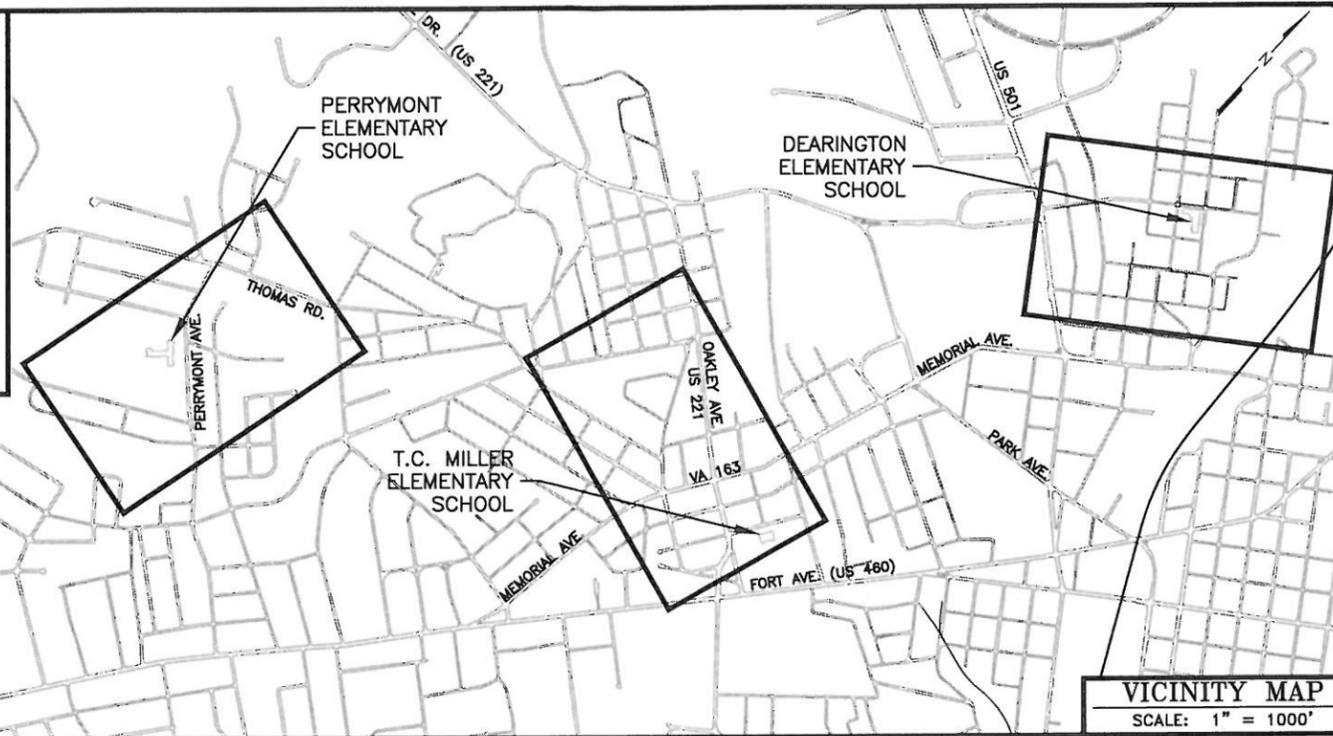
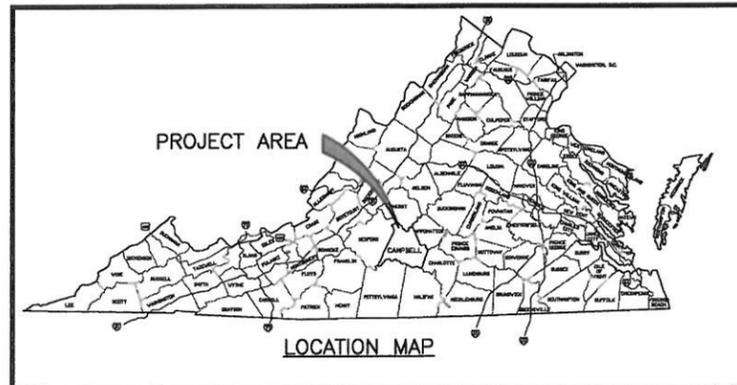


LYNCHBURG SRTS PEDESTRIAN IMPROVEMENTS FOR PERRYMONT, T.C. MILLER, AND DEARINGTON ELEMENTARY SCHOOLS LYNCHBURG, VIRGINIA

LYNCHBURG CITY PROJECT # PRJ1305-0004			
	VDOT #	UPC #	FEDERAL #
DEARINGTON	SRTS-118-222, C501	102829	SRTS-5118(218)
T.C. MILLER	SRTS-118-221, C501	102830	SRTS-5118(220)
PERRYMONT	SRTS-118-220, C501	102831	SRTS-5118(222)
CAPITAL OUTLAY CODE		FHWA 534#-3J021	
NFO (NO FEDERAL OVERSIGHT)			



LEGEND

EXISTING	ITEM	PROPOSED
---	WATER LINE	N/A
---	SANITARY SEWER	N/A
---	STORM DRAIN	N/A
---	GAS LINE	N/A
---	U/G TELEPHONE	N/A
---	U/G ELECTRIC	N/A
---	O/H POWER	N/A
---	RIGHT-OF-WAY LINE	---
---	PROPERTY LINE	N/A
---	CONTOUR LINE - INDEX	N/A
---	CONTOUR LINE - INTERMEDIATE	N/A
78.8	SPOT ELEVATION	+83.5
△	HORIZONTAL CONTROL	△
○	WATER METER	N/A
○	VALVE	N/A
○	FIRE HYDRANT	N/A
○	SANITARY SEWER MANHOLE	N/A
○	STORM MANHOLE	N/A
○	DROP INLET	N/A
○	HANDICAP SPACE	○
○	HANDICAP RAMP	○
○	ELECTRIC BOX	N/A
○	ELECTRIC MANHOLE	N/A
○	TELEPHONE MANHOLE	N/A
○	POWER POLE	N/A
○	GUY WIRE	N/A
○	SIGN	○
○	LIGHT POLE	○
○	FENCE POST	N/A
○	DECIDUOUS SHRUB	○
○	DECIDUOUS TREE	○
○	EVERGREEN SHRUB	○
○	EVERGREEN TREE	○
○	PROPERTY CORNER	N/A
○	GRAVEL ROAD	N/A
○	ASPHALT PAVEMENT	○
N/A	CONCRETE	○
N/A	VDOT STD TRUNCATED DOMES	○
N/A	CROSSWALK	
N/A	PAVEMENT STRIPING	

SHEET INDEX

1	TITLE SHEET	
2	GENERAL NOTES AND TYPICAL SECTIONS	
3	VDOT STANDARD DETAILS	
3A	CITY OF LYNCHBURG STANDARD DETAILS	
4	EROSION AND SEDIMENT CONTROL NARRATIVE AND STORMWATER POLLUTION PREVENTION PLAN	
5	TEMPORARY TRAFFIC CONTROL NOTES AND PEDESTRIAN TRAFFIC CONTROL DETAILS	
5A	VEHICULAR TRAFFIC CONTROL DETAILS	
PM-0	PERRYMONT ELEMENTARY SCHOOL SHEET LAYOUT	
PM-1	PERRYMONT ELEMENTARY SCHOOL IMPROVEMENTS	1 OF 4
PM-2	PERRYMONT ELEMENTARY SCHOOL IMPROVEMENTS	2 OF 4
PM-3	PERRYMONT ELEMENTARY SCHOOL IMPROVEMENTS	3 OF 4
PM-4	PERRYMONT ELEMENTARY SCHOOL IMPROVEMENTS	4 OF 4
TC-0	T.C. MILLER ELEMENTARY SCHOOL SHEET LAYOUT	
TC-1	T.C. MILLER ELEMENTARY SCHOOL IMPROVEMENTS	1 OF 4
TC-2	T.C. MILLER ELEMENTARY SCHOOL IMPROVEMENTS	2 OF 4
TC-3	T.C. MILLER ELEMENTARY SCHOOL IMPROVEMENTS	3 OF 4
TC-4	T.C. MILLER ELEMENTARY SCHOOL IMPROVEMENTS	4 OF 4
DE-0	DEARINGTON ELEMENTARY SCHOOL SHEET LAYOUT	
DE-1	DEARINGTON ELEMENTARY SCHOOL IMPROVEMENTS	1 OF 5
DE-2	DEARINGTON ELEMENTARY SCHOOL IMPROVEMENTS	2 OF 5
DE-3	DEARINGTON ELEMENTARY SCHOOL IMPROVEMENTS	3 OF 5
DE-4	DEARINGTON ELEMENTARY SCHOOL IMPROVEMENTS	4 OF 5
DE-5	DEARINGTON ELEMENTARY SCHOOL IMPROVEMENTS	5 OF 5
DM-1	PERRYMONT ELEMENTARY SCHOOL DEMOLITION PLAN	1 OF 6
DM-2	PERRYMONT ELEMENTARY SCHOOL DEMOLITION PLAN	2 OF 6
DM-3	T.C. MILLER ELEMENTARY SCHOOL DEMOLITION PLAN	3 OF 6
DM-4	T.C. MILLER ELEMENTARY SCHOOL DEMOLITION PLAN	4 OF 6
DM-5	DEARINGTON ELEMENTARY SCHOOL DEMOLITION PLAN	5 OF 6
DM-6	DEARINGTON ELEMENTARY SCHOOL DEMOLITION PLAN	6 OF 6

ABBREVIATIONS:

ADA =	AMERICANS WITH DISABILITIES ACT	PKS =	PAVEMENT NAIL
ARCH =	ARCHITECTURAL	PROP. =	PROPOSED
APPROX =	APPROXIMATE	PSI =	POUNDS PER SQUARE INCH
BC =	BOTTOM OF CURB	PVC =	POLYVINYL CHLORIDE
BOT =	BOTTOM	RCP =	REINFORCED CONCRETE PIPE
BP =	BEGIN PROFILE	R.D. =	ROOF DRAIN
BW =	BOTTOM OF WALL	R/W =	RIGHT OF WAY
BW(L) =	BOTTOM OF WALL (LEFT SIDE)	SS =	SANITARY SEWER
BW(R) =	BOTTOM OF WALL (RIGHT SIDE)	SSMH =	SANITARY SEWER MANHOLE
CMP =	CORRUGATED METAL PIPE	SSM =	SOIL STABILIZATION MATTING
CPP =	CORRUGATED PLASTIC PIPE	STD =	STANDARD
C.O. =	CLEANOUT	STMH =	STORM MANHOLE
COMM. =	COMMUNICATION	TC =	TOP OF CURB
CONC. =	CONCRETE	TOP =	TERRACOTTA PIPE
DA =	DRAINAGE AREA	TELE. =	TELEPHONE
D.B. =	DEED BOOK	TW =	TOP OF WALL
D.I. =	DROP INLET	TW(L) =	TOP OF WALL (LEFT SIDE)
DIP =	DUCTILE IRON PIPE	TW(R) =	TOP OF WALL (RIGHT SIDE)
DI =	DUCTILE IRON	TYP =	TYPICAL
EG =	EXISTING GROUND	U/G =	UNDERGROUND
ELEC. =	ELECTRIC	V.B. =	VERTICAL BEND
ELEV. =	ELEVATIONS	VESCH =	VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK
EOI =	END OF INFORMATION FROM MISS UTILITY MARKINGS	VDOT =	VIRGINIA DEPARTMENT OF TRANSPORTATION
EP =	END PROFILE	VPC =	VERTICAL POINT OF CURVATURE
EX., EXIST. =	EXISTING	VPT =	VERTICAL POINT OF TANGENCY
EXP JT =	EXPANSION JOINT	WWF =	WOVEN WIRE FABRIC
F.H. =	FIRE HYDRANT		
FF =	FINISHED FLOOR		
FFE =	FINISHED FLOOR ELEVATION		
FND =	FOUND		
H.B. =	HORIZONTAL BEND		
HCR =	HANDICAP RAMP		
HDPE =	HIGH DENSITY POLYETHYLENE		
INT =	INTERSECTION		
INV. =	INVERT		
LEED =	LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN		
MAX =	MAXIMUM		
MED =	MARTINSVILLE ELECTRIC DEPARTMENT		
M.H. =	MANHOLE		
MIN =	MINIMUM		
MON. =	MONUMENT		
MUTCD =	MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES		
N/F =	NOW OR FORMERLY		
NFPA =	NATIONAL FIRE PROTECTION AGENCY		
N.I.C. =	NOT IN CONTRACT		
N.T.S. =	NOT TO SCALE		
O/S =	OFF SET		
OSHA =	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION		
Pg. =	PAGE		

This project is to be constructed in accordance with the Lynchburg Manual of Specs and Standards, Virginia Department of Transportation 2007 Road and Bridge Specifications as well as the 2008 Road and Bridge Standards, the American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Streets, 2011; AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities, July 2004, AASHTO Guide for Development of Bicycle Facilities, 1999, the Virginia Work Area Protection Manual, latest edition, the Virginia Erosion and Sediment Control Handbook, latest edition, the Manual on Uniform Traffic Control Devices, latest edition, and the project plans and technical specifications.

Locality Certification:

By signature of a person of responsible charge from the locality, the locality shall certify on the title sheets that the plans are complete, constructible, and biddable and accounted for, and all permits necessary for construction have been obtained.

Signature _____ Date _____

Title _____

PROPOSED EROSION CONTROL MEASURES

○	STORM DRAIN PROTECTION	VESCH STD. & SPEC. 3.07
○	TEMP. SILT FENCE	VESCH STD AND SPEC. 3.05

ANDERSON & ASSOCIATES, INC.
Professional Design Services
www.andassoc.com

100 Ardmore St.
Blacksburg, Va. 24060
540-552-5592

J.N. 30470 February 20, 2014 SHEET 1 OF 29

REVISIONS
18 JUN 14

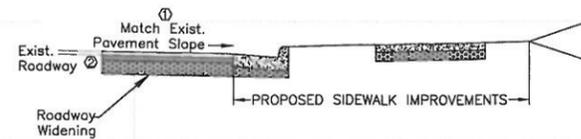


GENERAL NOTES

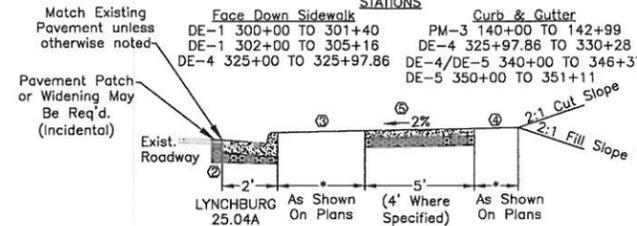
- The grade line denotes top of finished grade unless shown otherwise on typical sections or plans.
- The cost of removal of all existing items located in the area to be graded/disturbed shall be included in the Unit Price for other items of work.
- All existing underground utility locations as shown on these plans are approximate and do not represent all underground utilities or service lines. Prior to excavation, the contractor shall contact the pertinent utility companies and/or utility locating services to have all underground utilities located and marked.
- All water meters, water valves, manholes, cleanouts, gate valves, etc. affected by grading procedures shall be adjusted to match finished grade. Curb inlets shall be installed to match linear grade of existing or proposed back of curb.
- Existing concrete or pavement structures to be removed shall be saw cut to provide a clean, straight edge. Existing concrete shall be saw cut no more than 4' from existing joints.
- Items disturbed or damaged during construction that are not specifically noted to be replaced shall be restored to pre-construction conditions at the contractor's expense. All property corners and R/W monuments that are disturbed shall be reset by Contractors surveyor. All signs removed during construction are to be replaced as shown on plans and in accordance with VDOT and MUTCD Standards.
- Smooth surface transitions are required.
- All sidewalk cross slopes shall not exceed 2%.
- Storm sewer grades and lengths shown are based on horizontal distance between center line of structures.
- Contractor shall maintain vehicular and pedestrian access to all homes and businesses during construction.
- The contractor shall continuously keep up to date with property restoration, seeding, and compaction testing.
- Contractor shall be responsible for safety on the site. Contractor shall install any barriers, temporary fencing, flashers, lighting or any other means necessary to protect unauthorized personnel from hazardous areas.
- The Contractor shall be responsible for Maintenance of Traffic and Traffic Control in accordance with the latest editions of the Manual of Uniform Traffic Control and the Virginia Work Area Protection Manual.
- One-way street traffic shall be maintained at all times if a street closing is required and shall be approved by the City.
- All streets shall be opened to two-way traffic at the end of each working day, unless an alternative detour is available. Detours must be approved by the City.
- Contractor shall be responsible for obtaining all necessary permits including fees.
- Proposed spot elevations on curbing reference the back/top of curb elevation. Unless otherwise noted.
- Curb radii are measured to the face of curb.
- All pipe road crossings shall be open cut unless otherwise shown on plans.
- Storm structures shall be modified as necessary to accommodate inverts of existing and proposed storm lines. New structure top elevations shall match the back/top of curb elevation and linear grade. All curbing, sidewalk & pavement not to be demolished that is damaged during construction shall be replaced at the Contractor's expense.
- Contractor shall be responsible for providing positive drainage to existing and proposed storm systems during all phases of the project. Contractor shall provide positive drainage in all aspects of the project. All areas of ponding shall be adjusted by the contractor at no additional cost to the Owner.
- Proposed cross sections shall match the typical sections unless shown otherwise on the plans.
- Contractor shall relocate or adjust existing utilities and appurtenances or coordinate their relocation as necessary to accommodate the proposed construction. Some utilities to be relocated or adjusted may not be shown on the plans.
- If, during construction, the stormwater invert elevations, existing pipe sizes or pipe types shown on the plans are found to differ significantly from the elevations and pipe sizes/types encountered in the field the Contractor will confer with the Engineer before installing the proposed stormwater facilities.
- All storm water pipe on this project shall be Class III RCP unless otherwise noted.
- When 6" curb & gutter is specified on a radius (such as at an intersection), the City may approve a decrease in the cross slope of the gutter to facilitate proper drainage. Radial curb/curb & gutter is considered the same item as standard curb/curb & gutter.
- All proposed stormwater structures shall have inlet shaping in accordance with VDOT STD. IS-1.
- All excess excavated material will be disposed of legally off site and at contractor's expense. Contractor to obtain site, and E&S permit. All excavation is unclassified and no additional payment will be made for rock or unsuitable material encountered.
- The contractor shall verify all existing and proposed inverts prior to beginning construction.
- The use of replaceable cast-in-place truncated domes shall be incorporated in the construction of all mobility impaired accessible ramps per VDOT standards as referenced in these plans. Color and type shall be determined by Owner. Surface mounted or formed truncated domes shall only be used if called for in the plans.
- All pavement removed during construction shall be replaced in accordance with the standard details on this sheet.
- No paved areas are to be disturbed during construction unless directed by the City or called for on the plans.
- Construction stakeout and surveying for all construction on this project shall be performed by the contractor.
- The contractor shall restore all pavement, sidewalks, curbing, gutter, fences, poles, retaining walls, culverts, utilities or other such property, landscaping and surface structures removed or disturbed as a part of the work to a condition equal to that before the work began.
- Permits, fees and licenses shall be secured and paid for by the contractor, including disposal charges as required.
- Contractor shall saw-cut all joints where existing curbing, pavement, and sidewalk is to be demolished and new construction joins the existing.
- Property lines and right of way lines shown on the plans are from tax map records and shall be considered approximate for the purpose of securing general easement-agreements.
- Contractor shall comply with S59.1-406, ET Seq. of the Code of Virginia (Overhead High Voltage Lines Safety Act).
- Contractor shall maintain emergency, service, and delivery vehicle access to the surrounding area.
- Any discrepancies found between the drawings and site conditions or any inconsistencies of ambiguities in the drawings shall be immediately reported to the Engineer.
- Contractor shall comply with the most recent OSHA standards.
- Contractor shall contact Lynchburg City Traffic Engineering Section at least 72 hours prior to beginning any work within 1,000' of a signalized intersection.
- Utilities shown hereon are per above ground evidence corresponding with miss utility designation. Contractor shall verify utilities before excavation.
- Contractor shall install erosion and sediment control measures prior to commencing land disturbing activities.
- Pavement, sidewalks, and curbs to be removed shall be sawcut. Sidewalks and curbs shall be saw cut at the nearest expansion or control joint and replaced at the Contractor's expense. Pavement and sidewalks disturbed by utility connections and other work shall be replaced as soon as the work causing the disturbance is complete.
- Where improvements are installed near existing pavement, the existing pavement shall be saw cut 6" from existing edge and primed with VDOT approved primer prior to placement of improvements. Pavement patch shall be installed where applicable.
- Disturbed areas not to be paved shall be topsoiled, seeded, and mulched according to the VESCH standards.
- Testing shall be the responsibility of the Contractor, shall be performed by an approved independent testing laboratory qualified to perform such tests, and shall be considered incidental to other items of work.
- Blasting and burning will not be allowed.
- Work shall meet the standards set for in the City of Lynchburg Manual of Details and Specifications, current edition.

TYPICAL SECTIONS

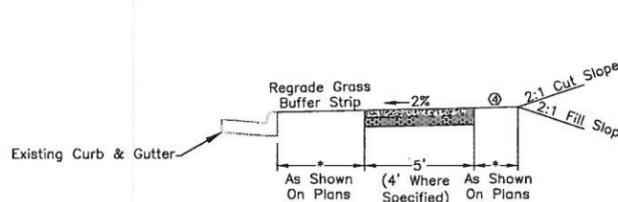
ASPHALT PAVEMENT DETAIL FOR ROADWAY WIDENING > 0.5' WIDTH



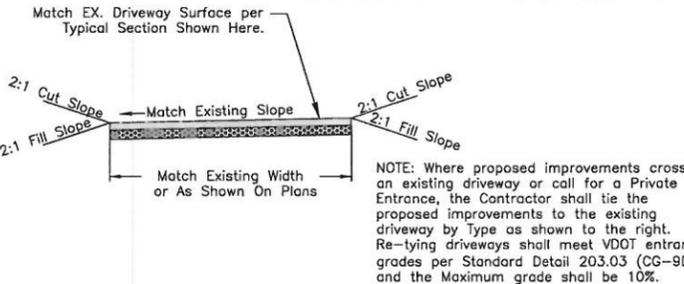
SIDEWALK WITH CURB & GUTTER



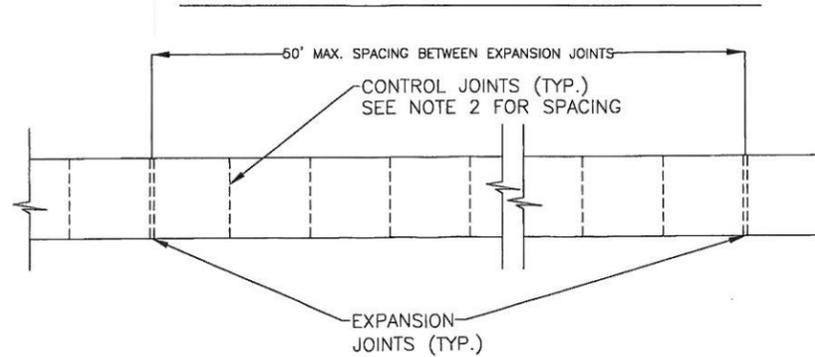
SIDEWALK ALONG EXISTING CURB & GUTTER



DRIVEWAY TYPICAL SECTION



SIDEWALK/JOINT LAYOUT DETAIL



NOTES

- Width of proposed pavement varies. Provide tack coat (CRS-1) along edges of existing asphalt pavement and new C&G prior to new asphalt paving.
- Saw cut exist. pavement 6" min. wherever new construction ties into exist. pavement. Edges shall be straight and even.
- Width of grass buffer strip varies. See plans for dimensions.
- Provide a 1' grass shoulder along all new sidewalk unless otherwise shown on plans.
- Install "Facedown Sidewalk" where shown on plans in accordance with Lynchburg Detail 25.06 on Sheet 3A.

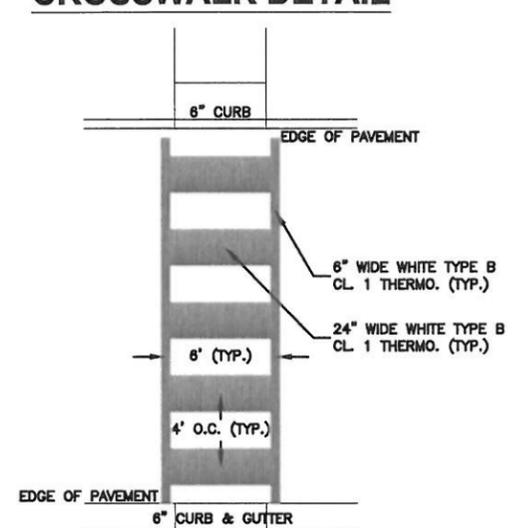
- ROADWAY WIDENING CONSTRUCTION > 0.5' WIDTH:**
- Surface: 1 1/2" Asphalt Concrete, Type SM-9.5A @ 165 lbs/SY.
 - Base: 4" Asphalt Concrete, Type BM-25.0
 - Subbase: 6" Graded Aggregate, Type 1, 21B.

- SIDEWALK CONSTRUCTION:**
- Surface: 4" A3 Concrete Sidewalk.
 - Subbase: 4" VDOT Aggregate Base Material Type 1, 21B Compacted to 95% Standard Proctor.

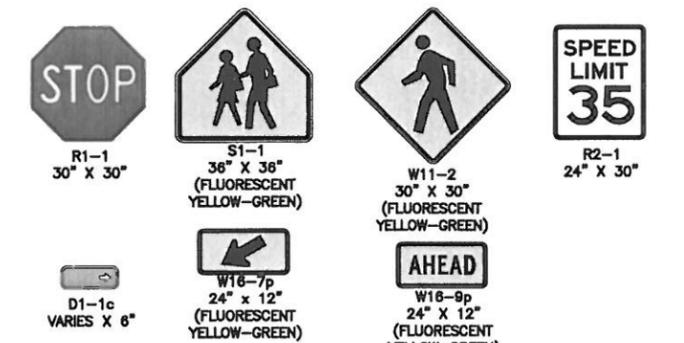
- PAVEMENT PATCH FOR CG-6 CONSTRUCTION:**
- Surface: 2" Asphalt Concrete, Type SM-9.5A @ 220 lbs/SY.
 - Base: 4" Asphalt Concrete, Type BM-25.0
 - Subbase: 6" Graded Aggregate, Type 1, 21B.

NOTE: Pavement patch or widening less than 6 inch shall be incidental.

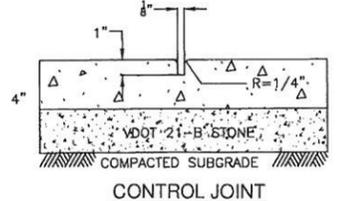
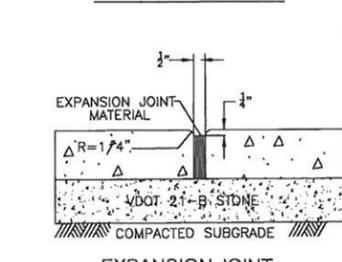
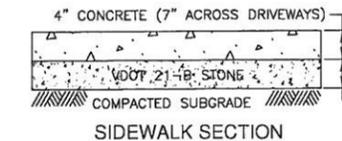
CROSSWALK DETAIL



SIGNAGE DETAIL



ALL SIGNS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST ED. AND VDOT SUPPLEMENT



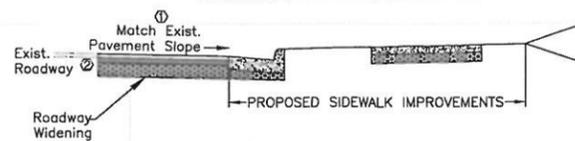
- NOTES:**
- ALL CONCRETE SHALL BE VDOT CLASS A3.
 - CONTRACTION JOINTS SHALL BE SPACED AT 5' INTERVALS FOR 5' WIDE SIDEWALKS.
 - SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS.
 - CONTRACTOR SHALL BACKFILL BEHIND SIDEWALK TO PROVIDE POSITIVE DRAINAGE.

GENERAL NOTES

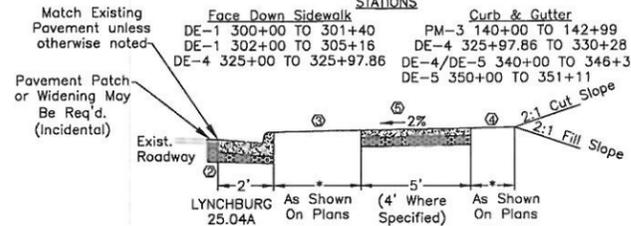
- The grade line denotes top of finished grade unless shown otherwise on typical sections or plans.
- The cost of removal of all existing items located in the area to be graded/disturbed shall be included in the Unit Price for other items of Work.
- All existing underground utility locations as shown on these plans are approximate and do not represent all underground utilities or service lines. Prior to excavation, the contractor shall contact the pertinent utility companies and/or utility locating services to have all underground utilities located and marked.
- All water meters, water valves, manholes, cleanouts, gate valves, etc. affected by grading procedures shall be adjusted to match finished grade. Curb inlets shall be installed to match linear grade of existing or proposed back of curb.
- Existing concrete or pavement structures to be removed shall be saw cut to provide a clean, straight edge. Existing concrete shall be saw cut no more than 4' from existing joints.
- Items disturbed or damaged during construction that are not specifically noted to be replaced shall be restored to pre-construction conditions at the contractor's expense. All property corners and R/W monuments that are disturbed shall be reset by Contractors surveyor. All signs removed during construction are to be replaced as shown on plans and in accordance with VDOT and MUTCD Standards.
- Smooth surface transitions are required.
- All sidewalk cross slopes shall not exceed 2%.
- Storm sewer grades and lengths shown are based on horizontal distance between center line of structures.
- Contractor shall maintain vehicular and pedestrian access to all homes and businesses during construction.
- The contractor shall continuously keep up to date with property restoration, seeding, and compaction testing.
- Contractor shall be responsible for safety on the site. Contractor shall install any barriers, temporary fencing, fishers, lighting or any other means necessary to protect unauthorized personnel from hazardous areas.
- The Contractor shall be responsible for Maintenance of Traffic and Traffic Control in accordance with the latest editions of the Manual of Uniform Traffic Control and the Virginia Work Area Protection Manual.
- One-way street traffic shall be maintained at all times if a street closing is required and shall be approved by the City.
- All streets shall be opened to two-way traffic at the end of each working day, unless an alternative detour is available. Detours must be approved by the City.
- Contractor shall be responsible for obtaining all necessary permits including fees.
- Proposed spot elevations on curbing reference the back/top of curb elevation. Unless otherwise noted, curb radii are measured to the face of curb.
- All pipe road crossings shall be open cut unless otherwise shown on plans.
- Storm structures shall be modified as necessary to accommodate inverts of existing and proposed storm lines. New structure top elevations shall match the back/top of curb elevation and linear grade. All curbing, sidewalk & pavement not to be demolished during construction shall be replaced at the Contractor's expense.
- Contractor shall be responsible for providing positive drainage to existing and proposed storm systems during all phases of the project. Contractor shall provide positive drainage in all aspects of the project. All areas of ponding shall be adjusted by the contractor at no additional cost to the Owner.
- Proposed cross sections shall match the typical sections unless shown otherwise on the plans.
- Contractor shall relocate or adjust existing utilities and appurtenances or coordinate their relocation as necessary to accommodate the proposed construction. Some utilities to be relocated or adjusted may not be shown on the plans.
- If, during construction, the stormwater invert elevations, existing pipe sizes or pipe types shown on the plans are found to differ significantly from the elevations and pipe sizes/types encountered in the field the Contractor will confer with the Engineer before installing the proposed stormwater facilities.
- All storm water pipe on this project shall be Class III RCP unless otherwise noted.
- When 6" curb & gutter is specified on a radius (such as at an intersection), the City may approve a decrease in the cross slope of the gutter to facilitate proper drainage. Radial curb/curb & gutter is considered the same item as standard curb/curb & gutter.
- All proposed stormwater structures shall have inlet shaping in accordance with VDOT STD. IS-1.
- All excess excavated material will be disposed of legally off site and at contractor's expense. Contractor to obtain site, and E&S permit. All excavation is unclassified and no additional payment will be made for rock or unsuitable material encountered.
- The contractor shall verify all existing and proposed inverts prior to beginning construction.
- The use of replaceable cast-in-place truncated domes shall be incorporated in the construction of all mobility impaired accessible ramps per VDOT standards as referenced in these plans. Color and type shall be determined by Owner. Surface mounted or formed truncated domes shall only be used if called for in the plans.
- All pavement removed during construction shall be replaced in accordance with the standard details on this sheet.
- No paved areas are to be disturbed during construction unless directed by the City or called for on the plans.
- Construction stakeout and surveying for all construction on this project shall be performed by the contractor.
- The contractor shall restore all pavement, sidewalks, curbing, gutter, fences, poles, retaining walls, culverts, utilities or other such property, landscaping and surface structures removed or disturbed as a part of the work to a condition equal to that before the work began.
- Permits, fees and licenses shall be secured and paid for by the contractor, including disposal charges as required.
- Contractor shall saw-cut all joints where existing curbing, pavement, and sidewalk is to be demolished and new construction joins the existing.
- Property lines and right of way lines shown on the plans are from tax map records and shall be considered approximate for the purpose of securing general easement-agreements.
- Contractor shall comply with S59.1-406, ET Seq. of the Code of Virginia (Overhead High Voltage Lines Safety Act).
- Contractor shall maintain emergency, service, and delivery vehicle access to the surrounding area.
- Any discrepancies found between the drawings and site conditions or any inconsistencies of ambiguities in the drawings shall be immediately reported to the Engineer.
- Contractor shall comply with the most recent OSHA standards.
- Contractor shall contact Lynchburg City Traffic Engineering Section at least 72 hours prior to beginning any work within 1,000' of a signalized intersection.
- Utilities shown hereon are per above ground evidence corresponding with miss utility designation. Contractor shall verify utilities before excavation.
- Contractor shall install erosion and sediment control measures prior to commencing land disturbing activities.
- Pavement, sidewalks, and curbs to be removed shall be sawcut. Sidewalks and curbs shall be saw cut at the nearest expansion or control joint and replaced at the Contractor's expense. Pavement and sidewalks disturbed by utility connections and other work shall be replaced as soon as the work causing the disturbance is complete.
- Where improvements are installed near existing pavement, the existing pavement shall be saw cut 6" from existing edge and primed with VDOT approved primer prior to placement of improvements. Pavement patch shall be installed where applicable.
- Disturbed areas not to be paved shall be topsoiled, seeded, and mulched according to the VESCH standards.
- Testing shall be the responsibility of the Contractor, shall be performed by an approved independent testing laboratory qualified to perform such tests, and shall be considered incidental to other items of Work.
- Blasting and burning will not be allowed.
- Work shall meet the standards set for in the City of Lynchburg Manual of Details and Specifications, current edition.

TYPICAL SECTIONS

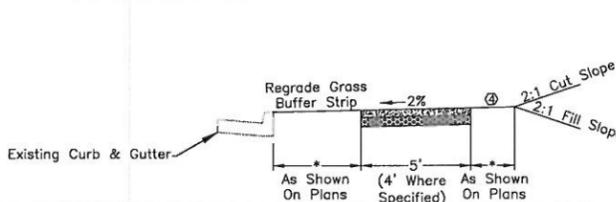
ASPHALT PAVEMENT DETAIL FOR ROADWAY WIDENING > 0.5' WIDTH



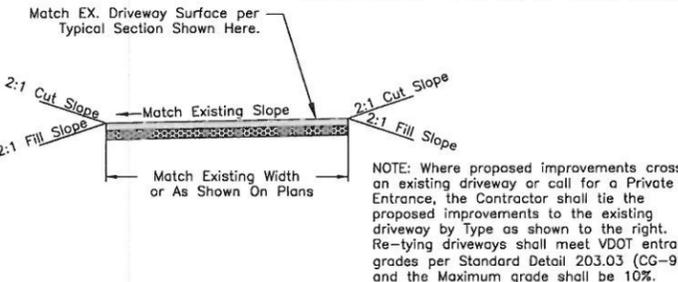
SIDEWALK WITH CURB & GUTTER



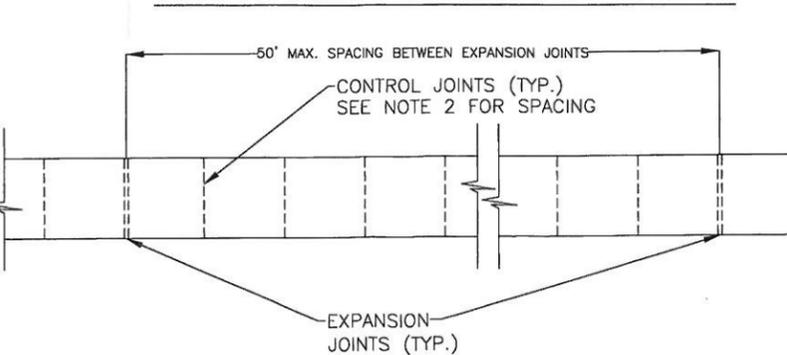
SIDEWALK ALONG EXISTING CURB & GUTTER



DRIVEWAY TYPICAL SECTION



SIDEWALK/JOINT LAYOUT DETAIL



- ### NOTES
- Width of proposed pavement varies. Provide tack coat (CRS-1) along edges of existing asphalt pavement and new C&G prior to new asphalt paving.
 - Saw cut exist. pavement 6" min. wherever new construction ties into exist. pavement. Edges shall be straight and even.
 - Width of grass buffer strip varies. See plans for dimensions.
 - Provide a 1' grass shoulder along all new sidewalk unless otherwise shown on plans.
 - Install "Facedown Sidewalk" where shown on plans in accordance with Lynchburg Detail 25.06 on Sheet 3A.

ROADWAY WIDENING CONSTRUCTION > 0.5' WIDTH:

- Surface: 1 1/2" Asphalt Concrete, Type SM-9.5A @ 165 lbs/SY.
- Base: 4" Asphalt Concrete, Type BM-25.0
- Subbase: 6" Graded Aggregate, Type 1, 21B.

SIDEWALK CONSTRUCTION:

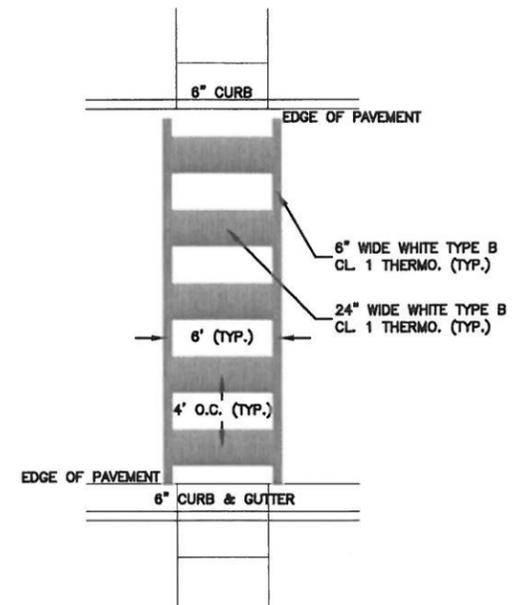
- Surface: 4" A3 Concrete Sidewalk.
- Subbase: 4" VDOT Aggregate Base Material Type 1, 21B Compacted to 95% Standard Proctor.

PAVEMENT PATCH FOR CG-6 CONSTRUCTION:

- Surface: 2" Asphalt Concrete, Type SM-9.5A @ 220 lbs/SY.
- Base: 4" Asphalt Concrete, Type BM-25.0
- Subbase: 6" Graded Aggregate, Type 1, 21B.

NOTE: Pavement patch or widening less than 6 inch shall be incidental.

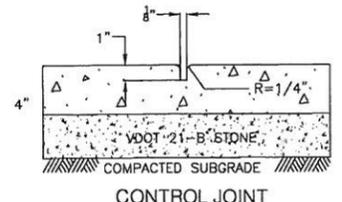
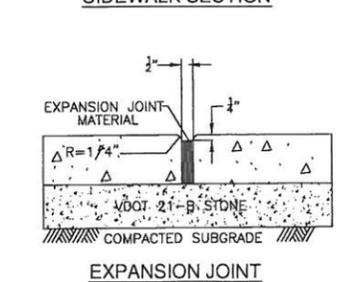
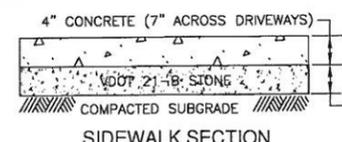
CROSSWALK DETAIL



SIGNAGE DETAIL



ALL SIGNS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST ED. AND VDOT SUPPLEMENT

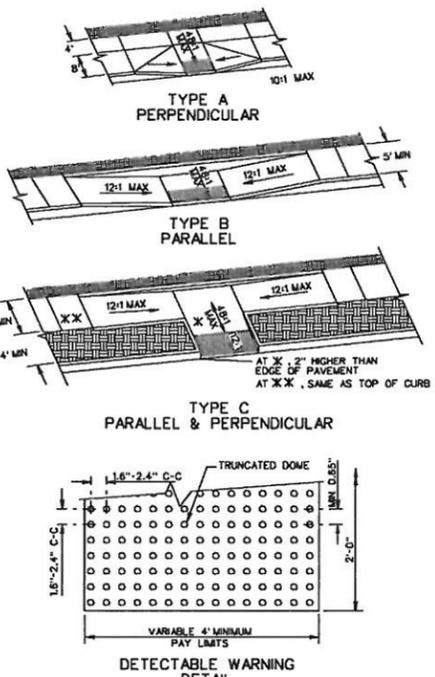


- ### NOTES:
- ALL CONCRETE SHALL BE VDOT CLASS A3.
 - CONTRACTION JOINTS SHALL BE SPACED AT 5' INTERVALS FOR 5' WIDE SIDEWALKS.
 - SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS.
 - CONTRACTOR SHALL BACKFILL BEHIND SIDEWALK TO PROVIDE POSITIVE DRAINAGE.

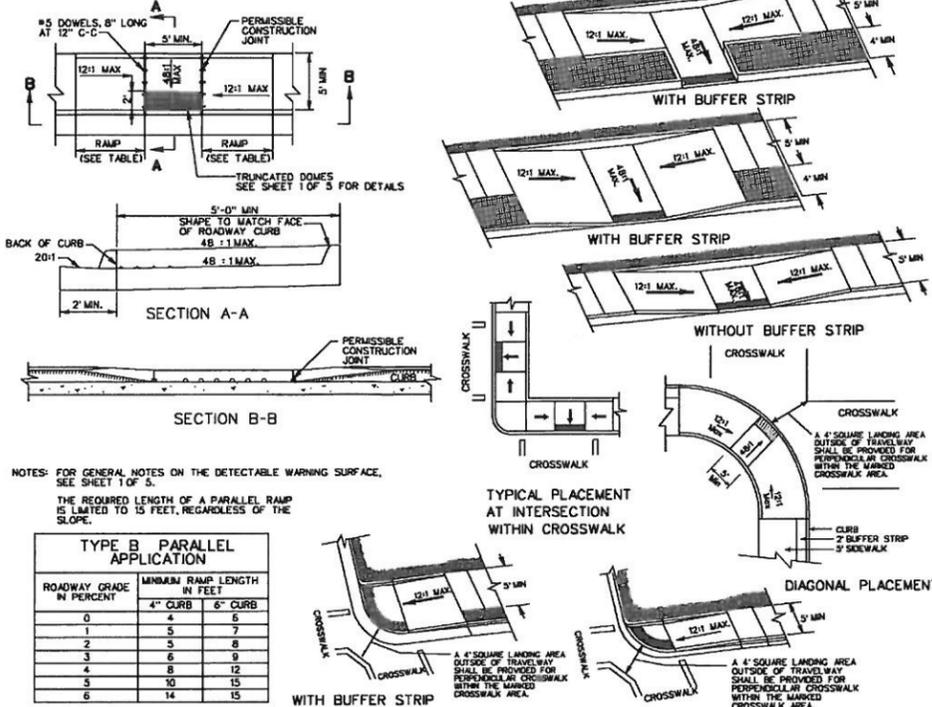
CG-12

GENERAL NOTES:

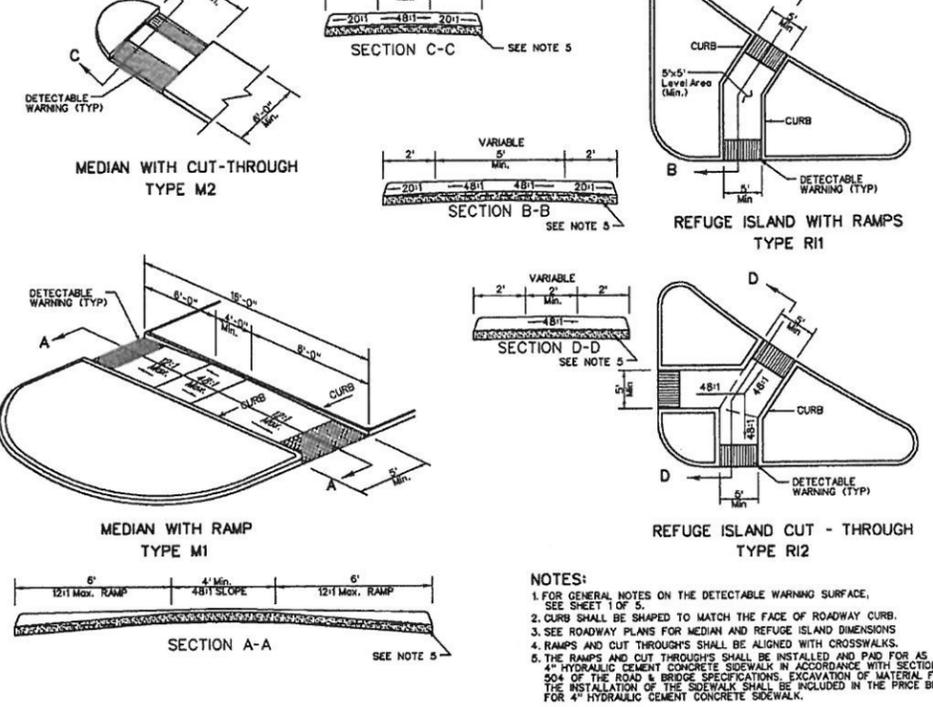
1. THE DETECTABLE WARNING SHALL BE PROVIDED BY TRUNCATED DOMES.
2. DETECTABLE WARNING TO BE CLASS A-3 CONCRETE (CLASS A-4 IF PRECAST) WITH SLIP RESISTANT INTEGRAL SURFACE COVERING THE FULL WIDTH OF THE RAMP FLOOR BY 2 FEET IN LENGTH IN THE DIRECTION OF PEDESTRIAN TRAVEL. OTHER TYPES OF MATERIAL WITH THE TRUNCATED DOMES DETECTABLE WARNING MAY BE USED WITH THE APPROVAL OF THE ENGINEER.
3. SLOPING SIDES OF CURB RAMP MAY BE POURED MONOLITHICALLY WITH RAMP FLOOR OR BY USING PERMISSIBLE CONSTRUCTION JOINT WITH REQUIRED BARS.
4. IF RAMP FLOOR IS PRECAST, HOLES MUST BE PROVIDED FOR DOWEL BARS SO THAT ADJOINING FLARED SIDES CAN BE CAST IN PLACE AFTER PLACEMENT OF PRECAST RAMP FLOOR. PRECAST CONCRETE SHALL BE CLASS A-4.
5. REQUIRED BARS ARE TO BE NO. 3 X 8" PLACED 1" CENTER TO CENTER ALONG BOTH SIDES OF THE RAMP FLOOR, MINIMUM DEPTH OF RAMP FLOOR, MINIMUM CONCRETE COVER 1/2".
6. CURB / CURB AND GUTTER SLOPE TRANSITIONS ADJACENT TO CURB RAMP ARE INCLUDED IN PAYMENT FOR CURB / CURB AND GUTTER.
7. CURB RAMP ARE TO BE LOCATED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THEY ARE TO BE PROVIDED AT INTERSECTIONS WHEREVER AN ACCESSIBLE ROUTE WITHIN THE RIGHT OF WAY OF A HIGHWAY FACILITY CROSSES A CURB REGARDLESS OF WHETHER SIDEWALK IS EXISTING, PROPOSED, OR NONEXISTENT. THEY MUST BE LOCATED WITHIN PEDESTRIAN CROSSWALKS AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER, AND SHOULD NOT BE LOCATED BEHIND VEHICLE STOP LINES, EXISTING LIGHT POLES, FIRE HYDRANTS, DROP PILES, ETC. ACCESSIBLE ROUTES PROVIDE A CONTINUOUS UNOBSTRUCTED, STABLE, FIRM AND SLIP RESISTANT PATH CONNECTING ALL ACCESSIBLE ELEMENTS OF A FACILITY THAT CAN BE APPROACHED, ENTERED AND USED BY PEDESTRIANS.
8. RAMP MAY BE PLACED ON RADIAL OR TANGENTIAL SECTIONS PROVIDED THAT THE CURB OPENING IS PLACED WITHIN THE LIMITS OF THE CROSSWALK AND THAT THE SLOPE AT THE CONNECTION OF THE CURB OPENING IS PERPENDICULAR TO THE CURB.
9. TYPICAL CONCRETE SIDEWALK IS 4" THICK. WHEN THE ENTRANCE RADI/CANT ACCOMMODATE THE TURNING REQUIREMENTS OF ANTICIPATED HEAVY TRUCK TRAFFIC, REFER TO STANDARD CG-13, COMMERCIAL ENTRANCE HEAVY TRUCK TRAFFIC FOR CONCRETE DEPTH.
10. WHEN CURB RAMP ARE USED IN CONJUNCTION WITH A SHARED USE PATH, THE MINIMUM WIDTH SHALL BE THE WIDTH OF THE SHARED USE PATH.
11. WHEN ONLY ONE CURB RAMP IS PROVIDED FOR TWO CROSSINGS (DIAGONAL), A 4' x 4' LANDING AREA SHALL BE PROVIDED TO MANEUVER A WHEELCHAIR INTO THE CROSSWALK WITHOUT GOING INTO THE TRAVELWAY. THIS 4' x 4' LANDING AREA MAY INCLUDE THE GUTTER PAW.



CG-12



CG-12



VDOT ROAD AND BRIDGE STANDARDS

CG-12 DETECTABLE WARNING SURFACE (GENERAL NOTES)

SHEET 1 OF 5 REVISION DATE 203.05 10/09

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE 105 502

VDOT ROAD AND BRIDGE STANDARDS

CG-12 DETECTABLE WARNING SURFACE TYPE B (PARALLEL) APPLICATION

SHEET 3 OF 5 REVISION DATE 203.07 10/09

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE 105 502

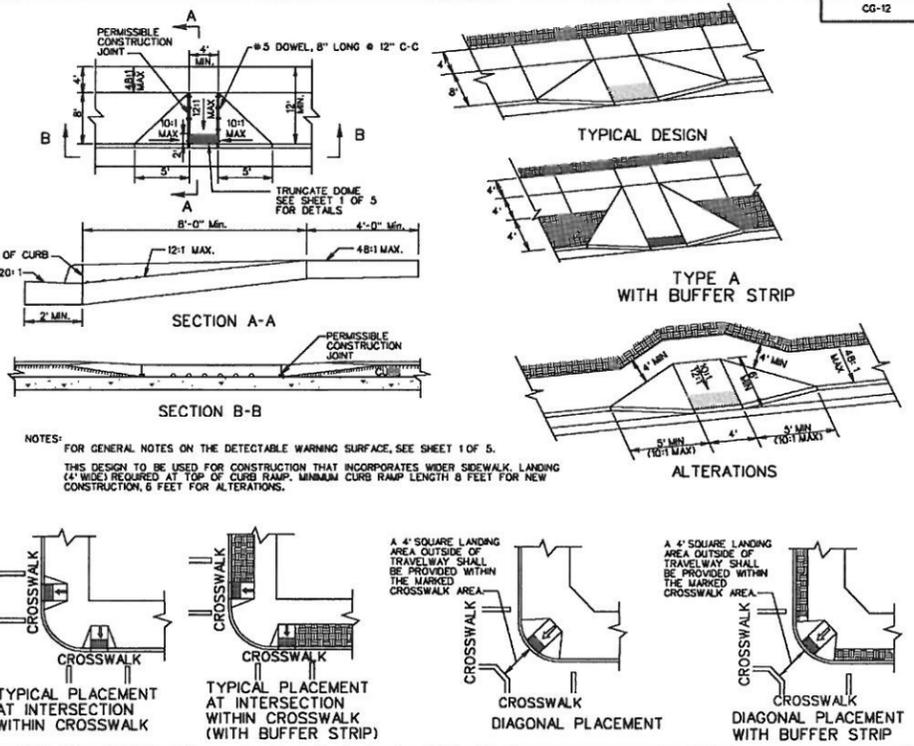
VDOT ROAD AND BRIDGE STANDARDS

CG-12 DETECTABLE WARNING SURFACE MEDIAN AND REFUGE ISLAND APPLICATIONS

SHEET 5 OF 5 REVISION DATE 203.08A 08/10

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE 105 502



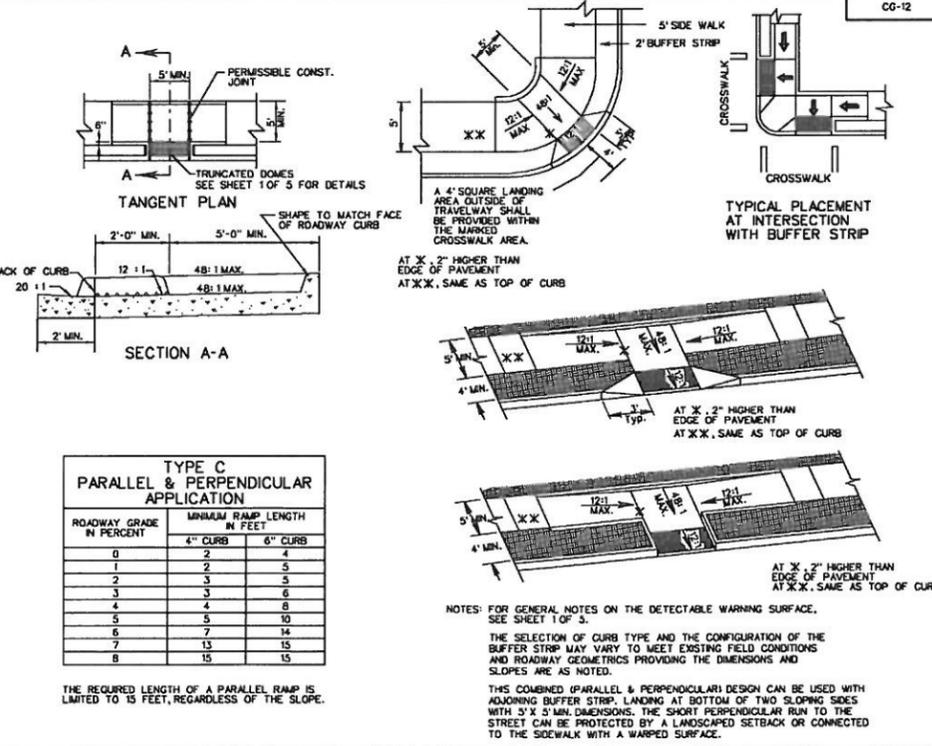
VDOT ROAD AND BRIDGE STANDARDS

CG-12 DETECTABLE WARNING SURFACE TYPE A (PERPENDICULAR) APPLICATION

SHEET 2 OF 5 REVISION DATE 10/09 203.06

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE 105 502



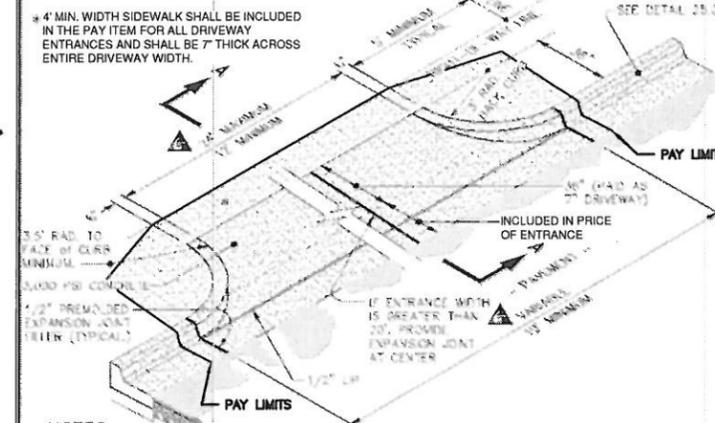
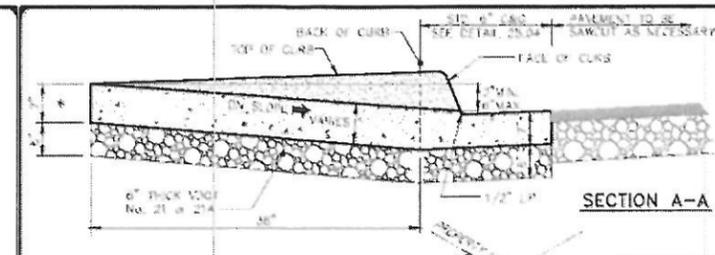
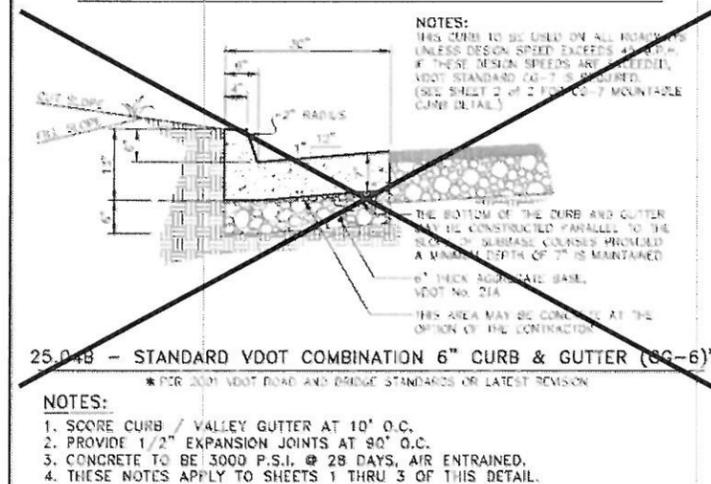
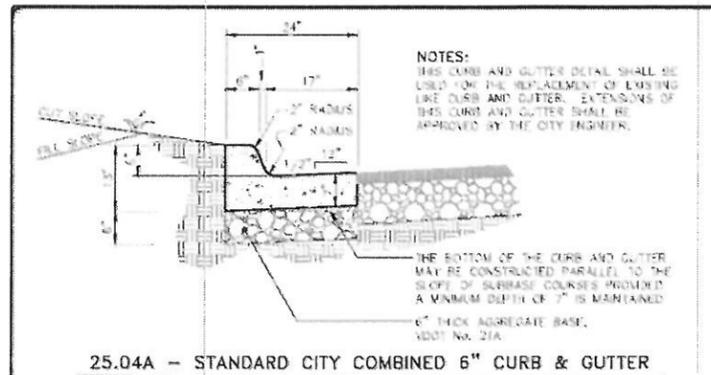
VDOT ROAD AND BRIDGE STANDARDS

CG-12 DETECTABLE WARNING SURFACE TYPE C (PARALLEL & PERPENDICULAR) APPLICATION

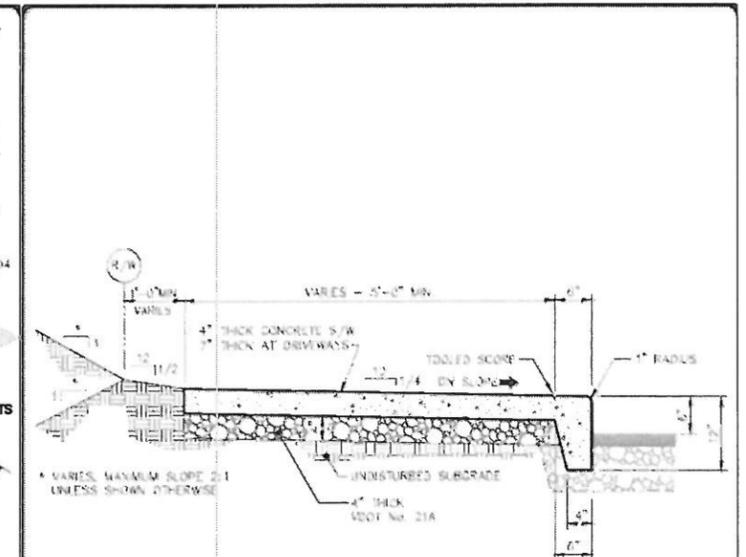
SHEET 4 OF 5 REVISION DATE 10/09 203.08

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE 105 502



- NOTES:**
- 20-FOOT DRIVEWAY ENTRANCES SHALL BE USED ON COLLECTOR AND ARTERIAL STREETS.
 - RESIDENTIAL DRIVEWAYS SHALL NOT BE CONSTRUCTED IN THE RADIUS OF A CORNER LOT.
 - VDOT STANDARDS MAY BE SUBSTITUTED IF APPROVED BY CITY ENGINEER.
 - GRAVEL DRIVEWAYS ON COLLECTOR AND ARTERIAL STREETS SHALL BE PAVED A MINIMUM OF 10 FEET FROM EDGE OF CURB OR TO THE RIGHT-OF-WAY LINE, WHICHEVER IS GREATER.
 - ENTIRE ENTRANCE INCLUDING GUTTER AND APRON SHALL BE POURED MONOLITHICALLY.
 - WIDTH OF CURB & GUTTER SHALL MATCH WIDTH OF EXISTING CURB & GUTTER.
 - DRIVEWAY ENTRANCES TO BE APPROVED BY CITY ENGINEER PRIOR TO PLACEMENT OF CONC.



- NOTES:**
- PROVIDE 3/4" DEEP TOOLED SCORES AT 5'-0" O.C. PERPENDICULAR TO FACE OF CURB AND ALONG CURB LINE.
 - EXPANSION JOINTS TO BE PLACED 30'-0" O.C. LONGITUDINALLY, ADJACENT TO CURBS, AND WHEN BUTTING EXISTING STRUCTURES, CONCRETE, OR BUILDINGS.

	THE CITY OF LYNCHBURG	
	CURB & GUTTER DETAILS <small>USE WITH THE CITY OF LYNCHBURG STANDARD SPECIFICATIONS ONLY</small>	SHEET # 25.04 SHEET # 1 OF 5

	THE CITY OF LYNCHBURG	
	RESIDENTIAL DRIVEWAY ENTRANCE <small>USE WITH THE CITY OF LYNCHBURG STANDARD SPECIFICATIONS ONLY</small>	SHEET # 25.11 SHEET # 1 OF 1

	THE CITY OF LYNCHBURG	
	FACEDOWN SIDEWALK <small>USE WITH THE CITY OF LYNCHBURG STANDARD SPECIFICATIONS ONLY</small>	SHEET # 25.06 SHEET # 1 OF 1

Allen, Matthew / 6/13/2014 11:53 AM / \\vaoprojects\projects\30130470\engineering\design\plans\30470-sheet_002-004-notes_layout.dwg

EROSION & SEDIMENT CONTROL AND STORMWATER MANAGEMENT NARRATIVE AND STORMWATER POLLUTION PROTECTION PLAN

A. PROJECT DESCRIPTION

General
The purpose of this project is to construct sidewalk and crosswalks in the areas around Perrymont Elementary School, T.C. Miller Elementary School, & Dearington Elementary School, Safe Routes to School project in Lynchburg, Virginia. The improvement project impacts various roads surrounding the elementary schools. The concrete sidewalk is 4 feet minimum width to 5 feet maximum width. The majority of the improvements are on grade, which is proposed to follow the existing roads. The total disturbed area for this project is 0.45 acres at Perrymont Elementary, 0.59 acres at T.C. Miller Elementary, and 0.41 acres at Dearington Elementary. Water quality control is not addressed with permanent measures due to the linear nature of the improvements and the minor increases in the post development flows. Further discussion of the SWM is found in this narrative, Section I. **STORMWATER MANAGEMENT (Quantity and Quality)**

Intended Sequence
Major components of the project which disturb soils are anticipated to occur as follows:
Phase I (E&S Control Measures will apply to all phases of the project)
a. Install erosion control measures including silt fence and inlet protection.
b. Remove topsoil and stockpile in areas as determined in the field based on sequence of construction. Locations shall be approved by the City of Lynchburg.
c. Demolish and remove required materials such as pavement, sidewalk and curb and gutter.
d. Install new improvements such as curb and gutter, pavement widening, and drainage structures.
e. Install inlet protection on new structures.
f. Perform final grading, replace topsoil, & provide permanent stabilization for all disturbed areas.

B. EXISTING SITE CONDITIONS
The proposed improvements will be constructed along existing roadways and adjacent to existing lawns:
The grading activity on Tom's Creek Road will require cut in adjacent lawns with less than 10% grades and will require less than 1' of cut.
The grading activity on Watson Avenue (West of Kabrich Street) will require fill in adjacent lawns with less than 15% grades and will require approximately 1' of fill.
The grading activity on Watson Avenue (East of Kabrich Street) will require cut and fill in adjacent lawns with less than 8% grades and will require less than 1' of cut and fill.
The grading activity on Broce Drive (West of Scott Alan Circle) will require fill in adjacent lawns with less than 13% grades and will require less than 1' of fill.
The grading activity on Broce Drive (East of Scott Alan Circle) will require fill in adjacent lawns with less than 25% grades and will require less than 3' of fill.

C. ADJACENT AREAS
All improvements are located in the City of Lynchburg and are surrounded by residential development. It is not anticipated that this project will have any impact on the adjacent areas. All construction activities will be confined to the properties owned by the City of Lynchburg and within temporary construction easements.

D. OFF-SITE AREAS
Surplus material is not suitable for use as fill material shall be disposed of by the Contractor. The Contractor shall provide an approved erosion and sediment control plan for those locations. Borrow material is also anticipated and shall be obtained by the Contractor from approved sources.

E. SOILS
The following information is based on the soils map found in the Soil Survey of Campbell County / City of Lynchburg, Virginia. The site soils are classified as follows:

CuB - Cullen loam, 2 to 6 percent slopes. This soil is on broad, convex ridgetops. It has the profile described as representative of the series. Included with this soil in mapping were scattered small areas of Enon, Fluvanna, and Georgeville soils. Runoff is medium on this Cullen soil. Erosion is a moderate hazard where the soil is disturbed and exposed or clean tilled. This soil is used for corn, tobacco, small grain, mixed hay, pasture, and woodland. If adequately limed and fertilized, it is suited to most locally grown crops. Capability unit IIe-1; woodland group 2s1.

CuC2 - Cullen loam, 6 to 15 percent slopes, eroded. This soil is on narrow, winding, convex ridgetops and on complex side slopes. In some slightly eroded areas the surface layer is 6 to 8 inches thick and in a few severely eroded areas it is clay loam, but the profile is otherwise similar to the one described as representative of the series. Included with this soil in mapping were scattered small areas of Enon, Fluvanna, Georgeville, and Gwinnett soils. Runoff is rapid on this Cullen soil, and the soil is somewhat droughty during the growing season. Further erosion is a very severe hazard where the soil is disturbed and exposed or clean tilled. This soil is used for corn, tobacco, small grain, mixed hay, pasture, and woodland. If adequately limed and fertilized, it is moderately well suited to most locally grown crops. Capability unit IIIe-1; woodland group 3t1.

CuE2 - Cullen loam, 15 to 25 percent slopes, eroded. This soil is on short, convex side slopes along drainage-ways. In some slightly eroded areas the surface layer is 6 to 8 inches thick and in a few severely eroded areas it is clay loam, but the profile is otherwise similar to the one described as representative of the series. Included with this soil in mapping were scattered small areas of Brems, Georgeville, and Wilkes soils. Runoff is rapid on this Cullen soil, and the soil is somewhat droughty during the growing season. Further erosion is a very severe hazard where the soil is disturbed and exposed or clean tilled. This soil is commonly used as pasture and woodland. It is poorly suited to cultivated crops because of the drought during the growing season, the slope, and the very severe erosion hazard. It is better suited to mixed hay, pasture, and woodland. Capability unit IVe-1; woodland group 3r1.

GeB2 - Georgeville loam, 2 to 6 percent slopes, eroded. This soil is on broad, convex ridgetops. It has the profile described as representative of the series. Where slightly eroded, however, the surface layer is as much as 9 inches thick. Included with this soil in mapping were scattered small areas of Cecil, Cullen, Nason, Tatum, and Turbeville soils. Also included were spots where 15 to 20 percent of the surface is covered with angular quartz pebbles and cobbles. Runoff is medium on this Georgeville soil. Further erosion is a moderate hazard where the soil is disturbed and exposed or clean tilled. This soil is used for corn, small grain, mixed hay, pasture, and woodland. If adequately limed and fertilized, it is suited to most locally grown crops. Capability unit IIe-1; woodland group 3o1.

GeC2 - Georgeville loam, 6 to 15 percent slopes, eroded. This soil is on narrow, winding, convex ridgetops and on complex side slopes. Where slightly eroded, the surface layer is as much as 9 inches thick, but the profile is otherwise similar to the one described as representative of the series. Included with this soil in mapping were scattered small areas of Cullen, Cecil, Nason, Tatum, and Turbeville soils. Also included were spots where 15 to 20 percent of the surface is covered with angular quartz pebbles and cobbles. Runoff is medium to rapid on this Georgeville soil. Further erosion is a severe hazard where the soil is disturbed and exposed or clean tilled. This soil is used for corn, small grain, mixed hay, pasture, and woodland. If adequately limed and fertilized, it is moderately well suited to most locally grown crops. Capability unit IIIe-1; woodland group 3o1.

FIe2 - Fluvanna fine sandy loam, 15 to 25 percent slopes, eroded. This soil is on short, convex side slopes along drainage-ways. In some slightly eroded areas the surface layer is more than 6 inches thick and in some more eroded areas it is clay loam, but the profile is otherwise similar to the one described as representative of the series. Included with this soil in mapping were scattered small areas of Cullen, Mecklenburg, and Wilkes soils. Runoff is rapid on this Fluvanna soil, and the soil is somewhat droughty during the growing season. Further erosion is a very severe hazard where the soil is disturbed and exposed or clean tilled. This soil is poorly suited to cultivated crops because of the droughtiness during the growing season, the slope, and the very severe erosion hazard. It is better suited to mixed hay, pasture, and woodland. Capability unit IVe-1; woodland group 3r1.

MaCf - Mantoo channery loam, 25 to 60 percent slopes. This soil is on short to moderately long, convex side slopes and on complex mountain slopes. It has the profile described as representative of the series, but in places the surface layer is 4 to 6 inches thick. Included with this soil in mapping were scattered small areas of Tallapoosa and Wilkes soils. Also included were small areas of Rock outcrop and small areas where the soil is disturbed and exposed. Runoff is rapid on this Mantoo soil, and the soil is somewhat droughty during the growing season. Erosion is a very severe hazard where the soil is disturbed and exposed. This soil is used mostly as woodland. Capability unit VIIe-1; woodland group 4d2.

TIe2 - Tatum loam, 15 to 25 percent slopes, eroded. This soil is on short, convex side slopes along drainage-ways. The surface layer is 4 to 6 inches thick, but the profile is otherwise similar to the one described as representative of the series. Included with this soil in mapping were scattered small areas of Cecil, Cullen, Georgeville, Mantoo, and Nason soils. Also included were small areas where the soil is less than 40 inches deep over bedrock. Runoff is rapid on this Tatum soil, and the soil is somewhat droughty during the growing season. Further erosion is a very severe hazard where the soil is disturbed and exposed or clean tilled. This soil is used mostly as woodland. It is poorly suited to cultivated crops because of the droughtiness during the growing season, the slope, and the very severe erosion hazard. It is better suited to small grain, mixed hay, pasture, and woodland. Capability unit IVe-1; woodland group 3r1.

TmE3 - Tatum clay loam, 15 to 25 percent slopes, severely eroded. This soil is on short, convex side slopes along drainage-ways. The surface layer is mostly subsoil material, but the profile is otherwise similar to the one described as representative of the series. In places the surface layer is silty clay loam. Included with this soil in mapping were scattered small areas of Cecil, Cullen, Mantoo, and Nason soils. Also included were small areas where the soil is less than 40 inches deep over bedrock. Runoff is rapid on this Tatum soil, and the soil is somewhat droughty during the growing season. Further erosion is a very severe hazard where the soil is disturbed and exposed. This soil is commonly used as woodland. It is best suited to pasture and woodland. Capability unit VIe-1; woodland group 4c2.

To - Toccoa fine sandy loam. This soil is on flood plains along the larger drainageways and streams throughout the survey area. Slopes are dominantly 0 to 2 percent. Included with this soil in mapping were scattered small areas of Buncombe, Chewsala, Riverview, and State soils. Also included were small areas near the larger streams where the slope is more than 2 percent. Runoff is slow on this Toccoa soil. The soil is frequently flooded by nearby streams. This soil is used mostly for corn, pasture, and woodland. If protected from flooding and adequately limed and fertilized, it is suited to most locally grown crops. Capability unit IIw-1; woodland group 1o1.

UL - Urban land is altered, reworked, or removed soil material. Commercial, industrial, and residential developments cover much of the surface. Areas were disturbed during the construction of foundations, basements, streets, pipelines, parking lots, and other structures. Much of the soil material was originally Cecil, Cullen, Enon, Fluvanna, Georgeville, Madison, Tallapoosa, and Wilkes soils. The characteristics and properties of these soils have been changed by urban use. Slopes are commonly about 2 to 15 percent, but range to as much as 25 percent in a few spots. Not assigned to a capability unit or woodland group.

WkE - Wilkes loam, 15 to 25 percent slopes. This soil is on short, convex side slopes along drainage-ways. Where more severely eroded, the surface layer is clay loam, but the profile is otherwise similar to the one described as representative of the series. Included with this soil in mapping were scattered small areas of Brems, Louisville, Mantoo, and Tallapoosa soils and small scattered areas where the soil is less than 20 inches deep over bedrock. Also included were gullies. Runoff is rapid on this Wilkes soil, and the soil is droughty during the growing season. Erosion is a very severe hazard where the soil is disturbed and exposed. This soil is used mostly as woodland, but small areas are in pasture. It is suited to drought-resistant grasses and trees. Capability unit VIe-2; woodland group 4r2.

WkF - Wilkes loam, 25 to 60 percent slopes. This soil is on short, convex side slopes along drainage-ways and small streams. Where more severely eroded, the surface layer is clay loam, but the profile is otherwise similar to the one described as representative of the series. Included with this soil in mapping were scattered small areas of Brems, Louisville, Mantoo, and Tallapoosa soils. Also included were scattered small areas where the soil is less than 20 inches deep over bedrock and scattered small gullies. Runoff is rapid on this Wilkes soil, and the soil is droughty during the growing season. Erosion is a very severe hazard where the soil is disturbed and exposed. This soil is used as woodland. Capability unit VIIe-1; woodland group 4r2.

F. CRITICAL AREAS

Cut & Fill slopes are minimal in length and shall not be steeper than 2:1. Cross drainage is also minimum due to small drainage areas associated with the project. There are not any critical areas anticipated.

G. EROSION AND SEDIMENT CONTROL MEASURES

The construction-phase erosion and sediment controls shall be designed to retain sediment on site to the maximum extent practicable. All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the permittee must replace or modify the control for site situations. If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize off-site impacts (e.g. fugitive sediment in street could be washed into storm sewers by the next rain and/or pose a safety hazard to users of public streets). Litter, construction debris, and construction chemicals exposed to storm water shall be prevented from becoming a pollutant source for storm water discharges (e.g., screening outfalls, picked up daily).

- The following measures will be used to control erosion and sediment-laden runoff on this project. See plan sheets for locations of specific erosion control measures.
- Silt Fence:** will be used to intercept and detain small amounts of sediment from disturbed areas during construction operations and to prevent sediment from leaving the site. (VESCH Standard and Spec. 3.05)
 - Culvert Inlet Protection:** Storm sewer inlets will need to be protected to prevent sediment-laden runoff from clogging the sewer pipe during construction. Inlet protection should be used on each inlet until upland areas are stabilized.
 - Surface Roughening:** will aid in establishment of vegetative cover with seed, reduce runoff velocity, and increase infiltration, while reducing erosion and providing for sediment trapping. (VESCH Standard and Spec. 3.29)
 - Topsoiling:** will provide a suitable growth medium for final site stabilization with vegetation. (VESCH Standard and Spec. 3.30)
 - Temporary Seeding:** Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant (undisturbed) for longer than 30 days. (VESCH Standard and Spec. 3.31)
 - Permanent Seeding:** will be used to establish vegetative cover and to reduce silt runoff for any areas not paved or roofed. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year. (VESCH Standard and Spec. 3.32)
 - Dust Control:** shall be provided in accordance with VESCH Standard and Spec. 3.39

Supplementary E&S structures shall be constructed as required by the erosion control inspector, or as necessary to adequately control erosion and sediment deposition. E&S structures may be removed only when they have served their useful purpose but not before the upstream/upslope area has been stabilized.

H. STABILIZATION PRACTICES

- General** - No specific schedule other than those guidelines given in the above descriptions of the vegetative practices will be used for temporary and permanent seeding measures.
 - Contractor shall provide a log of all major grading activities, any cessation, temporary or permanent, of construction activity, and when stabilization measures are implemented. This record shall be kept throughout the duration of the project. The permittee shall ensure that these records are updated, maintained, and become a permanent part of this overall plan.
 - Construction shall be sequenced so that grading operations can begin and end as quickly as possible. Stabilization measures shall be implemented on disturbed areas as soon as practicable. Embankment walls, upon reaching final grade, must be immediately seeded and fertilized to ensure proper stabilization. Permanent seeding shall be installed within 7 days of reaching final grade. Denuded areas that are not at final grade but will remain dormant for more than 30 days shall be temporarily seeded. Areas that are not to be disturbed must be clearly marked by flags, signs, etc.
- Permanent Stabilization** - After the construction is completed, the site will be permanently stabilized with permanent seeding in accordance with VESCH Standard and Specification 3.32.

I. STORMWATER MANAGEMENT NARRATIVE (Quantity and Quality)

Under Section 16.2-5.6 of City Code, linear development projects are exempt activities if: (i) less than five thousand (5,000) square feet of land will be disturbed per outfall watershed, (ii) there will be insignificant increases in peak flow rates, and (iii) there are no existing or anticipated flooding or erosion problems downstream of any discharge point.

The following areas are less than 5000 Square Feet per Outfall:

1. McWane Circle - 1118.22 Sq. Ft.	Sheet TC-2	8. Perrymont Avenue & White Street - 2828.28 Sq. Ft.	Sheet PM-3
2. Memorial Avenue - 250.48 Sq. Ft.	Sheet TC-3	9. Thomas Road - 351.10 Sq. Ft.	Sheet PM-4
3. Mansfield Avenue - 219.84 Sq. Ft.	Sheet TC-3	10. Hillcrest Avenue - 4744.95 Sq. Ft.	Sheet DE-1
4. Oaklay Avenue - 2162.81 Sq. Ft.	Sheet TC-4	11. Carolina & Smyth Street - 3381.15 Sq. Ft.	Sheet DE-4
5. Alamont Street - 2210.71 Sq. Ft.	Sheet PM-1	12. York Street - 1691.17 Sq. Ft.	Sheet DE-4
6. Alabama Avenue - 1570.86 Sq. Ft.	Sheet PM-2	13. Carolina Street - 2606.35 Sq. Ft.	Sheet DE-4
7. Billmore Avenue - 4580.57 Sq. Ft.	Sheet PM-3	14. Stoneridge & Kirby Street - 4837.20 Sq. Ft.	Sheet DE-5

The following areas are greater than 5000 Square Feet per Outfall and will need Stormwater Management quantity and quality not provided by Anderson and Associates, Inc. in these plans:

1. Richmond Avenue - 21952.83 Sq. Ft.	Sheet TC-1/TC-2
2. Alabama Avenue - 8112.10 Sq. Ft.	Sheet PM-1

J. OTHER CONTROLS

7. **Materials, Garbage, Debris**
No solid materials, including building materials, garbage, and debris shall be discharged to surface waters of the State. The permittee shall ensure that these items are not left in a location where they could be transported by stormwater runoff off the site.

8. **Compliance with State & Local Waste, Sanitary, and/or Septic Regulations**
No temporary sewer facilities are planned for the site during construction.

9. **Expected Construction and Waste Materials**
Construction and waste materials that could potentially be stored on site include topsoil, fill dirt, excavated material, fertilizer for seeding operations, fuel, and silt fence material.

Any stockpiles of topsoil, excavated material or fill dirt that are needed shall be surrounded on the downslope side by silt fence. Fertilizer must be kept in watertight containers, preferably in portable storage units and away from exposure to the weather, during storage on site. Care must be taken to minimize spillage of fertilizer if mixing operations are required to prepare the fertilizer for application.

If overnight storage of fuel is required, the fuel storage container must be equipped with a fueling mechanism disable device. To minimize the affect of any potential spills, maintain all on-site fueling operations as far away from surrounding surface waters and drainage facilities as is practical. Daily inspections of the fuel storage container must be implemented to detect the presence of leaks. The fueling operator shall have a safe fill, shutdown, and transfer procedure in place to minimize spillage during fueling activities. The operator must maintain a fully equipped spill kit on site at all times with the stored fuel. The kit must at least include absorbent mats or material to cleanup any spilled fuel. For any fuel spill on site equal to or exceeding 25 gallons, immediately create an appropriately sized berm around the area of spillage to minimize surface movement of the fuel. Contact local HAZMAT authorities, the engineer, and the regional DEQ office as quickly as possible to report the spill and seek further assistance with spill cleanup.

Construction materials that could be carried offsite by stormwater (plastics, paper, etc) shall be picked up daily and placed in appropriate waste disposal containers.

K. APPROVED STATE/LOCAL PLANS

The stormwater pollution prevention plan is consistent with and integrated with the Erosion and Sediment Control Narrative prepared for this project, which has been submitted to the appropriate reviewing authorities for approval.

L. MAINTENANCE

All erosion and sediment control structures and systems shall be maintained, inspected, and repaired as needed to ensure continued performance of their intended function. In general, all erosion and sediment control measures shall be checked at least every 14 days and after each rain event over 0.5 inches of precipitation. The following items shall be checked in particular:
1. The construction entrance shall be checked to ensure that the stone does not become clogged with mud.
2. The seeded areas shall be checked every 7 days to ensure that a good stand of grass is maintained. Grassed areas should be fertilized and reseeded as needed.
3. Silt fence shall be checked for buildup of sediment. If significant clogging is found (the capacity of the structure has been reduced by half), they shall either be cleaned out or replaced.

Specific requirements related to inspection and maintenance of each erosion control measure are discussed in the VESCH Standards and Specifications. The contractor shall be responsible for maintenance of all erosion control measures to the satisfaction of local review authorities, as well as the installation of additional measures as needed to ensure that sediment-laden runoff does not leave the site.

M. INSPECTION

Disturbed areas of the construction site that have not been finally stabilized, areas used for storage of materials that are exposed to precipitation, structural control measures, and locations where vehicles enter or exit the site shall be inspected at least once every 14 calendar days and within 48 hours of the end of a storm event that is 0.5 inches or greater. In those areas that have been finalized, temporarily stabilized, or runoff is unlikely due to winter conditions, inspections shall take place at least once a month.

Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutants entering the drainage system. E&S measures shall be checked to see they are operating correctly. At accessible discharge points, inspection shall take place to ensure these control measures are effective at preventing significant impacts to receiving waters. Nearby downstream locations shall be inspected if discharge points are inaccessible. Sites of vehicle entrance or exit shall be inspected for evidence of offsite sediment tracking. If existing control measures or require modification or additional measures, such changes shall be made within 7 calendar days of the inspection or before the next anticipated storm event, as implementation is practicable.

Include inspection reports of all stormwater and erosion & sediment control measures along with any required actions as a result of inspections, with the stormwater pollution prevention plan. These reports shall include the name and qualifications of the inspector, dates of inspection, major observations and actions taken in response to inspections. Major observations include the location of discharge of sediment or pollutant from the site. These reports shall include incidents of noncompliance. If the report does not include any noncompliance incidents, the report shall contain a certification that the facility is in compliance with the stormwater pollution prevention plan and permit.

N. NON-STORM WATER DISCHARGES

No non-storm water discharges other than those permitted by the VPD&S general permit for Stormwater Discharge from Construction Activities are anticipated during this project.

O. CERTIFICATION

All contractors and subcontractors involved in the implementation of stormwater and erosion & sediment control measures must agree with and sign the certification statement to the right.

BELOW ARE THE VIRGINIA EROSION AND SEDIMENT CONTROL MINIMUM STANDARDS. IF PLAN DETAILS AND SPECIFICATIONS ARE MORE STRINGENT, THEN THEY SHALL SUPERSEDE THE MINIMUM STANDARDS.

- MINIMUM STANDARDS (MS-19):**
All applicable Virginia Erosion and Sediment Control Regulations and Minimum Standards shall be adhered to during all phases of construction. These include, but are not limited to the following:
- STABILIZATION OF DENUDED AREAS:**
The Contractor shall apply permanent or temporary soil stabilization to bare areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade, but will remain dormant or undisturbed for longer than 30 days. Permanent stabilization shall be applied at areas that are to be left dormant for more than 1 year.
 - STABILIZATION OF SOIL STOCKPILES:**
During construction of the project, the Contractor shall stabilize or protect soil stockpiles with sediment trapping measures. The applicant is responsible for temporary protection and permanent stabilization of all soil stockpiles on site as well as soil intentionally transported from the project site.
 - PERMANENT VEGETATIVE COVER:**
The Contractor shall establish a permanent vegetative cover on denuded areas not otherwise permanently stabilized. Permanent vegetative shall not be considered established until a ground cover is achieved that, in the opinion of the county Inspector, is uniform and mature enough to survive to inhibit erosion.
 - TIMING & STABILIZATION OF SILT TRAPPING MEASURES:**
Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land disturbing activity and shall be fully functional before any topsoil or land disturbance takes place.
 - STABILIZATION OF EARTHEN STRUCTURES:**
The Contractor shall apply stabilization measures to earthen structures such as dams, dikes and diversions immediately after installation.
 - SEDIMENT TRAPS AND BASINS:**
A sediment basin shall control surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres. The sediment basin shall be designed and constructed to accommodate the anticipated sediment loading for the land disturbing activity. The outfall device or system device shall take into account the total drainage area flowing through the disturbed area to be served by the basin.
 - CUT AND FILL SLOPES:**
Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.
 - CONCENTRATED RUN-OFF DOWN CUT OR FILL SLOPES:**
Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume, or slope drain structure.
 - WATER SEEPS FROM A SLOPE FACE:**
Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.
 - STORM SEWER INLET PROTECTION:**
All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.
 - STABILIZATION OF OUTLETS:**
Before newly constructed stormwater conveyance channels are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed by the Contractor in both the conveyance channel and receiving channel.
 - WORK IN LIVE WATERCOURSES:**
When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Nonerodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by nonerodible cover materials.
 - CROSSING A LIVE WATERCOURSE:**
When a live watercourse must be crossed by construction vehicles more than twice in any six month period, a temporary stream crossing constructed of nonerodible materials shall be provided.
 - APPLICABLE REGULATIONS:**
All applicable federal, state and local regulations pertaining to working in or crossing live watercourses shall be met.
 - STABILIZATION OF BED AND BANKS**
The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.
 - UNDERGROUND UTILITIES:**
The Contractor shall install underground utilities in accordance with the following standards in addition to other criteria:
a. No more than 600 linear feet of trench may be opened at one time.
b. Excavated material shall be placed on the uphill side of trenches.
c. Effluent for dewatering operations shall be filtered or passed through approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or offsite property.
d. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.
e. Reestablishment shall be accomplished in accordance with these regulations.
 - Applicable safety regulations shall be complied with.
 - CONSTRUCTION ACCESS ROUTES:**
Where construction vehicle access routes intersect paved public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto paved surfaces. Where sediment is transported on to a public road surface, the road shall be cleaned thoroughly at the end of each day. Sediment shall be removed by sweeping or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual lots as well as to larger land disturbing activities.
 - TEMPORARY E&S CONTROL MEASURE REMOVAL:**
The Contractor shall remove all temporary erosion and sediment control measures within 30 days after final site stabilization or after temporary measures are no longer needed, unless otherwise authorized by the local program authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sediment.
 - ADEQUACY OF RECEIVING CHANNELS:**
Properties and waterways downstream from the development site shall be protected from sediment deposition, erosion and damage, due to increases in volume, velocity and peak flow rates of stormwater runoff for the stated equipment storm of 24-hour duration.

CERTIFICATION

I certify under penalty of law that I understand the terms and conditions of this Virginia Pollutant Discharge Elimination System (VPDES) general permit that authorizes the storm water discharges from the construction activity identified as part of this certification.

Signature (Contractor)	Date
Title	Address of Site Project
Contractor Name	
Contractor Address	
Contractor Phone #	
Signature (Subcontractor)	Date
Title	
Subcontractor Name	
Subcontractor Address	
Subcontractor Phone #	
Signature	Date
Title	
Subcontractor Name	
Subcontractor Address	
Subcontractor Phone #	



ANDERSON & ASSOCIATES, INC.
Professional Design Services
www.andassoc.com
100 Ardmore St.
Blacksburg, Va. 24060
540-552-5592

DATE	26 FEB 14	REV. #		COMMENTS	DATE
DESIGNED:	WF				
DRAWN:	JMJ				
CHECKED:	JMM				
QA / QC:					

LYNCHBURG SRTS
PEDESTRIAN IMPROVEMENTS
LYNCHBURG, VIRGINIA

EROSION & SEDIMENT CONTROL NARRATIVE
AND STORMWATER POLLUTION PREVENTION PLAN

DOCUMENT NO.	30470 - 005
SHEET	4
OF	29

Allen, Matthew / 9/9/2014 12:55 PM \\c:\projects\projects\30130470\30470_004\engineering\design\plans\30470_sheets_004_esc.dwg

ROADWAY CLASSIFICATION

- MEMORIAL AVE. (25 MPH & 30 MPH) / - URBAN OTHER PRINCIPAL ARTERIAL
- OAKLEY AVE. (30 MPH) - URBAN MINOR ARTERIAL
- GREENWOOD DR. / LANGHORNE LN. / PERRYMONT AVE. / RICHMOND ST. / THOMAS ROAD / (25 MPH)
- ELDON ST. (N.P.) - URBAN COLLECTOR
- ALABAMA AVE. / BILTMORE AVE. / BRANDON RD. / CHAMBERS ST. / EUCLID AVE. / FAIRMONT AVE. / MANSFIELD AVE. / MORGAN ST. / MUNFORD ST. / PAGE ST. / YEARDLEY (25 MPH)
- 2ND ST. / 3RD ST. / ALAMONT ST. / ALEXANDER ST. / CAROLINE ST. / GOLF PARK DR. / HILCREST AVE. / KENYON ST. / KIRBY ST. / MCWANE CIR. / OAKDALE DR. / PAYNE ST. / PLEASANT ST. / POLLARD ST. / SHIRLEY RD. / SMYTH ST. / STONERIDGE ST. / TALBOT ST. / WHITE ST. / YORK ST. (N.P.) - LOCAL

PROJECT NUMBERS

	VDOT PROJ. #	UPC #	FEDERAL PROJ. #
PERRYMONTH	SRTS-118-220, C501	102831	SRTS-5118(222)
TO MILLER	SRTS-118-221, C501	102830	SRTS-5118(220)
DEARINGTON	SRTS-118-222, C501	102829	SRTS-5118(218)

TEMPORARY TRAFFIC CONTROL REFERENCES

- TTC-5.0: SHOULDER OPERATION WITH MINOR ENCROACHMENT
- TTC-23.0: LANE CLOSURE ON A TWO-LANE ROADWAY USING FLAGGERS
- TTC-35.0: SIDEWALK CLOSURE AND BYPASS SIDEWALK OPERATION
- TTC-36.0: CROSSWALK CLOSURE AND PEDESTRIAN DETOUR OPERATION

LOCAL EMERGENCY RESPONSE AGENCY CONTACT LIST (911)

CITY PROJECT PLANNING ANNE NYGAARD	434-455-3893
CITY EMERGENCY SERVICES	434-847-1602
CITY CHIEF OF POLICE OFFICE	434-455-6045
CITY FIRE MARSHAL THOMAS MACK	
CITY OF LYNCHBURG TRAFFIC	
VIRGINIA STATE POLICE (DIV. 3 AREA 20)	434-946-7101

PROPOSED CONSTRUCTION SEQUENCE

EACH STAGE OF CONSTRUCTION WILL INCLUDE THE FOLLOWING GENERAL STEPS:

- INSTALLATION OF PROJECT LIMITS SIGNAGE.
- INSTALLATION OF APPROVED TEMPORARY TRAFFIC CONTROL MEASURES.
- PERFORM DEMOLITION ACTIVITIES.
- INSTALLATION OF PROPOSED PEDESTRIAN IMPROVEMENTS.
- RESTORATION OF PROPERTY.
- REMOVAL OF TEMPORARY TRAFFIC CONTROL MEASURES.
- REMOVAL OF PROJECT LIMITS SIGNAGE.

PROPOSED CONSTRUCTION PHASES SHALL BE DETERMINED BY THE CONTRACTOR.

NOTES

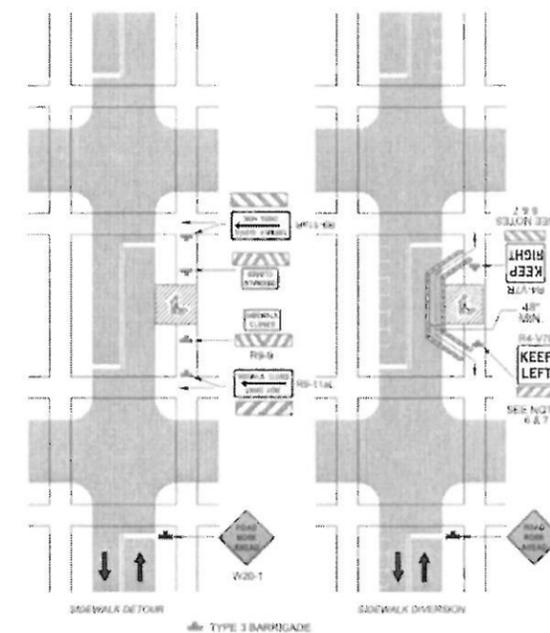
- PROJECT CATEGORY: TYPE A, CATEGORY II.
- THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION SEQUENCE PLAN TO GAIN APPROVAL FROM THE CITY OF LYNCHBURG PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF LANE CLOSURES WITH THE CITY OF LYNCHBURG.
- TWO-LANE TRAFFIC SHALL BE MAINTAINED AT ALL TIMES UNLESS APPROVED BY THE OWNER. LANE WIDTHS SHALL BE A MINIMUM OF 10 FEET. FLAGGING OPERATIONS MAY BE CARRIED OUT AS APPROVED AND DIRECTED BY THE OWNER.
- VEHICULAR AND PEDESTRIAN ACCESS TO ADJOINING PROPERTIES SHALL BE MAINTAINED AT ALL TIMES.
- ALL TEMPORARY TRAFFIC CONTROL PLANS AND MEASURES SHALL BE COMPLETED PER THE 2011 VDOT WORK AREA PROTECTION MANUAL AND AT NO ADDITIONAL COST TO THE OWNER.

**Typical Traffic Control
Sidewalk Closure and Bypass Sidewalk Operation
(Figure TTC-35.0)**

NOTES

- Standard:**
- When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.
- Guidance:**
- Where high speeds are anticipated, a temporary traffic barrier and, if necessary, a crash cushion should be used to separate the temporary sidewalks from vehicular traffic.
 - Audible information devices should be considered where midblock closures and changed crosswalk areas cause maximum communication to be provided to pedestrians who have visual disabilities.
 - Temporary markings should be considered for operations exceeding three days in duration.
- Options:**
- Only the TTC devices related to pedestrians are shown. Other devices, such as lane closure signing or ROAD NARROWS (W5-1) signs, may be used to control vehicular traffic.
 - For nighttime closures, Type A Flashing warning lights may be used on barricades that support signs and close sidewalks.
 - Signs, such as KEEP RIGHT (R5-7R) and KEEP LEFT (R4-7L), may be placed along a temporary sidewalk to guide or direct pedestrians.
- Standard:**
- All sidewalk closures shall be closed with Type 3 Barricades.

**Sidewalk Closure and Bypass Sidewalk Operation
(Figure TTC-35.0)**

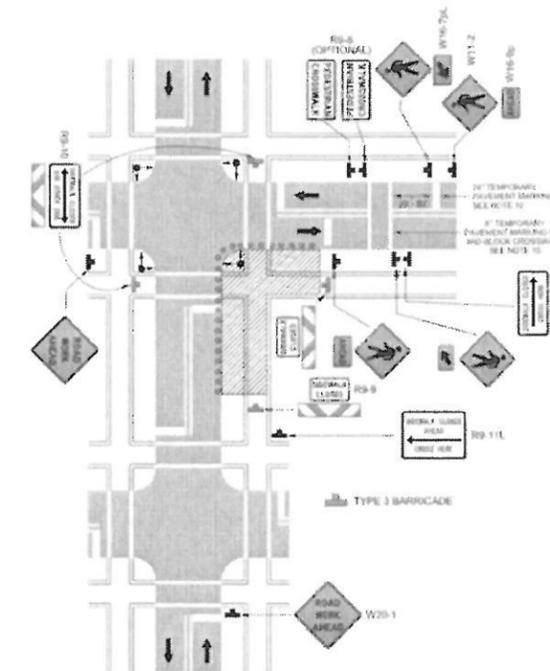


**Typical Traffic Control
Crosswalk Closure and Pedestrian Detour Operation
(Figure TTC-36.0)**

NOTES

- Standard:**
- When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.
 - Curbside parking shall be prohibited for at least 50 feet in advance of the midblock crosswalk.
- Guidance:**
- Audible information devices should be considered where midblock closures and changed crosswalk areas cause maximum communication to be provided to pedestrians who have visual disabilities.
 - Pedestrian traffic signal displays controlling closed crosswalks should be covered or deactivated.
 - Temporary markings should be considered for operations exceeding three days in duration.
- Options:**
- Only the TTC devices related to pedestrians are shown. Other devices, such as lane closure signing or ROAD NARROWS (W5-1) signs, may be used to control vehicular traffic.
 - For nighttime closures, Type A Flashing warning lights may be used on barricades supporting signs and close sidewalks.
 - In order to identify the location of the diversion, yellow arrow banners for pedestrian, bicycle, and school busses may be used. Fluorescent yellow-green background for pedestrian, bicycle, and school busses may be used in TTC signs.
- Standard:**
- All sidewalk closures shall be closed with Type 3 Barricades.
- Support:**
- Refer to Sections 3B-16 through 3B-18 of the 2009 MUTCD for optional stop lines, yield lines and other related TTC devices that may be used to control vehicular traffic at midblock crosswalks.

**Crosswalk Closure and Pedestrian Detour Operation
(Figure TTC-36.0)**



Typical Traffic Control
Shoulder Operation with Minor Encroachment
(Figure TTC-5.0)

NOTES

Standard

- On divided highways having a median wider than 8', right and left sign assemblies shall be required. See Note 1, TTC-4 for additional sign information.

Guidance

- Sign spacing should be 1300'-1500' for Limited Access Highways. For all other roadways, the sign spacing should be 500'-800' where the posted speed limit is greater than 45 mph, and 350'-500' where the posted speed limit is 45 mph or less.
- When work takes up part of a lane on a high volume roadway, vehicle traffic volumes, vehicle mix, speed and capacity should be analyzed to determine whether the affected lane should be closed. Unless the lane closure creates a median opening to a remaining lane width of 10 feet, the lane should be closed. If the closure is on a Limited Access Highway, the remaining lane width is 11 feet.

Option

- The ROAD WORK AHEAD (W20-1) sign on approach to the roadway may be omitted where driving straight from that roadway will encounter an alert advance warning sign prior to the work area.

Standard

- A shadow vehicle with either an arrow board operating in the caution mode, or at least one high-intensity amber rotating, flashing, oscillating, or strobe light shall be parked 80' - 120' in advance of the first work crew.
- Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity amber rotating, flashing, oscillating, or strobe lights. Vehicle hazard warning signals can be used to supplement high-intensity amber rotating, flashing, oscillating, or strobe lights.
- Taper length (L) and channelizing device spacing shall be at the following:

Speed Limit (mph)	Taper Length (L)			
	9	10	11	12
25	98	108	118	128
30	136	150	165	180
35	185	205	225	245
40	240	270	295	320
45	405	450	495	540
50	452	500	550	600
55	495	550	605	660
60	540	600	660	720
65	585	650	715	780
70	630	700	770	840

Minimum taper lengths for Limited Access Highways shall be 1000 feet.
Shoulder Taper = 1/2 L Minimum

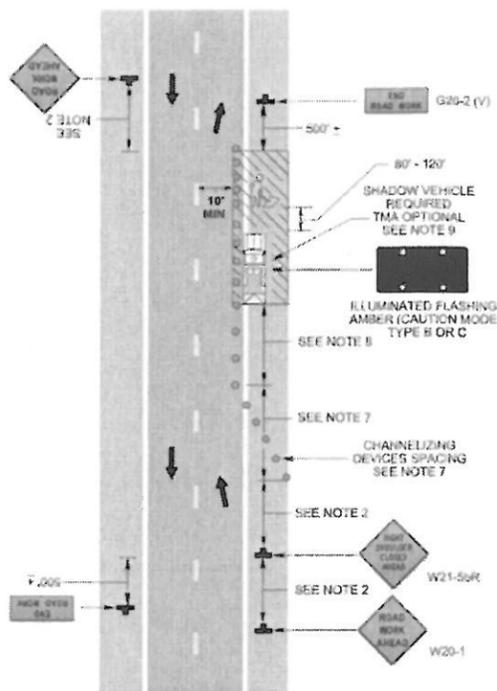
Location	Speed Limit (mph)	
	0 - 35	36 +
Transition Spacing	20	40
Traveway Spacing	40	80
Construction Access*	80	120

* Spacing may be increased to this distance, but shall not exceed one access per 1/2 mile.

On roadways with paved shoulders having a width of 8 feet or more, channelizing devices shall be used to close the shoulder in advance of the merging taper to direct vehicular traffic to remain within the traveled way.

- The buffer space length shall be as shown in Table 614-3 on Page 614-5 for the posted speed limit.
- A truck-mounted attenuator (TMA) shall be used on Limited Access highways and multi-lane roadways with posted speed limit equal to or greater than 45 mph.
- When a side road intersects the highway within the temporary traffic control zone, additional traffic control devices shall be placed as needed.

Shoulder Operation with Minor Encroachment
(Figure TTC-5.0)



Typical Traffic Control
Lane Closure on a Two-Lane Roadway Using Flaggers
(Figure TTC-23.0)

NOTES

Guidance

- Sign spacing distance should be 350'-500' where the posted speed limit is 45 mph or less, and 500'-800' where the posted speed limit is greater than 45 mph.
- Cone spacing should be established when establishing the limits of the work zone to insure maximum possible sight distance in advance of the flagger station and transition based on the posted speed limit and at least equal to or greater than the values in Table 614-3. Generally speaking, motorists should have a clear line of sight from the graphic flagger symbol sign to the flagger.

Option

- Where Right-of-Way or easements conditions prevent the use of 48" x 18" signs, 36" x 18" signs may be used.

Standard

- Flagging stations shall be located far enough in advance of the work space to permit approaching traffic to reduce speed and/or stop before passing the work space and allow sufficient distance for departing traffic in the left lane to return to the right lane before reaching opposing traffic (see Table 614-3 on Page 614-5).
- All flaggers shall be state certified and have their certification card in their possession when performing flagging duties (see Section 61.01, Qualifications for Flaggers).
- Cone spacing shall be at the following:

Location	Posted Speed Limit (mph)	
	0 - 35	36 +
Transition Spacing	20	40
Traveway Spacing	40	80

- A shadow vehicle with at least one high intensity amber rotating, oscillating, or strobe light shall be parked 80'-120' in advance of the first work crew.

Option

- A supplemental flagger sign is required in this area to give advance warning of the operation ahead by showing approaching traffic rear to remaining the flagger station or stopped traffic.

Guidance

- If the space of traffic sees the 'BE PREPARED TO STOP' (W13-4) sign, then the signs should be relocated at greater distances.
- When a highway-rail crossing exists within or adjacent to the transition area and it is anticipated that queues resulting from the lane closure might extend through the highway-rail grade crossing, the temporary traffic control zone should be extended so that the transition area precedes the highway-rail crossing (see Figure TTC-16 for additional information on highway-rail crossings).

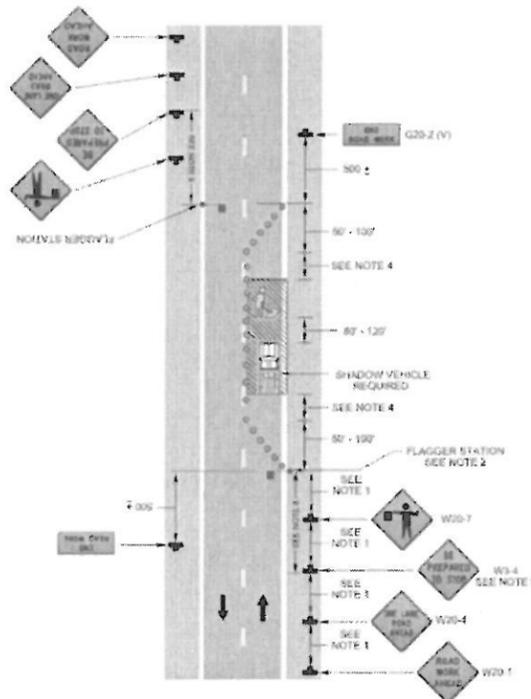
Standard

- At night, flagger stations shall be illuminated, except in emergency (see Section 61.06).

Option

- Cones may be eliminated when using a pilot vehicle operator or when the total roadway width is 20 feet or less.
- For low-volume situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger, positioned as described in road users approaching from both directions, may be used (see Chapter 61).

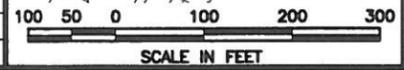
Lane Closure on a Two-Lane Roadway Using Flaggers
(Figure TTC-23.0)





SURVEY CONTROL CHART
 Horizontal Datum: NAD 83 / 86 (City Of Lynchburg)
 Vertical Datum: NAVD 88 (City Of Lynchburg)

Point #	Northing	Easting	Elevation	Description
27	3665513.206	11283901.449	795.71	TRAVROD SET
28	3665720.977	11283643.179	805.78	TRAVROD SET
29	3665386.968	11283067.264	781.43	PK NAIL SET
30	3664866.385	11282126.208	727.39	PK NAIL SET
31	3665166.239	11282632.556	759.58	BENCH MARK
32	3666634.992	11282847.677	794.61	PK NAIL SET
33	3667175.068	11282770.030	762.67	PK NAIL SET
34	3667347.114	11283013.865	741.36	TRAVROD SET
35	3666478.621	11283340.518	799.65	PK NAIL SET
36	3666086.454	11283726.636	793.60	PK NAIL SET
39	3667899.252	11282539.786	765.98	TRAVNAIL
40	3668135.041	11282380.498	763.18	TRAVNAIL
8322			777.64	BENCH MARK
8324			805.78	BENCH MARK
8629	3665773.084	11284098.750	802.16	PK NAIL SET
9681			758.41	BENCH MARK
10039	3667899.252	11282539.786	765.98	TRAVNAIL
10040	3668135.041	11282380.498	763.18	TRAVNAIL



ANDERSON & ASSOCIATES, INC.
 Professional Design Services
 100 Ardmore St.
 Blacksburg, Va. 24060
 540-552-5592
 www.andassoc.com

DATE : 26 FEB 14
 DESIGNED: JMM
 DRAWN : JW, WF, JK
 CHECKED : JMM
 QA / OC : JMJ

REV. # 1
 COMMENTS Bid Revisions

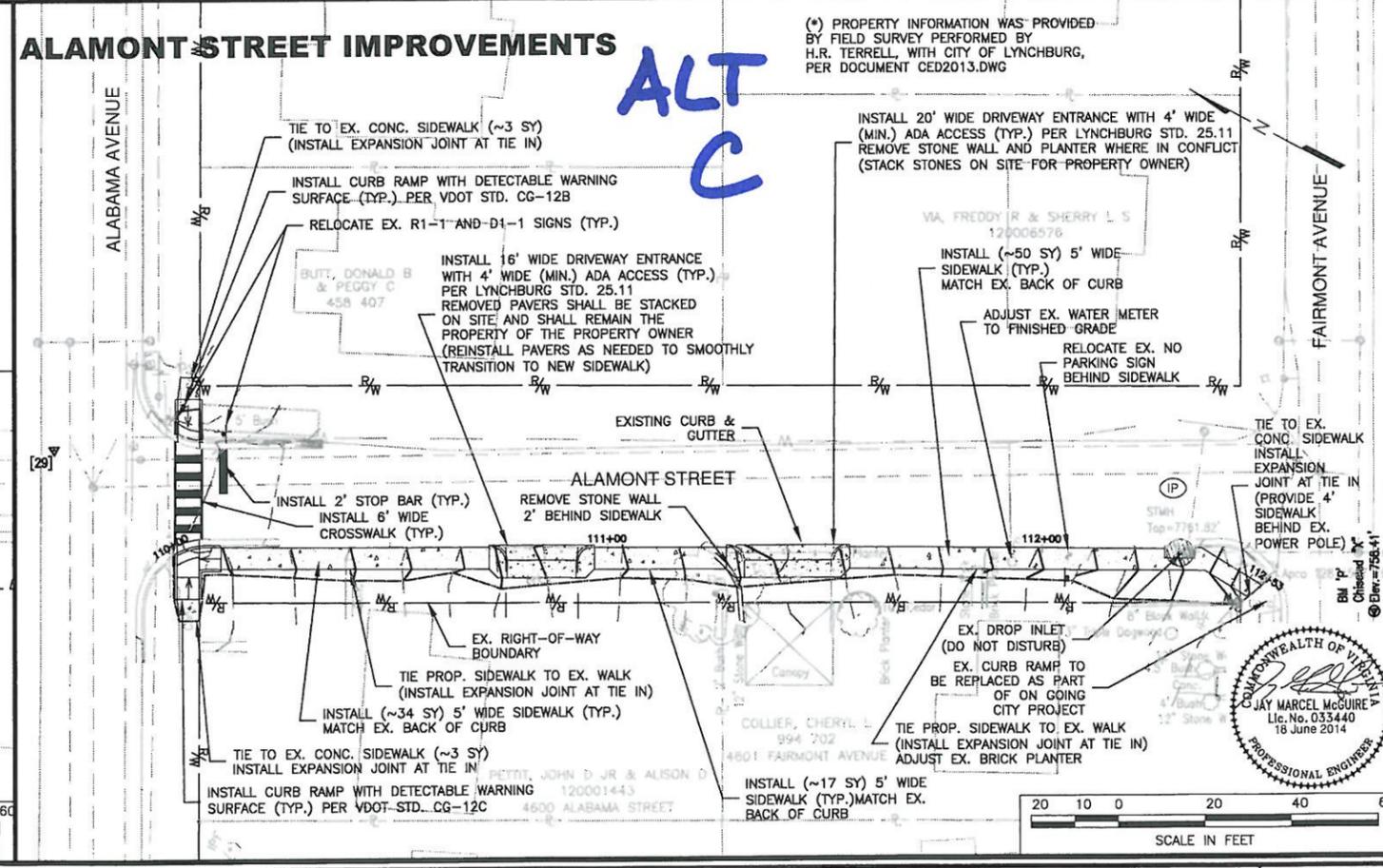
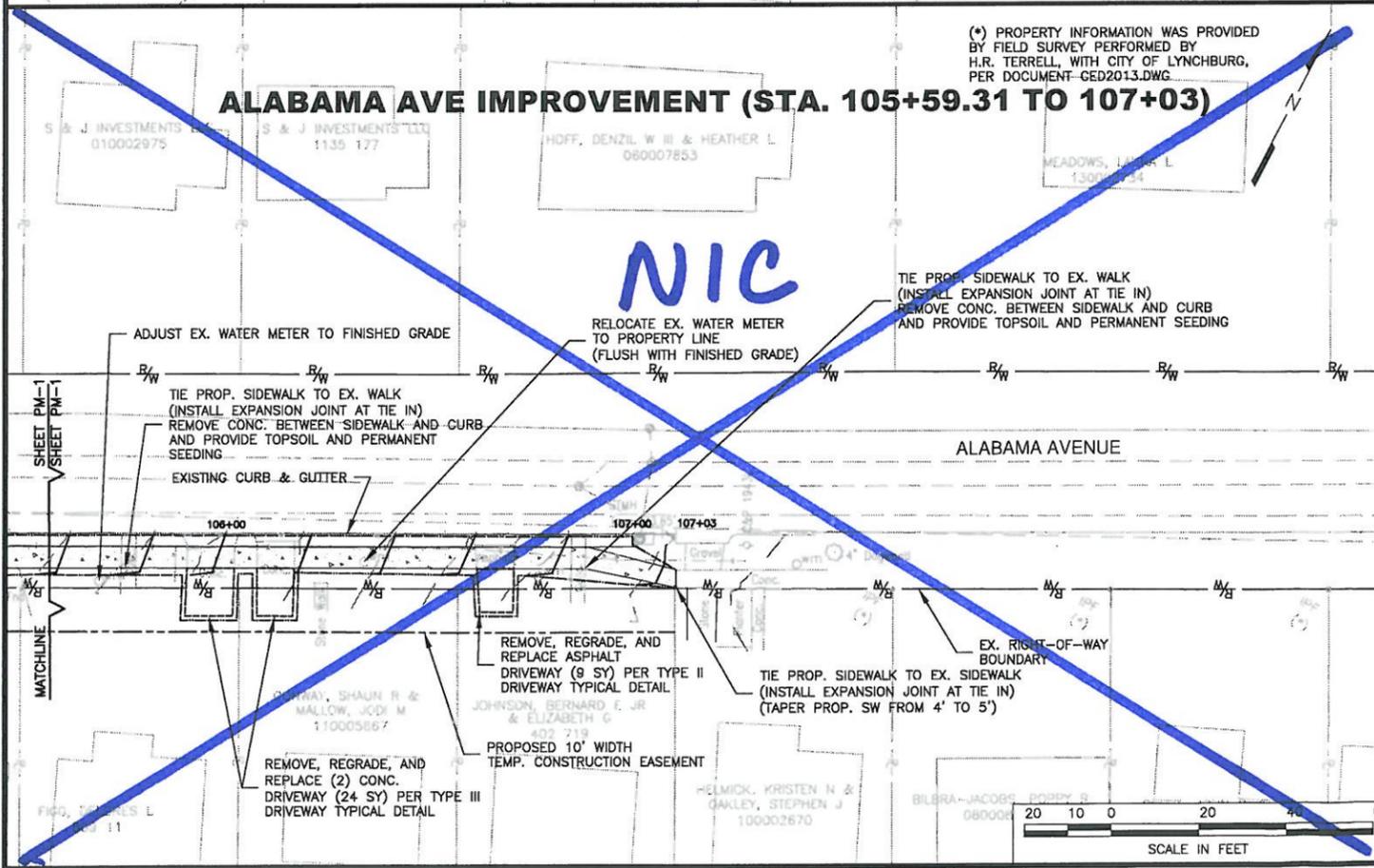
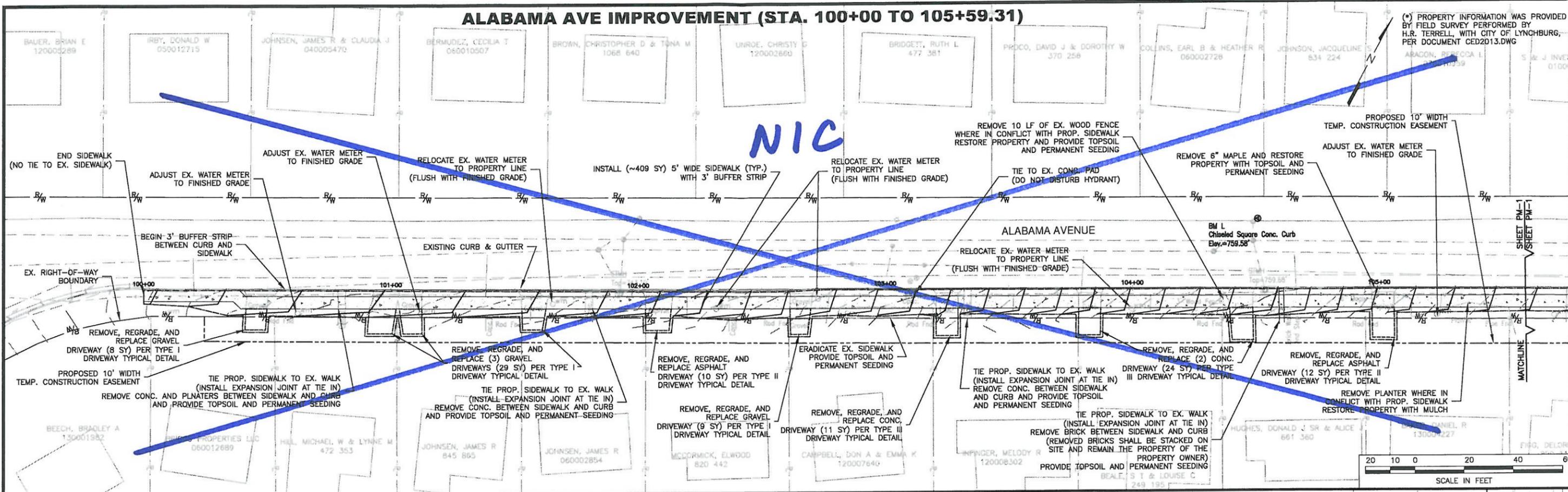
DATE 18 JUN 14

**LYNCHBURG SRTS
 PEDESTRIAN IMPROVEMENTS
 LYNCHBURG, VIRGINIA**

**PERRYMONT ELEMENTARY SCHOOL
 SHEET LAYOUT**

DOCUMENT NO.
30470 - 008
 SHEET
PM-0
 OF **29**

Alien, Matthew / 9/3/2014 9:23 AM / c:\projects\projects\30\30470\30470-engineering\design\plans\30470_design_perrymont_improvements.dwg



ANDERSON & ASSOCIATES, INC.
 Professional Design Services
 www.andassoc.com
 100 Ardmore St.
 Blacksburg, Va. 24060
 540-552-5592

DATE : 26 FEB 14	REV. # 1	COMMENTS Bid Revisions	DATE 18 JUN 14
DESIGNED: JMM			
DRAWN: JW, WF, JK			
CHECKED: JMM			
QA / QC: JMJ			

**LYNCHBURG SRTS
 PEDESTRIAN IMPROVEMENTS
 LYNCHBURG, VIRGINIA**

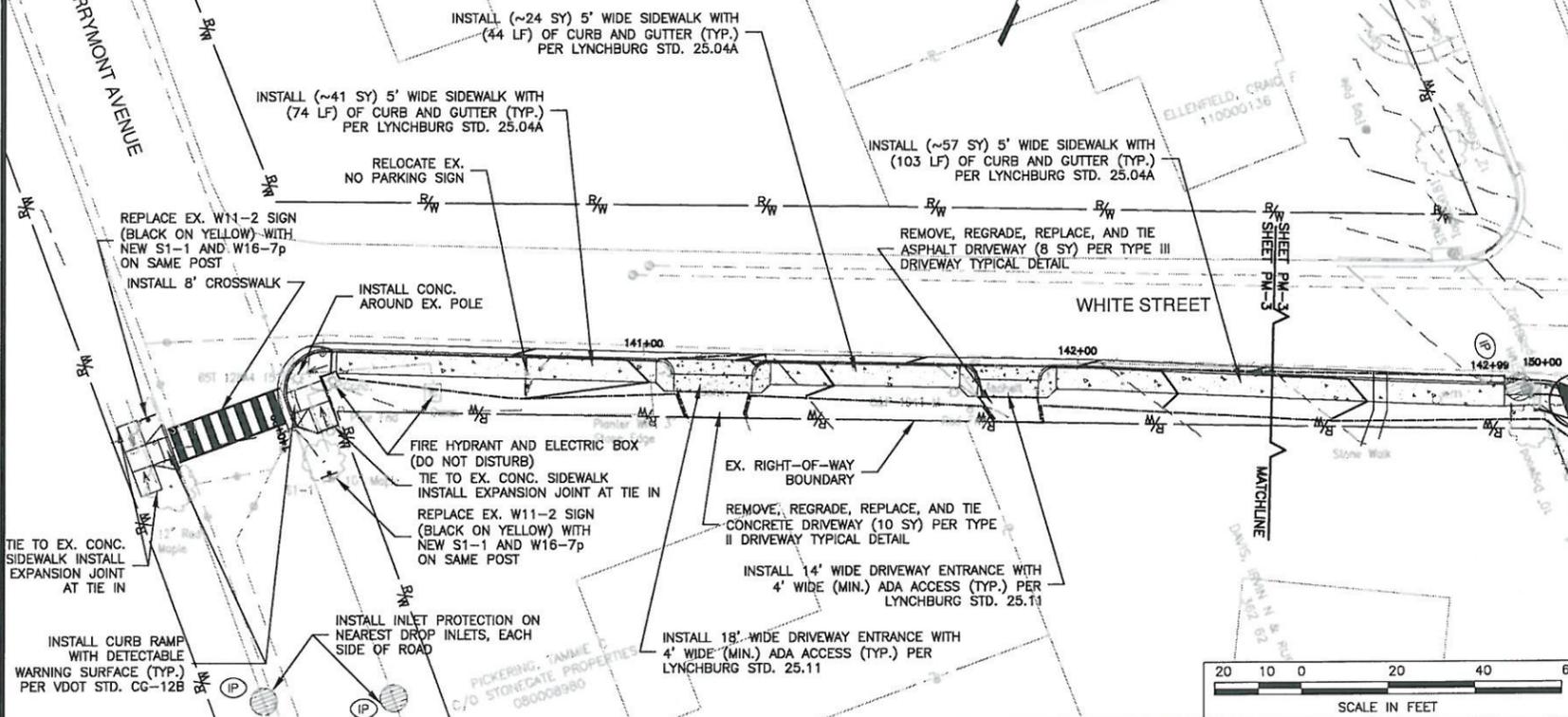
**PERRYMONT ELEMENTARY SCHOOL
 IMPROVEMENTS 1 OF 4**

DOCUMENT NO. 30470-009
 SHEET PM-1 OF 29



PERRYMONT AVE & WHITE ST IMPROVEMENTS

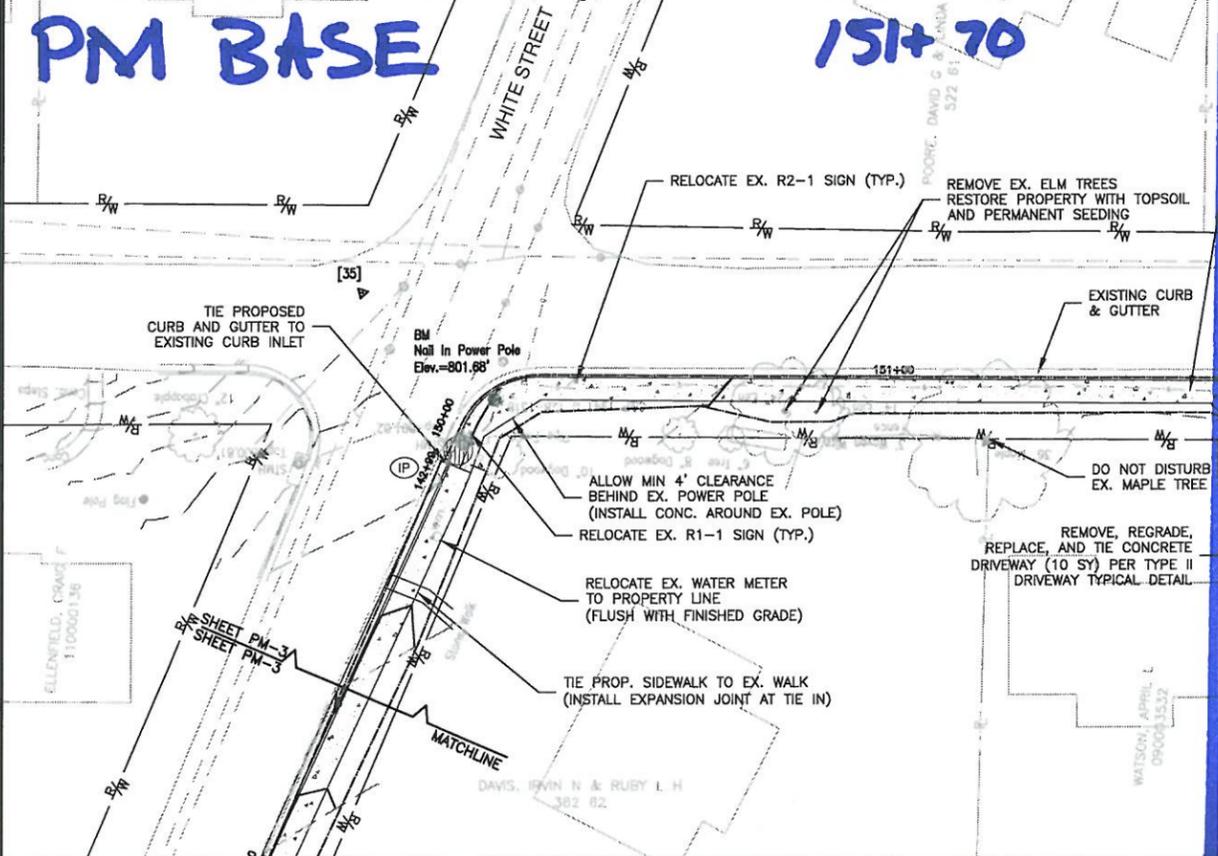
PM BASE



BILTMORE AVE IMPROVEMENT (STA. 150+00-152+15.88)

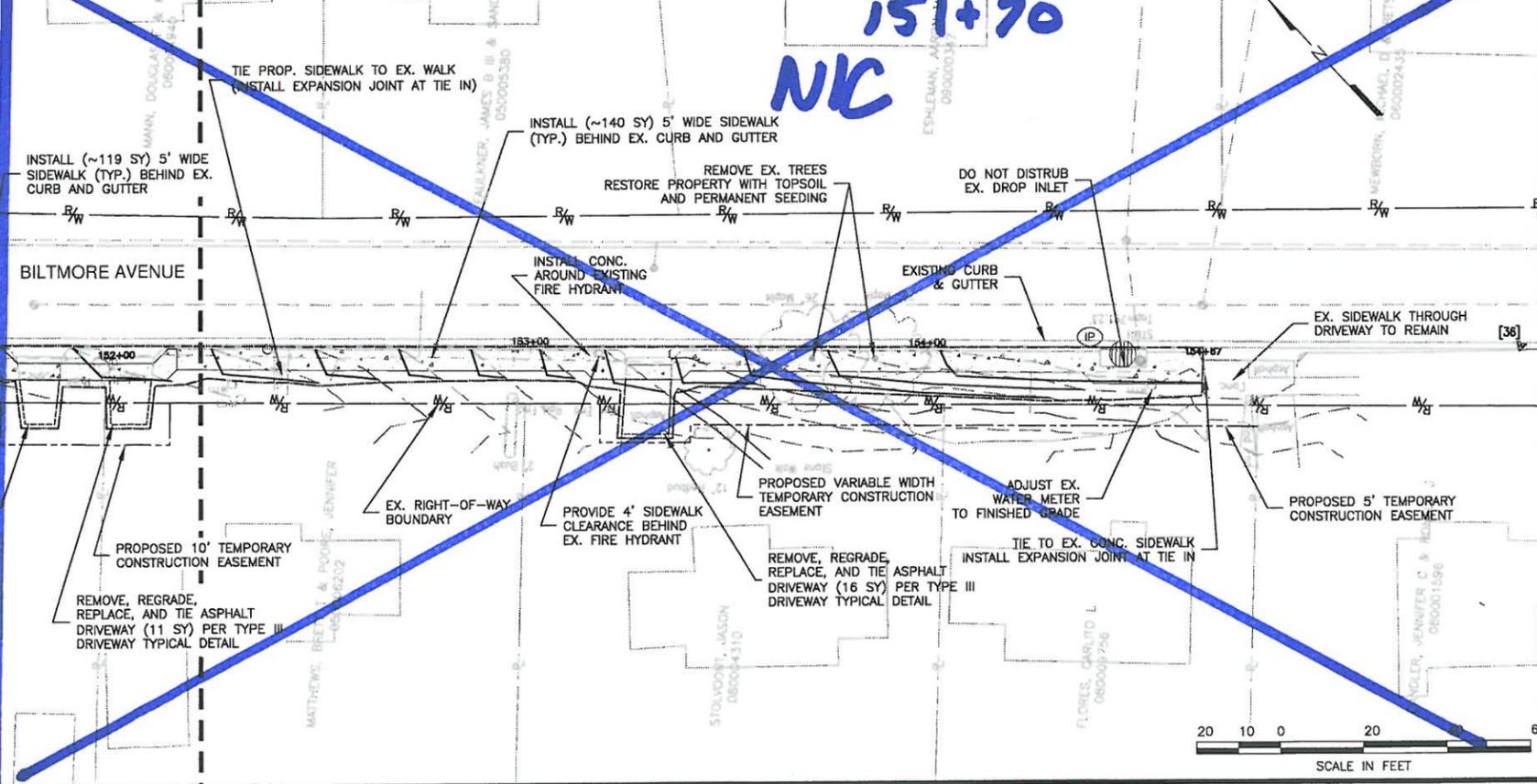
PM BASE

151+70



BILTMORE AVE IMPROVEMENTS (STA. 152+15.88 TO 154+67)

151+70
NC



ANDERSON & ASSOCIATES, INC.
Professional Design Services
www.andassoc.com
100 Ardmore St.
Blacksburg, Va. 24060
540-552-5592

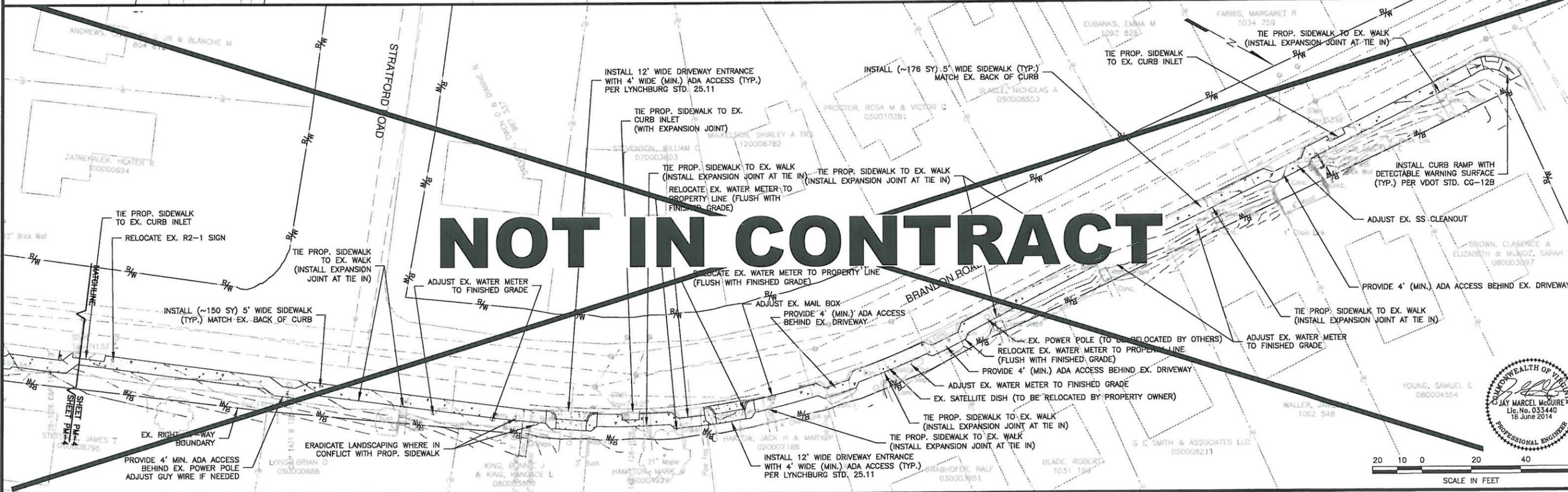
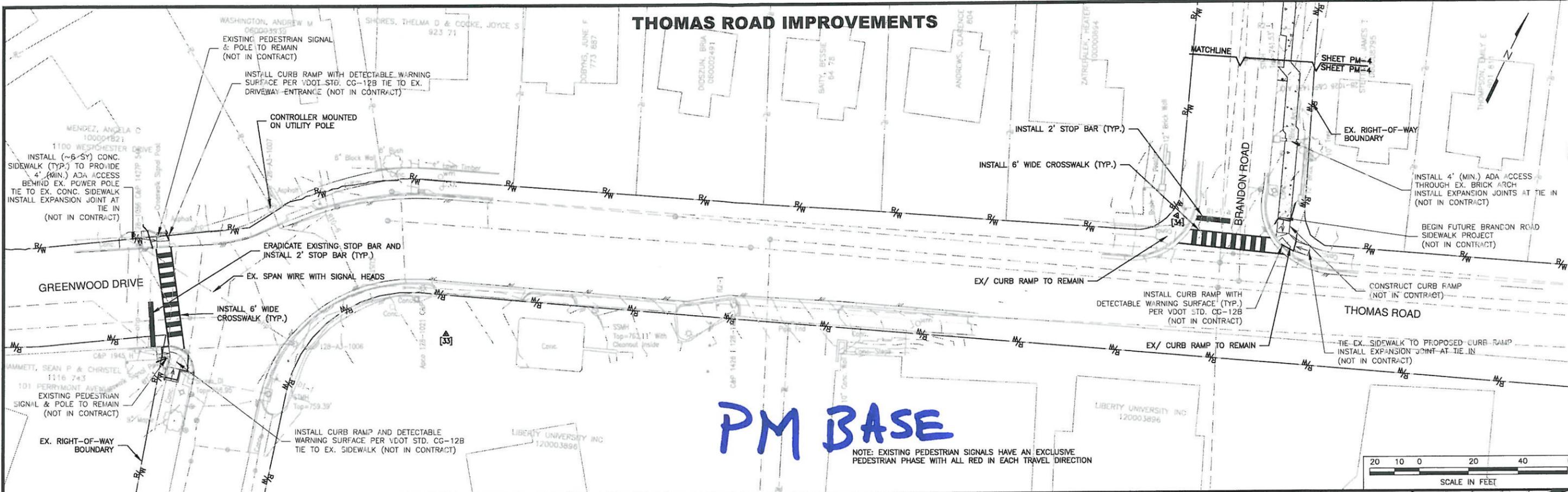
DATE : 26 FEB 14	REV. # 1	COMMENTS Bid Revisions	DATE 18 JUN 14
DESIGNED: JMM			
DRAWN: JW, WF, JK			
CHECKED: JMM			
QA / QC : JMJ			

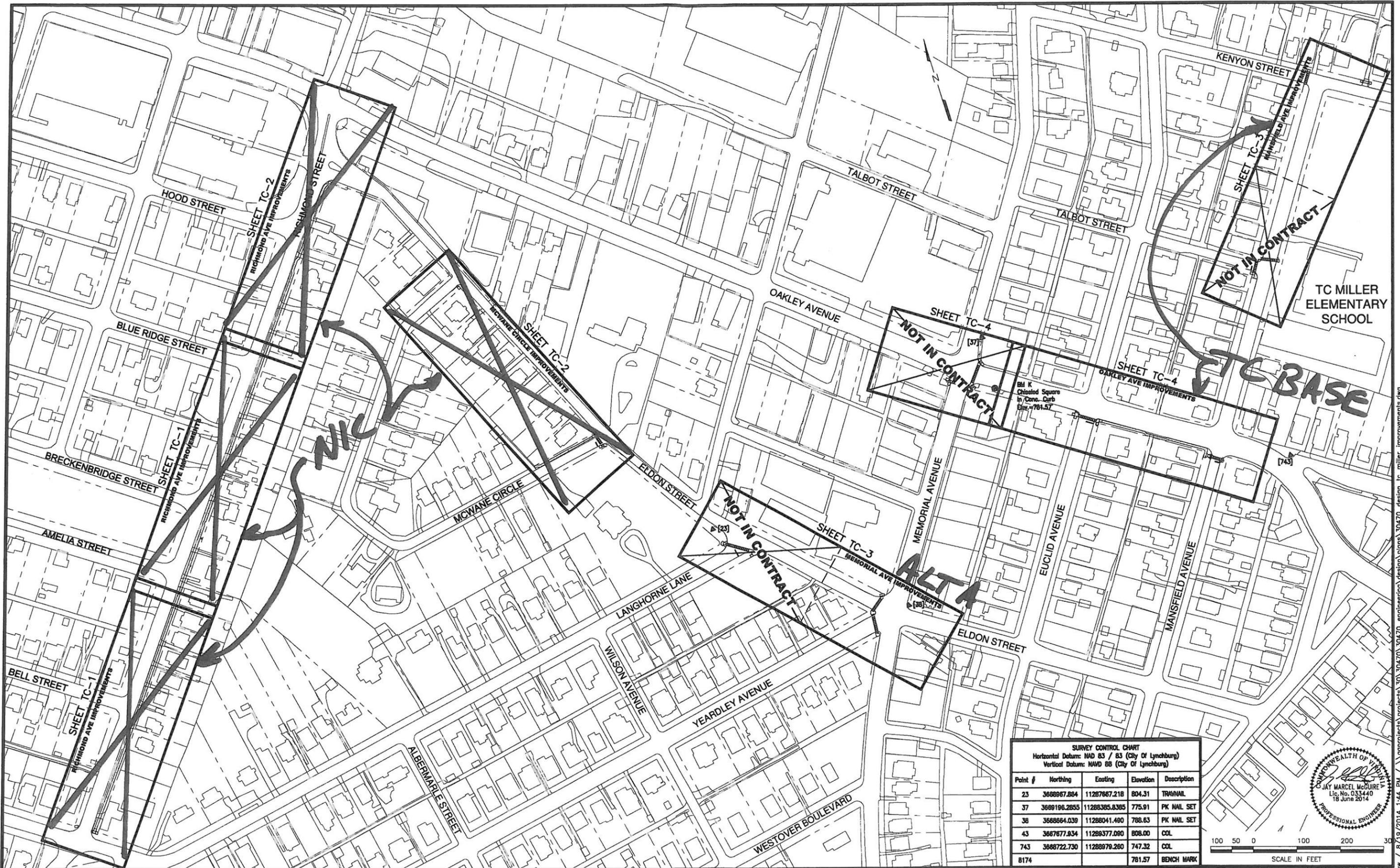
LYNCHBURG SRTS
PEDESTRIAN IMPROVEMENTS
LYNCHBURG, VIRGINIA

PERRYMONT ELEMENTARY SCHOOL
IMPROVEMENTS 3 OF 4

DOCUMENT NO. 30470-011
SHEET PM-3
OF 29

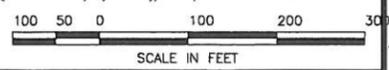
THOMAS ROAD IMPROVEMENTS





SURVEY CONTROL CHART
Horizontal Datum: NAD 83 / 83 (City Of Lynchburg)
Vertical Datum: NAVD 88 (City Of Lynchburg)

Point #	Northing	Easting	Elevation	Description
23	3688867.884	11287667.218	804.31	TRAVAIL
37	3689196.2855	11288385.8385	775.91	PK NAL SET
38	3688664.039	11288041.490	788.63	PK NAL SET
43	3687677.934	11288377.080	808.00	COL
743	3688722.730	11288979.280	747.32	COL
8174			781.57	BENCH MARK



ANDERSON & ASSOCIATES, INC.
Professional Design Services
100 Ardmore St.
Blacksburg, Va. 24060
540-552-5592
www.andassoc.com

DATE : 26 FEB 14
DESIGNED: JMM
DRAWN : JW, WF, JK
CHECKED : JMM
QA / QC : JMJ

REV. #
1

COMMENTS
Bid Revisions

DATE
18 JUN 14

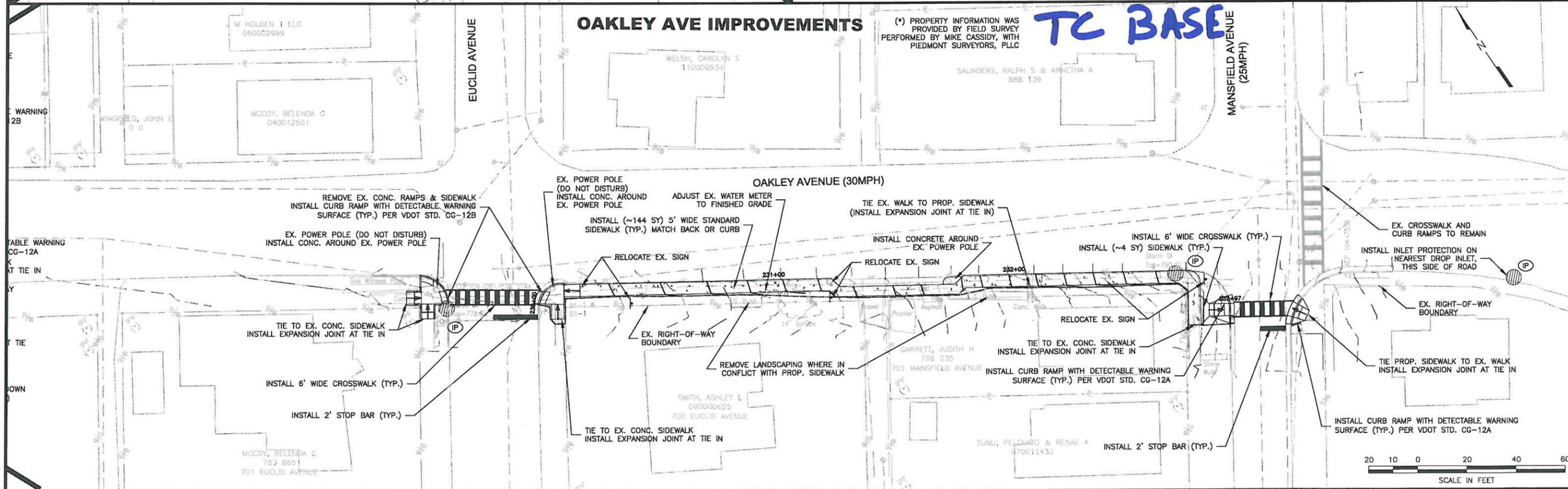
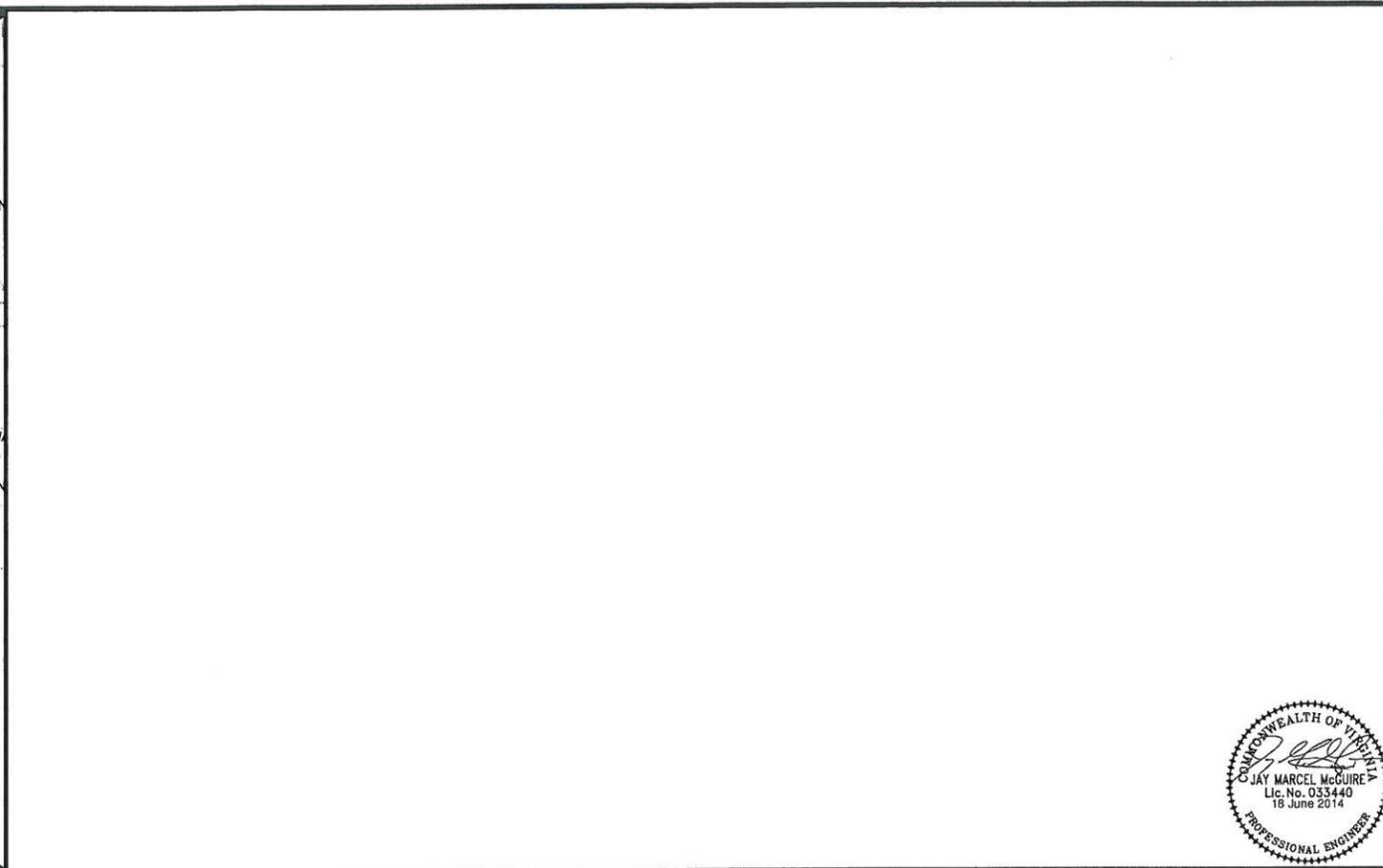
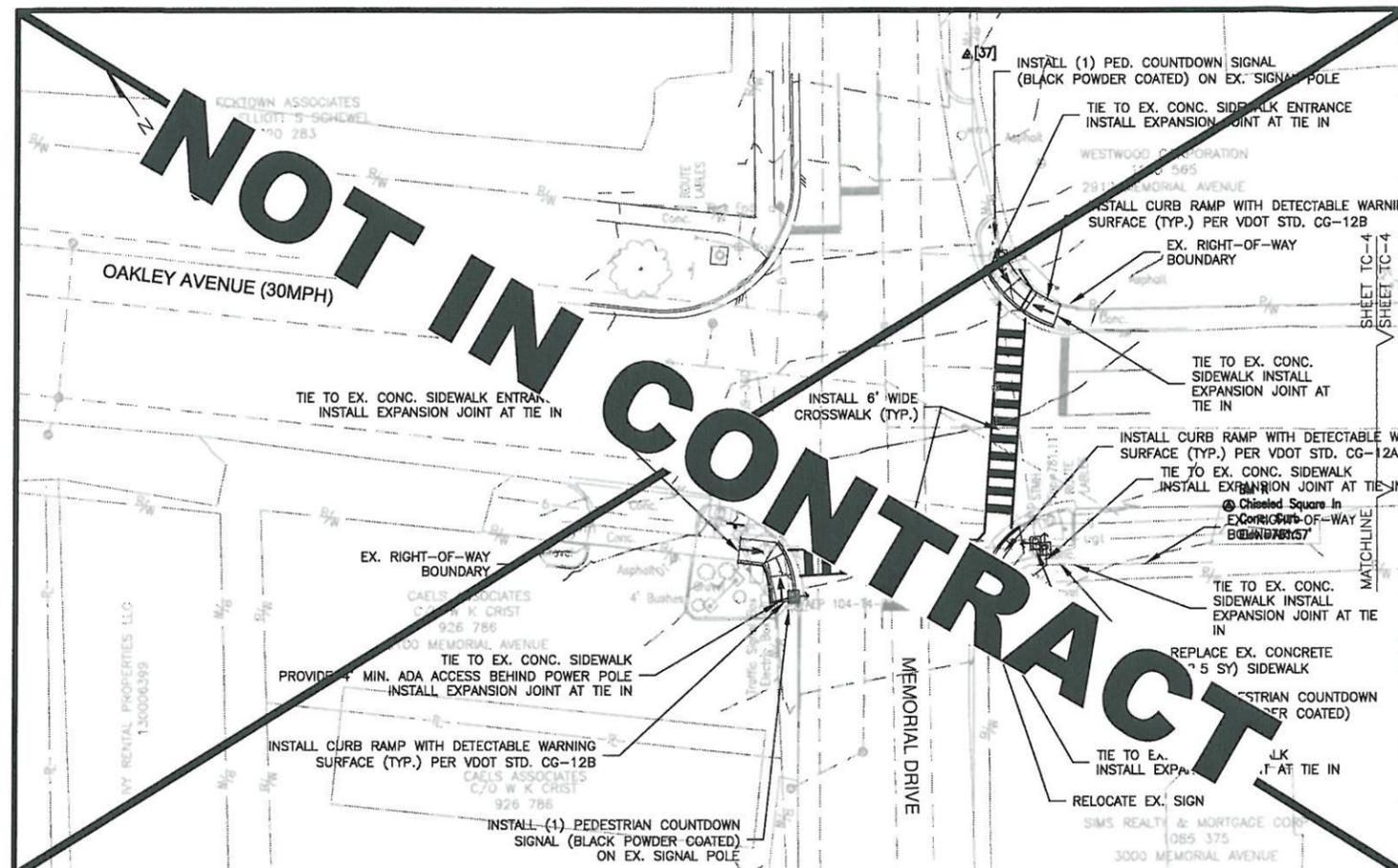
**LYNCHBURG SRTS
PEDESTRIAN IMPROVEMENTS
LYNCHBURG, VIRGINIA**

**T.C. MILLER ELEMENTARY SCHOOL
SHEET LAYOUT**

DOCUMENT NO.
30470 - 013
SHEET
TC-0 OF **29**

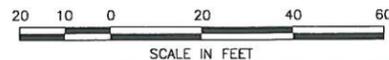
Allen, Matthew / 8/19/2014 1:44 PM \\loop\projects\projects\30\30470_01\engineering\design\plans\30470_design_tc_miller_improvements.dwg

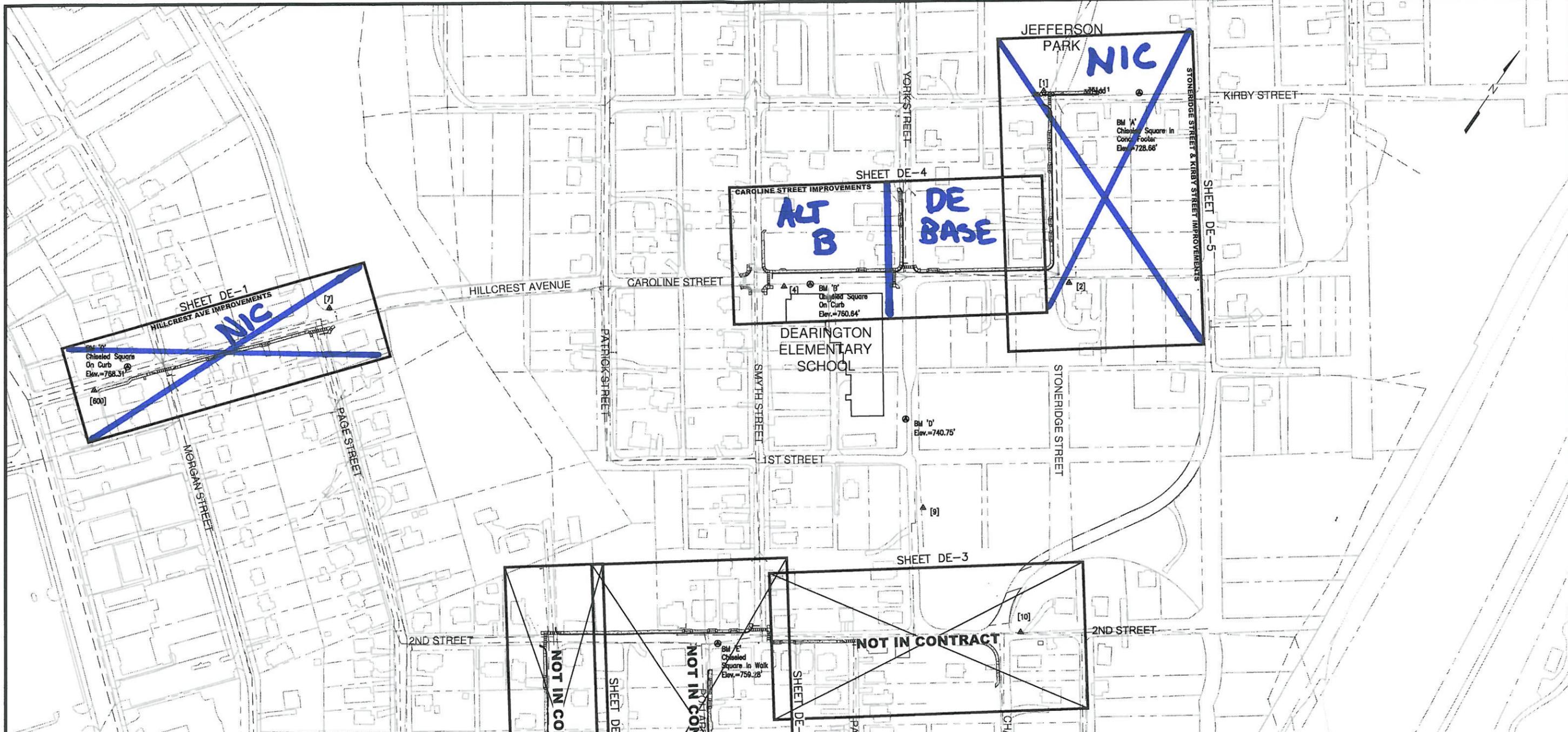
NOT IN CONTRACT



(*) PROPERTY INFORMATION WAS PROVIDED BY FIELD SURVEY PERFORMED BY MIKE CASSIDY, WITH PIEDMONT SURVEYORS, PLLC

TC BASE





SURVEY CONTROL CHART					SURVEY CONTROL CHART				
Horizontal Datum: NAD 83 / 86 (City Of Lynchburg) Vertical Datum: NAVD 88 (City Of Lynchburg)					Horizontal Datum: NAD 83 / 86 (City Of Lynchburg) Vertical Datum: NAVD 88 (City Of Lynchburg)				
Point #	Northing	Easting	Elevation	Description	Point #	Northing	Easting	Elevation	Description
1	3675429.246	11290265.407	719.90	TRAVROD SET	14	3673884.003	11290572.337	738.61	TRAVROD SET
2	3675139.831	11290529.441	741.44	TRAVROD SET	15			768.11	BENCH MARK
3			728.66	BENCH MARK	43	3667677.934	11289377.090	808.00	COL
4	3674804.207	11290059.873	760.92	PK NAIL SET	44	3663290.623	11284984.205	852.60	COL
5			760.64	BENCH MARK	52	3675353.601	11288064.150	729.11	COL
6	3672059.181	11287882.893	751.05	COL	100	3665092.870	11286547.510	814.20	COL
7	3674242.250	11289330.804	742.21	TRAVROD SET	119	3673502.784	11291284.499	725.86	COL
8			768.31	BENCH MARK	123	3673025.129	11293071.605	804.01	COL
9	3674598.284	11290547.242	725.27	TRAVROD SET	600	3673833.138	11289036.184	773.08	PK NAIL SET
10	3674504.874	11290853.210	731.55	PK NAIL SET	706	3672965.240	11287244.290	756.96	COL
11			740.75	BENCH MARK	743	3668722.730	11288979.260	747.32	COL
12			759.28	BENCH MARK	752	3674863.630	11287310.100	731.28	COL
13	3673653.244	11290310.131	767.21	PK NAIL SET	819	3672038.545	11292325.350	746.43	COL

ALT B

328+35

DE BASE

CAROLINE ST/SMYTH ST/YORK ST IMPROVEMENTS

