

TANK DESIGN SPECIFICATIONS
CONFORMS TO LATEST:
ASTM DESIGNATION C913

NOTES:
1. JOINT SEALANT IS BUTYL RUBBER
MATIC TYPE SEAL THAT CONFORMS
TO LATEST AASHO SPECIFICATION V-198.
2. REINFORCING STEEL DEFORMED BARS
CONFORM TO LATEST ASTM SPECIFICATION
A706, GRADE 60.
3. CONCRETE COMPRESSIVE STRENGTH:
5,000 PSI AT 28 DAYS, SELF COMPACTING
MIX.
4. TANK DESIGNED FOR HS-20 LOADING
WITH 2.1' OF SOIL COVER

APPROXIMATE WEIGHT:
TOP SECTION = 58,000 LBS
BOTTOM SECTION = 58,000 LBS

A. DESIGN CRITERIA:

- Erosion and sedimentation control measures have been located with consideration given to slopes, wetlands, watercourses and coastal resources, and in accordance with the Connecticut "Guidelines for Soil Erosion and Sediment Control", of the Connecticut Council of Soil and Water Conservation, Latest Edition.
- Erosion and sedimentation control devices shall be constructed in accordance with the project plans and specifications.
- Operation, maintenance program, inspections:

- Prior to any construction, a pre construction conference is to be held among the Design Engineer, the Owners, the Contractor, the Town Engineer and the Zoning Enforcement Officer to review the erosion and sedimentation control measures to be taken. The contractor shall be responsible for arranging the pre construction conference.
- All revisions after approval has been granted shall be forwarded to the appropriate commissions and the Town Engineer.
- The Town Zoning Departments shall receive written notification seventy-two hours before the start of any construction.

- All erosion control measures associated with the construction are to be installed and maintained in accordance with the schedule and requirements. Additional control measures shall be installed during the construction period as necessary and required.
- All soil erosion and sediment control measures must be installed before any construction activities.
- Filter fabric/silt fence will be installed along the toe of all critical cut and fill slopes.
- Sediment removed from control measures must be disposed of at a location approved by the design engineer that will not cause additional sedimentation to the surrounding area.

- Qualified personnel (provided by the contractor) shall inspect disturbed areas of the construction activity that have not been finally stabilized, structure control measures, and locations where vehicles enter or exit the site at least once every seven (7) calendar days within 24 hours of the end of a storm that is 0.1 inches or greater. Where sites have been stabilized, such inspection shall be conducted at least once every month for three (3) months.
- Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of off-site sediment tracking.
- Based on the results of this inspection, the description of potential sources and pollution prevention measures identified in the plan shall be revised as appropriate or as soon as practicable after such inspection. Such modifications shall provide for timely implementation of any changes to the site within 24 hours and implementation of any changes to the plan within three (3) calendar days following the inspection. The plan shall be revised and the site conditions updated in accordance with sound engineering practices, the Guideline and Subsections (4) and (6) (c) / 3) of the Storm Water General Permit.

- A report summarizing the scope of the inspection, name(s) and qualifications of personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the Storm Water Pollution Control Plan and actions taken shall be made and retained as part of the plan for at least three (3) years after the date of inspection. The report shall be signed by the contractor, or his authorizing representative.
- Construction shall proceed in accordance with the requirements of the general sequence of grading and construction activities, application of soil erosion and sediment control measures, and final stabilization of site as indicated on the plans.
- Refueling of equipment or machinery within seventy-five (75) feet of any wetland, watercourse or coastal resources shall be prohibited.
- No materials resulting from construction activities shall be placed in or contribute to the degradation of an adjacent wetland, watercourse or coastal resource. Disposal of any material shall be in accordance with Connecticut General Statutes, including, but not limited to, Sections 22A-207 through 22A-209.
- Fording of streams with equipment shall be prohibited, except where approved by the Engineer. Such equipment travel shall be minimized. Where frequent equipment travel on stream banks and beds is necessary, washed stone shall be placed to minimize erosion, scour and turbidity, provided no significant grade change will occur and no significant environmental impact will result. Approval will be required for any haul road or temporary structure placed in wetlands or watercourses.
- A construction sequencing plan and a water handling plan, including a contingency plan for flood events, must be submitted in writing to the Engineer and approved by the Engineer prior to the commencement of any construction in a waterway (requirement may be waived at discretion of Design Engineer).
- When dewatering is necessary, pumps shall not discharge directly into the wetlands or watercourses. Pumps shall be connected to a collection system and the use of any methods and devices to be used, and obtain the Engineer's approval of such method and devices to be used for dewatering activities including, but not limited to, pumping the water into a temporary sedimentation trap, providing surge protection at the inlet and outlet of pumps or floating the intake of the pump, or other methods to minimize and retain the suspended solids. If the Engineer determines that the pump operation is causing turbidity problems, said operation shall cease until such time as means of controlling turbidity is submitted by the contractor and approved by the Engineer and implemented by the contractor.
- Work within and adjacent to watercourses shall be conducted during periods of low flow, whenever possible. The Engineer shall remain aware of flow conditions during the work, and shall cause such activity to cease should flow conditions threaten to cause excessive erosion, siltation or turbidity. The contractor shall make every effort to secure the work site before predicted major storms. A major storm shall be defined as a storm predicted by the NOAA Weather Service with warnings of flooding, severe thunderstorms, or similarly severe weather conditions or effects.
- Dumping of oil, chemicals, or other deleterious materials on the ground is forbidden. The contractor shall provide a means of catching, retaining and properly disposing of drained oil, removed filters, and other deleterious material. All spills of such materials shall be reported immediately by the contractor to the DEEP.
- Application of fertilizers, herbicides or pesticides must be done by a Connecticut licensed applicator. The contractor shall submit to the Engineer the proposed applicator's name and license number, and must receive the Engineer's approval of the proposed applicator before such application is carried out.
- During spawning seasons, discharges and construction activities in spawning area of the State waters shall be restricted so as not to disturb or inhibit aquatic species which are indigenous to the waters.

D. BEST MANAGEMENT PRACTICES:

- Construction shall proceed in accordance with the requirements of the general sequence of grading and construction activities, application of soil erosion and sediment control measures, and final stabilization of site as indicated on the plans.
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- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELLO-O-SEED DO NOT USE ON PREPARED AREA. CELLO-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN. BEGON AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 12"-15" (30cm-38cm) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPING PORTION OF THE BLANKET. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN THE BOTTOM OF THE TRENCH.

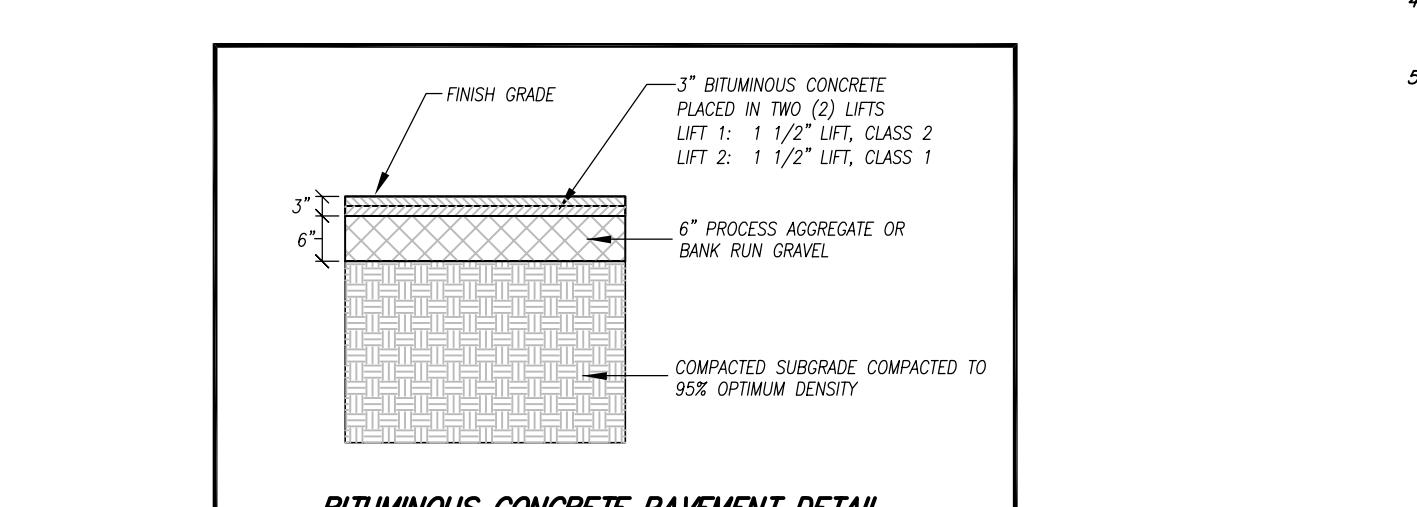
- ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.

- THE BLANKETS MUST BE SECURELY FASTENED TO THE SOIL SURFACE ON PARALLEL BLANKETS WITH APPROXIMATELY 2"-5" (5cm-12.5cm) OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE TOP BLANKET ON THE PREVIOUSLY INSTALLED BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.

- CONSECUTIVE BLANKETS SPICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5cm) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30cm) APART ACROSS ENTIRE BLANKET WIDTH.

NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15cm) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

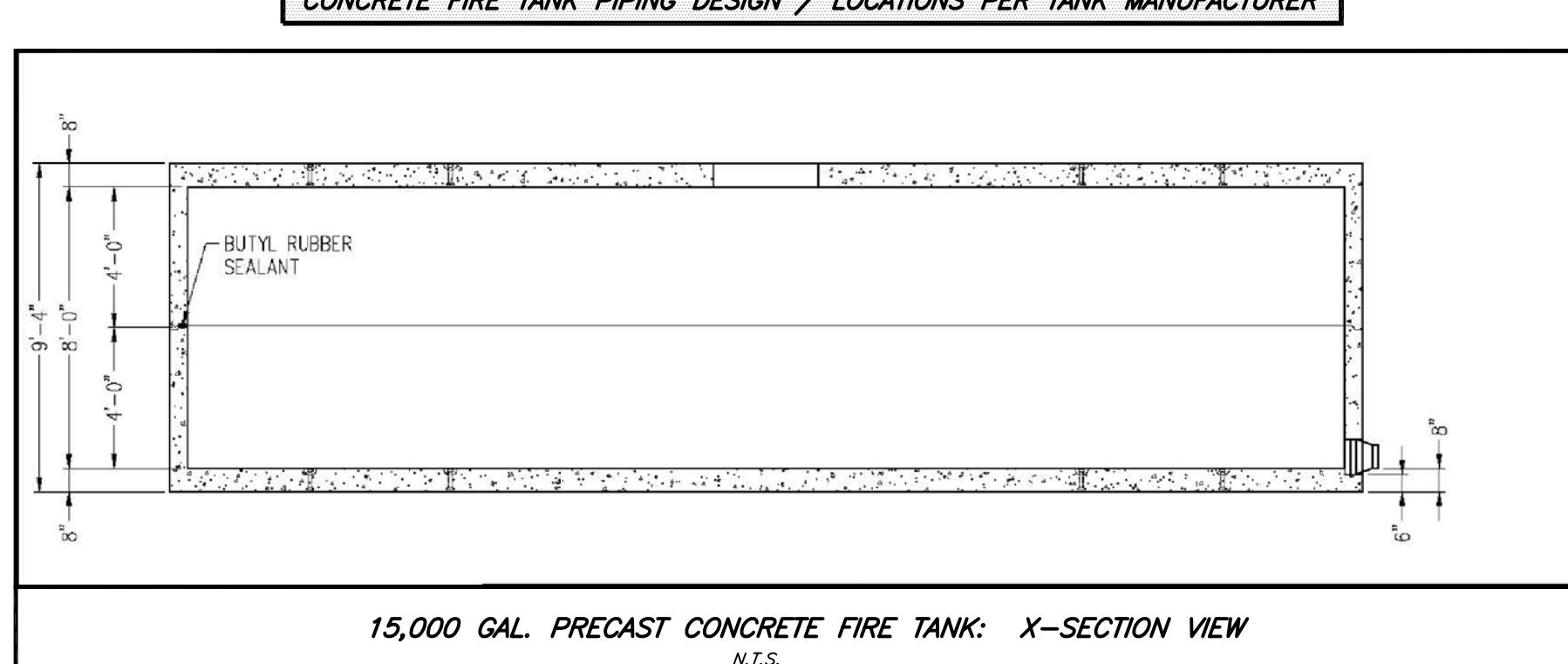
EROSION CONTROL BLANKET INSTALLATION DETAIL
N.T.S.



BITUMINOUS CONCRETE PAVEMENT DETAIL
N.T.S.

DESIGN ENGINEER TO REVIEW
AND MONITOR ALL PHASES
OF CONSTRUCTION.

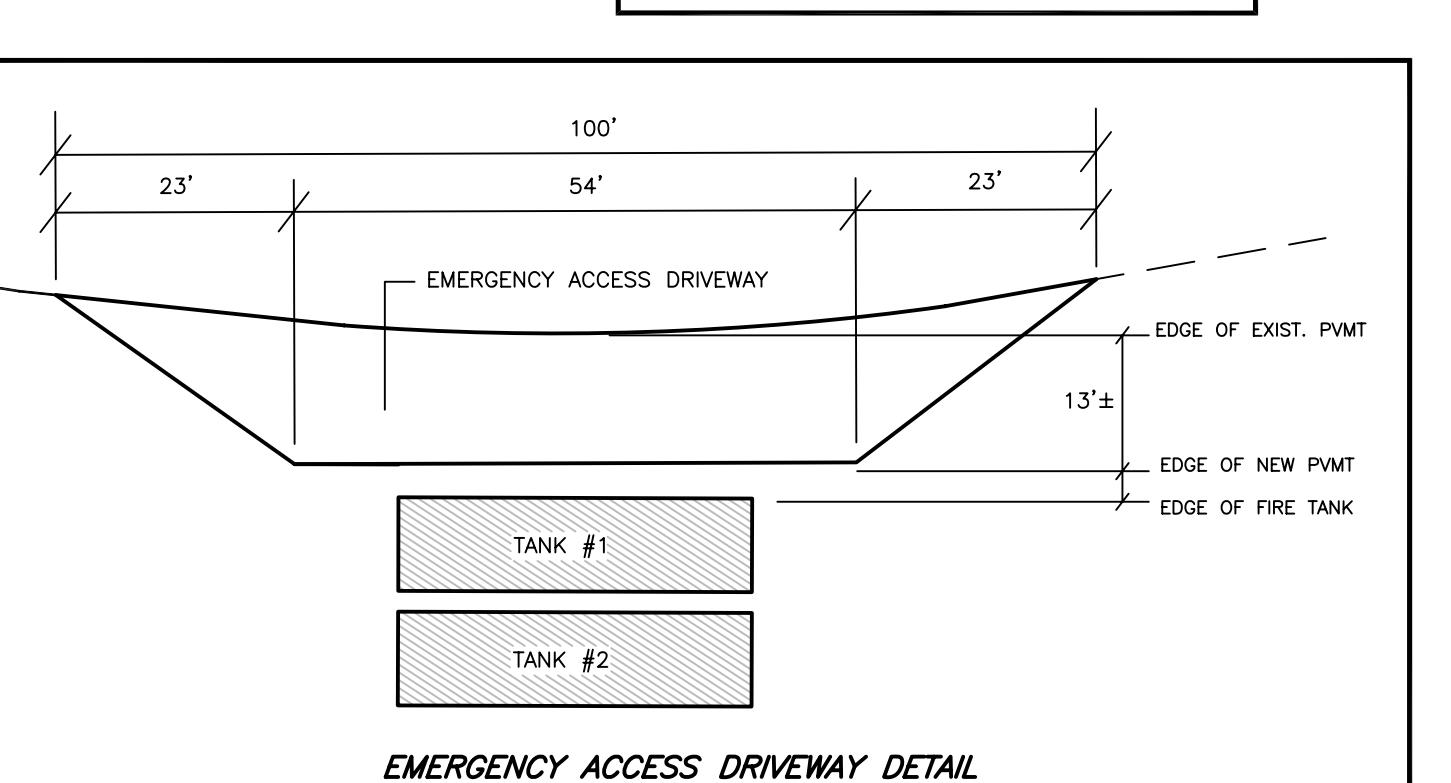
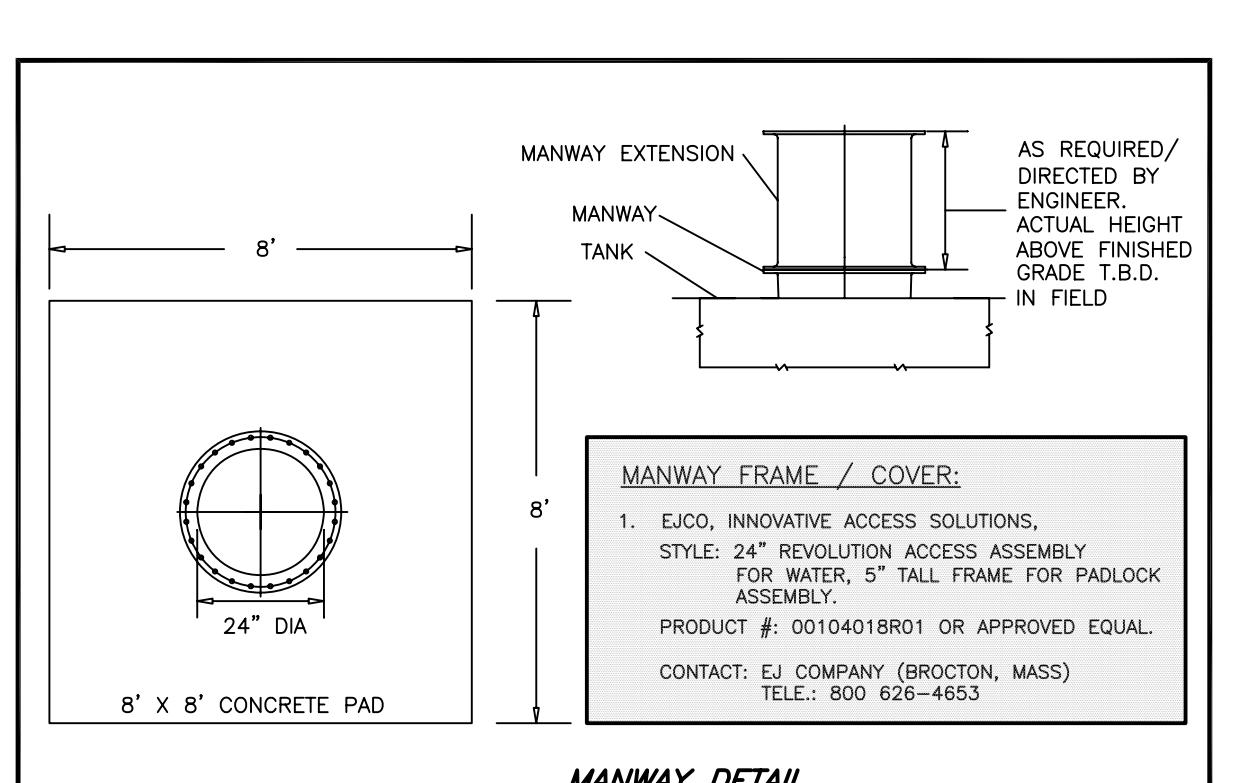
CONCRETE FIRE TANK PIPING DESIGN / LOCATIONS PER TANK MANUFACTURER



FIRE TANK CONNECTION SPECIFICATIONS:
- 6" FEMALE (NH OR NST) DRY HYDRANT
90° ELBOW WITH PLUG.
MODEL: KOCHEC DHF611 OR APPROVED EQUAL.

FILL CONNECTION SPECIFICATIONS:
- DISCHARGE PIPE TO BE A MIN. OF 4", SCH. 80
WITH THE CONNECTION TO BE 5" STORZ OR APPROVED EQUAL.

FIRE TANK MANUFACTURER
United Concrete Products, Inc.
ATTN: Mr. Joe Tenedine
173 Church Street
Yalesville, CT 06492
(203) 269-3119
jteneleine@unitedconcrete.com



FIRE TANK NOTES:

- TANK SHALL BE TWO (2), 15,000 GAL PRECAST CONCRETE WATER TANKS AS MADE BY UNITED CONCRETE PRODUCTS, INC OR APPROVED EQUAL MANUFACTURER CONTACT INFORMATION PROVIDED ON THIS SHEET. ALL FIRE TANK AND APPURTENANCES SHALL HAVE CUT SHEETS SUBMITTED TO THE DESIGN ENGINEER & CLINTON VOLUNTEER FIRE DEPT. FOR APPROVAL PRIOR TO ORDERING SAID MATERIALS. ANY APPROVED EQUAL COMPONENTS SHALL BE REVIEWED AND APPROVED BY THE DESIGN ENGINEER AND CLINTON VOLUNTEER FIRE DEPT. PRIOR TO ACCEPTANCE AND ORDERING.
- TANK SHALL BE INSTALLED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S CURRENT INSTALLATION INSTRUCTIONS. THE TANK INSTALLATION INSTRUCTIONS SHALL BE SUPPLIED TO BOTH THE DESIGN ENGINEER AND CLINTON VOLUNTEER FIRE DEPT. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES AT THE PROJECT SITE.
- TANK SHALL BE HOISTED USING LIFTING LUGS PROVIDED ON TANK. CONTRACTOR IS RESPONSIBLE FOR ORDERING AND SCHEDULING CRANE FOR TANK POSITIONING.
- TANK SHALL BE TESTED FOR LEAKS AFTER INSTALLATION AND PRIOR TO FINAL BACKFILLING TO GRADE. THIS WORK SHALL BE DONE UNDER THE SUPERVISION OF THE DESIGN ENGINEER AND TOWN OF CLINTON FIRE DEPT. REPRESENTATIVE. EITHER AN AIR TEST VACUUM TEST OF 24 HOUR WATER TEST.
- THE BEDDING FOR THE TANKS SHALL CONSIST OF A 6" (MIN.) THICK LAYER OF 3/4" WASHED STONE FOR A LEVELING BASE OVER A 8" (MIN.) BED OF COMPACTED GRAVEL. IF GROUNDWATER IS ENCOUNTERED THEN A 12" THICK LAYER OF 3/4" WASHED STONE LEVELING BASE OVER NATURAL GRADE SHALL BE UTILIZED.
- ALL FILL MATERIAL FOUND BELOW THE TANKS SHALL BE REMOVED UNTIL NATURAL / ORIGINAL GRADE HAS BEEN LOCATED. GRAVEL FILL MATERIAL OR APPROVED EQUAL SHALL THEN BE INSTALLED IN ORDER TO BRING THE GRADE BACK TO THE REQUIRED ELEVATION FOR THE TANKS.
- TANK BACKFILL MATERIAL SHALL CONSIST OF CLEAN NATURAL GRAVEL FILL FREE OF ANY ORGANICS. FILL MATERIAL SHALL BE APPROVED BY DESIGN ENGINEER PRIOR TO INSTALLATION. THE MATERIAL SHALL BE INSTALLED IN TWO (2) FOOT LIFTS AND PROVIDED ALL ANTI-BOLYNESS FEATURES / REQUIREMENTS FOR THE TANK.
- TANK SHALL BE LOCATED AND ORIENTED AS SHOWN ON ACCOMPANYING SITE DEVELOPMENT PLAN.
- TANK SHALL BE LOCATED SUCH THAT A 30 FOOT HOSE WILL REACH TO WITHIN 1 FOOT OF THE BOTTOM OF THE TANK FROM A TRUCK PARKED ON THE STREET.
- IT IS THE RESPONSIBILITY OF THE CLINTON FIRE DEPARTMENT TO PROVIDE AN APPROPRIATE LOCK FOR THE ACCESS MANHOLE.
- AN EIGHT FOOT SQUARE CONCRETE PAD SURROUNDING THE MANWAY IS TO BE INSTALLED.
- THE TANK IS TO BE FILLED BY THE CONTRACTOR, PRIOR TO THE REQUIRED TESTING AND APPROVAL BY THE CLINTON FIRE DEPARTMENT.

TOWN OF CLINTON FIRE TANK REQUIREMENTS:

- THE AREA ADJACENT TO THE TANK SHALL PROVIDE ADEQUATE SPACING FOR PARKING AN ENGINE ON EITHER END OF THE TANK IN-ORDER TO KEEP THE ROAD OPEN FOR ADDITIONAL APPARATUS TO DRIVE BY THE TANK TO THE END OF THE ROAD.
- TANK SHALL BE INSTALLED PER THE MANUFACTURER'S GUIDELINES.
- MINIMUM VOLUME OF COMBINED TANKS SHALL BE 30,000 GALLONS.
- THE SUCTION PIPE CONNECTION MUST BE 24 IN. (BOTTOM) ABOVE THE LEVEL OF THE SHOULDER WHERE VEHICLE WHEELS WILL BE LOCATED WHEN THE FIRE TANK IS IN USE.
- THE SUCTION PIPE CONNECTION MUST BE NO LESS THAN 8' FROM WHERE THE PUMPER WHEELS WILL BE LOCATED WHEN IN USE AND NO MORE THAN 18'.
- THE BOTTOM OF THE SUCTION PIPE TO THE PUMPER CONNECTION MUST NOT EXCEED 15 FT VERTICAL DISTANCE.
- THE FILLER PIPE MUST BE 24 IN. (BOTTOM) ABOVE FINAL BACKFILL GRADE.
- THE FINAL DESIGN OF THE TANK MUST BE SUBMITTED TO THE TOWN OF CLINTON FIRE DEPT. FOR APPROVAL PRIOR TO CONSTRUCTION. ALL PLANS MUST BE SIGNED/STAMPED BY A LICENSED/REGISTERED PROFESSIONAL ENGINEER.
- VENT PIPING SHOULD BE 6" MAX. TO ALLOW DRAFTING FROM THE FIRE TANK AT THE MAXIMUM CAPABILITY PERMITTED BY THE SUCTION PIPING.
- THE ENTIRE FIRE TANK MUST BE COMPLETED AND INSPECTED BEFORE ANY BACKFILLING IS DONE.
- ALL SIGNAGE WILL BE INSTALLED BY THE TOWN OF CLINTON PUBLIC WORKS DEPARTMENT. THE FIRE TANK CONTRACTOR IS NOT RESPONSIBLE FOR THE INSTALLATION OF ANY PERMANENT FIRE TANK SIGNAGE.

AIR FILL MATERIAL FOUND BELOW THE TANKS SHALL BE REMOVED UNTIL NATURAL / ORIGINAL GRADE HAS BEEN LOCATED. GRAVEL FILL MATERIAL OR APPROVED EQUAL SHALL THEN BE INSTALLED IN ORDER TO BRING THE GRADE BACK TO THE REQUIRED ELEVATION FOR THE TANKS.

TANK BACKFILL MATERIAL SHALL CONSIST OF CLEAN NATURAL GRAVEL FILL FREE OF ANY ORGANICS. FILL MATERIAL SHALL BE APPROVED BY DESIGN ENGINEER PRIOR TO INSTALLATION. THE MATERIAL SHALL BE INSTALLED IN TWO (2) FOOT LIFTS AND PROVIDED ALL ANTI-BOLYNESS FEATURES / REQUIREMENTS FOR THE TANK.

TANK SHALL BE LOCATED AND ORIENTED AS SHOWN ON ACCOMPANYING SITE DEVELOPMENT PLAN.

TANK SHALL BE LOCATED SUCH THAT A 30 FOOT HOSE WILL REACH TO WITHIN 1 FOOT OF THE BOTTOM OF THE TANK FROM A TRUCK PARKED ON THE STREET.

IT IS THE RESPONSIBILITY OF THE CLINTON FIRE DEPARTMENT TO PROVIDE AN APPROPRIATE LOCK FOR THE ACCESS MANHOLE.

AN EIGHT FOOT SQUARE CONCRETE PAD SURROUNDING THE MANWAY IS TO BE INSTALLED.

THE TANK IS TO BE FILLED BY THE CONTRACTOR, PRIOR TO THE REQUIRED TESTING AND APPROVAL BY THE CLINTON FIRE DEPARTMENT.

OWNER / APPLICANT:
Town of Clinton
Mr. Karl F. Kilduff (Town Manager)
#54 East Main Street
Clinton, CT 06413
(860) 669-9333



E. SOIL STABILIZATION MEASURES:

- All topsoil not to be used for final grading/landscaped areas shall be removed from the site immediately, in accordance with applicable State and Local laws. All topsoil to be used in landscaped areas shall be stored/stockpiled in accordance with applicable State and Local laws.
- All areas within 500 feet of an inhabited dwelling shall be wetted as necessary to provide dust control.
- Sediment disposal areas and topsoil stockpiles not scheduled for construction activities within thirty (30) days shall be stabilized as follows:

 - Ground limestone at a rate of 90 lbs. per 1,000 s.f.
 - Fertilizer at a rate of 7.5 lbs. per 1,000 s.f. using a 10-10-10 analysis or an equivalent.
 - Annual Rye grass seeding applied at a rate of not less than 1 lb. per 1,000 s.f.
 - Mulch all newly seeded areas with 80 lbs. of salt hay or small grain straw per 1,000 s.f.

- All disturbed areas are to be provided with at least 4" of topsoil before final seeding.
- Permanent vegetation is to be seeded or sodded on all exposed areas within ten (10) days after final grading. Mulching as necessary for seed protection and establishment. Lime and fertilizer before permanent seeding.
- Permanent vegetation:

- Materials specifications for lawn areas:

 - Soil: A minimum of 4" topsoil
 - Lime: 90 lbs. of ground limestone per 1,000 s.f.
 - Seed: Permanent Vegetation - Lawn

Common Name	Lbs./Acre	Lbs./1,000 s.f.
Kentucky Bluegrass	20	.45
Creeping Red Fescue	20	.45
Perennial Rye	5	.05

F. DUST CONTROL:

Dust control to be performed in accordance with the Connecticut "Guidelines for Soil Erosion and Sediment Control", of the Connecticut Council of Soil and Water Conservation, Latest Edition.

The following general procedure shall be used:

(Note: Additional dust control measures may be required during construction and shall be applied as direct by Design Engineer. The use of calcium chloride is prohibited due to the existing soils permeability and the sites sensitive location).

- Based on the results of this inspection, the description of potential sources and pollution prevention measures identified in the plan shall be revised as appropriate or as soon as practicable after such inspection. Such modifications shall provide for timely implementation of any changes to the site within 24 hours and implementation of any changes to the plan within three (3) calendar days