AHM

ROAD AND DRAINAGE STANDARDS

FOR THE

TOWN OF SOUTHAMPTON
SUFFOLK COUNTY, NEW YORK

PREPARED FOR THE

TOWN OF SOUTHAMPTON HIGHWAY DEPARTMENT

WILLIAM H. MASTERSON SUPERINTENDENT OF HIGHWAYS

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All storm water collection systems shall be designed in accordance with the following minimum standards and shall be submitted on design sheets to be reviewed by the Town Engineer.

1) Rational Method:

Q = Aci

Q = Discharge in cubic feet per second (c.f.s.)
A = Tributary drainage area in acres within the subdivision and shall include areas outside the subdivision
c = Coefficient of runoff of drainage area

The following values of "c" shall be used:

Type of Surface	Flat	Rolling
Roofs	1.00	---
Concrete or Asphalt Pavement	1.00	1.00
Bituminous Macadam	0.70	0.90
* Gravel	0.90	0.90
Landscape/Lawn Areas	0.20	0.20

*Verify. Usually we see compacted RCA or gravel.

Composite Areas		
Natural/Forested	0.10	0.10
Business and Dense Residential	0.60	0.95
Suburban Residential	0.30	0.60
Rural Districts	0.10	0.25
Parks, Golf Courses, etc.	0.10	0.35
Agricultural Areas	0.20	0.60

Where:

"i" is the rainfall intensity in inches per hour, shall be determined by the following formula:

$$i = \frac{120}{t+20}$$

Where:

"t" is the time of concentration in minutes at the point of design.

Time of Concentration can be calculated by using Table 31.2 Equations for Overland Flow Travel Time (The Civil Engineering Handbook, W.F. Chen, 1995).

Maximum time of concentration (t) shall be 28 minutes.

DRAINAGE DESIGN CRITERIA (Continued)

2) Manning's Formula:

Closed conduits and open channels shall be designed using Manning's Formula:

a) $$V = \frac{1.486\ R^{2/3}\ S^{1/2}}{n}$$

Where: V = velocity in feet per second
R = hydraulic radius in feet
S = Slope in ft./ft. The slope (S) shall generally be considered to be the slope of the pipe invert except that such slope shall be checked against the available hydraulic gradient wherever the system discharges against an existing hydraulic head.

Where: n = 0.015 for reinforced concrete pipe 18" or less
0.013 for reinforced concrete pipe 24" or larger
0.013 for smooth plastic pipe
0.021 for corrugated metal pipe
0.025 for earth ditches
0.013 for paved ditches

b) Design velocities to be limited to 2 ft./sec. minimum and 10 ft./sec. maximum, unless special approval for unusual conditions is granted by the Town Engineer.

c) Minimum pipe diameter to be 15".

d) Minimum pipe cover from finished pavement or ground surface to be two (2) feet.

3) Manhole Installation:

Maximum spacing distance between manholes shall be 350 feet. Manholes shall be provided where there are changes in pipe alignment or gradients.

4) Catch Basin Installation:

Spacing of catch basins shall be govemed by the following: The maximum overland flow rate to a single catch basin shall not exceed three (3) c.f.s. The maximum distance of flow in the roadway gutter, before a catch basin is required shall not exceed 350 feet.

DRAINAGE DESIGN CRITERIA (Continued)

5) Recharge Basins:

Recharge basins shall be provided where there is no available outlet for storm water or where in the opinion of the Town Engineer, a potential drainage problem exists. In general, a tributary area of eight (8) acres or more shall be deemed to necessitate a storm water recharge basin. In areas less than eight (8) acres drainage facilities shall be installed as directed by the Town Engineer.

Storm water recharge basins shall be designed in accordance with the drawing details and the following:

a) All storm water recharge basins shall provide storage capacity for 5" of rainfall on the total tributary area multiplied by a weighted runoff coefficient (minimum c = 0.25). Where it is evident that possible overflow of the recharge basins will cause property damage, the storage capacity shall be increased using 8" of rainfall.

b) Maximum depth of storage capacity shall be ten (10) feet. This measurement is to be two (2) feet below the elevation of the berm, or elevation of grate in the inlet basin at the low point in system, whichever is the lowest.

c) If feasible, the area of the recharge basin shall be cleared of trees, only where excavation is required and that a natural tree screening remain along the perimeter of the basin.

d) Asphalt gutters will be required around the perimeter of the recharge basin where possible erosion from upland runoff may occur.

e) Maximum discharge velocity of the outfall pipe shall not exceed 10 f.p.s.

f) Excavation shall be carried down through good leaching material. A test hole shall be required at the bottom elevation of the recharge basin and shall indicate at least 5' of good leaching material, below the basin bottom. Should any doubt exist as to the adequacy of the leaching material, percolation tests will be required.

g) Fencing complete with gate shall be constructed before starting excavation.

DRAINAGE DESIGN CRITERIA (Continued)

6) Landscaping of Recharge Basins:

Topsoil shall be placed at least 6" deep on the surface of the bank around the recharge basin extending from the inside of the fence to a line 4' down from the top of the slope. All topsoil areas shall be limed, fertilized and seeded. The area around the fence shall have screen planting parallel to, inside and outside the fence around the entire recharge basins, except at the gates.

a) Topsoil

The topsoil shall consist of natural loam, horticulture soil, free of refuse, clods and stones larger than 1" in diameter, weeds or any other objectionable loam material. It shall contain not less than 5% and not more than 20% organic matter as determined by loss on ignition of moisture free samples dried at 100 degrees. The pH shall be between 5.5 and 7.6. Topsoil shall be placed 6" deep when compacted. The surface shall be smoothly graded to meet established elevations and adjacent ground levels.

b) Liming

Limestone shall be agricultural ground limestone with a total carbonate content of not less than 80% or 44.8% calcium oxide equivalent, for the purposes of calculations. Total carbonates shall be considered as calcium carbonate. Limestone shall be evenly distributed at the rate of 50 lbs. per 1,000 square feet and worked into the top 3" of the soil.

c) Fertilizing

Not less than 5 days after the application of limestone, commercial fertilizer organic type (10-6-4) shall be evenly distributed at the rate of 20 lbs. per 1,000 square feet and worked into the top 3" of the soil.

d) Hydroseeding - Grass seed shall be applied as follows:

Per Acre:
12 pounds Crownvetch
10 pounds Birdfoot Trefoil
30 pounds Tall Fescue
45 pounds Annual Rye

DRAINAGE DESIGN CRITERIA (Continued)

The seed producer's certificate of analysis shall be available for inspection.

A 100% wood fiber mulch binder should be incorporated into the seed mixture at a rate of 1,200 pounds per 150 pounds of seed. The 100% wood cellulose fiber mulch binder should be meeting the following requirements:

Organic Matter	98%±2%
Ash Content	1.4%
pH	6±2
Water Holding Capacity	90% minimum

Grass seeding shall be done between April 15th and June 15th or between August 15th and October 15th and shall not be accepted unless there is a uniform growth evident over all seeded areas.

e) Manual Seeding - Grass seed shall be applied as follows:

Per Acre: 12 pounds Crownvetch
10 pounds Birdfoot Trefoil
30 pounds Tall Fescue
45 pounds Annual Rye

Minimum seed germination shall be 80%. Inert matter and weed seeds shall not exceed 8%. The seed producer's certificate of analysis shall be available for inspection. Grass seed shall be sown evenly at the rate of 3 lbs. per 1,000 square feet. The seed shall be covered to a proper depth by raking or other suitable means. After seeding and raking, the surface shall be rolled with an approved roller weight of at least 100 lbs.

Grass seeding shall be done between April 15th and June 15th or between August 15th and October 15th and shall not be accepted unless there is a uniform growth evident over all seeded areas.

f) Screen Planting

Plants shall be placed 8 feet apart and 7.5 feet from and parallel to the fence on both sides of the fence. The minimum height shall be 6' and the minimum spread shall be 2 feet. All trees shall be nursery grown and shall be normal columnar or narrowly pyramid habit of growth typically characteristic of the particular variety. Only the following species and varieties are acceptable:

DRAINAGE DESIGN CRITERIA (Continued)

1) Bay Berry (Myrica pensylvanica)

2) White Pine (Pinus strobus)

4) Red Twig Dogwood (Corinus stolonifera)

5) Eastern Red Cedar (Juniperus virginiana)

6) Forsythia (Forsythia intermedia) 'Lynwood Gold'

7) Forsythia (Forsythia intermedia) 'Spring Glory'

All evergreen trees shall be moved with a burlap and tied with a good grade of haylop or heavy twine. The size of ball for all specified evergreen trees shall be a minimum of 12" in diameter and deep enough to include all lateral roots. All evergreen trees shall be set plumb at such a level that after settlement they bear the same relationship to the elevation of the surrounding ground as they bore to the ground from which they were dug. All trees shall be planted and the holes backfilled and tamped with topsoil. The screen planting shall be maintained and all dead or dying trees replaced by the developer until such time as the recharge basin has been accepted for dedication by the Town.

7) Roadside Ditches:

Under special conditions, roadside ditches may be utilized with prior approval of the Town. The following design criteria for roadside ditches shall be used:

Slopes 4% or less – sod

Slopes greater than 4% - asphalt

8) Leaching Basins:

Under special conditions, leaching basins may be used in addition to a recharge basin. The following design criteria for leaching basins shall be used:

DRAINAGE DESIGN CRITERIA (Continued)

a) **Vc = A R C**

Where:
- Vc = volumetric capacity in cubic feet
- A = tributary drainage area in square feet within the subdivision and shall include areas outside the subdivision.
- R = 2"
- C = weighted coefficient for runoff of the drainage area (minimum c= 0.25)

b) Minimum separation to groundwater shall be 2'.

9) Valley Gutters:

Valley Gutters will be permitted at "T" intersections where they will be parallel to the center line of the through road and shall be installed only after design approval by the Town Engineer. In general, the crown of the intersecting road shall be gradually eliminated starting from a point about thirty (30) feet back from the flow line of the through street. At other than "T" intersections, valley gutters will be permitted only when warranted by limited traffic use as approved by the Town Engineer.

10) Drainage Structures on State or County Land:

Drainage structures which are located on state highway rights-of-way shall be approved by the appropriate highway engineer's office and a letter of approval from that office shall be filed with the Town Planning Board. Where County highways are involved, the Planning Board will obtain the approval from the Suffolk County Department of Public Works.

11) Dry Wells on Individual Plots:

Individual plot grading studies shall be made from map data submitted and where required, in the opinion of the Town Engineer, dry wells for house leaders, driveways, or yard drains shall be installed as directed.

B. HORIZONTAL ALIGNMENT CRITERIA

1) Horizontal alignment curves: The recommended minimum centerline radius curvature shall be 200 feet for local street and 400 feet for collector streets.

2) A tangent distance of at least 50 feet shall be provided between reverse curves.

3) Minimum radius at a comer shall be 25 feet at the property line except that a larger radius shall be provided at major intersections.

4) Adequate sight distance must be provided at all intersections in accordance with the New York State Manual of Uniform Traffic Control Devices (MUTCD), 2001 edition.

C. VERTICAL ALIGNMENT CRITERIA

1) All street gradients shall conform as much as possible to the natural terrain, minimizing excessive cuts and fills.

2) Minimum road gradients shall be 0.5%.

3) Maximum road gradients shall be 6%.

4) Gradients approaching intersections shall not exceed 2.5%, commencing at a point at least fifty (50) feet from the nearest intersecting right-of-way line measured along the centerline of the road. Intersections of roads and curbs having a minimum gradient shall be detailed sufficiently to insure proper surface drainage.

5) Gutter line gradients of cul-de-sacs shall be a minimum of 0.5%.

6) All changes in grade of 1.0% or more shall be connected with a vertical curve.

7) Sag and Crest Vertical Curves:

The following formula shall be used in the design of street profiles:

a) **L = K A**

Where:
- L = length in feet of a vertical curve in
- K = constant equaling 28 for minor streets and 50 for collector streets.
- A = algebraic difference in percent of grade.

D. SPECIAL DETAILS

1) Retaining Walls:

a) Where retaining walls are required by reason of plot grading or terrain they shall be designed by a Licensed Professional Engineer and approved by the Town Engineer prior to construction.

b) Retaining walls shall be constructed of structural concrete, reinforced as required unless special written permission to substitute other materials is granted.

c) Retaining walls constructed of railroad ties or similar treated timbers may be substituted when the Town Engineer determines that such construction is adequate provided that any such wall shall have a maximum reveal of four (4) feet. There shall be no more than two (2) such walls on the same slope, and the minimum horizontal distance between shall not be less that three (3) feet. Adequate tie-back or cribbing shall be provided, and no wall shall be backfilled until inspected.

E. GENERAL INSTRUCTIONS - To be followed in conjunction with other Town of Southampton Standards, policies, and codes.

1) Schedule of Operations:

The Town Engineer, Superintendent of Highways and the Developer shall together review the Schedule of Operations prior to the start of construction to insure the orderly procedure of the work.

2) Traffic Maintenance:

The flow of traffic or the safety thereof on any public street or highway within the Town shall not be restricted or endangered in any way by construction operations, equipment, vehicles or materials connected with the construction or sales operations of a subdivision. The Developer shall provide for off-street parking space for all vehicles used in construction or sales operations. Equipment or materials shall not be stored within the right-of-way lines of any public street or highway.

3) Temporary Roads:

All roads within a development which are used by the contractors or others and which have not been surfaced shall be suitably treated with calcium chloride or other material which have dust-laying qualities.

4) Temporary Drainage:

Rainfall run-off from development during construction operations must be confined to the site unless an adequate stormwater drainage system exists. Methods of providing for temporary drainage shall be approved by the Town Engineer. Stormwater run-off disposal onto existing roads, streets or private property is prohibited.

5) Protection of New Drainage Facilities:

All drainage facilities during construction operations shall be cleared of lumber, debris, dirt and other objectionable material after completion and shall be maintained in a clean condition until time for use as directed by the Town Engineer.

6) Developer's Responsibility:

The Developer is responsible for keeping Town roads, streets and private property free of debris and damage caused by construction operations or by stormwater run-off from the Development site. Any damage so caused shall be immediately repaired by the Developer at his own expense. If, after due notice by the Town Engineer the Developer does not proceed

GENERAL INSTRUCTIONS (Continued)

within 72 hours to make the necessary repairs or to remove the debris caused by his operations, the Town Engineer is empowered to take necessary corrective measures and the costs shall be paid by the Developer.

7) Construction Emergencies:

In any emergency arising during the construction period of a Development where the Developer or his representatives is not immediately available to take responsible charge, the Town Engineer shall take such measures and render such decisions as may be necessary to control the situation. Any resultant costs shall be borne by the Developer at no expense to the Town.

8) Decision of Town Engineer Final:

It shall be mandatory upon the Developer that the work proceed in accordance with the best construction practice and that all necessary measured be taken for the protection of the Public Health, Safety and Welfare. The decision of the Town Engineer shall be final and binding in these matters.

F. ROADWAY CONSTRUCTION SPECIFICATIONS

1) Stabilized Soil Base:

Depending on the character of the soils encountered all or part of the soil base areas where directed by the Engineer shall be improved with added material from the excavation. The Contractor shall stockpile, during the excavation process as directed by the Engineer, sufficient selected materials for this purpose. Suitable loamy or sandy soils shall be added and incorporated to form a stable base, a minimum of six (6) inches in compacted thickness. The areas to be treated in cuts shall be excavated to a depth of three (3) inches below subgrade, a layer of suitable material between three (3) and six (6) inches loose measure shall be spread over the roadway area. The added material shall be thoroughly mixed to a depth of six (6) inches by scarifying or by other methods approved by the Engineer. This operation shall continue until the soil is thoroughly mixed. If, in the opinion of the Engineer, soft, yielding or unsuitable material is encountered at subgrade level, it shall be removed to a depth of eighteen (18") inches or as directed by the Engineer and backfilled with suitable materials compacted in layers of six (6) inches.

The soil base shall then be shaped and compacted to the finished line and grade with a roller weighing a minimum of ten (10) tons. Shaping, filling and rolling shall continue until the soil base is thoroughly compacted to a depth of six (6) inches. When required, water shall be added to the soil mixture to obtain the optimum moisture content for compacting to the maximum density. The prepared finished soil base shall be kept free from ruts, depressions and properly drained. Upon completion of the soil base, the contractor shall request an inspection by the Engineer and shall not proceed with further roadway work until the inspection has been made and the work approved.

2) Dense Graded Aggregate Base Course:

a) Description:

Upon the stabilized soil base a dense graded aggregate base course shall be uniformly placed so that, after thorough rolling and compacting, a minimum depth of 6" for residential roads and a minimum depth of 8" for commercial roads are obtained.

b) Materials:

The base course blend shall consist of well graded crushed stone or recycled concrete aggregate (RCA). The base course blend shall have the following mechanical gradation:

ROADWAY CONSTRUCTION SPECIFICATIONS (Continued)

Screen Size	% Passing
1-1/2"	100%
1"	90-100%
1/2"	65-85%
3/8"	55-75%
#4	40-55%
#8	30-45%
#30	16-27%
#200	0-10%

The material shall also achieve a maximum dry density of not less than 145 pounds per cubic foot at optimum moisture content when tested in accordance with ASTM Designation D1557 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort, Latest.

c) Method of Construction:

The stabilized soil base shall be smooth parallel to and at the required depth below the dense graded base surface. The soil base shall not be in a muddy or frozen condition. The dense graded base material shall be deposited on the stabilized base by means of a dump truck spreader tail-gate or any other approved method of depositing.

The spreading of the material shall be by means of approved self-propelled spreader equipment. No segregation of large or fine particles will be allowed, and the material as spread shall be well graded. After the base course has been laid loose, it shall be thoroughly rolled with an approved roller weighing not less than ten tons. Rolling must begin at the sides and continue toward the center, and shall continue until there is no movement of the course ahead of the roller.

The base course shall be kept in a moist condition to allow compaction to maximum density. Six (6) percent moisture shall be a guide line for the optimum moisture content.

In lieu of the above method of finishing rolling, the contractor may, at his option, use a vibratory method as follows: After the material is spread evenly, so that it will have the required thickness after compaction, the entire area shall be compacted by an approved vibratory compactor. Vibration shall continue until the material is keyed sufficiently to permit rolling with an approved roller without displacement of the material. For breakdown rolling, a pneumatic roller must be used.

ROADWAY CONSTRUCTION SPECIFICATION (Continued)

Care shall be exercised to see that the voids in the base course are completely filled, but the operation of vibratory compaction shall not be such as to cause floating of the coarse aggregate.

The entire area shall then be rolled with an approved roller weighing not less than ten tons. Rolling shall begin at the sides and continue toward the center, and shall continue until there is no movement of the course ahead of the roller.

d) Testing:

The thickness of the base course shall be determined by the method directed by the Engineer, and a sieve analysis shall be performed as directed by the Engineer.

Upon completion of the aggregate base course the contractor shall request an inspection by the Engineer and shall not proceed with further roadway work until such inspection has been made and the work approved.

3. Asphalt Binder Course

The asphalt binder course shall meet the requirements of the New York State Department of Transportation Standard Specification Section 403 – Hot Mix Asphalt (HMA) Pavements for Municipalities – Type 3 Binder Course and shall be a minimum thickness of 2-1/2 inches.

4. Asphalt Top Wearing Course

The asphalt top course shall meet the requirements of the New York State Department of Transportation Standard Specification Section 403 – Hot Mix Asphalt (HMA) Pavements for Municipalities – Type 6 Top Course and shall be a minimum thickness of 1-1/2 inches.

G. TESTING OF PAVEMENT MATERIALS

The following tests shall be performed by a reliable testing laboratory, approval of the laboratory and additional test required shall be approved by the Town Engineer, at the developer's expense.

1) Dense Graded Aggregate Base Course:

The base course material shall be subject to laboratory test for particle size analysis for conformance with specifications.

2) Asphaltic Concrete Paving:

One (1) core from the finished pavement will be taken for each 1,000 feet of road, or if the road is less than 1,000 feet, one (1) core per road. There shall be a minimum of two (2) cores per project.

H. MATERIALS OF CONSTRUCTION

1) Portland Cement Concrete

a) Proportioning:

Concrete shall consist of one (1) part Portland cement, two (2) parts of clean washed sand and four (4) parts of ¾-inch broken stone or cleaned washed gravel.

b) Strength:

All concrete shall have a minimum compressive strength of 3500 psi when tested 28 days after pouring.

c) Temperature:

Concrete shall be poured at a minimum temperature of forty (40) degrees Fahrenheit and rising.

d) Curing:

Concrete shall be maintained in a moist condition for at least five (5) days after placement.

e) Rejection:

All concrete shall be deposited with a maximum slump of 4 inches. Any concrete not acceptable to the Town Engineer shall be rejected and immediately removed from the job site.

2) Reinforcing Steel

a) Material:

All reinforcing steel shall conform to the American Society of Testing Materials ASTM A615 specification for deformed and plain billet steel bars for concrete reinforcement.

b) Placing:

Reinforcement shall be accurately placed in accordance with the approved plan and shall be held securely in place during the pouring of concrete.

MATERIALS OF CONSTRUCTION (Continued)

3) Piping

a) Smooth Wall Plastic Pipe:

Unless otherwise specified, all drainage piping shall be smooth wall corrugated plastic in accordance with the requirements of the New York State Department of Transportation Standard Specification Section 706-12 – Smooth Interior Corrugated Polyethylene Pipe.

1. Pipe and fittings shall meet the requirements of A.A.S.H.T.O. M294 for Type S and Type SP.
2. The smoothness of the interior liner shall not deviate more than ¼" per foot when checked with a straight edge.

b) Reinforced Concrete Pipe:

Under certain conditions, reinforced concrete pipe may be used. It shall be installed in accordance with the requirements of the New York State Department of Transportation Standard Specification Section 706-02 – Reinforced Concrete Pipe. Design considerations shall be approved by the Town Engineer prior to installation.

1. Pipe shall meet the requirements of A.A.S.H.T.O. M 170M.
2. Elastomeric gaskets shall be used at pipe joints.

I. FENCING - 6' HIGH CHAIN LINK FENCE AND GATES

1) Description

The Contractor shall furnish and erect chain link fencing including posts, fittings and gates, of the type and size indicated in the plans and specifications and in locations shown on the plans and/or as directed by the Engineer.

2) Materials and Methods

a) FABRIC

Fence Fabric shall conform to the specifications for "Zinc-Coated Steel Chain Link Fence Fabric", ASTM Designation: A-392 as currently revised or herein modified. Galvanizing shall be done by the hot dip process and only after weaving. The fabric shall be woven to a height of 6 feet as indicated on the drawings with 2 " diamond mesh of 9 gauge wire with diameter of 0.148 inch and breakload strength of 1290 lb.

b) STEEL FENCE FRAMING

Steel Pipe: ASTM F 1083, standard weight schedule 40; minimum yield strength of 25,000 psi (170Mpa), sizes as indicated. Hot-dipped galvanized with minimum average of 1.8 oz/ft^2 (550 g/m^2) of coated steel surface area.

c) CORNER AND END POSTS

Corner and End Posts shall be hot dipped galvanized 3" (2.875"o.d.) standard weight, weighing 5.70 lbs/ft. All terminal posts shall be set 42" into 12" diameter concrete footings set with a 2" slope to shed water and shall be completed with all necessary fittings including 1-5/8"o.d. pipe braces, according to specifications outlined in the top rail section. Each brace shall be securely held in compression by a 3/8" diameter galvanized truss rod and turnbuckle assembly, using two braces and truss assemblies for each corner post, one in each direction. All end connections to have bevel edged brace bands with galvanized rail end cups, 3/16" x 3/4" galvanized tension bars, and bevel edged tension bands spaced approximately 14" on center. All bolts to be galvanized 5/16"x1-1/4" carriage bolts with hex nuts.

FENCING - 6' HIGH CHAIN LINK FENCE AND GATES (Continued)

d) GATE POSTS

Gate posts: Steel pipe ASTM F 1083 standard weight schedule 40; minimum yield strength of 25,000 psi. Size as indicated. Hot-dipped galvanized with a minimum 1.8 oz/ft^2 (550 kg/m^2) of coated steel surface area.

Gate Leaf Single Width	Post Size (Round)	Weight
6 feet	4.00 inches	9.11 lb/ft
15 feet	6.625 inches	18.97 lb/ft

e) LINE POSTS

Line Posts shall be hot dipped galvanized 2-1/2" (2.375"o.d.) and shall be 2'-9" longer than the width of the fabric. Line posts shall be standard weight, weighing 3.65 lbs/ft. All line posts shall be set 36" into 10" diameter concrete footings crowned with a 2" slope to shed water. All posts to be completed with line post caps using 6 gauge (.192") aluminum ties to attach chain link fabric to posts with ties on approximately 14" centers. All posts to be spaced as ordered by the Engineer but not further than 10' apart.

f) TOP AND BOTTOM RAILS

Top and Bottom Rails shall be hot-dipped galvanized pipe 1-5/8" (1.660"o.d.) to be fumished in random lengths not less than 20 feet for top rail, joined with galvanized steel rail couplings for a rigid connection but allowing for expansion and contraction. Rail shall be standard weight, weighing 2.27 lbs/ft. Fabric to be tied to the rail and braces with 6 gauge (.192") aluminum ties with maximum spacings of 24". Middle and bottom rails shall be attached to posts as approved by the Engineer with galvanized steel couplings bolted through rail.

3) CHAIN LINK FENCE ACCESSORIES

Accessories shall meet the requirements of ASTM F 626. Provide all items required to complete fence system. Galvanize each ferrous metal item in accordance with ASTM A 153 and finish to match framing.

a) Post caps: Formed steel, weathertight closure cap for tubular posts. Provide one cap for each post.

FENCING - 6' HIGH CHAIN LINK FENCE AND GATES (Continued)

b) Wire ties: 9 gauge (0.148") galvanized steel wire for attachment of fabric to line posts. Hog ring ties of 12-1/2 gauge (0.0985") for attachment of fabric to tension wire. Double wrap 13 gauge (0.092") for braces.

c) Brace and tension (stretcher bar) bands: Pressed steel.

d) Tension (stretcher) bars: One piece lengths equal to 2 inches less than full height of fabric with a minimum cross-section of 3/16"x 3/4" or equivalent fiber glass rod. Provide tension (stretcher) bars where chain link fabric meets terminal posts.

e) Truss rods: Steel rods with minimum diameter of 5/16"

f) Concrete: Minimum 28-day compressive strength of 3000 psi.

4) CHAIN LINK SWING GATES

a) Gate frames: Fabricate chain link swing gates in accordance with ASTM F 900 using galvanized steel members, 2" square, weighing 2.60 lb/ft. Fusion or stainless steel welded connections forming rigid one-piece unit.

b) Chain link fence fabric: Mesh and gauge to match fence. Install fabric with hook bolts and tension bars at all 4 sides. Attach to gate frame at not more than 15" on center.

c) Hardware material: Hot dipped galvanized steel or malleable iron shapes to suit gate size.

d) Hinges: Structurally capable of supporting gate leaf and allow opening and closing without binding. Non-lift-off hinge design shall permit gate to swing 180° inward.

e) Latch: Forked type capable of retaining gate in closed position and have provision for padlock. Latch shall permit operation from either side of gate.

f) Keeper: Provide keeper for each gate leaf over 5' wide. Gate keeper shall consist of mechanical device for securing free end of gate when in full open position.

g) Double gates: Provide drop rod to hold inactive leaf. Provide gate stop pipe to engage center drop rod. Provide locking device and

FENCING - 6' HIGH CHAIN LINK FENCE AND GATES (Continued)

padlock eyes as an integral part of the latch, requiring one padlock for locking both gate leaves.

h) Gate posts: Steel pipe ASTM F 1083 standard weight schedule 40; minimum yield strength of 25,000 psi. Size as indicated. Hot-dipped galvanized with a minimum 1.8 oz/ft^2 (550 kg/m^2) of coated steel surface area.

Gate Leaf Single Width	Post Size (Round)	Weight
6 feet	4.00 inches	9.11 lb/ft
15 feet	6.625 inches	18.97 lb/ft

i) Concrete: Minimum 28-day compressive strength of 3,000 psi

7) SUBMITTALS

Submit manufacturer's shop drawings and data for all fencing material to the Engineer for approval prior to ordering.

8) CONSTRUCTION DETAILS

The Contractor shall verify areas to receive fencing are completed to final grades and elevations prior to installation. The Contractor shall ensure property lines and legal boundaries of work are clearly established. The Owner will provide horizontal control for the Contractor's use to establish property line.

9) CHAIN LINK FENCE FRAMING INSTALLATION

a) Install chain link fence in accordance with ASTM F 567 and manufacturer's instructions.

b) Locate terminal post at each fence termination and change in horizontal or vertical direction of 30° or more.

c) Space line posts uniformly at 10' on center.

d) Concrete set terminal, line and gate posts: Auger holes in firm, undisturbed or compacted soil. Holes shall have diameter 4 times greater than outside dimension of post, and depths approximately 6" deeper than post bottom. Excavate deeper as required for adequate support in soft and loose soils. Set post bottom 36" below

FENCING - 6' HIGH CHAIN LINK FENCE AND GATES (Continued)

surface when in firm, undisturbed soil. Place concrete around posts in a continuous pour. Trowel finish around post. Slope to direct water away from posts.

e) Check each post for vertical and top alignment, and maintain in position during placement and finishing operations.

f) Bracing: Install horizontal pipe brace at mid-height, on each side of terminal posts. Firmly attach with fittings. Install diagonal truss rods at these points. Adjust truss rod, ensuring posts remain plumb.

10) CHAIN LINK FABRIC INSTALLATION

a) Fabric: Install fabric on security side and attach so that fabric remains in tension after pulling force is released. Leave approximately 2" between finish grade and bottom selvage. Attach fabric with wire ties to line posts at 15" on center and to braces and rails at 24" on center.

b) Tension (stretcher bars): Pull fabric taut; thread tension bar through fabric and attach to terminal posts with bands or clips spaced maximum of 15" on center.

11) GATE INSTALLATION

a) Install gates plumb level, and secure for full opening without interference.

b) Attach hardware by means that will prevent unauthorized removal.

c) Adjust hardware for smooth operation.

d) Set keeper, stops, and sleeves into concrete.

12) ACCESSORIES

a) Tie wires: Bend end of wire to minimize hazard to persons and clothing.

b) Fasteners: Install nuts on side of fence opposite fabric side for added security.

J. ROAD OPENING STANDARDS

1) Introduction

All work performed in the Town of Southampton Highway Right-of-Way shall adhere to the standards specified herein. There shall be no deviation from the approved Road Opening Permit and these Standards without the written approval of the Superintendent of Highways. The Applicant shall notify the Superintendent of Highways in writing no later than 5 working days prior to commencement of work. Absolutely no work shall be performed without written notification and 24 hours confirmation. The Applicant shall submit Emergency Phone Numbers where they can be contacted 24 hours a day in the event of any emergency.

2) Pre-construction Meeting

After review of Road Opening Permit Application and proposed scope of work, the Superintendent of Highways will determine if the project warrants a Pre-construction meeting. If a Pre-construction Meeting is required, the Applicant shall submit detailed plans for the project to the Superintendent of Highways. After review of the plans the Applicant will be notified of the time and date for the on-site Pre-construction meeting. Trenching, backfilling, right-of-way restoration, maintenance and protection of traffic and other relevant issues will be discussed. At the meeting the Applicant will be issued a *Road Opening Special Exception Listing* detailing the Applicant's restoration responsibilities.

3) Trenching and Backfill

a) Description

The work consists of excavating, backfilling and compacting trench excavation necessary to install underground pipe, duct, cable, etc. Trenching and backfilling shall also include those excavations necessary to set manholes, splice and pull vaults, bore pits, and other miscellaneous excavations required throughout the performance of the work.

b) Trench excavation

1) The Applicant shall comply with all current and applicable Occupational Safety and Health Administration (OSHA), federal, state and local rules and regulations governing the safety of workmen and the general public during excavation, installation, and backfilling operations.

ROAD OPENING STANDARDS (Continued)

2) The Applicant shall be solely responsible for locating and identifying all existing utilities or structures within the right-of-way. This shall be done prior to the performance of the work. All information relative to the above shall be recorded and incorporated into the records in a manner accepted by the Superintendent of Highways.

3) Trench width and depth shall be as indicated on the approved project plans and details. The minimum width for all trenches shall be two (2) feet. Requested deviation from the location indicated on the approved drawings shall be subject to the acceptance of the Superintendent of Highways. Trench excavation shall be accomplished by hand digging, mechanical trencher or backhoe at the discretion of the Applicant.

4) Trenching shall be excavated in a straight line as practical between structures. The trench line shall not meander.

5) Damage to adjacent works or property caused by surface runoff or dewatering, and as a result of construction operations, shall be the Applicant's responsibility and shall be corrected and restored immediately by the Applicant.

c) Backfill and Compaction

1) Backfilling and compaction shall begin as soon as the corresponding trenching work is complete. All excavation shall be backfilled at the end of each working day unless otherwise approved by the Superintendent of Highways or his authorized representative. Backfill shall be compacted and shaped to the original contour and drainage.

2) Backfill material shall be placed and thoroughly compacted in 6-inch lifts. Moisture content shall be adjusted as required to obtain the specified density with the compaction equipment used.

3) Each lift shall be mechanically compacted using a vibratory plate compactor or other equipment subject to the approval of the Superintendent of Highways.

ROAD OPENING STANDARDS (Continued)

4) Backfill shall be compacted to a minimum 95 percent of maximum density within 5 percent of optimum moisture content in accordance with ASTM D698.

5) All trenches that have not acceptably backfilled and compacted, or which settle after backfilling, shall be reopened to the depth of satisfactory compaction and refilled and recompacted as specified to the satisfaction of the Superintendent of Highways.

6) Trenches that require temporary asphalt patch shall be backfilled with N.Y.S.D.O.T. Asphalt Concrete Type 3 Dense Binder to a minimum compacted thickness of 4 inches. No cold patch will be permitted.

4) Right-Of-Way Restoration

a) Description

This section covers the work associated with the restoration of asphalt pavement, concrete sidewalk, concrete driveways, concrete curbs, shoulder areas, or the restoration of any areas disturbed during trenching operations.

b) Concrete Sidewalk, Driveway and Curb Restoration

1) When a trench is located parallel to a length of concrete sidewalk or curb and the limits of the trench are under or near enough to undermine the sidewalk or curb, the entire sidewalk or curb shall be removed.

2) When construction requires the removal and replacement of sidewalk or curb, removal shall extend to the nearest joint. Cutting of sidewalk or curb between joints will not be permitted.

3) Concrete sidewalk and curb replacement shall be in accordance with the Town of Southampton Sidewalk Contract specifications. Concrete sidewalks, driveways and aprons shall be replaced to the original lines and grades and match adjacent existing sections. In general, concrete sidewalks shall be a minimum of 4 inches thick with welded wire fabric reinforcement. Handicapped sidewalk ramps shall be constructed at all intersections and at locations designa-

ROAD OPENING STANDARDS (Continued)

ted by the Superintendent of Highways. Concrete driveways and aprons shall be a minimum of 6 inches thick with welded wire reinforcement. Concrete curbs shall be replaced in kind to the original lines and grades. All concrete shall have a minimum compressive strength of 3,500 psi at 28 days.

C) Asphalt Pavement Restoration

1) The existing asphalt pavement adjacent to the trench area shall be saw cut full depth prior to restoration. Cut edges of the asphalt pavement shall be thoroughly cleaned and a tack coat shall be uniformly applied to the cut edges prior to paving.

2) The Applicant shall backfill and compact the trench to an elevation 10 inches below the finished pavement grade.

3) The Applicant shall then place and compact 6 inches of stabilized soil aggregate subbase course in the trench. The stabilized soil aggregate subbase material shall meet the material requirements for the Town of Southampton Specification for Subbase Course.

4) The stabilized soil aggregate subbase material shall be compacted using a vibratory plate compactor or other equipment subject to the approval of the Superintendent of Highways.

5) The stabilizes soil aggregate subbase material shall be compacted to a minimum 95 percent of maximum density within 5 percent of optimum moisture content in accordance with ASTM D698.

6) The Applicant shall then place and compact a 2-1/2 inch lift of Asphalt Concrete Type 3 Dense Binder Course over the compacted stabilized soil aggregate subbase course.

7) After completing the placement and compaction of the Dense Binder Course, the Applicant shall place and compact a 1-1/2 inch lift of Asphalt Concrete Type 6 Top Course.

8) Joint sealant shall be applied on the pavement surface where new pavement meets existing pavement.

ROAD OPENING STANDARDS (Continued)

9) All pavement markings shall be replaced in kind.

10) During the site investigation at the Pre-construction meeting, the Superintendent of Highways may direct the Applicant to perform additional asphalt pavement restoration operations such as truing and leveling, key cuts/v-notch, crack filling, tack coat, and/or other operations in order to restore the asphalt pavement to a first class manner to the satisfaction of the Superintendent of Highways.

D) Shoulder Restoration

1) Shoulder area disturbed by construction shall be restored within 2 weeks of construction completion. This includes, but is not limited to:

a) Removal of excess excavation spoils from the construction area.

b) Removal of trash and construction debris.

c) Filling, repairing, and stabilizing ground surfaces disturbed by construction.

d) Regrading, hand raking, or manipulating finished ground surface to the level of smoothness necessary for topsoil and seeding.

e) Topsoil and Seeding.

f) Treating, repairing, or replacing tress and shrubs damaged by construction activities.

2) All earth surfaces disturbed by the Applicant's construction activities shall be revegetated by topsoil and seeding.

3) The Applicant shall furnish, spread, and grade 4 inches of topsoil over the disturbed areas. Natural grades shall be re-established to the extent practical. Care shall be taken so as not to disturb natural surface drainage pattems.

4) The topsoil area shall be fertilized and seeded as specified to establish a satisfactory stand of grass acceptable to the Superintendent of Highways. Seeding operations shall take

ROAD OPENING STANDARDS (Continued)

place only during seasons when satisfactory results can be expected. The Applicant may be required to retum after completion of construction to meet seasonal limits.

5) If in the opinion of the Superintendent of Highways an acceptable stand of grass has not been established, the Applicant will be directed to retum to reseed the area as many times as necessary in order to establish an acceptable stand of grass.

5) Maintenance of Traffic

a) The Applicant shall conduct the work to interfere as little as possible with public travel, whether vehicular or pedestrian. Whenever it is necessary to cross, obstruct, or close roads, driveways, or walks, whether public or private, the Applicant shall provide and maintain suitable and safe passages, detours, or other temporary expedients for the accommodation of public and private travel, and shall give reasonable notice to owners of private drives before interfering with them.

b) In making open-cut street crossings, the Contractor shall not block more than of the street at a time. When required by the Superintendent of Highways, the Applicant shall widen the shoulder on the opposite side to facilitate traffic flow. Temporary asphalt surfacing shall be provided as necessary on shoulders as directed by the Superintendent of Highways.

c) Materials stored upon or alongside public streets shall be so placed, and the work at all times shall be conducted, as to cause minimum obstruction and inconvenience to the traveling public.

d) At times it will be necessary to divert vehicular or pedestrian traffic around construction areas, the Applicant shall fumish all signs, barricades, cones, drums, waming lights, flag persons, or other devices required in the New York State Manual of Uniform Traffic Control Devices (MUTCD), 2001 edition or as required by the Superintendent of Highways.

6) Barricades and Lights

a) All roads, which are closed to traffic, shall be protected by effective barricades on which shall be placed acceptable waming signs. Barricades shall be located at the nearest intersecting road on each

ROAD OPENING STANDARDS (Continued)

side of the blocked section in accordance with the guidelines of the New York State Manual of Uniform Traffic Control Devices (MUTCD), 2001 edition.

b) All open trenches and other excavations shall be provided with suitable barriers, signs, and lights to the extent that adequate protection is provided to the public. Obstructions, such as material piles and equipment shall be provided with similar warning signs and lights.

c) All barricades and obstructions shall be illuminated by means of wanting lights from sunrise to sunset or in cases of low visibility.

7) Protection of Public and Private Property

a) The Applicant shall protect, shore, brace, support, and maintain all underground pipes, conduits, drains, and other underground construction uncovered or otherwise affected by the construction work. All pavement, surfacing, driveways, curbs, walks, buildings, utility poles, guy wires, fences, and other surface structures affected by construction together with all sod and shrubs, shall be restored to their original condition whether inside or outside of the right-of way. All replacements shall be made with new materials.

b) The Applicant shall be responsible for all damages to roads, shoulders, ditches, embankments, culverts, bridges, and other public or private property, regardless of location or character, which may be caused by transporting equipment, materials, or men to or from the work or any part or site thereof. The Applicant shall make satisfactory and acceptable arrangements with the Superintendent of Highways over the damaged property concerning its repair or replacement, or payment of costs incurred in connection with the damage.

c) All fire hydrants and water control valves shall be kept free from obstruction and available for use at all times.

d) Street signs, mailboxes, and other items which conflict with construction shall be removed, stored, and reinstalled in a condition comparable to the condition prior to removal.

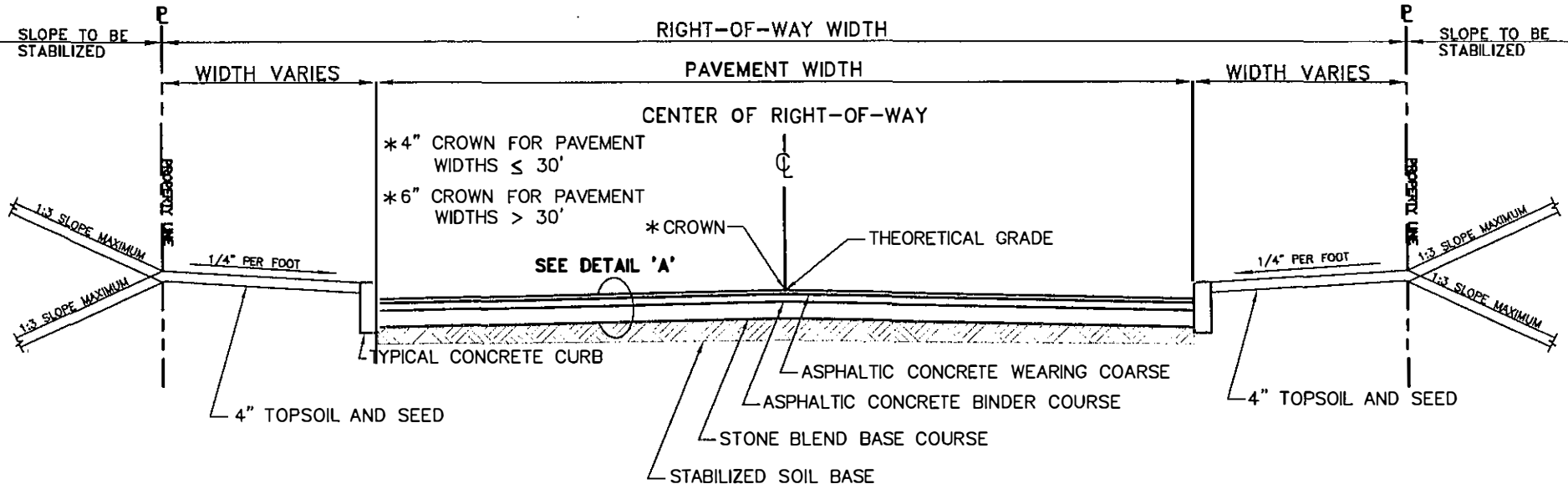
ROAD OPENING STANDARDS (Continued)

8. Emergency Protection

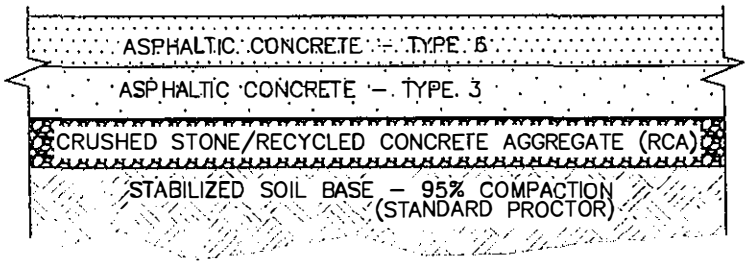
a) Whenever, in the opinion of the Superintendent of Highways, the Applicant has not taken sufficient precautions for the safety of the public or adjacent structures or property, and whenever in the opinion of the Superintendent of Highways, an emergency has arisen and immediate action is considered necessary, the Southampton Town Highway Department, with or without notice to the Applicant, may provide suitable protection by causing work to be done and materials to be fumished and placed. The cost of such work and materials shall be charged back to the Applicant. The performance of such emergency work shall not relieve the Applicant of responsibility for damage, which may occur.

TOWN OF SOUTHAMPTON HIGHWAY DEPARTMENT

WILLIAM H. MASTERSON – SUPERINTENDENT OF HIGHWAYS



DETAIL 'A'



PAVEMENT SECTION	RESIDENTIAL ROADS (MINIMUM THICKNESS)	COMMERCIAL ROADS (MINIMUM THICKNESS)
ASPHALTIC CONCRETE WEARING COARSE	1½"	1½"
ASPHALTIC CONCRETE BINDER COURSE	2½"	2½"
STONE BLEND BASE COURSE	6"	8"
STABILIZED SOIL BASE	6"	8"

NOTE: SEE TABLE 'A' – ROADWAY TABLE OF ADDITIONAL INFORMATION

TYPICAL ROAD SECTION

NOT TO SCALE

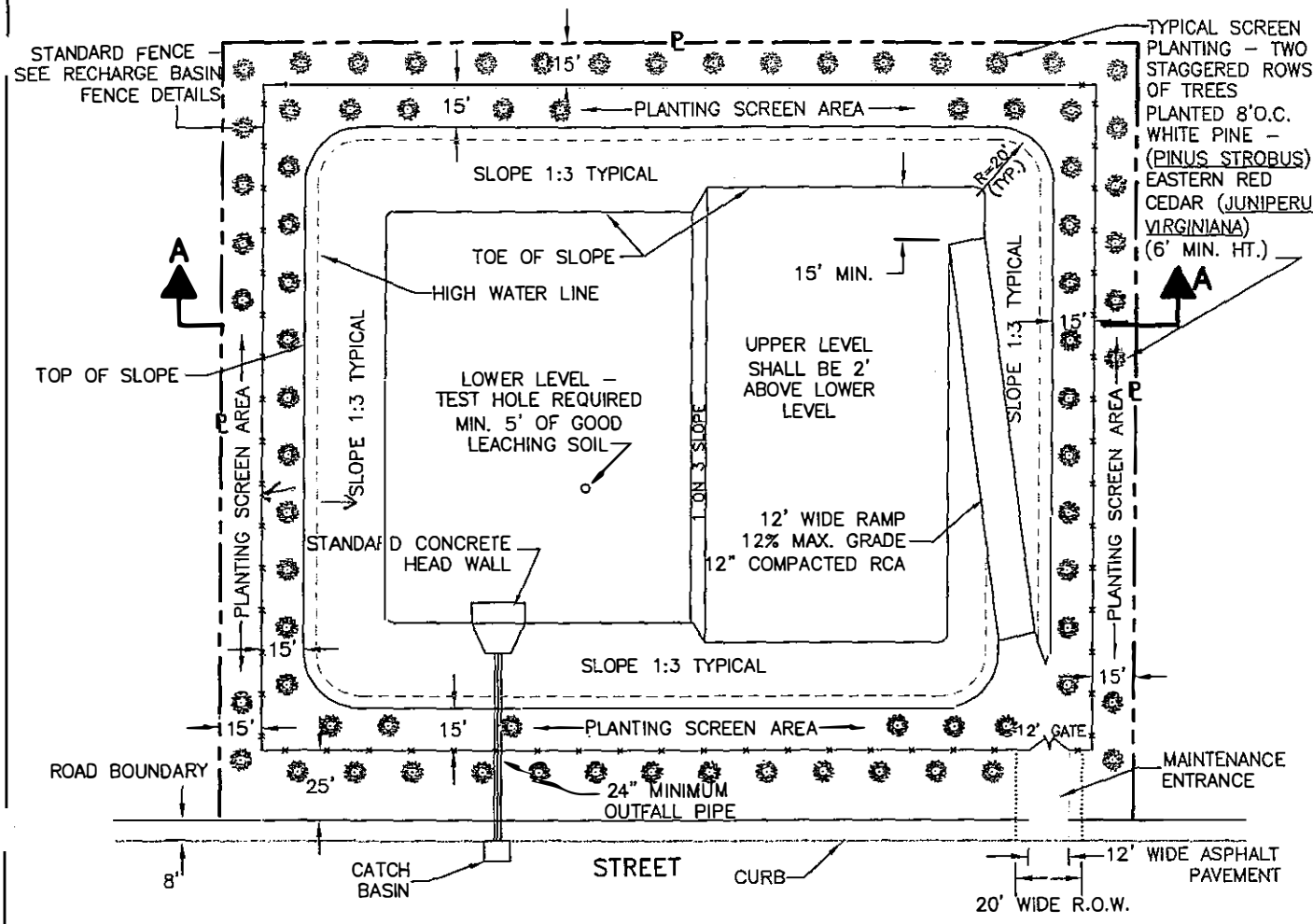
TOWN OF SOUTHAMPTON SUFFOLK COUNTY, NEW YORK	REVISED OCTOBER 2005	ROAD & DRAINAGE STANDARDS PREPARED BY L.K. McLEAN ASSOCIATES, P.C.	DRAWING 1/29

TABLE "A"

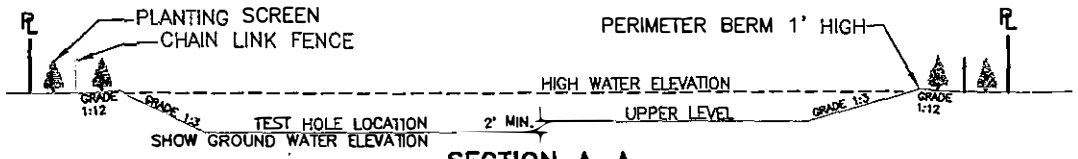
LOCATION OF ROAD BY ZONING DISTRICT	RIGHT-OF-WAY WIDTH	PAVEMENT WIDTH	CURB REQUIRED
R-10, R-15, R-20 & MULTI-FAMILY DISTRICTS			
HIGHWAYS	84-120 FEET	64 FEET	(b)
COLLECTOR STREET	70 FEET	40-50 FEET(a)	(b)
LOCAL STREET "A"	50-60 FEET	30-34 FEET	(b)
LOCAL STREET "B"	50 FEET	24-30 FEET	(b)
MARGINAL ROAD	50 FEET	30-34 FEET	(b)
COMMON DRIVEWAY	N/A	12-16 FEET	NO
OTHER RESIDENTIAL DISTRICTS			
HIGHWAYS	84-120 FEET	64 FEET	(b)
COLLECTOR STREET	70 FEET	40-50 FEET(a)	(b)
LOCAL STREET "A"	50-60 FEET	26-30 FEET	(b)
LOCAL STREET "B"	50 FEET	20-24 FEET	(b)
LANE	50 FEET	18 FEET	NO
MARGINAL ROAD	50 FEET	26-30 FEET	(b)
COMMON DRIVEWAY	N/A	12-16 FEET	NO
BUSINESS & INDUSTRIAL DISTRICTS			
HIGHWAYS	84-120 FEET	64 FEET	YES
COLLECTOR STREET	70 FEET	50 FEET	YES
LOCAL STREET "A"	60 FEET	34-40 FEET	(b)
LOCAL STREET "B"	-----	-----	---
MARGINAL ROAD	50 FEET	34-40 FEET	(b)
COMMON DRIVEWAY	N/A	24-34 FEET	(b)

(a) INCLUDES STABILIZED SHOULDERS

(b) AT THE DISCRETION OF THE PLANNING BOARD & SUPERINTENDENT OF HIGHWAYS

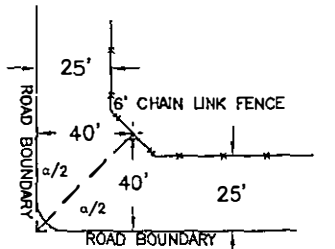


RECHARGE BASIN DETAIL
(NOT TO SCALE)

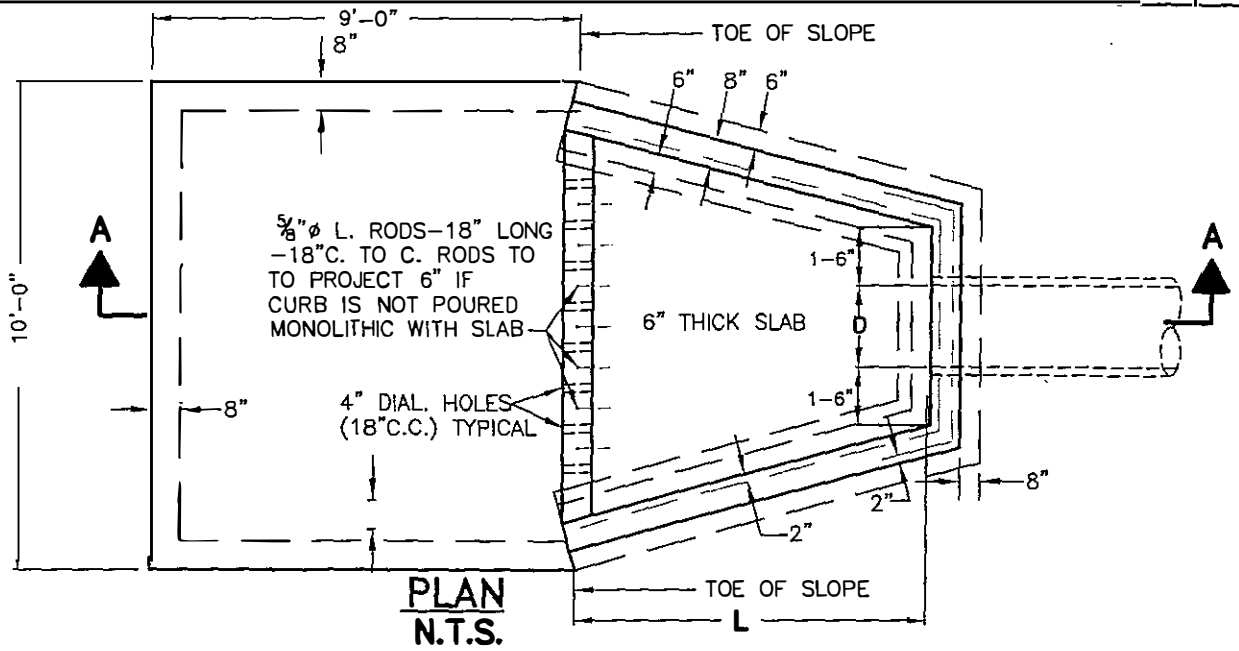


SECTION A–A
(NOT TO SCALE)

NOTES:
1. VEGETATION (TREES) SURROUNDING THE BASIN SITE SHALL BE KEPT IN NATURAL CONDITION.
2. TOPSOIL AND SEED FROM FENCE TO A LINE 4' DOWN FROM TOP OF SLOPE.
3. FENCING COMPLETE WITH GATE & LOCK SHALL BE CONSTRUCTED BEFORE STARTING EXCAVATION.
4. DIMENSIONS OF RECHARGE BASIN VARY IN ACCORDANCE WITH REQUIRED STORAGE CAPACITY & SHAPE OF PROPERTY.
5. DATA TO BE SHOWN SHALL INCLUDE LOWER LEVEL ELEVATION, HIGH WATER ELEVATION, AND ELEVATIONS ALONG SIDE SLOPES.



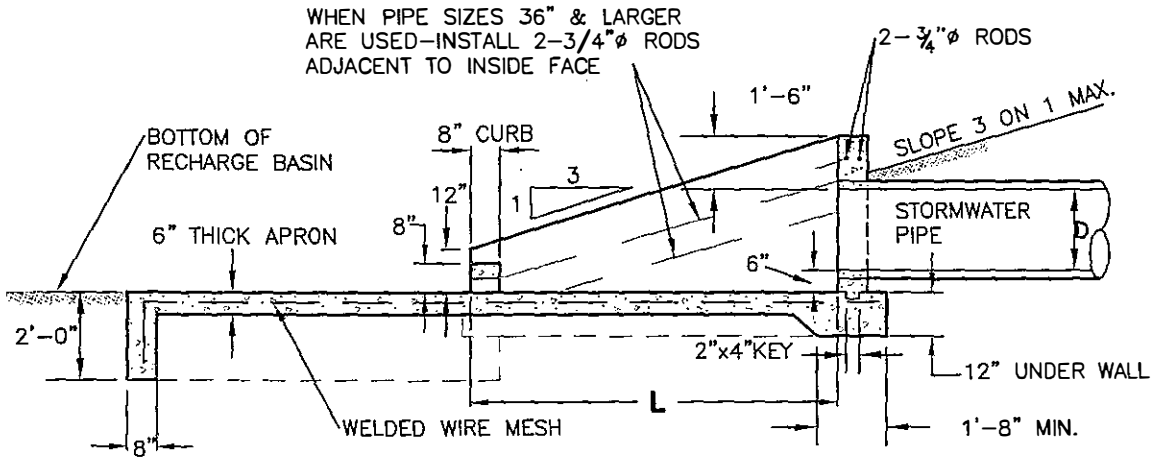
FENCE CORNER DETAIL AT STREET INTERSECTION
(NOT TO SCALE)



DIMENSIONS	
D	L
24"	9'-0"
30"	10'-6"
36"	12'-0"
42"	13'-6"

NOTE:

1. ALL CONCRETE TO BE 1,000 P.S.I. 28 DAY STRENGTH.
2. LENGTH "L" VARIES WITH PIPE DIAMETER.



SECTION A-A

HEADWALL DETAILS FOR RECHARGE BASINS

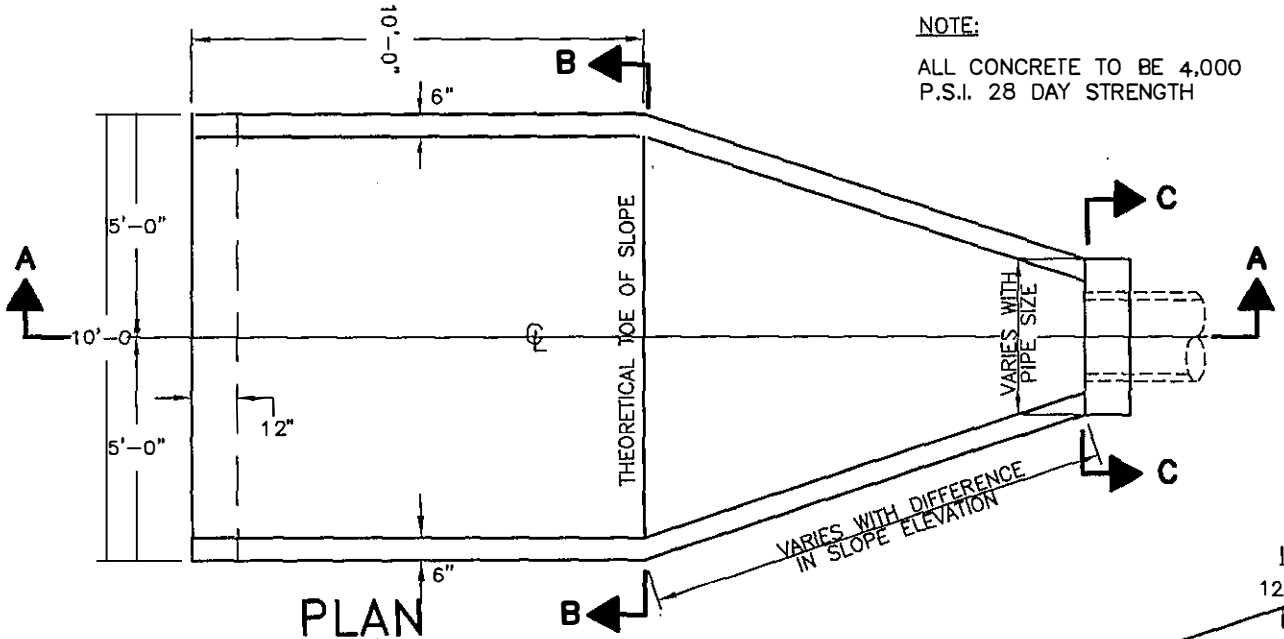
(NOT TO SCALE)

TOWN OF SOUTHAMPTON HIGHWAY DEPARTMENT

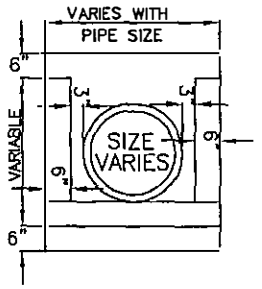
WILLIAM H. MASTERSON – SUPERINTENDENT OF HIGHWAYS

NOTE:

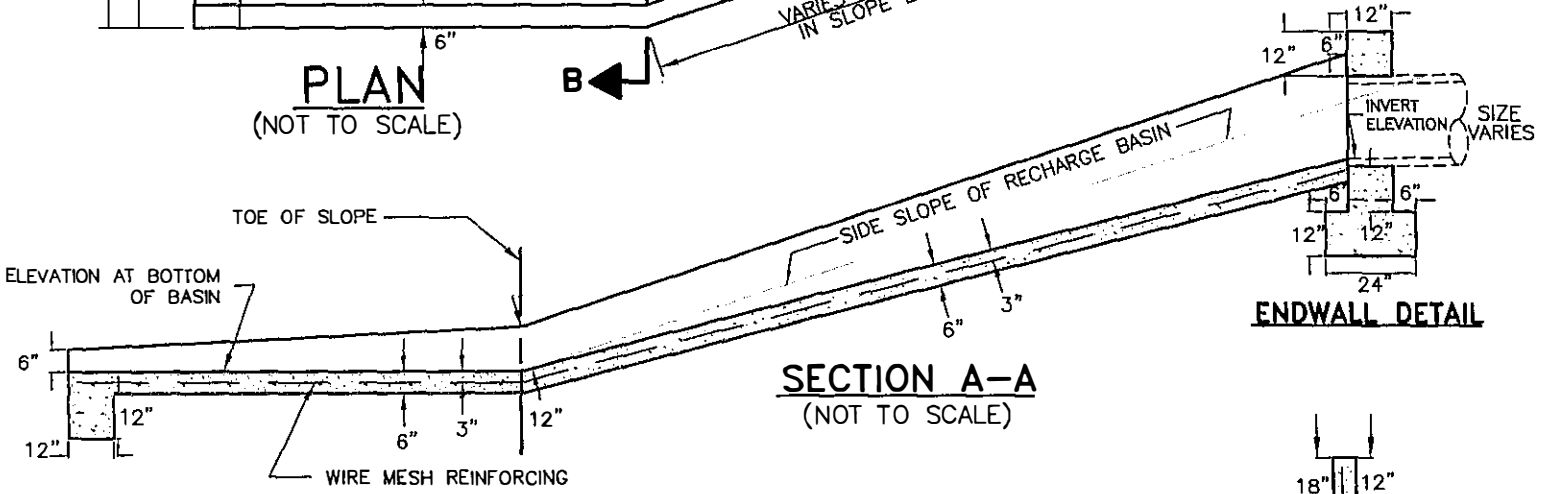
ALL CONCRETE TO BE 4,000 P.S.I. 28 DAY STRENGTH



PLAN
(NOT TO SCALE)

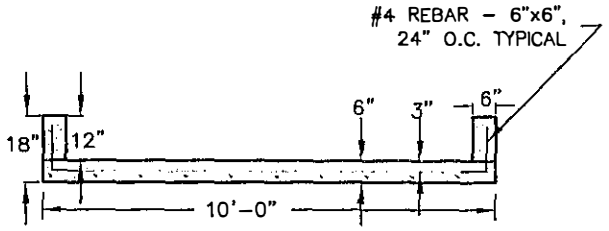


SECTION C–C
(NOT TO SCALE)



SECTION A–A
(NOT TO SCALE)

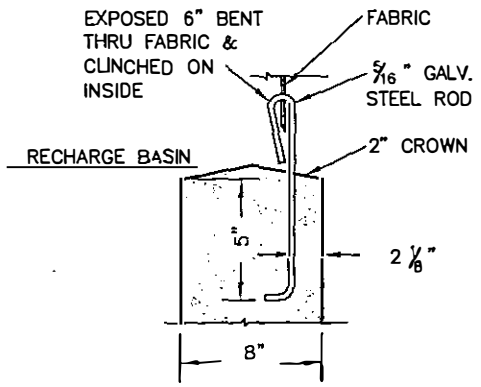
ENDWALL DETAIL



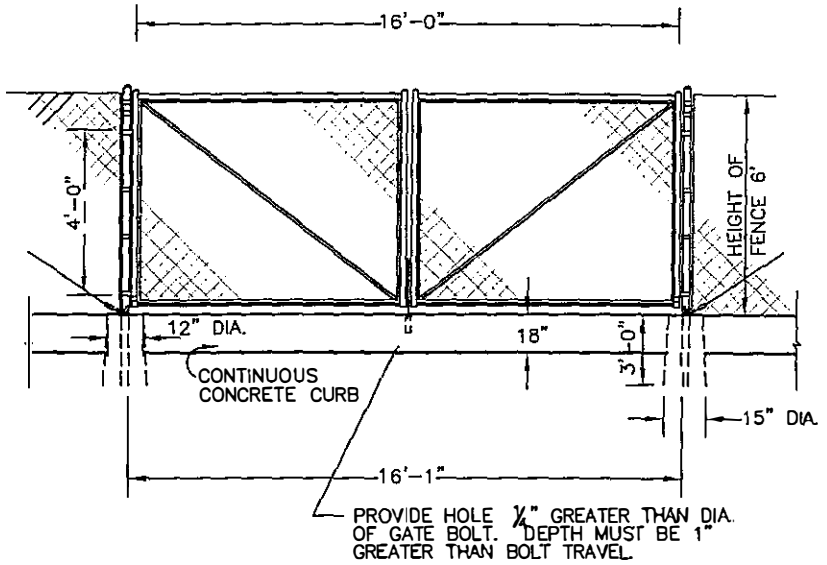
SECTION B–B
(NOT TO SCALE)

SPILLWAY DETAIL FOR RECHARGE BASINS
(NOT TO SCALE)

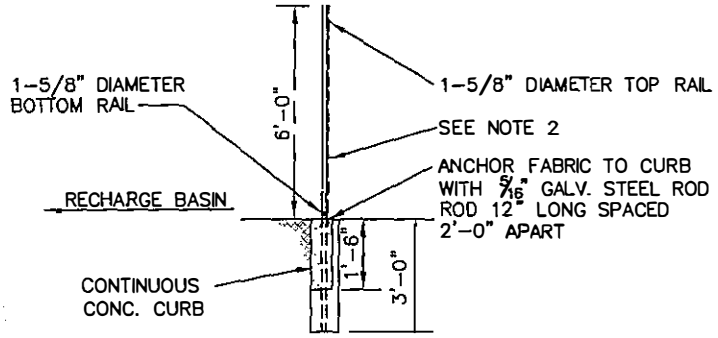
TOWN OF SOUTHAMPTON SUFFOLK COUNTY, NEW YORK	REVISED OCTOBER 2005	ROAD & DRAINAGE STANDARDS PREPARED BY L.K. McLEAN ASSOCIATES, P.C.	DRAWING 5/29



ANCHOR DETAIL



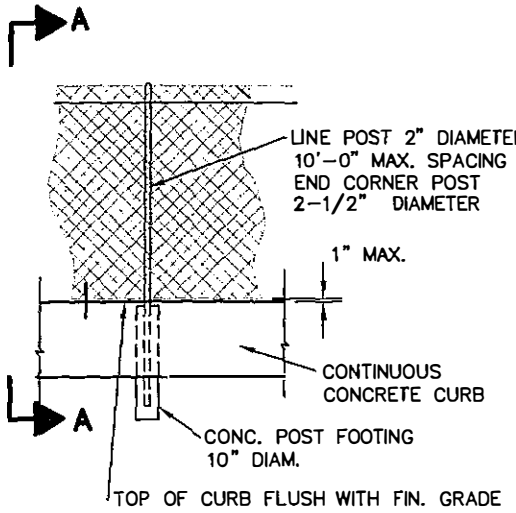
FENCE AND GATE DETAILS



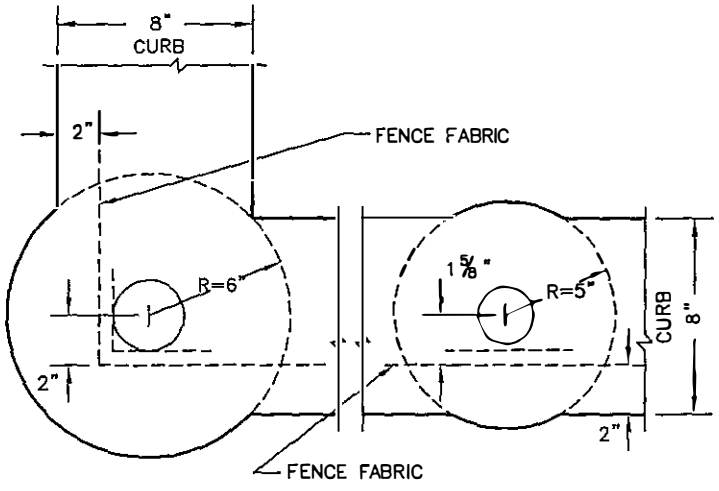
SECTION A-A

NOTES:

1. CONCRETE FOR CURB AND POST FOUNDATIONS SHALL HAVE A 3,500 P.S.I., 28 DAY COMPRESSIVE STRENGTH.
2. WHERE "NO CURB" IS SPECIFIED PRDVIDE COIL SPRING WIRE 6" ABOVE BOTTOM OF WIRE.



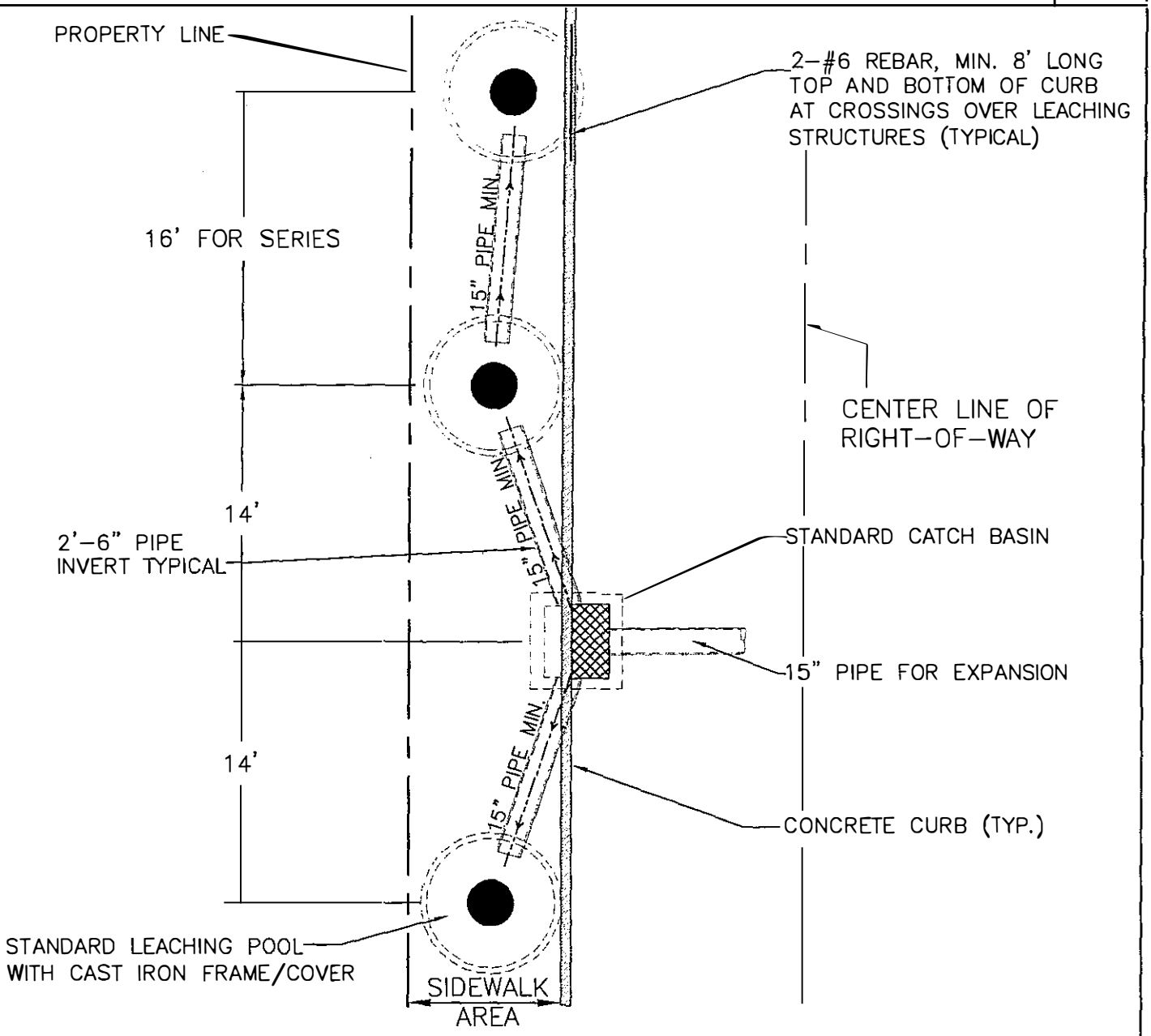
ELEVATION



CORNER/GATE POST & LINE POST LAYOUT

RECHARGE BASIN FENCE DETAILS

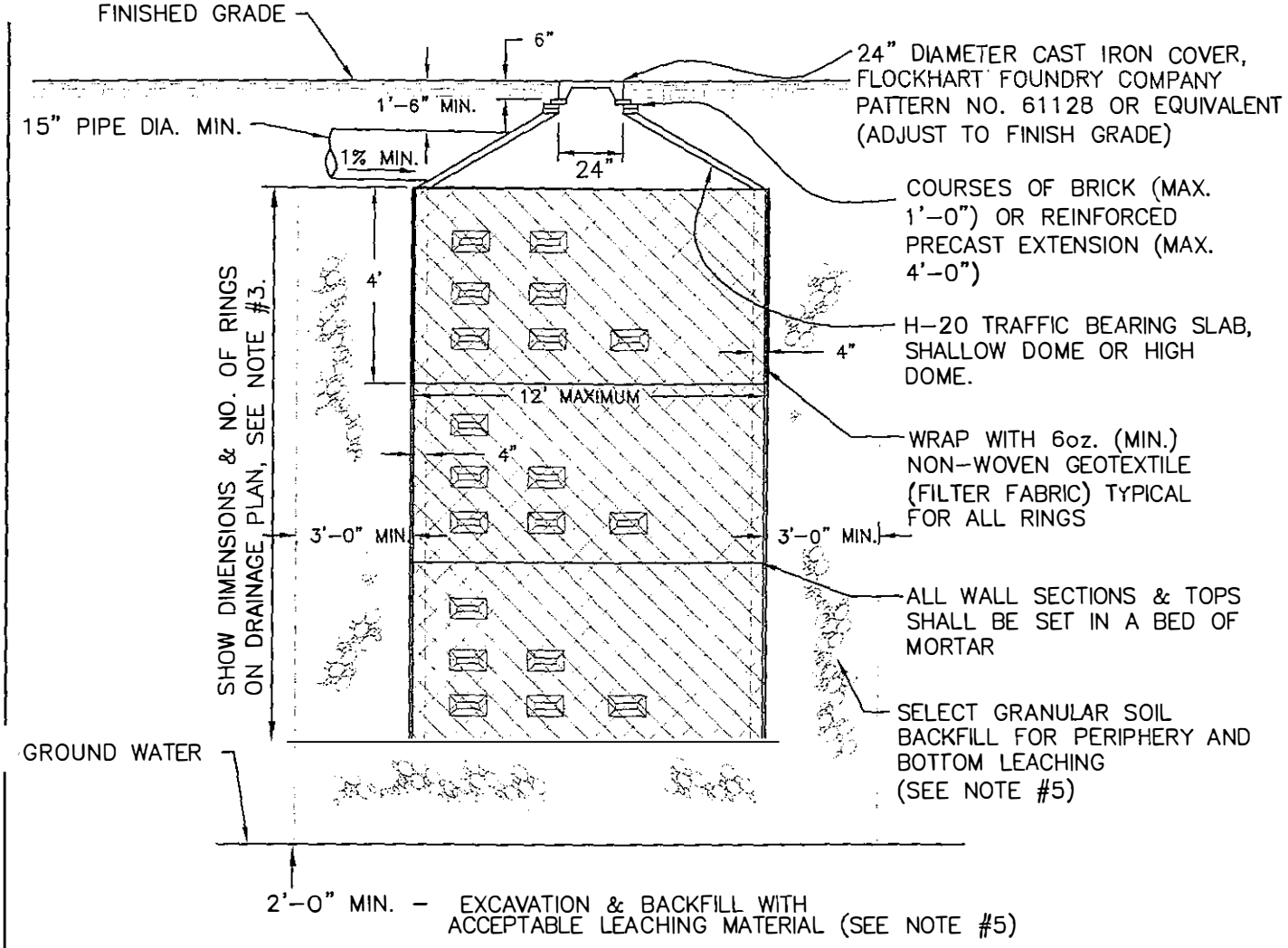
(NOT TO SCALE)



TYPICAL LEACHING BASIN PLAN

(NOT TO SCALE)

NOTE:
1. FOR SECTION, SEE TYPICAL LEACHING POOL DETAIL.
2. PIPE MAY EXIT FROM ANY SIDE.
3. BACK FILL SHALL BE COMPACTED IN 6" LIFTS.
4. THE PERIPHERAL JOINT BETWEEN PIPE AND LEACHING POOL SHALL BE GROUTED WITH A MIXTURE OF 1 PART CEMENT MORTAR & 2 PARTS SAND. WHERE THE OPENING IS TOO LARGE, AGGREGATE OR BRICK SHALL BE USED.
5. WHERE DEPTH IS LIMITED BY GROUND WATER, THE EQUIVALENT CAPACITY SHALL BE ACHIEVED BY ADDITIONAL LEACHING BASINS CONNECTED IN SERIES.



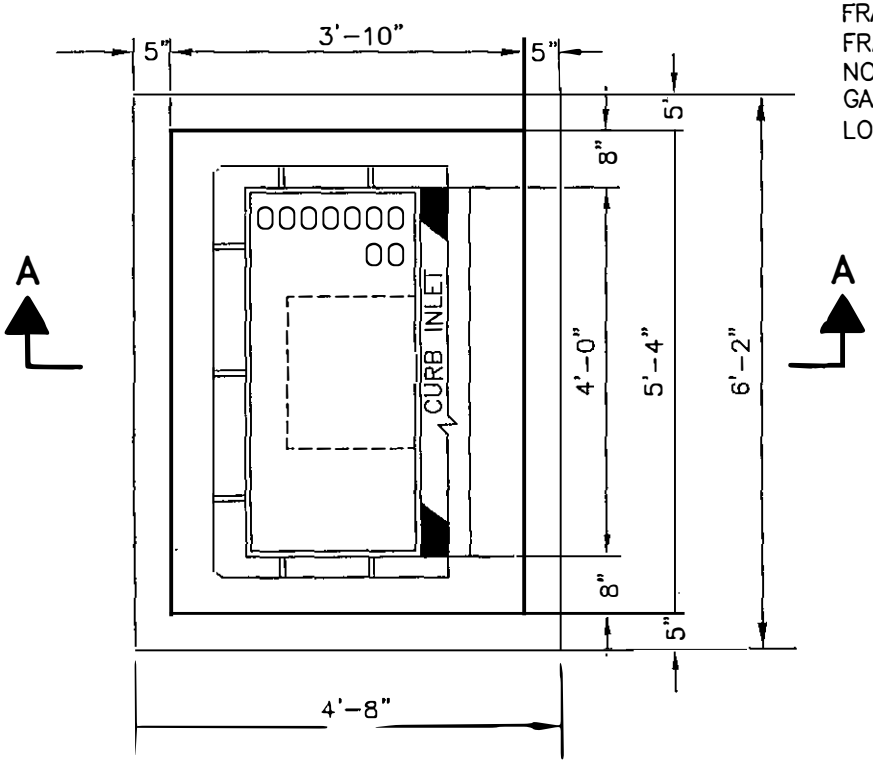
TYPICAL LEACHING POOL DETAIL

(NOT TO SCALE)

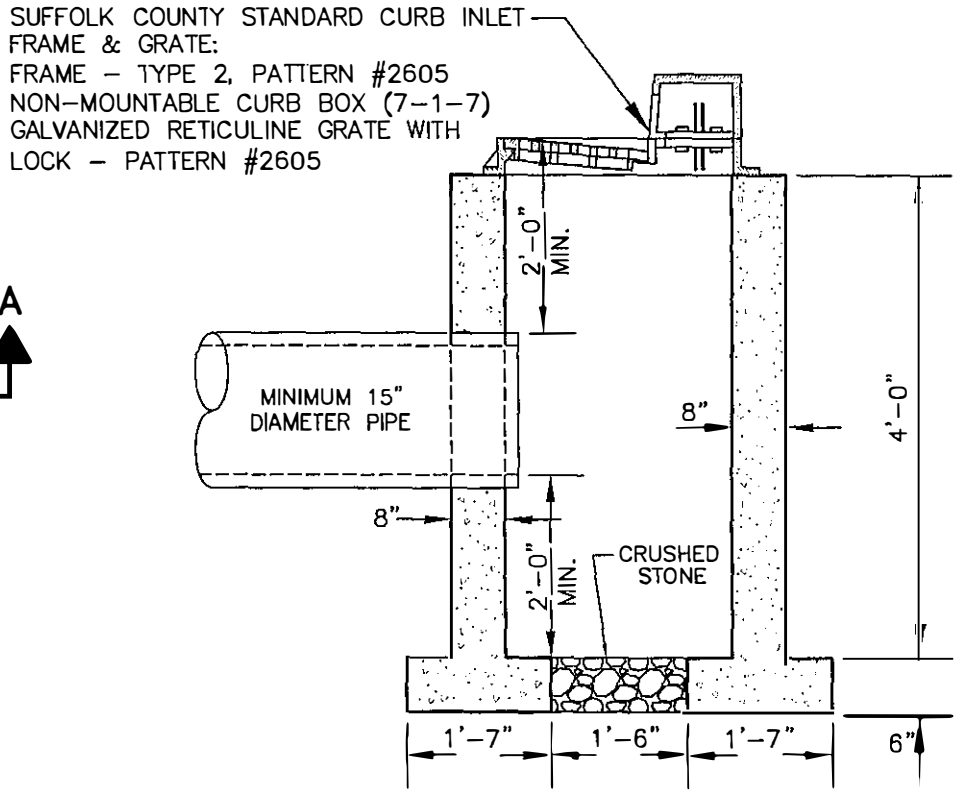
NOTES:
1. LEACHING POOLS SHALL BE PRECAST CONCRETE CEMENT STRUCTURES AS MANUFACTURED BY SUFFOLK PRECAST INC. OR EQUIVALENT. SHOP DRAWINGS SHALL BE SUBMITTED TO THE TOWN ENGINEER FOR APPROVAL.
2. ALL CONCRETE CEMENT USED IN THE MANUFACTURING OF PRECAST STRUCTURES SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4000 P.S.I. IN 28 DAYS.
3. SHOP DRAWINGS OF PRECAST MANHOLES & CATCH BASINS MUST BE SUBMITTED TO THE TOWN ENGINEER FOR APPROVAL.
4. REQUESTS FOR DEVIATIONS FROM STANDARD DRAINAGE INSTALLATIONS SHOWN MUST BE MADE IN WRITING & MUST INCLUDE DRAINAGE CALCULATIONS.
5. ALL DRAINAGE STRUCTURES SHALL BE PLACED IN ACCEPTABLE LEACHING SOILS AS APPROVED BY THE TOWN ENGINEER. IN THE EVENT POOR LEACHING MATERIAL IS ENCOUNTERED, EXCAVATION IS TO BE CONTINUED TO SUITABLE MATERIAL & BACK FILLED AS DETAILED.

TOWN OF SOUTHAMPTON HIGHWAY DEPARTMENT

WILLIAM H. MASTERSON – SUPERINTENDENT OF HIGHWAYS



PLAN VIEW



SECTION A–A

STANDARD CURB INLET STRUCTURE

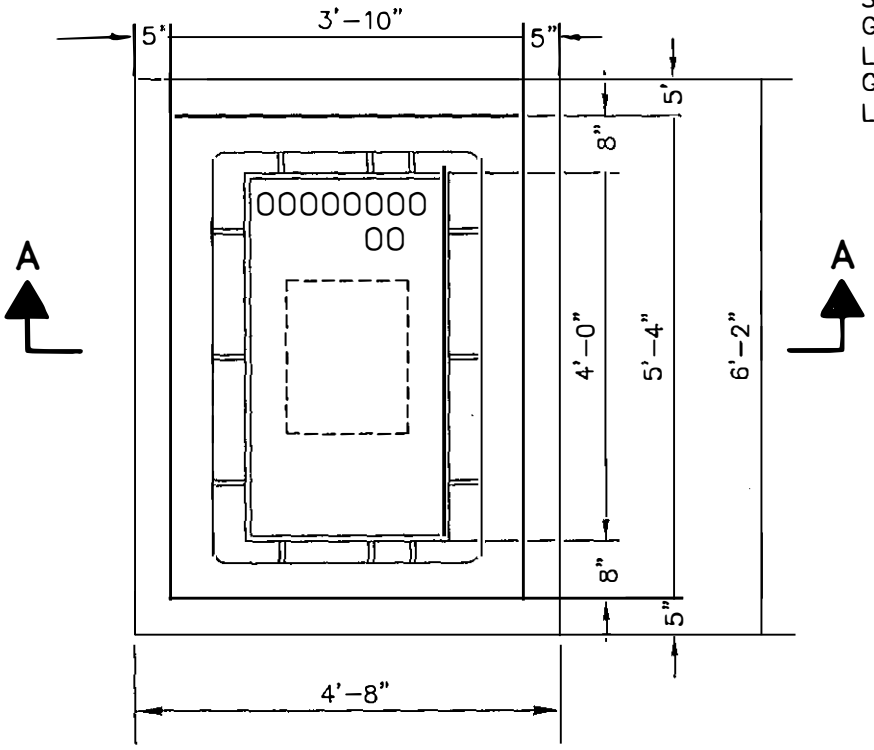
(NOT TO SCALE)

NOTES:
1. ALL CONCRETE TO BE 4,000 P.S.I. AT 28 DAYS.
2. PROVIDE PIPE OPENINGS AS REQUIRED.
3. ADDITIONAL INLETS TO BE SPACED 5' APART.

TOWN OF SOUTHAMPTON SUFFOLK COUNTY, NEW YORK	REVISED OCTOBER 2005	ROAD & DRAINAGE STANDARDS PREPARED BY L.K. McLEAN ASSOCIATES, P.C.	DRAWING 9/29

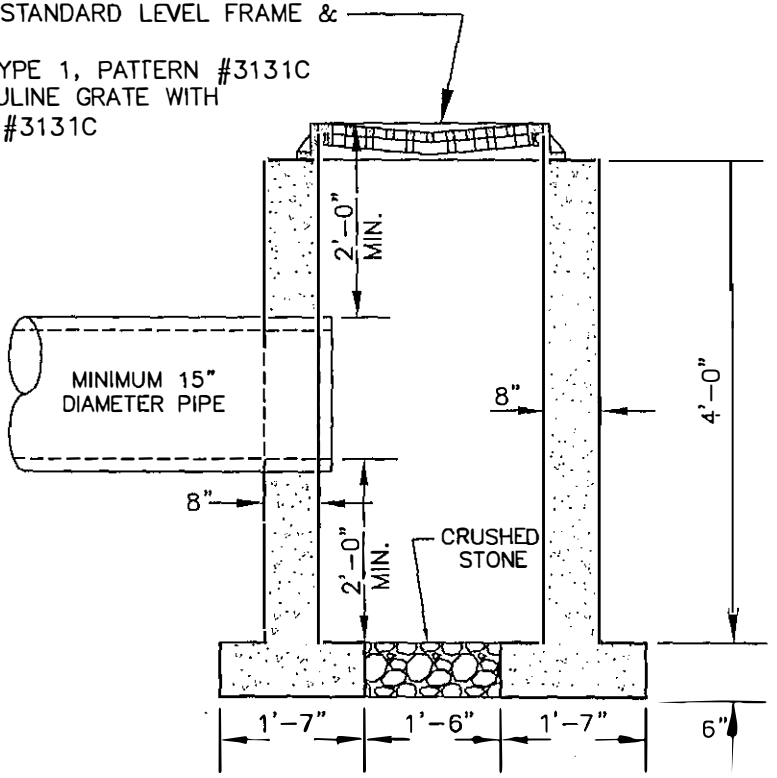
TOWN OF SOUTHAMPTON HIGHWAY DEPARTMENT

WILLIAM H. MASTERSON – SUPERINTENDENT OF HIGHWAYS



PLAN VIEW

SUFFOLK COUNTY STANDARD LEVEL FRAME & GRATE:
LEVEL FRAME – TYPE 1, PATTERN #3131C
GALVANIZED RETICULINE GRATE WITH LOCK – PATTERN #3131C



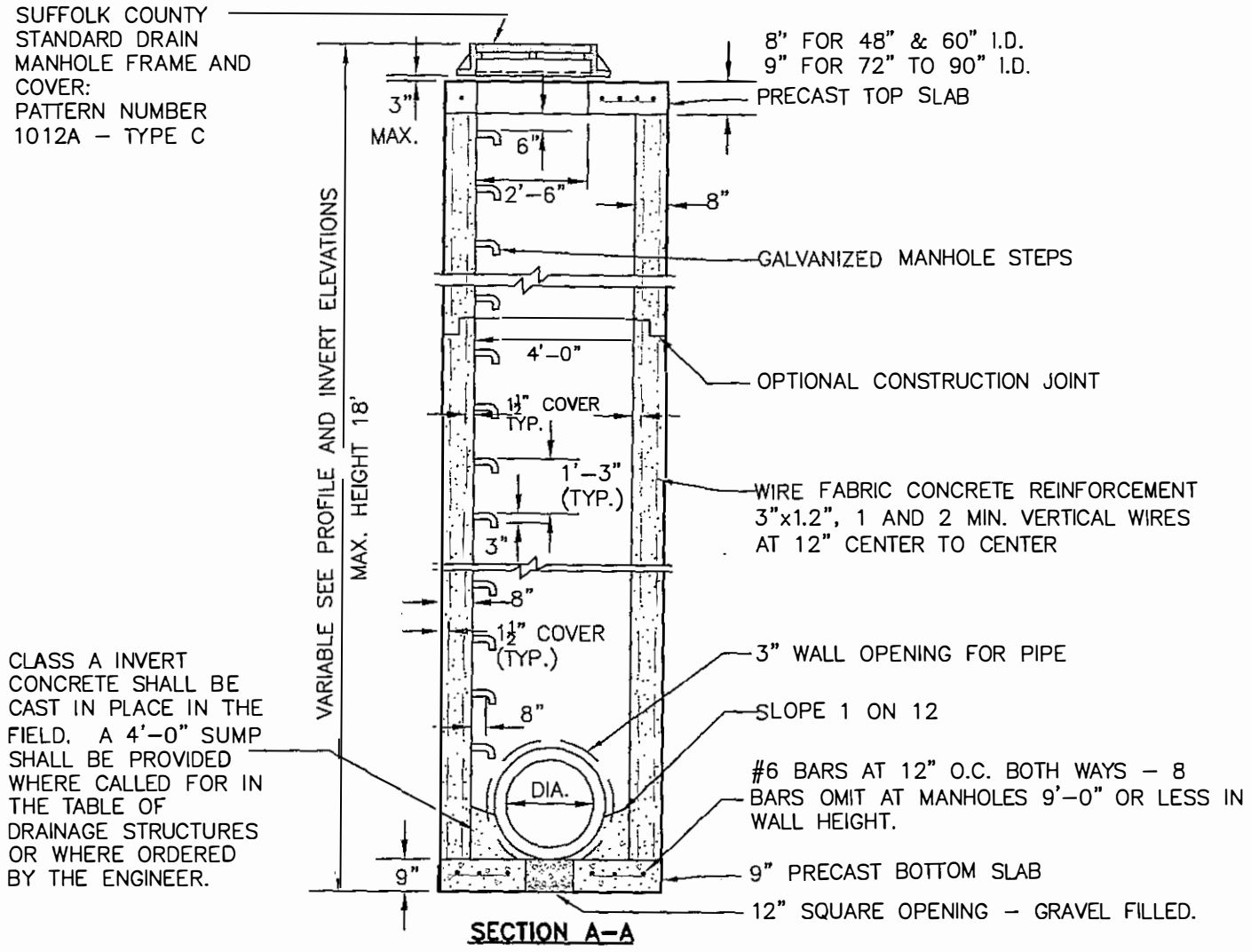
SECTION A–A

STANDARD DROP INLET STRUCTURE

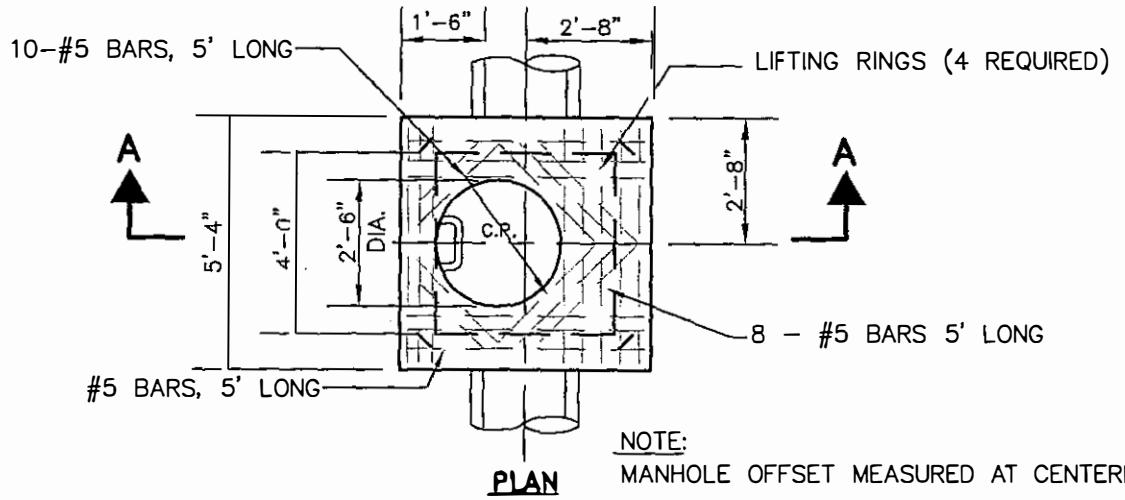
(NOT TO SCALE)

NOTES:
1. ALL CONCRETE TO BE 4,000 P.S.I. AT 28 DAYS.
2. PROVIDE PIPE OPENINGS AS REQUIRED.

TOWN OF SOUTHAMPTON SUFFOLK COUNTY, NEW YORK	REVISED OCTOBER 2005	ROAD & DRAINAGE STANDARDS PREPARED BY L.K. McLEAN ASSOCIATES, P.C.	DRAWING 10/29



SECTION A–A

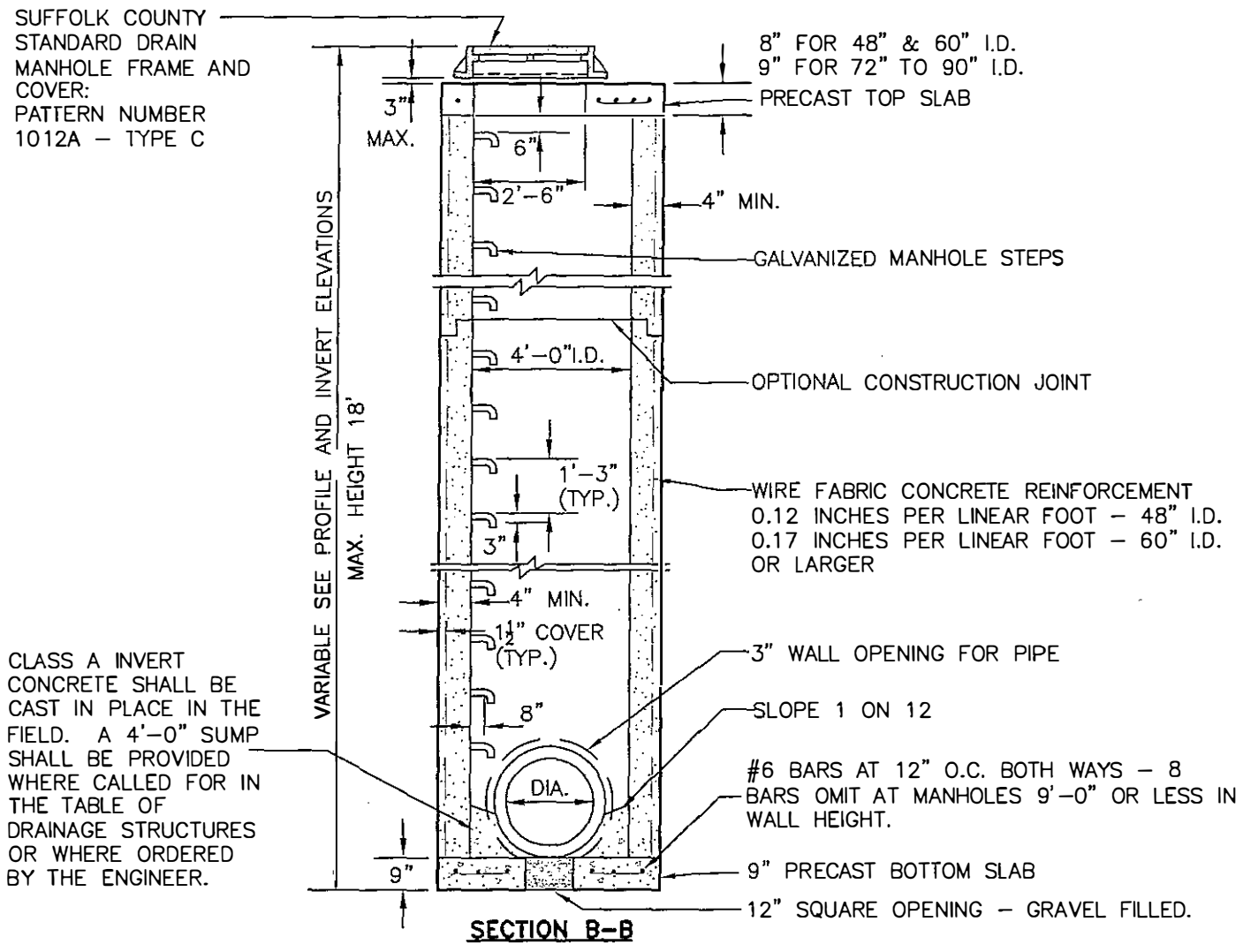


PLAN

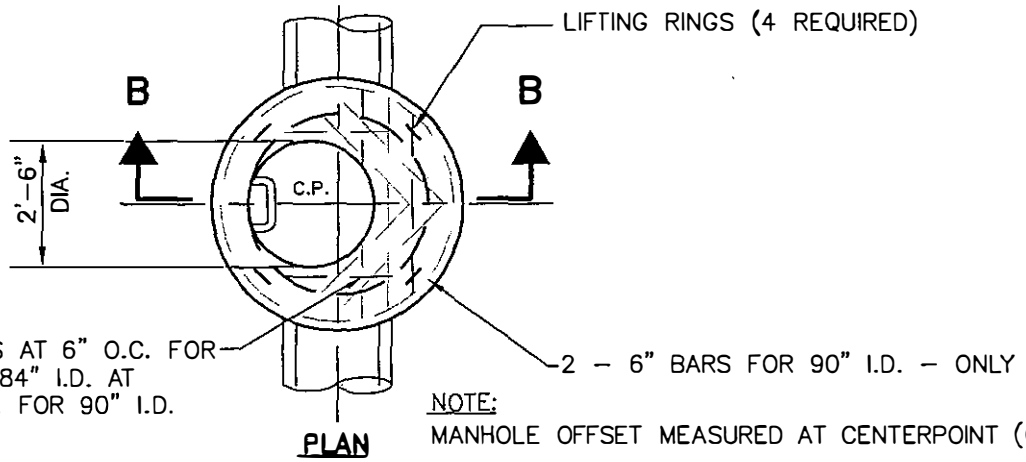
NOTE:
MANHOLE OFFSET MEASURED AT CENTERPOINT (C.P.)

MANHOLE TYPE "A"

(NOT TO SCALE)



SECTION B–B



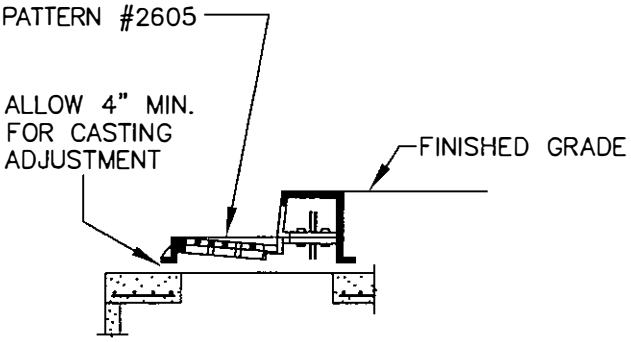
PLAN

NOTE:
MANHOLE OFFSET MEASURED AT CENTERPOINT (C.P.)

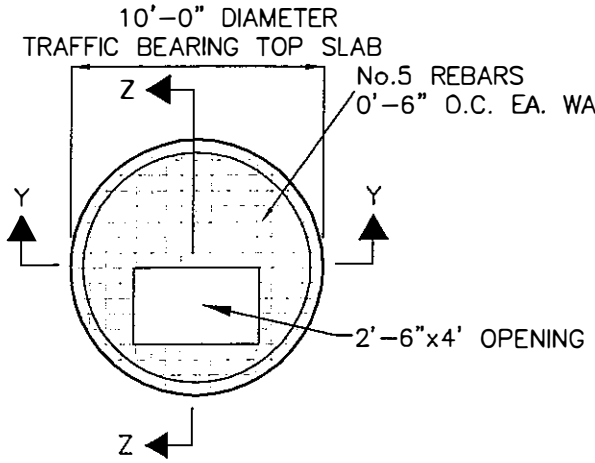
MANHOLE TYPE "B"

(NOT TO SCALE)

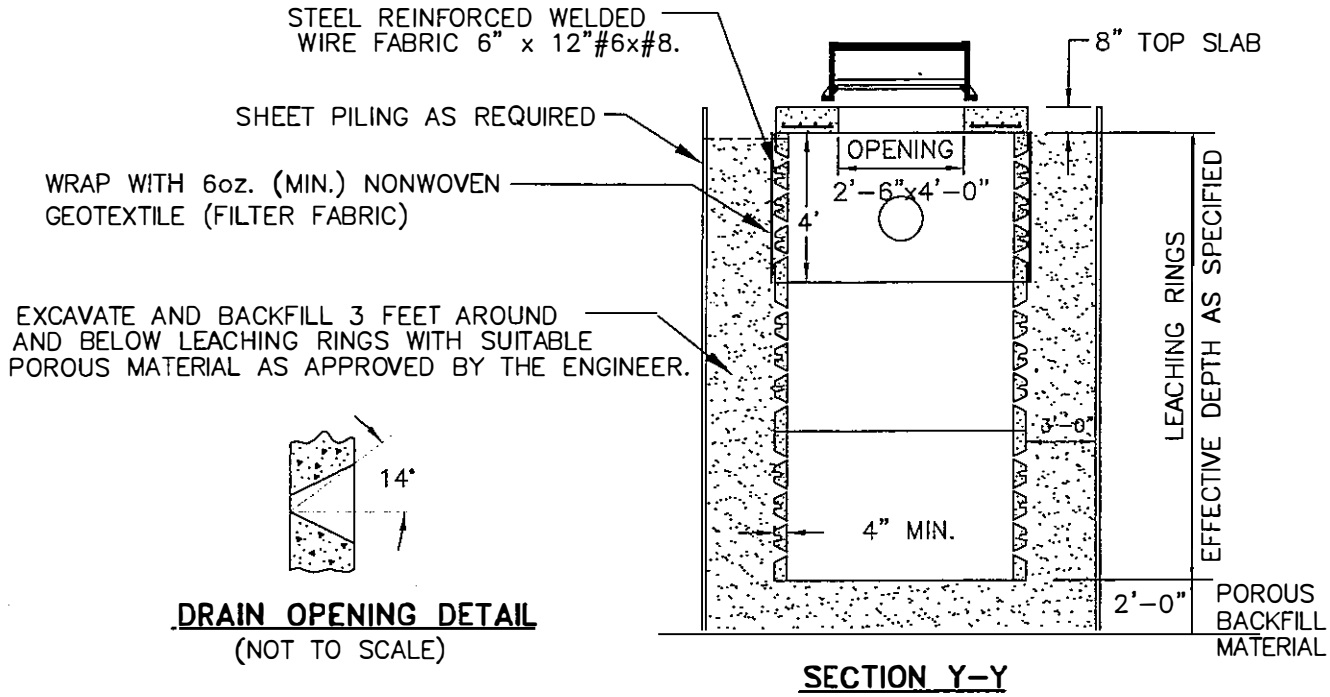
SUFFOLK COUNTY STANDARD CURB INLET FRAME & GRATE:
FRAME – TYPE 2, PATTERN #2605
NON-MOUNTABLE CURB BOX (7-1-7)
GALVANIZED RETICULINE GRATE WITH LOCK – PATTERN #2605



SECTION Z-Z



PLAN VIEW



SECTION Y-Y

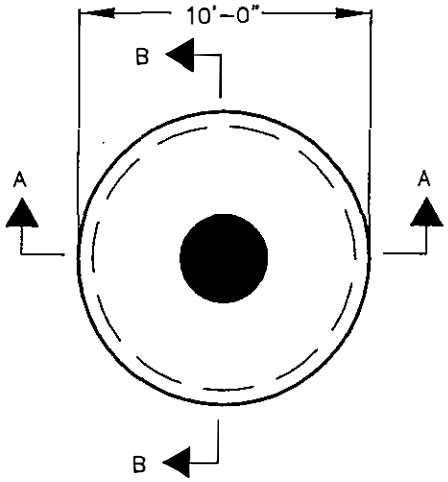
DRAIN OPENING DETAIL
(NOT TO SCALE)

CURB INLET / 10'ø LEACHING CATCH BASIN (C.I.-L.C.B.)

NOT TO SCALE

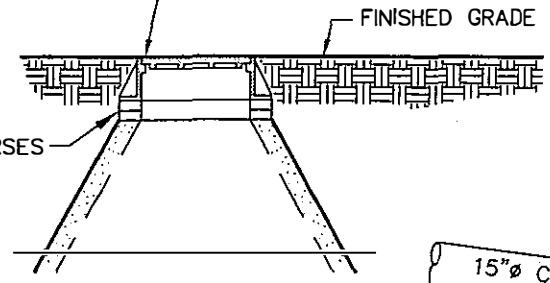
LEACHING BASIN NOTES:

1. LEACHING POOLS SHALL BE PRECAST CONCRETE CEMENT STRUCTURES AS MANUFACTURED BY SUFFOLK PRECAST INC. OR EQUIVALENT. SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL.
2. ALL CONCRETE CEMENT USED IN THE MANUFACTURING OF PRECAST STRUCTURES SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4000 P.S.I. IN 28 DAYS.
3. ALL DRAINAGE STRUCTURES SHALL BE PLACED IN ACCEPTABLE LEACHING SOILS AS APPROVED BY THE ENGINEER. IN THE EVENT POOR LEACHING MATERIAL IS ENCOUNTERED, EXCAVATION IS TO BE CONTINUED TO SUITABLE MATERIAL & BACK FILLED AS DETAILED.
4. NO TRENCH, PIT, OR OTHER EXCAVATION SHALL BE LEFT OPEN AND UNATTENDED. EXCAVATIONS SHALL BE PROTECTED AS DIRECTED BY THE ENGINEER WITH FENCES, BARRICADES AND OTHER APPROVED METHODS.
5. INVERT ELEVATIONS MAY BE ADJUSTED BY THE ENGINEER IN THE FIELD TO MEET FIELD CONDITIONS TO AVOID CONFLICT WITH UTILITIES AS ORDERED BY THE ENGINEER.
6. ALLOW FOUR (4) INCHES FOR FINAL ADJUSTMENT OF CASTING. ADEQUATE BEARING WILL BE PROVIDED USING CONCRETE BLOCK, BRICK, AND/OR 1:2 MORTAR MIX.
7. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHEETING AND SHORING DURING TRENCHING TO INSURE THE SAFETY OF WORKMEN AND THE GENERAL PUBLIC EXPOSED TO THE HAZARDS OF FALLING AND SLIDING MATERIAL IN CONFORMANCE WITH THE REQUIREMENTS OF TITLE 29 CODE OF FEDERAL REGULATIONS, PART 1926, SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION (OSHA).
8. BACKFILL AND COMPACTION SHALL BE IN 6" LIFTS.

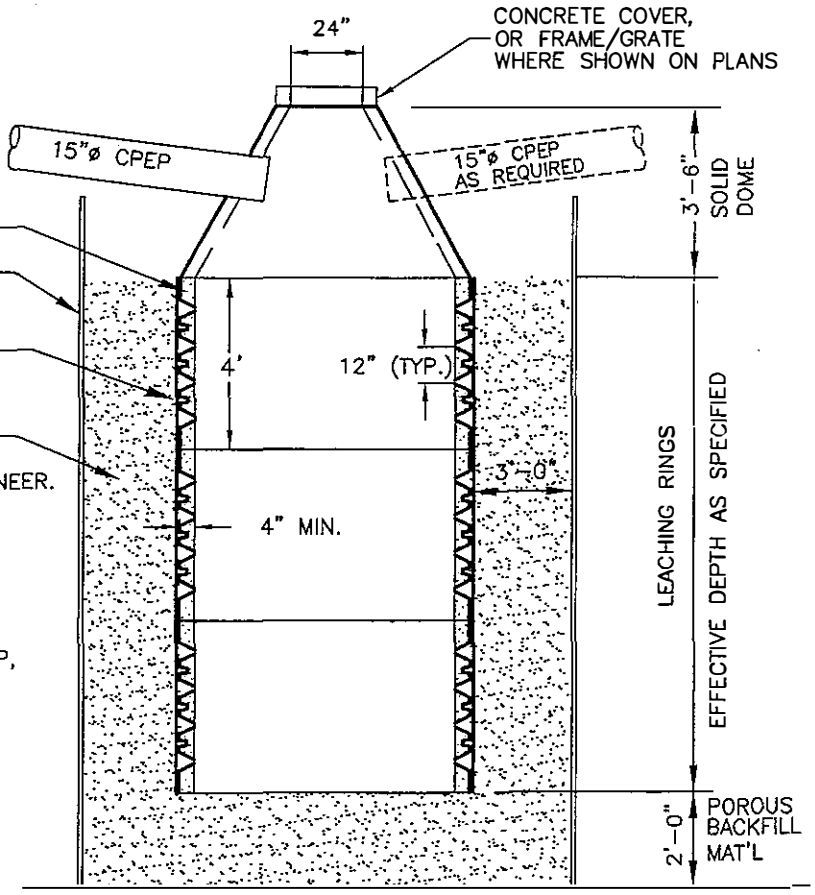


PLAN VIEW

SUFFOLK COUNTY STANDARD DRAIN MANHOLE FRAME AND COVER: PATTERN NUMBER 1012A – TYPE C



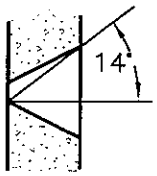
SECTION B–B



SECTION A–A

NOTES:

1. STEEL REINFORCED ON LEACHING SECTIONS WELDED WIRE FABRIC 6"x12"#6x#8.
2. STEEL REINFORCING ON CONE SECTION 12–#2 VERT., 1–#3 TOP, 1–# BOTTOM.



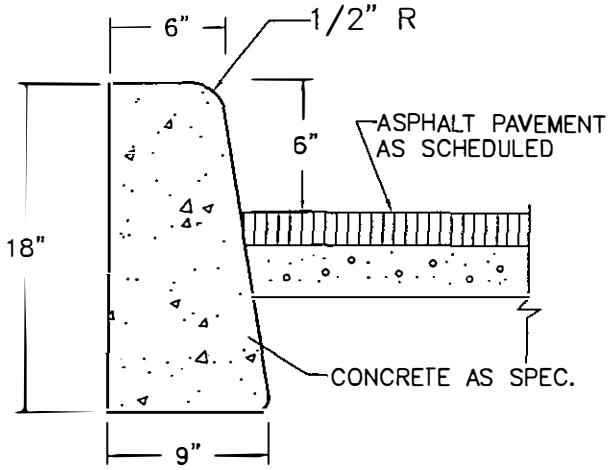
DRAIN OPENING DETAIL
(NOT TO SCALE)

10'ø LEACHING CATCH BASIN DETAIL (L.C.B.)

NOT TO SCALE

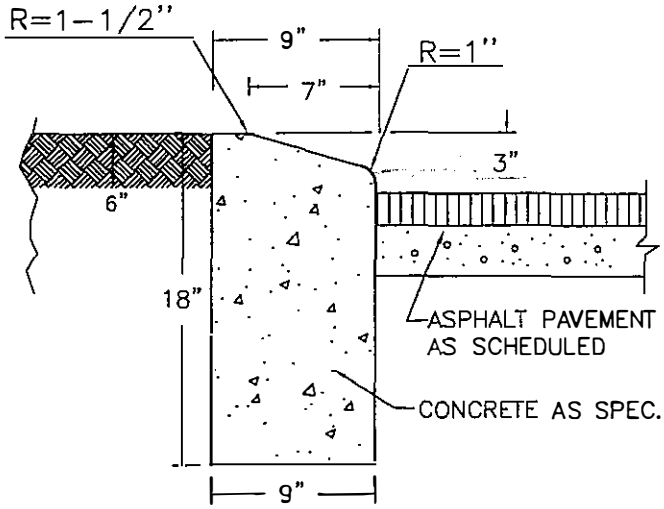
TYPE "A" CONCRETE CURB

NOT TO SCALE



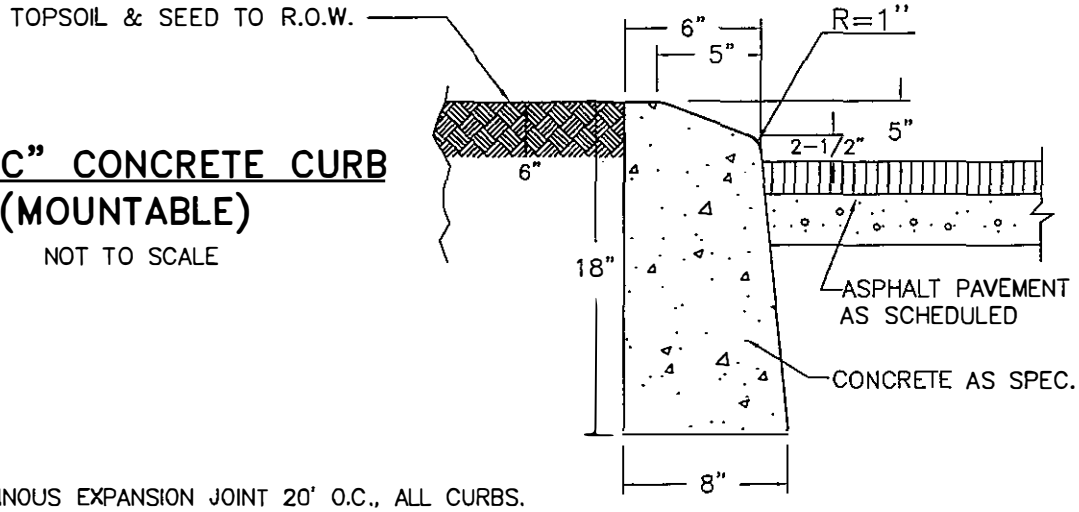
TYPE "B" CONCRETE CURB (MOUNTABLE)

NOT TO SCALE

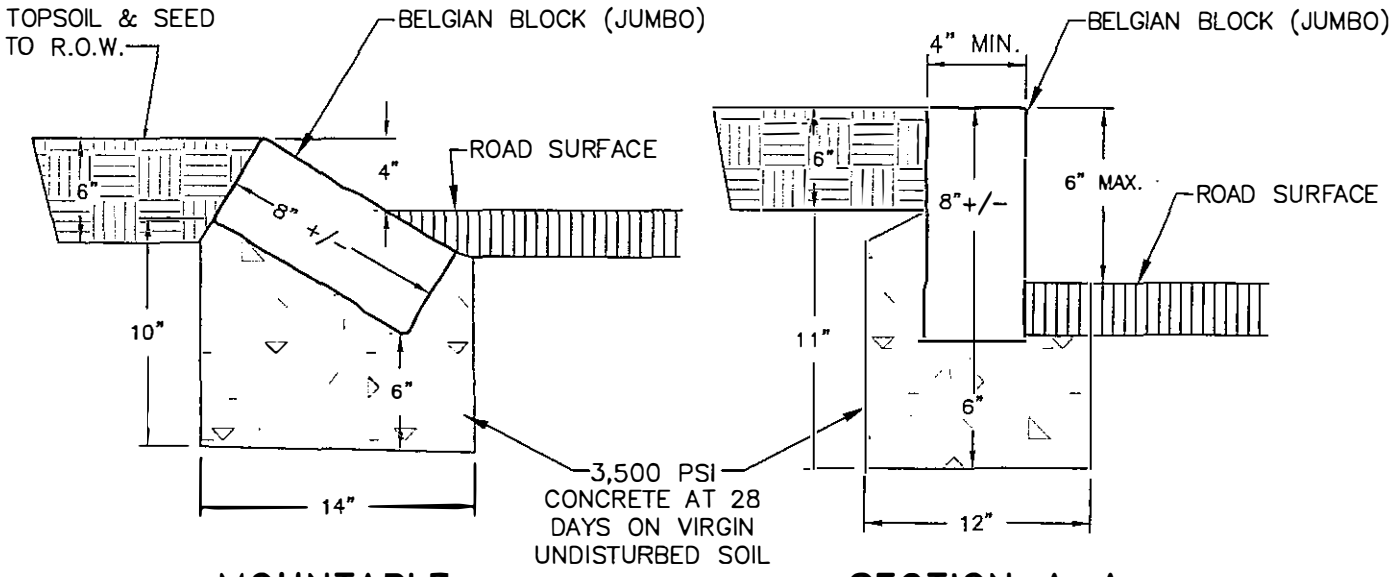


TYPE "C" CONCRETE CURB (MOUNTABLE)

NOT TO SCALE



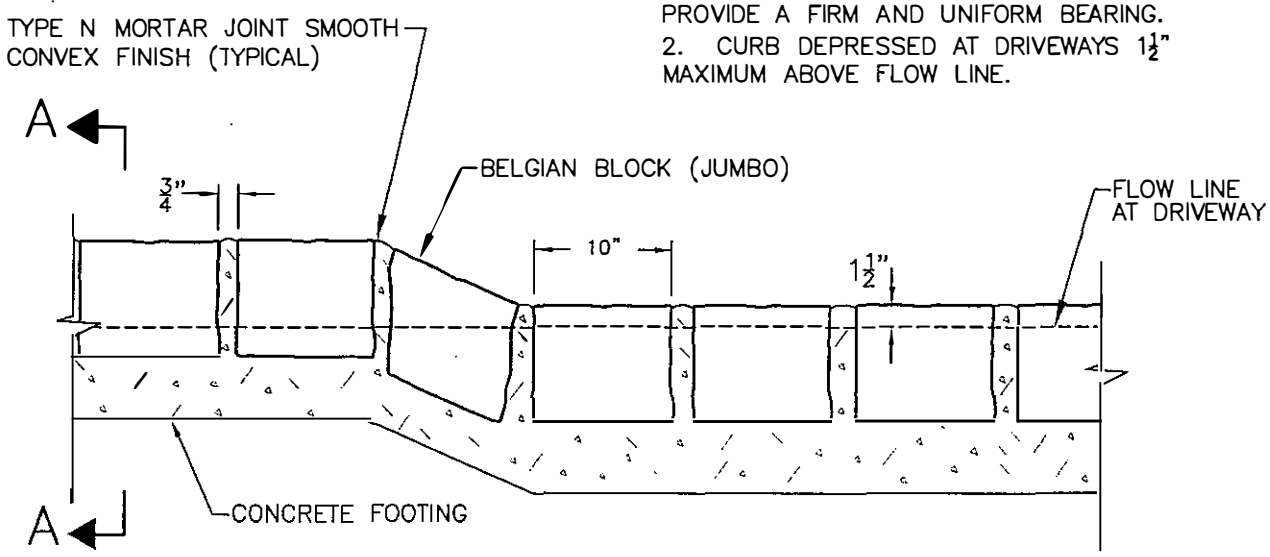
NOTES:
1. INSTALL BITUMINOUS EXPANSION JOINT 20' O.C., ALL CURBS.



MOUNTABLE CURB

SECTION A–A STANDARD

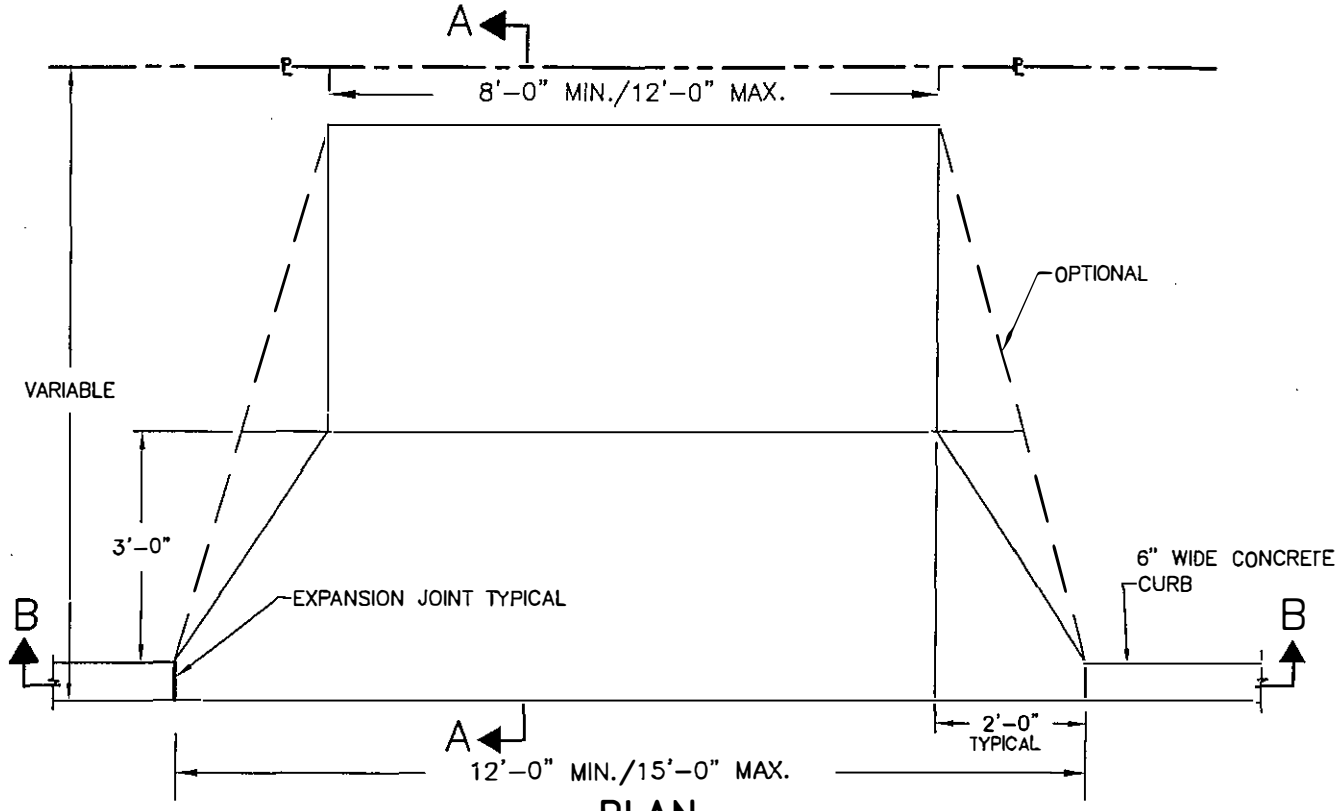
NOTES:
1. CURBS SHALL BE SET TRUE TO LINE AND GRADE ON POURED CONCRETE FOUNDATION TO PROVIDE A FIRM AND UNIFORM BEARING.
2. CURB DEPRESSED AT DRIVEWAYS 1½" MAXIMUM ABOVE FLOW LINE.



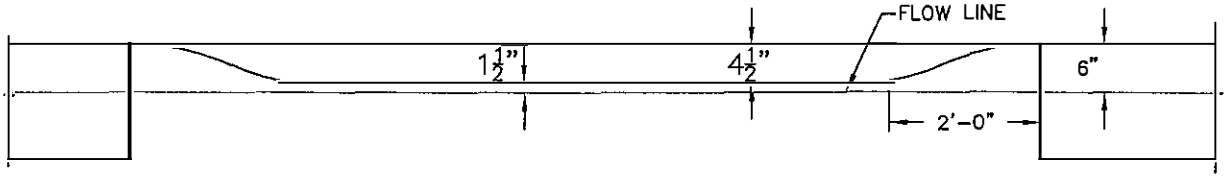
SETTING DETAIL

BELGIAN BLOCK CURB

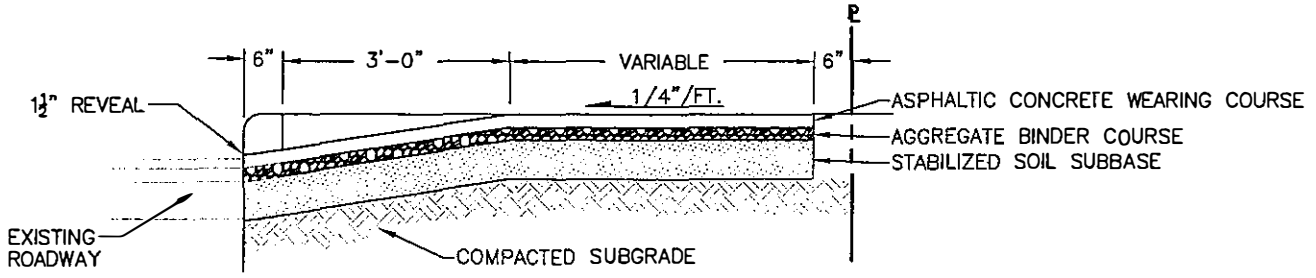
(NOT TO SCALE)



PLAN



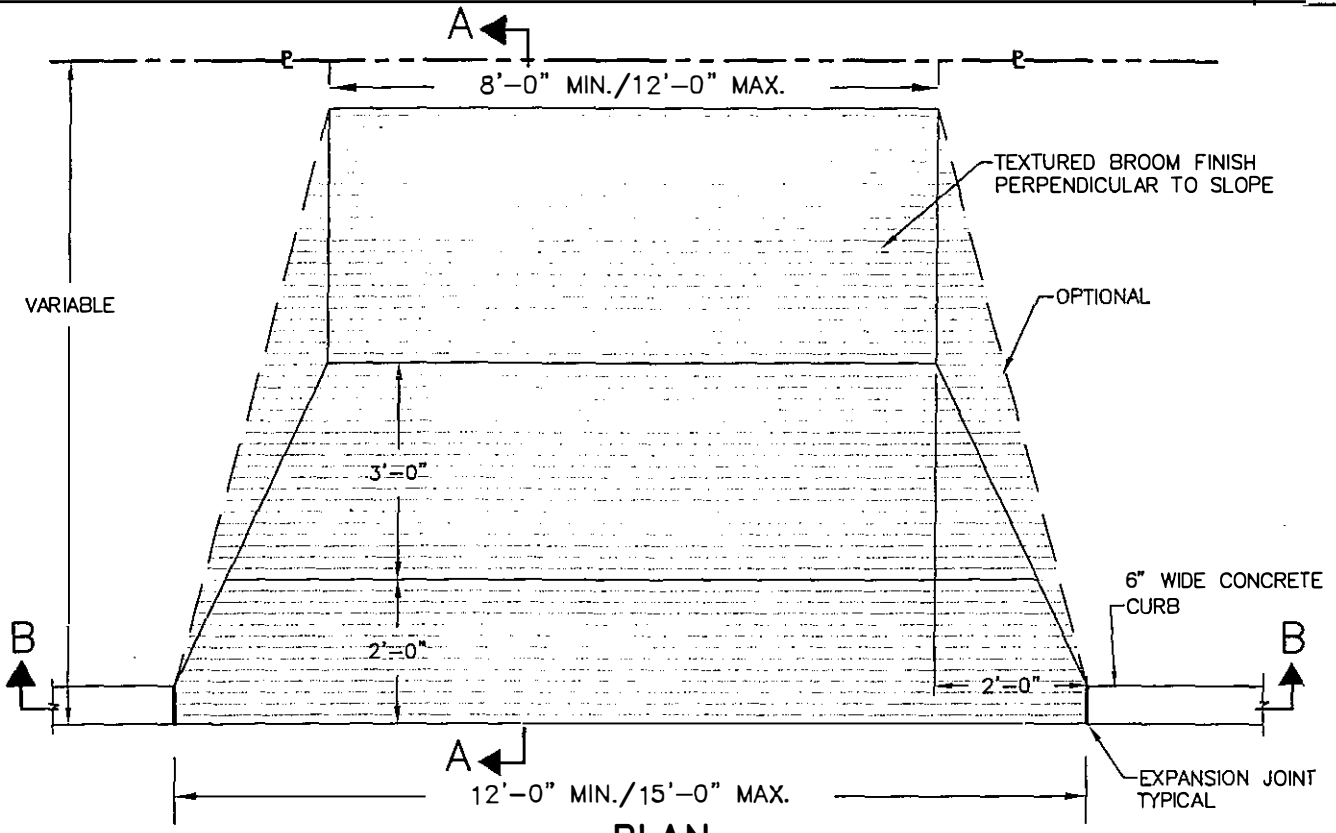
SECTION B–B



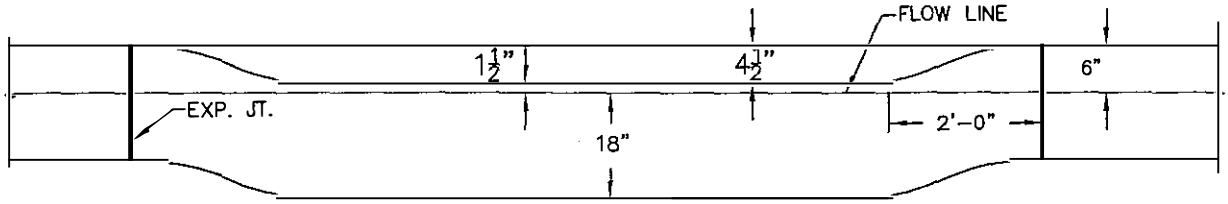
SECTION A–A

ASPHALT APRON & CONCRETE CURB

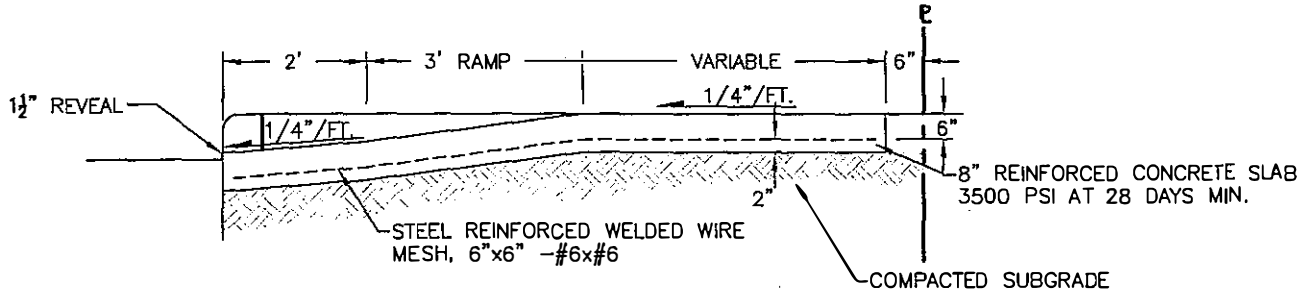
(NOT TO SCALE)



PLAN



SECTION B–B



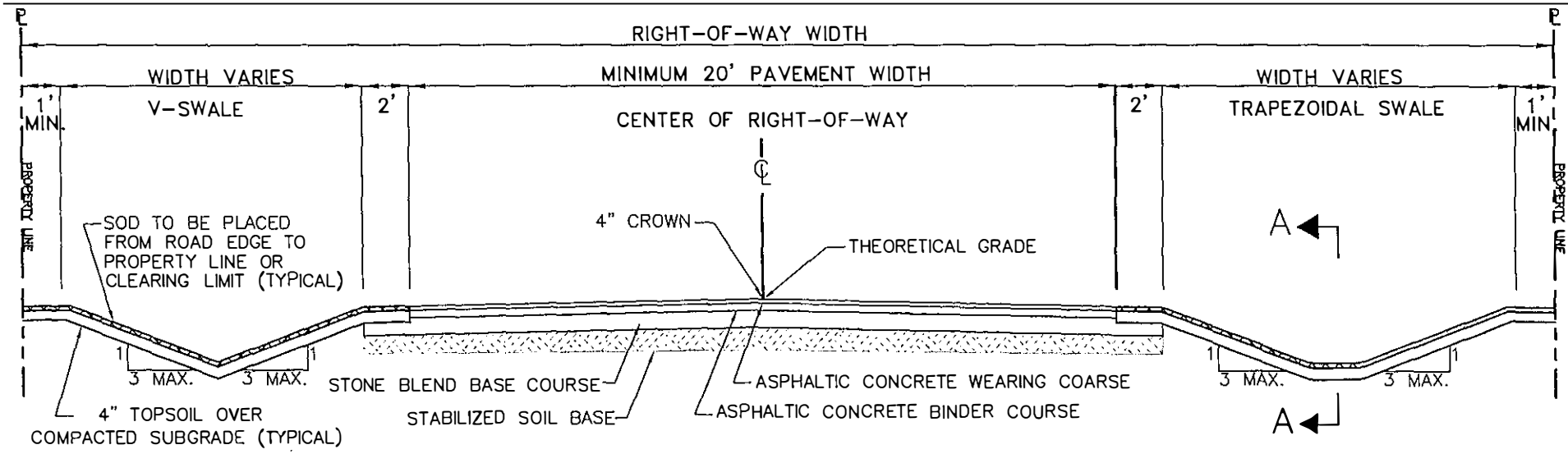
SECTION A–A

CONCRETE APRON & CONCRETE CURB

(NOT TO SCALE)

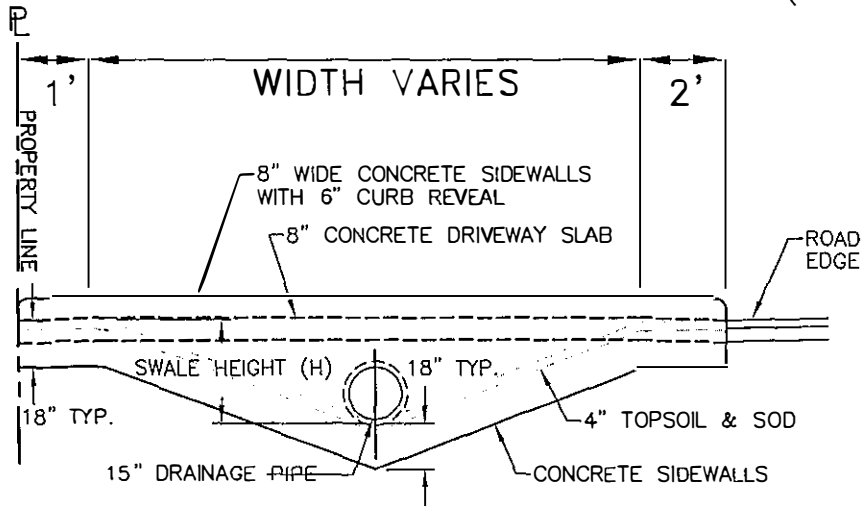
TOWN OF SOUTHAMPTON HIGHWAY DEPARTMENT

WILLIAM H. MASTERSON – SUPERINTENDENT OF HIGHWAYS



TYPICAL COUNTRY ROAD SECTION

(NOT TO SCALE)

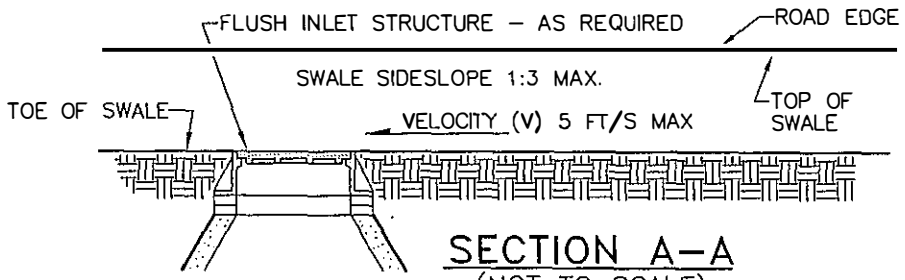


TYPICAL SECTION AT DRIVEWAY

(NOT TO SCALE)

NOTES:

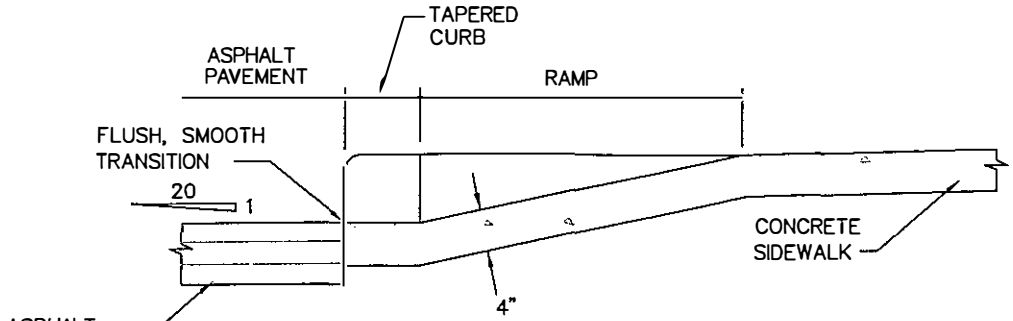
1. AT DRIVEWAY CROSSINGS – LEACHING CATCH BASIN STRUCTURES SHALL BE INSTALLED IN THE SWALE IF THE TOTAL FLOW (Q) IS GREATER THAN 2 CF/S.
2. DESIGN VELOCITY (V) FOR SOD LINED SWALES SHALL BE 5 FT/S MAXIMUM AND OR AS APPROVED BY THE TOWN ENGINEER.
3. MAXIMUM FLOW DEPTHS IN THE SWALES SHALL BE 90% OF DESIGN HEIGHT (BASED ON 10-YEAR STORM).



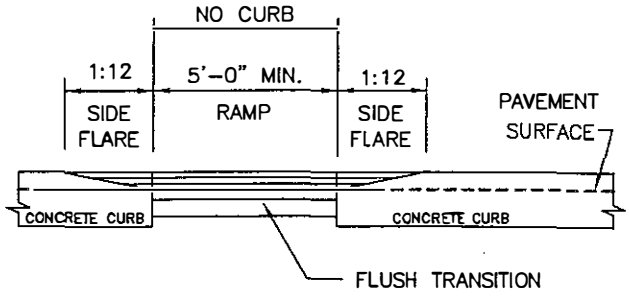
SECTION A–A

(NOT TO SCALE)

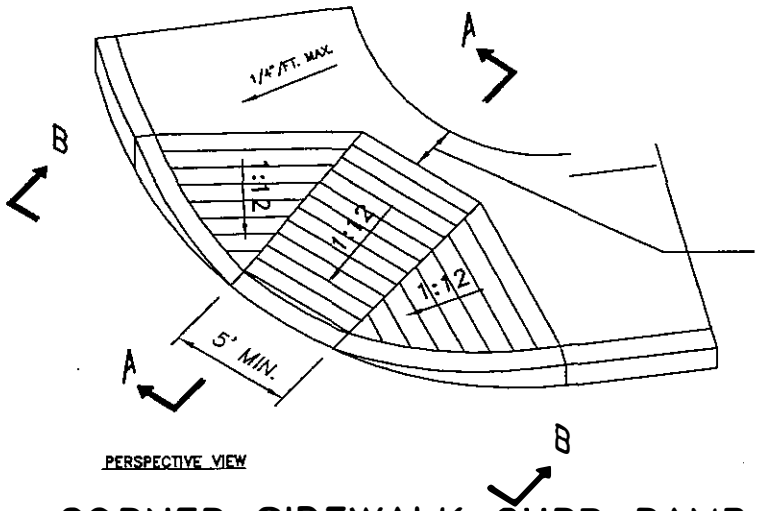
TOWN OF SOUTHAMPTON SUFFOLK COUNTY, NEW YORK	REVISED OCTOBER 2005	ROAD & DRAINAGE STANDARDS PREPARED BY L.K. McLEAN ASSOCIATES, P.C.	DRAWING 19/29



SECTION A–A



SECTION B–B

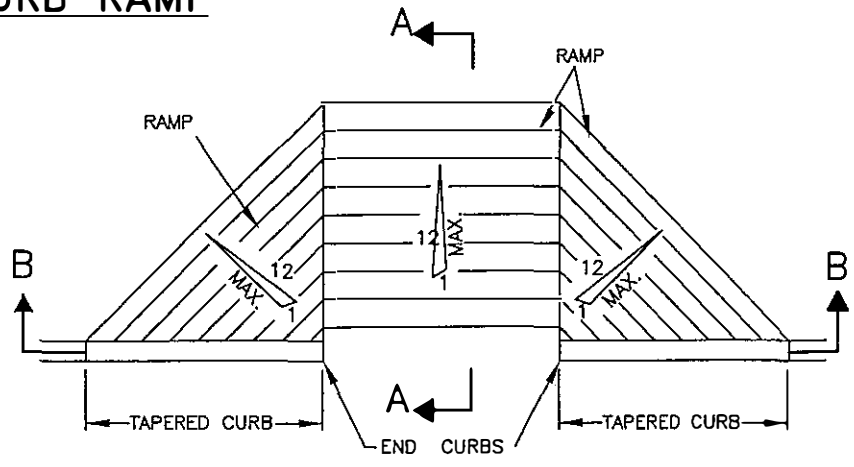


PERSPECTIVE VIEW

NOTE: MINIMUM DISTANCE AT TOP OF RAMP IS 36". IF THE DISTANCE FROM THE TOP OF RAMP TO THE BACK EDGE OF THE SIDEWALK IS 48" OR GREATER, THE SLOPE ON THE SIDE FLARES MAY BE 1:10

CORNER SIDEWALK CURB RAMP

(NOT TO SCALE)



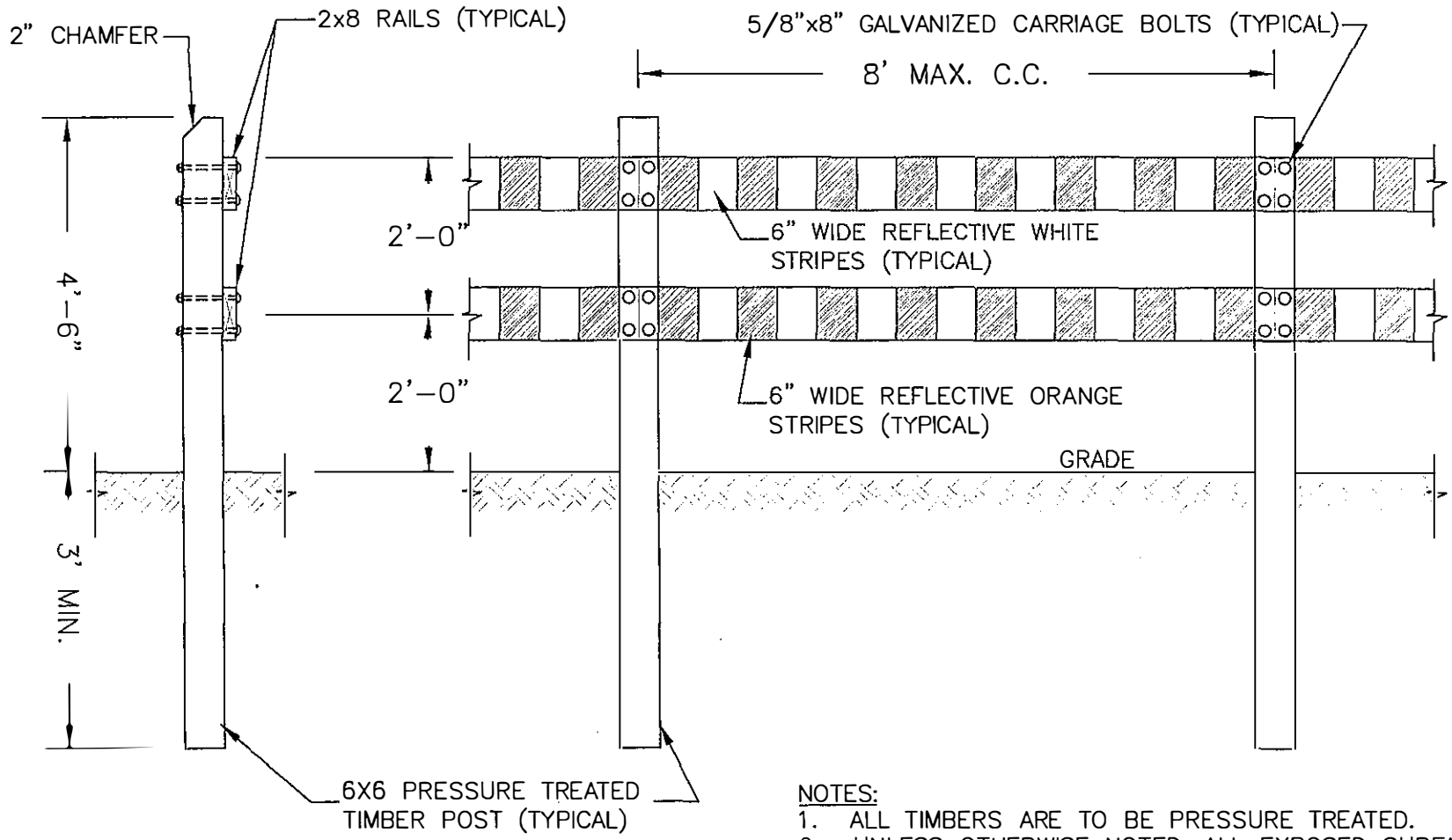
SIDEWALK CURB RAMP

(NOT TO SCALE)

NOTES:
1. IF THE DISTANCE FROM TOP OF RAMP TO BACK EDGE OF SIDEWALK IS 6'–0" OR GREATER, THE SLOPE ON THE SIDE FLARES MAY BE 1:10.
2. SURFACE TEXTURE OF RAMP SHALL BE DEEP GROVE, 1/2" WIDE BY 1/4" DEEP, 1" CENTERS TRANSVERSE TO THE RAMP.
3. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE AMERICAN WITH DISABILITIES ACT (ADA).

TOWN OF SOUTHAMPTON HIGHWAY DEPARTMENT

WILLIAM H. MASTERSON – SUPERINTENDENT OF HIGHWAYS

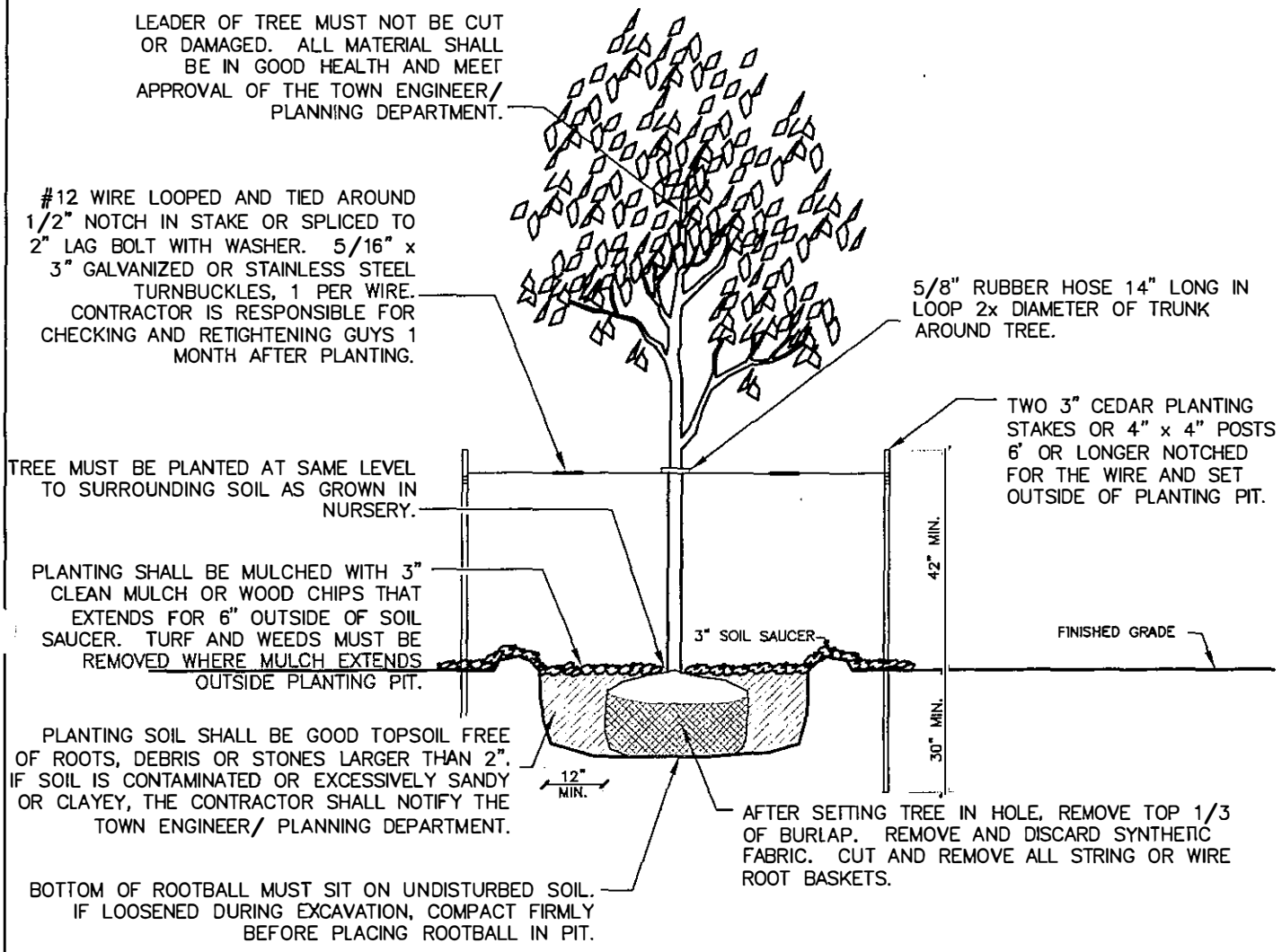


TIMBER BARRICADE DETAIL

(NOT TO SCALE)

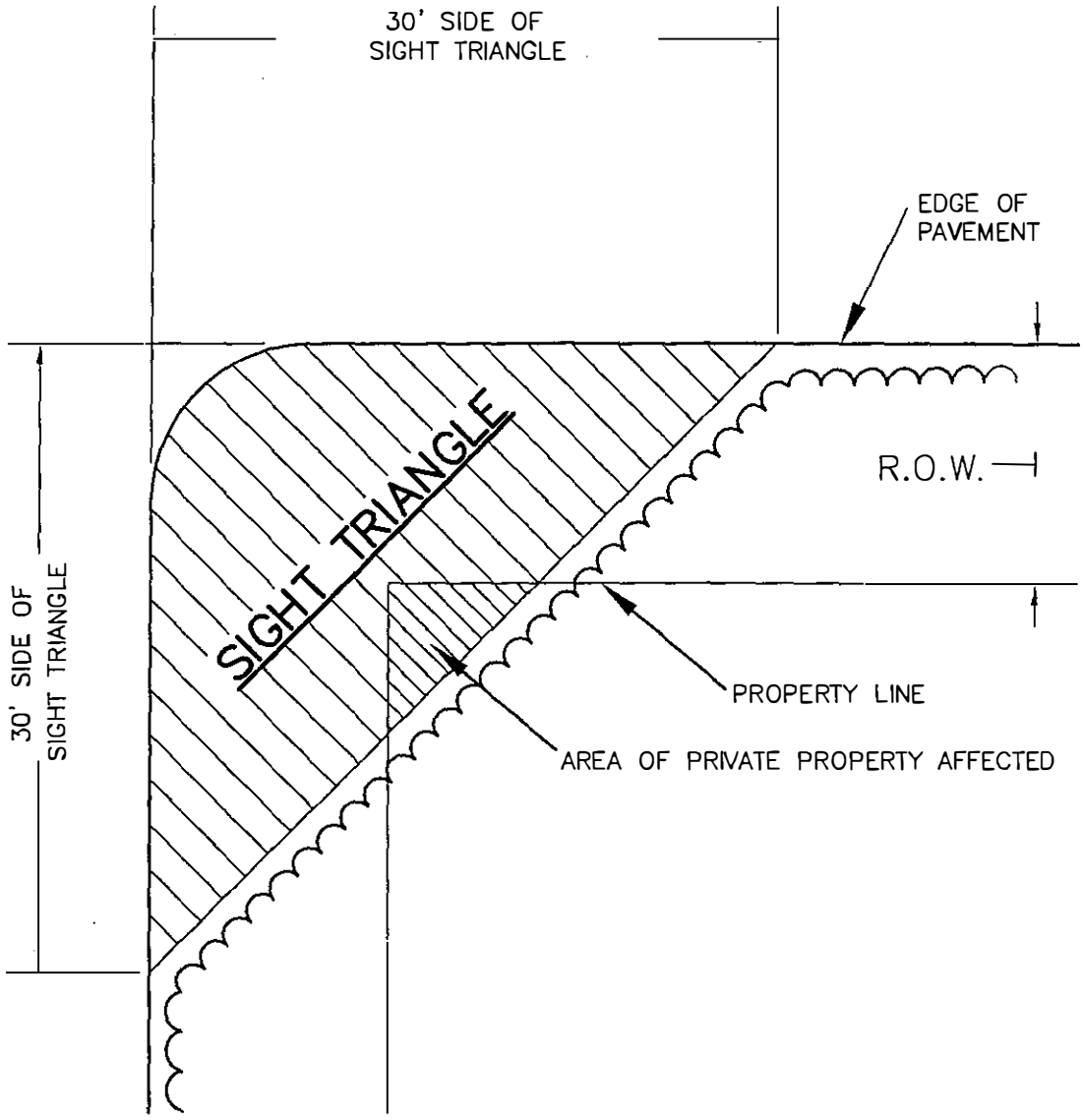
NOTES:

1. ALL TIMBERS ARE TO BE PRESSURE TREATED.
2. UNLESS OTHERWISE NOTED, ALL EXPOSED SURFACES SHALL BE PAINTED WHITE WITH THREE COATS OF EXTERIOR GRADE PAINT.
3. ALL HARDWARE TO BE GALVANIZED.
4. EACH CARRIAGE BOLT TO HAVE (1) FLAT WASHER, (1) LOCK WASHER & (1) HEX NUT



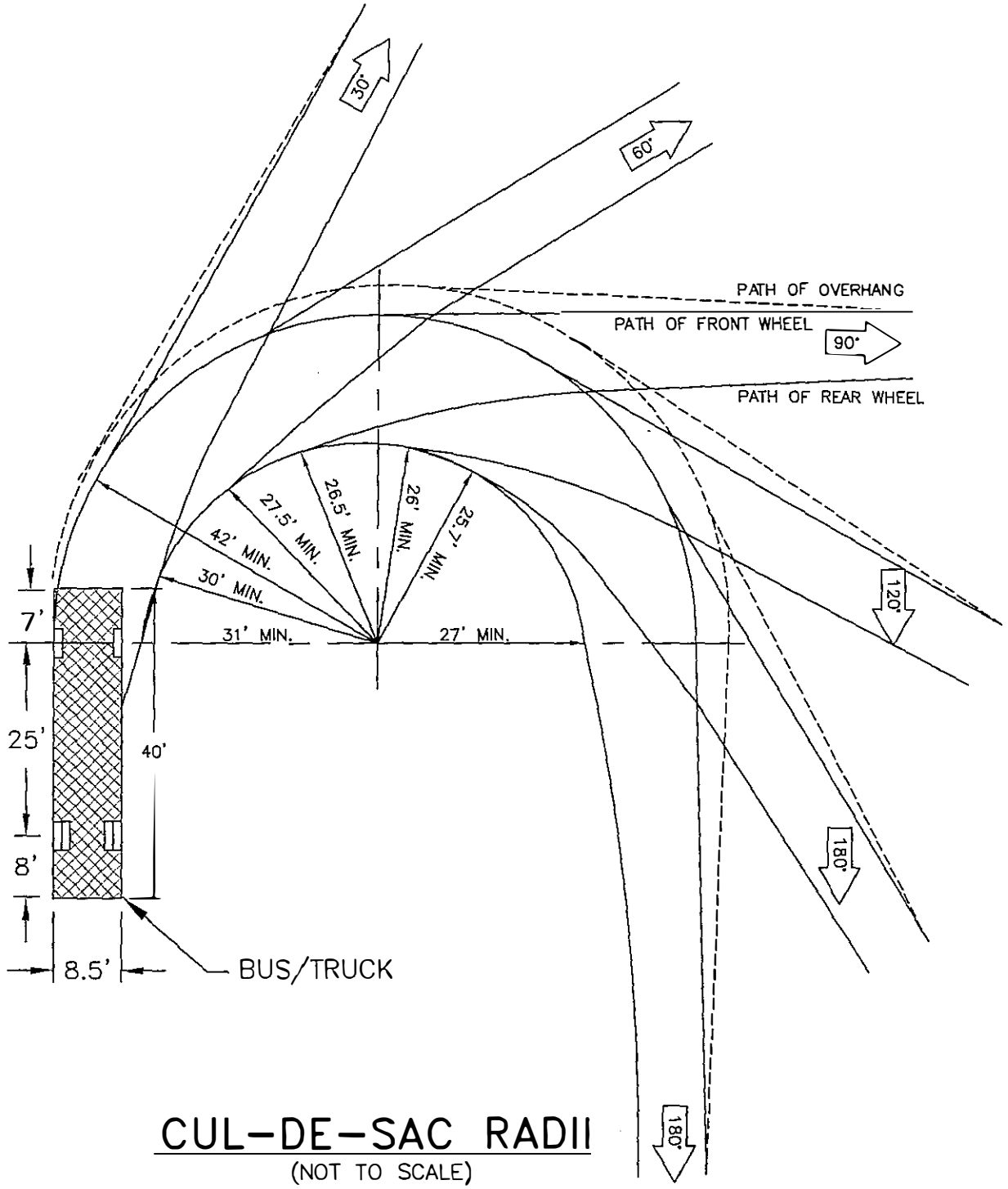
STAKED TREE AND BALL ROOT COVERING DETAIL

(NOT TO SCALE)



CORNER SIGHT TRIANGLE

(NOT TO SCALE)

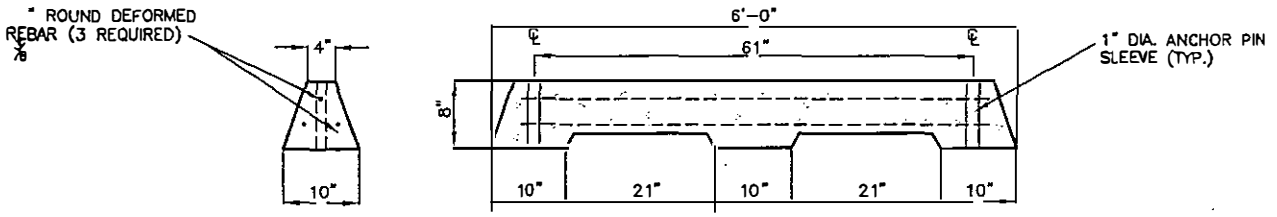


CUL-DE-SAC RADII

(NOT TO SCALE)

NOTES:

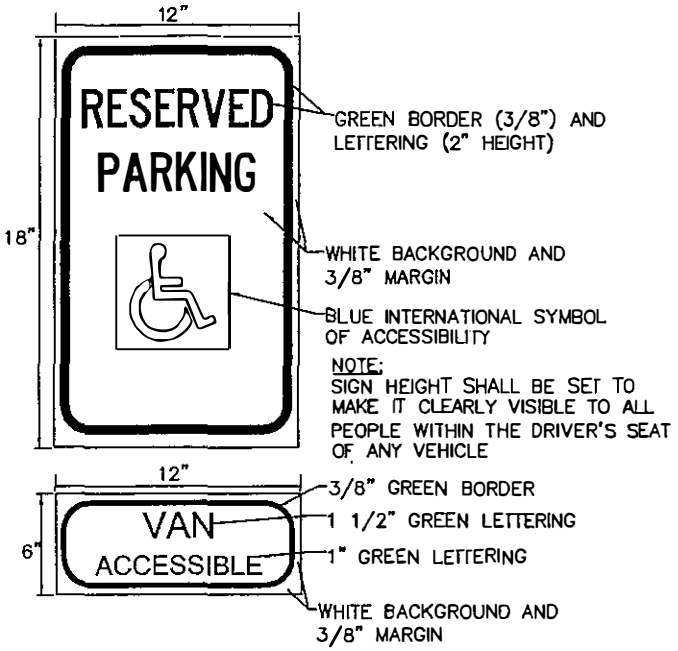
1. THIS TURNING TEMPLATE SHOWS THE MINIMUM TURNING PATH FOR BUS/TRUCK VEHICLES (FIGURE 11-3) IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICES (AASHTO).
2. THE PATHS SHOWN ARE FOR THE LEFT FRONT OVERHANG AND THE OUTSIDE REAR WHEEL. THE LEFT FRONT WHEEL FOLLOWS THE CIRCULAR CURVE, HOWEVER, ITS PATH IS NOT SHOWN.



NOTE:
INSTALL EACH WITH 2–#8 REBAR AT A 3'\––0" BURIAL AND TOP FLUSH WITH TOP OF WHEELSTOP.

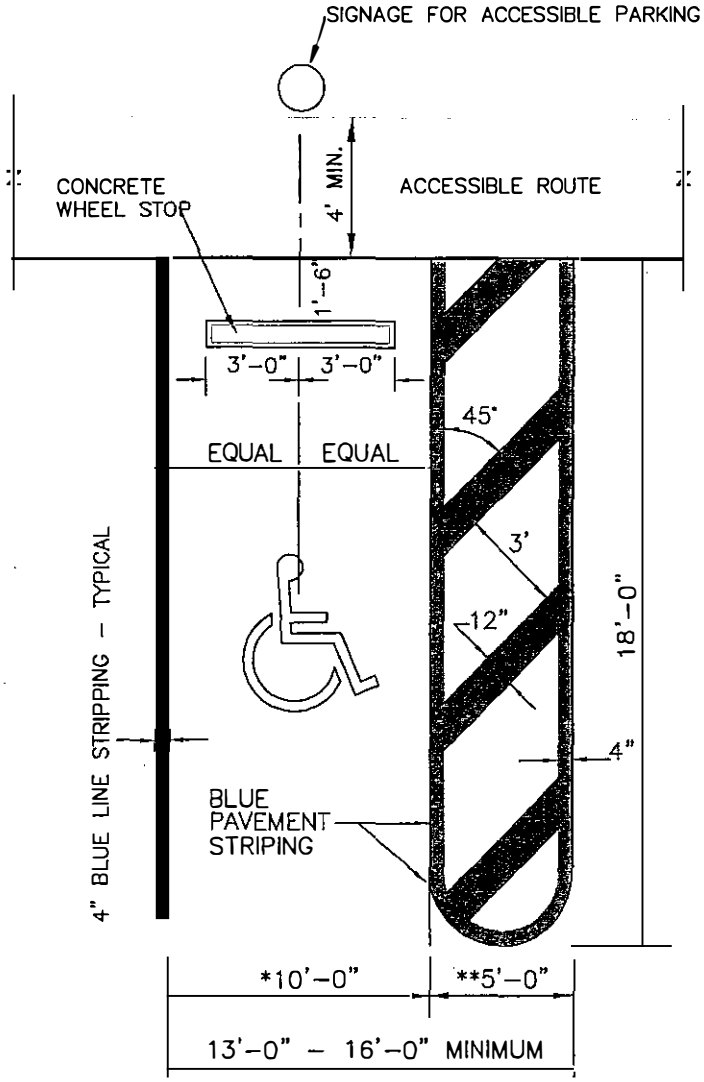
CONCRETE WHEEL STOP DETAIL

(NOT TO SCALE)



SIGNAGE FOR ACCESSIBLE PARKING

(NOT TO SCALE)



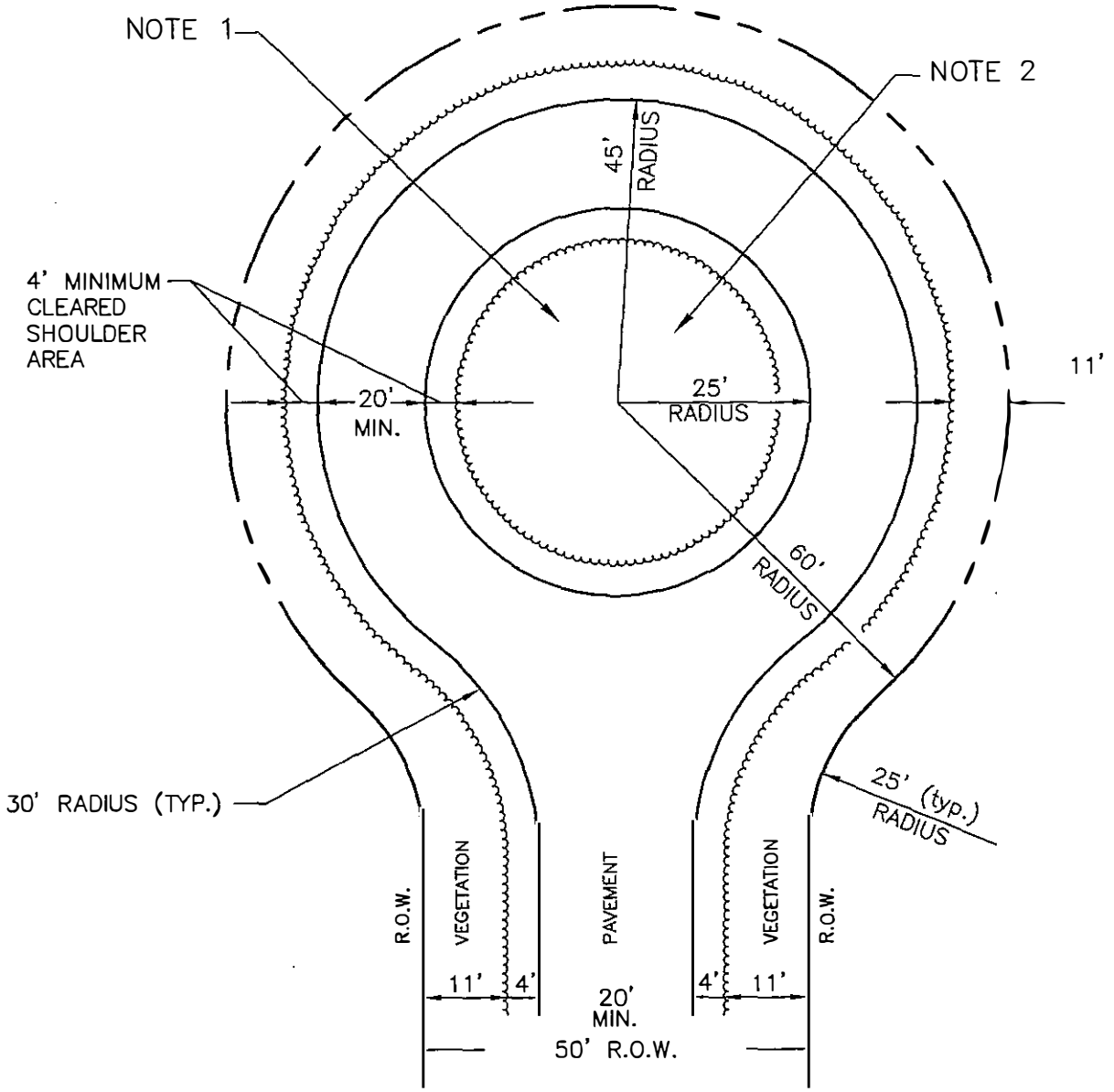
NOTES:

* PARKING STALLS SHALL BE A MINIMUM OF 180 SQUARE FEET WITH STANDARD STALL DIMENSIONS 9'x20' OR 10'x18'.

** WIDTH OF LOADING AREA SHALL BE 5'–0" FOR PASSENGER CARS AND 8'–0" FOR VAN PARKING.

TYPICAL ACCESSIBLE PARKING SPACE

(NOT TO SCALE)

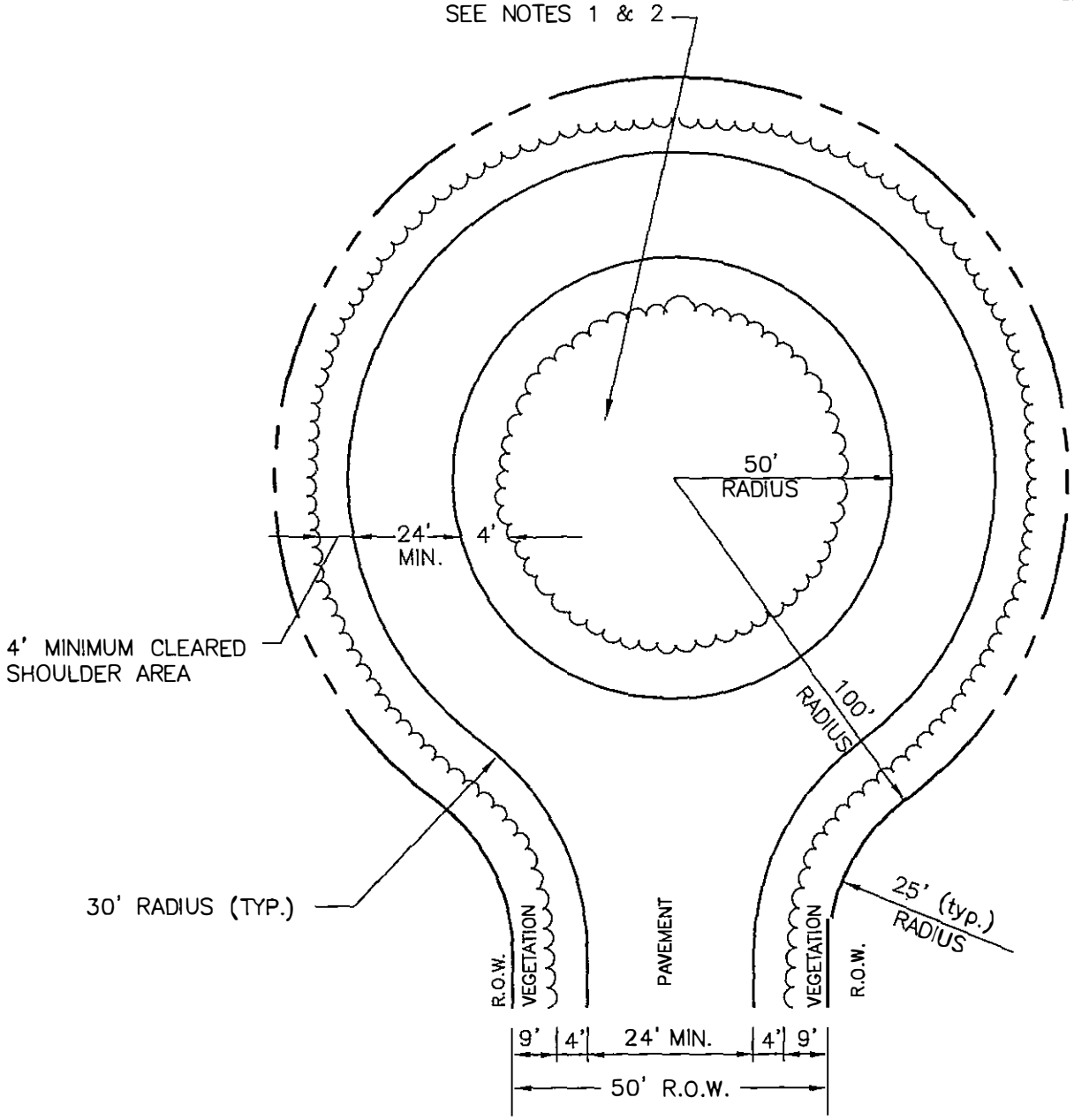


CUL-DE-SAC TYPE A

NOT TO SCALE

NOTES

1. THIS AREA NOT TO BE USED FOR RESERVED AREA.
2. ISLAND TO BE NATURAL OR REPLANTED VEGETATION.

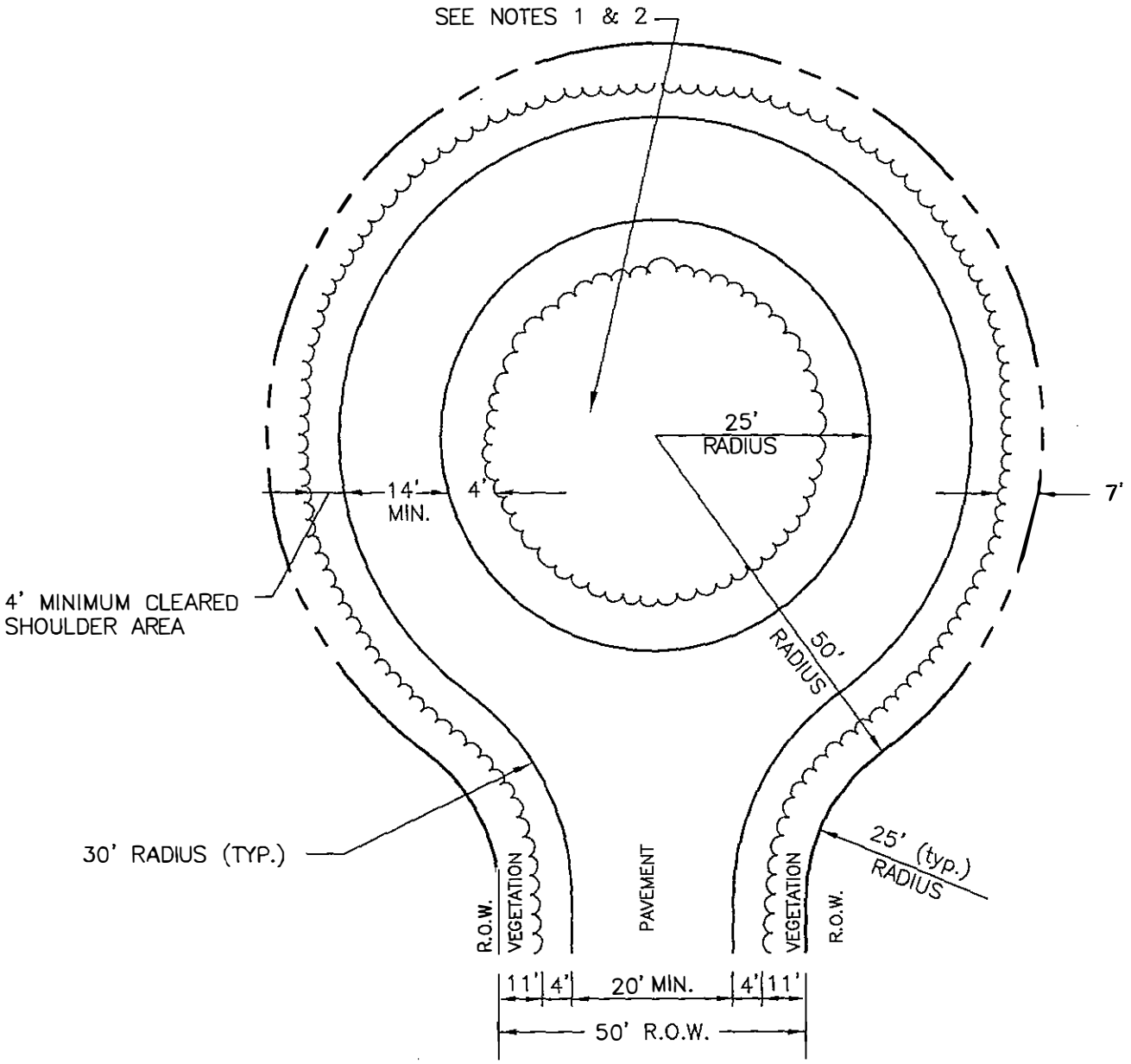


CUL-DE-SAC TYPE B

NOT TO SCALE

NOTES

1. THIS AREA NOT TO BE USED FOR RESERVED AREA.
2. ISLAND TO BE NATURAL VEGETATION.

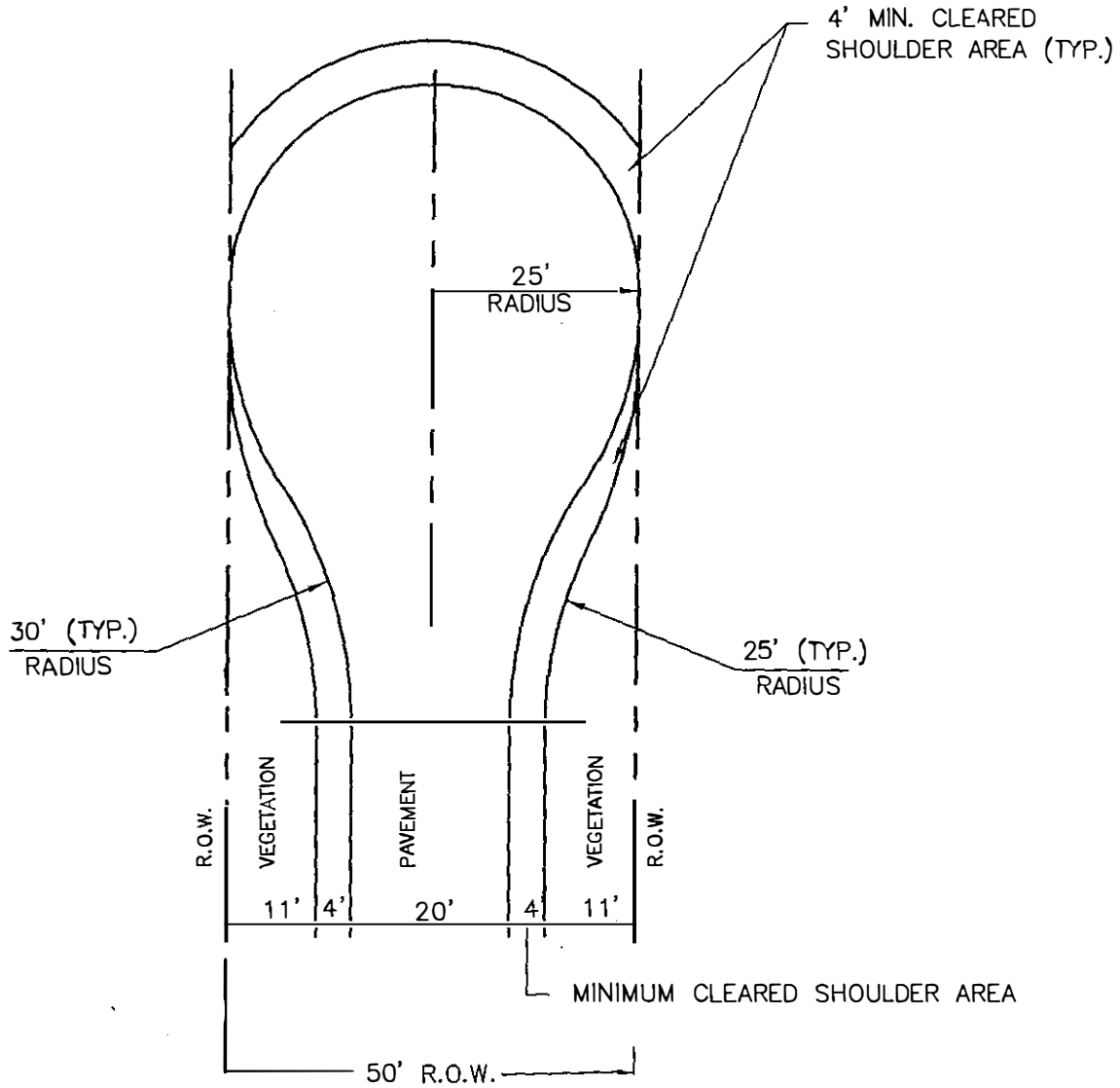


CUL-DE-SAC TYPE C

NOT TO SCALE

NOTES

1. THIS AREA NOT TO BE USED FOR RESERVED AREA.
2. ISLAND TO BE NATURAL OR REPLANTED VEGETATION.
3. FOR USE WITH LANE SPECIFICATION STREETS ONLY.
4. REQUIRES SPECIAL PERMISSION OF THE PLANNING BOARD.



CUL-DE-SAC TYPE D

NOT TO SCALE

NOTES

1. FOR USE IN TERMINATING STREETS IN ANY ROAD IMPROVEMENT PLANS FOR OLD FILED MAP.