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***Consulting Engineers
Construction Inspectors
Land Surveyors***

Malick & Scherer, P.C. (M&S) is a multi-disciplinary civil engineering consulting firm that is dedicated to serving their clients. Founded in 1998, M&S has a proven record of accomplishment of providing excellent service and accepting the challenges faced by clients to be more innovative and cost-effective on increasingly tighter schedules.

The M&S Team consists of Professional Engineers, Professional Land Surveyors, Environmental Scientists and highly experienced support staff. This experienced and dedicated staff provides engineering design, survey and construction support services to meet each client's and project's needs. M&S shares the client's primary goal – to see a project to its successful completion. Our clients include municipal, state and federal agencies, utility companies, ENR Top 500 Engineering Firms, telecommunications companies, and many private clients.



***Statement of Qualification
Rail & Mass Transit Projects***

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Malick & Scherer, P.C. (M&S), is a multidisciplinary engineering firm providing engineering and surveying services for infrastructure projects throughout the tri-state area. The **M&S** team, including Professional Engineers, Professional Land Surveyors, Environmental Scientists, and highly experienced technical support has been providing design services to major transit agencies throughout New Jersey, New York, and Pennsylvania. Services provided by the firm include survey/basemapping and ROW, structural analysis and design, data collection and access evaluation, grading and drainage design, H&H analysis, ecological analysis (wetlands, floodplain, etc.), stormwater management design, and environmental permitting. **M&S** has provided these services on various federal, state, and municipal government projects throughout the area, including agencies such as NJ Transit, SEPTA, Port Authority of NY & NJ, PennDOT, NJDOT, New Jersey Turnpike Authority, NYCDDC, and various metropolitan planning agencies (MPO).

M&S is certified by the NJDOT, NJ Turnpike, NJ Transit, PAUCP, SEPTA, Port Authority of NY & NJ, New York State Department of Economic Development, and the New Jersey Department of Commerce as an Emerging Small Business Enterprise (ESBE), Disadvantaged Business Enterprise (DBE), Minority Business Enterprise (MBE), and Small Business Enterprise (SBE).

M&S' involvement with the following projects illustrates the firm's experience and expertise on transit projects:

NJ Transit, Monmouth-Ocean-Middlesex (MOM) Environmental Impact Statement (EIS) Monmouth, Ocean, and Middlesex Counties, NJ

Project involved the preparation of a Draft Environmental Impact Statement (DEIS) for commuter rail service in a three-county area. Project involved the evaluation of various alternatives for alignment, station locations, and yard locations. **M&S** performed preliminary station layouts for 18 new passenger train stations along proposed New Jersey Transit rail lines. The layouts included access drive locations, pick-up/drop-off areas, parking areas, and platform locations. Also responsible for data collection and compilation of an existing conditions survey of approximately 30 miles of existing track including existing structures and over 15 stations. Typical screening included the investigation of zoning requirements, soils, site drainage, environment constraints, and site access.



Services Performed:

- ✓ Data collection and zoning evaluation
- ✓ Conceptual station layout & access design for 18 stations
- ✓ Detailed access evaluation at select locations

Key Personnel Involved: Colleen Connolly, PE, PTOE, Arif Malick, PE, Steven Ragazzo, PE



SEPTA, Elywn to Wawa Extension Middletown, PA

Project involves Commuter Service Restoration including the upgrading of an existing station and the construction of a new station, the upgrading of an existing track and the construction of new tracks, and the reconstruction of three bridge structures carrying the R3 Line. Responsible for performing right-of-way, property and topographic survey along a 3.5 mile corridor of SEPTA railroad property, including locations and elevations of stations, rails, parking areas, utilities, Chester Creek and three (3) bridges, including Route 1, along with culverts, borings, and the overhead

catenary system. Also responsible for performing hydrologic and hydraulic analysis (HEC-RAS) of Chester Creek, including four (4) structures, and an in-depth scour analysis (HEC-18) and evaluation of three (3) structures, along with preparation of a scour evaluation report documenting the results of the scour evaluation. Also performed structural design of 9 retaining walls required to stabilize the existing embankment and construction of the new track. Numerous wall types were utilized including soldier pile, tie-back walls, proprietary reinforced earth wall systems, and conventional cast-in-place concrete.

Services Performed:

- ✓ Survey, mapping, ROW
- ✓ H&H & scour analysis
- ✓ Structural design of 9 retaining walls

Key Personnel Involved: Arif Malick, PE, Michael McAlpin, PLS, Robert Zalewski, PE, Steven Ragazzo, PE

AMTRAK, Track Roadbed Widening Project Deans Pond, South Brunswick, NJ

The project involves preparation of construction drawings for a track roadbed widening project that also involves construction of a retaining wall to hold the existing toe of slope in the vicinity of Dean's Pond in South Brunswick, NJ. The project area is located on the Northeast Corridor (NEC) between Midway and County Interlockings, along a stretch that is sometimes referred to as the Racetrack. **M&S** is responsible for topographic survey and basemapping, and right of way survey. Survey effort includes mapping of existing Amtrak infrastructure, toe of slope, cross-section survey, location of regulatory wetland limits, as well as preparation of a brief wetlands report. Also responsible for wetlands delineation, and determining the required state and/or federal permits for the proposed project.



Services Performed:

- ✓ Survey, ROW
- ✓ Wetlands Delineation
- ✓ Permitting

Key Personnel Involved: Michael McAlpin, PLS, David A. Bretz, PE, PLS, John Boyce



Port Authority of NY & NJ, Substation 8 Kearny, Hudson County, NJ

Project involves replacing and upgrading the existing PATH Substation #8 located in Kearny, NJ. The substation provides traction power for track sections between Newark and Journal Square in the PATH system. Responsible for the civil site design, survey, and environmental permits. Prepared Design Criteria Report Summary and Design Report. Performed design of the substation access road, site grading and retaining walls, parking lot layout, security fencing, drainage, and soil erosion design. Environmental permitting includes wetlands delineation, NJDEP LOI submission,

Meadowlands Commission, Waterfront Development permit. Contract Drawings were produced utilizing AutoCAD in accordance with Port Authority CADD standards. Prepared construction cost estimates and technical specifications. Received Track Safety Training and PA Livelink access.

Services Performed:

- ✓ **Survey & basemapping**
- ✓ **Entire civil/site engineering including grading and drainage design**
- ✓ **Designed access road, retaining wall, parking layout**
- ✓ **Wetlands Delineation**
- ✓ **Plans & Specs prepared in accordance with Port Authority standards**

Key Personnel Involved: Arif Malick, PE, Robert Zalewski, PE, CFM, CSM, Michael McAlpin, PLS

NJ Transit, Sandy Recovery Design of Hardening Systems for Track Roadbed New Jersey Coast Line, Middletown, NJ

Project involves providing multi-disciplined planning, engineering and research services to NJ TRANSIT on an as-needed basis as part of a task order contract. Responsible for the site evaluation, hydrologic and hydraulic analysis, and preparation of erosion repair recommendations and cost estimates at the Middletown Station, NJCL MP 12.75 location. This location includes the drainage ditch west of Church Street adjacent to the auxiliary parking lot and goes to the east side of Church Street where it intersects the railroad track. Also responsible for investigating the impact to the railroad embankment caused by the drainage running under Church Street to an open drainage area on the east side of the tracks.



Services Performed:

- ✓ **Site Evaluation**
- ✓ **Hydrologic and Hydraulic Analysis**
- ✓ **Cost Estimates**

Key Personnel Involved: Robert Zalewski, PE, CFM, CSM, Nitán Nāgrānī, PE



NJ Transit, West Wharton Substation West Wharton, NJ

Project involved improvements to the West Wharton substation related to equipment modifications and service upgrade. As a prime consultant, work included topographic survey and base mapping, preparation of proposed site plans including grading and drainage design, preparation of a temporary construction easement across JCP&L property, and design of a transmission line plan/profile drawing to address the installation of a new laminated wood pole adjacent to the existing substation. NJDEP permitting requirement included preparation of a Highlands Applicability Determination (HAD), and a Freshwater Wetlands Transition Area Waiver.

Services Performed:

- ✓ **Survey & basemapping**
- ✓ **Site engineering including grading & drainage design**
- ✓ **NJDEP Permitting (Wetlands, Highlands)**

Key Personnel Involved: Robert Zalewski, PE, C.F.M, CSM, Steven Ragazzo, PE, Michael McAlpin, PLS

SEPTA, Norristown High Speed Line (NHSL) Extension Alternatives Analysis/Draft Environmental Impact Statement (AA/DEIS) King of Prussia, PA

Project involves preparation of an Alternatives Analysis/ Draft Environmental Impact Statement (AA/DEIS) and submission to the Federal Transit Administration (FTA) requesting to begin preliminary engineering for the Norristown High Speed Line Extension serving the King of Prussia area in Upper Merion Township, Montgomery County, Pennsylvania. Responsible for obtaining traffic data for the entire project area including performing manual traffic counts, automatic traffic recorders (ATR) counts, and the installation of BlueSTATS traffic devices to obtain travel time/speed delay data. Also responsible for utility verification and wetlands delineation of the chosen alternatives study area.



Services Performed:

- ✓ **Traffic data collection**
- ✓ **Utility Verification**
- ✓ **Wetlands Delineation**

Key Personnel Involved: Arif Malick, PE, Colleen Connolly, PE, PTOE



NJ Transit, Lower Hackensack River Bridge Emergency Generator Pad Jersey City, NJ

Project involved the structural design of a concrete pad on caisson foundations to support the installation of a proposed emergency generator. As a prime consultant, work included site survey and preparation of base mapping, coordination of geotechnical boring program, design of caissons and concrete pad, and design of a gabion retaining wall. Additional site work included reinforced concrete stairs, electrical grounding details and fencing. Deliverables included construction plans, engineering cost estimate,

structural calculations and preparation of technical specifications in accordance with NJ Transit requirements.

Services Performed:

- ✓ Structural design of caissons & concrete pad
- ✓ Design of gabion retaining wall
- ✓ Survey & basemapping
- ✓ Prepared plans & specs in accordance of NJ Transit requirements

Key Personnel Involved: Steven Ragazzo, PE, Michael McAlpin, PLS

NJ Transit, Bergen - Passaic Bus Study Bergen & Passaic Counties, NJ

Project involved a planning study of bus service throughout Bergen and Passaic Counties including recommendations for new local and express bus routes and alterations to existing routes to enhance service. As part of the project team, **M&S** is developing concepts for candidate Park & Ride facilities. Alternatives evaluated included upgrading/rehabilitating existing parking areas or other developed sites to be exclusive or shared Park & Ride facilities and also providing Park & Ride facilities on undeveloped sites. Facility improvements included roadway improvements and access improvements to accommodate bus movements and increased traffic demand, site alterations or layouts to enhance traffic flow for buses and other vehicles while providing safe pedestrian access and ADA compliance, and site alterations to increase parking capacity. All improvements were advanced to a conceptual/feasibility level only and cost estimating was performed for the developed alternates.



Services Performed:

- ✓ Conceptual design of Park & Ride facilities

Key Personnel Involved: Colleen Connolly, PE, PTOE



NJ Transit, Rail Operations & Infrastructure Planning Services

Flemington Transit Study, Flemington, NJ

Project involves developing the concept and feasibility of a proposed commuter rail service to/from the Borough of Flemington, New Jersey by studying the physical and operating needs, projected ridership, and estimated order of magnitude capital and operating costs. The study examines an extension of NJ TRANSIT's Raritan Valley Line (RVL) service to Flemington, adding approximately twenty (20) route miles to the passenger rail network. The project will also study the feasibility of increasing bus service and/or providing

Bus Rapid Transit service. **M&S** will provide evaluation and recommendation of improvements for the existing bridges along the proposed rail line including support for developing conceptual level cost estimates.

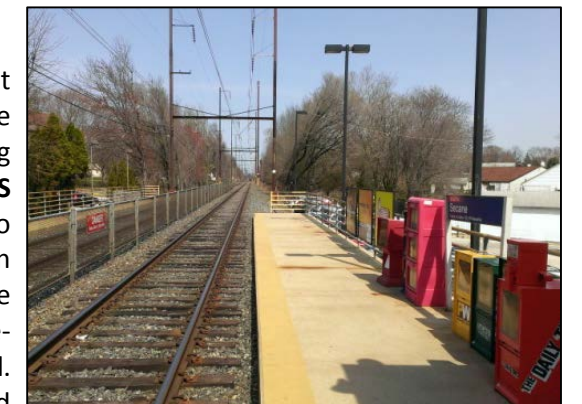
Services Performed:

- ✓ Condition evaluation of existing structures

Key Personnel Involved: Colleen Connolly, PE, PTOE, Steven Ragazzo, PE

SEPTA, Secane Train Station Parking Lot Expansion Clifton Heights, PA

The project involves the expansion of the existing parking lot at the Secane Regional Rail Station in Clifton Heights, PA. The proposed site improvements include expanding the existing parking lot on Providence Road from 39 spaces to 105. **M&S** was responsible for conducting a field investigation to identify current existing conditions at the grade crossing on Providence Road as well as the intersection of Providence Road & Bishop Avenue. Traffic signal operations, rail pre-emption, queue lengths and driver behavior were observed. Also, the operation of the existing SEPTA parking lots and other private driveways near the crossings were observed. The two study intersections were analyzed using Synchro software to determine existing levels-of-service (delays) and **M&S** made intersection improvement recommendations during the build year analysis. A Transportation Impact Assessment Report was prepared explaining the study data, methodology, results, recommendations, and conclusions. An order-of-magnitude construction cost estimate was prepared for any recommended off-site improvements.



Services Performed:

- ✓ Traffic data collection
- ✓ Traffic Analysis
- ✓ Transportation Impact Assessment Report

Key Personnel Involved: Colleen Connolly, PE, PTOE, Aino-Liis Tootsov, PE



SEPTA, Thorndale Line, Exton Train Station Exton, PA

The project involves rebuilding the Thorndale Line, Exton Station in Exton, PA. **M&S** is responsible for identifying the locations of as-drilled boring locations and incorporating them into the survey, performing supplemental survey as needed during the design process, review of the current codes for West Whiteland Township, and preparation of the applicable standards for site design to be included in the Code Analysis Report. Also responsible for coordination in preparing and obtaining a Land Development Permit.

Services Performed:

- ✓ Surveying
- ✓ Data collection
- ✓ Environmental Permitting and Coordination

Key Personnel Involved: Robert Zalewski, PE, CFM, CSM, Michael J. McAlpin, PLS, David A. Bretz, PE, PLS

SEPTA, RRD R8 Chestnut Hill W Bridge 0.35 Rehabilitation Chestnut Hill, PA

Project involves commuter service rehabilitation and the upgrading of Bridge 0.35 over SEPTA's mainline and the upgrading of the existing track. Responsible for performing right-of-way, property parcel and topographic surveying services along the corridor of the SEPTA railroad property and the adjoining properties, including 3 dimensional (3D) locations of rails, parking areas, utilities, bridge and abutments along with borings, and a track and overhead catenary system. Field survey work was performed working within very limited track access time.



Services Performed:

- ✓ Survey & basemapping

Key Personnel Involved: Arif Malick, PE, Michael J. McAlpin, PLS, Penny Krug



TMA Bucks/Bucks County Planning Commission Quakertown Rail Restoration Alternatives Analysis Bucks County, PA

M&S assisted in the preparation of Alternatives Analysis in the rapidly growing and congested Route 309 corridor in Pennsylvania, between Lansdale in Montgomery County and Quakertown in Bucks County. The study focused on bus options as well as the restoration of passenger rail service. Passenger rail services considered included a diesel rail shuttle service that would provide transfers for travel to Philadelphia at the SEPTA R5 station in Lansdale as well as an extension of the existing R5 electric multiple unit (EMU) service north of Lansdale to a terminus in Shelly, PA.

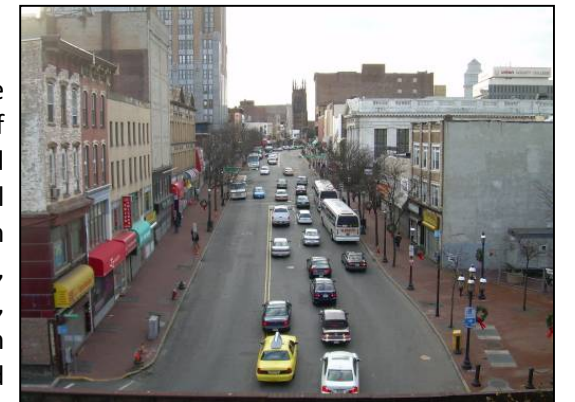
Services Performed:

- ✓ Data collection
- ✓ Assisted with the preparation of AA report

Key Personnel Involved: Arif Malick, PE, Steven Ragazzo, PE

NJTPA Elizabeth Downtown Multi-Modal Integration Study Elizabeth, NJ

Project involves a planning study for improvements to the existing Elizabeth Midtown Station, including the creation of a Multi-modal Transportation Facility. **M&S** performed traffic and pedestrian flow data collection including 6 manual vehicle turning movement count locations and 11 pedestrian count locations. Also inventoried the roadway network, obtained traffic signal timing, performed parking survey, counted bus/train ridership, and inventoried pedestrian facilities throughout the study area. **M&S** provided preliminary cost estimating for proposed civil improvements to the roadway surrounding the train station.



Services Performed:

- ✓ Data collection
- ✓ Roadway, parking, ridership inventory

Key Personnel Involved: Colleen Connolly, PE, PTOE