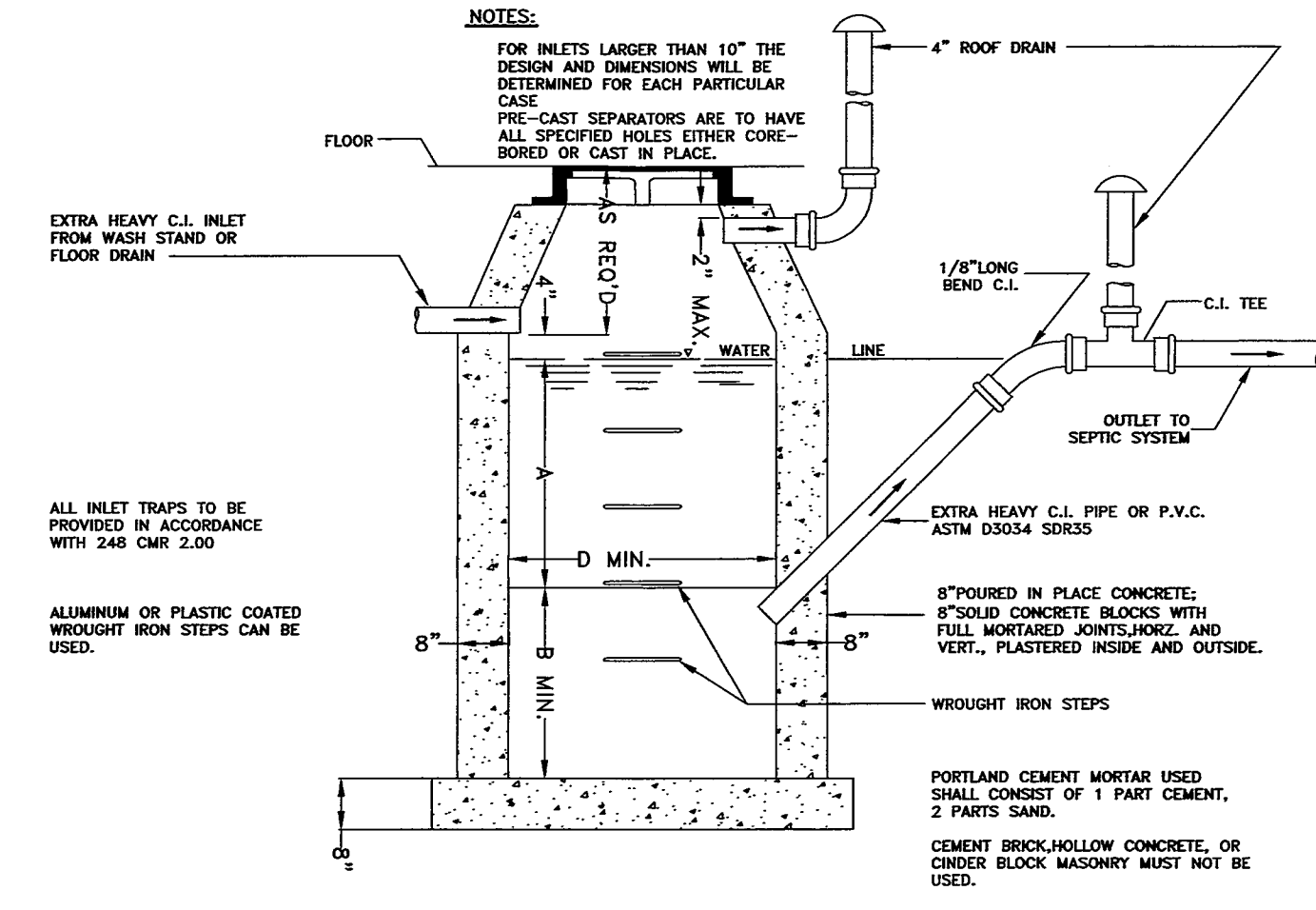


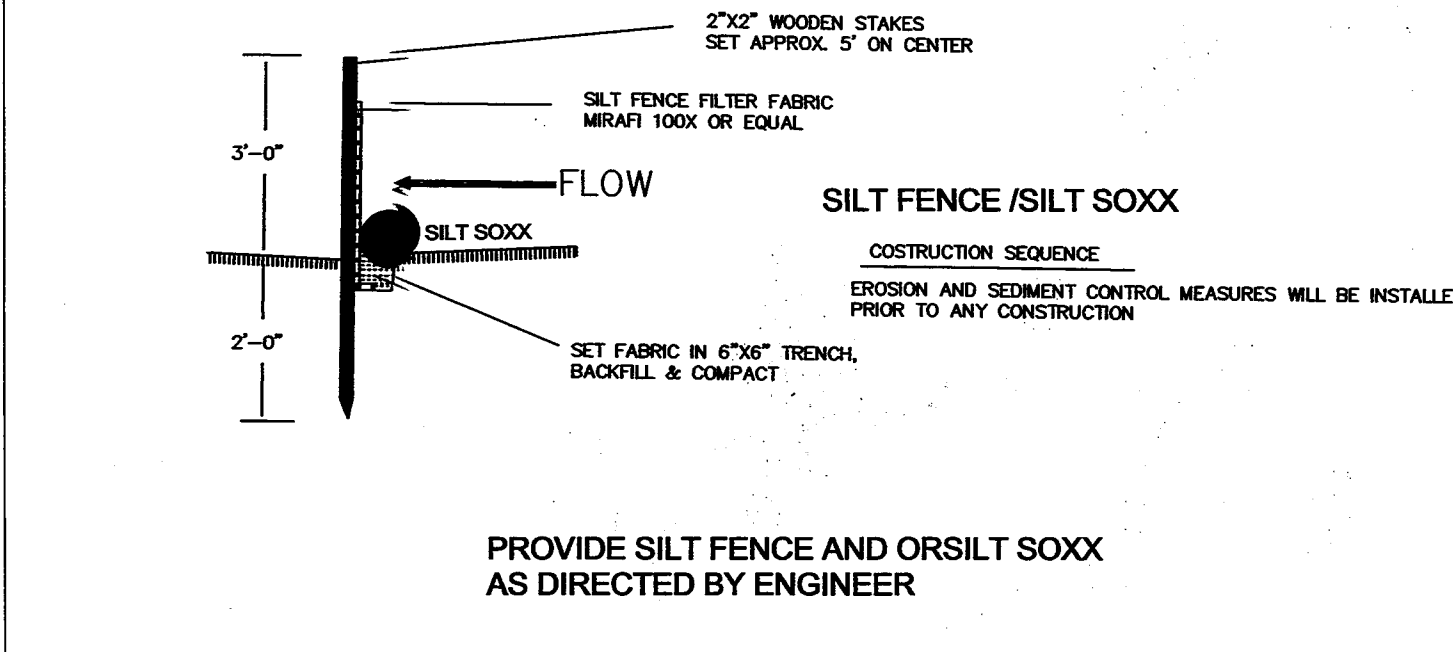
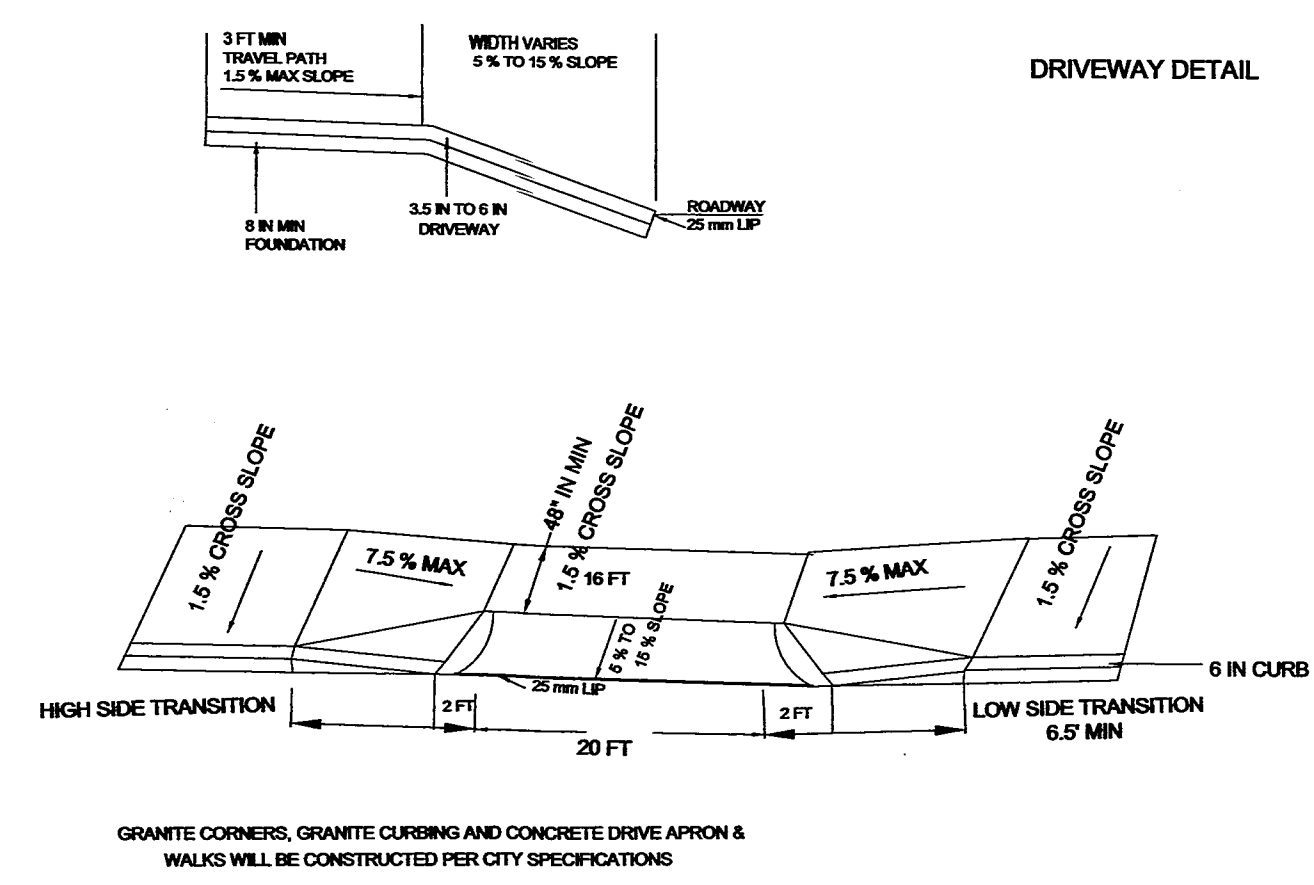
- NOTES:
1. CONCRETE: 4,000 PSI MINIMUM AFTER 28 DAYS.
 2. DESIGN CONFORMS WITH 310 CMR 15.00, DEP TITLE 5 REGS, FOR SEPTIC TANKS.
 3. ALL REINFORCEMENT PER ASTM C1227-93.
 4. TONGUE & GROOVE JOINT SEALED WITH BUTYLE RESIN.
 5. TEES AND BAFFLES SOLD SEPARATELY.
 6. ALSO AVAILABLE IN H-20 LOADING.

SEPTIC TANK
2500 GALLON

| INLET | D | A | B |
|-------|-----------|-------|-------|
| 4" | 3'-6 3/4" | 3'-0" | 2'-6" |
| 5" | 3'-6 3/4" | 3'-0" | 4'-0" |
| 6" | 3'-6 3/4" | 3'-0" | 3'-0" |
| 8" | 4'-0" | 3'-0" | 3'-0" |
| 10" | 4'-0" | 3'-0" | 2'-6" |
| 12" | 4'-0" | 3'-0" | 2'-6" |



- GENERAL CONSTRUCTION NOTES
1. BASIN TO BE LOCATED OUTSIDE OF BUILDING WHERE POSSIBLE. COVER TO HAVE A CENTER HOLE.
 2. A TIGHT COVER MUST BE USED IF BASIN IS LOCATED INSIDE OF BUILDING.
 3. OPENING SHALL BE NOT LESS THAN 24" DIA.
 4. THE CATCH BASIN SHALL BE SO LOCATED AND CONSTRUCTED THAT SURFACE WATER SHALL BE EXCLUDED.
 5. INLET PIPE SHALL BE AT LEAST FOUR INCHES ABOVE NORMAL WATER LINE.
 6. WHERE SUBJECT TO FROST OR CRUSHING CONDITIONS, OUTLET SHALL BE AT LEAST THREE FEET BELOW THE SURFACE.
 7. THE NEW CATCH BASIN MUST BE FILLED WITH CLEAN WATER BEFORE USING, AND AFTER BEING EMPTIED FOR PERIODIC CLEANING.
 8. ALL OIL AND GASOLINE MUST BE REMOVED BEFORE CLEANING OUT THE BASIN, AND MUST NOT BE DISCHARGED INTO THE SEWER THROUGH OTHER FUTURES.
 9. SPECIFICATIONS FOR COVERING SPECIAL CASES OR CONDITIONS, SHALL BE APPROVED BY THE LOCAL AUTHORITIES, AND THE AUTHORITIES OF THE M.W.R.A.
 10. WROUGHT IRON STEPS SHALL BE SPACED ABOUT 18" APART.
 11. 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. (Outlet pipe to be 45 degree angle)



NO EXCAVATION IS ALLOWED WITHIN THE TOWN'S ROW BETWEEN NOVEMBER 15 TH AND APRIL 15 TH, IF AN EMERGENCY EXISTS OR THERE ARE EXTENUATING CIRCUMSTANCES, APPLICANT MAY SEEK PERMISSION FOR SUCH WORK FROM THE DPW COMMISSIONER VIA THE TOWN ENGINEER. IF PERMISSION IS GRANTED, SPECIAL CONSTRUCTION STANDARDS WILL BE APPLIED. APPLICANT OR APPLICANT'S REPRESENTATIVE MUST CONTACT THE TOWN ENGINEERING DEPARTMENT PRIOR TO START WORK FOR CLARIFICATION.

ENGINEER OF RECORD IS RESPONSIBLE FOR THE ON-SITE INSPECTIONS OF ALL SURFACE STRUCTURES. THIS INCLUDES BUT NOT LIMITED TO DRAINAGE UTILITIES INCLUDING SEWER PIPE SLOPE, ROOF LEADER COLLECTION SYSTEM, TRENCH DRAIN, MANHOLES, ETC. ENGINEER OF RECORD MUST ALSO CONDUCT, BOTTOM OF HOLE INSPECTIONS PRIOR TO DRAINAGE SYSTEM BEING INSTALLED.

- 1) ALL WORK TO BE IN ACCORDANCE WITH TOWN AND MASS HIGHWAY STANDARDS, AND NEWTON STANDARDS. A MINIMUM DRIVEWAY WILL CONFORM TO MAX 1.5% CROSS SLOPE WILL BE MAINTAINED.
- 2) MINIMUM COMPACTION IN TRENCHES SHALL BE 98%.
- 3) PRIOR TO START CONSTRUCTION ALL APPLICABLE LOCAL AGENCIES AND DIS SAFE WILL BE NOTIFIED AT LEAST 72 HOURS PRIOR TO COMMENCING WORK.
- 4) NO BACKFILLING OF ANY TRENCHES WILL TAKE PLACE UNTIL WORK HAS BEEN INSPECTED AND APPROVED BY THE TOWN. CONTRACTOR WILL NOTIFY CITY 48 HOURS IN ADVANCE OF UTILITY INSPECTION. UTILITY & DRAINAGE SYSTEM MUST BE FULLY EXPOSED FOR THE INSPECTOR. UTILITIES CAN ONLY BE BACKFILLED ON APPROVAL & SIGNOFF BY INSPECTOR.
- 5) STREET CLOSING, SIDEWALK CLOSING, UTILITY CONNECTION AND TRENCH PERMITS WILL BE OBTAINED FROM THE TOWN PRIOR TO COMMENCING ANY WORK.
- 6) WATER AND SEWER SERVICES WILL BE CUT AND CAPPED AT THE MAIN AND REMOVED FROM SITE, PROPERLY JACKLIFTED & INSPECTED BY THE TOWN. UTILITY CONNECTION PERMITS WILL NOT BE ISSUED IF THIS IS NOT ACCOMPLISHED. AND WITH THE TRENCH SECTION SPECIFIED HEREIN.
- 7) TRENCH PAVEMENT PERMANENT PATCH WILL CONFORM TOWN STANDARDS.
- 8) LOCATION OF UNDERGROUND UTILITIES IS APPROXIMATE. CONTRACTOR WILL NOTIFY DPW SAFE PRIOR TO COMMENCING WORK. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGE RESULTING FROM INCORRECTLY LOCATED UTILITIES.
- 9) WITH THE EXCEPTION OF GAS SERVICES, ALL TRENCH WORK WITHIN THE TOWN ROW WILL BE BACKFILLED WITH TYPE 3 (UNGRAVELLED) CONTROLLED. DENSITY FULL 4% SPECIFIED BY THE CITY ENGINEERING DEPARTMENT. ESCAVATION FILL WILL EXTEND TO WITHIN 18 IN OF ROADWAY ASPHALT THROUGHOUT. ANY DAMAGE CAUSED BY CONTRACTOR AS A RESULT OF UTILITY LOCATIONS SHOWN WILL BE BORNE SOLELY BY CONTRACTOR.
- 10) LOCATION OF UNDERGROUND UTILITIES IS APPROXIMATE. CONTRACTOR WILL VERIFY UTILITY LOCATIONS SHOWN THROUGHOUT. ANY DAMAGE CAUSED BY CONTRACTOR AS A RESULT OF UTILITY LOCATIONS SHOWN WILL BE BORNE SOLELY BY CONTRACTOR.
- 11) IF THE CONTRACTOR RESPONSIBILITY TO CONTACT THE DESIGN ENGINEER FOR ALL REQUIRED INSPECTIONS SUCH AS MATERIALS USED, COMPLETING CONSTRUCTION.
- 12) THE NEW SEWER SERVICE (AND/OR STRUCTURES) SHALL BE PRESSURE TESTED OR VIDEO TAPED AFTER FINAL INSTALLATION IS COMPLETE. THE ENGINEERING DIVISION SHALL BE OBTAINED SOLELY BY THE CONTRACTOR. THE ENGINEERING DIVISION SHALL BE OBTAINED SOLELY BY THE CONTRACTOR. THE SEWER SERVICE WILL NOT BE ACCEPTED UNTIL ONE OF THE TWO METHODS AND STRUCTURES ARE TESTED AND PASS. IS RECOMMENDED. ALL PERMITS.

DISCUSSION:

THE IMPERVIOUS SURFACE FOR THE LOT POST DEVELOPMENT IS APPROX. 3200 SF. USING A RUNOFF COEFF. OF .3 FOR NATURAL AND .9 FOR IMPERVIOUS SURFACES THE POST DEVELOPMENT RUNOFF IS AS FOLLOWS:
3200 SF (0.9)(.12) = 1425

THE RUNOFF WILL BE STORED AND INFILTRATED UTILIZING DRYWELLS.

METHODLOGY:

PERCOLATION RATE: 4 MIN. PER INCH

DRYWELL SIZE:

10 FT 6 IN DIAMETER
3 FT DEEP

BOTTOM AREA = $3.14 \times D^2 \times H / 4 = 3.14 \times 10.5^2 \times 10.5 / 4 = 86.6 \text{ SF}$

VOLUME OF PIT: $3.14 \times D^2 \times H^2 / 4 = 3.14 \times 6.5^2 \times 3 / 4 = 99.5 \text{ CF}$

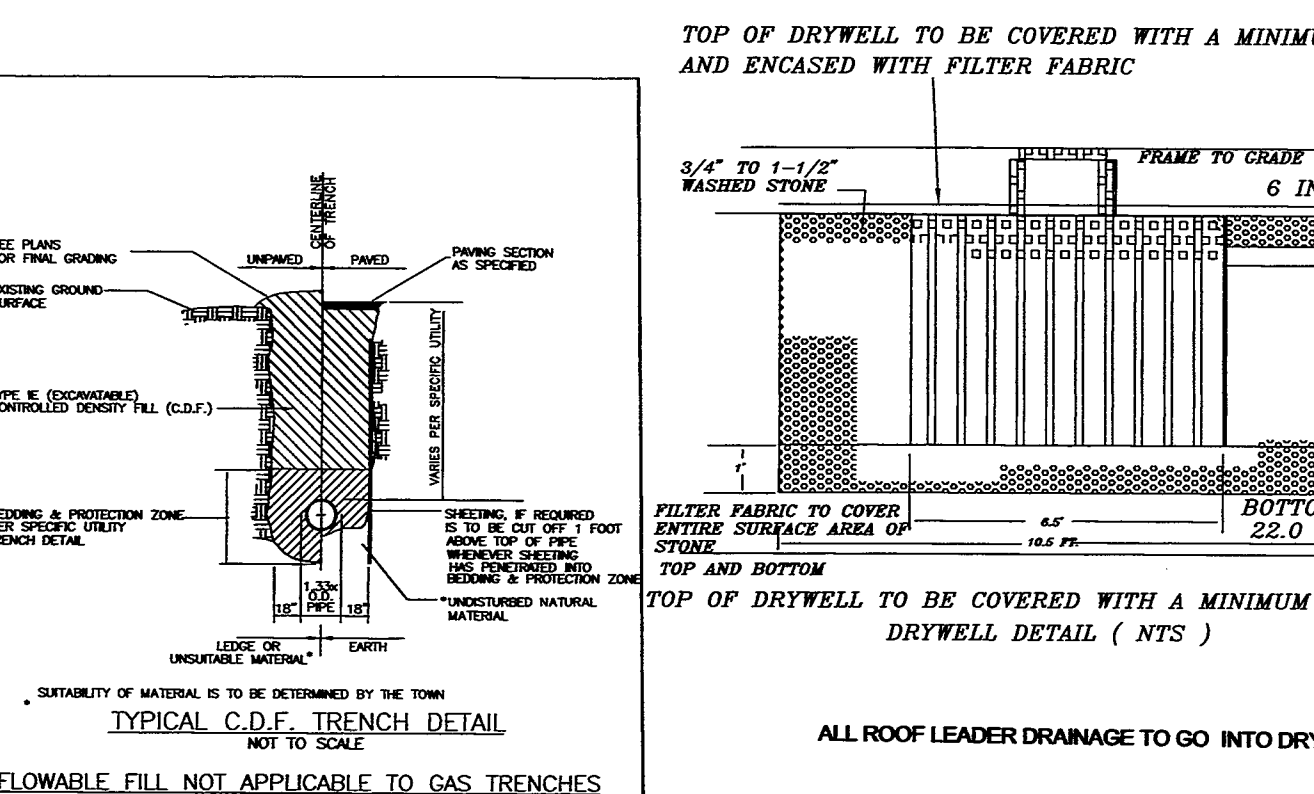
VOLUME OF STONE = $3.14 \times D^2 \times H / 4 = 3.14 \times 10.5^2 \times 10.5 / 4 = 259.8 \text{ CF}$

VOID STORAGE VOLUME = VOID RATIO (STONE VOLUME - PIT VOLUME)

STORAGE PER DRYWELL = $99.5 + 58.1 = 155.6 \text{ CF}$
(.35)(259.8 - 99.5) = 58.1

INFILTRATION CAPACITY = $.25(98.6)(1/12)(24)(60) = (2598 + 155) = 2753 \text{ CF/DAY}$

ONE DRYWELL REQUIRED

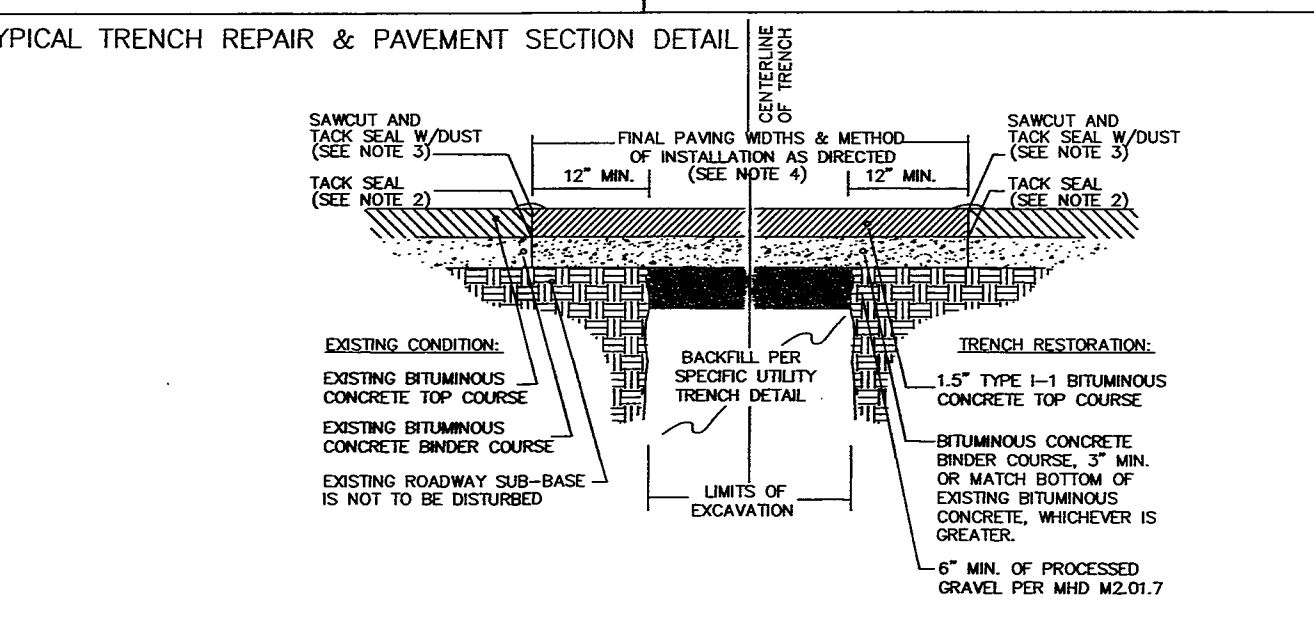


FLOWABLE FILL NOT APPLICABLE TO GAS TRENCHES

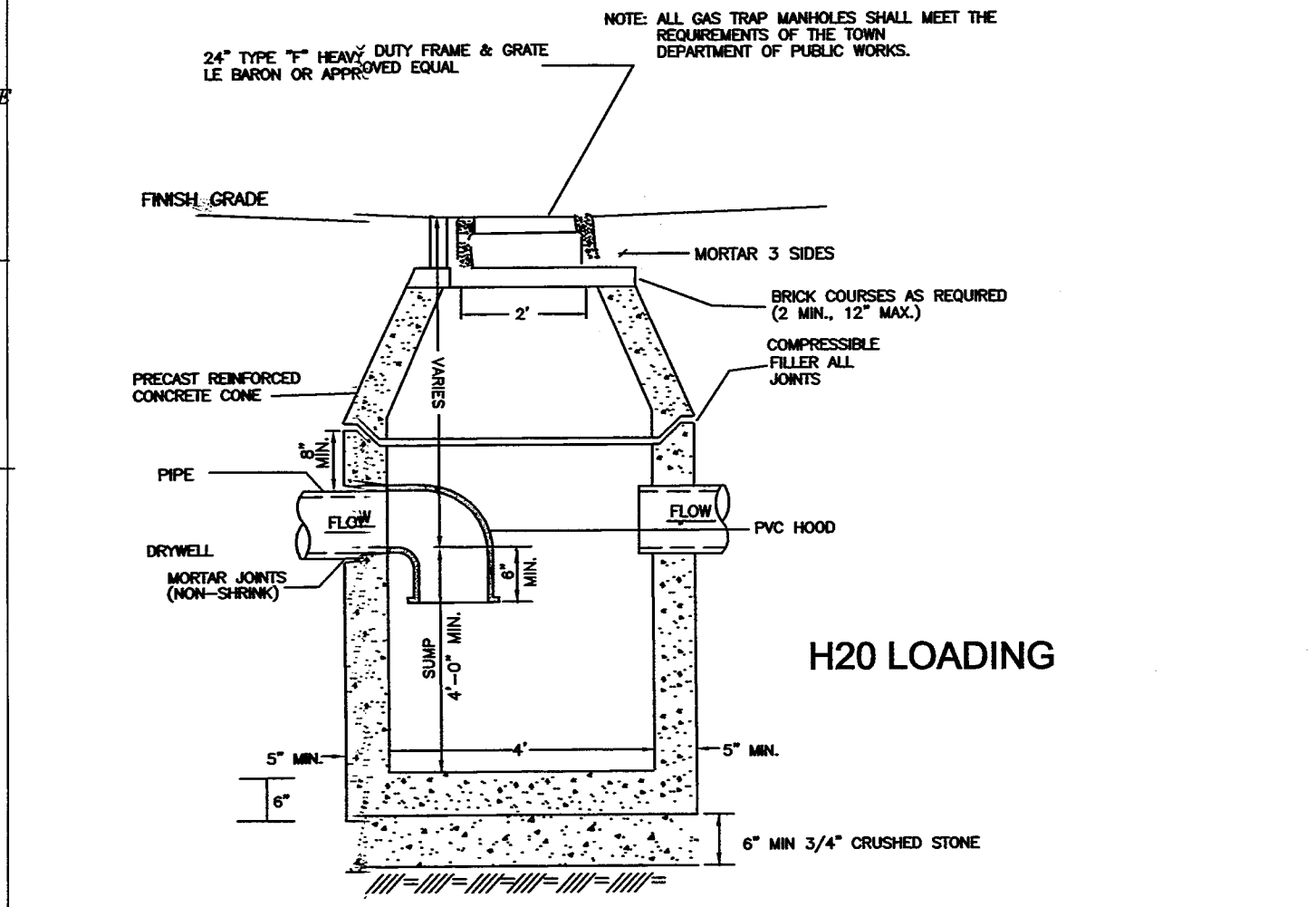
AS OF JAN. 1, 2008, ALL TRENCH EXCAVATION CONTRACTORS SHALL COMPLY WITH THE NEW TRENCH EXCAVATION AND SAFETY REQUIREMENTS, TO PROTECT THE PUBLIC FROM UNAUTHORIZED ACCESS TO UNLIMITED TRENCHES. AN EXCAVATION PERMIT IS REQUIRED AND APPLIES TO ALL TRENCHES ON PUBLIC OR PRIVATE PROPERTY.

EXIST WATER & SEWER SERVICES TO BE CUT AND CAPPED PER NOTE 7.

PROPOSED SEWER LINES AND MANHOLES TO BE AIR TESTED PRIOR TO ACCEPTANCE.



1. ALL INSTALLATION AND MATERIAL SPECIFICATIONS PER MASS. HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES, 1988 AS AMENDED.
2. ALL EXPOSED BITUMINOUS CONCRETE IS TO BE TACKED PER MHD PRIOR TO NEW BITUMINOUS CONCRETE INSTALLATION.
3. ALL EXPOSED JOINTS ARE TO BE SEALED WITH TACK AND STONE DUST.
4. ANY TOP COURSE APPLIED AT A WIDTH OF 6" WIDE OR GREATER IS TO BE PLACED BY MACHINE/DOZ SPREADER WHEN & AS DIRECTED BY THE TOWN.



TYPICAL PRECAST CONCRETE MANHOLE WITH GAS TRAP - PVC HOOD (NOT TO SCALE) H2O LOADING

PROPOSED BUILDING
105 MEMORIAL DRIVE
AVON, MA.
SCALE: 1 IN = 20 FT
JUNE 20, 2021 JULY 27, 2021

ESSEX ENG. & SURVEY
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