

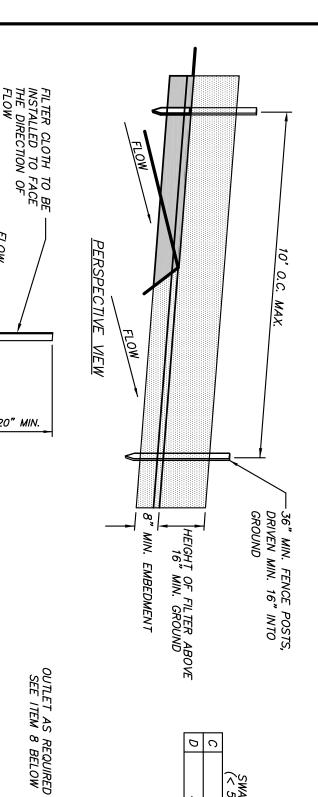
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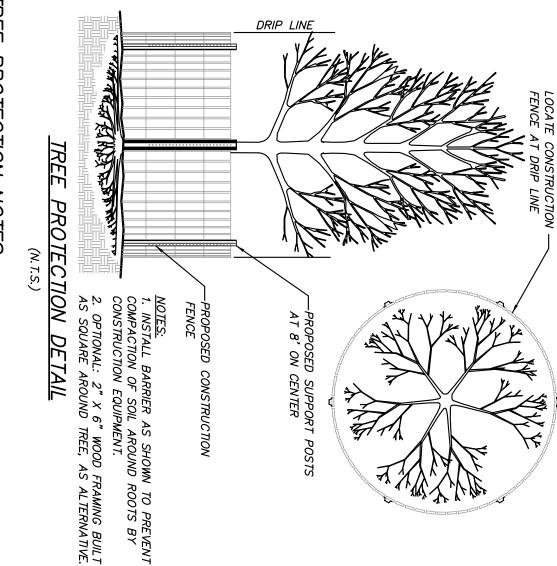
CONSTRUCTION NOTES FOR FABRA

1. FILTER CLOTH TO BE FASTENED SECURELY TO POSTS AT TOP AND MID SECTION.

2. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.

3. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE. EMBED FILTER CLOTH: MIN. 8" INTO GROUND SECTION FABRICA TED FILTER CL STEEL OR 2" EITHER T OR U TYPE HARDWOOD LINKA T140N,





TREE PROTECTION NOTES:

- Trees to be preserved in proximity to disturbance areas shall be marked in the field by the Landscape Architect prior to start of construction. 'nstall tree protection measures prior to start of site clearing & construction.
- No construction equipment shall be parked and no earth or construction materials shall be stockpiled or stored under the canopy of trees to be preserved. ring tree removal operations associated with construction, do not image adjacent trees to remain. Lower limbs and tree trunks, do not op them.
- arefully tie back any tree branches quipment. that conflict with constru
- Where trenching for utilities is required within a root zone, tunneling under and around roots shall be by hand digging. If roots 3" or law are encountered immediately adjacent to the location of new construction represents the roots shall be hand pruned under supervision of a Certified Arborist or Landscape Architect to 6" back from the new construction limit. All exposed roots to receive appropriate treatment prior to backfilling.
- tree protection fencing to protect the root zone is not possible, six ight inches of wood chip mulch and 3/4 inch plywood shall be placed ser the entire affected root zone area to prevent soil compaction.
- aged during construction activities i qualified arborist at no additional must be immediately cost to the owner.
- PROPOSED SILT FENCE (SEE DETAIL)
- NOTES: AREA CHOSEN FOR STOCKPILE LOCATION SHALL BE DRY AND STABLE.
- MAXIMUM SLOPE OF UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE IMMEDIATELY SEEDED WITH K31 PERENNIAL TALL FESCUE. STOCKPILE SHALL BE 2:1.

Z:\E\16226100\CADD Drawing Files\# Site Plan Drawings\09 D 1-4.dwg, 4/25/2017 10:42:51 AM, cquinn, 1:1

ALL STOCKPILES SHALL BE PROTECTED DOWNGRADIENT SIDE. WITH SILT FENCING INSTALLED ON THE

TEMPORARY SOIL STOCKPILE DETAIL

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

SWALE B (5-10 AC.) CROSS min SECTION (LEVEL) FLATTER:

20" MIN.

GROUND

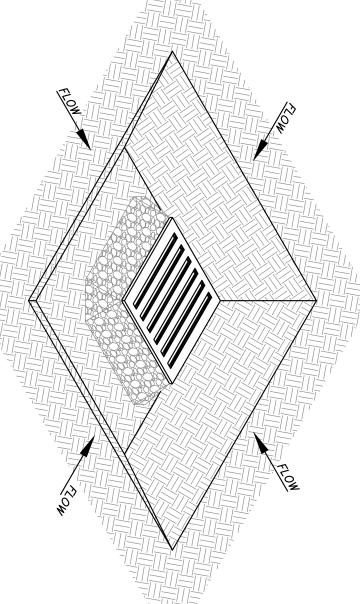
STEEPER, DEPENDENT

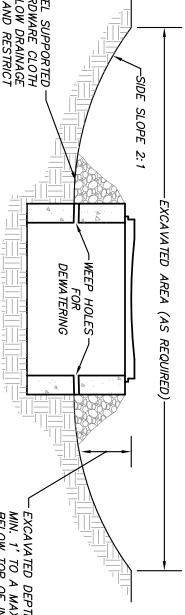
CONSTRUCTION SPECIFICATIONS

- DIVERTED RUNOFF FROM A DIS TO A SEDIMENT TRAPPING DEV ALL TEMPORARY SWALES GRADE TO AN OUTLET. TURBED AREA SHALL BE CONVEYED 1CE. HAVE
- DIVERTED RUNOFF FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT NON—EROSIVE VELOCITY.
- ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTION: ABLE MATERIAL SHALL BE REMOVED AND DISPOSED OF SO AS NOT TO INTERFERE MITH THE PROPER FUNCTIONING OF THE SWALE.
- TED OR SHAPED TO LINE, GRADE, AND TO MEET THE CRITERIA SPECIFIED (PROJECTIONS OR OTHER IRREGULAR— AL FLOW.
- L EARTH REMOVED AND NO ACED SO THAT IT WILL NOT IE SWALE. NEEDED ON CONSTRUCTION SHALL BE EARTH MOVING EQUIPMENT.
- TEKIUDIC INSPECTION AND REQUIDED AFTER EACH RAIN EVEN ER THE CHART BELOW: RED MAINTENANCE MUST BE PRO

4	ઝ	N	1	TYPE OF <u>TREATMENT</u>
8.1-20%	5.1-8.0%	3.1-5.0%	0.5-3.0%	CHANNEL GRADE
LINED 4-8" RIP-RAP	SEED WIH JUTE OR EXCELSIOR; SOD	SEED AND STRAW MULCH	SEED AND STRAW MULCH SEED AND STRAW MU	A (5 AC. OR LESS)
ENGINEERED DESIGN	LINED RIP-RAP 4-8 RECYCLED CONCRET EQUIVALENT	SEED USING JUTE OR EXCELSIOR	SEED AND STRAW MU	B (5-10 AC.)

TEMPORARY :





- 1. CLEAR THE AREA OF ALL DEBRIS THAT W 2. GRADE APPROACH TO THE INLET UNIFORM 3. WEEP HOLES SHALL BE PROTECTED BY GR 4. UPON STABILIZATION OF CONTRIBUTING DR HOLES, FILL EXCAVATION WITH STABLE SO IT PROPERLY, AND STABILIZE WITH PERMA WILL HINDER EXCAVATION RMLY AROUND THE BASIN
- I OF CONTRIBUTING I NTON WITH STABLE S STABILIZE WITH PERN DRAINAGE AREA, SEAL WEEP OIL TO FINAL GRADE, COMPACT VANENT SEEDING

EXCA VA TED DROP INLET PROTECTION DETAIL

- INSTALLATION NOTES

 1. STONE SIZE USE 3" STONE
- NOT LESS THAN SIX (6) INCHES.
- SURFACE WATER ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING S IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
- AINTENANCE THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT OF WAY IIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS ONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TORAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO SELIC RIGHT OF WAY MUST BE REMOVED IMMEDIATELY.

REQUIRED EROSION CONTROL SWPPP

Pursuant to the NYSDEC "SPDES General Permit for Stormwater Discharges from Construction Activity" (GP-0-15-002), all Stormwater Pollution Prevention Plan's (SWPPP) shall include erosion and sediment control practices designed in conformance with the most current version of the technical standard, "New York Standards and Specifications for Erosion and Sediment Control." Where erosion and sediment control practices are not designed in conformance with this technical standard, the owner or operator must demonstrate equivalence to the technical standard. The following list of required SWPPP components is provided in accordance with Part III.B.1a-I of General Permit GP-0-15-002:

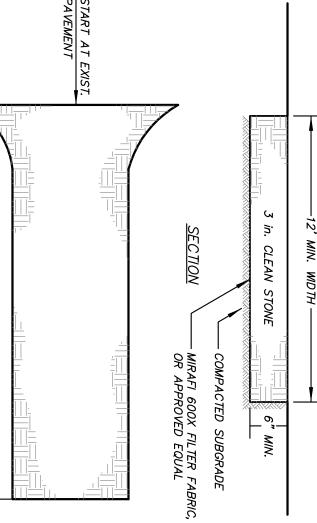
- Background Information: The subject project consists of the construction of (98) apartments in three buildings with appurtenances and utilities.
- Site map / construction requirement. serve to satisfy
- Description of the soils present at the site: Onsite soils located within the proposed limits of disturbance consist of Udorthents (Ud), Nassau—Cardigan Complex (NwC) and Dutchess—Cardigan Complex (DwB) as identified on the Soil Conservation Service Websoil Survey. These soil types belong to the Hydrologic Soil Group "B" and "B/C"."
- Construction phasing plan / sequence of operations: The Construction Sequence and phasing found on these plans provide the required phasing. Construction Sequence and Erosion and Sediment Control Maintenance Schedule has been provided. The Sedimentation and Erosion Control Notes contained hereon outline a general sequence of operations for the proposed project. In general all erosion and sediment control facilities shall be installed prior to commencement with land disturbing activities, and areas of disturbance shall be limited to the shortest period of time operacticable.
- Description of erosion and sediment control practices: This plan, and details / notes shown hereon serve to satisfy this SWPPP requirement.
- mporary and permanent soil stabilization plan: The Sedimentation and osion Control Notes and Details provided heron identify temporary and ermanent stabilization measures to be employed with respect to specific erments of the project, and at the various stages of development.
- Site map / construction drawing: SWPPP requirement. This plan set serves to satisfy this
- An inspection schedule: Inspections are to be performed twice weekly an by a qualified professional as required by the General Permit GP-0-15-002. In addition the NYSDEC Trained Contractor shall perform additional inspections as cited in the Erosion and Sediment Control Notes.
- litter, construction chemicals and construction debris: In general, all construction litter / debris shall be collected and removed from the site. The general contractor shall supply either waste barrels or dumpster for proper waste disposal. Any construction chemicals utilized during construction shall either be removed from site daily by the contractor or stored in a structurally sound and weatherproof building. No hazardous waste shall be disposed of onsite, and shall ultimately be disposed of in accordance with all federal, state and local regulations. Material Safety Data Sheets (MSDS), material inventory, and emergency contact numbers shall be maintained by the general contractor for all construction chemicals utilized onsite. Finally, temporary sanitary facilities (portable toilets) shall be provided onsite during the entire length of construction, and inspected weekly for evidence of leaking holding tanks.
- description and location of any stormwater discharges associated with dustrial activity other than construction at the site: There are no known dustrial stormwater discharges present or proposed at the site.
- entification of any elements of the design that are not in conformance th the technical standard, "New York Standards and Specifications for osion and Sediment Control." All proposed elements of this SWPPP haven designed in accordance with the "New York Standards and pecifications for Erosion and Sediment Control."

3 in. CLEAN STONE MIRAFI 600X FILTER FABRIC, OR APPROVED EQUAL COMPACTED SUBGRA 6" MIN.

- WIDTH 12 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCUR.

- STABILIZED CONSTRUCTION ENTRANCE DETAIL

- The dimensions, material specifications, installation details, and operation and maintenance requirements for all erosion and sediment control practices: The details, Erosion and Sediment Control Notes, and Erosion and Sediment Control Notes, and Erosion and Sediment Control Maintenance Schedule serve to satisfy this SWPPP requirement.



- LENGTH AS REQUIRED, BUT NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.)
- FILTER CLOTH WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. FILTER CLOTH WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE LOT.

- SHING WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO RANCE ONTO PUBLIC RIGHT OF WAY. WHEN WASHING IS REQUIRED, IT SHALL DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN PROVED SEDIMENT TRAPPING DEVICE.

 SHOULD INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER THE PAIN

CONTENTS: REQUIRED POST-CONSTRUMANAGEMENT PRACTICE C ICTION STORMWATER

- Pursuant to the NYSDEC "SPDES General Permit for Stormwater Discharges from Construction Activity" (GP-0-15-002), all construction projects needing post-construction stormwater management practices shall prepare a SWPPP that also includes practices designed in conformance with the most current version of the technical standard, New York State Stormwater Management Design Manual ("Design Manual"). Where post-construction stormwater management practices are not designed in conformance with this technical standard, the owner or operator must demonstrate equivalence to the technical standard. The following list of SWPPP components is provided in accordance with Part III.B.2a-g and III.B.3:
- dentification of all post—constructions of all post—constructed as part of the projections serve to satisfy this SWPPP requires. tion stormwater management practices to be t; This plan, and details/notes shown hereon ement.
- A site map/construction drawing(s) showing the specific location and size of each post—construction stormwater management practice; This plan, and details/notes shown hereon serve to satisfy this SWPPP requirement.
- Stormwater Modeling and Analysis Report including pre—development conditions, to results of the stormwater modeling, a summary table stormstrating that each practice has been designed in conformance with the sizing iteria, identification of and justification for any deviations from the Design Manual, and entification of any design criteria that are not required. The required analysis will be covided in a Preliminary Stormwater Pollution Prevention Plan.
- Infiltration testing results. This SWPPP requirement will be provided in the Preliminary Stormwater Pollution Prevention Plan. Soil testing results and locations. This SWPPP requirement will be provided in the Preliminary Stormwater Pollution Prevention Plan.
- An operations and maintenance plan that includes inspection and maintenance schedules and actions to ensure continuous and effective operation of each post—construction stormwater management practice. The plan shall identify the entity that will be responsible for the long term operation and maintenance of each practice. The Permanent Stormwater Facilities Maintenance Schedule provided on these plans serves to satisfy this requirement.
- Enhanced Phosphorus Removal Standards Beginning on September 30, 2008, all construction projects identified in Table 2 of Appendix B that are located in the watersheds identified in Appendix C shall prepare a SWPPP that includes post—construction stormwater management practices designed in conformance with the Enhanced Phosphorus Removal Standards included in the most current version of the technical standard, New York Stormwater Management Design Manual. At a minimum, the post—construction stormwater management practice component of the SWPPP shall include items 2.a 2.f above: These standards do not apply to the subject project.

EROSION SEDIMENT CONTROL NOTES:

- e Erosion and Sediment Control Plan erosion and sediment control measutivities, including, but not limited to, wings. is only to be referred to for the installation res. For all other construction related grading and utilities, refer to the appropriate
- Each contractor or subcontractor responsible for soil disturbance shall have a NYSDEC trained contractor onsite during soil disturbing activities. The NYSDEC trained contractor will be responsible to comply with the stormwater pollution prevention plan and for the implementation and maintenance of erosion and sediment control measures on this site prior to and during construction. The NYSDEC trained contractor shall sign a certification statement required by GP-0-15-002.
- All construction activities involving the reprovided with appropriate protective meas sediment disposition within. Minimum so shall be implemented as shown on the parallel within the sedition. removal or disposition of soil are to be leasures to minimize erosion and contain soil erosion and sediment control measures plans and shall be installed in accordance with s For Erosion and Sediment Control," latest
- Wherever feasible, natural vegetation should be retained and protected. Disturbance shall be minimized in the areas required to perform construction. No more than 5 acres of unprotected soil shall be exposed at any one time, unless prior authorization granted by the MS4.
- hen land is exposed during development, the exposure shall be kept to the shortest ractical period of time, but in no case more than 7 days after the construction stivity in that portion of the site has ceased. Disturbance shall be minimized in the reas required to perform construction.
- All construction vehicles shall be kept clear of the watercourses and wetland control areas outside the areas of proposed development. Silt fence and orange construction fence shall be installed in the areas where the grading is in close proximity of the watercourses or wetland control areas.
- The stabilized construction entrance and silt fence shall be installed as shown on the plans prior to beginning any clearing, grubbing or earthwork.
- Any graded areas not subject to further disturbance or construction traffic shall, within 7 days of final grading, receive permanent vegetation cover in combination with a suitable mulch. Refer to "Site Seeding Notes" for additional detail and application rate. All topsoil to be stripped from the area being developed shall be stockpiled and immediately seeded with a rye grass mixture having a quick germination time.
- Grass seed mix may be applied by either mechanical or hydroseeding methods. Turf establishment shall be performed in accordance with the current edition of the "NYSDOT Standard Specification, Construction and Materials, Section 610-3.02, Method No. 1". 1 shall be stabilized immediately after grading with) such as, Curlex I Single Net Erosion Control
- Paved roadways shall be kept clean at Cut or fill (all) slopes steeper than 3: a rolled erosion control product (RECF Blanket, or approved equal. all times
- All storm drainage outlets shall be stabilized, as required, before the discharge points become operational. The site shall at all times be graded and maintained such that all stormwater runoff is diverted to soil erosion and sediment control facilities.
- Stormwater from disturbed areas mus before discharge beyond disturbed are t be passed through erosion control barriers as or discharged into other drainage systems
- Dust shall be controlled by sprinkling or other approved methods as necessary, or as directed by the trained contractor or site engineer. Erosion and sediment control measures shall be inspected and maintained on a daily basis by the NYSDEC Trained Contractor. to insure that channels, temporary and permanent ditches and pipes are clear of debris, that embankments and berms have not been breached and that all straw bales and silt fences are intact. Any failure of erosion and sediment control measures shall be immediately repaired by the contractor and inspected for approval by the site engineer.
- All fills shall be placed and compacted in 6" lifts to provide stability of materic to prevent settlement. Cut and fills shall not endanger of others. ing property, nor divert water onto the property
- As warranted by field conditions, spec measures, as specified by the site en the contractor. Erosion and sediment coare suitably stabilized. The NYSDEC Trained Contractor shall inspect downstream conditions for evidence sedimentation on a weekly basis and after rainstorms. ial additional erosion and sediment contro gineer and the Town Engineer shall be ins ain in place until all disturbed
- 3. After completion of the site improvemen maintenance of the access drive, parking Each spring the paved areas shall be cliptraction sand. After this is completed acceaned. All pipes should be checked for During the cleaning process, the drain inspected for structural integrity and own replacements should be made as required. ements, the owner will assume responsibility for arking lot, drainage system and stormwater fare cleaned to remove the winter accumulation ted all drain inlet and catch basin sumps should for debris and blockage and cleaned as recain inlets, catch basins and pipes should be d overall condition. Repairs and/or
- Maintain basin vegetation including removal of trees and replacement of vegetation that should die. Remove any litter which accumulates as necessary. Typically, the accumulated silt will be required to be removed every 10 to 20 years. Any accumulated silt shall be removed from the stormwater basins once the site has been stabilized. Inspection of the stormwater basin shularge storm events. These inspections for blockage and the general overall in should be performed every 6 months and as ns should, at a minimum, check the outlet integrity of the basin and appurtenances.

ention Plan for additior drainage facilities.

al details regarding

STABILIZED CONSTRUCTION ENTRANCE *VEGETATIVE ESTABLISHMENT DUST CONTROL SOIL STOCKPILES CHECK DAMS ROAD & PAVEMENT CONCRETE DRAINAGE STRUCTURES DRAINAGE PIPES EROSION SILT FENCE BARRIER PRACTICE SWALES INLET ROTECTION MONITORING REQUIREMENTS Inspect Inspect AND DAILY SEDIMENT CONTROL WEEKLY Inspect Inspect Inspect Inspect Inspect Inspect Inspect Inspect Inspect AFTER RAINFALL Inspect Inspect Inspect Inspect Inspect Inspect Inspect Clean Sumps/ Remove Debris/ Repair/Replace Clean/Replace Stone and Fabric DURING CONSTRUCTION Clean/Replace Stones/Repair Mulching/ Silt Fence Repair Water/Reseed/ Remulch Mulching/ Spraying Water Clean/Replace Clean/Repair/ Replace Clean/Mulch/ Repair Clean/Repair MAINTENANCE REQUIREMENTS MAIN TENANCE AFTER CONSTRUCTION Clean Sumps/ Remove Debris/ Repair/Replace Mow Permanent Grass/Replace/ Repair Rip Rap Clean/Replace Stones/Repair Reseed to 80% Coverage Clean/Repair **SCHEDULE** Remove Remove Remove Ren N/A

* Permanent vegetation is considered stabilized when 80% of the plant density is established. Erosion control measures shall remain in place until all disturbed areas area permanently stabilize <u>Note:</u> The party responsible for implementation of the maintenance schedule during and after construction is: KEARNEY REALTY & DEVELOPMENT GROUP 34 CLAYTON BOULEVARD BALDWIN PLACE, NY 10505

and/or the current owner(s) of the subject property.

	SOIL	SOIL RESTORATION REQUIREMENTS"	MENTS 1.2
Š	TYPE OF SOIL DISTURBANCE	TYPE OF SOIL DISTURBANCE SOIL RESTORATION REQUIREMENT COMMENTS/EXAMPLES	COMMENTS/EXAMPLES
	No soil disturbance	Restoration not permitted	Preservation of Natural Features
	Minimal soil disturbance	Restoration not required	Clearing and grubbing
	Areas where topsoil is	HSG A & B HSG C & D	Protect area from any
	stripped only – no	Apply 6" of Aerate ³ and apply	ongoing construction
	change in grade	topsoil 6" of topsoil	activities
		HSG A & B HSG C & D	
	Areas of cut or fill	Aerate ³ and apply Apply full Soil 6" of topsoil Restoration*	
o	Heavy traffic areas on site (especially in a zone 5-25 feet around buildings but not within a 5 foot perimeter around foundation walls.)	Apply full Soil Restoration ⁵ (de-compaction and compost enhancement) ⁶	
	Areas where runoff reduction and/or infiltration practices are applied	Restoration not required, but may be applied for appropriate practices.	Keep construction equipment from crossing these areas. To protect newly installed practices from any ongoing construction activities construction a single phase operation fence area.
	Redevelopment projects	Soil restoration is required on redevelopment projects in areas where existing impervious area will be converted to pervious	

- 1. Table taken from Chapter 5 of the "New York State Stormwater Management Design Manual"
 2. Items struck out on the table are items that are not applicable to this project.
 3. Aeration includes the use of machines such as tractor—drawn implements with coulters making a narrow slit in the soil, a roller with many spikes making indentations in the soil, or prongs which functions like a mini—subsoiler.
 4. Per "Deep Ripping and Decompaction, DEC 2008"
 5. During periods of relatively low to moderate subsoil moisture, the disturbed soils are returned to rough grade and the following Soil Restoration steps applied:
 5.1. Apply 3 inches of compost over subsoil.
 5.2. Till compost into subsoil to a depth of at least 12 inches using a cat—mounted ripper, tractor—mounted disc, or tiller, mixing, and circulating air and compost into subsoils.
 5.3. Rock—pick until uplifted stone/rock materials of four inches and larger size area cleaned off the site.
 5.4. Apply topsoil to a depth of 6 inches.
 5.5. Vegetate as required by Erosion & Sediment Control Note #9.
 5.6. Tilling should not be performed within the drip line of any existing trees or over any utility installations that are within 24 inches of the surface
 6. Compost shall be aged, from plant derived materials, free of viable weed seeds, have no visible free water or dust produced when handling, pass through a half inch screen and have a pH suitable to grow desired plants.

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ce of	1	1-31-17	REVISIONS FOR PLANNING BOARD SUBMISSION	SUBMISSION	MEU
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d areas			ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.	(845) 225–9690 (845) 225–9717 fa www.insite–eng.com	×
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should be required.		×	WEST END LOFTS		
O.		WOLCOTT	WOLCOTT AVENUE, BEACON, NEW YORK 12508		
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SCALE	DATE	PROJECT NUMBER		DRAWING:	МО		PROJECT:	
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NOTE: THE WATER TRENCH SHALL BE COMPLETELY NYSDOT ITEM 304.12 WITHIN THE NYSDOT RIGHT OF WATER SERVICE LINE TRENCH

DETAIL

1'-0"

TED SUBBASE

WITH

ALTERATION OF THIS DOCUMENT, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

SEWER TESTING **PROCEDURES**

TESTS FOR NON-PRESSURE PIPELINES FOR The leakage shall be determined by exfiltration, infiltration Exfiltration TRANSPORT OF or low pressure air. SEWAGE

- Exfiltration tests shall be made by filling a section of pipeline measuring the quantity of leakage.
- The head of water at the beginning of the test shall be at least 2 feet above the highest pipe within the section being tested. Should groundwater be present within the section being tested, the head of water for the test shall be 2 feet above the hydraulic gradient of the groundwater.
- Infiltration test shall be made by mea. into a section of pipeline. tration tests will be allowed only when the water table gauges determine groundwater level to be 2 feet or more above the highest pipe of the tion being tested. Should the requirement of 2 feet of water above the highest pipe subject any joint at the lower end of the test section to a differential head of greater than 11.5 feet, another method of testing shall be employed.
- The allowable leakage (exfiltration or infiltration) for non-pressure pipelines shall not exceed the following in gallons per 24 hours per inch of diameter per 1000 feet of pipe: Measurement of the infiltration shall be by means of a calibrated constructed at the outlet of the section being tested. ible Leakage for Non–Pres

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Type of Pipe Ductile iron — mechanical or push—on joints Polyvinyl chloride, thermal plastic or fiberglass Cast iron soil pipe Regardless of the above be permanently stopped. ire Air Testing any spurting leaks detected

D.

- The air test shall be based on the starting pressure of 3.5 to 4.0 psi gauge. The time allowed for the 0.5 psi drop in pressure, measured in seconds, will be computed based on the size and length of the test section by the Engineer. All sections of pipe Low pressure air tests shall conform to ASTM F1417—92, Section 8.2.2, Time—Pressure Drop Method for a 0.5 psi drop, except as specified herein thall not be limited to type or size of pipe. Air testing for acc been completed. shall be clea not be ned and flushed prior to
- equipment required for air testing shall be furnished by the Contractor shall include the necessary compressor, valves, gauges and plugs to w for the monitoring of the pressure, release of pressure and a separat gauge. When groundwater is present, the average test pressure of 3 psig shall be above any back pressure due to the groundwater level. The maximum pressure allowed under any condition in air testing shall be 10 psig. The maximum groundwater level for air testing is 13 feet above the top of the pipe.
- The test gauge shall be sized to allow for the measuring of the 0.5 psig loss allowed during the test period and shall be on a separate to the test section.

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- Deflection testing shall be performed 30 days after backfilling. be made by passing a ball or cylinder no less then 95% of the through the pipe. The test shall be performed without mechanic devices.
- A manhole will be acceptable if the leakage does not exceed an allowance of one gallon per vertical foot of depth for 24 hours. Regardless of the allowable leakage, any leaks detected shall be permanently stopped.
- Infiltration tests shall be performed after backfilling when the growner is above the joint of the top section of a precast manhole. Exfiltration tests shall be performed after backfilling. made by filling the manhole with water and observing minimum of eight hours. The test shall be the level for a
- Vacuum testing shall be performed after backfilling latest revision of ASTM C1244—11 as follows: The test head shall be placed at the top of the mawith the manufacturer's recommendations. in accordance with the
- A vacuum of 10 in. of mercury shall be drawn on valve on the vacuum line of the test head closed, pump shut off. The time shall be measured for the standard of the shall be measured for the shall be m n the manhole, the d, and the vacuum the vacuum to drop

13.

All water quality requirements shall be fulfilled prior to the passage of any water through the new system to a public supply or the use of the new system.

TAPPING SLEEVE, VALVE, AND THRUST BLOCK DETAIL (N.T.S.)

- The manhole shall pass if the time for the vacuum reading to drop from 10 in. of mercury to 9 in. of mercury meets or exceeds the values indicated below:
- Depth (ft) Diameter (inches) 48
 Time (secon 60 nds) 26 33 39 46 59
- If the manhole fails the initial test, necessary repairs shall be made by an approved method. The manhole shall then be retested until a satisfactory test is obtained.

4'-0" MIN. COVER

—ROB GRAVEL OR GRANULAR BASE PIPE
EMBEDMENT (3/4" MAX. FOR ANGULAR
GRAVEL, 11/2" MAX. FOR ROUND STONE).
6" MIN. SAND BED WHEN IN ROCK.
COMPACT IN 6" LIFTS TO 90% MAX. DRY
DENSITY.

-SUITABLE BACKFILL FREE OF ORGANIC MATERIAL AND STONES > 4". COMPACT IN 6" LIFTS TO 90% MAXIMUM DRY DENSITY, 95% UNDER PAVEMENT.

MAGNETIC UNDERGROUND MARKING TAPE. LABEL FOR APPROPRIATE UTILITY. BURY 18" FROM FINISHED GRADE.

WATER SERVICE LINE (SEE PLAN FOR TYPE AND SIZE)

DUCTILE TESTS ON PRESSURE IRON PIPE WA TER PIPING FOR TRANSPORT OF <u>TESTING</u> PRO.)CEDURES WATER of AWWA

PIPE JOINT (TYP.)

WATER LINE

(8' MIN)

SEWER LINE DRAIN LINE

18" MIN

(8' MIN)

WATER LINE CROSSING OVER SANITARY SEWER LINE OR STORM DRAIN LINE

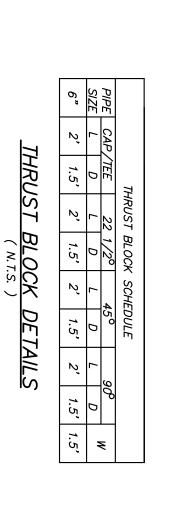
- Hydrostatic Pressure Test Hydrostatic testing shall be performed in C600, Section 5.2, "Hydrostatic Testing". Test pressure shall be as scheduled or, where no pressure is scheduled, shall be 150 psi, or 1.25 times the static operating pressure, whichever is higher. Test pressure shall be held on the piping for a period of at least 2 hours, unless a longer period is requested by the Foringer.
- ₿. Test pressure shall be held on the piping for a period of at leas unless a longer period is requested by the Engineer. static Leakage Test
- The rate of leakage shall be determined at 15-minute intervals by means of volumetric measurement of the makeup water added to maintain the test press. The test shall proceed until the rate of leakage has stabilized or is decreasing below an allowable value, for three consecutive 15-minute intervals. After this, the test pressure shall be maintained for at least another 15 minutes.

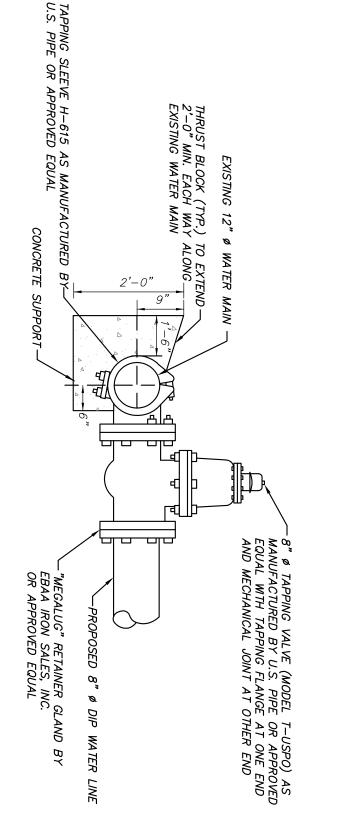
 a. At the completion of the test, the pressure shall be released at the At the completion of the test, the pressure shall be relea furthermost point from the point of application.
- exposed piping shall be examined during terial or joints shall be repaired or replac Ø = LD √ P 148,000 will be ed by the the test and all lea the tests.
- Q70F 11 11 11 quantity of makeup water, in gallons per hou length of pipe tested, in feet nominal diameter of the pipe, in inches average test pressure during the hydrostatic square inch (gauge) nanently
- The test med of the above m shall be water.
- fection to placing the water main into service, the new pipe shall be cleaned and to placing the water main into service, the new pipe shall be cleaned and fected in accordance with the latest revision of AWWA C651, Section 4.4.3, Continuous Feed Method". The "Tablet Method" will not be accepted.

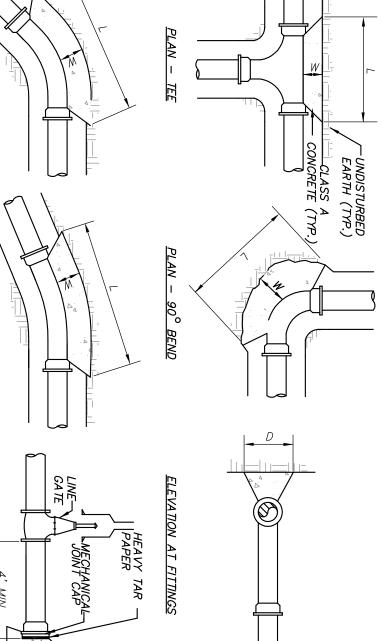
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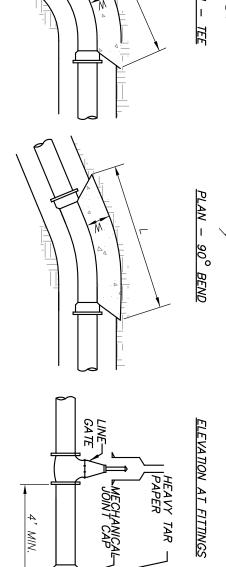
- All work under this section shall be performed in the presence of the Design Engineer, and a representative of the public health authority having jurisdiction, as required.
- Chlorination shall be by the use of a solution of water and liquid chlorine, calcium hypochlorite or sodium hypochlorite and the solution shall be contained in the pipe or structure as specified. Chlorination shall be scheduled such that sampling and flushing will be performed during normal daylight working hours. The contractor shall provide acceptable backflow prevention on all supply water to prevent any potential backflow contamination or cross connection.
- The chlorine solution shall be introduced to pipelines through corporation stops placed in the horizontal axis of the pipe, to structures by means of tubing extending directly into the structure, or other approved methods. Prior to chlorination, all dirt and foreign matter shall be remov cleaning and flushing of the pipeline or structure. d by a thorough
- n of the chlorine solution shall be by means of a controlled solution The rate of chlorine solution flow shall be in such proportion to the entering the pipe or structure that the resulting free chlorine be between 25 and 50 parts per million (PPM) or milligrams per lite cture at least 24 I valves and
- When making repairs to, or when specified, structures and portions of pipelines shall be chlorinated by a concentrated chlorine solution containing not less than 200 PPM (mg/l) of free chlorine. The solution shall be applied with a brush or sprayed on the entire inner surface of the empty pipes or structures. The structures disinfected shall remain in contact with the strong chlorine solution for at least 30 minutes. The chlorine residual shall be not less than 10 PPM (or mg/l) at any point in the pipe or structure at the end of the 24—hour retention period. The chlorine treated water shall be retained in the pipe or struchours, unless otherwise directed. During the retention period, all hydrants within the treated sections shall be operated.
- 11. 10. The disposal of chlorinated water from any pipe or structure shall be such that it will not cause damage to any vegetation, fish, or animal life. Ifter the required retention of chlorinated water in the pipe or structures, they hall be thoroughly flushed until the replacement water shall, upon test, both hemically and bacteriological, be proven equal to water quality served by the ublic from the existing water supply system.
- 12. The Contractor shall make all arrangements for the testing of water quality by an approved independent laboratory. Two acceptable bacteriological test, taken at least 24 hours apart, shall be collected from the new water main. At least 1 set of samples must be collected from every 1,000 LF of the new water main, plus one set from the end of the line and at least one set from each branch. The results for all tests shall be forwarded to the Design Engineer and the public health authority having jurisdiction.

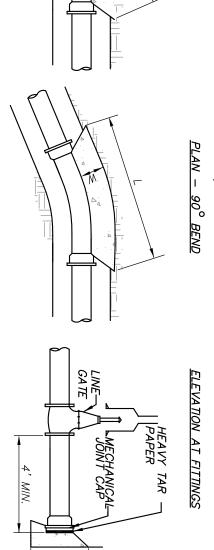
45° BEND BEND **ELEVATION** #4 BAR-(TYP.) VERTICAL BEND ELEVATION -CAPPED TEE

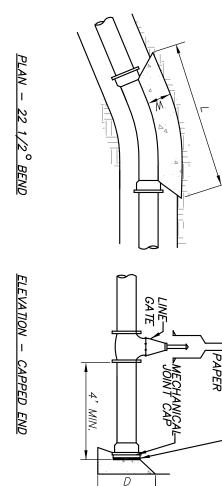


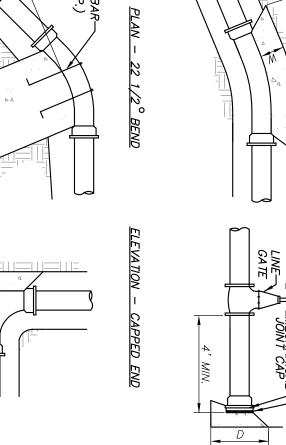


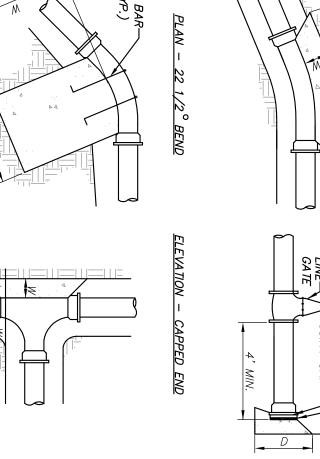


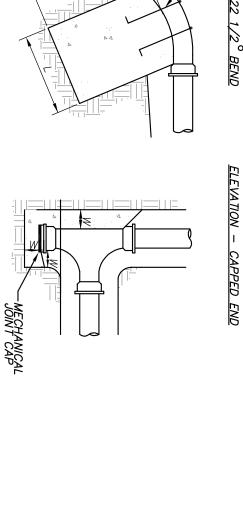


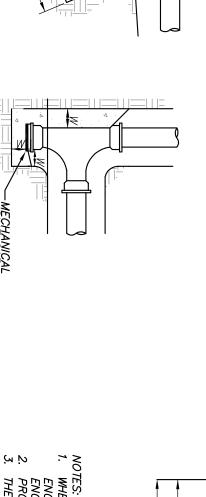


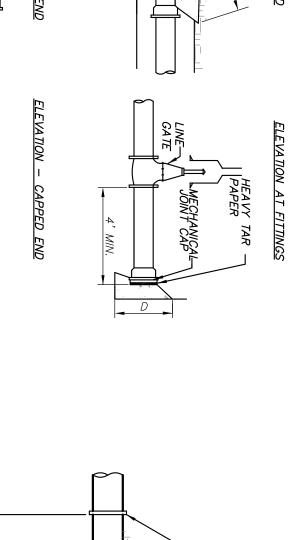


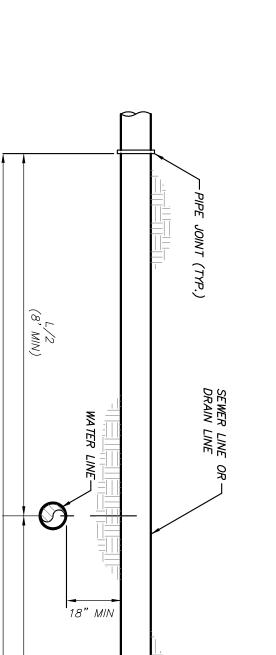












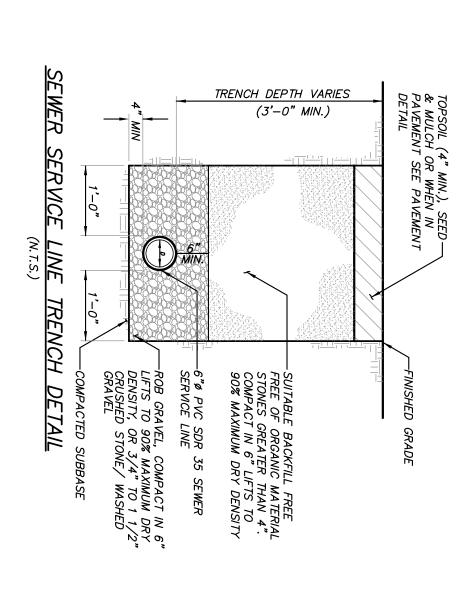
WATER LINE CROSSING UNDER SANITARY SEWER LINE OR STORM DRAIN LINE

NOTES:

1. WHEN 18" SEPARATION CANNOT BE MAINTAINED, THE WATER LINE SHALL BE ENCASED IN CONCRETE (SEE DETAIL) ONLY WITH PRIOR APPROVAL OF THE DESIGN ENGINEER AND DEPARTMENT OF HEALTH.

2. PROVIDE PIPE AND FITTING RESTRAINT AS REQUIRED.

3. THE 18" SEPARATION APPLIES TO WATER MAINS AND WATER SERVICE CONNECTIONS. WATER LINE CROSSING DETAIL





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CHECKED BY

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