EROSION CONTROL SEQUENCE OF EVENTS

- I. NOTIFY THE PRINCE GEORGE COUNTY PLANNING DEPT. AT (804) 733-2608 FOR A PRE-CONSTRUCTION MEETING AND ON-SITE VISIT ONE WEEK PRIOR TO BEGINNING CONSTRUCTION
- 2. INSTALL CONSTRUCTION ENTRANCE, TEMPORARY SEDIMENT TRAPS, AND PERIMETER SILT FENCE AS PER PLAN.
- 3. HEAYY CONSTRUCTION TTRAFFIC (SITE MOBILIZATION, DELIVERIES, SUCH AS ROAD BASE MATERIALS, CONCRETE TRUCKS, BUILDING MATERIAL DELIVERIES, ETC.) SHALL BE CONFIND TO THE ROUTE 156 CONSTRUCTION ENTRANCE.
- 4. BEGIN CLEARING AND GRUBBING OPERATIONS. STABILIZE THE SITE WITH VEGETATION AND STRAW MULCH ACCORDING TO STATE REGULATIONS.
- 5. BEGIN ROAD CONSTRUCTION, AND INSTALL STORM SEWER, AND UTILITIES AS PER PLAN. 5. IMMEDIATELY AFTER PLACING BASE STONE AND INSTALLATION OF CURB & GUTTER, INSTALL INLET PROTECTION AS PER PLAN.
- 7. FINISH ROAD CONSTRUCTION AS SHOWN ON PLANS. SEED DENUDED AREAS AS SOON AS POSSIBLE AND MULCH ALL DISTURBED AREAS. INSTALL PAVEMENT.
- 8. ONCE ROAD CONSTRUCTION IS COMPLETE, AND SITE IS STABILIZED, COMPLETELY FLUSH
- STORM SEWER STRUCTURES TO REMOVE ANY ACCUMULATED SEDIMENT. REMOVE 9. CONTINUING MAINTENANCE PRACTICES SHALL BE PERFORMED TO ENSURE PROTECTION OF
- DOWNSTREAM PROPERTIES. O. NO EROSION CONTROL DEVICE SHALL BE REMOVED UNTIL AN ADEQUATE STAND OF GRASS

NOTE: ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLAN ARE TO BE CONSTRUCTED, MAINTAINED. AND REMOVED IN ACCORDANCE WITH THE CURRENT EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATION 4VAC50-30.

EROSION CONTROL NARRATIVE

CRITICAL AREAS: WETLANDS ARE LABELED ON SHEETS 3 AND 5.

PROJECT DESCRIPTION: THIS PROJECT CONSISTS OF THE CONSTRUCTION OF A SINGLE FAMILY RESIDENTIAL SUBDIVISION LOCATED ON MONCOL DRIVE. APPROXIMATELY 2.88 AC. OF LAND DISTURBANCE WILL OCCUR DURING THE CONSTRUCTION OF THIS THE LAND DISTURBANCE WILL INCLUDE CUT AND FILL GRADING ACTIVITIES, AND SOME CLEARING. POST-DEVELOPED THE SITE WILL CONSIST OF APPROXIMATELY 17% IMPERVIOUS SURFACES.

EXISTING SITE CONDITIONS: THE SITE IS LOCATED ON THE NORTH SIDE OF MONCOL DRIVE AND IS MOSTLY WOODED. SOILS ON THIS SITE CONSIST OF EMPORIA AND EMPORIA FINE SANDY LOAM.

ADJACENT AREAS: THE SITE IS SURROUNDED BY BIRCHETT ESTATES-SECTION 4 TO THE NORTH, BIRCHETT ESTATES-SECTION 2 TO THE WEST, PRINCE GEORGE DRIVE TO THE WEST AND MONCOL DRIVE TO THE SOUTH.

OFFSITE AREAS: PARCEL B, WEST OF THE PROPOSED SITE WILL BE AFFECTED BY THIS DEVELOPMENT. A GRAVEL ROAD AND BOLLARDS WITH CHAINS AND KNOX BOX FOR EMERGENCY ACCESS WILL BE BUILT ON THE SOUTHERN SIDE OF PARCEL B. PER PROFFER 14, THE OWNER OF PARCEL B GRANTS PERMISSION TO WORK ON THIS PROPERTY. OWNERSHIP OF PARCEL B WILL BE ADDRESSED ON THE FINAL PLAT.

THERE AS WELL. STEEPLY SLOPED AREAS NEAR WATERS OF THE U.S. AND WETLANDS CONSIST OF HIGHLY ERODIBLE SOILS.

EROSION AND SEDIMENT CONTROL MEASURES: TEMPORARY CONSTRUCTION ENTRANCES, SEDIMENT TRAPS, SILT FENCE, DIVERSION DITCHES, INLET PROTECTION INSTALLED ON THE PROPOSED STRUCTURES, AND OUTLET PROTECTION WILL SERVE AS THE PRIMARY EROSION CONTROL MEASURES THROUGHOUT THE CONSTRUCTION PROCESS. HEAVY CONSTRUCTION TRAFFIC (SITE MOBILIZATION, DELIVERIES SUCH AS ROAD BASE MATERIALS, CONCRETE TRUCKS, BUILDING MATERIAL DELIVERIES, ETC.) SHALL BE CONFINED TO THE ROUTE 156 CONSTRUCTION ENTRANCE. TEMPORARY AND PERMANENT SEEDING WILL ALSO BE USED PER MS-1. SEEDING SHALL BE DONE IN ACCORDANCE WITH TABLES ON THIS SHEET.

PERMANENT STABILIZATION: ALL DENUDED AND UNGRAVELLED AREAS SHALL BE SEEDED IN ACCORDANCE WITH STATE REGULATIONS. OUTLET PROTECTION WILL ALSO SERVE AS PERMANENT STABILIZATION.

STORMWATER RUNOFF CONSIDERATIONS: THE DEVELOPMENT OF THIS SITE WILL RESULT IN AN INCREASE IN THE PEAK RATE OF RUNOFF. AN ANALYSIS OF EACH OF THE OUTFALLS WAS CONDUCTED AND THEY WERE DEEMED ADEQUATE FOR THIS DEVELOPMENT.

CALCULATIONS: ALL STORM SEWER AND MS-19 ANALYSIS CALCULATIONS HAVE BEEN SUBMITTED TO COUNTY AND STATE OFFICIALS FOR REVIEW.

TEM	PORARY SEEDING PLA	TABLE 3.31- NT MATERIALS,		EDIN	IG R	ATES	S, A	ND (DATES.
SPECI25	SEEDING RATES		NORTH ^a			SOUTH ^b			DLANT
	ACRE	1000 SQ. FT.	5/1 to 4/30	5/1 to 8/15		2/15 to 4/30	5/1 to 9/1	9/1 to 11/15	PLANT CHARACTERISTICS
OATS (Avena sativa)	3 bu. (UP TO 100 lbs., NOT LESS THAN 50 lbs.)	2 lbs.	Х	_		Х		-	Use spring varieties (e.g., Noble)
RYE ^d (Secale cereale)	2 bu. (UP TO 110 lbs., NOT LESS THAN 50 lbs.)	2.5 lbs.	Х	1	X	×		×	Use for late fall seedings, winter cover. Tolerates cold and low moisture.
GERMAN MILLET Seteria italica)	50 lbs.	арргох. 1 lb.		Х		_	X	1	Warm—season annual. Dies at first frost. May be added to summer mixes.
ANNUAL RYEGRASS ^C (Lolium multi-florum)	60 lbs.	1.5 lbs.	Х		Х	X		X	May be added in mixes. Will mow out of most stands.
WEEPING LOVEGRASS (Eragrostis curvula)	15 lbs.	5.5 ozs.	-	X	-	_	X	1	Warm—season perrennial. May bunch. Tolerates hot, dry slope: and acid, infertile soils. May be added to mixes.
KOREAN LESPEDEZA (Lespedeza stipulacea)	25 lbs.	approx. 1.5 lbs.	Х	Х	_	X	Х	I	Worm—season annual legume. Tolerates acid soils. May be added to mixes.

- C MAY BE USED AS A COVER CROP WITH SPRING SEEDING d MAY BE USED AS A COVER CROP WITH FALL SEEDING.

4VAC50-30-40. MINIMUM STANDARDS

following criteria, techniques and methods:

mature enough to survive and will inhibit erosion.

permanent channel, flume or slope drain structure.

conveyance channel and receiving channel.

and the trap shall only control drainage areas less than three acres.

additional slope stabilizing measures until the problem is corrected.

used for these structures if armored by nonerodible cover materials.

A) No more than 500 linear feet of trench may be opened at one time.

) Restabilization shall be accomplished in accordance with this chapter.

F) Applicable safety chapters shall be complied with.

B) Excavated material shall be placed on the uphill side of trenches.

before upslope land disturbance takes place.

immediately after installation

the sediment basin is utilized.

to remove sediment

applicable criteria

promote stabilization.

to be served by the trap or basin.

b SOUTHERN PIEDMONT AND COASTAL PLAIN. X MAY BE PLANTED BETWEEN THESE DATES. - MAY NOT BE PLANTED BETWEEN THESE DATES.

Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final

Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.

arade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days

A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized.

sediment shall be constructed as a first step in any land—disturbing activity and shall be made functiona

Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area

A) The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area

equal to three acres shall be controlled by a sediment basin. The minimum storage capacity of a sediment

the structural integrity of the basin during a 25-year storm of 24-hour duration. Runoff coefficients used

in runoff calculations shall correspond to a bare earth condition or those conditions expected to exist while

Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that

Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary o

sediment—laden water cannot enter the conveyance system without first being filtered or otherwise treated

control sediment transport and stabilize the work area to the greatest extent possible during construction.

Nonerodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be

Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet

are found to be eroding excessively within one year of permanent stabilization shall be provided with

Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.

protection and any required temporary or permanent channel lining shall be installed in both the

When work in a live watercourse is performed, precautions shall be taken to minimize encroachment,

When a live watercourse must be crossed by construction vehicles more than twice in any six-month

14. All applicable federal, state and local chapters pertaining to working in or crossing live watercourses shall

16. Underground utility lines shall be installed in accordance with the following standards in addition to other

2) Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping

device, or both, and discharged in a manner that does not adversely affect flowing streams or off-site

D) Material used for backfilling trenches shall be properly compacted in order to minimize erosion and

period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided.

15. The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is

10. All storm sewer inlets that are made operable during construction shall be protected so that

basin shall be 134 cubic yards per acre of drainage area. The outfall system shall, at a minimum, maintain

B) Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or

Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap

Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions

Permanent vegetation shall not be considered established until a ground cover is achieved that is uniform,

rapping measures. The applicant is responsible for the temporary protection and permanent

II An erosion and sediment control program adopted by a district or locality must be consistent with the

PERMANENT SEEDING SITE SPECIFIC SEEDING MIXTURES FOR PIEDMONT AREA RATES * SEASONAL NURSE CROP - DATES TUST-TYPE TALL FESCUE KEC\UCKY 31 FESCUE ANNUAL FOXTAIL ANNUAL WINTER RED TOP GRASS

CROWNVETCH, INCREASE RATE TO 30 LBS. /ACRE. ALL LEGUME SEED MUST BE PROPERLY INOCULATED CONTRACTOR SHALL KEEP EXISTING ROADS WEEPING LOVEGRASS MAY BE ADDED TO ANY SLOPE OR LOW-MAINTENANCE MIX DURING WARMER SEEDING PERIODS; ADD 10-20 LBS./ACRE IN MIXES FREE OF SOIL BUILD-UP AT ALL TIMES. minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual development lots as well as to larger land-disturbing

EROSION CONTROL GENERAL NOTES

CONTACT THE PRINCE GEORGE PLANNING DEPARTMENT AT (804) 733-2608

PRIOR TO COMMENCING ANY LAND DISTURBANCE ACTIVITIES ON THE SITE.

. UNLESS OTHERWISE INDICATED. ALL VEGETATIVE AND STRUCTURAL EROSION

AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED

GEORGE COUNTY ORDINANCE INCLUDING THE VIRGINIA EROSION AND SEDIMENT

ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE PRINCE

CONTROL HANDBOOK AND VIRGINIA REGULATIONS 4VAC50-30 EROSION AND

3. THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE

PRECONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF

4. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR

5. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE

INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BOR-

ROW OR WASTE AREAS). THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY

EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE

. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ANY ADDITIONAL

8. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEA-

SURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE

3. DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED

O. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODI-

CALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY

REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CON-

1. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED

SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO

DENUDED AREAS THA MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THEN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO

MOVEMENT OF DUST FROM EXPOSED SOILS WHICH MAY PRESENT A HEALTH HAZARD,

EXISTING GROUND

CONTRACTOR SHALL KEEP EXISTING

* MUST EXTEND FULL WIDTH

OF INGRESS AND EGRESS

PLAN VIEW

- FILTER CLOTH

SECTION A-A

STONE CONSTRUCTION ENTRANCE

ROADS FREE OF SOIL BUILD-UP AT

ALL TIMES.

VDOT #1 COURSE

12. THE CONTRACTOR IS RESPONSIBLE FOR DAILY REMOVAL OF SEDIMENT THAT HAS

AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE

TATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.

AREAS THAT ARE LEFT DORMANT FOR MORE THAN ONE YEAR.

BEEN TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE.

TRAFFIC SAFETY PROBLEM, OR HARM ANIMAL OR PLANT LIFE.

DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.

TROL DEVICES SHALL BE MADE IMMEDIATELY.

EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMEN-

D COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN

LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

SEDIMENT CONTROL REGULATIONS.

TO OR AS THE FIRST STEP IN CLEARING.

MAINTAINED ON THE SITE AT ALL TIMES.

PLAN APPROVING AUTHORITY.

FILTERING DEVICE.

. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization of all soil stockpiles on site as well as borrow areas and soil intentionally transported from the stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the local program authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation Properties and waterways downstream from development sites shall be protected from sediment deposition erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24-hour duration in accordance with the following standards and criteria: A) Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outfall of the pipe or pipe system shall be performed.

> B) Adequacy of all channels and pipes shall be verified in the following manner:) The applicant shall demonstrate that the total drainage area to the point of analysis

or banks; and

within the appurtenances;

within the channel is one hundred times greater than the contributing drainage area of (2) (a) Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overtop channel banks nor cause erosion of channel bed or banks (b) All previously constructed man—made channels shall be analyzed by the use of a ten-year storm to verify that stormwater will not overtop its banks and by the use of a Two-vear storm to demonstrate that stormwater will not cause erosion of channel bed

(c) Pipes and storm sewer systems shall be analyzed by the use of a ten-year storm to verify that stormwater will be contained within the pipe or system. ;) If existing natural receiving channels or previously constructed man—made channels or pipes are not

adequate, the applicant shall: 1) Improve the channels to a condition where a ten—year storm will not overtop the banks and a two—year storm will not cause erosion to channel the bed or banks; or 2) Improve the pipe or pipe system to a condition where the ten-year storm is contained

3) Develop a site desian that will not cause the pre—development peak runoff rate from a two-vear storm to increase when runoff outfalls into a natural channel or will not cause the pre-development peak runoff rate from a ten-year storm to increase when runoff outfalls into a man-made channel; or (4) Provide a combination of channel improvement, stormwater detention or other measures

which is satisfactory to the plan approving authority to prevent downstream erosion. d. The applicant shall provide evidence of permission to make the improvements. e. All hydrologic analyses shall be based on the existing watershed characteristics and

the ultimate development condition of the subject project.

streams and other waters of the state.

approval from the locality of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance. g. Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipators shall be placed at the outfall of all detention facilities as necessary to

f. If the applicant chooses an option that includes stormwater detention, he shall obtain

provide a stabilized transistion from the facility to the receiving channel. h. All on-site channels must be verified to be adequate. i. Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or

to a detention facility i. In applying these stormwater management criteria, individual lots or parcels in a residential, commercial or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations.

c. All measures used to protect properties and waterways shall be employed in a manner

which minimizes impacts on the physical, chemical and biological integrity of rivers,

(WITHOUT WIRE SUPPORT) SOURCE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, 1993, 3RD ED.

4"x4" TRENCH-

SILT FENCE

ATTACH FILTER FABRIC

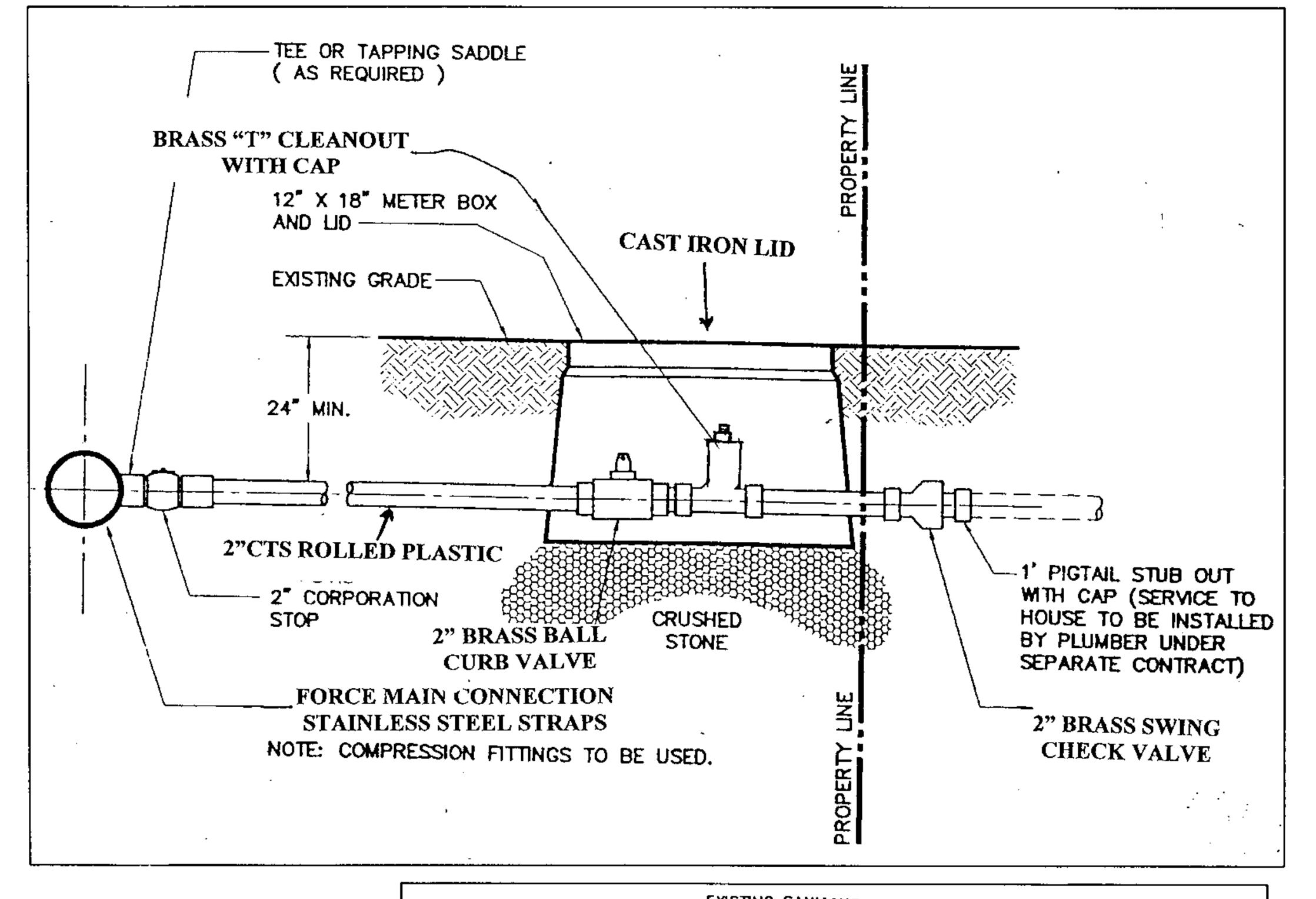
EXCAVATED SOIL

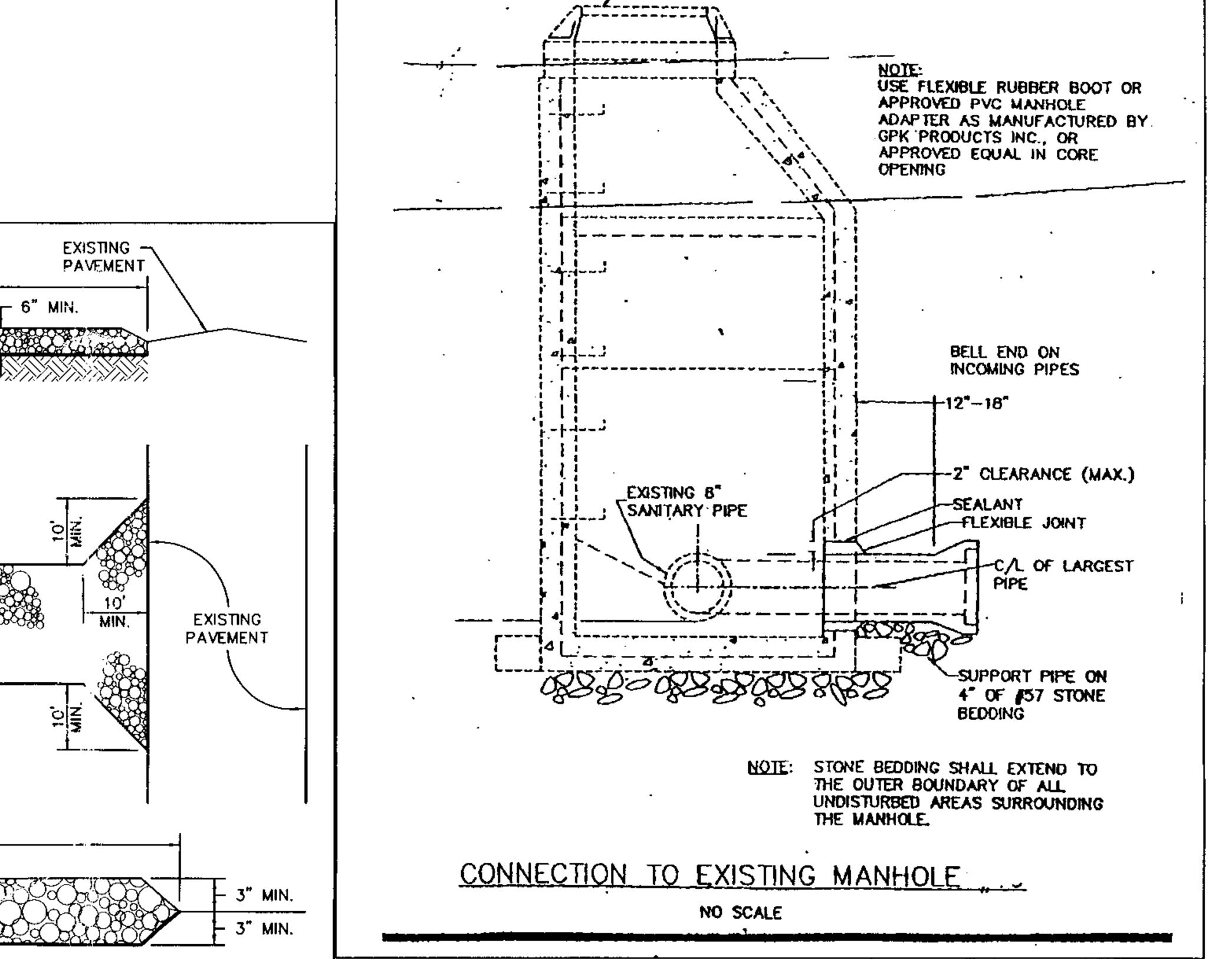
BACKFILLED AND

COMPACTED

TO STAKES OR POSTS &

EXTEND IT INTO TRENCH-





2"x4" WOODEN FRAME

--- WOODEN STAKE

LENGTH = 5' MIN.

_ DROP INLET WITH GRATE

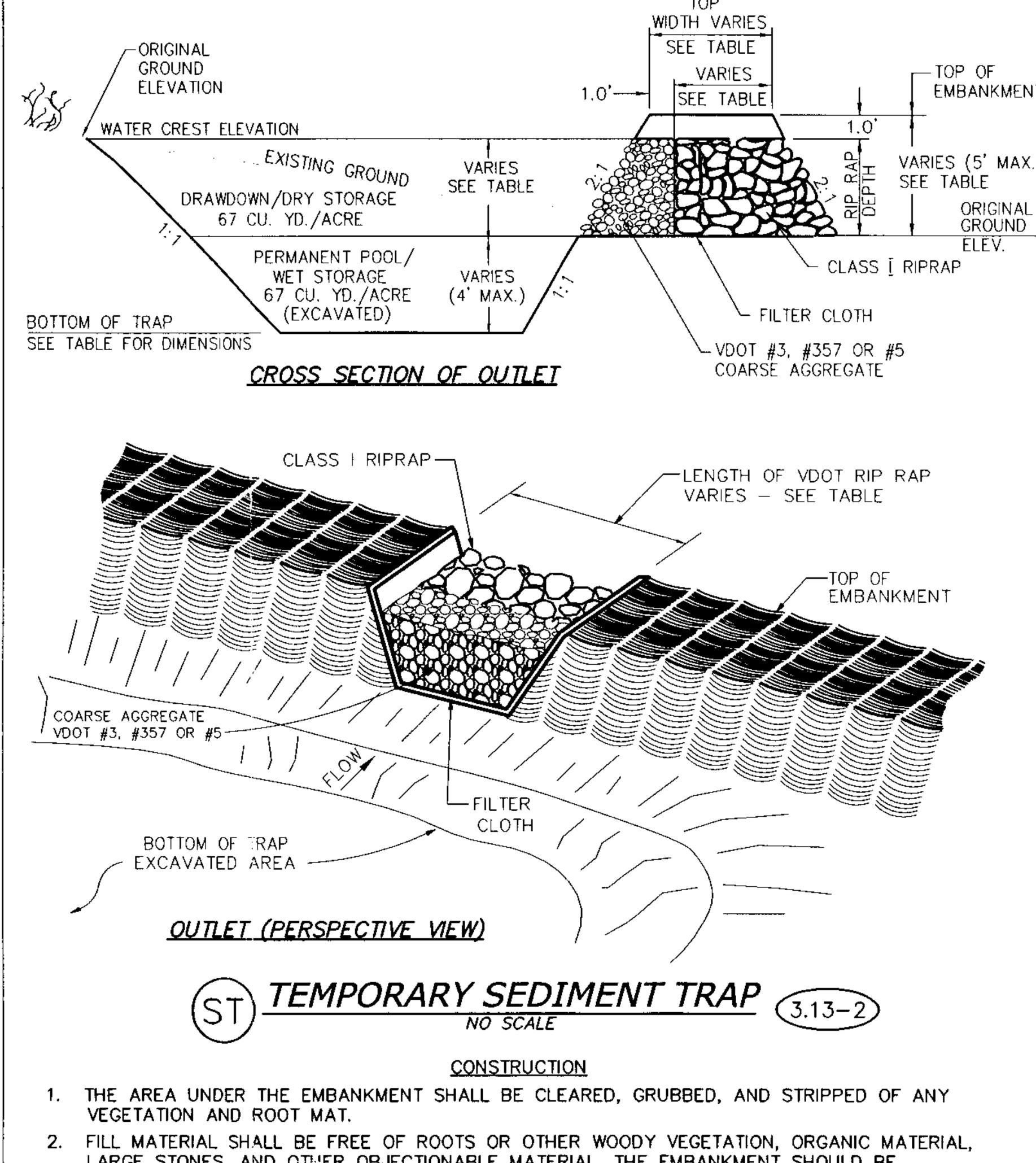
PERSPECTIVE VIEWS

ELEVATION OF STAKE AND

FABRIC ORIENTATION

SILT FENCE

NO SCALE



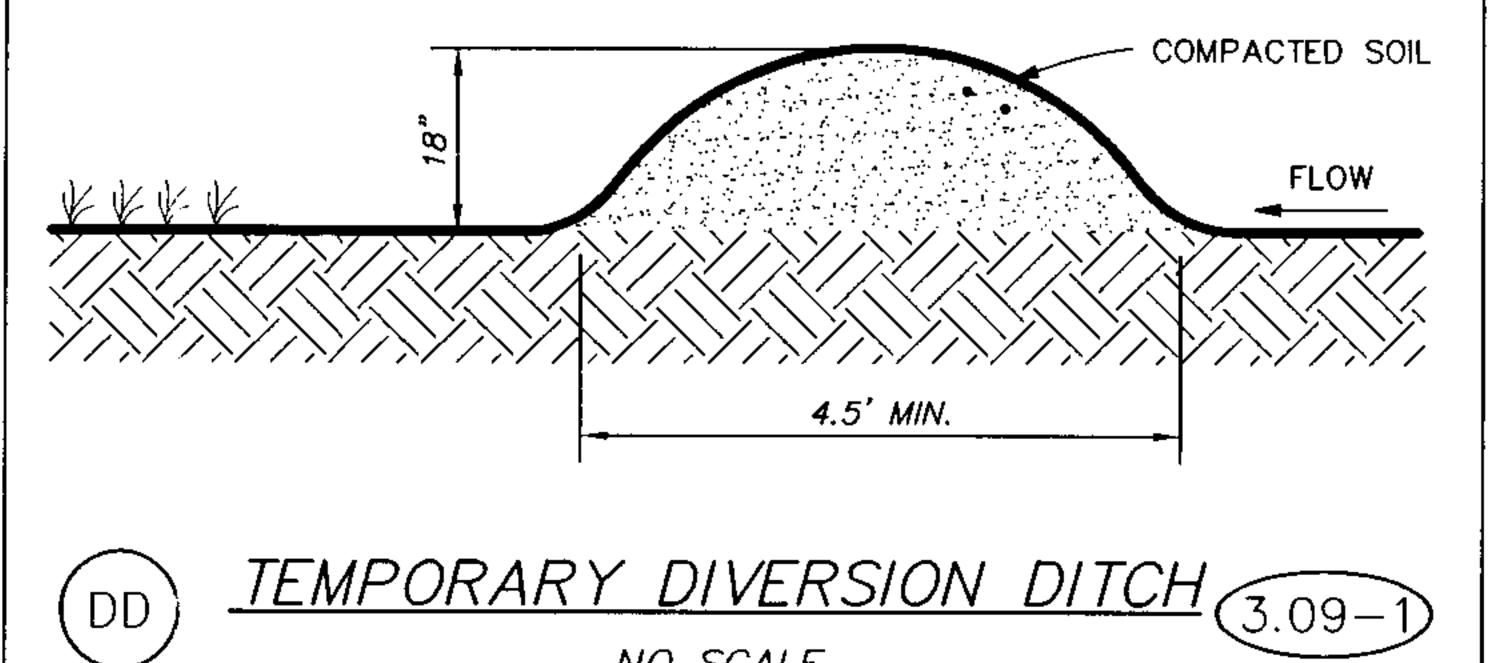
LARGE STONES, AND OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHOULD BE COMPACTED IN 6-INCH LAYERS BY TRAVERSING WITH CONSTRUCTION EQUIPMENT.

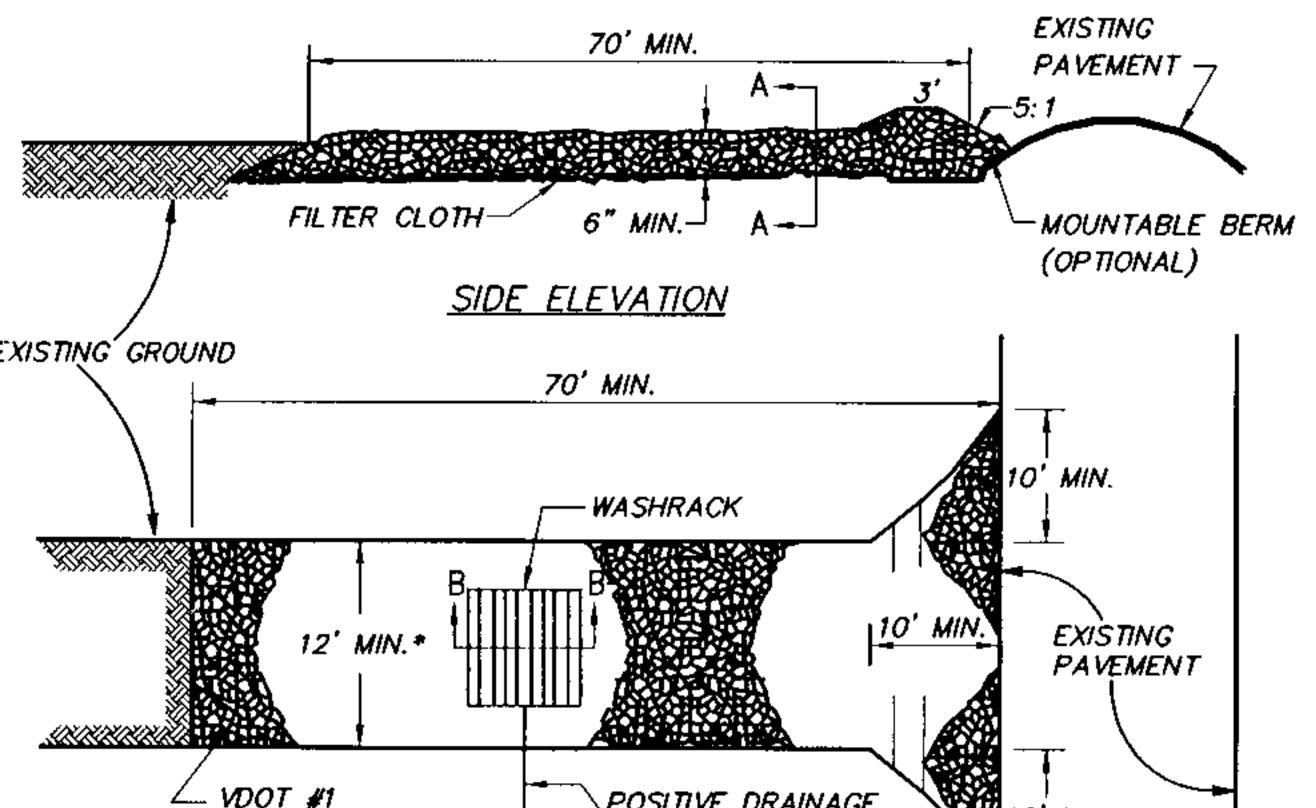
THE EARTHEN EMBANKMENT SHALL BE SEEDED WITH TEMPORARY OR PERMANENT VEGETATION (SEE STD. & SEPC.'S 3.31 AND 3.32) IMMEDIATELY AFTER INSTALLATION. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION ARE MINIMIZED.

THE SEDIMENT HAS ACCUMULATED TO ONE HALF THE DESIGN VOLUME OF THE WET STORAGE SEDIMENT REMOVAL FROM THE BASIN SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE AND CAUSE SEDIMENTATION PROBLEMS.

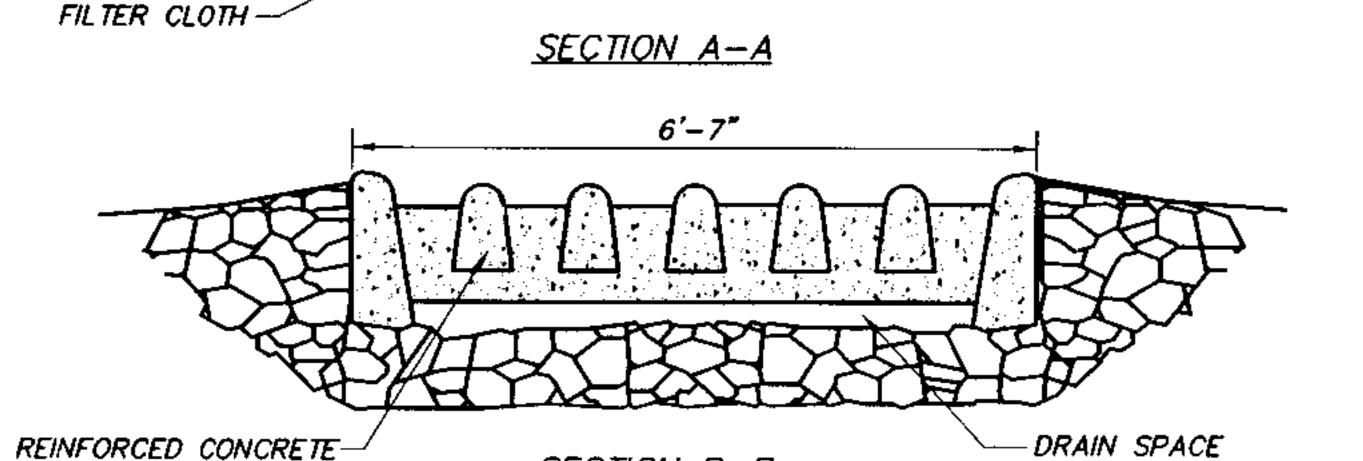
MAINTAINED. STONE CHOKED WITH SEDIMENT SHALL BE REMOVED AND CLEANED OR REPLACED STONE OUTLET SHOULD BE CHECKED TO ENSURE THAT ITS CENTER IS AT LEAST 1 FOOT BELOW THE TOP OF THE EMBANKMENT.

TEMPORARY SEDIMENT TRAP SCHEDULE SEDIMENT TRAF (EXCAVATED)





POSITIVE DRAINAGE TO SEDIMENT TRAPPING DEVICE --- VDOT #1 COURSE AGGREGATE * MUST EXTEND FULL WIDTH OF INGRESS AND EGRESS <u>PLAN VIEW</u> OPERATION SECTION A-A



SECTION B-B

E) STONE CONSTRUCTION ENTRANCE (3.02-1)

FILTER CLOTH -

Lic. No. 24761

2,6-407

DRAWN BY

R. ROBBINS

DESIGNED BY

R. ROBBINS

CHECKED BY

D. JOHNSON

JOB NO. 23852

SHEET NO.