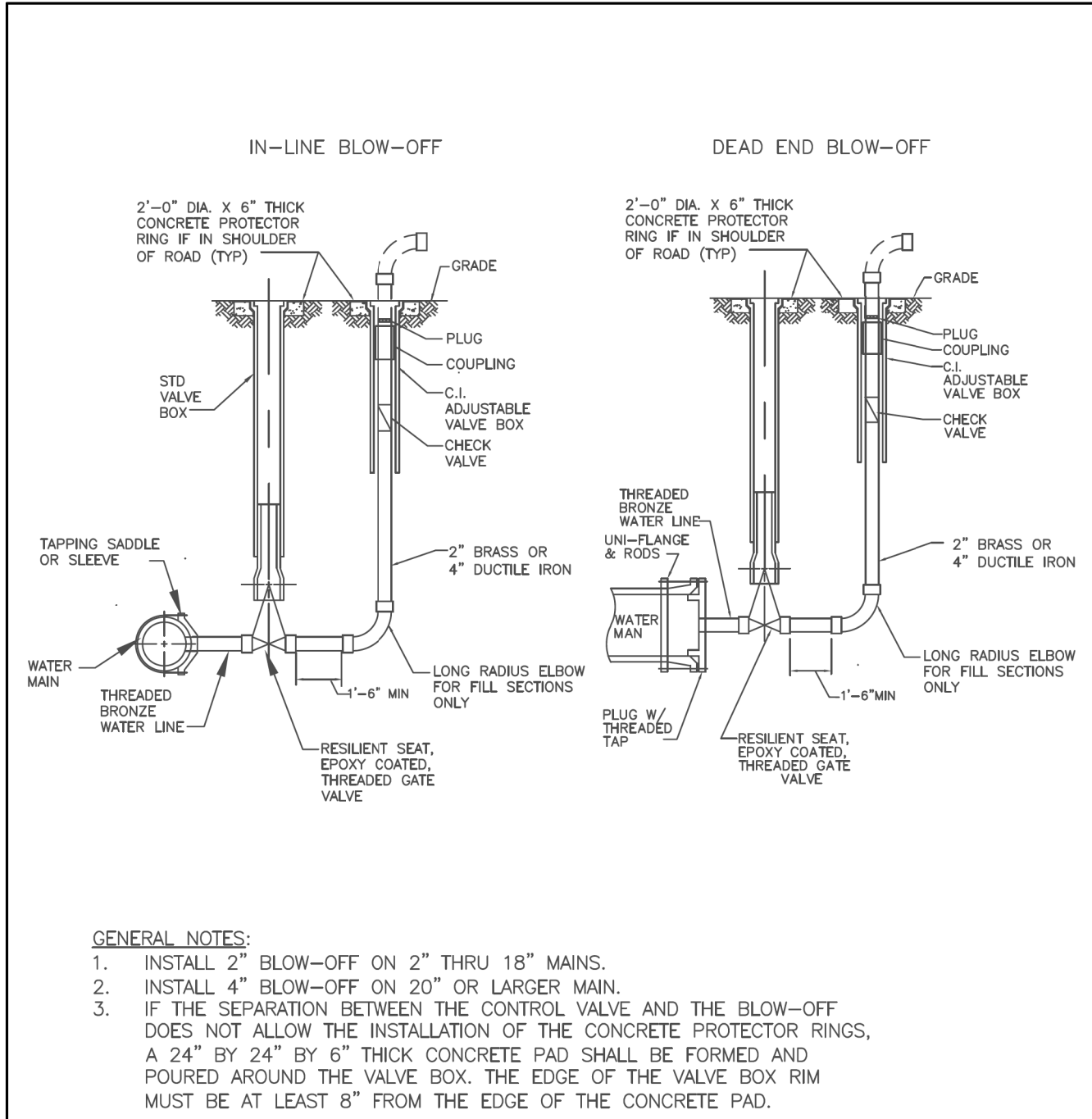
5/14/99

REVISIONS




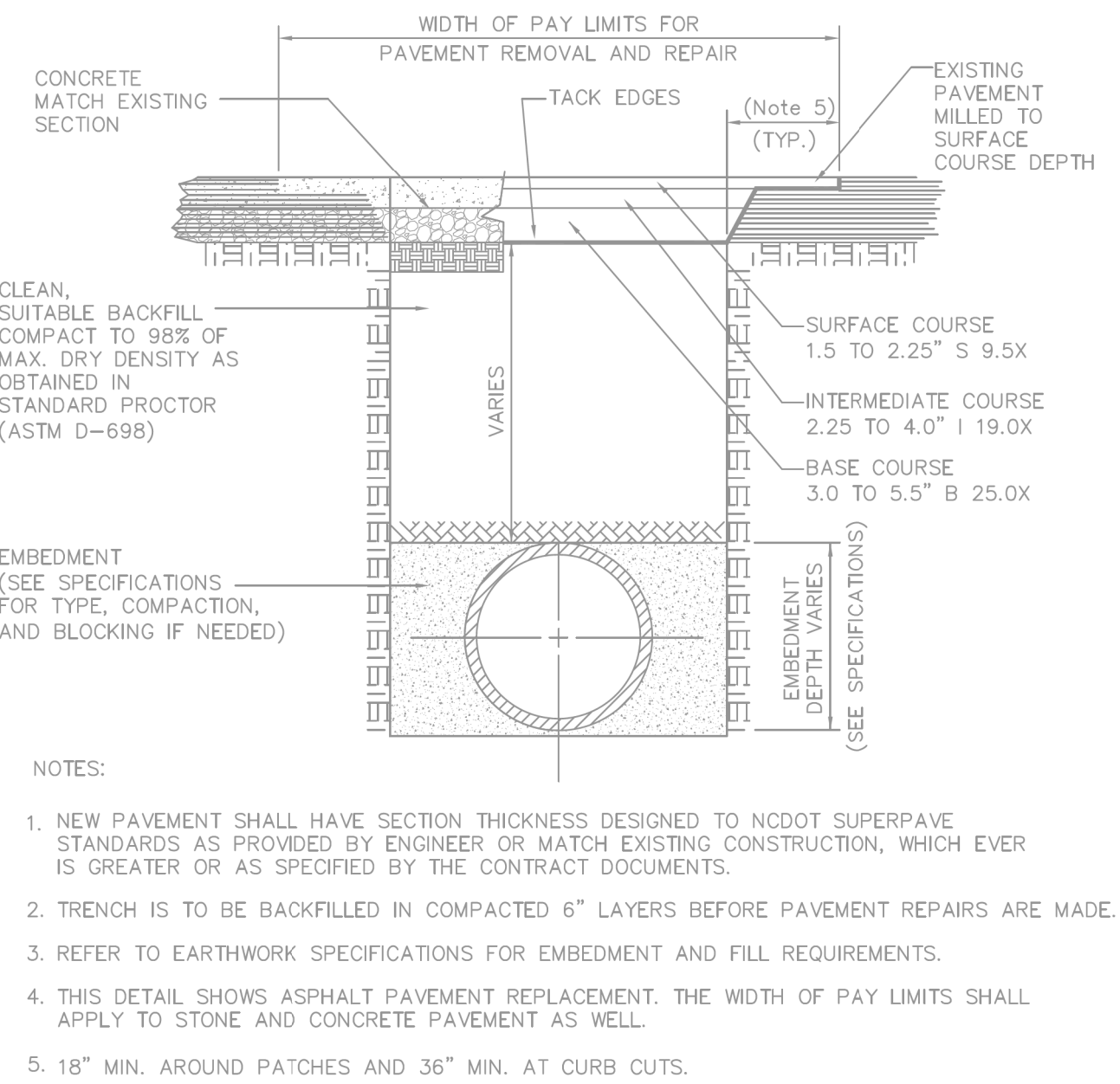
- GENERAL NOTES:**
1. PRECAST 24\"/>
  2. FITTING LOCATION, OR EQUAL, THE LOCATION OF THE FITTINGS MUST COMPLY WITH THE MANUFACTURER'S RECOMMENDATIONS FOR STRAIGHT PIPE CONDITIONS.
  3. MAINLINE METER ASSEMBLY TO BE RESTRAINED DUCTILE IRON FLANGE PIPE WITHIN VAULT.
  4. WATER MAIN AND FITTINGS TO BE A MAXIMUM OF 3.6\"/>
  5. PRECAST CONCRETE BELOW GROUND VALUETS WITH H-20 LOADING VALUETS AND OPENINGS SHALL BE WATER TIGHT AND SEALED. MASTIC GASKETS, NON-SHRINKING GROUT AND RESILIENT PIPE CONNECTORS SHALL BE USED, AS REQUIRED. ANTI-LIFTATION MEASURES MUST BE PROVIDED.
  6. 2-INCH TEST PORT BY TAP SADDLE, BALL VALVE AND PLUG.
  7. RESILIENT WEDGE GATE VALVE NON-REINFORCED STEEL WITH HAND WHEEL.
  8. APPROPRIATE BACKFLOW ASSEMBLY, IN ACCORDANCE WITH THE CITY OF CONCORD CODE OF ORDINANCE. BACKFLOW ASSEMBLY MUST BE LOCATED WITHIN 5 FEET OF METER UNLESS OTHERWISE APPROVED BY THE CITY OF CONCORD BACKFLOW ADMINISTRATOR.
  9. THE DOORS MUST BE FLUSH MOUNT, LOCKABLE AND SIZED SUCH THAT THE VALVE, METER, AND TEST PORT ARE LOCATED WITHIN THE DOORS OPENING AND ACCESSIBLE TO CITY OF CONCORD STAFF.
  10. 12 INCHES OF HORIZONTAL CLEARANCE MUST BE PROVIDED BETWEEN THE INTERIOR VAULT WALL AND ANY ASSOCIATED FITTINGS OR APPURTENANCES AND 2 INCHES OF HORIZONTAL CLEARANCE BETWEEN ALL INTERNAL BY-PASS ASSEMBLY FITTINGS AND THE METER ASSEMBLY FITTINGS.
  11. ALL BENDS AND/OR VALVE FITTINGS SHALL BE LOCATED AT LEAST 10 INCHES FROM THE COMPOUND METERS FRONT FLANGE AND 20 INCHES FROM METERS REAR FLANGE. THE TEST PORT CONNECTION SHALL BE LOCATED AT LEAST 24 INCHES FROM THE METER'S REAR FLANGE.
  12. DROP DRAWINGS FOR PROPOSED VALUETS, METER DOORS, AND ASSEMBLY MUST BE SUBMITTED TO THE CITY OF CONCORD ENGINEERING DEPARTMENT FOR APPROVAL PRIOR TO CONSTRUCTION.

8" WATER METER WITH 2" BY-PASS ASSEMBLY WITH H-20 LOADING VAULT STANDARD DETAIL					
					
MASTER WATER METER FOR PRIVATE WATER DISTRIBUTION SYSTEMS					
2	6-3-19	DRN	COMPOUND METER DIMENSION REVISION		
1	3-31-15	DRN	Removal of "Compound" text and file change		
No.	Date	By	REVISION		
Drawn By:		Checked By:	Approved By:	Date	SH of
SVM			MSH	01/13	1




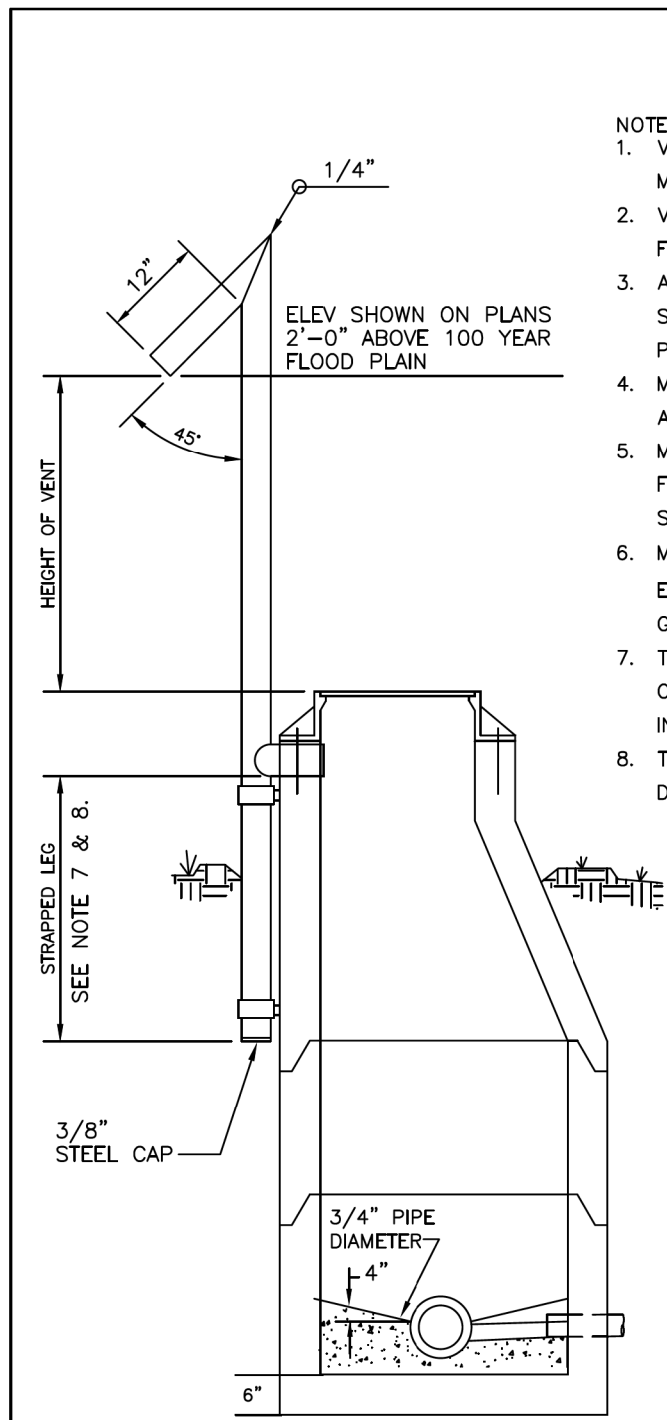
- GENERAL NOTES:**
1. INSTALL 2" BLOW-OFF ON 2" THRU 18" MAINS.
  2. INSTALL 4" BLOW-OFF ON 20" OR LARGER MAIN.
  3. IF THE SEPARATION BETWEEN THE CONTROL VALVE AND THE BLOW-OFF DOES NOT ALLOW THE INSTALLATION OF THE CONCRETE PROTECTOR RINGS, A 24" BY 24" BY 6" THICK CONCRETE PAD SHALL BE FORMED AND POURED AROUND THE VALVE BOX. THE EDGE OF THE VALVE BOX RIM MUST BE AT LEAST 8" FROM THE EDGE OF THE CONCRETE PAD.

					
CITY OF CONCORD STANDARD DETAIL BLOW-OFF ASSEMBLY					
No.	Date	By	REVISION	Approved By:	Date
Drawn By:		Checked By:		MSH	03/10
SVM		PLK			SH of




- NOTES:**
1. NEW PAVEMENT SHALL HAVE SECTION THICKNESS DESIGNED TO NCDOT SUPERPAVE STANDARDS AS PROVIDED BY ENGINEER OR MATCH EXISTING CONSTRUCTION, WHICH EVER IS GREATER OR AS SPECIFIED BY THE CONTRACT DOCUMENTS.
  2. TRENCH IS TO BE BACKFILLED IN COMPACTED 6" LAYERS BEFORE PAVEMENT REPAIRS ARE MADE.
  3. REFER TO EARTHWORK SPECIFICATIONS FOR EMBEDMENT AND FILL REQUIREMENTS.
  4. THIS DETAIL SHOWS ASPHALT PAVEMENT REPLACEMENT. THE WIDTH OF PAY LIMITS SHALL APPLY TO STONE AND CONCRETE PAVEMENT AS WELL.
  5. 18" MIN. AROUND PATCHES AND 36" MIN. AT CURB CUTS.

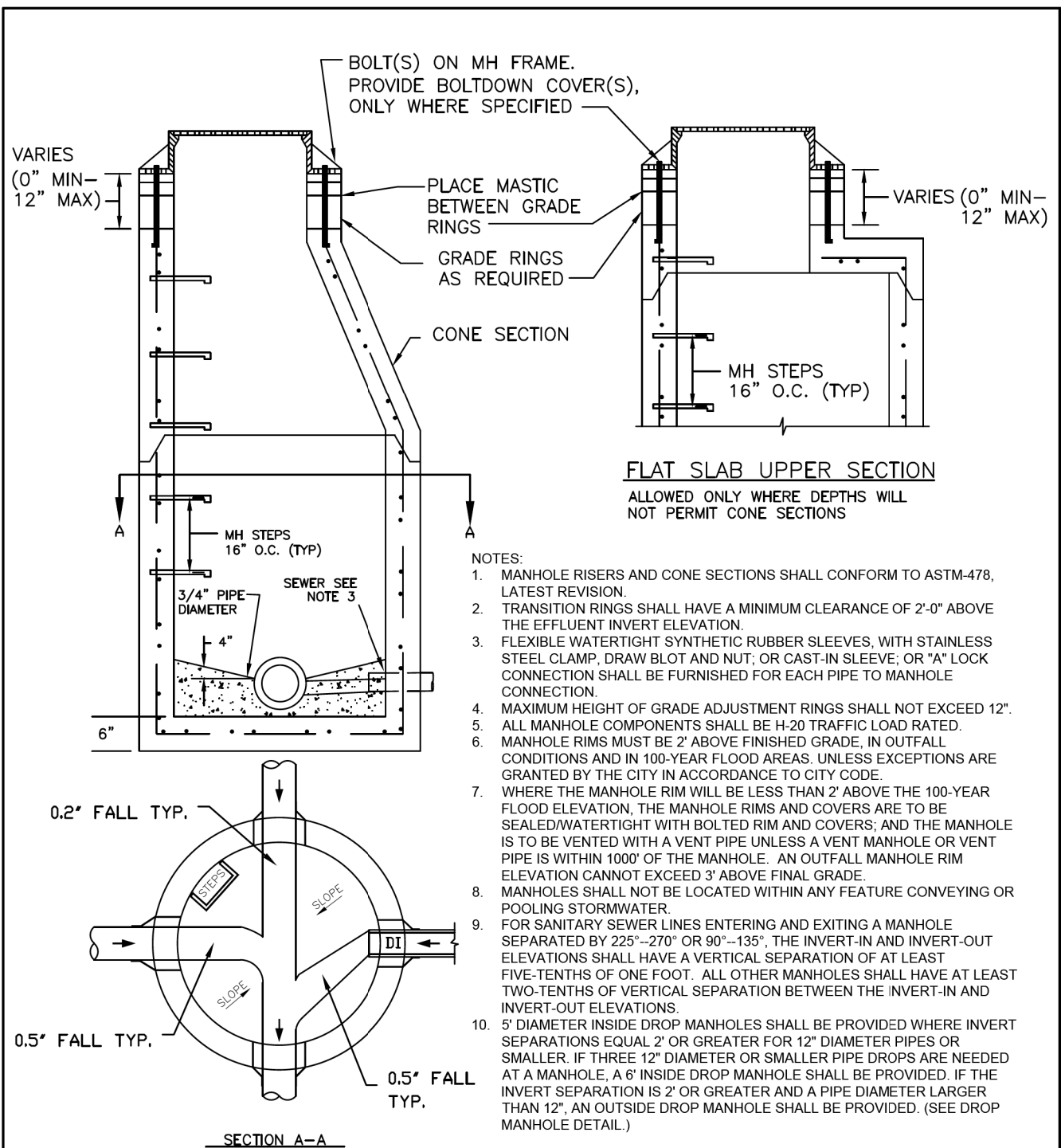
UTILITY CUT REPLACEMENT DETAIL					
SCALE: NONE					
					
CITY OF CONCORD STANDARD DETAIL UTILITY CUT REPLACEMENT					
No.	Date	By	REVISION	Approved By:	Date
Drawn By:		Checked By:		MSH	11/01
SVM					SH of



- NOTES:**
1. VENT PIPE SHALL BE IN ACCORDANCE WITH SEWER MANHOLE SPECIFICATION
  2. VENT PIPE OPENING TO POINT DOWNSTREAM, AWAY FROM MANHOLE COVER.
  3. A STAINLESS STEEL VERMIN SCREEN WITH STAINLESS STEEL FITTINGS SHALL BE PROVIDED OVER VENT PIPE OPENING.
  4. MANHOLE RIM AND COVER SHALL BE WATER TIGHT AND SEALED.
  5. MANHOLE RIM SHALL BE BOLTED ON MANHOLE FRAME, IN ACCORDANCE WITH SEWER MANHOLE SPECIFICATION.
  6. MANHOLE SHALL BE VENTED EVERY 1000' OR AT EVERY OTHER MANHOLE, WHICH EVER YIELDS THE GREATER NUMBER OF VENTS.
  7. THE STRAPS AND ANCHOR BOLTS ARE TO BE COATED WITH BITUMINOUS COATING AFTER INSTALLATION.
  8. THE FOLLOWING TABLE SHALL BE USED TO DETERMINE THE LENGTH OF THE STRAPPED LEG.


HEIGHT OF VENT PIPE	LENGTH OF STRAPPED LEG
UP TO 6.00'	3.00'
6.01' TO 8.00'	4.00'
8.01' TO 10.00'	5.00'
10.01' TO 12.00'	6.00'
OVER 12.01'	7.00'

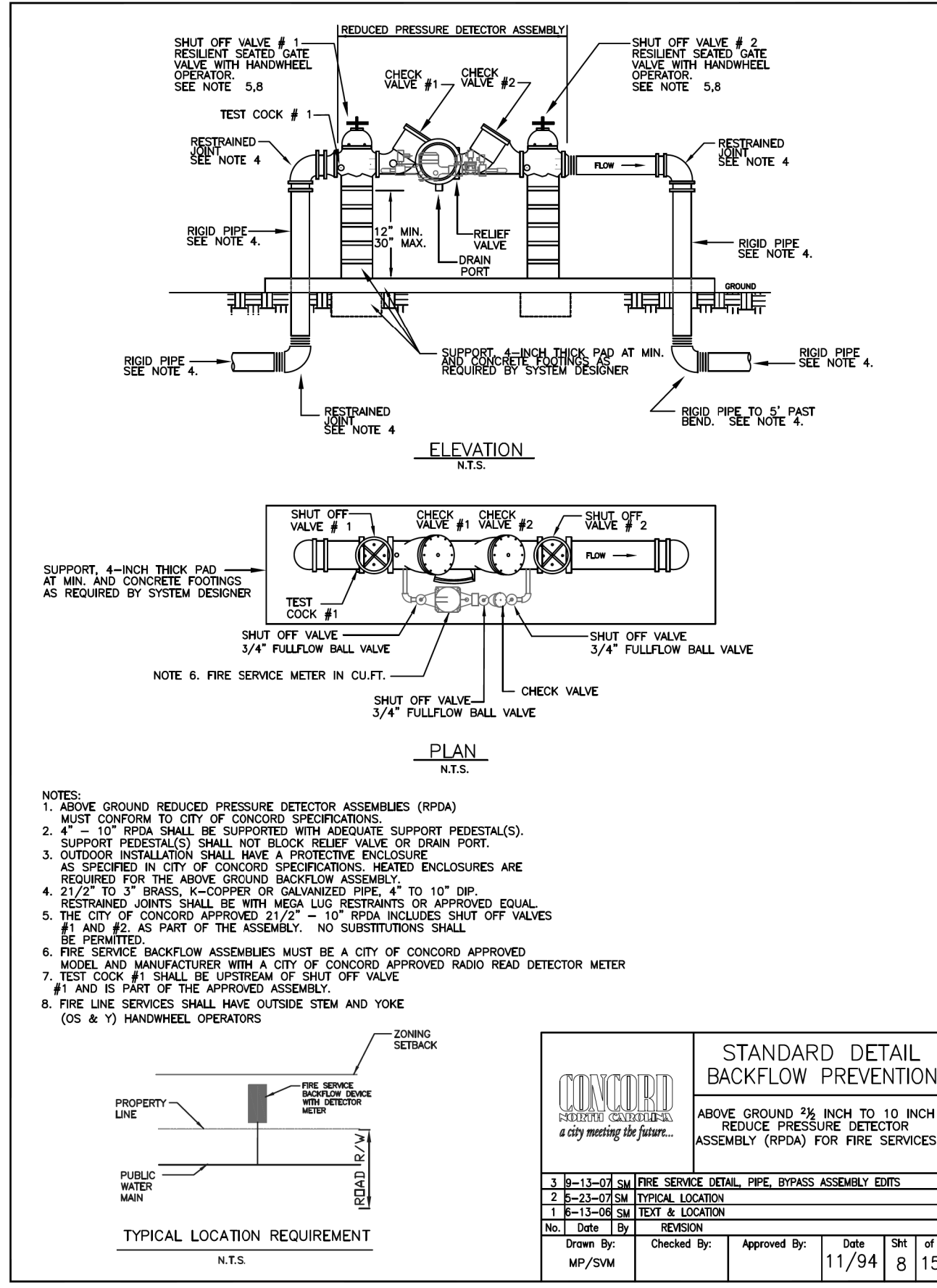
					
CITY OF CONCORD STANDARD DETAIL VENT FOR PRECAST CONCRETE MANHOLE					
No.	Date	By	REVISION	Approved By:	Date
Drawn By:		Checked By:		MSH	08/21
SVM/BCC		PK			SH of




- FLAT SLAB UPPER SECTION**  
ALLOWED ONLY WHERE DEPTHS WILL NOT PERMIT CONE SECTIONS
- NOTES:**
1. MANHOLE RISERS AND CONE SECTIONS SHALL CONFORM TO ASTM 478, LATEST REVISION.
  2. TRANSITION RINGS SHALL HAVE A MINIMUM CLEARANCE OF 2'-0" ABOVE THE EFFLUENT INVERT ELEVATION.
  3. FLEXIBLE WATERTIGHT SYNTHETIC RUBBER SLEEVES, WITH STAINLESS STEEL CLAMP, DRAW BLOT AND NUT, OR CAST-IN SLEEVE, OR "A" LOCK CONNECTION SHALL BE FURNISHED FOR EACH PIPE TO MANHOLE CONNECTION.
  4. MAXIMUM HEIGHT OF GRADE ADJUSTMENT RINGS SHALL NOT EXCEED 12".
  5. ALL MANHOLE COMPONENTS SHALL BE H-20 TRAFFIC LOAD RATED.
  6. MANHOLE RIMS MUST BE 2" ABOVE FINISHED GRADE, IN OUTFALL CONDITIONS AND IN 100-YEAR FLOOD AREAS. UNLESS EXCEPTIONS ARE GRANTED BY THE CITY IN ACCORDANCE TO CITY CODE.
  7. WHERE THE MANHOLE RIM WILL BE LESS THAN 2' ABOVE THE 100-YEAR FLOOD ELEVATION, THE MANHOLE RIMS AND COVERS ARE TO BE SEALED WATER TIGHT WITH BOLTED RIM AND COVERS, AND THE MANHOLE IS TO BE VENTED WITH A VENT PIPE UNLESS A VENT MANHOLE OR VENT PIPE IS WITHIN 100' OF THE MANHOLE. AN OUTFALL MANHOLE RIM ELEVATION CANNOT EXCEED 3' ABOVE FINAL GRADE.
  8. MANHOLES SHALL NOT BE LOCATED WITHIN ANY FEATURE CONVEYING OR POOLING STORMWATER.
  9. FOR SANITARY SEWER LINES ENTERING AND EXITING A MANHOLE SEPARATED BY 225'-270' OR 90'-135', THE INVERT-IN AND INVERT-OUT ELEVATIONS SHALL HAVE A VERTICAL SEPARATION OF AT LEAST FIVE-TENTHS OF ONE FOOT. ALL OTHER MANHOLES SHALL HAVE AT LEAST TWO-TENTHS OF VERTICAL SEPARATION BETWEEN THE INVERT-IN AND INVERT-OUT ELEVATIONS.
  10. 5" DIAMETER INSIDE DROP MANHOLES SHALL BE PROVIDED WHERE INVERT SEPARATIONS EQUAL 2' OR GREATER FOR 12" DIAMETER PIPES OR SMALLER. IF THREE 12" DIAMETER OR SMALLER PIPE DROPS ARE NEEDED AT A MANHOLE, A 6" INSIDE DROP MANHOLE SHALL BE PROVIDED. IF THE INVERT SEPARATION IS 2' OR GREATER AND A PIPE DIAMETER LARGER THAN 12", AN OUTSIDE DROP MANHOLE SHALL BE PROVIDED. (SEE DROP MANHOLE DETAIL.)

PIPE DIAMETER (INCHES)	MANHOLE DIAMETER (FEET)
8 TO 16	4
18 TO 36	5
39 TO 54	6
54 AND LARGER	8

					
CITY OF CONCORD STANDARD DETAIL PRECAST CONCRETE MANHOLE					
No.	Date	By	REVISION	Approved By:	Date
Drawn By:		Checked By:		MSH	07/21
SVM		GS			SH of



- NOTES:**
1. ABOVE GROUND REDUCED PRESSURE DETECTOR ASSEMBLIES (RPDA) MUST CONFORM TO CITY OF CONCORD SPECIFICATIONS.
  2. 4" 10" RPDA SHALL BE SUPPORTED WITH ADJUTABLE SUPPORT PEDISTALS(S). SUPPORT PEDISTAL(S) SHALL NOT BLOCK RELIEF VALVE OR DRAIN PORT.
  3. OUTDOOR INSTALLATION SHALL HAVE A PROTECTIVE ENCLOSURE AS SPECIFIED IN CITY OF CONCORD SPECIFICATIONS. HEATED ENCLOSURES ARE REQUIRED FOR THE ABOVE GROUND BACKFLOW ASSEMBLY.
  4. 21/2" TO 3" BRASS, K-COPPER OR GALVANIZED PIPE, 4" TO 10" DIP.
  5. RESTRAINED JOINTS SHALL BE WITH MEDIA LUG RESTRAINTS OR APPROVED EQUAL.
  6. THE CITY OF CONCORD APPROVED 21/2" - 10" RPDA INCLUDES SHUT OFF VALVES #1 AND #2 AS PART OF THE ASSEMBLY. NO SUBSTITUTIONS SHALL BE PERMITTED.
  7. FIRE SERVICE BACKFLOW ASSEMBLIES MUST BE A CITY OF CONCORD APPROVED MODEL AND MANUFACTURER WITH A CITY OF CONCORD APPROVED RADIO READ DETECTOR METER. TEST COCK #1 SHALL BE UPSTREAM OF SHUT OFF VALVE #1 AND IS PART OF THE APPROVED ASSEMBLY.
  8. FIRE LINE SERVICES SHALL HAVE OUTSIDE STEM AND YORKE (OS & Y) HANDWHEEL OPERATORS.

					
STANDARD DETAIL BACKFLOW PREVENTION					
ABOVE GROUND 3/4" INCH TO 10 INCH REDUCED PRESSURE DETECTOR ASSEMBLY (RPDA) FOR FIRE SERVICES					
3	8-12-07	SW	FIRE SERVICE DETAIL, PIPE, BYPASS ASSEMBLY ENITS		
2	8-15-08	SW	TYPICAL LOCATION		
1	8-15-08	SW	TEXT & LOCATION		
No.	Date	By	REVISION	Approved By:	Date
Drawn By:		Checked By:		MSH	11/94
MP/SVM					SH of

**Kimley»Horn**  
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200 S TYRON STREET, SUITE 200  
CHARLOTTE, NC 28202

RIGHT-OF-WAY REV.  
CONST. REV.

PROJECT REFERENCE NO.  
U-5956

SHEET NO.  
UC-03D

UTILITY DESIGN ENGINEER



**DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

12/17/2025