

A. Appendix A – Development Application Documentation

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1. Application Worksheets

WORKSHEET

Date (fill-in) <i>(some or all of these steps may be required)</i>	Action	Description
_____	PRE-APPLICATION MEETING	The Applicant is encouraged to meet with County staff early in the process, for concept plan discussion.
_____	FIELD MEETING: Required if there is an existing OR proposed access onto the County road.	Staff must meet with the Applicant's surveyor to measure sight distances, other issues. Call 973-579-0500 x0 to set an appointment.
_____	COMPLETE APPLICATION WITH CHECKLIST	A complete application and fee is submitted with the checklist by Monday, two weeks before Dev. Review Committee meeting.
(Fill in SCPB # :) _____	Applicant receives notification of complete application with SCPB# for later reference	Applicant will be notified if additional information is required on plans. If complete, a date of DEVELOPMENT REVIEW committee meeting will be set. Staff will review in the meantime.
_____	DEVELOPMENT REVIEW COMMITTEE MEETING	Public meeting held with some County Planning Board members, approval or disapproval is decided by Committee.
_____	In special situations: WAIVER REQUESTS TO COUNTY PLANNING BOARD	Waivers from some County standards may be requested in writing, along with specific reasons. Refer to IV.F
_____	SUBMIT REVISED PLANS WITH COVER LETTER	Revised plans are submitted with a cover letter that outlines the changes made, and addresses the County reports by line item number.
(See separate sheet.)	DEEDS TO COUNTY	Deeds to the County are needed for easements and dedications
_____	Applicant receives PRELIMINARY APPROVAL	Once Applicant receives letter of approval, Entrance Permit and Road Opening Permit can be issued for construction based on approved plans, and local Building Permit can be issued.

COUNTY PLANNING BOARD APPROVAL PROCESS
WORKSHEET

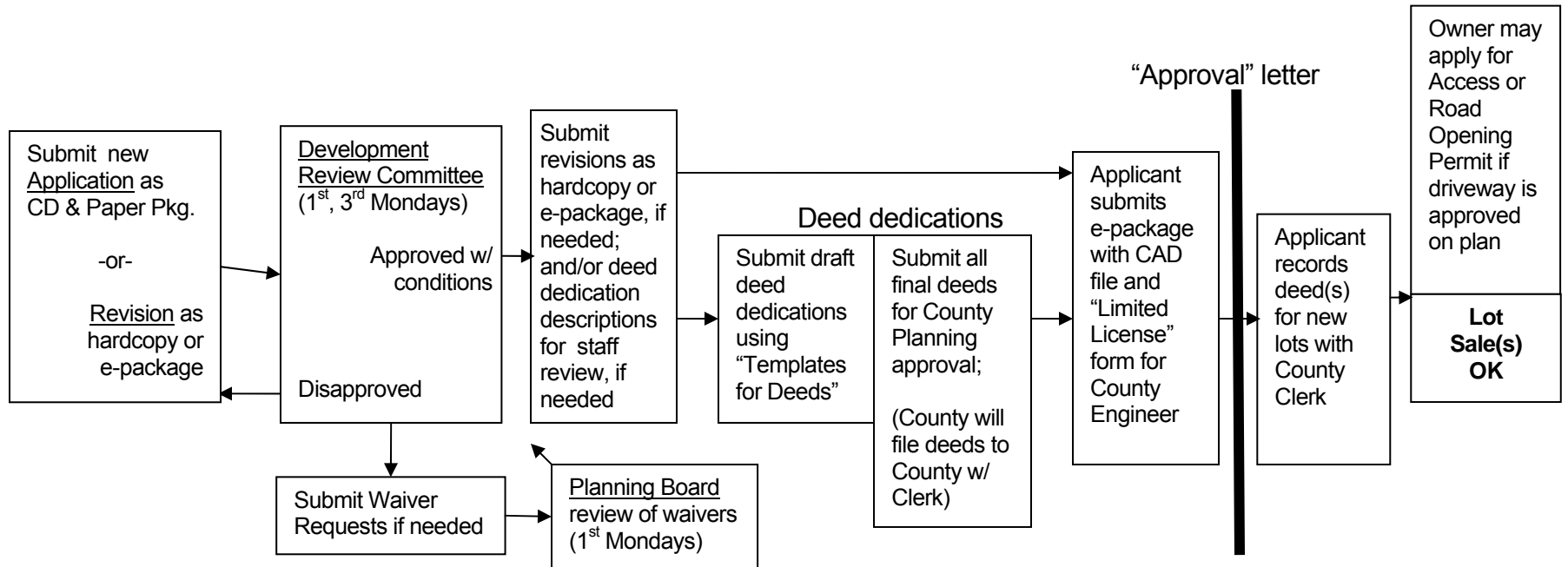
_____	DEEDS TO COUNTY	For deeds being granted to the County of Sussex: deed descriptions are submitted for approval and deed templates are provided to the Applicant's attorney for them to prepare the deeds, using correct owner certification.
_____	DEEDS SUBMITTED TO COUNTY RECORDING	Signed deeds to County are submitted to County Planning office and we record them. This must be done before Final Plat mylars are signed, and before any lots for Minor Subdivision are perfected.
_____	FINAL PLAN AND APPROVAL	After conditions of preliminary are met, a Final Subdivision or Site Plan is submitted.

FOR MORE INFORMATION:

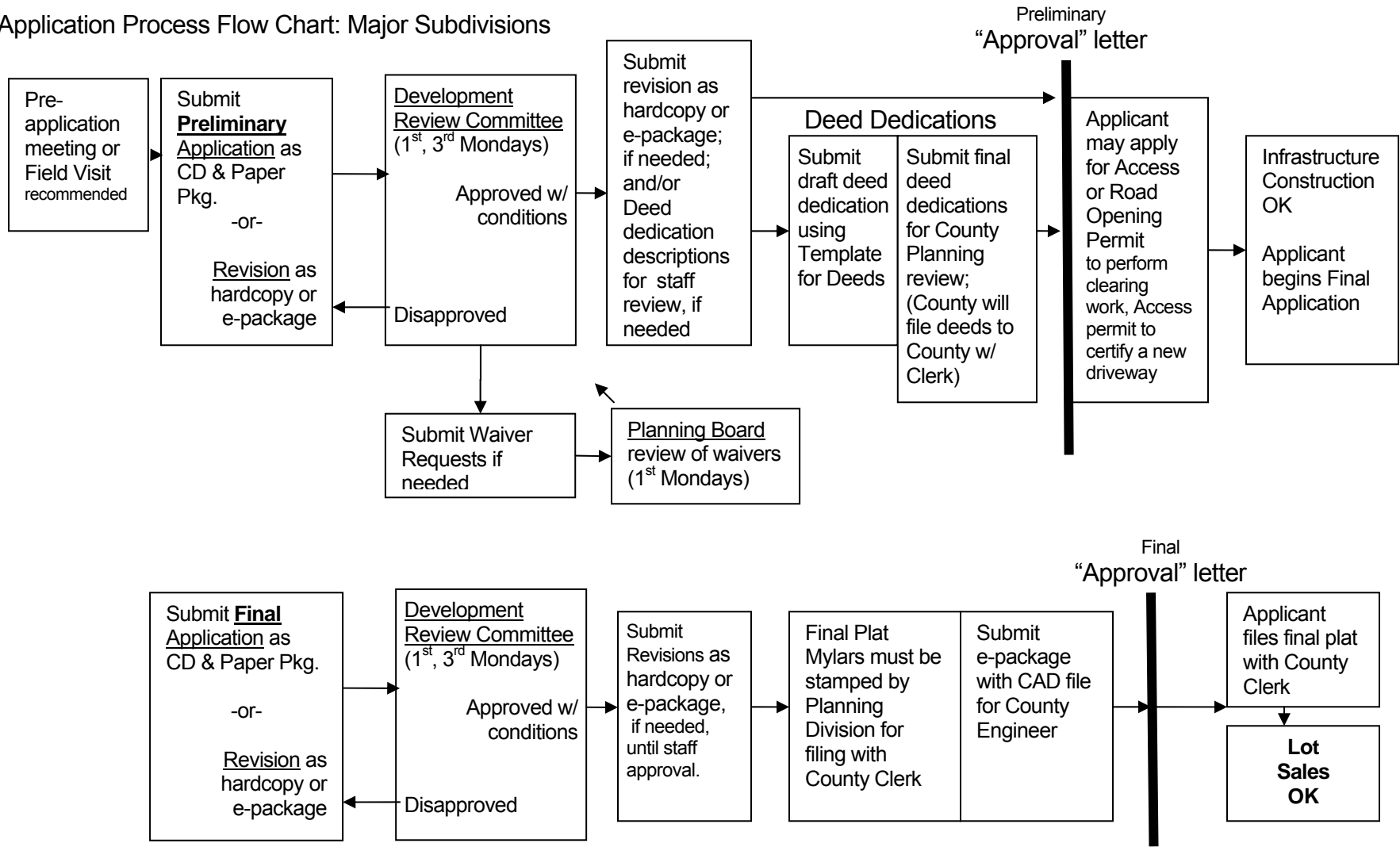
Contact the Sussex County Planning Division,
(973) 579-0500 or check the website www.sussex.nj.us

2. Application Flow Charts

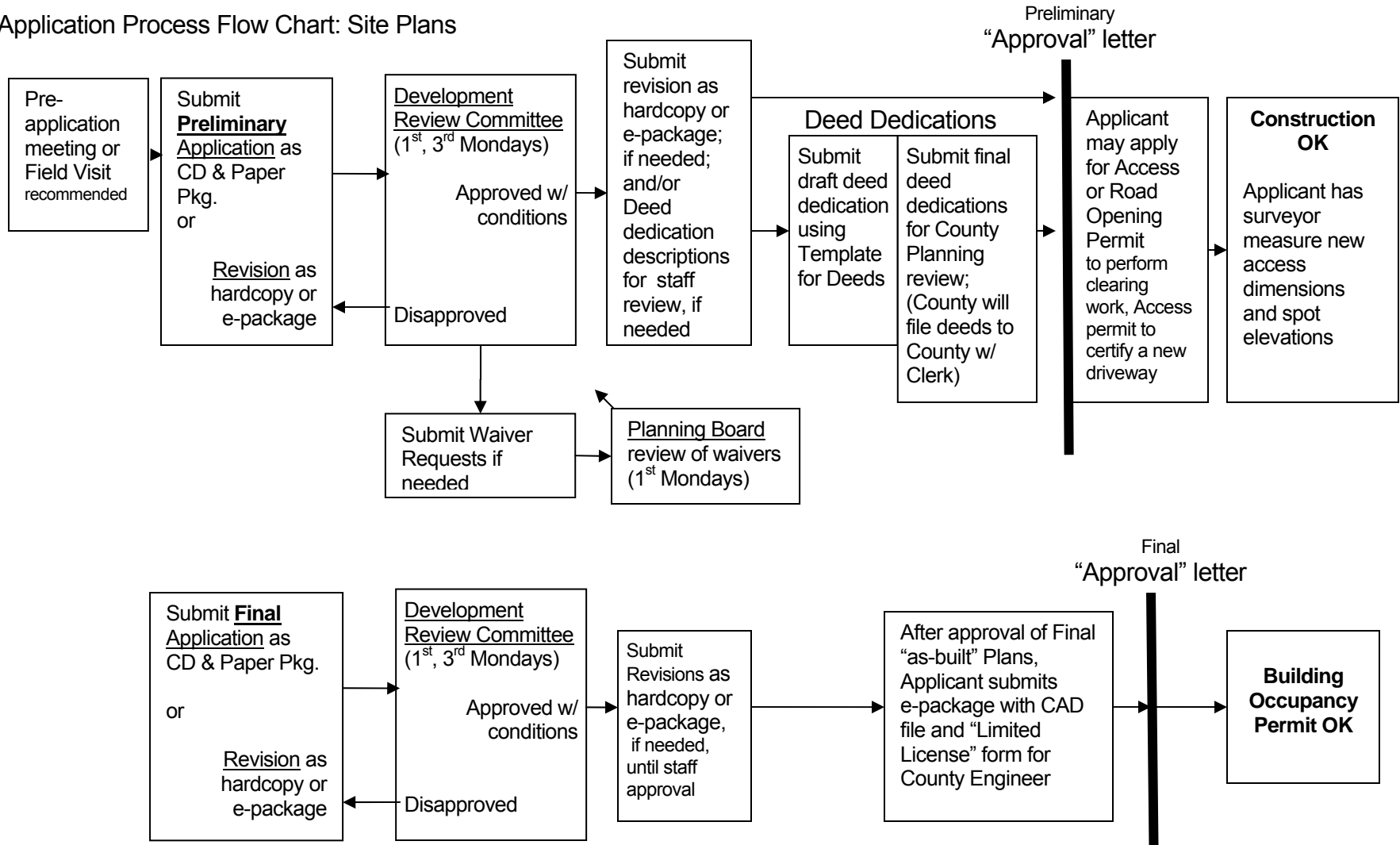
Application Process Flow Chart: Minor Subdivisions



Application Process Flow Chart: Major Subdivisions



Application Process Flow Chart: Site Plans



3. New Jersey County Planning Enabling Act

40:27-1. Planning board; members; appointment and term; expenses

The board of chosen freeholders may create a county planning board of not less than five nor more than nine members. The members of such planning board shall be the director of the board of chosen freeholders, one member of the board of chosen freeholders, to be appointed by the director, the county engineer, if the board exceed six in number, and other citizens who may not hold any other county office and who shall be appointed by such director of the board of chosen freeholders with the approval of that body. One of the remaining members shall be appointed for two years, two shall be appointed for three years, and all additional remaining members shall be appointed for four years, and thereafter their successors shall be appointed for the term of three years from and after the expiration of the terms of their predecessors in office. All members of the county planning board shall serve as such without compensation, but may be paid expenses incurred in the performance of duties.

40:27-1.1. Alternate members; appointment; resolution

The board of chosen freeholders may, by resolution, provide for the appointment of alternate members to the county planning board in accordance with the following:

- a. Where the county planning board consists of six members or less, the director of the board of chosen freeholders, with the approval of a majority of the board of freeholders, may appoint one alternate citizen member;
- b. Where the county planning board consists of more than six members, the director of the board of chosen freeholders, with the approval of a majority of the board of freeholders, may appoint two alternate citizen members. These members shall be designated by the director as "Alternate No. 1" and "Alternate No. 2" and shall participate in the planning board's decision in rotation during the absence or disqualification of any citizen member;
- c. Where the county engineer is a member of the planning board, the director of the board of chosen freeholders, with the approval of a majority of the board of freeholders, may appoint the assistant or deputy county engineer to serve as an alternate to the county engineer;
- d. The director of the board of chosen freeholders, with the approval of a majority of the board of freeholders, may appoint a member of the board of chosen freeholders to serve as an alternate to the two freeholder members.

Alternate members shall be appointed for terms to expire at the same time as the terms of the regular members for whom they are alternates. An alternate member shall be entitled to sit with and participate as a member in any hearing before the board. Any alternate member who has attended the full hearing or hearings may participate in the board's decision during the absence or disqualification of any regular member for whom he is an alternate.

L.1975, c. 186, s. 1, eff. Aug. 16, 1975.

40:27-2. Duties of board; master plan; Municipal co-operation

The county planning board shall make and adopt a master plan for the physical development of the county. The master plan of a county, with the accompanying maps, plats, charts, and descriptive and explanatory matter, shall show the county planning board's recommendations for the

development of the territory covered by the plan, and may include, among other things, the general location, character, and extent of streets or roads, viaducts, bridges, waterway and waterfront developments, parkways, playgrounds, forests, reservations, parks, airports, and other public ways, grounds, places and spaces; the general location and extent of forests, agricultural areas, and open-development areas for purposes of conservation, food and water supply, sanitary and drainage facilities, or the protection of urban development, and such other features as may be important to the development of the county.

The county planning board shall encourage the co-operation of the local Municipalities within the county in any matters whatsoever which may concern the integrity of the county master plan and to advise the board of chosen freeholders with respect to the formulation of development programs and budgets for capital expenditures.

40:27-3. Employees; experts; master plan part of improvement; bonds

The county planning board may employ experts and pay for their and such other expenses as may be deemed necessary for the making of the master plan and for the carrying out of such other duties as are herein prescribed, except that such board may expend only such sums as may be appropriated by the board of chosen freeholders or be placed at its disposal through gift. The making of the master plan shall be regarded as essential preliminary studies incidental to the later carrying out of capital improvement projects over an indefinite period of years and may be funded by serial notes or bonds to be issued by the county, the terms of which shall not exceed five years.

40:27-4. Hearing before plan adopted; notice of hearing; resolution; vote required; Municipal master plan, official map or ordinance

a. Before adopting the master plan or any part thereof or any amendment thereof the board shall hold at least one public hearing thereon, notice of the time and place of which shall be given by one publication in a newspaper of general circulation in the county and by the transmission by delivery or by certified mail, at least 20 days prior to such hearing, of a notice of such hearing and a copy of the proposed master plan, or part thereof or any proposed amendment thereof to the Municipal clerk and secretary of the planning board of each Municipality in the county. The adoption of the plan or part or amendment thereof shall be by resolution of the board carried by the affirmative vote of not less than 2/3 of the members of the board. The resolution shall refer especially to the maps and descriptive and other matter intended by the board to form the whole or part of the plan or amendment and the action taken shall be recorded on the map and plan and descriptive matter by the identifying signature of the secretary of the board. An attested copy of the master plan or any amendments thereof shall be certified to the board of chosen freeholders, to the county park commission, if such exists, and to the legislative body of every Municipality within the county.

b. In order to maximize the degree of co-ordination between Municipal and county plans and official maps, the county planning board shall be notified in regard to the adoption or amendment of any Municipal master plan, official map or ordinance under the "Municipal Planned Unit Development Act (1967)." A copy of any such proposed plan, map or

amendment shall be forwarded to the county planning board for review and report at least 20 days prior to the date of public hearing thereon.

c. Within 30 days after the adoption of a zoning ordinance, subdivision ordinance, master plan, official map, capital improvement program, or amendments thereto, a copy of said document shall be transmitted to the county planning board for its information and files.

Amended by L.1968, c. 285, s. 2, eff. July 1, 1969.

40:27-5. Adding to county map; changes submitted to board; map considered binding

The board of chosen freeholders in any county after receiving the advice of the county planning board is hereby empowered to adopt and establish and thereafter as often as the board may deem it for the public interest, to change or to add to an official county map, showing the highways, roadways, parks, parkways, and sites for public buildings or works, under county jurisdiction, or in the acquisition, financing or construction of which the county has participated or may be called upon to participate. Such map shall be deemed to have been established to conserve and promote the public health, safety, convenience, and welfare. Before acting thereon in the first instance and before adopting any amendments thereto such board of chosen freeholders, after notice of time and place has been given by one publication for each of 3 successive weeks in a newspaper of general circulation in the county and after written notice to the county engineer, county planning board, county park commission, if such exists, and such other county officers and departments as the board shall designate and to the Municipal clerk and secretary of the planning board of each Municipality in the county, shall hold a public hearing or hearings thereon at which such representatives entitled to notice and such property owners and others interested therein as shall so desire shall be heard.

Before holding any such public hearing such board of chosen freeholders shall submit such proposed change or addition to the county planning board for its consideration and advice and shall fix a reasonable time within which such county planning board may report thereon, not, however, less than 20 days; upon receipt of such report from the county planning board or upon the failure of such board to report within the time limit so fixed such board of chosen freeholders may thereupon act upon the proposed change, but any action adverse to the report of the county planning board shall require the affirmative vote of the majority of all the members of such board of chosen freeholders.

When approved in whole or part by the board of chosen freeholders in any county, such county official map or part thereof shall be deemed to be binding upon the board of chosen freeholders of the county and the several county departments thereof, and upon other county boards heretofore or hereafter created under special laws, and no expenditure of public funds by such county for construction work or the acquisition of land for any purpose enumerated in section 40:27-2 of this Title shall be made except in accordance with such official map.

Nothing herein prescribed shall be construed as restricting or limiting the powers of boards of chosen freeholders from repairing, maintaining and improving any existing street, road, viaduct, bridge or parkway not shown on such official maps, which does not involve the acquisition of additional land or of park commissions as otherwise provided by law.

Amended by L.1964, c. 239, s. 1, eff. Dec. 23, 1964; L.1968, c. 285, s. 3, eff. July 1, 1969.

40:27-6. Buildings and highways; permits; hearing; penalty; enjoining construction

No building shall be erected in the bed of any highway adopted and shown as a part of the official county map unless a permit therefore is issued by the board of chosen freeholders. For such purpose such board is hereby created a discretionary administrative body, and shall when so acting be deemed an independent statutory body and all its transactions when so acting shall be separately recorded in minutes independent of the minutes of the board of chosen freeholders when acting as a legislative body. When so acting it shall have power by a vote of a majority of all its members to grant or withhold such a permit.

In such a meeting the board shall have power in considering the application for a permit for a specific building, by a vote of a majority of all its members, to grant a permit for a building in such a highway, which will as little as practicable increase the cost of opening such highway, or tend to cause a change of such official map, and such board shall impose reasonable requirements as a condition of granting such permit, which requirements shall be designed to promote the health, convenience, safety and general welfare of the public and shall inure to the benefit of the county. Before taking such action the board shall give a public hearing at which parties in interest and others shall have an opportunity to be heard. At least ten days' notice of the time and place of such hearing shall be published in a newspaper of general circulation in the county. The board shall refuse a permit where the land of the Applicant within the mapped highway is already earning a fair return, or where he is in no way injured by placing his building outside of the mapped highway.

Whoever shall construct or begin the construction of such a building without a permit shall forfeit and pay a penalty of not more than one hundred dollars (\$100.00) for each day that work on such structure continues. The county may bring an action to enjoin such construction and may also recover the penalty by a civil action in any court of competent jurisdiction.

Amended by L.1953, c. 37, p. 646, s. 53, eff. March 19, 1953.

40:27-6.1. Definitions

As used in this act and in chapter 27 of Title 40 of the Revised Statutes, unless the context otherwise requires:

"County master plan" and "master plan" means a composite of the master plan for the physical development of the county, with the accompanying maps, plats, charts and descriptive and explanatory matter adopted by the county planning board pursuant to Revised Statutes 40:27-2;

"County planning board" means a county planning board established by a county pursuant to R.S. 40:27-1 to exercise the duties set forth in such chapter, and means, in any county having adopted the provisions of the "Optional County Charter Law" (P.L.1972, c. 154; C. 40:41A-1 et seq.), any department, division, board or agency established pursuant to the administrative code of such county to exercise such duties, but only to the degree and extent that the requirements specified in such chapter for county planning boards do not conflict with the organization and structure of such department, division, agency or board as set forth in the administrative code of such county;

"Official county map" means the map, with changes and additions thereto, adopted and established, from time to time, by resolution of the board of chosen freeholders of the county pursuant to R.S. 40:27-5;

"Site plan" means a plan of an existing lot or plot or a subdivided lot on which is shown topography, location of all existing and proposed buildings, structures, drainage facilities, roads, rights-of-way, easements, parking areas, together with any other information required by and at a scale specified by a site plan review and approval resolution adopted by the board of chosen freeholders pursuant to this act;

"Subdivision" means the division of a lot, tract, or parcel of land into two or more lots, tracts, parcels or other divisions of land for sale or development. The following shall not be considered subdivisions within the meaning of this act, if no new streets are created: (1) divisions of land found by the planning board or subdivision committee thereof appointed by the chairman to be for agricultural purposes where all resulting parcels are 5 acres or larger in size, (2) divisions of property by testamentary or intestate provisions, (3) divisions of property upon court order, including but not limited to judgments of foreclosure, (4) consolidation of existing lots by deed or other recorded instrument and (5) the conveyance of one or more adjoining lots, tracts or parcels of land, owned by the same person or persons and all of which are found and certified by the administrative officer to conform to the requirements of the Municipal development regulations and are shown and designated as separate lots, tracts or parcels on the tax map or atlas of the Municipality. The term "subdivision" shall also include the term "resubdivision."

"Subdivision applications" means the application for approval of a subdivision pursuant to the "Municipal Land Use Law" (P.L.1975, c. 291; C. 40:55D-1 et seq.) or an application for approval of a planned unit development pursuant to the "Municipal Land Use Law" (P.L.1975, c. 291; C. 40:55D-1 et seq.).

L.1968, c. 285, s. 1, eff. July 1, 1969. Amended by L.1979, c. 216, s. 27.

40:27-6.2. Review and approval of all subdivisions of land; procedures; engineering and planning standards

The board of freeholders of any county having a county planning board shall provide for the review of all subdivisions of land within the county by said county planning board and for the approval of those subdivisions affecting county road or drainage facilities as set forth and limited hereinafter in this section. Such review or approval shall be in accordance with procedures and engineering and planning standards adopted by resolution of the board of chosen freeholders. These standards shall be limited to:

- a. The requirement of adequate drainage facilities and easements when, as determined by the county engineer in accordance with county-wide standards, the proposed subdivision will cause storm water to drain either directly or indirectly to a county road, or through any drainage way, structure, pipe, culvert, or facility for which the county is responsible for the construction, maintenance, or proper functioning;
- b. The requirement of dedicating rights-of-way for any roads or drainage ways shown on a duly adopted county master plan or official county map;
- c. Where a proposed subdivision abuts a county road, or where additional rights-of-way and physical improvements are required by the county planning board, such improvements shall be subject to recommendations of the county engineer relating to the safety and convenience of the traveling public and may include additional pavement widths, marginal access streets, reverse frontage and other county highway and traffic design features necessitated by an

increase in traffic volumes, potential safety hazards or impediments to traffic flows caused by the subdivision;

d. The requirement of performance guarantees and procedures for the release of same, maintenance bonds for not more than 2 years duration from date of acceptance of improvements and agreements specifying minimum standards of construction for required improvements. The amount of any performance guarantee or maintenance bond shall be set by the planning board upon the advice of the county engineer and shall not exceed the full cost of the facility and installation costs or the Applicant's proportionate share thereof, computed on the basis of his acreage related to the acreage of the total drainage basin involved plus 10% for contingencies. In lieu of providing any required drainage easement a cash contribution may be deposited with the county to cover the cost or the proportionate share thereof for securing said easement. In lieu of installing any such required facilities exterior to the proposed plat a cash contribution may be deposited with the county to cover the cost of proportionate share thereof for the future installation of such facilities. Any and all moneys received by the county to insure performance under the provisions of this act shall be paid to the county treasurer who shall provide a suitable depository therefore. Such funds shall be used only for county drainage projects or improvement for which they are deposited unless such projects are not initiated for a period of 10 years, at which time said funds shall be transferred to the general fund of the county, provided that no assessment of benefits for such facilities as a local improvement shall thereafter be levied against the owners of the lands upon which the Applicant's prior contribution had been based. Any moneys or guarantees received by the county under this paragraph shall not duplicate bonds or other guarantees required by Municipalities for Municipal purposes.

e. Provision may be made for waiving or adjusting requirements under the subdivision resolution to alleviate hardships which would result from strict compliance with the subdivision standards. Where provision is made for waiving or adjusting requirements criteria shall be included in the standards adopted by the board of chosen freeholders to guide actions of the county planning board.

Notice of the public hearing on a proposed resolution of the board of chosen freeholders establishing procedures and engineering standards to govern land subdivision within the county, and a copy of such resolution, shall be given by delivery or by certified mail to the Municipal clerk and secretary of the planning board of each Municipality in the county at least 10 days prior to such hearing.

L.1968, c. 285, s. 4, eff. July 1, 1969.

40:27-6.3. Submission of subdivision application to board for review and approval; report to Municipal authority

Each subdivision application shall be submitted to the county planning board for review and, where required, approval prior to approval by the local Municipal approving authority. County approval of any subdivision application affecting county road or drainage facilities shall be limited by and based upon the rules, regulations and standards established by and duly set forth in a resolution adopted by the board of chosen freeholders. The Municipal approval authority shall either defer taking final action on a subdivision application until receipt of the county planning board report thereon or approve the subdivision application subject to its timely receipt of a favorable report

thereon by the county planning board. The county planning board shall report to the Municipal authority within 30 days from the date of receipt of the application. If the county planning board fails to report to the Municipal approving authority within the 30-day period, said subdivision application shall be deemed to have been approved by the county planning board unless, by mutual agreement between the county planning board and Municipal approving authority, with approval of the Applicant, the 30-day period shall be extended for an additional 30-day period, and any such extension shall so extend the time within which a Municipal approving authority shall be required by law to act thereon.

L.1968, c. 285, s. 5, eff. July 1, 1969. Amended by L.1971, c. 371, s. 1, eff. July 1, 1971.

40:27-6.4. Review of subdivision application; withholding of approval

The county planning board shall review each subdivision application and withhold approval if said proposed subdivision does not meet the subdivision approval standards previously adopted by the board of chosen freeholders, in accordance with section 4 of this act. In the event of the withholding of approval, or the disapproval of, a subdivision application, the reasons for such action shall be set forth in writing and a copy thereof shall be transmitted to the Applicant.

L.1968, c. 285, s. 6, eff. July 1, 1969.

40:27-6.5. Certification of subdivision plat; acceptance for filing

The county recording officer shall not accept for filing any subdivision plat unless it bears the certification of either approval or of review and exemption of the authorized county planning board officer or staff member indicating compliance with the provisions of this act and standards adopted pursuant thereto, in addition to all other requirements for filing a subdivision plat including compliance with the provisions of "The Map Filing Law" (P.L.1960, c. 141). In the event the county planning board shall have waived its right to review, approve or disapprove a subdivision by failing to report to the Municipal approval authority within the 30-day period or the mutually agreed upon 30-day extension period, as outlined in section 5 above, the subdivision shall be deemed to have county planning board approval, and at the request of the Applicant, the secretary of the county planning board shall attest on the plat to the failure of the county planning board to report within the required time period, which shall be sufficient authorization for further action by the Municipal planning board and acceptance thereof for filing by the county recording officer.

L.1968, c. 285, s. 7, eff. July 1, 1969.

40:27-6.6. Review and approval of site plans for land development along county roads or affecting county drainage facilities

The governing body of any county having a county planning board may provide for the review of site plans for land development along county roads or affecting county drainage facilities as provided in subsection e. of this section and for the approval of such development as hereinafter set forth and limited for the purpose of assuring a safe and efficient county road system. Such review and approval shall be in conformance with procedures and standards adopted by resolution or ordinance as appropriate of the governing body. Notice of the public hearing on a proposed resolution or ordinance of the governing body establishing procedures and standards to govern the review and regulation of land development along county roads or affecting county drainage facilities as provided in subsection e. of this section, and a copy of such resolution or ordinance, shall be given by delivery or by certified mail to the Municipal clerk, secretary of the planning board and secretary of

the board of adjustment of each Municipality in the county at least 10 days prior to such hearing. These procedures and standards shall be limited to:

- a. The submission of a site plan, prior to the issuance of a Municipal building permit, drawn in accordance with standards in the resolution or ordinance for any proposed land development, excluding single family residential development but including proposed commercial, industrial, multifamily structures containing five or more units, or any other land development requiring off-street parking area or producing surface runoff in excess of standards set forth in the site plan review and approval resolution or ordinance of the governing body.
- b. The requirement of dedication of additional right-of-way in accordance with the county master plan adopted by the county planning board or an official county map adopted by the governing body. Where by reason of special or unusual conditions said total additional right-of-way is to be secured from just one side of an existing road, only one-half of the additional right-of-way may be required to be dedicated.
- c. The requirement of physical improvements subject to recommendations of the county engineer relating to the safety and convenience of the traveling public, including drainage facilities, or other highway and traffic design features as may be deemed necessary on such county road or roads in accordance with the engineering and planning standards established in the site plan review and approval resolution or ordinance of the governing body.
- d. The requirement of performance and payment guarantees and procedures for the release of same, maintenance bonds of not more than 2 years' duration from the date of acceptance of improvements, cash contributions, and agreements specifying minimum standards of construction for required improvements. Procedures for, and limitations on the requirement of such guarantees or cash contributions shall be governed by the provisions of this act.
- e. The requirement of adequate drainage facilities and easements when, as determined by the county engineer in accordance with county-wide standards, the proposed site plan will cause storm water to drain either directly or indirectly to a county road or through any drainage-way, structure, pipe, culvert or facility for which the county is responsible for the construction, maintenance or proper functioning.

Site plans for land development not along a county road that include less than 1 acre of impervious surfaces are exempt from county site plan review.

L.1968, c. 285, s. 8, eff. July 1, 1969. Amended by L.1981, c. 50, s. 1, eff. Feb. 25, 1981.

40:27-6.7. Report of approval or disapproval to local authority; time limit; extension

The Municipal or other local agency or individual with authority to approve the site plan or issue a building permit shall defer action on any application requiring county approval pursuant to section 7 of this act until the same shall have been submitted to the county planning board for its approval of the site plan. The county planning board shall have 30 days from the receipt of a site plan to report to the appropriate local authority. In the event of disapproval, such report shall state the specific reasons therefore. If the county planning board fails to report to the Municipal approving

or issuing authority within the 30-day period, said site plan shall be deemed to have been approved by the county planning board. Upon mutual agreement between the county planning board and the Municipal approving authority, with approval of the Applicant, the 30-day period may be extended for an additional 30-day period.

L.1968, c. 285, s. 9, eff. July 1, 1969.

40:27-6.8. Resolution vesting power to review and approve subdivisions and site plans with director

The county planning board may by resolution vest its power to review and approve subdivisions, pursuant to the provisions of sections 4 through 6 of this act, and the power to review and approve site plans pursuant to the provisions of sections 8 and 9 of this act with the county planning director and a designated committee of members of said county planning board.

L.1968, c. 285, s. 10, eff. July 1, 1969.

40:27-6.9. Appeal by aggrieved persons; hearing; decision

If said action is taken by the planning director and a committee of the board, said Applicant may file an appeal in writing to the county planning board within 10 days after the date of notice by certified mail of the said action. Any person aggrieved by the action of the county planning board in regard to subdivision review and approval or site plan review and approval may file an appeal in writing to the board of chosen freeholders within 10 days after the date of notice by certified mail of said action. The county planning board or the board of chosen freeholders to which an appeal is taken shall consider such appeal at a regular or special public meeting within 45 days from the date of its filing. Notice of said hearing shall be made by certified mail at least 10 days prior to the hearing to the Applicant and to such of the following officials as deemed appropriate for each specific case: the Municipal clerk, Municipal planning board, board of adjustment, building inspector, zoning officer, board of chosen freeholders and the county planning board. The board to which appeal is taken shall render a decision within 30 days from the date of the hearing.

L.1968, c. 285, s. 11, eff. July 1, 1969.

40:27-6.10. Filing copy of planning and zoning ordinances with boards; notice of proposed revision of ordinance

In order that county planning boards shall have a complete file of the planning and zoning ordinances of all Municipalities in the county, each Municipal clerk shall file with the county planning board a copy of the planning and zoning ordinances of the Municipality in effect on the effective date of this act and shall notify the county planning board of the introduction of any revision or amendment of such an ordinance which affects lands adjoining county roads or other county lands, or lands lying within 200 feet of a Municipal boundary, or proposed facilities or public lands shown on the county master plan or official county map. Such notice shall be given to the county planning board at least 10 days prior to the public hearing thereon by personal delivery or by certified mail of a copy of the official notice of the public hearing together with a copy of the proposed ordinance.

L.1968, c. 285, s. 12, eff. July 1, 1968.

40:27-6.11. Application to board of adjustment involving land fronting county road, adjoins other county lands or is within 200 feet of Municipal boundary; notice

The county planning board shall be notified of any application to the board of adjustment under Revised Statute 40:55-39 in such cases where the land involved fronts upon an existing county road or proposed road shown on the official county map or on the county master plan, adjoins the other county land or is situated within 200 feet of a Municipal boundary. Notice of hearings on such applications shall be furnished by the appellant in accordance with P.L.1965, c. 162 (C. 40:55-53).

L.1968, c. 285, s. 13, eff. July 1, 1969.

40:27-6.12. Continuation of board's authority to review and approve land subdivision

Any county planning board exercising the authority of review and approval of land subdivision pursuant to the provisions of chapter 27 of Title 40 of the Revised Statutes and chapter 412 of the laws of 1948 supplementary thereto is authorized to continue to exercise such authority thereunder for the period of 1 year after the effective date of this act or until the board of chosen freeholders of the county adopts a resolution governing land subdivision pursuant to this act, whichever occurs first.

L.1968, c. 285, s. 14, eff. July 1, 1969.

40:27-6.13. Notice of hearing on granting variance or establishing or amending official Municipal map; contents

Whenever a hearing is required before a zoning board of adjustment or the governing body of a Municipality in respect to the granting of a variance or establishing or amending an official Municipal map involving property adjoining a county road or within 200 feet of an adjoining Municipality, and notice of said hearing is required to be given, the person giving such notice shall also, at least 10 days prior to the hearing, give notice thereof in writing by certified mail to the county planning board. The notice shall contain a brief description of the property involved, its location, a concise statement of the matters to be heard and the date, time and place of such hearing.

L.1968, c. 285, s. 15, eff. July 1, 1969.

40:27-8. Existing boards continued in conformity with this chapter

County planning boards lawfully in existence on June eighth, one thousand nine hundred and thirty-five, if continued after January first, one thousand nine hundred and thirty-six, shall be reconstituted in accordance with the provisions of this chapter.

4. Map Filing Law

46:23-9.8. Effective date

This act shall take effect January first, one thousand nine hundred and fifty-four. L.1953, c. 358, p. 1941, s. 8.

46:23-9.9. Short title

This act shall be known and may be cited as "the map filing law. L.1960, c. 141, p. 662, s. 1, eff. Jan. 1, 1961.

46:23-9.10. Definitions

2. Definitions. As used in this act:

a. "Map" means a map, plat, condominium plan, right of way parcel maps of the State, county or Municipality, chart, or survey of lands presented for approval to the proper authority as hereinafter defined or presented for filing in accordance with the provisions of this act, but does not mean a map, plat or sketch required to be filed or recorded under the provisions of P.L.1957, c.130 (C.48:3-17.2).

b. "Municipal Engineer" means the official licensed professional engineer appointed by the proper authority of the Municipality wherein the territory shown on a map is situate.

c. The term "Professional Engineer" means a person who is legally authorized to practice professional engineering in this State in accordance with the provisions of P.L.1938, c.342 (C.45:8-27 et seq.).

d. The term "Land Surveyor" means a person who is legally authorized to practice land surveying in this State in accordance with the provisions of P.L.1938, c.342 (C.45:8-27 et seq.).

e. "Proper authority" means the chief legislative body of a Municipality or any other agencies to whom the authority for the approval of maps may be duly designated by ordinance.

f. "Right of way parcel map" means any general property parcel map of the State, county or Municipality which shows highways, roads or street acquisitions and any associated easements for highway, road or street rights of way.

g. "Entire tract" means all of the property that is being subdivided including lands remaining after subdivision.

h. "Condominium plan" means a survey of the condominium property in sufficient detail to show and identify common elements, each unit and their respective locations and appropriate dimensions, which shall be filed in accordance with the requirements of section 3 of P.L.1960, c.141 (C.46:23-9.11). A condominium plan shall bear a certification by a land surveyor, professional engineer or architect authorized and qualified to practice in this State setting forth that the plan constitutes a correct representation of the improvements described.

i. "General property parcel map" means any right of way parcel map showing a grouping of parcel and easement acquisitions for part of a section of a highway, road or street project. L.1960,c.141,s.2; amended 1997, c.211, s.1; 1998, c.23, s.2.

46:23-9.11. Requirements for approval

3. Requirements for Approval.

All subdivision plats, both major and where required minor, right of way parcel maps of the State, county or Municipality, shall be filed in accordance with the provisions of P.L.1960, c.141 (C.46:23-9.9 et seq.). Right of way parcel maps shall meet the requirements of subsections a. through d., subsections f. through i., subsection m. and paragraph 12 of subsection r. of this section. Minor subdivision maps shall meet the requirements of subsections a. through i., and k. through q., and subsection j. except for the outside tract line monuments, and paragraph 13 of subsection r. of this section. A condominium plan shall be filed in accordance with the requirements of subsections a. through c., subsections f. through i., and subsection m. of this section. No map requiring approval by law or that is to be approved for filing with a county recording officer, shall be approved by the proper authority unless it shall conform to the following requirements:

- a. It shall be clearly and legibly drawn, and where required endorsed and presented either as an original drawing in black ink on translucent tracing cloth, translucent mylars at least 4 mils thick or its equivalent, of good quality, with signatures in ink, or as an equivalent reproduction on photographic fixed line mylar 4 mils thick with signatures in black ink or its equivalent and shall be accompanied by a cloth print or photographic fixed line mylar 4 mils thick duplicate thereof.
- b. It shall be one of six standard sizes namely, 8 1/2" x 13", 30" x 42", 24" x 36", 11" x 17", 18" x 24" or 15" x 21" as measured from cutting edges. If one sheet is not of sufficient size to contain the entire territory, the map may be divided into sections to be shown on separate sheets of equal sizes, with references on each sheet to the adjoining sheets.
- c. It shall show the scale, which shall be inches to feet and be large enough to contain legibly written data on the dimensions, bearings and all other details of the boundaries, and it shall also show the graphic scale.
- d. It shall show the dimensions, square footage of each lot to the nearest square foot or nearest one hundredth of an acre, bearings and curve data to include the radius, delta angle, length of arc, chord distance and chord bearing sufficient to enable the definite location of all lines and boundaries shown thereon, including public easements and areas dedicated for public use. Non-tangent curves and non-radial lines shall be labeled. Right of way parcel maps shall show bearings, distances and curve data for the right of way or the center line or base line and ties to right of way lines if from a base line.
- e. Where lots are shown thereon, those in each block shall be numbered consecutively. In Municipalities where tax maps exist, block and lot designations shall conform therewith, if the Municipal regulations so require. In counties which have adopted or shall adopt the local or block system of indices pursuant to sections 46:24-1 to 46:24-22 of the Revised Statutes, it shall have delineated and shown thereon the block boundary or boundaries and designations

established by the board of commissioners of land records of such counties respecting the territory intended to be shown on such map.

f. The reference meridian used for bearings on the map shall be shown graphically. The coordinate base, either assumed or based on the New Jersey Plane Coordinate System, shall be shown on the plat.

g. All Municipal boundary lines crossing or adjacent to the territory intended to be shown shall be shown and designated.

h. All natural and artificial watercourses, streams, shorelines and water boundaries and encroachment lines shall be shown. On right of way parcel maps all easements that affect the right of way shall be shown and dimensioned, including but not limited to slope easements and drainage.

i. All permanent easements shall be shown and dimensioned including but not limited to sight right easements and utility easements.

j. The map shall clearly show all monumentation as required by this act, including monuments found, monuments set, and monuments to be set. An indication shall be made where monumentation found has been reset. For purposes of this subsection "found corners" shall be considered monuments. A minimum of three corners distributed around the tract shall indicate the coordinate values. The outbound corner markers shall be set pursuant to regulations promulgated by the State Board of Professional Engineers and Land Surveyors.

k. It shall conform to such other technical design controls as may be required by the provisions of local ordinances, including but not limited to minimum street widths, minimum lot areas and minimum yard dimensions and should be shown as a chart on the plat.

l. The name of the subdivision, name of the last property owner or owners, Municipality and county shall be shown.

m. The date of the survey shall be shown and the map shall be in accordance with the minimum survey detail requirements as promulgated by the State Board of Professional Engineers and Land Surveyors.

n. There shall be endorsed thereon a certificate of a land surveyor or surveyors, as follows:

(1) I hereby certify that to the best of my knowledge and belief this map and land survey dated meets the minimum survey detail requirements, with outbound corners marked, as promulgated by the State Board of Professional Engineers and Land Surveyors and has been made under my supervision, and complies with the provisions of "the map filing law" and that the outbound corner markers as shown have been found, or set. (Include the following, if applicable)

I do further certify that the monuments as designated and shown hereon have been set.

.

.....

Licensed Professional Land Surveyor and No.

(Affix Seal)

(2) If the land surveyor who prepares the map is different than the land surveyor who prepared the outbound survey, the following two certificates shall be added in lieu of the certificate above.

I hereby certify to the best of my knowledge information and belief that this land survey dated has been made under my supervision and meets the minimum survey detail requirements, with outbound corners marked, promulgated by the State Board of Professional Engineers and Land Surveyors and that the outbound corner markers as shown have been found, or set

.....

Licensed Professional Land Surveyor and No.

(Affix seal)

I hereby certify that this map has been made under my supervision and complies with the provisions of the "map filing law." (Including the following if applicable) I do further certify that the monuments as designated and shown hereon have been set.

.....

Licensed Professional Land Surveyor and No.

(Affix seal)

(3) If monuments are to be set at a later date, the following requirements and endorsement shall be shown on the map. The monuments shown on this map shall be set within an appropriate time limit as provided for in the "Municipal Land Use Law," P.L.1975, c.291 (C.40:55D-1 et seq.) or local ordinance.

I certify that a bond has been given to the Municipality, guaranteeing the future setting of the monuments shown on this map and so designated.

.

.....

Municipal Clerk

(4) If the map is a right of way parcel map the project surveyor need only to certify that the monuments have been set or will be set.

o. There shall be endorsed thereon a certificate of the Municipal engineer as follows:

I have carefully examined this map and to the best of my knowledge and belief find it conforms with the provisions of "the map filing law" resolution of approval and the Municipal ordinances and requirements applicable thereto.

.

.....

Municipal Engineer(Affix Seal)

p. There shall be submitted to the proper authority an affidavit setting forth the names and addresses of all the record title owners of the lands subdivided by said map and the consent in writing of all such owners to the approval of such map shall be required.

q. If the map shows streets, avenues, roads, lanes or alleys, there shall be endorsed thereon a certificate by the Municipal clerk that the Municipal body has approved such streets, avenues, roads, lanes or alleys, except where such map is prepared and presented for filing by the State of New Jersey or any of its agencies. The map shall show all of the street names as approved by the Municipality.

r. Monuments are required on one side of the right of way only and shall be of metal detectable durable material at least 30 inches long. The top and bottom shall be a minimum of 4 inches square; if concrete, however it may be made of other durable metal detectable material specifically designed to be permanent, as approved by the State Board of Professional Engineers and Land Surveyors. All monuments shall include the identification of the professional land surveyor or firm. They shall be firmly set in the ground so as to be visible at the following control points; provided that in lieu of installation of the monuments, the Municipality may accept bond with sufficient surety in form and amount to be determined by the governing body, conditioned upon the proper installation of said monuments upon the completion of the grading of the streets and roads shown on the map.

(1) At each intersection of the outside boundary of the whole tract, with the right-of-way line of any side of an existing street.

(2) At the intersection of the outside boundary of the whole tract with the right-of-way line on one side of a street being established by the map under consideration.

(3) At one corner formed by the intersection of the right-of-way lines of any 2 streets at a T-type intersection.

(4) At any two corners formed by the right-of-way lines of any two streets in an "X" or "Y" type intersection.

(5) If the right-of-way lines of two streets are connected by a curve at an intersection, monuments shall be as stipulated in (3) and (4) of this subsection at one of the following control points:

(a) The point of intersection of the prolongation of said lines.

(b) The point of curvature of the connecting curve or,

(c) The point of tangency of the connecting curve.

(6) At the beginning and ending of all tangents on one side of any street.

(7) At the point of compound curvature or point of reversed curvature where either curve has a radius equal to or greater than 100 feet. Complete curve data as indicated in subsection d. of this section shall be shown on both sides.

(8) At intermediate points in the sidelines of a street between two adjacent street intersections in cases where the street deflects from a straight line or the line of sight between the adjacent intersections is obscured by a summit or other obstructions which are impractical to remove. This requirement may necessitate the setting of

additional monuments at points not mentioned above. Bearings and distances between the monuments or coordinate values shall be indicated.

(9) In cases where it is impossible to set a monument at any of the above designated points, a nearby reference monument shall be set and its relation to the designated point shall be clearly designated on the map; or the plate on the reference monument shall be stamped with the word "offset" and its relation to the monument shown on the filed map.

(10) In areas where permanency of monuments may be better insured by off-setting the monuments from the property line, the Municipal engineer may authorize such procedure; provided, that proper instrument sights may be obtained and complete off-set data is recorded on the map.

(11) By the filing of a map in accordance with the provisions of "the map filing law," reasonable survey access to the monuments is granted, which shall not restrict in any way the use of the property by the landowner.

(12) On right of way parcel maps, the monuments shall be set at the points of curvature, points of tangency, points of reverse curvature and points of compound curvature or the control base line or center line, if used, and be intervisible with a second monument.

(13) On minor subdivisions a monument shall be set at each intersection of an outside boundary of the newly created lot(s) with the right of way line of any side of an existing street. L.1960,c.141,s.3; amended 1997, c.211, s.2; 1999, c.258.

46:23-9.12. Time for approval

The proper authority shall approve or disapprove such map within 45 days from the receipt thereof.

L.1960, c. 141, p. 667, s. 4.

46:23-9.13. Approval of map by Municipality not acceptance of roads, streets or highways

The approval of any map under this law by the proper authority shall in no way be construed as acceptance of any road, street or highway indicated thereon; nor shall any such approval in any way obligate the State of New Jersey or any county or Municipality therein, to maintain or exercise jurisdiction over such roads, streets or highways.

L.1960, c. 141, p. 667, s. 5.

46:23-9.14. Prerequisites to filing

The county recording officer shall not accept for filing any map unless it has endorsed thereon a certificate signed and sealed with the Municipal seal by the Municipal clerk or secretary of the planning board as the case may be, stating that the proper authority has approved the map or stating its exemption from approval which certificate shall state that said map complies with the provisions of this law and shall designate the day on or before which said map is required to be filed by the provisions of the applicable law and provided that said map is filed on or before said designated day.

Said map shall also comply with the provisions of section 3, paragraphs a. and b. of this act in order to be accepted for filing.

L.1960, c. 141, p. 667, s. 6.

46:23-9.15. Filing and indexing of maps, fee

The county recording officer of each county shall, when received by him for that purpose in accordance with the provisions of this law file in folios, slides, cabinets or other receptacles, maps of land lying in whole or in part in the county where the same are offered to be filed; provided that he shall retain the original tracing on translucent tracing cloth or its equivalent unmounted in an appropriate file or container, for preservation and use for reproduction purposes only, prints of which may be made available to the public at a reasonable cost. He shall endorse on the tracing and cloth print duplicate the date of the filing thereof in his office, and he shall provide and keep a proper index of all maps on file in his office. The county recording officer shall, for filing and indexing each map receive such fee as may be provided by law, except that when any map shall be presented for filing by the State of New Jersey, or any of its agencies no fee shall be charged for the filing thereof.

L.1960, c. 141, p. 669, s. 7.

46:23-9.16. Repeals

Sections 1 to 6, both inclusive, of chapter 358 of the laws of 1953 entitled "An act concerning the approval and filing of maps, supplementing chapter 23 of Title 46, and repealing sections 46:23-1, 46:23-2, 46:23-3, 46:23-4, 46:23-5, 46:23-6, 46:23-7, 46:23-8 and 46:23-9, of the Revised Statutes" (approved August 10, 1953, P.L.1953, c. 358) are hereby repealed.

5. Deed Templates

Bridge Maintenance Easement

Drainage Easement-- Point Discharge

Drainage Easement—Sheet Flow

ROW dedication

Sight Easement

Sight Triangle Easement

Deed Language For Sight Triangle Restriction

Slope Easement

Prepared by:

Dennis R. McConnell, Esq.

DEED OF EASEMENT

This Deed is made on _____, 20____,

BETWEEN _____, whose address is

referred to as the Grantor,

AND THE COUNTY OF SUSSEX, a political subdivision of the State of New Jersey, with administrative offices located at One Spring Street, Newton, New Jersey 07860.

referred to as the Grantees

The words "Grantor" and "Grantee" shall mean all Grantors and all Grantees listed above.

Transfer of Ownership. The Grantor grants and conveys (transfers ownership of) an easement in the property described below to the Grantee. This transfer is made without monetary consideration.

Tax Map Reference. (N.J.S.A. 46:15-1.1) Municipality of the _____ of _____, Block _____, Lot _____.

Property. The property consists of the land in the _____ of _____, County of Sussex and State of New Jersey. The legal description is:

ATTACHED HERETO AS SCHEDULE A.

It is the intent and purpose of this Deed to grant unto The County of Sussex an absolute and exclusive easement including the right to maintain, repair, rebuild and/or install a bridge and bridge maintenance area within the above described premises including the right to maintain, repair, rebuild and/or install slopes surrounding said bridge or any replacement of same along with appurtenances on, over and around County Bridge No. _____ on the above described premises. The County of Sussex, its agents, subcontractors, representatives and employees shall have the right to enter into and upon so much of the herein described premises as shall be reasonably necessary to effectuate the purposes of the easement herewith granted in order to conduct such inspections, maintenance and repairs as shall be reasonably necessary in order to assure the continuing efficient functioning of the bridge on and across the herein described premises. However, nothing

contained in this Deed of Easement in any way obligates or requires the County of Sussex to maintain or improve said bridge or the surrounding slopes to the benefit of Grantor or other Third Parties.

Promises by Grantor. The Grantor promises that the Grantor has done no act to encumber the property. This promise is called a "covenant as to grantor's acts" (N.J.S.A. 46:4-6). This promise means that the Grantor has not allowed anyone else to obtain any legal rights which affect the property (such as by making a mortgage or allowing a judgment to be entered against the Grantor).

Signatures. The Grantor signs this Deed as of the date at the top of the first page.

Witnessed by:

By: _____

By: _____

STATE OF NEW JERSEY)

SS:

COUNTY OF)

I CERTIFY that on _____, 20____, _____, personally came before me and acknowledged under oath, to my satisfaction, that this person (or if more than one, each person);

- (a) is named in and personally signed this document; and
- (b) signed, sealed and delivered this document as his or her act and deed; and
- (c) made this Deed for \$0.00 as the full and actual consideration paid or to be paid for the transfer of title. (Such consideration is defined in N.J.S.A. 46:15-5).

I.

STATE OF NEW JERSEY)

SS :

COUNTY OF)

I Certify that on _____, 20_

personally came before me and this person acknowledged under oath, to my satisfaction, that:

- (a) this person is the _____ secretary of the corporation named in this Deed;
- (b) this person is attesting witness to the signing of this Deed by the proper corporate officer who is the _____ President of the corporation;
- (c) this Deed was signed and delivered by the corporation as its

voluntary act duly authorized by a proper resolution of its Board of Directors;

- (d) this person signed this proof to attest to the truth of these facts; and
- (e) the full and actual consideration paid or to be paid for the transfer of title is \$0.00 (Such consideration is defined in N.J.S.A. 46:15-5)

Signed and sworn to before me
on _____, 20__.

Secretary

II.

STATE OF NEW JERSEY)

SS:

COUNTY OF _____)

I CERTIFY that on _____, 20__, _____, _____, personally came before me and acknowledged under oath, to my satisfaction, that this person (or if more than one, each person);

- (a) was the maker of the attached Deed;
- (b) was authorized to and did execute this Deed as President and Secretary of _____ Corporation, the entity named in this Deed;
- (c) made this Deed for \$0.00 as the full and actual consideration paid or to be paid for the transfer of title. (Such consideration is defined in N.J.S.A. 46:15-5); and
- (d) executed this Deed as the act of the entity

Notary

Prepared by:

Dennis R. McConnell, Esq.

DEED OF EASEMENT FOR DRAINAGE

This Deed is made on _____, 20 _____,

BETWEEN _____, whose address is

referred to as the Grantor,

AND THE COUNTY OF SUSSEX, a political subdivision of the State of New Jersey, with administrative offices located at One Spring Street, Newton, New Jersey 07860.

referred to as the Grantees

The words "Grantor" and "Grantee" shall mean all Grantors and all Grantees listed above.

Transfer of Ownership. The Grantor grants and conveys (transfers ownership of) an easement in the property described below to the Grantee. This transfer is made without monetary consideration.

Tax Map Reference. (N.J.S.A. 46:15-1.1) Municipality of the of _____, Block No. _____, Lot No..

Property. The property consists of the land in the _____ of _____, County of Sussex and State of New Jersey. The legal description is:

AS REFLECTED IN DEED BOOK _____ at PAGE _____

It is the intent and purpose of this Deed to grant unto the County of Sussex an absolute and exclusive easement, in perpetuity, for discharge onto and conveyance of storm water over all or any portion of the above described property from an existing " _____ " pipe or crossdrain, flow of which is being directed across and through the premises described herein, where the County of Sussex, its agents and assigns are authorized to enter on said premises at any time for the express purpose of installing or to otherwise establish, improve and maintain any storm water drainage system thereon. The County of Sussex further reserves the right to upgrade the diameter of said " _____ " to " _____ " diameter. Nothing herein shall require the County of Sussex to maintain, improve or install a storm drainage system hereon.

Promises by Grantor. The Grantor promises that the Grantor has done no act to encumber the property. This promise is called a "covenant as to grantor's acts" (N.J.S.A. 46:4-6). This promise means that the Grantor has not allowed

anyone else to obtain any legal rights which affect the property (such as by making a mortgage or allowing a judgment to be entered against the Grantor).

Signatures. The Grantor signs this Deed as of the date at the top of the first page.

Witnessed by:

By: _____

By: _____

STATE OF NEW JERSEY)

SS:

COUNTY OF _____)

I CERTIFY that on _____, 20____, _____, _____, personally came before me and acknowledged under oath, to my satisfaction, that this person (or if more than one, each person);

- (a) is named in and personally signed this document; and
- (b) signed, sealed and delivered this document as his or her act and deed; and
- (c) made this Deed for \$0.00 as the full and actual consideration paid or to be paid for the transfer of title. (Such consideration is defined in N.J.S.A. 46:15-5).

Prepared by:

Dennis R. McConnell, Esq.

DEED OF EASEMENT FOR DRAINAGE

This Deed is made on _____, 20____,

BETWEEN _____, whose address is

referred to as the Grantor,

AND THE COUNTY OF SUSSEX, a political subdivision of the State of New Jersey, with administrative offices located at One Spring Street, Newton, New Jersey 07860.

referred to as the Grantees

The words "Grantor" and "Grantee" shall mean all Grantors and all Grantees listed above.

Transfer of Ownership. The Grantor grants and conveys (transfers ownership of) an easement in the property described below to the Grantee. This transfer is made without monetary consideration.

Tax Map Reference. (N.J.S.A. 46:15-1.1) Municipality of the _____ of _____, Block _____, Lot _____.

Property. The property consists of the land in the _____ of _____ County of Sussex and State of New Jersey. The legal description is:

(ANNEXED HERETO AS SCHEDULE "A")

It is the intent and purpose of this Deed is to grant unto the County of Sussex an absolute and exclusive easement, in perpetuity, for discharge onto and conveyance of surface and storm water emanating from Sussex County Route _____, flow of which is being directed across the adjoining premises of Grantor as described in Deed Book _____, at page _____. Nothing herein shall require the County of Sussex to maintain, improve or install a storm drainage system hereon.

Promises by Grantor. The Grantor promises that the Grantor has done no act to encumber the property. This promise is called a "covenant as to grantor's acts" (N.J.S.A. 46:4-6). This promise means that the Grantor has not allowed anyone else to obtain any legal rights which affect the property (such as by making a mortgage or allowing a judgment to be entered against the Grantor).

Signatures. The Grantor signs this Deed as of the date at the top of the first page.

Witnessed by:

By: _____

By: _____

STATE OF NEW JERSEY)

SS:

COUNTY OF)

I CERTIFY that on _____, 20____, _____, personally came before me and acknowledged under oath, to my satisfaction, that this person (or if more than one, each person);

- (a) is named in and personally signed this document; and
- (b) signed, sealed and delivered this document as his or her act and deed; and
- (c) made this Deed for \$0.00 as the full and actual consideration paid or to be paid for the transfer of title. (Such consideration is defined in N.J.S.A. 46:15-5).

Prepared by:

Dennis R. McConnell, Esq.

DEED

This Deed is made on _____, 20____,

BETWEEN _____, whose address is

referred to as the Grantor,

AND THE COUNTY OF SUSSEX, a political subdivision of the State of New Jersey, with administrative offices located at One Spring Street, Newton, New Jersey 07860.

referred to as the Grantees

The words "Grantor" and "Grantee" shall mean all Grantors and all Grantees listed above.

Transfer of Ownership. The Grantor grants and conveys (transfers ownership of) the property described below to the Grantee. This transfer is made without monetary consideration.

Tax Map Reference. (N.J.S.A. 46:15-1.1) Municipality of the _____ of _____, a portion of Block _____, Lot _____.

Property. The property consists of the land in the _____ of _____, County of Sussex and State of New Jersey. The legal description is:

ATTACHED HERETO AS SCHEDULE A.

It is the intent and purpose of this Deed to grant unto the County of Sussex the right of way in fee, in perpetuity, for road purposes thereby authorizing the County, its agents and assigns, and general public to pass in, over and upon all or a portion thereof for travel and maintenance of the public roadway now designated as County Route _____.

Promises by Grantor. The Grantor promises that the Grantor has done no act to encumber the property. This promise is called a "covenant as to grantor's acts" (N.J.S.A. 46:4-6). This promise means that the Grantor has not allowed anyone else to obtain any legal rights which affect the property (such as by making a mortgage or allowing a judgment to be entered against the Grantor).

Signatures. The Grantor signs this Deed as of the date at the top of the first page.

Witnessed by:

By: _____

By: _____

STATE OF NEW JERSEY)

SS:

COUNTY OF)

I CERTIFY that on _____, 20____, _____, personally came before me and acknowledged under oath, to my satisfaction, that this person (or if more than one, each person);

- (a) is named in and personally signed this document; and
- (b) signed, sealed and delivered this document as his or her act and deed; and
- (c) made this Deed for \$0.00 as the full and actual consideration paid or to be paid for the transfer of title. (Such consideration is defined in N.J.S.A. 46:15-5).

I.

STATE OF NEW JERSEY)

SS :

COUNTY OF)

I Certify that on _____, 20_

personally came before me and this person acknowledged under oath, to my satisfaction, that:

- (a) this person is the _____ secretary of the corporation named in this Deed;
- (b) this person is attesting witness to the signing of this Deed by the proper corporate officer who is the _____ President of the corporation;
- (c) this Deed was signed and delivered by the corporation as its voluntary act duly authorized by a proper resolution of its Board of Directors;
- (d) this person signed this proof to attest to the truth of these facts; and
- (e) the full and actual consideration paid or to be paid for the transfer of title is \$0.00 (Such consideration is defined in N.J.S.A. 46:15-5)

Signed and sworn to before me

Secretary

on _____, 20__.

II.

STATE OF NEW JERSEY)

SS:

COUNTY OF _____)

I CERTIFY that on _____, 20__, _____, _____, personally came before me and acknowledged under oath, to my satisfaction, that this person (or if more than one, each person);

- (a) was the maker of the attached Deed;
- (b) was authorized to and did execute this Deed as President and Secretary of _____ Corporation, the entity named in this Deed;
- (c) made this Deed for \$0.00 as the full and actual consideration paid or to be paid for the transfer of title. (Such consideration is defined in N.J.S.A. 46:15-5); and
- (d) executed this Deed as the act of the entity

Notary

Prepared by:

Dennis R. McConnell, Esq.

DEED FOR SIGHT EASEMENT

This Deed is made on _____, 20____,

BETWEEN _____, whose address is

referred to as the Grantor,

AND THE COUNTY OF SUSSEX, a political subdivision of the State of New Jersey, with administrative offices located at One Spring Street, Newton, New Jersey 07860.

referred to as the Grantees

The words "Grantor" and "Grantee" shall mean all Grantors and all Grantees listed above.

Transfer of Ownership. The Grantor grants and conveys (transfers ownership of) an easement in the property described below to the Grantee. This transfer is made without monetary consideration.

Tax Map Reference. (N.J.S.A. 46:15-1.1) Municipality of the _____ of _____, Block _____, Lot _____.

Property. The property consists of the land in the _____ of _____, County of Sussex and State of New Jersey. The legal description is:

ATTACHED HERETO AS SCHEDULE A.

It is the intent and purpose of this Deed to grant unto The County of Sussex an absolute and exclusive easement, in perpetuity, to establish a permanent restriction against the use of any portion thereof for any structure, growth, or physical impediment that would in any manner infringe upon a free and open line of sight over the same.

Promises by Grantor. The Grantor promises that the Grantor has done no act to encumber the property. This promise is called a "covenant as to grantor's acts" (N.J.S.A. 46:4-6). This promise means that the Grantor has not allowed anyone else to obtain any legal rights which affect the property (such as by making a mortgage or allowing a judgment to be entered against the Grantor).

Signatures. The Grantor signs this Deed as of the date at the top of the

—

first page.

Witnessed by:

By: _____

By: _____

STATE OF NEW JERSEY)

SS:

COUNTY OF _____)

I CERTIFY that on _____, 20____, _____, personally came before me and acknowledged under oath, to my satisfaction, that this person (or if more than one, each person);

- (a) is named in and personally signed this document; and
- (b) signed, sealed and delivered this document as his or her act and deed; and
- (c) made this Deed for \$0.00 as the full and actual consideration paid or to be paid for the transfer of title. (Such consideration is defined in N.J.S.A. 46:15-5).

I.

STATE OF NEW JERSEY)

SS :

COUNTY OF _____)

I Certify that on _____, 20__

personally came before me and this person acknowledged under oath, to my satisfaction, that:

- (a) this person is the _____ secretary of the corporation named in this Deed;
- (b) this person is attesting witness to the signing of this Deed by the proper corporate officer who is the _____ President of the corporation;
- (c) this Deed was signed and delivered by the corporation as its voluntary act duly authorized by a proper resolution of its Board of Directors;
- (d) this person signed this proof to attest to the truth of these facts; and
- (e) the full and actual consideration paid or to be paid for the transfer of title is \$0.00 (Such consideration is defined in N.J.S.A. 46:15-5)

Signed and sworn to before me on _____, 20__.

Secretary

II.

STATE OF NEW JERSEY)

SS:

COUNTY OF _____)

I CERTIFY that on _____, 20____, _____, personally came before me and acknowledged under oath, to my satisfaction, that this person (or if more than one, each person);

- (a) was the maker of the attached Deed;
- (b) was authorized to and did execute this Deed as President and Secretary of _____ Corporation, the entity named in this Deed;
- (c) made this Deed for \$0.00 as the full and actual consideration paid or to be paid for the transfer of title. (Such consideration is defined in N.J.S.A. 46:15-5); and
- (d) executed this Deed as the act of the entity

Notary

Prepared by:

Dennis R. McConnell, Esq.

DEED FOR SIGHT TRIANGLE EASEMENT

This Deed is made on _____, 20 _____,

BETWEEN _____, whose address is

referred to as the Grantor,

AND THE COUNTY OF SUSSEX, a political subdivision of the State of New Jersey, with administrative offices located at One Spring Street, Newton, New Jersey 07860.

referred to as the Grantees

The words "Grantor" and "Grantee" shall mean all Grantors and all Grantees listed above.

Transfer of Ownership. The Grantor grants and conveys (transfers ownership of) an easement in the property described below to the Grantee. This transfer is made without monetary consideration.

Tax Map Reference. (N.J.S.A. 46:15-1.1) Municipality of the _____ of _____, Block _____, Lot _____.

Property. The property consists of the land in the _____ of _____ County of Sussex and State of New Jersey. The legal description is:

ATTACHED HERETO AS SCHEDULE A.

It is the intent and purpose of this Deed to grant unto The County of Sussex an absolute and exclusive easement, in perpetuity, to establish a permanent restriction against the use of any portion thereof for any structure, growth, or physical impediment that would in any manner obstruct vision [sight line] between a height of two (2) feet and ten (10) feet through the easement area described herein, as measured above the center line grade of the County road and the intersecting road or driveway.

Promises by Grantor. The Grantor promises that the Grantor has done no act to encumber the property. This promise is called a "covenant as to grantor's acts" (N.J.S.A. 46:4-6). This promise means that the Grantor has not allowed anyone

else to obtain any legal rights which affect the property (such as by making a mortgage or allowing a judgment to be entered against the Grantor).

Signatures. The Grantor signs this Deed as of the date at the top of the first page.

Witnessed by:

By: _____

By: _____

STATE OF NEW JERSEY)

SS:

COUNTY OF)

I CERTIFY that on _____, 20____, _____, personally came before me and acknowledged under oath, to my satisfaction, that this person (or if more than one, each person);

- (a) is named in and personally signed this document; and
- (b) signed, sealed and delivered this document as his or her act and deed; and
- (c) made this Deed for \$0.00 as the full and actual consideration paid or to be paid for the transfer of title. (Such consideration is defined in N.J.S.A. 46:15-5).

I.

STATE OF NEW JERSEY)

SS :

COUNTY OF)

I Certify that on _____, 20__

personally came before me and this person acknowledged under oath, to my satisfaction, that:

- (a) this person is the _____ secretary of the corporation named in this Deed;
- (b) this person is attesting witness to the signing of this Deed by the proper corporate officer who is the _____ President of the corporation;
- (c) this Deed was signed and delivered by the corporation as its voluntary act duly authorized by a proper resolution of its Board of Directors;
- (d) this person signed this proof to attest to the truth of these facts; and
- (e) the full and actual consideration paid or to be paid for the transfer

of title is \$0.00 (Such consideration is defined in N.J.S.A. 46:15-5)

Signed and sworn to before me
on _____, 20__.

Secretary

II.

STATE OF NEW JERSEY)

SS:

COUNTY OF _____)

I CERTIFY that on _____, 20__, _____, _____, personally came before me and acknowledged under oath, to my satisfaction, that this person (or if more than one, each person);

- (a) was the maker of the attached Deed;
- (b) was authorized to and did execute this Deed as President and Secretary of _____ Corporation, the entity named in this Deed;
- (c) made this Deed for \$0.00 as the full and actual consideration paid or to be paid for the transfer of title. (Such consideration is defined in N.J.S.A. 46:15-5); and
- (d) executed this Deed as the act of the entity

Notary

DEED LANGUAGE FOR SIGHT TRIANGLE RESTRICTION

The following deed restriction language should appear in the property deed(s) for sight triangles associated with driveway which access the County Road:

There is hereby established a permanent restriction in perpetuity against the use of any portion of the premises described in Schedule _____ for any structure, growth, or physical impediment that would in any manner infringe upon a free and open line of sight over the same at an elevation of between 2 feet and 10 feet measured above the centerline of the County Road and centerline of the driveway. This restriction is created for the benefit and safety of the public and shall run with the land and shall be binding on the Grantee, their heirs, successors and assigns.

Prepared by:

Dennis R. McConnell, Esq.

DEED FOR SLOPE EASEMENT

This Deed is made on _____, 20____,

BETWEEN _____, whose address is

referred to as the Grantor,

AND THE COUNTY OF SUSSEX, a political subdivision of the State of New Jersey, with administrative offices located at One Spring Street, Newton, New Jersey 07860.

referred to as the Grantees

The words "Grantor" and "Grantee" shall mean all Grantors and all Grantees listed above.

Transfer of Ownership. The Grantor grants and conveys (transfers ownership of) an easement in the property described below to the Grantee. This transfer is made without monetary consideration.

Tax Map Reference. (N.J.S.A. 46:15-1.1) Municipality of the _____ of _____, Block _____, Lot _____.

Property. The property consists of the land in the _____ of _____, County of Sussex and State of New Jersey. The legal description is:

ATTACHED HERETO AS SCHEDULE A.

It is the intent and purpose of this Deed to grant unto The County of Sussex an absolute and exclusive easement including the right to maintain, repair, rebuild and/or install slopes over, through and across premises delineated on Schedule A. The County of Sussex, its agents, subcontractors, representatives and employees shall have the right to enter into and upon so much of the herein described premises as shall be reasonably necessary to effectuate the purposes of the easement herewith granted in order to conduct such inspections, maintenance and repairs as shall be reasonably necessary in order to assure the continuing efficient functioning of the slope into and across the herein described premises. However, nothing contained in this Deed of Easement in any way obligates or requires the County of Sussex to maintain or improve said slope to the benefit of Grantor or other Third Parties.

Promises by Grantor. The Grantor promises that the Grantor has done no act to encumber the property. This promise is called a "covenant as to grantor's acts" (N.J.S.A. 46:4-6). This promise means that the Grantor has not allowed anyone else to obtain any legal rights which affect the property (such as by making a mortgage or allowing a judgment to be entered against the Grantor).

Signatures. The Grantor signs this Deed as of the date at the top of the first page.

Witnessed by:

BY: _____

BY: _____

STATE OF NEW JERSEY)

SS:

COUNTY OF)

I CERTIFY that on _____, 20____, _____, personally came before me and acknowledged under oath, to my satisfaction, that this person (or if more than one, each person);

- (a) is named in and personally signed this document; and
- (b) signed, sealed and delivered this document as his or her act and deed; and
- (c) made this Deed for \$0.00 as the full and actual consideration paid or to be paid for the transfer of title. (Such consideration is defined in N.J.S.A. 46:15-5).

I.

STATE OF NEW JERSEY)

SS :

COUNTY OF)

I Certify that on _____, 20_

personally came before me and this person acknowledged under oath, to my satisfaction, that:

- (a) this person is the _____ secretary of the corporation named in this Deed;
- (b) this person is attesting witness to the signing of this Deed by the proper corporate officer who is the _____ President of the corporation;
- (c) this Deed was signed and delivered by the corporation as its voluntary act duly authorized by a proper resolution of its Board of

Directors;

- (d) this person signed this proof to attest to the truth of these facts; and
- (e) the full and actual consideration paid or to be paid for the transfer of title is \$0.00 (Such consideration is defined in N.J.S.A. 46:15-5)

Signed and sworn to before me
on _____, 20__.

Secretary

II.

STATE OF NEW JERSEY)

SS:

COUNTY OF _____)

I CERTIFY that on _____, 20__, _____, _____, personally came before me and acknowledged under oath, to my satisfaction, that this person (or if more than one, each person);

- (a) was the maker of the attached Deed;
- (b) was authorized to and did execute this Deed as President and Secretary of _____ Corporation, the entity named in this Deed;
- (c) made this Deed for \$0.00 as the full and actual consideration paid or to be paid for the transfer of title. (Such consideration is defined in N.J.S.A. 46:15-5); and
- (d) executed this Deed as the act of the entity

Notary

6. County Ordinances

Protection of County Roads

**RESOLUTION RE: PROHIBITING DUMPING, DISCHARGE, OR
PLACING OBSTRUCTIONS UPON OR ACROSS
COUNTY ROADS OR DRAINAGE**

WHEREAS, N.J.S.A. enables the Board of Chosen Freeholders of the County of to enact regulations to protect roads and road services by Resolution; and

WHEREAS, the Board of Chosen Freeholders deems it advisable to enact regulations to protect the County roads and road surfaces to ensure the safety of the traveling public; and

WHEREAS, N.J.S.A. 40:24-2 prescribes penalties for violations of County Resolutions.

NOW THEREFORE BE IT RESOLVED by the Board of Chosen Freeholders of the County of and State of New Jersey, as follows:

1. No person shall obstruct or damage any County road by depositing, placing, dumping, throwing or spilling stones, earth, debris, snow, ice, leaves, brush, or hazardous waste (as defined by N.J.S.A. 13:1e-51(K) as amended, or by any applicable state or federal law) or other materials or things thereon, nor shall any person place any of the above upon a County road so as to create a hazard to the traveling public.

2. Any person who, while in the process of shoveling, plowing or otherwise removing snow or ice from a driveway or other accessway abutting a County road, causes any of said snow or ice to accumulate upon the paved portion of any County road shall immediately remove said snow or ice while giving due regard to the safety of those persons using the County road.

3. The discharge of waters or other liquids or semiliquids upon any County road, or into any gutter, drainage ditch, catch basin or portion thereof, in any manner whatsoever, shall be unlawful, but this shall not apply to waters that may flow or pass upon a County road by virtue of natural drainage or because of the slope or topography of the land.

4. The running of pipe or swale onto any County road,

or into any gutter, drainage ditch or catch basin is prohibited and shall be deemed a violation of this Resolution until written permission is secured from the County Engineer or his designee and the County Road Supervisor.

5. No structure, equipment or materials of any kind may be placed or stored upon any County road at any time or for any purpose unless expressly permitted by law or ordinance and placed in such a manner as not to impede or divert the natural flow of drainage waters upon or along such County road and the gutters or drainage thereof.

6. The obstruction of any gutter or drainage ditch, catch basin, or any portion thereof, serving a County road by filling or otherwise depositing stones, earth, dirt, debris, hazardous waste, or other materials or things thereon or by any other means shall be unlawful, but this shall not apply to such materials as may be carried or deposited thereon by the natural drainage of surface waters or by other natural causes.

7. Any person, firm or corporation violating any of the provisions of this Resolution shall, upon conviction thereof, be subject to a fine of not more than Two Hundred Dollars (\$200.00) or, in the case of an individual, be imprisoned in the County jail for a period not exceeding ninety (90) days, or both.

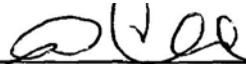
8. As provided by N.J.S.A. 40:24-8, all fines collected under this resolution shall be paid to the treasurer of the County of for the use of the County.

9. The Clerk of the Board of Chosen Freeholders of the County of shall cause to be published at least once in the newspaper circulating in the County a copy of this resolution before same shall be effective.

10. Certified copies of this Resolution shall be provided to the County Administrator, County Engineer, the Superintendent of the Division of Roads and Bridges; the County Counsel; Superior Court Administrator; Superintendent of the New Jersey State Police; and the Municipal Clerks and Chiefs of Police of every municipality in County.

**THE BOARD OF CHOSEN FREEHOLDERS
COUNTY OF SUSSEX**

By: _____


THOMAS J. CLARK

Freeholder Director

Certified as a true copy of
the Resolution adopted by
the Board on the 31ST day
of August, 1994.

Elaine A. Morgan

Elaine A. Morgan, Clerk
Board of Chosen Freeholders
County of Sussex

7. Bond Resolution

RESOLUTION RE: AUTHORIZATION FOR THE SUSSEX COUNTY BOARD OF CHOSEN FREEHOLDERS TO ADOPT A POLICY AND PROCEDURE USED TO DETERMINE THE TYPE AND VALUE OF BONDS REQUIRED UNDER CONDITIONS SET FORTH BY VARIOUS COUNTY RESOLUTIONS AND ORDINANCES GOVERNING WORK WITHIN COUNTY RIGHTS-OF-WAY AS REGULATED THROUGH THE ISSUANCE OF PERMITS BY THE OF ENGINEERING AND CERTAIN APPROVALS GRANTED BY THE SUSSEX COUNTY PLANNING BOARD ADMINISTERED BY THE DIVISION OF PLANNING

WHEREAS, the County of Sussex, has adopted regulatory mechanisms defining policy and procedures governing Road Opening Permits, Entrance Permits, Final Site Plan Approvals and Final Approvals; and

WHEREAS, pursuant to the established policies and procedures the Division of Engineering and Division of Planning must secure bonding sufficient in value to cover costs of work proposed and required within the County rights-of-way; and

WHEREAS, the bonding is needed to protect the public's interest when private or public entities perform work within a County right-of-way; and

WHEREAS, bonding will ensure and guarantee the proper completion of all work performed within the County rights-of-way and that all work will have been completed in conformance with County standards; and

WHEREAS, currently, there is no established procedure to determine the type or value of bonding required for Road Opening or Road Entrance Permits and County Planning Board Approvals involving proposed work within the County's right-of-way; and

WHEREAS, the Department of Engineering and Planning has drafted a Policy and Procedure to govern bonding in these situations and the same is attached hereto as Attachment A; and

WHEREAS, the Policy and Procedure within Attachment A serves to provide guidance when bonding is required for Permits issued by the Division of Engineering or Approvals granted by the Sussex County Planning Board; and

WHEREAS, the County of Sussex, after careful review of said Attachment A on the advice of the County Engineer, finds that adopting the Policy and Procedure outlined therein is in the best interest of the County and its intent to provide guidance for obtaining bonding; and

WHEREAS, these documents materially improve the County's ability to consistently comply with procedures established for issuance of Road Opening and Road Entrance Permits by the Division of Engineering and providing approvals through the Sussex County Planning Board.

NOW, THEREFORE, BE IT RESOLVED that the Board of Chosen Freeholders of the County of Sussex, on the recommendation of the County Engineer, adopt the attached Policy and Procedure entitled "Procedure Governing Bonding Requirements for Division of Engineering Permits and County Planning Board Approvals"; and

BE IT FURTHER RESOLVED that a copy of this Resolution along with its Attachment be forwarded to the County Division of Engineering; County Division of Planning; and Municipal Clerks.

Certified as a true copy of a
Resolution adopted by the
Board of Chosen Freeholders
on the 23rd day of August, 2006.



Elaine A. Morgan, Clerk
Board of Chosen Freeholders
County of Sussex

**Department of Engineering and Planning
Administrative Procedure**

Sussex County, New Jersey

Titled: Procedure Governing Bonding Requirements for Division of Engineering Permits and Sussex County Planning Board Approvals

Dated: Aug 23, 2006 **Revised:** No Revisions

1. Purpose and Need -The County of Sussex hereby establishes a policy outlining general procedures which can be applied by the Division of Engineering and Division of Planning when bonding is required for work within the County's right-of-way.
2. Definitions - For the purpose of this policy and procedure, the following terms, phrases, words and their derivations shall have the meanings stated herein unless their use for the purpose of this policy and procedure clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include future, words used in the plural number include singular number, and words used in the singular number include the plural number. The word "shall" is always mandatory and not merely directory.
 - a. County right-of-way-any public Right-of Way owned or maintained by Sussex County generally for the purpose of transportation infrastructure.
 - b. County Route -any roadway or other thoroughfare operated by Sussex County.
 - c. Traveled Way -The portion of the roadway traversed by vehicles.
 - d. Applicant -An entity, public or private, proposing to perform work within the County's right-of-way. This will be inclusive of, but not limited to, Public or Private Utilities, Government Agencies, Private Individuals, or Partnerships and Corporations of any form.
 - e. Performance or Maintenance Bond -A bond issued by a firm that is licensed to do business in the State of New Jersey guaranteeing the proper and satisfactory completion of the proposed work.
 - f. Cash Bond: A certified check for the project amount made payable to the County of Sussex.
 - g. Letter of Credit: A letter ,from a financial institution licensed to conduct business in the State of New Jersey acting as an irrevocable guarantee of payment to the County of Sussex for the bonded work.
 - h. Maintenance Bonding Period -At the direction of the County Engineer, Maintenance bonds will be held by the County for a period of one (1) year from the date of acceptance by the County Division of Engineering of the completed work.
3. Prohibited Conduct -No Applicant may conduct work within the County's right-of-way without first obtaining Permits issued by the Sussex County Division of Engineering. An Applicant shall provide the County with appropriate bonding prior to the issuance of permits.
4. Exemptions-there are no exemptions from this requirement.

5. Responsibilities:
 - a. It is the responsibility of the Applicant to provide Sussex County with bonding as required by the permit or approval process and outlined below.
 - b. It is the responsibility of County Employees to administer and enforce this policy.
 - c. The Division of Engineering and Division of Planning shall coordinate acceptance and release of bonds impacting projects of mutual interest.

6. Bonding Requirements: Prior to performing any work within the County's right-of-way or as may be required through the Planning Process the County shall be provided a Bond by the Applicant equal in amount to that of the proposed work plus a ten (10) percent contingency.
 - a. Determination of Bonding amount:
 - i. The Applicant shall provide the County with an Engineer's Estimate or Quotation for proposed work. Estimates and Quotations shall, at minimum:
 1. Be itemized and correlated with unit quantities as represented on the applicants plan submittal.
 2. Have been established using industry acceptable prices.
 3. Utilize prevailing wage labor rates.
 4. Include mobilization and traffic control.
 - ii. The County Engineer shall review the provided estimate or quotation and either:
 1. Provide acceptance of same, or
 2. Based upon his professional judgment, modify the estimate or quotation to accurately reflect actual industry prices reflective of those born by the County of Sussex to complete the proposed work within a public right-of-way.
 - iii. Bonds for work scheduled one or more year(s) future shall include an inflation adjustment factor.
 - iv. Project estimates shall be adjusted when needed by the County Engineer to reflect as built project values, the adjusted estimate shall be used to determine the value of the Maintenance Bond.
 - b. Bond Amount and Type: The Applicant shall provide a Bond to the County of Sussex in compliance with the following (Unless otherwise approved by the County Engineer) the bonded amount will include the project estimate or quotation plus a ten (10) percent contingency:
 - i. Construction Bonding:
 1. Projects up to and including \$20,000.00 in estimated value: Cash Bond or Letter of Credit for the value of the proposed work.
 2. Projects exceeding \$20,000.00 in estimated value shall adhere to the following schedule:
 - a. Cash Bond or Letter of Credit, not required to exceed \$100,000.00:
 - i. \$20,000.00, plus

- ii. 20% of the value exceeding \$20,000.00; at the Applicants discretion the entire project value may be provided as a Cash Bond or Letter of Credit.
- b. Performance Bond:
 - i. Having a value equal to the project balance in excess of that provided by the Cash Bond or Letter of Credit. All Performance Bonds must be issued by a company licensed to do business in the State of New Jersey.
- ii. Maintenance Bond: A Maintenance bond shall be provided unless otherwise approved by the County Engineer for fifty (50) percent of the project estimate in accordance with the following:
 - 1. Bonding amounts as calculated under 6.b.i and adjusted per 6.a.iv shall be provided to the County at a rate of fifty (50) percent of the amount bonded there under. The type of bonding shall be as follows:
 - a. Maintenance Cash Bond valued at fifty (50) percent of the construction Cash Bond Value, adjusted when needed under 6.a.iv.
 - b. Maintenance Bond valued at fifty (50) percent of the Construction Performance Bond value, adjusted when needed under 6.a.i.v. All Maintenance Bonds must be issued by a company licensed to do business in the State of New Jersey.

Special Considerations:

- i. Municipal Projects: Consideration will be given by the County Engineer for acceptance of joint County/Municipal Performance and Maintenance bonds on a case-by-case basis. To be considered:
 - 1. The Applicant should send a written request to the County Engineer.
 - 2. The proposed work should not impact the County Route Traveled Way.
- ii. Utility Emergent Response Work: The County will accept annual bonds from Public and Private Utility Companies for the purpose of response to unplanned emergent work as conditions develop. The bonds will be subject to the conditions contained herein. The bonding amount shall be established by the County Engineer on an annual basis during the month of January. This does not apply to planned capital improvements or service connections.
- iii. The County will accept concurrent bonding from Applicants seeking both Sussex County Planning Board Approvals requiring bonding and issuance of Road Opening or Road Entrance Permits by the Division of Engineering.

7. **Bond Use:** The County may utilize bond funds to rectify substandard performance, workmanship or maintenance requirements related to the work performed under the bonding or disturbance or damage of adjacencies. The County shall provide the Applicant and the Bonding Company ten (10) days notice during which the Applicant shall remediate the deficiency. If the Applicant fails to remediate the deficiency within ten (10) days of the notice the County will utilize bonded funds to remediate the deficiency. Funds held in Cash Bond or Letter of Credit shall be utilized prior to pursuit of the applicants surety. Bond funds may be utilized for, in addition to other deficiencies, the remediation of any portion of the work or workmanship jeopardizing public safety.
8. **Release of Bond:**
 - a. **General:**
 - i. Bond release shall be approved by the County Engineer at the recommendation of the Division of Engineering and for bonding emanating from County Planning Board Approvals, the Division of Planning.
 - b. **Construction Bonding:**
 - i. Construction Bonds shall not be released until the County has accepted the final construction AND the Applicant has provided the County with the required Maintenance bonding.
 - c. **Maintenance Bonding:**
 - i. The Maintenance bond, unless otherwise approved by the County Engineer, shall not be released until the one year maintenance period has lapsed and all deficiencies, if any, have been corrected.
9. **Applicability:** The procedure outlined herein shall be utilized for all future and ongoing projects.
10. **Penalties** -Unbonded work performed within the County's right-of-way will be subject to permit violation assessments.

B. Appendix B - Forms

The following forms are in this appendix:

1. Final Major Subdivision Checklist	163
2. Final Site Plan Checklist.....	166
3. Minor Subdivision Checklist	169
4. Preliminary Major Subdivision.....	172
5. Preliminary Site Plan	176
6. ROW Source Documents For Surveys.....	181
7. Application Form	183

1. Final Major Subdivision Checklist

Applicant Name _____

Block _____ **Lot** _____ **Municipality:** _____

Yes /No	Item
	Has frontage on Sussex County Route # _____ Mile Marker _____
	Direct Access onto County Road
	Is within the subwatershed of a County Bridge # _____

Required items below have a check box (☐) In blank spaces, enter "N.A." for not applicable

General

- Plans (with drawing size of 24" x 36" preferred) and one CD-ROM of Plat at not less than 1"=100' scale, conforming to the Map Filing Act, as required with all County and municipal requirements, with supporting documentation and data.
- Deed book and pages of all right-of-way dedications and easement deeds appear on the plat.
- CAD electronic file submitted. (see Standards section IV.C.4)
- Seal and signature of Professional Land Surveyor.
- Location of existing and/or proposed monuments to establish the county road right-of-way, coordinates tied into the NJ State Plane Coordinate System (NAD83) and shown on plat.
- County Engineer final approval of all bridges and culverts.
- Signature blocks for owner, Sussex County Clerk's office, Sussex County Planning Board. Corporate certification required if owner is a corporation.
- Copy of any required permits from federal, state or other governmental units

Easements

Deed Book & Page on plat	Type of Deed (as required in Preliminary approval)
<input type="checkbox"/>	Sight Triangle Easement
<input type="checkbox"/>	Sight Distance Easement
<input type="checkbox"/>	Sight Triangle deed restriction on property
<input type="checkbox"/>	Slope Easement to County
<input type="checkbox"/>	Continued Right-to-Discharge or Drainage Easement to County
<input type="checkbox"/>	Bridge Maintenance Easement to County

Other

- _____ Sight triangles Graded and cleared
- _____ Measured sight lines shown on plans if direct access to County road
- _____ Required payment in lieu of improvements to the County roads and/ or a proportionate share of the cost of future installation of County infrastructure
- _____ Permits obtained before working in the County Road Right-of-Way
- _____ ROW dedication shown on Plans (Deed Book _____ Page _____)
- _____ Stormwater maintenance and operation Plan reviewed by municipal engineer if stormwater runoff impacts County infrastructure
- _____ ROW Source Documents noted on Plans if property fronts County road

2. Final Site Plan Checklist

SUSSEX COUNTY PLANNING BOARD SCPB # _____
FINAL SITE PLAN CHECKLIST

Applicant Name _____

Block _____ **Lot** _____ **Municipality:** _____

Yes /No	Item
	Has frontage on Sussex County Route # _____ Mile Marker _____
	Direct Access onto County Road
	Is within the subwatershed of a County Bridge # _____

Required items below have a check box (☐) In blank spaces, enter "N.A." for not applicable

General

- Legible prints and CD-ROM of the final and copies of all supporting documentation and data as required. *The final site plan is an as-built of the preliminary site plan and encompasses the requirements of the preliminary site plan, including the 1" = 20 foot scale entrance and right-of-way detail.*
- CAD electronic file submitted (see Standards section IV.C.4)
- Seal and signature of Professional Land Surveyor, or copy of sealed survey and reference noted on site plan (refer to State Statute)
- Name and address of the applicant and the name, address and title of the person preparing the plan, maps and accompanying data.
- Copy of any required permits from federal, state or other governmental units
- Identifying titles on each sheet.
- A key map showing the entire subdivision and the proposed street pattern, nearest intersecting streets, and lots within 200'
- Date of latest revision, scale and north arrow
- Municipal tax map sheet, block and lot number, zoning district, and latest revision date.
- Owner authorization as defined.

Easements

Deed Book & Page, if filed	Deed submitted	Type of Deed (as required in Preliminary approval)
		Sight Triangle Easement
		Sight Distance Easement
		Sight Triangle deed restriction on property
		Slope Easement to County
		Continued Right-to-Discharge or Drainage Easement to County
		Bridge Maintenance Easement to County

Other

- _____ Measured sight lines shown on plans if direct access to County road
- _____ Permits obtained before working in the County Road Right-of-Way
- _____ ROW dedication submitted to County
- _____ ROW dedication shown on Plans (Deed Book _____ Page _____)
- _____ Maintenance and Operation Plan reviewed by municipal engineer if stormwater impacts County infrastructure
- _____ ROW Source Documents noted on Plans if property fronts County road

**SUSSEX COUNTY PLANNING BOARD
FINAL SITE PLAN CHECKLIST**

SCPB # _____

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Sussex County Planning Board

3. Minor Subdivision Checklist

Applicant Name _____

Block _____ Lot _____ Municipality: _____

Yes /No	Item
	Has frontage on Sussex County Route #____ Mile Marker ____ Is adjacent to County property
	Proposed new access to County road
	Existing access to County road
	Is within the subwatershed of a County Bridge # _____

Required items below have a check box ()

General Plan Details, Owner Information

- Plans showing the following on **one hardcopy** (drawing size of 24" x 36" preferred, minimum scale of 100') and **one CD-ROM with** electronic version of plans and report
- 1. Seal and signature of Professional Land Surveyor
- 2. A key map showing the entire subdivision, nearest intersecting streets, and lots within 200'
- 3. A Regional Map identifying the nearest County bridges & roads, State roads
- 4. Name and address of the applicant and owner, and owners within 200'.
- 5. Name and address of the person who prepared the map.
- 6. Existing and proposed utility poles.
- 7. Copy of application to Municipality and tax map sheet with block and lot number, zoning district, reference meridian, and latest revision date.

Improvements and Proposed Lot Layout, Natural Features

- 1. All existing and proposed buildings or structures.
- 2. Acreage of the tract to be subdivided to 1/10 acre, number of new lots to be created.
- 3. Existing and proposed property lines, setbacks, existing buildings and structures, existing driveways, and wooded areas, or other environmental features.
- 4. All existing and proposed signs, traffic control devices, shown with Manual on Uniform Traffic Control Devices (MUTCD) designations on plan and Lighting Standards.
- 5. Location, names, paved widths and right of way widths of all existing streets.
- 6. Land to be dedicated or reserved for public use.
- 7. Location of all flood hazard areas shown as delineated on the current "Flood Insurance Rate Map" issued by the Federal Emergency Management Agency, (FEMA), as well as lakes, ponds, standing water bodies.
- 8. All existing watercourses, streams, wetlands, and NJDEP Stream Encroachment and Wetlands delineation, buffers, and permit data shown.

Sussex County Planning Board

In blank spaces, enter "N.A." for not applicable, "W.R" for waiver, or "I" if included

Access Standards

___	Subdivision proposes or has direct access(s) to County Road (skip section if "N.A.")
Details provided as per Standard Construction Details (available from County Website)	
<input type="checkbox"/>	Driveways on opposite side of road shown
<input type="checkbox"/>	On County road, show yellow centerline, existing and proposed white edge line, edge of pavement, dimensions. Transect Zone: T-___ (see County Standards, Section V.C.2) Speed: Posted: ___ 85 th Percentile: ___ (from County database)
<input type="checkbox"/>	Pavement box for residential driveway off County road. Distances from proposed access on site to existing driveways on adjacent properties: Same side of County Road as Subdivision: Left _____ Right _____ Opposite side of County Road from Subdivision: Left _____ Right _____
___	New Driveway width, curb flare & radii, sight triangle, and grade as per Table V.C.5
<input type="checkbox"/>	Access driveways allow vehicles to turn around on-site.

A. Easements

	Type of Deed	When Required
___	Sight Triangle Easement * 90' x 300' to County	<i>Street intersection with County Roads on or adjacent to site</i>
___	Sight Distance Easement	<i>Sight line from driveway extends over neighboring property</i>
___	Sight Triangle deed restriction 60' x 300' (in Centers: 15' behind curb x Stopping Sight Distance)	<i>Commercial and multi-family residential driveways</i>
___	Slope Easement to County	<i>If regrading required outside ROW</i>
___	Continued Right-to-Discharge or Drainage Easement to County	<i>If stormwater can flow from County Road onto property</i>
___	Bridge Maintenance Easement to County	<i>If a County bridge fronts the site</i>

*Double sight triangles needed at intersection of two arterial roads

Sight Distances

___	Site has existing or proposed direct access to County Road (skip section if "N.A.")
<input type="checkbox"/>	Field Meeting held with County staff to measure and verify sight distances. Please call County planning office to schedule. Date of Field Meeting: _____
<input type="checkbox"/>	Measured sight distances noted on the plans, sight lines shown in plan and profile views. County Road Cross sections provided if regrading needed in ROW.
<input type="checkbox"/>	Sight distance measured 5' behind proposed stop bar
<input type="checkbox"/>	use eye height=3.5', object height=3.5'. (object=2.0' for Stopping Sight Distances)
___	Sight distances meet Standards in Appendix D. (WR) (6" clearance over asphalt)

Acknowledge that permits are required before working in the County Road Right-of-Way

Sussex County Planning Board

Dedication and Reservation of Road Right-of-Way (ROW)

___ ROW dedication to the County shown on Plans (*applicant will need to submit deed descriptions as per subchapter V. D for Engineering Review*)

___ ROW follows corner radii at intersections

Reverse Frontage - Access points are not from County Road:

___ Access from municipal street is utilized (WR)

Shade Trees

___ No trees within 1' of clear zone (if specified) or the County Road ROW; section V.N.

___ No landscaping in sight triangles between 2' and 10' above pavement levels

Road Improvements

___ Road improvements proposed

Sidewalks and Bikeways

___ Sidewalk if within a designated Center or Transect Zones T-4 through T-6

___ Bikeway according to NJDOT or shared bicycle usage according to V.P.1.

Curbing, and Additional Traffic Lanes

___ Curbing on plan

- Dimensions provided as shown in Drawing No. SC-5

___ Unused, existing curb openings to be closed

Traffic Impact Report

___ Left turn lane into site warrant performed or left turn lane proposed

Drainage Standards

___ ***Stormwater from the site affects a County Bridge, Road or stormwater system*** (skip if "N.A.")

- | |
|--|
| <input type="checkbox"/> Stormwater Management Plan consistent with NJDEP standards for "major development" and County Standards |
| <input type="checkbox"/> Maintenance and Operation Plan |
| <input type="checkbox"/> Detail of existing County stormwater collection system on Plans (details of proposed changes to stormwater system if needed) |
| <input type="checkbox"/> Runoff calculations for conceptual development of new lot based on USDA NRCS method |
| <input type="checkbox"/> Emergency spillways designed according to County Standards (including no open emergency spillway directed to County Road ROW) |
| <input type="checkbox"/> NJDEP Best Management Practices Used |
| ___ Calculation of impact to existing bridge if >3 residential lots |

Survey Data (regarding properties adjoining County Road ROWs)

___ ***Property fronts a County Road*** (Skip Section if "N.A.")

- | |
|---|
| <input type="checkbox"/> ROW Source Documents for Surveys form filled-out and attached, source docs. noted on Plans |
| <input type="checkbox"/> Existing right-of-way lines, width shown on plans. |

4. Preliminary Major Subdivision

Applicant Name _____

Block _____ **Lot** _____ **Municipality:** _____

Yes /No	Item
	Has frontage on Sussex County Route #____ Mile Marker ____ Is adjacent to County property
	Proposed new access to County road
	Existing access to County road
	Is within the subwatershed of a County Bridge # _____

Required items below have a check box (☐)

General Plan Details, Owner Information

- ☐ *Plans showing the following on one **hardcopy** (drawing size of 24" x 36" preferred, minimum scale of 100') and one **CD-ROM with** electronic version of plans and report*
- ☐ 1. Seal and signature of Professional Land Surveyor
- ☐ 2. Seal and signature of Professional Engineer (refer to State Statute)
- ☐ 3. A key map showing the entire subdivision, nearest intersecting streets, and lots within 200'
- ☐ 4. A Regional Map identifying the nearest County bridges & roads, State roads
- ☐ 5. Name and address of the applicant and owner, and owners within 200'.
- ☐ 6. Name and address of the person who prepared the map.
- ☐ 7. Existing topography based on North American Datum of 1983 (NAD 83)
- ☐ 8. Existing and proposed utility poles.
- ☐ 9. Copy of application to Municipality and tax map sheet with block and lot number, zoning district, reference meridian, and latest revision date.

Improvements and Proposed Lot Layout, Natural Features

- ☐ 1. All existing and proposed buildings or structures.
- ☐ 2. Acreage of the tract to be subdivided to 1/10 acre, number of new lots to be created.
- ☐ 3. Existing and proposed property lines, setbacks, existing buildings and structures, existing driveways, and wooded areas, or other environmental features.
- ☐ 4. All existing and proposed signs, traffic control devices, shown with Manual on Uniform Traffic Control Devices (MUTCD) designations on plan and Lighting Standards.
- ☐ 5. Location, names, paved widths and right of way widths of all existing and proposed streets.
- ☐ 6. Contour lines reference to the New Jersey Geodetic Control Survey Datum, NVD 87
- ☐ 7. Contours at 5' intervals wherever average slope is 10% or greater, at 2' intervals wherever average slope is less than 10% but more than 2%, at 1' intervals wherever average slope is 2% or less.
- ☐ 8. Land to be dedicated or reserved for public use.
- ☐ 9. Location of all flood hazard areas shown as delineated on the current "Flood Insurance Rate Map" issued by the Federal Emergency Management Agency, (FEMA), as well as lakes, ponds, standing water bodies.
- ☐ 10. All existing watercourses, streams, wetlands, and NJDEP Stream Encroachment and Wetlands delineation, buffers, and permit data shown.

In blank spaces, enter “N.A.” for not applicable, “W.R” for waiver, or “T” if included

Access Standards

___	Subdivision proposes or has direct access(s) to County Road (skip section if “N.A.”)
<input type="checkbox"/>	Access details at 1”=20’ scale Details provided as per Standard Construction Details (available from County Website)
<input type="checkbox"/>	Driveways on opposite side or road shown
<input type="checkbox"/>	On County road, show yellow centerline, existing and proposed white edge line, edge of pavement, dimensions. Transect Zone: T-___ (see County Standards, Section V.C.2) Speed: Posted: ___ 85 th Percentile: ___ (from County database)
___	<u>New street</u> width, lane width, and corner radii (see Table V.C.2);
<input type="checkbox"/>	Approach grades shown; pavement box for residential driveway off County road. Distances from proposed access on site to existing driveways on adjacent properties: Same side of County Road as Subdivision: Left ___ Right ___ Opposite side of County Road from Subdivision: Left ___ Right ___
___	<u>New Driveway</u> width, curb flare & radii, sight triangle, and grade as per Table V.C.5
<input type="checkbox"/>	Access driveways allow vehicles to turn around on-site.

Easements

	Type of Deed	When Required
___	Sight Triangle Easement * 90’ x 300’ to County	<i>Street intersection with County Roads on or adjacent to site</i>
___	Sight Distance Easement	<i>Sight line from driveway extends over neighboring property</i>
___	Sight Triangle deed restriction 60’ x 300’ (in Centers: 15’ behind curb x Stopping Sight Distance)	<i>Commercial and multi-family residential driveways</i>
___	Slope Easement to County	<i>If regrading required outside ROW</i>
___	Continued Right-to-Discharge or Drainage Easement to County	<i>If stormwater can flow from County Road onto property</i>
___	Bridge Maintenance Easement to County	<i>If a County bridge fronts the site</i>

*Double sight triangles needed at intersection of two arterial roads

Sight Distances

___	Site has existing or proposed direct access to County Road (skip section if “N.A.”)
<input type="checkbox"/>	Field Meeting held with County staff to measure and verify sight distances. Please call County planning office to schedule. Date of Field Meeting: _____
<input type="checkbox"/>	Measured sight distances noted on the plans, sight lines shown in plan and profile views. County Road Cross sections provided if regrading needed in ROW.
<input type="checkbox"/>	Sight distance measured 5’ behind proposed stop bar
<input type="checkbox"/>	use eye height=3.5’, object height=3.5’. (object=2.0’ for Stopping Sight Distances)
___	Sight distances meet Standards in Appendix D. (WR) (6” clearance over asphalt)

Acknowledge that permits are required before working in the County Road Right-of-Way

Dedication and Reservation of Road Right-of-Way (ROW)

- _____ ROW dedication to the County shown on Plans (*applicant will need to submit deed descriptions as per subchapter V. D for Engineering Review*)
- _____ ROW follows corner radii at intersections

Reverse Frontage - Access points are not from County Road:
 _____ Access from municipal street is utilized (WR)

Shade Trees

- _____ No trees within 1’ of clear zone (if specified) or the County Road ROW; section V.N.
- _____ No landscaping in sight triangles between 2’ and 10’ above pavement levels

Road Improvements

- _____ Road improvements proposed

Sidewalks and Bikeways

- _____ Sidewalk if within a designated Center or Transect Zones T-4 through T-6
- _____ Bikeway according to NJDOT or shared bicycle usage according to V.P.1.

Curbing, and Additional Traffic Lanes

- _____ Curbing on plan if required in Section V.Q in Standards.
- Dimensions provided as shown in Drawing No. SC-5
- _____ Unused, existing curb openings to be closed

Traffic Impact Report

- _____ Left turn lane into site warrant performed or left turn lane proposed

Drainage Standards

	<u><i>Stormwater from the site affects a County Bridge, Road or stormwater system</i></u> (skip if “N.A.”)
<input type="checkbox"/>	Stormwater Management Plan consistent with NJDEP and County Standards
<input type="checkbox"/>	Maintenance and Operation Plan
<input type="checkbox"/>	Detail of existing and proposed changes to County stormwater collection system
<input type="checkbox"/>	If new bridge is proposed, design of bridge submitted to County Engineer for review prior to development or construction plans.
<input type="checkbox"/>	Runoff calculations based on USDA NRCS method
<input type="checkbox"/>	Emergency spillways designed according to County Standards (including no open emergency spillway directed to County Road ROW)
_____	NJDEP Best Management Practices Used
_____	Calculation of impact to existing bridge if >3 residential lots

Survey Data (regarding properties adjoining County Road ROWs)

	<u><i>Property fronts a County Road</i></u> (Skip Section if “N.A.”)
<input type="checkbox"/>	ROW Source Documents for Surveys form filled-out and attached, source docs. noted on Plans
<input type="checkbox"/>	Existing right-of-way lines, width shown on plans.

5. Preliminary Site Plan

In blank spaces, enter "N.A." for not applicable, "W.R" for waiver, or "I" if included

Access Standards

_____	<u>Subdivision proposes or has direct access(s) to County Road</u> (skip section if "N.A.")
<input type="checkbox"/>	Access details at 1"=20' scale Details provided as per Standard Construction Details (available from County Website)
<input type="checkbox"/>	Driveways on opposite side or road shown
<input type="checkbox"/>	On County road, show yellow centerline, existing and proposed white edge line, edge of pavement, dimensions. Transect Zone: T-_____ (see County Standards, Section V.C.2) Speed: Posted: _____ 85 th Percentile: _____ (from County database) New street width, lane width, and corner radii (see Table V.C.2);
<input type="checkbox"/>	Approach grades shown; pavement box for residential driveway off County road. Distances from proposed access on site to existing driveways on adjacent properties: Same side of County Road as Subdivision: Left _____ Right _____ Opposite side of County Road from Subdivision: Left _____ Right _____
_____	<u>New Driveway</u> width, curb flare & radii, sight triangle, and grade as per Table V.C.5
<input type="checkbox"/>	Access driveways allow vehicles to turn around on-site.

Easements

	Type of Deed	When Required
_____	Sight Triangle Easement * 90' x 300' to County	<i>Street intersection with County Roads on or adjacent to site</i>
_____	Sight Distance Easement	<i>Sight line from driveway extends over neighboring property</i>
_____	Sight Triangle deed restriction 60' x 300' (in Centers: 15' behind curb x Stopping Sight Distance)	<i>Commercial and multi-family residential driveways</i>
_____	Slope Easement to County	<i>If regrading required outside ROW</i>
_____	Continued Right-to-Discharge or Drainage Easement to County	<i>If stormwater can flow from County Road onto property</i>
_____	Bridge Maintenance Easement to County	<i>If a County bridge fronts the site</i>

*Double sight triangles needed at intersection of two arterial roads

Sight Distances

_____	<u>Site has existing or proposed direct access to County Road</u> (skip section if "N.A.")
<input type="checkbox"/>	Field Meeting held with County staff to measure and verify sight distances. Please call County planning office to schedule. Date of Field Meeting: _____
<input type="checkbox"/>	Measured sight distances noted on the plans, sight lines shown in plan and profile views. County Road Cross sections provided if regrading needed in ROW.
<input type="checkbox"/>	Sight distance measured 5' behind proposed stop bar
<input type="checkbox"/>	use eye height=3.5', object height=3.5'. (object=2.0' for Stopping Sight Distances)
_____	Sight distances meet Standards in Appendix D. (WR) (6" clearance over asphalt)
<input type="checkbox"/>	<i>Acknowledge that permits are required before working in the County Road Right-of-Way</i>

Dedication and Reservation of Road Right-of-Way (ROW)

- _____ ROW dedication to the County shown on Plans (*applicant will need to submit deed descriptions as per subchapter V. D for Engineering Review*)
- _____ ROW follows corner radii at intersections

Reverse Frontage - Access points are not from County Road:

- _____ Access from municipal street is utilized (WR)

Shade Trees

- _____ No trees within 1' of clear zone (if specified) or the County Road ROW; section V.N.
- _____ No landscaping in sight triangles between 2' and 10' above pavement levels

Road Improvements

- _____ Road improvements proposed

Sidewalks and Bikeways

- _____ Sidewalk if within a designated Center or Transect Zones T-4 through T-6
- _____ Bikeway according to NJDOT or shared bicycle usage according to V.P.1.

Curbing, and Additional Traffic Lanes

- _____ Curbing on plan if required in Section V.Q in Standards.

- Dimensions provided as shown in Drawing No. SC-5

- _____ Unused, existing curb openings to be closed

Traffic Impact Report

- _____ Left turn lane into site warrant performed or left turn lane proposed

Drainage Standards

_____	<i>Stormwater from the site affects a County Bridge, Road or stormwater system</i> (skip if "N.A.")
<input type="checkbox"/>	Stormwater Management Plan consistent with NJDEP and County Standards
<input type="checkbox"/>	Maintenance and Operation Plan
<input type="checkbox"/>	Detail of existing and proposed changes to County stormwater collection system
<input type="checkbox"/>	If new bridge is proposed, design of bridge submitted to County Engineer for review prior to development or construction plans.
<input type="checkbox"/>	Runoff calculations based on USDA NRCS method
<input type="checkbox"/>	Emergency spillways designed according to County Standards (including no open emergency spillway directed to County Road ROW)
_____	NJDEP Best Management Practices Used
_____	Calculation of impact to existing bridge if >3 residential lots

Survey Data (regarding properties adjoining County Road ROWs)

_____	<i>Property fronts a County Road</i> (Skip Section if "N.A.")
<input type="checkbox"/>	ROW Source Documents for Surveys form filled-out and attached, source docs. noted on Plans
<input type="checkbox"/>	Existing right-of-way lines, width shown on plans.

**SUSSEX COUNTY PLANNING BOARD
PRELIMINARY SITE PLAN CHECKLIST**

SCP# _____

[This Page is intentionally left blank]

6. ROW Source Documents For Surveys

FOR SUSSEX COUNTY ROUTE No. _____ Nearest Mile Marker to site: _____
 Municipality _____ Tax Block _____ Lot _____

<input type="checkbox"/> Found <input type="checkbox"/> Not Found	TURNPIKE For portions of (but not limited to) Routes: 517 in Vernon, 519, 565, 639, 645, 650, 655 Name _____ File No. _____ Date _____ ROW Width = _____ Relevant Courses Or Calls _____
<input type="checkbox"/> Found <input type="checkbox"/> Not Found	ROAD RETURN Date Of Writing _____ Date Of Filing _____ Book Of Roads _____ Page _____ ROW Width = _____ Municipalities _____ Relevant Courses Or Calls _____
<input type="checkbox"/> Found <input type="checkbox"/> Not Found	FILED MAP Date Of Map _____ Filing Date _____ Registered Map Number _____ ROW Width= _____ Preparer Of Map _____ License Number _____ Right-Of Way Map _____ Subdivision Map _____ Deed References _____ Other Document References _____ Station: From _____ To _____
<input type="checkbox"/> Deed <input type="checkbox"/> Mortgage <input type="checkbox"/> Not Found For Help Searching, See list of GRANTEE NAMES on next page	DEED or MORTGAGE: Book _____ Page _____ ROW Width = _____ Grantor _____ Grantee _____ Date Of Execution _____ Filing Date _____ Other Document References: _____ _____ _____ Map Stationing Reference _____ _____
Additional deed references: ** List all found source documents in Plans **	
DEED Book _____ Page _____ ROW = _____ Grantor _____ Grantee _____ Dates: Execution: _____ Filing: _____ Other Document References: _____ _____ _____ Map Stationing Reference _____	DEED Book _____ Page _____ ROW = _____ Grantor _____ Grantee _____ Dates: Execution: _____ Filing: _____ Other Document References: _____ _____ _____ Map Stationing Reference _____

Note: Resolutions from governing bodies may also specify ROW widths survey courses, and references to the above items

 Name of Professional Land Surveyor License No. Signature (affix seal)

To be filled-	Deed Book _____	Page _____	Width _____
---------------	-----------------	------------	-------------

out by Sussex County Division of Engineering <input type="checkbox"/> Found <input type="checkbox"/> Not Found	Grantor _____ Grantee _____ (County Of Sussex) Date Of Execution _____ Filing Date _____ Other Document References _____ _____ _____ MAP STATIONING REFERENCE _____
To be filled- out by Sussex County Division of Engineering <input type="checkbox"/> Found <input type="checkbox"/> Not Found	Deed Book _____ Page _____ Width _____ Grantor _____ Grantee _____ (County Of Sussex) Date Of Execution _____ Filing Date _____ Other Document References _____ _____ _____ MAP STATIONING REFERENCE _____

ROW Source Documents for Surveys

POSSIBLE GRANTEE NAMES FOR RIGHT-OF-WAY DEDICATIONS

- | |
|--|
| BOARD OF FREEHOLDERS
BOARD OF CHOSEN FREEHOLDERS
FREEHOLDER BOARD
COUNTY OF SUSSEX
SUSSEX COUNTY
SUSSEX COUNTY BOARD OF CHOSEN
FREEHOLDERS
DEPARTMENT OF TRANSPORTATION
NEW JERSEY
NEW JERSEY DEPARTMENT OF
TRANSPORTATION
NEW JERSEY, STATE OF
STATE OF NEW JERSEY
STATE OF NEW JERSEY, COMMISSIONER
OF TRANSPORTATION
TRANSPORTATION DEPARTMENT
(MUNICIPALITY WHERE ROAD LIES)
Note: this list is not exhaustive. |
|--|

7. Application Form

APPLICATION FOR SUBDIVISION
or SITE PLAN REVIEW

SUSSEX COUNTY PLANNING BOARD
County Administrative Center
1 Spring Street
Newton, NJ 07860
(973) 579-0500

FILE NUMBER _____
DATE RECEIVED _____
DATE COMPLETED _____
DATE PROCESSED _____
REVIEW DATE _____
ACTION DATE _____

PRIOR APPLICATIONS _____ COUNTY NUMBER _____
ACTION TAKEN _____
DATE _____

APPLICATION BY _____ MUNICIPALITY _____
FOR CONCEPTUAL REVIEW BLOCK NUMBER _____
 NEW APPLICATION LOT(S) NUMBER _____
 REQUIRED REVISION ZONE (EXISTING) _____
 REVISION BY APPLICANT TAX MAP NUMBER _____
 REVISION AFTER DISAPPROVAL STREET ADDRESS _____

SITE ABUTS PRIVATE STREET OR RIGHT OF WAY _____
MUNICIPAL STREET _____
COUNTY ROAD NUMBER _____ STATE HIGHWAY _____
COUNTY PROPERTY _____ BLOCK _____
SITE AFFECTS COUNTY BRIDGE NO. _____ ON _____
DRAINAGE ON COUNTY ROAD _____ ROUTE _____

SITE DEVELOPMENT IS RESIDENTIAL COMMERCIAL INDUSTRIAL (QUASI) PUBLIC
SITE REQUIRES ROADS ADDITIONAL R.O.W. OPENSOURCE RECREATION AREAS
DEDICATION OF DRAINAGE SLOPE SIGHT SIGHT TRIANGLES UTILITIES
SITE REQUIRES EASEMENTS FOR WAIVERS
REQUIRED FOR SIGHT DISTANCE SIGHT TRIANGLES OTHER _____
SITE CONTAINS FLOOD HAZARD AREAS WETLANDS OPEN WATER DETENTION BASINS

TOTAL CONTIGUOUS LAND AREA OWNED (UNDER CONTRACT) BY APPLICANT _____ ACRES
SUBDIVISION PROPOSES CREATION OF _____ NEW LOTS CONTAINING _____ ACRES
SITE PLAN PROPOSES DEVELOPMENT (TOTAL DISTURBED AREA) OF _____ ACRES
SITE PLAN PROPOSES DEVELOPMENT (BUILDING AREA) OF _____ SQ. FT.
DEVELOPMENT PROPOSES DEDICATION OF ADDITIONAL RIGHTS OF WAY _____ ACRES
DEVELOPMENT PROPOSES DEDICATION OF OPEN SPACE OF _____ ACRES

TYPE OF APPLICATION			FEE REQUIRED
SITE PLAN	<input type="checkbox"/> PRELIMINARY <input type="checkbox"/> MINOR	<input type="checkbox"/> FINAL	\$ _____
PLANNED DEVELOPMENT	<input type="checkbox"/> PRELIMINARY	<input type="checkbox"/> FINAL	\$ _____
SUBDIVISION MINOR	<input type="checkbox"/> AGRICULTURAL <input type="checkbox"/> LOT CONSOLIDATION <input type="checkbox"/> LOT LINE RELOCATION <input type="checkbox"/> UNPERFECTED SUBDIVISION	<input type="checkbox"/> MINOR	\$ _____
SUBDIVISION TECHNICAL MAJOR	<input type="checkbox"/>		\$ _____
SUBDIVISION MAJOR	<input type="checkbox"/> PRELIMINARY	<input type="checkbox"/> FINAL	\$ _____

AUTHORIZED ACTIONS | FEE \$ _____ CASH/CHECK NO _____
 EXEMPT | RECEIVED FROM _____
 REVIEWED | DEPARTMENT REPRESENTATIVE _____
 APPROVAL | DATE _____

Applicant's Name _____ Title _____
Firm or Company _____
Mailing Address _____
Corporate Representative _____
Telephone Number () _____
Signature of Applicant _____ Date of application _____

_____ print name of person completing application
_____ signature of person completing application

Owner's Name _____
Mailing Address _____
Corporate Representative _____
Telephone Number () _____

I / we hereby authorize the above named applicant to submit this application for the proposed development on my /our property.

_____ Date _____
Land Surveyor's Name _____ License No. _____
Firm or Company _____
Mailing Address _____
Telephone Number () _____

Engineer / Architect Name _____ License No. _____
Firm or Company _____
Mailing Address _____
Telephone Number () _____ Fax: _____ Email: _____

Attorney Name _____
Firm _____
Mailing Address _____
Telephone Number () _____ Fax: _____ Email: _____

Realtor or other Representative _____ Title _____
Firm _____
Mailing Address _____
Telephone Number () _____ Fax: _____ Email: _____

Comments or Notes _____

COUNTY PLANNING BOARD REVIEW ACTION

This application has been acted upon in accordance with the N. J. County Planning Enabling Act R.S. 40:27-6-2 through 40:27-6.4 or 40:27-6.6 as follows:

- ____ Received & Filed - Application stands (Approved) (Approval Withheld) (Disapproved)
- ____ Reviewed - Comments on conceptual plan are attached.
- ____ Exempt - Site plan will have no adverse affect on any County Property.
- ____ Reviewed – Subdivision will have no adverse effect on County Property
- ____ Approved as it relates to County roads, bridges, drainage structures, and/or property.
- ____ Approval withheld subject to conditions (see attached).
- ____ Disapproved for a number of reasons (see attached).

The aforementioned decision was taken by the County Planning Board's Site Plan & subdivision Review Committee. Any question or appeal shall be directed to the Sussex County Planning Department, as per N.J.S.A. 40:27-6.9.

Signature of Authorized Agent for: _____
Sussex County Planning Board

C. Appendix C – Sussex County Standard Design & Construction Details

Sussex County
Department of Engineering and Planning
Division of Engineering
Standard Design & Construction Details



Subject to Modification
Last Revised January 31, 2008

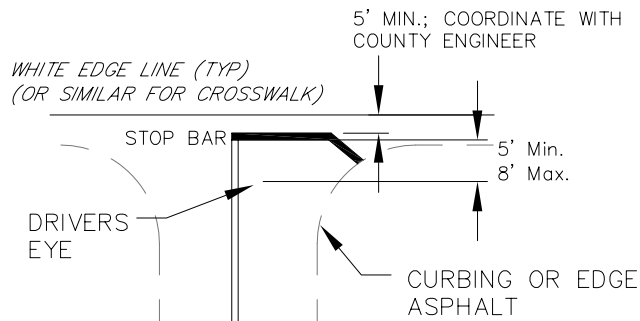
Forward

These details have been developed by the Sussex County Division of Engineering to augment, and as appropriate replace, the New Jersey Department of Transportation Standard Construction Details. Additionally, these details are intended to supplement the Sussex County Land Development Standards. The Sussex County Division of Engineering is dedicated to providing design and construction practices which optimize both public safety and resource investment. As such we are continually looking for new and more advanced design and construction techniques which would provide superior safety and serviceability for the public and their infrastructure investment.

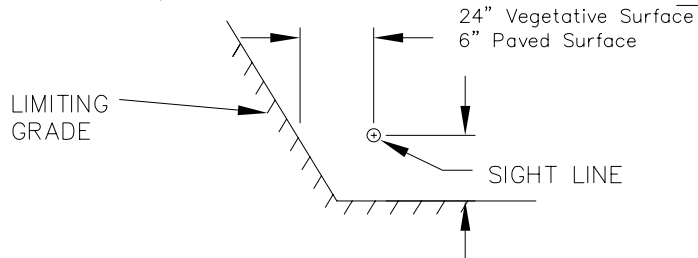
These details have been developed based upon our experiences and in consideration of providing an optimal benefit to the public. We will continue to promote this objective by incorporating advancements in design or construction methodology into these details.

To this end we welcome input which would serve to enhance or improve the public safety or optimize the public resource investment and maintenance.

Sussex County Standard Construction Details			
Detail ID	Detail Description	Revision Status	
SC-01	Intersection Access - Sight Distance Turning Out (used with Sight Distance Standards)	Dev 11/29/05 Rev 1/31/08	
SC-02	Intersection Access - Sight Distance Turning In (used with Sight Distance Standards)	Dev 9/26/06 Rev 1/28/08	
SC-03	Critical Sight Area at Intersection	Dev 11/29/05	
SC-04	Roadway Intersection Detail	Dev 11/29/05 Rev 11/16/07	
SC-05	Multifamily Residential and Commercial Entranceway Detail	Posted 11/29/05 Rev 11/16/07	
SC-05A	Residential Driveway	Dev 2/20/07 Rev 11/16/07	
SC-06	Typical Roadway Section	Dev 11/29/05 Rev 1/29/08	
SC-07	Restricted Entrance –Limited Movements	Dev 11/29/05 Rev 1/9/07	
SC-08	Stop Pavement Markings	Dev 11/29/05 Rev 1/31/08	
SC-09	9"x18" Concrete Vertical Curb	Dev 11/29/05	
SC-10	Depressed Curb Detail	Dev 11/29/05	
SC-11	Sidewalk Detail	Dev 11/29/05	
SC-12	10' Curb Transition Detail	Dev 11/29/05	
SC-13	Pavement Finish Details (Joints)	Dev 11/29/05 Rev 1/29/08	
SC-14	Trench Detail	Dev 11/29/05 Rev. 1/29/08	
SC-15	Timber Sign Post Detail	Dev 1/02/06	
SC-15.1	Sign Details – Sheet 1 of 3	Dev 1/11/05	
SC-15.2	Sign Details – Sheet 2 of 3	Dev 1/11/05	
SC-15.3	Sign Details – Sheet 3 of 3	Dev 1/11/05	
SC-16	Median Break Pavement Markings	Dev 2/27/06 Rev 11/16/07	
SC-17	Auxiliary Lane Layout	Dev 2/27/06 Rev 10/25/07	
SC-18	Auxiliary Lane Layout	Dev 2/27/06 Rev 10/25/07	
SC-19	Driveway Curb Flares	Dev 9/26/06 Rev 1/29/07	



03 SC1 **Driver Eye Location**
(Coordinate with County Engineer)



04 SC1 **Sight Line Buffer**
(Clear Area Between Obstruction and Sight Line)

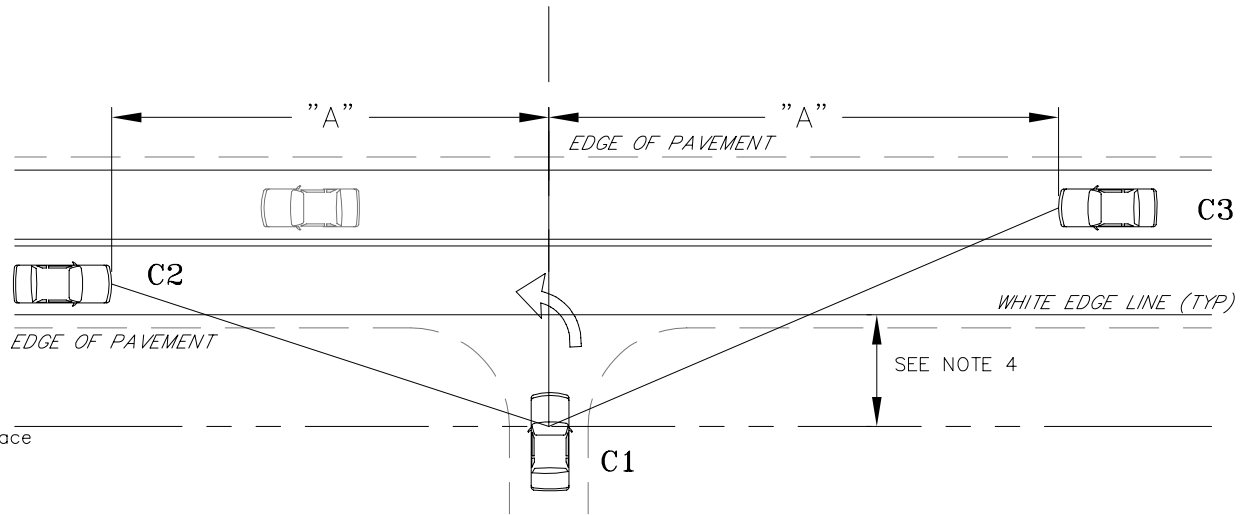
Legend:

- DS: Design Speed:
(85th Speed plus 10%) or when not available
(Posted Speed Modified per LDS V.C.3.b.ii)
- C1: Exiting vehicle
- C2: Left-hand approaching vehicle traveling at DS
- C3: Right-hand approaching vehicle traveling at DS
- C4: Right turn only exit vehicle
- Distance A: Intersection Sight Distance
Left Turning vehicle
- Distance E: Intersection Sight Distance
Right Turning Vehicle

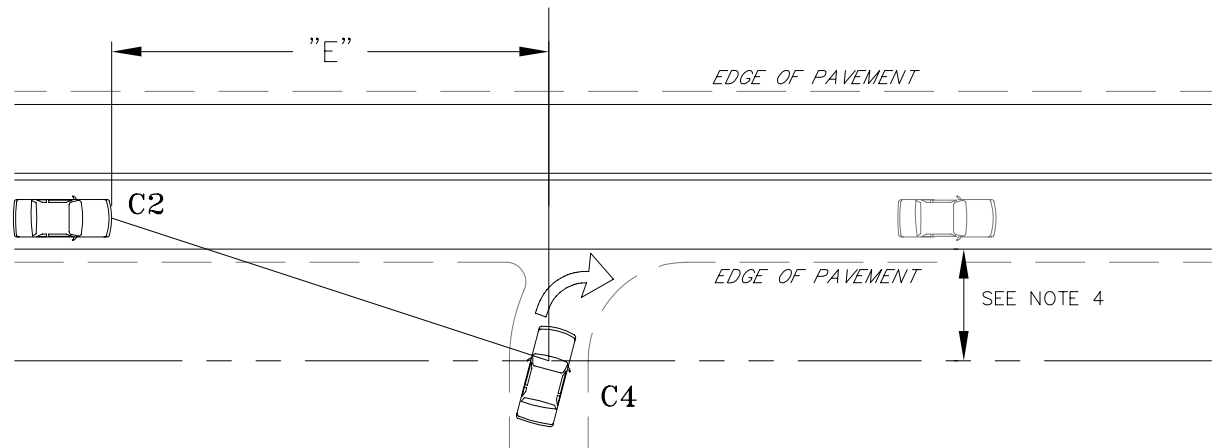
Design Notes:

1. Diagram used in conjunction with sight distance tables.
2. Car C4 exiting to the right.
3. Eye and Object height per AASHTO standards.
4. Sight distance is measured as follows:
Access without Stop Bars: within the range of 5 to 10 feet behind the white line
(white line is the edge of traveled way)
Access with Stop Bar: within a range of 5 to 8 feet behind Stop Bar, this point is typically located between 12 and 15 feet from the edge of traveled way. Coordinate with County Engineer.

Comments: Sight distance shall be measured nearest to location a driver will actually stop.
Sight distance shall be measured at the most restrictive location within the above range.



02 SC1 **Intersection Allowing Left Turns Out**
(Typically Will Control for turns out)



01 SC1 **Intersection - Right Turn Out**
(Right Turn Out Only)

SHEET DATE: 11/29/05

1	Revised Sight Distance	4/4/06	WJK	ENGINEERING DIVISION SUSSEX COUNTY ADMINISTRATIVE CENTER ONE SPRING STREET NEWTON, NEW JERSEY 07860 TEL-973-579-0430 WWW.SUSSEX.NJ.US
	Measurement Offset			
2	Revise Detail 03/SC1	5/9/06	WJK	
3	Add Detail 04/SC1	4/26/06	WJK	
4	Mod. Note 4, Dtl 3, and Speed Std.	1/31/08	WJK	
No.	REVISIONS	DATE	REV. BY	

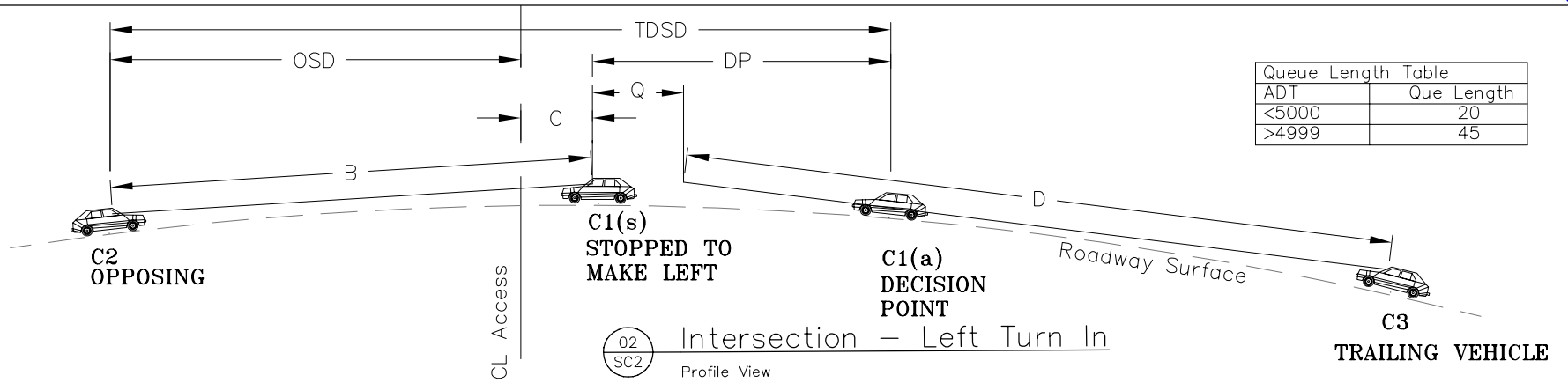


COUNTY OF SUSSEX
DEPARTMENT OF ENGINEERING AND PLANNING
STANDARD DETAILS

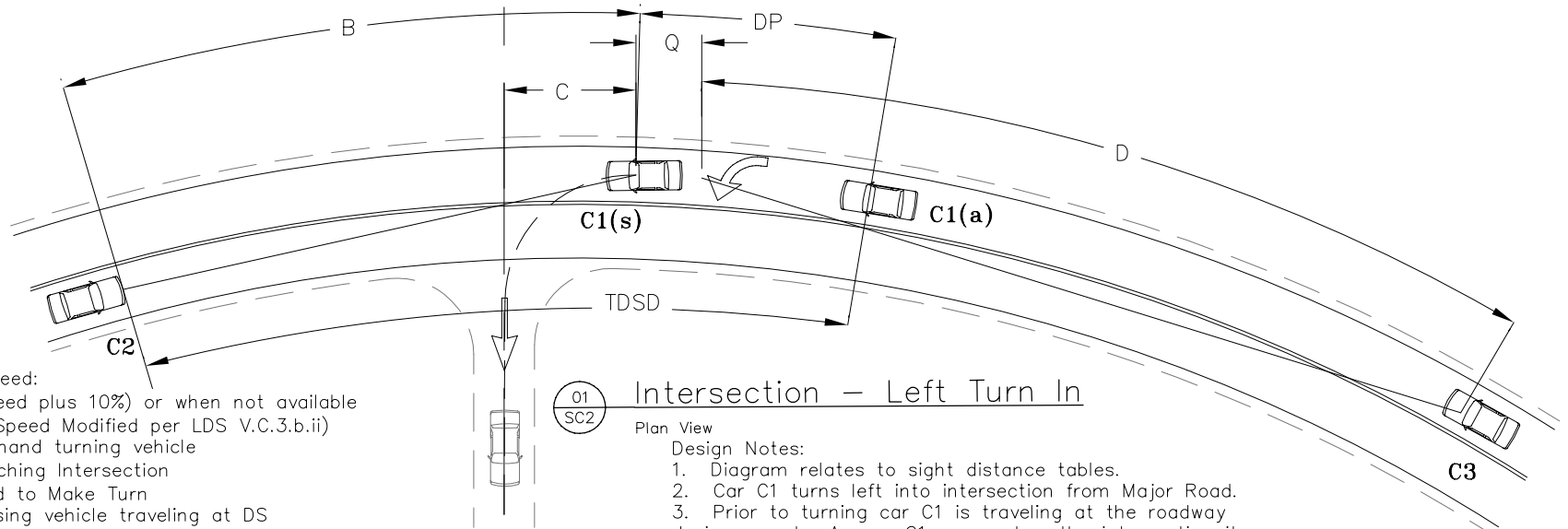
INTERSECTION ACCESS
SIGHT DISTANCE OUT

DETAIL

SC-1



02 SC2 Intersection - Left Turn In
Profile View



01 SC2 Intersection - Left Turn In
Plan View

Legend:
 DS: Design Speed:
 (85th speed plus 10%) or when not available
 (Posted Speed Modified per LDS V.C.3.b.ii)
 Car C1: Left-hand turning vehicle
 C1(a): Approaching Intersection
 C1(s): Stopped to Make Turn
 Car C2: Opposing vehicle traveling at DS
 Car C3: Trailing vehicle traveling at DS
 Distance C: Stop to Turn Location - 22' Access ingress
 CL plus 5' to Driver Eye

Analysis 1 (C1(s) Stopped to Make Left):
 Distance B: AASHTO Left Turn from Major Road Car C1 or
 Stopping Sight Distance Car C2
 Distance D: Stopping Sight Distance Car C3 at DS.
 Distance Q: Queue Length: See Table "Queue Length"
Analysis 2: (C1(a) Advancing to make Turn):
 Distance DP: Critical Decision Point
 (See COS Sight Distance Standards)
 Distance TDS: Turn Decision Sight Distance (see
 COS Sight Distance Standards).
 Distance OSD: Stopping sight distance for Car C3.

Design Notes:

1. Diagram relates to sight distance tables.
2. Car C1 turns left into intersection from Major Road.
3. Prior to turning car C1 is traveling at the roadway design speed. As car C1 approaches the intersection it decelerates to make the left-hand turn. See COS Sight Distance Manual for more data.
4. Car C3 requires Stopping Sight Distance from the last car in a left turn queue.
5. Car C2, traveling toward car C1 in the opposing lane requires ample stopping sight distance to avoid car C1 should car C1 turn unsafely.
6. Driver Eye and Object Height per AASHTO standards.
7. Car C1 requires ample Turn Decision Sight Distance over which it must see car C2 to evaluate the safety of executing the turn movement. See COS Sight Distance Manual.
8. Stopping Sight Distance is required continuously within the intersection area of influence for all commercial and street access points.
8. Distance "C" is the centerline intersection offset to where Car 1 will stop to make the left hand turn. Distance "C" will be 16 feet plus one-half the entry way lane width.

SHEET DATE: 11/29/05

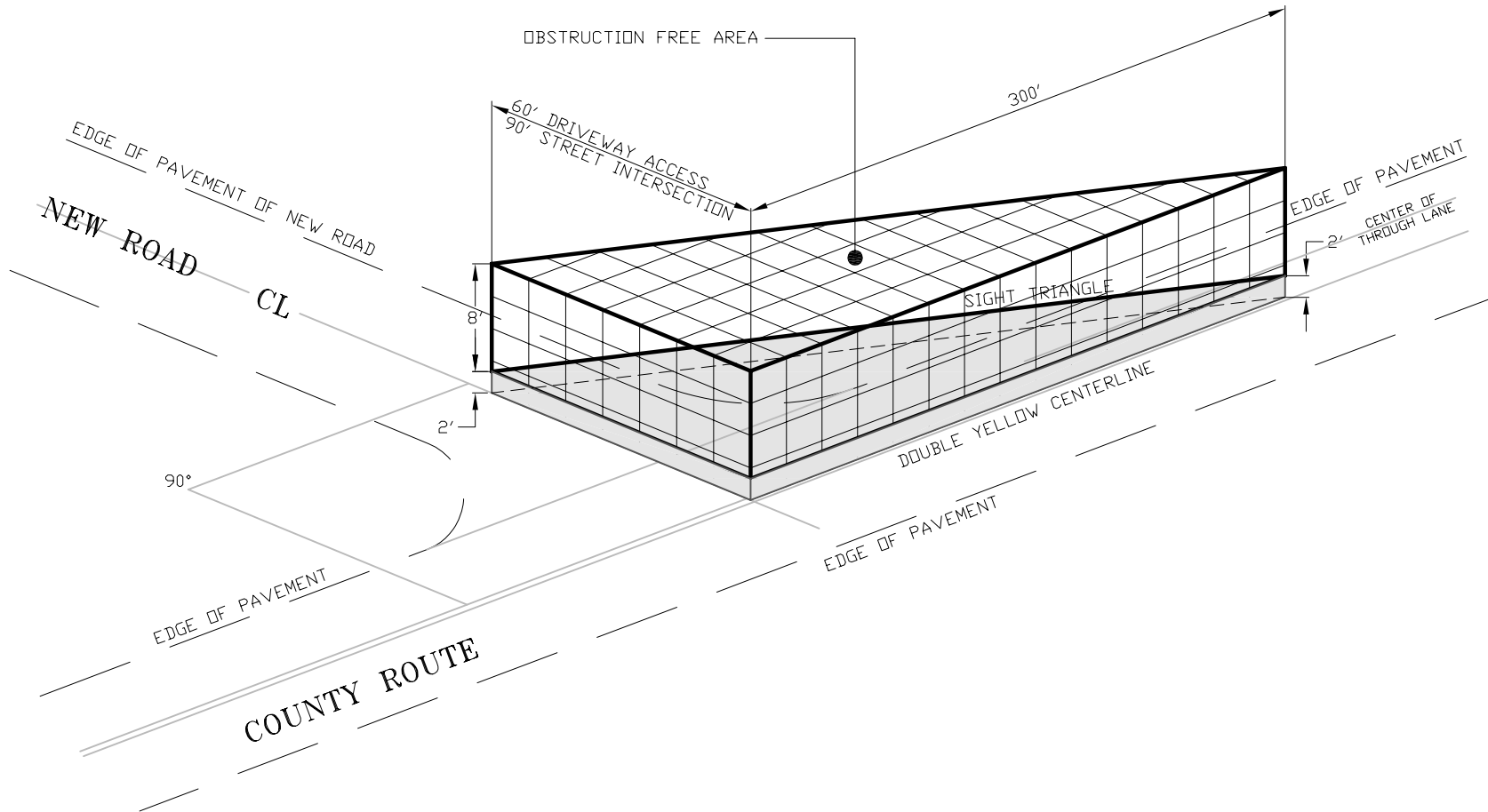
ENGINEERING DIVISION				
No.	REVISIONS	DATE	REV. BY	WWW. SUSSEX. NJ. US
1	LEFT TURN IN FROM MAJOR ROAD CRITERIA CONFORMANCE CHECK/UPDATE AGAINST AASHTO STANDARDS	10/27/06	Div Eng	SUSSEX COUNTY ADMINISTRATIVE CENTER ONE SPRING STREET NEWTON, NEW JERSEY 07860 TEL-973-579-0430
2	Mod. P. Speed Note to Land Dev. Std.	1/28/08	WJK	



COUNTY OF SUSSEX
 DEPARTMENT OF ENGINEERING AND PLANNING
 STANDARD DETAILS

INTERSECTION ACCESS
 SIGHT DISTANCE IN

DETAIL
 SC-2



INTERSECTION SIGHT TRIANGLE

60' DRIVEWAY ACCESS
 90° STREET INTERSECTION
 (REFER TO LDS SECTION V.D.2.d FOT TRANSECTS T-5 OR T-6)

SHEET DATE: 11/29/05

No.	REVISIONS	DATE	REV. BY

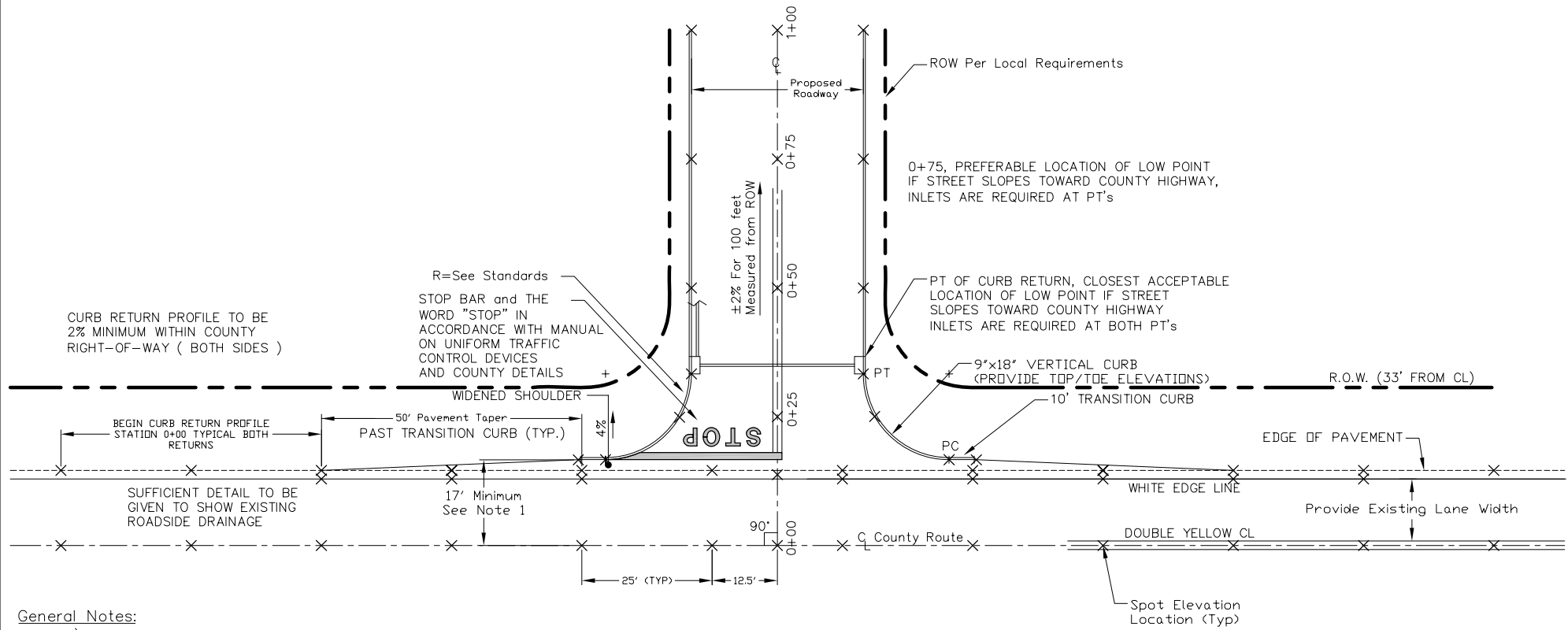
ENGINEERING DIVISION
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COUNTY OF SUSSEX
 DEPARTMENT OF ENGINEERING AND PLANNING
 STANDARD DETAILS

CRITICAL SIGHT AREA
 AT INTERSECTION

DETAIL
 SC-3



General Notes:

- 1.) Adjustment to curb setback may be required to obtain minimum slopes. Minimum CL offset based upon 12 ft lane, 5 ft shoulder, See Land Development Standards for other lane and shoulder configurations.
- 2.) Written justification will be required when low point is not located at PT of curb.
- 3.) Sight distance to be analyzed in accordance with County Standards.
- 4.) All signage shall be shown on plan and identified using MUTCD designations.
- 5.) Inlets may be omitted when positive drainage can be affected through curb cuts and stabilized swales.
- 6.) Details depicted here represent minimum requirements. All details pertinent to the functioning of the intersection shall be included on submittals.
- 7.) Guide rail shall be included as warranted.
- 8.) Cross sections and CL profile shall be provided for County Route when lane modifications are required.
- 9.) 90'x300' sight triangles shall be provided. Double Overlapping sight triangles may be required, see standards (Not shown this detail).
- 10.) Concrete curb shall be used within County ROW unless otherwise directed by the County Engineer.
- 11.) Proposed pavement box shall be continued to existing County Route white edge line. All existing asphalt between existing white edge line and proposed work shall be removed. Refer to Detail SC-13

Implementation Note:

This detail represents a generic access configuration. It is intended as a graphical representation of common design data needed to facilitate the County Application Review Process. Designers shall provide information similar to that depicted hereon applied to the specific access proposal. Site specific details shall be provided with the planning application at a scale of 1" = 20'. This detail should be used for informational purposes only.

SHEET DATE: 11/29/05

No.	REVISIONS	DATE	REV. BY
1	Update with Land Development Standards	1/30/07	ENG
2	Added Implementation Note	11/16/07	ENG

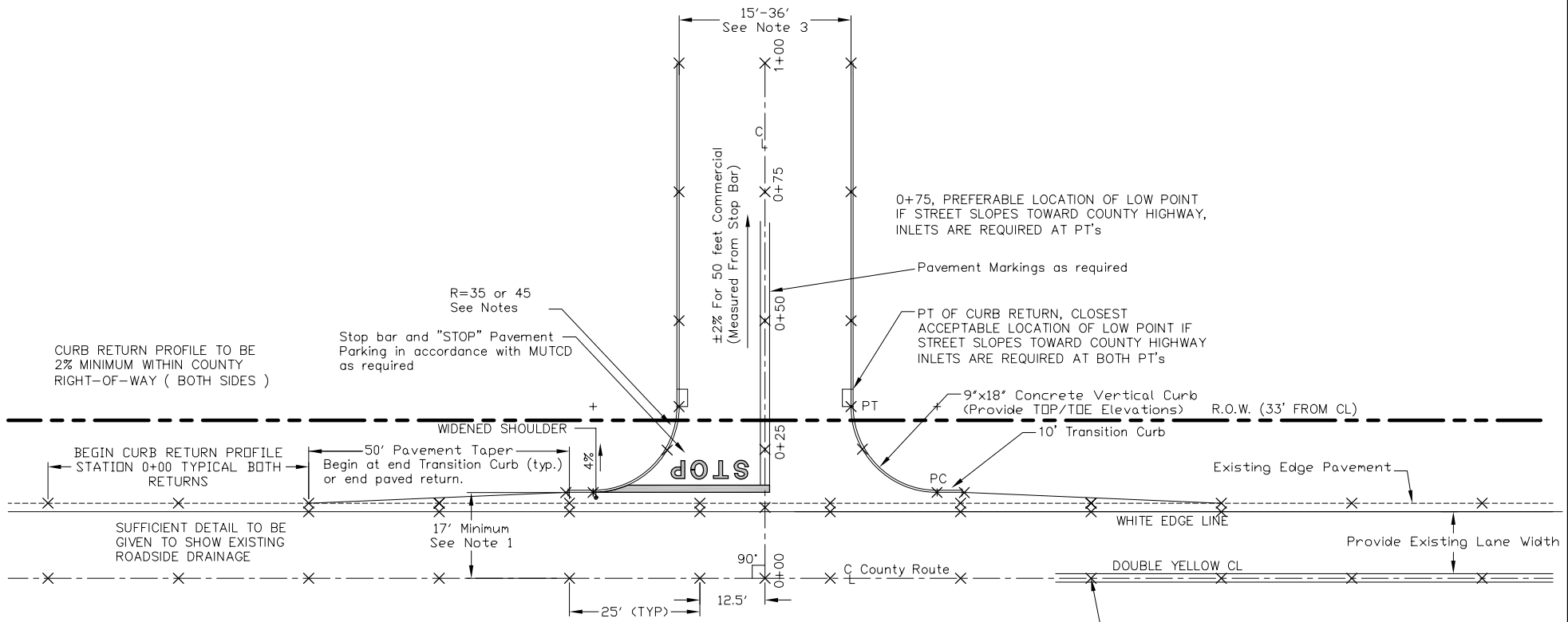
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COUNTY OF SUSSEX
 DEPARTMENT OF ENGINEERING AND PLANNING
 STANDARD DETAILS

ROADWAY
 INTERSECTION DETAIL

DETAIL
 SC-4



General Notes:

- 1.) Adjustment to curb setback may be required to obtain minimum slopes. Minimum CL offset based upon 12 ft lane, 5 ft shoulder, refer to Land Development Standards for alternate lane/shoulder configurations.
- 2.) Written justification will be required when low point is located at PT of curb.
- 3.) Entranceway widths vary per County Standards dependent on use type and number of lanes.
- 4.) Sight distance to be analyzed in accordance with County Standards.
- 5.) All signage shall be shown on plan and identified using MUTCD designations.
- 6.) Inlets may be omitted when positive drainage can be effected through curb cuts and stabilized swales.
- 7.) Details depicted here represent minimum requirements All details pertinent to the functioning of the entranceway point of access shall be included on submittals.
- 8.) Guide rail shall be included as warranted.
- 9.) Cross sections and CL profile shall be provided for County Route when lane modifications are required.
- 10.) 60'x300' sight triangles shall be provided (not shown this detail).
- 11.) All curbing within the County ROW shall be concrete unless otherwise directed by the County Engineer.

- 12.) Proposed pavement box shall be continued to existing County Route white edge. All existing asphalt between existing white edge line and proposed work shall be removed. refer to Detail SC-13.
- 13.) Curb return radii may be varied by the designer to accommodate proposed design vehicles. See Land Development Standards for Alternate configurations.
- 14.) Proposal shall be designed to accommodate the SU design vehicle unless proposed use warrants larger vehicles.
- 15.) Applicant shall provide sight line profiles.

Implementation Note:
 This detail represents a generic access configuration. It is intended as a graphical representation of common design data needed to facilitate the County Application Review Process. Designers shall provide information similar to that depicted hereon applied to the specific access proposal. Site specific details shall be provided with the planning application at a scale of 1" = 20'. This detail should be used for informational purposes only.

SHEET DATE: 11/29/05

ENGINEERING DIVISION			
No.	REVISIONS	DATE	REV. BY
4	REMOVED SINGLE FAMILY RESIDENTIAL DATA	2/20/07	WJK
3	Update to Land Development Standards	1/29/07	ENG
2	REVISED APPROACH GRADE NOTES	3/1/06	WJK
1	ADAPTED FROM INTERSECTION DETAIL	9/20/05	DDR

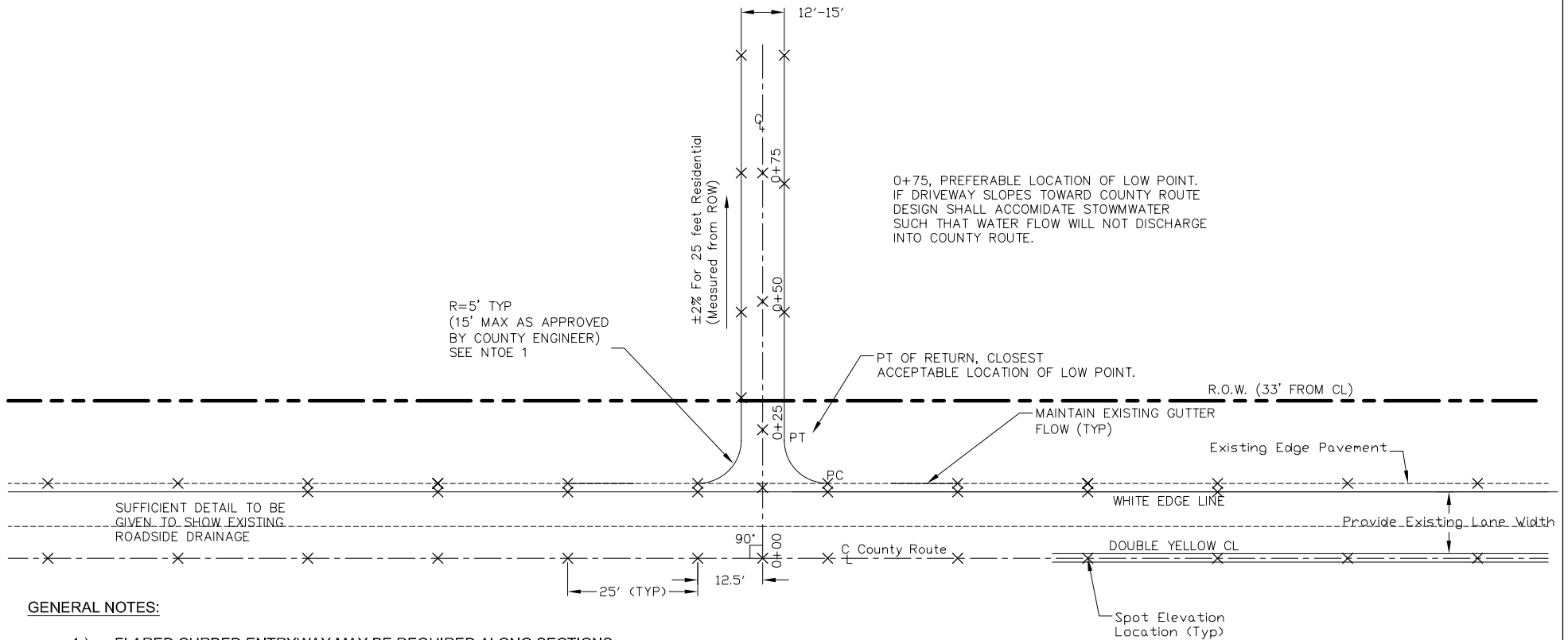


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COUNTY OF SUSSEX
 DEPARTMENT OF ENGINEERING AND PLANNING
 STANDARD DETAILS

MULTIFAMILY OR
 COMMERCIAL ENTRANCEWAY

DETAIL
 SC-5



GENERAL NOTES:

- 1.) FLARED CURBED ENTRYWAY MAY BE REQUIRED ALONG SECTIONS OF COUNTY ROUTES WHICH ARE CURBED. REFER TO STANDARD DETAIL SC-19
- 2.) WRITTEN JUSTIFICATION WILL BE REQUIRED WHEN LOW POINT IS LOCATED AT PT OF CURB.
- 3.) SIGHT DISTANCE TO BE ANALYZED IN ACCORDANCE WITH COUNTY STANDARDS.
- 4.) ALL SIGNAGE SHALL BE SHOWN ON PLAN AND IDENTIFIED USING MUTCD DESIGNATIONS.
- 5.) INLETS AND OTHER DRAINAGE SYSTEMS ALONG COUNTY ROUTS SHALL BE SHOWN ON PLAN.
- 6.) ROADSIDE DRAINAGE SHALL NOT BE ALTERED BY PROPOSED DRIVEWAY.
- 7.) DETAILS DEPICTED HERE REPRESENT MINIMUM REQUIREMENTS ALL DETAILS PERTINENT TO THE FUNCTIONING OF THE ENTRANCEWAY POINT OF ACCESS SHALL BE INCLUDED ON SUBMITTALS.
- 8.) EXISTING GUIDE RAIL SHALL BE SHOWN ON THE PLAN, MODIFICATIONS DESIGNED AS WARRANTED.
- 9.) CROSS SECTIONS AND CL PROFILE SHALL BE PROVIDED FOR COUNTY ROUTE OR SPOT ELEVATIONS SUFFICIENT TO DEFINE DRAINAGE.
- 10.) ALL CURBING WITHIN THE COUNTY ROW SHALL BE CONCRETE UNLESS OTHERWISE DIRECTED BY THE COUNTY ENGINEER.
- 11.) PROPOSED PAVEMENT SHALL MEET EXISTING EDGE OF COUNTY ROUTE. REFER TO STANDARD DETAIL SC-13 FOR JOINING DETAILS.

Implementation Note:

This detail represents a generic access configuration. It is intended as a graphical representation of common design data needed to facilitate the County Application Review Process. Designers shall provide information similar to that depicted hereon applied to the specific access proposal. Site specific details shall be provided with the planning application at a scale of 1" = 20'. This detail should be used for informational purposes only.

SHEET DATE: 2/16/07

ENGINEERING DIVISION			
SUSSEX COUNTY ADMINISTRATIVE CENTER ONE SPRING STREET NEWTON, NEW JERSEY 07860 TEL-973-579-0430 WWW.SUSSEX.NJ.US			
1	ADAPTED FROM SC-5	2-15-07	WJK
No.	REVISIONS	DATE	REV. BY



COUNTY OF SUSSEX
DEPARTMENT OF ENGINEERING AND PLANNING
STANDARD DETAILS

RESIDENTIAL
ACCESS

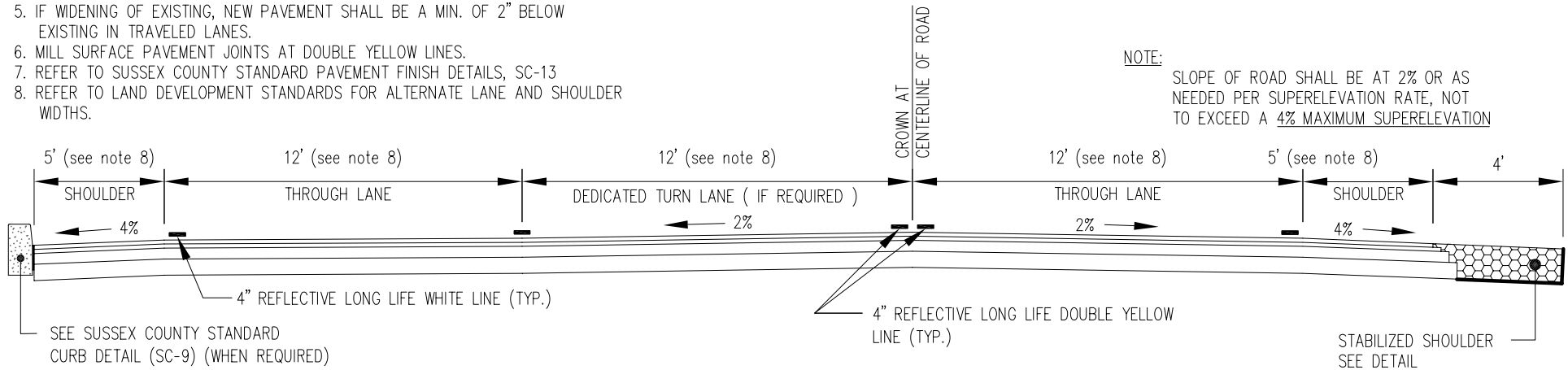
DETAIL
SC-5A

NOTE: TYPICAL ROADWAY SECTIONS

1. SLOPES GREATER THAN 2:1 SHALL BE STABILIZED WITH JUTE FABRIC.
2. TYPICAL SLOPES SHALL HAVE A MINIMUM OF (3:1) AND PREFERRED (10:1) IN LAWNS, ACTUAL SLOPES MAY VARY BASED ON EXISTING FIELD CONDITIONS.
3. CLEAN CUT START AND FINISH JOINTS.
4. MIN. 12" OVERLAP NEW PAVEMENT TO MEET EXISTING REMAINING.
5. IF WIDENING OF EXISTING, NEW PAVEMENT SHALL BE A MIN. OF 2" BELOW EXISTING IN TRAVELED LANES.
6. MILL SURFACE PAVEMENT JOINTS AT DOUBLE YELLOW LINES.
7. REFER TO SUSSEX COUNTY STANDARD PAVEMENT FINISH DETAILS, SC-13
8. REFER TO LAND DEVELOPMENT STANDARDS FOR ALTERNATE LANE AND SHOULDER WIDTHS.

NOTE:

SLOPE OF ROAD SHALL BE AT 2% OR AS NEEDED PER SUPERELEVATION RATE, NOT TO EXCEED A 4% MAXIMUM SUPERELEVATION

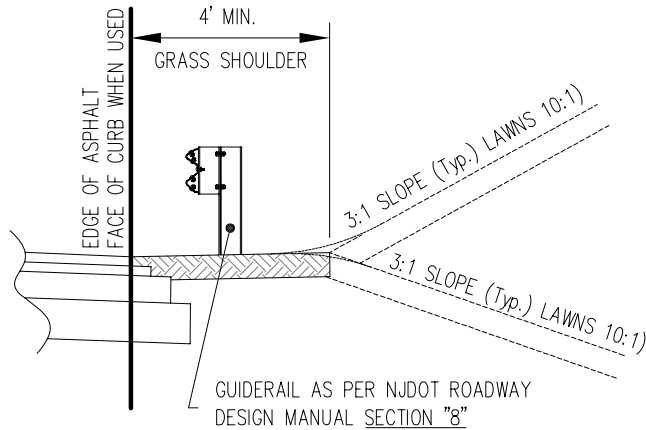


TYPICAL ROADWAY SECTION

NTS

NOTE: TYPICAL SLOPE DETAIL

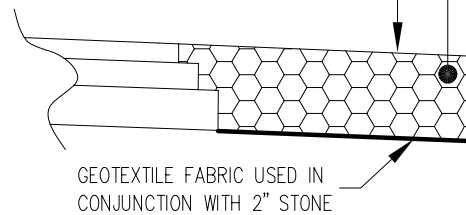
1. ALL SLOPES SHALL BE STABILIZED WITH 4" THICK TOP SOIL, SEEDING, AND MULCH.
2. SHOULDERS 4% OR LESS SHALL HAVE 4" THICK TOP SOIL, SEEDING, AND MULCH



TYPICAL SLOPE DETAIL

NTS

STABILIZED SHOULDER
 ROAD GRADE 4% OR GREATER ($D_{50} = 2"$)
 ROAD GRADE LESS THEN 4% (DENSE GRADED AGGREGATE)
 IF DGA IS USED, TOP SHOULD HAVE A VEGETATIVE STABILIZATION AND GEOTEXTILE FABRIC TO PREVENT LOSS OF FINER MATERIALS



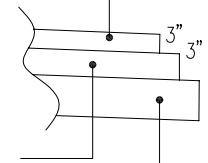
SHOULDER STABILIZATION DETAIL

NTS

2" THICK HOT MIX ASPHALT
 SURFACE COARSE MIX 12.5M64

5" THICK HOT MIX ASPHALT
 BASE COARSE MIX 19M64

6" THICK DENSE GRADED AGGREGATE



PAVEMENT STEPPING DETAIL

NTS

SHEET DATE: 11/29/05

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SUSSEX COUNTY ADMINISTRATIVE CENTER ONE SPRING STREET NEWTON, NEW JERSEY 07860 TEL-973-579-0430 WWW.SUSSEX.NJ.US			
No.	REVISIONS	DATE	REV. BY
2	UPDATE FOR SUPERPAVE	1/29/08	ENG
1	Update for Land Development Standards	1/29/07	ENG

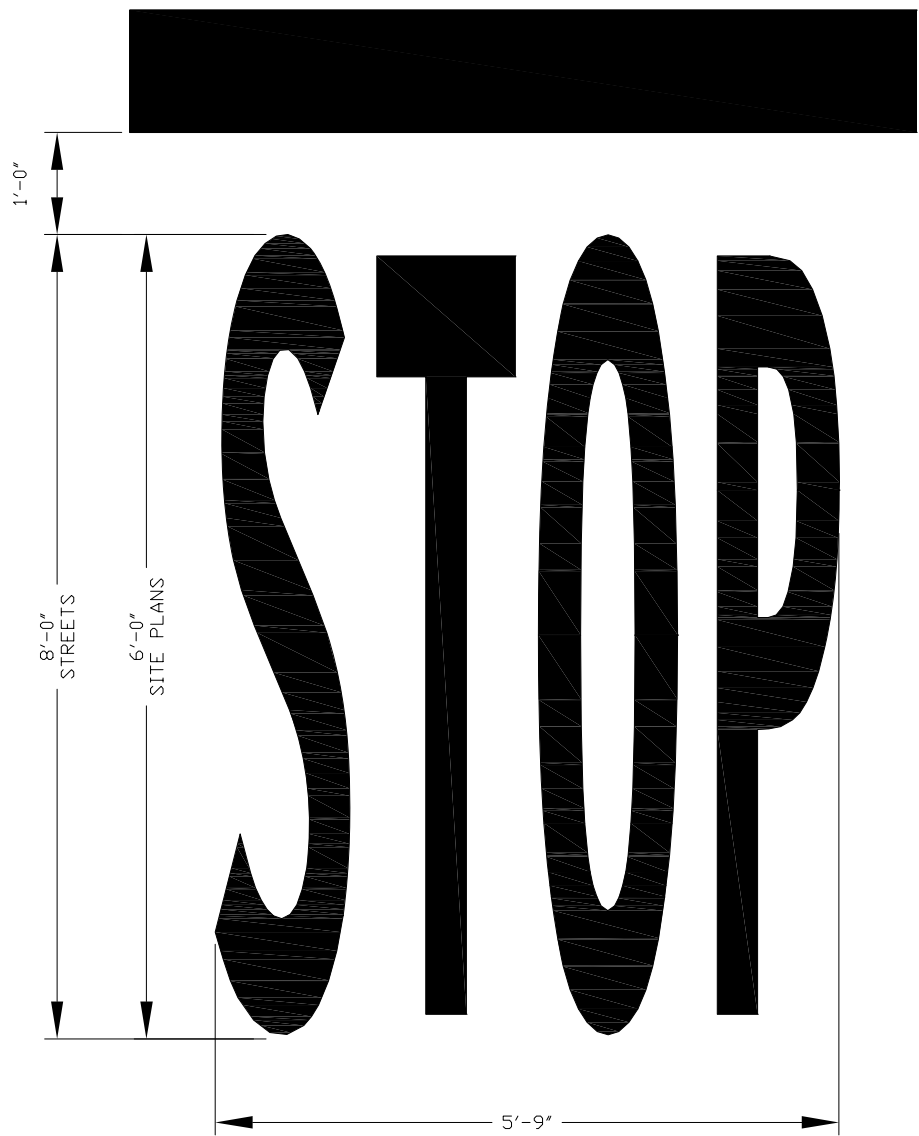


COUNTY OF SUSSEX
 DEPARTMENT OF ENGINEERING AND PLANNING
 STANDARD DETAILS

TYPICAL
 ROADWAY SECTION

DETAIL

SC-6



24" STREETS OR SITE PLANS
WITH 25 STALL OR GREATER,
18" SITE PLANS WITH
LESS THEN 25
PARKING STALLS

NOTE: STOP BAR SHALL BE LOCATED A MINIMUM OF 5 FEET BEHIND THE THROUGH STREET WHITE EDGE LINE. LOCATION SHALL BE COORDINATED ON A CASE BY CASE BASIS WITH THE COUNTY ENGINEER.

SHEET DATE: 11/29/05

No.	ADDED NOTE	1/31/08	ENG
No.	REVISIONS	DATE	REV. BY

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COUNTY OF SUSSEX
DEPARTMENT OF ENGINEERING AND PLANNING
STANDARD DETAILS

STOP
PAVEMENT MARKING

DETAIL
SC-8

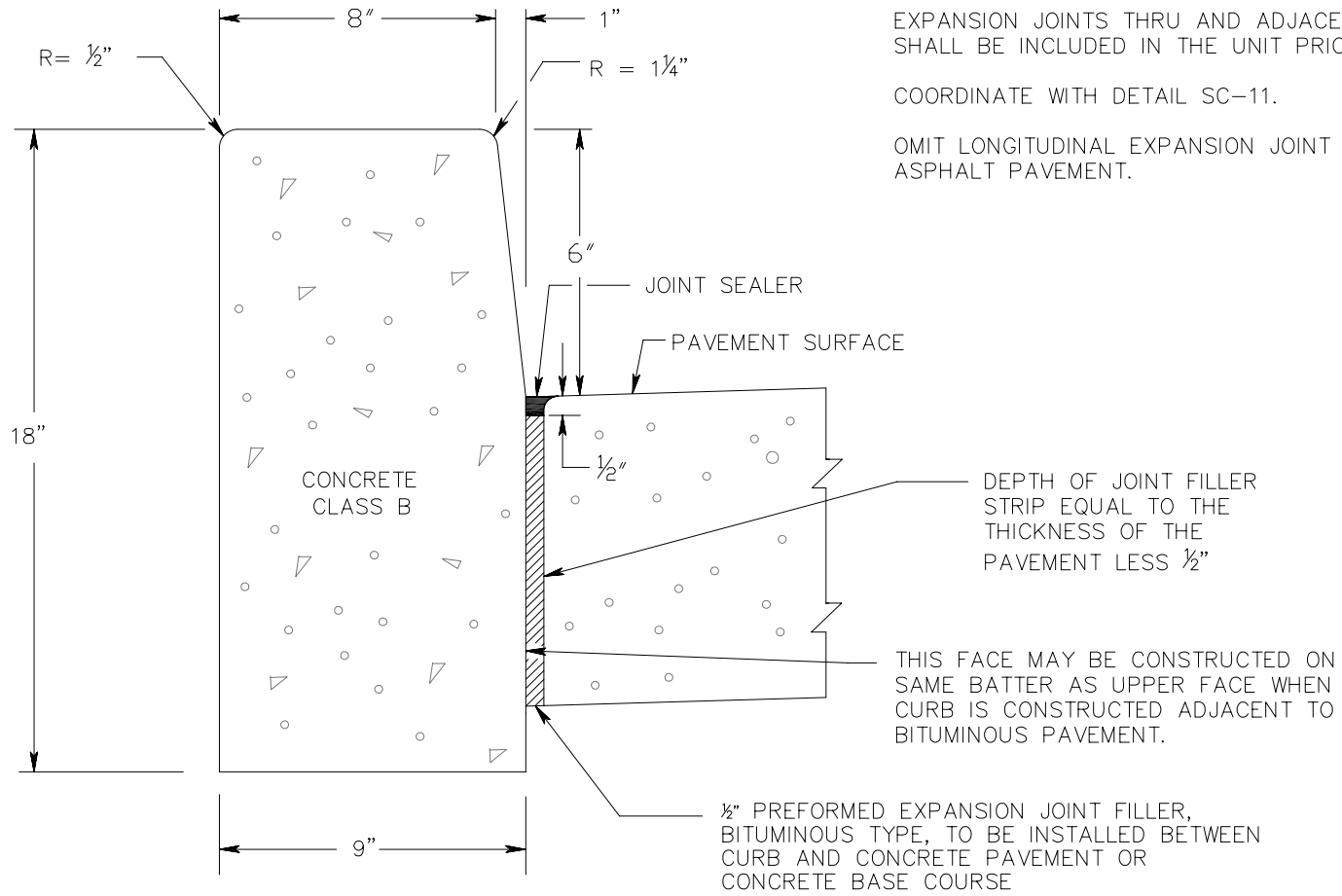
NOTES:

TRAVERSE JOINTS 1/2" WIDE SHALL BE INSTALLED IN THE CURB 20'-0" ON CENTER AND SHALL BE FILLED WITH BITUMINOUS IMPREGNATED FIBER JOINT FILLER RECESSED 1/4" IN FROM THE FRONT FACE AND TOP OF CURB

EXPANSION JOINTS THRU AND ADJACENT TO THE CURB SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CURB.

COORDINATE WITH DETAIL SC-11.

OMIT LONGITUDINAL EXPANSION JOINT FOR ASPHALT PAVEMENT.



DEPTH OF JOINT FILLER STRIP EQUAL TO THE THICKNESS OF THE PAVEMENT LESS 1/2"

THIS FACE MAY BE CONSTRUCTED ON SAME BATTER AS UPPER FACE WHEN CURB IS CONSTRUCTED ADJACENT TO BITUMINOUS PAVEMENT.

1/2" PREFORMED EXPANSION JOINT FILLER, BITUMINOUS TYPE, TO BE INSTALLED BETWEEN CURB AND CONCRETE PAVEMENT OR CONCRETE BASE COURSE

SHEET DATE: 11/29/05

No.	REVISIONS	DATE	REV. BY

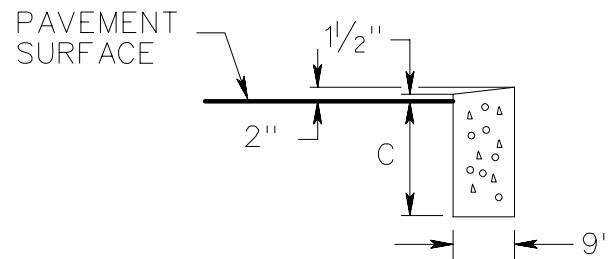
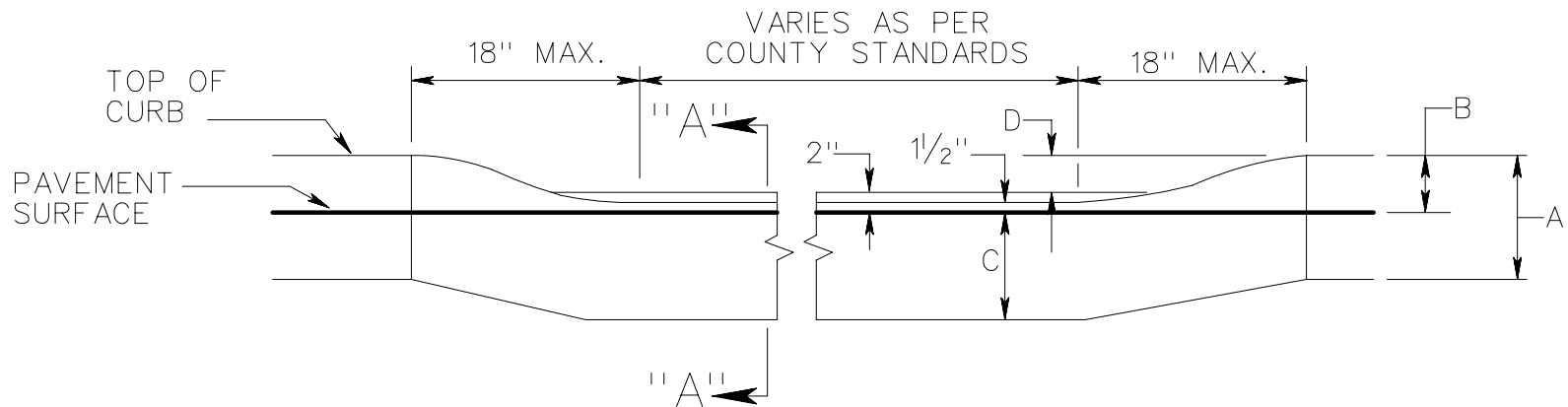
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COUNTY OF SUSSEX
 DEPARTMENT OF ENGINEERING AND PLANNING
 STANDARD DETAILS

9" X 18" CONCRETE
 VERTICAL CURB

DETAIL
 SC-9



SECTION A-A

CURB SIZE	DIM. A	DIM. B	DIM. C	DIM. D
9"x18"	18"	6"	16"	4"
9"x22"	22"	8"	16"	6"

METHOD OF DEPRESSING CURB AT DRIVEWAYS

N.T.S.

SHEET DATE: 11/29/05

No.	REVISIONS	DATE	REV. BY

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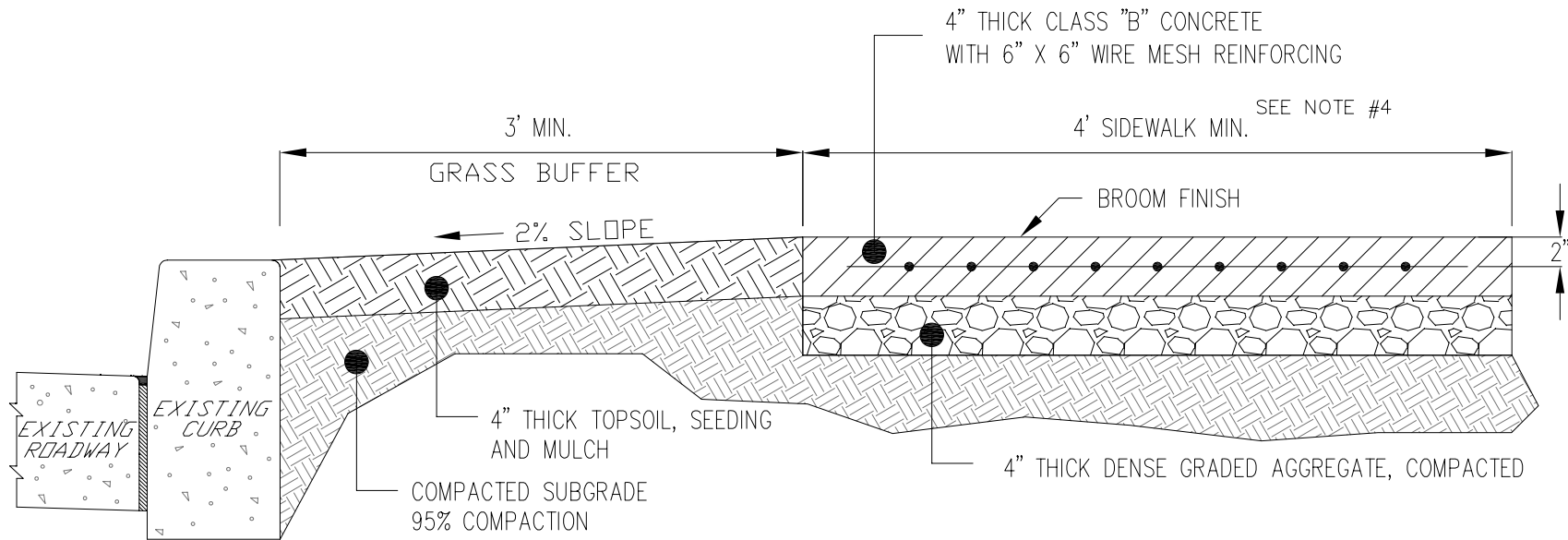


COUNTY OF SUSSEX
 DEPARTMENT OF ENGINEERING AND PLANNING
 STANDARD DETAILS

DEPRESSED CONCRETE
 CURB DETAIL

DETAIL

SC-10



METHOD FOR SIDEWALK/CURB BUFFER

NOTES:

N.T.S.

1. PROVIDE 1/2" EXPANSION JOINTS AT 20' O.C. AND AT ALL EXISTING STRUCTURES, AND PROVIDE CONTRACTION JOINTS AT 5' O.C., IN SIDEWALKS.
2. FIBER MESH MAY BE SUBSTITUTED FOR WWF AT A RATE OF 1.5 Lb. PER CY CONCRETE.
3. 3' GRASS BUFFER AREA SHALL HAVE A MINIMUM OF 4" THICK TOPSOIL, SEEDING, AND MULCH OR AS PER CURRENT LOCAL STANDARDS.
4. IF 3' GRASS BUFFER IS OMITTED THE CONCRETE SIDEWALK SHALL BE 5' MIN. IN WIDTH AND SHALL SLOPE TOWARDS THE ROADWAY.
5. ADA ACCESSIBLE RAMPS SHALL BE IN CONFORMANCE WITH CURRENT NJDOT STANDARD DETAILS.
6. ADA ACCESSIBLE RAMPS SHALL NOT OUTLET ONTO COUNTY ROUTE SHOULDERS IN THE ABSENCE OF COUNTY APPROVED PEDESTRIAN CROSSWALKS.

SHEET DATE: 11/29/05

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SUSSEX COUNTY ADMINISTRATIVE CENTER ONE SPRING STREET NEWTON, NEW JERSEY 07860 TEL-973-579-0430 WWW.SUSSEX.NJ.US			
No.	REVISIONS	DATE	REV. BY

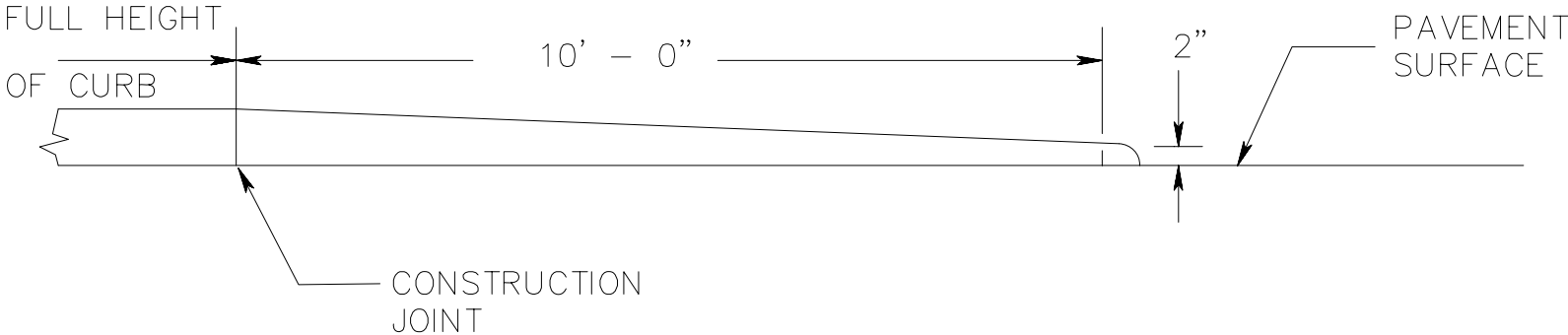


COUNTY OF SUSSEX
DEPARTMENT OF ENGINEERING AND PLANNING
STANDARD DETAILS

SIDEWALK/
CURB DETAIL

DETAIL
SC-11

CURB TRANSITION 2" FACE
TO FULL HEIGHT OF CURB



SHEET DATE: 11/29/05

No.	REVISIONS	DATE	REV. BY

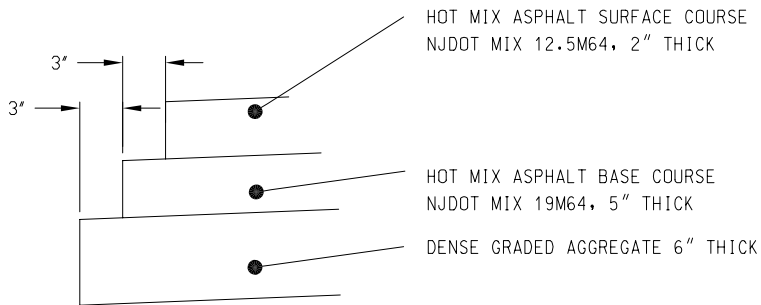
ENGINEERING DIVISION
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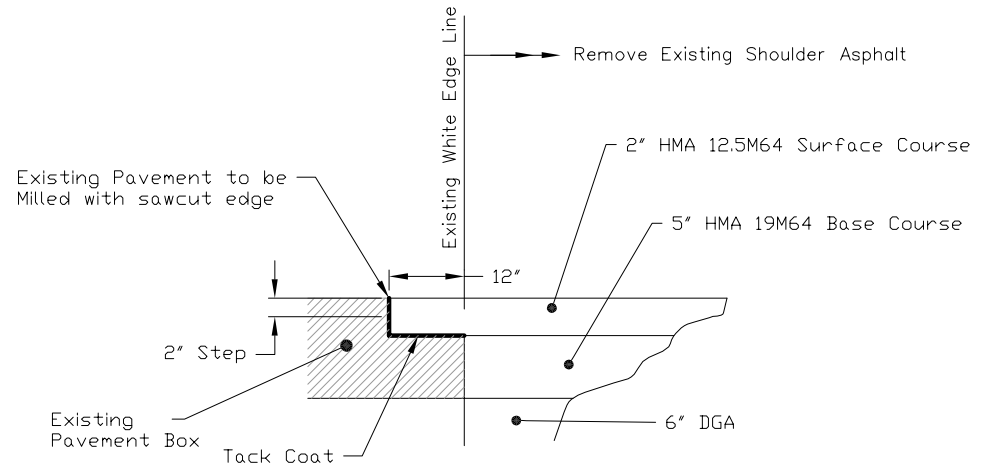
COUNTY OF SUSSEX
 DEPARTMENT OF ENGINEERING AND PLANNING
 STANDARD DETAILS

10' CURB
 TRANSITION

DETAIL
 SC-12

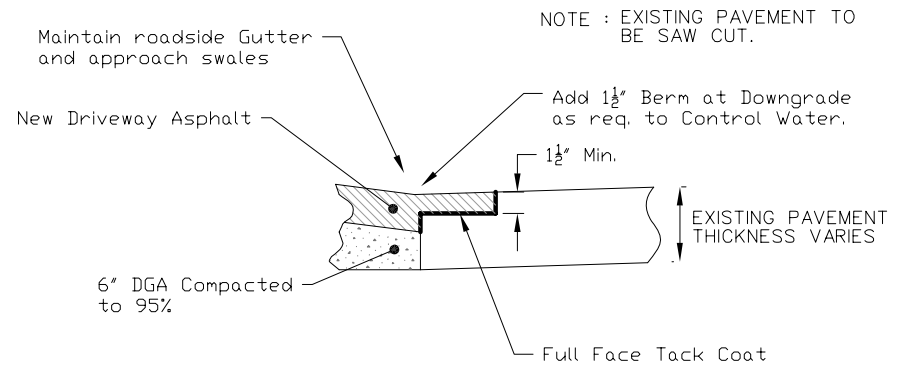


STEPPED PAVEMENT DETAIL



PAVEMENT JOINTING DETAIL

Used for Widened Pavment Sections



RESIDENTIAL DRIVEWAY JOINING DETAIL

Pavement Nomenclature			
Aggregate Size	NJDOT OLD	NJDOT NEW	Min Bit. Thickness
3/8"	HMA I-5	HMA 9.5MM64	1.5"
1/2"	HMA I-4	HMA 12.5M64	2"
3/4"	HMA I-2	HMA 19M64	3"
1"		HMA 25M64	4"
1 1/2"		HMA 37.5M64	6"

SHEET DATE: 11/29/05

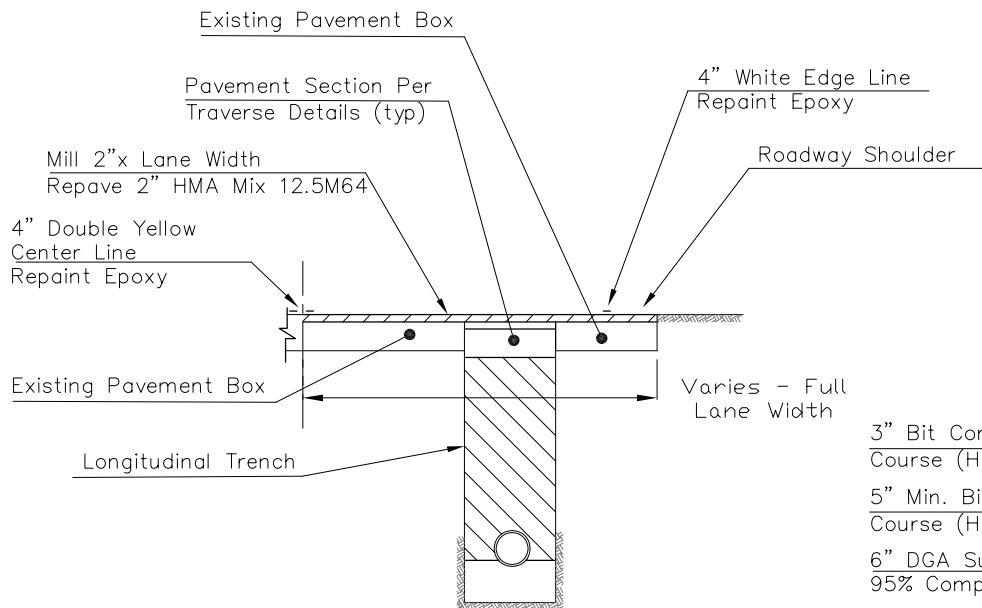
ENGINEERING DIVISION			
SUSSEX COUNTY ADMINISTRATIVE CENTER ONE SPRING STREET NEWTON, NEW JERSEY 07860 TEL-973-579-0430 WWW.SUSSEX.NJ.US			
No.	REVISIONS	DATE	REV. BY
1	UPDATE FOR SUPERPAVE	1/29/08	ENG



COUNTY OF SUSSEX
DEPARTMENT OF ENGINEERING AND PLANNING
STANDARD DETAILS

PAVEMENT
FINISH DETAILS

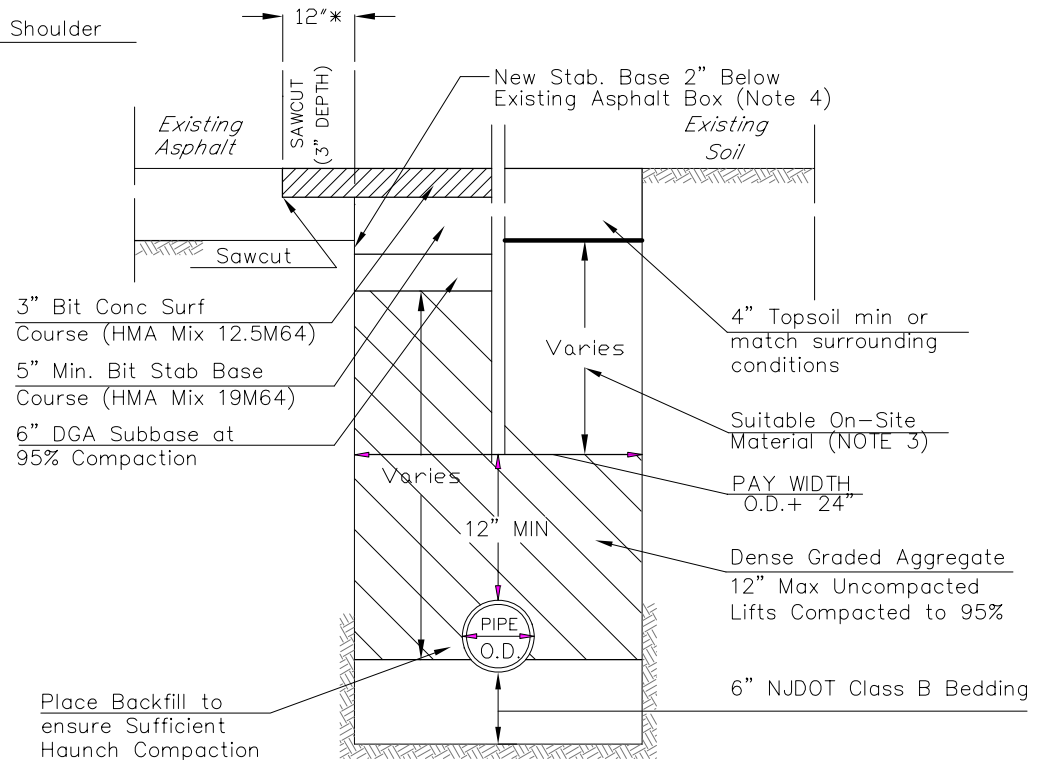
DETAIL
SC-13



Mill and Repave Travelway Lane Width along sections of County Routes where longitudinal trenches are constructed Refer to typical roadway sections for minimum lane/shoulder widths and additional section data.

LONGITUDINAL TRENCH

1. Contractor shall provide sheeting or shoring as require
2. Contractor shall provide all dewatering. Dewatering shall comply with NJ Soil Conservation Standards.
3. On-site material shall only be permitted for use in trenches within open areas, i.e. fields and lawns.
4. Bituminous Stabilized Base Course shall be placed such that the bottom elevation extends 2" below the existing asphalt road box.
5. All asphalt joints shall be saw-cut



TRAVERSE TRENCH

* 12" shall be uniform traversely across the road measured from the widest part of the road opening.

SHEET DATE: 11/29/05

ENGINEERING DIVISION			
SUSSEX COUNTY ADMINISTRATIVE CENTER ONE SPRING STREET NEWTON, NEW JERSEY 07860 TEL-973-579-0430 WWW.SUSSEX.NJ.US			
2	UPDATE TO SUPERPAVE	1/29/08	ENG
1	Add reference to Typical Section	9/26/06	Eng. Stf
No.	REVISIONS	DATE	REV. BY

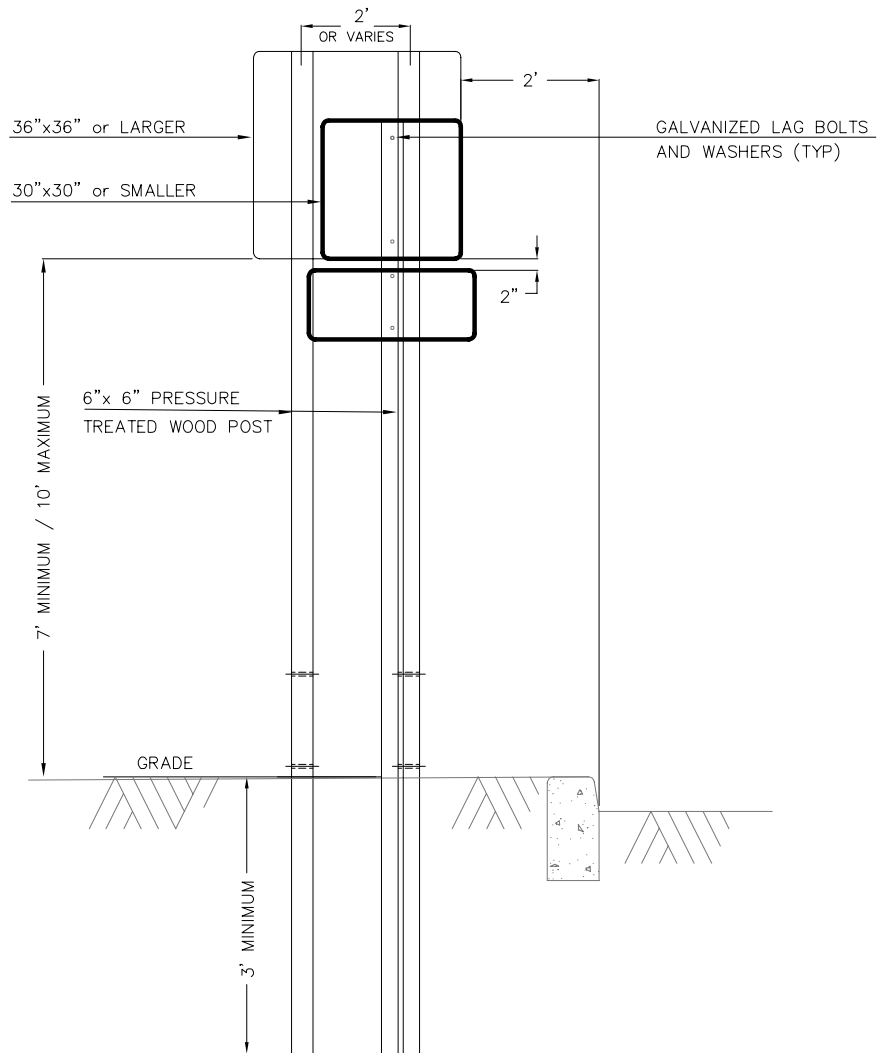


COUNTY OF SUSSEX
DEPARTMENT OF ENGINEERING AND PLANNING
STANDARD DETAILS

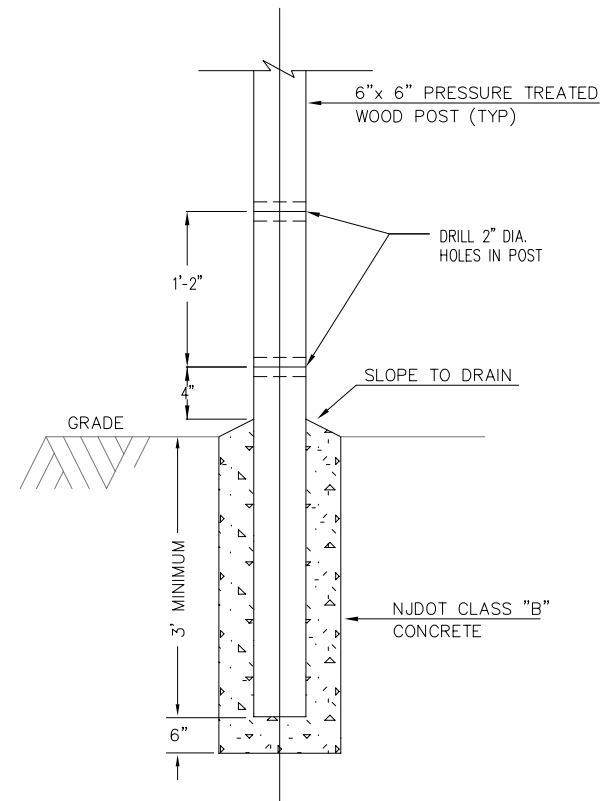
TYPICAL
TRENCH DETAIL

DETAIL

SC-14



SIGN POST DETAIL



TYPICAL POST FOUNDATION

TYPICAL WOOD SIGN POST

N.T.S.

SHEET DATE: 01/02/06

No.	REVISIONS	DATE	REV. BY

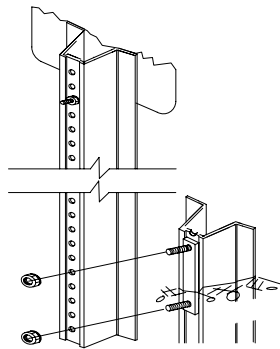
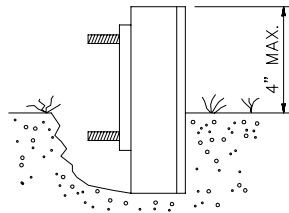
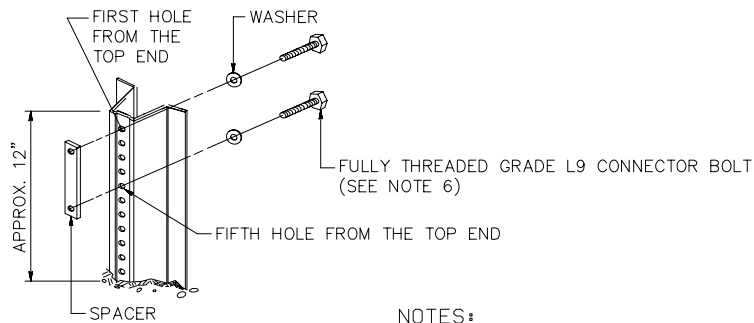
ENGINEERING DIVISION
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 NEWTON, NEW JERSEY 07860
 TEL-973-579-0430
 WWW.SUSSEX.NJ.US



COUNTY OF SUSSEX
 DEPARTMENT OF ENGINEERING AND PLANNING
 STANDARD DETAILS

BREAKAWAY SIGN
 SIGN POST DETAIL

DETAIL
SC-15



- NOTES:**
1. DRIVE ANCHOR POST ASSEMBLY TO WITHIN APPROXIMATELY 12 INCHES ABOVE GROUND LEVEL. PLACE BOLT AND WASHER IN FIRST AND FIFTH HOLES FROM THE TOP END, AND SECURELY TIGHTEN BOLTS ONTO THREADED SPACER.
 2. DRIVE ANCHOR POST ASSEMBLY TO WITHIN A MAXIMUM OF 4 INCHES ABOVE GROUND LEVEL.
 3. DIG OUT AROUND BACK OF ANCHOR POST ASSEMBLY TO ALLOW ROOM FOR TOP POST TO BE ATTACHED.
 4. NEST TOP POST ASSEMBLY ONTO PROTRUDING ANCHOR POST ASSEMBLY BOLTS, THROUGH THE FIRST AND FIFTH HOLES FROM THE BOTTOM OF THE TOP POST.
 5. PLACE AND TIGHTEN A SELF-LOCKING FLANGE NUT ON EACH BOLT. WHEN INSTALLATION IS COMPLETE, TOP OF GROUND POST SHALL NOT EXCEED 4 INCHES ABOVE GROUND LEVEL.
 6. SIZE OF CONNECTOR BOLT FOR TYPE 1, $\frac{3}{16}$ " x $1\frac{1}{2}$ "
 SIZE OF CONNECTOR BOLT FOR TYPE 2, $\frac{3}{16}$ " x 2"

NOTE:
 THE CONNECTOR BOLTS AND SPACERS SHALL BE FULLY THREADED. EACH CONNECTOR BOLT AND NUT SHALL BE CLEARLY STAMPED WITH MANUFACTURER'S IDENTIFYING MARK.

**ANCHOR POST ASSEMBLY
 SIGN SUPPORTS**

CD-619-5.2

GENERAL NOTES:

1. ALL POSTS SHALL BE OF ADEQUATE LENGTH TO MEET THE REQUIREMENTS FOR ERECTION AS STATED IN THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" AND AS INDICATED BELOW.
2. ALL SMALL SIGN SUPPORTS SHALL BE OF THE BREAKAWAY TYPE WITH EXCEPTION OF THOSE INSTALLED BEHIND GUIDE RAIL OR OTHER ROADSIDE BARRIER.
3. ALL STEEL POSTS AND BRACKETS SHALL BE CUT, BENT, AND HOLES PUNCHED AND DRILLED BEFORE GALVANIZING. GALVANIZING SHALL BE IN CONFORMANCE WITH CURRENT ASTM A123.
4. ALL STEEL U-POST SIGN SUPPORTS MUST BE INSTALLED FACING THE PREDOMINANT TRAFFIC FLOW. A MOUNTING BRACKET SHOULD BE USED ON SIDE MOUNTED SIGNS SUCH AS "ONE WAY" SIGNS INSTALLED IN MEDIANS.
5. SIGN PANEL SIZES SHALL DETERMINE POST TYPE AND NUMBER AS SHOWN ON THIS DETAIL.
6. BOLTS SHALL NOT PROTRUDE MORE THAN $\frac{3}{4}$ " BEYOND THE NUT WHEN TIGHT, BUT SHALL ENGAGE ALL THREADS IN THE NUT.
7. WHEN SIGNS ARE INSTALLED ON SLOPES 10H:1V OR FLATTER, THE MINIMUM VERTICAL CLEARANCE REQUIREMENTS FOR SIGNS ARE:

FOR SINGLE POST INSTALLATIONS - THE MINIMUM DISTANCE BETWEEN THE EDGE OF THE PAVEMENT AND THE BOTTOM OF ANY PANEL MUST BE 7 FEET, AND THE MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO THE TOP OF ANY SIGN PANEL MUST BE 9 FEET.

FOR MULTI-POST INSTALLATIONS - THE MINIMUM DISTANCE BETWEEN THE EDGE OF PAVEMENT AND THE BOTTOM OF A MAJOR SIGN PANEL MUST BE 7 FEET.

SECONDARY SIGN PANELS (LAND SERVICE HIGHWAYS) - THE MINIMUM DISTANCE BETWEEN THE EDGE OF PAVEMENT AND THE BOTTOM OF A SECONDARY SIGN PANEL IS 6 FEET.

SECONDARY SIGN PANELS (INTERSTATE AND FREEWAYS) - THE BOTTOM OF THE MAJOR SIGN SHALL BE A MINIMUM OF 8 FEET AND THE SECONDARY SIGN PANEL A MINIMUM OF 5 FEET ABOVE THE EDGE OF PAVEMENT.

WHERE GRADING OF 10H:1V OR FLATTER CANNOT BE OBTAINED, OR WHERE CURB OR BERM IS GREATER THAN 4 INCHES, THE MINIMUM VERTICAL CLEARANCE WILL BE MEASURED FROM THE GROUND LINE TO THE BOTTOM OF THE SIGN.

8. PERMANENT SIGN SUPPORTS SHOULD NOT BE INSTALLED ON SLOPES GREATER THAN 10H:1V, EXCEPT WHERE GRADING OF 10H:1V CANNOT BE OBTAINED OR THE SIGN SUPPORTS WILL BE BEHIND A TRAFFIC BARRIER. THE SLOPE SHALL EXTEND A MINIMUM OF 3 FEET BEYOND THE OUTSIDE EDGE OF SIGN (SEE GRADING DETAIL FOR SLOPE TREATMENT).
9. EXTRUDED ALUMINUM SIGN PANELS ARE NOT PERMITTED FOR USE WITH STEEL U-POST SIGN SUPPORTS.
10. STEEL U-POST SIGN SUPPORTS SHALL NOT BE PLACED IN FRONT OF GUIDE RAIL AND THE POSTS MUST NOT STRADDLE GUIDE RAIL.
11. TO EXTEND THE HEIGHT OF A SIGN POST, A MAXIMUM OF ONE SPLICE MAY BE MADE AND MUST BE A MINIMUM OF 9 FEET FROM THE GROUNDLINE TO CENTER LINE OF SPLICE.

SHEET DATE: 1/11/005

ENGINEERING DIVISION			
SUSSEX COUNTY ADMINISTRATIVE CENTER ONE SPRING STREET NEWTON, NEW JERSEY 07860 TEL-973-579-0430 WWW.SUSSEX.NJ.US			
No.	REVISIONS	DATE	REV. BY
			CDS

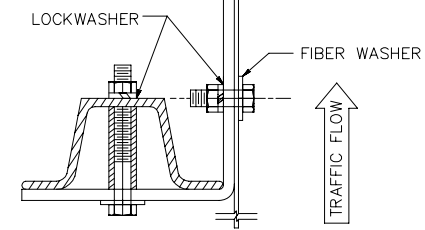
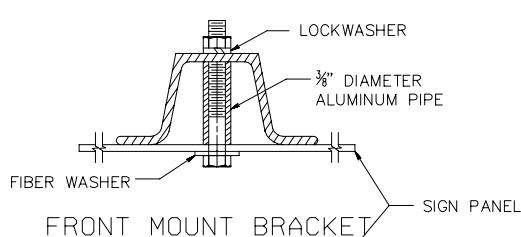


COUNTY OF SUSSEX
 DEPARTMENT OF ENGINEERING AND PLANNING
 STANDARD DETAILS

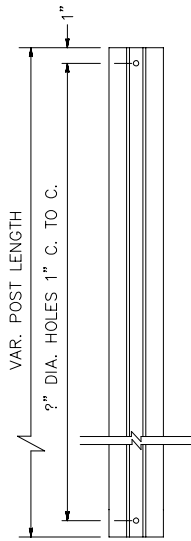
SIGN DETAILS
 SHEET 1 OF 3

DETAIL

SC-15.1



SIDE MOUNT BRACKET

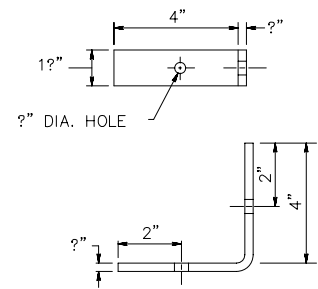


TOP POST U-POST

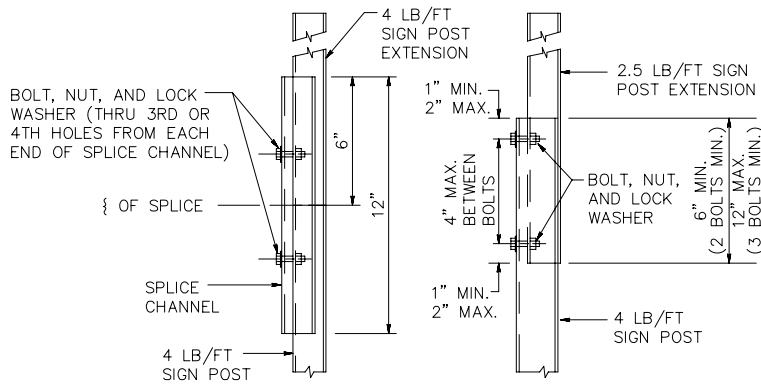
PANEL SIZE (W X H)	• OF POSTS	POST SIZE (LB/ FT)
18" x 18"	1	2.5
18" x 24"	1	2.5
24" x 24"	1	2.5
24" x 30"	1	2.5
24" x 36"	1	2.5
30" x 24"	1	2.5
30" x 30"	1	2.5
36" x 12"	2	2.5
36"x36"x36"	2	2.5
30" x 36"	1	4.0

PANEL SIZE (W X H)	• OF POSTS	POST SIZE (LB/ FT)
36" x 36"	2	2.5
36" x 48"	2	2.5
45" x 36"	2	2.5
48" x 24"	2	2.5
48" x 36"	2	2.5
48" x 48"	2	4.0
48"x64"x64"	2	2.5
60" x 36"	2	4.0
48" x 60"	2	4.0
60" x 30"	2	4.0

U-POST SELECTION TABLE
BREAKAWAY SIGN SUPPORT



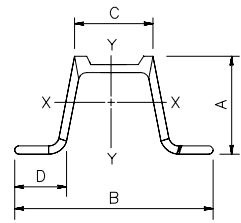
DETAIL OF BRACKET FOR SIDE MOUNTED SIGNS



SIGN POST EXTENSION SPLICE DETAILS

WEIGHT X LBS/FT.	DIMENSIONS (IN)				AREA IN ²	X-X AXIS X X		Y-Y AXIS	
	"A"	"B"	"C"	"D"		1(IN. ⁴)	S(IN. ³)	1(IN. ⁴)	S(IN. ³)
2.50	1.516	3.062	1.278	0.669	0.760	0.228	0.313	0.539	0.352
4.00	1.968	3.500	1.336	0.834	1.187	0.611	0.707	1.161	0.664

TYPE 1 STEEL U-POST PROPERTIES
* ± 5%
* *GOVERNING SECTION



TYPE 1 STEEL U-POST

- NOTES:
- ANCHOR POST AND TOP POST SHALL BE OF EQUAL WEIGHT/FEET.
 - SOIL ANCHOR PLATE SHALL BE ATTACHED TO ALL ANCHOR POSTS.
 - THE MATERIAL FOR THE SOIL ANCHOR PLATES SHALL BE CARBON SHEET STEEL.

NJDOT DETAILS EXTRACTED FROM SHEETS CD-619-4 AND CD 619-5
SEE SHEETS SC-15.1, SC-15.2 AND SC-15.3

SHEET DATE: 1/11/005

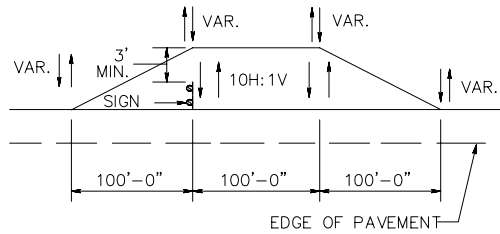
ENGINEERING DIVISION			
No.	REVISIONS	DATE	REV. BY
SUSSEX COUNTY ADMINISTRATIVE CENTER ONE SPRING STREET NEWTON, NEW JERSEY 07860 TEL-973-579-0430 WWW.SUSSEX.NJ.US			



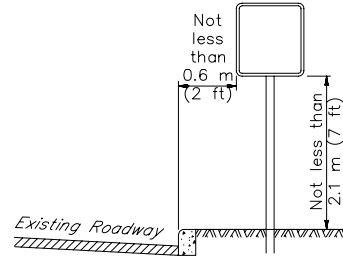
COUNTY OF SUSSEX
DEPARTMENT OF ENGINEERING AND PLANNING
STANDARD DETAILS

SIGN DETAILS
SHHET 2 OF 3

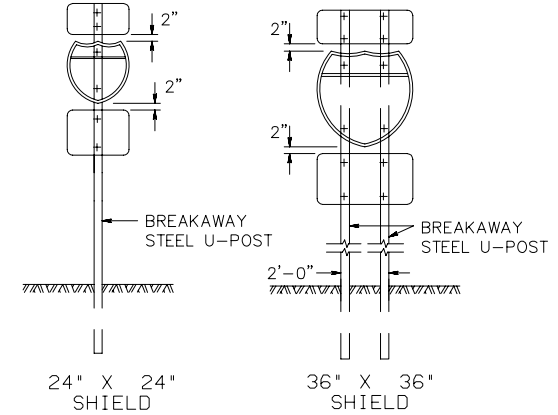
DETAIL
SC-15.2



STEEL U-POST GRADING DETAIL

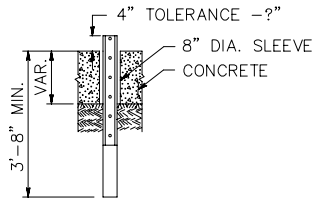


ROADSIDE SIGN
BUSINESS OR
RESIDENCE DISTRICT

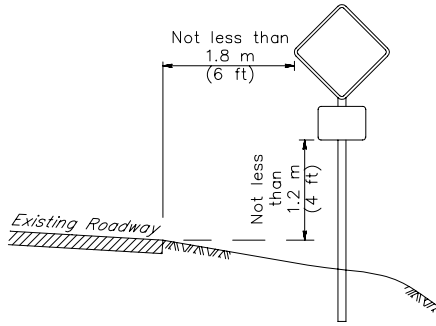


24" X 24"
SHIELD

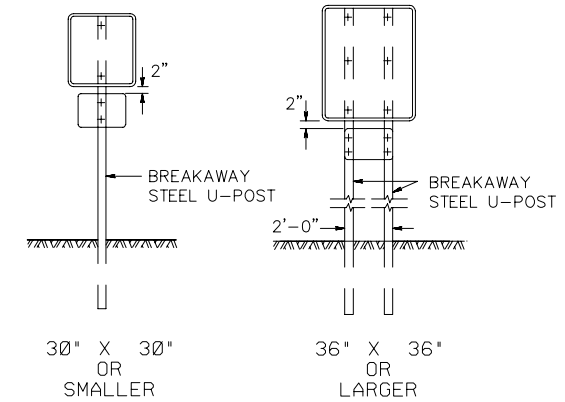
36" X 36"
SHIELD



CONCRETE
INSTALLATION

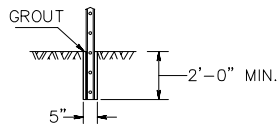


WARNING SIGN
WITH ADVISORY
SPEED PLAQUE
RURAL DISTRICT

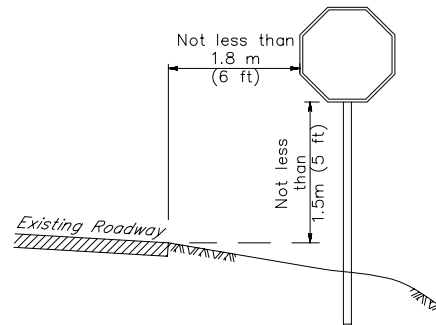


30" X 30"
OR
SMALLER

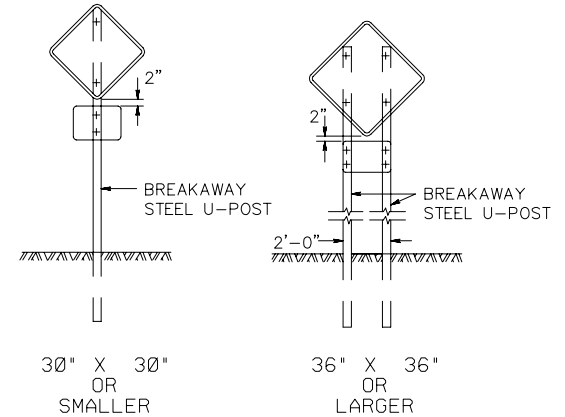
36" X 36"
OR
LARGER



ROCK
INSTALLATION

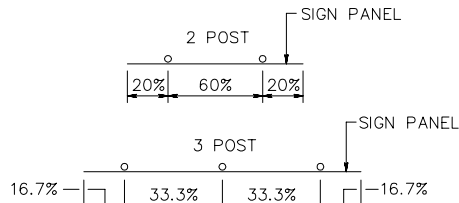


ROADSIDE SIGN
RURAL DISTRICT



30" X 30"
OR
SMALLER

36" X 36"
OR
LARGER



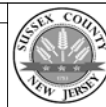
STEEL U-POST SPACING

NJDOT DETAILS EXTRACTED FROM SHEETS CD-619-4 AND CD 619-5
MUTCD INSTALLATION DIAGRAMS
SEE SHEETS SC-15.1, SC-15.2 AND SC-15.3

SHEET DATE: 1/11/005

No.	REVISIONS	DATE	REV. BY

ENGINEERING DIVISION
SUSSEX COUNTY ADMINISTRATIVE CENTER
ONE SPRING STREET
NEWTON, NEW JERSEY 07860
TEL-973-579-0430
WWW.SUSSEX.NJ.US

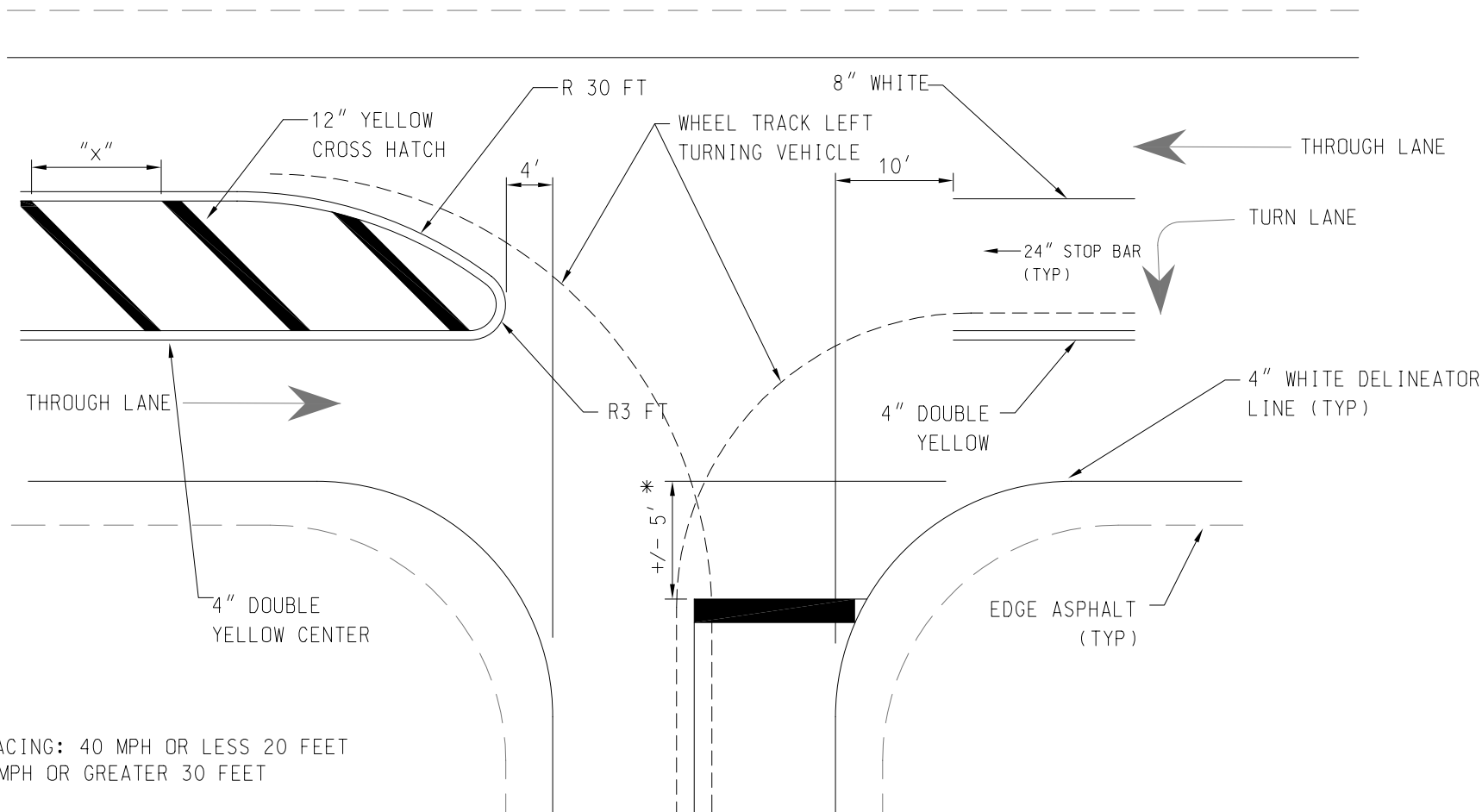


COUNTY OF SUSSEX
DEPARTMENT OF ENGINEERING AND PLANNING
STANDARD DETAILS

SIGN DETAILS
SHEET 3 OF 3

DETAIL

SC-15.3



"x" = SPACING: 40 MPH OR LESS 20 FEET
 45 MPH OR GREATER 30 FEET

* REFER TO DETAILS SC-1, SC-4 AND SC-5 FOR RELATED DATA
 COORDINATE WITH DETAIL SC-17 AND SC-18 FOR TURN LANE CONFIGURATION.
 GRAPHICAL REPRESENTATION: DIMENSIONS SHOWN SHALL BE VERIFIED BY DESIGNER FOR SPECIFIC LANE AND SHOULDER WIDTHS.

DESIRABLE TURN LANE MARKING LAYOUT

NTS

SHEET DATE: 2/27/06

ENGINEERING DIVISION			
SUSSEX COUNTY ADMINISTRATIVE CENTER ONE SPRING STREET NEWTON, NEW JERSEY 07860 TEL-973-579-0430 WWW.SUSSEX.NJ.US			
2	UPDATED NOTES	11/16/07	ENG
1	REMOVE STDP BAR, ADD 8" TURN LANE WL	10/25/07	WJK
No.	REVISIONS	DATE	REV. BY



COUNTY OF SUSSEX
 DEPARTMENT OF ENGINEERING AND PLANNING
 STANDARD DETAILS

DESIRABLE MEDIAN BREAK
 PAVEMENT MARKINGS

DETAIL

SC-16

MATCH EX. LANE -
SHOULDER WIDTH AND
CROSS SLOPES (TYP)

EX WHITE
EDGE LINE

WA

T1

AREA OF WIDENED ASPHALT

8" WHITE

PROPOSED PAVEMENT EDGE (TYP)

4" WHITE
EDGE LINE

EX YELLOW
CENTERLINE

R2

WHITE PAVEMENT
MARKINGS

4" DOUBLE YELLOW CENTER LINE

24" STOP BAR

AREA OF WIDENED ASPHALT
SEE SC-16 FOR INTERSECTION
MARKINGS

INTERSECTING
STREET

ABBREVIATIONS:

RC: REVERSE CURVE TAPER (FEET)

W: LANE WIDTH (FEET)

R: RADIUS (FEET)

DS: DESIGN SPEED (MPH)

WA: LANE WIDTH SHIFT ADJUSTMENT (FEET)

SL: STACK LENGTH: 50 FT MIN OR BY DESIGN

T1: TAPER LENGTH

DS>40: $T1=DS \times WA$

DS<45: $T1 = \frac{DS^2 \times WA}{60}$

EXISTING PAVEMENT EDGE (TYP)

R1

R2

REPAVE ROAD SECTION SUCH
THAT NEW CROWN FOLLOWS NEW CL
(MILLING MAY BE REQUIRED)

R2

NOTES:

- 1.) TYPICAL LAYOUT CONFIGURATION FOR TURN LANE CENTERED ONTO EXISTING ROADWAY.
- 2.) REFER TO OTHER COUNTY DETAILS FOR ADDITIONAL INFORMATION.
- 3.) REFER TO SC-16 FOR MEDIAN MARKINGS.

	R1	R2	RC
DS	Radius	Radius	Length
< 35	50	100	59
35-40	150	300	102
>40	300	600	149

SHEET DATE: 2/27/06

ENGINEERING DIVISION			
SUSSEX COUNTY ADMINISTRATIVE CENTER ONE SPRING STREET NEWTON, NEW JERSEY 07860 TEL-973-579-0430 WWW.SUSSEX.NJ.US			
1	REMOVE STOP BAR, ADD 8" TURN LANE WL	10/25/07	WJK
No.	REVISIONS	DATE	REV. BY

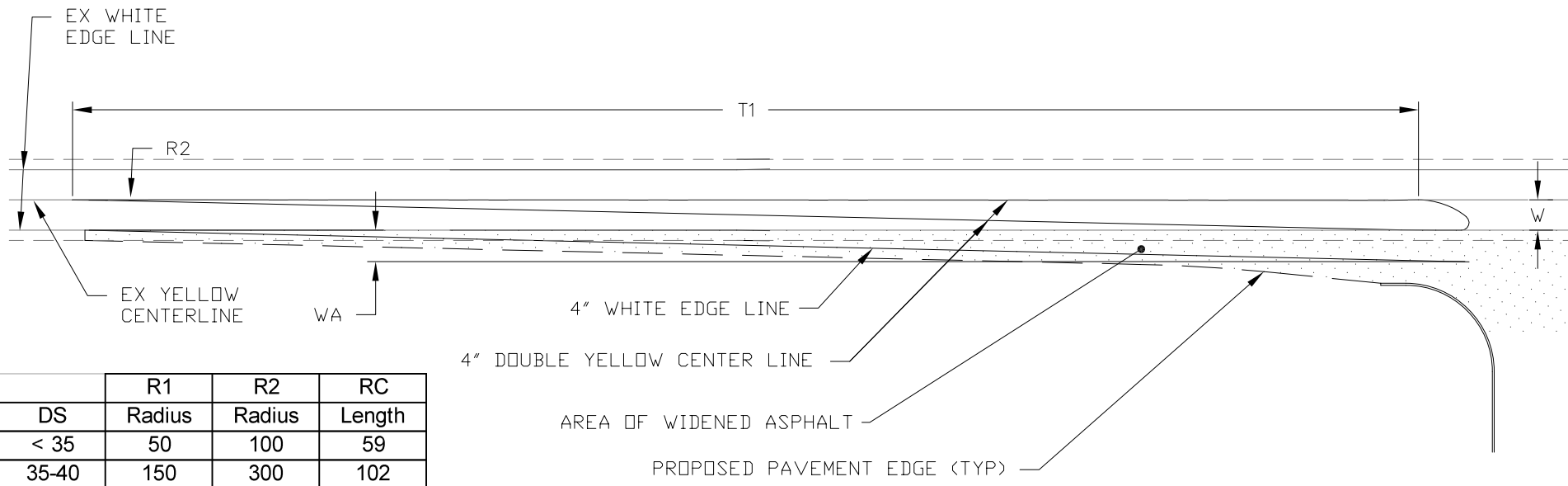


COUNTY OF SUSSEX
DEPARTMENT OF ENGINEERING AND PLANNING
STANDARD DETAILS

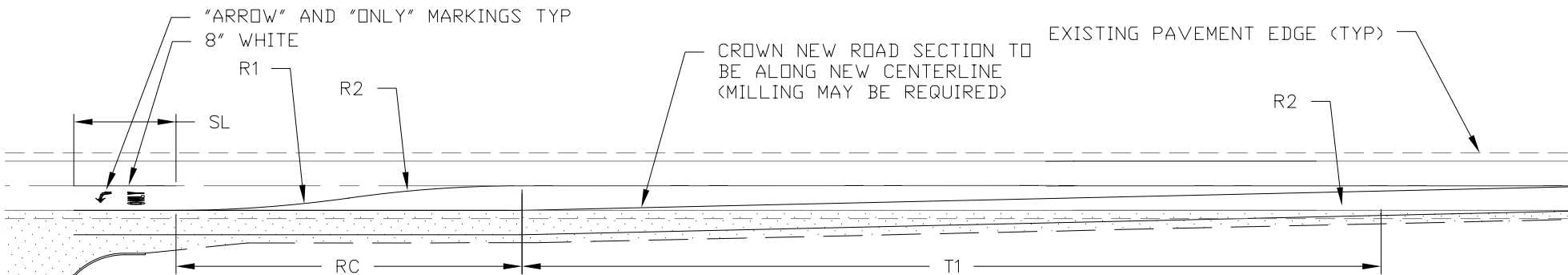
DESIRABLE AUXILIARY
LANE LAYOUT-CENTERED

DETAIL

SC-17



DS	R1 Radius	R2 Radius	RC Length
< 35	50	100	59
35-40	150	300	102
>40	300	600	149

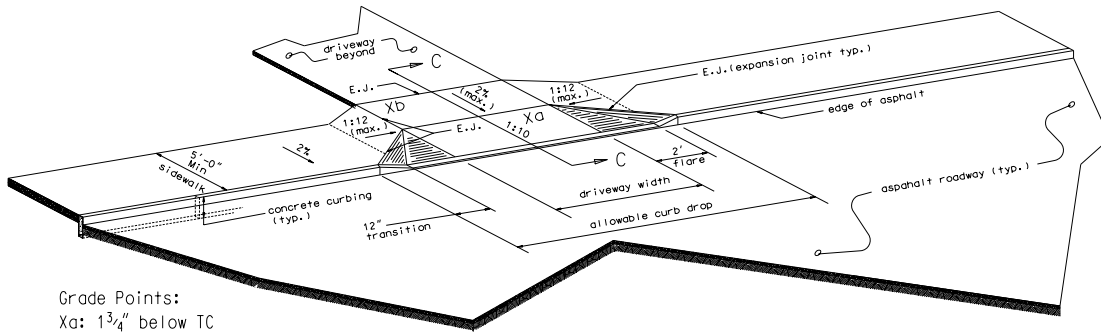


ABBREVIATIONS:
 RC: REVERSE CURVE TAPER (FEET)
 W: LANE WIDTH (FEET)
 R: RADIUS (FEET)
 DS: DESIGN SPEED (MPH)
 WA: LANE WIDTH ADJUSTMENT (FEET)
 SL: STACK LENGTH: 50 FT MIN OR BY DESIGN

T1: TAPER LENGTH
 DS>40: $T1 = DS \times WA$
 DS<45: $T1 = \frac{DS^2 \times WA}{60}$

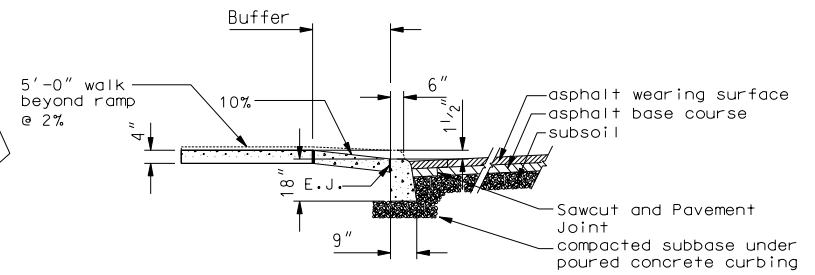
- NOTES:
 1.) TYPICAL LAYOUT CONFIGURATION FOR TURN LANE MAINTAINING ONE EDGE OF EXISTING ROADWAY.
 2.) REFER TO OTHER COUNTY DETAILS FOR ADDITIONAL INFORMATION.
 3.) COORDINATE WITH SC-17 FOR UNDEFINED DATA
 4.) REFER TO SC-16 FOR MEDIAN MARKINGS.

SHEET DATE: 2/27/06

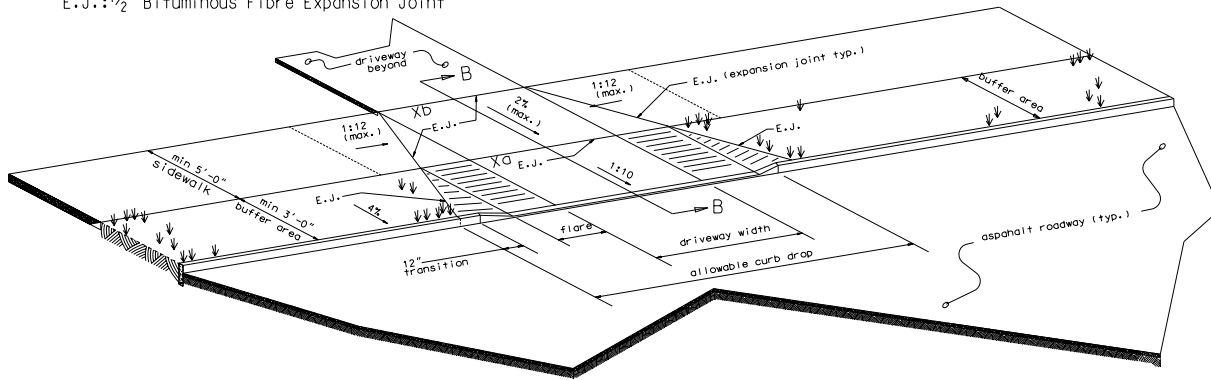


Grade Points:
 Xa: 1 3/4" below TC
 Xb: 1/2" below TC
 Slopes:
 1:10 = 10% = 1 1/4" per 1'
 1:12 = 8% = 1" per 1'
 E.J.: 1/2" Bituminous Fibre Expansion Joint

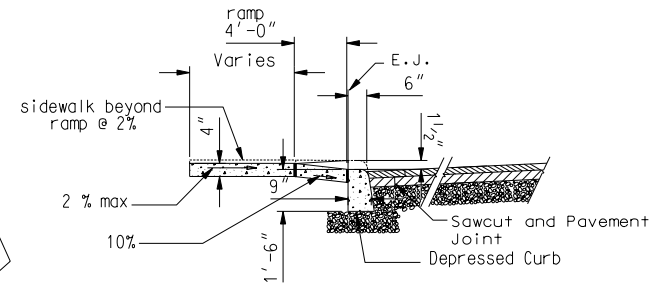
ISOMETRIC VIEW
 DRIVEWAY APRON DETAIL



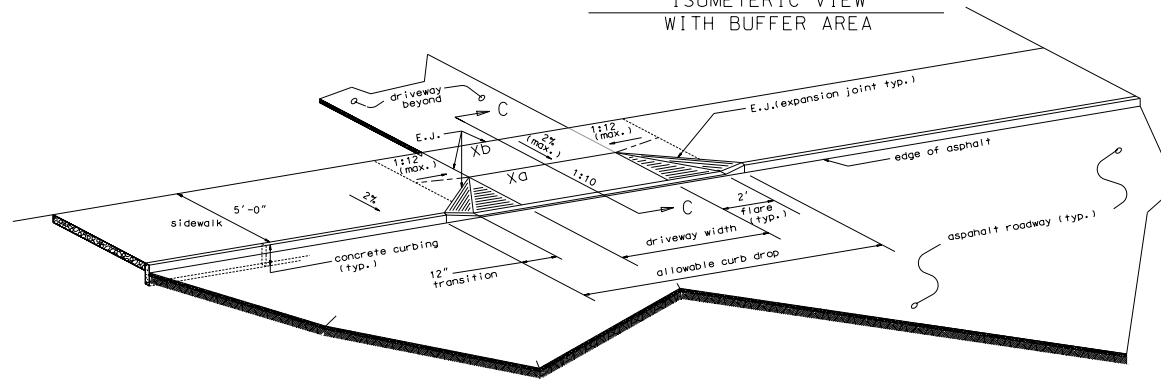
SECTION B-B
 MINIMUM DRIVEWAY APRON REQUIREMENTS
 SIDEWALK WITH BUFFER AREA



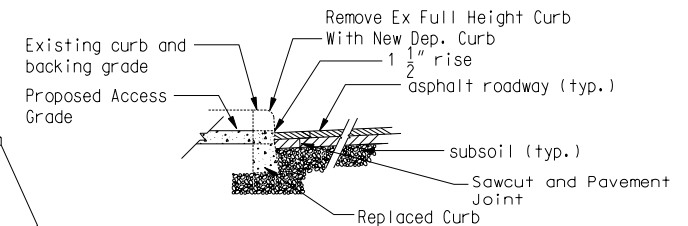
ISOMETRIC VIEW
 WITH BUFFER AREA



SECTION C-C
 SIDEWALK @ BACK OF CURB
 absolute minimum apron width due to r/w restrictions



ISOMETRIC VIEW
 DRIVEWAY APRON DETAIL



SECTION THRU DRIVEWAY INSTALLED
 WITH EXISTING CURB TO BE REMOVED

- Notes:
- 1) Sawcut roadway asphalt in conformance with other Sussex County Standard Details prior to curbe replacement.
 - 2) Applicable along curbed sections of County Roads and other locations only when approved by the County Engineer.
 - 3) High volume access points will warrant curb return radii.
 - 4) Refer to Sussex County Details CD-10 "Method of Depressing Curb at Driveways" and CD-9 "9"x18" Concrete Vertical Curb" for curb construction.
 - 5) Refer to Sussex County Detail CD-11 "Sidewalk/Curb Detail".

SHEET DATE: 9/26/06

ENGINEERING DIVISION

SUSSEX COUNTY ADMINISTRATIVE CENTER
 ONE SPRING STREET
 NEWTON, NEW JERSEY 07860
 TEL-973-579-0430
 WWW.SUSSEX.NJ.US



COUNTY OF SUSSEX
 DEPARTMENT OF ENGINEERING AND PLANNING
 STANDARD DETAILS

TYP DRIVEWAY ACCESS
 ALONG CURBED STREETS

DETAIL

SC-19

No.	REVISIONS	DATE	REV. BY
1	Update to SC Standards	1/29/07	eng

D. Appendix D – Sussex County Sight Distance Standards

Sussex County Division of Engineering Sight Distance Standards



Developed August 29, 2005
Last Revised March 12, 2009

Table of Contents

85 th Percentile Speed Tables	3
Posted Speed Tables.....	4
Diagrams	5-6
Filed Observation Log.....	7
Left Turn from Major Discussions.....	8-17
Stopping Sight Distance Tables	18-28

Revisions:

March 19, 2008:

- 1.) Replaced detail sheets SC-01 and SC-02 to agree versions contained within Sussex County Standard Design and Construction Details.**
- 2.) Removed notation “Appendix B” from header of sheets 18-28.**

May 22, 2008:

- 1.) Updated Sight Distance Table for Posted Speed to agree with design speeds as established under Land Development Standards Section V.C.3.b.ii.**

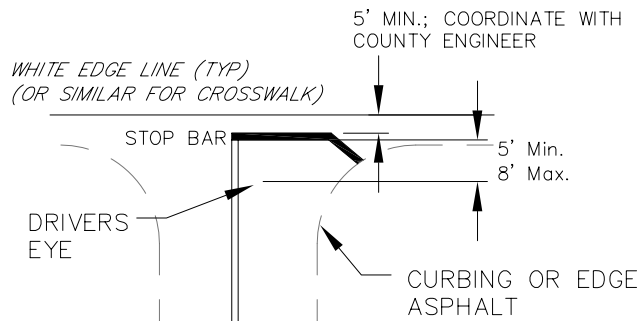
March 12, 2009

- 1.) Update “Posted Speed Table” 35 MPH Posted Speed now uses 40 MPH Design Speed.**

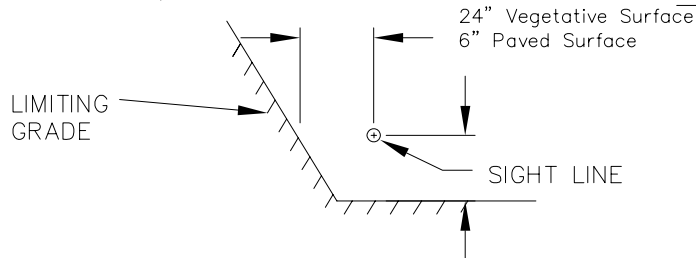
County of Sussex
SIGHT DISTANCE DATA
 Using 85th Percentile Speed

		Intersections - Left Turns In from Major Road					
		LEFT IN FROM STOP			LEFT IN ON APPROACH		
		Eye height 3.5' Object height 3.5' Diagram Dist "B" <i>Left from Major Distance</i> AASHTO			Eye height 3.5' Object height 3.5' Diagram Dist "TSD"		
85th pctl speed (MPH)	DESIGN SPEED (MPH)	DESIGN VEHICLE			DESIGN VEHICLE		
		(P)	(SU)	(WB)	(P)		
20	22	178	210	243	207		
25	27.5	222	263	303	258		
30	33	267	315	364	310		
35	38.5	311	368	424	361		
40	44	356	420	485	413		
45	49.5	400	473	546	465		
50	55	445	526	606	516		
55	60.5	489	578	667	568		
60	66	534	631	728	620		
65	71.5	578	683	788			
70	77	623	736	849			
		Stopping Sight Distance					
		Eye height 3.5' Object height 2.0' Diagram Dist "D"			See Tables Sight Distance Appendix B t=6.4s		

		Intersections - Turns Out					
		Left Out			Right Out		
		Eye height 3.5' Object height 3.5' Diagram Dist "A" <i>Clear sight lines</i> <i>from stopped condition</i>			Eye height 3.5' Object height 3.5' Diagram Dist "E" <i>Clear sight lines</i> <i>from stopped condition</i>		
85th pctl speed (MPH)	DESIGN SPEED (MPH)	DESIGN VEHICLE			DESIGN VEHICLE		
		(P)	(SU)	(WB)	(P)	(SU)	(WB)
20	22	243	307	372	210	275	340
25	27.5	303	384	465	263	344	424
30	33	364	461	558	315	412	509
35	38.5	424	538	651	368	481	594
40	44	485	614	744	420	550	679
45	49.5	546	691	837	473	619	764
50	55	606	768	930	526	687	849
55	60.5	667	845	1023	578	756	934
60	66	728	922	1116	631	825	1019
65	71.5	788	998	1209	683	893	1104
70	77	849	1075	1302	736	962	1188



03
SC1 Driver Eye Location
(Coordinate with County Engineer)



04
SC1 Sight Line Buffer
(Clear Area Between Obstruction and Sight Line)

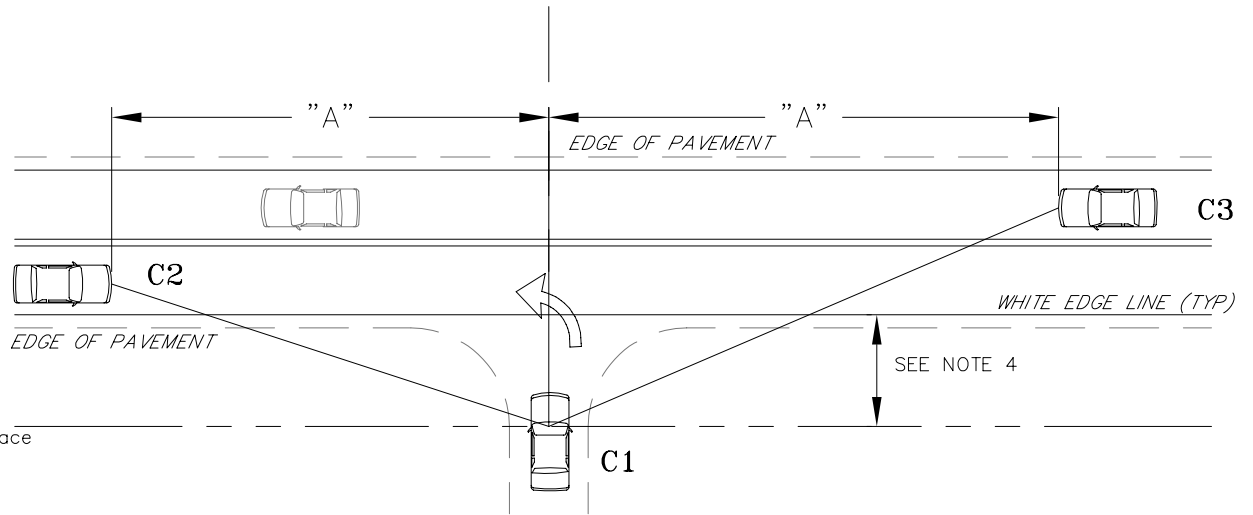
Legend:

- DS: Design Speed:
(85th Speed plus 10%) or when not available
(Posted Speed Modified per LDS V.C.3.b.ii)
- C1: Exiting vehicle
- C2: Left-hand approaching vehicle traveling at DS
- C3: Right-hand approaching vehicle traveling at DS
- C4: Right turn only exit vehicle
- Distance A: Intersection Sight Distance
Left Turning vehicle
- Distance E: Intersection Sight Distance
Right Turning Vehicle

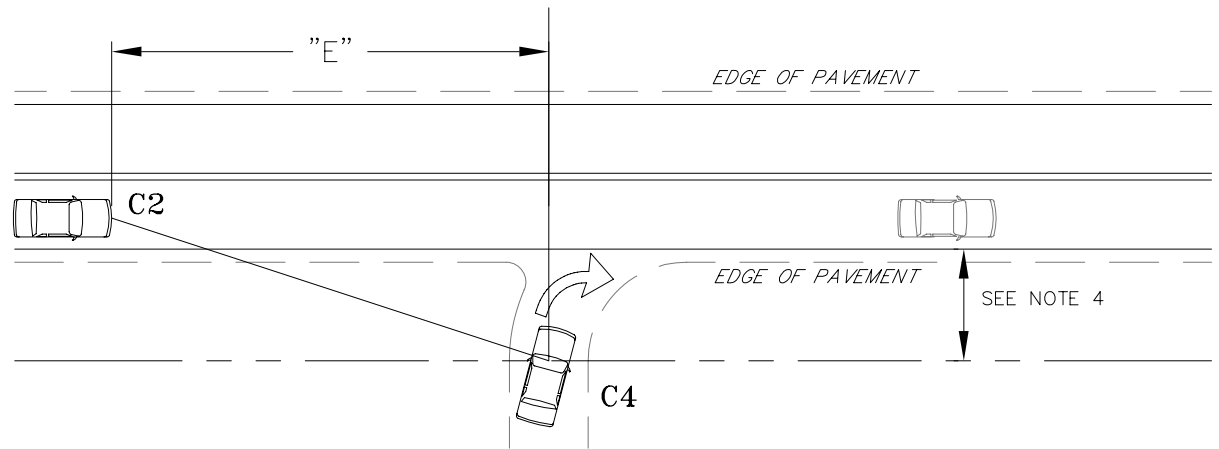
Design Notes:

1. Diagram used in conjunction with sight distance tables.
2. Car C4 exiting to the right.
3. Eye and Object height per AASHTO standards.
4. Sight distance is measured as follows:
Access without Stop Bars: within the range of 5 to 10 feet behind the white line
(white line is the edge of traveled way)
Access with Stop Bar: within a range of 5 to 8 feet behind Stop Bar, this point is typically located between 12 and 15 feet from the edge of traveled way. Coordinate with County Engineer.

Comments: Sight distance shall be measured nearest to location a driver will actually stop.
Sight distance shall be measured at the most restrictive location within the above range.



02
SC1 Intersection Allowing Left Turns Out
(Typically Will Control for turns out)



01
SC1 Intersection - Right Turn Out
(Right Turn Out Only)

SHEET DATE: 11/29/05

No.	REVISIONS	DATE	REV. BY	WWW.SUSSEX.NJ.US
1	Revised Sight Distance	4/4/06	WJK	ENGINEERING DIVISION SUSSEX COUNTY ADMINISTRATIVE CENTER ONE SPRING STREET NEWTON, NEW JERSEY 07860 TEL-973-579-0430 WWW.SUSSEX.NJ.US
2	Measurement Offset	5/9/06	WJK	
3	Revise Detail 03/SC1	4/26/06	WJK	
4	Add Detail 04/SC1	1/31/08	WJK	

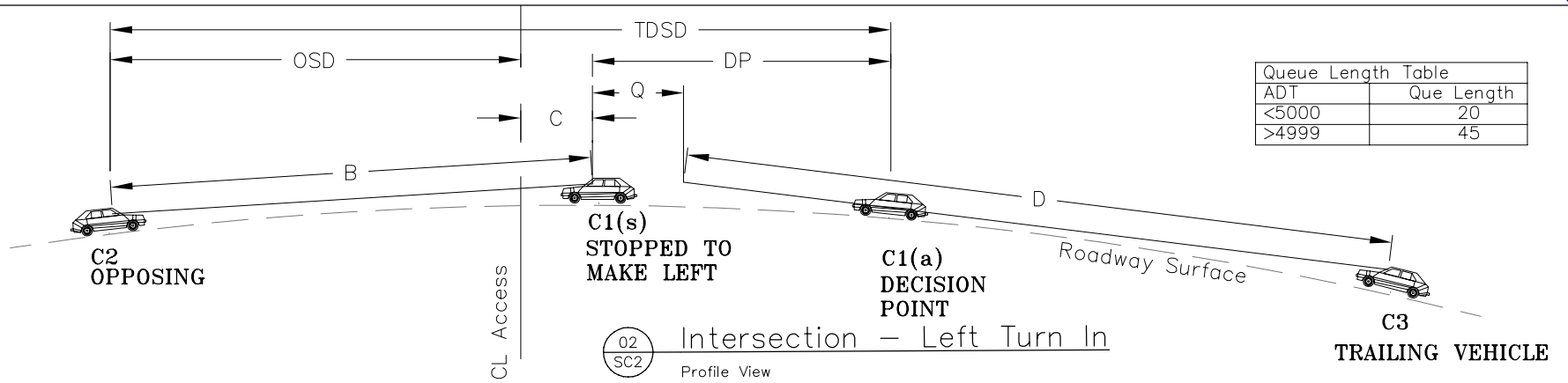


COUNTY OF SUSSEX
DEPARTMENT OF ENGINEERING AND PLANNING
STANDARD DETAILS

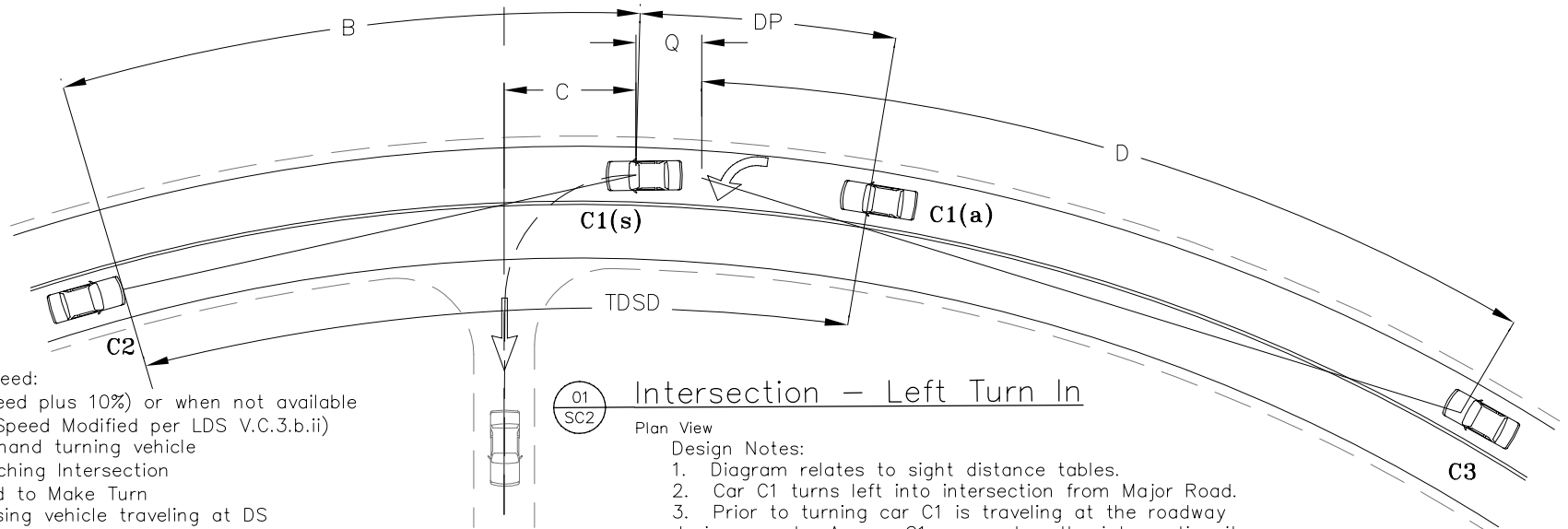
INTERSECTION ACCESS
SIGHT DISTANCE OUT

DETAIL

SC-1



02 SC2 Intersection - Left Turn In
Profile View



01 SC2 Intersection - Left Turn In
Plan View

Legend:
 DS: Design Speed:
 (85th speed plus 10%) or when not available
 (Posted Speed Modified per LDS V.C.3.b.ii)
 Car C1: Left-hand turning vehicle
 C1(a): Approaching Intersection
 C1(s): Stopped to Make Turn
 Car C2: Opposing vehicle traveling at DS
 Car C3: Trailing vehicle traveling at DS
 Distance C: Stop to Turn Location - 22' Access ingress
 CL plus 5' to Driver Eye

Analysis 1 (C1(s) Stopped to Make Left):
 Distance B: AASHTO Left Turn from Major Road Car C1 or
 Stopping Sight Distance Car C2
 Distance D: Stopping Sight Distance Car C3 at DS.
 Distance Q: Queue Length: See Table "Queue Length"
Analysis 2: (C1(a) Advancing to make Turn):
 Distance DP: Critical Decision Point
 (See COS Sight Distance Standards)
 Distance TDS: Turn Decision Sight Distance (see
 COS Sight Distance Standards).
 Distance OSD: Stopping sight distance for Car C3.

Design Notes:

1. Diagram relates to sight distance tables.
2. Car C1 turns left into intersection from Major Road.
3. Prior to turning car C1 is traveling at the roadway design speed. As car C1 approaches the intersection it decelerates to make the left-hand turn. See COS Sight Distance Manual for more data.
4. Car C3 requires Stopping Sight Distance from the last car in a left turn queue.
5. Car C2, traveling toward car C1 in the opposing lane requires ample stopping sight distance to avoid car C1 should car C1 turn unsafely.
6. Driver Eye and Object Height per AASHTO standards.
7. Car C1 requires ample Turn Decision Sight Distance over which it must see car C2 to evaluate the safety of executing the turn movement. See COS Sight Distance Manual.
8. Stopping Sight Distance is required continuously within the intersection area of influence for all commercial and street access points.
8. Distance "C" is the centerline intersection offset to where Car 1 will stop to make the left hand turn. Distance "C" will be 16 feet plus one-half the entry way lane width.

SHEET DATE: 11/29/05

ENGINEERING DIVISION				
No.	REVISIONS	DATE	REV. BY	WWW. SUSSEX. NJ. US
1	LEFT TURN IN FROM MAJOR ROAD CRITERIA CONFORMANCE CHECK/UPDATE AGAINST AASHTO STANDARDS	10/27/06	Div Eng	SUSSEX COUNTY ADMINISTRATIVE CENTER ONE SPRING STREET NEWTON, NEW JERSEY 07860 TEL-973-579-0430
2	Mod. P. Speed Note to Land Dev. Std.	1/28/08	WJK	



COUNTY OF SUSSEX
 DEPARTMENT OF ENGINEERING AND PLANNING
 STANDARD DETAILS

INTERSECTION ACCESS
 SIGHT DISTANCE IN

DETAIL

SC-2

COUNTY OF SUSSEX
 Department of Engineering and Planning
 Division of Engineering
 Sight Distance Observations
 Field Data Record

Date: _____ CR: _____ MM: _____

Municipality: _____

Block: _____ Lot: _____

SCPB No.: _____ Applicant: _____

85th Percentile Speed: _____ Design Speed: _____

Posted Speed: _____

Location: _____ feet from _____

	Field Measured	Require by Design		Eye Height	Object Height
A	<input type="text"/>	<input type="text"/>	Turn Out Looking Left	3.5'	3.5'
A	<input type="text"/>	<input type="text"/>	Turn Out Looking Right	3.5'	3.5'
Left Turn In from Major (Note: Profile may be needed to safely obtain distance)				3.5'	3.5'
B	<input type="text"/>	<input type="text"/>	Left Turn in Distance (AASHTO Case F)		
TDSD	<input type="text"/>	<input type="text"/>	Decision Sight Distance		
	Standard	Site			
DP	123 ft	<input type="text"/>	Decision Point CL Offset Distance		
D	<input type="text"/>	<input type="text"/>	Tail light Sight Distance	3.5'	2.0'
E	<input type="text"/>	<input type="text"/>	Right Turn Out	3.5'	3.5'

Comments:

Discussion on Left Turn from Major Roadway

The Division of Engineering has reviewed the issue of determining a reasonable and logical approach to providing adequate sight distances as needed for a driver to safely complete a left turn movement from the major roadway. Our evaluation and consideration of this subject has included reviewing numerous sources of information related to intersection sight distances. Although most available sources provided the sight distance criteria for a vehicle from the stopped position it is apparent that a driver approaching the intersection will require adequate sight distance to evaluate opposing traffic's impact on the desired turn movement. The turning driver must determine if the movement can be completed without conflict from opposing traffic. The materials reviewed all sited inadequate sight distances as the primary contributing factor to increased intersection accident rates. Studies have related inadequate intersection sight distances to significantly increased accident rates.

It should be noted that AASHTO recommends all intersections be designed to provide stopping sight distances continuously along the length of the major roadway thus allowing users adequate distance to stop. The following parameters do not by default provide stopping sight distances along the major roadway at the intersection. All proposed commercial driveways and street intersections must be located along sections of a County Routes that provide continuous stopping sight distance. The following parameters have been established for use in evaluating the suitability of existing and/or proposed intersections along Sussex County Roads and should only be used when superior locations are not available along the property frontage.

Additionally, the Division recommends that intersections at or near the crest of hills be avoided. A driver's comfort level is compromised when the driver is not provided adequate sight distance to observe potentially opposing vehicles that could present a conflict to the desired turn movement. Designs which fail to provide adequate sight distance for advancing left turn drivers such that a driver is only provided a marginal comfort level thus resulting in an extremely decreased approach speed and/or even requiring a left turning vehicle driver to stop in the traveled-way of any road has served to unnecessarily introduce a hazard for the traveling public.

Our analysis has identified the following minimum components required for a vehicle to safely complete a Left Turn from the Major roadway while minimally jeopardizing the safety of our traveling public.

A. Let us presume that the left turning vehicle has been provided sufficient sight distance ahead to identify an oncoming conflicting vehicle thus necessitating a stop prior to execution of the left turn. This condition is represented in Sussex County Standard Detail SC-2. Safeguarding the traveling public requires the following sight distances be provided when a vehicle is stopped in the thru-travel lane preparing for a left turn into a minor intersecting access:

1. Stopping Sight Distance must be provided for trailing vehicles, design parameters for this condition include:
 - a. Optimal protection will be provided through utilization of an 85th percentile roadway operating speed applying a 10% adjustment such that a majority of roadway users are accounted for in the calculations. Posted or Statutory speed limits should only be used in the absence of data establishing operating speeds. A designer's primary objective should be that which provides a reasonably safe roadway corridor for the traveling public. The successful realization of this dictates the use of sound engineering judgment in applying standards. Based upon this objective a designer would be remiss in utilizing a posted or statutory speed when actual operating speeds are available.
 - b. Reaction time should be 2.5 seconds as recommended by AASHTO and supported by various studies. A driver approaching from the rear of the stopped vehicle will not be alert nor anticipating the stopped vehicle. In consideration of this the Division believes the condition warrants conformance with established standards upon which recommendations have been developed providing a reasonable level of safety for most roadway users.
 - c. The Left Turning vehicle will stop a distance of 22-feet from the centerline of the access ingress.
 - d. A length of 20-feet will provide ample storage for the average automobile.
 - e. Depending upon roadway ADT, there exists a reasonable probability that more than one car may queue behind the vehicle stopped awaiting an opportunity to execute the left turn movement. As such under higher ADT conditions additional vehicles should included in the design queue length.

Using this information we can conclude the following:

- a. Stopping Sight distance must be provided for a trailing vehicle approaching the turning vehicle stopped within the travel way awaiting an opportunity to execute the desired left turn movement. The stopping sight distance will be computed using the roadways 85th percentile operating speed applying the 10% factor needed to encompass a majority of roadway users.
 - b. Stopping Sight Distance must be measured from a point behind the stopped vehicle. Based upon the determination a vehicle stops 22-feet from the access ingress and the average vehicle have a length of 20-feet we compute the point to be 42-feet from the access ingress centerline. Higher roadway ADT will warrant an increased centerline offset distance thus accounting for additional vehicles likely to be in the queue length. The increase reflects that required to stack vehicles in the queue, the recommended incremental increase would be 25-feet per queued vehicle.
2. The Left Turning vehicle must be provide adequate sight distance to safely make the left turn from a stopped condition. This corresponds to the AASHTO Case F intersection sight distance criteria. The distance must be provided 22-feet from access ingress centerline location, this being the location a vehicle would

stop while waiting to complete the left turn movement. To this we will add 5-feet adjusting to the reasonable location of the driver's eye. In consideration of this, the AASHTO Case F distance must be provided for a vehicle stopped 27-feet from the access ingress centerline.

B. Let us now investigate the distance required by a driver advancing toward a Left Turn movement from the Major Roadway. As noted previously, the advancing driver must be provided adequate sight distance such that they can determine if the turn movement can be safely executed or if they will have to yield to conflicting opposing traffic. This distance must be provided to the advancing driver in advance of the intersection thus allowing sufficient opportunity for the driver to detect, react and execute the required action. A review of this condition identifies the following parameters for consideration:

1. Vehicle Operating Conditions:
 - a. The Advancing vehicle will be decelerating as it approaches the intersection. Available information indicates that average drivers will slow to around one-half of their operating speed regardless of the detection of conflicting vehicles.
 - b. A review of available information identifies that the typical driver will slow to 15 MPH when executing the turn without stopping.
 - c. The Left Turning driver, in anticipation of the forthcoming turn maneuver, is alert. The Left Turning driver must evaluate both the approaching intersection and conflicting traffic. If we categorize the reaction time for detection of these events as expected we can use AASHTO tabular data to determine the 85th percentile driver reaction time required for a one component event will be 1.7 seconds. This is slightly less than AASHTO findings indicating increased deceleration will occur about 2.5 seconds after a conflicting vehicle comes into view.
 - d. Deceleration Rates vary depending upon the situation, ideally sight distances to a new access should be designed to allow a comfortable deceleration rate and not require the driver to react to an unexpected condition. AASHTO concludes the comfortable deceleration rate to be 11.2 ft/s^2 . Additionally, AASHTO finds that drivers confronted with the need to stop will typically decelerate at 14.8 ft/s^2 .
 - e. Grade can play an important part in computation of the stopping sight distance and may be considered in computing the stopping sight distance.
 - f. If the driver identifies conflicting opposing traffic which requires a stop prior to execution of the left turn the vehicle will stop 22-feet from the access ingress centerline.
 - g. Opposing conflicting vehicles will travel at the roadway 85th percentile operating speed. Determination of the appropriate roadway operating speed should be consistent with that outlined in 1.a above.
2. Computation Critical Locations: See Diagram 3.
 - a. Decision Point "DP": the physical location along the intersection approach at which the advancing driver must have the minimum adequate sight

distance needed to provide for a safe driver perception, reaction and maneuver.

- b. Stopping Point “SP”: the physical location along the approach the driver will have to begin executing a stop maneuver to stop the vehicle at the turning stop point.
- c. Turning Stop Point “TSP”: The location along the intersection approach that the driver will stop the vehicle prior to executing the turn maneuver.

Using these conditions we can conclude:

- a. The left turning advancing vehicle will require stopping sight distance should the driver identify the presence of a conflicting opposing vehicles such that they preventing the safe execution of a left turn. The stopping sight distance computation can reasonably be based upon the speed a driver will have decelerated to when they are required to detect, evaluate and react to the conflicting opposing vehicle. Determination will be predicated upon the following presumptions:
 - i. The vehicle will execute the turn at 15 MPH.
 - ii. The driver is decelerating at a rate of 11.2 ft/s².
 - iii. We will use a reaction time of 2.2 seconds, a conservative median between the 1.7 and 2.5 seconds found in AASHTO.

Using this information we can calculate the maximum speed at which the vehicle should be traveling when the driver reaches the point necessitating a decision to be 32 MPH.

- b. We can now use this in conjunction with the other information to determine the distance from the intersection a driver will be when they reach the final decision point. Calculation of this will incorporate the following:
 - i. The braking distance a vehicle traveling 15 MPH must be provided to stop. $d = 1.075 \frac{(15MPH)^2}{11.2} = 22 \text{ feet}$
 - ii. The distance a vehicle will travel in 2.2 seconds while decelerating from 32 MPH to 15 MPH
 $d = (46 \text{ fps})(2.2 \text{ s}) + 1/2(-11.2)(2.2 \text{ s})^2 = 74 \text{ feet}$
 - iii. The location of the driver’s eye will be 5-feet behind the front of vehicle.
 - iv. 22-feet from access ingress centerline stopping location.

Using these parameters we find the critical Decision Point to be a distance of 123 feet from the access ingress centerline.

- c. Now we must determine what sight distance the Advancing vehicle will require from the “Decision Point” such that the advancing driver is provided adequate time to evaluate and decide if a turn can safely be completed. To complete this we consider the following:
 - i. The advancing vehicle will be decelerating over the 101-foot decision distance prior to either stopping or executing the turn movement.

- ii. The turning vehicle will travel approximately 47-feet once committed to the turn before the vehicle crosses the opposing lane and clears the roadway. See attached Diagram 2.
 - iii. The turning vehicle will complete the maneuver at no more than 10 MPH, we will assume the vehicle began the turn at 15 MPH and decelerated to complete the turn at 5 MPH.
 - iv. The opposing vehicle is traveling at the roadway 85th percentile operating speed.
- d. Applying the above we can determine the distance an approaching opposing vehicle must be from the Advancing vehicle “Decision Point” such that the advancing driver is provided ample opportunity to adequately evaluate the safety of a potential left turn movement. Identification of this distance can be premised on the distance traveled by the opposing vehicle traveling at the 85th percentile operating design speed during the time required by the advancing left turn vehicle for detection, evaluation and completion of the turn. The factors used to compute this distance include the following two components:
- v. The time required for the advancing vehicle to traverse 101-foot distance between the “DP” and the Turning Stop Point “TSP”: As determined previously, the vehicle speed at “DP” will be 32 MPH. Calculation of this includes the following three components:
 - 1. First Segment: find the time required to travel from the decision point “DP” to the Stop Point “SP” we must use the Vehicle Speed at “DP” and the deceleration rate. We found that the vehicle traveled 74-feet between the “DP” and “SP”. We also know the vehicle decelerated from 32 MPH to 15 MPH. Using a deceleration rate of 11.2 ft/s² we find 2.2 seconds.
 - 2. The second segment is between “SP” and “TSP”. Assuming the driver has clear distance and determines it adequately safe to execute the turn the vehicle will travel this distance at 15 MPH. We can compute the time to travel the 22-foot distance to be 1 second.
 - 3. The total time required to travel from the “DP” to the “TP” is found to be $1s + 2.2s = 3.2$ seconds.
 - vi. Time required for turning vehicle to execute turn and clear roadway, assuming an average turn speed of 10 MPH we find it will require 3.2 seconds for the vehicle to travel the 47-foot distance of the turn.
 - vii. We now determine the distance an opposing vehicle will travel in the 6.4 seconds while the turning vehicle evaluates the maneuver. This distance will be required by the Advancing driver to safely complete the maneuver. The distance will be applied to the Advancing Driver “Decision Point”. Refer to Sussex County Standard Detail Sheet SC-2.

D. Finally, an opposing vehicle should be provided stopping sight distance prior to the intersection. This will provide the opposing vehicle ample opportunity to stop should the left turning vehicle unsafely execute the turn movement. Provided the previous sight distances are provided the stopping sight distance required for the opposing vehicle should be achieved.

Example Access Assessment:

Distances reference refer to Sussex County Standard Detail Sheet SC-2

Determine Minimum acceptable sight distances assuming an Observed 85th percentile speed of 50 MPH and a 7.7% incline grade.

- Condition A and D: Stopping Sight Distance for Following and Opposing Vehicle, Detail SC-2 dimension “D” and “OSD”:

V= Velocity = 50 MPH plus 10% = 55 MPH

a = Rate of Deceleration = 11.2 ft/s²

t = Reaction Time = 2.5 seconds

G = Percent Grade/100 = 7.7%/100

Component	Formula	Completed Equation
AASHTO Reaction Distance	$D_R = 1.47Vt$	$D_R = 1.47(55MPH)(2.5s) = 202 ft$
AASHTO Braking Distance	$D_T = 1.075 \frac{V^2}{a}$	$D_T = 1.075 \left(\frac{(55MPH)^2}{11.2 \frac{ft}{s^2}} \right) = 290 ft$
AASHTO Braking Distance with Grade	$D_G = \frac{V^2}{30 \left(\left(\frac{a}{32.2} \right) \pm G \right)}$	$D_G = \frac{(55MPH)^2}{30 \left(\left(\frac{11.2}{32.2} \right) + 0.077 \right)} = 237 ft$

Find a SSD distance $D = D_R + D_T \gg 202 ft + 290 ft = 492 ft$ along tangent sections or $D = D_R + D_G \gg 202 ft + 237 ft = 449 ft$ on a 7.7% Grade

- Condition B: Left Turn from major road: Detail SC-2 dimension “B”
 $t = \text{time gap} = 5.5 \text{ passenger and } 6.5 \text{ single unit}$

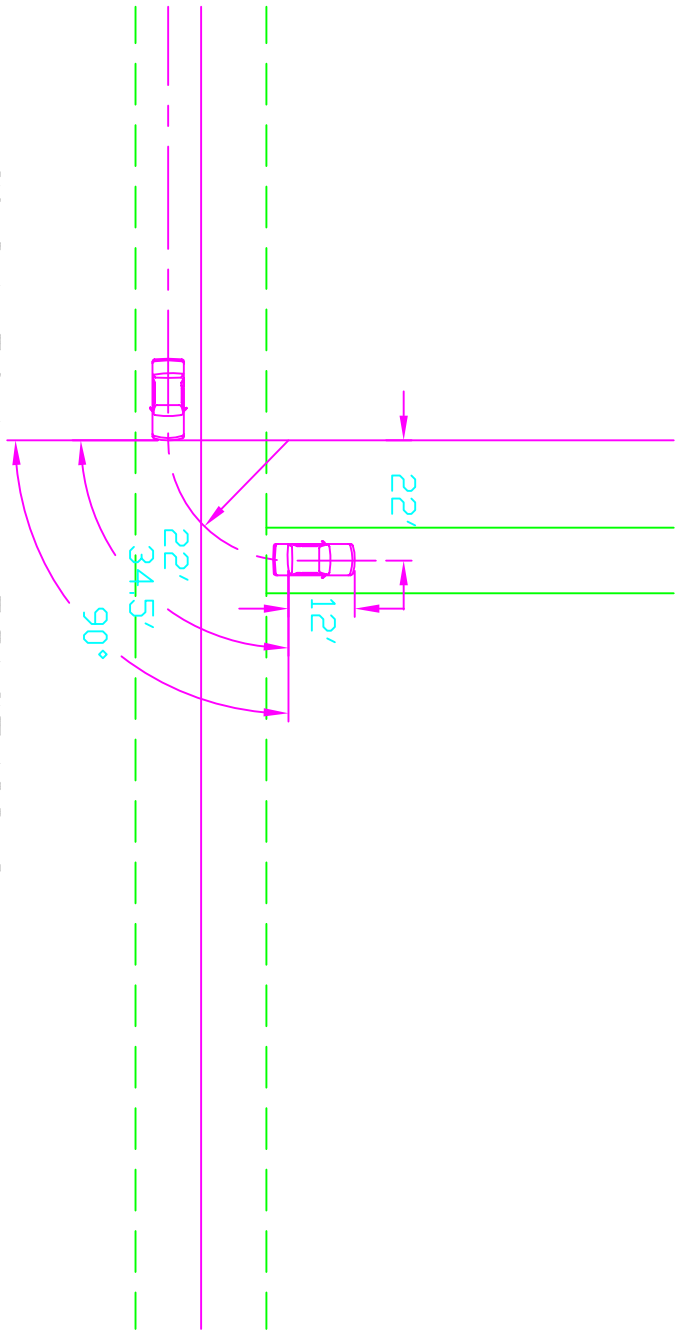
Component	Formula	Completed Equation
AASHTO Case F Formula	$D = 1.47Vt$	$D = 1.47(55\text{MPH})(5.5s) = 445 \text{ ft}$

Find a Case F sight distance = 445 ft

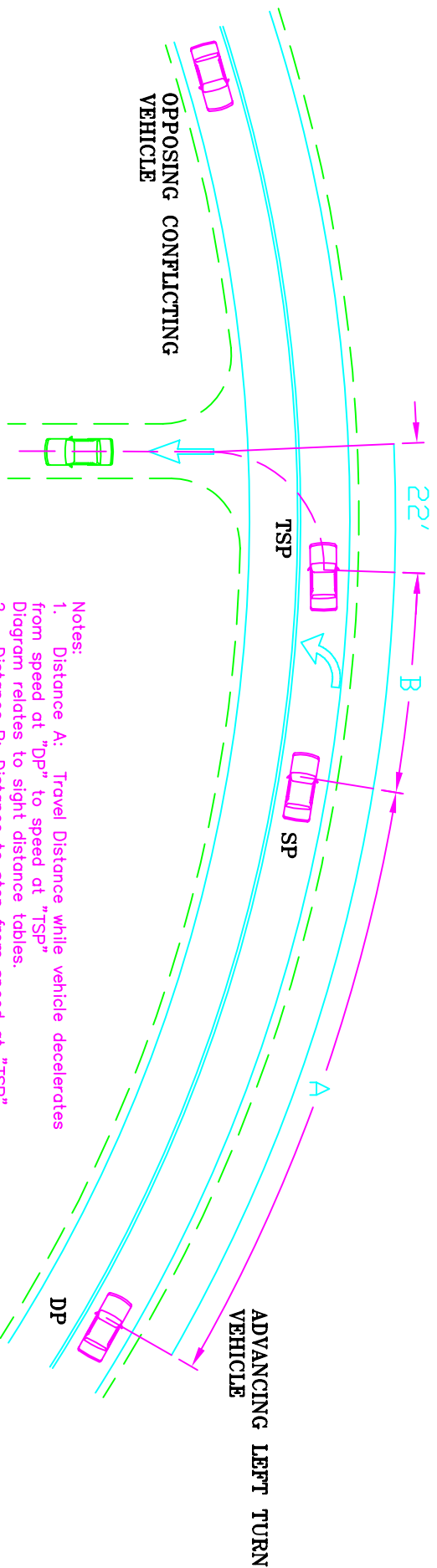
- Condition C: Turn Decision Sight Distance: Detail SC-2 dimension “TDSD”

Component	Formula	Completed Equation
Determine time for C1 to travel between “SP” and “TSP”	$t = \frac{2s}{V_o + V_f}$	$t = \frac{2(22 \text{ ft})}{(22 \text{ fps}) + (22 \text{ fps})} = 1.0s$
Determine Vehicle Speed at “DP”	$V_o = \sqrt{V_f^2 + 2Da}$	$V_o = \sqrt{(15\text{MPH} \times 1.467)^2 + 2 \times 74 \text{ ft} \times 11.2 \frac{\text{ft}}{\text{s}^2}}$ $V_o = 46 \text{ fps} (32\text{MPH})$
Determine time for C1 to travel from “DP” to “SP”	$t = \frac{\sqrt{2as + V_o^2} + V_o}{a}$	$t = \frac{\sqrt{2(-11.2)(74 \text{ ft}) + (46 \text{ fps})^2} - 46 \text{ fps}}{-11.2 \frac{\text{ft}}{\text{s}^2}} = 2.2s$
Determine time for C1 to complete turn and clear roadway	$t = \frac{2s}{V_o + V_f}$	$t = \frac{2(47 \text{ ft})}{22 \text{ fps} + 7.3 \text{ fps}} = 3.5s$
Determine time C2 travels during C1 turn	$t = 3.2s + 3.2s + t_{FS}$	$t = 3.2s + 3.2s = 6.4s$
Determine distance traveled by C2 during the above time	$D = 0.5t(V_o + V_f)$	$D = 0.5(6.4s)(88 \text{ fps} + 88 \text{ fps}) = 516 \text{ ft}$

Find a Turn Decision Sight Distance “TDSD” of 516 feet.



Sight Distance DIAGRAM 2



- Notes:
1. Distance A: Travel Distance while vehicle decelerates from speed at "DP" to speed at "TSP"
Diagram relates to sight distance tables.
 2. Distance B: Distance to stop from speed at "TSP"
 3. TSP: Turn Stop Point – location vehicle will stop to make turn if opposing conflicting vehicle warrants.
 4. DP: Decision Point – location turning vehicle will be from access when driver must decide on appropriate action, ie turn of stop.
 5. "SP" – Stopping Point – location vehicle will be when braking must be initiated to stop at "TSP".

Sight Distance DIAGRAM 3

STOPPING SIGHT DISTANCE 'D'
Sheet 1 of 11

85 th PERCENTILE SPEED	20
DESIGN SPEED	22
FRICITION FACTOR	0.4
REACTION DISTANCE	81

Vd; f	Vd; f
20; 0.40	50; 0.30
25; 0.38	55; 0.30
30; 0.35	60; 0.29
35; 0.34	65; 0.29
40; 0.32	70; 0.28
45; 0.32	

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	41	122
-0.5	42	123
-1	42	123
-1.5	43	124
-2	44	124
-2.5	44	125
-3	45	126
-3.5	45	126
-4	46	127
-4.5	47	128
-5	47	128
-5.5	48	129
-6	49	130
-6.5	50	130
-7	50	131
-7.5	51	132
-8	52	133
-8.5	53	134
-9	54	135
-9.5	55	136
-10	56	136
-10.5	57	137
-11	58	138
-11.5	59	140
-12	60	141
-12.5	61	142
-13	62	143
-13.5	63	144
-14	65	145
-14.5	66	147
-15	67	148
-15.5	69	150
-16	70	151
-16.5	72	153
-17	73	154
-17.5	75	156
-18	77	158
-18.5	79	160
-19	81	162
-19.5	83	164
-20	85	166

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	41	122
0.5	41	122
1	40	121
1.5	40	121
2	39	120
2.5	39	120
3	38	119
3.5	38	119
4	38	118
4.5	37	118
5	37	118
5.5	36	117
6	36	117
6.5	35	116
7	35	116
7.5	35	116
8	34	115
8.5	34	115
9	34	114
9.5	33	114
10	33	114
10.5	33	113
11	32	113
11.5	32	113
12	32	112
12.5	31	112
13	31	112
13.5	31	112
14	30	111
14.5	30	111
15	30	111
15.5	30	110
16	29	110
16.5	29	110
17	29	110
17.5	29	109
18	28	109
18.5	28	109
19	28	109
19.5	28	108
20	27	108

STOPPING SIGHT DISTANCE 'D'
Sheet 2 of 11

85 th PERCENTILE SPEED	25
DESIGN SPEED	27.5
FRICITION FACTOR	0.36
REACTION DISTANCE	101

Vd; f	Vd; f
20; 0.40	50; 0.30
25; 0.38	55; 0.30
30; 0.35	60; 0.29
35; 0.34	65; 0.29
40; 0.32	70; 0.28
45; 0.32	

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	70	171
-0.5	71	172
-1	72	173
-1.5	73	174
-2	74	175
-2.5	75	176
-3	76	177
-3.5	78	179
-4	79	180
-4.5	80	181
-5	81	182
-5.5	83	184
-6	84	185
-6.5	85	187
-7	87	188
-7.5	88	190
-8	90	191
-8.5	92	193
-9	93	194
-9.5	95	196
-10	97	198
-10.5	99	200
-11	101	202
-11.5	103	204
-12	105	206
-12.5	107	208
-13	110	211
-13.5	112	213
-14	115	216
-14.5	117	218
-15	120	221
-15.5	123	224
-16	126	227
-16.5	129	230
-17	133	234
-17.5	136	237
-18	140	241
-18.5	144	245
-19	148	249
-19.5	153	254
-20	158	259

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	70	171
0.5	69	170
1	68	169
1.5	67	168
2	66	167
2.5	65	167
3	65	166
3.5	64	165
4	63	164
4.5	62	163
5	61	163
5.5	61	162
6	60	161
6.5	59	160
7	59	160
7.5	58	159
8	57	158
8.5	57	158
9	56	157
9.5	55	156
10	55	156
10.5	54	155
11	54	155
11.5	53	154
12	53	154
12.5	52	153
13	51	153
13.5	51	152
14	50	151
14.5	50	151
15	49	150
15.5	49	150
16	48	150
16.5	48	149
17	48	149
17.5	47	148
18	47	148
18.5	46	147
19	46	147
19.5	45	146
20	45	146

STOPPING SIGHT DISTANCE 'D'
Sheet 3 of 11

85 th PERCENTILE SPEED	30
DESIGN SPEED	33
FRICITION FACTOR	0.3
REACTION DISTANCE	121

Vd; f	Vd; f
20; 0.40	50; 0.30
25; 0.38	55; 0.30
30; 0.35	60; 0.29
35; 0.34	65; 0.29
40; 0.32	70; 0.28
45; 0.32	

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	107	228
-0.5	108	230
-1	110	231
-1.5	112	233
-2	113	235
-2.5	115	237
-3	117	238
-3.5	119	240
-4	121	242
-4.5	123	244
-5	125	246
-5.5	127	249
-6	130	251
-6.5	132	253
-7	134	256
-7.5	137	258
-8	140	261
-8.5	142	264
-9	145	266
-9.5	148	269
-10	151	273
-10.5	154	276
-11	158	279
-11.5	161	283
-12	165	286
-12.5	169	290
-13	173	294
-13.5	177	298
-14	182	303
-14.5	186	307
-15	191	312
-15.5	196	317
-16	202	323
-16.5	207	329
-17	214	335
-17.5	220	341
-18	227	348
-18.5	234	355
-19	242	363
-19.5	250	372
-20	259	381

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	107	228
0.5	105	226
1	104	225
1.5	102	224
2	101	222
2.5	99	221
3	98	219
3.5	97	218
4	96	217
4.5	94	216
5	93	214
5.5	92	213
6	91	212
6.5	90	211
7	89	210
7.5	87	209
8	86	208
8.5	85	207
9	84	206
9.5	83	205
10	83	204
10.5	82	203
11	81	202
11.5	80	201
12	79	200
12.5	78	199
13	77	199
13.5	76	198
14	76	197
14.5	75	196
15	74	195
15.5	73	195
16	73	194
16.5	72	193
17	71	192
17.5	70	192
18	70	191
18.5	69	190
19	68	190
19.5	68	189
20	67	188

STOPPING SIGHT DISTANCE 'D'
Sheet 4 of 11

85 th PERCENTILE SPEED	35
DESIGN SPEED	38.5
FRICITION FACTOR	0.32
REACTION DISTANCE	141

Vd; f	Vd; f
20; 0.40	50; 0.30
25; 0.38	55; 0.30
30; 0.35	60; 0.29
35; 0.34	65; 0.29
40; 0.32	70; 0.28
45; 0.32	

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	154	296
-0.5	157	298
-1	159	301
-1.5	162	303
-2	165	306
-2.5	167	309
-3	170	312
-3.5	173	315
-4	176	318
-4.5	180	321
-5	183	324
-5.5	186	328
-6	190	332
-6.5	194	335
-7	198	339
-7.5	202	343
-8	206	347
-8.5	210	352
-9	215	356
-9.5	220	361
-10	225	366
-10.5	230	371
-11	235	377
-11.5	241	383
-12	247	389
-12.5	253	395
-13	260	402
-13.5	267	409
-14	274	416
-14.5	282	424
-15	291	432
-15.5	299	441
-16	309	450
-16.5	319	460
-17	329	471
-17.5	341	482
-18	353	494
-18.5	366	507
-19	380	522
-19.5	395	537
-20	412	553

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	154	296
0.5	152	294
1	150	291
1.5	147	289
2	145	287
2.5	143	285
3	141	283
3.5	139	281
4	137	279
4.5	135	277
5	134	275
5.5	132	273
6	130	272
6.5	128	270
7	127	268
7.5	125	267
8	124	265
8.5	122	263
9	121	262
9.5	119	261
10	118	259
10.5	116	258
11	115	256
11.5	114	255
12	112	254
12.5	111	253
13	110	251
13.5	109	250
14	107	249
14.5	106	248
15	105	247
15.5	104	246
16	103	244
16.5	102	243
17	101	242
17.5	100	241
18	99	240
18.5	98	239
19	97	238
19.5	96	237
20	95	237

STOPPING SIGHT DISTANCE 'D'
Sheet 5 of 11

85 th PERCENTILE SPEED	40
DESIGN SPEED	44
FRICITION FACTOR	0.32
REACTION DISTANCE	162

Vd; f	Vd; f
20; 0.40	50; 0.30
25; 0.38	55; 0.30
30; 0.35	60; 0.29
35; 0.34	65; 0.29
40; 0.32	70; 0.28
45; 0.32	

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	208	370
-0.5	212	373
-1	215	377
-1.5	219	380
-2	223	384
-2.5	226	388
-3	230	392
-3.5	235	396
-4	239	401
-4.5	244	405
-5	248	410
-5.5	253	415
-6	258	420
-6.5	263	425
-7	269	431
-7.5	275	436
-8	281	442
-8.5	287	449
-9	293	455
-9.5	300	462
-10	307	469
-10.5	315	476
-11	323	484
-11.5	331	493
-12	340	501
-12.5	349	511
-13	359	520
-13.5	369	530
-14	380	541
-14.5	391	553
-15	403	565
-15.5	416	578
-16	430	592
-16.5	445	607
-17	461	623
-17.5	478	640
-18	496	658
-18.5	516	678
-19	538	699
-19.5	561	723
-20	587	748

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	208	370
0.5	205	367
1	202	363
1.5	199	360
2	196	357
2.5	193	354
3	190	352
3.5	187	349
4	184	346
4.5	182	343
5	179	341
5.5	177	339
6	174	336
6.5	172	334
7	170	332
7.5	168	329
8	165	327
8.5	163	325
9	161	323
9.5	159	321
10	157	319
10.5	156	317
11	154	315
11.5	152	314
12	150	312
12.5	148	310
13	147	308
13.5	145	307
14	143	305
14.5	142	304
15	140	302
15.5	139	300
16	137	299
16.5	136	298
17	134	296
17.5	133	295
18	132	293
18.5	130	292
19	129	291
19.5	128	289
20	127	288

STOPPING SIGHT DISTANCE 'D'

Sheet 6 of 11

85 th PERCENTILE SPEED	45
DESIGN SPEED	49.5
FRICITION FACTOR	0.3
REACTION DISTANCE	182

Vd; f	Vd; f
20; 0.40	50; 0.30
25; 0.38	55; 0.30
30; 0.35	60; 0.29
35; 0.34	65; 0.29
40; 0.32	70; 0.28
45; 0.32	

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	272	454
-0.5	277	459
-1	282	464
-1.5	287	468
-2	292	474
-2.5	297	479
-3	303	484
-3.5	308	490
-4	314	496
-4.5	320	502
-5	327	509
-5.5	333	515
-6	340	522
-6.5	348	529
-7	355	537
-7.5	363	545
-8	371	553
-8.5	380	562
-9	389	571
-9.5	398	580
-10	408	590
-10.5	419	601
-11	430	612
-11.5	441	623
-12	454	636
-12.5	467	649
-13	480	662
-13.5	495	677
-14	510	692
-14.5	527	709
-15	545	726
-15.5	563	745
-16	583	765
-16.5	605	787
-17	628	810
-17.5	653	835
-18	681	863
-18.5	710	892
-19	743	924
-19.5	778	960
-20	817	999

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	272	454
0.5	268	450
1	263	445
1.5	259	441
2	255	437
2.5	251	433
3	248	429
3.5	244	426
4	240	422
4.5	237	419
5	233	415
5.5	230	412
6	227	409
6.5	224	406
7	221	403
7.5	218	400
8	215	397
8.5	212	394
9	209	391
9.5	207	389
10	204	386
10.5	202	384
11	199	381
11.5	197	379
12	194	376
12.5	192	374
13	190	372
13.5	188	370
14	186	368
14.5	184	365
15	182	363
15.5	180	361
16	178	359
16.5	176	358
17	174	356
17.5	172	354
18	170	352
18.5	168	350
19	167	349
19.5	165	347
20	163	345

STOPPING SIGHT DISTANCE 'D'

Sheet 7 of 11

85 th PERCENTILE SPEED	50
DESIGN SPEED	55
FRICITION FACTOR	0.3
REACTION DISTANCE	202

Vd; f	Vd; f
20; 0.40	50; 0.30
25; 0.38	55; 0.30
30; 0.35	60; 0.29
35; 0.34	65; 0.29
40; 0.32	70; 0.28
45; 0.32	

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	336	538
-0.5	342	544
-1	348	550
-1.5	354	556
-2	360	562
-2.5	367	569
-3	373	576
-3.5	381	583
-4	388	590
-4.5	395	598
-5	403	605
-5.5	412	614
-6	420	622
-6.5	429	631
-7	438	641
-7.5	448	650
-8	458	660
-8.5	469	671
-9	480	682
-9.5	492	694
-10	504	706
-10.5	517	719
-11	531	733
-11.5	545	747
-12	560	762
-12.5	576	778
-13	593	795
-13.5	611	813
-14	630	832
-14.5	651	853
-15	672	874
-15.5	695	898
-16	720	922
-16.5	747	949
-17	776	978
-17.5	807	1009
-18	840	1042
-18.5	877	1079
-19	917	1119
-19.5	960	1162
-20	1008	1210

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	336	538
0.5	331	533
1	325	527
1.5	320	522
2	315	517
2.5	310	512
3	306	508
3.5	301	503
4	297	499
4.5	292	494
5	288	490
5.5	284	486
6	280	482
6.5	276	478
7	273	475
7.5	269	471
8	265	467
8.5	262	464
9	259	461
9.5	255	457
10	252	454
10.5	249	451
11	246	448
11.5	243	445
12	240	442
12.5	237	439
13	234	437
13.5	232	434
14	229	431
14.5	227	429
15	224	426
15.5	222	424
16	219	421
16.5	217	419
17	215	417
17.5	212	414
18	210	412
18.5	208	410
19	206	408
19.5	204	406
20	202	404

STOPPING SIGHT DISTANCE 'D'

Sheet 8 of 11

85 th PERCENTILE SPEED	55
DESIGN SPEED	60.5
FRICITION FACTOR	0.29
REACTION DISTANCE	222

Vd; f	Vd; f
20; 0.40	50; 0.30
25; 0.38	55; 0.30
30; 0.35	60; 0.29
35; 0.34	65; 0.29
40; 0.32	70; 0.28
45; 0.32	

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	421	643
-0.5	428	650
-1	436	658
-1.5	444	666
-2	452	674
-2.5	460	683
-3	469	692
-3.5	478	701
-4	488	710
-4.5	498	720
-5	508	731
-5.5	519	742
-6	530	753
-6.5	542	765
-7	555	777
-7.5	567	790
-8	581	803
-8.5	595	818
-9	610	832
-9.5	626	848
-10	642	864
-10.5	660	882
-11	678	900
-11.5	697	920
-12	718	940
-12.5	739	962
-13	763	985
-13.5	787	1009
-14	813	1036
-14.5	841	1064
-15	871	1094
-15.5	904	1126
-16	939	1161
-16.5	976	1198
-17	1017	1239
-17.5	1061	1283
-18	1109	1332
-18.5	1162	1384
-19	1220	1442
-19.5	1284	1507
-20	1356	1578

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	421	643
0.5	414	636
1	407	629
1.5	400	622
2	394	616
2.5	387	610
3	381	604
3.5	375	598
4	370	592
4.5	364	587
5	359	581
5.5	354	576
6	349	571
6.5	344	566
7	339	561
7.5	334	557
8	330	552
8.5	325	548
9	321	543
9.5	317	539
10	313	535
10.5	309	531
11	305	527
11.5	301	524
12	298	520
12.5	294	516
13	290	513
13.5	287	509
14	284	506
14.5	280	503
15	277	500
15.5	274	497
16	271	493
16.5	268	490
17	265	488
17.5	262	485
18	260	482
18.5	257	479
19	254	477
19.5	252	474
20	249	471

STOPPING SIGHT DISTANCE 'D'

Sheet 9 of 11

85 th PERCENTILE SPEED	60
DESIGN SPEED	66
FRICITION FACTOR	0.29
REACTION DISTANCE	243

Vd; f	Vd; f
20; 0.40	50; 0.30
25; 0.38	55; 0.30
30; 0.35	60; 0.29
35; 0.34	65; 0.29
40; 0.32	70; 0.28
45; 0.32	

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	501	743
-0.5	509	752
-1	519	761
-1.5	528	771
-2	538	780
-2.5	548	790
-3	558	801
-3.5	569	812
-4	581	823
-4.5	593	835
-5	605	848
-5.5	618	860
-6	631	874
-6.5	645	888
-7	660	903
-7.5	675	918
-8	691	934
-8.5	708	951
-9	726	969
-9.5	745	987
-10	764	1007
-10.5	785	1027
-11	807	1049
-11.5	830	1072
-12	854	1097
-12.5	880	1123
-13	908	1150
-13.5	937	1179
-14	968	1211
-14.5	1001	1244
-15	1037	1280
-15.5	1076	1318
-16	1117	1359
-16.5	1162	1404
-17	1210	1453
-17.5	1263	1505
-18	1320	1563
-18.5	1383	1625
-19	1452	1695
-19.5	1528	1771
-20	1613	1856

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	501	743
0.5	492	735
1	484	727
1.5	476	719
2	468	711
2.5	461	704
3	454	696
3.5	447	689
4	440	683
4.5	433	676
5	427	670
5.5	421	663
6	415	657
6.5	409	652
7	403	646
7.5	398	640
8	392	635
8.5	387	630
9	382	625
9.5	377	620
10	372	615
10.5	368	610
11	363	606
11.5	359	601
12	354	597
12.5	350	592
13	346	588
13.5	342	584
14	338	580
14.5	334	576
15	330	573
15.5	326	569
16	323	565
16.5	319	562
17	316	558
17.5	312	555
18	309	551
18.5	306	548
19	303	545
19.5	299	542
20	296	539

STOPPING SIGHT DISTANCE 'D'
Sheet 10 of 11

85 th PERCENTILE SPEED	65
DESIGN SPEED	71.5
FRICITION FACTOR	0.28
REACTION DISTANCE	263

Vd;	f	Vd;	f
20;	0.40	50;	0.30
25;	0.38	55;	0.30
30;	0.35	60;	0.29
35;	0.34	65;	0.29
40;	0.32	70;	0.28
45;	0.32		

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	609	871
-0.5	620	882
-1	631	894
-1.5	643	906
-2	655	918
-2.5	668	931
-3	682	944
-3.5	696	958
-4	710	973
-4.5	725	988
-5	741	1004
-5.5	757	1020
-6	775	1037
-6.5	793	1055
-7	811	1074
-7.5	831	1094
-8	852	1115
-8.5	874	1137
-9	897	1160
-9.5	921	1184
-10	947	1209
-10.5	974	1237
-11	1002	1265
-11.5	1033	1296
-12	1065	1328
-12.5	1099	1362
-13	1136	1399
-13.5	1175	1438
-14	1217	1480
-14.5	1262	1525
-15	1311	1574
-15.5	1363	1626
-16	1420	1683
-16.5	1482	1745
-17	1549	1812
-17.5	1623	1886
-18	1704	1967
-18.5	1794	2057
-19	1893	2156
-19.5	2005	2268
-20	2130	2393

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	609	871
0.5	598	861
1	588	850
1.5	578	840
2	568	831
2.5	559	821
3	550	812
3.5	541	804
4	533	795
4.5	524	787
5	516	779
5.5	509	771
6	501	764
6.5	494	757
7	487	750
7.5	480	743
8	473	736
8.5	467	730
9	461	723
9.5	454	717
10	448	711
10.5	443	705
11	437	700
11.5	431	694
12	426	689
12.5	421	684
13	416	678
13.5	411	673
14	406	668
14.5	401	664
15	396	659
15.5	392	655
16	387	650
16.5	383	646
17	379	641
17.5	375	637
18	370	633
18.5	366	629
19	363	625
19.5	359	622
20	355	618

STOPPING SIGHT DISTANCE 'D'

Sheet 11 of 11

85 th PERCENTILE SPEED	70
DESIGN SPEED	77
FRICITION FACTOR	0.28
REACTION DISTANCE	283

Vd; f	Vd; f
20; 0.40	50; 0.30
25; 0.38	55; 0.30
30; 0.35	60; 0.29
35; 0.34	65; 0.29
40; 0.32	70; 0.28
45; 0.32	

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	706	989
-0.5	719	1002
-1	732	1015
-1.5	746	1029
-2	760	1043
-2.5	775	1058
-3	791	1074
-3.5	807	1090
-4	823	1106
-4.5	841	1124
-5	859	1142
-5.5	878	1161
-6	898	1181
-6.5	919	1202
-7	941	1224
-7.5	964	1247
-8	988	1271
-8.5	1014	1296
-9	1040	1323
-9.5	1068	1351
-10	1098	1381
-10.5	1129	1412
-11	1163	1446
-11.5	1198	1481
-12	1235	1518
-12.5	1275	1558
-13	1318	1601
-13.5	1363	1646
-14	1412	1695
-14.5	1464	1747
-15	1520	1803
-15.5	1581	1864
-16	1647	1930
-16.5	1719	2002
-17	1797	2080
-17.5	1882	2165
-18	1976	2259
-18.5	2080	2363
-19	2196	2479
-19.5	2325	2608
-20	2470	2753

SLOPE TOWARD DESIGN POINT

PCT	BRAKING DISTANCE	TOTAL SSD
0	706	989
0.5	693	976
1	681	964
1.5	670	953
2	659	942
2.5	648	931
3	638	921
3.5	627	910
4	618	901
4.5	608	891
5	599	882
5.5	590	873
6	581	864
6.5	573	856
7	565	848
7.5	557	840
8	549	832
8.5	541	824
9	534	817
9.5	527	810
10	520	803
10.5	513	796
11	507	790
11.5	500	783
12	494	777
12.5	488	771
13	482	765
13.5	476	759
14	471	754
14.5	465	748
15	460	743
15.5	454	737
16	449	732
16.5	444	727
17	439	722
17.5	434	717
18	430	713
18.5	425	708
19	420	703
19.5	416	699
20	412	695

E. Appendix E – Curve Numbers

NRCS – Land Use Runoff Curve Numbers						
Table 1: Runoff curve numbers for hydrologic soil cover (Antecedent moisture condition II, and Ia=0.25) Cover					Hydrologic Soil Group	
Land Use	Notes and % Impervious ¹	Hydrologic Condition	A	B	C	D
Fully Developed Urban Areas (Vegetation Established)						
Open Space (lawns, parks, golf courses, cemeteries) ² :						
Grass Cover < 50%			68	79	86	89
Grass Cover 50 to 70%			49	69	79	84
Grass cover > 75%			39	61	74	80
Impervious Areas:						
Paved Parking, Driveway, Roofs	No ROW		98	98	98	98
Streets and Roads:						
Paved: Curbed and Sewers	No ROW		98	98	98	98
Paved: Open Ditches	Include ROW		83	89	92	93
Gravel	Include ROW		76	85	89	91
Dirt	Include ROW		72	82	87	89
Urban Districts:						
Commercial and Business	85		89	92	94	95
Industrial	72		81	88	91	93
Residential:						
1/8 acre or less (town houses)	65		77	85	90	92
1/4 acre	38		61	75	83	87
1/3 acre	30		57	72	81	86
1/2 acre	25		54	70	80	85
1 acre	20		51	68	79	84
2 acres	12		46	65	77	82
Developing Urban Areas						
Newly Graded Areas ³			77	86	91	94
Agricultural Lands – Cultivated⁴						
	Treatment or Practice	Hydrologic Condition ⁴	A	B	C	D
	Fallow					
	Bare Soil		77	86	91	94
	Crop Residue ¹¹	Poor	76	85	90	93
		Good	74	83	88	90
Row Crops	Straight Row	Poor	72	81	88	91
		Good	67	78	85	89
	Contoured	Poor	70	79	84	88
		Good	65	75	82	86

NRCS – Land Use Runoff Curve Numbers							
Table 1: Runoff curve numbers for hydrologic soil cover (Antecedent moisture condition II, and Ia=0.25) Cover				Hydrologic Soil Group			
	Terraced	Poor	66	74	80	82	
		Good	62	71	78	81	
Small Grain	Straight Row	Poor	65	76	84	88	
		Good	63	75	83	87	
	Contoured	Poor	63	74	82	85	
		Good	61	73	81	84	
	Terraced	Poor	61	72	79	82	
		Good	59	70	78	81	
Close-seeded Legumes or Rotation Meadow	Straight Row	Poor	66	77	85	89	
		Good	58	72	81	85	
	Contoured	Poor	64	75	83	85	
		Good	55	69	78	83	
	Terraced	Poor	63	73	80	83	
		Good	51	67	76	80	
Agricultural Lands – Other							
Pasture or Range – continuous grazing 5	Natural	Poor	68	79	86	89	
		Fair	49	69	79	84	
		Good	39	61	74	80	
	Contoured	Poor	47	67	81	88	
		Fair	25	59	75	83	
		Good	6	35	70	79	
Meadow – continuous grass, protected from grazing and generally mowed for hay.	Natural	Good	30	58	71	78	
Brush: brush-weed-grass mixture with brush as major element 6	Natural	Poor	48	67	77	83	
		Fair	35	56	70	77	
		Good	30	48	65	73	
Woods & Grass Combination (Orchard or Tree Farm 8	Natural	Poor	57	73	82	86	
		Fair	43	65	76	82	
		Good	32	58	72	79	
Woods 9	Natural	Poor	45	66	77	83	
		Fair	36	60	73	79	
		Good	257	55	70	77	
Farmsteads 10	---	---	59	74	82	86	
Roads	(dirt)	---	72	82	87	89	
	(hard surface)	---	74	84	90	92	

Notes:

1: The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4 in NRCS Technical Release 55, Urban Hydrology for Small Watersheds.

2: CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

3: Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 in Technical Release 55, based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

4: Hydrologic condition is based on combination of factors that affect infiltration and runoff, including (a) density and canopy of vegetative areas, (b) amount of year-round cover, (c) amount of grass or close-seeded legumes in rotations, (d) percentage of residue cover on the land surface (good > 20%), and (e) degree of surface roughness.

Poor: Factors impair infiltration and tend to increase runoff.

Good: Factors encourage average and better than average infiltration and tend to decrease runoff.

5: Poor: <50% ground cover or heavily grazed with no mulch.

Fair: 50 to 75% ground cover and not heavily grazed.

Good: >75% ground cover and lightly or only occasionally grazed.

6: Poor: <50% ground cover.

Fair: 50 to 75% ground cover.

Good: >75% ground cover.

7: Use CN = 30 for runoff computations.

8: CN's shown were computed for areas with 50% woods and 50% grass (pasture) cover. Other combinations of conditions may be computed from the CN's for woods and pasture.

9: Poor: Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning.

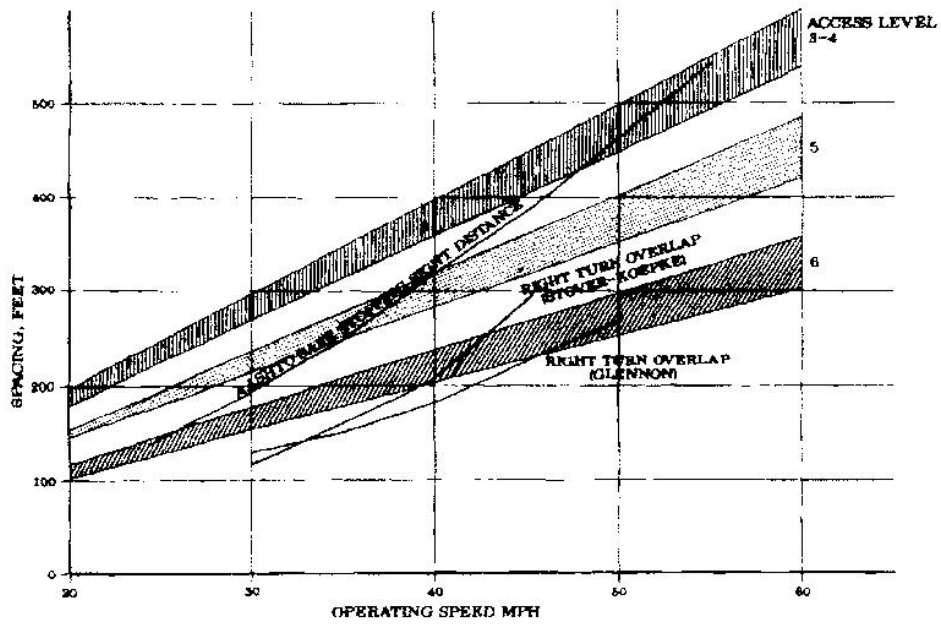
Fair: Woods are grazed but not burned, and some forest litter covers the soil.

Good: Woods are protected from grazing, and litter and brush adequately cover the soil.

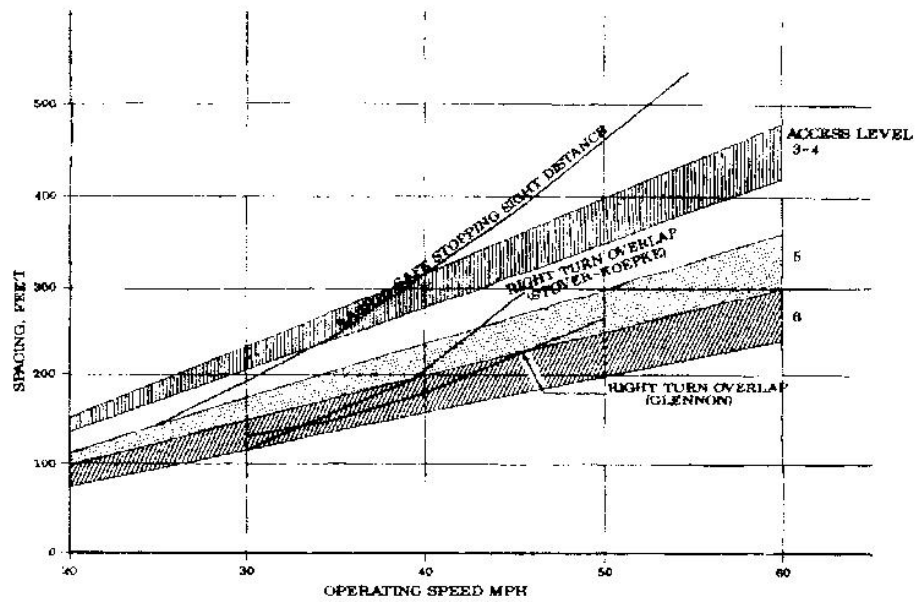
10: Includes buildings, lanes, driveways and surrounding lots.

11: Crop residue cover applies only if residue is on at least 5 percent of the surface throughout the year.

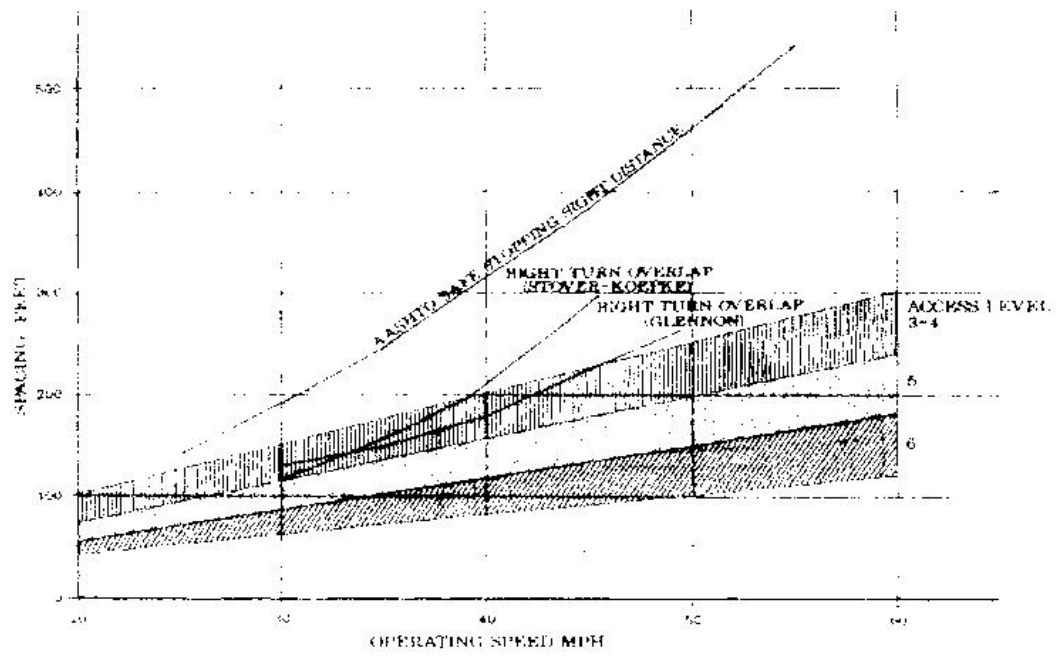
F. Appendix F - Access Spacing



Unsignalized driveway spacing for major generator.



Unsignalized driveway spacing for minor generator.



Unaggregated data showing spacing for microemulsion generation.

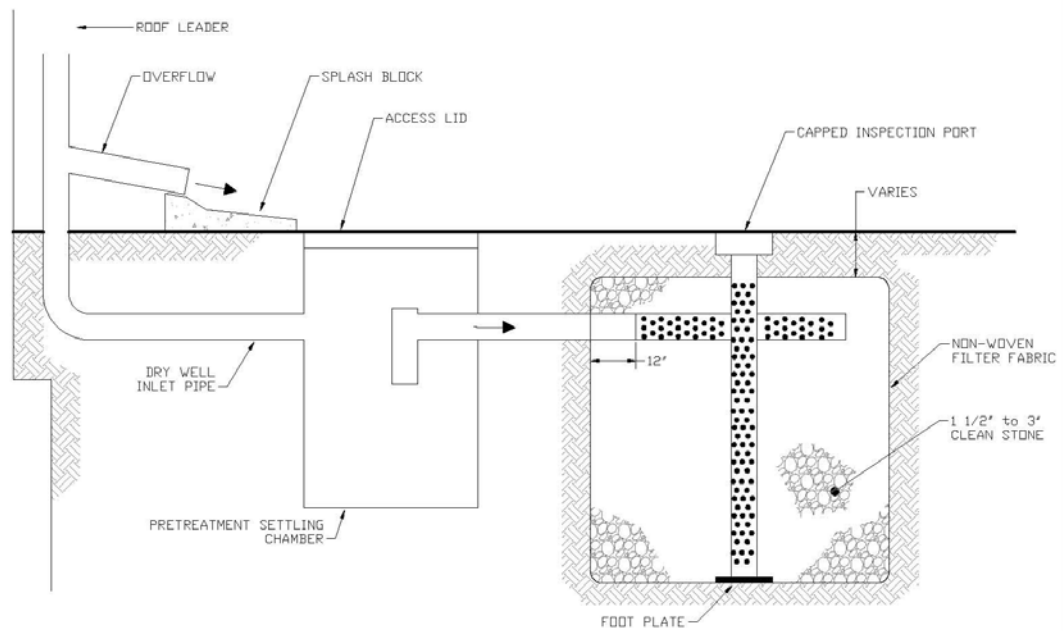
G. Appendix G – Infiltration Devices

APPENDIX G – INFILTRATION MANAGEMENT DEVICES

Treatment Suitability: Infiltration practices alone typically cannot meet detention and channel protection requirements, except on sites where the soil infiltration rate is greater than 5.0 in/hr. However, extended detention storage may be provided above an infiltration basin. Extraordinary care should be taken to assure that long-term infiltration rates are achieved through the use of post construction inspection and long-term maintenance.

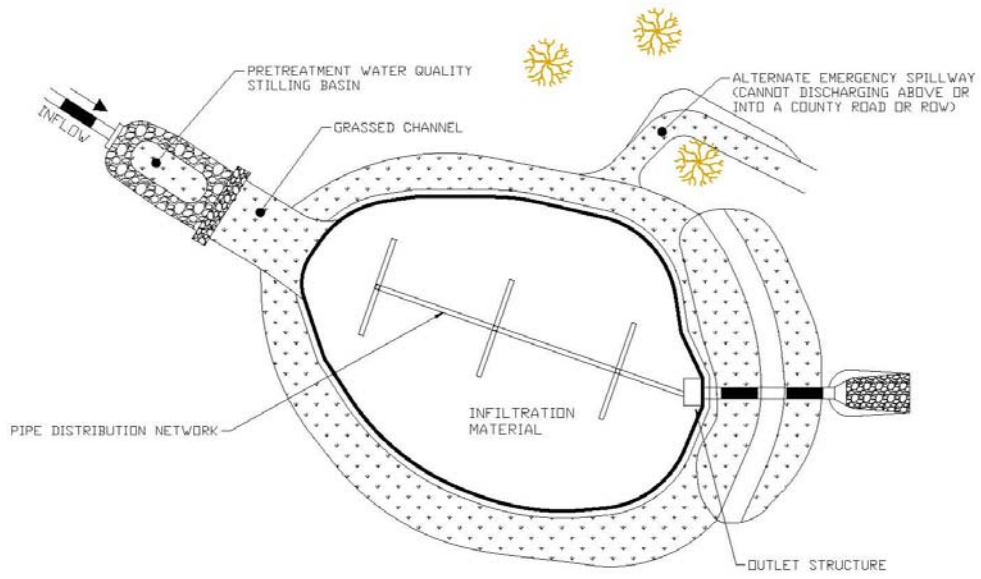
Considerations: Although there are numerous design considerations which must be evaluated by the engineer, below are some of the most commonly neglected.

- To be suitable for infiltration, underlying soils shall have an infiltration rate of at least 0.5 inches per hour. The minimum geotechnical testing is one test hole per 5000 sf, with a minimum of two borings per facility (taken within the proposed limits of the facility).
- Infiltration practices cannot be located on areas with natural slopes greater than 15%.
- Infiltration practices cannot be located in fill soils, except the top quarter of an infiltration trench or dry well.
- The bottom of the infiltration facility shall be separated by at least three feet vertically from the seasonally high water table or bedrock layer, as documented by on-site soil testing.
- Infiltration facilities shall be located at least 100 Feet horizontally from any water supply well.
- Infiltration practices cannot be placed in locations that cause water problems to downgradient properties. Infiltration trenches and basins shall be setback 25 feet downgradient from structures and septic systems. Dry wells shall be separated a minimum of 10 feet from structures.
- For dry wells, all flows that exceed the capacity of the dry well should be passed through the surcharge pipe.
- Stormwater Pretreatment Must be included prior to discharge into the infiltration device.
- An observation well shall be installed in every infiltration trench and dry well, consisting of an anchored six-inch diameter perforated PVC pipe with a lockable cap installed flush with the ground surface.
- Direct access shall be provided to infiltration practices for maintenance and rehabilitation. If a stone reservoir or perforated pipe is used to temporarily store runoff prior to infiltration, the practice shall not be covered by an impermeable surface.
- Because of additional challenges in cold climates, infiltration SMPs need design modifications to function properly. These modifications address the following problems: Reduced infiltration into frozen soils and Chlorides.
- Reduced Infiltration: Draining the ground beneath an infiltration system with an underdrain can increase cold weather soil infiltration, other alternatives are available and designers are encouraged to present creative design concepts.

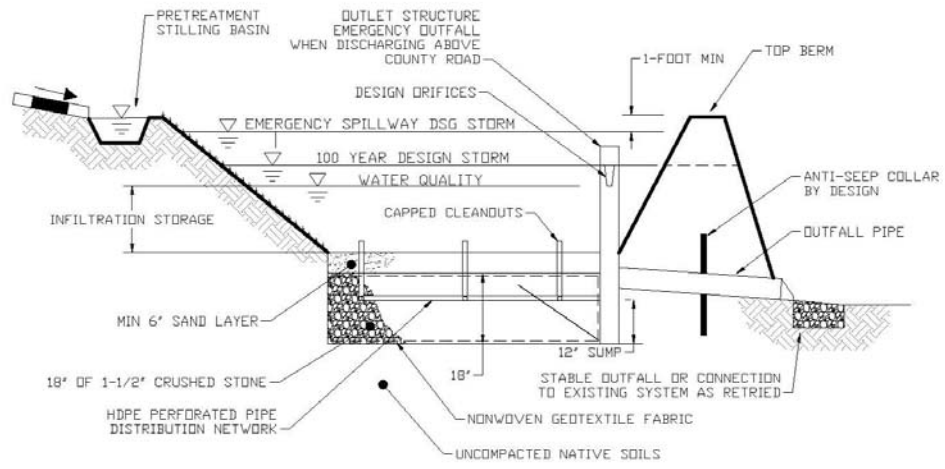


TYPICAL DRY WELL CONFIGURATION

SHEET 1 OF 3

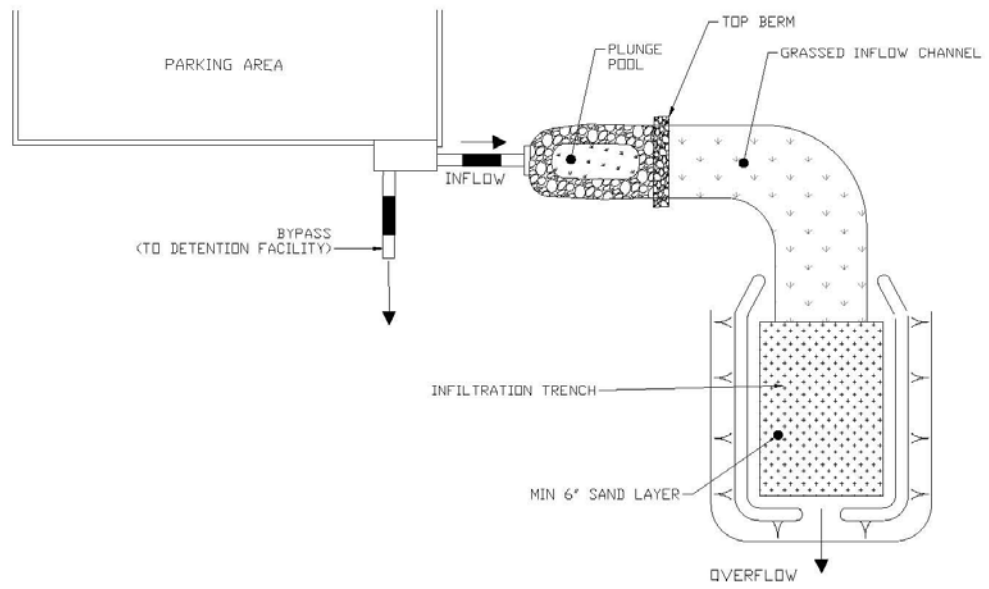


INFILTRATION BASIN - PLAN VIEW

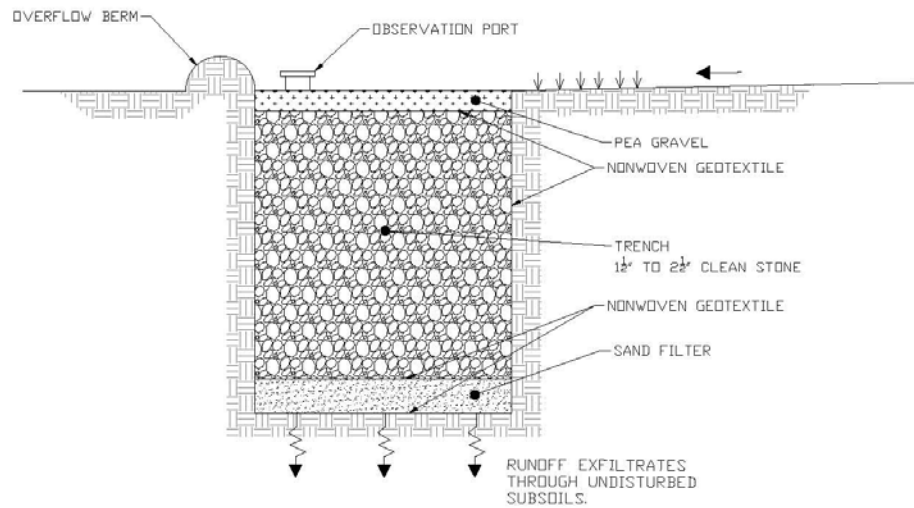


INFILTRATION BASIN - SECTION VIEW

SHEET 2 OF 3



INFILTRATION TRENCH - PLAN VIEW



INFILTRATION TRENCH - SECTION VIEW

SHEET 3 OF 3

H. Appendix H – Tree Planting Guidelines

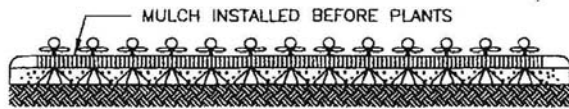


Figure 1. Tree pit with railing.



Figure 2. Tree pit with railing.

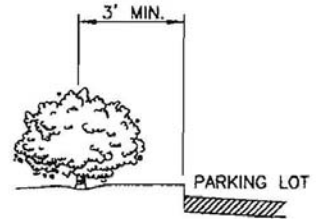
H.1



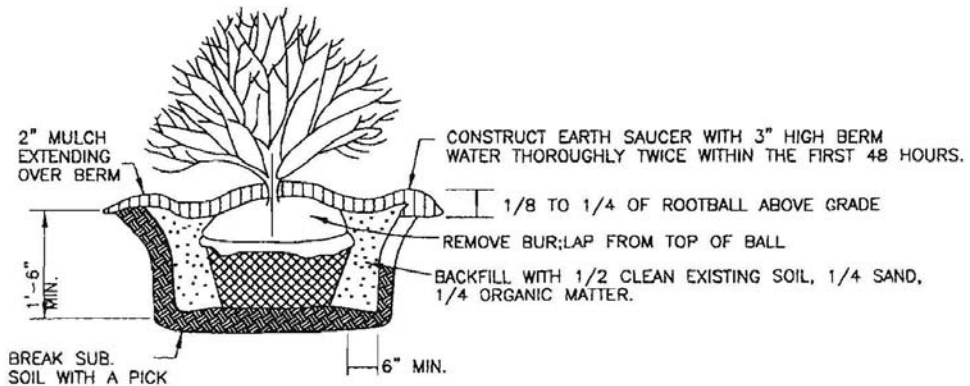
SUBSOIL TO BE BROKEN WITH A PICK AXE

6" DEEP PLANTING BED CONTAINING 1/2 CLEAN EXISTING SOIL, 1/4 SAND AND, 1/4 ORGANIC MATTER.

GROUND COVER PLANTING DETAIL



TYPICAL HEDGE PLANTING AROUND PARKING LOTS



2" MULCH EXTENDING OVER BERM

CONSTRUCT EARTH SAUCER WITH 3" HIGH BERM WATER THOROUGHLY TWICE WITHIN THE FIRST 48 HOURS.

1/8 TO 1/4 OF ROOTBALL ABOVE GRADE

REMOVE BUR:LAP FROM TOP OF BALL

BACKFILL WITH 1/2 CLEAN EXISTING SOIL, 1/4 SAND, 1/4 ORGANIC MATTER.

BREAK SUB. SOIL WITH A PICK

6" MIN.

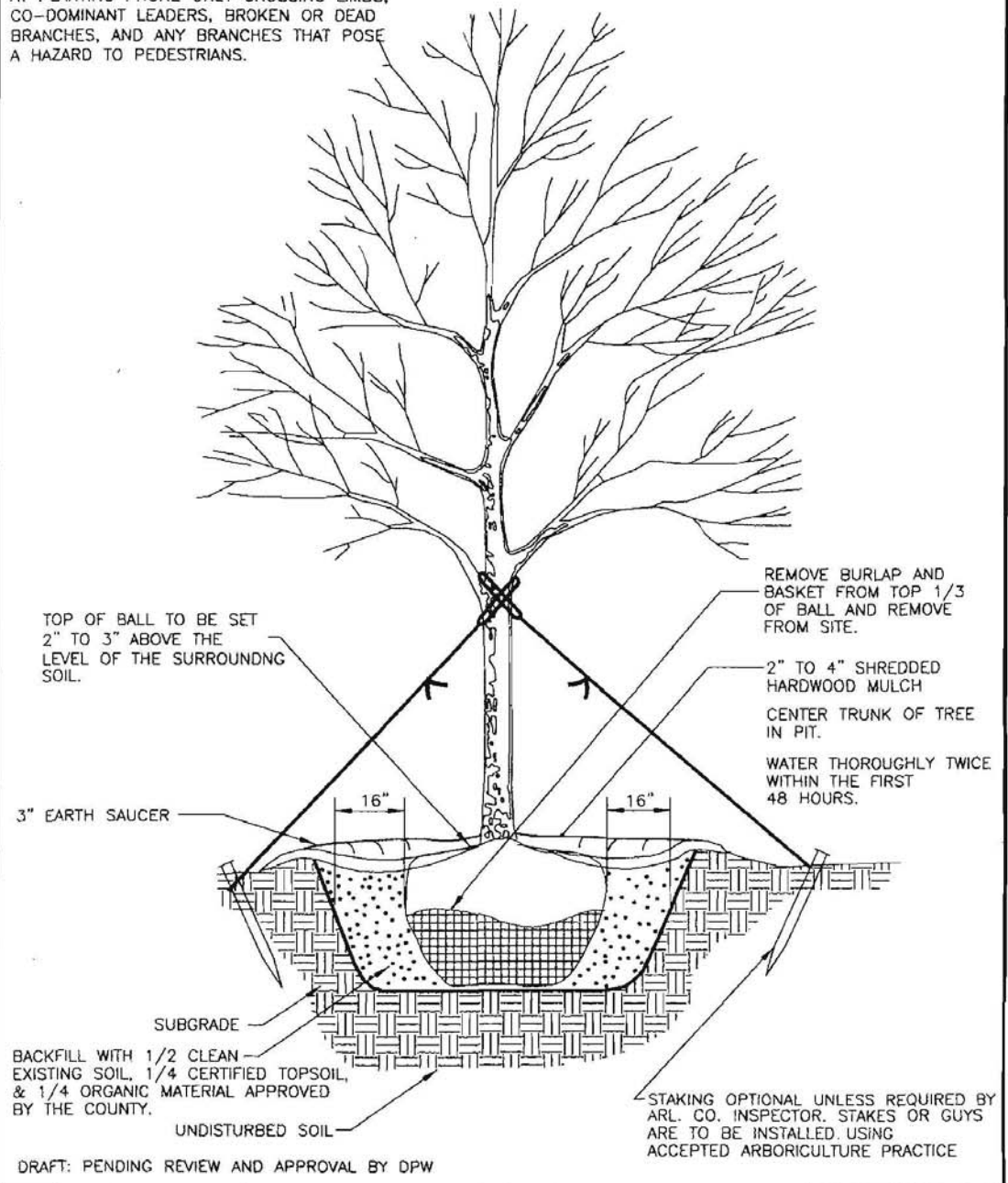
1'-6" MIN.

SHRUB PLANTING DETAIL

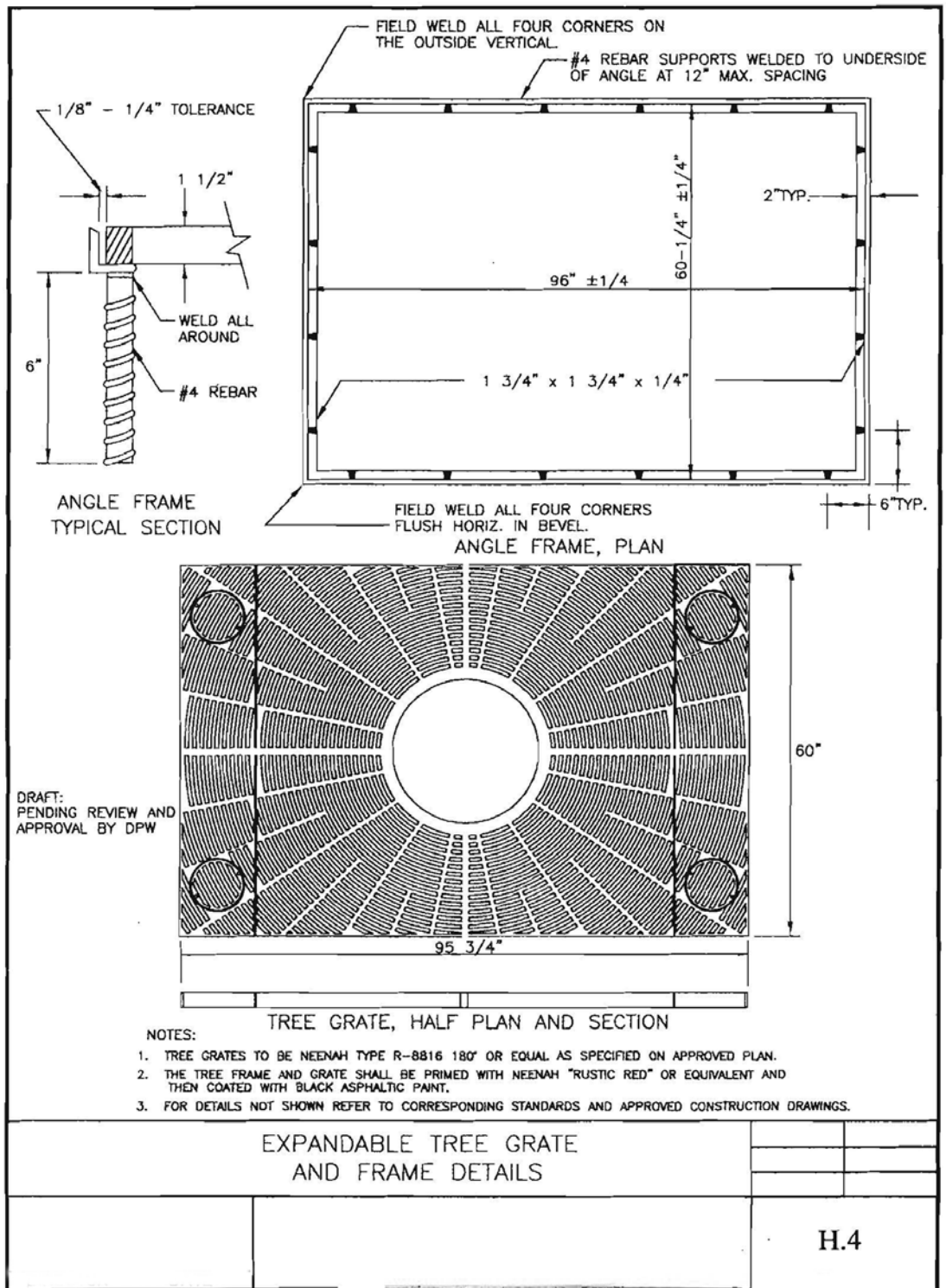
DRAFT

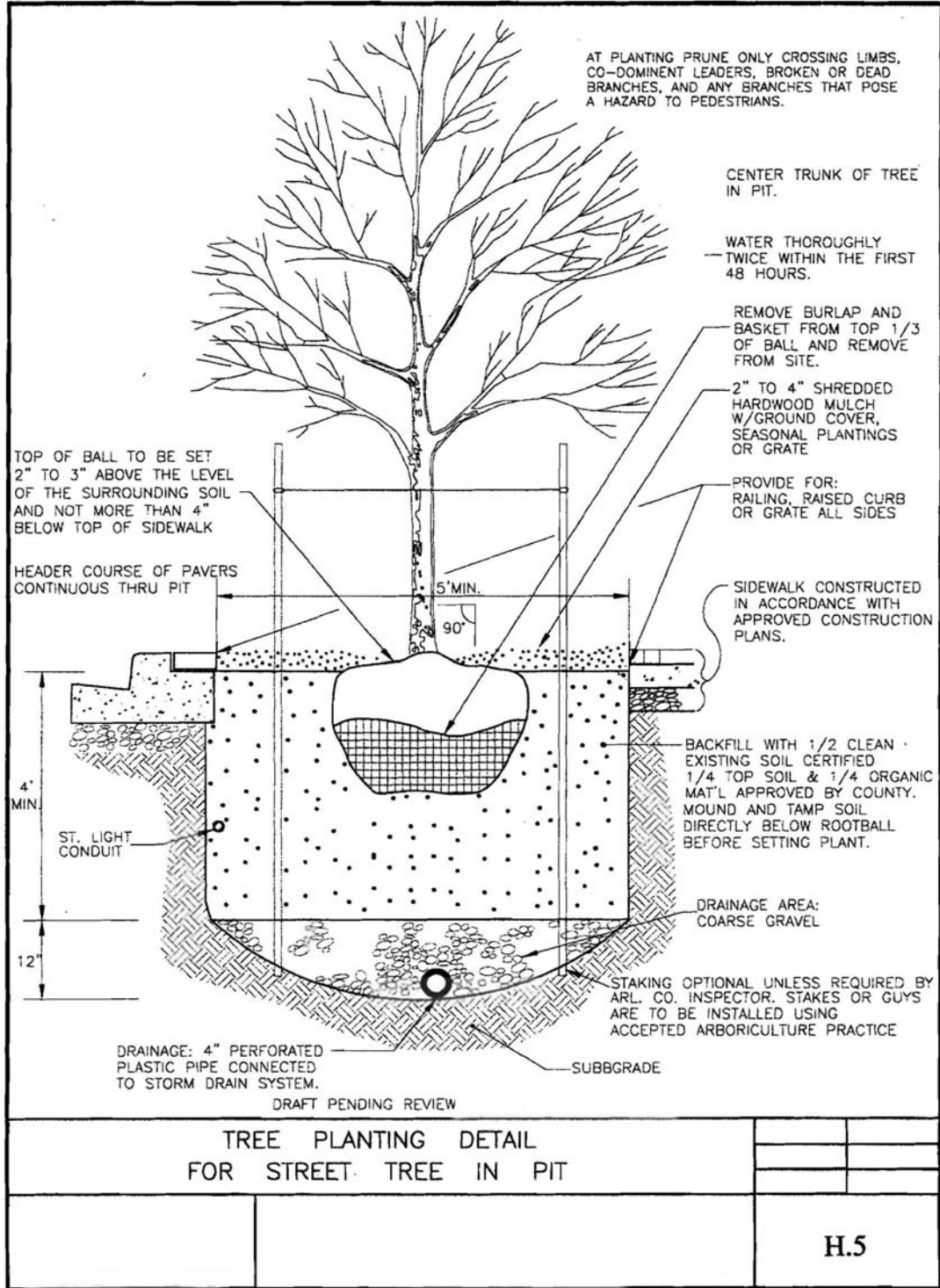
SHRUB AND GROUND COVER PLANTING DETAIL		
		H.2

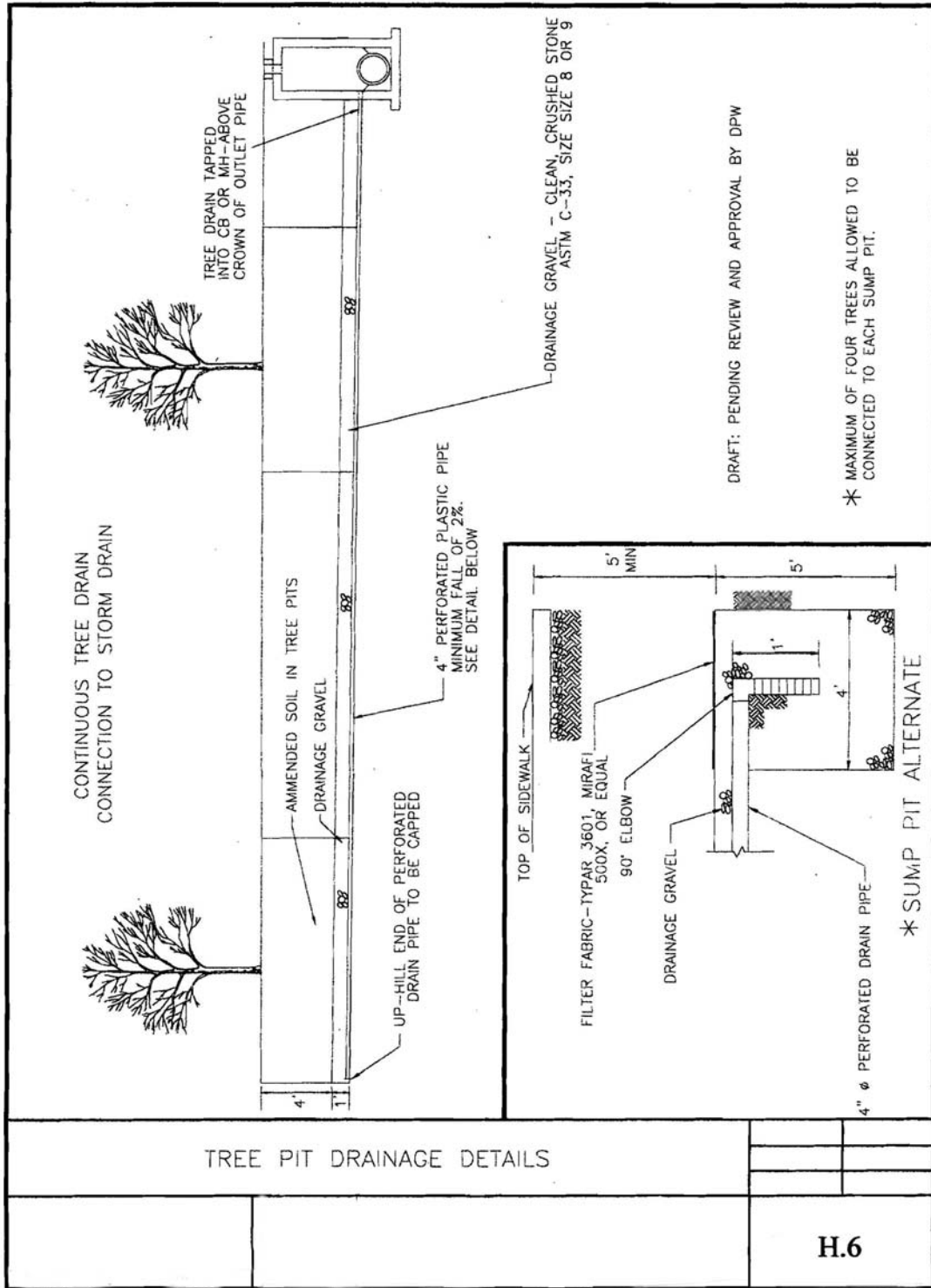
AT PLANTING PRUNE ONLY CROSSING LIMBS, CO-DOMINANT LEADERS, BROKEN OR DEAD BRANCHES, AND ANY BRANCHES THAT POSE A HAZARD TO PEDESTRIANS.



PLANTING TREES IN OPEN AREA OR GRASS STRIP		
		H.3







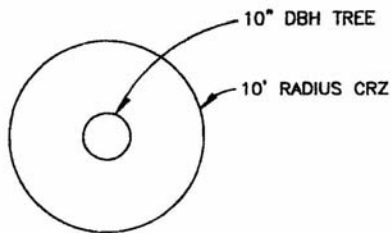
DETERMINING THE CRITICAL ROOT ZONE

THE CRITICAL ROOT ZONE OF A TREE IS THE ZONE IN WHICH THE MAJORITY OF A TREE'S ROOTS LAY. NINETY-FIVE PERCENT OF THE ROOTS OF MOST TREES WILL BE FOUND IN THE UPPER 30-36" OF THE SOIL. OF THOSE, THE MAJORITY OF THE ROOTS THAT SUPPLY THE NUTRIENTS AND WATER TO THE TREE ARE FOUND IN THE UPPERMOST LAYER, JUST BELOW THE SOIL SURFACE. THE TOTAL AMOUNT OF A TREE'S ROOTS ARE GENERALLY PROPORTIONAL TO THE VOLUME OF THE TREE'S CANOPY. THEREFORE, IF THE ROOTS ONLY PENETRATE A THIN LAYER OF SOIL, THEN THE ROOTS MUST SPREAD FAR FROM THE TREE, BEYOND THE LIMITS OF THE CANOPY. ROOTS ARE VITAL TO THE FUNCTIONING OF ANY TREE. THEY PROVIDE STRUCTURAL SUPPORT AS WELL AS THE MAJOR MECHANISM FOR NUTRIENT AND WATER UPTAKE FOR USE BY THE REST OF THE TREE. DESTROYING A SECTION OF A TREE'S ROOTS WILL ULTIMATELY RESULT IN A PROPORTIONAL LOSS OF THE TREE'S CANOPY. THE CRITICAL ROOT ZONE OF A TREE TO BE SAVED SHALL BE THE MINIMUM AREA PROTECTED WITH TREE PROTECTION FENCING.

DRAFT:

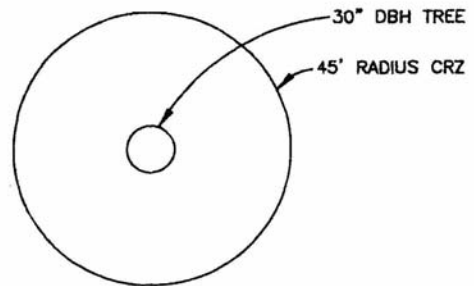
TREES GREATER THAN 8" DBH (DBH=DIAMETER BREAST HEIGHT):

1" DBH OF THE TREE = 1' RADIUS OF THE
CRITICAL ROOT ZONE (CRZ)



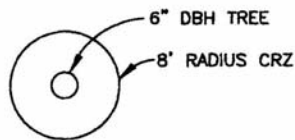
SPECIMEN TREES

1" DBH = 1.5' RADIUS OF THE
CRITICAL ROOT ZONE.



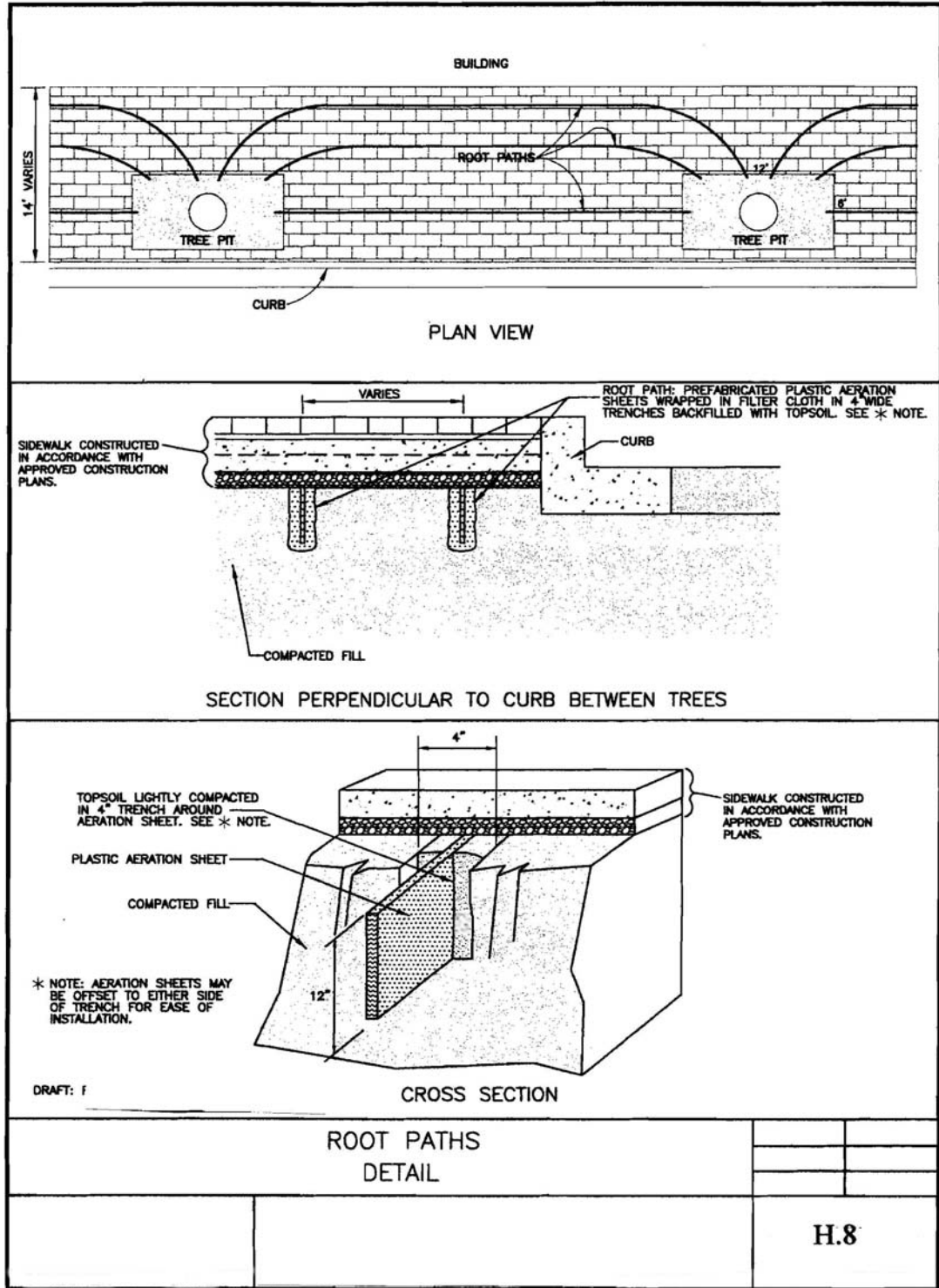
TREES 8" DBH AND SMALLER:

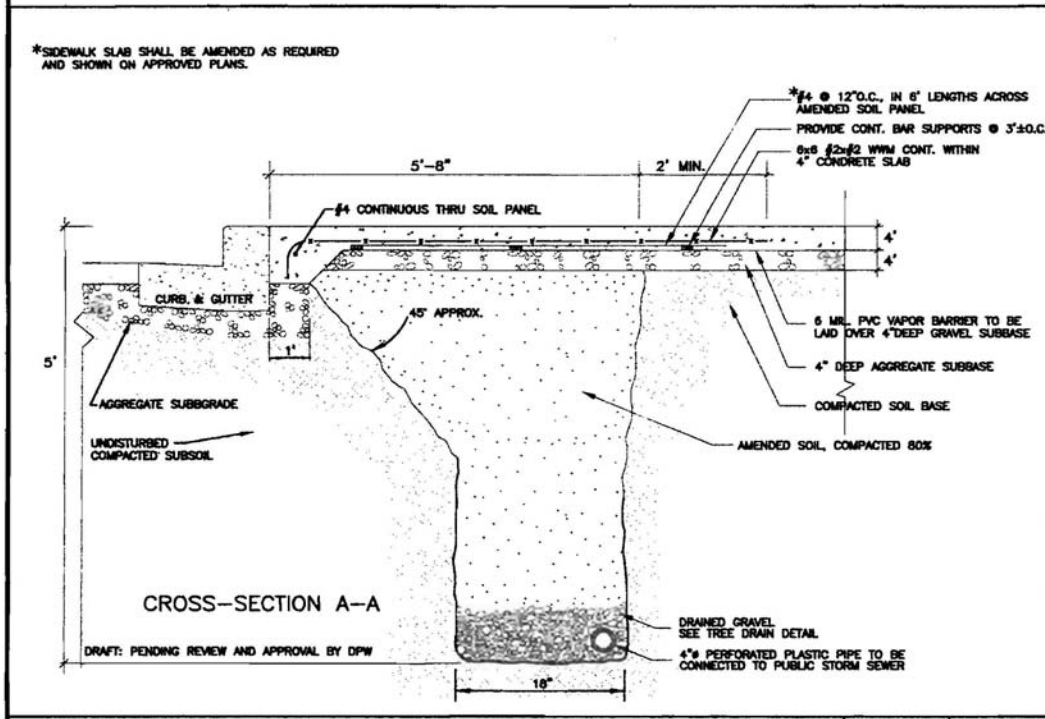
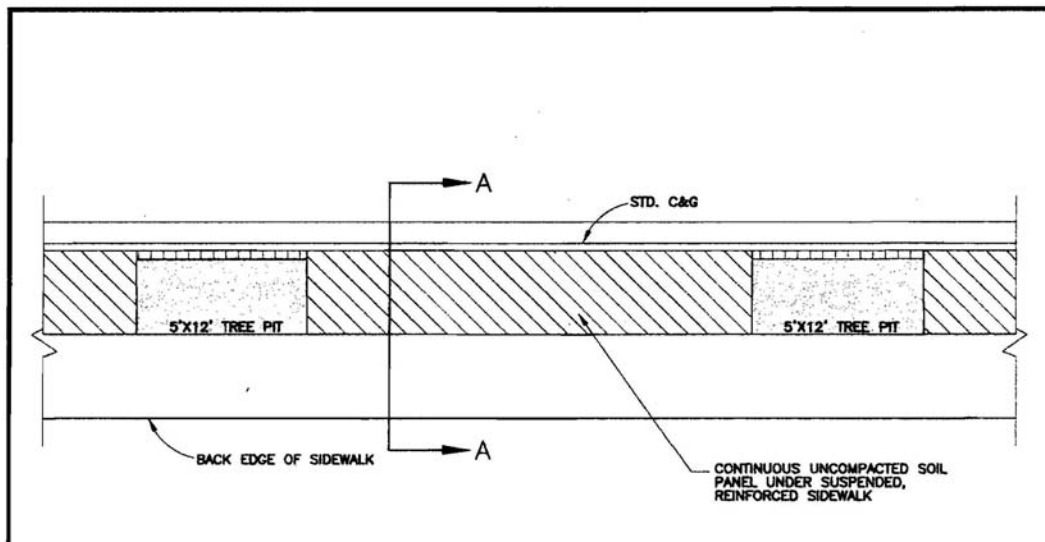
8 FT. RADIUS CIRCLE AROUND THE TRUNK
OF THE TREE.



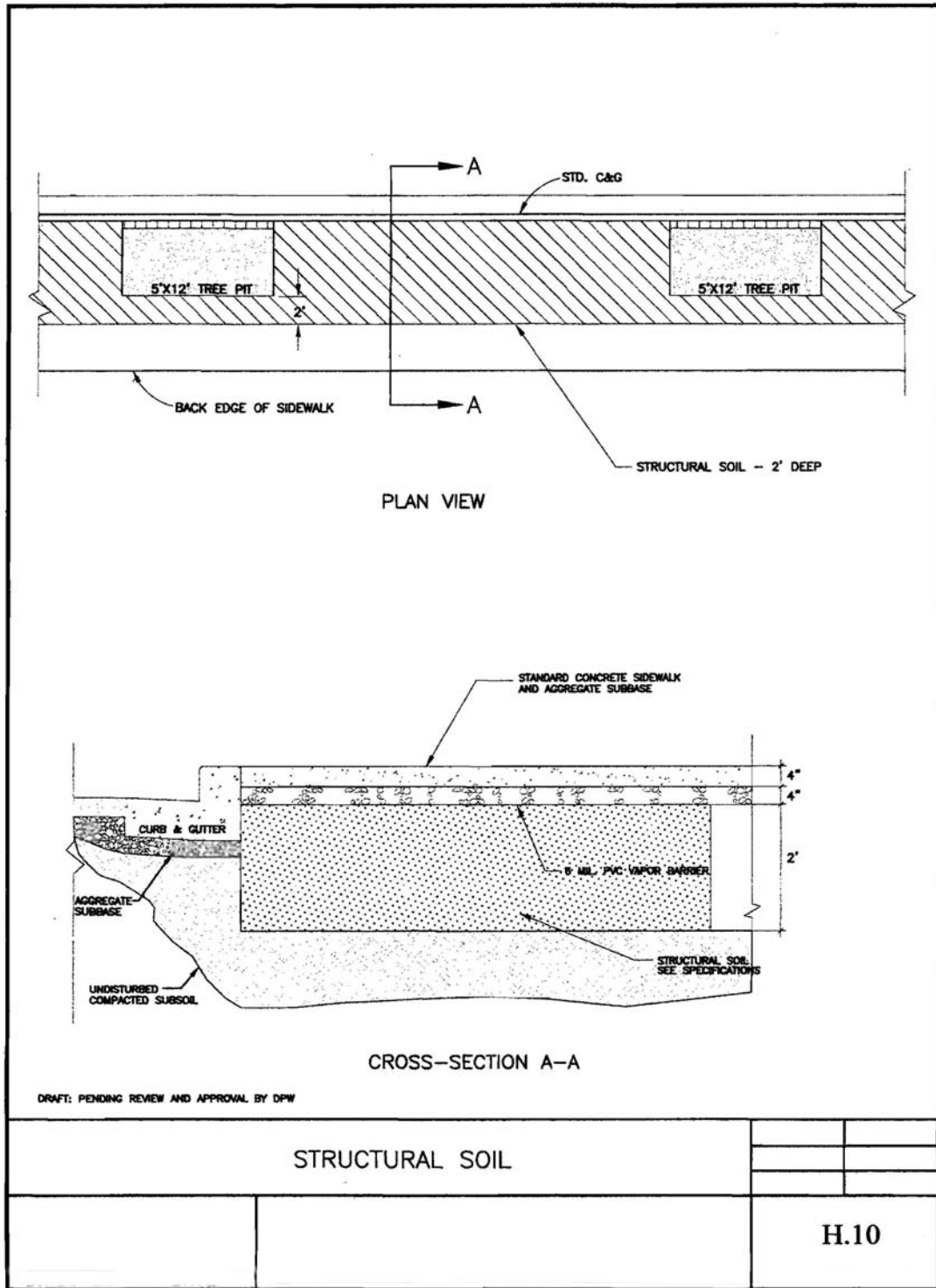
TREE PROTECTION DETAIL
FOR DETERMINATION OF CRITICAL ROOT ZONE

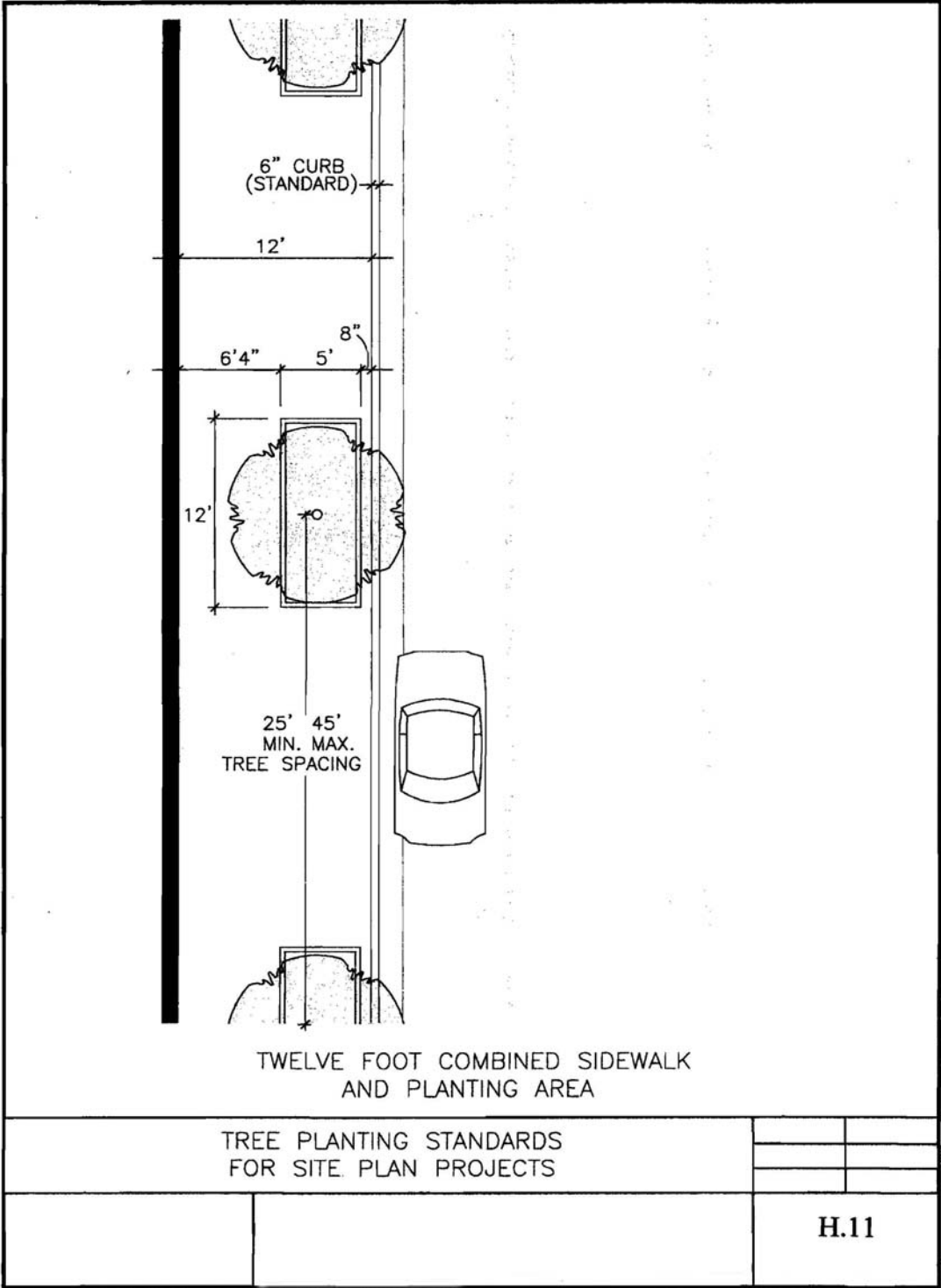
H.7

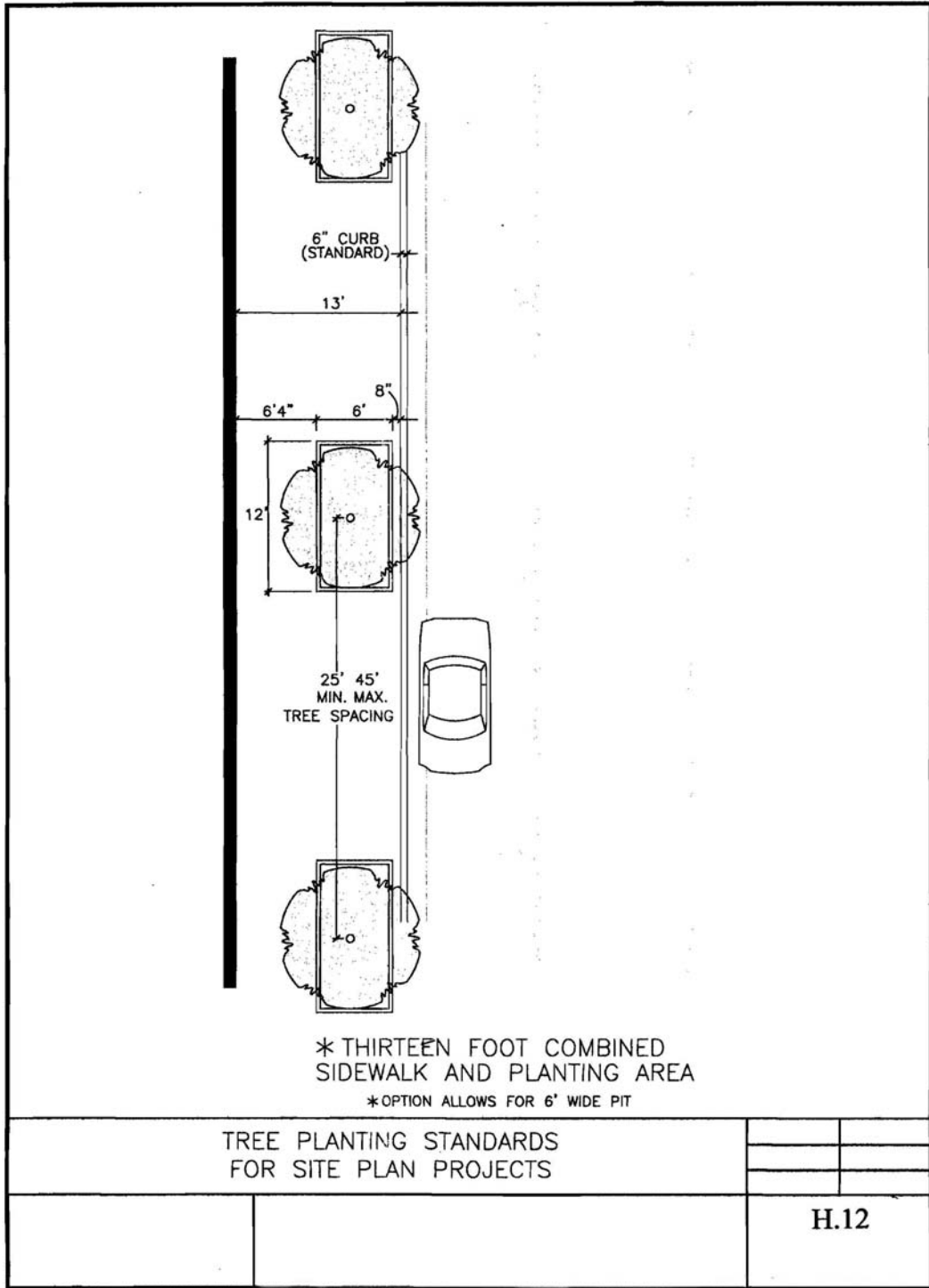


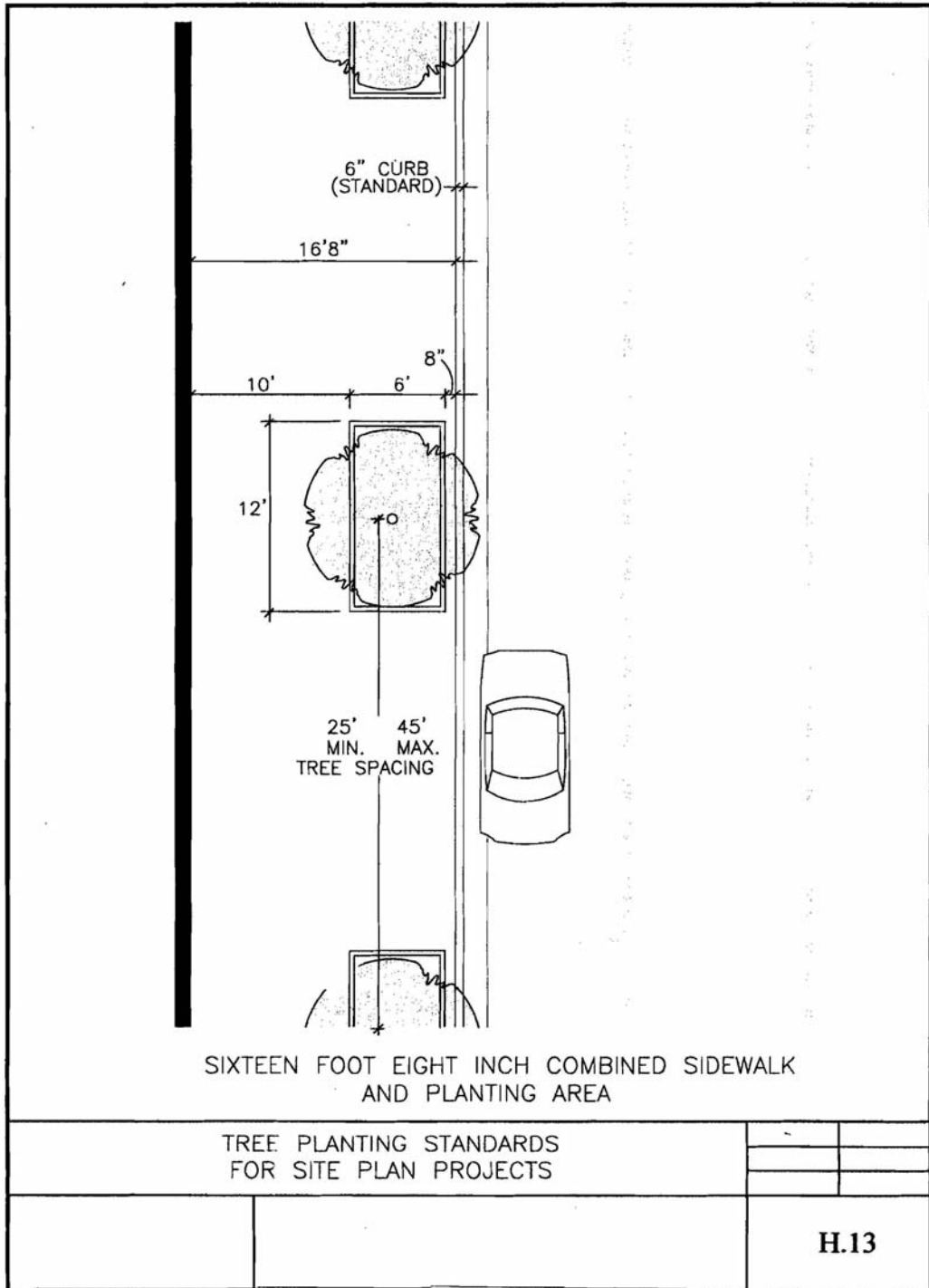


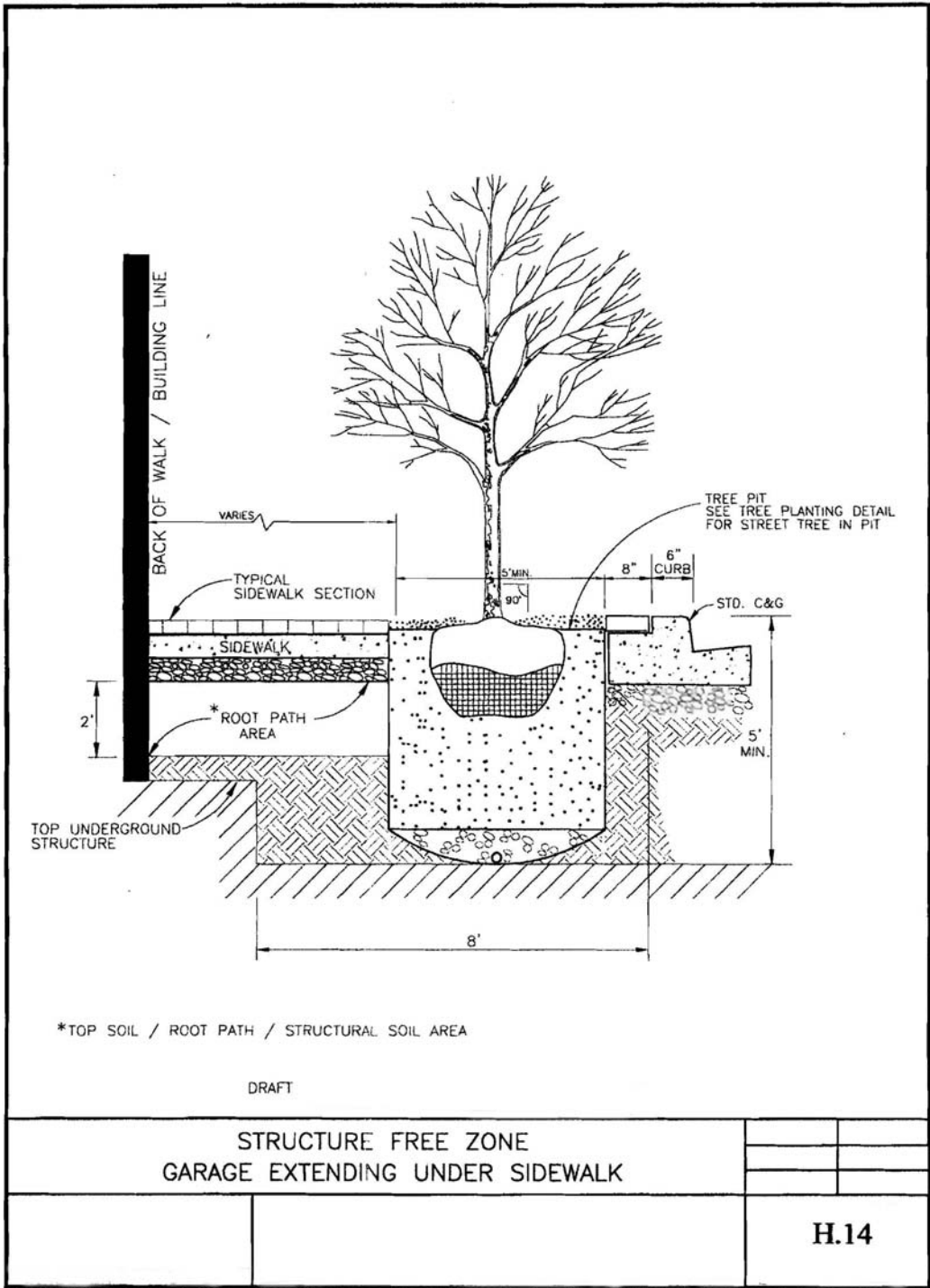
CONTINUOUS SOIL PANEL		
		H.9

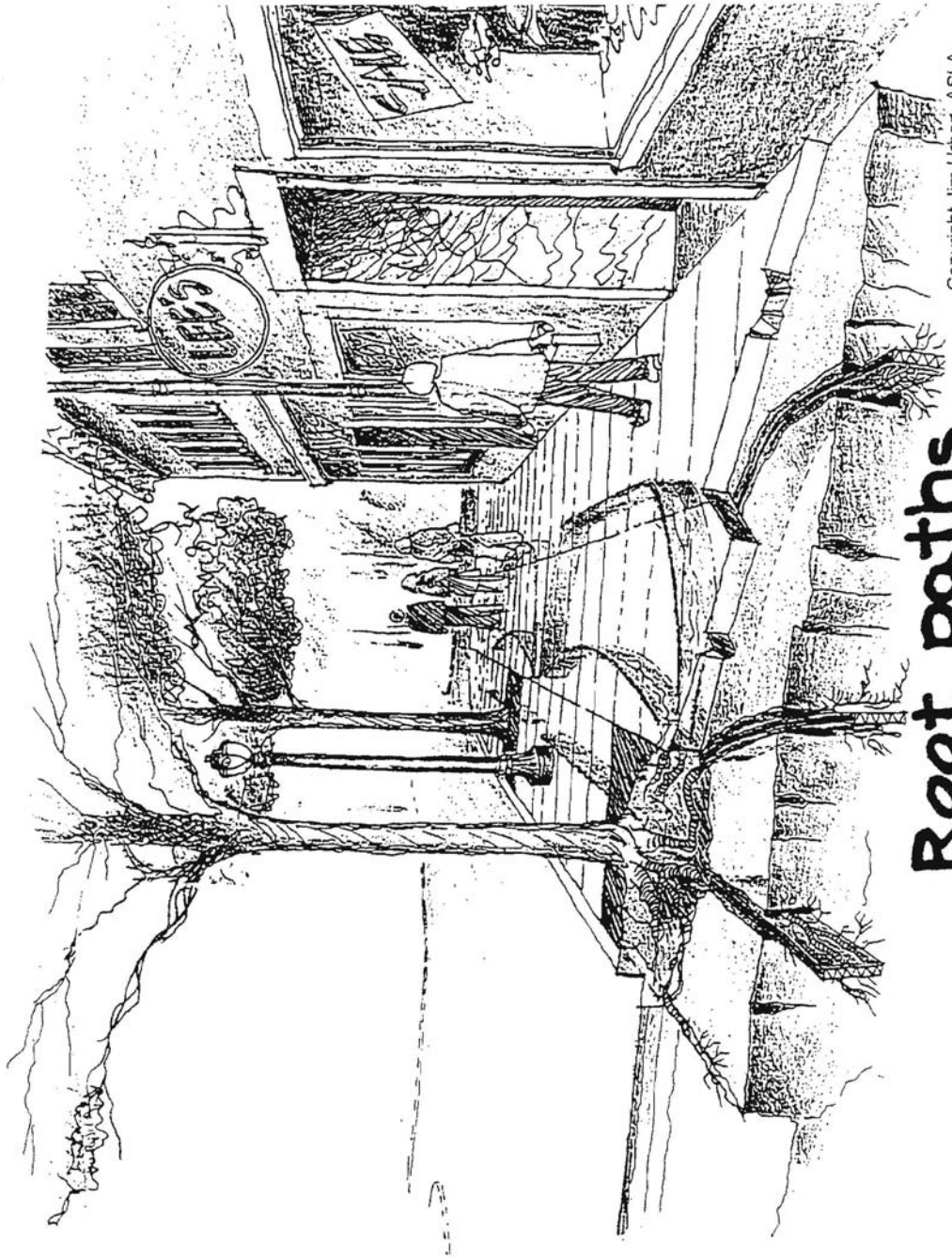












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Root paths

Root Path Illustration