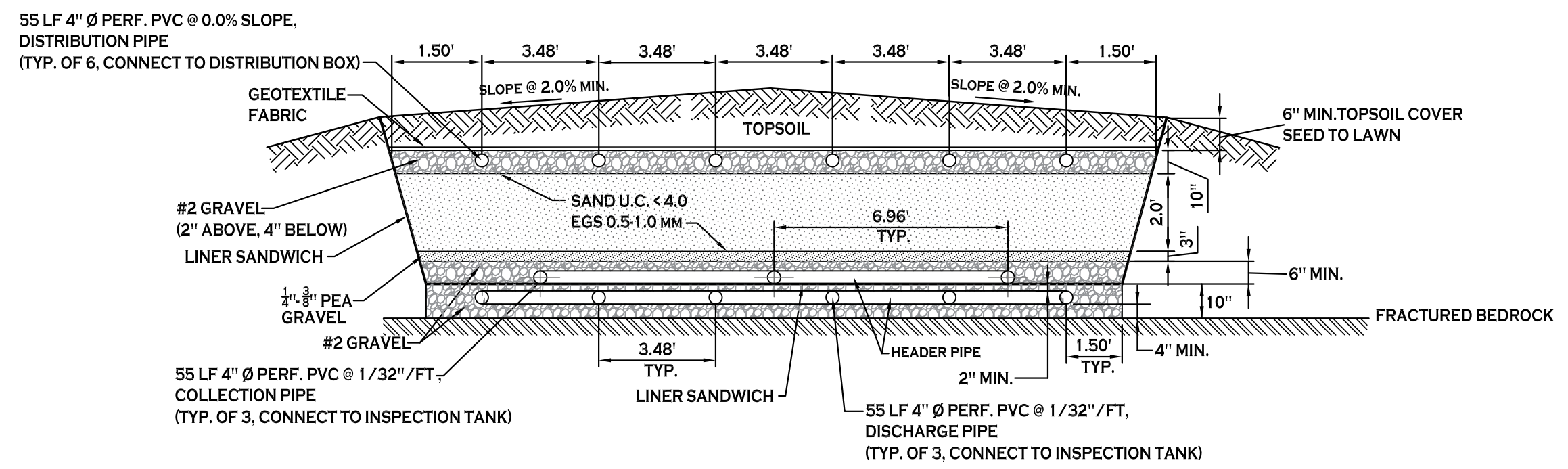


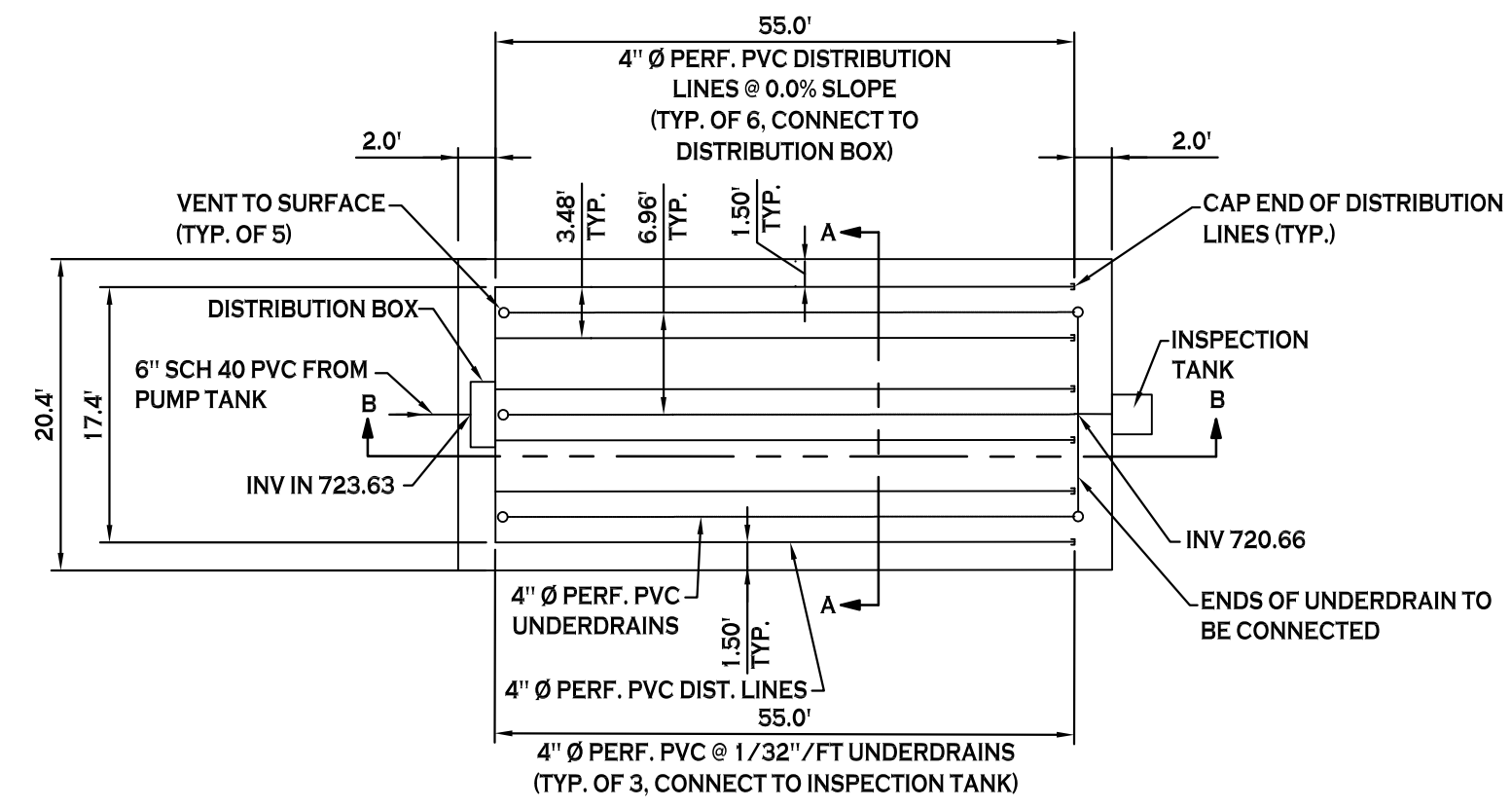
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**SAND FILTER CROSS SECTION A-A**

SCALE: N.T.S.

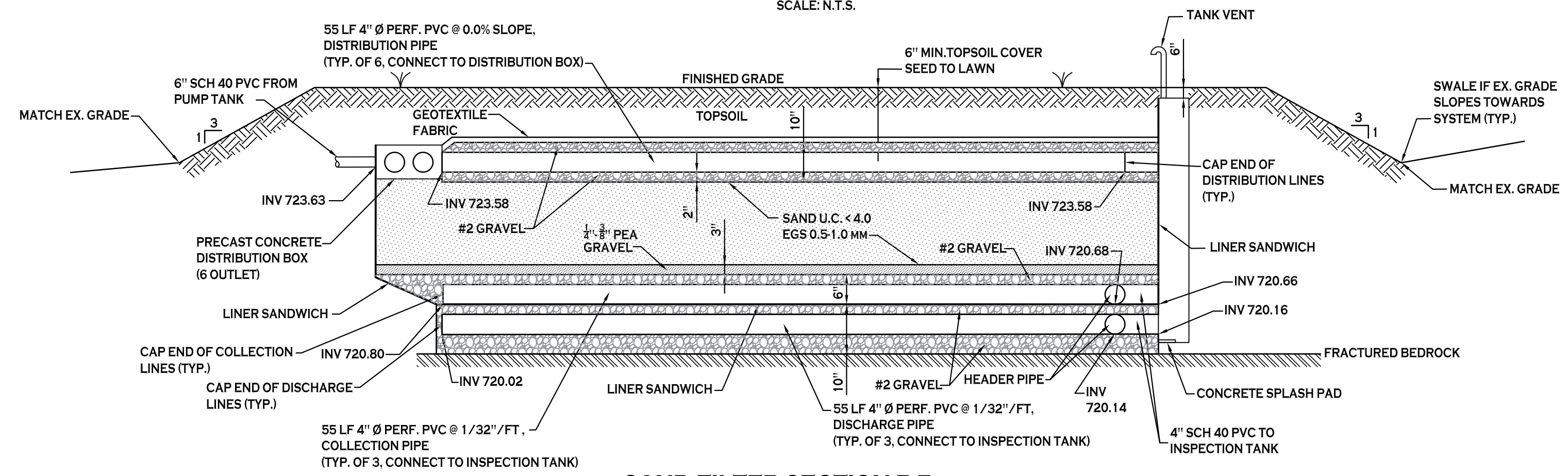


**SAND FILTER PLAN**

SCALE: 1"=10'

**SAND FILTER NOTES:**

1. ALL SAND SHALL BE UNIFORM COARSE TO MEDIUM SAND (< 4% PASSING #200 SIEVE). ALL PASSING 1/4 INCH SIEVE, HAVE A EFFECTIVE GRAIN SIZE (EGS) BETWEEN 0.25 - 1.00 MM, AN UNIFORMITY COEFFICIENT (UC) <= 4.
2. SEAL PENETRATIONS AND SEAMS OF LINER SANDWICH WATER TIGHT.
3. TOP OF SAND FILTER SHALL BE SLOPED TO DRAIN. AREAS AROUND THE FILTER SHALL BE GRADED TO DIVERT WATER AWAY.
4. ALL HEAVY EQUIPMENT SHALL BE KEPT OFF THE SAND FILTER AREA FOLLOWING CONSTRUCTION.
5. DEPENDING ON DEPTH OF HIGH WATER MARK OR BEDROCK OR THE EXISTING TOPOGRAPHY, THE ENTIRE FILTER MAY BE ADJUSTED UP OR DOWN. ALL REQUIRED CLEARANCES AND MINIMUM SLOPES MUST BE MAINTAINED. IF ADJUSTMENTS ARE MADE TO THE FILTER, THE ENGINEER SHALL BE NOTIFIED PRIOR TO START OF INSTALLATION.

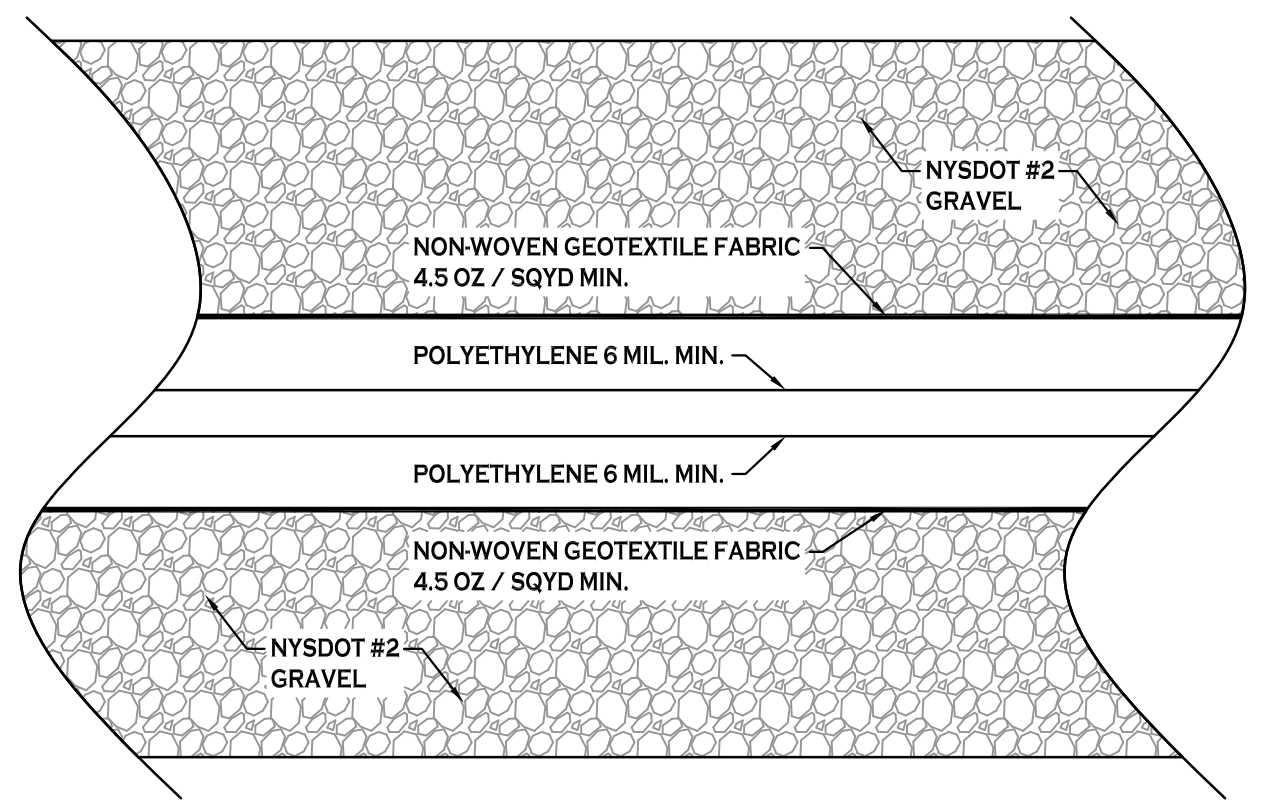


**SAND FILTER SECTION B-B**

SCALE: N.T.S.

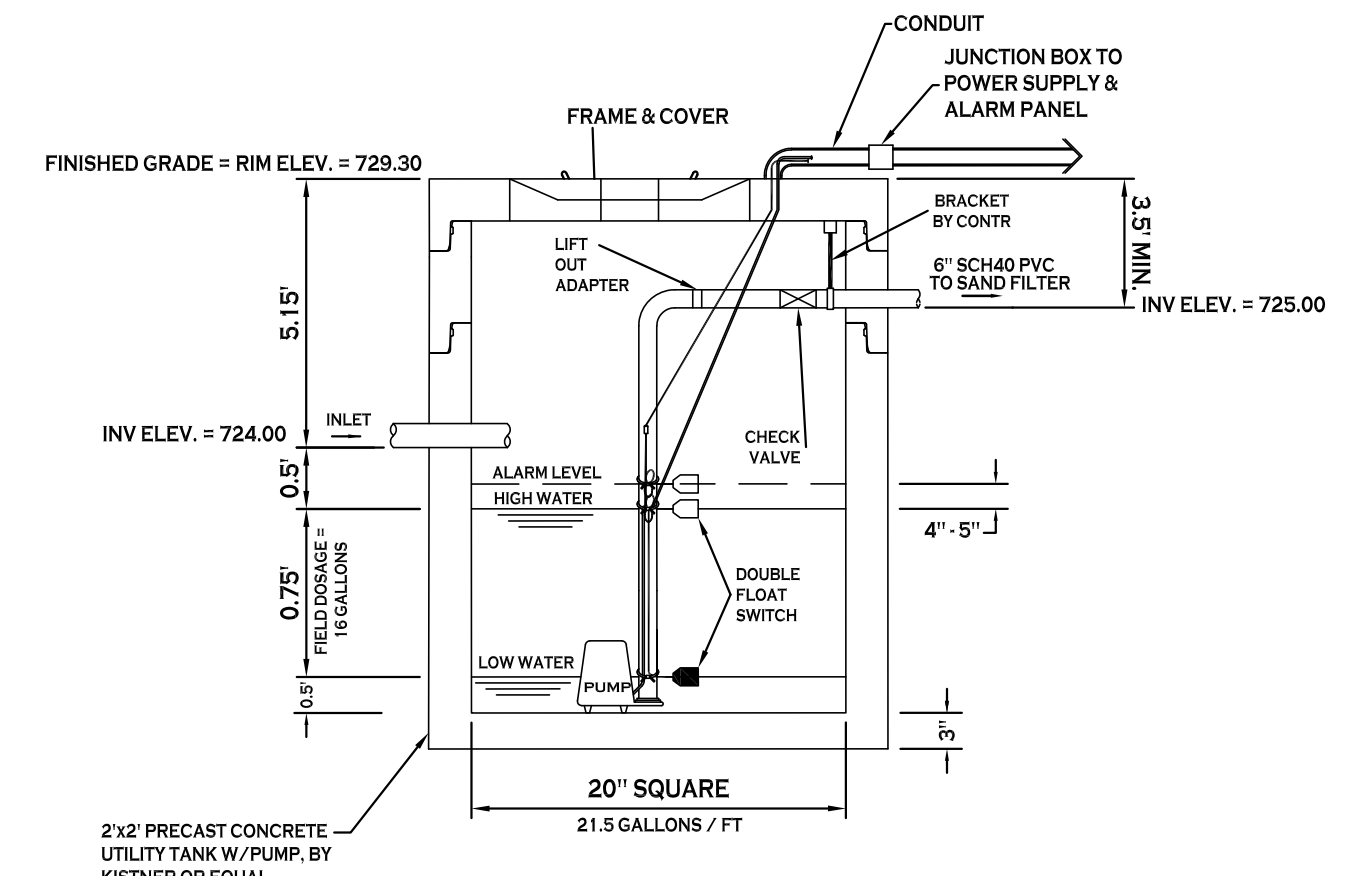
**ERIE COUNTY HEALTH DEPARTMENT NOTES**

1. THE EXCAVATED ROCK AREA MUST BE TESTED FOR ROCK INFILTRATION CAPACITY BY DISCHARGING A GARDEN HOSE RUNNING AS FULL AS POSSIBLE FOR A MINIMUM OF 30 MINUTES. WATER SHALL NOT ACCUMULATE. OR, IF THE ABOVE IS NOT POSSIBLE, FILL THE EXCAVATION WITH 2' OF HAULED WATER AND RECORD THE DRAINAGE RATE, WHICH MUST BE 30 MINUTES OR LESS TO DROP 1 INCH. AN EFFORT MUST BE MADE TO CLEAR SUFFICIENT DEBRIS TO OBSERVE BEDROCK SURFACE OVER THE EXTENT OF THE EXCAVATION.
2. SAND FILTER TO BE SIZED AS NORMAL EXCEPT THAT 0.8 GPD/SF APPLICATION RATE SHALL BE USED.
3. THE DOWNSTREAM ABSORPTION SYSTEM (DISCHARGE LINES) WILL BE CONSTRUCTED BENEATH THE SAND FILTER AS SHOWN IN THE SECTION.
4. MINIMUM OF 4" OF #2 GRAVEL SHALL BE PLACED BETWEEN THE EXCAVATED BEDROCK AND DISCHARGE LINES. A MINIMUM OF 2" OF #2 GRAVEL SHALL BE PLACED ON TOP OF THE DISCHARGE LINES PER THE SECTION.
5. THE SAND FILTER MUST BE LINED WITH THE "LINER SANDWICH" CONSTRUCTED BETWEEN THE DOWNSTREAM ABSORPTION SYSTEM AND THE SAND FILTER AS FOLLOWS:
  - TOP LAYER: NON-WOVEN GEOTEXTILE - TERRATEX 4.5 OR APPROVED EQUAL
  - 6 MIL. POLYETHYLENE
  - 6 MIL. POLYETHYLENE
  - BOTTOM LAYER: NON-WOVEN GEOTEXTILE - TERRATEX 4.5 OR APPROVED EQUAL
6. SLOPE LINER AT OUTSIDE EDGES TOWARDS THE COLLECTION LINES TO CHANNEL WATER TO COLLECTORS.
7. PIPE INTRUSIONS - USE FERNCO COUPLINGS OR APPROVED EQUAL.
8. INSPECTION TANK VENT PIPE SHALL BE OPEN GRATED AND EXPOSED TO THE ATMOSPHERE AT ALL TIMES. CAPPING OR BURYING THE VENT COULD RESULT IN A FINE. OPEN GRATE VENT PIPE MUST BE A MINIMUM OF 1/2' ABOVE THE GROUND SURFACE.
9. THE TOP ON THE INSPECTION TANK MUST BE LOCATED A MAXIMUM OF 3" BELOW GRADE. IF AT OR ABOVE GRADE, A LOCKABLE COVER SHALL BE PROVIDED.



**LINER SANDWICH DETAIL**

NOTE: LINER SANDWICH EXPLODED VIEW FOR CLARITY. NO VOID SPACE SHALL BE PERMITTED BETWEEN LAYERS

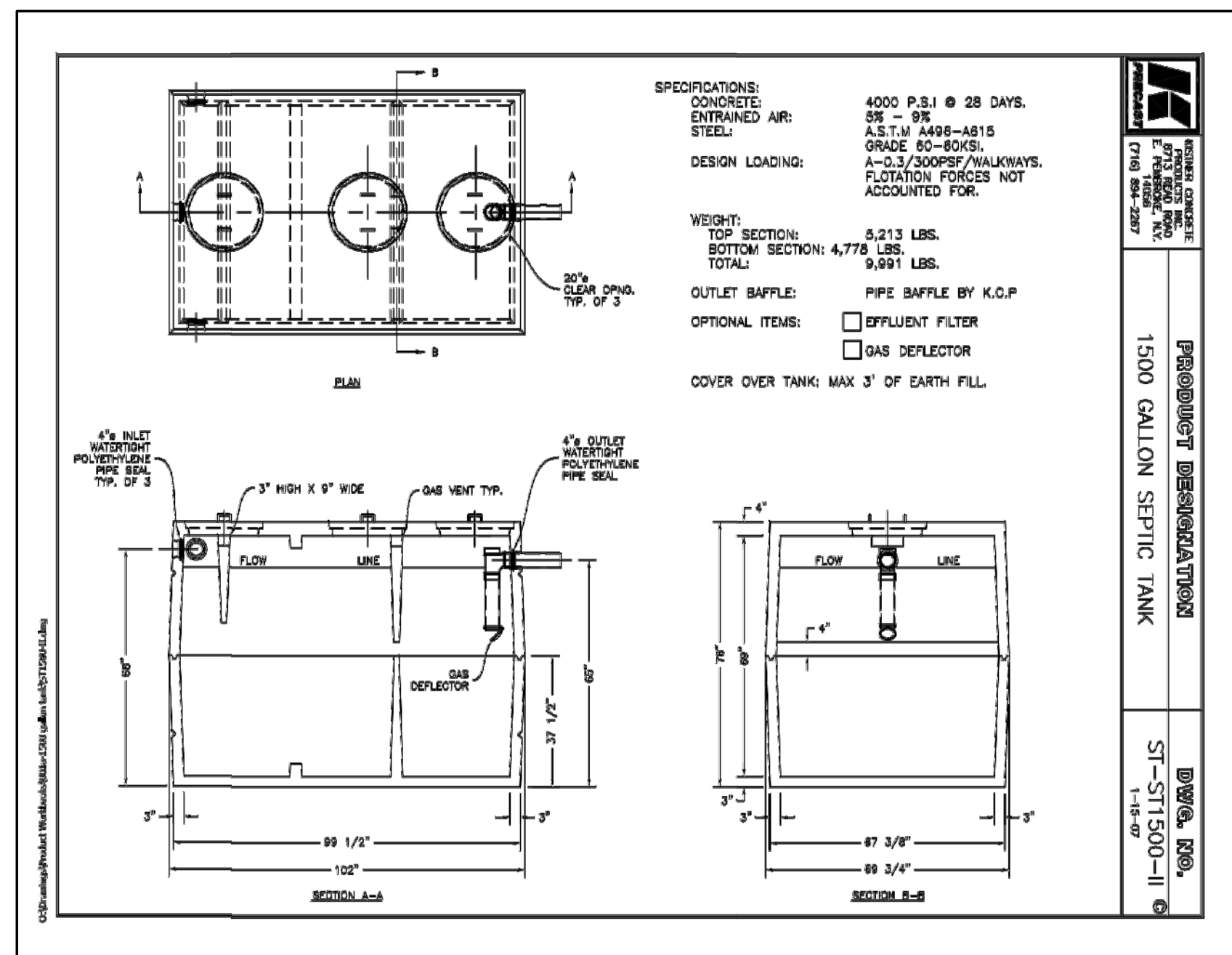


**PUMP TANK**

NOT TO SCALE

**NOTES:**

1. ALL PUMP SYSTEMS SHALL BE SUPPLIED & INSTALLED COMPLETE WITH ALL NECESSARY ELECTRICAL DEVICES, CONTROLS AND AUDIO/VISUAL ALARMS.
2. TANKS SHALL HAVE EXTERIOR BITUMASTIC COATING.
3. INSTALL OSHA APPROVED STAIRS IN TANK IN LOCATION THAT DOES NOT INTERFERE WITH PUMP OPERATION.
4. PUMP CONTROL PANEL TO BE INSTALLED ON PRESSURE TREATED POST OR IN OTHER LOCATION WHERE VISIBLE, COORDINATE WITH OWNER.
5. THE PUMP SHALL BE INSTALLED IN A 2' x 2' INSPECTION TANK WITH THE FLOATS SET PER THE DETAIL SHOWN. THE ACCESS HATCH SHALL BE EXTENDED TO BE FLUSH WITH FINISHED GRADE.



REVISIONS:	No.	Description	Date
	1	Rev. pump tank detail	2/18/20

PROJECT NAME:  
New Construction

**Office & Warehouse Buildings**  
9074 Main Street  
Clarence, New York

Date: 8/20/19  
Drawn by: P. Sheedy  
Scale: As Noted

DRAWING NAME:  
Utility Details

DRAWING NO.  
**C-402**

Project no.: 19.004