

TRI-PARTY TRAFFIC SIGNAL AGREEMENT

THIS AGREEMENT made this ____ day of _____, 20__ between the County of Middlesex, a municipal corporation of the State of New Jersey having its principal offices at 75 Bayard Street in the City of New Brunswick, hereinafter called "COUNTY", and the MUNICIPALITY, a municipal corporation in the County of Middlesex, State of New Jersey, having its principal offices at _____, NJ hereinafter called "MUNICIPALITY", and the _____, a _____, having its principal offices at _____ hereinafter called "DEVELOPER".

WHEREAS, the DEVELOPER is desirous of revising/modifying/installing a traffic signal at the intersection of _____ and _____; and

WHEREAS, the COUNTY recognizes the desirability of revising/installing a traffic signal at the intersection of _____; and

WHEREAS, the MUNICIPALITY recognizes the desirability of revising/installing a traffic signal at the intersection of _____; and

WHEREAS, the above-mentioned parties in discharge of their duties are desirous of jointly providing for the improvements; and

NOW, THEREFORE, in consideration of the mutual and joint obligations set forth herein and other valuable considerations, the COUNTY, MUNICIPALITY, and DEVELOPER do hereby mutually agree as follows:

1. The intersection of _____ shall be improved and signalized.
2. Traffic signalization shall be in accordance with the current MUTCD and the Middlesex County, Office of the County Engineer, Standards and Requirements for Developer Designed Modified and Constructed Traffic Signals attached hereto as Exhibit "A".
3. In order to implement the improvements, the DEVELOPER agrees to furnish, supply and/or undertake the following at its own cost and expense:
 - a. Perform all necessary land surveying, engineering design and work related thereto in order to develop right-of-way drawings, construction plans, specifications and engineer's cost estimate for the proposed improvements.
 - b. Prepare all necessary documents (general property maps, individual property maps, metes and bounds descriptions) pertaining to land acquisitions, right-of-way and/or easements. (in accordance with the current requirements of the "Middlesex County Surveying and Mapping Standards" attached hereto as Exhibit "B") and submit them to the County for review and approvals.
 - c. Prepare and submit all documentation for obtaining all necessary clearances, permits and approvals from all agencies involved with the project including but not limited to the N.J. Department of Environmental Protection and the N.J. Soil Conservation Service.
 - d. Conduct the necessary public hearings for adoption and filing of the property acquisition maps, if necessary.
 - e. Bear one hundred (100%) of the cost of all design engineering services.
 - f. Provide all necessary services for construction administration of the project.
 - g. Prepare all documentation for the development and submission of as-built plans (including the horizontal and vertical locations of all improvements and their relationship with the right-of-way, easement lines and property lines). (See Exhibits "A" and "B" for Details).

- h. Bear one hundred (100%) percent of the cost of all Construction Administration Services.**
- i. Bear one-hundred (100%) percent of the cost of construction based on the final as-built quantities.**
- j. Design, install, and bear one-hundred (100%) percent of the cost of construction of emergency vehicle pre-emption system in a separate cabinet, if preemption is requested by the MUNICIPALITY.**
- k. Design install and bear one-hundred (100%) percent of the cost of construction of a telecommunication link to the municipality due to a power outage if requested by the MUNICIPALITY,**
- l. Design install and bear one-hundred (100%) of the cost of construction of a portable generator inlet on the controller cabinet to power the Traffic Control System.**
- m. Provide a certification by the DEVELOPER's land surveyor that the ROW is accurately depicted on any and all plans and mapping submitted to the County both at the time of submission and at the completion of construction. The Deed Book and page reference numbers of all parcels acquired shall be provided on the final drawings.**
- n. Acquire the right-of-entry for construction including wetlands mitigation property if required by the NJDEP.**
- o. Bear one hundred (100%) percent of the cost for acquisition of right-of-way and easements and all associated costs. The County shall assist the Developer in expeditiously acquiring (by condemnation) the lands or easements necessary to construct the Road Project and, if applicable, the Related Improvements collectively sometimes referred to as the "Property". The Developer shall attempt to acquire the Property through negotiation. If the Developer has negotiated in good faith but is unsuccessful in acquiring the Property for fair market value, then, and in that event, the County agrees to use its powers to eminent domain to acquire the property. Subject to the Developer's prior approval of same, the Developer shall bear all the costs and expenses of acquisition, including attorney's fees, filing fees and appraisal fees in the event that the County is required to use its powers of eminent domain to acquire the Property.**
- p. Bear responsibility for restoration, modification, alteration, or relocation of the traffic signal and any appurtenances located within the proposed right-of-way and easements, including but not limited to landscaping, trees, planters, walls, signs, building structures, underground storage tanks, parking lots, etc., which shall be included in the right-of-way acquisition and easement costs.**
- q. Install monuments along the County Right-of-Way and/or easements as directed by the County and provide as-built property maps (including the horizontal locations of all improvements and their relationship with the right-of-way, easement lines and property lines, said maps to include the deed book and page of all parcels acquired for the project) that are suitable for filing in accordance to N.J.S.A. 46:26A-1 through 46:26B-8 showing right-of-way and/or easement boundary markers set per County direction.**
- r. The Developer shall be responsible for maintenance of the traffic signal at the intersection of the public road and/or driveway during and after installation until consenting resolution by the Board of Chosen Freeholders and/or Ordinance from the Municipality.**

- s. **Provide to the County 30 days prior to Construction, Certification to the County that the plans comply with the current MUTCD, AASHTO, and ADA. All substandard items, if any, shall be identified, addressed and the revised plans shall be submitted to the County for acceptance.**
 - t. **Developer shall provide performance guarantee as per Chapter XI Site Plan Review Resolution section 11-5.2 & Chapter X Land Subdivision Resolution Section 10-5.2 to the County for all the traffic control signal improvements prior to requesting an authorization to install. The performance guarantee shall be submitted in the form of a certified check or bank check/performance bond. The performance guarantee will be released once the County accepts the signal.**
 - u. **The Developer shall obtain a separate Road Opening Permit from the County's Office of Public Works prior to beginning any traffic control signal work. When applying for the permit the developer shall provide a 24-hour emergency contact number. The 24-hour emergency number shall be for an individual that is authorized to approve any emergency work to the signal. The Road Opening Permit application shall also include an acknowledgement of receipt by the County's Office of Planning the required Performance Guarantee. A Permit application will not be accepted without the emergency contact information and acknowledgement of receipt of the Performance Guarantee. Upon successful submission of a Road Opening Permit application the County's Office of Engineering may then issue a Record Design Plan acceptance for the traffic control signal.**
 - v. **Provide for the construction of the traffic control signal within one year of the County's issuance of the Authorization to Design. The construction of the traffic signal shall be completed within 180 days of the start of construction.**
 - w. **Schedule a preconstruction meeting at the County offices. The Developer, contractor, subcontractor, Municipality, County, Police and utilities shall be invited to attend. A Road Opening Permit may be issued after the preconstruction meeting is held.**
4. **The County shall at its own cost and expense furnish, supply, or undertake the following:**
- a. **The COUNTY shall be responsible for ownership, operation and maintenance of the traffic signal at the intersection, if all signal legs are public roadways after installation, and the DEVELOPER provides the as-built traffic signal plan, as-built electrical plan, as-built timing directive, area of detection screen shot, traffic signal controller print-out, original signed, sealed Engineer's Certification (as per Current MUTCD & County's Traffic Signal Standards) requesting approval of traffic signal, Engineer's ADA Certification, 90 Days Error Free Operation Report with Supportive Documentation, copy of any recorded Deed for ROW Dedication/Easement, requesting a Municipal Ordinance and Consenting Resolution by the Board of Chosen Freeholders.**
 - b. **The COUNTY shall, at its own cost, record all of the right-of-way and property maps provided by the Developer (per Item 3q of this agreement) with the Middlesex County Clerk's Office as required by statutory law.**

5. **The MUNICIPALITY shall at its own cost and expense furnish, supply, or undertake the following:**
 - a. **Adopt any and all ordinances or resolutions required to accomplish the construction and those as required by law, including a traffic signal ordinance in accordance with State Statutes within 60 days of the request. Failure of the Municipality to adopt the traffic signal ordinance within the 60-day period the responsibility of the signal maintenance shall be the Municipality until the Ordinance is adopted.**
 - b. **The MUNICIPALITY shall provide through the Utility Company, the necessary electric current for the traffic signal and street lighting and shall pay all bills for the electric current of the traffic signal and street and lighting.**
 - c. **The MUNICIPALITY shall assume all responsibility to cause for and compel the maintenance of all sidewalks in accordance with its municipal ordinances upon completion of construction and the COUNTY shall have no responsibility with regard to same.**
 - d. **The MUNICIPALITY shall be responsible for the ownership, operation and maintenance of the traffic signal at the intersection of the public road and driveway after installation and consenting resolution by the Board of Chosen Freeholders.**
 - e. **All emergency pre-emption equipment shall be located on a separate foundation external to the traffic signal controller and shall be connected only to the field terminal blocks of the signal controller.**
 - f. **In case of malfunction of the emergency pre-emption equipment, whichever party, the MUNICIPALITY or the COUNTY that first arrives at the intersection shall disconnect the emergency pre-emption equipment, so it will not interfere with the normal operation of the traffic signal control.**
 - g. **In the event the traffic conditions require that the mode of operation of the existing traffic signal be revised, the MUNICIPALITY will be responsible for such modification of the pre-emption equipment as may be required to operate and provide the proper emergency sequence as determined by the COUNTY at the said location.**
 - h. **The MUNICIPALITY shall pay all costs for the future relocation or removal and reinstallation of any portion of the emergency pre-emption system for whatever reason, and the COUNTY shall have no responsibility with regard to same.**
 - i. **The MUNICIPALITY will, at its own expense, maintain the complete emergency pre-emption system.**
 - j. **The MUNICIPALITY shall provide at their sole discretion the portable generator to be connected to the generator inlet. The County shall have no responsibility with regard to same.**
6. **The COUNTY, MUNICIPALITY, and DEVELOPER further mutually agree that:**
 - a. **The MUNICIPALITY and COUNTY shall review and comment on plans**

- b. Upon receipt of the MUNICIPALITY and the COUNTY'S comments, the DEVELOPER will review for conflicts with the comments. If necessary, a meeting will be held between the COUNTY, MUNICIPALITY, and DEVELOPER to resolve all conflicts.
- c. The MUNICIPALITY and COUNTY shall have the opportunity to attend all progress meetings the DEVELOPER has on the project.
- d. Compensation of COUNTY Employees and MUNICIPALITY Employees shall be borne by the respective corporate bodies and shall not form a part of any cost for the project.
- e. The rights and obligations assumed under this agreement shall in no event prohibit, restrict, limit or effect the COUNTY Planning Board or the MUNICIPALITY Planning Board from imposing on any developer or applicant for subdivision or site plan approvals, any obligations or requirements permitted or authorized under N.J.S.A. 40:27-1 et seq. or any other law.
- f. The parties hereto agree that any proposed changes or modifications to the completed and approved traffic signal shall be approved in writing by the COUNTY.
- g. The DEVELOPER shall at all times hereafter defend and indemnify and hold the COUNTY and MUNICIPALITY harmless from and against any and all losses, claims, damages and suit for damages for property and injury to and/or death to persons caused or resulting from the actions or inactions of the DEVELOPER in regard to any of its obligations agreed to herein.
- h. The MUNICIPALITY shall at all times hereafter defend and indemnify and hold the DEVELOPER and COUNTY harmless from and against any and all losses, claims, damages and suit for damages for property and injury to and/or death to persons caused or resulting from the actions or inactions of the MUNICIPALITY in regard to any of its obligations agreed to herein.
- i. The cost of relocation of existing utilities or providing for future utilities shall be the responsibility of the utility owner, whether utility company, authority or municipality.
- j. Traffic control shall be provided for in the construction contract and shall be the sole responsibility of the DEVELOPER and in accordance with the current Manual of Uniform Traffic Control Devices. The traffic control plan shall be provided to the County Public Works Office when requesting the Road Opening Permit.
- k. Developer shall provide a one-year Maintenance Bond for the all bonded traffic control signal improvements within the public Right-of-Way and easements from the date of acceptance of the traffic control signal.
- l. This agreement is the entire agreement between the parties and no alterations, changes or additions herein shall be made except in writing and approved by the parties thereto.

WITNESS THEREOF, the COUNTY, MUNICIPALITY and DEVELOPER shall cause this agreement to be executed by their proper corporate officials and their proper corporate seals affixed this day and year above written.

AFFIXED:

**Amy R. Petrocelli, Clerk
Board of Chosen Freeholders**

**Ronald G. Rios, Director
Board of Chosen Freeholders**

AFFIXED:

_____, Clerk
MUNICIPALITY

_____, Mayor
MUNICIPALITY

WITNESS

DEVELOPER

**CORPORATE
ACKNOWLEDGMENT**

STATE OF NEW JERSEY:
SS:
COUNTY OF MIDDLESEX:

I certify that on this day _____ of _____, 20__ personally came before me and this person acknowledged, under oath, to my satisfaction, that:

- A) This person is _____ the **Secretary of**
_____, the **Corporation**
described in the foregoing documents;

- B) This person is the attesting witness to the signing of the said documents by the proper Corporate Officer who is _____, the
_____, **President of the Corporation;**

- C) The documents were signed and delivered by the corporation as its voluntary act duly authorized by a proper corporate resolution;

- D) This person knows the proper seal of the Corporation, which was affixed to said documents; and

- E) This person signed this proof to attest to the truth of these facts.

Print name of Attesting Witness and Title

SWORN TO AND SUBSCRIBED BEFORE
ME ON THIS _____ DAY OF _____, 20__

**PARTNERSHIP
ACKNOWLEDGMENT**

STATE OF NEW JERSEY:

SS:

COUNTY OF MIDDLESEX:

I certify that on this day _____ of _____, 20__ personally came before me and appeared _____, to me known and known to me to be one of the members of the firm of _____, described in and who executed the foregoing instruments, and acknowledged to me that executed the same as and for the same as for the act and deed of said firm.

Print name of Attesting Witness and Title

**SWORN TO AND SUBSCRIBED BEFORE
ME ON THIS _____ DAY OF _____, 20__**

**INDIVIDUAL
ACKNOWLEDGMENT**

STATE OF NEW JERSEY:
SS:
COUNTY OF MIDDLESEX:

I certify that on this day _____ of _____, 20__ personally came before me and appeared _____, to me known and known to me to be the person described in and who executed the foregoing instruments, and acknowledged to me that executed the same.

Print name of Attesting Witness and Title

**SWORN TO AND SUBSCRIBED BEFORE
ME ON THIS _____ DAY OF _____, 20__**

ACKNOWLEDGMENT

STATE OF NEW JERSEY:
SS:
COUNTY OF MIDDLESEX:

I certify that on this day ____ of _____, 20__ personally came before me and this person acknowledged, under oath, to my satisfaction, that:

- B) This person is _____ the **Clerk of the Municipality of** _____, named in the instrument;
- C) This person is the attesting witness to the signing of the instrument by _____ **the Mayor of the Municipality of** _____;
- D) This instrument was signed and delivered by the Middlesex County Planning Board as its voluntary act duly authorized by a proper resolution of the Board;
- E) This person knows the proper seal of the County of Middlesex, which was affixed to this Instrument; and
- F) This person signed this proof to attest to the truth of these facts.

Notary

(Type Name)

Clerk,
Municipality of _____

Sworn to and Subscribed
Before me on this ___ day
of _____, 20__

ACKNOWLEDGMENT

STATE OF NEW JERSEY:

SS:

COUNTY OF MIDDLESEX:

I certify that on this day ____ of _____, 20__ personally came before me and this person acknowledged, under oath, to my satisfaction, that:

- C) This person is **Amy R. Petrocelli** the **Clerk of the Middlesex County Board of Chosen Freeholders**, named in the instrument;
- D) This person is the attesting witness to the signing of the instrument by **Ronald G. Rios** the **Director of the Middlesex County Board of Chosen Freeholders**;
- E) This instrument was signed and delivered by the Middlesex County Planning Board as its voluntary act duly authorized by a proper resolution of the Board;
- F) This person knows the proper seal of the County of Middlesex, which was affixed to this Instrument; and
- G) This person signed this proof to attest to the truth of these facts.

Notary

**Amy R. Petrocelli
Clerk of the Middlesex County
Board of Chosen Freeholders**

**Sworn to and Subscribed
Before me on this ___ day
of _____, 20__**

**EXHIBIT A
MIDDLESEX COUNTY
OFFICE OF THE COUNTY ENGINEER
STANDARDS AND REQUIREMENTS FOR
DEVELOPER DESIGNED MODIFIED AND CONSTRUCTED
TRAFFIC SIGNALS**

1. GENERAL REQUIREMENTS

A. Standards

Roadway design shall conform to the latest AASHTO (and interim's) as modified by N.J.D.O.T. Design Manuals and the Revised ADA Regulation implementing Title II and 2010 ADA Standards for Accessible Design. Traffic signal design shall also conform to the latest current Manual on Uniform Traffic Control Devices and the N.J.D.O.T., Traffic Bureau and Electrical Bureau current requirements and the Revised ADA Regulation implementing Title II and 2010 ADA Standards for Accessible Design and the July 26, 2011 PROWAG.

All electrical materials used for the installation or modification of a traffic signal shall be in conformance with the current approved electrical material list from the New Jersey Department of Transportation.

The final traffic signal and electrical plan shall be done on the current release of AutoCAD or Intergraph Microstation which conforms with the current State requirements and submitted on CD-R or DVD-R to the County.

The symbols to be used shall be in accordance with the "Standard Legend - New Jersey Department of Transportation", or as approved by the County.

At a minimum the intersection shall be milled and resurfaced, curb to curb, to the limit of the areas of detection.

- a. Intersection shall be fully actuated using video detection.
- b. Left turn slots shall be provided on all approaches and have separate detection area for protected or permissive left turn movement.
- c. Left turn slots shall have either protected or protected/permitted phasing.
- d. Left turn slots on physically divided roadways shall operate in the protected mode only.
- e. All signal heads shall be 12 inches and shall be installed with State approved LEDs.
- f. Pedestrian push button incorporating accessible pedestrian signals, walk/don't walk pedestrian signal heads with countdown timers shall be installed at all intersections for all pedestrian movements.
- g. Separate vehicle and pedestrian activation phase shall be provided.
- h. Provide sufficient lane width for shared vehicle/bicycle lane.
- i. Use soft recall, major street, Don't Walk.
- j. Use 3 second delay for the major street left turn slot.
- k. Use 5 second delay for side street if Right on Red is allowed.
- l. Background cycles, is used, shall be during the a.m. & p.m. peak hours. Signal will operate in the free mode all other times.
- m. "Walk" time shall be the same time as the calculated "Flashing Don't Walk" time for the pedestrian phase.

- n. Right turn ramps shall be signalized.
- o. Pavement stripes and markings shall be Thermoplastic, Long Life.
- p. Raise pavement markers shall be installed. Show on the Striping Plan, not Traffic Signal Plan.
- q. Regulatory and warning signs shall be installed as per current MUTCD requirements.
- r. Traffic Counts shall be taken within 4 months of submittal.
- s. Install mast arm street name signs.
- t. Signage for parking restrictions shall not be shown on Traffic Signal Plan.
- u. Use 8 sec. min. green for Main Road and 6 second min. green for side streets.
- v. Provide a table of MUTCD signs used.
- w. All sign material shall be Type XI.
- x. All signal heads shall be equipped with backplates with a yellow retroreflective strip on the outside border.

PROCEDURES

B. Concept/Preliminary Traffic Signal Plan & Traffic Report

- a. Provide warrant analysis in accordance with the requirements of the current MUTCD to obtain an Authorization to Design a new traffic signal.
- b. Traffic volumes for the A.M. and P.M. peak hours Weekday shall be provided. Weekend counts may also be provided as appropriate.
- c. Mainline control baseline with stationing
- d. Pavement widths/lane widths
- e. Existing and proposed right-of-way lines as appropriate
- f. Lane configuration
- g. Proposed signal layout
- h. Timing and phasing schedules on separate sheet
- i. Curbs, Sidewalks & Driveways
- j. Capacity Analysis Report using the Highway Capacity Software (HCS) for A.M. and P.M. existing and proposed peak hours weekdays/weekends as appropriate for the current volumes and projected volumes.
- k. The minimum Level of Service of "C" shall be provided for each County road approach leg/turning movement based upon a HCS analysis.
- l. Calculate the average and 95% queue length for each approach lane for both existing and proposed conditions.
- m. Provide sufficient storage at a minimum based upon the larger of average queue length for left, right and through lanes.
- n. Provide computer animated simulation for the existing and proposed conditions.
- o. ADA compliant curb ramps and turning spaces shall be installed for all pedestrian movements during the course of the alterations to the street and traffic signal. The ADA compliant curb ramps and turning spaces shall be installed both on-site and off-site within the project limits.
- p. Curb ramps and turning spaces shall comply with the Revised ADA Regulations implementing Title II and 2010 ADA Standards for Accessible Design and July 26, 2011 PROWAG.
- q. Provide a minimum 5-foot wide concrete sidewalk between the curb ramps and turning spaces to provide for the pedestrian access route.
- r. Provide the proper turning radius for WB-65/WB-67 design vehicle.
- s. Provide 5-foot wide concrete sidewalk, reinforced, 4" thick.
- t. Provide calculations for yellow change and red clearance based upon ITE formulas.
- u. All projects with existing traffic signals that have pedestrian push buttons and/or vehicle detection will have active pedestrian push buttons and/or an active system of vehicle detection throughout the project construction duration. The signal will not be fixed mode.

- v. "When "No Turn on Red" signs are used, in addition to the near right they should be placed on the far right and should be installed near the appropriate signal head".
- w. Traffic Signal Standards and controller should not be located near the curve of a corner with a radius of less than 15 feet, or; a corner with a radius of less than 30 feet provided where trucks and buses turn right occasionally, or; a corner with a radius of less than 50 feet provided where large truck combinations and buses frequently turn right.

C. Final Traffic Signal Plan

A traffic signal plan shall be prepared for the submission to the County/NJDOT if necessary, for the intersection based on the selected concept and shall include, but not be limited to the following:

- Geometric improvements
- Proposed signal layout, area of detection, signing and striping
- Signal phasing schedule
- Signal and sign legends
- Proposed traffic regulations
- Proposed signal timings (submitted on separate 8-1/2" x 11" sheet)
- A CD copy of the computer animated simulation data for County use and dissemination.
- The AM/PM traffic peak hour turning counts.

The traffic signal plan shall be kept clean of information unrelated to the traffic signal. There shall not be any difference in the line density and line weight and lettering sizes and lettering type between existing and proposed conditions on the traffic signal plan. The standards set forth above shall be followed in the preparation of the traffic signal plan.

D. Electrical Plan/Details/Construction

The electrical plan for the intersection shall be prepared for submission to the County and the N.J.D.O.T., if necessary for approval. The State and the County may require the electrical plan to be submitted on disk in the State's Format.

-A waterproof splice kit shall be used for all splices and rated for the voltage that is supplied.

- Provide conduit fill calculations per NEMA Requirements.
- Ground wire (#8 AWG, insulated, colored green) shall be continuous throughout the traffic signal system and secured to all ground rods, cabinets at traffic signal basis.
- Provide State EE numbers for all electrical items.
- Use video detection with color cameras. No coaxial cable allowed.
- "K" poles shall be used for all mast arms mounted with video detection cameras.
- "T" poles shall be used in lieu of pedestrian standards when signal heads are mounted over eight-feet.
- Provide a cabinet lock with the County standard lock, PELCO No. 9R-4B773.
- Provide uninterruptible power supply (UPS) for the traffic control signal. The UPS shall be designed to be capable to last four (4) hours of continuing full operation and an additional 24 hours of flash mode.
- The designer is responsible for locating and identifying on a plan the horizontal and vertical clearances of the utility company's primary (750 volts or more) and secondary power lines and assure that the minimum clearances are in accordance with the NEW JERSEY ADMINISTRATIVE CODE CHAPTER 25 UTILITY ACCOMMODATION, Section 16:25-5.3 (b). The designer coordinates the electrical design work with the present and future plans of the utility companies. All overhead and underground utilities must be shown on the plans. There shall be no conflicts with the lighting and traffic signal installation.

- Provide elevations for all JB's and FND's.
- All electrical equipment shall be new.
- Traffic signal preemption requested by the Municipality shall be installed in a separate cabinet.
- Indicator Light. Install a red LED light (0.75" - 1.50" in diameter) on the exterior of the controller cabinet to indicate the battery back-up is in use and loss of A.C. cabinet power. Illuminate indicator light when the battery back-up system is providing power to run the intersection. Turn off the light during normal A.C. power operation. Install the light at a point easily visible from a vehicle traveling on the main arterial of the intersection. Provide watertight seal.
- Provide 30-Amp inlet for backup generator connection.

E. Permission to Design/Construct

See N.J.A.C. 16:27-4.1-5 for the Traffic Regulations and Standards for Traffic Control Devices.

The following paragraph is required as part of the Engineer's Certification over the professional engineer's seal to receive Authorization to Design from the County:

Design: I hereby certify that the above intersection is warranted for a traffic signal in accordance with the requirement set forth in the current "Manual on Uniform Traffic Control Devices for Streets & Highways".

The following paragraph is required as part of the Engineer's Certification over the professional engineer's seal to receive Record Design Plan Acceptance (RDPA) from the County:

RDPA: I hereby certify that the above plan and timings have been designed in accordance with the requirements set forth in the current "Manual of Uniform Traffic Control Devices for Streets and Highways".

The Record Design Plan is acceptable for construction in accordance with the engineer's certification. Any modification should immediately be brought to the attention of the County.

Plans and timings submitted without the engineer's certification will not be reviewed.

F. Maintenance of a Modified and/or New Traffic Signal System

The contractor/developer is responsible for maintenance and operation of the newly installed traffic signal system until approval of installation by the County and/or State. This includes but is not limited to the following items: poles, mast arms, pedestals, traffic signal heads and lamps, wire, overhead wiring, foundation, conduit, detectors, controllers and timing sequences, associated highway lighting units and electric services. The maintenance responsibility for existing signals shall be from the time the contractor first alters the existing traffic signal, in any manner until approval of installation by the County and/or State. Should the contractor's forces cause any damage to any signal system, installed as part of the contract, or should any portion of the signal system fail or malfunction for any reason, it shall be the contractor's responsibility to effect immediate repairs and return the signal to normal operation. The contractor shall also, bear the risk of loss or damage to the signal system arising due to third person or persons, vehicular accidents, vandalism, or from any other cause until approval of Installation by the County and/or State.

The contractor shall promptly repair, replace, and make good any such damage or loss at no additional expense to the County. Work shall begin to repair the signal system within a maximum of two hours after the damage is caused or after he is notified of damage or a malfunction. Workmen assigned to such repair shall work continuously until the signal resumes normal operation.

F. Maintenance of a Modified and/or New Traffic Signal System (Cont'd)

In addition, if the Contractor fails to respond to a failure or knockdown within two hours after notification or does not begin work within the two hours limit specified or does not continue to work until the traffic signal is back into normal signal operation, in the interest of safety, the County may respond with its own forces to restore normal signal operation. If the County responds with its own forces to affect repair at the intersection(s), the Developer/Contractor agrees to pay the County a sum of \$7,500 for costs of mobilizing its forces and equipment. In addition, the Contractor shall pay the County its labor costs, actual cost of material used to affect the repair, and shall pay the actual cost of traffic protection to the agency providing the police, subcontractors, etc. Any such emergency work performed by County forces will not in any way diminish the Developers/Contractor's liabilities as described hereunder.

All materials, labor, equipment, fees, energy costs and all else necessary for the contractor to maintain the signal in operation shall be at his own expense.

Prior to the start of installation or modification of the traffic signal, the State's, County's and or Municipality's representatives as appropriate shall be given the names and telephone numbers of the person or persons to be contacted should a failure or damage occur. These persons shall be a licensed electrical contractor having a license to do business in the State of New Jersey and familiarity with traffic signal construction and operation. The developer/contractor agrees to be fully liable for the operation of the traffic signal for the term of the contract until NJDOT's/County approval is granted and agrees to defend, indemnify and otherwise save harmless the governmental agency, its departments, bureaus, boards, officials, and employees from any and all claims, demands, suits, recoveries, judgments or actions at law, whether for personal injury, property damage or liabilities of any other kind, including the cost of defense which arise from acts or omissions whether negligent or not of the contractor, or his agents, employees, servants, subcontractors, material men or others working for the contractor in the construction and/or maintenance of the traffic signal installation(s) at his own expense.

G. Signal Plan Revisions

The Developer shall seek County permission prior to making any revisions to any item to the authorized electrical plan, traffic signal layout, timing, phasing, geometry, signing, and striping. Included with the Developers written request for revision will be his Engineers Certification over the professional engineer's seal that the revisions have been have been designed in accordance with the requirements set forth in the current MUTCD and the Revised ADA Regulation implementing Title II and the 2010 ADA Standards for Accessible Design.

H. As-Built Plans/NJDOT Approval

See N.J.A.C. 16:27-4.6 for the Traffic Regulation and Standards for Traffic Control Devices.

The Consultant/Developer shall seek County written approval prior to making any revisions to any item to the authorized electrical plan, traffic signal layout, timing, phasing, geometry, signing, and striping. Included with the Consultant/Developer written request for revision will be his signed Engineers Certification with the professional engineer's seal that the Traffic Signalization Plan and the signal timing schedule revisions have been designed in accordance with the requirements set forth in the current MUTCD and meet all applicable N.J.S.A. 39:4 requirements.

Prior to activating the traffic signals, the Consultant/Developer shall inspect the traffic signal. The Consultant shall inspect the traffic signal for compliance with the authorized traffic signal plan and for ADA compliance. Within 24 hours of activation the Consultant shall provide to the County a certification signed and sealed by a N.J. Licensed Engineer certifying the traffic signal has been constructed in accordance with the Authorized Traffic Signal Plan and any modifications are in accordance with the current MUTCD and are in compliance with the current ADA. The Consultant/Developer shall schedule a field inspection with the County's Office of Public Works to test the battery back-up and generator inlet for proper operation. Police should be onsite during the test. The consultant shall provide a final Traffic Signal Plan mylar and print out of the traffic signal timing to the County for submission to the County/State for approval within 10 calendar days of activation. The Consultant/Developer shall also fill out the provided checklists of ADA requirements showing full ADA compliance to the County. The County will perform its own inspection upon receipt of the Consultant/Developer Certification.

The traffic signal and timing plan and electrical plan will be submitted to the County/State for "Approval of Installation" by the County. The As-Built Plan mylar and disk format shall be in accordance with the above standards. Checklists of ADA requirements showing full ADA compliance will also be submitted to the County for the "Approval of Installation". The following paragraph is required in the Engineer's Certification letter sealed with the professional engineer's seal for a signal constructed in complete conformance with the County/State authorized Traffic Signal Plan.

I hereby certify that the installation has been inspected on (insert date) and completed in accordance with the Plan LTS (insert #) dated (insert date and Timing Plan dated (insert date). I hereby certify that the traffic signal installation is in accordance with the requirements set forth in the current "Manual on Uniform Traffic Control Devices for Streets and Highways".

I. Re-evaluation of State Approved Timing

After a period of 3 to 6 months from when the County and/or State has approved the traffic signal installation the Developer will take traffic counts in the a.m. and p.m. peak periods. These counts will be used to compare projected volumes with actual volumes and analyze the efficiency of the State approved traffic signal timing. The signal timing will be revised if necessary by the Developer. The County would then submit the revised signal timing to the County and/or State for approval.

2. **SITE PLAN RESOLUTION/AGREEMENT CONDITIONS**

MAINTENANCE/JURISDICTION

Upon completion of construction and acceptance by County and/or NJDOT of the traffic signal and equipment, the County, Municipality, and Developer, shall accept and retain jurisdiction of their respective portions of the improvement and maintain them in a manner satisfactory to the County and State. The County shall be responsible for the operation and maintenance of the traffic signal installation in accordance with the Municipal/Developers agreement. This includes signing, striping, and above and below ground traffic signal equipment. All warranties and guarantees associated with items of work will be transferred to the County upon acceptance of maintenance and prior to release of guarantees or bonds including a one-year maintenance bond. The electrical costs for the traffic signal and street lighting will be the responsibility of the Municipality/Developer/Property Owner.

The MUNICIPALITY and DEVELOPER/PROPERTY OWNER shall maintain their respective roadway pavement in a condition sufficient to accept the detection equipment associated with the traffic signal system. The MUNICIPALITY and DEVELOPER/PROPERTY OWNER shall affect pavement repairs as necessary or within two months of written notice, which notice shall be served upon the Clerk of the MUNICIPALITY and DEVELOPER/PROPERTY OWNER. If the pavement is not repaired or replaced, the COUNTY reserves the right to terminate the Agreement and/or, upon thirty day written notice, to perform the roadway pavement work. The MUNICIPALITY and DEVELOPER/PROPERTY OWNER shall be responsible for all costs incurred by the COUNTY in the performance of this roadway pavement work in their portions. If Developer/Property Owner/Municipality fails to perform pavement repair or reimburse repair cost to the County, the County will seek legal means to resolve the dispute.

3. **ADA CHECK LIST**

ADA Checklist Document 1 for Curb Ramp (if applicable)

ADA Checklist Document 2 for Traffic Control Signals

ADA Checklist Document 3 for New and Existing Sidewalks (Pedestrian Access Routes) Along roadways within Project Limits (if applicable)

4. **AS-BUILTS**

- **Construction Sheets**
 - **GIS Coordinates**
 - Inlet, drainage structures, manholes, drainage chambers, water quality structures, drainage outfall
 - **Inverts**
 - Catch basin, drainage/infiltration basins, end sections inverts, outfalls.
 - **GIS Coordinates**
 - Walls, beginning, end and angle points
 - Guiderail – beginning, end
 - Fencing – beginning, end
 - **GIS Coordinates**
 - Bridges & Culverts
 - **Structure ID Number**
 - Property Monuments
 - GIS Coordinates
- **Traffic Signal Sheets & Electrical Sheets**
 - **As-builts for approval**
 - **GIS Coordinate for poles, boxes, physical components**

Exhibit B

Surveying & Mapping Standards
For All Projects
Prepared For
THE COUNTY OF MIDDLESEX

First Printing November 2005
(Amended/Updated to June 8, 2018)

Prepared For The
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IMPORTANT NOTES

1. The “*Surveying & Mapping Standards*” are intended to bring uniformity to mapping, plan preparation and plan submittals that come to this office from consultants so as to minimize time spent on reviews; minimize corrections needed as a result of these reviews; and to help make the acquisition process run more smoothly through an aggressive quality control check that shall be performed prior to submitting signed and sealed documents and computations.
2. These standards should be incorporated into the “Scope of Professional Services” for each project. Modifications to meet any “specific” project requirements are permitted, however any such modifications should be thoroughly reviewed and checked for compliance with the intent of these “*Surveying & Mapping Standards*”.
3. Please note that the “standards” will be reviewed and updated from time to time when warranted.

Surveying & Mapping Standards
For All Projects
Prepared For Middlesex County

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SURVEY & MAPPING STANDARDS

GENERAL MAPPING EXPECTATIONS:

Mapping Scales:

Mapping scales are important to clearly depict all information of existing and proposed conditions at the site. The completed mapping is used for the acquisition of properties (appraisals, title insurance, preparation of deeds, etc.); the development of engineering design for construction plans and quantities; and for filing in accordance with the applicable sections of Title 46 of the revised statutes (N.J.S.A. 46:26A-1 through N.J.S.A. 46:26B-8 et seq.). Acceptable mapping scales are as follows:

For "*General Property Maps*" (aka General Property Parcel Maps or GPPM's) a scale of 1" = 30' shall be the standard. A scale of 1" = 20' may be used if authorized by the County.

For "*Individual Property Maps*" (aka Individual Property Parcel Maps or IPPM's), a scale of 1" = 30' shall be the standard for the parcel and site details depicted on same. NOTE: The "overall" property shall be shown on the Individual Property Map and may be at a scale sufficient to fit the entire property on the drawing (the maximum sheet size to be 22" x 36" or 24" x 36" cutting edge to cutting edge).

For specific point details on the General Property Maps or Individual Property Maps, (such as found boundary point locations in relationship to the surveyed lines/corners, encroachments, etc.) the scale shall be 1" = 10' or "not to scale" as may be warranted.

For "*Construction Plans*" a scale of 1" = 30' shall be standard. A scale of 1" = 20' may be used if authorized by the County.

NOTE: Unless otherwise noted, ALL mapping & drawings generated for the County of Middlesex shall be in English Units.

Boundary Line Discrepancies ("gores"/"overlaps")

It is not the intention of the County of Middlesex to resolve boundary line discrepancies ("gores"/"overlaps") between individual properties. However, it is the intention of the County of Middlesex that discrepancies between individual properties within the area subject to County acquisitions ("takings" in fee) and the necessary easements (of the various types) be resolved by the New Jersey Licensed Professional Land Surveyor to the greatest extent possible.

When discrepancies between individual properties cannot be simply resolved, the New Jersey Licensed Professional Land Surveyor shall show the area involved, in detail, on the *General Property Parcel Map* (also known as a General Property Map) and the *Individual Property Parcel Map* (also known as an Individual Property Map). A separate *Individual Property Parcel Map* and separate metes and bounds description shall be prepared and submitted for each "gore"/"overlap" area in accordance with the requirements of an *IPPM*

stipulated elsewhere herein. These areas shall be shown in detail so as to clearly indicate the actual physical location on the ground and sufficient enough so that the area could be marked at the site.

All other properties found to have boundary line discrepancies between individual lots that are outside the area subject to County acquisitions and/or easements, need only to be shown on the *General Property Parcel Map* and *Individual Property Parcel Map*. A separate *Individual Property Parcel Map* and the metes and bounds description for these areas need not be prepared.

When the deeds to the property or properties fall within the existing road rights-of-way, any area of discrepancy shall be shown in detail on the *General Property Parcel Map* and the *Individual Property Parcel Map*. A separate *Individual Property Parcel Map* and metes and bounds description for these areas need not be prepared.

When completed properly it is expected that all rights-of-way and each property sideline within the project limits shall have been established so that boundary corners can be set on the existing lot corners AND the proposed lot corners as may be directed by the County.

Basic Surveying & Mapping Requirements

All the land surveying and drafting work outlined under this "Scope of Professional Services" shall be in accordance with the current requirements of the New Jersey State Board of Professional Engineers & Land Surveyors (N.J.A.C. 13:40); mapping requirements and certifications in accordance with the applicable sections of Title 46 of the revised statutes (N.J.S.A. 46:26A-1 through N.J.S.A. 46:26B-8 et seq.), as set forth elsewhere herein; and in accordance with the following:

Prior to the start of any survey work at the site, the Consultant and any Sub-Consultant shall provide the County with a copy of the current equipment calibration and certification forms for all equipment intended for use on this project. (Per **NJSA 51:1-6 Steel measuring tapes used by professional land surveyors and engineers; annual test of electronic distance measuring device; report; forms.**)

All survey work generated under this "Scope" will be prepared in accordance with the current laws and administrative codes pertaining to land surveying in the State of New Jersey. All requirements of accuracy and standards, including adjustments and methodology for the accomplishment of a stated accuracy for a particular survey generated under this contract shall be followed. The requirements for this project are as follows:

ACCURACY REQUIREMENTS:

CONTROL SURVEY (HORIZONTAL):

Control surveys provide the basis of bearings for property surveys in a given project area. For this "Scope" the consultant shall assume that **ONLY** published control data obtained

from the New Jersey Geodetic Control Survey, CN-029, Trenton, New Jersey 08625, will be acceptable. (New Jersey Plane Coordinate System – 1983 Datum)

The angular error of closure shall not exceed 5 seconds times the square root of the number of angles turned. The linear error of closure shall meet or exceed 1 foot per 30,000 feet (1:30,000). All control points and corresponding data will be shown on the final maps. Coordinates shown on said map(s) shall be rounded to the 4th decimal place.

PROPERTY SURVEY:

☞ Boundary:

Property surveys provide the basis for the survey plat/map and the corresponding deed description to be used in conveyancing. Included in the property survey are all boundary evidence, such as monuments, iron pipes, iron pins, etc. that have been used in the surveyor's analysis of the correct location of the right-of-way and property boundary lines. Property surveys from which acquisitions and/or easements will be taken will close mathematically and coordinated positions, bearings and distances including the methodology for their establishment, will meet or exceed the following: The angular error of closure shall not exceed 10 seconds times the square root of the number of angles turned. The linear error of closure shall meet or exceed 1 foot per 30,000 feet (1:30,000). When very small lots of 1 acre or less are encountered, the allowable error shall not exceed 5/100 of a foot of positional accuracy at any corner. All final boundary points, (whether found or set), and corresponding data will be shown on the final maps. Coordinates shown on said map(s) shall be rounded to the 4th decimal place.

☞ Location:

Location of all physical features within each property from which acquisitions and/or easements are to be taken, and within the minimum band width of the project will meet or exceed the following: The angular error shall not exceed 15 seconds. The linear error of closure shall meet or exceed 1 foot per 5,000 feet (1:5,000). Offsets to existing features shall be located and shown, and shall be measured at right angles to the existing and proposed right of way and property boundary lines. Dimensions shall be to the nearest hundredth of a foot.

CONTROL SURVEY (VERTICAL):

ELEVATIONS ON CONTROL AND FINAL BOUNDARY POINTS ONLY

Vertical control provides the basis of elevations for topographic surveys in a given project area. For this "Scope" the consultant shall assume that **ONLY** published control data obtained from the New Jersey Geodetic Control Survey, CN-029, Trenton, New Jersey 08625, will be acceptable. Vertical Datum of 1988 should be used. (The consultant shall provide a conversion formula to relate the elevations to the 1929 Datum (FEMA))

ALL vertical control work shall be to **Second Order Class II** requirements of the FGCC (Federal Geodetic Control Committee) specifications. All control points and final boundary points set shall have the corresponding vertical data shown on the final maps. Vertical elevations shall be shown on said map(s) to the 3rd decimal place. Vertical elevations shall be established on each "set" monument and the elevation and datum stamped on each disk.

☞ Site Elevations:

Permissible variation of EXISTING and FINAL vertical elevation shall be $\pm 0.02'$ for hard surfaces such as pavements, structural surfaces, curbing, inlets, manholes, pipe inverts, etc. For ground surfaces, permissible variation of vertical elevation shall be $\pm 0.10'$.

☞ Should the Consultant choose to use GPS to establish the horizontal and vertical control, as a minimum the accuracy requirements aforesaid shall govern as a "minimum".

**Global Positioning System Surveys
GPS CONTROL SURVEY**

(a) General. Global Positioning System (GPS) surveys are defined as any survey performed by using the GPS 3-dimensional measurement system based on observations of the radio signals of the Department of Defense's NAVSTAR (Navigation Satellite Timing and Ranging) GPS System. All GPS boundary and geodetic control surveys performed for this project shall be performed by a Professional Land Surveyor licensed in the State of New Jersey in accordance with specifications established by the Federal Geodetic Control Committee. These specifications are incorporated by reference including subsequent amendments and editions. The GPS accuracy standards **SHALL MEET OR EXCEED** those required for CONTROL SURVEY (HORIZONTAL), PROPERTY SURVEY, and CONTROL SURVEY (VERTICAL) as required of this scope of services.

(b) The Registered Land Surveyor in responsible charge of the GPS survey shall certify, sign and seal all prepared documents. A certificate shall be provided by the New Jersey Licensed Land Surveyor in responsible charge of the work. The certificate shall contain the following information:

- (1) A statement that all work was performed under the licensee's responsible charge.
- (2) Class of GPS survey.
- (3) Type of GPS field procedure (Static, Kinematic, Pseudo-Kinematic).
- (4) Type of adjustment used.
- (5) Dates of survey.
- (6) Type and model of GPS receivers used.
- (7) What datum coordinates or geographic positions are based on.

The certificate shall be substantially in the form shown in the MAPPING CERTIFICATION section of this "Surveying & Mapping Standards".

Basic General Property Map and Parcel Map Requirements

The "***General Property Map***" (also known as *General Property Parcel Map*) shall conform to the requirements of the applicable sections of Title 46 of the revised statutes (N.J.S.A. 46:26A-1 through N.J.S.A. 46:26B-8 et seq.) and such other requirements of the "Scope of Professional Services".

All Parcel Maps shall conform to the surveying standards aforesated.

All final drawings shall be submitted on a dimensionally stable polyester type plastic material such as "Mylar", "Herculene", or approved equal, with a minimum thickness of 0.004 inches with a matte finish on both sides. For all drawings, with the exception of the *General Property Parcel Map* and the *Individual Property Parcel Maps*, the size shall be 22" x 36", cutting edge to cutting edge. The *General Property Parcel Map*, size shall be 22" x 36" OR 24" x 36", cutting edge to cutting edge. The *Individual Property Parcel Maps* shall be of a size that will clearly show the parcel to be acquired and the overall property of sufficient detail that is acceptable to the County. The maximum size shall be 24" x 36", cutting edge to cutting edge.

All final drawings shall be prepared with an erasable type of black ink. Drawings may be developed on any material provided that the final drawings submitted are produced on a dimensionally stable polyester type plastic material such as "Mylar", "Herculene", or approved equal, with a minimum thickness of 0.004 inches with a matte finish on both sides.

All lettering shall comply with a County approved stencil system of lettering such as "Leroy".

The symbols to be used shall be in accordance with the "***Standard Legend - New Jersey Department of Transportation***" or such legend as approved by the County. The use of tape-on or stick-on lettering or symbols shall not be permitted on the final original drawings.

Digital files of the General Property Parcel Map(s) and the Individual Property Parcel Map(s) shall be provided on a Windows compatible CD ROM in accordance with County requirements. Said files shall be in the Drawing Interchange/Exchange Format (.dxf).

All files/CD's shall have been scanned to avoid any known viruses.

CORNER MARKER WAIVER PURSUANT TO P.L.2003, c.14 (N.J.S.A. 45:8-36.3)

Pursuant to P.L. 2003, c.14. (N.J.S.A. 45:8-36.3) and N.J.A.C. 13:40-5.1(d) corner markers must be set with each survey performed by a licensed land surveyor. Therefore, the surveyor is advised as follows:

Survey work for the acquisition of an "Agriculture Development Easement" and the acquisition of entire parcels of property (entire lots) shall have the corners marked with the County approved type of marker meeting the requirements of N.J.A.C. 13:40-5.1. Note that additional boundary markers may be required as designated by the County.

Generally County projects for public road and bridge improvements, are "right-of-way" surveys that are only concerned with that part or parts of each individual property directly involved with the project. As such they require only the work necessary to establish the right-of-way and the individual property boundary lines included within the project, for the development of the "General Property Parcel Map" (GPPM) and the "Individual Property Parcel Map" (IPPM). Individual lot surveys are **NOT** required. When completed, the "GPPM's" and "IPPM's" (along with their relevant descriptions) will be used for acquisition of the needed properties for the project and for filing purposes. **Hence the requirement of this statute and rule does not apply to these types of County projects.**

Therefore the "GPPM's" and "IPPM's" developed for County projects, shall be the requirements of the relevant portions of Title 46 of the revised statutes (N.J.S.A. 46:26A-1 through N.J.S.A. 46:26B-8 et seq.) and the requirement of these standards of the County of Middlesex.

FIELD SURVEY

All work shall be done by a N.J. Licensed Land Surveyor or under the land surveyor's direct supervision for the following:

- 1) Establish a balanced control survey line with recoverable ties.
 - a) The control survey line shall be a closed traverse with a closure as herein specified in the requirements for "***Control Survey (Horizontal)***". The survey line must be located to the side of the traveled way at such a location so as to provide points that are easily accessible.
 - b) All control points shall have at least three recoverable ties.

FIELD SURVEY (cont'd.)

- c) The control survey line shall be referenced and tied into the New Jersey State Plane Coordinate System.

NOTE: If existing control monumentation does not exist within 2000 feet of the project limits, GPS methodology may be utilized.

- d) Provide three permanent and recoverable points (i.e. PK's) along the survey line.
- 2) Establish bench marks and tie their elevations to the New Jersey Geodetic Control Survey Datum.
 - a) Bench marks will be in accordance with Federal Geodetic Control Committee Standards for **Second Order, Class II** work.
 - b) Bench marks shall be located so that one shall fall on each sheet of the finished project drawings. A minimum of three **(3) bench marks** shall be required. Each benchmark shall be provided with at least three (3) recoverable ties.
 - 3) After County approval of the proposed centerline and/or construction baseline of the main roadway, permanent points (PK's) shall be set at maximum intervals of **50** feet for the main roadway and **25** feet for all intersecting streets. Also, permanent points shall be set at the beginning and the end of each horizontal curve.
 - 4) Location survey showing all natural and manmade features with minimum band width of **200** feet or **100** feet outside the existing rights-of-way line, whichever is greater, will be required.
 - 5) Aerial Photography is not permitted.
 - 6) Tie Sheets
 - a) Scale to be 1" = 100'. Stationing shown left to right. Blown up scales may be used to accurately show information if needed.
 - b) Location of all control points and all angle points shall be shown with their respective ties.
 - c) Relationship between the survey line, proposed and existing centerline, and the construction baseline shall be shown by stationing and offset distances.
 - d) Coordinates for all points on the survey line centerline and the construction baseline shall be shown.
 - 7) The Consultant is responsible for obtaining the right-of-entry from each property owner upon whose property he must enter to perform the necessary work. If the Consultant

FIELD SURVEY (cont'd.)

cannot obtain a right-of-entry, the County shall be notified before any action is taken with respect to the individual property concerned.

- 8) Copies of the Consultant's field notes shall be bound and submitted to the County.
- 9) Stationing of proposed construction baseline or centerline shall be shown left to right on all sheets.
- 10) Soil boring locations shall be staked out and the elevation of the ground surface at each hole shall be established.

RIGHT-OF-WAY

All right-of-way services shall be performed under the direct supervision of, and ALL final documents signed and sealed by, a New Jersey Licensed Land Surveyor.

The surveyor shall obtain copies of file maps, tax maps, prior surveys of the properties involved, and deeds (current and previous), evaluate analyze, and plot deed, file map, tax map, prior surveys of the properties involved and field survey information to determine accuracy and intent of the deed description for all properties and establish existing property boundary lines and the public rights-of-way.

PROPERTY MAP REQUIREMENTS

The General Property maps (aka General Property Parcel Map) and the Individual Property maps (aka Individual Parcel Map and/or Individual Property Parcel Map) shall be prepared for each site as authorized by the County.

PROPERTY MAP "DEVELOPMENT"

In accordance with the project requirements indicated herein and the engineering scope-of-services, the "Development" of the mapping and metes and bounds descriptions for this project will be generally in accordance with the following:

STEP 1. "Base Map"

The base map shall be prepared utilizing all documents of record and available to the Surveyor that shall include but not be limited to the following:

- a. Recorded deeds of record (current and prior) indicating limits of ownership, easements, prior dedications and/or restrictions for each property throughout the project area and extending outside the limits of same when proper location of the boundaries of the right-of-way and property lines warrant.
- b. Recorded & Unrecorded maps, surveys, subdivisions, etc. that are recorded at the County or local level, including those from private sources.

RIGHT-OF-WAY (cont'd)

A field survey shall be made to gather all existing features above and below the ground. This information (to be shown on the mapping) shall include but not be limited to the following:

- a. All existing improvements on the surface of the ground.
- b. All right-of-way/boundary evidence found.
- c. All evidence of underground structures/utilities found.

From the above, the Surveyor will analyze the recorded information with the evidence found in the field and determine the locations of the existing rights-of-way and boundary lines. Each found boundary marker shall be shown on the developed mapping in relationship to the location of same with the calculated position each marker represents. Based on this analysis, the Surveyor shall indicate any determined encroachments found of public property on private property; private property onto public property; and overlapping or gaps (gores) between public/private properties. These areas shall be brought to the County's attention for evaluation.

On completion and approval of the above, the base General Property Map shall be submitted for review in accordance with the project requirements.

STEP 2. "Preliminary General Property Map"

On completion of the "design" aspects of the project, the Consultant shall indicate on the "base" drawing the number, type (per the guidelines contained in this scope of services) and location of the parcels required for the project. In perfecting the General Property Map the following shall be followed:

- a. The Consultant/Surveyor shall forward to the County a copy of the general property map for review. The submittal may be a hard-copy of the mapping, an electronic copy or both as determined by the County.
- b. Based on the County's review, the number of properties requiring a title search (the intended parcels and any other properties the County may determine necessary) will be finalized. If a meeting is warranted same shall be scheduled.
- c. The Office of Engineering shall forward to Council's Office a list of properties requiring a search.
- d. On receipt of said search, same will be forwarded to the Consultant/Surveyor for use in preparing the following:
 1. General Property Parcel Map.
 2. Individual Property Parcel Map.
 3. Metes and bounds descriptions for each parcel.

STEP 3. "Preliminary Individual Property Parcel Map(s)"

After incorporating the information from the title search and preparing the documents in STEP 2. "d" above, the Consultant/Surveyor shall forward a copy of the IPPM and the related metes and bounds descriptions for review. The submittal may be a hard-copy of the mapping and descriptions, an electronic copy or both as determined by the County.

RIGHT-OF-WAY (cont'd)

STEP 4. "Final Document Submittal"

On completion of the "preliminary" aspects of the project and upon approval of the General Property Parcel Map; Individual Property Parcel Map and the related metes and bounds descriptions, and upon written request, the Consultant/Surveyor shall submit the final signed and sealed documents to the County for acquisition purposes.

GENERAL NOTE: The Consultant shall include time to meet with appraisers (and property owners) in the field to describe the project and the work to be done on each property under acquisition. Other than the design and engineering/construction aspects of the project the Consultant shall NOT discuss any other areas involving the acquisition of the project. All questions (outside of the design and engineering aspects of the project) shall be submitted, by the property owner, in writing to Counsel's Office or the Middlesex County Department of Infrastructure Management, Office of Engineering. **The Consultant shall provide the County with the minutes of the meeting with the appraisers/property owners to memorialize same.**

GENERAL PROPERTY PARCEL MAP ("GPPM") REQUIREMENTS

The General Property Parcel Map shall be on 22"x 36" or 24"x 36" sheets, cutting edge to cutting edge at a Scale of 1" = 30', 1" = 20' or larger scale as approved by the County. The GPPM(s) are to be filed in the Middlesex County Clerks Office (Middlesex County Map Room) showing the following as required:

- 1) A location map ("Key Map") shall be shown on the plan based on the USGS Quad Sheet or other recognized reliable source indicating the project location and limits. The preferred location of the key map is in the upper right-hand corner of the GPPM.
- 2) Location of existing features (all appropriately labeled) for all properties involved including those properties adjacent to the project.
- 3) Proposed baseline/centerline stations (shown left to right on sheets).
- 4) Offset distances at 90° from proposed baseline/centerline stations to all existing and proposed front property corners.
- 5) Baseline/centerline ties shall be shown and a detailed drawing included as required.
- 6) Stations and coordinates of main points (i.e. P.C., P.T., P.I., etc.) shall be calculated and shown to the nearest 0.01' from the baseline/centerline.
- 7) Name of present owner or owners and the property (street) address in the space representing their property. The owner's address, if different from the property address should be added to the drawing.
- 8) The nature and extent of any encroachment of private improvements onto County property and/or County improvements onto private property shall be shown.
- 9) Municipal tax map designation and street number.

RIGHT-OF-WAY (cont'd)

- 10) Curves must be numbered with curve data shown elsewhere on the same plan sheet. Curve data to contain the radius, length, delta angle, tangent, chord bearing and chord distance.
- 11) Area of property and parcels to be acquired in a "Parcel Acquisition Summary Table". Area shall be in "Square Feet" and "Acres" and must mathematically agree.
- 12) Deed book and page for each property, easement, prior dedication, etc.
- 13) Parcel numbers using NJDOT Standard Legend.
- 14) Any exceptions, easements, vacations, abandonments and file map references, shall be shown.
- 15) Existing monuments and other boundary points such as iron pipes, etc. (along with the "State Plane Coordinates" of each) shall be shown indicating their relationship to proposed centerline or baseline and their relationship to the calculated boundary points they represent.
- 16) Details as outlined in the State Board of Professional Engineers and Land Surveyors Administrative Rules and Regulations.
- 17) Show all equations in baseline, existing & proposed right-of-way lines, and existing & proposed right-of-way centerlines.
- 18) The deed bearing and distance of each property shall be shown.
- 19) The project bearing to the nearest second in the project coordinate system and the project distance to the nearest hundredth (0.01) or thousandth (0.001) of a foot as necessary shall be shown along the existing rights-of-way and around all individual properties from which any parcels/easements are to be taken.
- 20) When using a table to show parcel courses the courses should be shown as **(1a)**, **(1b)**, **(1c)**, **(1d)**, etc. where the number represents the parcel number and the following letter indicates the course for the particular parcel description. Properties having more than one parcel should continue the numbering sequence; hence an additional parcel would have course numbers of **(1e)**, **(1f)**, **(1g)**, etc. It must be clear what courses belong to each parcel.
- 21) **Proposed monuments**, (along with the "State Plane Coordinates" of each) showing their relationship to proposed centerline or baseline. County will designate the location for each monument. NOTE: Monuments SHALL NOT be located along the centerline or baseline.
- 22) "Footprint" of proposed improvements to include bridge/culvert, wingwalls, retaining walls, roadway pavement, curbing, sidewalks, slope protection, drainage pipe, inlets, manholes, traffic signals/boxes, limits of slopes, etc. Improvements should be labeled.

RIGHT-OF-WAY (cont'd)

- 23) Original drawings and prints to be signed and sealed by licensed New Jersey Land Surveyor and by a licensed New Jersey Professional Engineer.
- 24) It is anticipated that up to () properties will be shown on the General Property Map.

The General Property Map review submittal shall consist of the following:

- 1) Two (2) electronic files of the Preliminary General Property Parcel Map shall be submitted for review by the County, one in **.pdf format** (unlocked) and one in **.dxf format**. The .dxf format file must be drawn at its real New Jersey State Plane Coordinate System (NJSPCS) coordinates in the North American Datum of 1983 (NAD83). Files must be on a Windows compatible CD ROM or flash drive. **Two (2) Windows compatible CD ROM's or flash drives with the required information shall be provided. All data shall be scanned to avoid any known viruses.**
- 2) If requested, one (1) print of the Preliminary General Property Map shall be submitted for review by the County. Additional submittals may be required as needed at the discretion of the County. Certifications as specified elsewhere herein; required by law; and/or approved by the County shall be required on the general property map, and
- 3) One (1) electronic copy of each Tax Map, File Map, Property Survey, Deeds, etc. used in the preparation of the General Property Map shall be submitted with the above.

When directed, three (3) signed and sealed prints of the General Property Parcel Map shall be submitted for acquisition purposes.

NOTE: One (1) set of the "Surveyor's Checklist & Certification Form" (with the surveyor's original signature and raised seal) shall be submitted at the time the "FINAL" General Property Map(s), Individual Property Parcel Map(s) and their respective descriptions are submitted.

After acquisition of the required parcels has been completed, the recording information and any change in property ownership for each parcel shall be added to the final General Property Parcel Map and the following submitted for recording purposes:

- 1) Two (2) electronic files of the General Property Parcel Map, one in .pdf format (unlocked) and one in **.dxf format**. The .dxf format file must be drawn at its real New Jersey State Plane Coordinate System (NJSPCS) coordinates in the North American Datum of 1983 (NAD83). Files must be on a Windows compatible CD ROM or flash drive. **Two (2) Windows compatible CD ROM's or flash drives with the required information shall be provided. All data shall be scanned to avoid any known viruses.**
- 2) One (1) original mylar, (size 22"x 36" or 24"x 36", cutting edge to cutting edge), with **ORIGINAL** signatures and raised seal. (Mylar must be a minimum of 4 to 5 mils thickness - no exceptions),

RIGHT-OF-WAY (cont'd)

- 3) Two (2) equivalent reproduction on photographic fixed line mylars, (size 22"x 36" or 24"x 36", cutting edge to cutting edge), with **ORIGINAL** signatures and raised seal. (Mylars must be a minimum of 4 to 5 mils thickness - no exceptions)

NOTE: Original mylar drawings and prints are to be signed and sealed by each New Jersey Licensed Professional in responsible charge of the work.

The Consultant is hereby advised that corner markers shall be required at any location specified by the County through the map review process and shown on the final General Property Map(s), therefore the location of the existing rights-of-way and lot boundary lines is very important.

INDIVIDUAL PROPERTY PARCEL MAP ("IPPM") REQUIREMENTS

Individual Property Parcel Maps shall be prepared showing the following:

- 1) Original and proposed right-of-way centerline and project baseline and their relationship (station and offset) to the proposed front property corners.
- 2) Complete outline of property shall be shown at a scale which will fit one of the following County size sheets:
22" x 36" or 24" x 36"

The "Parcel" and existing conditions/proposed improvements shall be shown at a scale of 1" = 20', 1" = 10' or larger scale, as approved by the County.

NOTE: The map scale and sheet size chosen shall be of sufficient size to show and label all particulars of the property. The map shall be for use in the acquisition/appraisal process. The final map scale and sheet size shall meet the approval of the County.

- 1) Name of present owner or owners and the property (street) address in the space representing their property. The owner's address, if different from the property address should be added to the drawing.
- 2) Municipal tax map designation and sheet number.
- 3) Deed book and page.
- 4) Parcel numbers.
- 5) "Parcel Acquisition Summary" information shall be shown for each parcel being acquired. This information shall include but not be limited to: the area of the property before acquisition of any parcel; the parcel area; the remaining area after acquisition; the area of any easements required.

RIGHT-OF-WAY (cont'd)

- 6) Dimensions (bearings and distances) from deed and the same in the project system based on the survey.
- 7) Property (deed) and parcel/easement beginning points (POB's).
- 8) Exceptions, easements, vacations, abandonments and file map references (if any).
- 9) Project bearings to the nearest second and distances to the nearest hundredth (0.01) or thousandth (0.001) of a foot as necessary. When using a table to show parcel courses the courses should be shown as **(1a)**, **(1b)**, **(1c)**, **(1d)**, etc. where the number represents the parcel number and the following letter indicates the course for the particular parcel description. Properties having more than one parcel should continue the numbering sequence; hence an additional parcel would have course numbers of **(1e)**, **(1f)**, **(1g)**, etc. It must be clear what courses belong to each parcel.
- 10) Curve data including radius, length, delta angle, tangent, chord bearing and chord distance.
- 11) Details and requirements as outlined in the current Administrative Rules and Regulations of the New Jersey State Board of Professional Engineers and Land Surveyors.
- 12) The nature and extent of any encroachment of private improvements onto County property and/or County improvements onto private property shall be shown.
- 13) Proposed Monuments showing relationship to "original" right-of-way and "proposed" right-of-way (if any); the property lot lines; and the project baseline as directed by the County.
- 14) Offset distances to all structures on the property shall be shown at right angles to the existing title lines and at right angles to the proposed boundary lines.
- 15) "Footprint" of proposed improvements to include bridge/culvert, wingwalls, retaining walls, roadway pavement, curbing, sidewalks, slope protection, drainage pipe, inlets, manholes, traffic signals/boxes, limits of slopes, etc. Each should be labeled.
- 16) Original drawings and prints to be signed and sealed by the licensed New Jersey Land Surveyor and Professional Engineer in responsible charge of their respective work.
- 17) The surveyor's and engineer's certifications as required by this "scope" shall appear on the map.

RIGHT-OF-WAY (cont'd)

Each Individual Property Parcel Map review submittal shall consist of the following:

- 1) Two (2) electronic files of the Preliminary Individual Property Parcel Map(s) shall be submitted for review by the County, one in **.pdf format** (unlocked) and one in **.dxf format**. The .dxf format file must be drawn at its real New Jersey State Plane Coordinate System (NJSPCS) coordinates in the North American Datum of 1983 (NAD83). Files must be on a Windows compatible CD ROM or flash drive. **Two (2) Windows compatible CD ROM's or flash drives with the required information shall be provided. All data shall be scanned to avoid any known viruses.**
- 2) If requested, one (1) print of the Preliminary Individual Property Parcel Map(s) shall be submitted for review by the County. Additional submittals may be required as needed at the discretion of the County. Certification as specified elsewhere herein or approved by the County shall be required on each Individual Property Map.
- 3) One (1) electronic copy of each Tax Map, File Map, any prior Property Surveys, Deeds, etc. used in the preparation of the Individual Property Parcel Map shall be submitted with the above print.

When directed, three (3) signed and sealed prints of the Individual Property Parcel Map shall be submitted for acquisition purposes.

After acquisition of the required parcels has been completed, the recording information and any change of ownership for each parcel shall be added to the final Individual Property Parcel Map and the following submitted for recording purposes:

- 1) Two (2) electronic files of each Individual Property Parcel Map shall be submitted, one in **.pdf format** (unlocked) and one in **.dxf format**. The .dxf format file must be drawn at its real New Jersey State Plane Coordinate System (NJSPCS) coordinates in the North American Datum of 1983 (NAD83). Files must be on a Windows compatible CD ROM or flash drive. **Two (2) Windows compatible CD ROM's or flash drives with the required information shall be provided. All data shall be scanned to avoid any known viruses.**
- 2) One (1) original mylar with **ORIGINAL** signatures and raised seal.
- 3) Two (2) equivalent reproduction on photographic fixed line mylars of each parcel with **ORIGINAL** signatures and raised seal. (Mylars must be a minimum of 4 to 5 mils thickness - no exceptions).

At the time of the "Final" submittals, (if not already done) all field notes, file maps, tax maps, prior surveys of the properties involved, and deeds (current and previous), calculations, right-of-way and property line calculations, deed plottings, etc. of the properties involved and all other field survey information used in the preparation of the above documents should be scanned into .pdf files and submitted on a Windows compatible CD ROM's or flash drives.

RIGHT-OF-WAY (cont'd)

NOTE: Original mylar drawings and prints are to be signed and sealed by each New Jersey Licensed Professional in responsible charge of the work.

The Consultant is again advised that corner markers shall be required in accordance with the applicable sections of Title 46 of the revised statutes (N.J.S.A. 46:26A-1 through N.J.S.A. 46:26B-8 et seq.) and at any location specified by the County through the map review process and shown on the final General Property Map. These locations may include but are not limited to the proposed parcel corners, existing lot corners and proposed lot corners.

PARCEL DESCRIPTION REQUIREMENTS

Metes and bounds descriptions for all parcels and easements shall be prepared using the "Parcel Description Sample" as a guide. All dimensions shall be to the nearest hundredth of a foot; all bearings to the nearest second. The bearings shall be in the project system.

The beginning point of each metes and bounds description shall include the New Jersey State Plane Coordinates of same to the fourth decimal place (0.0001).

All properties and parcels shall mathematically close to the nearest 0.01'.

All parcel descriptions shall contain the "original" signature and raised sealed of the New Jersey Licensed Land Surveyor in responsible charge of the work.

Each parcel review description submittal (typical description sample attached) shall consist of two (2) electronic copies of the metes and bounds description(s) for each including any easements for each parcel. If instructed the submittal can be emailed to the Office of Engineering. Additional submittals may be required as needed at the discretion of the County.

1. Fee Taking parcels shall have the following Typical Clause after the metes and bounds description:

***TOGETHER WITH** all right, title and interest that the owner may have in and to (name of roadway or roadways), contiguous to the above described premises as shown on the aforementioned map.*

2. All other parcels shall describe each parcel's purpose and use and, in the case of "temporary parcels" the anticipated termination sequence.

When directed, the final submittal shall consist of three (3) copies of each metes and bounds description with ORIGINAL signatures and raised seal of the New Jersey Licensed Land Surveyor in responsible charge of the work.

MAPPING CERTIFICATIONS (GENERAL REQUIREMENTS)

Mapping Certifications shall contain the original signatures and raised seal as required by law and shall appear on all mapping depicting land surveying information to be used for this project, in particular the General Property Parcel Map(s), and Individual Property Parcel Map(s).

The certifications shall be substantially as shown in the "Mapping Certification" section of this "Scope of Professional Services".

ALL certifications shall be subject to review and approval by the County.

Should the plan contain proposed design information the signature and raised seal of the Engineer in responsible charge and N.J. License number shall also appear on the plan. An individual having a New Jersey Professional Engineer and Professional Land Surveyor License can be used to satisfy the consultants surveying and design certification provided that the individual was in responsible charge of both aspects of the work.

RIGHT-OF-WAY COMPUTATIONS

As a minimum the following computations will be required:

- a) Deed closure in deed bearing system.
- b) Deed closure in project bearing system.
- c) Parcel closure in project bearing system.
- d) Listing of all deed discrepancies and methods used to resolve them.
- e) Right-of-Way to proposed baseline and/or centerline closure in project bearing system.

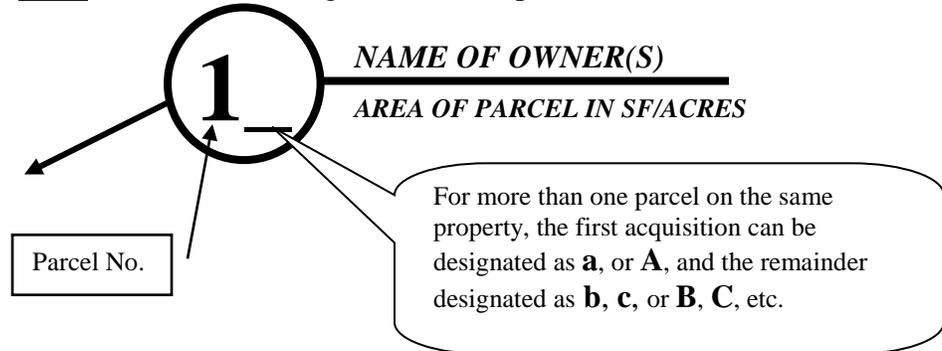
The Consultant shall provide coordinates of all existing and proposed front property corners and those of **Proposed Monuments**.

Property acquisition and/or easements are anticipated from () properties.

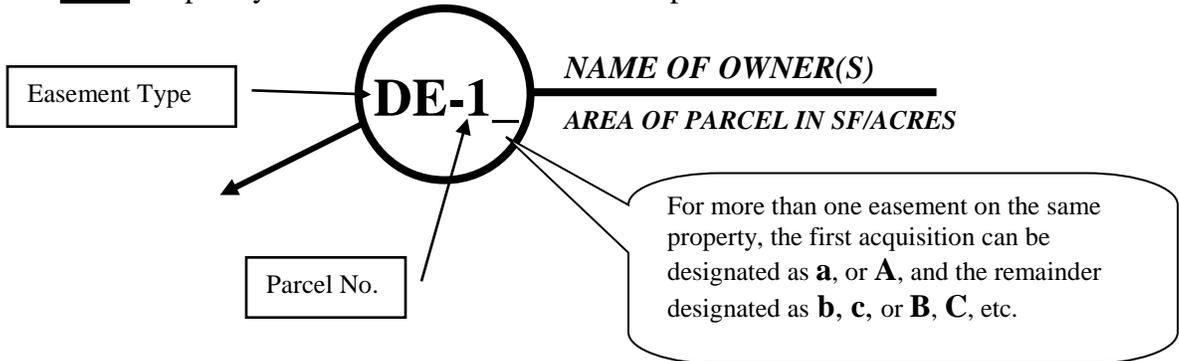
NOTE: No provisions are to be included in this proposal for testimony in condemnation proceedings. Such services, if requested, would be provided as extra work.

**METHOD FOR DETERMINATION OF THE NEED FOR
"ACQUISITIONS" OR "EASEMENTS"**

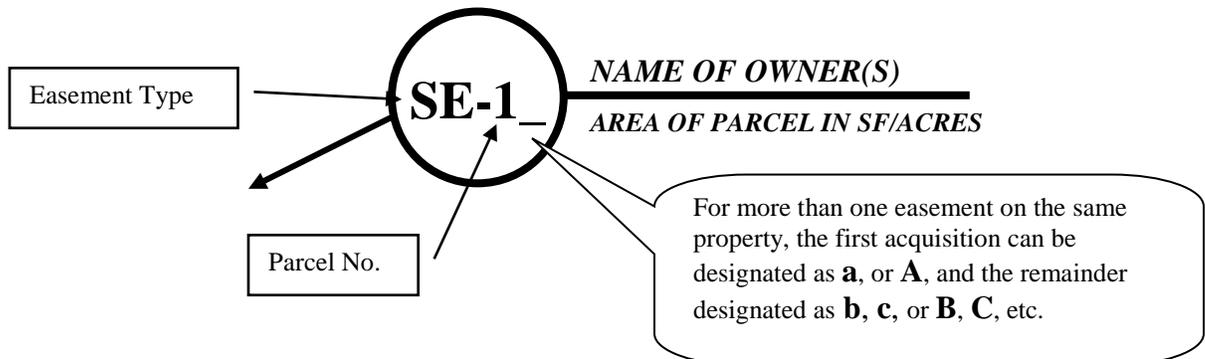
"Acquisitions" for the proposed bridge, drainage and/or roadway structures (such as signal/signal boxes, inlets, retaining walls/wingwalls, pipes, curbing, road widening, guide rail, etc.) should be "Takings" **NOT** easements. Takings should be represented as:



"Drainage Easements" should be established in all instances where storm sewer or other permanent structures (other than those mentioned for "takings") fall outside the main project limits or when other "structural" improvements are proposed that may require maintenance/repair/replacement by the County or Municipality. Drainage Easements are "Permanent" **NOT** temporary. These easements should be represented as:

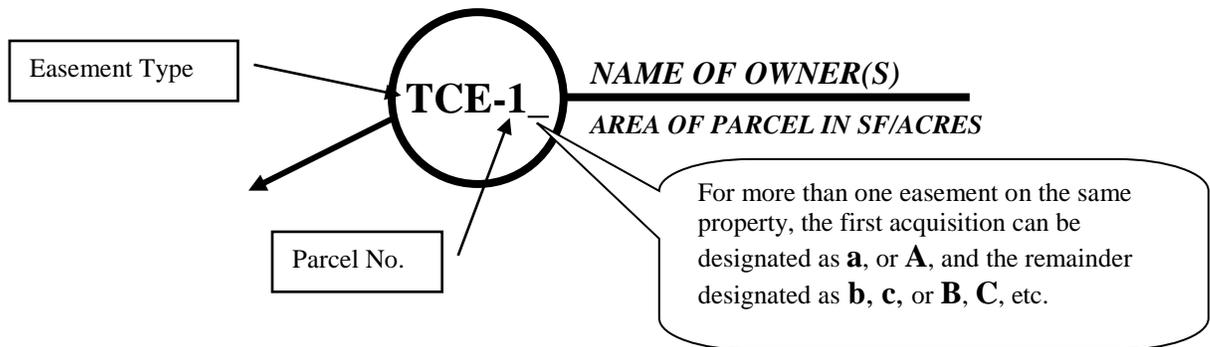


"Slope Easements" should be established in all instances (other than the aforementioned proposed permanent structures that may require maintenance by the County or Municipality) where slope maintenance may become necessary for the stability of the improvements. Slope Easements that must be maintained for stability of the proposed improvements are "Permanent" **NOT** temporary. These easements should be represented as:

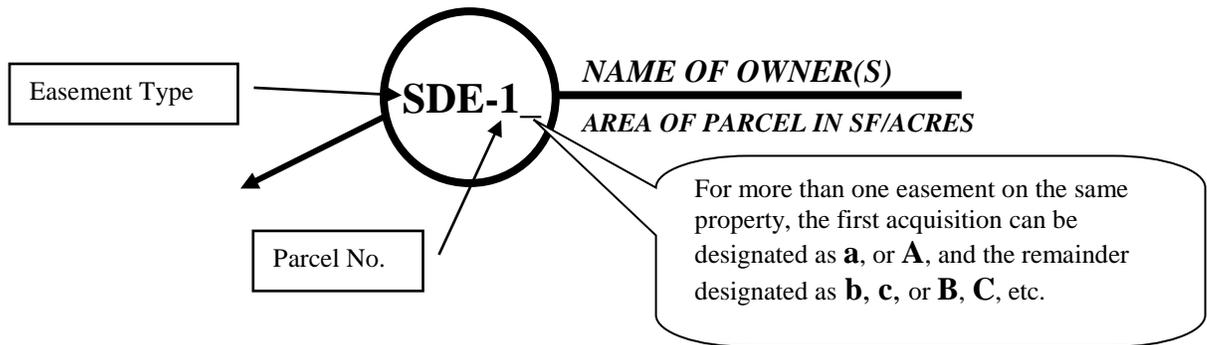


ACQUISITIONS OR EASEMENTS (cont'd)

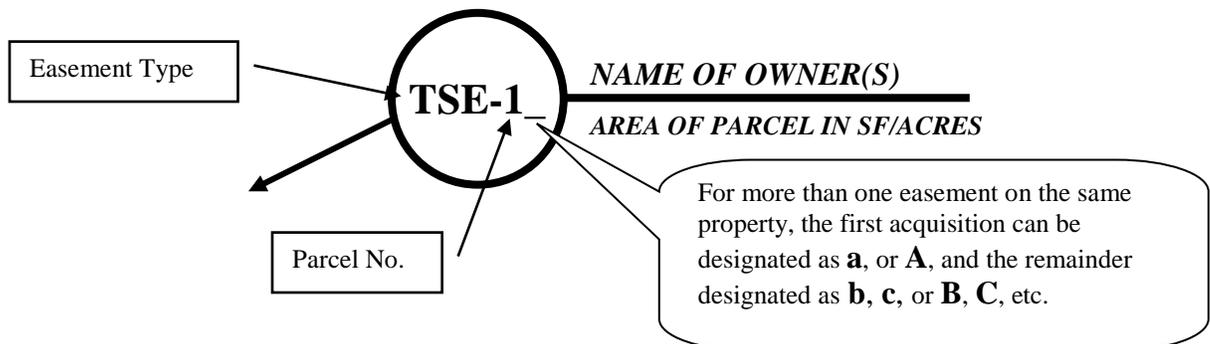
"*Temporary Construction Easements*" can be used where the aforementioned conditions do not apply. This is where grading, repairs/modifications to driveways or other private property is necessary for the proper completion of the project but where the proposed improvements **DO NOT** depend on these areas for stability or maintenance purposes. These "temporary easements" shall become null and void upon the completion and acceptance of the project by resolution of the Middlesex County Board of Chosen Freeholders. These temporary easements should be represented as:



When needed the separate permanent "Slope" and "Drainage" easements can be combined into a "*Slope & Drainage Easement*" parcel and should be represented as:

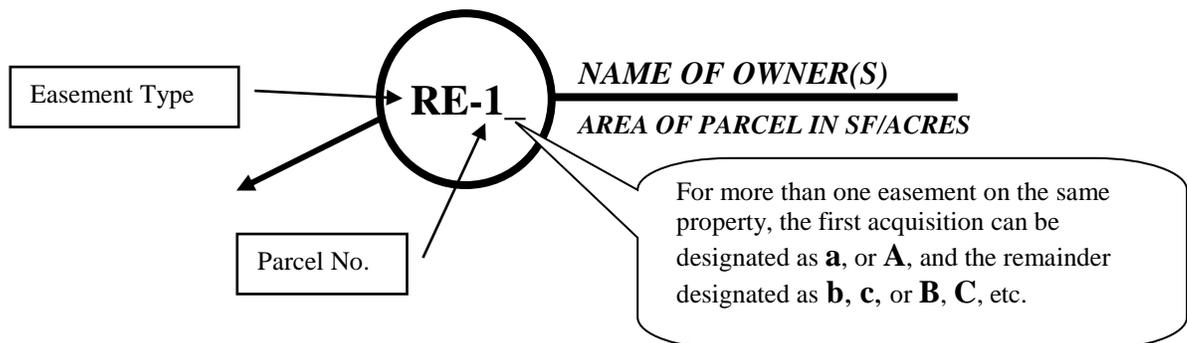


"*Traffic Signal Easements*" shall be established for the purpose of providing an easement for the construction, operation, repair, inspecting, maintaining, reconstruction, altering and replacing a traffic control system that falls outside the public right-of-way and may require access. These easements should be represented as:

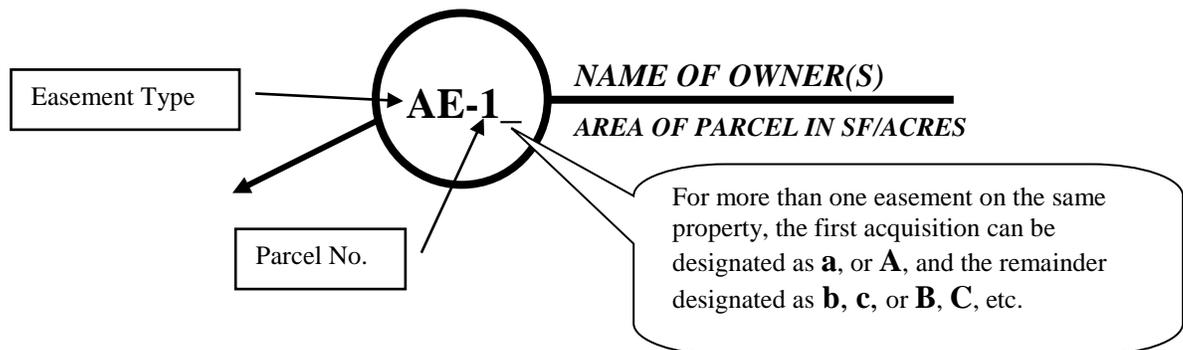


ACQUISITIONS OR EASEMENTS (cont'd)

When crossing railroad property "at grade", separate permanent "Roadway" easements can be used. The "**Roadway Easement**" should be represented as:



When crossing "OVER" railroad property, an aerial easement can be used. The "**Aerial Easement**" should be represented as:



The leader lines/arrows should go "into" the parcel area, NOT to the line of the parcel.

Acquisition "taking" areas shall be clearly defined on each drawing.

To allow various "easement" parcels to be easily distinguished from takings and other easements, shading or another manner of clearly making these areas visible should be used. Any method used shall be subject to the approval of the County.

The determination of "Takings" and "Easements" (both permanent and temporary) will be made by the County on a case-by-case basis.

NOTE that the limits of any taking or easement parcels shall extend a minimum of five feet (5') beyond the proposed improvements or disturbance. The 5' minimum may be increased or decreased at the discretion and approval of the County.

"GENERAL PROPERTY PARCEL MAP" ACQUISITION SUMMARY TABLE (SAMPLE)

A parcel acquisition summary table shall be included on each sheet of the "General Property Parcel Map" where parcels are shown. This table should be titled and look similar to the following:

PARCEL ACQUISITION SUMMARY TABLE

PARCEL No.	TAX BLOCK/LOT	OWNER	ADDRESS & Municipality	DEED BK./PG.	DEED AREA SF/ACRE	AREA TAKING SF/ACRE	AREA REMAINING SF/ACRE	AREA SLOPE & DRAINAGE ESM'T SF/ACRE	AREA TEMP. CONST. ESM'T. SF/ACRE
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Where the "Owner's" address is different from the "Parcel" address, the owner's address shall be inserted in a separate column and, if room permits, included on the drawings.

Separate columns should be provided for each different type of acquisition/easement determined necessary for the project. As each project may require a different layout of the table, modifications may be made subject to the review and approval of the County.

While it is desirable to have a sheet specific acquisition summary table on each drawing, in the case of numerous takings, a separate acquisition summary sheet can be used subject to County approval.

"INDIVIDUAL" PARCEL ACQUISITION SUMMARY INFORMATION (SAMPLE)

Individual parcel acquisition summary information should be provided on each "Individual Property Parcel Map" and look similar to the following:

PARCEL ACQUISITION SUMMARY

TOTAL DEED AREA: _____ S.F. (_____ ACRE)

AREA OF PARCEL _____: (Only if there is a taking.) _____ S.F. (_____ ACRE)

AREA REMAINING: (Only if there is a taking.) _____ S.F. (_____ ACRE)

If "easements" are necessary the following should be added immediately following the above:

AREA OF PARCEL _____ (Type of Parcel): _____ S.F. (_____ ACRE)
 (Add any additional easement parcels and their type.)

Each parcel is unique and may require a modification to the above information. Each format shall be subject to County approval

MAPPING CERTIFICATIONS

The following Mapping Certifications, signatures, and raised seal shall appear on the final drawings:

- 1. When the Consultant has retained a Sub-consultant to gather existing field information for use in property and right of way determinations.**

Typical sub-consultant certification:

I hereby certify to the "County of Middlesex" and all other parties in interest that to the best of my knowledge and belief this base map and land survey dated, that in accordance with the boundary evidence found, my personal search of the public and private records and the analysis of both, the properties shown hereon correctly depicts the location of the existing rights-of-way and boundary lines within the project limits; further that this survey meets the minimum survey detail requirements as promulgated by the State Board of Professional Engineers and Land Surveyors; that all work in the preparation of the base map has been done under my immediate supervision in accordance with the information found in the field and further certify that it complies with the requirements of the current "Surveying and Mapping Standards" of the County of Middlesex and the applicable sections of the Scope of Professional Services entitled – ***INSERT NAME OF PROJECT, Dated*** _____.

FOR (Firm Name)

Signature ○ ○



(Surveyor's Printed Name)

Date

Licensed Professional Land Surveyor

(Surveyor's) New Jersey License No. _____

Typical Consultants Certification:

I hereby certify to the "County of Middlesex" and all other parties in interest that to the best of my knowledge and belief this map and land survey dated, that in accordance with the boundary evidence found, my personal search of the public and private records and the analysis of both, the properties shown hereon correctly depicts the location of the existing rights-of-way and boundary lines within the project limits; further that this survey meets the minimum survey detail requirements as promulgated by the State Board of Professional Engineers and Land Surveyors; has been made under my immediate supervision; complies with the applicable sections of Title 46 of the revised statutes (N.J.S.A. 46:26A-1 through N.J.S.A. 46:26B-8 et seq.); and further certify that it complies with the requirements of the current "Surveying and Mapping Standards" of the County of Middlesex and the applicable sections of the Scope of Professional Services entitled – ***INSERT NAME OF PROJECT, Dated*** _____.

I also certify that all information in regards to existing Boundary Lines and Monumentation have been verified by me in the field.

FOR (Firm Name)

Signature ○ ○



(Surveyor's Printed Name)

Date

Licensed Professional Land Surveyor

(Surveyor's) New Jersey License No. _____

MAPPING CERTIFICATIONS (cont'd.)

2. When the Consultant has provided all services "in-house":

I hereby certify to the "County of Middlesex" and all other parties in interest that to the best of my knowledge and belief this map and land survey dated, that in accordance with the boundary evidence found, my personal search of the public and private records and the analysis of both, the properties shown hereon correctly depicts the location of the existing rights-of-way and boundary lines within the project limits; further that this survey meets the minimum survey detail requirements as promulgated by the State Board of Professional Engineers and Land Surveyors; has been made under my immediate supervision; complies with the applicable sections of Title 46 of the revised statutes (N.J.S.A. 46:26A-1 through N.J.S.A. 46:26B-8 et seq.); and further certify that it complies with the requirements of the applicable sections of the "Surveying and Mapping Standards" of the County of Middlesex and the applicable sections of the Scope of Professional Services entitled – **INSERT NAME OF PROJECT, Dated** .

I also certify that all information in regards to existing Boundary Lines and Monumentation have been verified by me in the field.

FOR (Firm Name)

Signature



(Surveyor's Printed Name)

Date

Licensed Professional Land Surveyor

(Surveyor's) New Jersey License No. _____

3. When GPS has been used to establish control, whether or not the Consultant has provided these services "in-house", an additional certificate for the GPS work shall be required and be substantially in one of the following forms:

- a. If the work was done by the same surveyor preparing the mapping for this project the certification should generally read as follows:

I hereby certify to the "County of Middlesex" and all other parties in interest that the GPS information shown hereon was prepared from an actual GPS survey made under my supervision; that this GPS survey was performed to _____ FGCC specifications and that I used _____ GPS field procedures and coordinates were obtained by _____ adjustment. This survey was performed on _____ using (type) (number) of receivers and all coordinates are based on _____ .

FOR (Firm Name)

Signature



(Surveyor's Printed Name)

Date

Licensed Professional Land Surveyor

(Surveyor's) New Jersey License No. _____

(CONTINUED ON NEXT PAGE)

MAPPING CERTIFICATIONS (cont'd.)

- b. When the GPS work has been done by another firm the certificate about the GPS work should appear on the plan to read as follows:

I hereby certify to the "County of Middlesex" and all other parties in interest that the GPS information shown hereon was prepared by *(insert name of firm)* from an actual GPS survey made under the supervision of *(insert name of licensee)* a Licensed New Jersey Land Surveyor (NJ License # _____); that this GPS survey was performed to _____ FGCC specifications and that the surveyor used _____ GPS field procedures and coordinates were obtained by _____ adjustment. This survey was performed on _____ using (type) (number) of receivers and all coordinates are based on _____.

FOR (Firm Name)

Signature ○ ○



(Surveyor's Printed Name)

Licensed Professional Land Surveyor
(Surveyor's) New Jersey License No. _____

Date

For GPS work used for this project, the control monuments should be shown (on the survey map or the "Key Map") and the coordinates and vertical elevation listed for each.

Note: Only on the Individual Property Parcel Maps, reference to the applicable sections of Title 46 of the revised statutes (N.J.S.A. 46:26A-1 through N.J.S.A. 46:26B-8 et seq.). can be dropped from the certification.

- 4. Because "Proposed" improvements must be shown on the drawing, a certificate must be provided by the design engineer that shall be substantially in the following form:

I hereby certify to the "County of Middlesex" and all other parties in interest that to the best of my knowledge and belief all engineering design has been done under my immediate supervision, all existing public improvements to remain and those public improvements to be constructed and maintained by the County, fall we within the public right-of-way or permanent easements and further certify that all proposed improvements comply with the requirements of the applicable sections of the Scope of Professional Services entitled - **INSERT NAME OF PROJECT, Dated** _____.

FOR (Firm Name)

Signature ○ ○



(Engineer's Printed Name)

Licensed Professional Engineer
New Jersey License No. _____

Date

CERTIFICATIONS, OTHER THAN THOSE SHOWN ABOVE AND ON THE PREVIOUS PAGES, MAY BE USED ONLY AFTER REVIEW AND APPROVAL BY THE COUNTY

MAPPING CERTIFICATIONS (cont'd.)

--- COUNTY CERTIFICATION AND APPROVALS---

I have carefully examined this map and, to the best of my knowledge and belief, find that it conforms to the requirements of the applicable sections of the "Middlesex County Surveying & Mapping Standards".

**FOR THE COUNTY OF MIDDLESEX - DEPARTMENT OF INFRASTRUCTURE MANAGEMENT
OFFICE OF ENGINEERING**

Signature of
County "Reviewer"

DATE

Printed Name of "Reviewer"

NEW JERSEY PROFESSIONAL ENGINEER/LAND SURVEYOR
N.J. LIC. NO. _____

APPROVED BY:

License info. and/or Title
of County "Reviewer"

RONALD G. RIOS
DIRECTOR OF THE MIDDLESEX COUNTY
BOARD OF CHOSEN FREEHOLDERS

DATE

RICHARD E. WALLNER
PROFESSIONAL ENGINEER
N.J. P.E. LIC. No. 24GE02668000
MIDDLESEX COUNTY ENGINEER

DATE

All of the certifications/approvals should be placed at a convenient location so that the appropriate raised seals can be affixed.

Additional certifications and approvals may be necessary and will be identified and designated by the County during the review process.

PARCEL DESCRIPTION SAMPLE

Each parcel description must be prepared on the consultant's company letterhead. As a guide the typical parcel description should generally read as follows:

**Description of Parcel # [] , Part of Lot [] in Block [] To Be Acquired for
(Insert Project Name and any other needed site reference)
Located in (Insert name of municipality), Middlesex County, NJ**

All that certain lot, tract or parcel of land and premises, situate, lying and being in the insert municipal name, County of Middlesex, State of New Jersey being part of Lot insert number in Block insert number more particularly described in pursuant to a survey of the property insert title of individual parcel map, prepared by insert name of surveyor for the firm of insert firm name being bounded and described as follows:

BEGINNING at a point in the existing insert ROW line location right-of-way line of insert road name (insert width Feet wide), said point being therein distance **392.60 Feet** westerly on a course of **North 82 Degrees, 46 Minutes, 41 Seconds West** from the point of intersection of said right-of-way line with the easterly line of Lot insert number in Block insert number, said point of intersection having New Jersey State Plane Coordinates of North 000,000.0000 and East 000,000.0000 and being in the twelfth (12th) course of land conveyed to insert name of owner(s), by deed dated insert date and recorded in the Middlesex County Clerk's Office in Deed Book 0000, Page 0000; running thence

1. Continuing along the said existing right-of-way line, **North 82 Degrees, 46 Minutes, 41 Seconds West** a distance of **20.03 Feet** to a point in the easterly line of Lot 23.01; thence along the new right-of-way
2. **North 04 Degrees, 15 Minutes, 19 Seconds East** a distance of **274.54 Feet** to a point of curve and location of a proposed monument having New Jersey State Plane Coordinates of North 000,000.0000 and East 000,000.0000; thence

Remaining body of description follows

...to the point and place of **BEGINNING**.

Parcel "insert parcel number" containing insert parcel area Square Feet of land (insert parcel area of an Acre) intended for insert wording of what the parcel is intended for.

For all of the "Fee Taking" parcels the following Typical Clause after the metes and bounds description shall be provided:

TOGETHER WITH all right, title and interest that the owner may have in and to (name of roadway or roadways), contiguous to the above described premises as shown on the aforementioned map.

Parcel Description Sample (cont'd.)

NOTE: If parcel is "Temporary" in nature, an indication shall be made of when the parcel or "easement" would terminate.

The aforescribed parcel(s) also being shown and designated as Parcel(s) insert parcel number on a certain map entitled insert title of General Property Parcel Map, prepared by insert name of surveyor for the firm of insert firm name intended to be filed with the Middlesex County Clerk's Office.

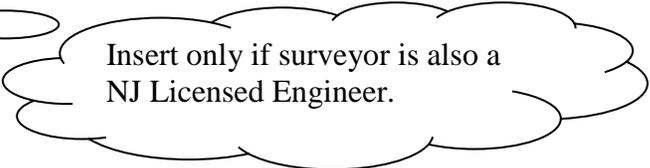
DESCRIPTION PREPARED BY:



Printed Name of Surveyor

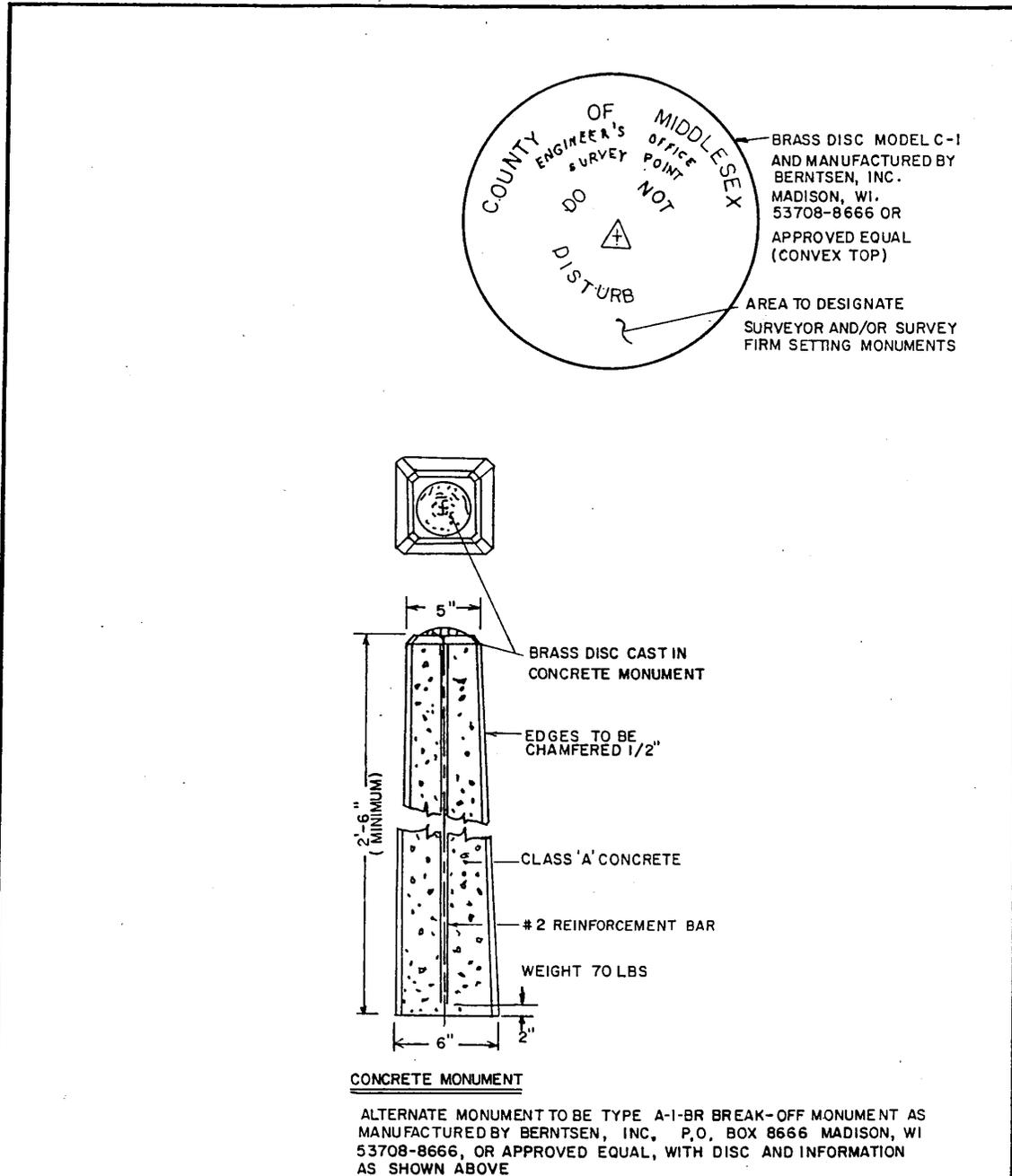
Date

New Jersey Licensed Professional (Engineer and) Land Surveyor
NJ Lic. No. 00000



SAMPLE MONUMENT DETAIL

(Consultant's monuments may be used provided they meet the approval of the County of Middlesex.)



Revisions			<i>Scale:</i> NTS		Middlesex County, Office of the County Engineer <u>STANDARD DETAIL</u> <u>SURVEY MONUMENT</u>	
NO.	DATE	BY	<i>Date:</i> MARCH 97			
			<i>John J. Reiser Jr.</i> <i>County Engineer</i>			
Designed By	Drawn By	Checked By	Approved By			

**NOTE: ALL items must be completed. Any item that does not apply shall be labeled "n/a".
The County shall make the final determination of the applicability of any item.**



**SURVEYOR'S CHECKLIST
& CERTIFICATION FORM**

Page 1

Firm Name: _____

Address: _____

Surveyor in responsible charge of the work: _____

New Jersey License No.: _____

Project: _____

Location: _____

Review of Key Elements of Plan

Each survey drawing has "original" signatures and raised seal of licensee. _____

Each Description "Point of Beginning" (POB) labeled, tied into
corner of record and the coordinates and any vertical elevations listed are
based on NJSPCS – NAD 1983 horizontal & NAVD 1988 vertical. _____

North Arrow & Bearings refer to NJSPCS. _____

Survey title block format as required. _____

Existing & Proposed Right-of-Way width(s) noted. _____

Areas for all required descriptions of lots, acquisitions, easements
(both temporary and permanent), etc., are in Square Feet & Acres and
are shown in the approved format. _____

Riparian claim areas, overlaps, gores, area of clouded title or under water are
clearly shown and labeled with calculated areas noted. _____

Waterways/Water Bodies shown. _____

Existing exceptions, easements etc. are shown and labeled on the drawings. _____

A parcel acquisition summary table has been provided on all maps as required. _____

Project: _____

Location: _____

Review of Key Elements of Plan (cont'd.)

Existing boundary control shown in accordance with the "scope". _____

Location map such as USGS or other approved base provided with site shown and labeled. _____

Monuments as required by Title 46 of the revised statutes and as directed by the county have been shown. _____

Tax Block and Lot numbers and adjoining owner(s) name(s) noted on survey map. _____

Encroachments identified and dimensioned to nearest property line. _____

Areas of encroachments (if any) clearly shown and dimensioned to the nearest property line. _____

"Footprint" of proposed improvements clearly shown and labeled. _____

All lots from which acquisitions and/or easements are to be taken have all structures dimensioned to the nearest existing right-of-way and property lines and all "proposed" right-of-way/easement lines. _____

Standard certification to the County, Title Company and others as required has been provided. _____

Easements of record (power lines, gas lines, roadways, etc.), along with the deed information have been clearly shown on the survey map along with the deed book and page. _____

Proposed "Acquisitions" and "Easement(s)" of the various types clearly shown and labeled on each map. _____

Apparent unrecorded easements/rights of others clearly shown on the survey map with dimensions and areas of these easements/rights provided. _____

Residential units and other structures clearly identified on the survey map(s) and dimensioned to the nearest property line(s). _____

Digital files provided on a Windows compatible CD ROM in accordance with County requirements. _____

All files/CD's have been scanned to avoid any known viruses. _____

Project: _____
Location: _____

Review of Metes and Bounds Description(s)

- Description(s) prepared on original company letterhead. _____
- All courses of the description agree with the survey, are correct and there is closure. _____
- Each Description "Point of Beginning" (POB) has been tied into the corner of record and the coordinates given are based on the NJSPCS datum. _____
- Areas are in Square Feet & Acres and are in the approved format. _____
- First Paragraph of description references the "Individual Property Parcel Map". _____
- Last Paragraph of description references "General Property Parcel Map". _____
- Explanation of the "Takings" and "Easement(s)" of the various types and their limitations have been included in the body of each description. _____
- Description(s) and map(s) have the "original" signature and raised seal of each licensed professional in responsible charge of the work. _____

SURVEYOR'S CERTIFICATION

I hereby certify to the best of my knowledge and belief that I have completed the above survey and mapping with the required property descriptions in accordance with the "Scope of Professional Services" contained in the written contract with the County of Middlesex.

Date

(Surveyor's signature & Raised Seal)

(Surveyor's Printed Name)
NJ Professional Land Surveyor (& Engineer)

NJ Lic. Number _____

NOTE: ALL items must be completed. Any item that does not apply shall be labeled "n/a". The County shall make the final determination of the applicability of any item.

