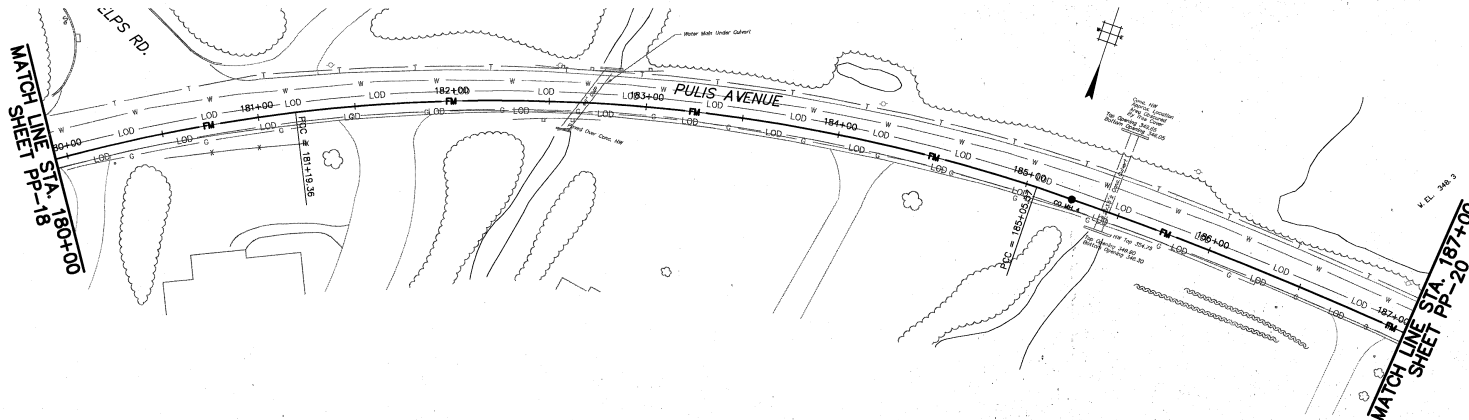


COPYRIGHT 2010, T&M ASSOCIATES, INC. ALL RIGHTS RESERVED. NO PART OF THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF T&M ASSOCIATES, INC.

1	2/15/11	REVISED PER NJDEP COMMENTS	BP	JHM
NO.	DATE	REVISIONS	BY	CHECKED
NORTHWEST BERGEN COUNTY UTILITIES AUTHORITY				
FRANKLIN LAKES BUSINESS DISTRICT				
SANITARY SEWER				
BOROUGH OF FRANKLIN LAKES, BERGEN COUNTY, NEW JERSEY				
PLAN, PROFILE &				
SOIL EROSION AND SEDIMENT CONTROL PLAN				
PULIS AVENUE STA. 173+00 TO STA. 180+00				
T&M ASSOCIATES		KEITH W. HENDERSON, P.E.		DRAWING PP-18
11 THOMAS ROAD MIDDELTON, NJ 07748 TEL: 732-871-4400 FAX: 732-871-7882		STATE OF NEW JERSEY LICENSE NO. 2400300400 DATE: 2/15/11		SHEET 22 OF 39
DESIGNED BY: BP	DRAWN BY: BMT	CHECKED BY: JHM	PROJECT NO.: NSUA-00085 CADD FILE: NSUE-PA-PP FIELD NO.: N/A	

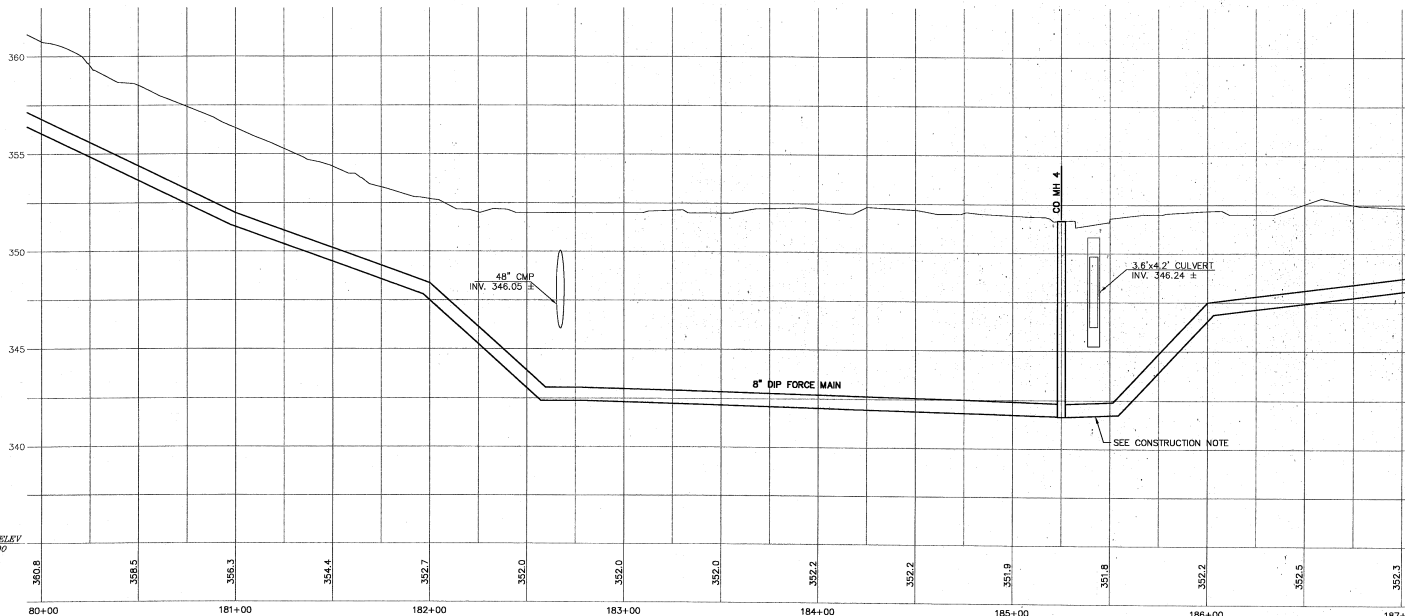
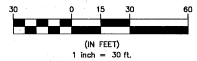


CONSTRUCTION NOTE:

1. CONTRACTOR TO COORDINATE CONSTRUCTION OF FORCE MAIN UNDER BOX CULVERT AND SUPPORT OF CULVERT WITH COUNTY. CONTRACTOR SHALL BACKFILL TRENCH UP TO ONE (1) FOOT ABOVE CULVERT INVERT WITH STONE BEDDING.

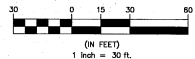
PLAN

GRAPHIC SCALE

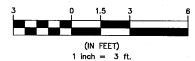


PROFILE

HORIZONTAL GRAPHIC SCALE



VERTICAL GRAPHIC SCALE

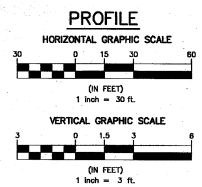
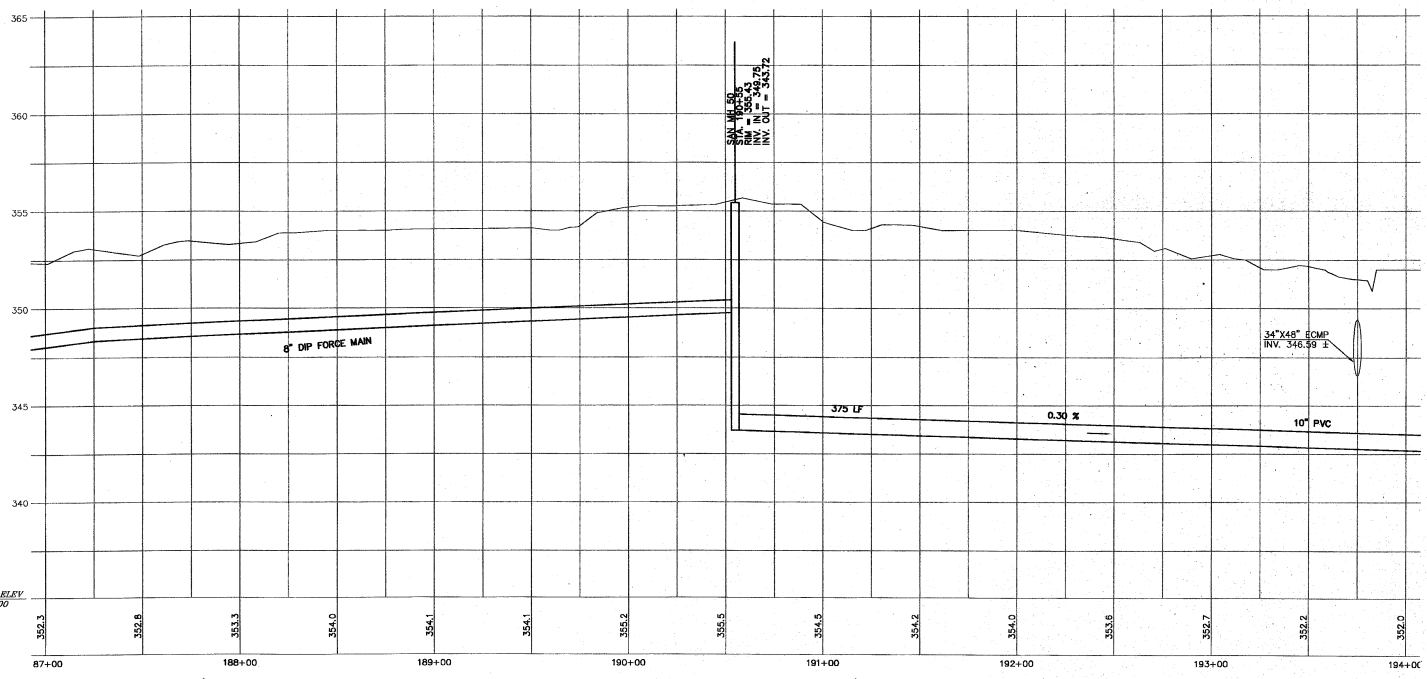
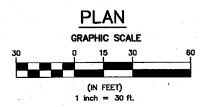


COPYRIGHT 2010, TM ASSOCIATES - ALL RIGHTS RESERVED. NO PART OF THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF TM ASSOCIATES, IS PROHIBITED.

1	2/15/11	REVISED PER NJDEP COMMENTS	BP	JHM
NO.	DATE	REVISIONS	BY	CHECKED
NORTHWEST BERGEN COUNTY UTILITIES AUTHORITY				
FRANKLIN LAKES BUSINESS DISTRICT				
SANITARY SEWER				
BOROUGH OF FRANKLIN LAKES, BERGEN COUNTY, NEW JERSEY				
PLAN, PROFILE &				
SOIL EROSION AND SEDIMENT CONTROL PLAN				
PULIS AVENUE STA. 180+00 TO STA. 187+00				
TM ASSOCIATES 11 TRIUMPH ROAD MOORE TOWNSHIP, NJ 07746 TEL 732-871-6400 FAX 732-871-7299		KEITH W. HENDERSON, P.E. <i>Keith W. Henderson</i> DATE: 2/15/11		
NEW JERSEY BOARD OF PROFESSIONAL ENGINEERS AND SURVEYORS CERTIFICATE OF AUTHORIZATION 04-22887		STATE OF NEW JERSEY LICENSE NO. 246203080400		
DESIGNED BY: BP	DRAWN BY: BMS	CHECKED BY: JHM	DRAWING SHEET	
PROJECT NO. NJUA-00006	CADD FILE: N006-FM-PP	FIELD SK. #	23 OF 30	

MATCH LINE STA. 187+00
SHEET PP-19

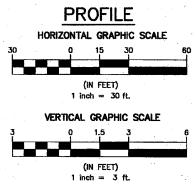
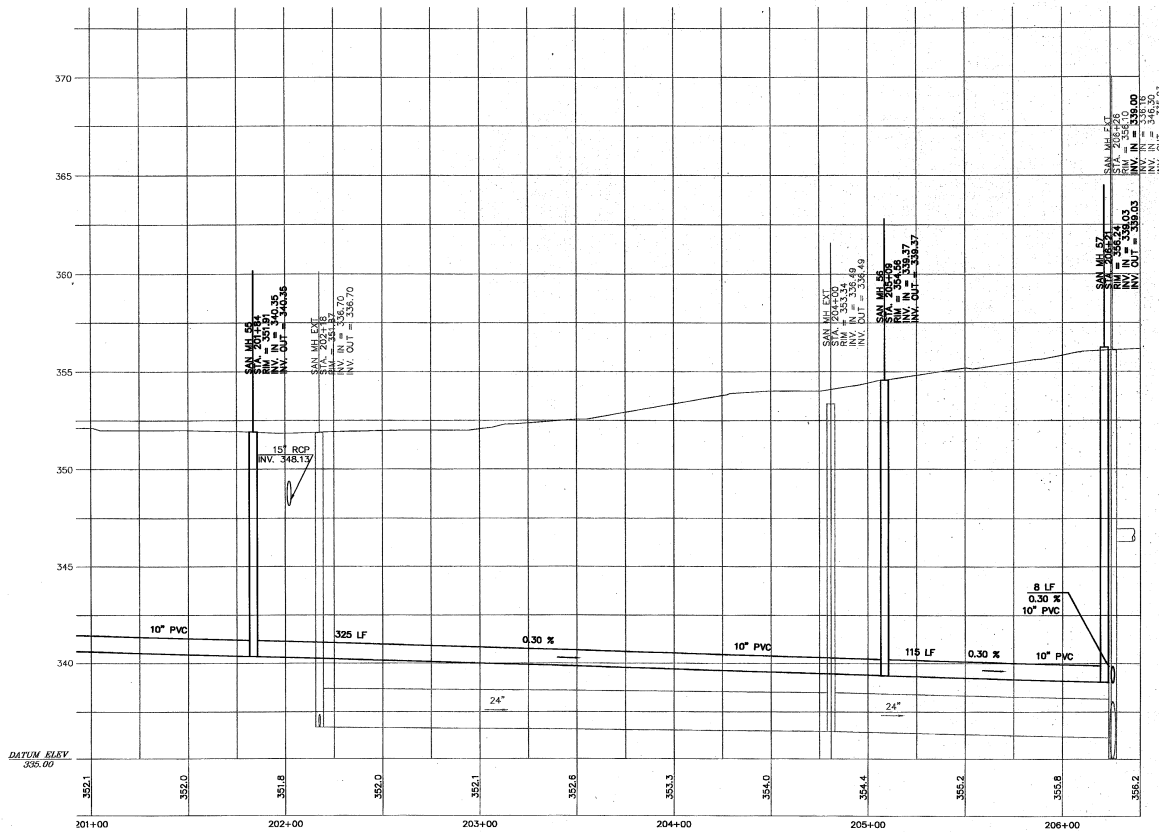
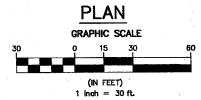
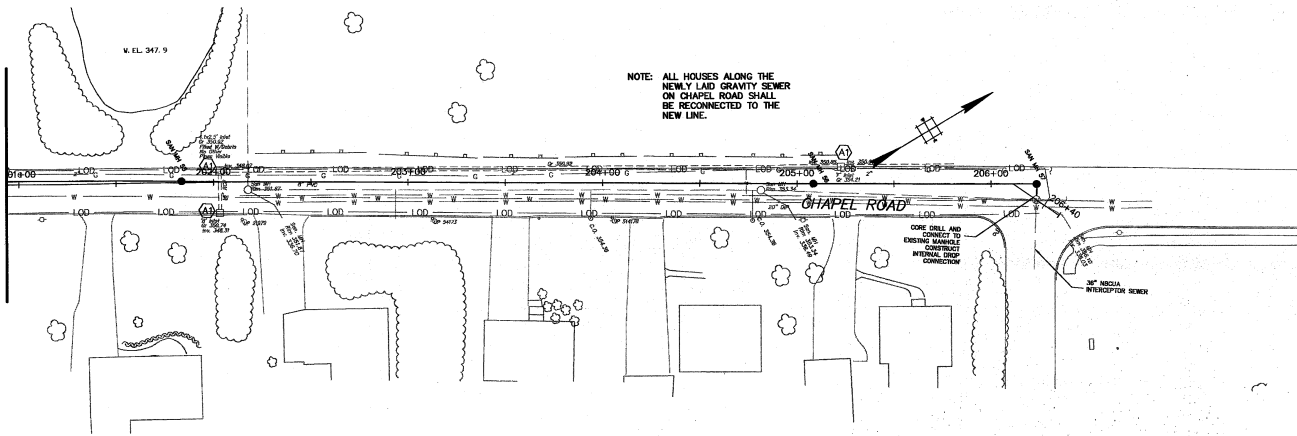
MATCH LINE STA. 194+00
SHEET PP-21

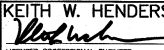



COPYRIGHT 2010, T&M ASSOCIATES, INC. ALL RIGHTS RESERVED. NO PART OF THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF T&M ASSOCIATES, INC.

NO.	DATE	REVISIONS	BY	CHECKED
<p>NORTHWEST BERGEN COUNTY UTILITIES AUTHORITY FRANKLIN LAKES BUSINESS DISTRICT SANITARY SEWER BOROUGH OF FRANKLIN LAKES, BERGEN COUNTY, NEW JERSEY</p> <p>PLAN, PROFILE & SOIL EROSION AND SEDIMENT CONTROL PLAN PULIS AVENUE STA. 187+00 TO STA. 194+00</p>				
<p>T&M ASSOCIATES 11 TINDALL ROAD MIDLETON, NJ 07748 TEL 732-671-5400 FAX 732-671-7385</p>		<p>KEITH W. HENDERSON, P.E. LICENSED PROFESSIONAL ENGINEER STATE OF NEW JERSEY LICENSE No. 246803080400</p>		
<p>DESIGNED BY: JHK PROJECT NO.: NSUA.00086</p>		<p>DRAWN BY: BAH CHECKED BY: JHM FIELD SK. # N/A</p>		
<p>DRAWING SHEET</p>		<p>PP-20 24 OF 39</p>		

MATCH LINE STA. 201+00
SHEET PP-21

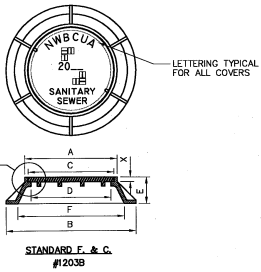


NO.	DATE	REVISIONS	BY	CHECKED
NORTHWEST BERGEN COUNTY UTILITIES AUTHORITY				
FRANKLIN LAKES BUSINESS DISTRICT SANITARY SEWER				
BOROUGH OF FRANKLIN LAKES, BERGEN COUNTY, NEW JERSEY				
PLAN, PROFILE & SOIL EROSION AND SEDIMENT CONTROL PLAN				
CHAPEL ROAD STA. 201+00 TO STA. 208+00				
KEITH W. HENDERSON, P.E.				
				
				
DESIGNED BY	JOSEP	DRAWN BY	BAH	CHECKED BY
PROJECT NO.	NEWA-00096	CADD FILE	0096-FM-PP	FIELD REC. #
				N/A

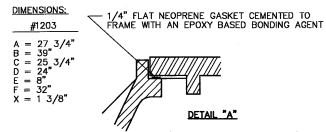
PP-22
SHEET

26 OF 39

COPYRIGHT 2010, T&M ASSOCIATES, INC. - ALL RIGHTS RESERVED. NO PART OF THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF T&M ASSOCIATES, INC.

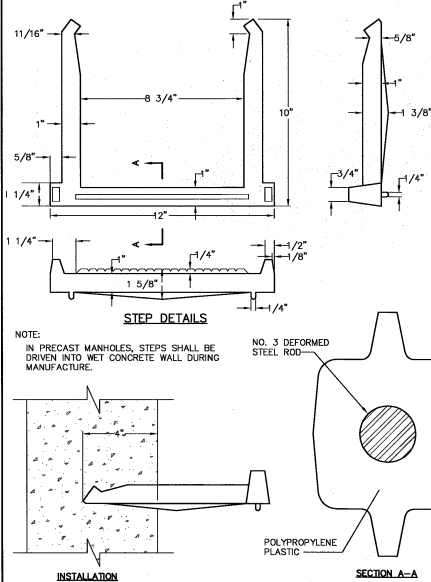


MATERIAL - GRAY CAST IRON ASTM A48, CLASS 30B
BEARING SURFACE OF FRAME & COVER SHALL BE MILL MACHINED.
ALL TYPES OF COVERS SHALL BE LETTERED AS SHOWN ON STANDARD COVER. ALL LETTERING 1 1/2" BLOCK STYLE RAISED.
ALL COVERS SHALL HAVE TWO (2) NON-PENETRATING PICK HOLES.
CONTRACTOR TO PROVIDE CERTIFICATION THAT ALL FRAMES AND COVERS ARE AMERICAN MADE.



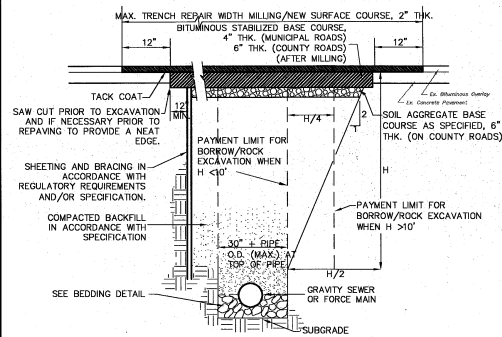
TYPICAL MANHOLE FRAME AND COVER
SANITARY SEWER

NOT TO SCALE



POLYPROPYLENE MANHOLE STEPS

NOT TO SCALE



CONSTRUCTION NOTES:

- MAXIMUM PAYMENT WIDTH FOR BORROW/ROCK EXCAVATION SHALL BE 30" + PIPE O.D., WHEN PLACED IN A TRENCH WITH DEPTH OF 10' OR LESS TO THE TOP OF THE PIPE. FOR TRENCHES OF GREATER DEPTH, THE MAXIMUM PAYMENT WIDTH FOR BORROW/ROCK EXCAVATION SHALL BE 30" + PIPE O.D. + H/2.
- AT MANHOLES BITUMINOUS STABILIZED BASE IS TO BE PLACED 6" BEYOND THE TRENCH LIMIT OR 6" BEYOND THE DAMAGED PAVEMENT BASE COURSE, WHICHEVER IS GREATER.
- ANY SUPERFICIAL SURFACE DAMAGE CAUSED BY THE CONTRACTOR OUTSIDE THE LIMIT SHOWN, SHALL BE MILLED AND PAVED WITH SURFACE COURSE MATERIAL. WHEN THE BASE COURSE OF THE EXISTING PAVEMENT IS DAMAGED BEYOND THE LIMIT SHOWN THE CONTRACTOR SHALL EXCAVATE 6" BEYOND THE DAMAGED AREA AND REPLACE IT WITH BITUMINOUS STABILIZED BASE COURSE. NO ADDITIONAL PAYMENT WILL BE MADE FOR THE PAYMENT.
- MAXIMUM PAYMENT WIDTH FOR SURFACE COURSE PAVEMENT SHALL BE THE DISTURBED WIDTH PLUS TWO (2) FEET. IN NO CASE SHALL THE MAXIMUM PAYMENT WIDTH FOR BASE COURSE PAVEMENT REPAIR BE GREATER THAN 30 INCHES + O.D. + H.

TYPICAL TRENCH & PAVEMENT REPAIR

NOT TO SCALE

PIPE SIZE IN INCHES	90° TEE OR DEAD END PLUG				45°				22 1/2°			
	NO.	SIZE	NO.	SIZE	NO.	SIZE	NO.	SIZE	NO.	SIZE	NO.	SIZE
4	2	3/4"	30"	2	3/4"	10"	2	3/4"	5"			
6	2	3/4"	40"	2	3/4"	10"	2	3/4"	5"			
8	4	3/4"	50"	2	3/4"	15"	2	3/4"	5"			
10	2	1"	60"	2	3/4"	20"	2	3/4"	5"			
12	4	7/8"	70"	2	3/4"	20"	2	3/4"	5"			
14	4	1"	80"	2	3/4"	25"	2	3/4"	5"			
16	4	1"	80"	2	3/4"	25"	2	3/4"	5"			

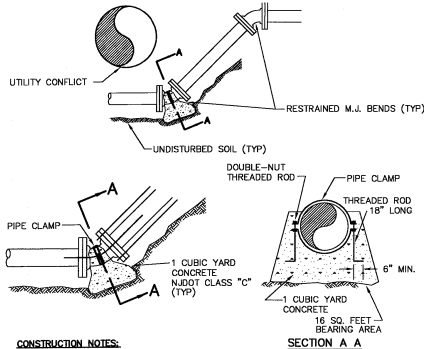
* LENGTH OF PIPE TO BE RESTRAINED IS FOR EACH SIDE OF BEND.

USE OF MECHANICAL JOINT RETAINER GLANDS SHALL PROVIDE A THRUST RESTRAINT SYSTEM EQUIVALENT TO THAT LISTED IN THE TABLE FOR CLAMPS AND RODS.

LENGTHS ARE BASED ON THE FOLLOWING CRITERIA:
100 PSI WORKING PRESSURE PLUS SURGE AND 3'-6" OF COVER TABLE IS FOR USE WITH C.I./D.I.P. ONLY
IF ACTUAL CONDITIONS ARE MORE SEVERE OR LARGER PIPES ARE PROPOSED, THEN SPECIAL COMPUTATIONS MUST BE PERFORMED BY DESIGNER.

JOINT RESTRAINT SCHEDULE

NOT TO SCALE








CONSTRUCTION NOTES:

- ALL BENDS 11 1/4" OR GREATER SHALL BE RESTRAINED WITH A MECHANICAL JOINT RETAINER GLAND OR EQUAL.
- ALL BENDS SHALL BE THRUST WITH GRAVEL AND CONCRETE.
- JOINTS SHALL BE RESTRAINED 2 FULL PIPE LENGTHS UP AND DOWN STREAM OF 45° BENDS WITH MECHANICAL JOINT RETAINER GLAND OR EQUAL. JOINT RESTRAINT SYSTEM FOR BENDS GREATER THAN 45° SHALL BE APPROVED BY THE ENGINEER.
- PIPE CLAMP SHALL BE CARBON STEEL. THREADED RODS SHALL BE GRADE A-36, AREA NOT EMBEDDED IN CONCRETE SHALL BE BITUMINOUS COATED.

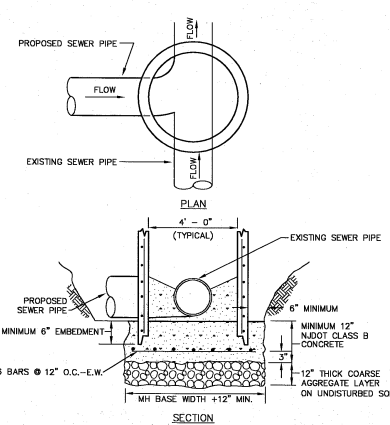
PIPE JOINT RESTRAINTS (TYP)

NOT TO SCALE

THRUST BLOCK TABLE						
DIAMETER (O.D.) OF PIPE (INCHES)	UP TO 22-1/2° BEND 	UP TO 45° BEND 	UP TO 90° BEND 	TEES AND PLUGS 	DEAD END TEE AND 90° BEND 	
CONTACT BEARING AREA OF THRUST BLOCK WITH UNDISTURBED EARTH (SQUARE FEET)						
4	0.6	1.2	2.1	1.5	A: 1.5 B: 0.5	
6	1.2	2.4	4.5	3.3	A: 3.3 B: 1.2	
8	2.1	4.2	8.1	5.7	A: 5.7 B: 2.4	
10	3.3	6.9	12.6	8.7	A: 8.7 B: 3.9	
12	5.1	9.9	18.0	12.6	A: 12.6 B: 5.4	
16	8.7	17.4	32.1	22.5	A: 22.5 B: 9.6	
20	13.8	27.0	50.1	35.4	A: 35.4 B: 14.7	
24	19.8	39.0	72.0	51.0	A: 51.0 B: 21.0	

CONSTRUCTION NOTES:

- BEARING AREA FOR THRUST BLOCKS ARE BASED ON THE UNDISTURBED SOIL WITH BEARING CAPACITY OF 1000 LBS. PER SQUARE FOOT. FOR OTHER SOIL OF LESS BEARING CAPACITY, THE AREAS SHALL BE ADJUSTED ACCORDINGLY, (FIGURE 14, ASCE PIPELINE DESIGN FOR WATER AND WASTEWATER, 1975).
- ALL CONCRETE FOR THRUST BLOCKS SHALL BE NDOT, CLASS C.
- DIMENSIONS OF THRUST BLOCKS SHALL BE APPROXIMATELY SQUARE, AND THE THRUST BLOCKS SHALL BE POURED FROM FITTING SUCH THAT THEY BEAR ON THE UNDISTURBED WALL OF THE TRENCH.
- THE TABULATED CONTACT BEARING AREAS LISTED ARE FOR HORIZONTAL AND DOWNWARD THRUST ONLY, AND ARE NOT APPLICABLE FOR UPWARD THRUST.

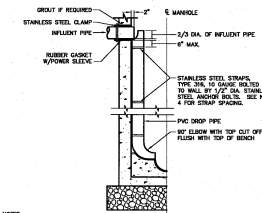


CONSTRUCTION NOTES:

- SEE PRECAST STANDARD MANHOLE DETAIL FOR TYPICAL INSTALLATION.
- PRECAST MANHOLE SECTION TO BE IN ACCORDANCE WITH ASTM DESIGNATION C-478.

DOGHOUSE MANHOLE

N.T.S.



NOTES:

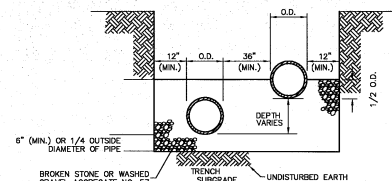
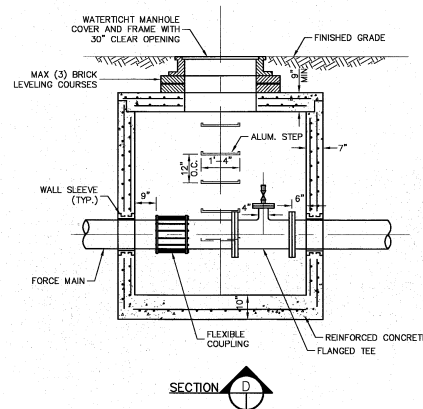
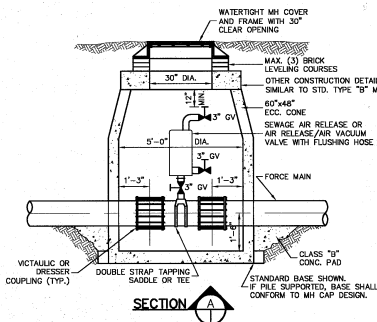
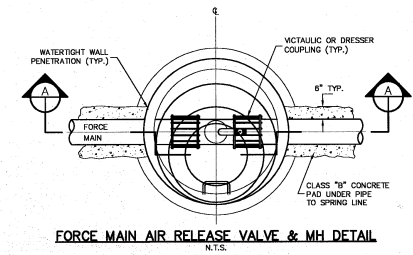
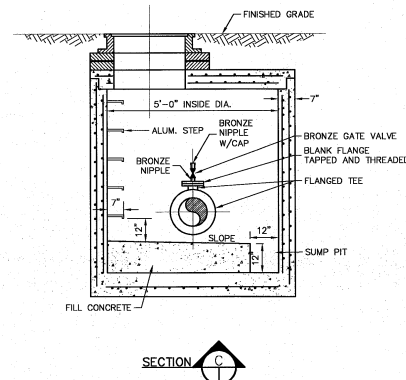
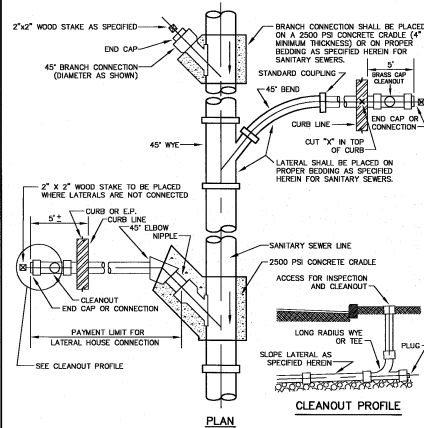
- NOMINAL DIAMETER OF PVC DROP SECTION TO BE EQUAL TO INFLUENT PIPE I.D.
- ALL JOINTS ON THE DROP SECTION TO BE OF THE RUBBER GASKET OR FLATION TYPE. EXISTING JOINTS ARE PROHIBITED TO FACILITATE REMOVAL AND/OR REPLACEMENT.
- IN THE CONSTRUCTION OF THE 90° ELBOW, THE CONTRACTOR SHALL HAVE THE OPTION OF EITHER CLAMPING THE BEND TO PROVIDE A CHAMFER FOR THE 90° ELBOW OR TO THE 90° ELBOW OR TO THE 90° ELBOW. IN EITHER CASE, THE TOP RAMP OF THE 90° ELBOW SHALL BE CUT OFF AT THE TOP OF THE BEND AND WELD UP ALL JOINTS IN THE BEND. TO THE 90° ELBOW LINE OF THE 90° ELBOW. IN EITHER CASE, THE TOP RAMP OF THE 90° ELBOW SHALL BE CUT OFF AT THE TOP OF THE BEND AND WELD UP ALL JOINTS IN THE BEND. TO THE 90° ELBOW LINE OF THE 90° ELBOW.
- STAINLESS STEEL STRAPS TO BE USED TO MANHOLE WALL IN SUCH A MANNER AS TO ALLOW TOP TIE-ROD REMOVAL. FIRST STRAP TO BE PLACED WITH A MINIMUM DISTANCE OF 6" FROM BELOW THE BELT PIPE INSET. REMAINING STRAPS TO BE AT 2'-0" ON CENTER WITH A MINIMUM OF THREE STRAPS PER LINE.
- THE MANHOLE CONNECTION MUST BE MADE WITH A CORING MACHINE AND A REINFORCED RUBBER GASKET. THE POWER SLEEVE AND TAKE-UP CLAMP SHALL BE MADE OF POLYMER STEEL. AN ANCHORED STRAP SHALL BE USED TO CLAMP THE STRAP. THE USE OF CONNECTION ARE NOT ACCEPTABLE.
- MAX. DROP CONNECTION TO BE 15'.

TYPICAL INTERIOR DROP CONNECTION

N.T.S.

1	2/25/21	REVISED PER INDEP. COMMENTS	BP	JAM
NO.	DATE	REVISIONS	BY	CHECKED
NORTHWEST BERGEN COUNTY UTILITIES AUTHORITY				
FRANKLIN LAKES BUSINESS DISTRICT				
SANITARY SEWER				
BOROUGH OF FRANKLIN LAKES, BERGEN COUNTY, NEW JERSEY				
CONSTRUCTION DETAILS				
TM ASSOCIATES 11 TINDALL ROAD WESTPORT, NJ 07748 TEL: 732-671-6400 FAX: 732-671-7365 E-MAIL: TM@TM-ASSOCIATES.COM PROFESSIONAL ENGINEER AND ARCHITECT LICENSE NO. 24603080400		KEITH W. HENDERSON, P.E. <i>Keith W. Henderson</i> 1/23/21 DATE LICENSED PROFESSIONAL ENGINEER STATE OF NEW JERSEY LICENSE NO. 24603080400 DESIGNED BY BP DRAWN BY BAH CHECKED BY JAM PROJECT NO. NJUA-00096 CADD FILE NBSB-CD FIELD FILE # N/A		
SHEET 28 OF 39		CD-2		

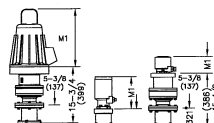
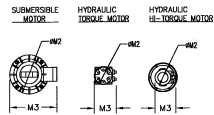
COMMUNITOR INSTALLATION
DETAIL - MODEL CMD

[illegible]

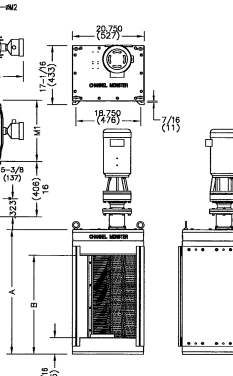
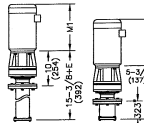
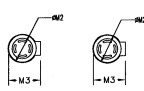
GRAVITY SANITARY SEWERS AND FORCE MAINS

BEDDING DETAIL
COMBINED GRAVITY SEWER/FORCE MAIN TRENCH
NO. SCALE

1	2/15/11		REVISED PER NUDEP COMMENTS		SP	JAM
NO.	DATE		REVISIONS		BY	CHECKED
NORTHWEST BERGEN COUNTY UTILITIES AUTHORITY						
FRANKLIN LAKES BUSINESS DISTRICT SANITARY SEWER						
BOROUGH OF FRANKLIN LAKES, BERGEN COUNTY, NEW JERSEY						
CONSTRUCTION DETAILS						
<div><div><div><div><div><div>TM</div><div>ASSOCIATES</div></div></div><div><div><div><div><div><div>MIDLAND, NJ 07430</div><div>TEL. 732-671-6400</div><div>FAX 732-671-7265</div></div></div><div><div><div>NEW JERSEY BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS</div><div>CERTIFICATE OF AUTORIZATION</div></div></div></div></div><div>DESIGNED BY SP</div><div>DRAWN BY CAISO FIELD</div><div>SHEET NO. FIELD SK. #</div></div><div><div>KEITH W. HENDERSON, P.E.</div><div><i>Keith W. Henderson</i></div><div>LICENSED PROFESSIONAL ENGINEER STATE OF NEW JERSEY LICENSE NO. 2462-03080420</div><div><i>2/15/11</i> DATE</div></div><div><div>DRAWING CD-3 SHEET</div><div>29 OF 39</div></div></div></div></div>						

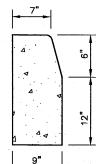


EXTENDED
ELECTRIC MOTOR ELECTRIC MOTOR



MODEL	A	B
CMD1810	30 1/2 (775)	23 1/8 (578)
CMD2410	36 1/8 (918)	28 7/8 (733)
CMD3210	44 (1118)	36 3/4 (933)
CMD4010	51 7/8 (1318)	44 1/2 (1130)
CMD5010	61 7/8 (1572)	54 1/2 (1384)
CMD6010	72 1/4 (1835)	64 7/8 (1648)

CHANNEL MONSTER - MODEL CMD 10" DETAIL
N.T.S.

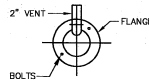


CONSTRUCTION NOTES:

1. ALL CONCRETE SHALL BE N.J.D.O.T. CLASS "B".
2. EIGHT INCH (8") FACE TO BE PROVIDED.
3. PROVIDE PREFORMED BITUMINOUS FIBER EXPANSION JOINTS, 1/2" THICK AT 20'-0" (MAXIMUM) INTERVALS. PROVIDE DUMMY JOINTS (FORMED) BETWEEN EXPANSION JOINTS.

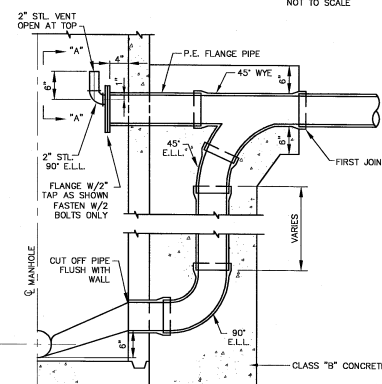
CONCRETE CURB

NOT TO SCALE

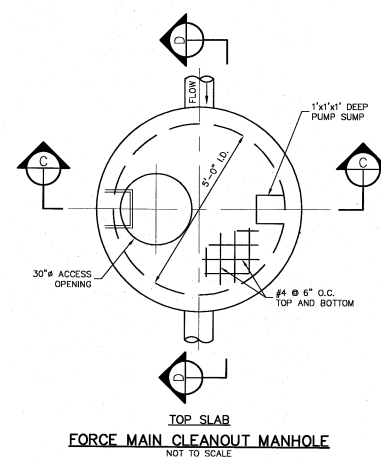


ELEVATION "A-A"
NOT TO SCALE

- NOTES:
1. ALL MATERIAL FOR F.M. DROP CONNECTION SHALL BE CAST OR DUCTILE IRON.
 2. ALL PIPES AND FITTINGS SHALL BE SAME DIA. AS FORCE MAIN DIA.



TYPICAL FORCE MAIN DROP CONNECTION
NOT TO SCALE



FORCE MAIN CLEANOUT MANHOLE
NOT TO SCALE

STANDARD FOR TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

Definition

Establishment of temporary vegetative cover on soils exposed for periods of two to 6 months which are not being graded, not under active construction or not scheduled for permanent seeding within 60 days.

Purpose

To temporarily stabilize the soil and reduce damage from wind and water erosion until permanent stabilization is accomplished.

Water Quality Enhancement

Provides temporary protection against the impacts of wind and rain, slows the overland movement of stormwater runoff, increases infiltration and retains soil and nutrients on site, protecting streams or other stormwater conveyances.

Where Applicable

On exposed soils that have the potential for causing off-site environmental damage.

Methods and Materials

I. Site Preparation

- Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with Standards for Land Grading, p. 19-1.
- Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways. See Standards 11 through 42.
- Immediately prior to seeding, the surface should be scarified 6" to 12" where there has been soil compaction. This practice is permissible only where there is no danger to underground utilities (cables, irrigation systems, etc.).

II. Seedbed Preparation

- Apply ground limestone and fertilizer according to soil test recommendations such as those offered by Rutgers Co-operative Extension. Soil sample mollars are available from the local Rutgers Cooperative Extension office. Fertilizer shall be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet of 10-20-10 or equivalent with 50% water insoluble nitrogen unless a soil test indicates otherwise. Apply limestone in accordance with the table below, and the test indicates otherwise. Calcium carbonate is the equivalent and standard for measuring the ability of liming materials to neutralize soil acidity and supply calcium and magnesium to grasses and legumes. Table below is a general guideline for limestone application rates.

SOIL TEXTURE	TONS/ACRE	LIBS./1,000 SQ. FT.
CLAY, CLAY LOAM, AND HIGH ORGANIC SOIL	3	135
SANDY LOAM, LOAM, SILT LOAM	2	90
LOAMY SAND, SAND	1	45

Pulverized dolomitic limestone is preferred for most soils south of the New Brunswick-Trenton line.

- Work time and fertilizer into the soil as nearly as practical to a depth of 4 inches with a disc, springtooth harrow, or other suitable equipment. The final harrowing or disking operation should be on the general contour. Continue tillage until a reasonably uniform seedbed is prepared.
- Inspect seedbed just before seeding. If traffic has left the soil compacted, the area must be retilled as above.

III. Seeding

- Select seed from recommendations in Table.

SEED TYPES	SEEDING RATES 1/ (POUNDS)		OPTIMUM SEEDING DATE 2/ BASED ON PLANT HARDINESS ZONE 3/			OPTIMUM SEED
	PER ACRE	PER ACRE	ZONE 5	ZONE 6	ZONE 7	
Cool Season Grasses						
PERENNIAL RYEGRASS	100	1.0	8/1-9/15	8/15-10/1	8/15-10/15	0.5
SPRING OATS	86	2.0	3/15-6/1	3/1-5/15	2/15-5/1	1.0
WINTER BARLEY	96	2.2	8/1-9/15	8/15-10/1	8/15-10/15	1.0
WINTER CEREAL RYE	112	2.8	8/1-11/1	8/1-11/15	8/1-12/15	1.0
Warm Season Grasses						
PEARL MILLET	20	0.5	6/1-8/1	5/15-8/15	5/1-8/1	1.0
MILLET (GERMAN OR HUNGARIAN)	30	0.7	6/1-8/1	5/15-8/15	5/1-8/1	1.0
WEEDING LOVEGRASS	5	0.2	6/1-8/1	5/15-8/15	5/1-8/1	0.25

- Seeding rate for warm season grasses shall be adjusted to reflect the amount of Pure Live Seed (PLS) as determined by a germination test result. No adjustment is required for cool season grasses.
- May be planted throughout summer if soil moisture is adequate or can be irrigated.
- Plant Hardiness Zone (see below)
- Twice the depth for sandy soils

- Zone 5b (-10 to -15) Portions of Sussex and Warren Counties
- Zone 6a (-5 to -10) Portions of Sussex, Warren, Passaic, Morris, Somerset and Hunterdon Counties. Monmouth, Ocean, Burlington, Morris, Passaic, Somerset, Union, Atlantic, Cumberland, and Cape May Counties.
- Zone 6b (0 to -5) Portions of Bergen, Camden, Essex and Gloucester, Hunterdon, Mercer, Middlesex, Hudson, and Monmouth Counties.
- Zone 7a (5 to 0) Portions of Camden, Gloucester, Salem, Cumberland, Cape May, Atlantic, Burlington, Ocean, and Monmouth Counties.
- Zone 7b (10 to 5) Portions of Cape May, Atlantic, Ocean and Monmouth Counties.

- Conventional Seeding - Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or outcrop seeder. Seeds for drilled, hydroseeded or outcropped seedings, seed shall be incorporated into the soil to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.
- Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an application system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.
- After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore compaction, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

IV. Mulching

Mulch is required on all seedbeds. Mulch will insure against erosion before grass is established and will promote faster and earlier establishment. (The existence of vegetation sufficient to control soil erosion shall be deemed compliance with this mulching requirement.)

- Straw or Hay. Unwashed small grain straw, hay free of seeds, or salt hay to be applied at the rate of 1-1/2 to 2 tons per acre (500 to 800 pounds per 1,000 square feet), except that where a crop is used instead of liquid mulch-blender (tackling), straw shall be applied at the rate of 1-1/2 to 2 tons per acre. Mulch shall be applied in a crisscross and square pattern. Secure twice around each bag with two or more round turns.
- Application. Spread uniformly by hand mechanically so that approximately 85% of the soil surface will be covered. For uniform distribution of hand-applied mulch, divide area into approximately 1,000 square foot sections and distribute 70 to 90 pounds within each section.

Anywhere should be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area, steepness of slopes, and costs.

1. **Plag and Ties** - Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching ties between pegs in a crisscross and a square pattern. Secure twice around each peg with two or more round turns.
2. **Mulch Netting** - Staple paper, jute, cotton, or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.
3. **Cropmer (mulch anchoring tool)** - A tractor-drawn implement, somewhat like a disc harrow, specially designed to push or cut one of the broadest long fiber mulch 3 to 4 inches into the soil so as to anchor it and leave top standing upright. This technique is limited to areas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.

4. **Liquid Mulch-Blenders** - May be used to anchor salt hay or straw mulches.
 - Applications should be heavier at edges where wind catches the mulch, in valleys, and at crests of banks. Remainder of area should be uniform in appearance.

- Use one of the following:
 - Emulsified asphalt - (SS-1, CSS-1, CMS-2, MS-2, RS-1, RS-2, CRS-1, and CRS-2).
 - Apply 0.04 gal./sq. yd. or 184 gal./acre on flat slopes less than 5 feet high. On slopes 5 feet or more high, use 0.075 gal./sq. yd. or 363 gal./acre. These materials may be difficult to apply uniformly and will discolor surfaces.

- Organic and Vegetable Based Binders - Naturally occurring, powder based, hydrophilic materials when mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form meshed networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phytotoxic effect or impede growth of turfgrasses. Use at rates and weather conditions as recommended by the manufacturer to anchor mulch materials. Many new products are available, some of which may need further evaluation for use in this state.

- Synthetic binders - High polymer synthetic emulsion, miscible with water when diluted and following application to mulch, drying and curing shall no longer be soluble or dispersible in water. It shall be applied at rates recommended by the manufacturer and remain tacky until germination of grass.
 - Wood-fiber or paper-fiber mulch. Shall be made from wood, plant fibers or paper containing no growth or germination inhibiting materials, used at the rate of 1,000 pounds per acre (or as recommended by the product manufacturer) and may be applied by a hydroseeder. This mulch shall not be mixed in the tank with the seed. Use is limited to flatter slopes and during optimum seeding periods in spring and fall.

- Pelletized mulch. Compressed and extruded paper and/or wood fiber product, which may contain co-polymers, tackifiers, fertilizers and coloring agents. The dry pellets, when applied to a seeded area and watered, form a mulch mat. Pelletized mulch shall be applied in accordance with the manufacturer's recommendations. Mulch may be applied by hand or mechanically at the rate of 60-75 lbs./1,000 square feet and low or no erosion areas, seeded areas where seed-free mulch is desired or on sites where straw mulch or mulch binder are not practical or desirable.

- Applying the full 0.2 to 0.4 inches of water after spreading pelletized mulch on the seed bed is extremely important for sufficient activation and expansion of the mulch to provide soil coverage.

- Wood-fiber or paper-fiber mulch. Shall be made from wood, plant fibers or paper containing no growth or germination inhibiting materials, used at the rate of 1,000 pounds per acre (or as recommended by the product manufacturer) and may be applied by a hydroseeder. This mulch shall not be mixed in the tank with the seed. Use is limited to flatter slopes and during optimum seeding periods in spring and fall.
- Pelletized mulch. Compressed and extruded paper and/or wood fiber product, which may contain co-polymers, tackifiers, fertilizers and coloring agents. The dry pellets, when applied to a seeded area and watered, form a mulch mat. Pelletized mulch shall be applied in accordance with the manufacturer's recommendations. Mulch may be applied by hand or mechanically at the rate of 60-75 lbs./1,000 square feet and low or no erosion areas, seeded areas where seed-free mulch is desired or on sites where straw mulch or mulch binder are not practical or desirable.

- Applying the full 0.2 to 0.4 inches of water after spreading pelletized mulch on the seed bed is extremely important for sufficient activation and expansion of the mulch to provide soil coverage.

- Conventional Seeding - Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or outcrop seeder. Seeds for drilled, hydroseeded or outcropped seedings, seed shall be incorporated into the soil to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.

- Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an application system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.

- After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore compaction, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

- Conventional Seeding - Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or outcrop seeder. Seeds for drilled, hydroseeded or outcropped seedings, seed shall be incorporated into the soil to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.

- Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an application system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.

- After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore compaction, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

- Conventional Seeding - Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or outcrop seeder. Seeds for drilled, hydroseeded or outcropped seedings, seed shall be incorporated into the soil to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.

- Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an application system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.

- After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore compaction, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

- Conventional Seeding - Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or outcrop seeder. Seeds for drilled, hydroseeded or outcropped seedings, seed shall be incorporated into the soil to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.

- Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an application system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.

- After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore compaction, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

- Conventional Seeding - Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or outcrop seeder. Seeds for drilled, hydroseeded or outcropped seedings, seed shall be incorporated into the soil to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.

- Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an application system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.

- After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore compaction, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

- Conventional Seeding - Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or outcrop seeder. Seeds for drilled, hydroseeded or outcropped seedings, seed shall be incorporated into the soil to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.

STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

Definition

Establishment of permanent vegetative cover on exposed soils where perennial vegetation is needed for long term protection.

Purpose

To permanently stabilize the soil, ensuring conservation of soil and water, and to enhance the environment.

Water Quality Enhancement

Slows the overland movement of stormwater runoff, increases infiltration and retains soil and nutrients on site, protecting streams or other stormwater conveyances.

Where Applicable

On exposed soils that have the potential for causing off-site environmental damage.

Methods and Materials

I. Site Preparation

- Grade as needed and feasible to permit the use of conventional equipment for seedbed preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with Standards for Land Grading, p. 19-1.
- Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways. See Standards 11 through 42.
- Immediately prior to seeding, the surface should be scarified 6" to 12" where there has been soil compaction. This practice is permissible only where there is no danger to underground utilities (cables, irrigation systems, etc.).

II. Seedbed Preparation

- Apply ground limestone and fertilizer according to soil test recommendations such as those offered by Rutgers Co-operative Extension. Soil sample mollars are available from the local Rutgers Cooperative Extension office. Fertilizer shall be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet of 10-20-10 or equivalent with 50% water insoluble nitrogen unless a soil test indicates otherwise. Apply limestone in accordance with the table below, and the test indicates otherwise. Calcium carbonate is the equivalent and standard for measuring the ability of liming materials to neutralize soil acidity and supply calcium and magnesium to grasses and legumes. Table below is a general guideline for limestone application rates.

SOIL TEXTURE	TONS/ACRE	LIBS./1,000 SQ. FT.
CLAY, CLAY LOAM, AND HIGH ORGANIC SOIL	3	135
SANDY LOAM, LOAM, SILT LOAM	2	90
LOAMY SAND, SAND	1	45

- Work time and fertilizer into the soil as nearly as practical to a depth of 4 inches with a disc, springtooth harrow, or other suitable equipment. The final harrowing or disking operation should be on the general contour. Continue tillage until a reasonably uniform seedbed is prepared.
- Immediately prior to seeding, the surface should be scarified 6" to 12" where there has been soil compaction. This practice is permissible only where there is no danger to underground utilities (cables, irrigation systems, etc.).

- Conventional Seeding - Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or outcrop seeder. Seeds for drilled, hydroseeded or outcropped seedings, seed shall be incorporated into the soil to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.

- Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an application system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.

- After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore compaction, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

- Conventional Seeding - Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or outcrop seeder. Seeds for drilled, hydroseeded or outcropped seedings, seed shall be incorporated into the soil to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.

- Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an application system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.

- After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore compaction, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

- Conventional Seeding - Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or outcrop seeder. Seeds for drilled, hydroseeded or outcropped seedings, seed shall be incorporated into the soil to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.

- Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an application system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.

- After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore compaction, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

- Conventional Seeding - Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or outcrop seeder. Seeds for drilled, hydroseeded or outcropped seedings, seed shall be incorporated into the soil to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.

- Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an application system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.

- After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore compaction, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

- Conventional Seeding - Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or outcrop seeder. Seeds for drilled, hydroseeded or outcropped seedings, seed shall be incorporated into the soil to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.

- Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an application system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.

- After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore compaction, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

- Conventional Seeding - Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or outcrop seeder. Seeds for drilled, hydroseeded or outcropped seedings, seed shall be incorporated into the soil to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.

- Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an application system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.

- After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore compaction, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

- Conventional Seeding - Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or outcrop seeder. Seeds for drilled, hydroseeded or outcropped seedings, seed shall be incorporated into the soil to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.

- Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an application system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.

- After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore compaction, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

- Conventional Seeding - Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or outcrop seeder. Seeds for drilled, hydroseeded or outcropped seedings, seed shall be incorporated into the soil to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.

- Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an application system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Short fibered mulch may be applied with a hydroseeder following seeding. Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.

- After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore compaction, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

IV. Mulching

Mulching is required on all seedbeds. Mulch will insure against erosion before grass is established and will promote faster and earlier establishment. (The existence of vegetation sufficient to control soil erosion shall be deemed compliance with this



Above Ground Methanol Storage Tank

Wastewater
treatment
Plant

Bush Row

MH
 Rim 358.01
 Inv. 350.16
 low 350.61

114-55328

 $\mathcal{G}'' \text{ Diff}$

DEMOLISH STRUCTURE
TO 4' BELOW GRADE
AND FILL

No. 1 Pa.
 Vent
 Pipe MO
 Door
 Ex. San
 Sewer
 Pump

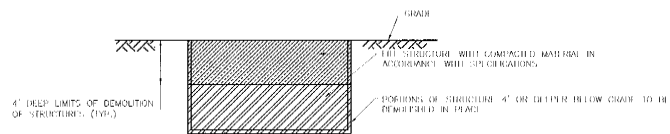
EXTERIOR DEMOLITION PLAN

BUILDING DEMOLITION PLAN VIEW

ALL EQUIPMENT, STRUCTURES, PADS, PIPING, CURBING
E.T.C. WITHIN THE SHADED AREAS TO BE DEMOLISHED
AND/OR ABANDONED AS NEEDED TO ALLOW FOR
CONSTRUCTION OF PROPOSED IMPROVEMENTS.

DEMOLITION NOTES:

1. SEE SEQUENCE OF CONSTRUCTION FOR TIMING OF DEMOLITION WORK.
2. EXISTING BUILDING PLANS TAKEN FROM AS-BUILT PLANS PREPARED BY D2L DATED OCTOBER 27, 1997 WHICH UPDATED DESIGN PLANS PREPARED BY MUNO-SHUM J. SUELI, P.E. OF LANGAN ENGINEERING DATED JANUARY 7, 1997, LAST REVISED APRIL 4, 1997. BUILDING INFORMATION IS SHOWN FOR INTERNATIONAL PURPOSES AND IS NOT INTENDED TO ACCURACY. CONTRACTOR TO CONFIRM ALL INFORMATION.
3. CONTRACTOR SHALL CLEAN, DISMANTLE, DISMANTLE AND REMOVE ALL EXISTING EQUIPMENT FROM THE BUILDING AND COORDINATE WITH THE AUTHORITY SALVAGE OF MECHANICAL EQUIPMENT. ALL EQUIPMENT NOT RETAINED BY THE AUTHORITY SHALL BE DISPOSED OFFSITE.
4. ALL EXISTING PIPING TO BE ABANDONED WHICH IS IN CONFLICT WITH THE PROPOSED IMPROVEMENTS SHALL BE REMOVED. ALL PIPING NOT REMOVED SHALL BE PLUGGED WITH CONCRETE AND CAPPED OFF.
5. ALL DEBRIS AND RESIDUAL SLUDGE FROM THE BOTTOM OF THE EXISTING WEI WELL AND CHAMBERS SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED LOCATION.
6. ALL BUILDING SUPPORT STRUCTURES TO BE DEMOLISHED TO A MINIMUM OF 6" BELOW FINISHED FLOOR ELEVATION.
7. ALL BUILDING STRUCTURES TO BE ABANDONED IN PLACE. THE STRUCTURES SHALL BE FILLED WITH 3" CLEAN STONE AND THOROUGHLY COMPACTED IN ACCORDANCE WITH THE SPECIFICATIONS AND BASIN BACKFILL DETAIL. Suction and/or discharge lines to be REMOVED.
8. CONTRACTOR TO SUPPORT ALL STRUCTURES AND UTILITIES DURING ALL PHASES OF DEMOLITION, EXCAVATION, AND CONSTRUCTION.
9. CONTRACTOR TO REMOVE EXISTING LANDSCAPING AS NEEDED TO CONSTRUCT IMPROVEMENTS AS SHOWN. EXISTING LANDSCAPING TO BE REPLACED IN KIND UPON COMPLETION OF CONSTRUCTION.
10. ELECTRICAL EQUIPMENT AND EXISTING GENERATOR WITHIN THE EXISTING GENERATOR BUILDING SHALL BE DEMOLISHED AS NOTED ON THE ELECTRICAL PLAN.



CONSTRUCTION NOTES:

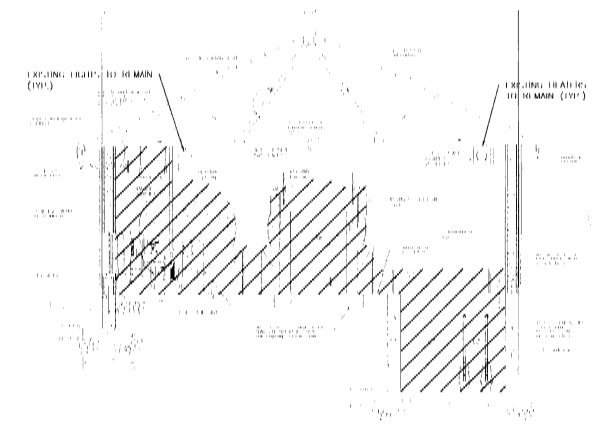
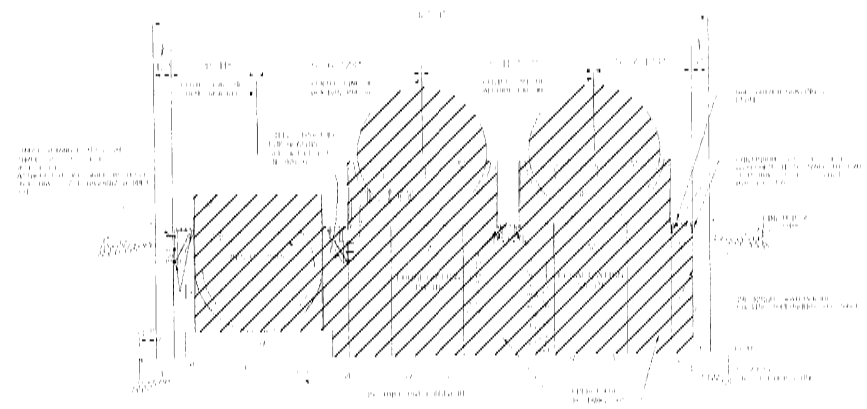
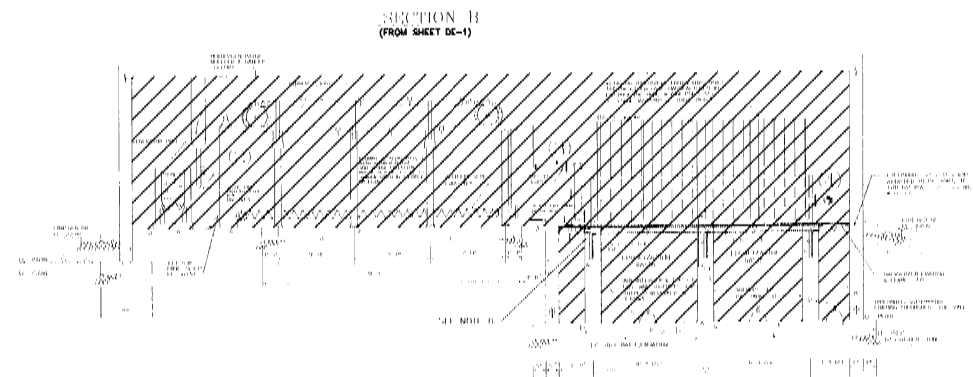
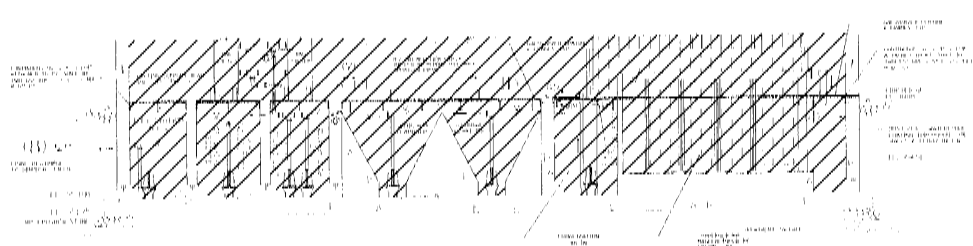
1. STRUCTURES SHALL BE REMOVED TO A DEPTH OF 4' BELOW FINAL GRADE
2. HOLES SHALL BE PUNCHED, OR DRILLED IN BOTTOM OF STRUCTURE USING METHOD APPROVED BY THE ENGINEER PRIOR TO DEMOLITION. HOLES MUST COMPLETELY PUNCTURE THE CONCRETE THROUGH THE ENTIRE THICKNESS OF THE BOTTOM SLAB.
3. CONTRACTOR IS ADVISED THICKNESS OF BOTTOM OF STRUCTURES IS NOT KNOWN. CONCRETE FLOORING THICKNESS OF UP TO 30" MAY BE FOUND AND SHALL DEMOLISHED WITH NO ADDITIONAL COST TO OWNER.
4. PIPES, CONDUITS ETC... SHALL BE PLUGGED WITH 2" THICK CONCRETE
5. BOTTOM OF STRUCTURE SHALL BE FILLED WITH COMPACTED FILL MATERIAL AS APPROVED BY THE ENGINEER

STANDARD EXTERIOR UNDERGROUND STRUCTURE DEMOLITION DETAIL

N.T.S.

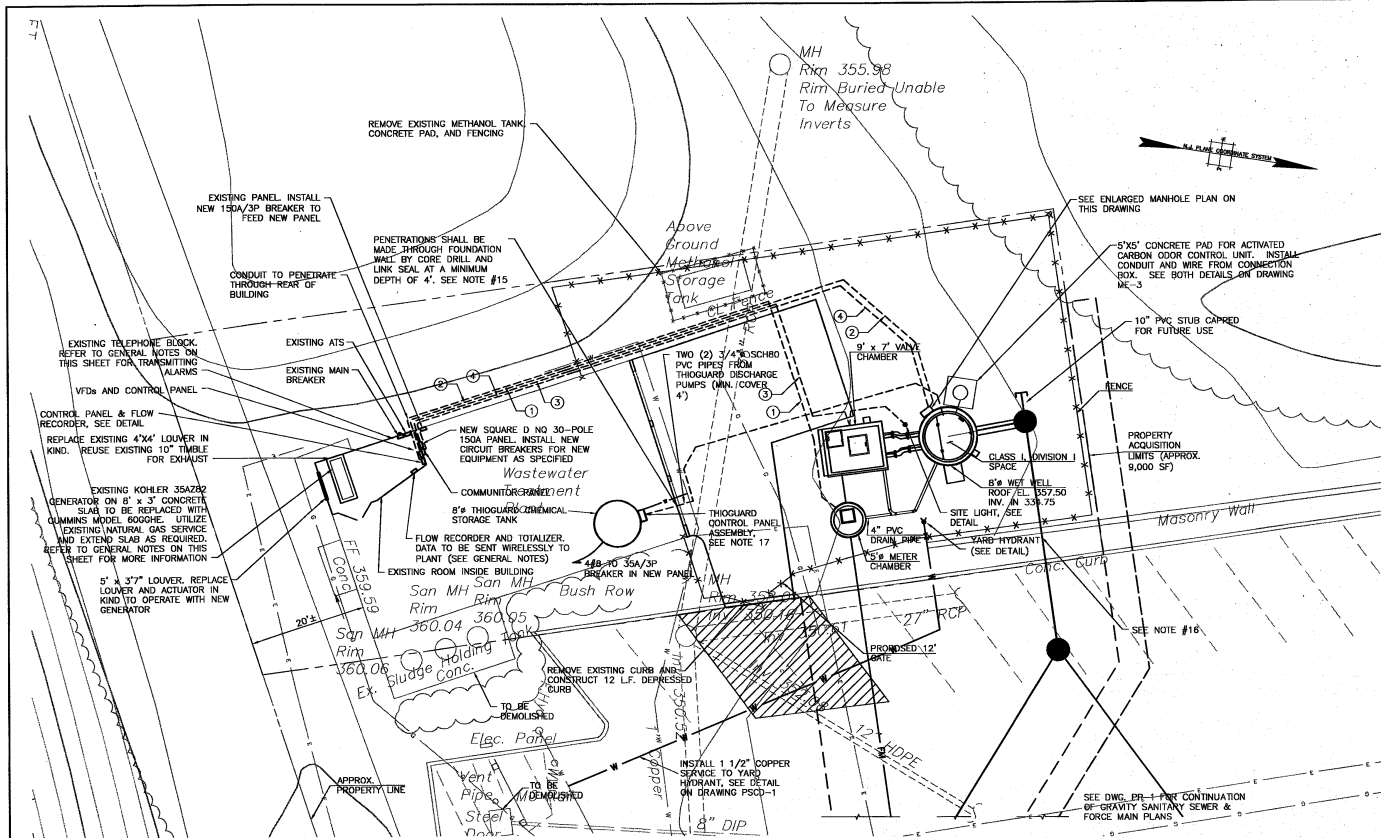
NO.	DATE	REVISIONS	BY	CHKD
NORTHWEST BERGEN COUNTY UTILITIES AUTHORITY				
FRANKLIN LAKES BUSINESS DISTRICT SANITARY SEWER				
BOROUGH OF FRANKLIN LAKES, BERGEN COUNTY, NEW JERSEY				
WASTE WATER TREATMENT PLANT DEMOLITION PLAN				
TM ASSOCIATES 11 FINNELL ROAD WESTPORT, NJ 07787 TEL 732-671-6400 FAX 732-671-7355		KEITH W. HENDERSON, P.E. <i>Keith W. Henderson</i> LICENSED PROFESSIONAL ENGINEER STATE OF NEW JERSEY LICENSE NO. 240200380400		DRAWING DE-1 SHEET 1/10 DATE
PROJECT: 10-0000-0000-0000-0000 10-0000-0000-0000-0000 10-0000-0000-0000-0000		DRAWING NO. 10-0000-0000-0000-0000 PROJECT NO. 10-0000-0000-0000-0000 SHEET NO. 10-0000-0000-0000-0000	REVISION 10-0000-0000-0000-0000 10-0000-0000-0000-0000 10-0000-0000-0000-0000	32 30

COPYRIGHT 2010, TAM ASSOCIATES - ALL RIGHTS RESERVED
THE COPYING OR REUSE OF THIS DOCUMENT, OR PORTIONS THEREOF, FOR OTHER THAN THE ORIGINAL PROJECT OR
THE PURPOSE ORIGINALLY INTENDED, WITHOUT THE WRITTEN PERMISSION OF TAM ASSOCIATES, IS PROHIBITED.

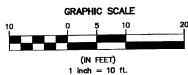


ALL EQUIPMENT, STRUCTURES, PIPES, TRENCH, CONDUIT, ETC. WHEN THE SAME IS TO BE DEMOLISHED AND/OR REMOVED AS NOTED TO ALLOW FOR CONSTRUCTION OF PROPOSED IMPROVEMENTS.

NO. 1141		NO. 1141		NO. 1141	
NORTHWEST BERGEN COUNTY UTILITIES AUTHORITY					
FRANKLIN LAKES BUSINESS DISTRICT SANITARY SEWER					
BOROUGH OF FRANKLIN LAKES, BERGEN COUNTY, NEW JERSEY					
WASTE WATER TREATMENT PLANT DEMOLITION PLAN					
TM ASSOCIATES 11 THOMAS ROAD MOUNTAIN VIEW, NJ 07046 TEL: 201-961-1000 FAX: 201-961-1001		KEITH W. HENDERSON, P.E. <i>Keith Henderson</i> 9/10/00		DRAWING DE-2	
PROJECT NO. 99-001 PROJECT NAME: WASTE WATER TREATMENT PLANT DEMOLITION PROJECT LOCATION: FRANKLIN LAKES, NJ PROJECT OWNER: NORTHWEST BERGEN COUNTY UTILITIES AUTHORITY		DATE: 9/10/00 BY: KWH CHECKED: JWH APPROVED: JWH		SHEET NO. 33 OF 39	



SITE PLAN

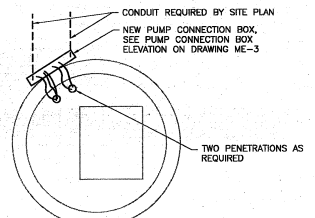


ELECTRICAL CONDUIT LEGEND

- ① 1" RNC FOR FLOW METER CABLE. INSTALL 2" RNC WITH 3/12 FOR FLOW METER POWER, CONNECT TO 15A/1P CIRCUIT BREAKER
- ② 3 CONDUITS:
 - 2 1/2" RNC WITH BELDEN CABLE 29506 (TYPICAL 2, 1 FEEDER PER PUMP)
 - 2 1/2" RNC WITH CONTROL CABLING
- ③ TWO SETS OF (2) 3/4 IN 1" RNC FOR SITE LIGHT AND RECEPTACLE
- ④ COMMUNICATOR AND CARBON FAN FEEDERS TWO (2) SETS OF 4/10 - 1" RNC

GENERAL NOTES:

1. CONTRACTOR SHALL MAINTAIN ALL FRANKLIN CROSSING SEWAGE FLOWS FOR FRANKLIN CROSSING AT ALL TIMES DURING CONSTRUCTION.
2. CONTRACTOR IS RESPONSIBLE TO CONSTRUCT ALL TEMPORARY FENCING, GATES, ETC. NEEDED TO SECURE THE CONSTRUCTION AND STAGING AREAS, EQUIPMENT AND STORED MATERIALS. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE TO REMOVE ALL TEMPORARY STRUCTURES AND CONSTRUCTION DEBRIS, IN ACCORDANCE WITH ALL FEDERAL, STATE, COUNTY, AND LOCAL REGULATORY AGENCY REQUIREMENTS, AND RESTORE DISTURBED AREAS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH UTILITIES AND ACTUAL CONNECTION/DISCONNECTION OF ALL UTILITIES.
4. ALL DEWATERING RELATED TO EXCAVATIONS REQUIRED BY THIS CONTRACT SHALL BE PROVIDED BY THE CONTRACTOR. GROUNDWATER FROM EXCAVATIONS SHALL BE DISCHARGED TO THE STORM SEWER SYSTEM. GROUNDWATER DISCHARGE TO THE WET WELL SHALL NOT BE PERMITTED.
5. CONTRACTOR TO REMOVE RETAINING WALL AS NEEDED FOR CONSTRUCTION PURPOSES ONLY. EXISTING WALL TO BE REPLACED IN KIND UPON COMPLETION OF WORK.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND DISPOSAL OF ALL EXCESS EXCAVATED MATERIAL.
7. THE CONTRACTOR SHALL PROVIDE 72 HOURS NOTICE TO THE OWNER PRIOR TO THE START OF WORK AND AT ALL TIMES WORK HAS BEEN SUSPENDED ON SITE FOR MORE THAN FIVE DAYS UNLESS WEATHER RELATED.
8. WATER SERVICE PIPE SHALL BE BURIED A MINIMUM OF 4 FEET BELOW GRADE.
9. ALL CONSTRUCTION SHALL COMPLY WITH CURRENT RULES AND REGULATIONS OF THE NORTHWEST BERGEN COUNTY UTILITIES AUTHORITY AND OTHER APPLICABLE AGENCIES.
10. CONTRACTOR SHALL RESTORE ALL SITE FEATURES DISTURBED DURING CONSTRUCTION TO PREEXISTING CONDITIONS.
11. THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE ALL UTILITIES AND USE CAUTION WHEN DIGGING FOR UTILITIES. EXISTING UTILITIES SHALL BE EXPOSED BY HAND DIGGING AND SUPPORTED TO AVOID DAMAGE. SUPPORTS SHALL BE PROVIDED AT ALL UTILITY CROSSINGS. UTILITY SUPPORT DETAILS SHALL BE REVIEWED AND APPROVED BY THE APPROPRIATE UTILITY OWNER PRIOR TO INSTALLATION.
12. THE SITE SHALL BE CLEANED DAILY. NO CONSTRUCTION EQUIPMENT, SUPPLIES OR MATERIALS SHALL BE ACCESSIBLE. NO HOLES OR TRENCHES SHALL BE LEFT OPEN DURING PERIODS OF NON-CONSTRUCTION. "ROAD STEEL PLATES" OR OTHER SHEETING WILL BE REQUIRED FOR COVERING HOLES OR TRENCHES OVERNIGHT AT NO EXTRA COST TO THE AUTHORITY.
13. CONTRACTOR TO CONDUCT TEST PIT TO LOCATE EXISTING WATER MAIN CONNECTION AND CONNECT YARD HYDRANT AND APPURTENANCES AS REQUIRED BY UTILITY COMPANY.
14. CONTRACTOR TO COMPLY WITH ALL SOIL EROSION AND SEDIMENT CONTROL STANDARDS AS REQUIRED DURING CONSTRUCTION.
15. PENETRATION THROUGH EXISTING BUILDING FOUNDATION FOR TWO (2) 3/4" PVC PIPE SHALL BE PERFORMED VIA CORE DRILL AND LINK SEAL. PIPE SHALL BE ROUTED INSIDE THROUGH THE EXISTING ROTATING BIOLOGICAL CONTACTOR BASINS BEFORE BACKFILLING BASIN. 2" STONE REQUIRED TO BACKFILL THE BASINS SHALL BE UTILIZED AS PIPE BEDDING INSIDE THE BASINS. DISCHARGE PIPING SHALL BE SLOPED TOWARDS WET WELL.
16. CONTRACTOR TO PROTECT EXISTING RETAINING WALL DURING CONSTRUCTION. SECTIONS OR AREAS OF THE RETAINING WALL REMOVED TO ALLOW FOR CONSTRUCTION ACTIVITIES SHALL BE REPLACED IN KIND AT NO COST TO THE OWNER.
17. CONTRACTOR TO CONNECT TO EXISTING 1" SERVICE IN FRONT OF EXISTING BUILDING AND PROVIDE A 2" WATER SERVICE TO THE CHEMICAL FEED PUMPS FOR FLUSHING.
18. DURING GENERATOR UPGRADE, CONTRACTOR TO PROVIDE PORTABLE GENERATOR ON SITE TO AVOID ANY DOWNTIME OF THE PLANT. CONTRACTOR TO WIRE NEW GENERATOR TO EXISTING TRANSFER SWITCH AS REQUIRED. AUXILIARY CONTACT TO SEND ALARM OVER LEASED LINE (REFER TO DRAWING ME-4, VFD WIRING DIAGRAM, AND NOTES BELOW).
20. CONTRACTOR TO APPLY AND COORDINATE UTILITY LEASED LINES FOR TRANSMISSION OF ALARMS (REFER TO DRAWING ME-4, VFD WIRING DIAGRAM).
21. CONTRACTOR TO SUPPLY AND INSTALL CELLULAR SCADA RTU MANUFACTURED BY MISSION SYSTEMS. RTU TO TRANSMIT FLOW (INSTANTANEOUS AND TOTAL) AND ALARMS TO MAIN WASTEWATER TREATMENT PLANT AT A REMOTE LOCATION. CONTRACTOR TO PROVIDE ALL MEANS AND METHODS TO RE-PROGRAM EXISTING SCADA SYSTEM AT MAIN WASTEWATER TREATMENT TO ACCEPT ALL INPUTS SENT FROM RTU AT THIS LIFT STATION.



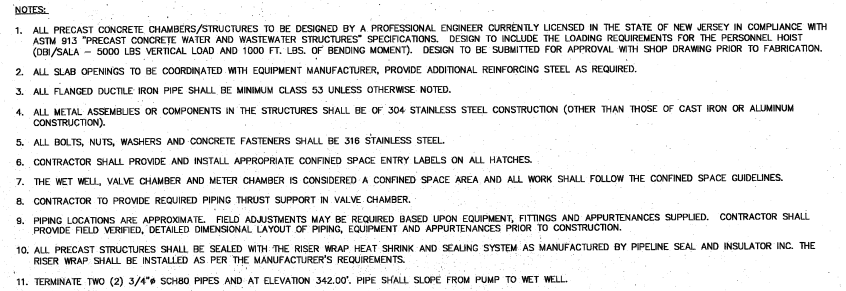
ENLARGED MANHOLE PLAN
N.T.S.

SEQUENCE OF CONSTRUCTION:

THE CONTRACTOR SHALL SUBMIT A STAGING PLAN/SEQUENCE OF CONSTRUCTION TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO COMMENCEMENT OF WORK. THE DETAIL PLAN/SEQUENCE OF CONSTRUCTION SHALL INCLUDE THE FOLLOWING ITEMS:

1. CONSTRUCT ALL SITE IMPROVEMENTS INCLUDING, BUT NOT LIMITED TO, PUMP STATION, VALVE CHAMBER, METER CHAMBER AND ASSOCIATED CONTROLS.
2. PRESSURE TEST GRAVITY SEWER AND FORCE MAIN.
3. ACTIVATE AND TEST NEW PUMP STATION AND PROVIDE TRAINING TO OWNER. VERIFY EQUIPMENT OPERATION FOR ONE WEEK PRIOR TO DEMANTLING EXISTING TREATMENT PLANT.
4. COORDINATE WITH PROPERTY OWNER TO SCHEDULE SHUT DOWN OF TREATMENT PLANT AND CONSTRUCT THE NEW BENCH AND CHANNEL IN DOGHOUSE SANITARY MANHOLE FOR FRANKLIN CROSSING GRAVITY LINE.
5. CLEAN, DISINFECT, DISMANTLE AND REMOVE EXISTING TREATMENT PLANT EQUIPMENT AND PERFORM ELECTRICAL DEMOLITION.
6. PERFORM ALL OTHER DEMOLITION WORK WITHIN EXISTING TREATMENT PLANT.
7. DEMOLISH AND ABANDON EXISTING SEPTIC FIELD.
8. CONSTRUCT CONCRETE PADS IN EXISTING TREATMENT PLANT.
9. INSTALL THIOGUARD OVER CONTROL TANK AND ASSOCIATED CONTROLS WITHIN EXISTING TREATMENT PLANT.
10. EXCAVATE AND ABANDON EXISTING CONCRETE STRUCTURES OUTSIDE EXISTING BUILDING AS SHOWN ON THE DEMOLITION PLAN.
11. REGRADE, TOPSOIL AND SEED THE AREA OF DISTURBANCE.
12. INSTALL SITE LANDSCAPING AND FENCING.
13. FINAL CLEANUP AND DEMOLISH FROM THE SITE.

NO.	DATE	REVISIONS	BY	CHECKED
NORTHWEST BERGEN COUNTY UTILITIES AUTHORITY				
FRANKLIN LAKES BUSINESS DISTRICT				
SANITARY SEWER				
BOROUGH OF FRANKLIN LAKES, BERGEN COUNTY, NEW JERSEY				
PUMP STATION CONSTRUCTION PLAN				
TM ASSOCIATES 1000 ROUTE 208 MIDDLETOWN, NJ 07748 TEL: 732-671-6400 FAX: 732-671-7365		KEITH W. HENDERSON, P.E. LICENSED PROFESSIONAL ENGINEER STATE OF NEW JERSEY LICENSE NO. 2406030080400 DESIGNED BY: JKH CHECKED BY: JKH PROJECT NO: NBUA-00086 ISSUE NO: 00086-CP		
PROFESSIONAL ENGINEER AND LAND SURVEYOR CERTIFICATE OF AUTHORIZATION: 04-00086		DRAWING: CP-1 SHEET: 34 of 39		



4" VENT WITH STAINLESS STEEL INSECT SCREEN (TYP.)

6'-0" I.D. PRECAST WETWELL

BACKFILL EXCAVATED AREA WITH COMPACTED STRUCTURAL FILL

TWO (2) 2" SCH80 PVC DWV-PIPES FROM CHEMICAL FEED TANK

2"x STAINLESS STEEL GUIDE RAILS PROVIDE INTERMEDIATE SUPPORT ANCHORED TO WET WELL WALL

EXTERIOR COATING 2 COATS COAL TAR EPOXY, 8 MIL/COAT (SEE NOTE 10 FOR ADDITIONAL INFORMATION)

COMMUNITATOR WITH SUBMERSIBLE EXPLOSION PROOF MOTOR

COMMUNITATOR SUPPORT FRAME AND WITH GUIDE RAIL SYSTEM

FLARED INLET FRAME

10" INFLUENT

EL. 341.00

T/C EL. 334.75

12" CLEAN CRUSHED STONE

PROPOSED FROGMOOTH COVER WITH FALL PROTECTION BY HALLIDAY PRODUCTS OR EQUAL

SUPPORT CHANNEL

20 GFI RECEPTACLE

6'-0" F/G 358.104

36" x 36" ALUMINUM ACCESS HATCH WITH LOCK

DBI SALA MODEL 3400108 RESCUE DEVICE WITH MODEL 8002033 DAVIT ARM AND MODEL 8004032 FIXED BASE (OR APPROVED EQUAL)

30" x 30" ALUMINUM ACCESS HATCH WITH LOCK

T/C EL. 358.50

F/G 358.204

INTERIOR COATING 34 WHITE EPOXY/COAT EQUAL, 2 COATS MILS/COAT

PRECAST CONCRETE CHAMBER

BLIND FLANGE

8" NON-RISING STEM GATE VALVE

8" CHECK VALVE

LINK SEALS AT ALL OPENINGS (TYP.)

1'-4"

€ 349.66

4" PVC DRAIN LINE AT 2% SLOPE FROM VALVE AND METER CHAMBERS

8" BASE ELBOW WITH CONCRETE BASE

PIPE SUPPORTS, TYP. OF 4

FLOOR DRAIN WITH BACKWATER VALVE, SMITH 2510, 4" DRAIN LINE TO WET WELL

PIPE SUPPORTS (TYP.)

INTERIOR COATING 2 COATS 100% SOLIDS EPOXY, 40 MILS

8" D.I.P. FORCE MAIN

STAINLESS STEEL GUIDE RAIL

SUBMERSIBLE PUMP

8" x 4" REDUCER

1'-0" (TYP.)

3'-6"

3'-10"

5'-10"

CONTROL LEVELS

10" INFLUENT INV. 341.00

H.H.L. ALARM 339.50

H.W.L. ALARM 339.00

LEAD PUMP ON 338.50

LEAD PUMP ON 338.00

PUMP OFF 336.75

L.W.L. ALARM 336.25

DBI SALA MODEL 3400108
RESCUE SERVICE WITH MODEL
8002033 DAVIT ARM AND MODEL
8004032 FIXED BASE (OR
APPROVED EQUAL)

2'x1'-10'x4' DEEP
FOUNDATION FOR
PERSONNEL HOIST
(SEE DETAIL)

F/C 357.00±

ING CON-L
IDE OR
S & S

RETE

6'x6' ACTIVATED CARBON
ODOR CONTROL UNIT
INTAKE PIPE

ALUMINUM LADDER

CLASS 1
DIVISION 1 AREA

8" DIP (TYP)

COMMUNICATOR

2" STAINLESS STEEL
PUMP RAILS (TYP)

BACK-UP PUMP
CONTROL FLOAT

H.W.L.

1'-0"

T/C EL. 357.50

T/C EL. 334.75

12" CLEAN
CRUSHED STONE

ALUMINUM HATCH
WITH LOCK

GUIDE RAIL BRACKET SECURED
TO WET WELL WALL AS
RECOMMENDED BY COMMUNICATOR
MANUFACTURER (TYP)

SEE WALL
CONNECTION DETAIL
(DWG. ME-2)


2"x6"x3/8" THICK
SUPPORT CHANNEL

4" VENT PIPE

ULTRASONIC LEVEL
TRANSDUCER, REFER TO
TRANSDUCER MOUNTING DETAIL
DRAWING CD-1

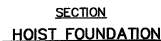
WET WELL AND VALVE CHAMBER

SCALE: $3/8" = 1'-0"$

NO.	DATE	REVISIONS	BY	CHECKED
NORTHWEST BERGEN COUNTY UTILITIES AUTHORITY				
FRANKLIN LAKES BUSINESS DISTRICT SANITARY SEWER				
BOROUGH OF FRANKLIN LAKES, BERGEN COUNTY, NEW JERSEY				
PUMP STATION MECHANICAL PLAN PLAN AND SECTION				
 KEITH W. HENDERSON, P.E. <i>Keith Henderson</i> ASSOCIATES, INC. 11 TINDALL ROAD WOODLAWN, NJ 07074 TEL 732-671-6400 FAX 732-671-7305 NEW JERSEY BOARD OF PROFESSIONAL ENGINEERS CERTIFICATE NO. 10709 EXPIRATION DATE 12-31-2004				DRAWING ME-1 SHEET
LICENSED PROFESSIONAL ENGINEER STATE OF NEW JERSEY LICENSE: 246023080400		DATE <i>9/16/00</i>		35 OF 39
DESIGNED BY: JOK PROJECT NO: NBSA-00096	DRAWN BY: BAH CHECKED BY: JLM DATE FILE: NBSA-ME1-ME3	FIELD BOOK # N/A		



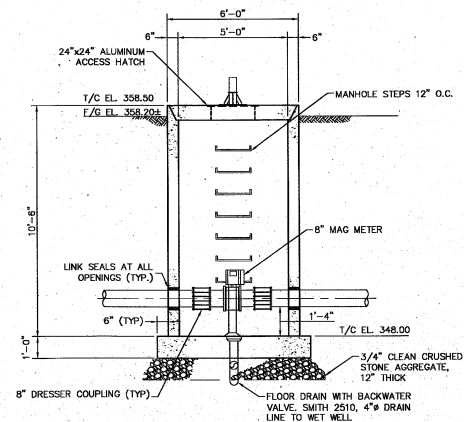
SCALE: 3/8" = 1'-0"



NOT TO SCALE

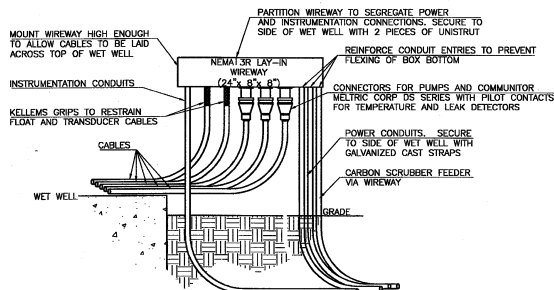


SCALE: NTS

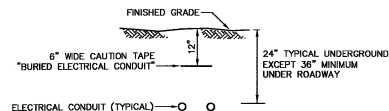


SECTION (A)
METER CHAMBER

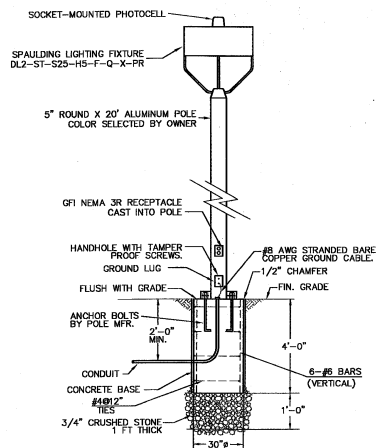
NO.	DATE	REVISONS	BY	CHECKED
NORTHWEST BERGEN COUNTY UTILITIES AUTHORITY				
FRANKLIN LAKES BUSINESS DISTRICT SANITARY SEWER				
BOROUGH OF FRANKLIN LAKES, BERGEN COUNTY, NEW JERSEY				
PUMP STATION MECHANICAL PLAN, PLAN, SECTION AND DETAILS				
				DRAWING ME-2
SHEET				36 OF 36



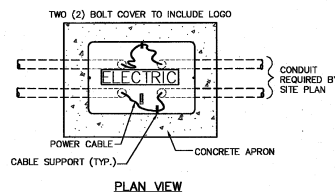
PUMP CONNECTION BOX ELEVATION
N.T.S.



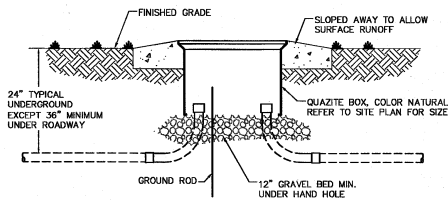
UNENCASED CONDUIT BURIAL DETAIL
NOT TO SCALE



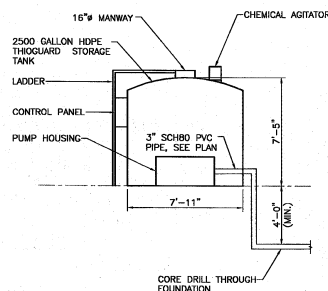
LIGHT FIXTURE POLE MOUNTING DETAIL
NOT TO SCALE



ELECTRIC PULL BOX
NOT TO SCALE

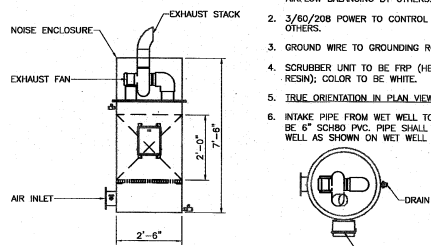


ELECTRIC PULL BOX
NOT TO SCALE



THIOGAURD CHEMICAL STORAGE & FEED SYSTEM
N.T.S.

MODEL CAP 20 GENERAL ARRANGEMENT



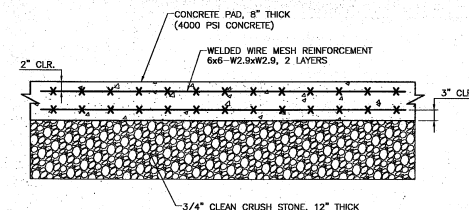
ACTIVATED CARBON ODOR CONTROL SYSTEM
N.T.S.

- NOTES:**
1. INLET DUCTING BY OTHERS. INSTALLATION AND AIRFLOW BALANCING BY OTHERS.
 2. 3/60/208 POWER TO CONTROL PANEL BY OTHERS.
 3. GROUND WIRE TO GROUNDING ROD BY OTHERS.
 4. SCRUBBER UNIT TO BE FRP (VETRON 922 RESIN); COLOR TO BE WHITE.
 5. TRUE ORIENTATION IN PLAN VIEW ONLY.
 6. INTAKE PIPE FROM WET WELL TO UNIT SHALL BE 6" SCH80 PVC PIPE SHALL ENTER WET WELL AS SHOWN ON WET WELL DETAIL.

ELECTRICAL CONSTRUCTION NOTES:

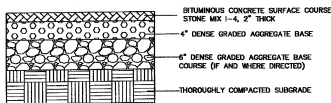
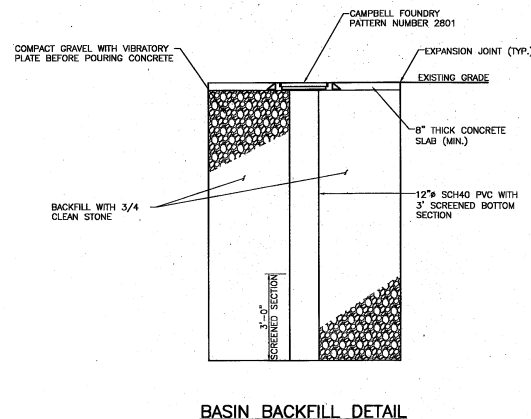
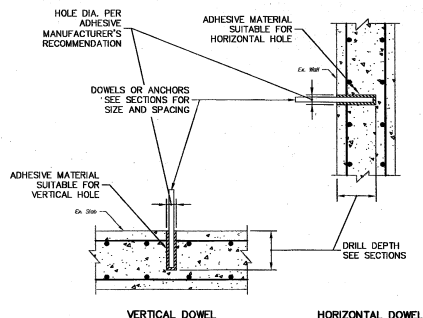
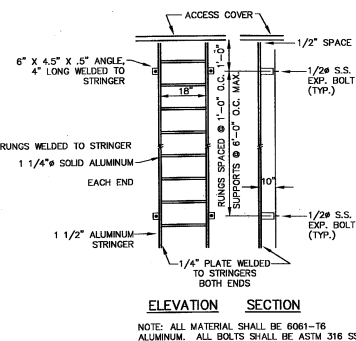
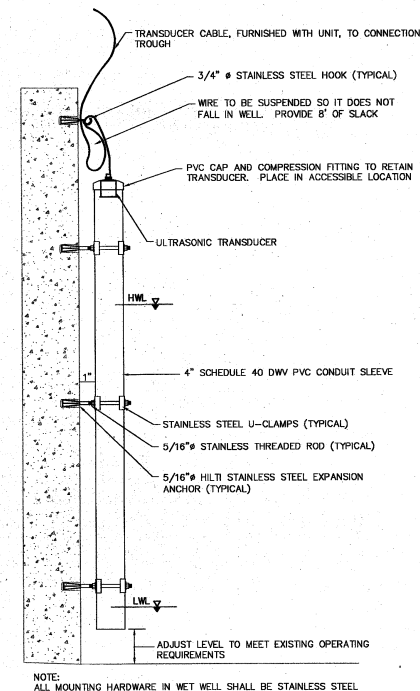
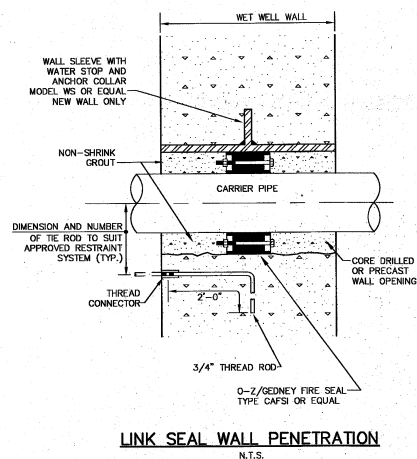
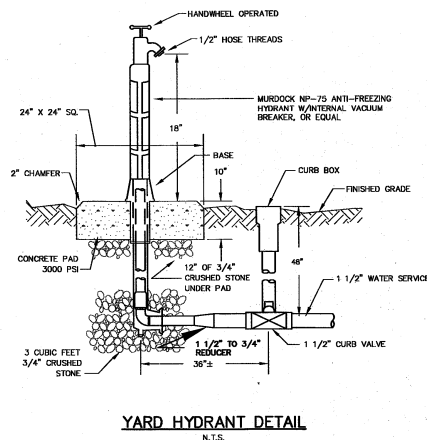
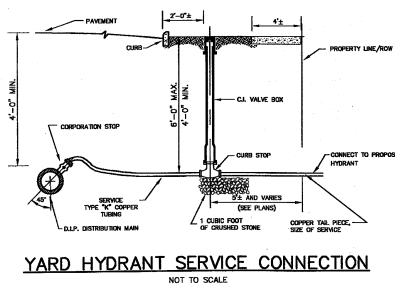
1. THE ELECTRICAL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE OR ANY OTHER STATE OR LOCAL CODES HAVING JURISDICTION.
2. ALL CONDUIT RUNS ARE DIAGRAMMATICALLY SHOWN ON DRAWINGS. THE FINAL ROUTING OF CONDUITS SHALL BE DETERMINED BY THE ELECTRICAL CONTRACTOR AND APPROVED BY THE OWNER OR SITE REPRESENTATIVE.
3. THE ELECTRICAL APPARATUS SUCH AS SWITCHES, RECEPTACLES, CONTROL DEVICES, PANELS, ETC., ARE SHOWN IN THEIR APPROXIMATE LOCATION. ACTUAL LOCATION OF THESE APPARATUS SHALL BE DETERMINED BY CHECKING JOB SITE AND OTHER TRADE DRAWINGS. FINAL LOCATION SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE. SWITCHES AND DISCONNECTS MOUNTING HEIGHT SHALL BE 4'-6" MIN. ABOVE FINISHED FLOOR OR GRADE UNLESS OTHERWISE NOTED.
4. THE TYPE CONDUIT SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:

APPLICATION	TYPE
OUTDOOR LOCATION	RMC
INDOOR LOCATION	RMC
BURIED IN CONCRETE (90° ELBOWS)	PVC - SCH. 40 (ELBOWS - GR)
DIRECT BURIAL	RMC
INSIDE WET WELL	RMC WITH PVC COATING
5. THE POWER AND CONTROL WIRING SHALL BE COPPER STRANDED CONDUCTOR WITH "THWN" INSULATION RATED 600 VOLTS UNLESS OTHERWISE NOTED ON DRAWING OR SPECIFICATIONS. SERVICE WIRING SHALL BE AS POWER WIRING BUT HAVE "XHHW" TYPE INSULATION. MINIMUM SIZE OF POWER WIRING SHALL BE #12 AWG. CONTROL WIRING SIZE SHALL BE #14 AWG.
6. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL THE GROUNDING SYSTEM COMPLETE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. ELECTRICAL WIRE RACEWAYS, APPARATUS AND PANEL ENCLOSURES AND OTHER NON-CURRENT CARRYING METAL PARTS SHALL BE MECHANICALLY JOINED TO FORM A CONTINUOUS CONDUCTING METALLIC PATH AND ASSURE ELECTRICAL CONTINUITY OF THE GROUNDING CIRCUITS. STRANDED COPPER BONDING JUMPER CABLES AND/OR GROUND WIRES SHALL BE INSTALLED WHERE REQUIRED. THE SURFACE WHERE GROUNDING CONNECTIONS ARE TO BE MADE SHALL BE CLEAN AND DRY. THE STEEL SURFACES SHALL BE GROUND OR FILED TO REMOVE ALL SCALE, RUST, GREASE AND DIRT. COPPER AND GALVANIZED STEEL SHALL BE CLEANED WITH EMERY CLOTH TO REMOVE OXIDE BEFORE MAKING CONNECTIONS.
7. ALL EQUIPMENT FURNISHED AND/OR INSTALLED BY THE CONTRACTOR SHALL BE U.L. APPROVED FOR ENVIRONMENTAL CLASSIFICATIONS.
8. THE CONTRACTOR SHALL INSTALL U.L. APPROVED CONDUIT SEALS IN ALL CONDUIT RUNS ENTERING OR LEAVING HAZARDOUS LOCATION, SUCH AS ENCLOSURES, APPARATUS, PANELS, BUILDING, ETC., AS REQUIRED BY THE NATIONAL ELECTRICAL CODE.
9. ALL FIELD CONTROL DEVICES, DISCONNECT SWITCHES AND ELECTRICAL APPARATUS SHALL BE INSTALLED ON DEDICATED SUPPORTING STRUCTURES. INSTALLATION OF THESE ITEMS ON HAND RAILS, PROCESS EQUIPMENT ENCLOSURES, ETC., WILL NOT BE ACCEPTED.
10. THE CONTRACT DRAWINGS ARE CONCEPTUAL IN NATURE AND DO NOT INCLUDED ALL THE DETAILS NECESSARY FOR A COMPLETE ELECTRICAL INSTALLATION. CONTRACTOR SHALL SUBMIT WORKING DRAWINGS WHICH SHALL SHOW ALL OF THE DETAILS REQUIRED FOR A COMPLETE ELECTRICAL INSTALLATION.
11. ALL WIRING SHALL BE TERMINATED AT TERMINAL BLOCKS. NO DIRECT WIRING OR USE OF WIRE NUTS WILL BE ACCEPTED. TERMINAL POINTS SHALL BE CLEARLY MARKED AND COORDINATED WITH CONTRACTOR WORKING DRAWINGS.
12. ALL WIRES SHALL BE NEATLY BUNDLED AND TAGGED TO INDICATE THE CONNECTED DEVICE. EACH WIRE SHALL BE COLOR CODED AND TAGGED WITH A PLASTIC SLEEVE TYPE MARKER BASED UPON A CONTRACTOR PREPARED WIRING LIST.
13. WIRING INSIDE JUNCTION BOXES SHALL BE NEATLY BUNDLED AND SUPPORTED WITH AN APPROVED CABLE RACK.
14. EXCEPT AS OTHERWISE NOTED, MOUNT ALL LIGHTING FIXTURES AS HIGH AS POSSIBLE.
15. ALL PVC TYPE CONDUIT SHALL INCLUDED A GROUNDING CONDUCTOR, IN ADDITION TO THAT SHOWN ON THE DRAWINGS.
16. ALL SWITCHES, RECEPTACLES, AND JUNCTION BOXES AND COVER PLATES SHALL BE RATED NEMA 4X.
17. CONDUITS 1 1/2" AND SMALLER SHALL BE SEALED AT THE BUILDING ENTRY POINTS WITH "EYS" FITTINGS. LARGER CONDUITS SHALL BE SEALED USING OZ/GEDEY TYPE "CSG" CONDUIT SEAL FITTINGS.
18. SEE SPECIFICATIONS FOR ALARM REQUIREMENTS.
19. ALL CIRCUIT BREAKERS FOR MOTOR-OPERATED EQUIPMENT SHALL BE EQUIPPED WITH LOCK-OUT / TAG-OUT ACCESSORY.



CONCRETE PAD FOR ACTIVATED CARBON ODOR CONTROL SYSTEM
N.T.S.

NO.	DATE	REVISIONS	BY	CHECKED
NORTHWEST BERGEN COUNTY UTILITIES AUTHORITY				
FRANKLIN LAKES BUSINESS DISTRICT SANITARY SEWER				
BOROUGH OF FRANKLIN LAKES, BERGEN COUNTY, NEW JERSEY				
PUMP STATION MECHANICAL PLAN PLAN, SECTION AND DETAILS				
TM ASSOCIATES 11 TINGILL ROAD MORRISTOWN, NJ 07960 TEL 732-671-5400 FAX 732-671-7365 WEB: WWW.TM-ASSOCIATES.COM PROFESSIONAL ENGINEER CERTIFICATE OF AUTHORIZATION #00000000		KEITH W. HENDERSON, P.E. LICENSED PROFESSIONAL ENGINEER STATE OF NEW JERSEY LICENSE NO. 240633080400 DESIGNED BY: JOK DRAWN BY: BAI CHECKED BY: JAM PROJECT NO.: NEMA-00096 CADD FILE: NEMA-ME1-ME3 FIELD NO.: # N/A		
DRAWING ME-3 SHEET 37 OF 39				



NOTE: PUMP STATION DRIVEWAY TO BE PAVED AS SHOWN ON THE SITE PLAN.

ELEVATION
TRANSDUCER MOUNTING DETAIL
NOT TO SCALE

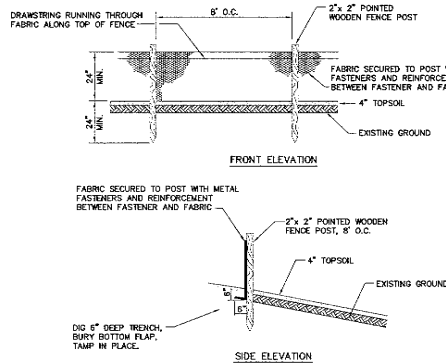
NO.	DATE	REVISIONS	BY	CHECKED
NORTHWEST BERGEN COUNTY UTILITIES AUTHORITY				
FRANKLIN LAKES BUSINESS DISTRICT				
SANITARY SEWER				
BOROUGH OF FRANKLIN LAKES, BERGEN COUNTY, NEW JERSEY				
PUMP STATION CONSTRUCTION DETAILS				
TM ASSOCIATES 11 TINGALL ROAD MONROETOWN, NJ 07448 TEL: 732-671-8400 FAX: 732-671-2865 NEW JERSEY BOARD OF PROFESSIONAL ENGINEERS AND SURVEYORS LICENSE NO. 240E00080400 CERTIFICATE OF AUTHORIZATION 04-000002		KEITH W. HENDERSON, P.E. <i>Keith W. Henderson</i> 9/26/10 LICENSED PROFESSIONAL ENGINEER STATE OF NEW JERSEY LICENSE NO. 240E00080400 DESIGNED BY: JOK DRAWN BY: BAH CHECKED BY: JMM PROJECT NO.: NBUA-00006 CADD FILE: NBUA-PCD FIELD REC. #: N/A		
DRAWING SHEET				PSCD-1
				39 OF 39

SOIL EROSION AND SEDIMENT CONTROL NOTES

- ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY (NJ STANDARDS) AND WILL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS ESTABLISHED.
- ANY DISTURBED AREA LEFT EXPOSED FOR MORE THAN TEN (10) DAYS SHALL BE TEMPORARILY SEEDED AND/OR MULCHED. IF THE SEASON PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREA WILL BE MULCHED WITH SALT HAY OR EQUIVALENT AND SOUND IN ACCORDANCE WITH THE NJ STANDARDS (I.E. PEG AND TWINE, MULCH NETTING, OR LIQUID MULCH BINDER).
- IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF 2 TONS PER ACRE, ACCORDING TO THE NJ STANDARDS.
- STABILIZATION SPECIFICATIONS:
 - TEMPORARY SEEDING AND MULCHING:
 - LIME - 80 LBS./1,000 SF. OF GROUND LIMESTONE.
 - FERTILIZER - 11 LBS./1,000 SF. 10-20-10 OR EQUIVALENT WORKED INTO THE SOIL A MINIMUM OF 4".
 - SEED - PERENNIAL RIVERGRASS 4 LBS./ACRE (1 LB./1,000 SF) OR OTHER APPROVED SEEDS; PLANTS BETWEEN MARCH 1 AND MAY 15 OR BETWEEN AUGUST 15 AND OCTOBER 1.
 - MULCH - SALT HAY OR SMALL GRAIN STRAW AT A RATE OF 70 TO 90 LBS./1,000 SF. TO BE APPLIED ACCORDING TO THE NJ STANDARDS. MULCH SHALL BE SECURED BY APPROVED METHODS (I.E. PEG AND TWINE, MULCH NETTING, OR LIQUID MULCH BINDER).
 - PERMANENT SEEDING AND MULCHING:
 - TOPSOIL - UNIFORM APPLICATION TO A DEPTH OF 5" (UNSETTLED).
 - LIME - 80 LBS./1,000 SF. OF GROUND LIMESTONE.
 - FERTILIZER - 11 LBS./1,000 SF. 10-20-10 OR EQUIVALENT WORKED INTO THE SOIL A MINIMUM OF 4".
 - SEED - TURF TYPE TALL FESCUE (BLEND OF 3 CULTIVARS) 150 LBS./ACRE (3.5 LBS./1,000 SF) OR OTHER APPROVED SEEDS; PLANT BETWEEN MARCH 1 AND NOVEMBER 15.
 - MULCH - SALT HAY OR SMALL GRAIN STRAW AT A RATE 70 TO 90 LBS./1,000 SF. TO BE APPLIED ACCORDING TO THE NJ STANDARDS. MULCH SHALL BE SECURED BY APPROVED METHODS (I.E. PEG AND TWINE, MULCH NETTING, OR LIQUID MULCH BINDER).
- THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORMWATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
- SOIL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSPECTED AND MAINTAINED ON A REGULAR BASIS, INCLUDING AFTER EVERY STORM EVENT.
- STOCKPILES ARE NOT TO BE LOCATED WITHIN 50' OF A FLOODPLAIN, SLOPE, ROADWAY OR DRAINAGE FACILITY. THE BASE OF ALL STOCKPILES SHALL BE CONTAINED BY A HAYBALE SEDIMENT BARRIER OR SILT FENCE.
- A CRUSHED STONE VEHICLE WHEEL-CLEANING BLANKET WILL BE INSTALLED WHEREVER A CONSTRUCTION ACCESS ROAD INTERSECTS ANY PAVED ROADWAY. SAID BLANKET WILL BE COMPOSED OF 1" - 2 1/2" CRUSHED STONE, 6" THICK, WILL BE AT LEAST 30' X 100' AND SHOULD BE UNDERLAIN WITH A SUITABLE SYNTHETIC SEDIMENT FILTER AND MAINTAINED.
- MAXIMUM SIDE SLOPES OF ALL EXPOSED SURFACES SHALL NOT EXCEED 3:1 UNLESS OTHERWISE APPROVED BY THE DISTRICT.
- DRIVEWAYS MUST BE STABILIZED WITH 1" - 2 1/2" CRUSHED STONE OR SUBBASE PRIOR TO INDIVIDUAL LOT CONSTRUCTION.
- ALL SOIL WASHED, DROPPED, SPILLED OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR OVER PUBLIC RIGHT-OF-WAYS, WILL BE REMOVED IMMEDIATELY. PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.
- CATCH BASIN INLETS WILL BE PROTECTED WITH AN INLET FILTER DESIGNED IN ACCORDANCE WITH SECTION 30-1 OF THE NJ STANDARDS.
- STORM DRAINAGE OUTLETS WILL BE STABILIZED, AS REQUIRED, BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.
- DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT CONTROL BAG OR OTHER APPROVED FILTER IN ACCORDANCE WITH SECTION 14-1 OF THE NJ STANDARDS.
- DUST SHALL BE CONTROLLED VIA THE APPLICATION OF WATER OR OTHER APPROVED METHOD IN ACCORDANCE WITH SECTION 18-1 OF THE NJ STANDARDS.
- TREES TO REMAIN AFTER CONSTRUCTION ARE TO BE PROTECTED WITH A SUITABLE FENCE INSTALLED AT THE DRIP LINE OR BEYOND IN ACCORDANCE WITH SECTION 9-1 OF THE NJ STANDARDS.
- THE PROJECT OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OF OFF-SITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.
- ANY REVISION TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE THROUGHOUT CONSTRUCTION.
- THE BERGEN COUNTY SOIL CONSERVATION DISTRICT MUST BE NOTIFIED, IN WRITING, AT LEAST 48 HOURS PRIOR TO ANY LAND DISTURBANCE.

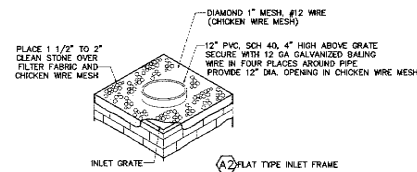
BERGEN COUNTY SO
700 KINDERKAMACK ROAD, SUITE 106
ORADELL, NJ 07649
TEL: 201-261-4407
FAX: 201-261-7573

- THE BERGEN COUNTY SOIL CONSERVATION DISTRICT MAY REQUEST ADDITIONAL MEASURES TO MINIMIZE ON OR OFF-SITE EROSION PROBLEMS DURING CONSTRUCTION.
- THE OWNER MUST OBTAIN A DISTRICT ISSUED REPORT OF COMPLIANCE PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY. THE DISTRICT REQUIRES AT LEAST ONE WEEK'S NOTICE TO FACILITATE THE SCHEDULING OF ALL REPORTS OF COMPLIANCE INSPECTIONS. ALL SITE WORK MUST BE COMPLETED, INCLUDING TEMPORARY/PERMANENT STABILIZATION OF ALL EXPOSED AREAS, PRIOR TO THE ISSUANCE OF A REPORT OF COMPLIANCE BY THE DISTRICT.



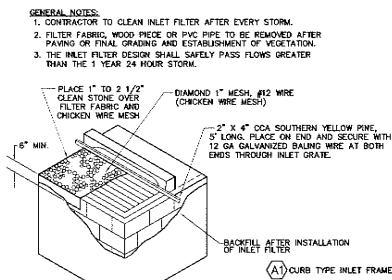
SEDIMENT CONTROL FENCE

NOT TO SCALE



TYPICAL SECTION
TOPSOIL STOCKPILE

NOT TO SCALE

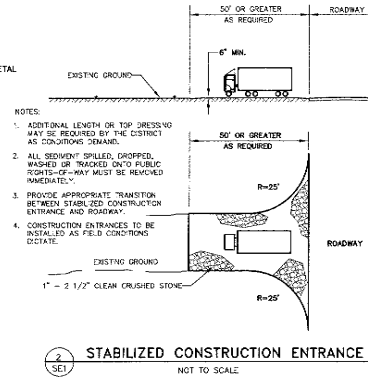


INLET FILTER

NOT TO SCALE

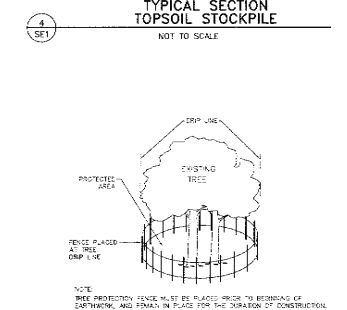
- Actual soil disturbance and estimated trench widths shall be as follows:

CONSTRUCTION TYPE	SOIL DISTURBANCE LIMIT (TRENCH WIDTH - FT)	SOIL DISTURBANCE LIMIT
GRAVITY SEWER (ROAD)	8	8
COMBINED MAIN (ROAD)	5	5
COMBINED GRAVITY SEWER AND FORCE MAIN (SAME TRENCH) ROAD	12	12
GRAVITY SEWER (EASEMENT)	8	15
COMBINED GRAVITY SEWER AND FORCE MAIN (EASEMENT)	12	15



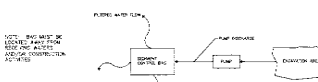
STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



TREE PROTECTION DETAIL

NOT TO SCALE



SEDIMENT CONTROL BAG FOR DEWATERING

NOT TO SCALE

SITE MAINTENANCE DURING CONSTRUCTION

- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN THE ENTIRE SITE IN A SAFE AND ORDERLY CONDITION DURING CONSTRUCTION. NECESSARY STEPS SHALL BE TAKEN TO PROTECT OCCUPANTS OF THE SITE AND THE GENERAL PUBLIC FROM HAZARDOUS AND UNSIGHTLY CONDITIONS DURING THE ENTIRE CONSTRUCTION PERIOD. THESE STEPS SHALL INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:
- OPEN EXCAVATIONS SHALL BE ENCLOSED BY FENCING OR BARRICADES DURING NON-CONSTRUCTION HOURS. MOVABLE BARRICADES SHALL BE EQUIPPED WITH YELLOW FLASHING HAZARD MARKERS OR OTHER LIGHTS DURING THE HOURS OF DARKNESS.
- MATERIALS STORED ON THE SITE SHALL BE SCREENED FROM VIEW OF OCCUPANTS OF THE SITE AND ADJOINING STREETS AND PROPERTIES.
- CONSTRUCTION EQUIPMENT, MATERIALS AND TRUCKS SHALL NOT BE STORED WITHIN ONE HUNDRED FIFTY (150) FEET OF OCCUPIED BUILDINGS IN THE SITE AND ADJOINING STREETS AND PROPERTIES DURING NON-CONSTRUCTION HOURS.
- SAFE VEHICULAR AND PEDESTRIAN ACCESS TO OCCUPIED BUILDINGS IN THE SITE OR SUBDIVISION SHALL BE PROVIDED AT ALL TIMES.
- CONSTRUCTION ACTIVITIES WHICH CREATE OBNOXIOUS AND UNNECESSARY DUST, FUMES, ODORS, SMOKE, VIBRATIONS OR CLARE NOTICEABLE IN OCCUPIED BUILDINGS IN THE SUBDIVISION OR SITE AND ADJOINING PROPERTIES AND STREETS SHALL NOT BE PERMITTED.
- CONSTRUCTION ACTIVITIES WHICH WILL RESULT IN DAMAGE TO TREES AND LANDSCAPING IN OCCUPIED BUILDINGS IN THE SITE OR SUBDIVISION OR ADJOINING PROPERTIES SHALL NOT BE PERMITTED.
- ALL LOCATIONS AND ACTIVITIES IN THE SITE OR SUBDIVISION WHICH PRESENT POTENTIAL HAZARDS SHALL BE MARKED WITH SIGNS INDICATING THE HAZARD.
- UNLIGHTLY CONSTRUCTION DEBRIS, INCLUDING SCRAP MATERIALS, CARTONS, BOXES AND WRAPPINGS MUST BE REMOVED DAILY AT THE END OF EACH WORKING DAY.
- WHENEVER CONSTRUCTION ACTIVITIES TAKE PLACE WITHIN OR ADJACENT TO ANY TRAVELED WAY, OR, INTERFERE WITH EXISTING TRAFFIC PATTERNS IN ANY MANNER, SUITABLE WARNING SIGNS, CONFORMING TO THE REQUIREMENTS OF THE UNIFORM MANUAL ON TRAFFIC CONTROL DEVICES, WILL BE ERRECTED AND MAINTAINED BY THE CONTRACTOR.
- EXISTING GRADES TO BE RESTORED AND MAINTAINED UNLESS OTHERWISE NOTED.

DAY SEQUENCE OF CONSTRUCTION

- | DAY | SEQUENCE OF CONSTRUCTION |
|-----------|---|
| 0 - 3 | 1. NOTIFY BERGEN COUNTY SOIL CONSERVATION DISTRICT IN WRITING 48 HOURS PRIOR TO ANY LAND DISTURBANCE. |
| 1 - 5 | 2. INSTALL ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES, SILT FENCE, STABILIZED CONSTRUCTION ACCESSSES AND INLET FILTERS. MAINTAIN THESE MEASURES IN PROPER CONDITION UNTIL PERMANENT PROTECTION HAS BEEN ESTABLISHED. (5 DAYS) |
| 5 - 8 | 3. ROUGH GRADE PUMP STATION SITE, STOCKPILING ANY EXCESS TOPSOIL AND OTHER MATERIAL INTO SEPARATE, TEMPORARY STOCKPILES TO BE SURROUNDED BY SILT FENCE. IF STOCKPILES, OTHER DISTURBED AREAS, OR STEEP SLOPE AREAS REQUIRING TOPSOIL STABILIZATION ARE TO BE LEFT IN A DISTURBED STATE FOR MORE THAN 30 DAYS AND WILL NOT BE SUBJECT TO CONSTRUCTION TRAFFIC, THEY SHALL RECEIVE TEMPORARY SEEDING IMMEDIATELY. IF SEASON PREVENTS ESTABLISHMENT OF A TEMPORARY COVER, DISTURBED AREA SHALL BE MULCHED WITH STRAW OR TOPSOIL. STABILIZATION SLOPE APPLICATION SHALL BE ADDRESSED IMMEDIATELY AFTER DISTURBANCE. DURATION (3 DAYS) |
| 8 - 208 | 4. INSTALL SANITARY SEWER COLLECTION SYSTEMS BEGINNING WITH DOWNSTREAM-MOST STRUCTURES AND INSTALL PUMP STATION. (200 DAYS) |
| 208 - 223 | 5. INSTALL INLET PROTECTION AT EACH DRAINAGE STRUCTURE. DURATION: (CONTINUOUS) |
| 223 - 228 | 6. COMPLETE FINAL PAVING COURSE ALONG THE STREETS, START INITIAL LANDSCAPING AND PERMANENT SOIL STABILIZATION. (15 DAYS) |
| 228 - 233 | 7. COMPLETE LANDSCAPING AND FINAL SOIL STABILIZATION, PROCEED WITH FINAL CLEAN-UP OF SITE. (5 DAYS) |
| | 8. REMOVE SOIL EROSION AND SEDIMENT CONTROL MEASURES AFTER AREAS DISTURBED DURING CONSTRUCTION HAVE BEEN SATISFACTORILY STABILIZED. (5 DAYS) |

1	6/15/11	REVISED PER NJ DEP COMMENTS		
1	10/14/09	REVISED PER NJ DEP COMMENTS	JAK	JJM
NO.	DATE	REVISIONS	BY	CHECKED

NORTHWEST BERGEN COUNTY UTILITIES AUTHORITY

FRANKLIN LAKES BUSINESS DISTRICT SANITARY SEWER

BOROUGH OF FRANKLIN LAKES, BERGEN COUNTY, NEW JERSEY

SOIL EROSION AND SEDIMENT CONTROL DETAILS

TM ASSOCIATES 7700 LAKESIDE ROAD MIDDLETON, NJ 07748 TEL: 732-671-9400 FAX: 732-671-9355	DESIGNED BY: KEITH W. HENDERSON, P.E. LICENSED PROFESSIONAL ENGINEER STATE OF NEW JERSEY LICENSE NO. 24603080400		DRAWING: SD-1 SHEET: 30 OF 39
	DESIGNED BY: BP PROJECT NO: NEW00096	CHECKED BY: JJM DATE: 6/15/11	