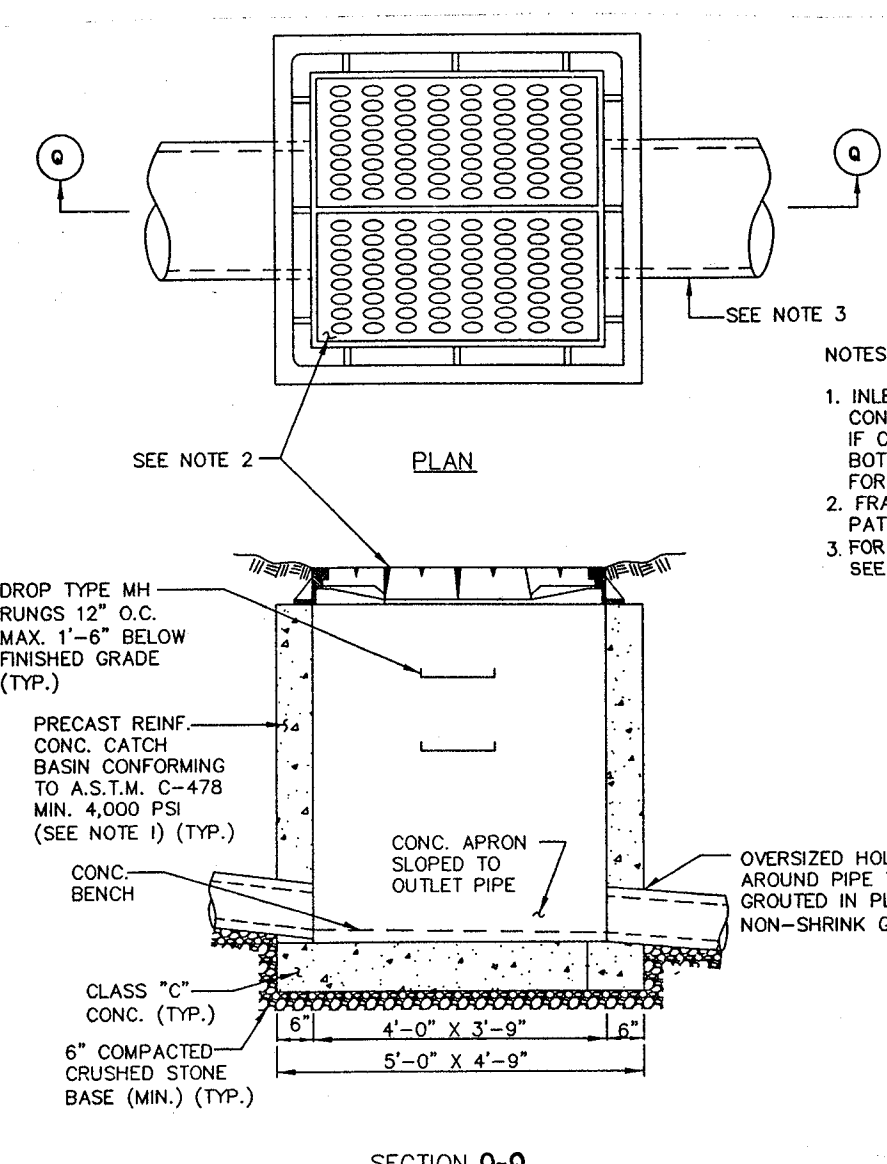
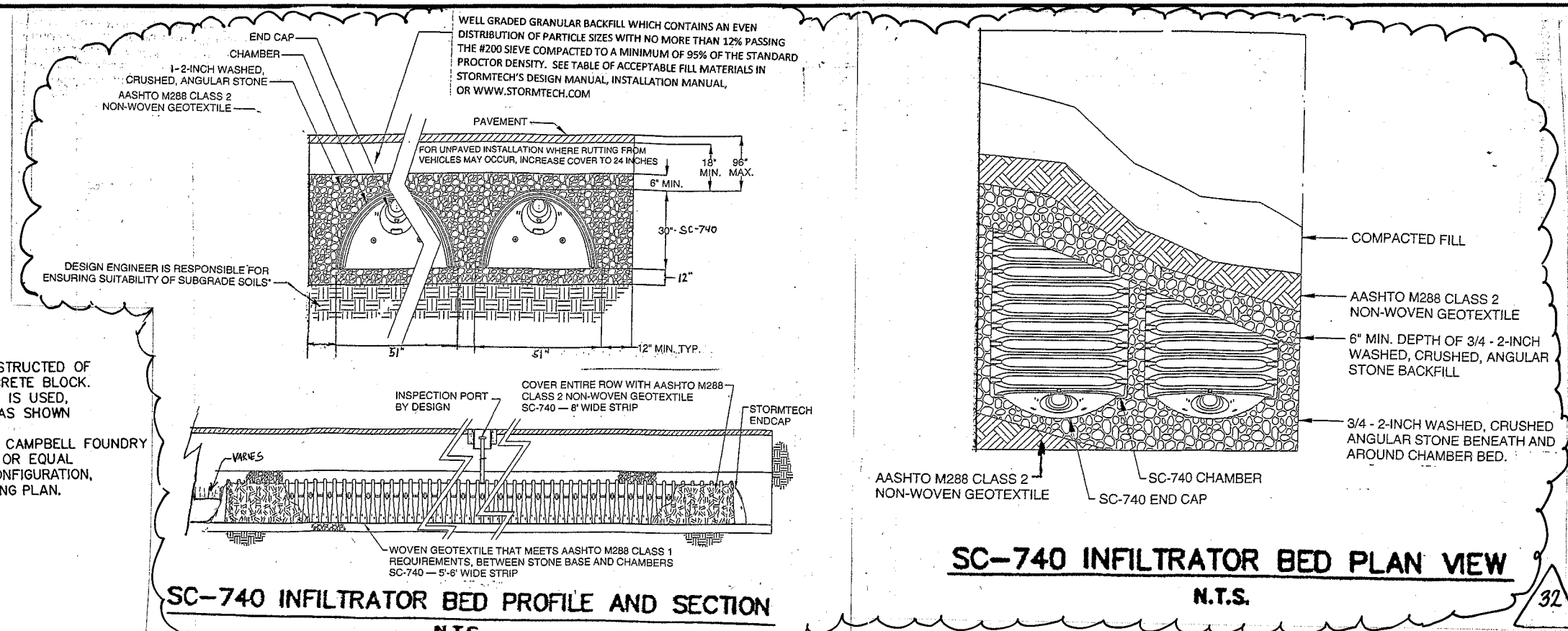


STORMWATER MANHOLE DETAIL
N.T.S.

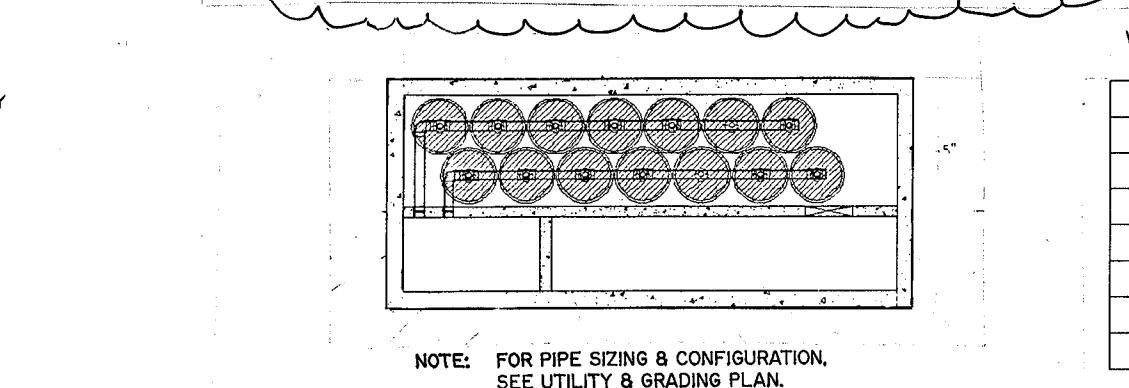


BICYCLE TYPE FIELD INLET
N.T.S.

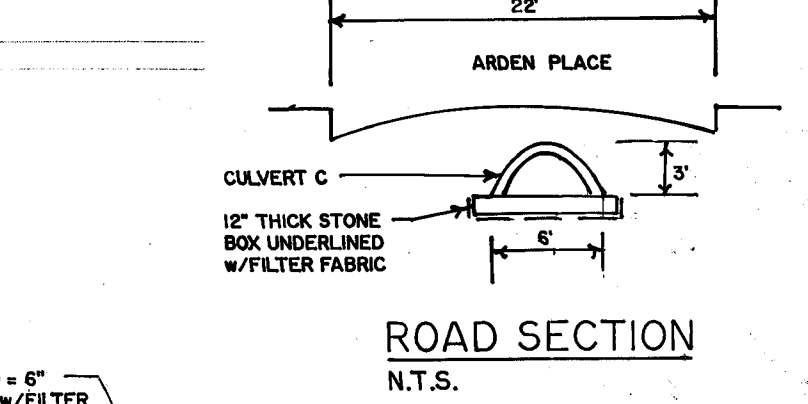


WATER QUALITY BASIN TABLE

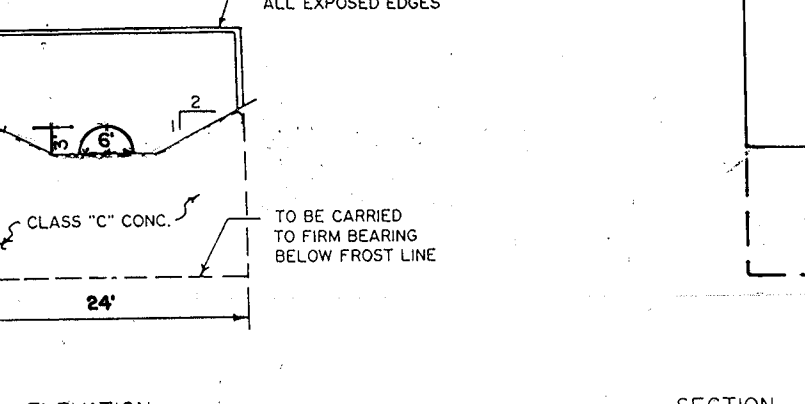
WQ Bt	SIZE OF BASIN	# OF STORMFILTERS
WQ B1e	7 x 13	7
WQ B1f	7 x 9	3
WQ B1g	7 x 9	2
WQ C1e	7 x 13	8
WQ C1f	7 x 9	2
WQ C1g	7 x 9	4



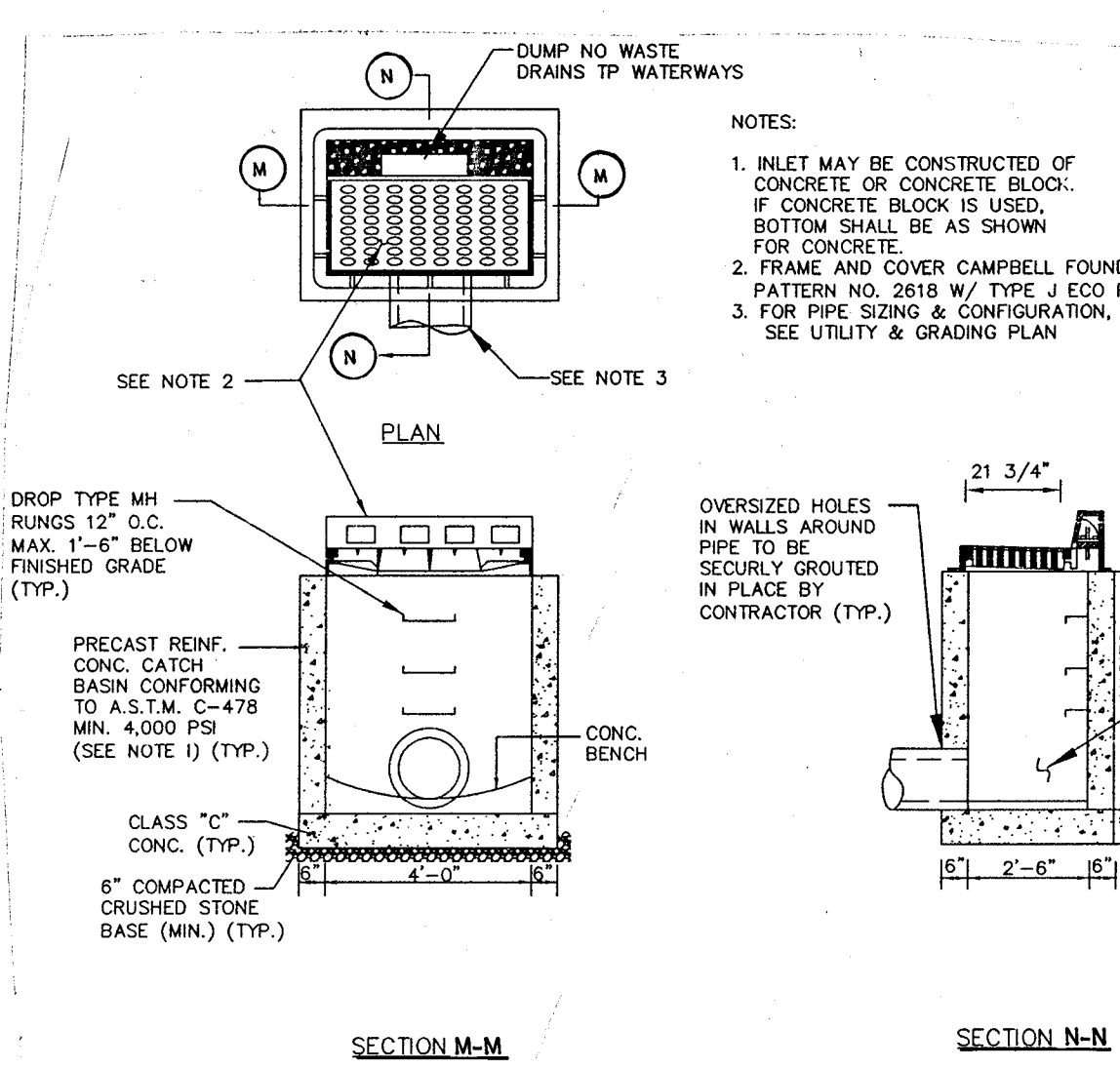
WATER QUALITY STRUCTURE DETAIL
N.T.S.



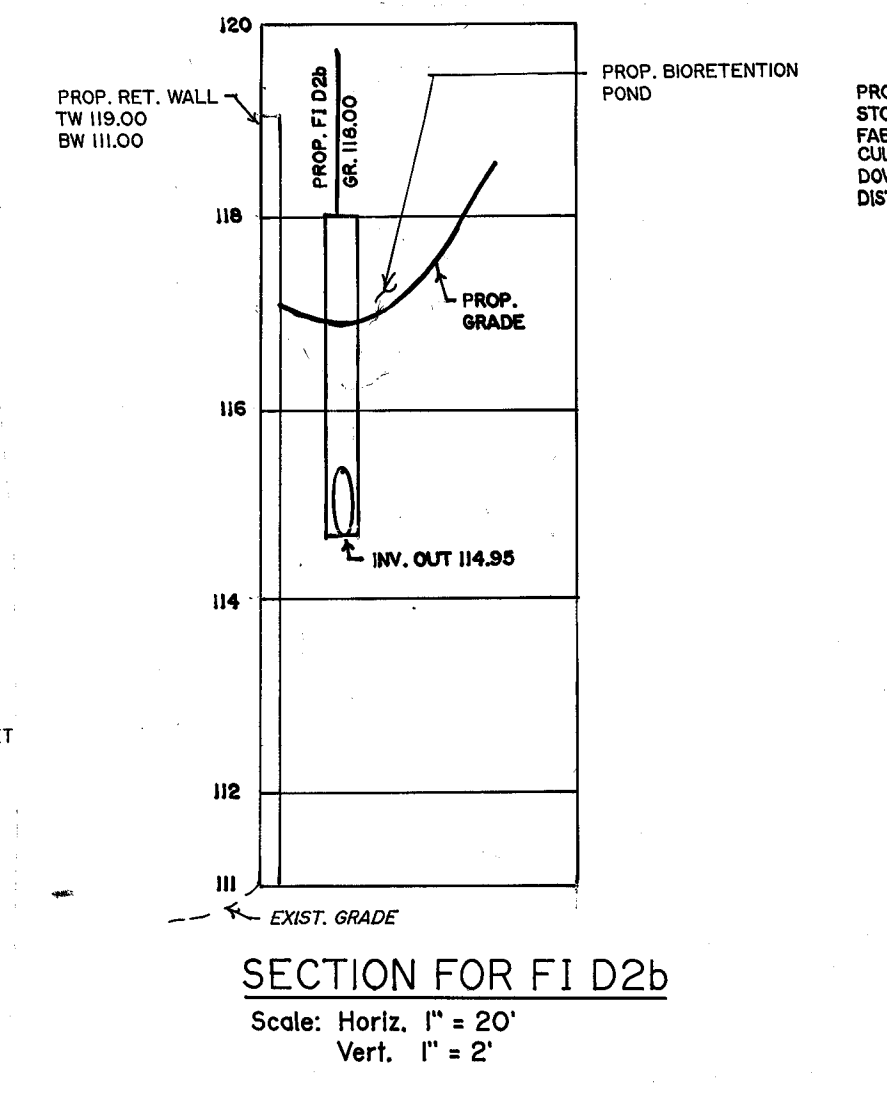
ROAD SECTION
N.T.S.



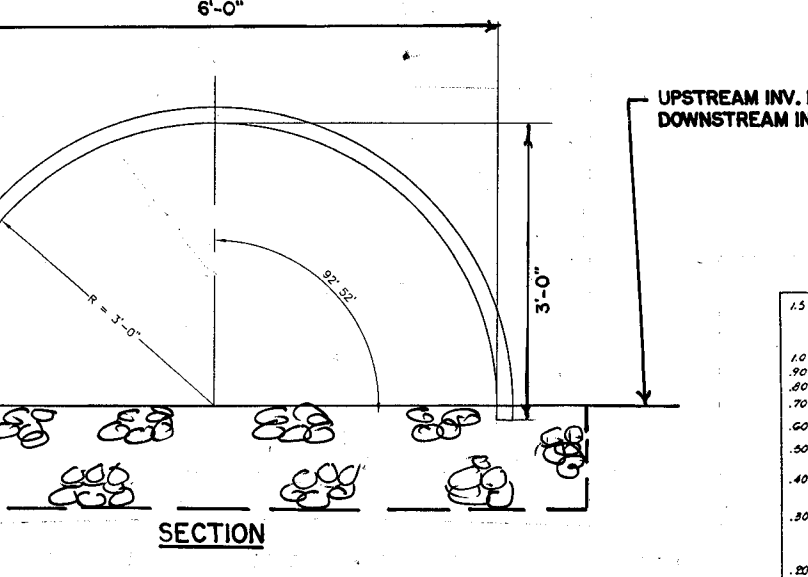
HEADWALL C2 DETAIL
N.T.S.



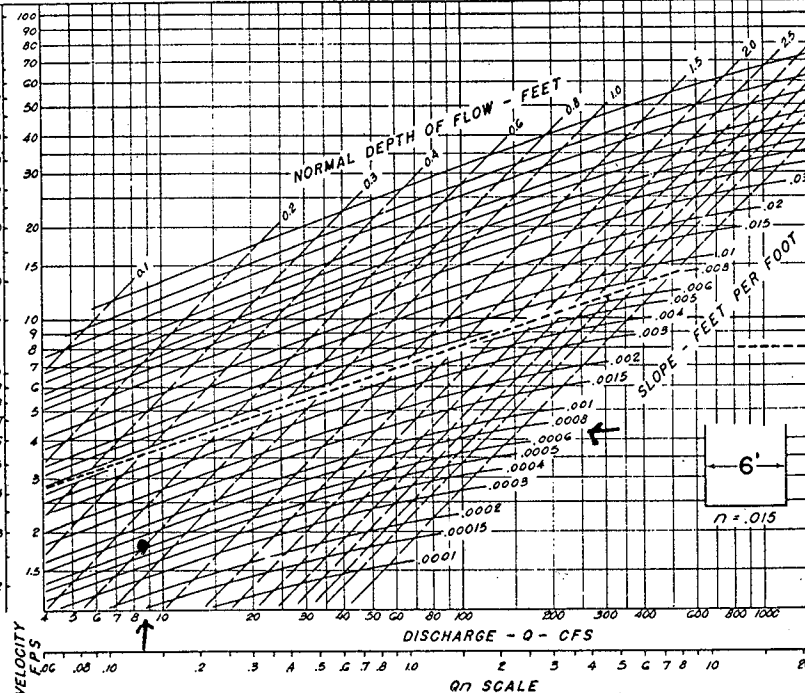
BICYCLE TYPE CATCH BASIN - CURB TYPE
N.T.S.



SECTION FOR F1 D2b
Scale: Horiz. 1" = 20'
Vert. 1" = 2'



ARCH CULVERT "C" (ARDEN PLACE)
N.T.S.



Area = 3.57 Acres (on and off site)
C = 0.43
i = 5.4 (100 year event)
Q = c/a
= 0.43 (5.4) 3.57
= 8.3 cfs (100 year event)

Due to low depth of flow, use box culvert table to approximate.

Per Table: A 6" wide base channel at S = 0.0065 w/Q = 8.3 cfs = depth of flow 0.68" and a velocity of 1.8 ft./sec. *

ARCH CULVERT "C" (ARDEN PLACE)
N.T.S.

*NOTE: TABLE 11-11 ALLOWS 1.8 FT/SEC FOR UNPROTECTED SAND BOTTOM STREAM.

STORMWATER MANAGEMENT FACILITIES
MAINTENANCE PLAN
08/10/07

Stormwater management facilities shall be regularly maintained to insure they function at design capacity, and to prevent health hazards associated with debris buildup and stagnant water. Such measures shall include:

- Inspection and cleaning upon completion of site work and site stabilization by the contractor/developer. As well as preparation of as-built plans of stormwater management facilities.
- Regularly scheduled inspection (four (4) times annually) of all catch basins and detention structures for debris or build up of sediment and out fall structures for signs of erosion.
- Visual inspection after every major rainfall event (one (1) inch or more).
- Removal of debris when excessive. (Four (4) inches)
- Removal of silt from catch basins sumps and detention structure areas when accumulation exceeds four (4) inches. Equipment to be provided: Shovels, buckets, rags, flashlights, water hose, replacement of filter fabric, scissors/razors, and wire for reattachment.
- Disposal of debris, trash, sediment and other waste material at suitable disposal/recycling site and in compliance with all applicable local, state, and federal waste regulation.
- Repair/replacement of any filter fabric damaged during silt removal.
- Restoration/replace areas exhibiting erosion.
- Inspect all structural components for cracking, subsidence, spalling, and deterioration annually.
- All identified deterioration shall be repaired as reasonably appropriate.

A detailed log of all preventative and corrective maintenance performed at the stormwater management measure must be kept by the responsible entity, including all maintenance related work orders.

For Bioretention System (in addition to above):

- All bioretention system components expected to receive and/or trap debris and sediment must be inspected for clogging and excessive debris and sediment accumulation at least four times annually as well as after every storm exceeding 1 inch of rainfall. Such components may include gutters, downspouts, culverts, and cleanouts.
- Sediment removal should take place when the basin is thoroughly dry. Disposal of debris, trash, sediment, and other waste material should be done at suitable disposal/recycling sites and in compliance with all applicable local, state, and federal waste regulations.
- Mowing and/or trimming of vegetation must be performed on a regular schedule based on specific site conditions. Grass should be mowed at least once a month during the growing season. Vegetated areas should be inspected at least annually for unwanted growth, which should be removed with minimum disruption to the planting soil bed and remaining vegetation. Additional equipment required includes mowers, trimmers, and rakes.
- When establishing or restoring vegetation, biweekly inspections of vegetation health should be performed during the first growing season or until the vegetation is established. Once established, inspections of vegetation health, density, and diversity should be performed at least twice annually during both the growing and non-growing seasons. The vegetative cover should be maintained at 85 percent. If vegetation has greater than 50 percent damage, the area should be reestablished in accordance with the original specifications and the inspection requirements presented above.
- All use of fertilizers, mechanical treatments, pesticides and other means to assure optimum vegetation health should not compromise the intended purpose of the bioretention system. All vegetation deficiencies should be addressed without the use of fertilizers and pesticides whenever possible.
- All structural components must be inspected for cracking, subsidence, spalling, erosion, and deterioration at least annually.
- The normal drain time should be approximately six (6) hours. If significant increases or decreases in the normal drain time are observed or if the 72 hour maximum is exceeded, the system's planting soil bed, underdrain system, and both groundwater and tablewater levels must be evaluated and appropriate measures taken to comply with the maximum drain time requirements and maintain the proper functioning of the system.
- The planting soil bed at the bottom of the system should be inspected at least twice annually. The permeability ratio of the soil bed material may also be tested. If the water fails to infiltrate 72 hours after the end of the storm, corrective measures must be taken.

*This specifically includes, but not limited to:

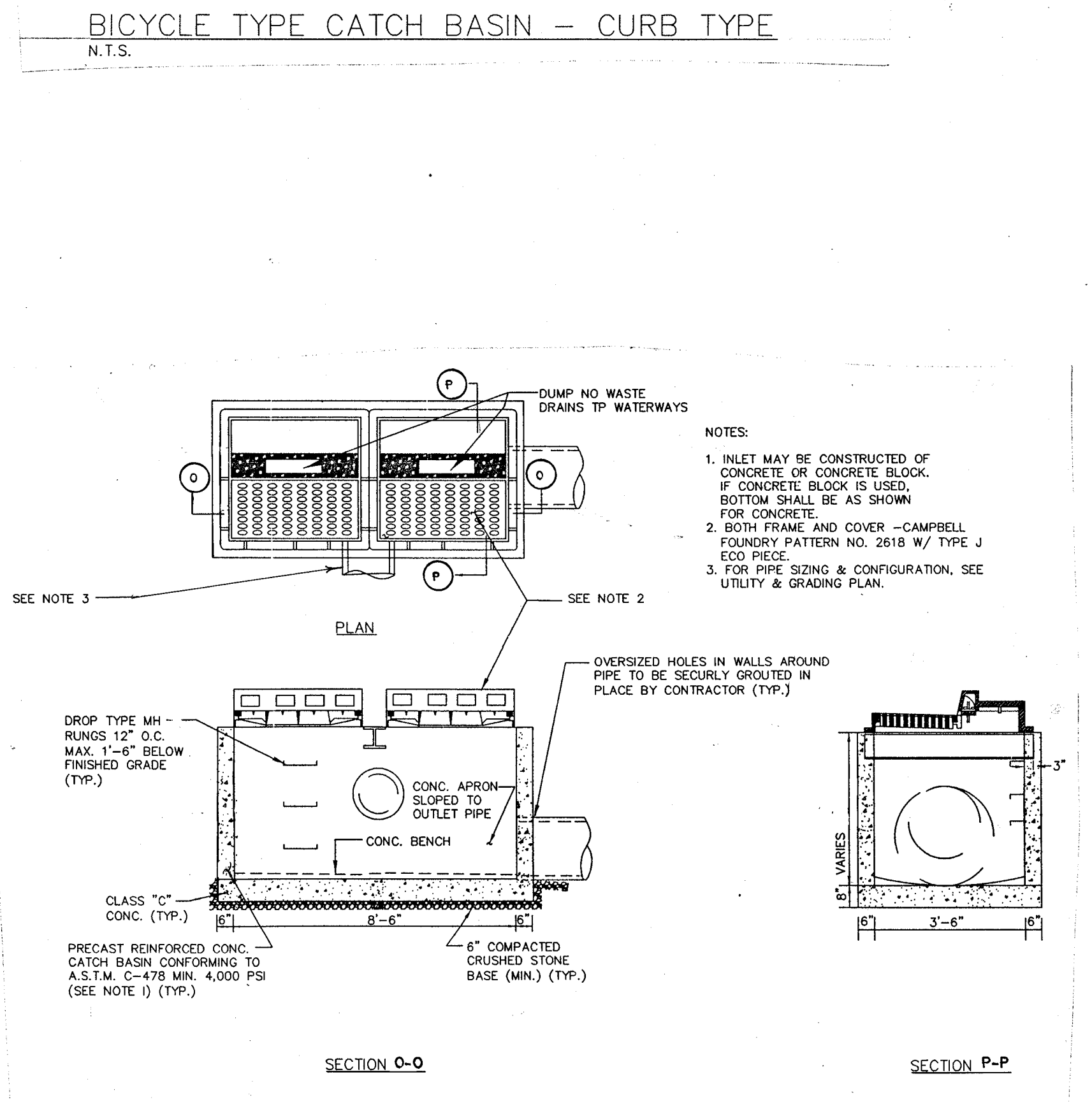
- Removal of silt and debris from all catch basins/sumps
- Removal of silt and debris from all forebay areas
- Removal of temporary filter fabric from detention/infiltration systems
- Remove silt and debris from all diameter pipes

TABLE OF SPECIFIC UNITS INFILTRATOR SYSTEM COMPONENTS ELEVATIONS
* CONDITIONS OF THE FINAL APPROVAL

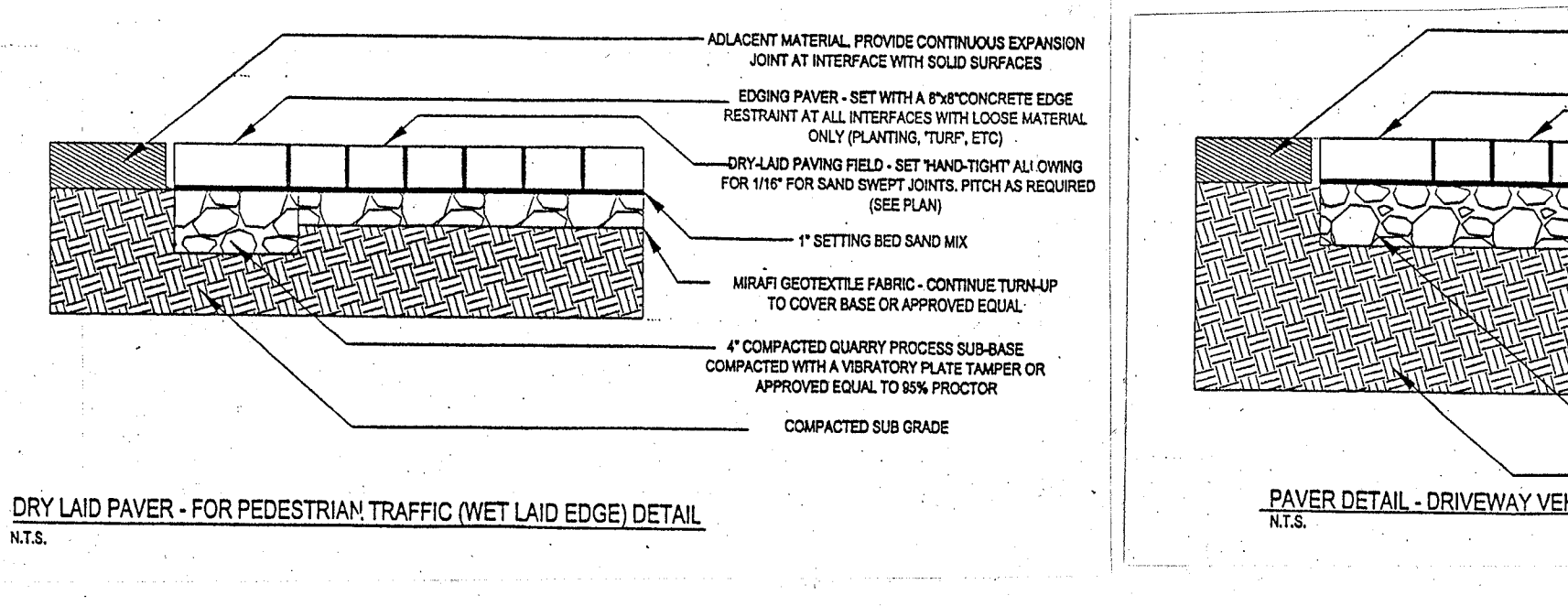
Unit #	FE EL.	Roof Drain @ House	Roof Drain Slope (%)	Roof Drain @ Box	Inv. Out to Header	Header Invert	Infiltrator Bottom EL.	Req'd T.P. Depth	Actual T.P. Depth	Soil Test Compliant
24	127.84	122.00	1.00%	121.00	120.50	117.65	118.30	116.30	114.00	Yes
25	122.84	119.50	1.00%	118.50	118.00	117.65	115.80	113.80	107.50	Yes
26	122.34	117.50	1.00%	116.50	116.00	115.88	112.80	111.80	107.50	Yes
27	119.34	116.84	0.50%	116.50	116.00	115.88	113.80	111.80	107.50	Yes
28	119.34	116.00*	1.00%	115.50	115.00	114.65	112.80	110.80	108.00	Yes
34	114.84	109.50*	1.00%	109.00	108.50	107.40	106.30	104.30	103.00	Yes
12	127.84	125.10	1.00%	124.50	124.00	123.00	121.80	119.80	115.00	Yes
11	126.34	123.84*	0.50%	123.59	123.50	123.00	121.30	119.30	115.00	Yes
10	122.34	119.84	1.00%	119.00	118.50	118.25	116.30	114.30	109.50	Yes
9	119.84	117.34	0.50%	117.00	117.00	116.25	114.80	112.80	109.50	Yes
8	119.84	116.50*	1.00%	116.00	115.50	115.05	113.30	111.30	108.00	Yes
7	118.84	115.50	1.00%	114.50	114.00	113.75	111.80	109.80	104.50	Yes
6	117.84	115.00*	1.00%	114.50	114.00	113.09	111.80	109.80	104.50	Yes
5	118.34	115.00*	0.80%	114.50	114.00	113.00	111.80	109.80	107.00	Yes
4	119.84	115.00	1.00%	114.50	114.00	113.00	111.80	109.80	107.00	Yes
3	119.34	116.84	1.00%	116.00	115.50	112.25	113.30	111.30	107.00	Yes
2	120.34	117.65*	1.00%	117.00	116.50	111.50	114.30	112.30	107.00	Yes
1	119.34	114.50	1.00%	113.50	113.00	110.73	110.80	108.80	107.50	Yes
15/16	130.34/130.34	125.00	±1.00	N/A	N/A	N/A	120.00	118.00	118.00	Yes
17	129.34	122.60	±1.00	N/A	N/A	N/A	119.50	117.50	117.50	Yes
22/23	132.84/130.00	126.40	±1.00	N/A	N/A	N/A	121.00	119.00	119.00	Yes
35/36	108.84/109.34	103.10	±1.00	N/A	N/A	N/A	100.00	98.00	97.00	Yes
37	111.34	105.90	±1.00	N/A	N/A	N/A	102.50	100.50	100.00	Yes

*Requires Minor Regrading Adjacent to Foundation (Min. 1/8" Grade to First Floor Elevation to Achieve Desired Pipe Cover)

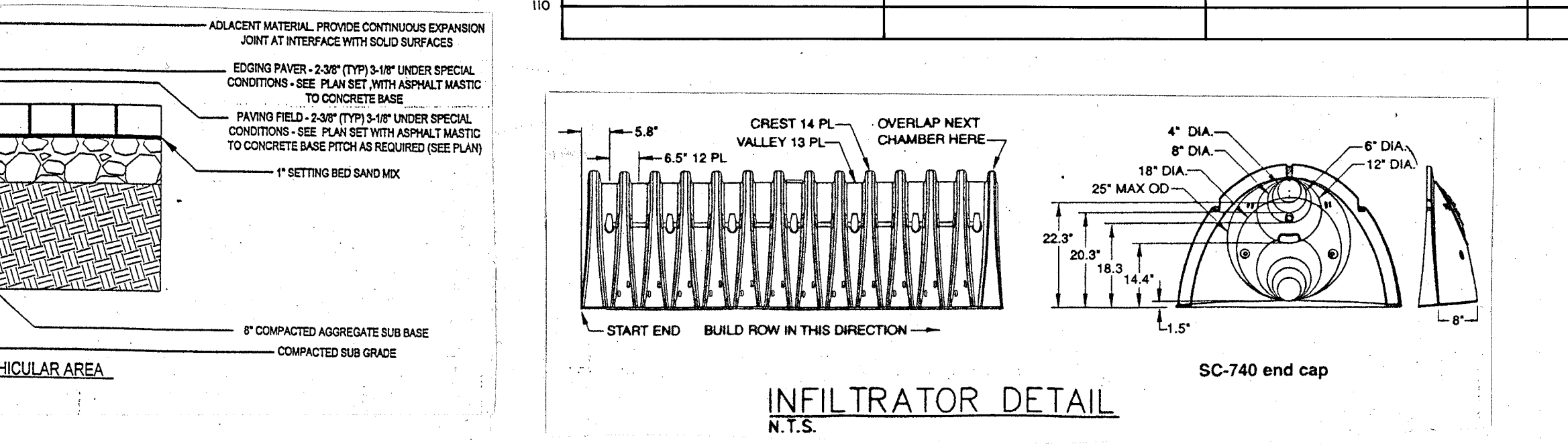
N/A (Non Applicable) - Straight Infiltrator/No Diversion



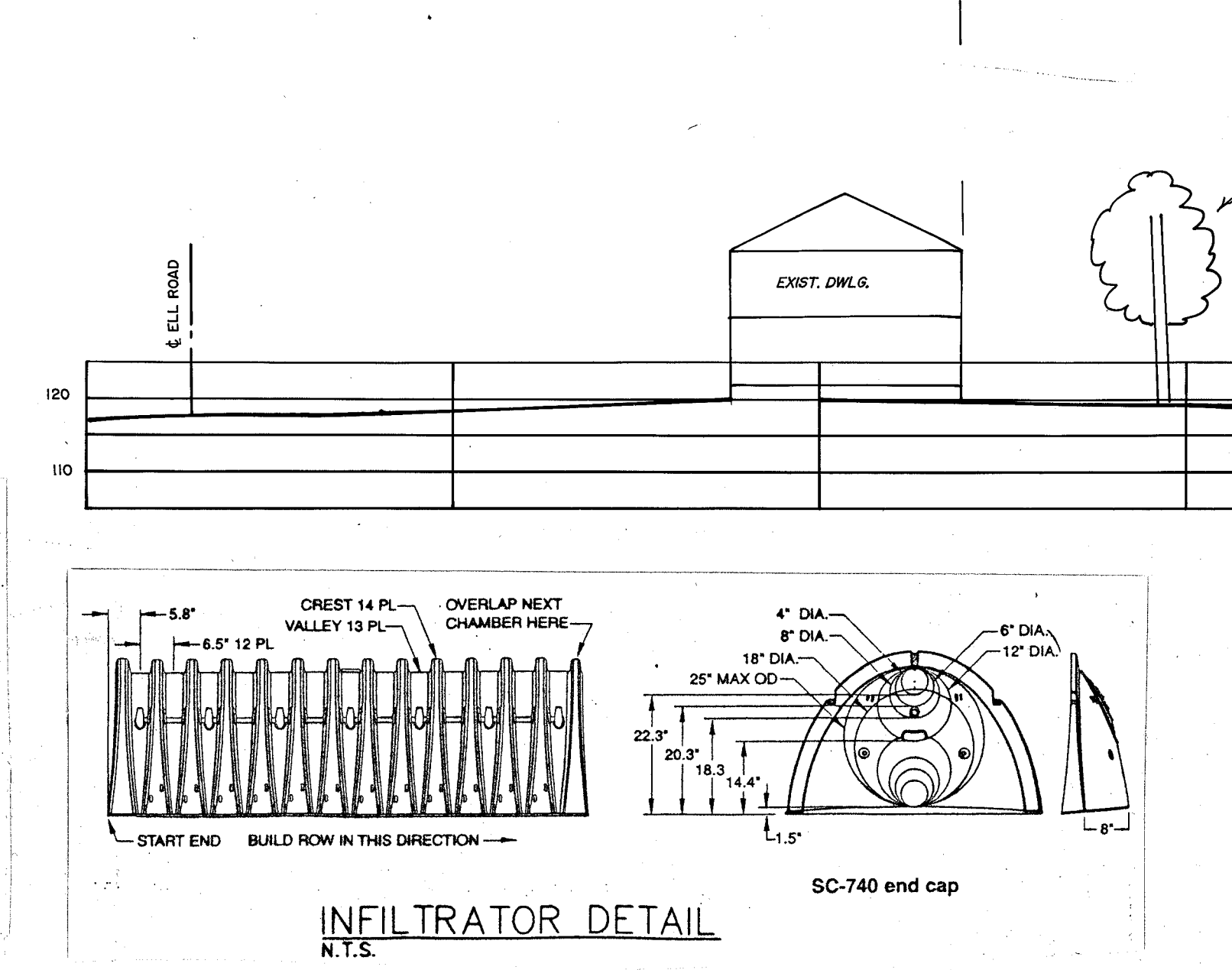
DOUBLE BICYCLE TYPE CATCH BASIN - CURB TYPE
N.T.S.



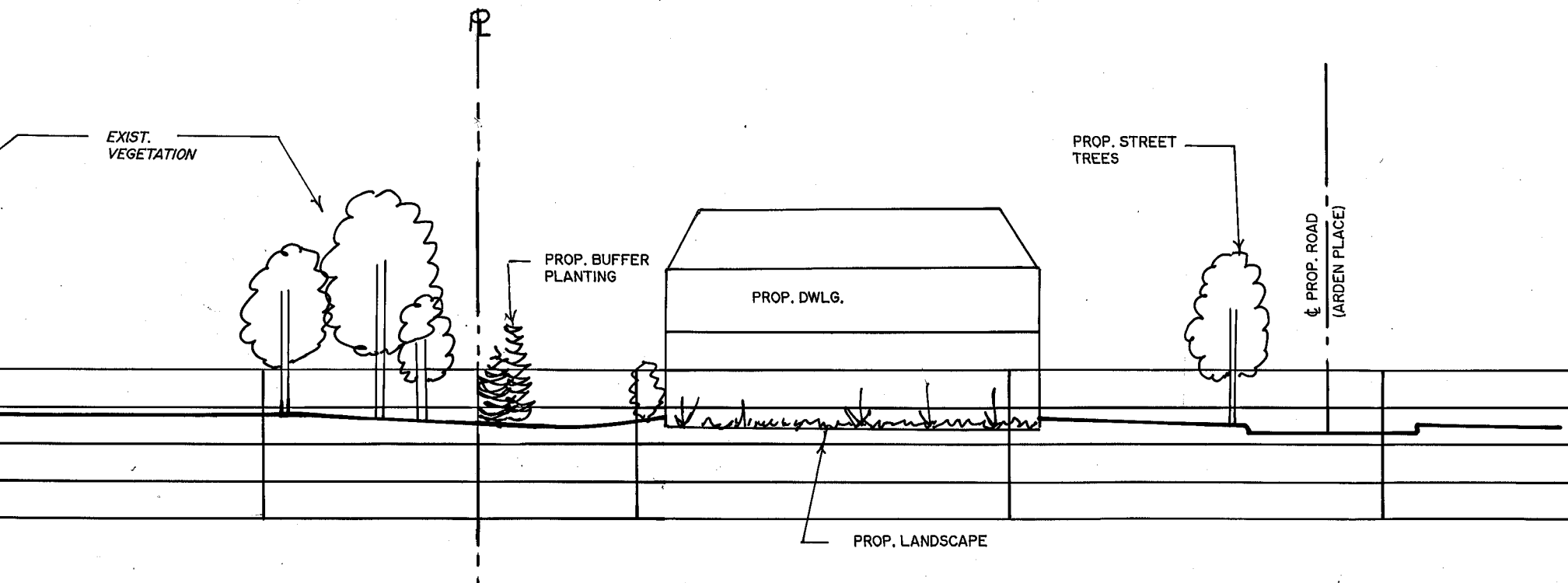
DRY LAID PAVER - FOR PEDESTRIAN TRAFFIC (WET LAID EDGE) DETAIL
N.T.S.



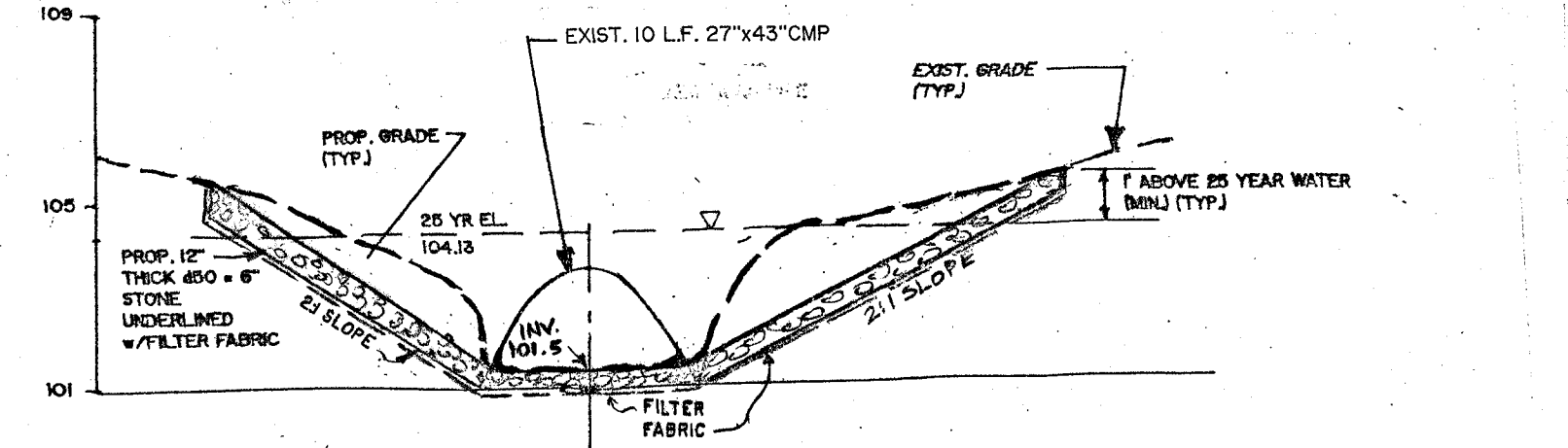
PAVER DETAIL - DRIVEWAY/VEHICULAR AREA
N.T.S.



INFILTRATOR DETAIL
N.T.S.



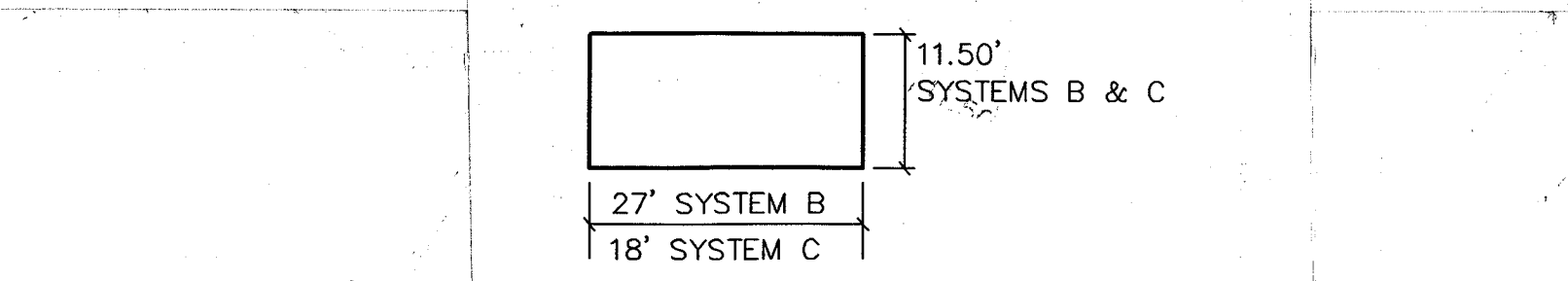
CROSS SECTION
Scale: 1" = 20' (SEE DWG. No. 3 OF 11 FOR LOCATION)



SECTION THROUGH RIP-RAP - EXIST. ELL ROAD CULVERT
Scale: Horiz. 1" = 4'
Vert. 1" = 4'

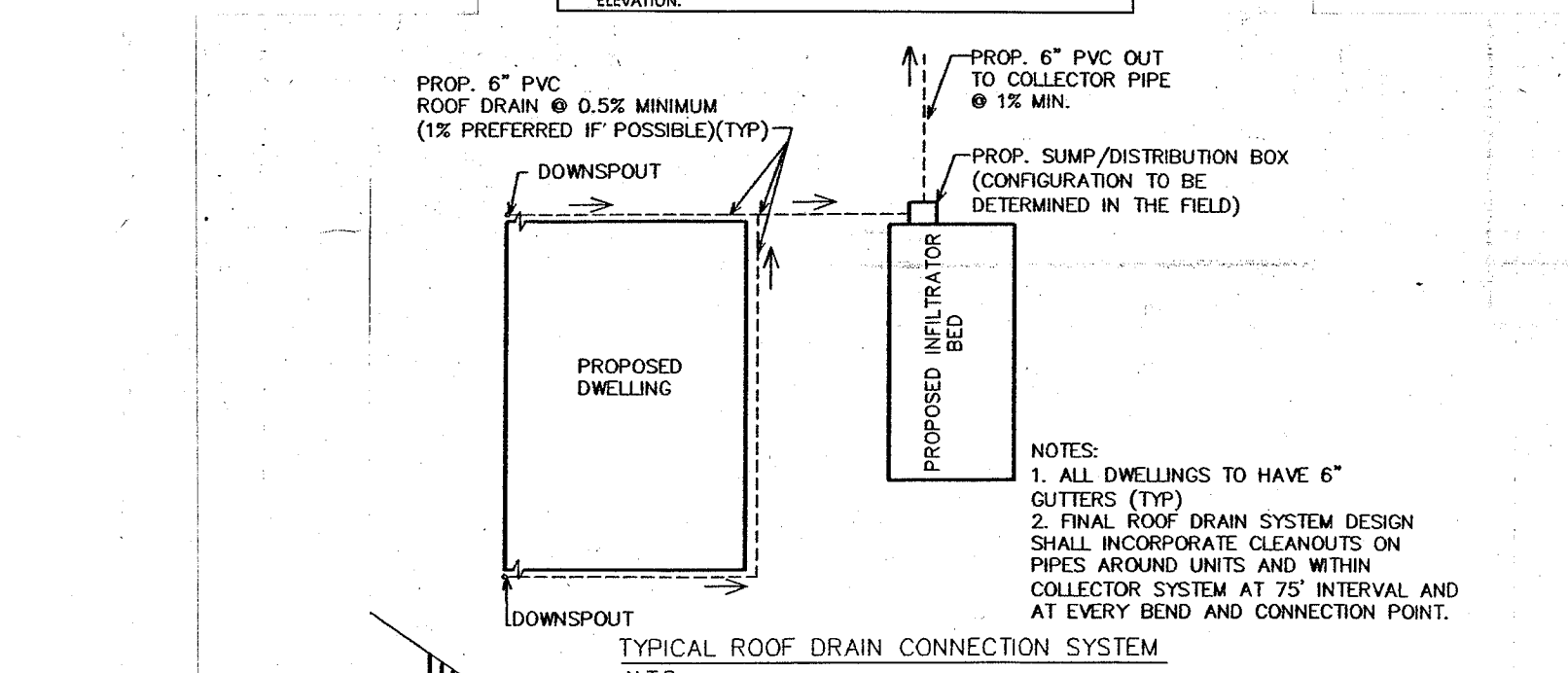
STONE VOLUME CALCULATION
(13.83) (WIDE X 19.00) X (THICKNESS CUT-TO-CUT)

ELEVATION	DISCHARGE Q	FT	D	FT	AREA	FT ²	Q	FT ³
104.1	0	0	0	0	0	0	0	0
104.2	0	0	0	0	0	0	0	0
104.3	0	0	0	0	0	0	0	0
104.4	0	0	0	0	0	0	0	0
104.5	0	0	0	0	0	0	0	0
104.6	0	0	0	0	0	0	0	0

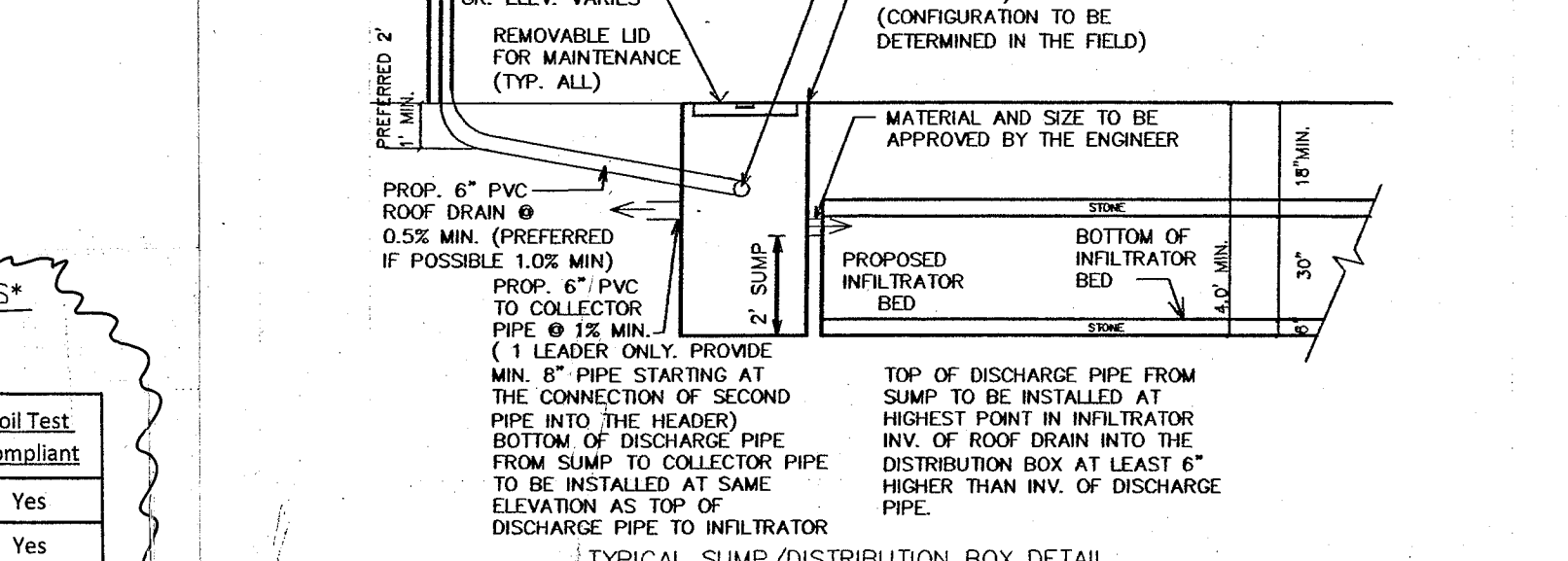


SC-740 INFILTRATOR BED DIMENSIONS*
N.T.S.

* CONDITIONS OF THE FINAL APPROVAL



TYPICAL ROOF DRAIN CONNECTION SYSTEM
N.T.S.



TYPICAL SUMP/DISTRIBUTION BOX DETAIL
N.T.S.

REPRESENTATIVE SECTION FOR ROOF DRAIN/INFILTRATOR SYSTEM
IN DRAINAGE AREAS B & C (TYP)
FOR UNITS 1-12 AND 24-34*
* CONDITIONS OF THE FINAL APPROVAL

NOTE: ALL CONSTRUCTION DESIGN OF FOUNDATION, SUPPORT, WALL STRUCTURAL, ETC. ELEMENTS OF THIS PLANNING DESIGN TO BE ANALYZED, PREPARED, AND WITNESSED AS NECESSARY, BY A NEW JERSEY STATE LICENSED PROFESSIONAL ENGINEER.

NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION
38	5/25/16	REVISED AS PER CONDITIONS OF FINAL APPROVAL	33	6/1/16	CLOUDS ADDED AS PER BOARD ENGINEER'S REQUEST
29	12/9/16	REVISED INFILTRATOR BED DETAIL FOR UNITS 1-8 AND 24-34. PER OWNER'S REQUEST.	31	5/11/16	CLOUDS ADDED AS PER CONDITIONS OF FINAL APPROVAL.
26	2/8/14	REVISED FOR GENERAL PERMIT MODIFICATION APPLICATION TO NOTE AND ADD MINOR REVS	27	9/1/14	REVISED FOR RE-SUBMISSION TO BCSGD
14	5/15/08	REVISED AS PER PCS COMMENTS	22	3/28/13	REVISED AS PER MEETING WITH BERGEN COUNTY S.C.D. ON 3/5/13.
7	1/16/04	REVISED AS PER PCS COMMENTS	20	7/19/10	REVISED AS PER HILLSDALE TOWN ENGINEER'S LETTER DATED 7/1/10
5	8/19/07	MINOR REVISIONS AS PER NADP'S REQUEST	18	3/7/07	REVISED AS PER BERGEN COUNTY SO REQUEST

NO. DATE DESCRIPTION NO. DATE DESCRIPTION

As Shown GRAPHIC SCALE

DETAILS

GOLDEN ORCHARDS
AN ACTIVE ADULT COMMUNITY
LOT 1, BLOCK 506, BOROUGH OF HILLSDALE
LOT 3 & 7, BLOCK 2101, TOWNSHIP OF WASHINGTON

BERGEN COUNTY, NEW JERSEY
Dwn. by V.L.D./Y.M. Scale As Shown Date 8/10/07 Dwg. No. 11 of 11 Proj. No. 00-058.6

ENTEC
Engineering & Technical Resources, Inc.
Consulting Engineers Certificate # 246A27975200
535 High Mountain Road, No. Haledon, N.J. 07508 tel.(973)636-9223

ALEX J. ZEPPONI PROFESSIONAL ENGINEER, N.J. LIC. No. 26723