

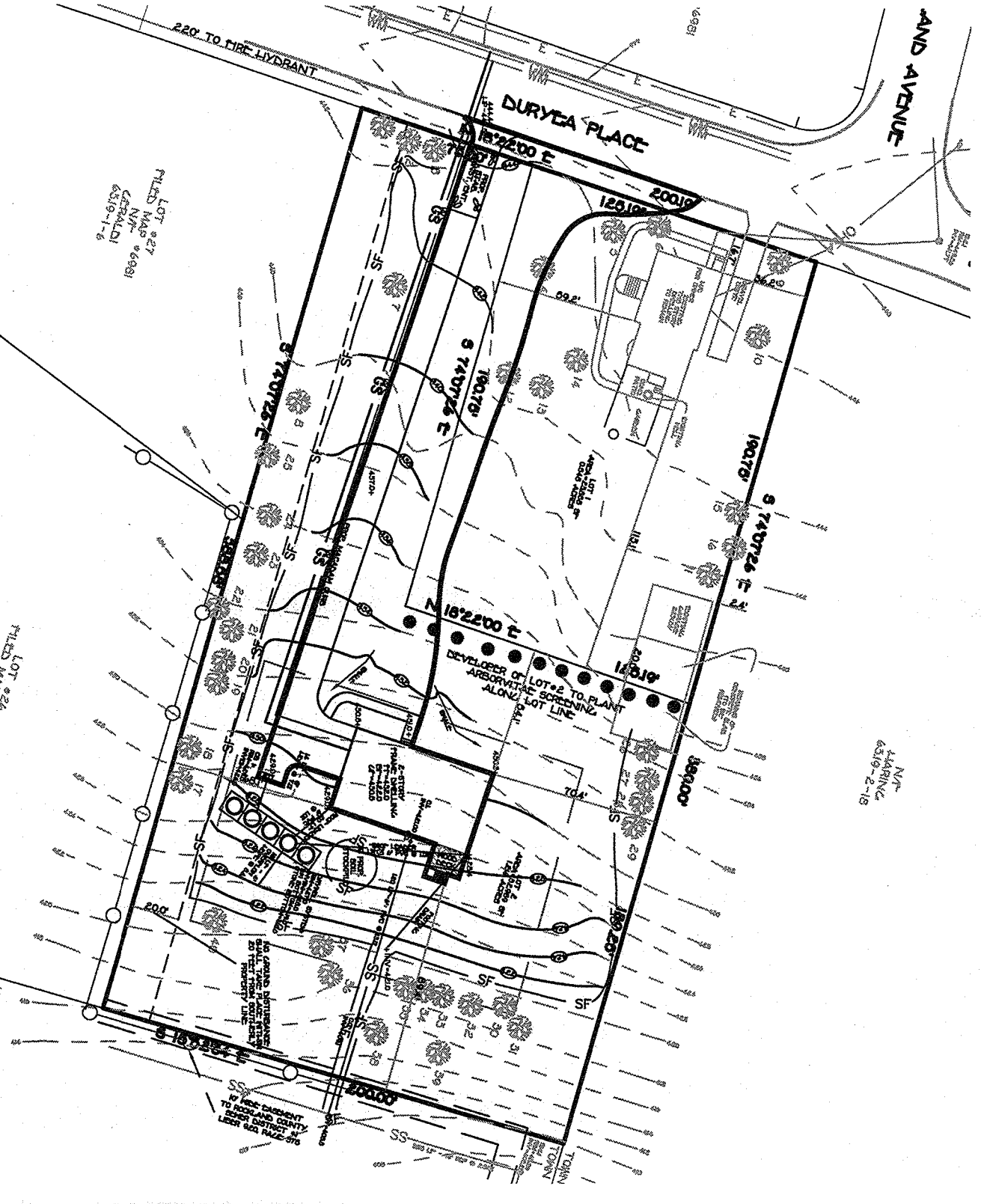




**Drainage Calculations:**

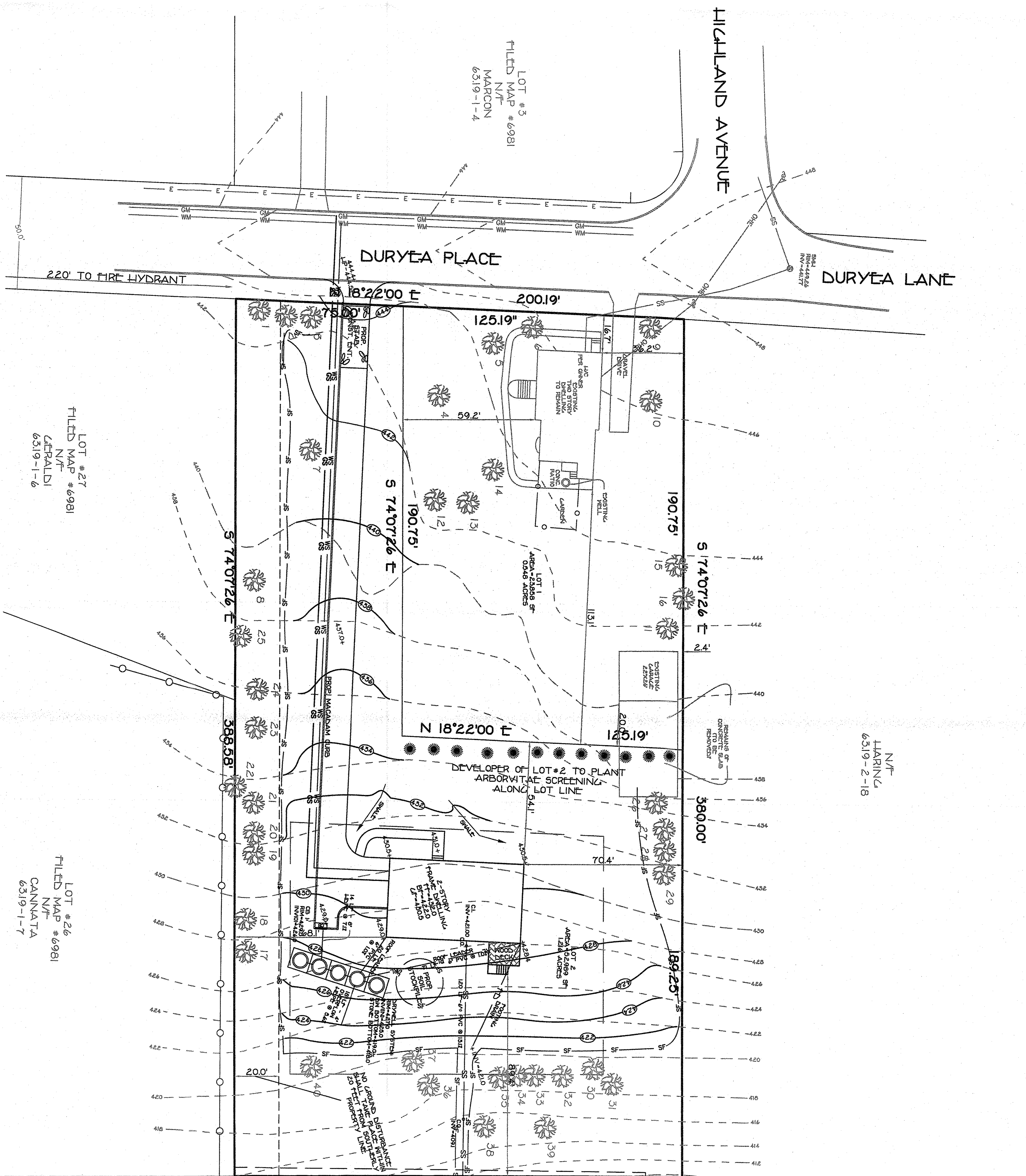
Infiltration Rate = 1.30 min  
 Use pervious pavers & drywell system, surrounded by 1 foot of stone between drywells and on bottom (rectangular envelope as shown on plan).  
**Volume within drywell (V<sub>d</sub>):**  
 $V_d = \pi \cdot D^2/4 \cdot h = 169.65 \text{ ft}^3$   
 $D = 6 \text{ ft}$   
 $h = 7 \text{ ft}$   
**Volume within stone:**  
 $V_s = \pi \cdot D^2/4 \cdot L = 169.65 \text{ ft}^3$   
 $D = 6 \text{ ft}$   
 $L = 7 \text{ ft}$   
**Volume of Precipitation (V<sub>p</sub>):**  
 $V_p = A_p \cdot R \cdot T = 0.785 \cdot 1 \cdot 100 = 78.5 \text{ ft}^3$   
 $A_p = 1 \text{ ft} \times 1 \text{ ft} = 1 \text{ ft}^2$   
 $R = 0.785 \text{ in/hr} = 0.00654 \text{ ft/hr}$   
 $T = 100 \text{ min} = 1.667 \text{ hr}$   
**Soil Percolation Rate (S):**  
 $S = V_p / (V_d + V_s) = 0.00654 \text{ ft/hr} / 3.39 \text{ ft}^3 = 0.00193 \text{ ft/hr}$   
 $S = 0.00193 \text{ ft/hr} \cdot 24 \text{ hr/day} = 0.0463 \text{ ft/day}$   
 $S = 1.04 \text{ in/day} = 0.26 \text{ ft/day}$   
**100-year rainfall = 9.3 inches**  
 From Table 2.1 of TR 55:  
 Initial Runoff =  $Q_i = 6.103 \text{ inches}$   
 Proposed Runoff =  $Q_p = 7.349 \text{ inches}$   
 $Q = 7.349 \text{ in} = 6.103 \text{ in} + 1.246 \text{ in}$   
**Storage Required =  $V_s = 1.246 \text{ in} \times 11 \text{ ft} \times 12 \text{ in} \times 16,264 \text{ ft}^2 = 1,688.75 \text{ ft}^3$**   
**Drywells Required =  $V_p / S = 1,688.75 \text{ ft}^3 / 0.26 \text{ ft/day} = 6,495 \text{ ft}^2$**   
**Therefore, provide five (5) drywells, 6 ft inner diameter, 6 ft deep**

**Overall 24 hour volume and drywell (V<sub>d</sub>):**  
 $V_d = V_p + V_s + V_{in} = 169.65 + 169.65 + 367.27 = 706.57 \text{ ft}^3$   
**Required Storage Calculations:**  
 Soils - Weatherfield "C"  
 Drainage Area =  $D_A = 16,264 \text{ ft}^2$   
 Drywell Area:  
 ImperVIOUS Surface =  $0 \text{ ft}^2$  @ CN of 98  
 Good Grass =  $16,264 \text{ ft}^2$  @ CN of 74  
 Weighted CN = 74  
 ImperVIOUS Surface =  $6,579 \text{ ft}^2$  @ CN of 98  
 Good Grass =  $9,685 \text{ ft}^2$  @ CN of 74  
 Weighted CN = 84  
 100-year rainfall = 9.3 inches  
 From Table 2.1 of TR 55:  
 Initial Runoff =  $Q_i = 6.103 \text{ inches}$   
 Proposed Runoff =  $Q_p = 7.349 \text{ inches}$   
 $Q = 7.349 \text{ in} = 6.103 \text{ in} + 1.246 \text{ in}$   
**Storage Required =  $V_s = 1.246 \text{ in} \times 11 \text{ ft} \times 12 \text{ in} \times 16,264 \text{ ft}^2 = 1,688.75 \text{ ft}^3$**   
**Drywells Required =  $V_p / S = 1,688.75 \text{ ft}^3 / 0.26 \text{ ft/day} = 6,495 \text{ ft}^2$**   
**Therefore, provide five (5) drywells, 6 ft inner diameter, 6 ft deep**



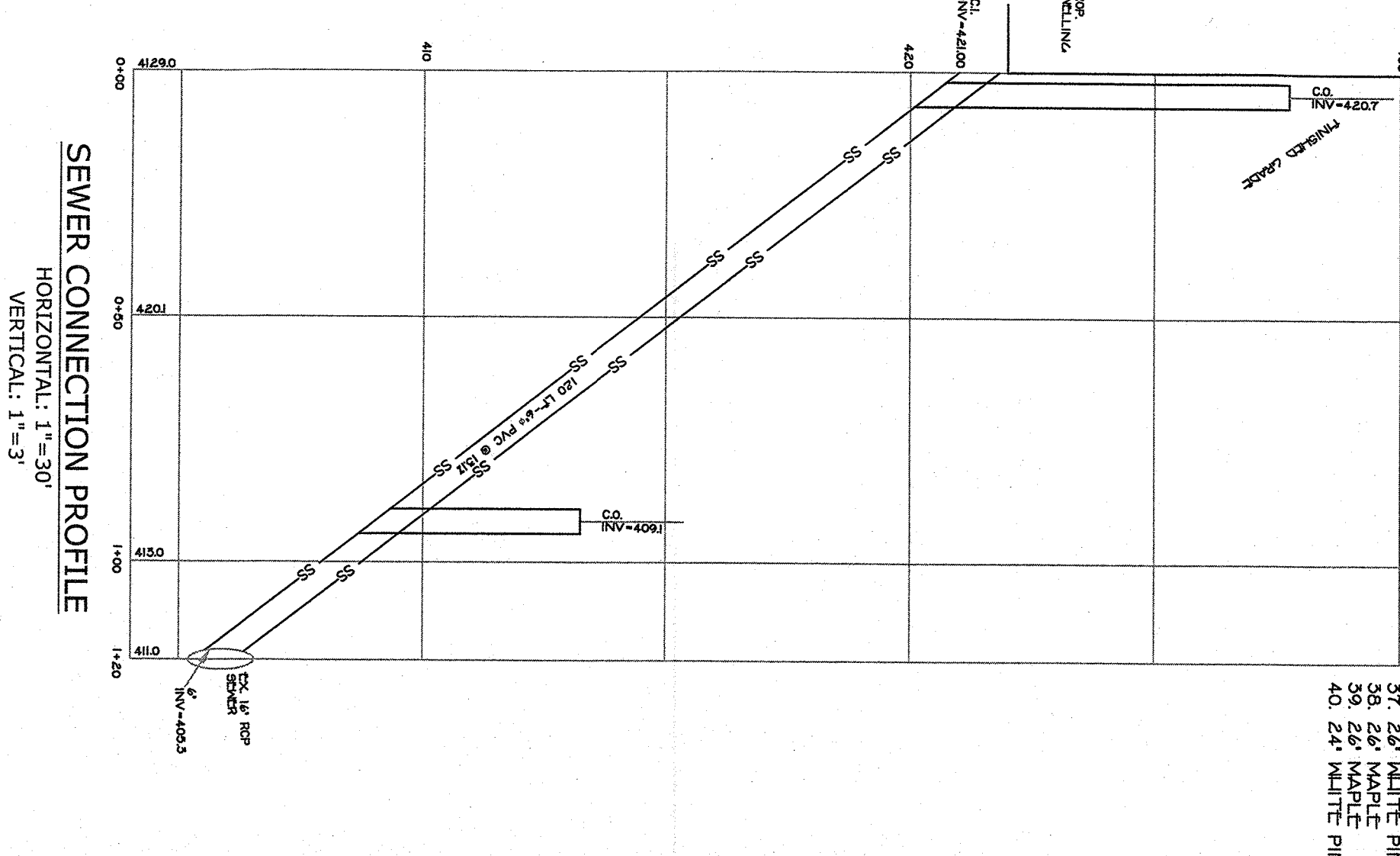
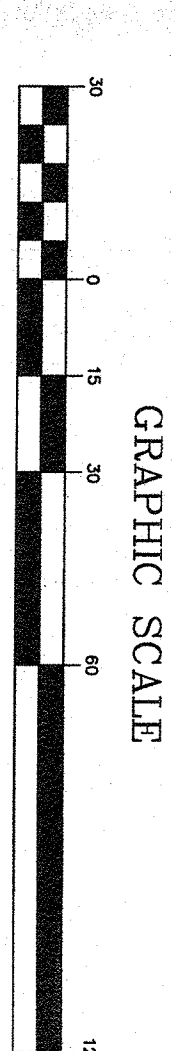
**DRAINAGE AREA MAP**  
 SCALE: 1"=60'  
 DRAINAGE AREA=16,264 SF

BULK REGULATIONS - ZONE R-22 GROUP: 1										
REQUIRED	LOT AREA (SF)	STREET FRONTAGE (FT)	LOT WIDTH (FT)	FRONT YARD (FT)	SIDE YARD (FT)	BOTH SIDE YARDS (FT)	REAR YARD (FT)	ACC. STRUC. SIDE YARD (FT)	MAX BLDG HT	MAX F.A.R.
PROVIDED LOT 1	22,500	75	125	40	25	60	45	5	9'7" FT	0.20
PROVIDED LOT 2	23,858	125.19	125.19	16.7**	36.2	95.4	113.1	2.4**	14'7" FT**	0.11
PROVIDED LOT 2	52,989	75	200	54.1	68.1	138.5	89.4	NA	9'7" FT	0.12



**IMPERVIOUS SURFACE CALCULATIONS**

EXISTING	LOT 1	LOT 2
CONCRETE FOUNDATION: 515 SF	CONCRETE FOUNDATION: 515 SF	CONCRETE FOUNDATION: 559 SF
GARAGE: 572 SF	GARAGE: 572 SF	GARAGE: 572 SF
DRIVEWAY: 462 SF	DRIVEWAY: 462 SF	DRIVEWAY: 3770 SF
WALKWAY: 372 SF	WALKWAY: 372 SF	WALKWAY: 221 SF
LANDING/STEPS: 94 SF	LANDING/STEPS: 94 SF	LANDING/STEPS: 2100 SF
HOUSE: 1,028 SF	HOUSE: 1,028 SF	HOUSE: 178 SF
DECK & STAIRS: 178 SF	DECK & STAIRS: 178 SF	DECK & STAIRS: 178 SF
NET INCREASE = -535 SF	NET INCREASE = -535 SF	NET INCREASE = 5,708 SF
3,128 SF/23,858 SF = 13.1% DEVELOPMENT COVERAGE	3,128 SF/23,858 SF = 13.1% DEVELOPMENT COVERAGE	6,287 SF/52,989 SF = 11.8% DEVELOPMENT COVERAGE



DATE	REVISIONS
6/12/20	REVISE PLANS PER COM.
6/29/20	REVISE PLANS PER COM.
6/16/20	UNTHAW DRAINAGE REPORT
	DESIGNED EM
	CHECKED PG
	DRAWN EM
	APPROVED PG

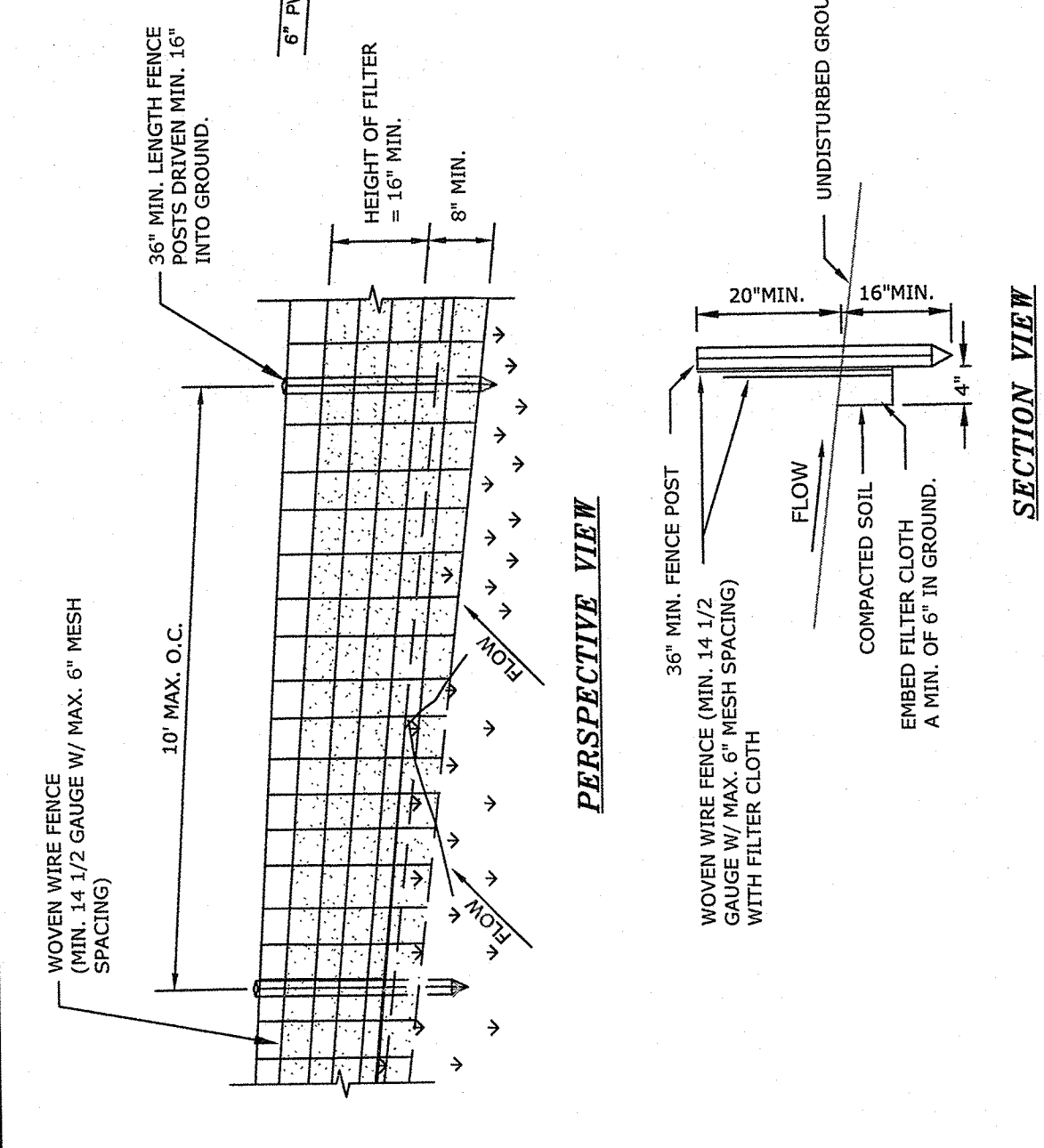
GRADING, DRAINAGE & UTILITIES  
 MINOR SUBDIVISION  
 FOR  
**PATRICIA S. LANDER**

LAWLET OF NANUET  
 TOWN OF ORANGETOWN  
 ROCKLAND COUNTY, NEW YORK  
**PAUL CDANSKI PE, PLLC**  
 25 RIVERSIDE DRIVE  
 SUFFERN, NY 10901

- TREE LIST**
- 1 16' WHITE PINE
  - 2 22' SPRUCE
  - 3 30' MAPLE
  - 4 30' MAPLE
  - 5 19' MAPLE
  - 6 19' MAPLE
  - 7 24' SPRUCE
  - 8 28' SPRUCE
  - 9 14' SPRUCE
  - 10 14' SPRUCE
  - 11 14' SPRUCE
  - 12 24' SPRUCE
  - 13 19' PINE
  - 14 19' PINE
  - 15 24' MAPLE
  - 16 20' MAPLE
  - 17 22' MAPLE
  - 18 29' MAPLE
  - 19 29' MAPLE
  - 20 29' MAPLE
  - 21 22' MAPLE
  - 22 22' MAPLE
  - 23 29' MAPLE
  - 24 30' MAPLE
  - 25 24' MAPLE
  - 26 24' SPRUCE
  - 27 20' SPRUCE
  - 28 20' SPRUCE
  - 29 20' SPRUCE
  - 30 20' SPRUCE
  - 31 16' SPRUCE
  - 32 16' SPRUCE
  - 33 16' SPRUCE
  - 34 20' SPRUCE
  - 35 16' SPRUCE
  - 36 24' MAPLE
  - 37 24' MAPLE
  - 38 24' MAPLE
  - 39 24' MAPLE
  - 40 24' MAPLE

UNAUTHORIZED ALTERATION OR ADDITION TO THIS PLAN IS A VIOLATION OF SECTION 7209(a) OF THE NYS ESDS LAW. ANY SUCH ALTERATION SHALL BE VOID AND THE ENGINEER SHALL NOT BE HELD RESPONSIBLE THEREFOR. CERTIFICATIONS ARE NOT TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS. USE OF UNSEALED COPIES OF THIS DOCUMENT IN ANY MANNER IS STRICTLY PROHIBITED. ANY VIOLATION OF THESE TERMS SHALL BE CONSIDERED A VIOLATION OF FEDERAL AND STATE LAWS.

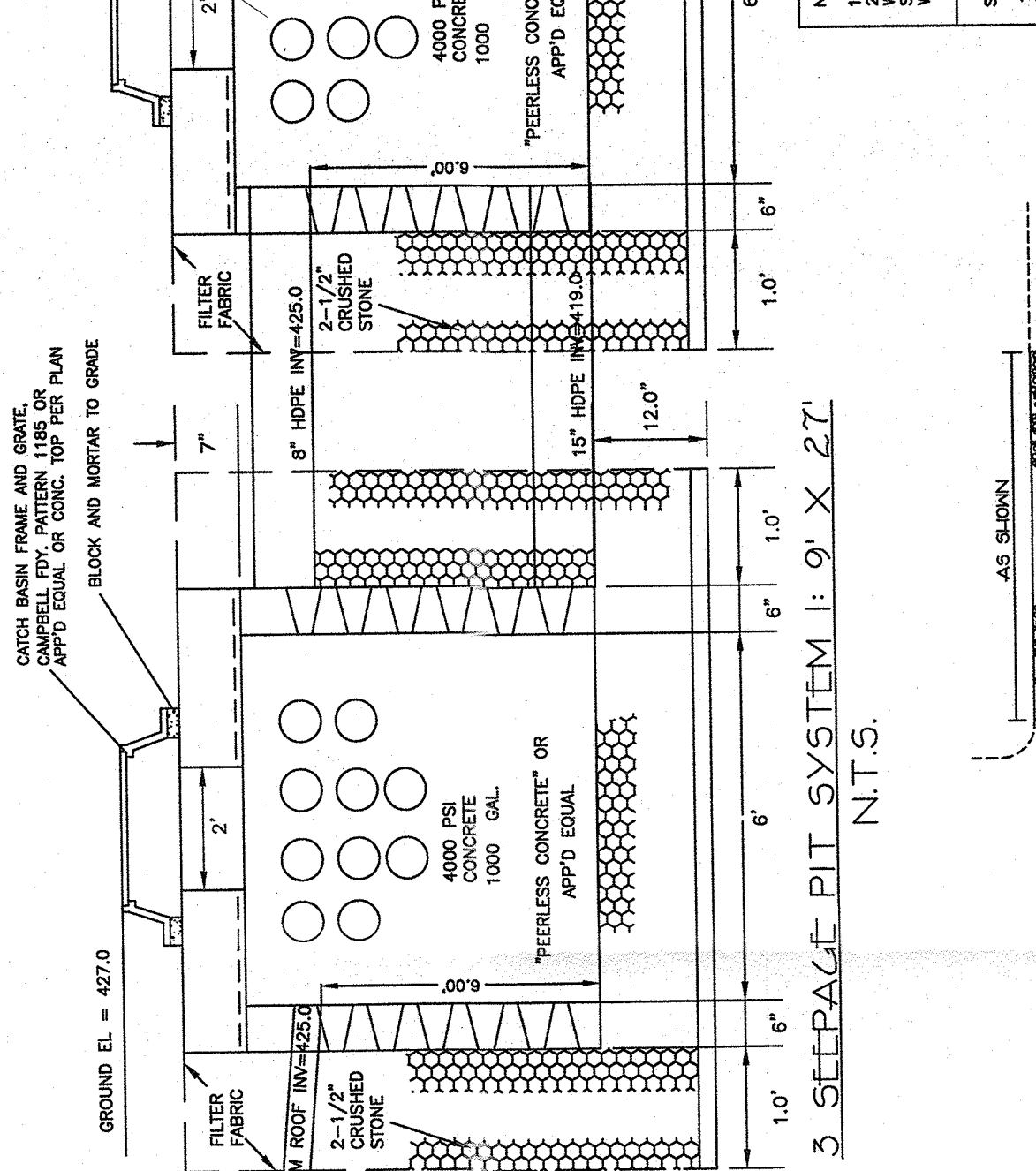
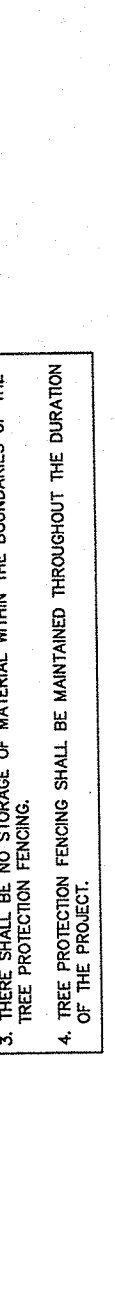
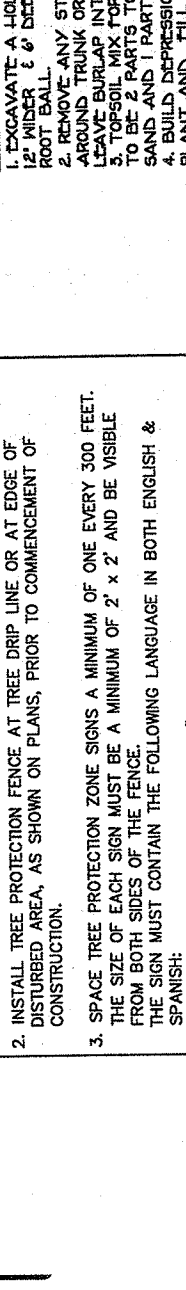
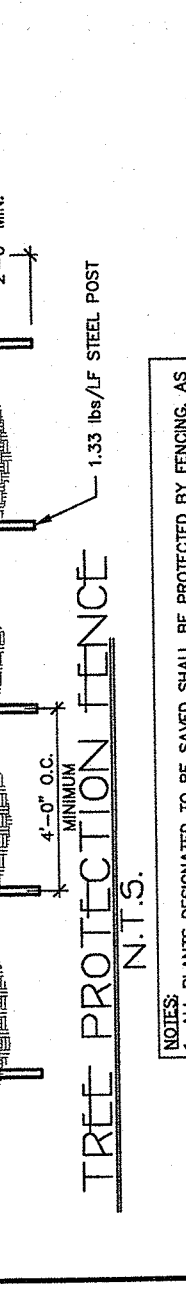
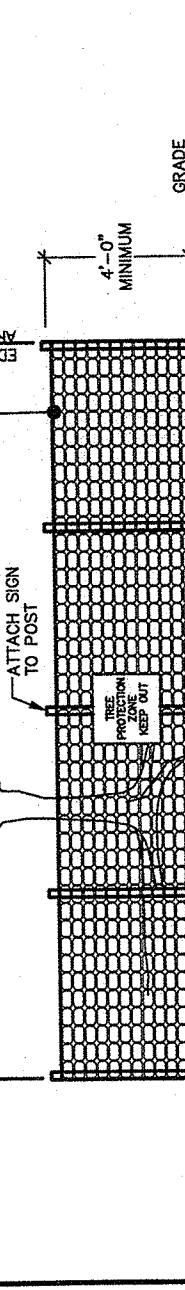
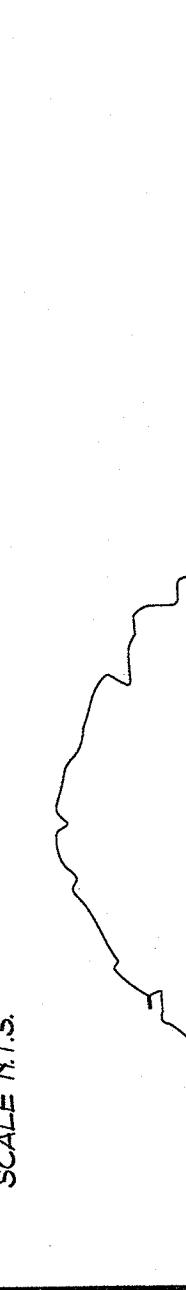
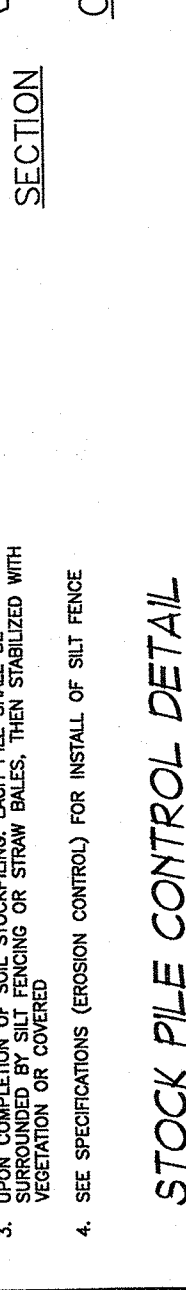
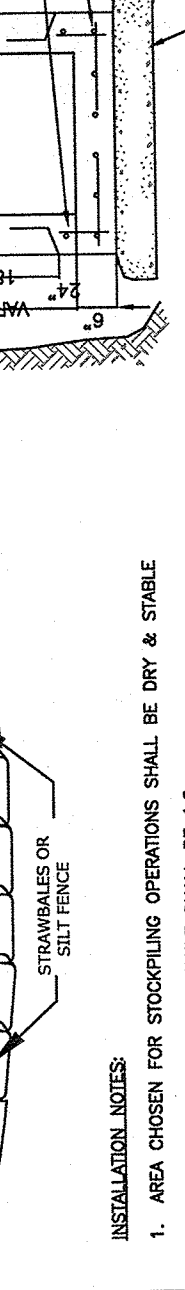
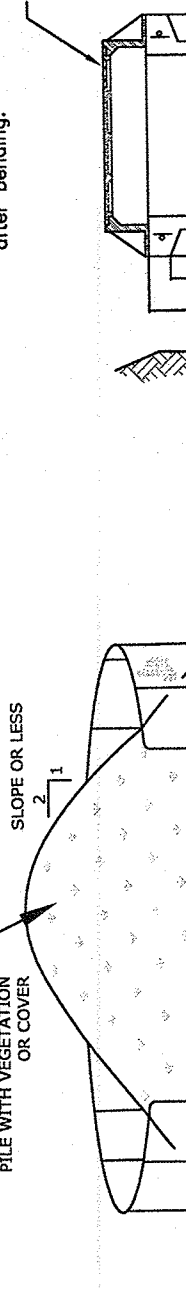
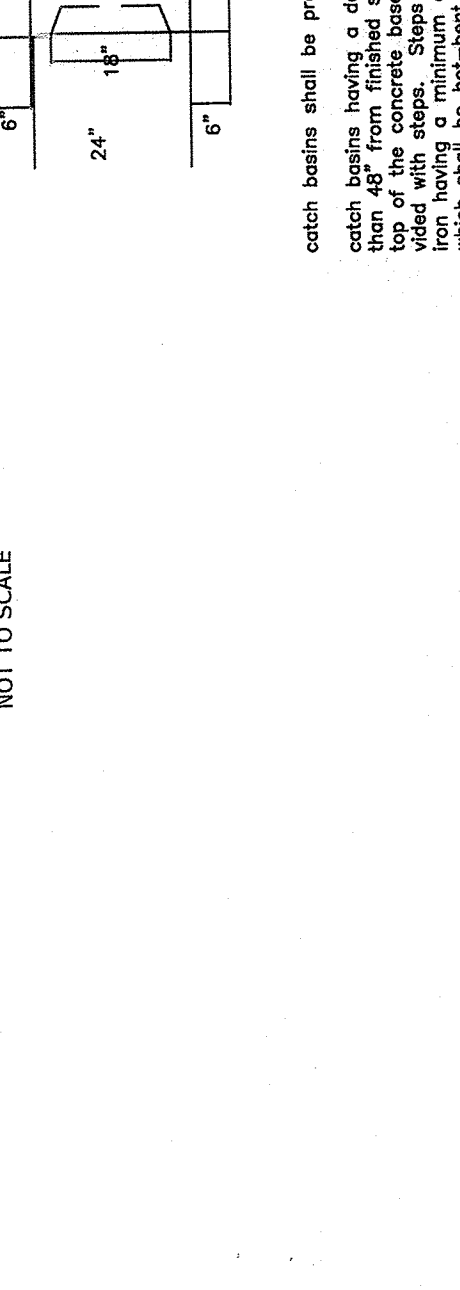




**CONSTRUCTION SPECIFICATIONS**

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED TO WOVEN WIRE FENCE WITH TIES, 12 1/2" SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 12 1/2" GAUGE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVER-LAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFIT 100X, STABILINKA T1-40N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

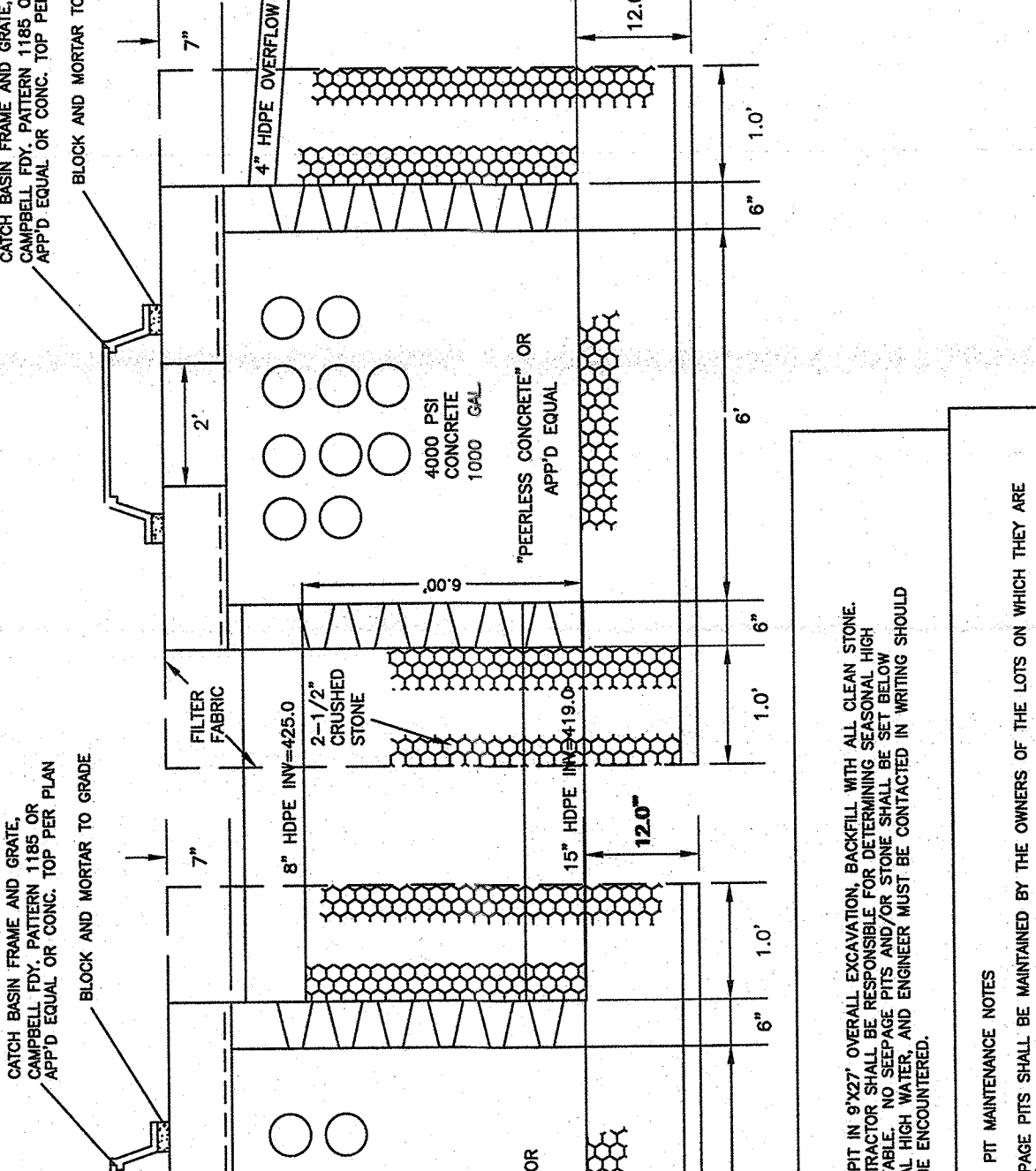
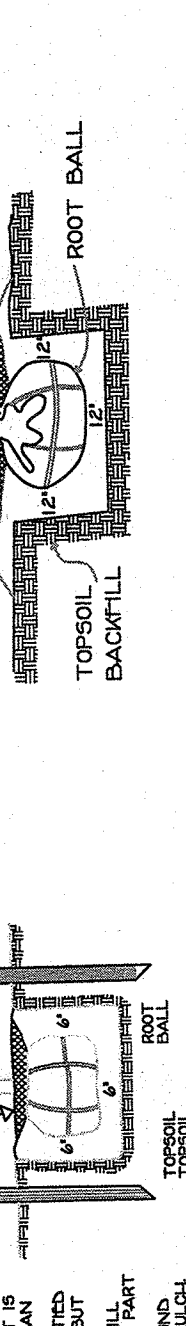
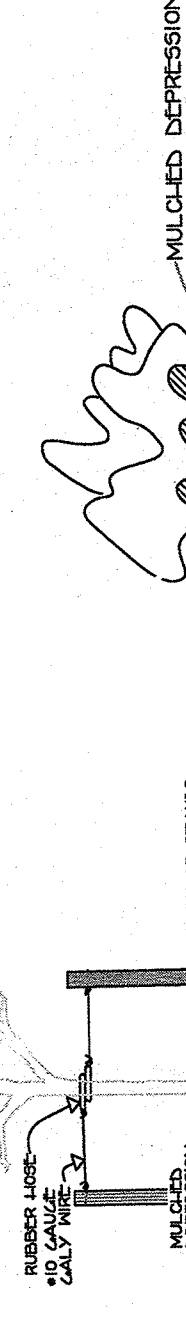
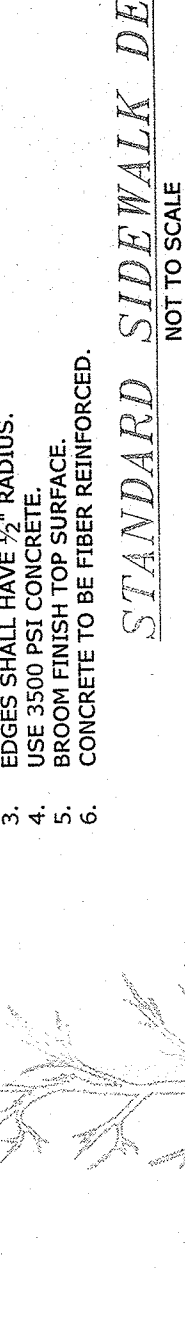
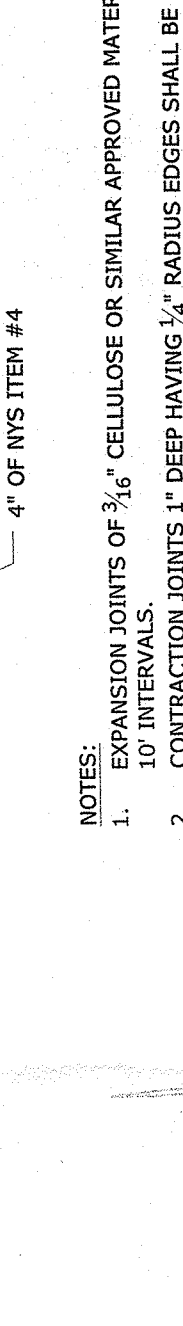
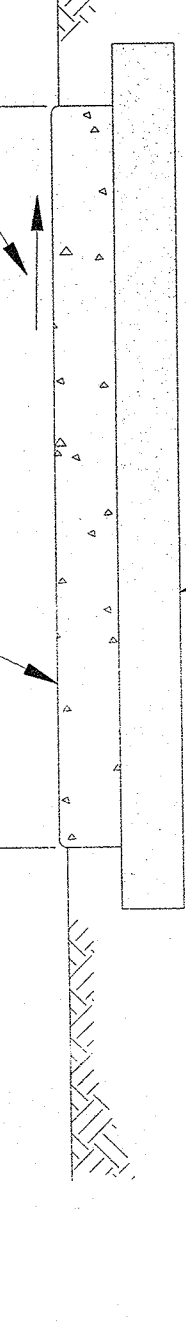
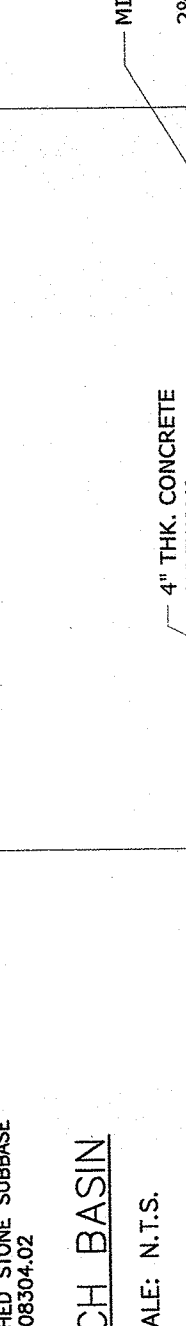
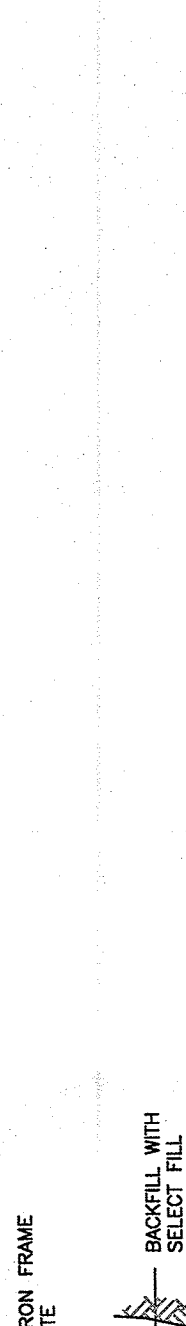
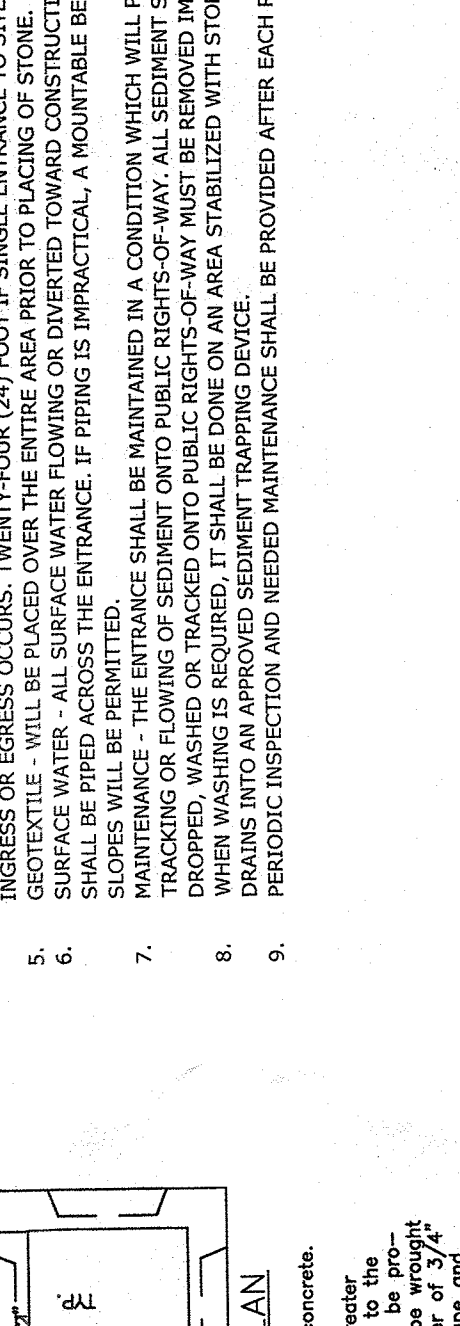
**SILTATION FENCE**



**STABILIZED CONSTRUCTION ENTRANCE**

- CONSTRUCTION SPECIFICATIONS:
1. STONE SIZE - USE 1-4 INCH STONE OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
  2. LENGTH - NOT LESS THAN 50 FEET.
  3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
  4. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA OF PLACING OF STONE.
  5. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SLOPES WILL BE PERMITTED.
  6. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ON TO ADJACENT AREAS. SEDIMENT TRAPPING DEVICES WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
  7. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

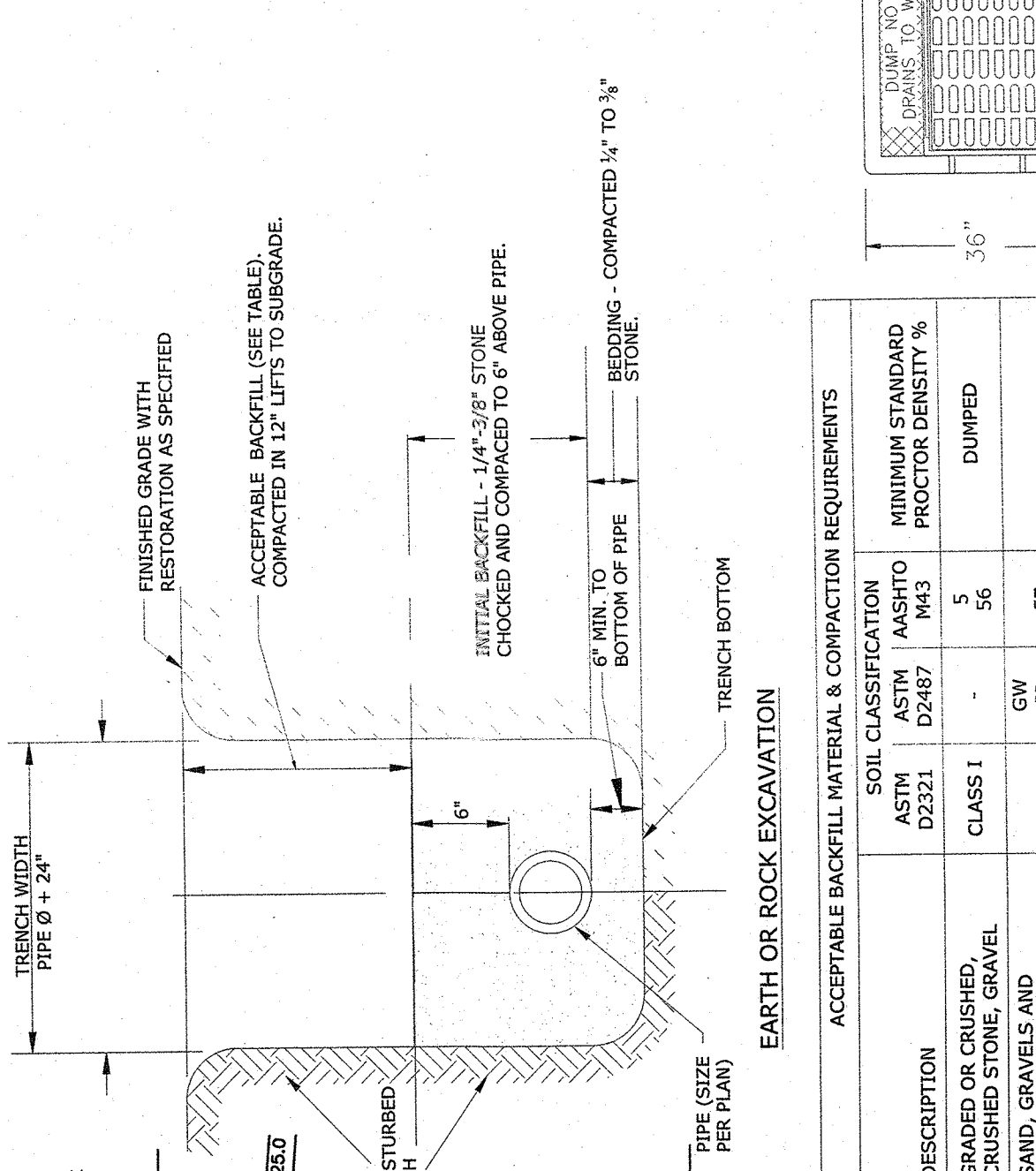
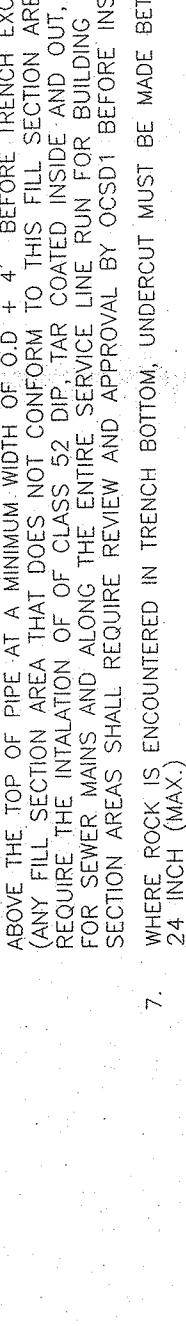
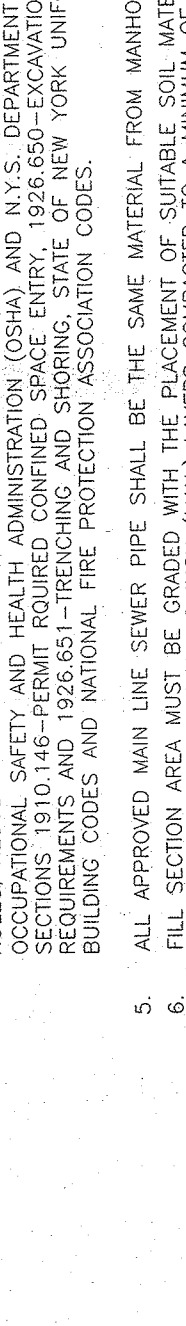
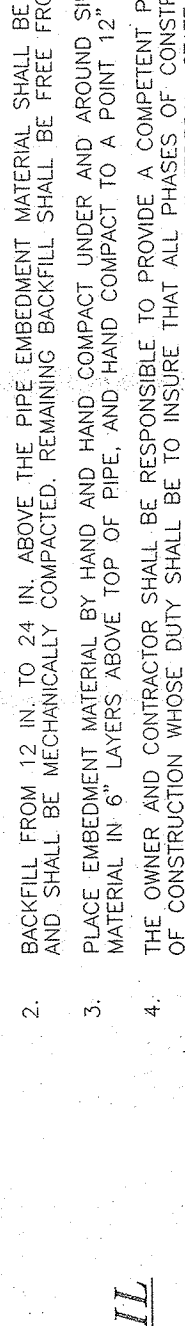
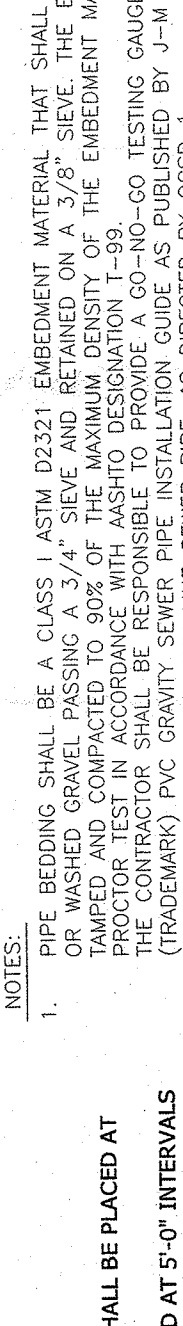
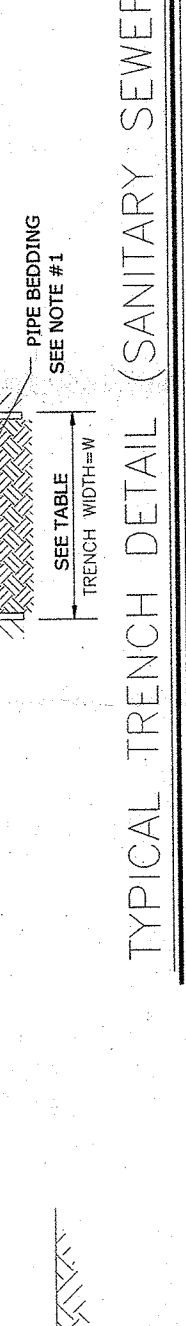
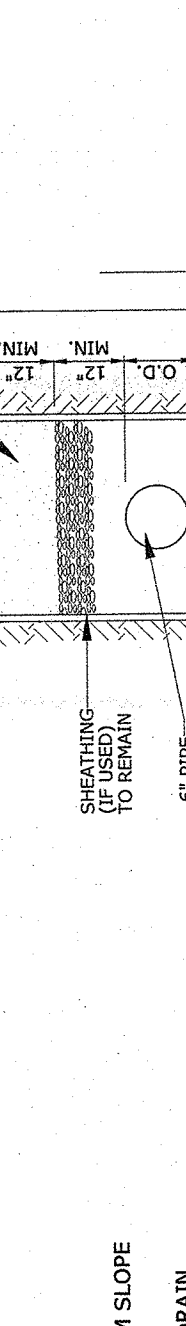
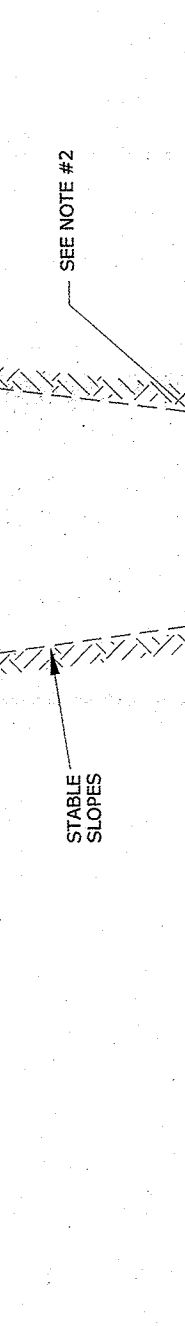
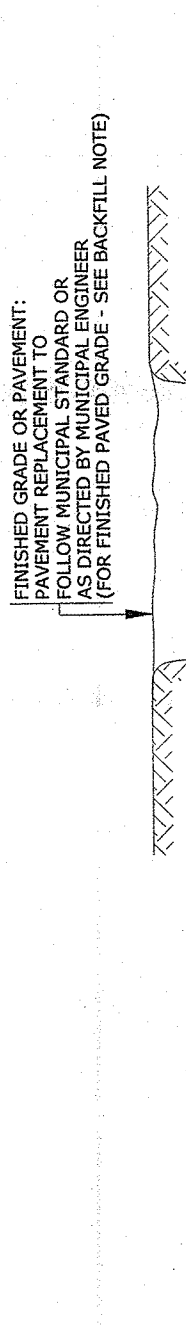
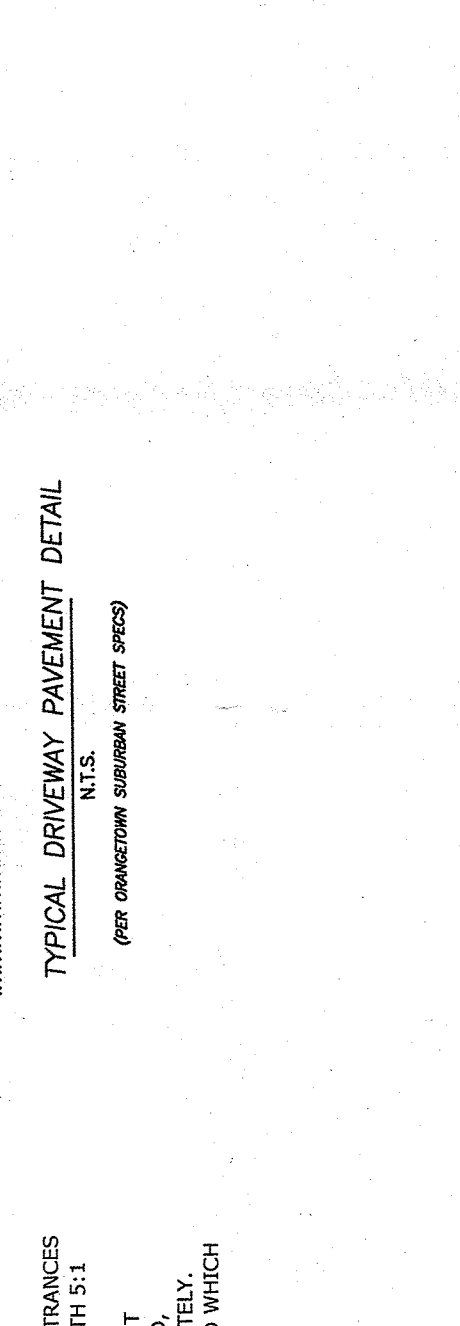
**TYPICAL DRIVEWAY PAVEMENT DETAIL**



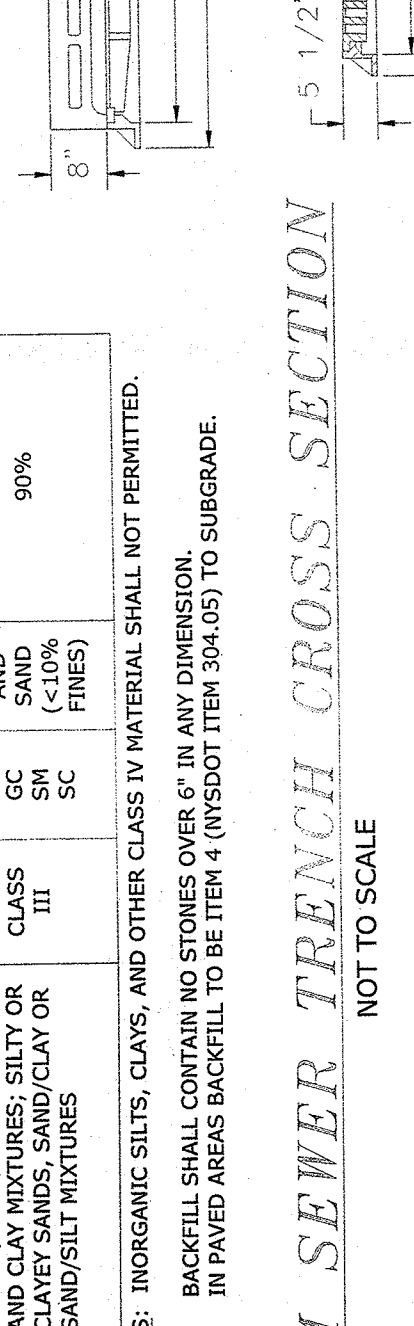
**STORM SEWER TRENCH CROSS SECTION**

DESCRIPTION	CLASS I	CLASS II	CLASS III
GRADED OR CRUSHED SAND, GRAVELS AND GRAVEL/SAND MIXTURES; LITTLE OR NO FINES	GW	SW	SP
SILTY OR CLAYEY GRAVELS, GRAVEL/SAND/SILT OR GRAVEL/CLAY SANDS, SAND/CLAY OR SAND/SILT MIXTURES	GM	SM	SC

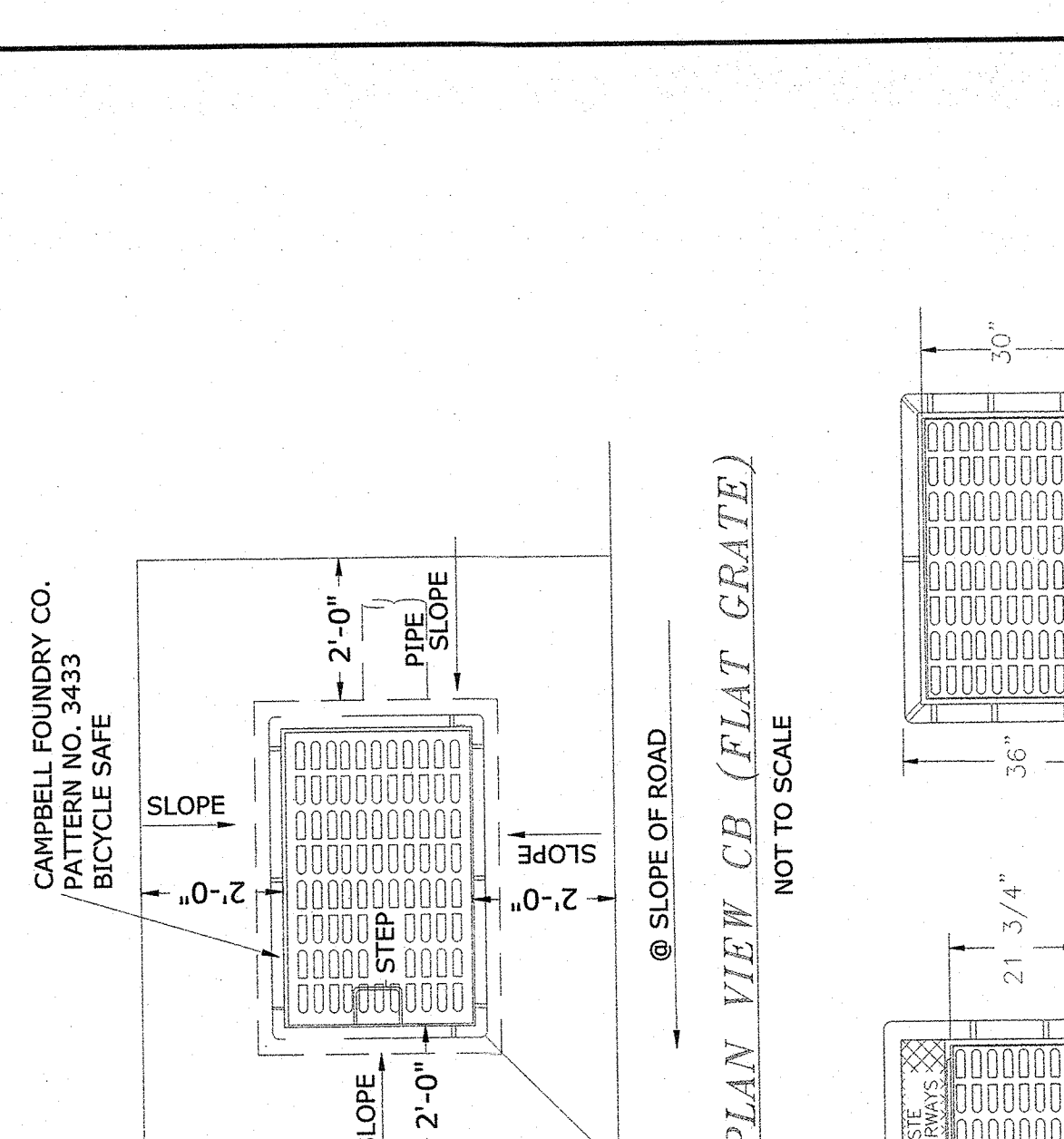
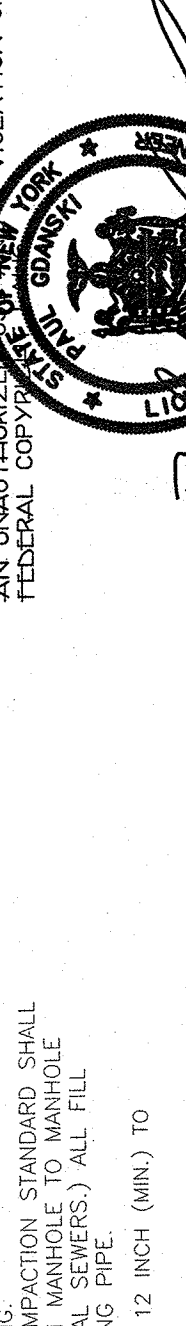
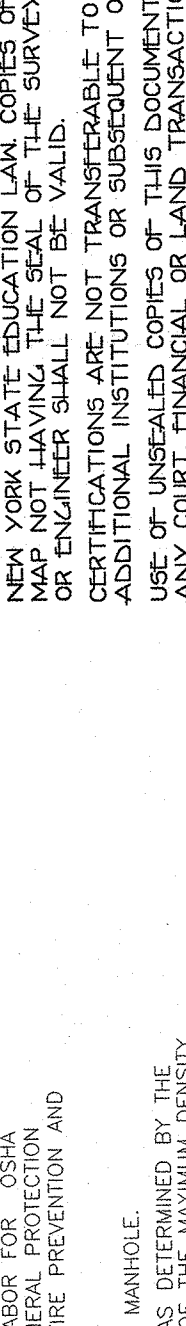
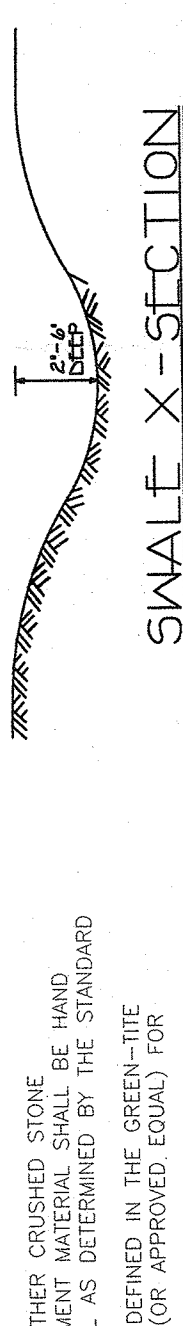
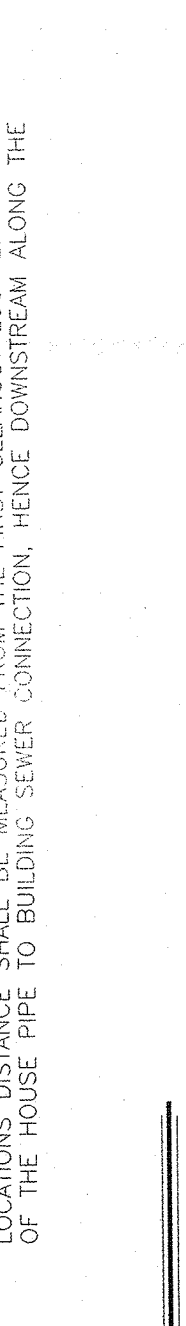
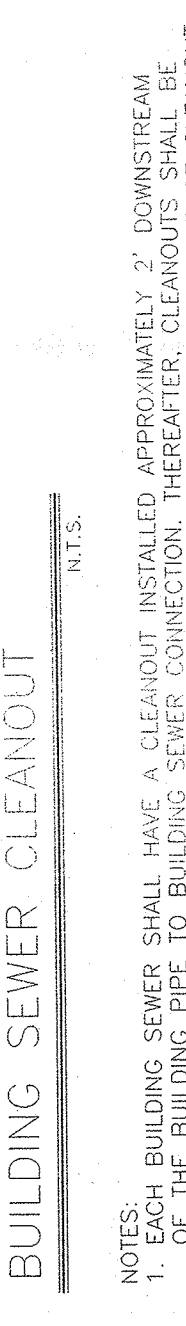
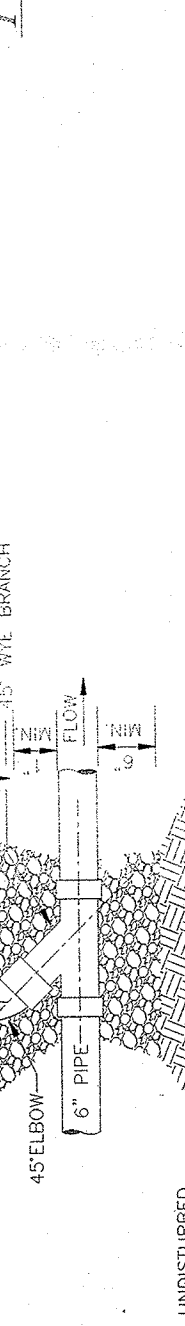
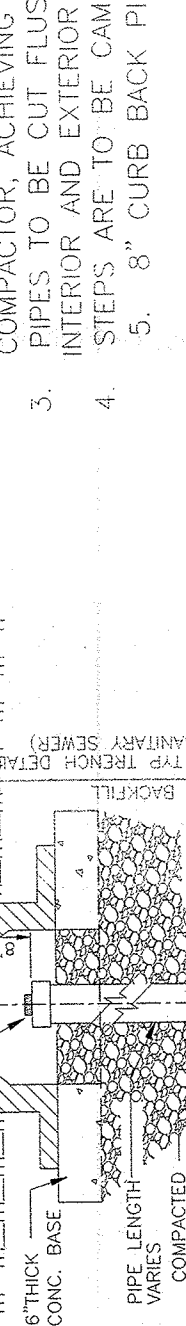
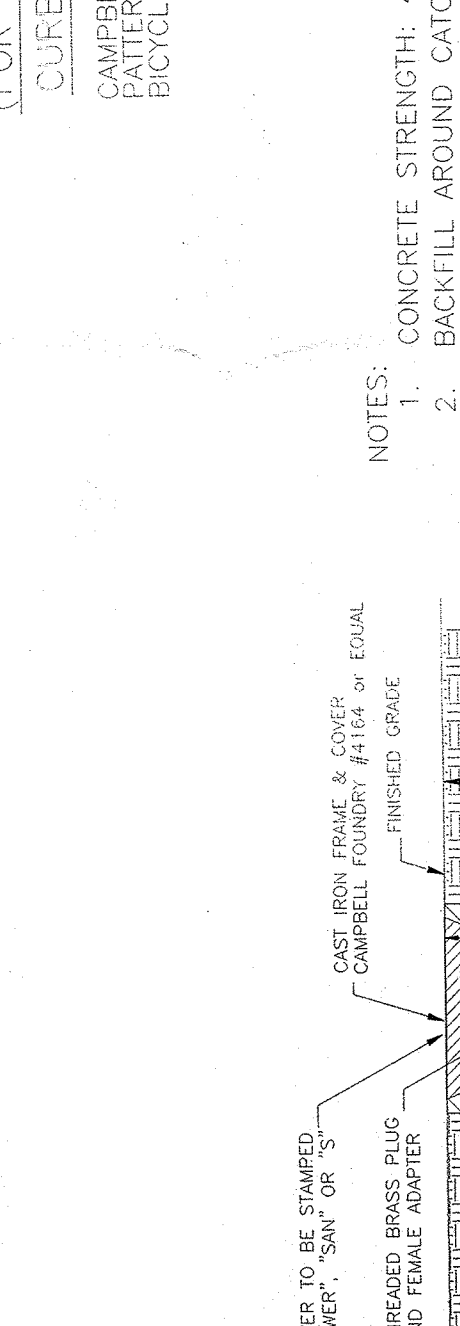
**STORM SEWER TRENCH CROSS SECTION**



**CATCH BASIN FRAMES**



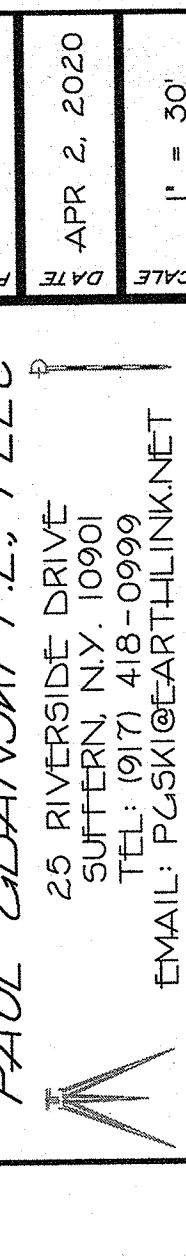
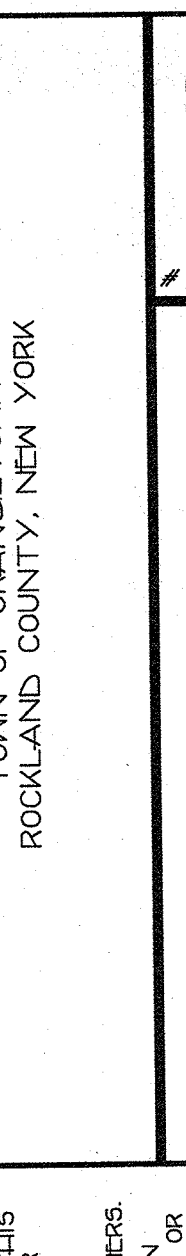
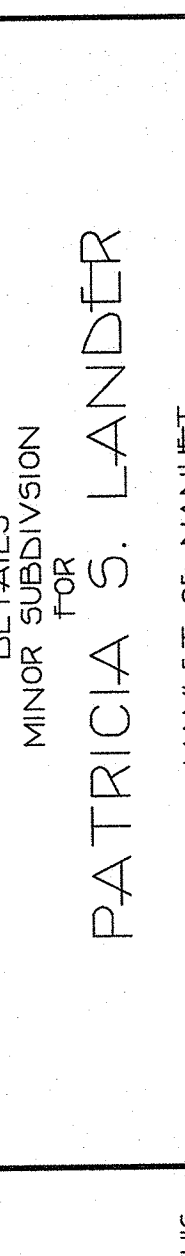
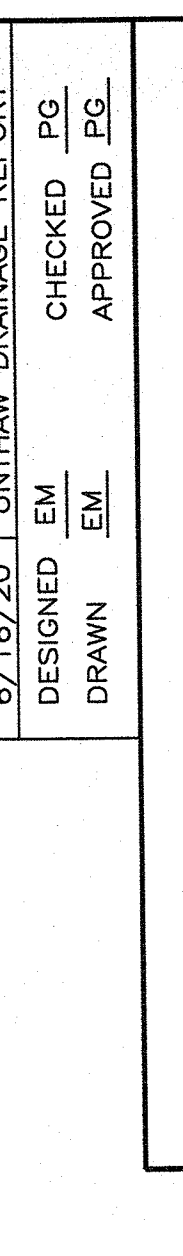
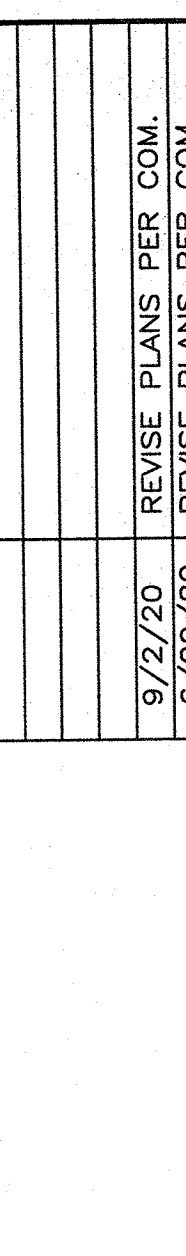
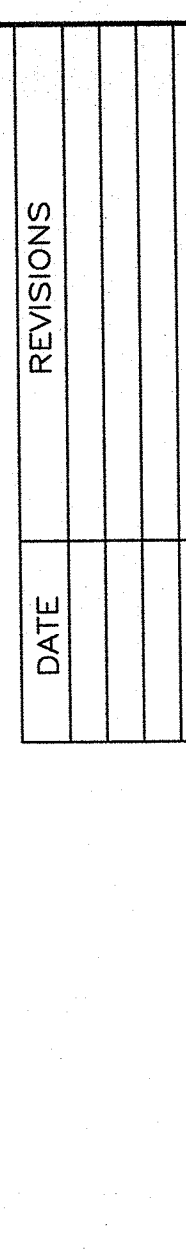
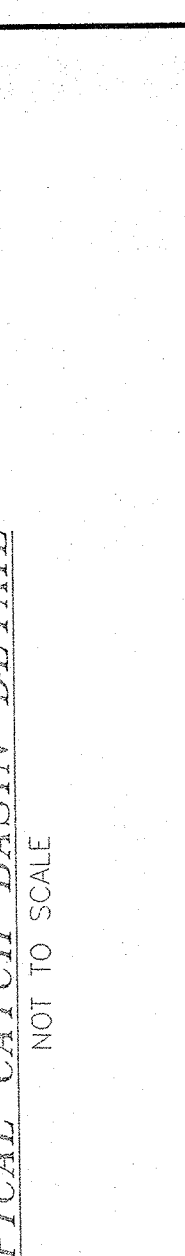
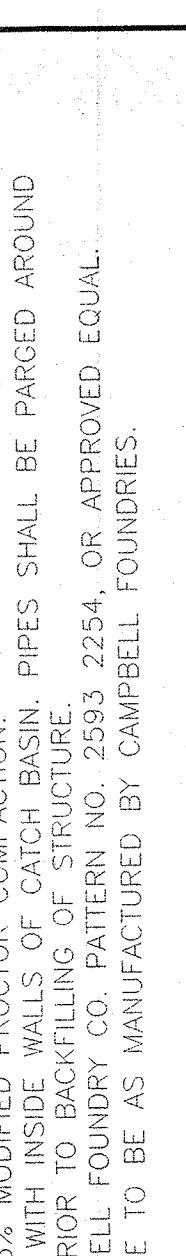
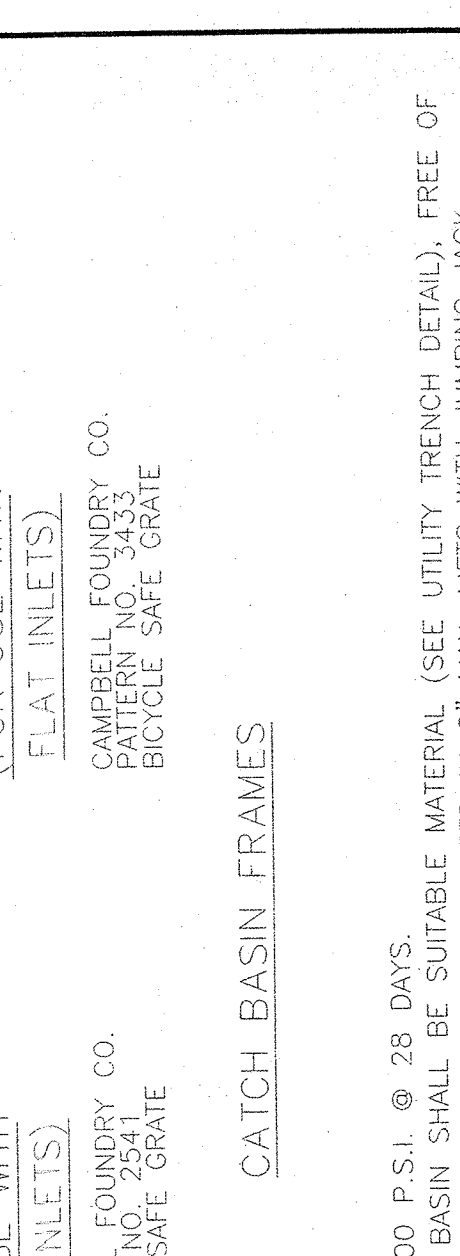
**TYPICAL CATCH BASIN DETAIL**



**CONSTRUCTION SPECIFICATIONS**

1. CONCRETE STRENGTH: 4000 P.S.I. @ 28 DAYS.
2. BACKFILL AROUND CATCH BASIN SHALL BE SUITABLE MATERIAL (SEE UTILITY TRENCH DETAIL), FREE OF ANY STONES LARGER THAN 4" IN DIAMETER, COMPACTED IN 8" MAX. LIFTS WITH JUMPING JACK COMPACTOR, ACHIEVING 95% MODIFIED PROCTOR COMPACTION.
3. PIPES TO BE CUT FLUSH WITH INSIDE WALLS OF CATCH BASIN.
4. INTERIOR AND EXTERIOR PRIOR TO BACKFILLING OF STRUCTURE.
5. STEPS ARE TO BE CAMPBELL FOUNDRY CO. PATTERN NO. 2593, 2254, OR APPROVED EQUAL.
6. 8" CURB BACK PIECE TO BE AS MANUFACTURED BY CAMPBELL FOUNDRIES.

**STORM SEWER TRENCH CROSS SECTION**



CAMPBELL FOUNDRY CO. PATTERN NO. 3433 BICYCLE SAFE

MINOR SUBDIVISION FOR PATRICIA S. LANDER

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS PROHIBITED. FOR THE PURPOSE OF CLEAROUT LOCATIONS SHALL BE MEASURED FROM THE FIRST CLEAROUT-LOCATED DOWNSTREAM OF THE HOUSE PIPE TO BUILDING SEWER CONNECTION. HENCE DOWNSTREAM ALONG THE

REVISIONS

DATE

9/2/20 REVISE PLANS PER COM.

6/29/20 REVISE PLANS PER COM.

6/16/20 UNTHAW DRAINAGE REPORT

DESIGNED EM

DRAWN EM

CHECKED PG

APPROVED PG

REVISIONS

REVISIONS

REVISIONS

REVISIONS

REVISIONS

REVISIONS

REVISIONS

CAMPBELL FOUNDRY CO. PATTERN NO. 3433 BICYCLE SAFE

MINOR SUBDIVISION FOR PATRICIA S. LANDER

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