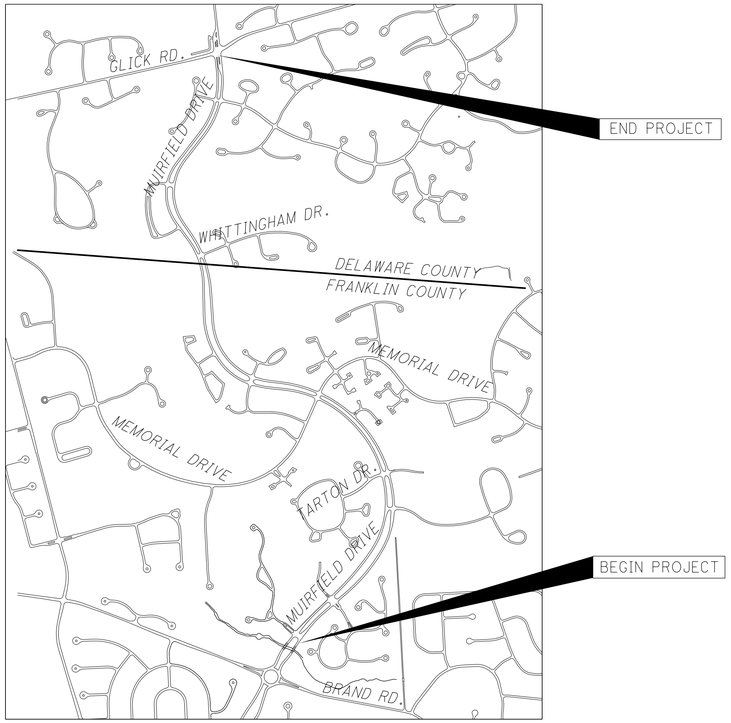
MUIRFIELD DRIVE BIKE LANES

MOORS PLACE TO GLICK ROAD

13 - 025.1 - CIP



LOCATION MAP

LATITUDE: 40°08'14" LONGITUDE: -83°08'56"

0 500 1000 2000 3000

N

City of Dublin

PROJECT DESCRIPTION

THIS PROJECT CONSTRUCTS A NORTHBOUND AND SOUTHBOUND BIKE LANE AT THE OUTSIDE EDGE OF PAVEMENT ON MUIRFIELD DRIVE FROM MOORS PLACE TO GLICK ROAD.

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2012 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE CITY OF COLUMBUS, OHIO, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

Ohio Utilities Protection Service
Call 811 before you dig

STANDARD CONSTRUCTION DRAWINGS

CITY OF COLUMBUS			CITY OF DUBLIN	ODOT		
1441	12/01/13		RD-02	DM-4.4	7/20/12	
2000	6/01/14		RD-06			
				MT-95.30	7/20/12	
AA-S130	12/06/13		SL-01	MT-97.10	7/20/12	
AA-S149	8/03/12		SL-02	MT-97.11	7/20/12	
AA-S151	7/09/12		SL-03	MT-101.90	7/19/13	
			SL-04	MT-105.10	7/20/12	
			SL-05			
			SL-06			

ENGINEERS SEAL:

STATE OF OHIO
FONDA GAREY WELKER
69631
REGISTERED
PROFESSIONAL ENGINEER

SIGNED: Fonda G. Welker
DATE: JUNE 5, 2014

PLAN PREPARED BY:

URS

COLUMBUS, OHIO

URS CORPORATION
TRANSPORTATION DIVISION
277 WEST NATIONWIDE BOULEVARD
COLUMBUS, OH 43215-2566
614-464-4500

CITY OF DUBLIN

SIGNATURES BELOW SIGNIFY ONLY CONCURRENCE WITH THE GENERAL PURPOSE AND LOCATION OF THE PROJECT. ALL TECHNICAL DETAILS REMAIN THE RESPONSIBILITY OF ENGINEER PREPARING THE PLANS.

CITY ENGINEER DATE

TITLE SHEET

MUIRFIELD DRIVE BIKE LANES

L:\Projects\14578434\TRANS\FRA\08434\roadway\sheets\08434GT001.dwg User: Dalboa, Beth 5-Jun-14 9:41 AM

LEGEND

① ITEM 448 1 ½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, MEDIUM TRAFFIC

② ITEM 448 1 ½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22, MEDIUM TRAFFIC

③ ITEM 301 4" ASPHALT CONCRETE BASE, PG64-22

④ ITEM 304 6" AGGREGATE BASE

⑤ ITEM 659 SEEDING AND MULCHING, AS PER PLAN

⑥ ITEM 204 SUBGRADE COMPACTION

⑦ ITEM 254 3"□ PAVEMENT PLANING, ASPHALT CONCRETE

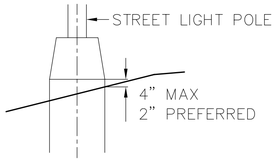
⑧ ITEM 407 TACK COAT (0.075 GAL/SY)

⑨ ITEM 448 2 ½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, MEDIUM TRAFFIC (SHARED-USED PATH)

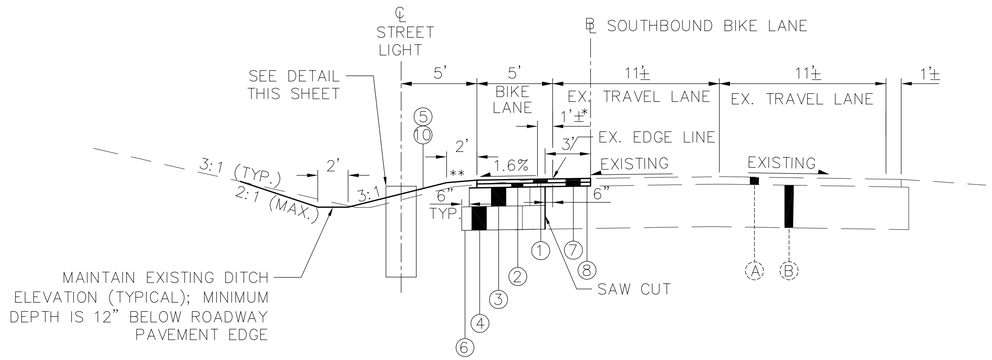
⑩ ITEM 653 3" TOPSOIL, FURNISHED AND PLACED, AS PER PLAN

Ⓐ EXISTING 2 ½" ASPHALT

Ⓑ EXISTING 13 ½" AGGREGATE BASE

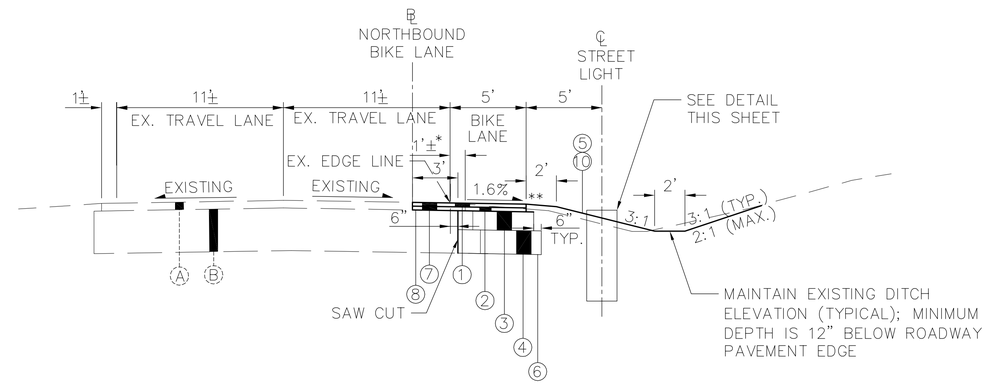


STREET LIGHT DETAIL



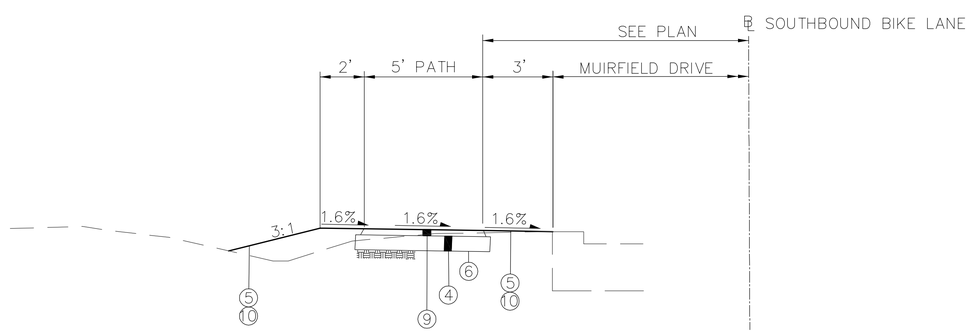
* – EXISTING SHOULDER
** – 8.33% SHOULDER CROSS SLOPE

TYPICAL SECTION MUIRFIELD DRIVE
SOUTHBOUND BIKE LANE
STA. 304+78.3 TO STA. 397+27.6

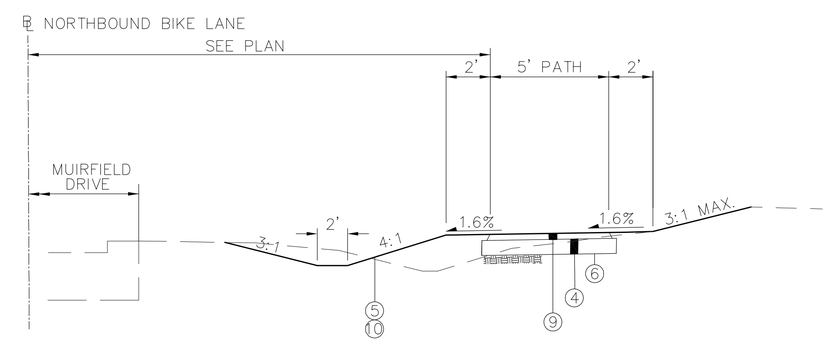


* – EXISTING SHOULDER
** – 8.33% SHOULDER CROSS SLOPE

TYPICAL SECTION MUIRFIELD DRIVE
NORTHBOUND BIKE LANE
STA. 104+29.9 TO STA. 196+54.5



TYPICAL SECTION SOUTHBOUND MUIRFIELD DRIVE TO
GLICK ROAD CONNECTION PATH
STA. 397+27.6 TO STA. 400+19.0



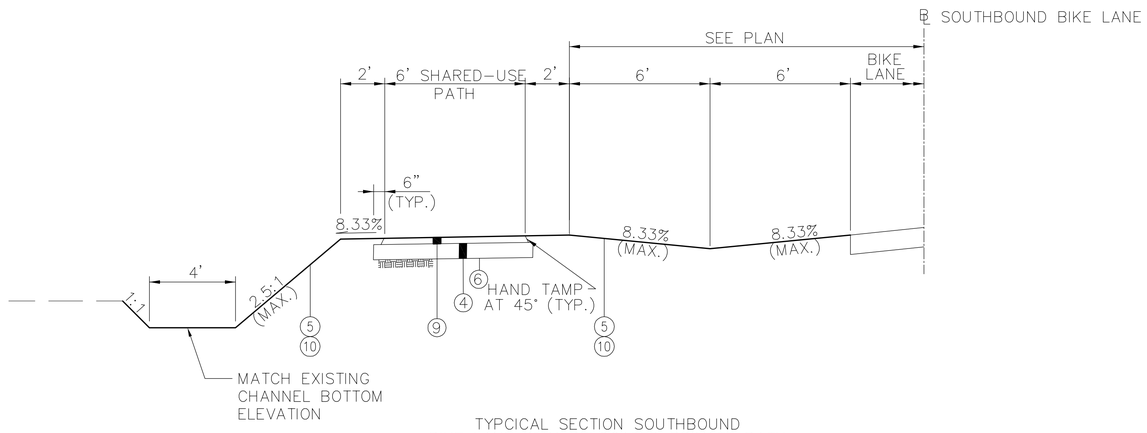
TYPICAL SECTION NORTHBOUND MUIRFIELD DRIVE TO
GLICK ROAD CONNECTION PATH
STA. 196+54.5 TO 199+61.6

CALCULATED FGW
CHECKED EAK

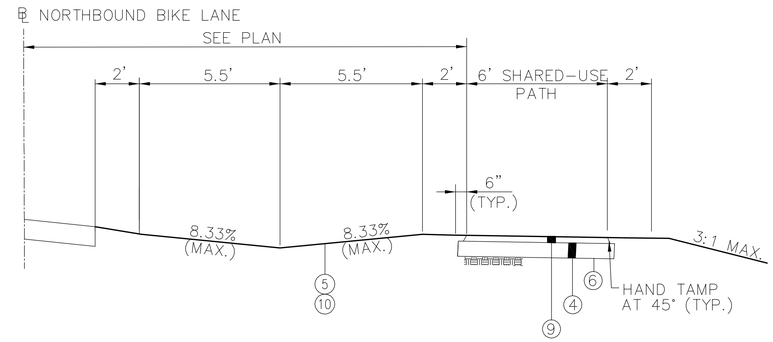
TYPICAL SECTIONS

MUIRFIELD DRIVE
BIKE LANES

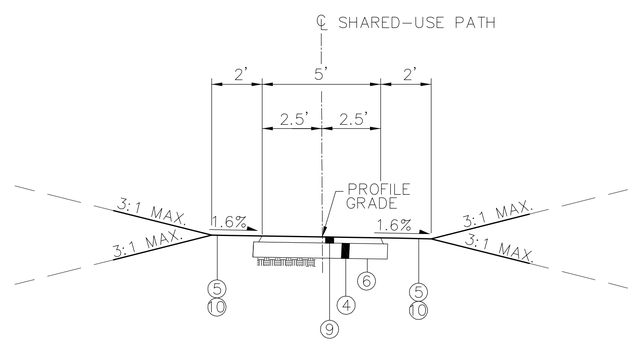
NOTE: FOR LEGEND SEE SHEET 2



TYPCICAL SECTION SOUTHBOUND
BIKE LANE WITH RELOCATED PRIVATE PATH
STA. 382+91 TO STA. 386+73.81



TYPICAL SECTION NORTHBOUND
BIKE LANE WITH RELOCATED PRIVATE PATH
STA. 124+27 TO STA. 125+51.3



TYPICAL SECTION GLICK ROAD TO
CONCORD ROAD CONNECTION SHARED-USE PATH
STA. 10+00 TO 10+72.4

CALCULATED FGW
CHECKED EAK

TYPICAL SECTIONS

MUIRFIELD DRIVE
BIKE LANES

GENERAL NOTES

1. CITY OF COLUMBUS AND OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, CURRENT EDITIONS, AND ANY SUPPLEMENTS THERETO (HEREAFTER REFERRED TO AS STANDARD SPECIFICATIONS), SHALL GOVERN ALL CONSTRUCTION ITEMS UNLESS OTHERWISE NOTED. ITEM NUMBERS LISTED REFER TO CITY OF COLUMBUS ITEM NUMBERS UNLESS OTHERWISE NOTED.

2. THE CITY ENGINEER WILL NOT BE RESPONSIBLE FOR MEANS, METHODS, PROCEDURES, TECHNIQUES, OR SEQUENCES OF CONSTRUCTION THAT ARE NOT SPECIFIED HEREIN. THE CITY ENGINEER WILL NOT BE RESPONSIBLE FOR SAFETY ON THE WORK SITE, OR FOR FAILURE BY THE CONTRACTOR TO PERFORM WORK ACCORDING TO CONTRACT DOCUMENTS.

3. THE CITY SHALL BE RESPONSIBLE TO OBTAIN ALL NECESSARY PERMITS.

4. THE CONTRACTOR SHALL NOTIFY THE CITY OF DUBLIN DIVISION OF ENGINEERING IN WRITING AT LEAST 3 WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION.

5. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE AND LOCAL SAFETY REQUIREMENTS INCLUDING THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970. THE CONTRACTOR SHALL EXERCISE PRECAUTION ALWAYS FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT SHALL ALSO BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, INCLUDING THE REQUIREMENTS FOR CONFINED SPACES PER 29 CFR 1910.146.

6. FOLLOWING COMPLETION OF CONSTRUCTION OF THE SITE IMPROVEMENTS AND BEFORE REQUESTING OCCUPANCY, A PROOF SURVEY SHALL BE PROVIDED TO THE DIVISION OF ENGINEERING THAT DOCUMENTS "AS BUILT" ELEVATIONS, DIMENSIONS, SLOPES AND ALIGNMENTS OF ALL ELEMENTS OF THIS PROJECT. THE PROOF SURVEY SHALL BE PREPARED, SIGNED AND SUBMITTED BY THE PROFESSIONAL ENGINEER WHO SEALED THE CONSTRUCTION DRAWINGS.

7. THE CONTRACTOR SHALL RESTRICT CONSTRUCTION ACTIVITY TO PUBLIC RIGHT OF WAY AND AREAS DEFINED AS PERMANENT AND/OR TEMPORARY CONSTRUCTION EASEMENTS, UNLESS OTHERWISE AUTHORIZED BY THE CITY ENGINEER.

8. THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCHMARKS, PROPERTY CORNERS, REFERENCE POINTS, STAKES AND OTHER SURVEY REFERENCE MONUMENTS OR MARKERS. IN CASES OF WILLFUL OR CARELESS DESTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATIONS. RESETTING OF MARKERS SHALL BE PERFORMED BY AN OHIO PROFESSIONAL SURVEYOR AS APPROVED BY THE CITY ENGINEER.

9. NONRUBBER TIRED VEHICLES SHALL NOT BE MOVED ON OR ACROSS PUBLIC STREETS OR HIGHWAYS WITHOUT THE WRITTEN PERMISSION OF THE CITY ENGINEER.

10. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO EQUAL OR BETTER CONDITION THAN EXISTED BEFORE CONSTRUCTION. DRAINAGE DITCHES OR WATERCOURSES THAT ARE DISTURBED BY CONSTRUCTION SHALL BE RESTORED TO THE GRADES AND CROSS SECTIONS THAT EXISTED BEFORE CONSTRUCTION.

11. TRACKING OR SPILLING MUD, DIRT OR DEBRIS UPON STREETS, RESIDENTIAL OR COMMERCIAL DRIVES, SIDEWALKS OR BIKE PATHS IS PROHIBITED ACCORDING TO SECTION 97.38 OF THE DUBLIN CODE OF ORDINANCES. ANY SUCH OCCURRENCE SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR AT NO COST TO THE CITY. IF THE CONTRACTOR FAILS TO REMOVE SAID MUD, DIRT, DEBRIS, OR SPILLAGE, THE CITY RESERVES THE RIGHT TO REMOVE THESE MATERIALS AND CLEAN AFFECTED AREAS, THE COST OF WHICH SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

12. ALL SIGNS, LANDSCAPING, STRUCTURES OR OTHER APPURTENANCES WITHIN RIGHT-OF-WAY DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED OR REPAIRED TO THE SATISFACTION OF THE CITY ENGINEER. THE COST OF THIS WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

13. ALL FIELD TILE BROKEN OR ENCOUNTERED DURING EXCAVATION SHALL BE REPLACED OR REPAIRED AND CONNECTED TO THE PUBLIC STORM SEWER SYSTEM AS DIRECTED BY THE CITY ENGINEER. THE COST OF THIS WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

14. ALL PRECAST CONCRETE PRODUCTS SHALL BE INSPECTED AT THE LOCATION OF MANUFACTURE. APPROVED PRECAST CONCRETE PRODUCTS WILL BE STAMPED OR HAVE SUCH IDENTIFICATION NOTING THAT INSPECTION HAS BEEN CONDUCTED BY THE CITY OF COLUMBUS. PRECAST CONCRETE PRODUCTS WITHOUT PROOF OF INSPECTION SHALL NOT BE APPROVED FOR INSTALLATION.

15. BACKFILL WITHIN A 1:1 INFLUENCE LINE OF EXISTING STRUCTURES (HOUSES, GARAGES, ETC.) OR PUBLIC INFRASTRUCTURE (PAVEMENT, CURBS, SIDEWALKS, BIKE PATHS, ETC.) SHALL BE COMPACTED GRANULAR BACKFILL ACCORDING TO ITEM 912 OF THE STANDARD SPECIFICATIONS OR FLOWABLE CDF, TYPE II ACCORDING TO ITEM 613. ITEM 911 OF THE STANDARD SPECIFICATIONS SHALL BE USED ELSEWHERE.

16. ALL TRENCHES WITHIN PUBLIC RIGHT-OF-WAY SHALL BE BACKFILLED ACCORDING TO THE APPROVED CONSTRUCTION DRAWINGS OR SECURELY PLATED DURING NONWORKING HOURS. TRENCHES OUTSIDE THESE AREAS SHALL BE BACKFILLED OR SHALL BE PROTECTED BY APPROVED TEMPORARY FENCING OR BARRICADES DURING NON-WORKING HOURS. CLEAN UP SHALL FOLLOW CLOSELY BEHIND THE TRENCHING OPERATION.

17. ALL TREES WITHIN THE CONSTRUCTION AREA NOT SPECIFICALLY DESIGNATED FOR REMOVAL SHALL BE PRESERVED, WHETHER SHOWN OR NOT SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS. TREES TO BE PRESERVED SHALL BE PROTECTED WITH HIGH VISIBILITY FENCING PLACED A MINIMUM 15 FEET FROM THE TREE TRUNK. TREES 6 INCHES OR GREATER AT DBH (DIAMETER BREAST HEIGHT) MUST BE PROTECTED WITH FENCING PLACED AT THE CRITICAL ROOT ZONE OR 15 FEET, WHICHEVER IS GREATER.

18. PAVEMENTS SHALL BE CUT IN NEAT, STRAIGHT LINES THE FULL DEPTH OF THE EXISTING PAVEMENT, OR AS REQUIRED BY THE CITY ENGINEER. PAVEMENT REPLACEMENT SHALL BE CONDUCTED ACCORDING TO CITY OF COLUMBUS STANDARD DRAWING 1441 DR. A AND APPLICABLE CITY OF DUBLIN STANDARD DRAWINGS. THE REPLACEMENT OF DRIVEWAYS, HANDICAPPED RAMPS, SIDEWALKS, BIKE PATHS, PARKING LOT PAVEMENT, ETC. SHALL BE PROVIDED ACCORDING TO THE APPROVED CONSTRUCTION DRAWINGS AND CITY OF DUBLIN STANDARD CONSTRUCTION DRAWINGS.

19. TREE TRIMMING WITHIN THE CONSTRUCTION ZONE IS TO BE COMPLETED BY A CERTIFIED ARBORIST. AT THE COMPLETION OF THE PROJECT, THE ARBORIST IS TO RETURN AND TRIM ANY BROKEN BRANCHES AS NEEDED.

20. ANY MODIFICATION TO THE WORK SHOWN ON DRAWINGS MUST HAVE PRIOR WRITTEN APPROVAL BY THE CITY ENGINEER, CITY OF DUBLIN.

21. ALL INLETS SHALL BE CHANNELIZED.

22. TRAFFIC CONTROL AND OTHER REGULATORY SIGNS SHALL BE TYPE S WITH A SQUARE POST ANCHOR BASE INSTALLATION AND MEET ALL REQUIREMENTS OF ODOT TC-41.20 AND APPLICABLE CITY OF DUBLIN SPECIFICATIONS.

23. THE CONTRACTOR INTENDING TO SUBMIT A BID FOR CITY OF DUBLIN (HEREAFTER REFERRED TO AS "CITY") CAPITAL IMPROVEMENT CONTRACTS SHALL BE PREQUALIFIED WITH THE OHIO DEPARTMENT OF TRANSPORTATION IN ACCORDANCE WITH SECTION 102 OF THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS AND CHAPTER 5525 OF THE OHIO REVISED CODE CONCERNING CONSTRUCTION CONTRACTS.

24. ALL ITEMS OF WORK CALLED FOR ON THE PLANS FOR WHICH NO SPECIFIC METHOD OF PAYMENT IS PROVIDED SHALL BE PERFORMED BY THE CONTRACTOR WITH THE COST TO BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS RELATED ITEMS.

25. IT IS THE INTENTION OF THE CONTRACT DOCUMENTS TO PROVIDE AND REQUIRE A COMPLETED PROJECT READY FOR OPERATION. ANY WORK ITEMS OMITTED FROM THE CONTRACT DOCUMENTS WHICH ARE CLEARLY NECESSARY FOR COMPLETION OF THE WORK AND ITS APPURTENANCES SHALL BE CONSIDERED A PART OF SUCH WORK, THOUGH NOT DIRECTLY SPECIFIED OR CALLED FOR IN THE CONTRACT DOCUMENTS. THIS INCLUDES, BUT IS NOT LIMITED TO, SUCH INCIDENTAL ITEMS AS RELOCATION OF MAIL BOXES, SAW CUTTING, AND REMOVAL AND/OR RELOCATION OF SIGNS, SPRINKLERS, OR OTHER MISCELLANEOUS ITEMS.

26. THE COST OF ALL ASPHALT PAVEMENT REMOVAL AND DISPOSAL SHALL BE INCLUDED IN THE PRICE BID PER CUBIC YARD FOR ITEM 203, EXCAVATION. THE COST OF CONCRETE PAVEMENT REMOVAL AND DISPOSAL WILL BE PAID AT THE UNIT PRICE BID PER SQUARE YARD FOR ITEM 202, PAVEMENT REMOVED.

ITEM 653 – TOPSOIL FURNISHED AND PLACED, AS PER PLAN

A MINIMUM OF 3 INCHES OF TOPSOIL SHALL BE PLACED IN ALL AREAS TO BE SEEDED. PRIOR TO PLACING TOPSOIL IN CUT AREAS, THE EARTH SHALL BE EXCAVATED TO A DEPTH SUFFICIENT TO PLACE 3 INCHES OF TOPSOIL. THE COST OF EXCAVATION AND DISPOSAL OF SURPLUS MATERIALS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE COST OF THE VARIOUS CONTRACT ITEMS.

TOPSOIL SHALL BE REMOVED AND WASTED OR UTILIZED IN NON-LOAD BEARING FILLS IN ACCORDANCE WITH THE SPECIFICATIONS. NO EXTRA COMPENSATION SHALL BE PAID FOR THE REMOVAL OF EXCESS TOPSOIL AS REQUIRED TO OBTAIN A SUITABLE SUBGRADE. PAYMENT FOR TOPSOIL REMOVAL IS INCLUDED IN ITEM 203, EXCAVATION.

ALL TOPSOIL MATERIALS AND FINAL AREA OF SUBGRADE PREPARATION SHALL BE FREE FROM ROCK AND OTHER FOREIGN MATERIAL 1/2" OR GREATER IN ANY DIMENSION.

SUBGRADE

ALL SOIL SUBGRADES SHALL BE PREPARED AND COMPACTED IN ACCORDANCE WITH ITEM 204 TO A DEPTH OF 12-INCHES BELOW THE SUBGRADE SURFACE. SUBGRADE SHALL BE SCARIFIED AND CONTAIN SUFFICIENT MOISTURE TO MEET ITEM 204 COMPACTION REQUIREMENTS.

SUBGRADE COMPACTION SHALL ALSO BE REQUIRED UNDER SIDEWALKS, BIKE PATHS, AND BRICK PAVER AREAS AND SHALL FOLLOW THE REQUIREMENTS FOR COMPACTION UNDER DRIVEWAYS AS DESCRIBED IN SECTION 204.03. THE COST SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 204, SUBGRADE COMPACTION.

THE CONTRACTOR SHALL DEFINE THE LIMITS OF ANY WEAK SOILS ENCOUNTERED BY PROOF ROLLING. WHERE SOFT SUBGRADE IS ENCOUNTERED IN CUTS, DUE TO NO FAULT OF THE CONTRACTOR, AND SATISFACTORY COMPACTION CANNOT BE OBTAINED, THE UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED PER SECTION 204.04. THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED AS AN ALLOWANCE FOR BIDDING PURPOSES.

ITEM 204 EXCAVATION OF SUBGRADE 100 C.Y.
ITEM 204 GRANULAR EMBANKMENT, 100 C.Y.
NO. 2 STONE

AMERICANS WITH DISABILITIES ACT (ADA)

ALL SIDEWALKS, PEDESTRIAN PATHS, CURB RAMPS, AND DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST STANDARDS OF THE AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES (ADAGG).

THE ELEVATIONS AND SLOPES PROVIDED ON THE DRAWINGS ARE INTENDED TO CONVEY A DESIGN THAT IS COMPATIBLE WITH ADA GUIDELINES. THE CONTRACTOR SHALL DETERMINE THE EXISTING ELEVATIONS OF ADJACENT NEW OR EXISTING CONCRETE CURB AND ADJACENT NEW OR EXISTING WALK PRIOR TO THE START OF RAMP CONSTRUCTION. ADJUSTMENTS IN GRADE SHALL BE MADE BY THE CONTRACTOR BASED ON THE ELEVATION INFORMATION TO INSURE THAT THE FINISHED WORK IS IN ACCORDANCE WITH ADA GUIDELINES.

ALL DETECTABLE WARNINGS SHALL BE ADA SOLUTIONS TACTILE WARNING SURFACE MATS REPLACEABLE WET-SET COMPOSITE TACTILE WITH A DOME SPACING OF 2.35 INCHES, MANUFACTURER PART NUMBER 2448REP. BRICK RED COLOR SHALL BE USED IN MOST LOCATIONS UNLESS OTHERWISE NOTED. THE COST OF THIS WORK WILL BE PAID AT THE UNIT PRICE BID PER EACH, AND SHALL BE IN ADDITION TO ANY OVERLAPPING PAYMENTS PER SQUARE FOOT FOR SIDEWALK OR PEDESTRIAN PATH.

UTILITIES

1. THE FOLLOWING UTILITIES ARE KNOWN TO BE LOCATED WITHIN THE LIMITS OF THIS PROJECT:

AMERICAN ELECTRIC POWER
ELECTRIC & STREET LIGHTING
850 TECH CENTER DRIVE
GAHANNA, OHIO 43230
PAUL PAXTON
PHONE 614-883-6831
FAX 614-883-6868
CELL 614-949-8883
PTPAXTON@AEP.COM

AT&T (CONDUIT)
111 NORTH 4" STREET
ROOM 802
COLUMBUS, OHIO 43215
GARY VAN ALMSICK
PHONE 614-223-7276
GV2758@ATT.COM

COLUMBIA GAS OF OHIO
1600 DUBLIN ROAD
COLUMBUS, OHIO 43215
ROB CALDWELL
PHONE 614-481-1057
CELL 614-370-1906
RCALDWELL@NISOURCE.COM

TIME WARNER COMMUNICATIONS
3760 INTERCHANGE ROAD
COLUMBUS, OHIO 43204
RAY MAURER
PHONE 614-481-5262
FAX 614-255-6428
PAGER 614-640-6915
CELL 614-348-2979
RAY.MAURER@TWCABLE.COM

TW TELECOM INC.
250 WEST OLD WILSON BRIDGE RD.
SUITE 130
WORTHINGTON, OHIO 43085
MARK BLACKBURN
PHONE 614-255-2148
MARK.BLACKBURN@TWTELECOM.COM

WIDE OPEN WEST
3675 CORPORATE DRIVE
COLUMBUS, OH 43231
ROBERT CARPENTER
PHONE 614-948-4665
CELL 614-937-4313
R_CARPENTER20@WIDEOPENWEST.COM

CITY OF DUBLIN
WATER, STORM, SANITARY, LIGHTING
5800 SHIER RINGS ROAD
DUBLIN, OH 43016
KEN RICHARDSON, PE, PS
PHONE 614-410-4631
KRICHARDSON@DUBLIN.OH.US

2. THE CONTRACTOR SHALL GIVE NOTICE OF INTENT TO CONSTRUCT TO OHIO UTILITIES PROTECTION SERVICE (TELEPHONE NUMBER 800-362-2764), AND TO OWNERS OF UNDERGROUND UTILITIES THAT ARE NOT MEMBERS OF A REGISTERED UNDERGROUND PROTECTION SERVICE. NOTICE SHALL BE GIVEN AT LEAST 2 WORKING DAYS BEFORE START OF CONSTRUCTION.

3. THE IDENTITY AND LOCATIONS OF EXISTING UNDERGROUND UTILITIES IN THE CONSTRUCTION AREA HAVE BEEN SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS AS ACCURATELY AS PROVIDED BY THE OWNER OF THE UNDERGROUND UTILITY. THE CITY OF DUBLIN AND THE CITY ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR DEPTHS OF UNDERGROUND FACILITIES SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS. IF DAMAGE IS CAUSED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF THE SAME AND FOR ANY RESULTING CONTINGENT DAMAGE.

4. LOCATION, SUPPORT, PROTECTION AND RESTORATION OF ALL EXISTING UTILITIES AND APPURTENANCES, WHETHER SHOWN OR NOT SHOWN ON THE APPROVED CONSTRUCTION DRAWINGS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

5. WHEN UNKNOWN OR INCORRECTLY LOCATED UNDERGROUND UTILITIES ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND THE CITY ENGINEER.

6. PUBLIC STREET LIGHTING MAY BE IN THE VICINITY OF THIS PROJECT. CONTACT THE CITY OF DUBLIN, DIVISION OF ENGINEERING AT 410-4637, TWO DAYS PRIOR TO BEGINNING WORK.

TEMPORARY AND PERMANENT TRAFFIC CONTROL

1. TRAFFIC CONTROL SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR ACCORDING TO OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD), CURRENT EDITION.

2. ALL TRAFFIC LANES OF PUBLIC ROADWAYS SHALL BE FULLY OPEN TO TRAFFIC FROM 7:00 AM TO 9:00 AM AND FROM 4:00 PM TO 6:00 PM UNLESS AUTHORIZED DIFFERENTLY BY THE CITY ENGINEER. AT ALL OTHER HOURS THE CONTRACTOR SHALL MAINTAIN MINIMUM ONE LANE TWO WAY TRAFFIC. UNIFORMED, OFF DUTY POLICE OFFICERS SHALL REPLACE FLAGMEN DESIGNATED BY THE OMUTCD, AND SHALL BE PRESENT WHENEVER ONE LANE, TWO WAY TRAFFIC CONTROL IS IN EFFECT. POLICE CRUISERS MAY BE REQUIRED AS DIRECTED BY THE CITY ENGINEER.

3. IF THE CITY ENGINEER DETERMINES THAT THE CONTRACTOR IS NOT PROVIDING PROPER PROVISIONS FOR TRAFFIC CONTROL, THE CITY ENGINEER SHALL ASSIGN UNIFORMED, OFF DUTY POLICE OFFICERS TO THE PROJECT AT NO COST TO THE CITY.

4. STEADY BURNING, TYPE "C" LIGHTS SHALL BE REQUIRED ON ALL BARRICADES, DRUMS, AND SIMILAR TRAFFIC CONTROL DEVICES IN USE AT NIGHT.

5. ACCESS FROM PUBLIC ROADWAYS TO ALL ADJOINING PROPERTIES FOR EXISTING RESIDENTS OR BUSINESSES SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT FOR MAIL, PUBLIC WATER AND SANITARY SEWER SERVICE, AND EMERGENCY VEHICLES. THE CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN DETAILING THE PROPOSED MAINTENANCE OF TRAFFIC PROCEDURES. THE TRAFFIC CONTROL PLAN MUST INCORPORATE ANY TRAFFIC CONTROL DETAILS CONTAINED HEREIN. THE TRAFFIC CONTROL PLAN PROPOSED BY THE CONTRACTOR MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO CONSTRUCTION.

USE OF FIRE HYDRANTS

THE CONTRACTOR SHALL MAKE PROPER ARRANGEMENTS WITH THE DUBLIN SERVICE DEPARTMENT AND THE COLUMBUS DIVISION OF WATER FOR THE USE OF FIRE HYDRANTS WHEN USED FOR WORK PERFORMED UNDER THIS CONTRACT AND PROVIDE THE CITY OF DUBLIN A COPY OF THE HYDRANT USAGE PERMIT OBTAINED FROM THE CITY OF COLUMBUS. THE CONTRACTOR SHALL ALSO SEND COPIES OF PERMITS OBTAINED FROM DUBLIN AND COLUMBUS TO THE WASHINGTON AND/OR PERRY TOWNSHIP FIRE DEPARTMENT. PERMITS SHALL BE KEPT AT THE CONSTRUCTION SITE AT ALL TIMES.

ITEM SPECIAL EXPANSION MATERIAL

FULL DEPTH EXPANSION MATERIAL ONE HALF (1/2) INCHES THICK CONFORMING TO ASTM D 1752, TYPE 1 (RECYCLED RUBBER EXPANSION MATERIAL) SHALL BE UTILIZED WHERE NEW WORK MEETS EXISTING WALK, CURBS OR STRUCTURES. FIBROUS TYPE EXPANSION MATERIAL IS NOT TO BE USED.

THIS MATERIAL WILL BE USED BETWEEN THE CURB RAMP AND CURB AND GUTTER. COST IS TO BE INCLUDED IN THE UNIT PRICES BID FOR THE CONCRETE CURB AND RAMP ITEMS

ITEM 607 FENCE, AS PER PLAN

CONSTRUCT A WOOD THREE-RAIL KENTUCKY BOARD FENCE 54" IN HEIGHT SIMILAR IN DESIGN AND APPEARANCE TO THE EXISTING FENCE BEING REMOVED BY THIS PROJECT. BOARD MATERIAL SHALL BE PRESSURE TREATED LUMBER. NOMINAL WIDTH AND THICKNESS OF THE BOARDS IS 6 INCHES BY 1 INCH. POSTS ARE NOMINAL 4" SQUARE; POST MATERIAL SHALL BE PRESSURE TREATED LUMBER. FENCE TO BE PRIMED AND PAINTED THE COLOR "WOLF GREY".

ITEM 659 – SEEDING AND MULCHING, AS PER PLAN

SEED – CERTIFICATION OF GRASS SEED SHALL BE PROVIDED BY SEED VENDOR FOR EACH GRASS-SEED MIXTURE STATING THE BOTANICAL AND COMMON NAME, PERCENTAGE BY WEIGHT OF EACH SPECIES AND VARIETY; AND PERCENTAGE OF PURITY, GERMINATION, AND WEED SEED. INCLUDE THE YEAR OF PRODUCTION AND DATE OF PACKAGING. FURNISH NATIONAL TURFGRASS EVALUATION PROGRAM (NTEP) DATA FOR EACH SPECIES TO BE USED.

GRASS SEED MUST BE FRESH, CLEAN, DRY, NEW-CROP SEED COMPLYING WITH THE A.O.S.A. "JOURNAL OF SEED TECHNOLOGY" RULES FOR TESTING SEEDS FOR PURITY AND GERMINATION TOLERANCES.

SEED SPECIES SHALL BE AS FOLLOWS, WITH NOT LESS THAN 90 PERCENT GERMINATION, NOT LESS THAN 98 PERCENT PURE SEED, AND NOT MORE THAN 0.5 PERCENT WEED SEED.

TURFGRASS SEED MIX PROPORTIONED BY WEIGHT:
A. 80 PERCENT TALL FESCUE (FESTUCA ARUNDINACEA), WITH A MINIMUM OF 3 IMPROVED TURF-TYPE VARIETIES. KENTUCKY-31 AND ALTA VARIETIES ARE NOT APPROVED.
B. 20 PERCENT PERENNIAL RYEGRASS (LOLIUM PERENNE).

SEEDING – SOW SEED AT A TOTAL RATE OF 7-9 LB. / 1,000 SF WITH A SPREADER OR SEEDING MACHINE. RAKE SEED LIGHTLY INTO TOP 1/8 INCH OF SOIL, ROLL LIGHTLY, AND WATER WITH FINE SPRAY. THOROUGHLY COVER WITH STRAW AND NETTING. NETTING SHALL BE ADEQUATELY PINNED TO PREVENT THE STRAW FROM BEING BLOWN OR WASHED AWAY.

PROTECT SEEDED AREAS WITH SLOPES EXCEEDING 3:1 WITH EROSION CONTROL BLANKETS AS DIRECTED BY THE ENGINEER. COST OF EROSION CONTROL BLANKETS, MATERIAL, AND LABOR SHALL BE PAID FOR BY THE CITY.

HYDRO-SEEDING & HYDRO-MULCHING ARE NOT PERMITTED.

TURF MAINTENANCE – MAINTAIN AND ESTABLISH TURF BY WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING, AND REPLANTING TO ESTABLISH HEALTHY, VIABLE TURF. ROLL, REGRADE, AND REPLANT BARE OR ERODED AREAS AND REMULCH TO PRODUCE A UNIFORMLY SMOOTH TURF. PROVIDE THE SAME MATERIALS AND INSTALLATION AS THOSE USED IN THE ORIGINAL INSTALLATION.

WATER TURF WITH FINE SPRAY AT A MINIMUM RATE OF 1 INCH PER WEEK UNLESS RAINFALL PRECIPITATION IS ADEQUATE.

MOW TURFGRASS SEED MIX AREAS AS SOON AS TOP GROWTH IS TALL ENOUGH TO CUT. REPEAT MOWING TO MAINTAIN SPECIFIED HEIGHT WITHOUT CUTTING MORE THAN 1/3 OF GRASS HEIGHT. MOW AREAS TO A HEIGHT OF 2 TO 3 INCHES.

CALCULATED FGW
CHECKED GEE

GENERAL NOTES

MUIRFIELD DRIVE
BIKE LANES

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ITEM 604 – CATCH BASINS RECONSTRUCTED TO GRADE, AS PER PLAN

THE CONTRACTOR WILL MAKE ALL FINAL GRADE ADJUSTMENT OF MANHOLE, CATCH BASIN AND INLET COVERS AND FRAME ASSEMBLIES USING INJECTION MOLDED HIGH DENSITY POLYETHYLENE (HDPE) ADJUSTMENT RINGS WHERE PRACTICAL. THESE ADJUSTMENT RINGS SHALL BE MANUFACTURED FROM POLYETHYLENE PLASTIC AS IDENTIFIED IN ASTM DESIGNATION D–1248 (STANDARD SPECIFICATION FOR POLYETHYLENE PLASTIC MOLDING AND EXTRUSION MATERIALS). INSTALLATION SHALL BE PER MANUFACTURES'S RECOMMENDATIONS ONLY. THE ANNULAR SPACE BETWEEN THE RINGS AND CONE BASIN, THE RINGS, AND THE RINGS AND COVER FRAME SHALL BE SEALED UTILIZING AN APPROVED BUTYL SEALANT.

CONSTRUCTION NOISE

ANY DEVICE SHALL NOT BE OPERATED AT ANY TIME IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT. THE CONTRACTOR'S CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED SO AS TO ELIMINATE ALL UNNECESSARY NOISE, DUST, AND ODORS. THE USE OF OIL OR OTHER MATERIAL FOR DUST CONTROL, WHICH MAY CAUSE TRACKING, IS NOT PERMITTED.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THE WORK LIMITS.

DRAINAGE

THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO MAINTAIN AT ALL TIMES STORM SEWER, DRAIN, AND DITCH FLOWS THROUGH EXISTING FACILITIES TO REMAIN IN PLACE AND THROUGH EXISTING FACILITIES TO BE REPLACED UNTIL NEW FACILITIES ARE COMPLETED AND PUT INTO SERVICE. THE FLOW OF ALL STORM SEWER, DRAINS, AND OTHER WATERCOURSES ENCOUNTERED AND DISTURBED OR DESTROYED DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR TO A CONDITION SATISFACTORY TO THE CITY ENGINEER. PAYMENT FOR THIS SHALL BE INCLUDED IN THE PRICES BID FOR THE VARIOUS ITEMS OF THE CONTRACT.

WHERE THE WORK CALLS FOR RELOCATION OF EXISTING DITCHES OR STORM SEWER, THE CONTRACTOR SHALL REESTABLISH THE OUTLETS OF ALL PRIVATE DRAINS ENCOUNTERED; SUCH AS DOWNSPOUTS, FOUNDATION DRAINS, CATCH BASINS, YARD DRAINS, ETC., INTO THE NEAREST NEW DITCH OR STORM SEWER. THE COST FOR REESTABLISHING PRIVATE DRAIN OUTLETS SHALL BE INCLUDED IN THE VARIOUS STORM SEWER ITEMS.

ITEM 601, ROCK CHANNEL PROTECTION, TYPE C WITH FILTER FABRIC SHALL BE PROVIDED AT THE OUTLET END OF STORM SEWERS AT THE LOCATIONS AND DIMENSIONS SHOWN ON THE PLANS. ITEM 601 MATERIALS SHALL CONSIST OF NATURAL, BROKEN, OR CRUSHED ROCK. BROKEN CONCRETE MATERIALS ARE UNACCEPTABLE. THE FILTER UNDERLYING ROCK CHANNEL PROTECTION BE FILTER FABRIC AS PER SECTION 601.09.

ALL EXISTING AND PROPOSED CASTINGS SHALL BE ADJUSTED TO MATCH THE SURROUNDING FINISH GRADE BY THE CONTRACTOR. TOP OF CASTING ELEVATIONS PROVIDED ON THE PLANS ARE APPROXIMATE. PAYMENT UNDER ITEM 604, MANHOLES ADJUSTED TO GRADE, SHALL ONLY BE FOR CASTING ADJUSTMENTS ON EXISTING MANHOLES THAT REQUIRE NO OTHER WORK. THE COST OF ALL CASTING ADJUSTMENTS SHALL BE INCLUDED IN THE VARIOUS SEWER ITEMS.

WHERE BACKFILLING WITH CONCRETE AROUND A STORM SEWER PIPE IS DETERMINED TO BE NECESSARY, BY EITHER CALL OUT ON THE PLANS, OR AS DIRECTED BY THE ENGINEER, THE WORK SHALL BE IN ACCORDANCE WITH THE CITY OF COLUMBUS STANDARD DRAWING AA–S151, TYPE 1 BEDDING FOR RIGID SEWER PIPE USING CLASS "A" CONCRETE. THE TOTAL LENGTH OF BACKFILL SHALL BE FOR ALL EXPOSED PORTIONS OF PIPE, OR AS DIRECTED BY THE ENGINEER.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE CITY, REPRESENTATIVES OF THE CITY AND THE CONTRACTOR SHALL MAKE AN INSPECTION OF ALL EXISTING SEWERS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE CITY.

ALL NEW CONDUITS, INLETS, CATCH BASINS, AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE CITY.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE CITY ENGINEER.

PAYMENT FOR ALL INSPECTIONS, CLEANING, AND MAINTENANCE OF EXISTING AND NEW STORM SEWER DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT CONTRACT ITEMS.

CROSSINGS AND CONNECTIONS TO EXISTING PIPES AND UTILITIES

WHERE PLANS CALL FOR CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES FOR BOTH LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT OR EXISTING APPURTENANCE TO BE CONNECTED DIFFERS FROM THE PLAN ELEVATION, THE CITY ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.

IF IT IS DETERMINED THAT A PROPOSED CONDUIT WILL CONFLICT WITH AN EXISTING SEWER OR UNDERGROUND UTILITY WHEN CONSTRUCTED AS SHOWN ON THE PLAN, THE CITY ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION ON ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE CONFLICT.

PAYMENT FOR DETERMINATION OF LINE AND GRADE OF EXISTING UTILITIES AS REQUIRED SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT CONTRACT ITEMS.

ITEM SPECIAL – ADS N–12 FLARED END SECTION WITH DISSIMILAR COUPLER

HDPE FLARED ENDS CALLED FOR IN THE PLANS SHALL BE ADVANCED DRAINAGE SYSTEMS (ADS) "FLARED END SECTIONS", OR APPROVED EQUAL, WITH PE THREADED RODS AND WING NUTS. N–12 ADAPTER FITTINGS FOR CONNECTION TO CONCRETE PIPE SHALL BE INCLUDED IN THE PER EACH PRICE BID FOR THE FLARED END SECTIONS.

USE OF FIRE HYDRANTS

THE CONTRACTOR SHALL MAKE PROPER ARRANGEMENTS WITH THE DUBLIN SERVICE DEPARTMENT AND THE COLUMBUS DIVISION OF WATER FOR THE USE OF FIRE HYDRANTS WHEN USED FOR WORK PERFORMED UNDER THIS CONTRACT AND PROVIDE THE CITY OF DUBLIN A COPY OF THE HYDRANT USAGE PERMIT OBTAINED FROM THE CITY OF COLUMBUS. THE CONTRACTOR SHALL ALSO SEND COPIES OF PERMITS OBTAINED FROM DUBLIN AND COLUMBUS TO THE WASHINGTON AND/OR PERRY TOWNSHIP FIRE DEPARTMENT. PERMITS SHALL BE KEPT AT THE CONSTRUCTION SITE AT ALL TIMES.

609 COMBINATION CONCRETE CURB AND GUTTER, AS PER PLAN

CONSTRUCT CONCRETE CURB AND GUTTER PER CITY STANDARD DRAWING RD–02 AND COLUMBUS SPECIFICATION 608. COST OF ALL ITEMS SHOWN IN RD–02, INCLUDING THE 4" SUB–DRAIN, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 608, COMBINATION CONCRETE CURB AND GUTTER, AS PER PLAN.

608 COMBINATION CONCRETE CURB AND GUTTER, AS PER PLAN

CONSTRUCT CONCRETE CURB AND GUTTER PER CITY STANDARD DRAWING RD–02 AND COLUMBUS SPECIFICATION 608. COST OF ALL ITEMS SHOWN IN RD–02, INCLUDING THE 4" SUB–DRAIN, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 608, COMBINATION CONCRETE CURB AND GUTTER, AS PER PLAN.

SPECIAL – 8" REINFORCED CONCRETE SLAB

WHERE SHOWN IN THE PLANS, PLACE AN 8" REINFORCED CONCRETE SLAB TO COMPLETELY COVER THE TOP OF THE EXISTING CATCH BASIN. THE SLAB SHALL BE A MINIMUM OF 8 INCHES THICK AND BE DESIGNED TO WITHSTAND TRAFFIC LOADING. COST OF DESIGN, LABOR AND MATERIALS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM SPECIAL, 8" REINFORCED CONCRETE SLAB.

COORDINATES AND VERTICAL DATUM

COORDINATES ARE OHIO STATE PLANE SOUTH ZONE. ALL THOSE POINTS WHICH ACTUALLY LIE IN THE NORTH ZONE HAVE COORDINATES PROJECTED INTO THE SOUTH ZONE. ELEVATIONS ARE BASED ON NAVD88 VERTICAL DATUM.

UNDERGROUND UTILITIES – CAUTION

THE UTILITIES SHOWN IN THE PLANS ARE SKETCHED BASED ON MAPS PROVIDED BY THE UTILITY COMPANIES. OUPS DID NOT MARK FACILITIES PRIOR TO PROJECT SURVEY. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS BEFORE EXCAVATION.

630 REMOVAL OF GROUND MOUNTED SIGN AND REERECTION, AS PER PLAN

THE CONTRACTOR SHALL CAREFULLY REMOVE WOODEN STREET NAME SIGNS WITHIN THE WORK LIMITS, SECURELY STORE AND CAREFULLY REINSTALL ONCE FINAL GRADING IS PERFORMED. THE CITY OF DUBLIN WILL INSTALL/FABICATE TEMPORARY STREET NAME SIGNS THAT WILL BE USED DURING THE CONSTRUCTION PERIOD.

THE ESTIMATED NUMBER OF STREET NAME SIGNS TO BE REMOVED AND REERECTED IS 14 EACH.

630 REMOVAL OF GROUND MOUNTED SIGN, AS PER PLAN

THE CONTRACTOR SHALL CAREFULLY REMOVE TRAFFIC CONTROL SIGNS WITHIN THE WORK LIMITS AND DELIVER SIGNS, POSTS, ETC. TO THE CITY. THE CITY WILL INSTALL/FABRICATE NEW SIGNS AND POSTS AFTER FINAL GRADING.

THE ESTIMATED NUMBER OF TRAFFIC CONTROL SIGNS TO BE REMOVED IS 24 EACH.

ITEM 614 LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS PER PLAN

USE OF LAW ENFORCEMENT OFFICES (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED IN THIS NOTE WILL NOT BE PERMITTED AT PROJECT COST UNLESS PRIOR APPROVAL HAS BEEN OBTAINED FROM THE ENGINEER. LEOS SHOULD NOT BE USED WHERE THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) INTENDS FOR FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF CMS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP–MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR CONTROLLING TRAFFIC FOR THE FOLLOWING TASKS:

A. FOR LANE CLOSURES: DURING INITIAL SET–UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED. IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.

B. DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE BLOCKAGE OF TRAFFIC IS REQUIRED.

LOES WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES. THE CONTRACTOR SHALL UTILIZE ANY OF THE FOLLOWING LAW ENFORCEMENT AGENCY(S): CITY OF DUBLIN, FRANKLIN COUNTY SHERIFF'S OFFICE, DELAWARE COUNTY SHERIFF'S OFFICE, OR OHIO STATE HIGHWAY PATROL.

LAW ENFORCEMENT OFFICERS WITH PATROL CAR REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614 LAW ENFORCEMENT OFFICE WITH PATROL CAR. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614	LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS PER PLAN	120 HOURS

THE HOURS PAID SHALL INCLUDE MINIMUM SHOW–UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED. ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614 LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS PER PLAN

ITEM 614 – MAINTAINING TRAFFIC

A MINIMUM OF ONE (1) LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

THE CONTRACTOR SHALL NOTIFY THE CITY OF DUBLIN AT LEAST 14 DAYS IN ADVANCE OF ANY PLANNED CLOSURES OR OTHER DISRUPTION OF TRAFFIC.

THE CONTRACTOR SHALL MAINTAIN ACCESS FROM PUBLIC ROADWAYS TO ALL ABUTTING PROPERTIES THROUGHOUT CONSTRUCTION OF THIS PROJECT, AS WELL AS ACCESS FOR MAIL, WATER, SANITARY SERVICE AND EMERGENCY VEHICLES.

WHERE DRIVEWAY CONSTRUCTION ACTIVITIES ARE ANTICIPATED TO REQUIRE TEMPORARY CLOSURE OF A DRIVEWAY, RESULTING IN SHORT–TERM BLOCKAGE OF ACCESS TO THE PROPERTY, THE CONTRACTOR SHALL PROVIDE A MINIMUM ADVANCED NOTICE OF FORTY–EIGHT (48) HOURS TO THE PROPERTY OWNER. THE DRIVEWAY SHALL BE REOPENED FOR OWNER ACCESS PRIOR TO THE CONCLUSION OF THE WORK DAY.

THROUGHOUT CONSTRUCTION OF THE BIKE LANES ALONG MUIRFIELD DRIVE, THE CONTRACTOR SHALL CLOSE THE OUTSIDE LANE OF MUIRFIELD DRIVE WITH DRUMS IN ACCORDANCE WITH ODOT STANDARD CONSTRUCTION DRAWING MT–95.30.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

IN THE EVENT THAT IT BECOMES NECESSARY FOR THE CITY TO PERFORM WORK OF AN IMMEDIATE NATURE (SUCH AS THE PLACEMENT OF BARRICADES OR REPLACEMENT OF SIGNS AND OTHER WARNING OR PROTECTIVE DEVICES) BECAUSE OF FAILURE OR REFUSAL OF THE CONTRACTOR TO PERFORM SUCH WORK AS REQUIRED BY THE CONTRACT, THE CONTRACTOR SHALL REIMBURSE THE CITY AT THE RATE OF 2.5 TIMES THE ACTUAL COST OF LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO PERFORM SUCH WORK. THE CITY SHALL BE REQUIRED TO NOTIFY OR ATTEMPT TO NOTIFY THE DESIGNATED REPRESENTATIVE OF THE CONTRACTOR OF THE NECESSITY TO PERFORM SUCH WORK. IF THE CONTRACTOR REFUSES OR FAILS WITHIN A REASONABLE TIME TO PERFORM OR CAUSE THE PERFORMANCE OF SUCH WORK, THE CITY SHALL BE REIMBURSED BY THE CONTRACTOR IN THE AMOUNT PROVIDED HEREIN BY WAY OF A DEDUCTION FROM THE CONTRACTOR'S NEXT PAYMENT UNDER THE CONTRACT. REASONABLE TIME FOR ALL STREETS INVOLVED ON THIS CONTRACT IS 2 HOURS FROM THE TIME OF NOTIFICATION BY THE CITY.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614 – MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

DRUM REQUIREMENTS

PAYMENT FOR DRUMS SHALL BE INCLUDED IN THE LUMP SUM BID FOR MAINTAINING TRAFFIC.

LIGHTING GENERAL NOTES

1. CONTRACTOR TO COORDINATE FINAL LOCATION WITH OTHER UTILITIES.

2. ALL CONDUITS SHALL BE INSTALLED IN ACCORDANCE WITH THE STREET LIGHTING TRENCH DETAILS. ANY CONDUIT CROSSING A PAVED ROADWAY OR DRIVE SHALL BE BORED. NO OPEN CUTTING OF EXISTING PAVEMENT WILL BE ALLOWED.

3. LUMINARIES SHALL BE MOUNTED AS SHOWN ON THE PLANS. ORIENTATION SHALL BE PERPENDICULAR TO THE CENTERLINE OF MUIRFIELD DRIVE UNLESS.

4. LUMINARIES SHALL BE CREE EDGE AREA LUMINAIRE – TYPE II MEDIUM – DIRECT ARM MOUNT ARE–EDG–2M–DA–08–D–UL–BZ–525–40K.

4. ALL POLES ARE WITHOUT BANNER ARMS.

5. EACH POLE SHALL HAVE A PHOTOCELL.

6. ALL ELECTRICAL WIRING SHALL HAVE 600V INSULATION.

7. INSTALLATION OF THE 2" CONDUIT IN NON–PAVED ARES WILL BE PERMITTED VIA BORING SHOULD THE CONTRACTOR PREFER TO USE THIS METHOD OF INSTALLATION INSTEAD OF OPEN TRENCH.

8. ABANDON ALL EXISTING LIGHTING CONDUIT IN PLACE.

9. ALL EXISTING LIGHT POLES AND LUMINAIRIES ARE OWNED BY AEP.

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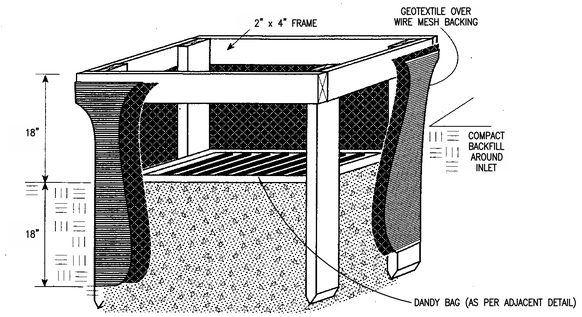
EROSION CONTROL DETAILS



1. Inlet protection shall be constructed either before upslope land disturbance begins or before the storm drain becomes operational.

2. The earth around the inlet shall be excavated completely to a depth at least 18 in.

3. The wooden frame shall be constructed of 2-by-4-in. construction-grade lumber. The 2-by-4-in. posts shall be driven 1 ft. into the ground at four corners of the inlet and the top portion of 2-by-4-in. frame assembled using the overlap joint shown. The top of the frame shall be at least 6 in. below adjacent roads if ponded water would pose a safety hazard to traffic.

4. Wire mesh shall be of sufficient strength to support fabric with water fully impounded against it. It shall be stretched tightly around the frame and fastened securely to the frame.

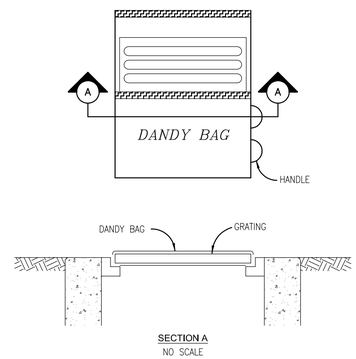
5. Geotextile shall have an equivalent opening size of 20-40 sieve and be resistant to sunlight. It shall be stretched tightly around the frame and fastened securely. It shall extend from the top of the frame to 18 in. below the inlet notch elevation. The geotextile shall overlap across one side of the inlet so the ends of the cloth are not fastened to the same post.

6. Backfill shall be placed around the inlet in compacted 6-in. layers until the earth is even with notch elevation on ends and top elevation on sides.

7. A compacted earth dike or a check dam shall be constructed in the ditch line below the inlet if the inlet is not in a depression and if runoff bypassing the inlet will not flow to a settling pond. The top of earth dikes shall be at least 6 in. higher than the top of the frame.

INLET PROTECTION DETAIL

FOR CATCH BASINS

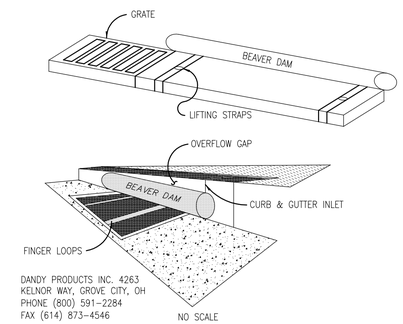


INSTALLATION: STAND GRATE ON END. PLACE DANDY BAG OVER GRATE. FLIP GRATE OVER SO THAT OPEN END IS UP. PULL UP SLACK. TUCK FLAP IN. BE SURE END OF GRATE IS COMPLETELY COVERED BY FLAP OR DANDY BAG WILL NOT FIT PROPERLY. HOLDING HANDLES, CAREFULLY PLACE DANDY BAG WITH GRATE INSERTED INTO CATCH BASIN FRAME SO THAT RED DOT ON THE TOP OF THE DANDY BAG IS VISIBLE.

MAINTENANCE: AFTER SILT HAS DRIED, REMOVE IT FROM THE SURFACE OF DANDY BAG WITH BROOM.

DANDY BAG DETAIL

FOR CATCH BASINS



INSTALLATION: STAND GRATE ON END. SLIDE THE BEAVER DAM BAG ON WITH DAM ON TOP OF GRATE. PULL ALL EXCESS DOWN. LAY UNIT ON ITS SIDE. CAREFULLY TUCK FLAP IN. PRESS VELCRO STRIPS TOGETHER. INSTALL THE UNIT MAKING SURE FRONT EDGE OF GRATE IS INSERTED IN FRAME FIRST THEN LOWER BACK INTO PLACE. PRESS VELCRO DOTS TOGETHER WHICH ARE LOCATED UNDER LIFTING STRAPS. THIS INSURES STRAPS REMAIN FLUSH WITH GUTTER.

MAINTENANCE: WITH A STIFF BRISTLE BROOM SWEEP SILT & OTHER DEBRIS OFF SURFACE AFTER EACH EVENT.

BEAVER DAM DETAIL

FOR CURB & GUTTER INLETS

TEMPORARY EROSION CONTROL NOTES

1. THE DESIGN OF EROSION CONTROL SYSTEMS SHALL FOLLOW THE REQUIREMENTS OF OHIO EPA, ITEM 207 OF OHIO DEPARTMENT OF TRANSPORTATION (ODOT) STANDARD SPECIFICATIONS, AND THE CITY ENGINEER. THE CONTRACTOR SHALL BE CONSIDERED THE DEVELOPER OF STORMWATER DISCHARGE.

2. THE CONTRACTOR SHALL PROVIDE SEDIMENT CONTROL AT ALL POINTS WHERE WATER LEAVES THE PROJECT, INCLUDING WATERWAYS, OVERLAND SHEET FLOW, AND STORM SEWERS, WHETHER SPECIFICALLY SHOWN ON THE PLANS OR NOT.

3. ACCEPTED METHODS OF PROVIDING EROSION/SEDIMENT CONTROL INCLUDE, BUT ARE NOT LIMITED TO: SEDIMENT FILTERS, SILT FILTER FENCE, ROCK CHECK DAMS, AND TEMPORARY GROUND COVER.

4. THE CONTRACTOR SHALL PROVIDE ADEQUATE DRAINAGE OF THE WORK AREA AT ALL TIMES CONSISTENT WITH EROSION CONTROL PRACTICES.

5. DISTURBED AREAS THAT WILL REMAIN UNWORKED FOR 45 DAYS OR MORE SHALL BE SEEDED WITHIN 7 CALENDAR DAYS OF THE DISTURBANCE. OTHER SEDIMENT CONTROLS THAT ARE INSTALLED SHALL BE MAINTAINED UNTIL VEGETATIVE GROWTH HAS BEEN ESTABLISHED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL TEMPORARY SEDIMENT DEVICES AT THE CONCLUSION OF CONSTRUCTION BUT NOT BEFORE GROWTH OF PERMANENT GROUND COVER.

6. ALL DENUDED AREAS, INCLUDING STOCKPILED TOPSOIL AND EXCAVATED MATERIAL, ARE TO BE PROTECTED THROUGH THE USE OF TEMPORARY SEEDING OR COVERED WITH STRAW MULCH.

7. FINAL GRADING WILL BE CONSISTENT WITH PRECONSTRUCTION TOPOGRAPHY TO MAINTAIN DRAINAGE AND AESTHETICS.

8. REMOVE ONLY THE TREES, SHRUBS, AND GRASSES THAT MUST BE REMOVED TO PERMIT ACTUAL CONSTRUCTION, EXCEPT WHERE NOTED OTHERWISE IN THE PLANS. PROTECT THE REMAINING TO PRESERVE THEIR AESTHETIC AND EROSION CONTROL VALUE.

9. BACKFILL TRENCHES IMMEDIATELY AFTER USE. SEED AND MULCH TRENCH AREA WITHIN ONE WEEK AFTER AREA OR SECTION HAS BEEN OPENED.

10. SETTLING FACILITIES, SEDIMENT FILTERS, PERIMETER CONTROLS, AND OTHER PRACTICES INTENDED TO TRAP SEDIMENT SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING OR CONSTRUCTION AND WITHIN 7 DAYS FORM THE START OF GRUBBING. THEY SHALL CONTINUE TO FUNCTION UNTIL THE UPSLOPE DEVELOPMENT AREA IS STABILIZED.

11. STORM INLET PROTECTION – ALL STORM SEWER INLETS WHICH ACCEPT WATER RUNOFF FROM THE PROJECT AREA SHALL BE PROTECTED SO THAT SILT-LADEN WATER WILL NOT ENTER THE STORM SEWER SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT, UNLESS THE STORM SEWER SYSTEM DRAINS TO A SETTLING FACILITY. THESE CONTROLS SHALL BE SELECTED AND LOCATED AS INDICATED IN THE PLANS AND AS DIRECTED BY THE ENGINEER.

12. WORKING IN OR CROSSING STREAMS – STREAMS INCLUDING BED AND BANKS SHALL BE RESTABILIZED IMMEDIATELY AFTER IN-CHANNEL WORK IS COMPLETED, INTERRUPTED, OR STOPPED. TO THE EXTENT PRACTICABLE, CONSTRUCTION VEHICLES SHALL BE KEPT OUT OF STREAMS. WHERE IN-CHANNEL WORK IS NECESSARY, PRECAUTIONS SHALL BE TAKEN TO STABILIZE THE WORK AREA DURING CONSTRUCTION TO MINIMIZE EROSION. WHERE A STREAM MUST BE CROSSED BY CONSTRUCTION VEHICLES REGULARLY DURING CONSTRUCTION, A TEMPORARY CULVERT SHALL BE PROVIDED.

13. CONSTRUCTION ACCESS ROUTES – MEASURES SHALL BE TAKEN TO PREVENT SOIL TRANSPORT ONTO SURFACES WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, OR ONTO PUBLIC ROADS. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT OFF-SITE TRACKING OF SEDIMENTS BY VEHICLES AND EQUIPMENT OF ELIMINATED.

14. SLOUGHING AND DUMPING – NO SOIL, ROCK, DEBRIS, OR ANY OTHER MATERIAL SHALL BE DUMPED OR PLACED IN A WATER RESOURCE, OR INTO SUCH PROXIMITY THAT IT MAY READILY SLOUGH, SLIP OR ERODE INTO A WATER RESOURCE UNLESS SUCH DUMPING OR PLACING IS AUTHORIZED BY THE CITY ENGINEER. UNSTABLE SOILS PRONE TO SLIPPING OR LANDSLIDING SHALL NOT BE GRADED, EXCAVATED, FILLED, OR HAVE LOADS IMPOSED UPON THEM UNLESS THE WORK IS DONE IN ACCORDANCE WITH A QUALIFIED PROFESSIONAL ENGINEER'S RECOMMENDATIONS TO CORRECT, ELIMINATE, OR ADEQUATELY ADDRESS THE PROBLEMS.

15. MAINTENANCE AND INSPECTION – ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE DESIGNED AND CONSTRUCTED TO MINIMIZE MAINTENANCE REQUIREMENTS. THEY SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. MAINTENANCE AND INSPECTION OF ALL EROSION/SEDIMENT CONTROL DEVICES REQUIRED BY THE CITY ENGINEER SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. INSPECTIONS SHALL BE PERFORMED BY THE CONTRACTOR IN THE PRESENCE OF THE CITY ENGINEER, ONCE EVERY 7 CALENDAR DAYS AND/OR WITHIN 24 HOURS AFTER A RAIN EVENT OF GREATER THAN 0.5 INCHES IN A 24-HOUR PERIOD. THESE INSPECTIONS SHALL IDENTIFY AREAS CONTRIBUTING TO STORMWATER DISCHARGES ASSOCIATED WITH PROJECT; EVALUATE THE ADEQUACY, IMPLEMENTATION, AND MAINTENANCE OF EXISTING AND PROPOSED EROSION/SEDIMENTATION MEASURES; AND DETERMINE WHETHER ADDITIONAL MEASURES ARE REQUIRED. ACCEPTABLE INSPECTION REPORTS SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE CITY ENGINEER WITHIN 48 HOURS OF INSPECTION COMPLETION. THE REPORT SHALL CONTAIN THE RESULTS OF THE INSPECTION, NAMES AND QUALIFICATIONS OF PERSONNEL MAKING THE INSPECTION, MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE TEMPORARY EROSION AND SEDIMENT CONTROL PLAN, A CERTIFICATION THAT THE FACILITY IS IN COMPLIANCE WITH THE PLAN, AND IDENTIFYING ANY INCIDENTS OF NONCOMPLIANCE.

16. OUTFLOWS FROM DEWATERING OPERATIONS – ALL WATER PRODUCED FROM CLEANING AAND DEWATERING OPERATIONS, WHETHER SPECIFICALLY FROM TRENCH DEWATERING OPERATIONS OR FROM MORE EXTENSIVE DEWATERING OPERATIONS, SHALL BE DISCHARGED IN SUCH A MANNER AS TO ELIMINATE SEDIMENT FROM SUCH DISCHARGE AND PREVENT EROSION DOWNSTREAM OF THE DISCHARGE POINT.

17. ADDITIONAL CONTROLS – THE CONTRACTOR SHALL ENSURE THAT NO SEDIMENTS ARE TRACKED OFF-SITE BY CONSTRUCTION EQUIPMENT, VEHICLES, AND WORKERS. THE CONTRACTOR SHALL ALSO ENSURE THAT NO SOLID OR LIQUID WASTE IS DISCHARGED INTO ANY STORMWATER FLOW.

18. TEMPORARY EROSION AND SEDIMENT CONTROL PLAN AVAILABILITY AND UPDATES – THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE TO ALL UPDATES AND ADJUSTMENTS TO THE TEMPORARY EROSION AND SEDIMENT CONTROL PLAN.

19. THE CONTRACTOR SHALL NOT USE CONSTRUCTION PROCEDURES, ACTIVITIES, OR OPERATIONS THAT MAY UNNECESSARILY IMPACT THE NATURAL ENVIRONMENT OR THE PUBLIC HEALTH AND SAFETY. PROHIBITED CONSTRUCTION PROCEDURES, ACTIVITIES, OR OPERATIONS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

A. DISPOSING OF EXCESS OR UNSUITABLE EXCAVATED MATERIAL IN WETLANDS OR FLOODPLAINS, EVEN WITH THE PERMISSION OF THE PROPERTY OWNER.
B. INDISCRIMINATE, ARBITRARY, OR CAPRICIOUS OPERATION OF EQUIPMENT IN ANY STREAM CORRIDORS, ANY WETLANDS, ANY SURFACE WATERS, OR OUTSIDE THE EASEMENT LIMITS.
C. PUMPING OF SEDIMENT-LADEN WATER FROM TRENCHES OR OTHER EXCAVATIONS INTO ANY SURFACE WATERS, ANY STREAM CORRIDORS, ANY WETLANDS, OR STORM DRAINS.

D. DISCHARGING POLLUTANTS, SUCH AS CHEMICALS, FUELS, LUBRICANTS, BITUMINOUS MATERIALS, RAW SEWAGE, AND/OR ANY OTHER HARMFUL WASTE, INTO OR ALONGSIDE OF RIVERS, STREAMS, IMPOUNDMENTS, OR INTO NATURAL OR MAN-MADE CHANNELS LEADING THERETO.

E. PERMANENT OR UNSPECIFIED ALTERATION OF THE FLOWLINE OF A STREAM.

F. DAMAGING VEGETATION OUTSIDE OF THE CONSTRUCTION AREA.

G. DISPOSAL OF TREES, BRUSH, AND OTHER DEBRIS IN ANY STREAM CORRIDORS, WETLANDS, OR SURFACE WATERS.

H. OPEN BURNING OF PROJECT DEBRIS WITHOUT PERMIT.

I. STORING CONSTRUCTION EQUIPMENT AND VEHICLES OR STOCKPILING CONSTRUCTION MATERIALS ON PROPERTY (PUBLIC OR PRIVATE) NOT PREVIOUSLY SPECIFIED BY THE CITY ENGINEER FOR SAID PURPOSES.

GENERAL SUMMARY

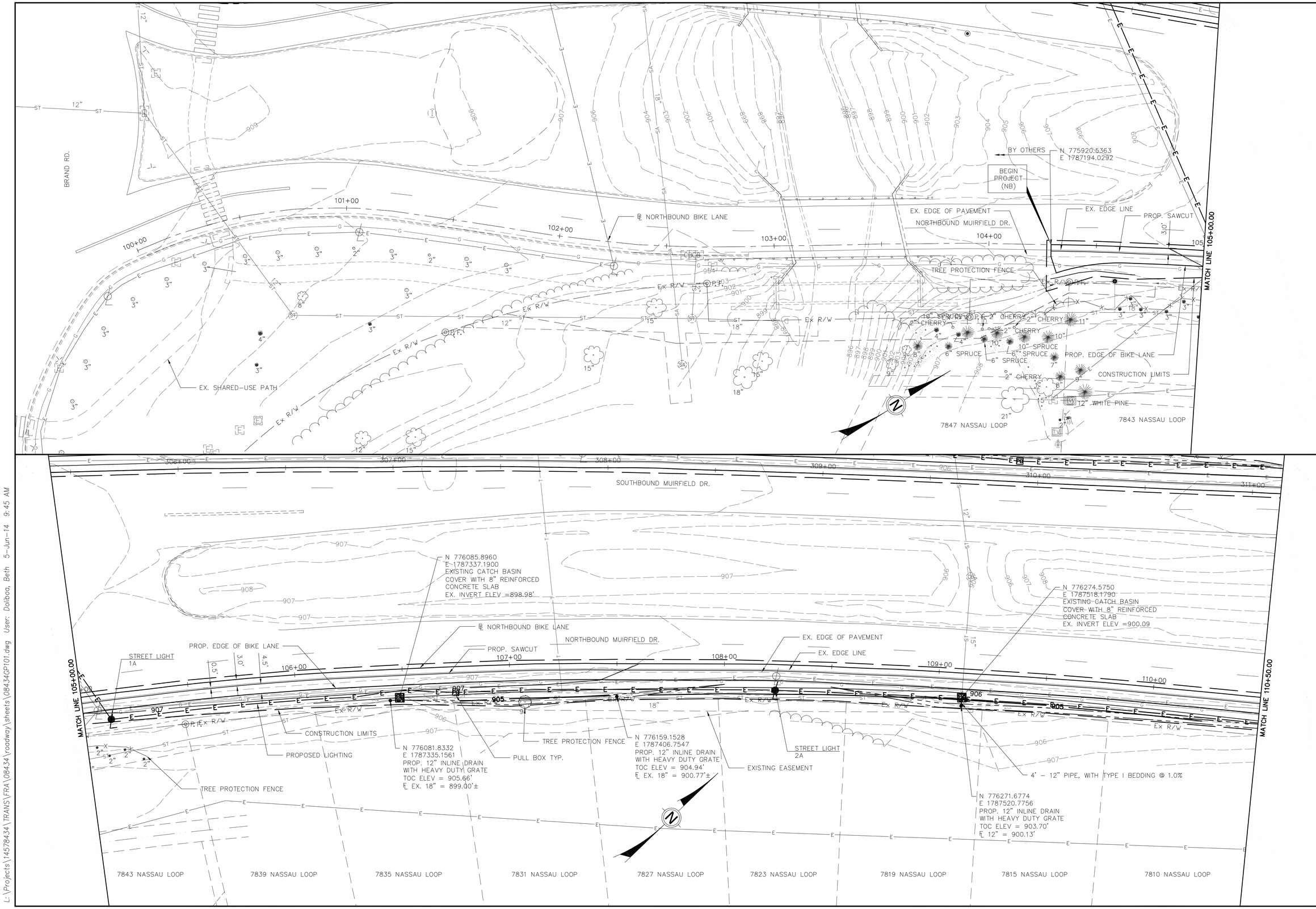
ALL SPECIFICATION ARE COLUMBUS 2012 UNLESS OTHERWISE NOTED
(* REFERS TO ODOT 2010 SPECIFICATIONS)

ITEM	DESCRIPTION	QUANTITY	UNIT
	ROADWAY		
201	CLEARING AND GRUBBING	1	LUMP
201	TREE REMOVED, 18" SIZE	6	EACH
201	TREE REMOVED, 30" SIZE	1	EACH
201	STUMP REMOVED	3	EACH
202	CURB REMOVED	137	LIN FT
202	CURB AND GUTTER REMOVED	1081	LIN FT
202	PAVEMENT REMOVED (ASPHALT)	2147	SQ YD
202	GUARDRAIL REMOVED	366	LIN FT
203	EXCAVATION	4006	CU YD
203	EMBANKMENT	3069	CU YD
204	EXCAVATION OF SUBGRADE	100	CU YD
204	GRANULAR EMBANKMENT, NO. 2 STONE	100	CU YD
204	SUBGRADE COMPACTION	13729	SQ YD
607	FENCE, AS PER PLAN	60	LIN FT
653	TOPSOIL FURNISHED AND PLACED, AS PER PLAN	1824	CU YD
623	CONSTRUCTION LAYOUT STAKES	1	LUMP
624	MOBILIZATION	1	LUMP
SPECIAL	PROOF SURVEY, AS PER PLAN	1	LUMP
SPECIAL	TREE PROTECTION FENCE	2800	LIN FT
	EROSION CONTROL		
601	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER FABRIC	57	CU YD
659	SEEDING AND MULCHING, AS PER PLAN	16428	SQ YD
659	REPAIR SEEDING AND MULCHING	821	SQ YD
659	COMMERCIAL FERTILIZER	2.22	TON
659	WATER	89	M GAL
207	PERIMETER FILTER FABRIC FENCE	2000	LIN FT
207	INLET PROTECTION	78	EACH
	PAVEMENT		
254	PAVEMENT PLANING, ASPHALT CONCRETE	7213	SQ YD
301	ASPHALT CONCRETE BASE, PG64-22	2340	TON
304	AGGREGATE BASE	2072	CU YD
407	TACK COAT	1254	GAL
448	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22	1306	TON
448	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, MEDIUM TRAFFIC	1392	TON
448	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22, MEDIUM TRAFFIC (SHARED-USE PATH)	108	TON
448	ASPHALT CONCRETE LEVELING COURSE, TYPE 1, PG64-22, MEDIUM TRAFFIC	116	TON
609	CURB, STRAIGHT 18"	205	LIN FT
609	COMBINATION CURB AND GUTTER, AS PER PLAN	494	LIN FT
	DRAINAGE		
901	12" PIPE WITH TYPE I BEDDING	79	LIN FT
901	12" PIPE WITH TYPE I BEDDING, 706.02	91	LIN FT
901	21" PIPE WITH TYPE I BEDDING, 706.02	24	LIN FT
604	INLINE DRAIN WITH HEAVY DUTY GRATE	21	EACH
604	INLET ADJUSTED TO GRADE, AS PER PLAN	3	EACH
604	CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN	1	EACH
604	CATCH BASIN RECONSTRUCTED TO GRADE, AS PER PLAN	1	EACH
SPECIAL	8" REINFORCED CONCRETE SLAB, AS PER PLAN	19	EACH
SPECIAL	12" ADS N-12 FLARED END SECTION WITH DISSIMILAR COUPLER	14	EACH
SPECIAL	21" CONCRETE FLARED END SECTION	1	EACH
	TRAFFIC CONTROL		
630	REMOVAL OF GROUND MOUNTED SIGN, AS PER PLAN	24	EACH
630	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION, AS PER PLAN	14	EACH
*644	EDGE LINE	2.88	MILE
*644	STOP LINE, 20"	49	EACH
*644	LANE ARROW	23	EACH
*644	BIKE LANE SYMBOL MARKING	23	EACH
	LIGHTING		
625	CONNECTOR KIT, TYPE II	60	EACH
625	CONNECTOR KIT, TYPE III	120	EACH
625	LIGHT POLE, 25'	60	EACH
625	LIGHT POLE FOUNDATION, 24" X 7' DEEP	60	EACH
625	TRANSFORMER BASE	60	EACH
625	NO. 4 AWG, 600 VOLT DISTRIBUTION CABLE	11,730	LIN FT
625	NO. 12 AWG, POLE AND BRACKET CABLE	5,040	LIN FT
625	2" CONDUIT, 725.051	11,270	LIN FT
625	3" CONDUIT, 725.051, SCH 80	460	LIN FT
625	LUMINAIRE, TYPE II, LED, 120 VOLT, ARE-EDG-2M-DA-08-D-UL-BZ-525-40K	60	EACH
625	TRENCH	11,270	LIN FT
625	PLASTIC CAUTION TAPE	11,270	LIN FT
625	PULL BOX, 713.08, 18"x11"x18" QUAZITE PG1118BA18 OR APPROVED EQUAL	38	EACH
625	GROUND ROD	60	EACH
625	POWER SERVICE	10	EACH
625	CADWELD CONNECTION	60	EACH
625	HIGH VOLTAGE TEST	1	LUMP
	MAINTENANCE OF TRAFFIC		
614	MAINTAINING TRAFFIC	1	LUMP
*614	LAW ENFORCEMENT OFFICER WITH PATROL CAR, AS PER PLAN	120	HOUR

CALCULATED FGW
CHECKED EAK

GENERAL SUMMARY

MUIRFIELD DRIVE
BIKE LANES



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

PLAN - NORTHBOUND BIKE LANE
STA. 100+00 TO STA. 110+50

MUIRFIELD DRIVE
BIKE LANES

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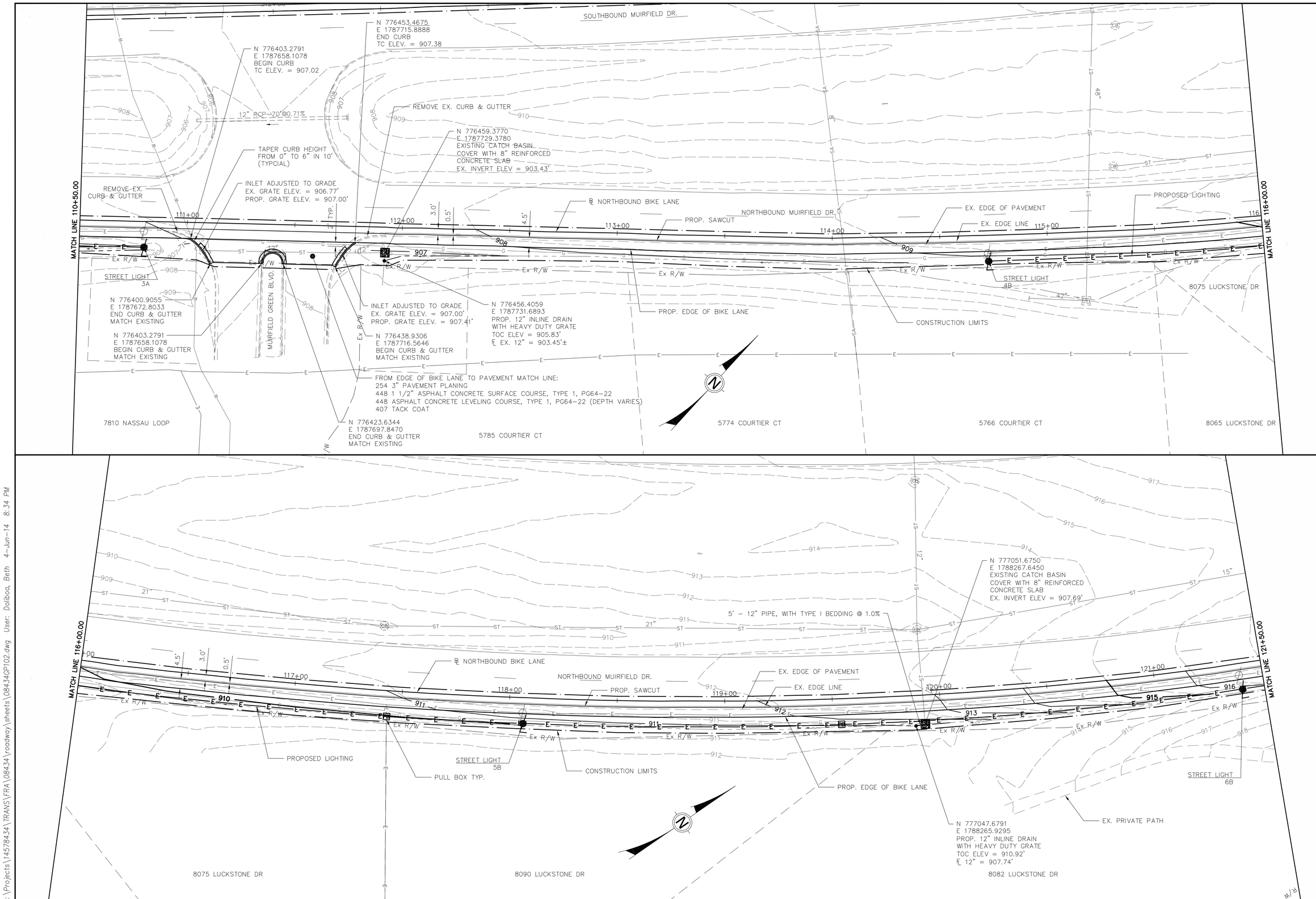

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

PLAN - NORTHBOUND BIKE LANE
STA. 110+50 TO STA. 121+50

MUIRFIELD DRIVE BIKE LANES

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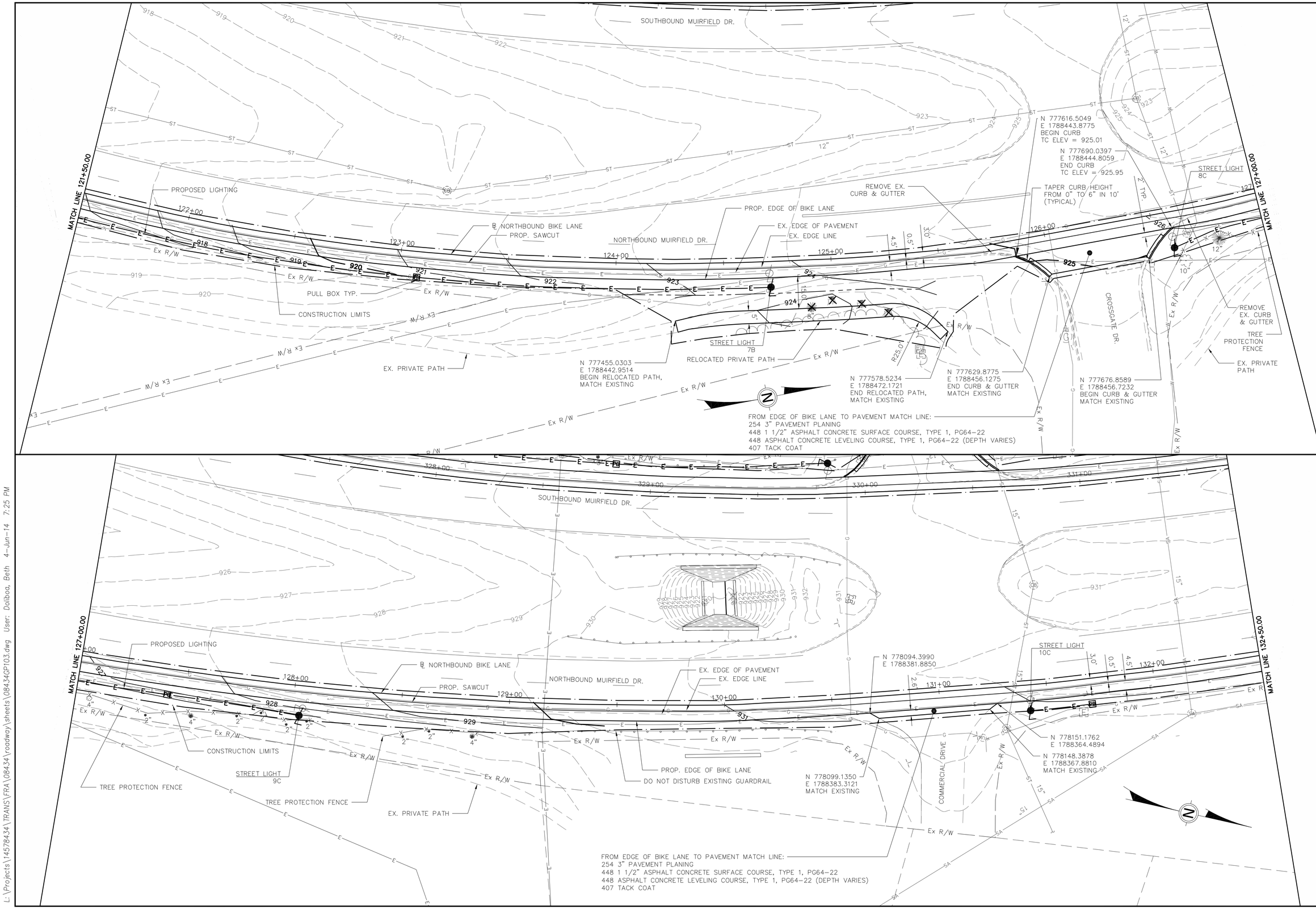

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HORIZONTAL SCALE IN FEET

CALCULATED FGW
CHECKED GEE

PLAN - NORTHBOUND BIKE LANE STA. 121+50 TO STA. 132+50

MUIRFIELD DRIVE BIKE LANES

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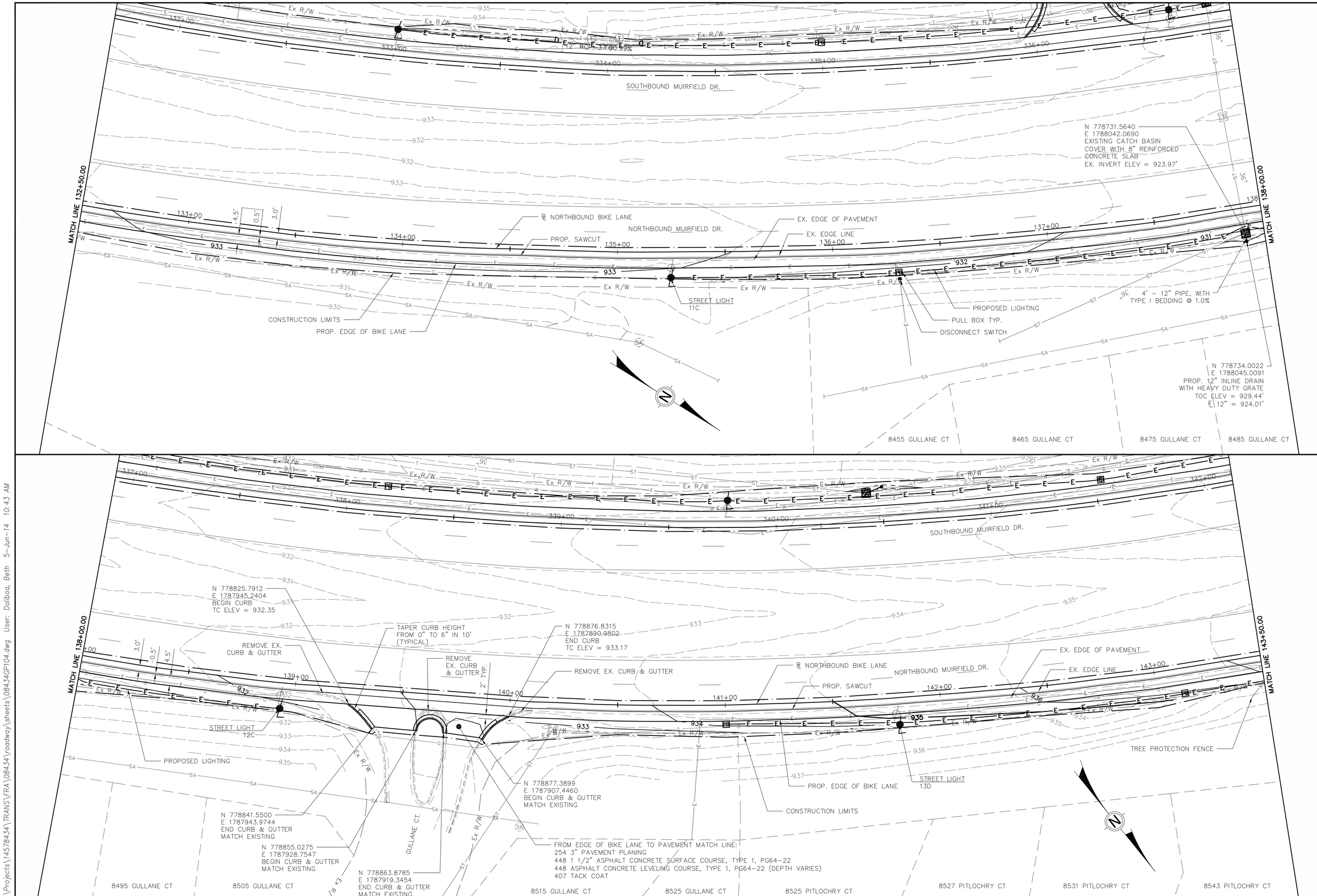

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

PLAN – NORTHBOUND BIKE LANE STA. 132+50 TO STA. 143+50

MUIRFIELD DRIVE BIKE LANES

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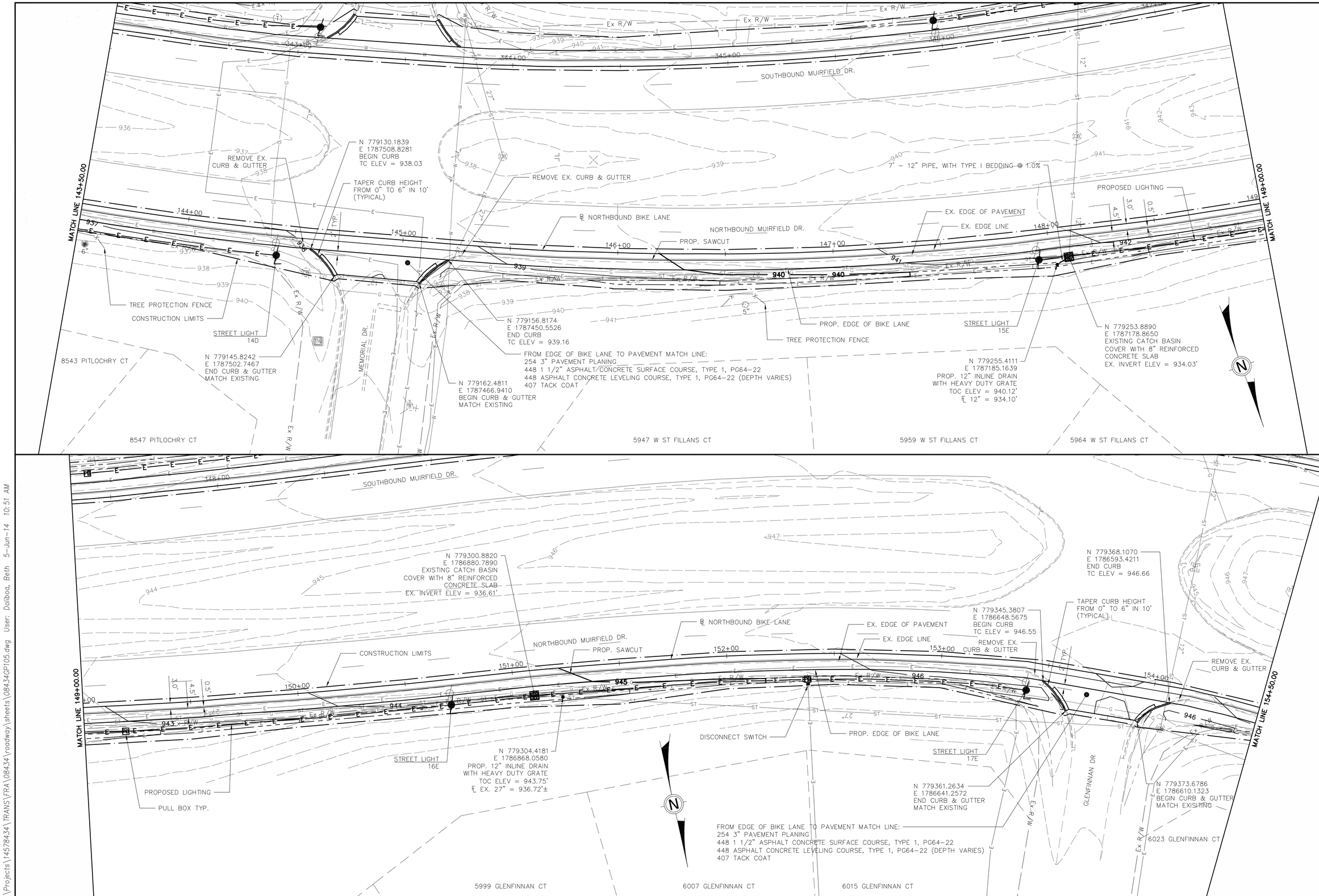

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

PLAN - NORTHBOUND BIKE LANE
STA. 143+50 TO STA. 154+50

MUIRFIELD DRIVE BIKE LANES

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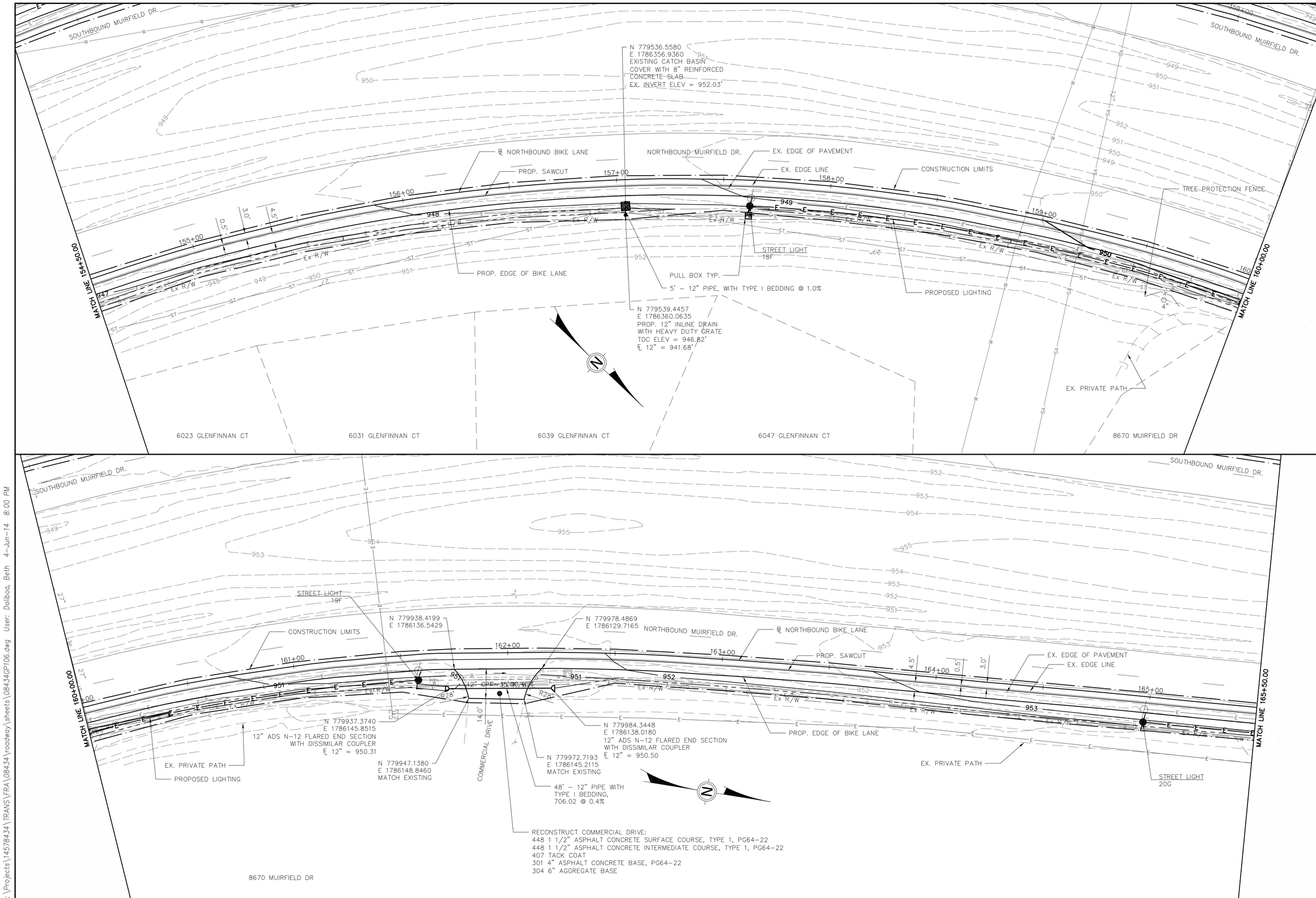

CALCULATED FGW
CHECKED GEE

PLAN – NORTHBOUND BIKE LANE
STA. 154+50 TO STA. 165+50

MUIRFIELD DRIVE BIKE LANES

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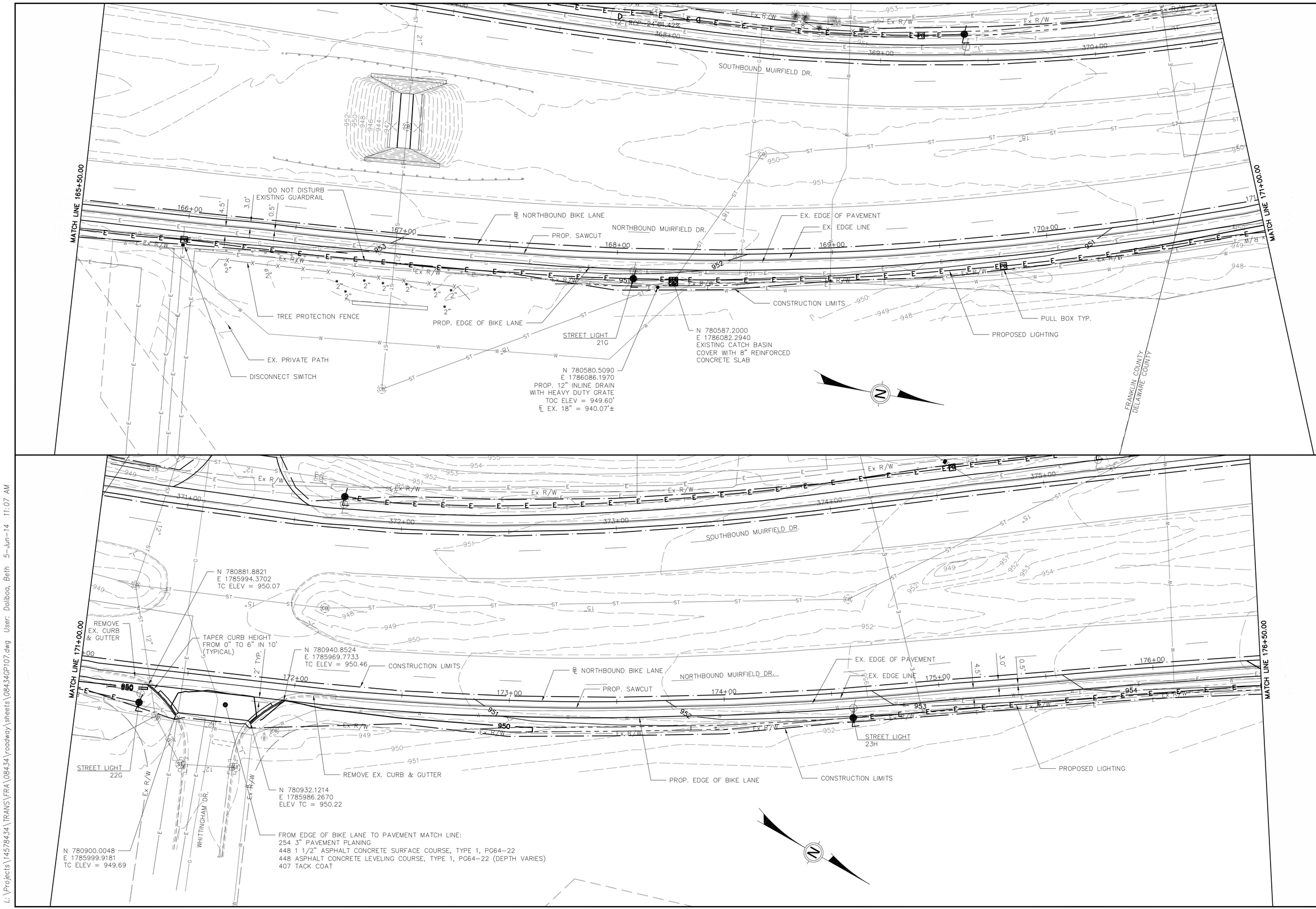

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

PLAN - NORTHBOUND BIKE LANE STA. 165+50 TO STA. 176+50

MUIRFIELD DRIVE BIKE LANES

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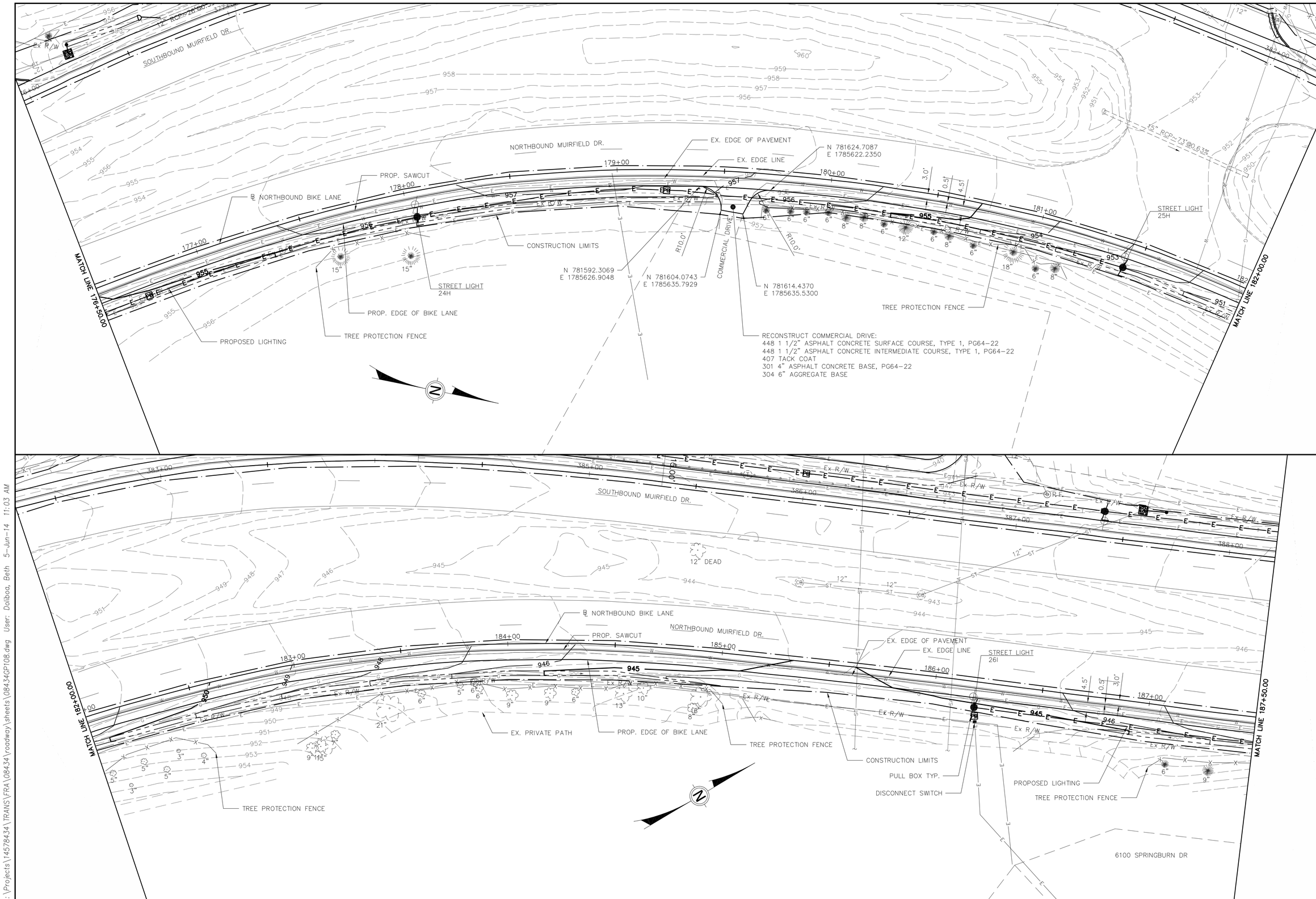

PLAN - NORTHBOUND BIKE LANE
STA. 176+50 TO STA. 187+50

MUIRFIELD DRIVE BIKE LANES

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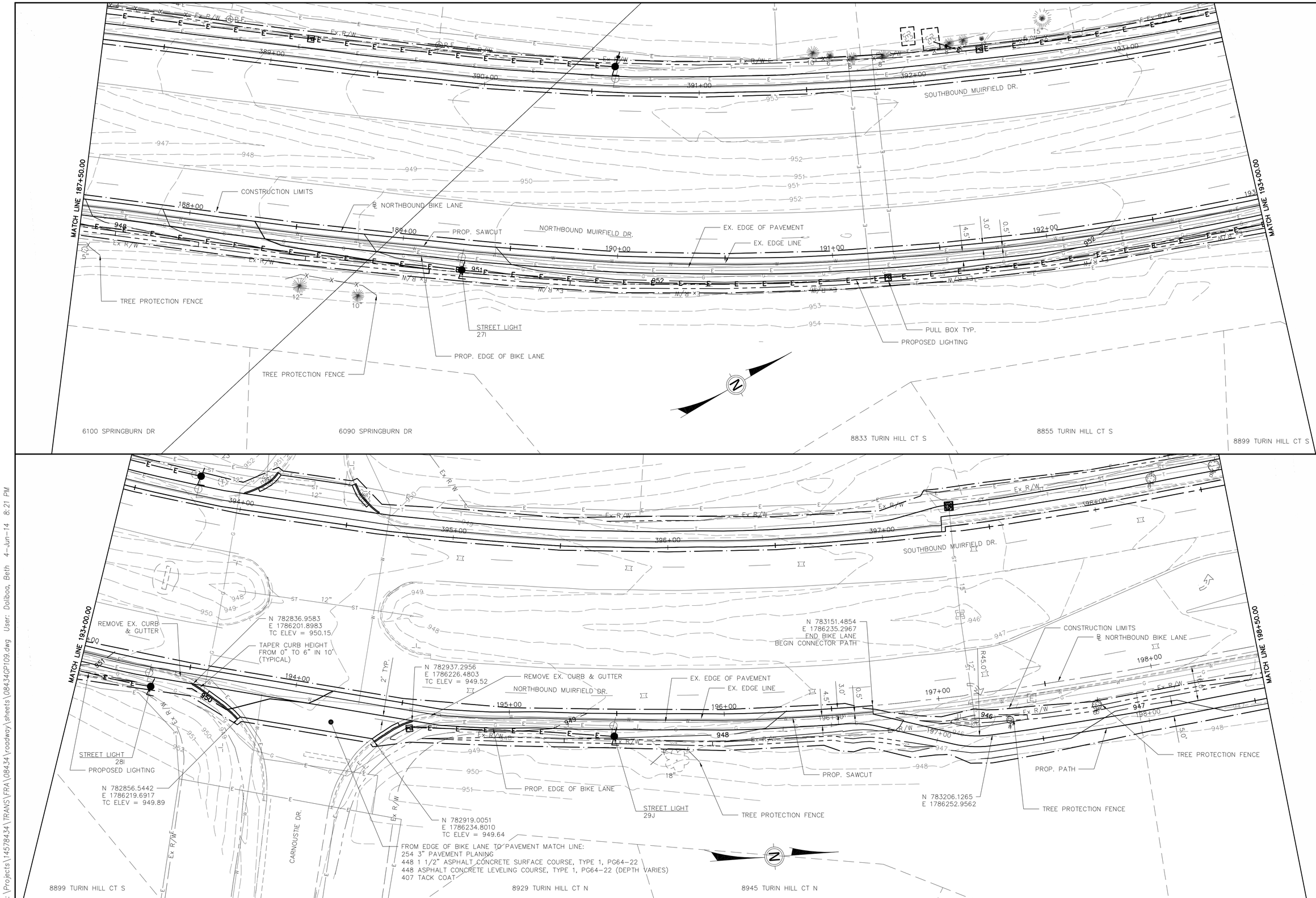

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

PLAN - NORTHBOUND BIKE LANE STA. 187+50 TO STA. 198+50

MUIRFIELD DRIVE BIKE LANES

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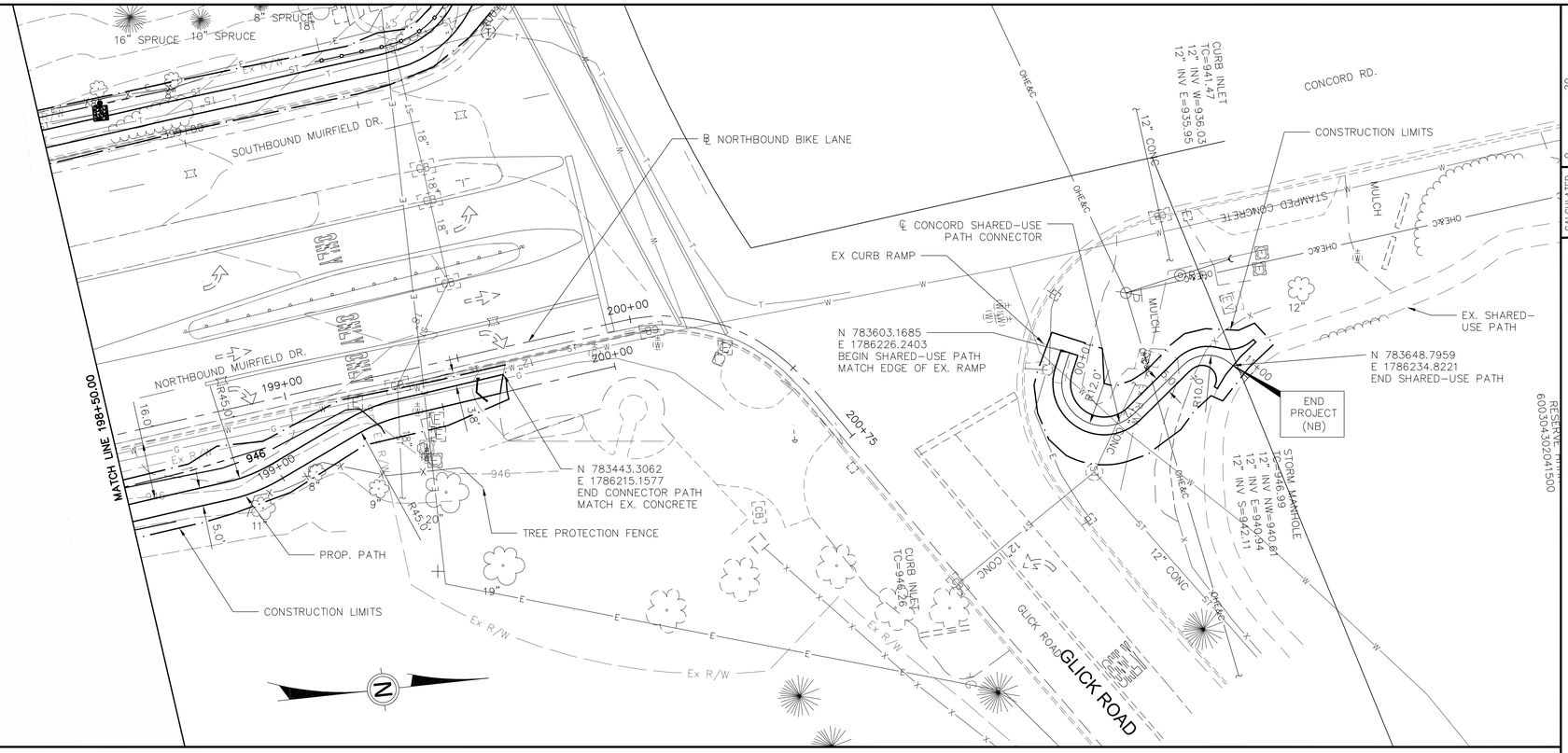

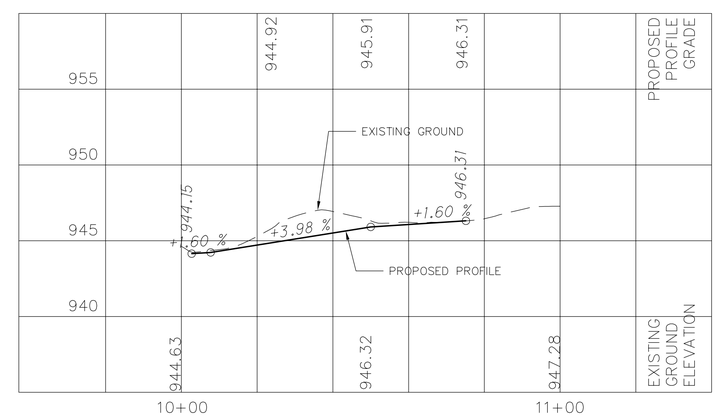

CONCORD SHARED-USE PATH CONNECTOR PROFILE

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

PLAN - NORTHBOUND BIKE LANE
STA. 198+50 TO GLICK RD.

MUIRFIELD DRIVE
BIKE LANES

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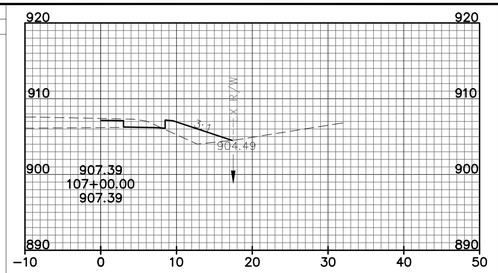
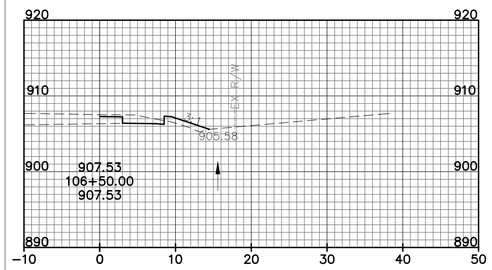
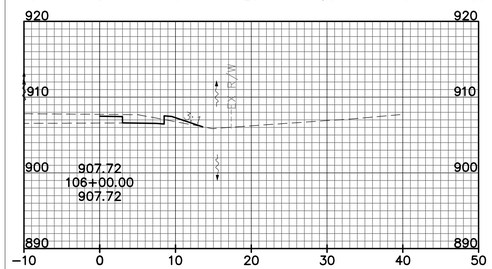
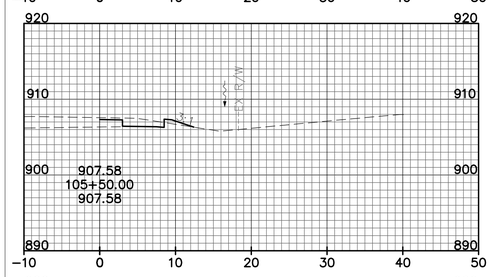
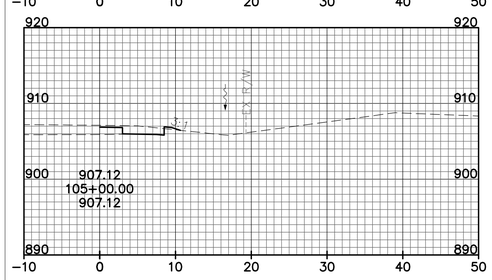
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL

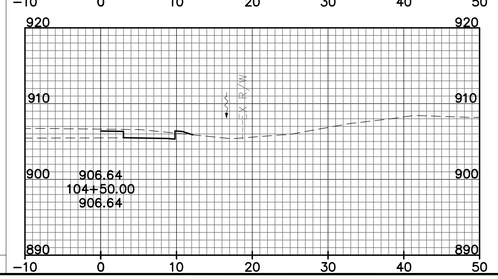




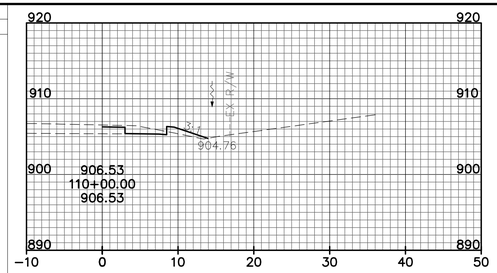


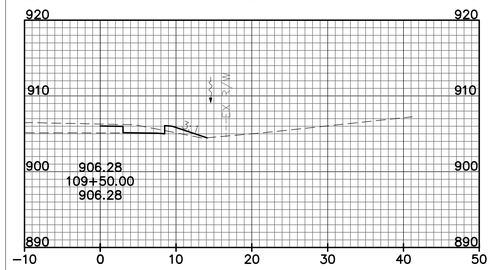


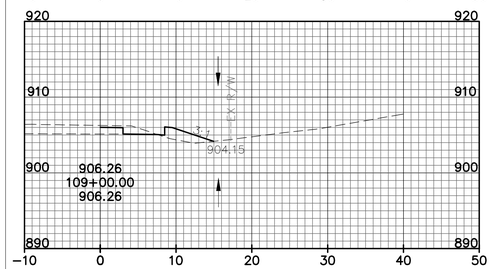


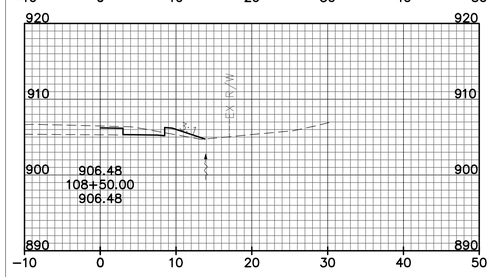


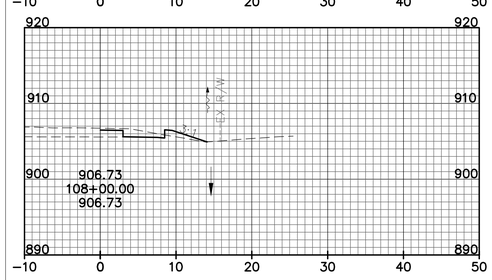
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL

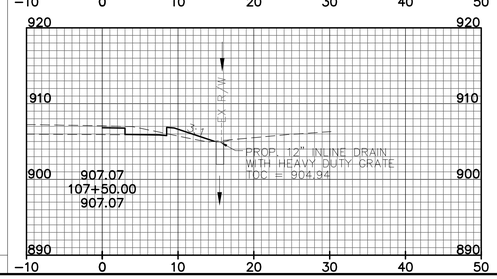




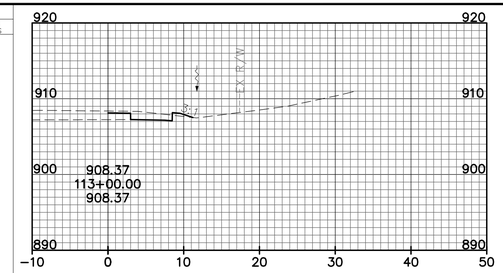


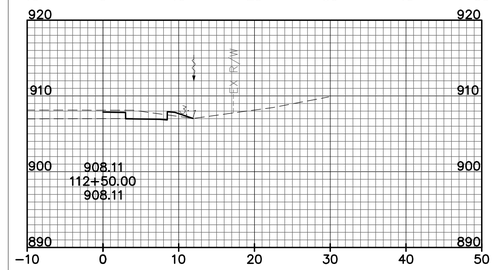


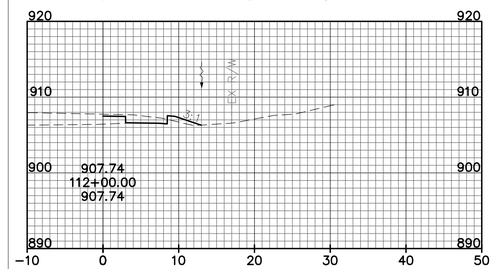


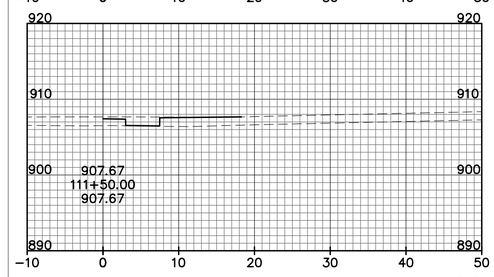


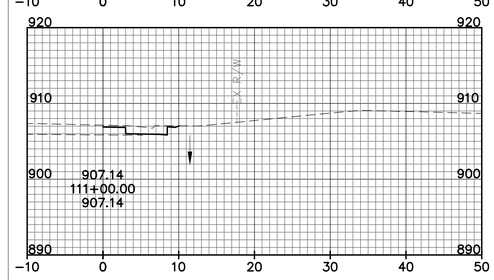
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL

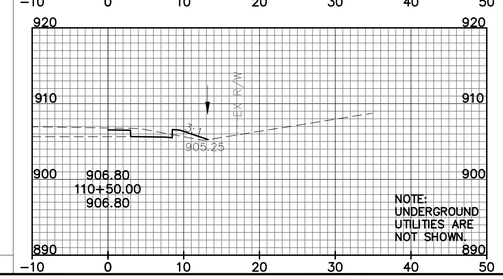












END AREA		VOLUME	
CUT	FILL	CUT	FILL

HORIZONTAL SCALE IN FEET
0 5 10 20

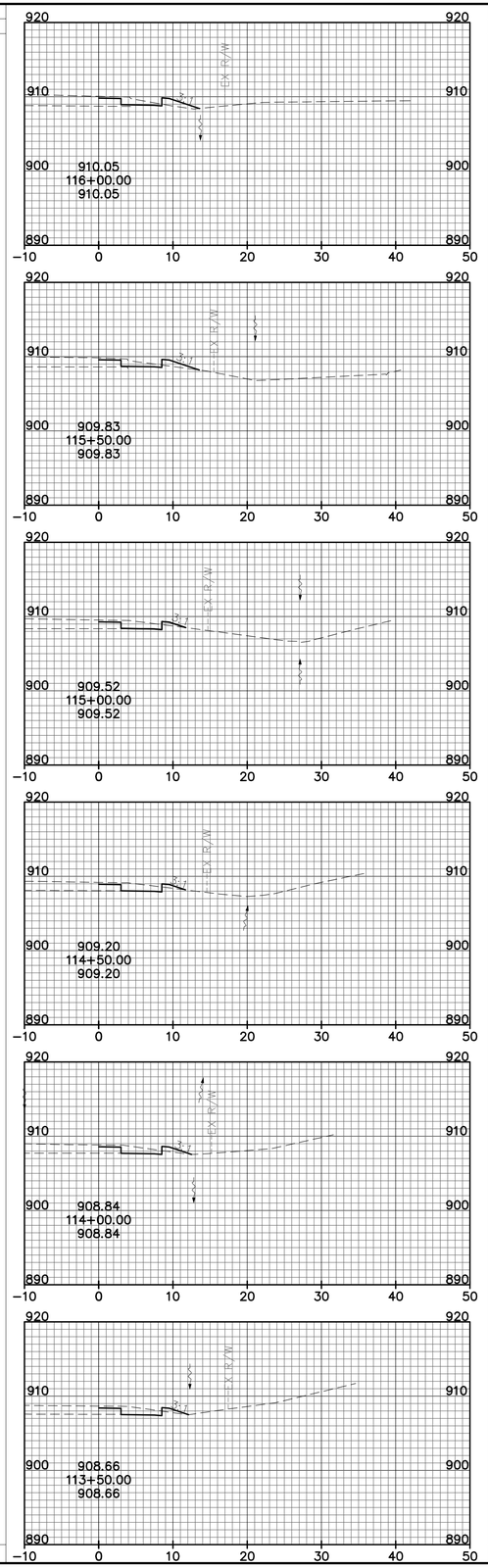
CALCULATED FGW
CHECKED GEE

CROSS SECTIONS - NORTHBOUND BIKE LANE
STA. 104+50 TO STA. 113+00

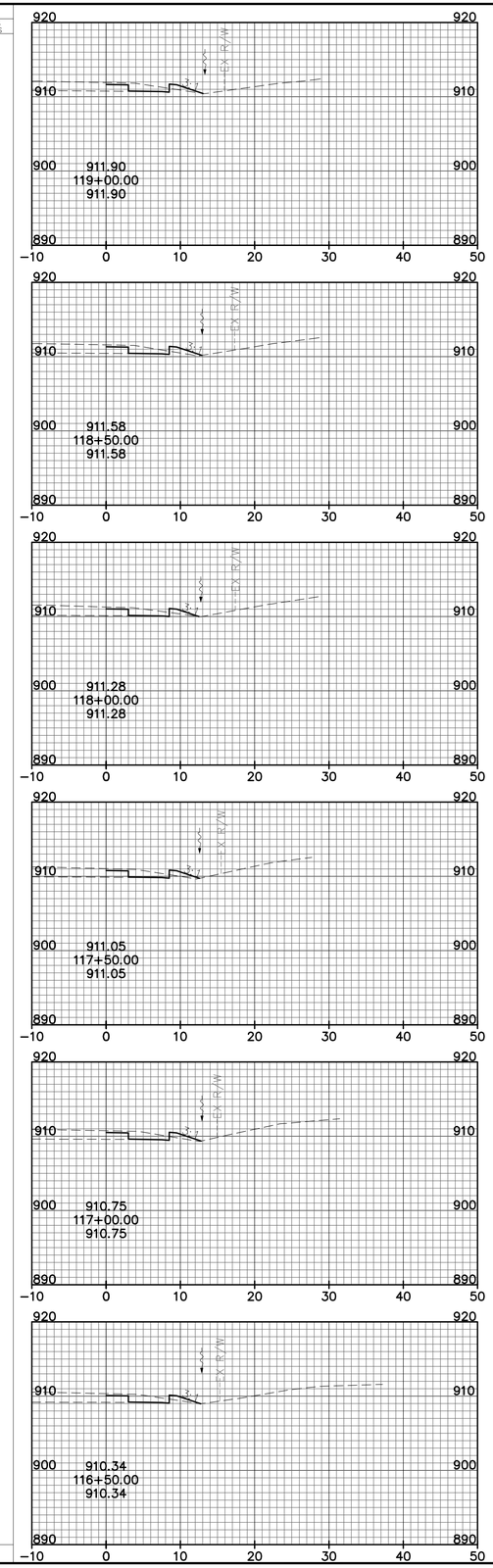
MUIRFIELD DRIVE
BIKE LANES

L:\Projects\145784.34\TRANS\FRA\08434\roadway\sheets\08434XS101.dwg User: Sakian, Natalie 5-Jun-14 10:28 AM

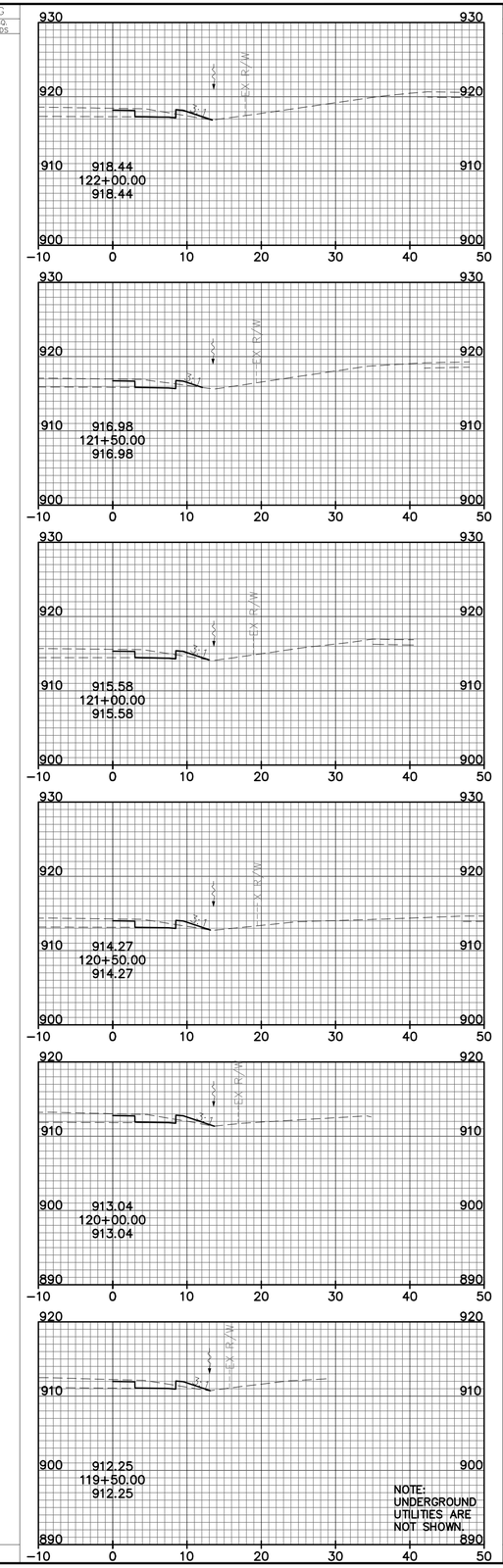
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL



HORIZONTAL SCALE IN FEET

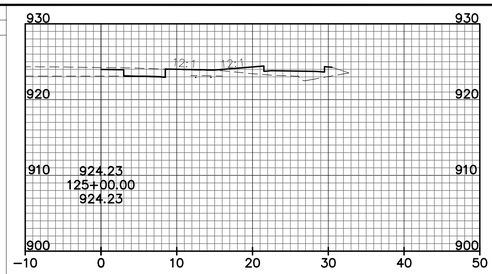
CALCULATED FGW
CHECKED GEE

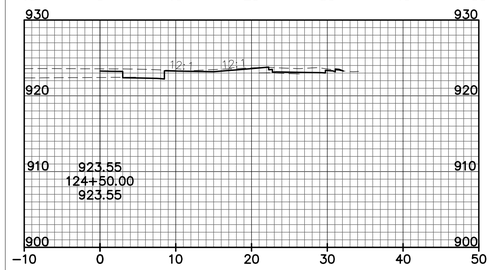
CROSS SECTIONS – NORTHBOUND BIKE LANE
STA. 113+50 TO STA. 122+00

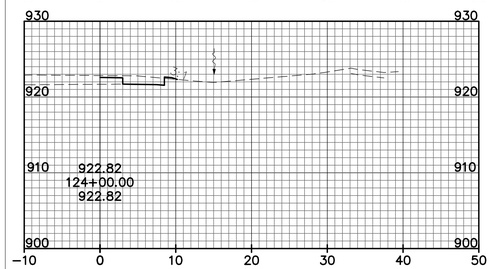
MUIRFIELD DRIVE
BIKE LANES

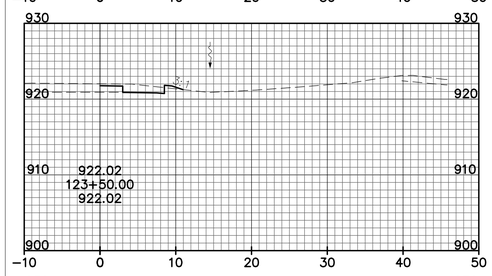
L:\Projects\14578434\TRANS\FRA\08434\roadway\sheets\08434XS102.dwg User: Sakian, Natalie 5-Jun-14 10:26 AM

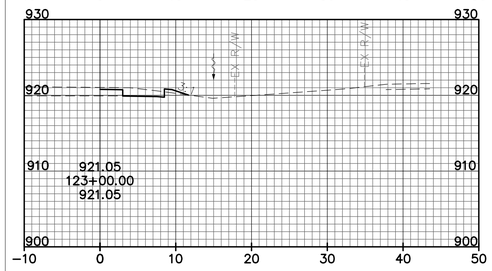
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL

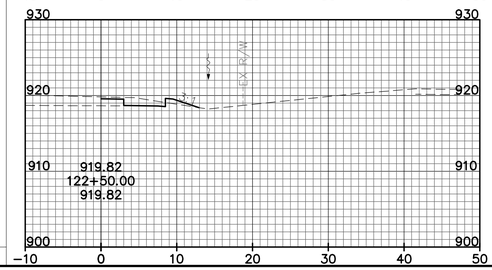




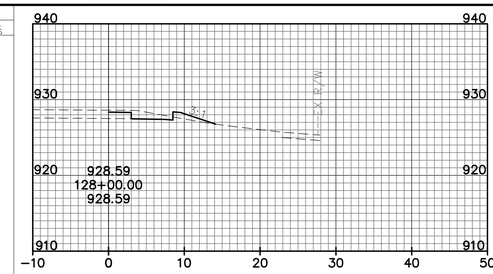


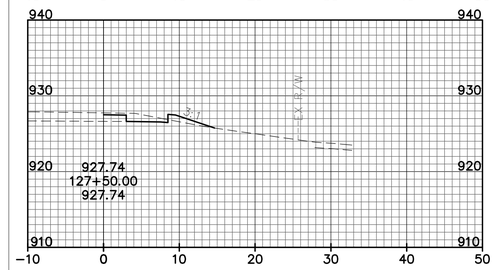


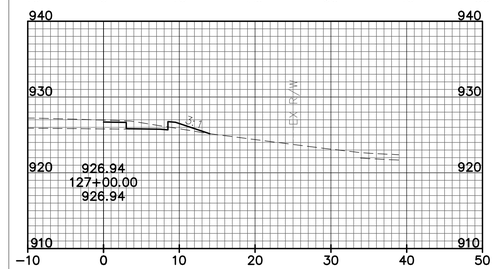


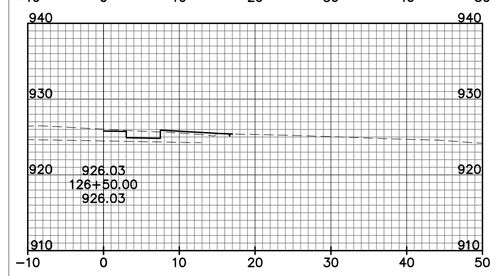


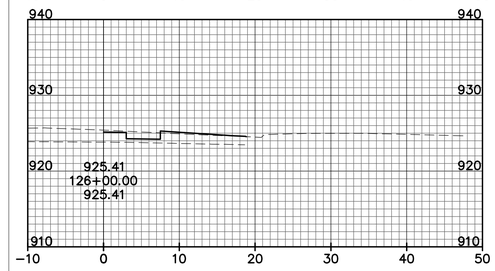
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL

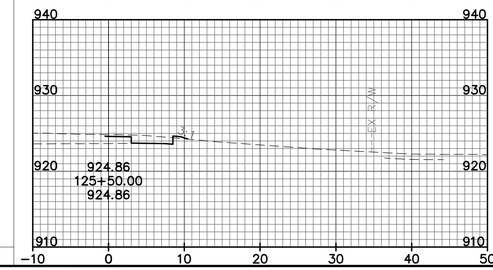




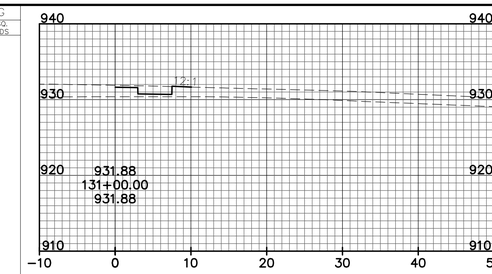


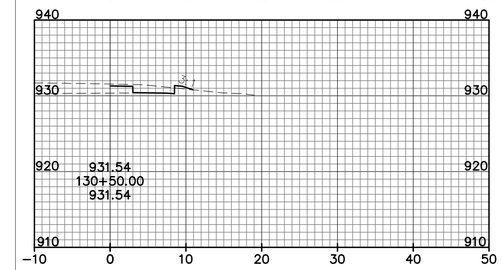


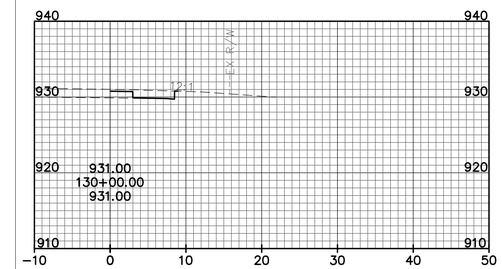


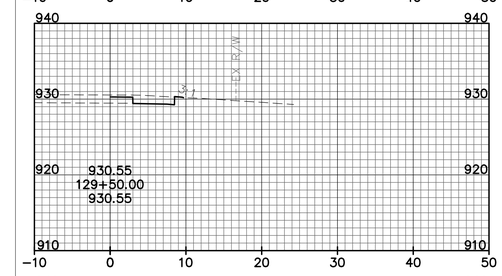


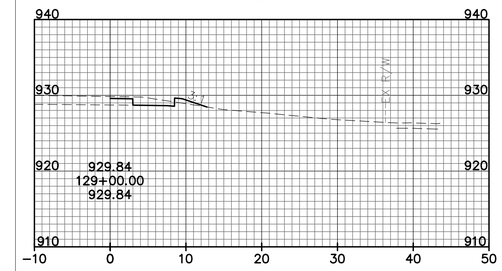
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL

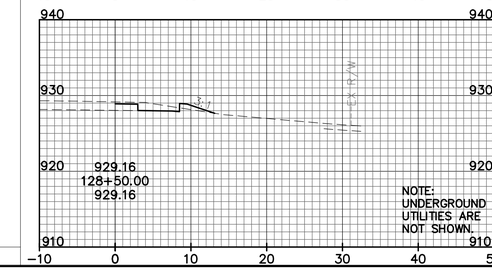












NOTE:
UNDERGROUND
UTILITIES ARE
NOT SHOWN.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED FGW
CHECKED GEE

CROSS SECTIONS - NORTHBOUND BIKE LANE
STA. 122+50 TO STA. 131+00

MUIRFIELD DRIVE
BIKE LANES

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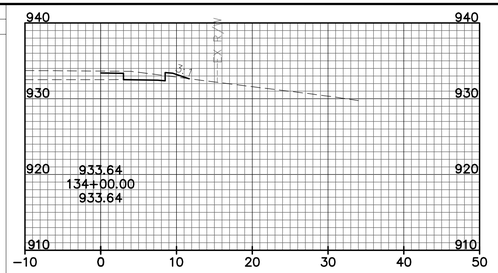
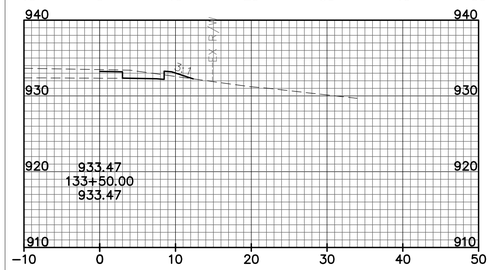
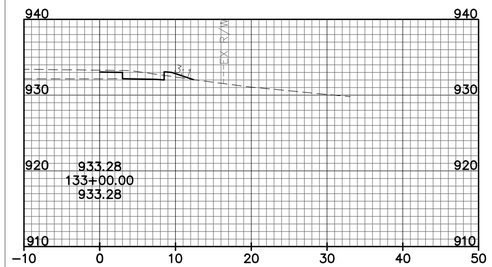
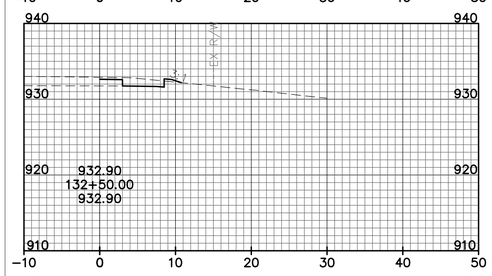
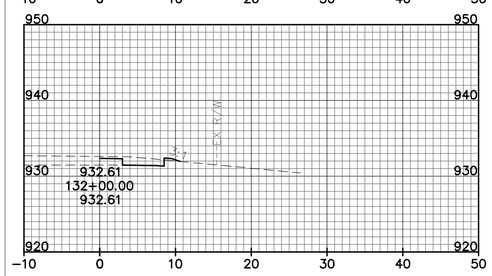
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL

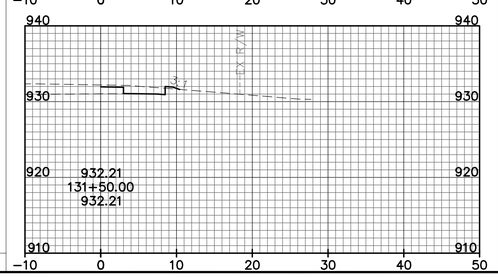




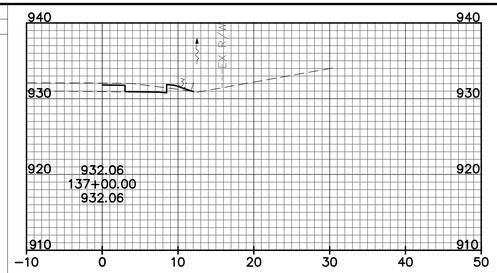


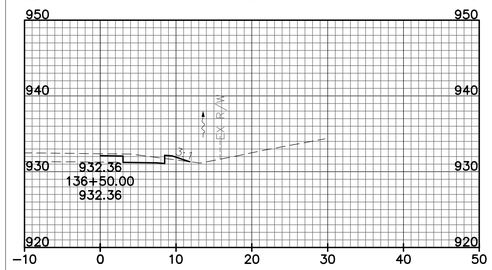


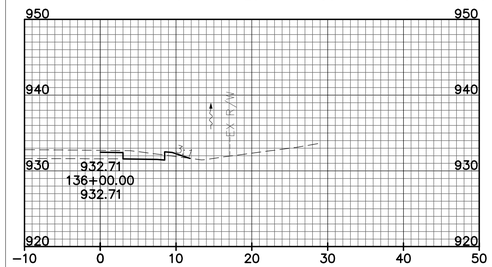


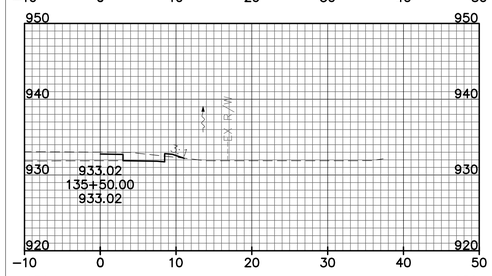


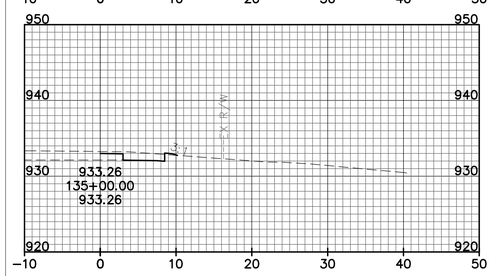
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL

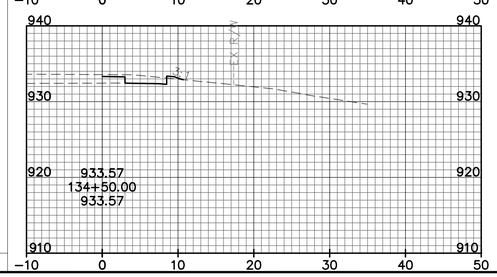




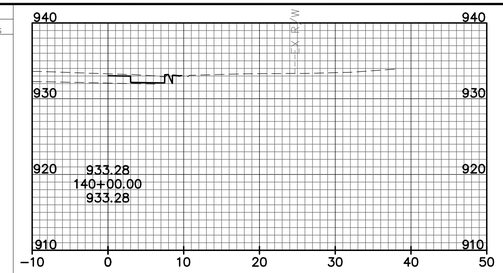


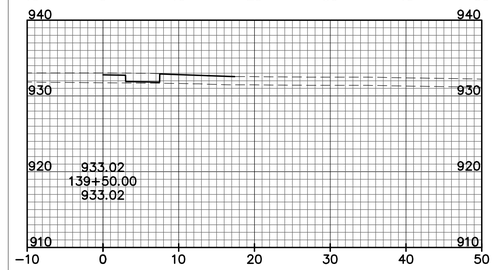


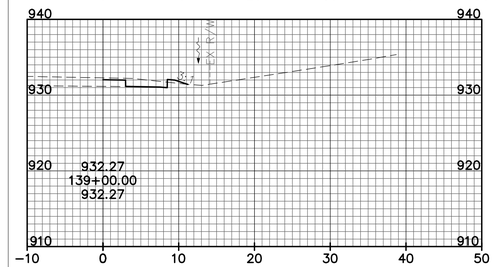


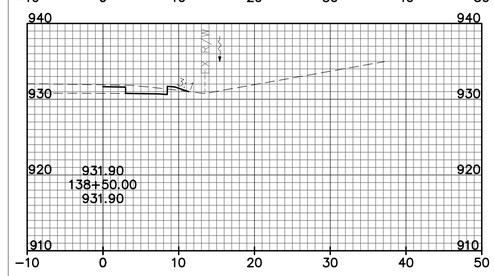


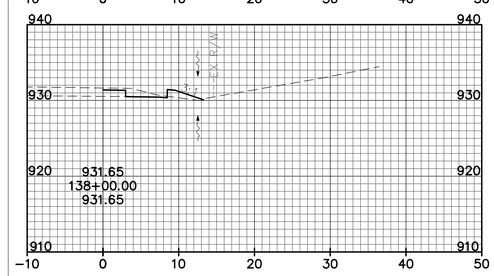
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL

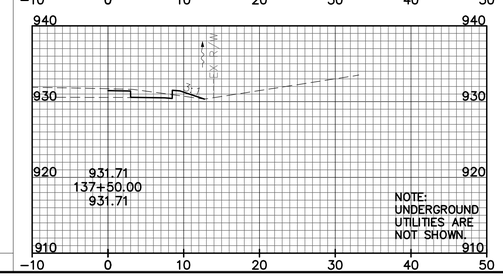












NOTE:
UNDERGROUND
UTILITIES ARE
NOT SHOWN.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED FGW
CHECKED GEE

CROSS SECTIONS - NORTHBOUND BIKE LANE
STA. 131+50 TO STA. 140+00

MUIRFIELD DRIVE
BIKE LANES

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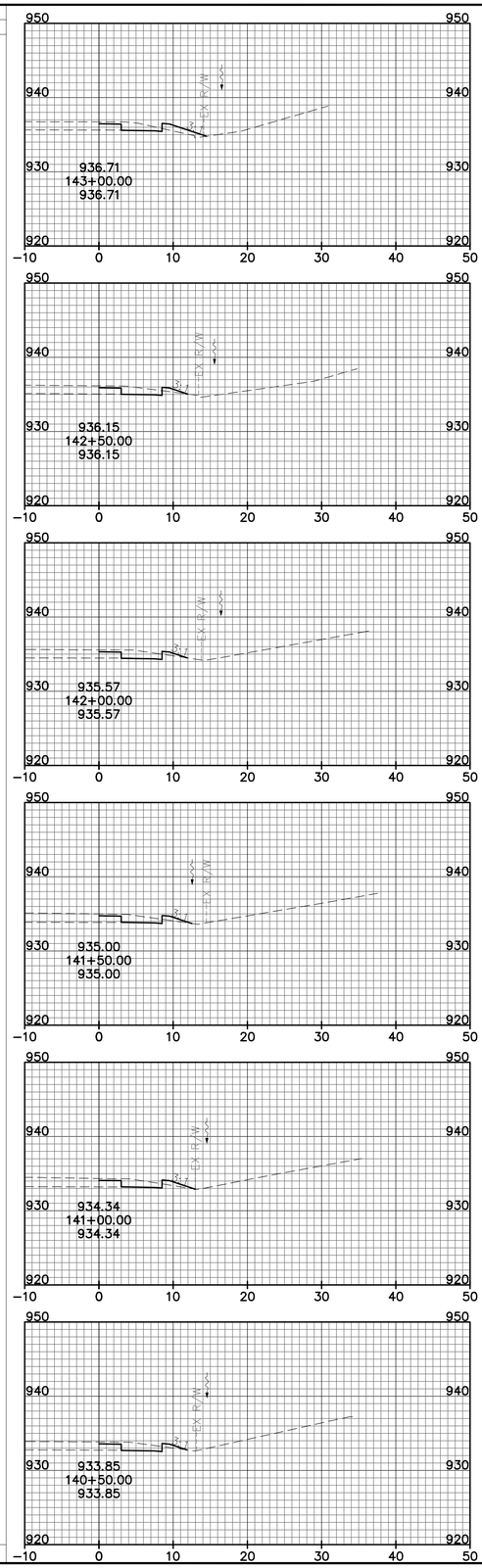
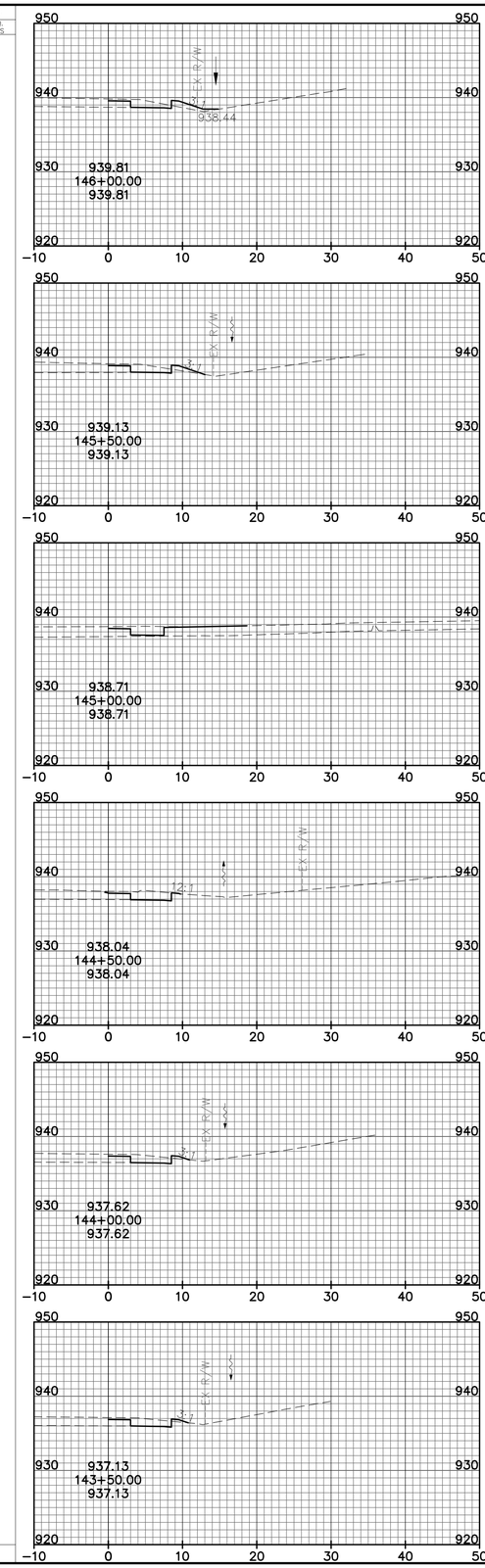
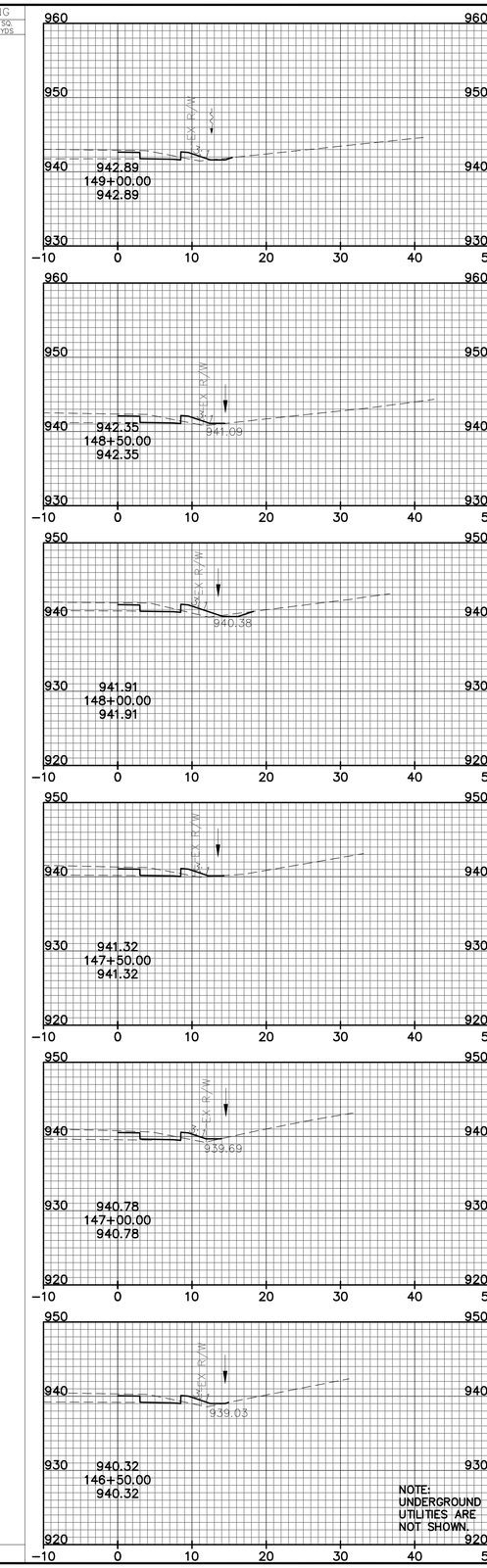
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL



END AREA		VOLUME	
CUT	FILL	CUT	FILL

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED FGW
CHECKED GEE

CROSS SECTIONS - NORTHBOUND BIKE LANE
STA. 140+50 TO STA. 149+00

MUIRFIELD DRIVE
BIKE LANES

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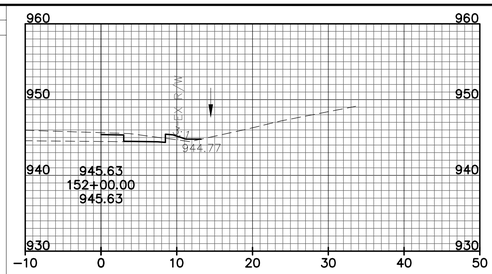
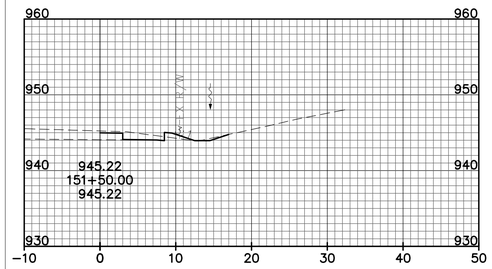
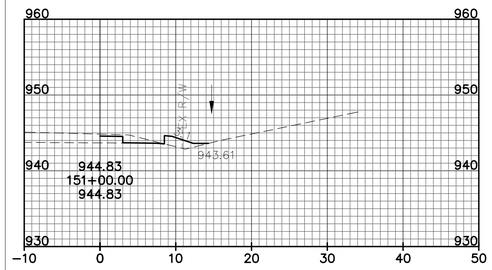
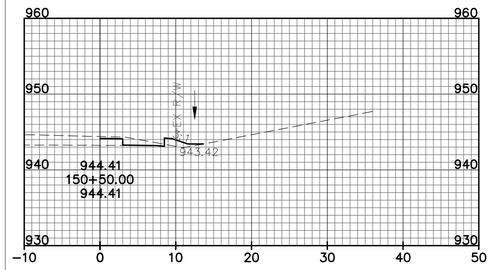
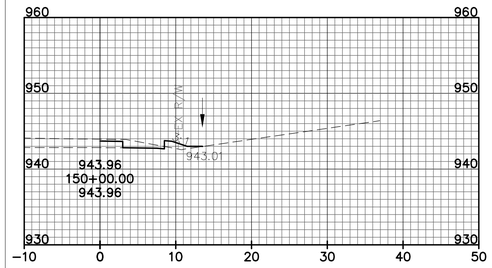
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL

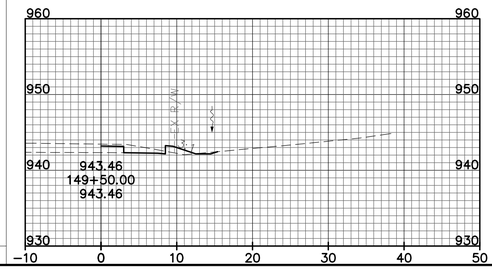




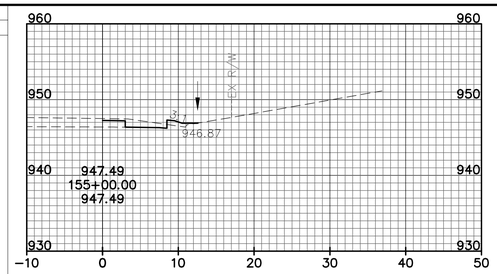


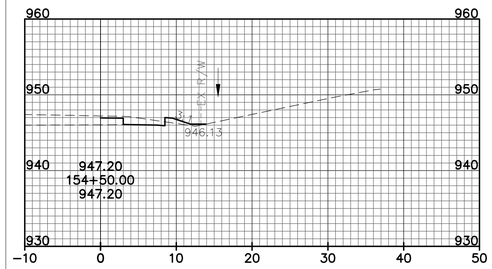


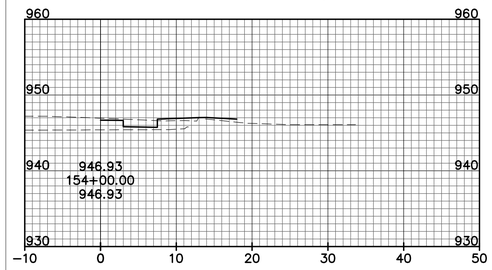


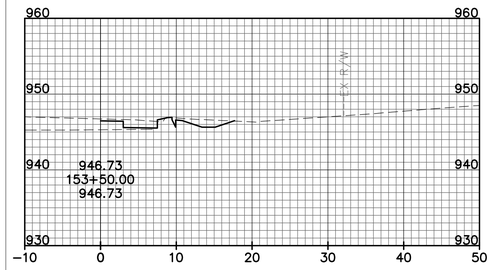


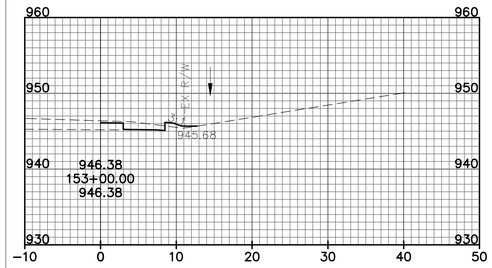
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL

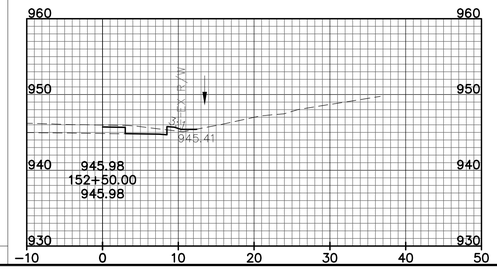




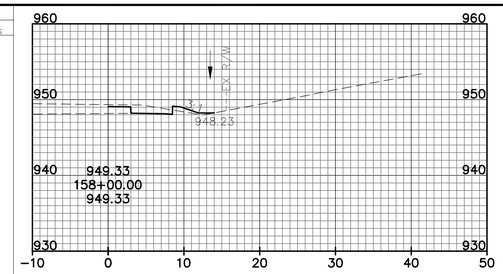


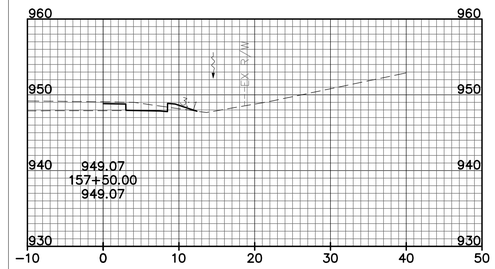


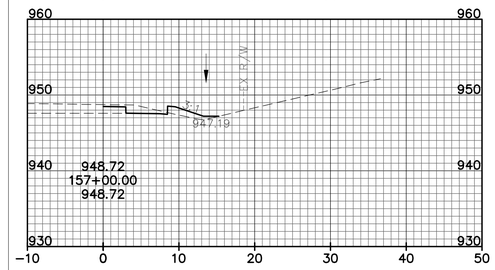


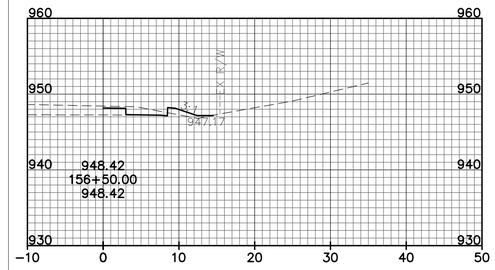


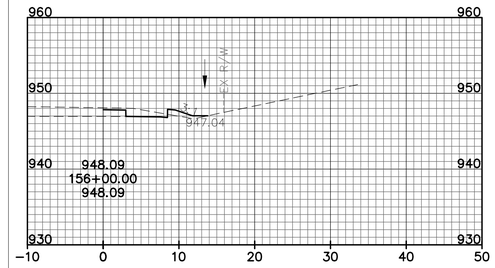
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS.	CUT	FILL	CUT	FILL

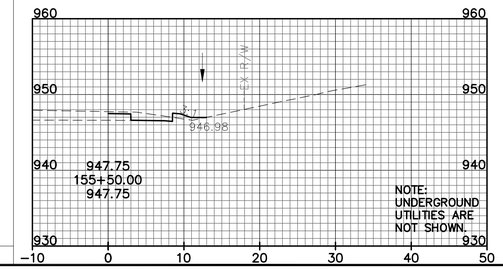












NOTE:
UNDERGROUND UTILITIES ARE NOT SHOWN.

END AREA		VOLUME	
CUT	FILL	CUT	FILL

HORIZONTAL SCALE IN FEET
0 5 10 20

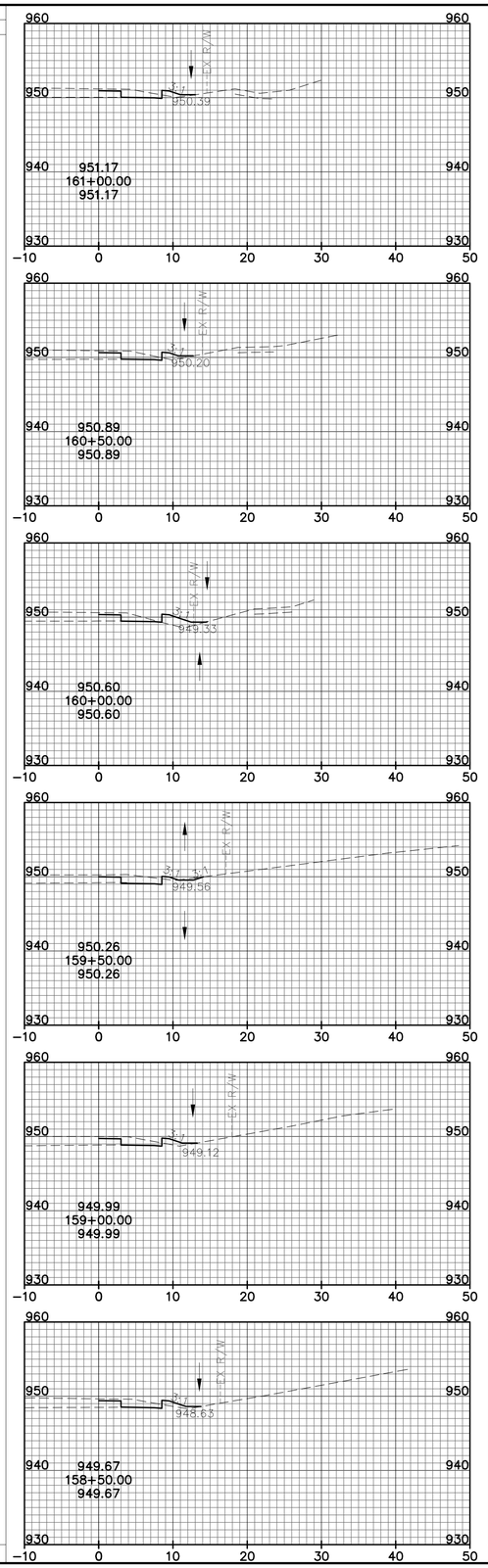
CALCULATED FGW
CHECKED GEE

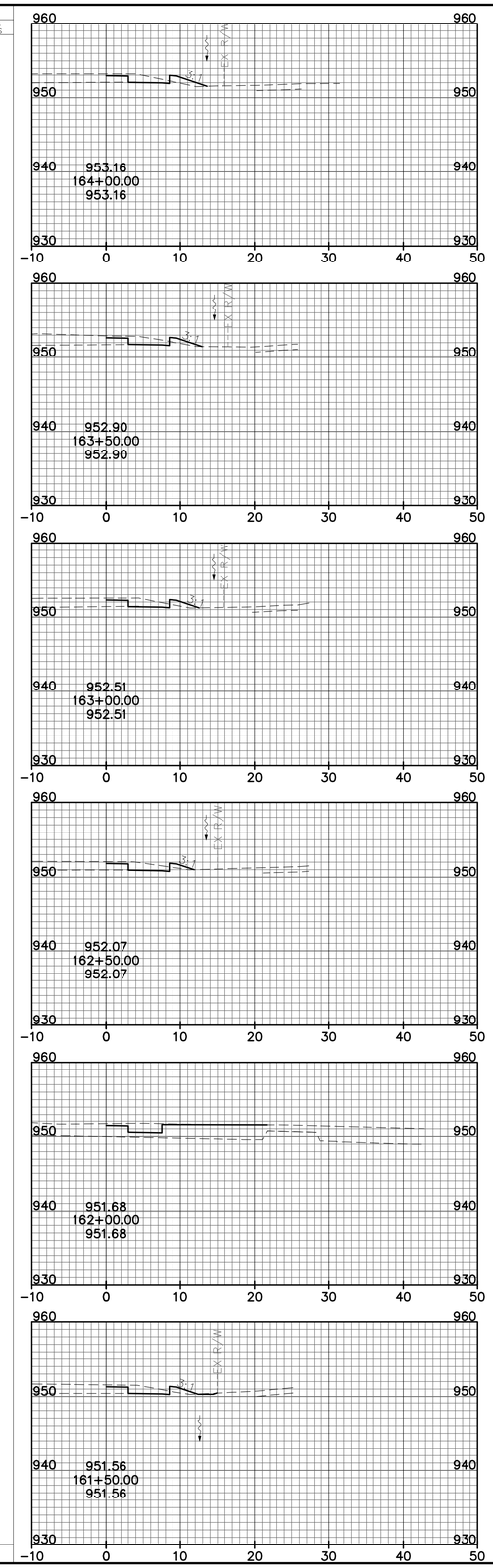
CROSS SECTIONS - NORTHBOUND BIKE LANE
STA. 149+50 TO STA. 158+00

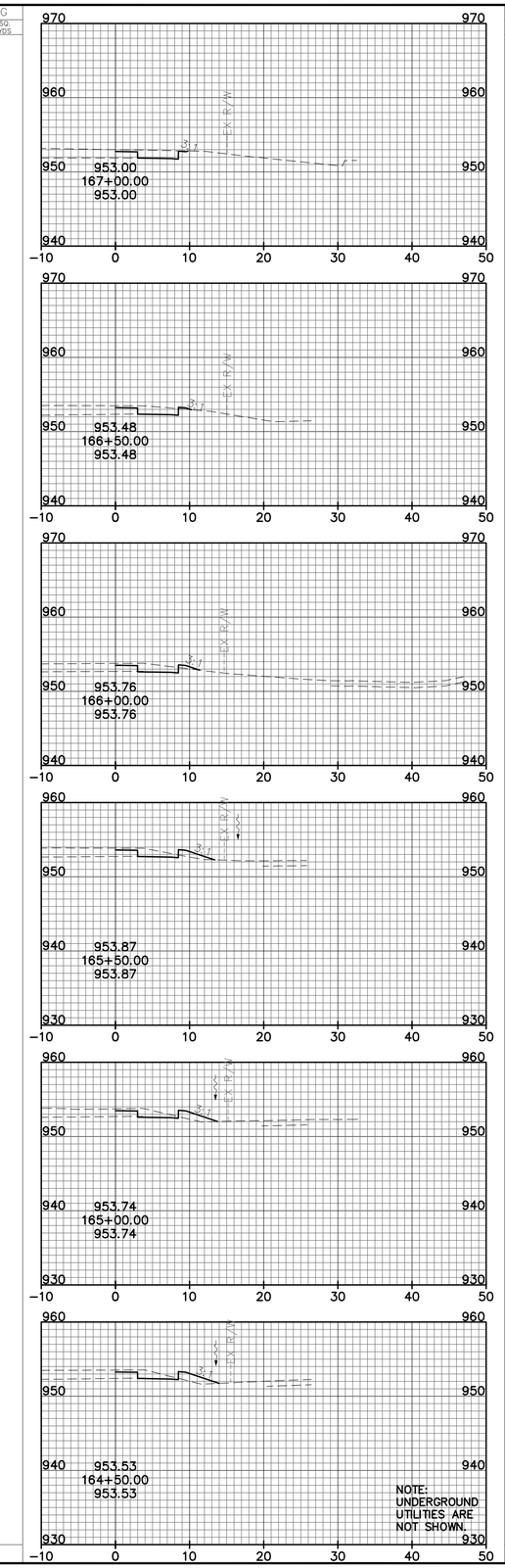
MUIRFIELD DRIVE
BIKE LANES

L:\Projects\145784.34\TRANS\FRA\08434\roadway\sheets\08434XS106.dwg User: Sakian, Natalie 5-Jun-14 10:39 AM

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL







HORIZONTAL SCALE IN FEET

CALCULATED FGW
CHECKED GEE

CROSS SECTIONS - NORTHBOUND BIKE LANE
STA. 158+50 TO STA. 167+00

MUIRFIELD DRIVE
BIKE LANES

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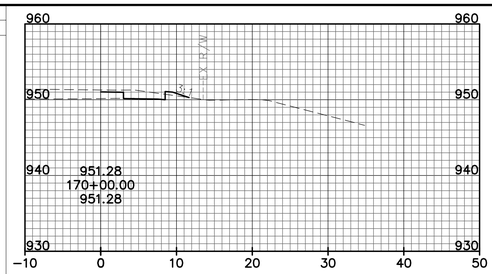
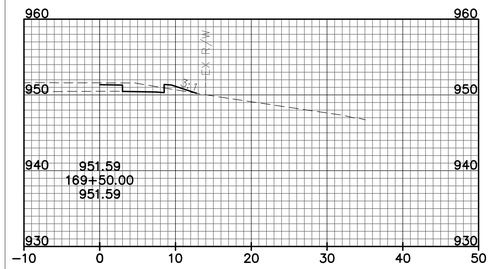
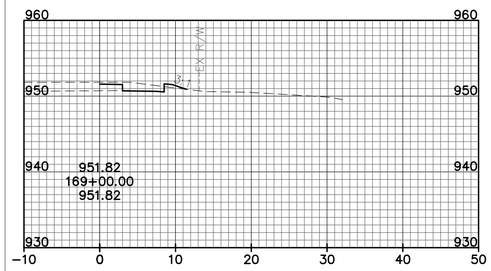
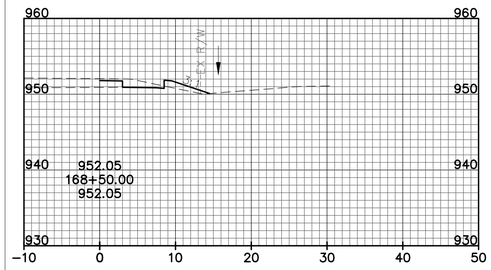
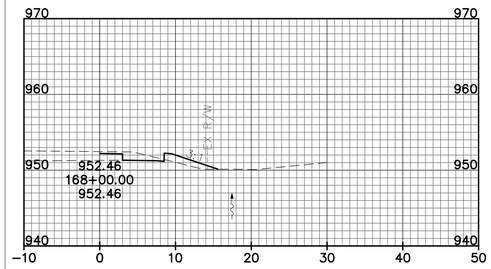
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL

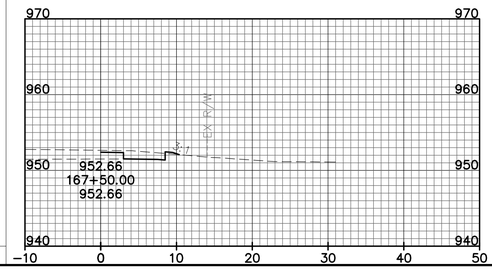




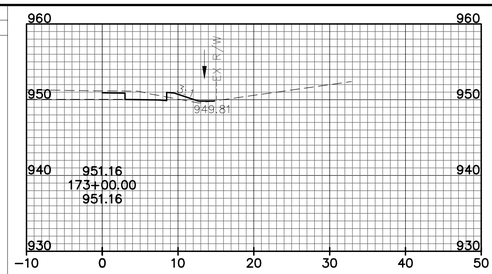


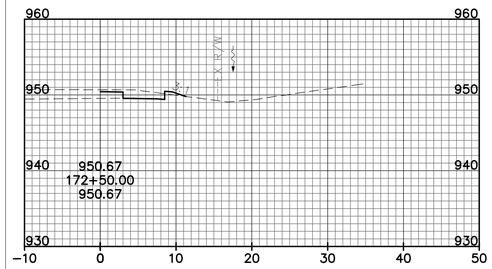


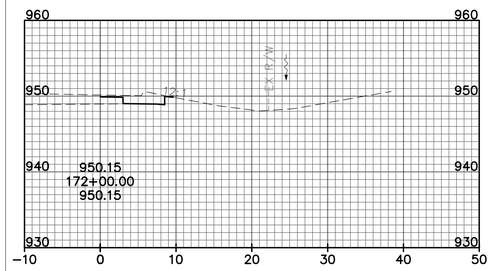


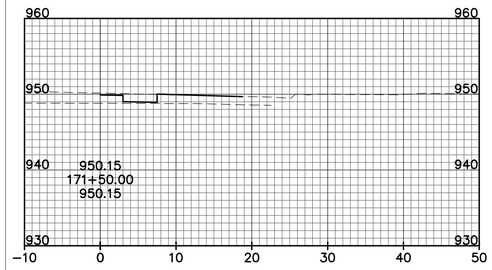


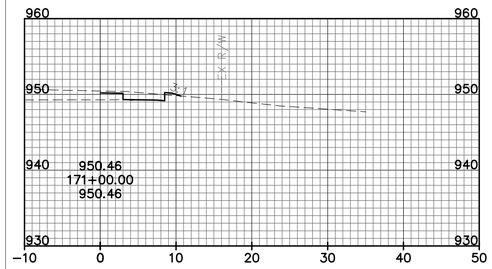
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL

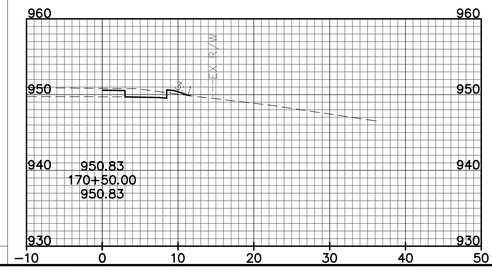




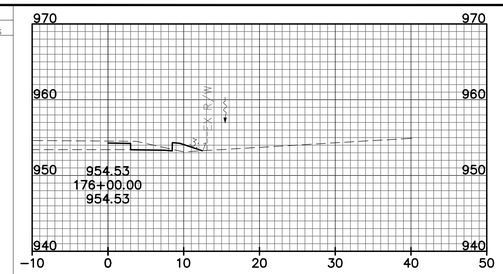


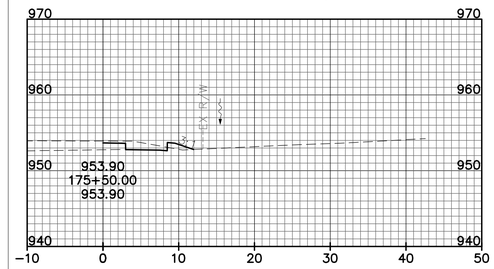


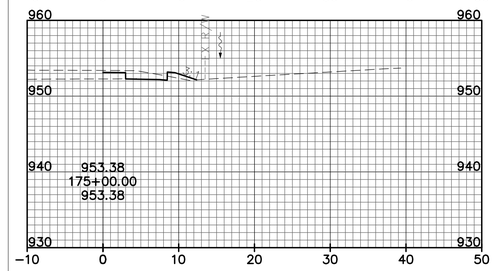


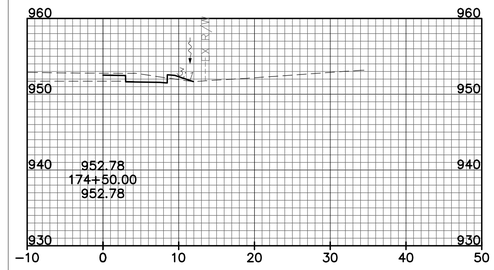


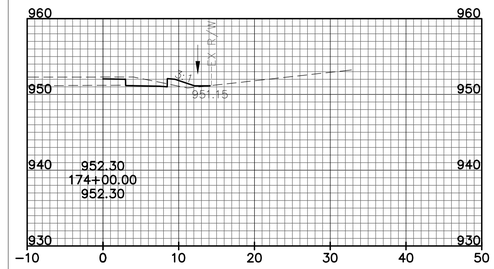
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL

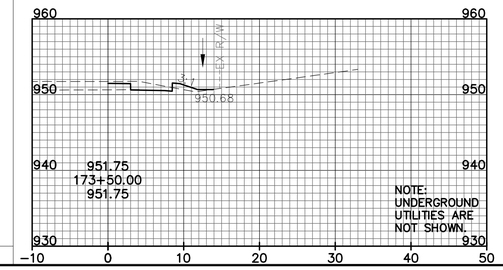












END AREA		VOLUME	
CUT	FILL	CUT	FILL

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED FGW
CHECKED GEE

CROSS SECTIONS - NORTHBOUND BIKE LANE
STA. 167+50 TO STA. 176+00

MUIRFIELD DRIVE
BIKE LANES

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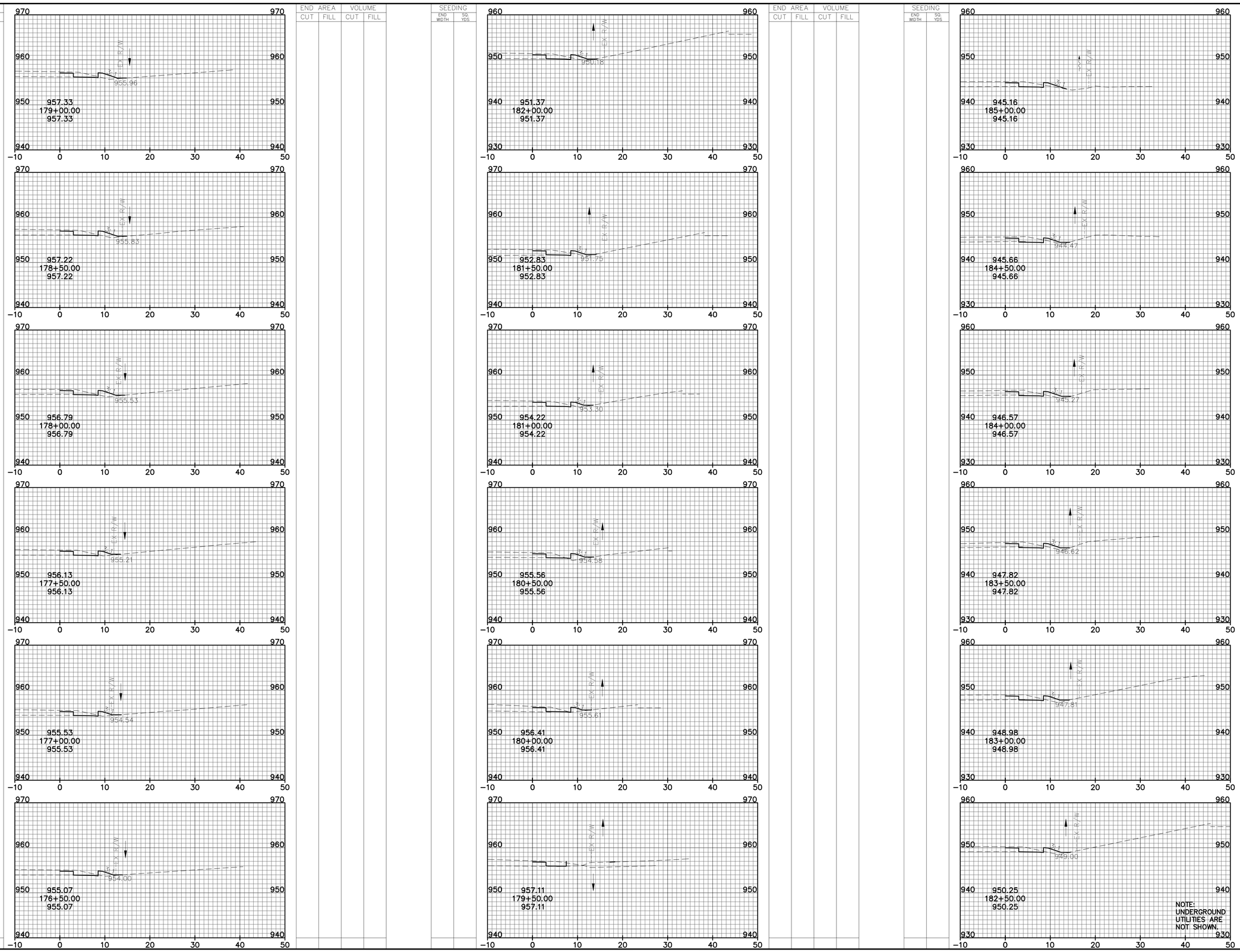
SEEDING END WIDTH	SEEDING SQ. YDS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL	Station	Elevation
						179+00.00	957.33
						178+50.00	957.22
						178+00.00	956.79
						177+50.00	956.13
						177+00.00	955.53
						176+50.00	955.07
						182+00.00	951.37
						181+50.00	952.83
						181+00.00	954.22
						180+50.00	955.56
						180+00.00	956.41
						179+50.00	957.11
						185+00.00	945.16
						184+50.00	945.66
						184+00.00	946.57
						183+50.00	947.82
						183+00.00	948.98
						182+50.00	950.25



HORIZONTAL SCALE IN FEET 0 5 10 20

CALCULATED FGW
CHECKED GEE

CROSS SECTIONS - NORTHBOUND BIKE LANE
STA. 176+50 TO STA. 185+00

MUIRFIELD DRIVE
BIKE LANES

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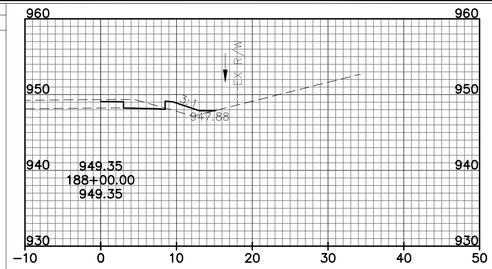
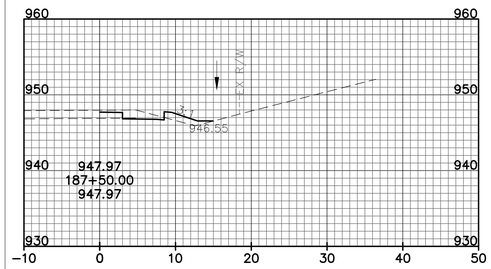
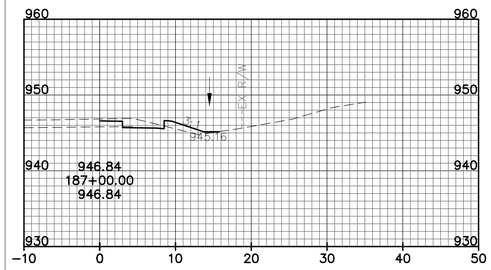
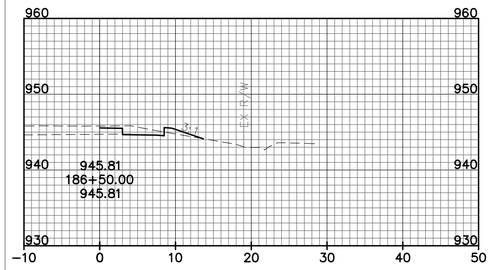
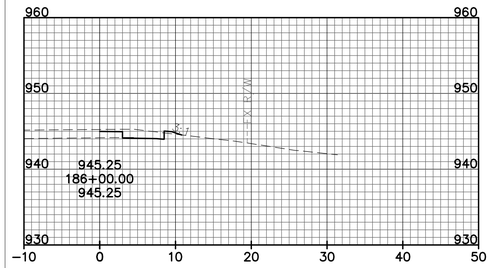
SEEDING END WIDTH	SEEDING SQ. YDS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL

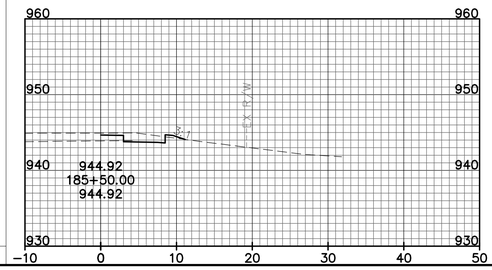




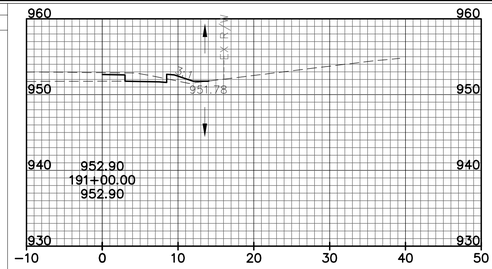


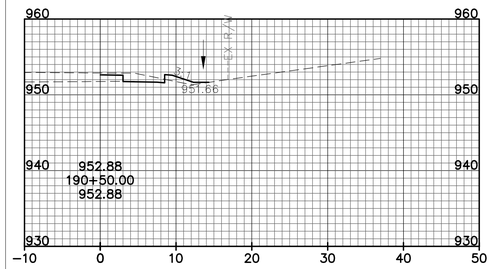


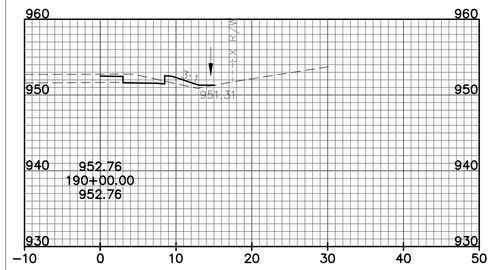


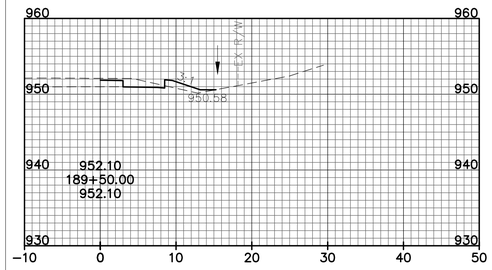


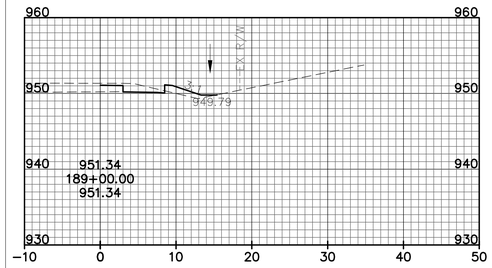
SEEDING END WIDTH	SEEDING SQ. YDS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL

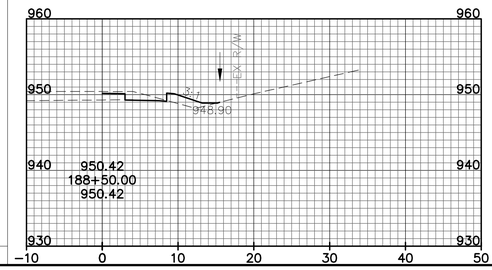




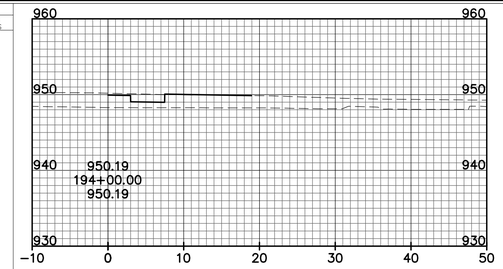


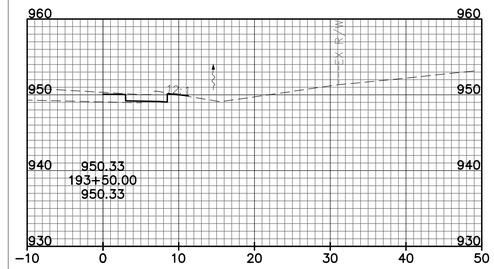


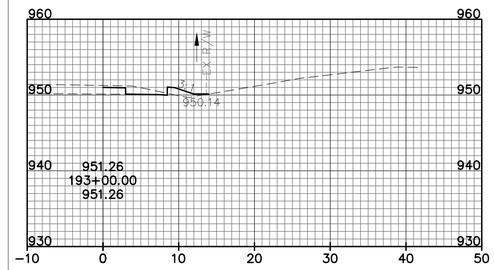


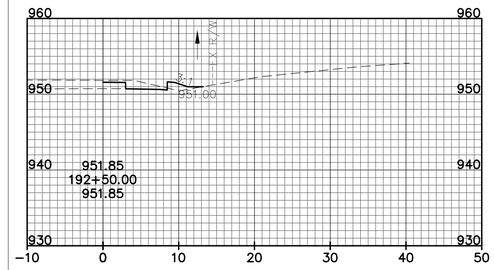


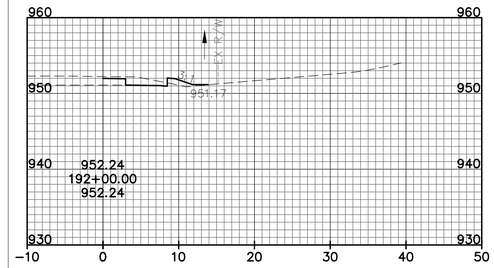
SEEDING END WIDTH	SEEDING SQ. YDS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL

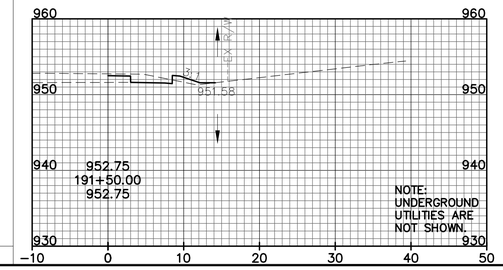












NOTE:
UNDERGROUND UTILITIES ARE NOT SHOWN.

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL

HORIZONTAL SCALE IN FEET
0 5 10 20

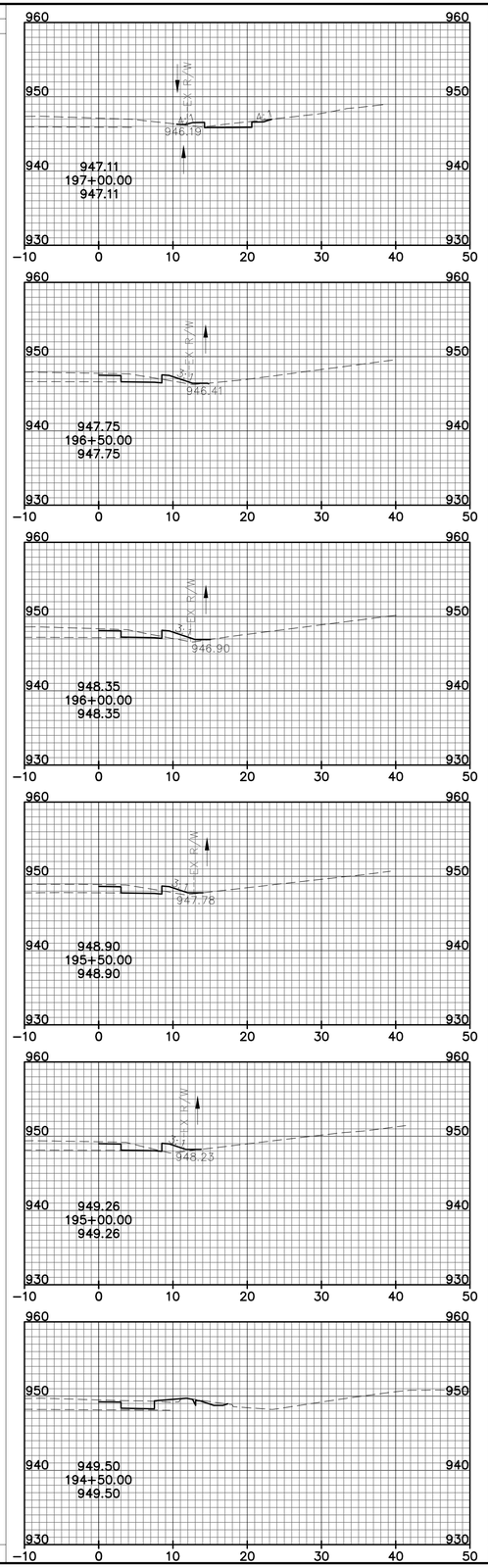
CALCULATED FGW
CHECKED GEE

CROSS SECTIONS - NORTHBOUND BIKE LANE
STA. 185+50 TO STA. 194+00

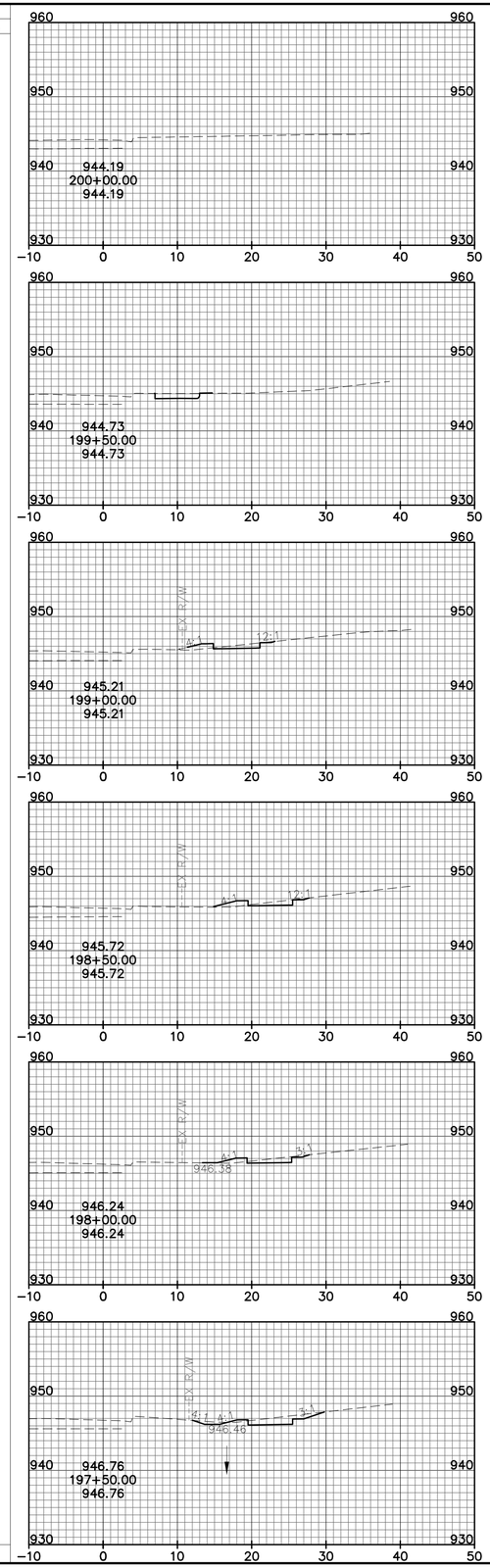
MUIRFIELD DRIVE
BIKE LANES

L:\Projects\145784.34\TRANS\FRA\08434\roadway\sheets\08434XS110.dwg User: Sakian, Natalie 5-Jun-14 10:12 AM

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL

END AREA		VOLUME	
CUT	FILL	CUT	FILL

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED FGW
CHECKED GEE

CROSS SECTIONS - NORTHBOUND BIKE LANE
STA. 194+50 TO STA. 200+00

MUIRFIELD DRIVE
BIKE LANES

NOTE:
UNDERGROUND
UTILITIES ARE
NOT SHOWN.

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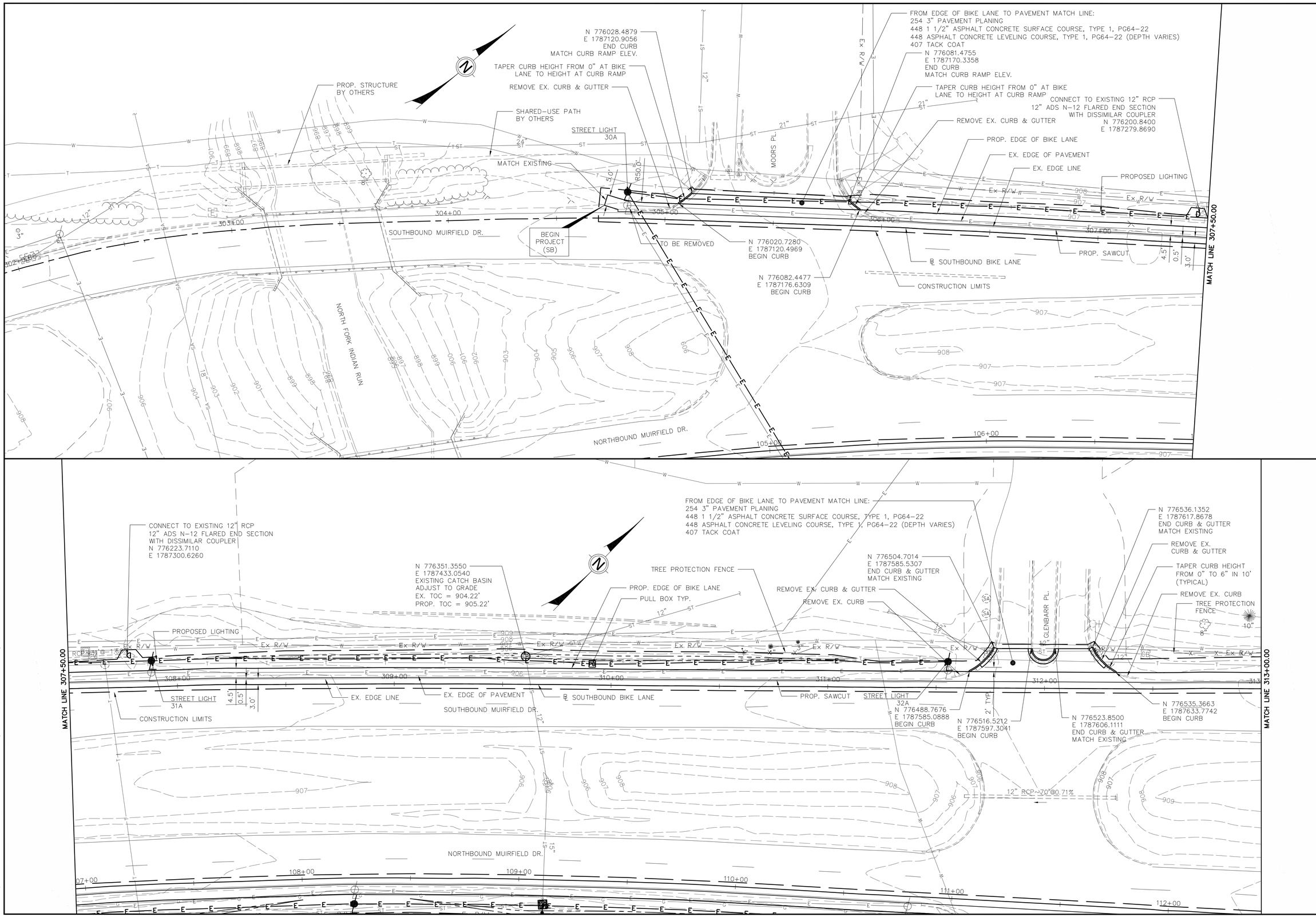

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

PLAN - SOUTHBOUND BIKE LANE
STA. 302+00 TO STA. 313+00

MUIRFIELD DRIVE BIKE LANES

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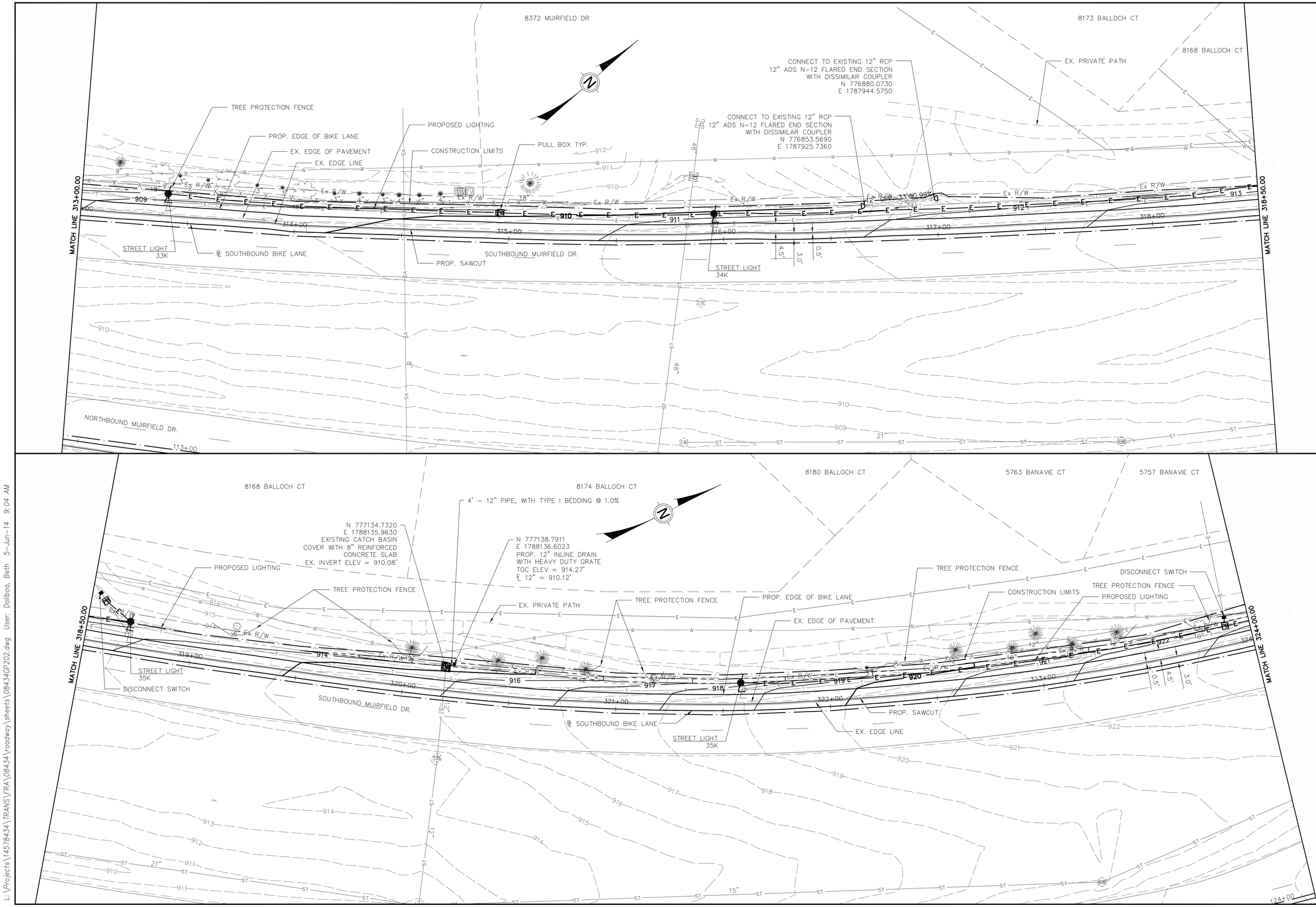

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

PLAN - SOUTHBOUND BIKE LANE
STA. 313+00 TO STA. 324+00

MUIRFIELD DRIVE BIKE LANES

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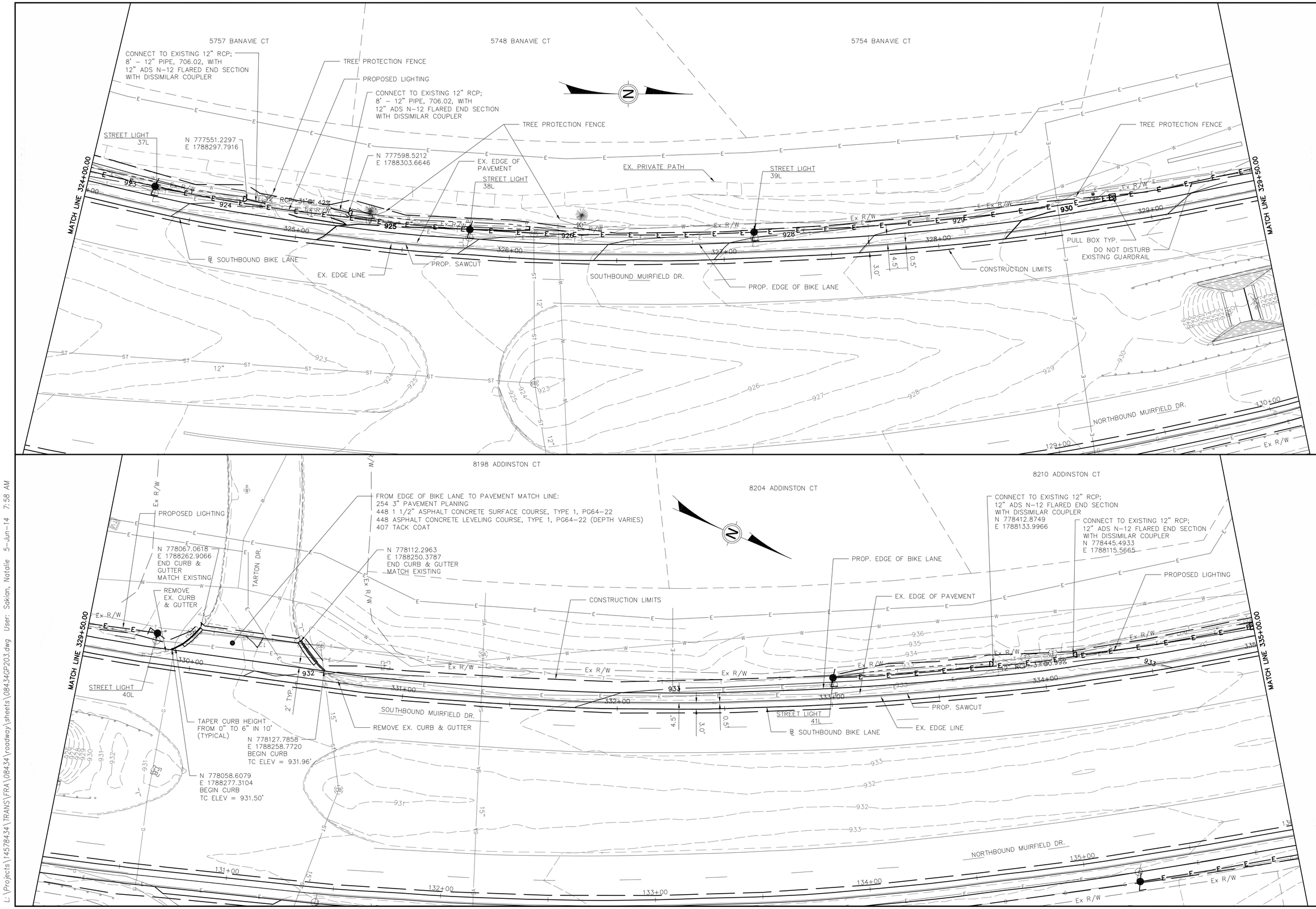

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

PLAN – SOUTHBOUND BIKE LANE
STA. 324+00 TO STA. 335+00

MUIRFIELD DRIVE BIKE LANES

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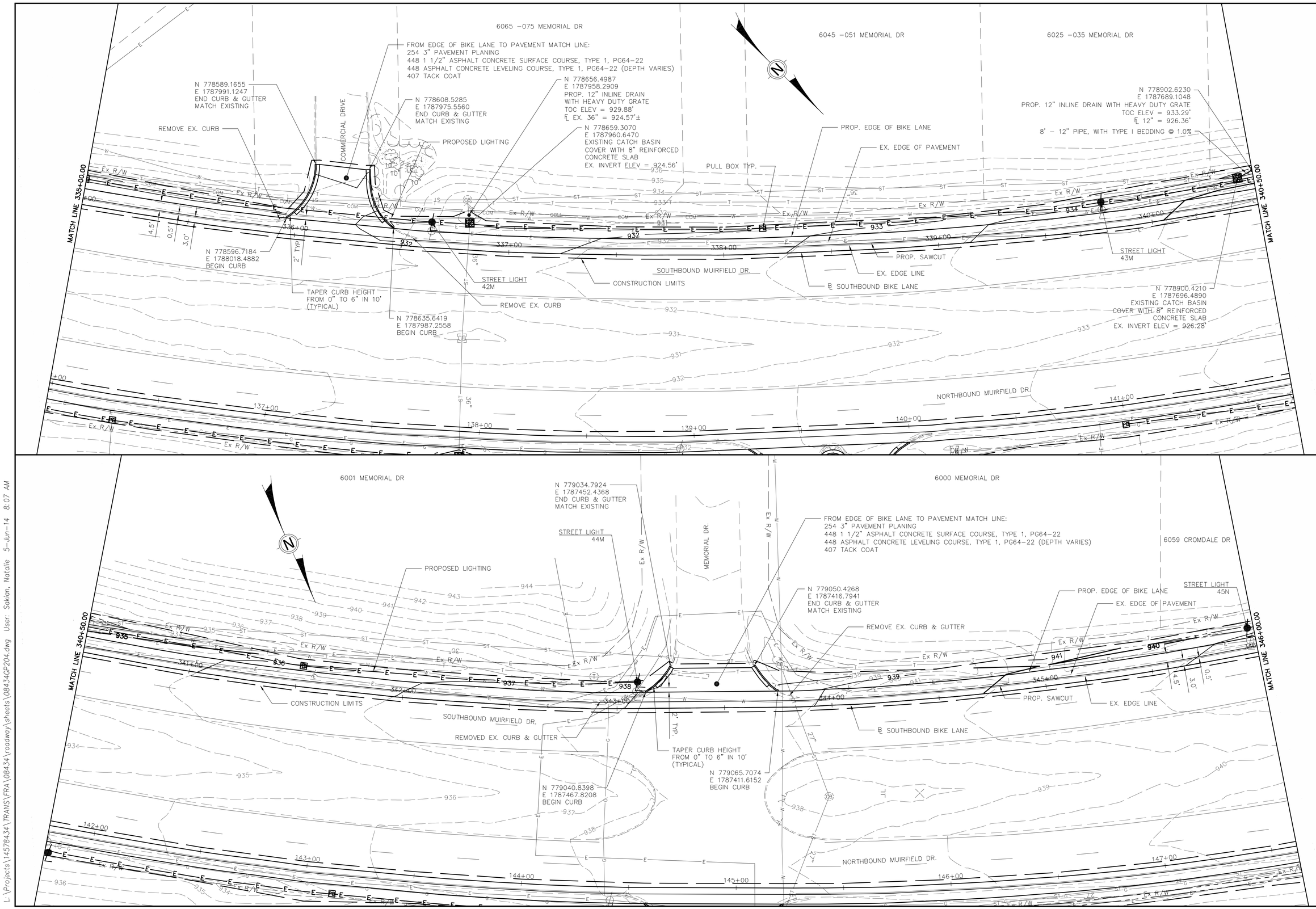

PLAN - SOUTHBOUND BIKE LANE
STA. 335+00 TO STA. 346+00

MUIRFIELD DRIVE
BIKE LANES

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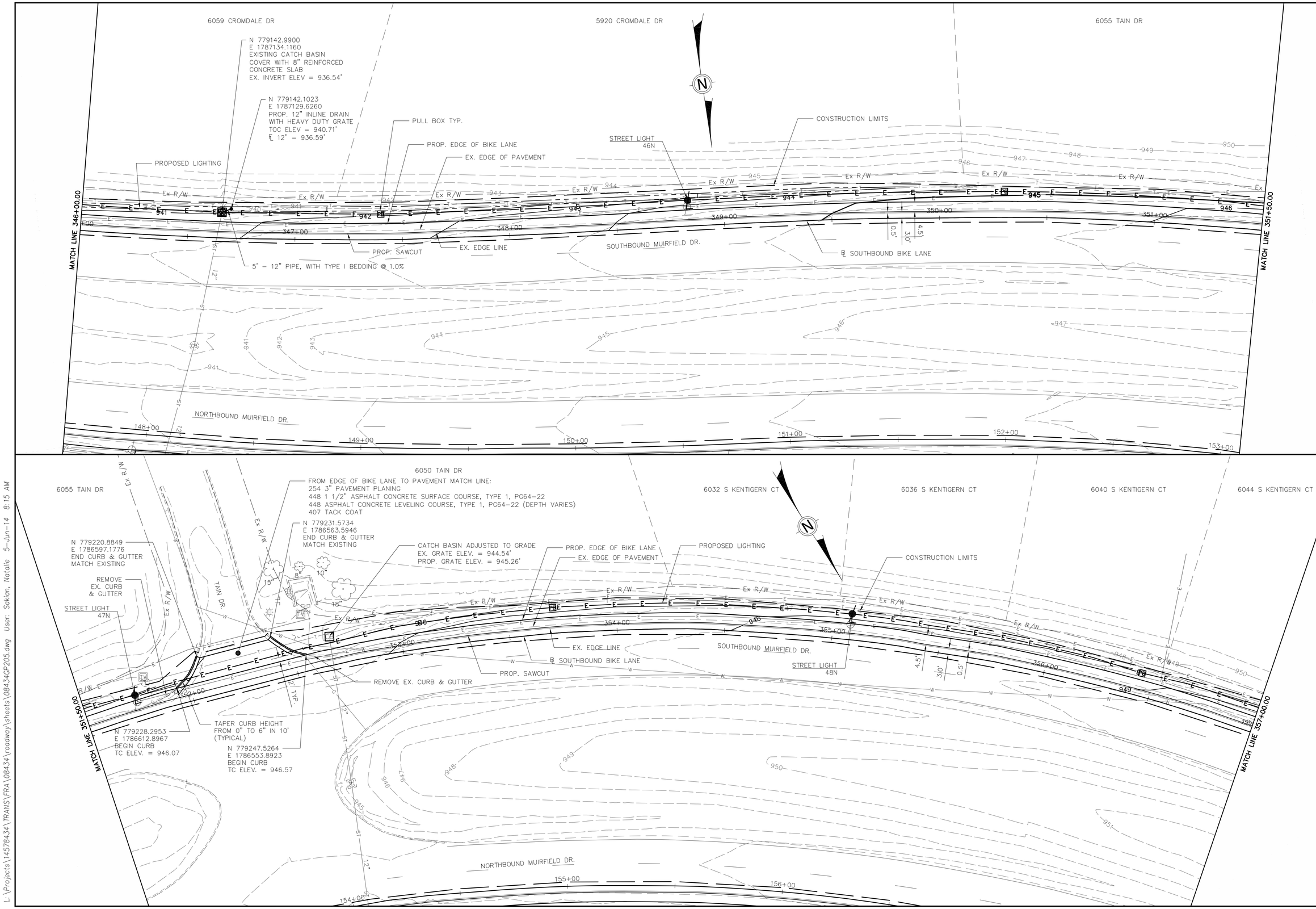

CALCULATED FGW
CHECKED GEE

PLAN - SOUTHBOUND BIKE LANE
STA. 346+00 TO STA. 357+00

MUIRFIELD DRIVE
BIKE LANES

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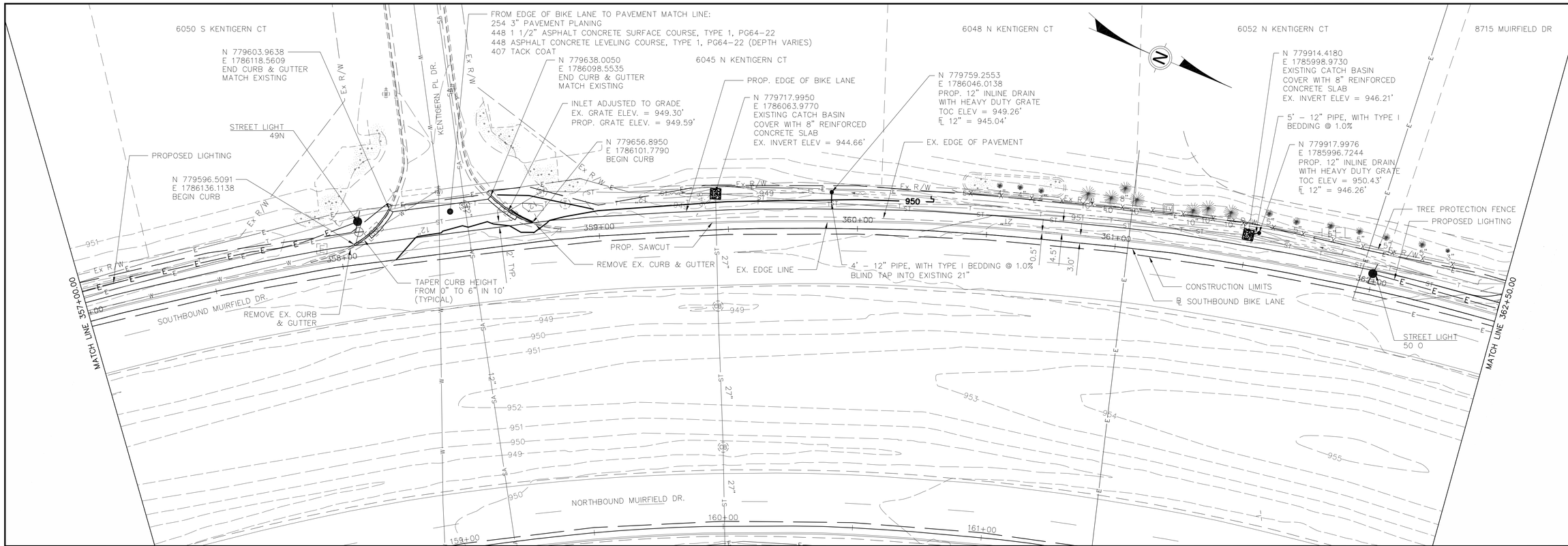
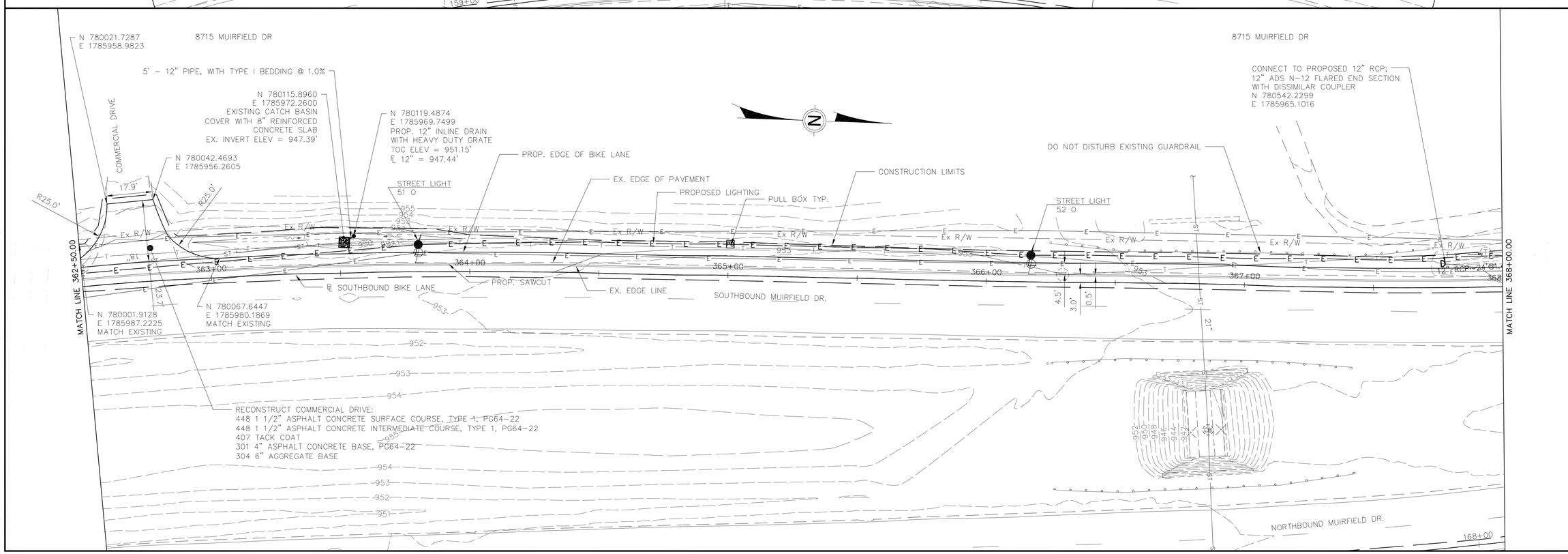




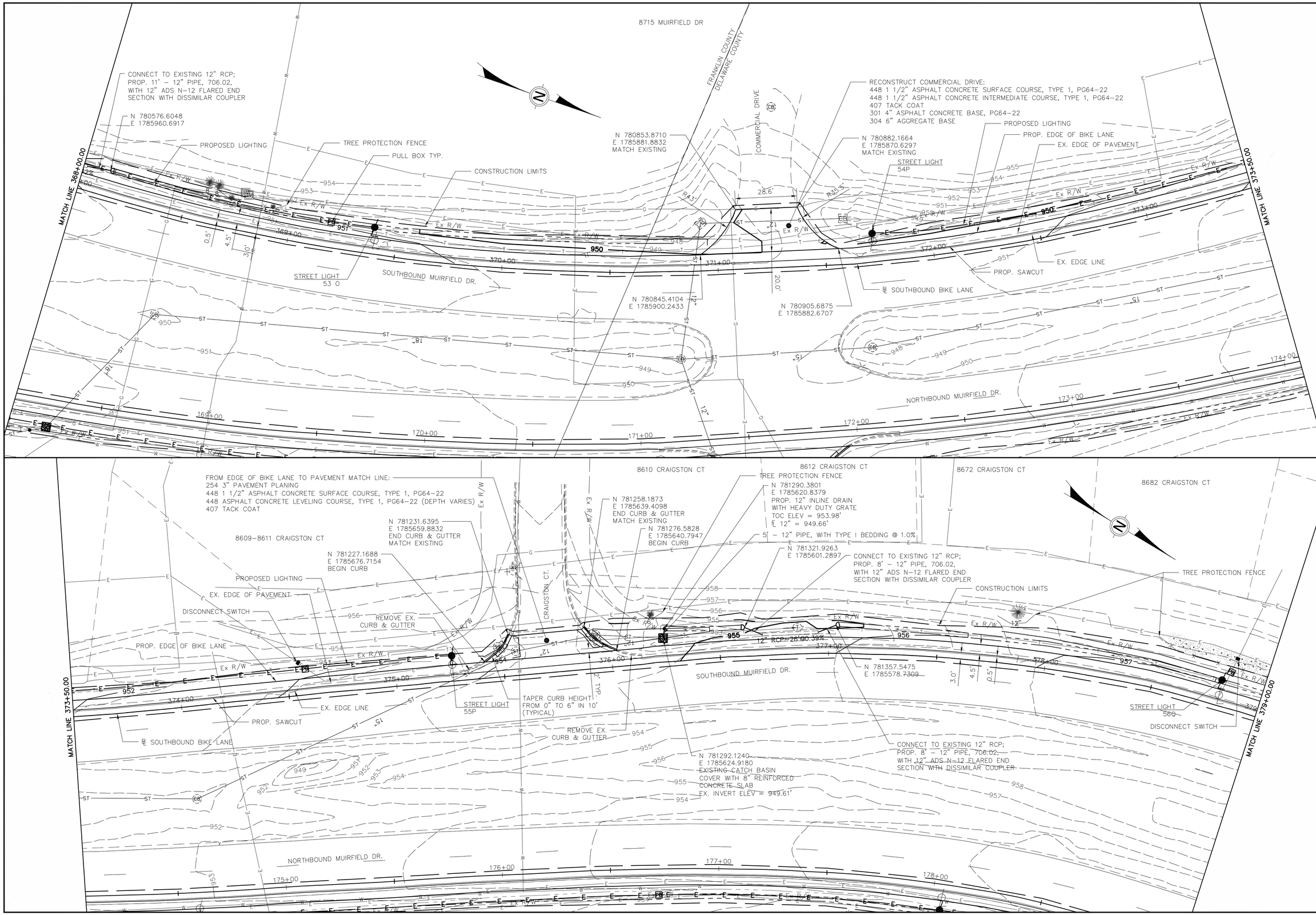
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

PLAN - SOUTHBOUND BIKE LANE
STA. 357+00 TO STA. 368+00

MUIRFIELD DRIVE
BIKE LANES

L:\Projects\145784.34\TRANS\FRA\08434\roadway\sheets\08434GP206.dwg User: Sakian, Natalie 5-Jun-14 8:21 AM



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

PLAN - SOUTHBOUND BIKE LANE
STA. 368+00 TO STA. 379+00

MUIRFIELD DRIVE
BIKE LANES

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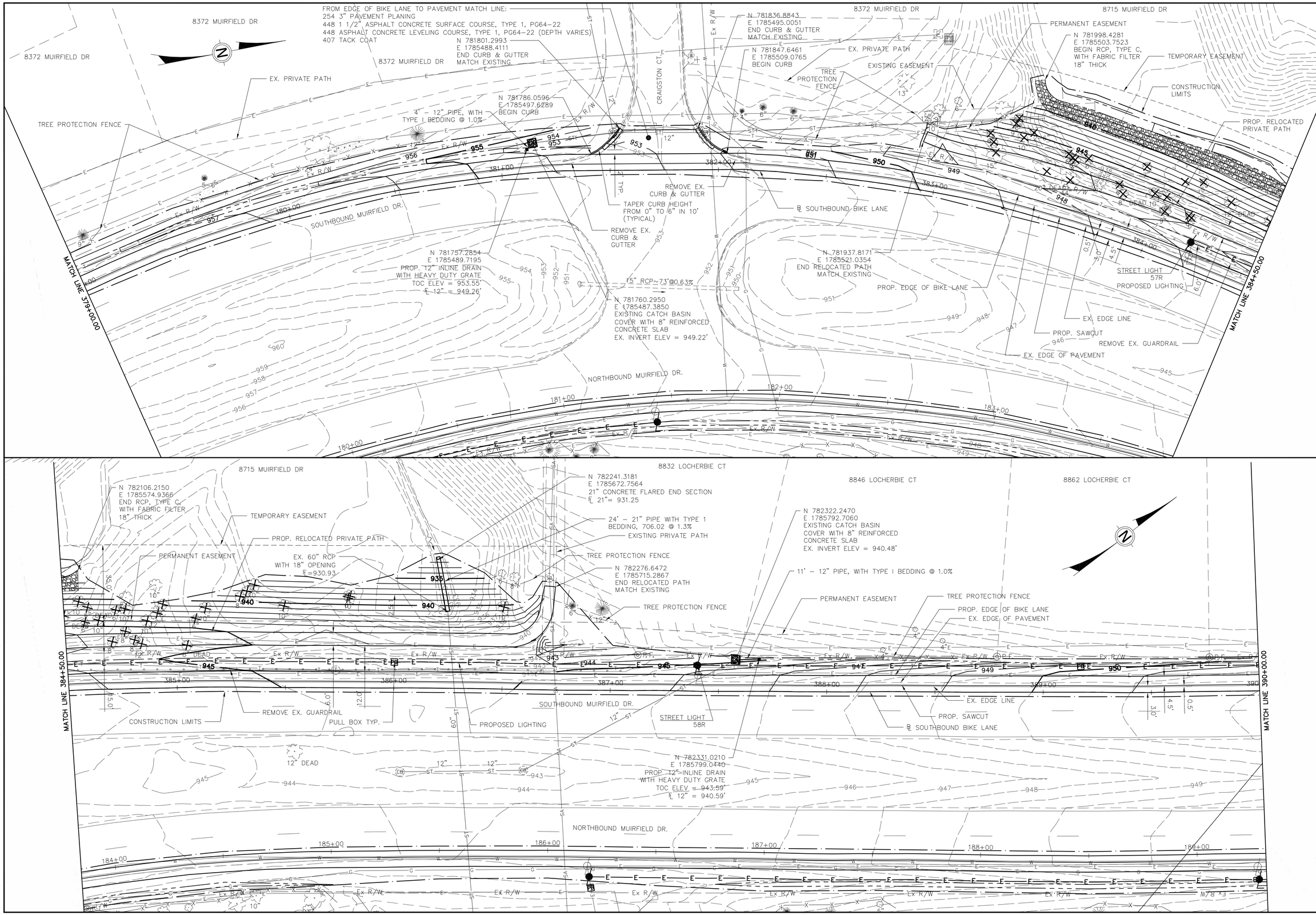

PLAN - SOUTHBOUND BIKE LANE
STA. 379+00 TO STA. 390+00

MUIRFIELD DRIVE BIKE LANES

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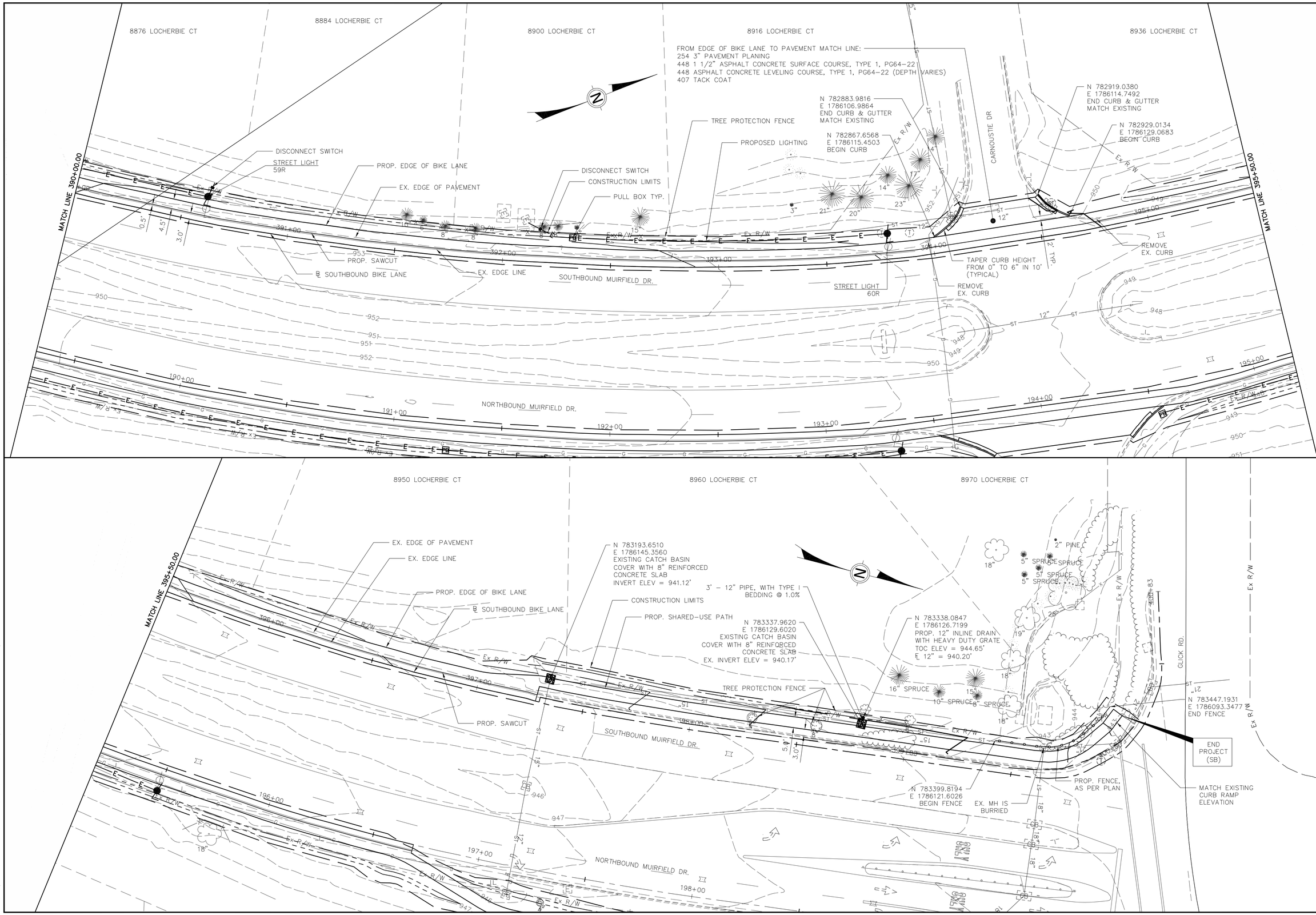


HORIZONTAL
SCALE IN FEET
0 10 20 40

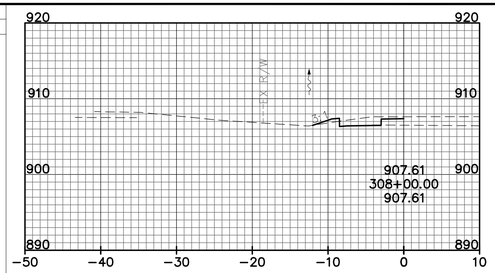
CALCULATED FGW
CHECKED GEE

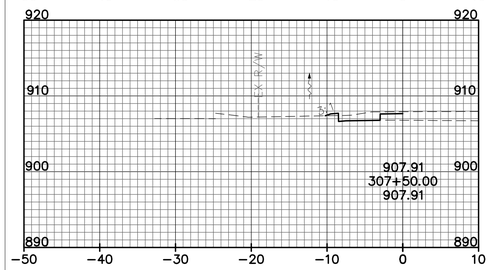
PLAN - SOUTHBOUND BIKE LANE
STA. 390+00 TO GLICK RD.

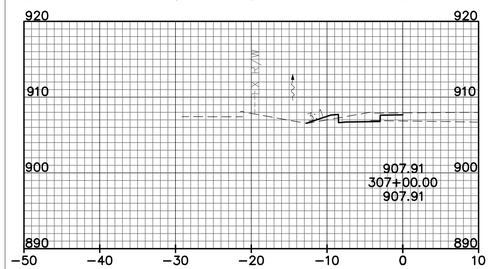
MUIRFIELD DRIVE
BIKE LANES

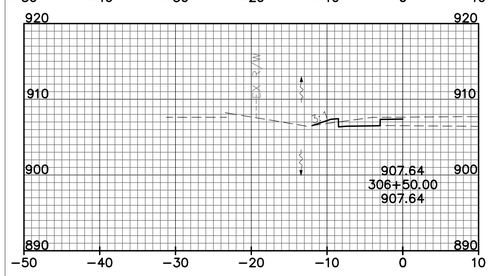
L:\Projects\14578434\TRANS\FRA\08434\roadway\sheets\08434GP209.dwg User: Welker, Fonda 5-Jun-14 10:29 AM

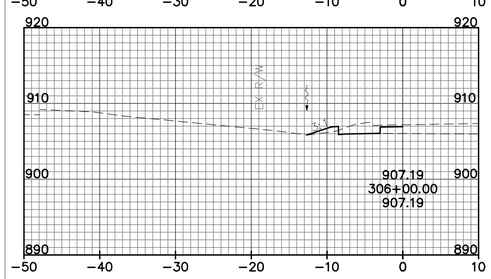
SEEDING END WIDTH	SEEDING SQ. YDS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL

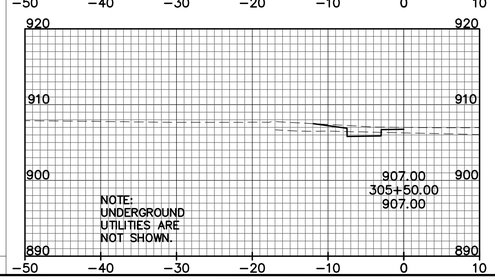




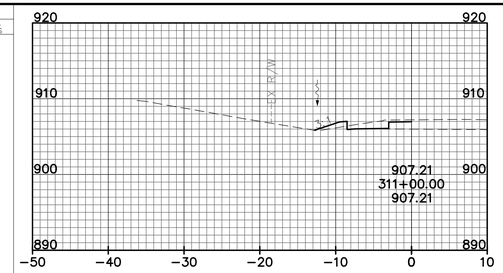


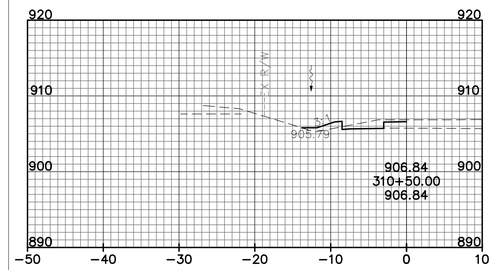


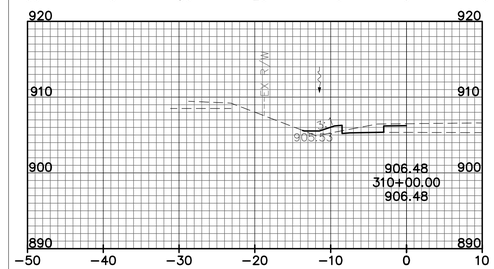


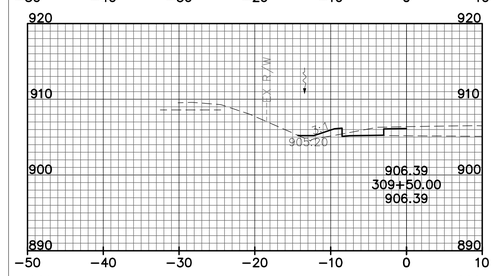


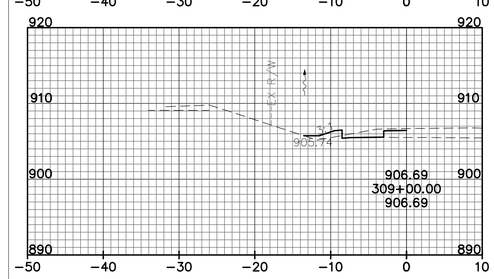
SEEDING END WIDTH	SEEDING SQ. YDS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL

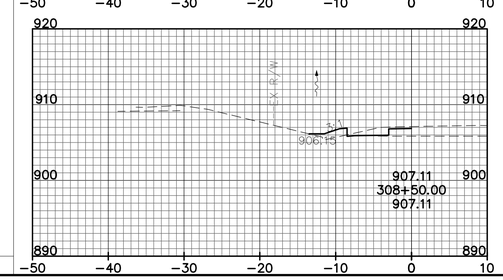




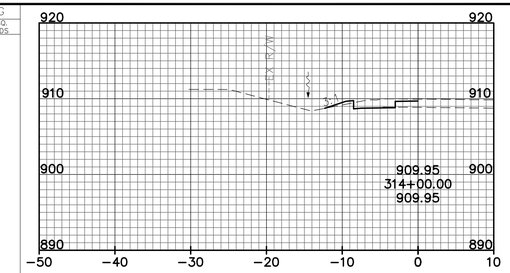


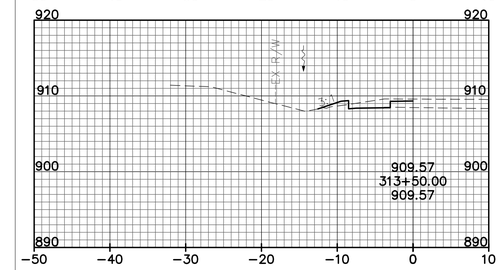


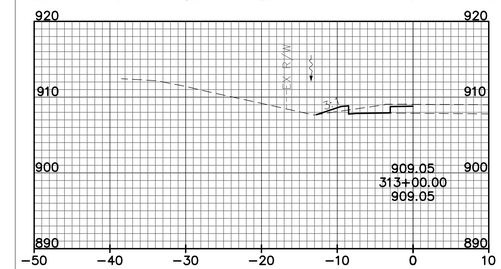


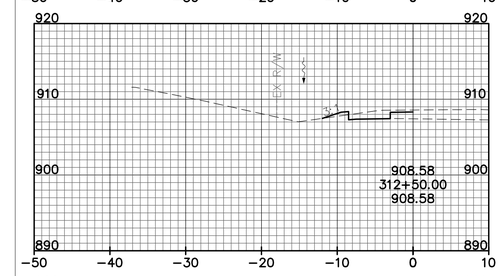


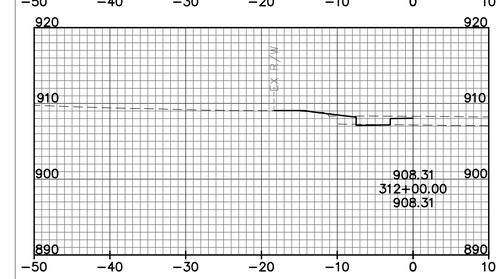
SEEDING END WIDTH	SEEDING SQ. YDS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL

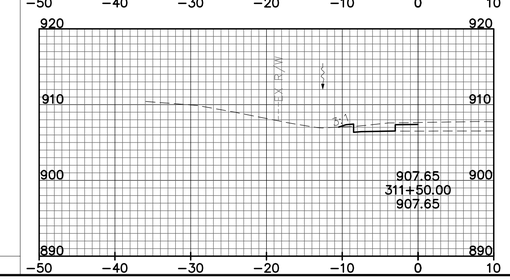












END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL

HORIZONTAL SCALE IN FEET
0 5 10 20

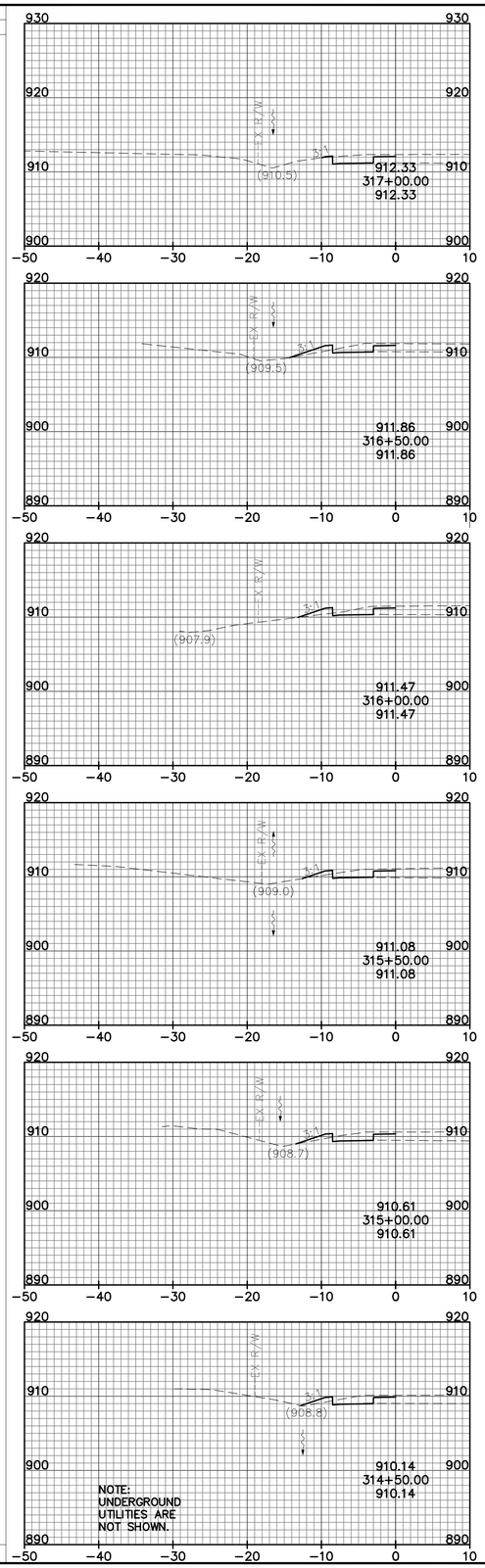
CALCULATED FGW
CHECKED GEE

CROSS SECTIONS - SOUTHBOUND BIKE LANE
STA. 305+50 TO STA. 314+00

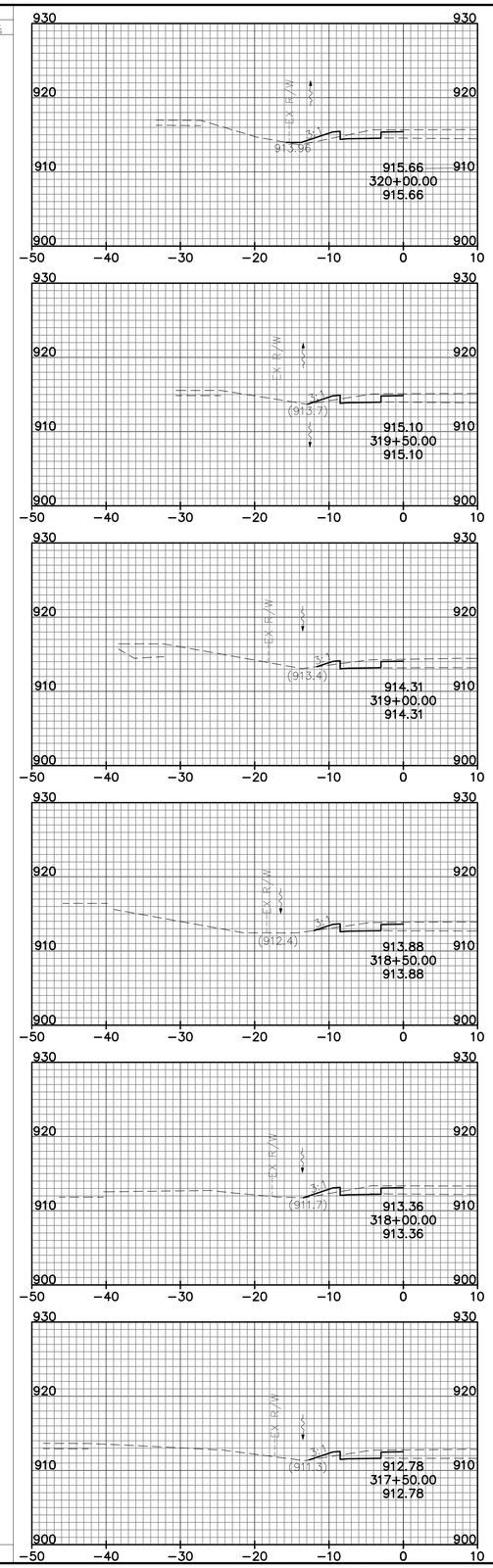
MUIRFIELD DRIVE
BIKE LANES

L:\Projects\145784.34\TRANS\FRA\08434\roadway\sheets\08434XS201.dwg User: Sakian, Natalie 5-Jun-14 10:43 AM

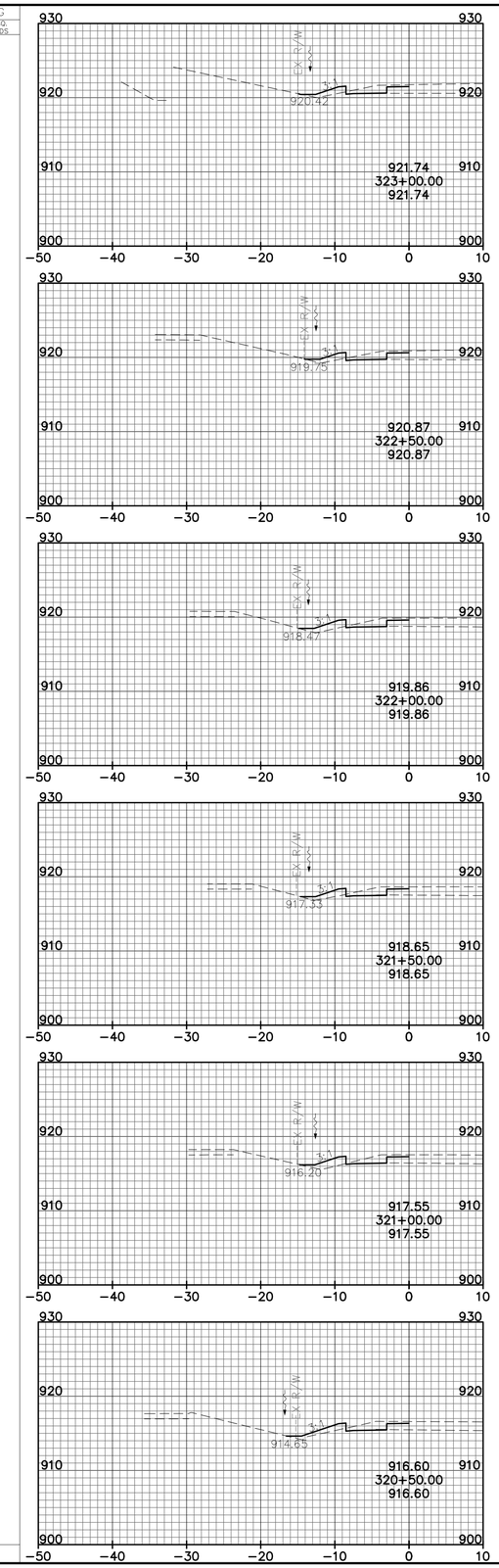
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL



END AREA		VOLUME	
CUT	FILL	CUT	FILL

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED FGW
CHECKED GEE

CROSS SECTIONS - SOUTHBOUND BIKE LANE
STA. 314+50 TO STA. 323+00

MUIRFIELD DRIVE
BIKE LANES

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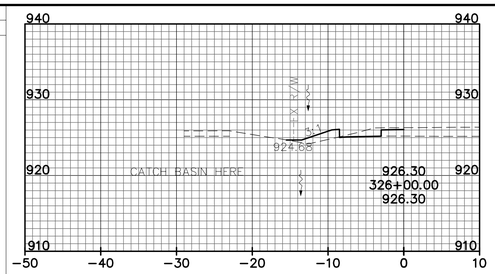
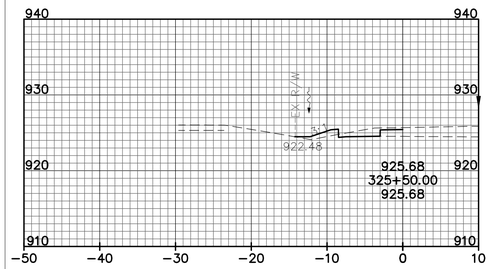
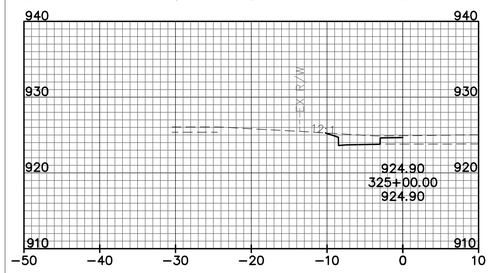
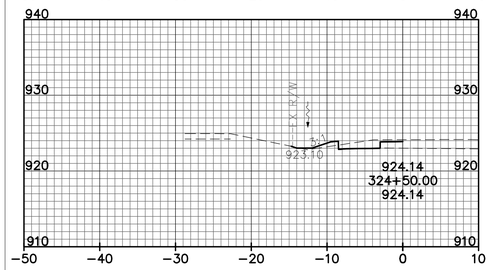
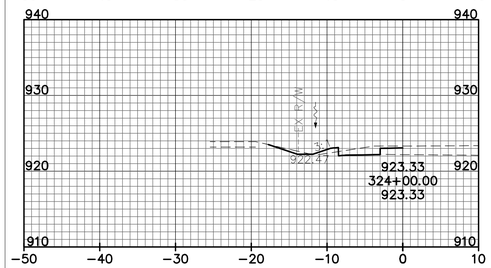
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL

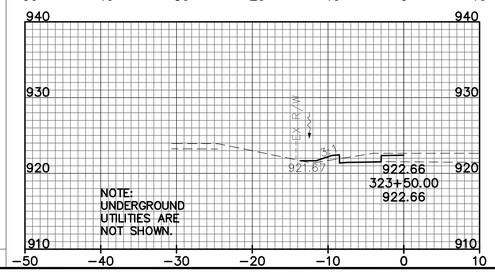




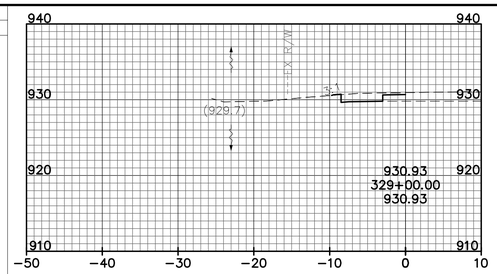


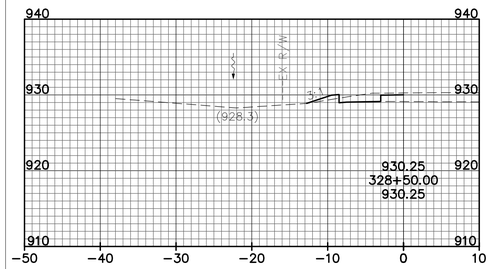


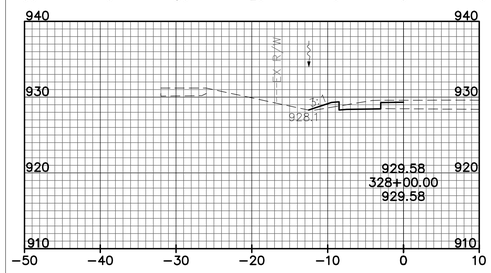


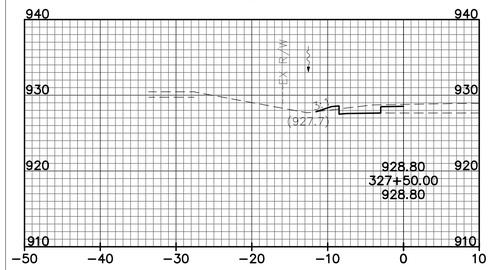


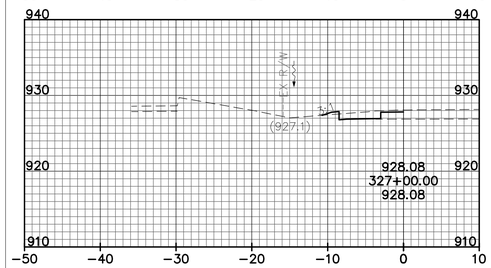
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL

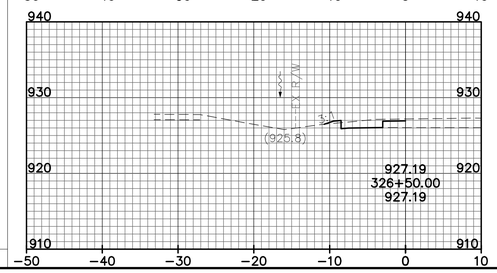




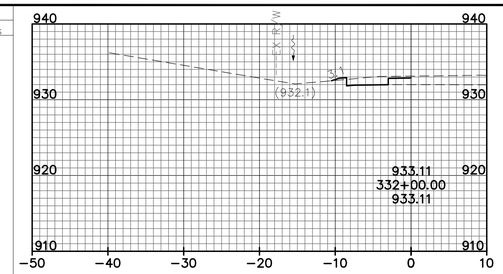


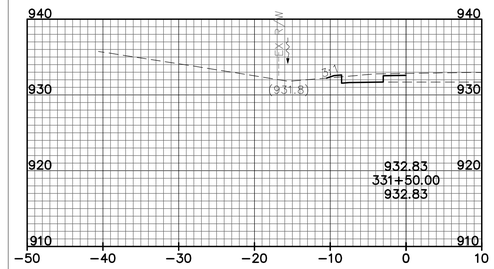


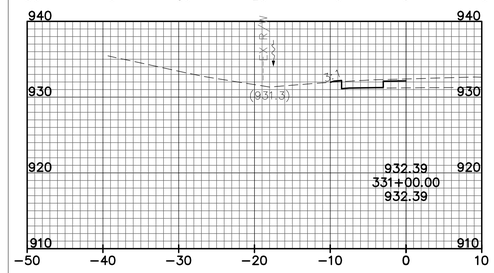


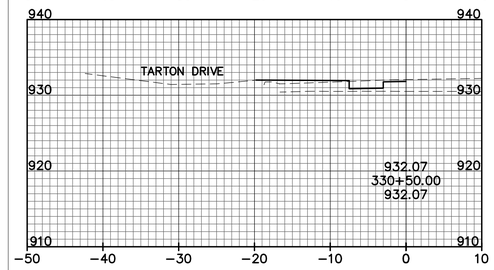


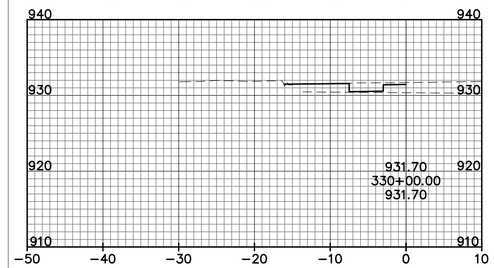
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL

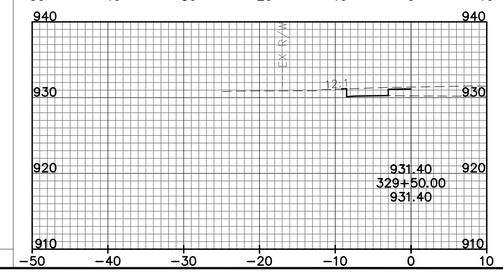












END AREA		VOLUME	
CUT	FILL	CUT	FILL

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED FGW
CHECKED GEE

CROSS SECTIONS - SOUTHBOUND BIKE LANE
STA. 323+50 TO STA. 332+00

MUIRFIELD DRIVE
BIKE LANES

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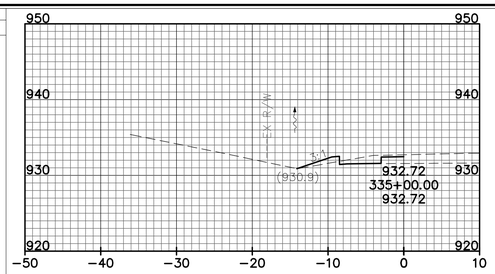
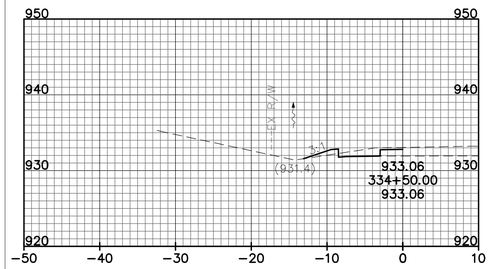
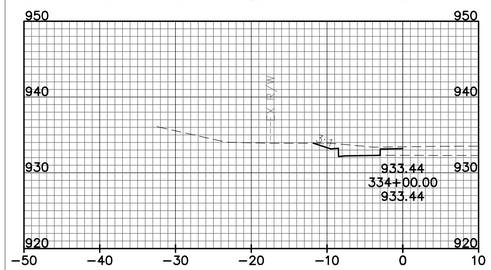
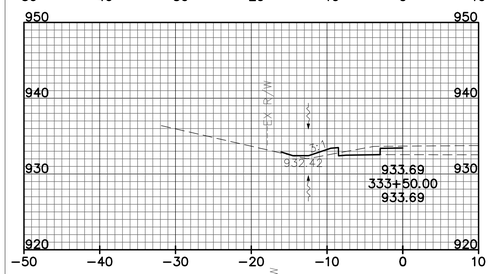
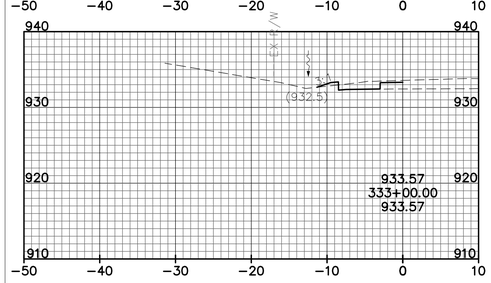
SEEDING END WIDTH	SEEDING SQ. YDS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL

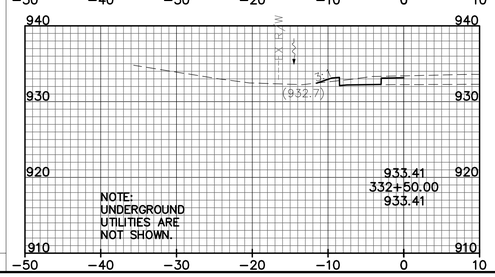




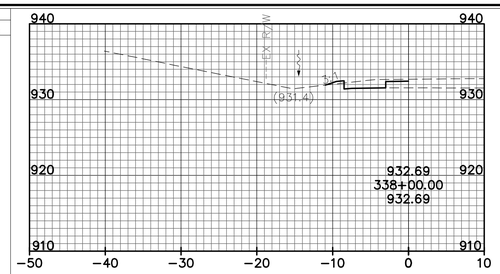


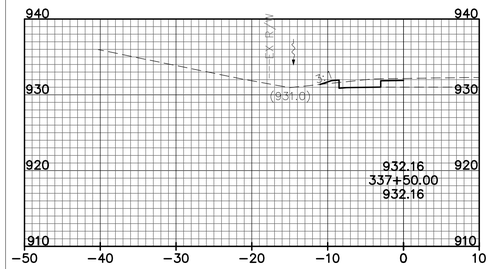


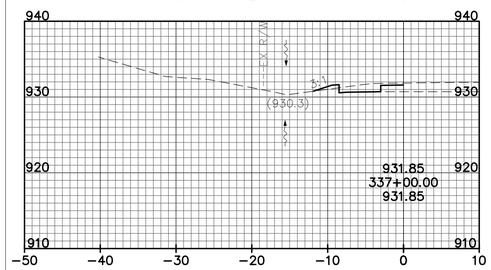


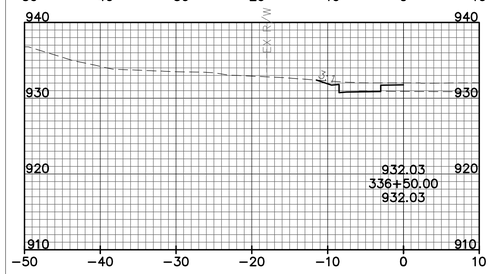


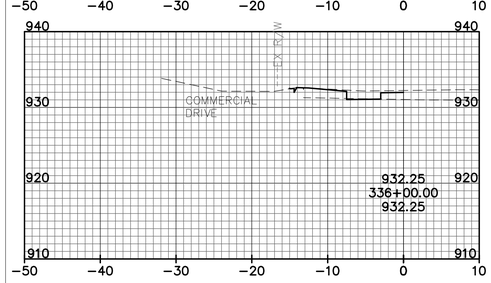
SEEDING END WIDTH	SEEDING SQ. YDS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL

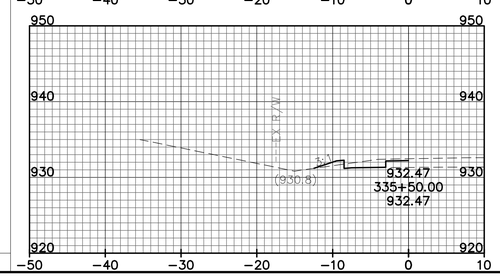




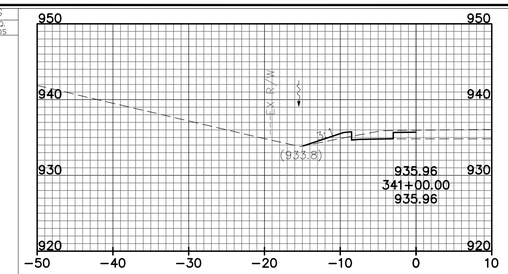


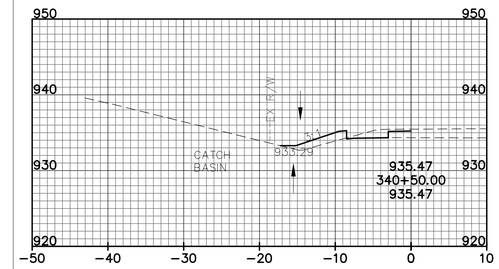


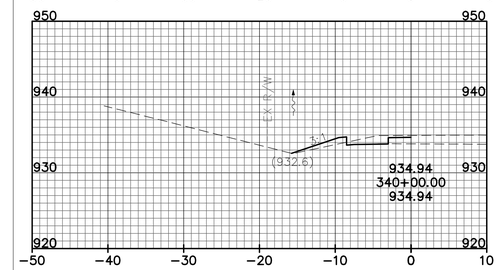


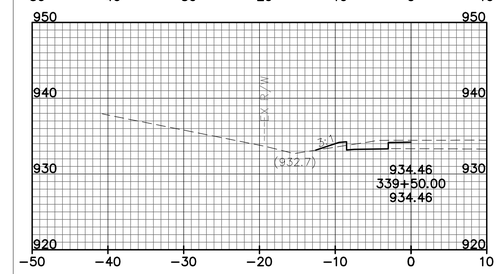


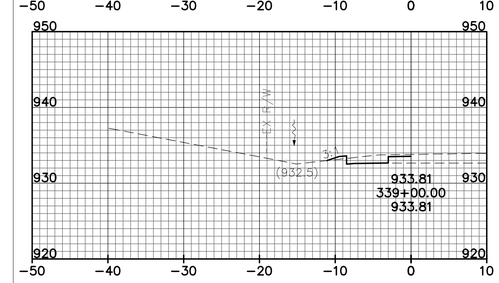
SEEDING END WIDTH	SEEDING SQ. YDS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL

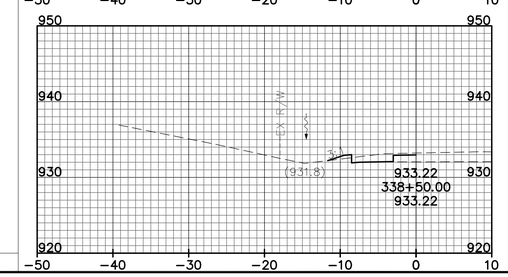












END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED FGW
CHECKED GEE

CROSS SECTIONS - SOUTHBOUND BIKE LANE
STA. 332+50 TO STA. 341+00

MUIRFIELD DRIVE
BIKE LANES

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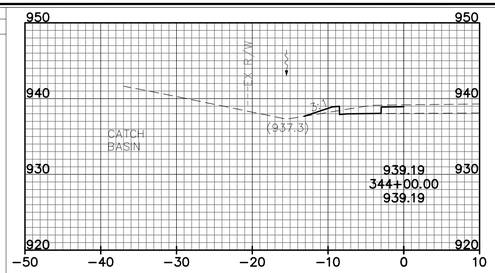
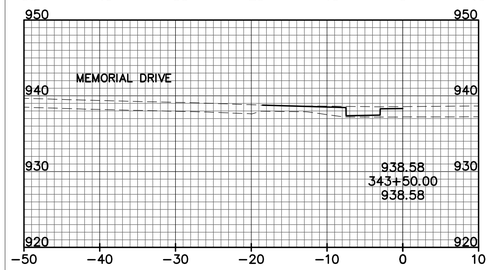
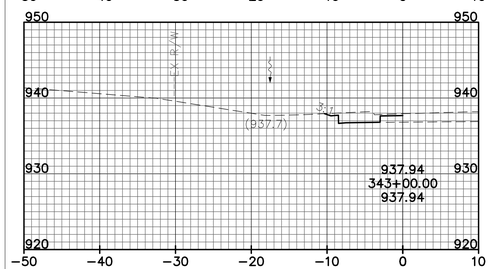
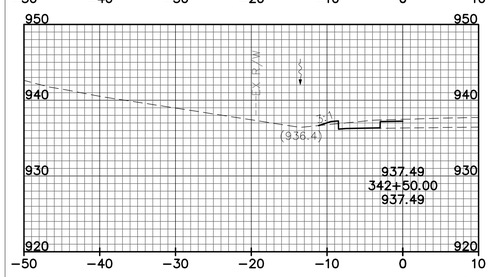
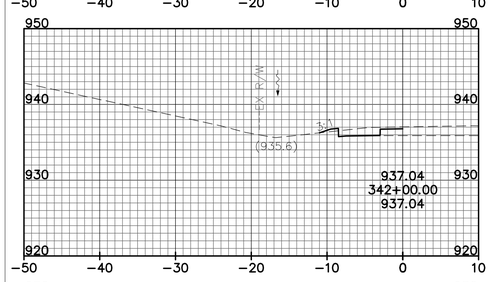
SEEDING END WIDTH	SEEDING SQ. YDS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL

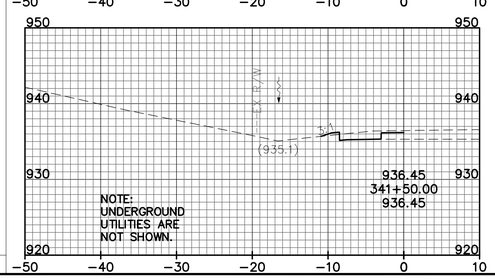




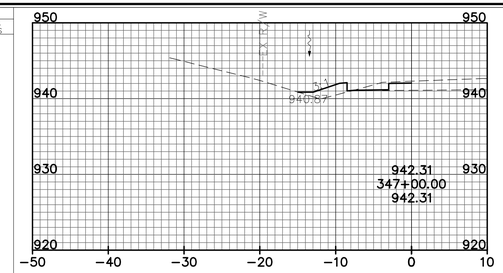


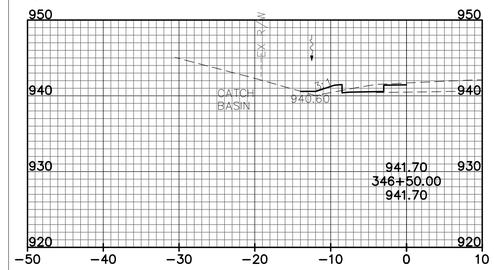


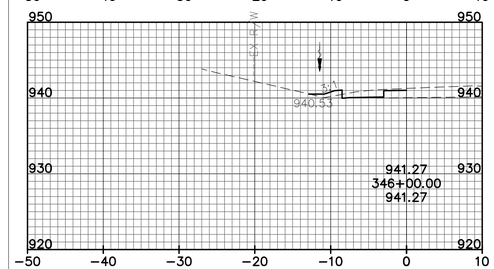


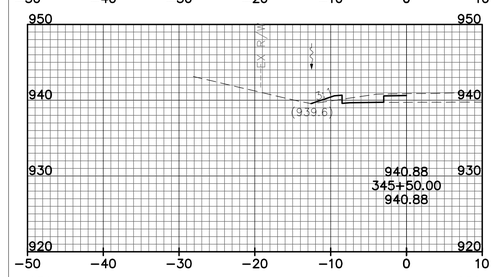


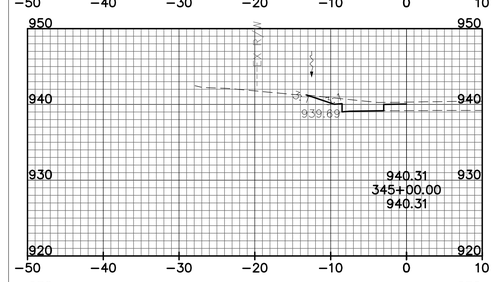
SEEDING END WIDTH	SEEDING SQ. YDS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL

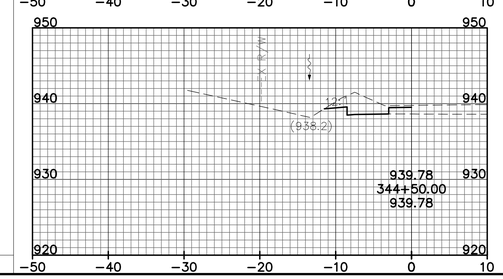




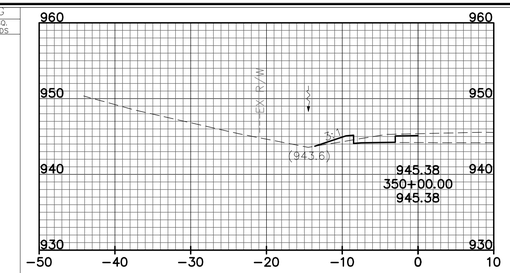


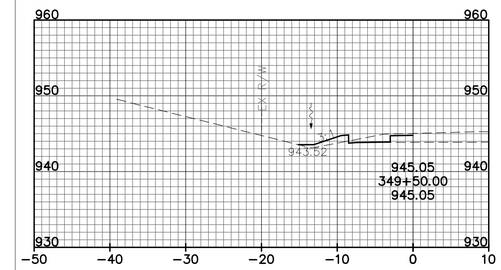


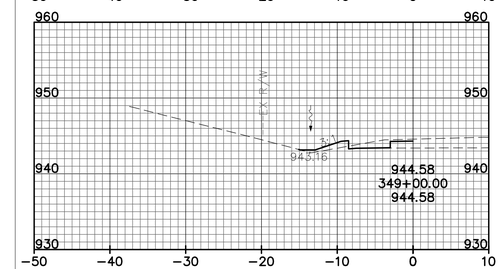


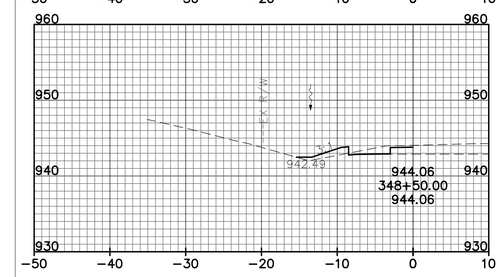


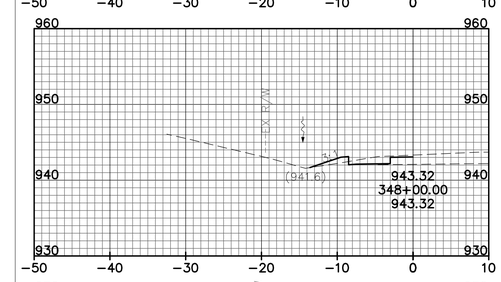
SEEDING END WIDTH	SEEDING SQ. YDS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL

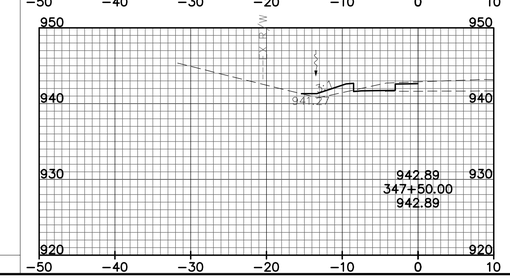












END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED FGW
CHECKED GEE

CROSS SECTIONS - SOUTHBOUND BIKE LANE
STA. 341+50 TO STA. 350+00

MUIRFIELD DRIVE
BIKE LANES

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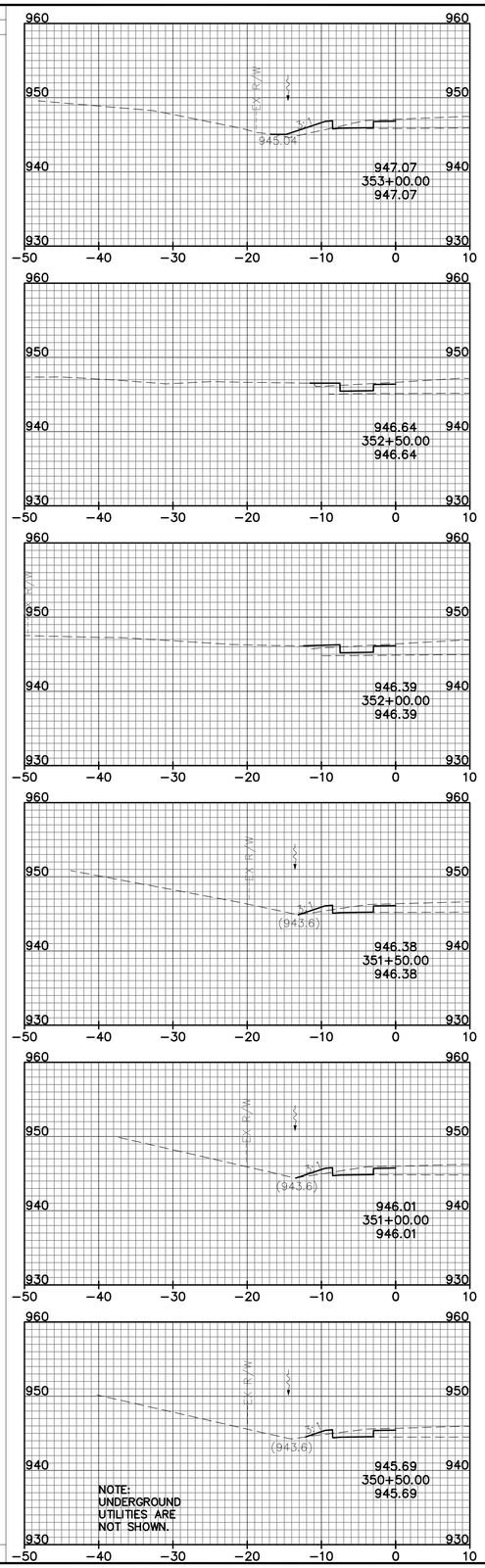
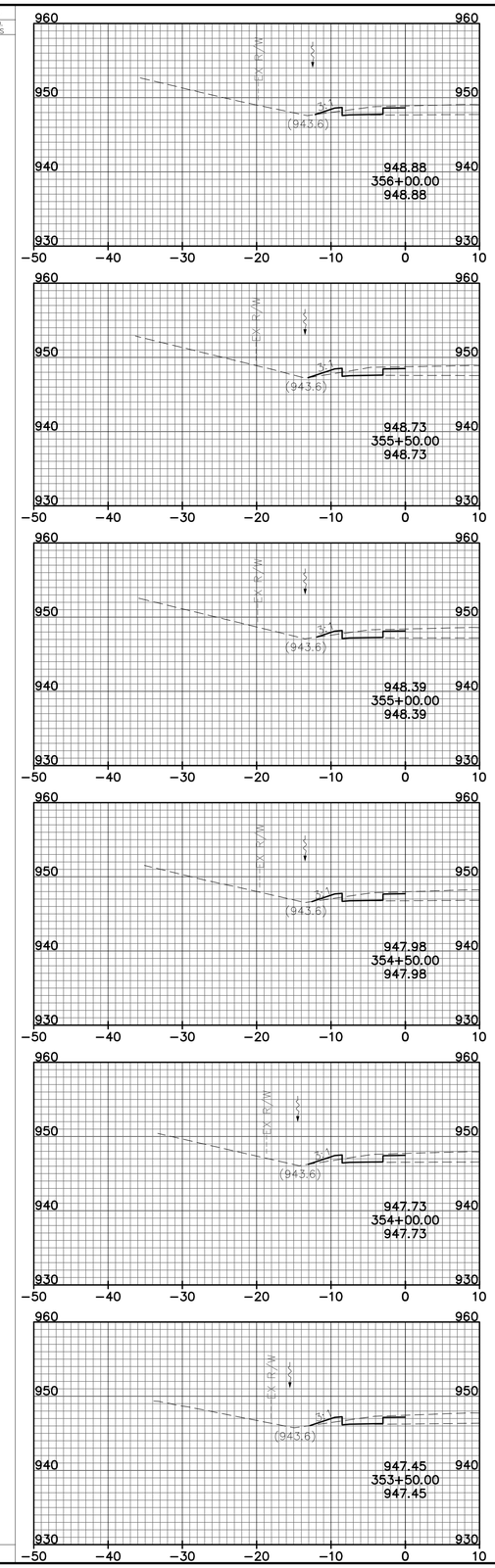
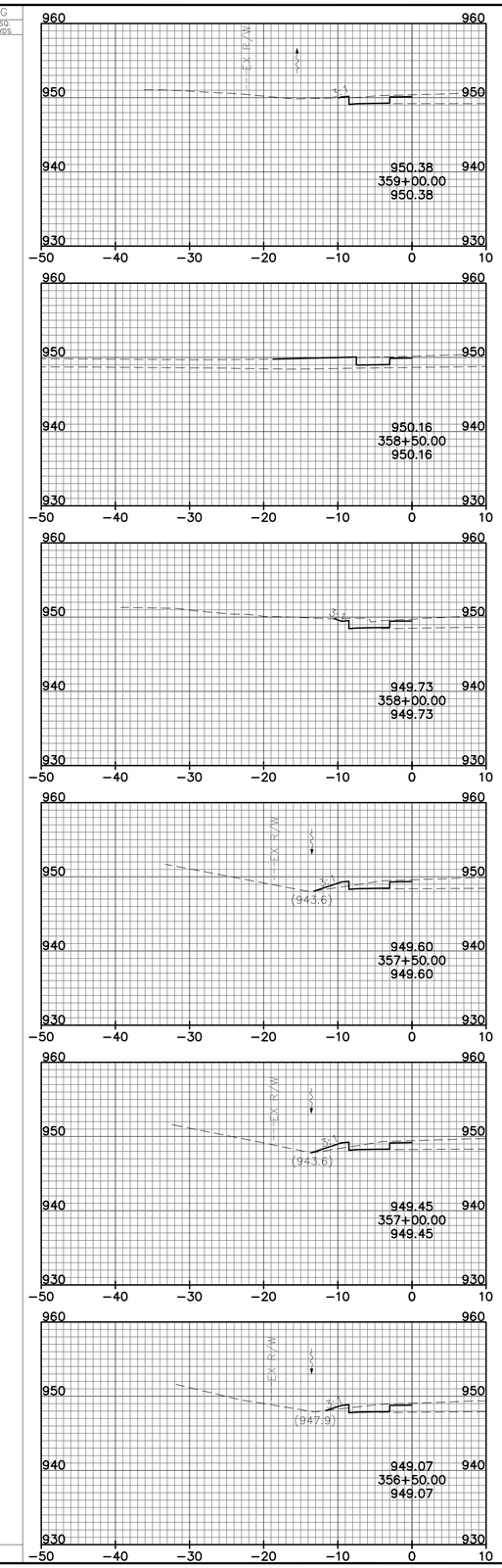
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL







HORIZONTAL SCALE IN FEET: 0, 5, 10, 20

CALCULATED FGW
CHECKED GEE

CROSS SECTIONS - SOUTHBOUND BIKE LANE
STA. 350+50 TO STA. 359+00

MUIRFIELD DRIVE
BIKE LANES

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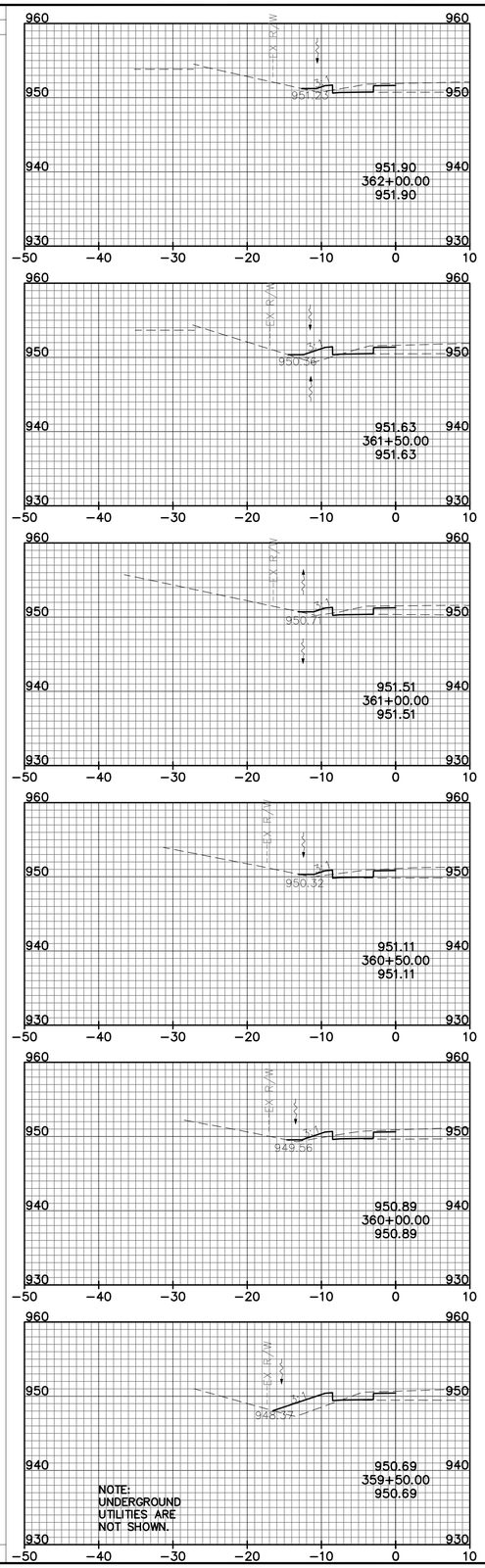
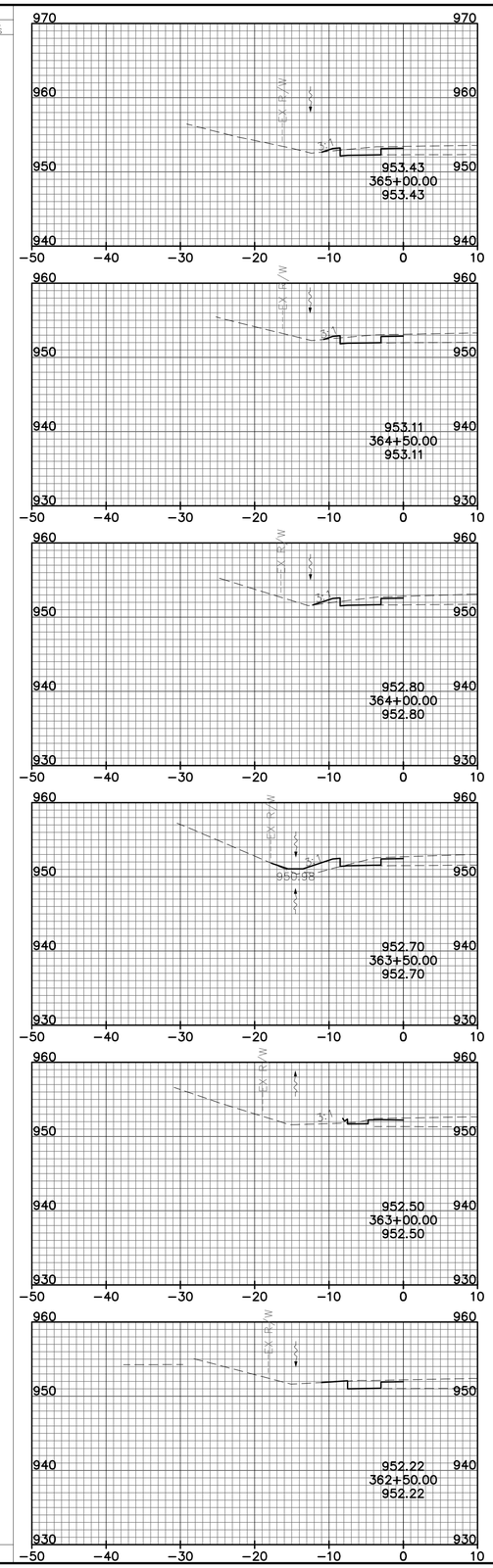
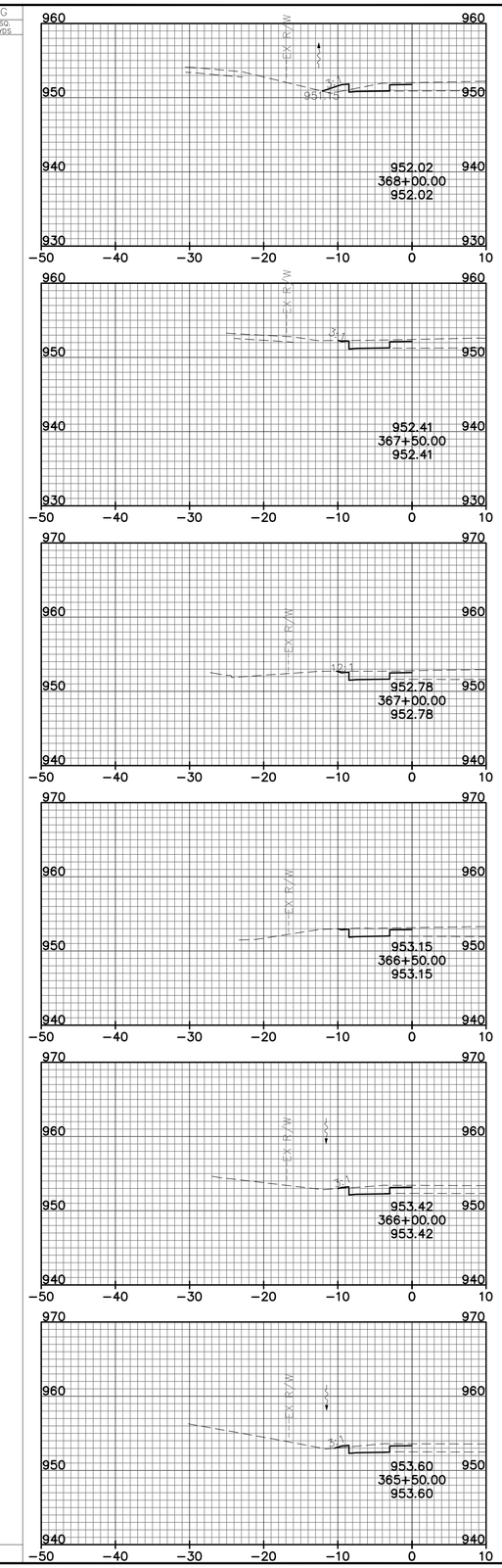
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL







HORIZONTAL SCALE IN FEET

CALCULATED FGW
CHECKED GEE

CROSS SECTIONS - SOUTHBOUND BIKE LANE
STA. 359+50 TO STA. 368+00

MUIRFIELD DRIVE
BIKE LANES

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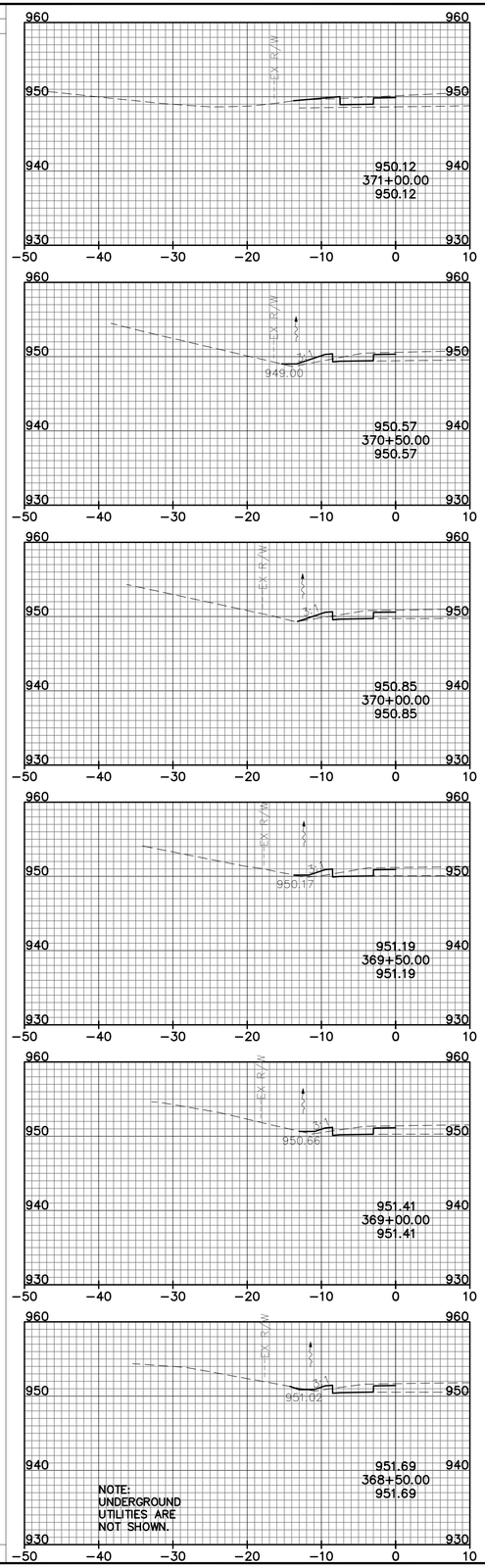
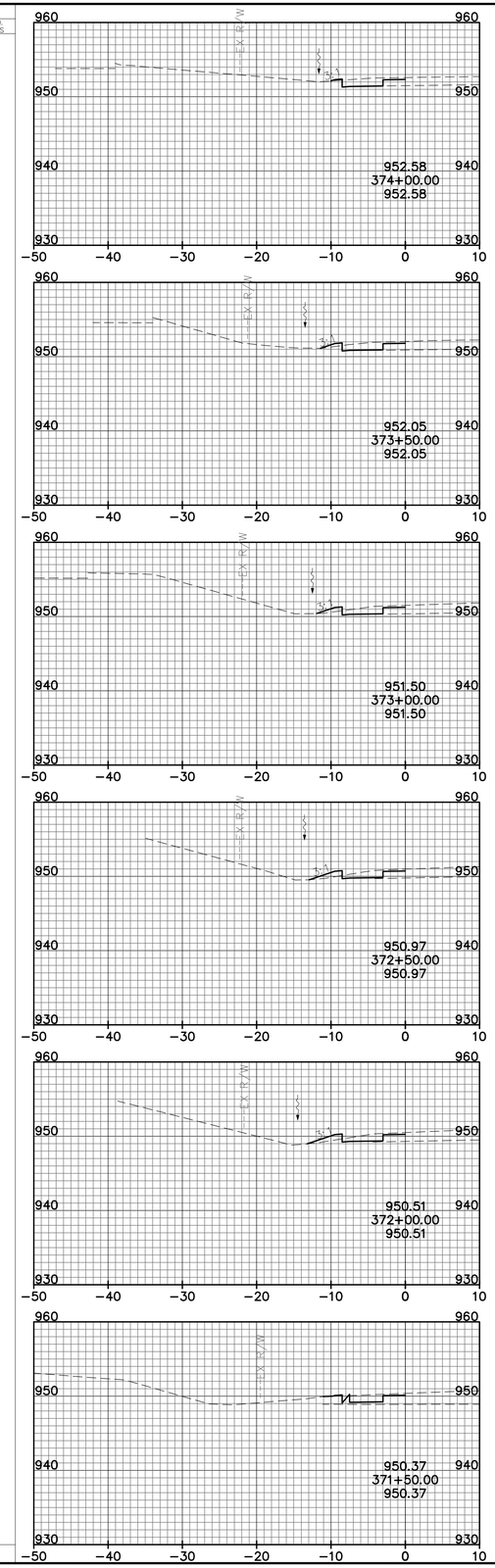
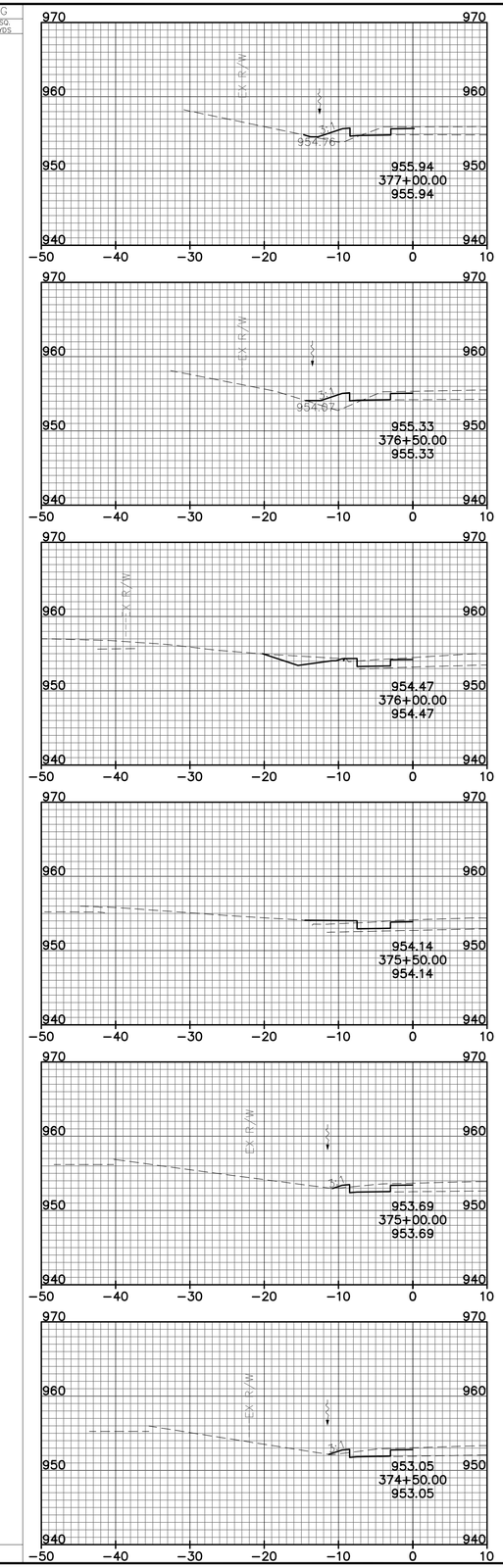
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL







HORIZONTAL SCALE IN FEET: 0, 5, 10, 20

CALCULATED FGW
CHECKED GEE

CROSS SECTIONS - SOUTHBOUND BIKE LANE
STA. 368+50 TO STA. 377+00

MUIRFIELD DRIVE
BIKE LANES

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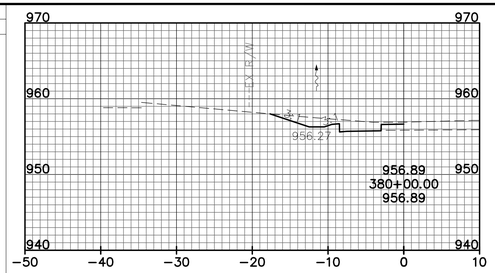
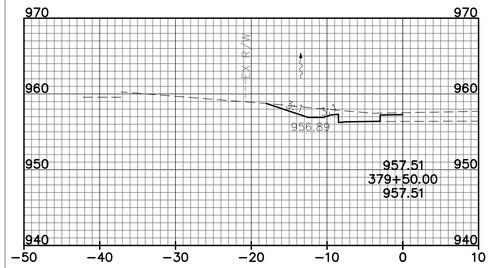
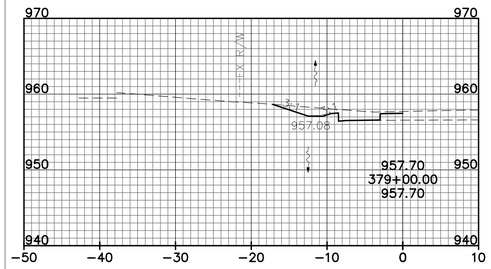
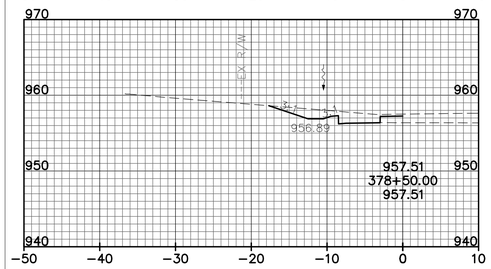
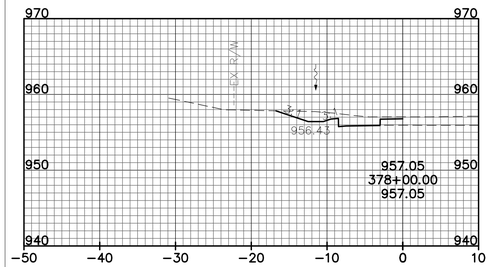
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL

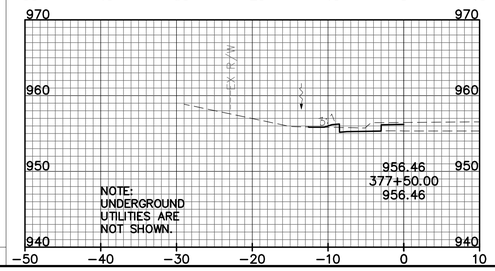




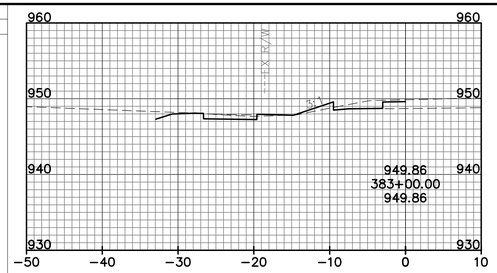


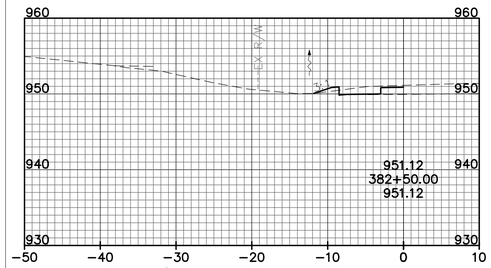


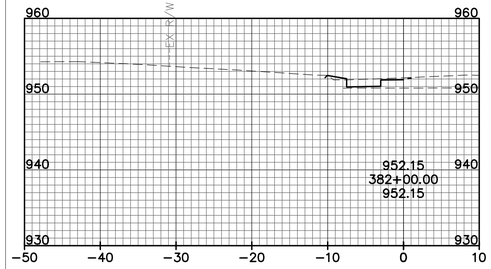


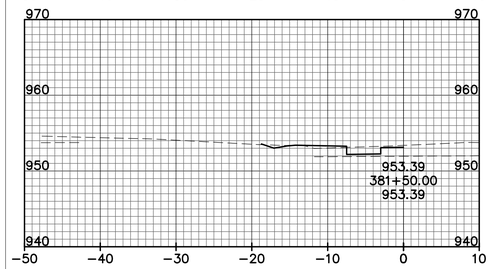


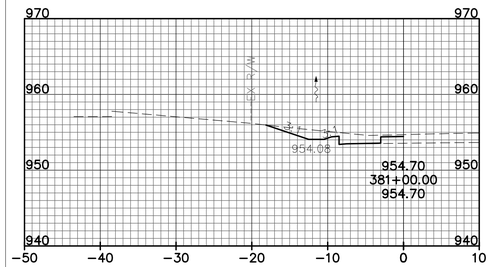
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL

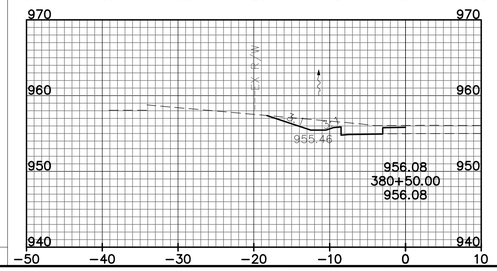




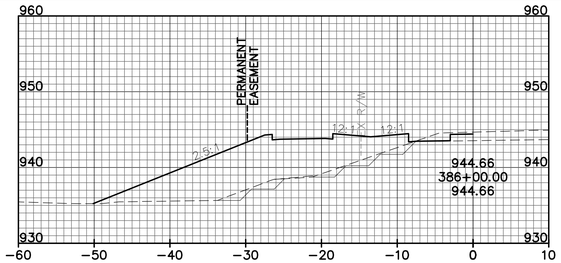


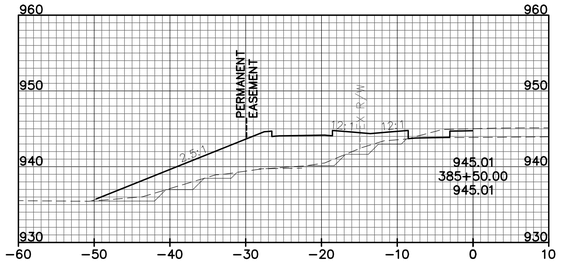


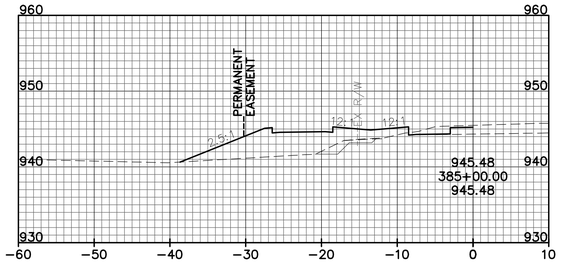


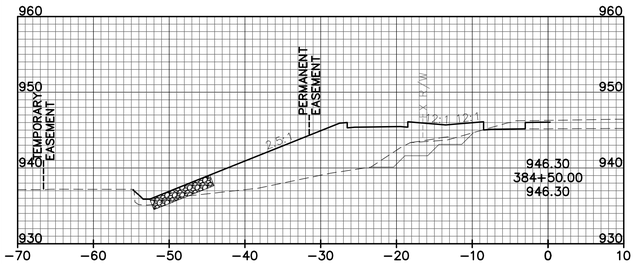


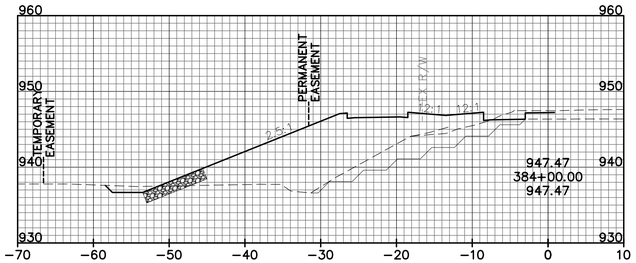
END AREA		VOLUME	
CUT	FILL	CUT	FILL

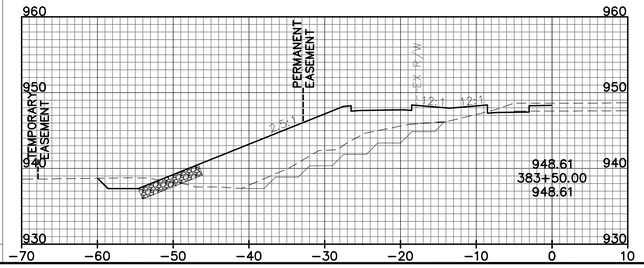












HORIZONTAL SCALE IN FEET
0 5 10 20

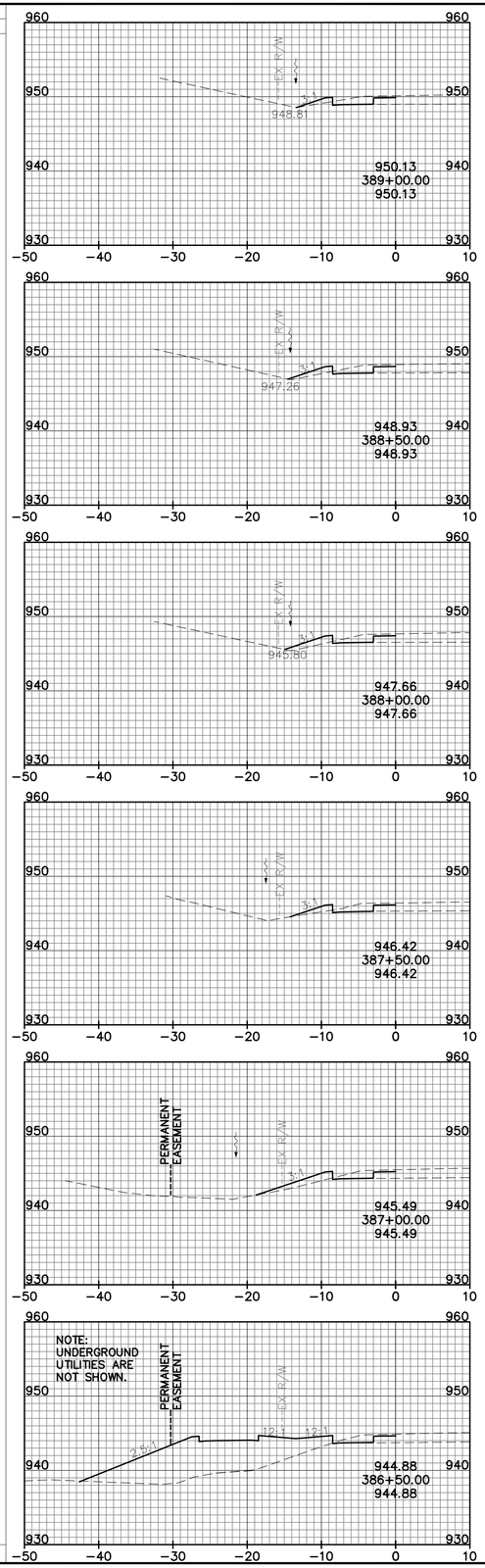
CALCULATED FGW
CHECKED GEE

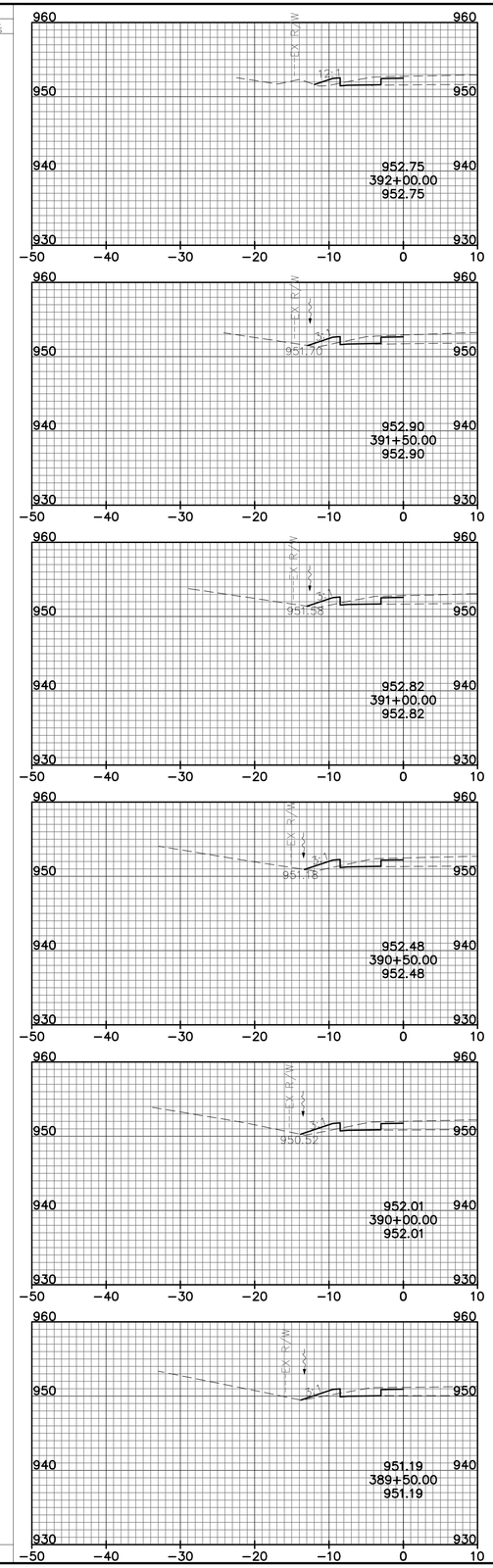
CROSS SECTIONS - SOUTHBOUND BIKE LANE
STA. 377+50 TO STA. 386+00

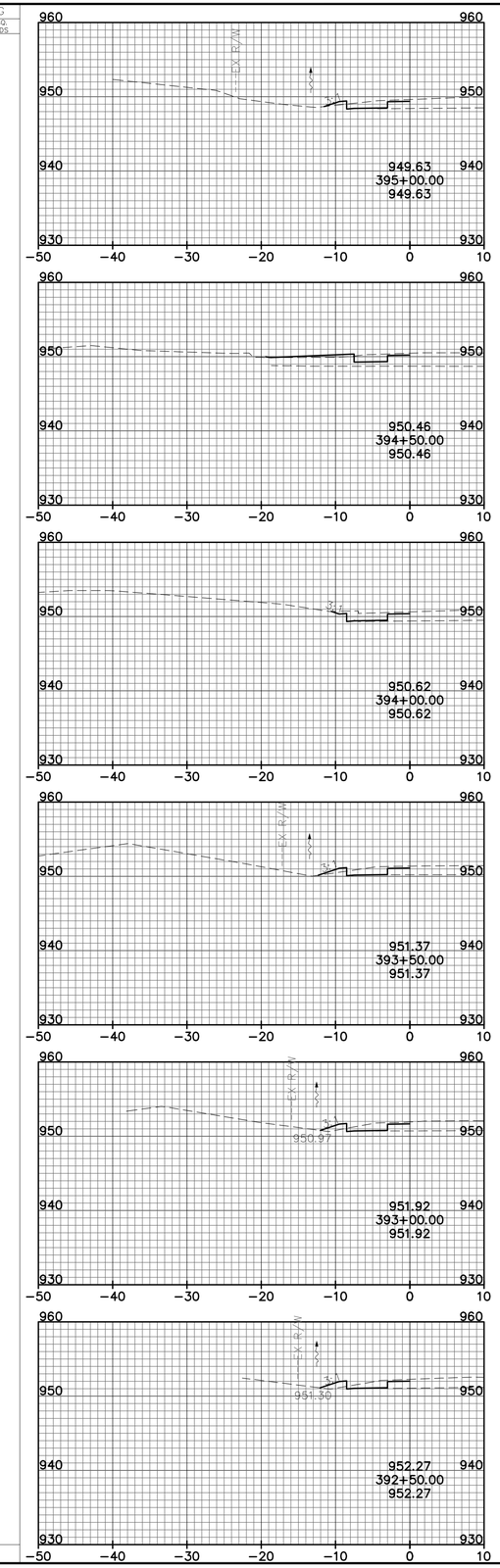
MUIRFIELD DRIVE
BIKE LANES

L:\Projects\14578434\TRANS\TRA\08434\roadway\sheets\08434XS209.dwg User: Sakian, Natalie 5-Jun-14 11:01 AM

SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL







HORIZONTAL SCALE IN FEET

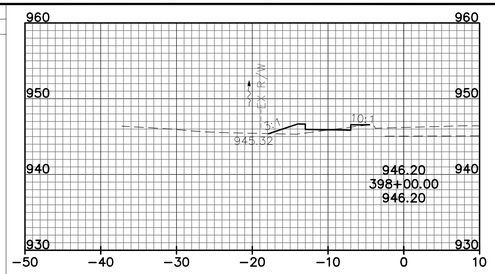
CALCULATED FGW
CHECKED GEE

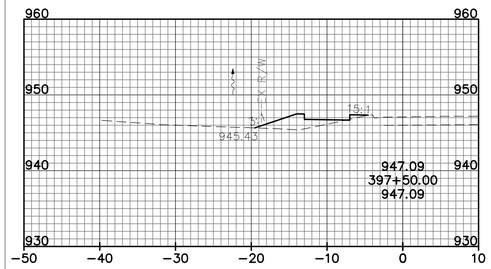
CROSS SECTIONS - SOUTHBOUND BIKE LANE
STA. 386+50 TO STA. 395+00

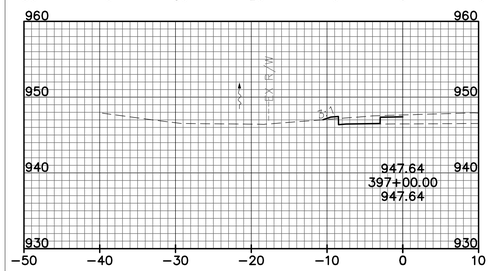
MUIRFIELD DRIVE BIKE LANES

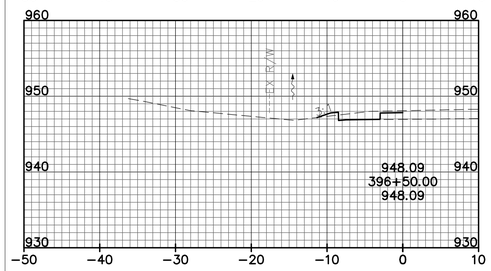
L:\Projects\145784.34\TRANS\FRA\08434\roadway\sheets\08434XS210.dwg User: Sakian, Natalie 5-Jun-14 11:15 AM

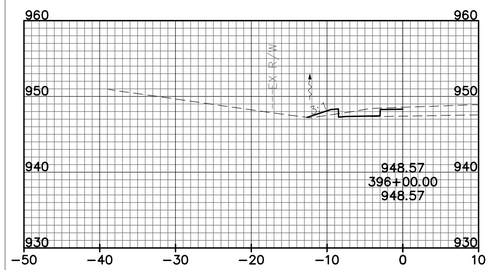
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL

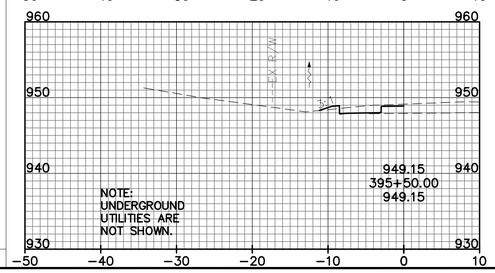




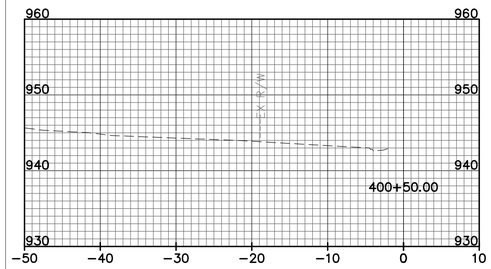


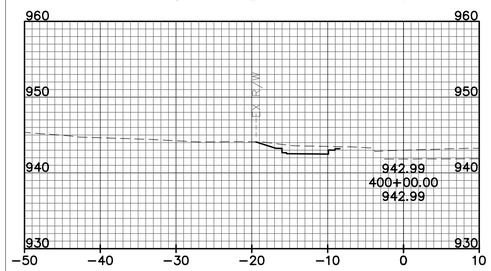


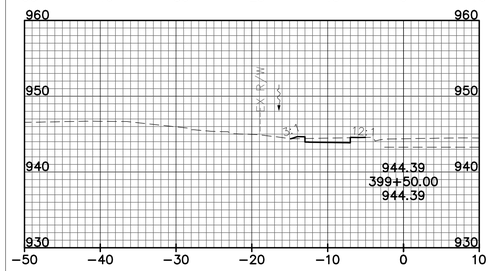


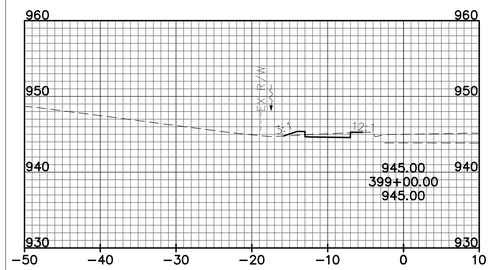


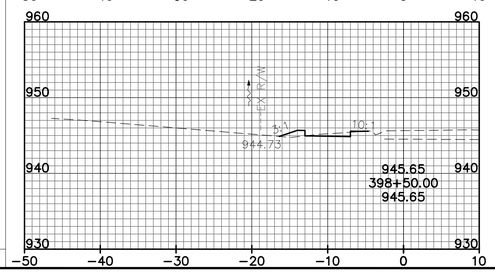
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL











SEEDING		END AREA		VOLUME	
END WIDTH	SQ. YDS	CUT	FILL	CUT	FILL

END AREA		VOLUME	
CUT	FILL	CUT	FILL

HORIZONTAL SCALE IN FEET
0 5 10 20

CALCULATED FGW
CHECKED GEE

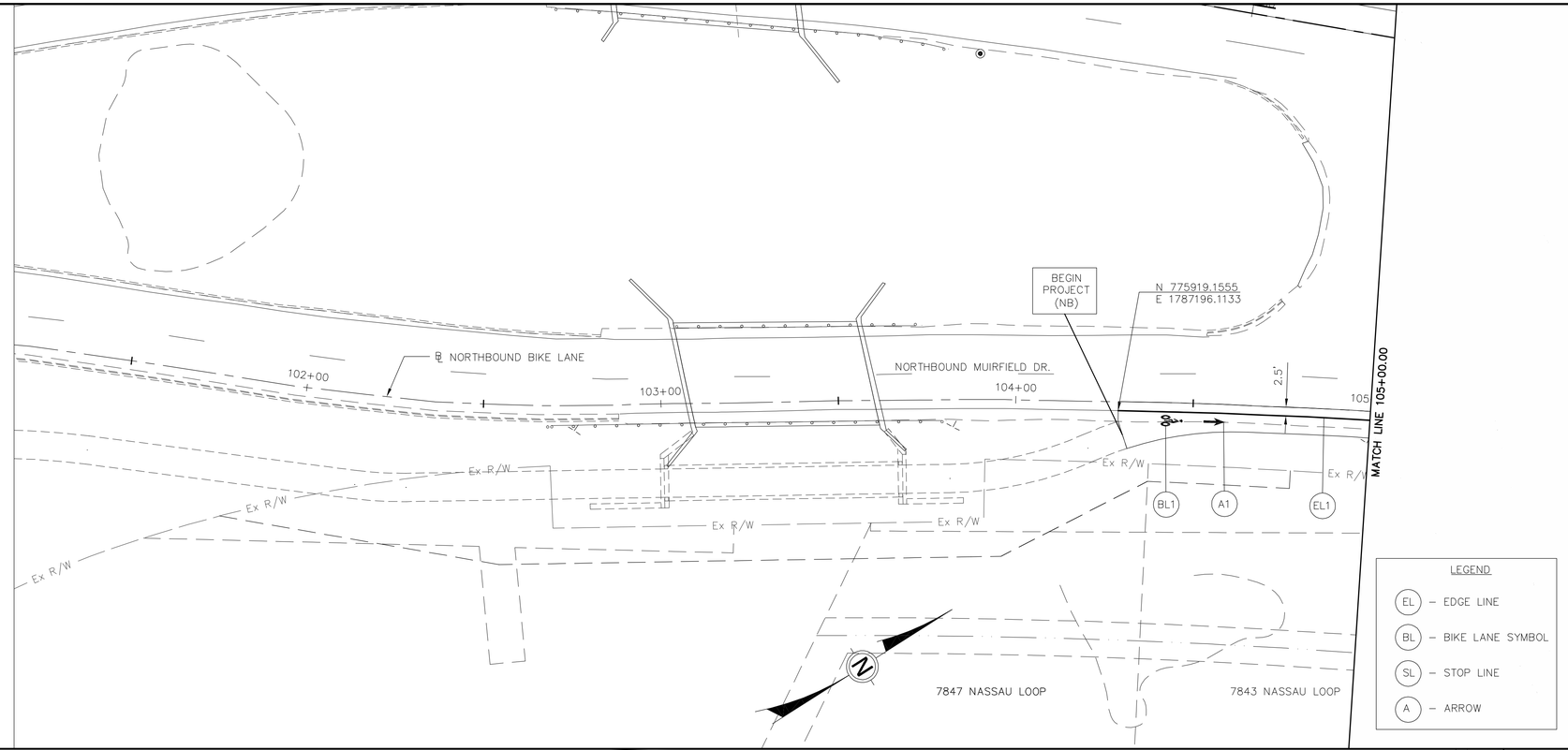
CROSS SECTIONS - SOUTHBOUND BIKE LANE
STA. 395+50 TO STA. 400+50

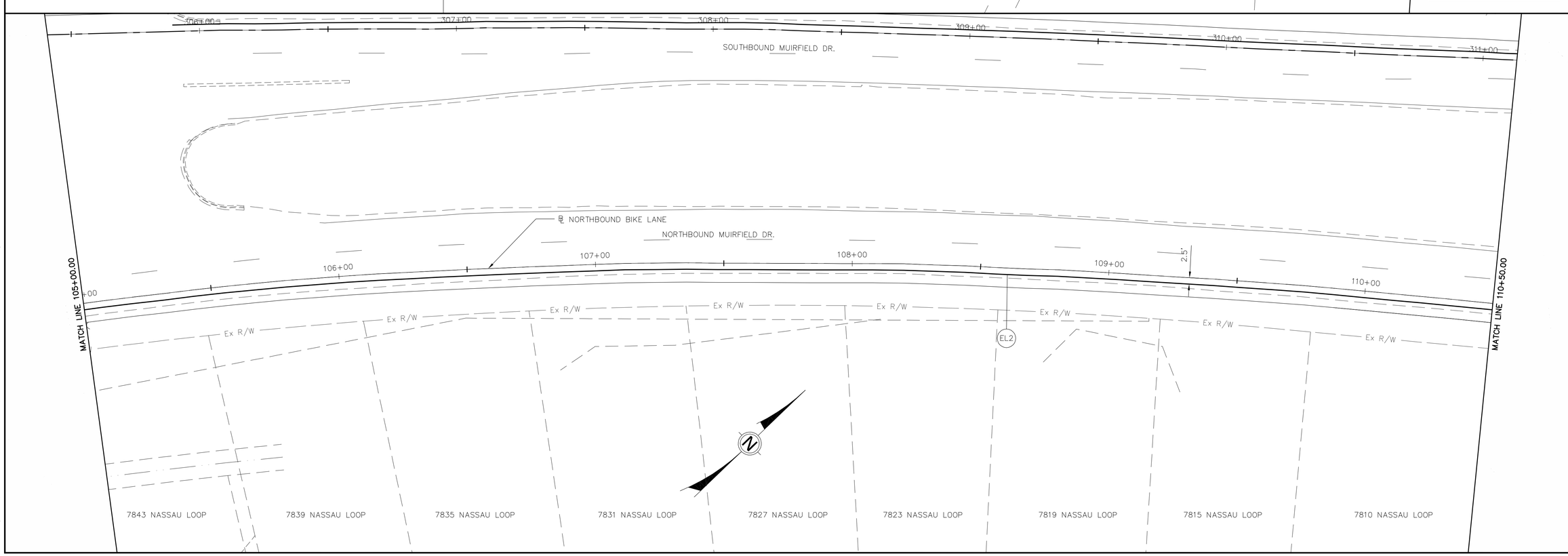
MUIRFIELD DRIVE
BIKE LANES

L:\Projects\14578434\TRANS\FRA\08434\roadway\sheets\08434XS211.dwg User: Sakian, Natalie 5-Jun-14 11:17 AM

TRAFFIC CONTROL SUBSUMMARY

SHEET NO.	REFERENCE NO	STATION FROM	STATION TO	644 EDGE LINE, 4" MILE	644 STOP LINE, 20" FT	644 LANE ARROW EACH	644 BIKE LANE SYMBOL MARKING EACH
49	EL1	104+30	105+00	0.01			
49, 50	EL2	105+00	111+02	0.11			
49	A1					1	
49	BL1						1
50	EL1	111+78	116+00	0.08			
50	EL2	116+00	121+50	0.10			
50	A1					1	
50	BL1						1
51	EL1	121+50	125+85	0.08			
51	EL2	126+59	130+67	0.08			
51	A1					1	
51	BL1						1
51	A2					1	
51	BL2						1
51, 52	EL1	131+27	139+25	0.15			
52, 53	EL2	140+00	144+58	0.09			
52	A1					1	
52	BL1						1
53	EL1	145+22	149+00	0.07			
53	EL2	149+00	153+48	0.08			
53	A1					1	
53	BL1						1
53	BL2						1
53	SL1				12		
53, 54	EL1	154+08	161+26	0.14			
54	EL2	162+15	165+50	0.06			
54	BL1						1
54	A2					1	
54	A2					1	
55	EL1	165+50	171+33				
55	EL2	171+96	176+50				
55	A1					1	
55	BL1						1
56	EL1	176+50	182+00	0.10			
56	EL2	182+00	187+50	0.10			
56	A1					1	
56	BL1						1
57	EL1	187+50	193+53	0.11			
57	EL2	194+56	196+70	0.04			
57	A1					1	
57	BL1						1
TOTALS CARRIED TO GENERAL SUMMARY				1.43	12	11	11





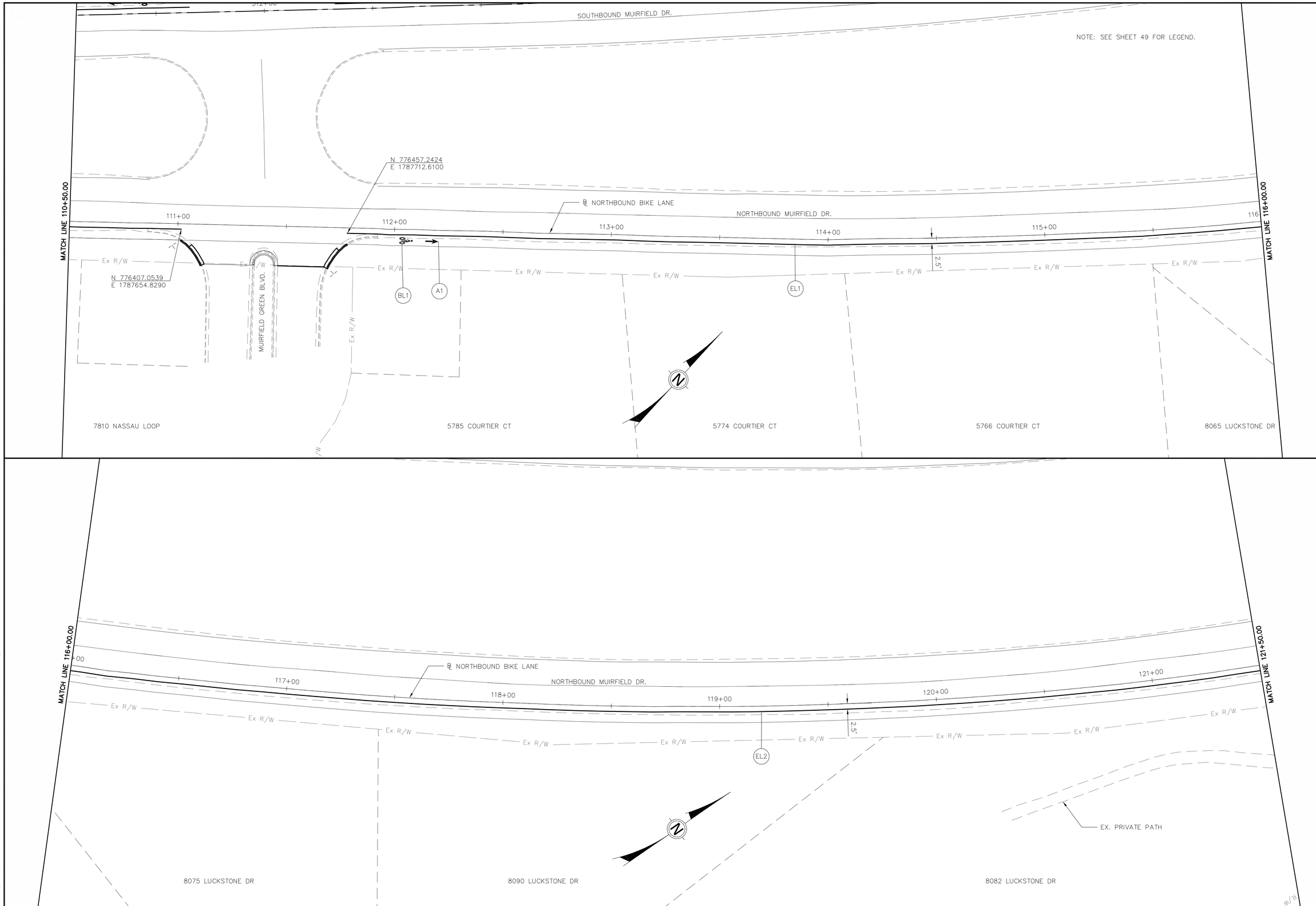
HORIZONTAL SCALE IN FEET 0 10 20 40

CALCULATED FGW
CHECKED GEE

SIGNING AND PAVEMENT MARKING PLANS – NORTHBOUND
STA. 100+00 TO STA. 110+50

MUIRFIELD DRIVE BIKE LANES

L:\Projects\14578434\TRANS\FRA\08434\traffic\sheets\08434TP101.dwg User: Welker, Fonda 5-Jun-14 10:52 AM



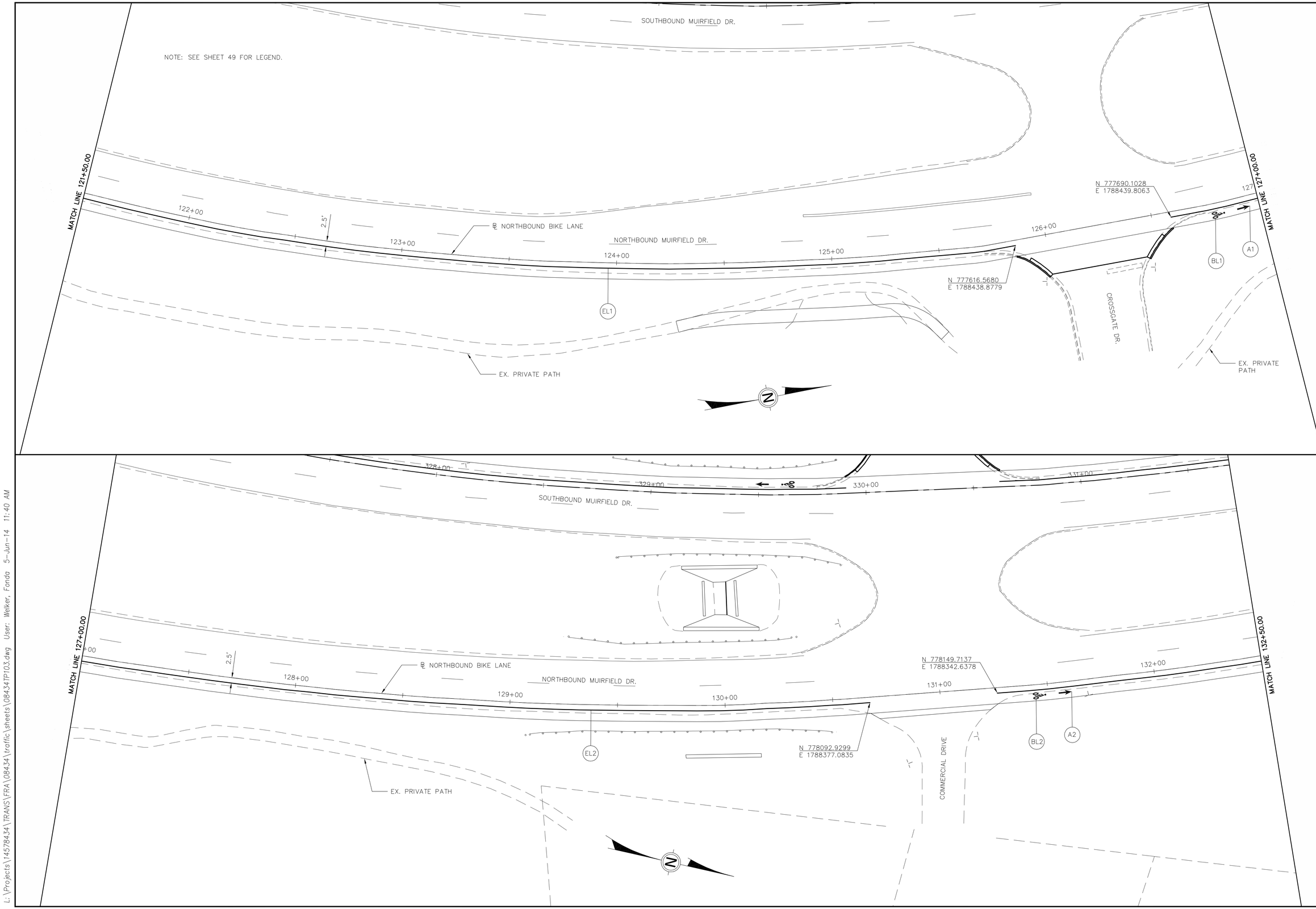
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

SIGNING AND PAVEMENT MARKING PLANS - NORTHBOUND
STA. 110+50 TO STA. 121+50

MUIRFIELD DRIVE BIKE LANES

L:\Projects\14578434\TRANS\FRA\08434\traffic\sheets\08434TP102.dwg User: Dolibaa, Beth 5-Jun-14 9:39 AM



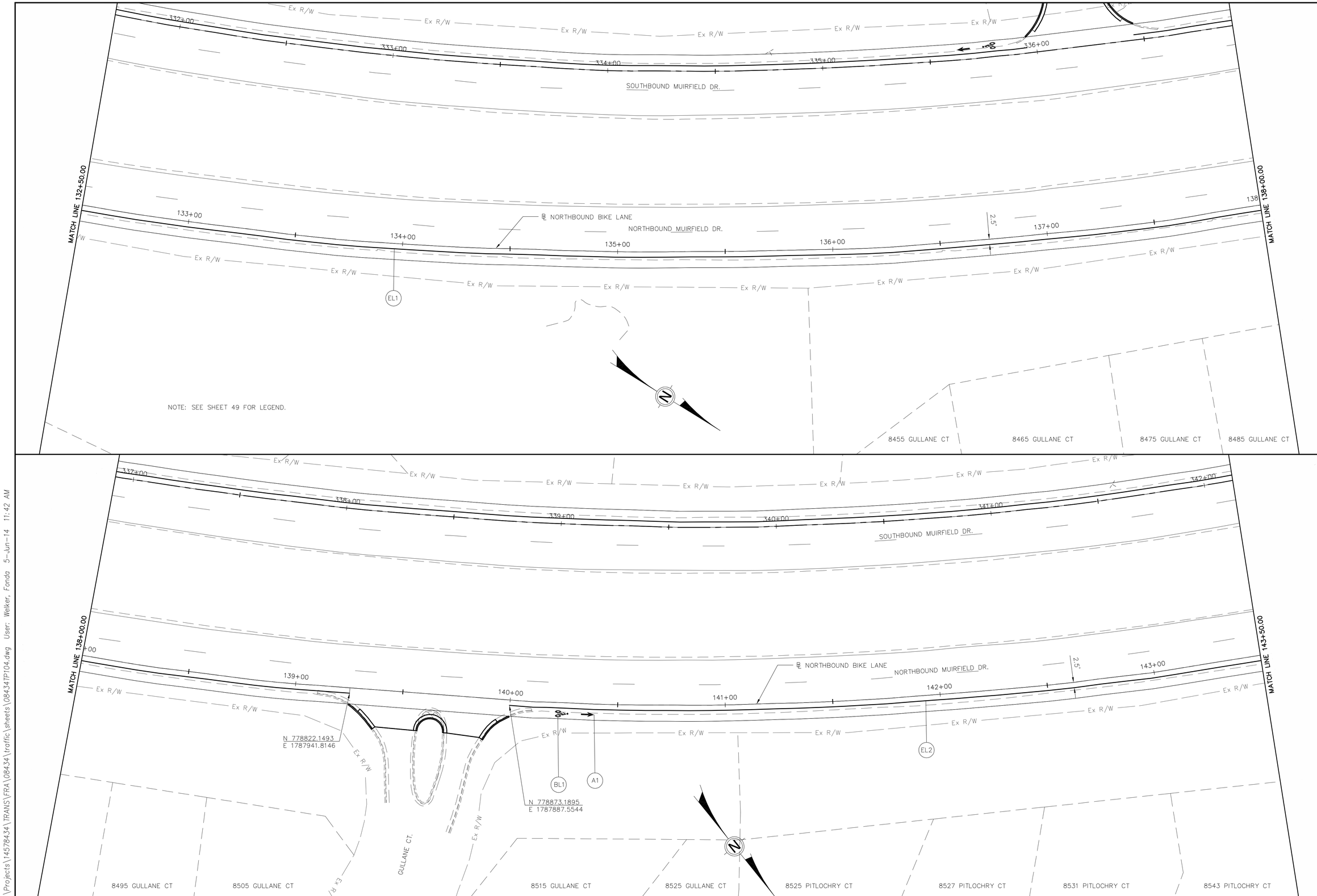
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

SIGNING AND PAVEMENT MARKING PLANS - NORTHBOUND
STA. 121+50 TO STA. 132+50

MUIRFIELD DRIVE
BIKE LANES

L:\Projects\14578434\TRANS\FRA\08434\traffic\sheets\08434TP103.dwg User: Welker, Fondo 5-Jun-14 11:40 AM



0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED FGW
CHECKED GEE

SIGNING AND PAVEMENT MARKING PLANS - NORTHBOUND
STA. 132+50 TO STA. 143+50

MUIRFIELD DRIVE BIKE LANES

L:\Projects\14578434\TRANS\FRA\08434\traffic\sheets\08434TP104.dwg User: Welker, Fonda 5-Jun-14 11:42 AM

NOTE: SEE SHEET 49 FOR LEGEND.

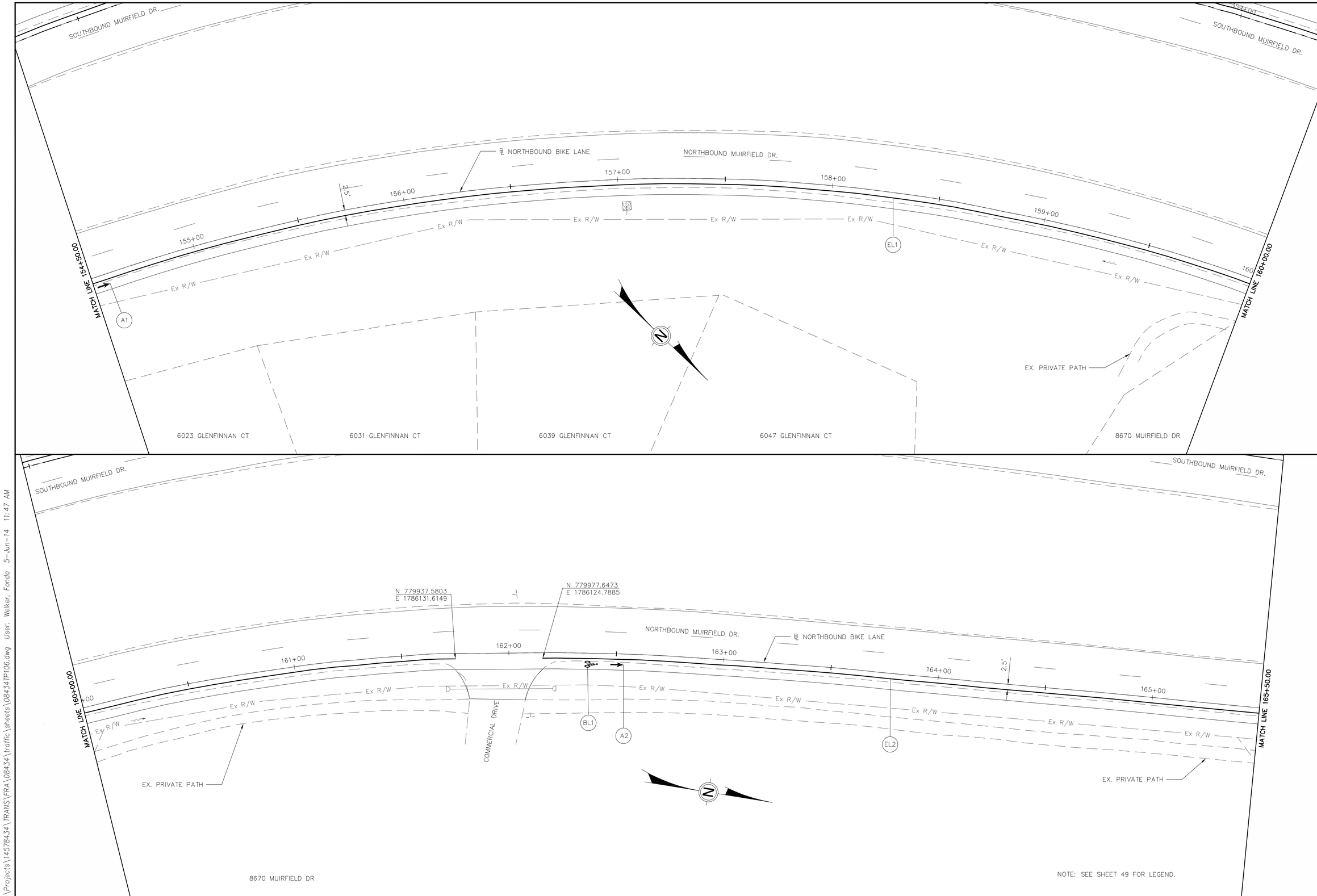
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

SIGNING AND PAVEMENT MARKING PLANS - NORTHBOUND
STA. 143+50 TO STA. 154+50

MUIRFIELD DRIVE BIKE LANES

L:\Projects\14578434\TRANS\FRA\08434\traffic\sheets\08434TP105.dwg User: Welker, Fonda 5-Jun-14 11:45 AM



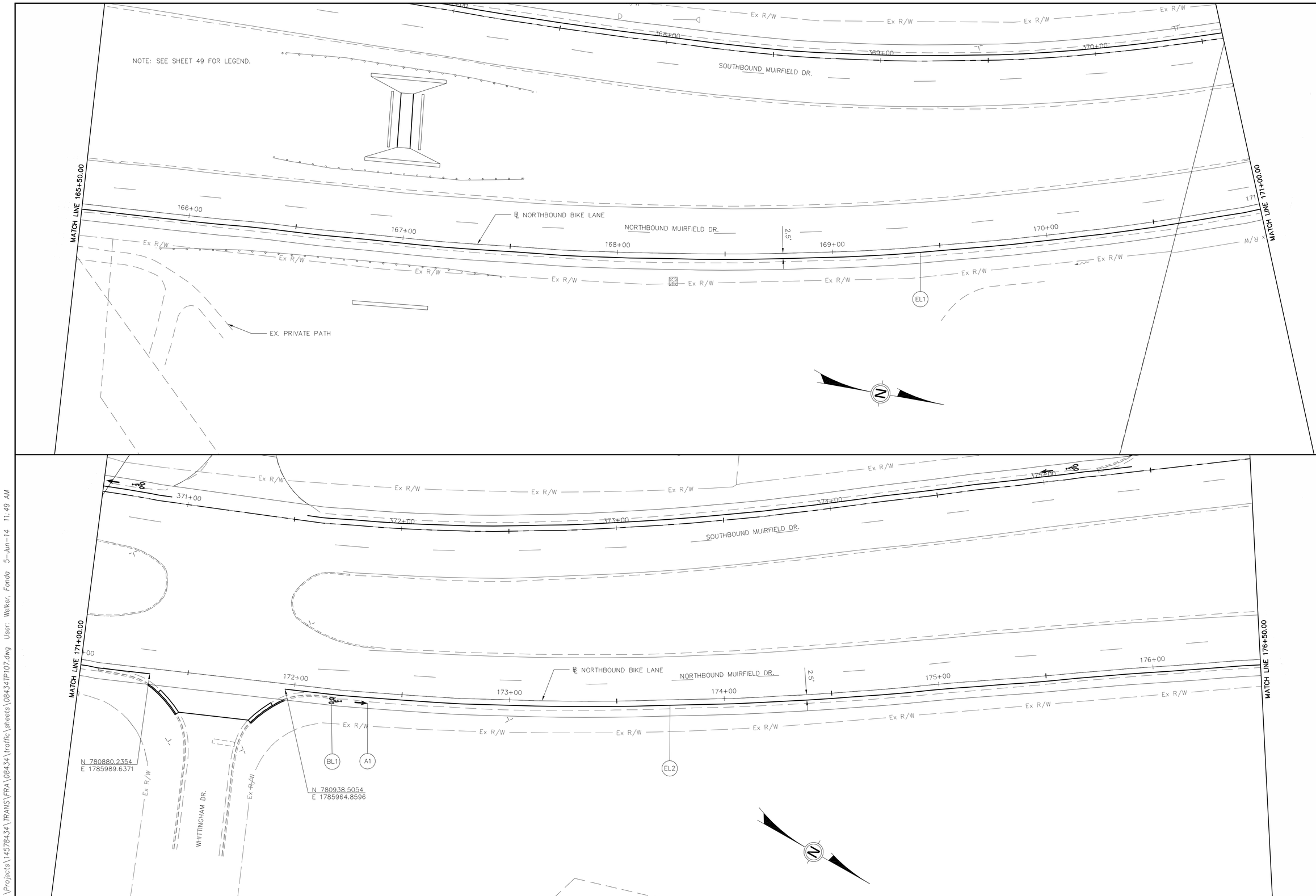
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

SIGNING AND PAVEMENT MARKING PLANS - NORTHBOUND
STA. 154+50 TO STA. 165+50

MUIRFIELD DRIVE BIKE LANES

L:\Projects\14578434\TRANS\FRA\08434\traffic\sheets\08434TP106.dwg User: Welker, Fonda 5-Jun-14 11:47 AM



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

SIGNING AND PAVEMENT MARKING PLANS - NORTHBOUND
STA. 165+50 TO STA. 176+50

MUIRFIELD DRIVE BIKE LANES

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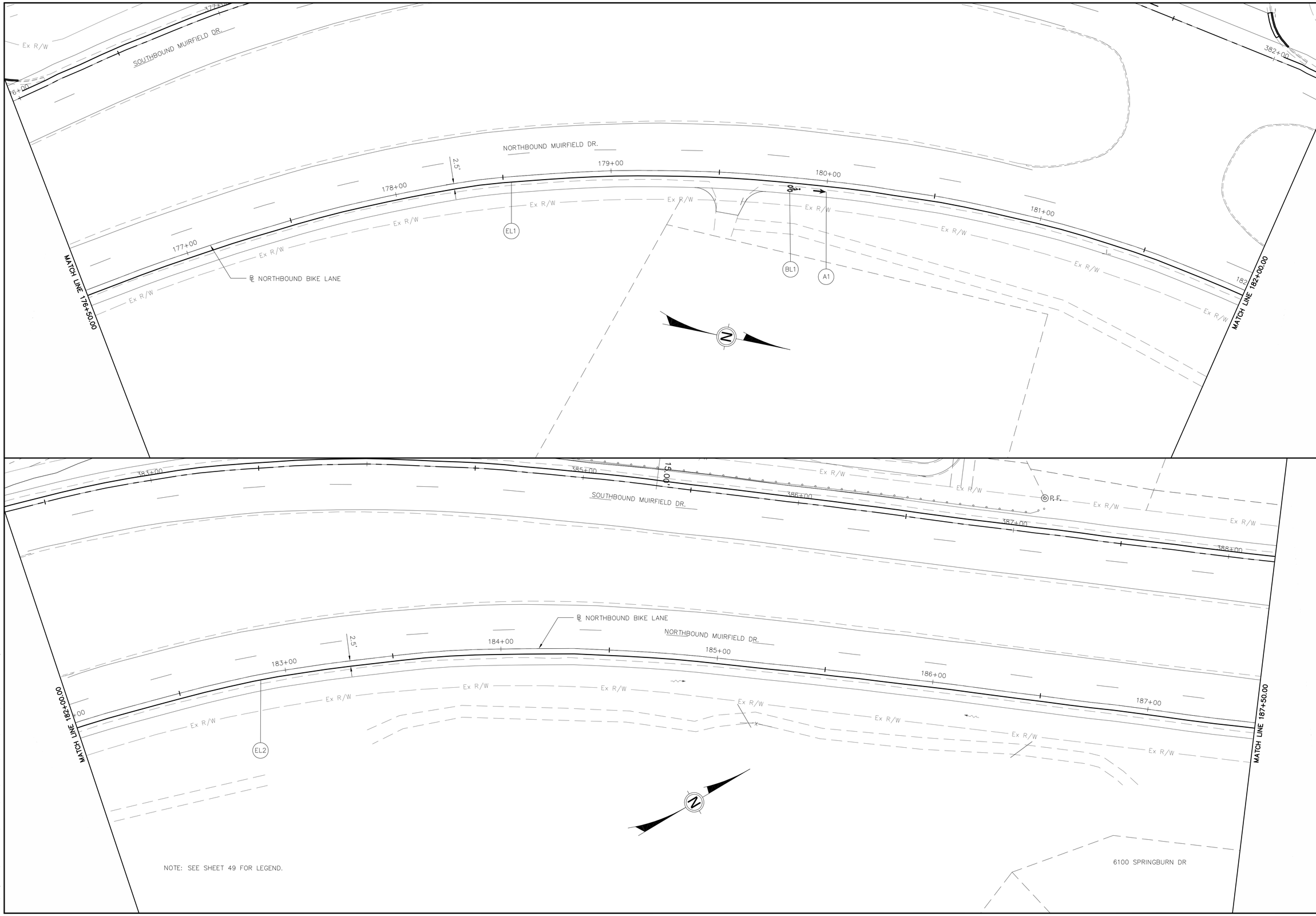


NOTE: SEE SHEET 49 FOR LEGEND.

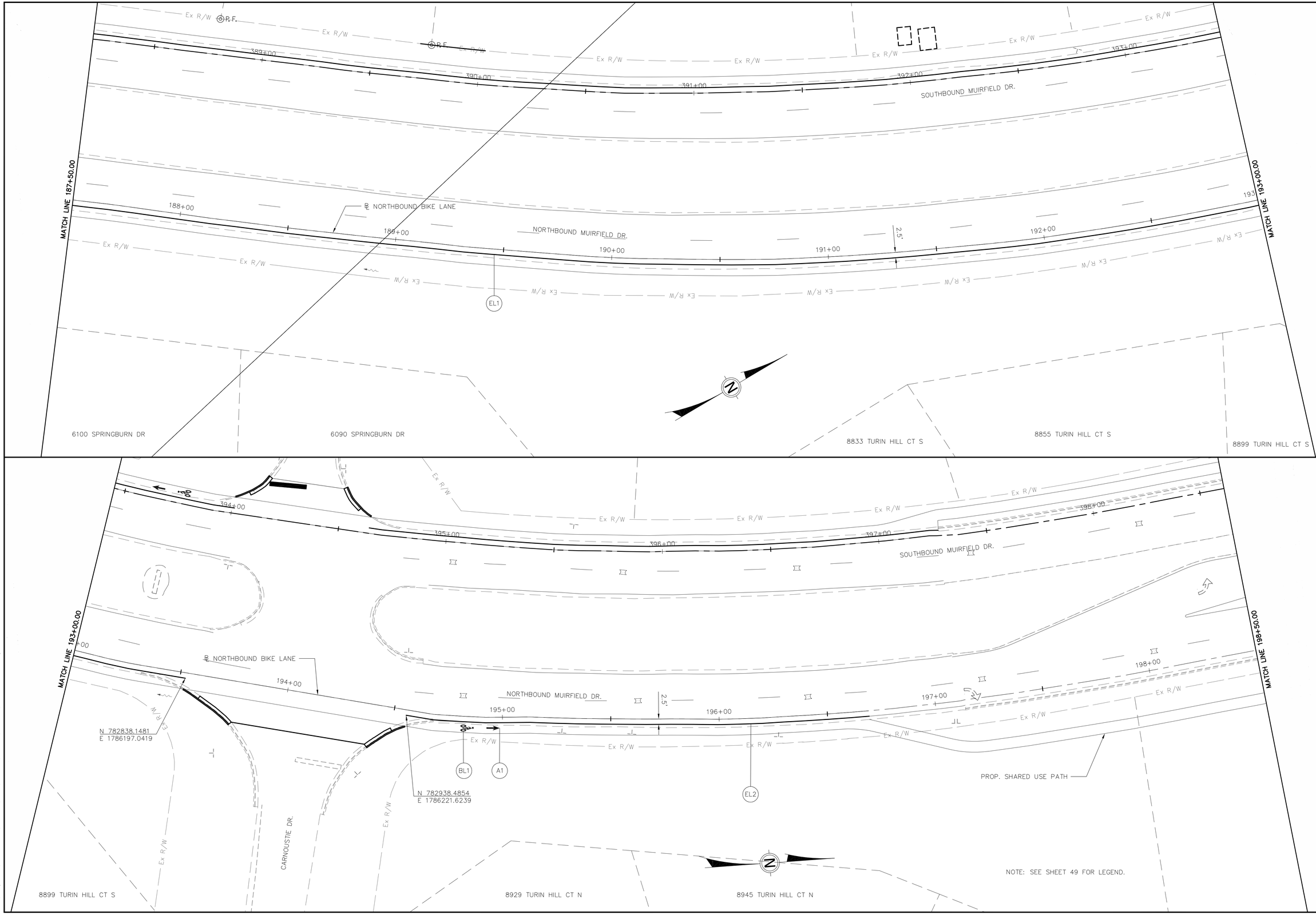
HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

SIGNING AND PAVEMENT MARKING PLANS - NORTHBOUND
STA. 176+50 TO STA. 187+50

MUIRFIELD DRIVE BIKE LANES

L:\Projects\14578434\TRANS\FRA\08434\traffic\sheets\08434TP108.dwg User: Sakian, Natalie 5-Jun-14 11:55 AM



HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

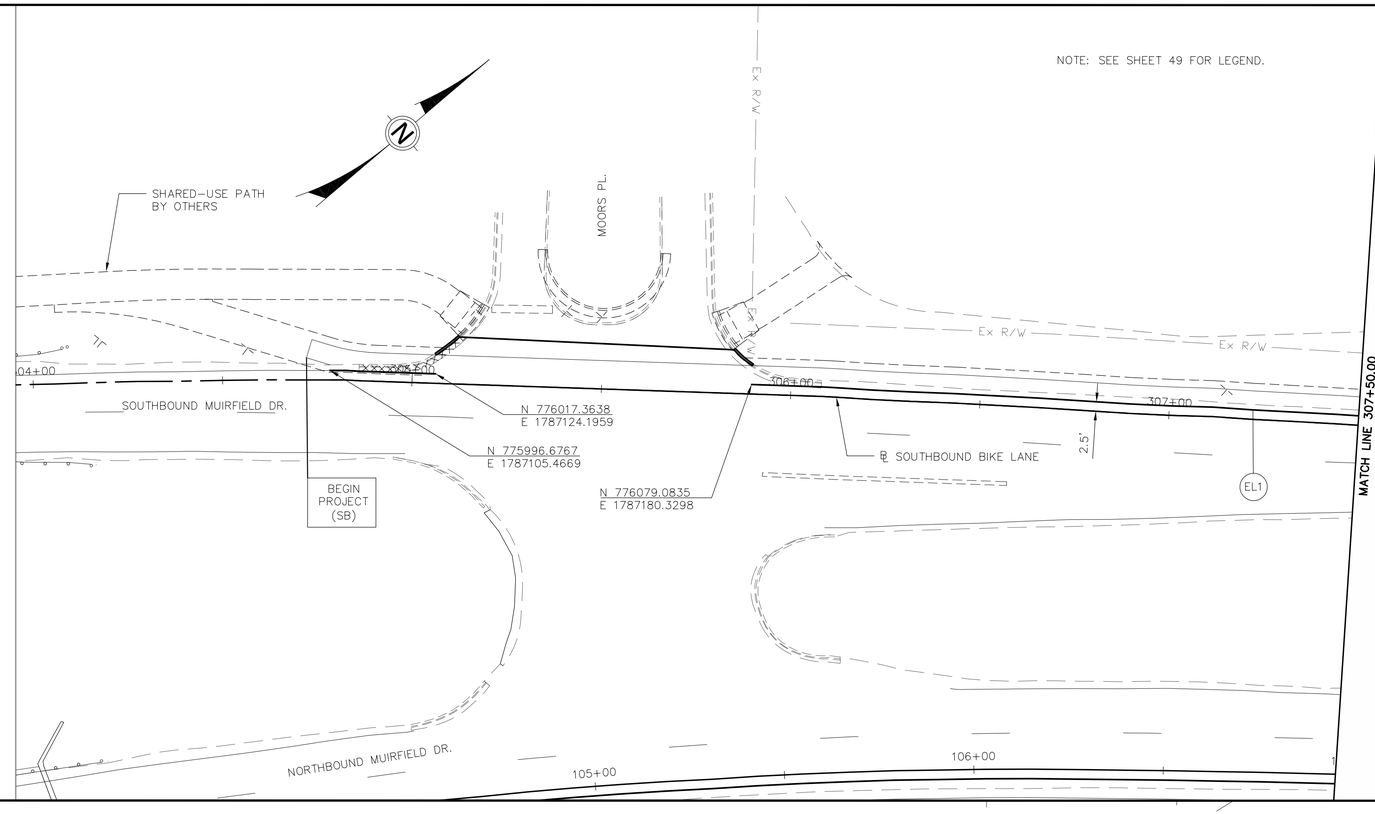
SIGNING AND PAVEMENT MARKING PLANS - NORTHBOUND
STA. 187+50 TO STA. 198+50

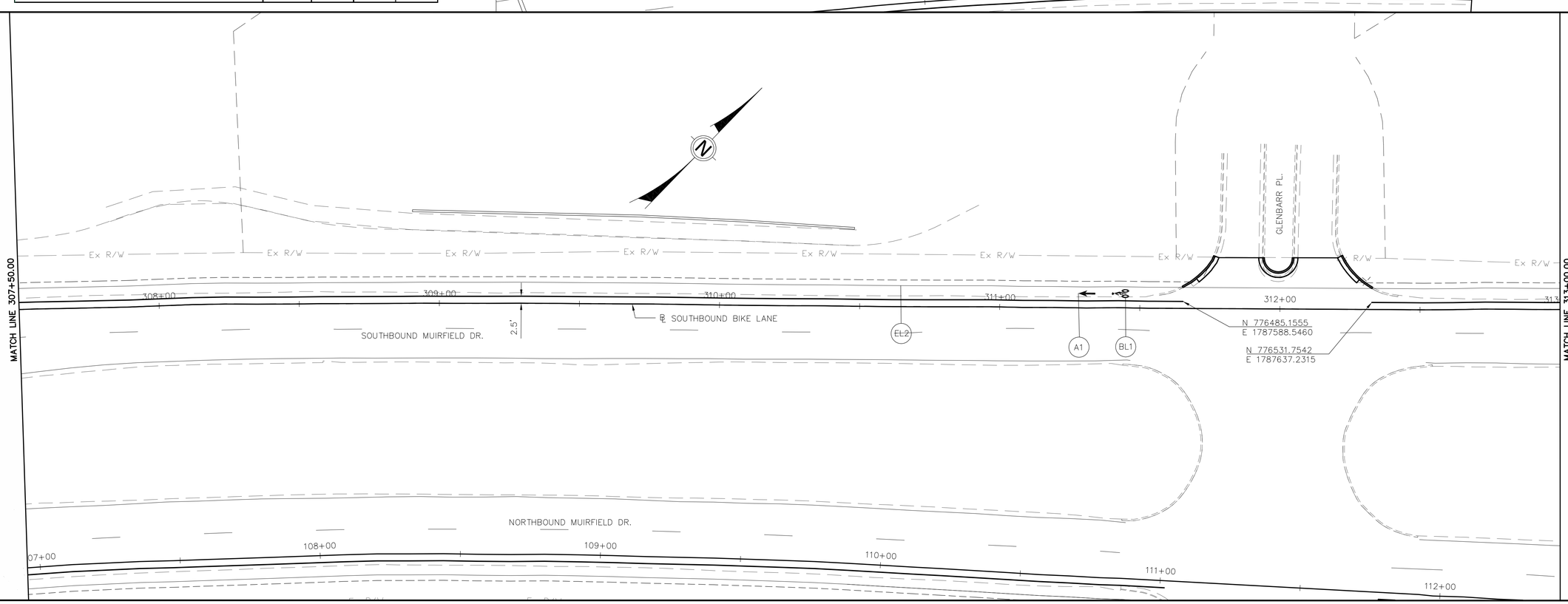
MUIRFIELD DRIVE BIKE LANES

L:\Projects\14578434\TRANS\FRA\08434\traffic\sheets\08434TP109.dwg User: Sakian, Natalie 5-Jun-14 11:54 AM

TRAFFIC CONTROL SUBSUMMARY

SHEET NO.	REFERENCE NO	STATION FROM	STATION TO	644 EDGE LINE, 4"	644 STOP LINE, 20"	644 LANE ARROW	644 BIKE LANE SYMBOL MARKING
				MILE	FT	EACH	EACH
58	EL1	304+78	307+50	0.05			
58	EL2	307+55	311+65	0.08			
58	A1					1	
58	BL1						1
58, 59	EL1	312+33	318+50	0.12			
59	EL2	318+50	324+00	0.10			
60	EL1	324+00	329+91	0.11			
60, 61	EL2	330+62	335+96	0.10			
60	A1					1	
60	BL1						1
60	A2					1	
60	BL2						1
61	EL1	336+46	343+13	0.13			
61, 62	EL2	343+75	346+00	0.04			
61	A1					1	
61	BL1						1
61	A2					1	
61	BL2						1
61	SL1				12		
62	EL1	346+00	351+94	0.11			
62, 63	EL2	352+55	358+06	0.10			
62	A1					1	
62	BL1						1
63	EL1	358+75	362+50	0.07			
63, 64	EL2	362+50	369+93	0.14			
63	A1					1	
63	BL1						1
63	A2					1	
63	BL2						1
64	EL1	371+56	375+42				
64	EL2	376+02	379+00				
64	SL1				13		
64	A1					1	
64	BL1						1
64	A2					1	
64	BL2						1
65	EL1	379+00	381+42	0.05			
65	EL2	382+04	390+00	0.15			
65	A1					1	
65	BL1						1
66	EL1	390+00	394+01	0.08			
66	EL2	394+64	397+28	0.05			
66	A1					1	
66	BL1						1
66	SL1				12		
TOTALS CARRIED TO GENERAL SUMMARY				1.48	37	12	12





0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED FGW
CHECKED GEE

SIGNING AND PAVEMENT MARKING PLANS - SOUTHBOUND
STA. 302+00 TO STA. 313+00

MUIRFIELD DRIVE BIKE LANES

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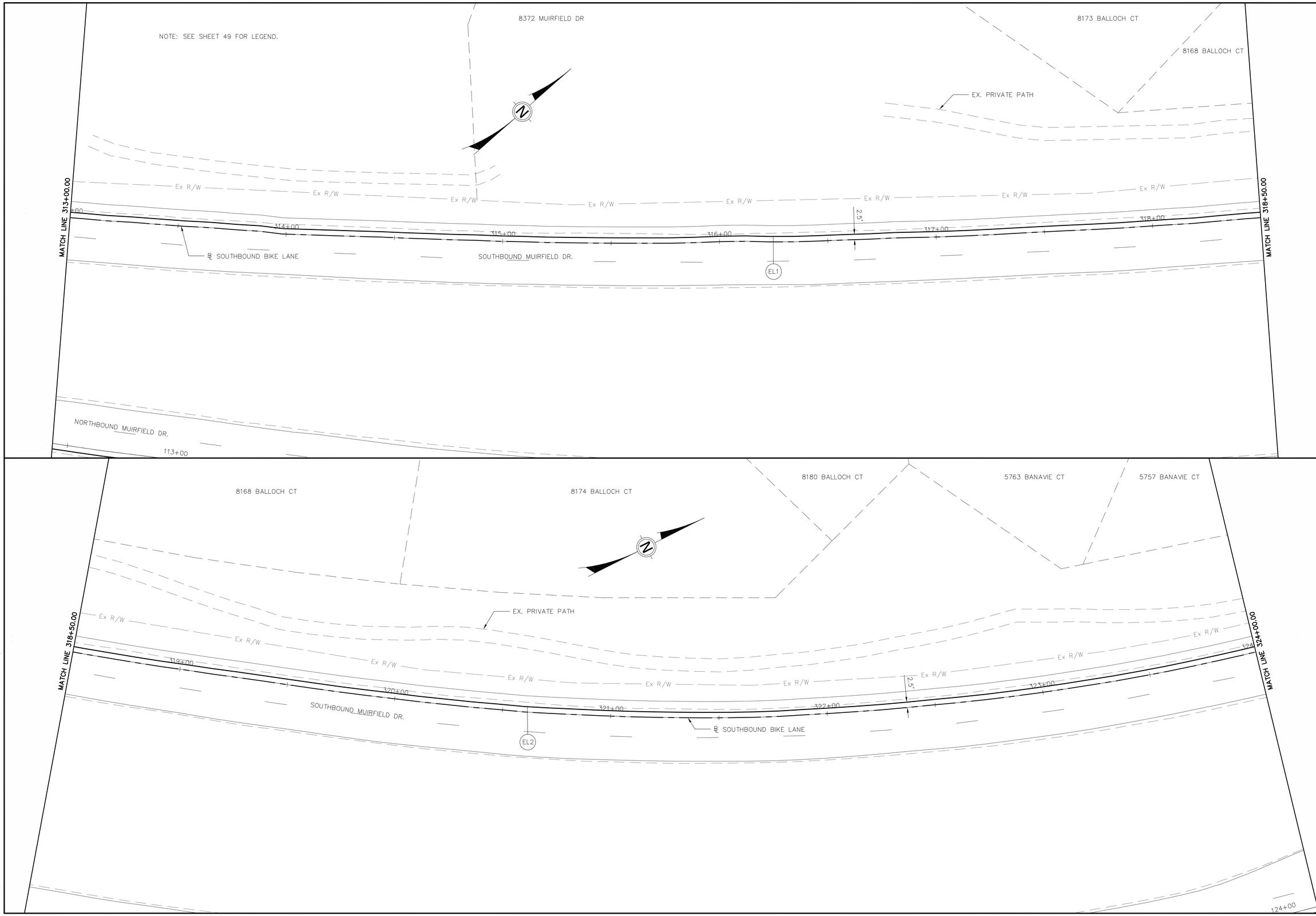

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

SIGNING AND PAVEMENT MARKING PLANS - SOUTHBOUND
STA. 313+00 TO STA. 324+00

MUIRFIELD DRIVE
BIKE LANES

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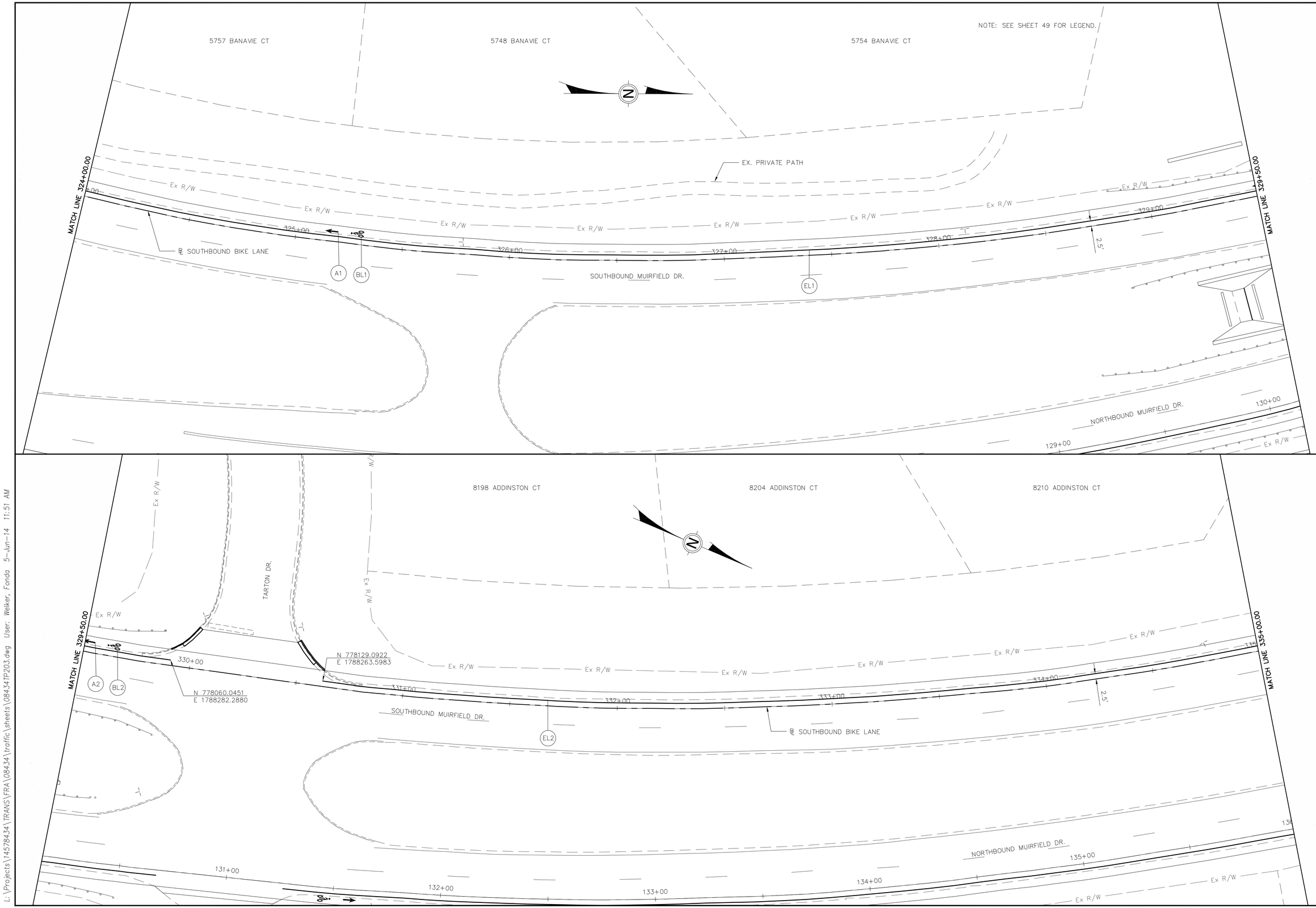

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

SIGNING AND PAVEMENT MARKING PLANS - SOUTHBOUND
STA. 324+00 TO STA. 335+00

MUIRFIELD DRIVE BIKE LANES

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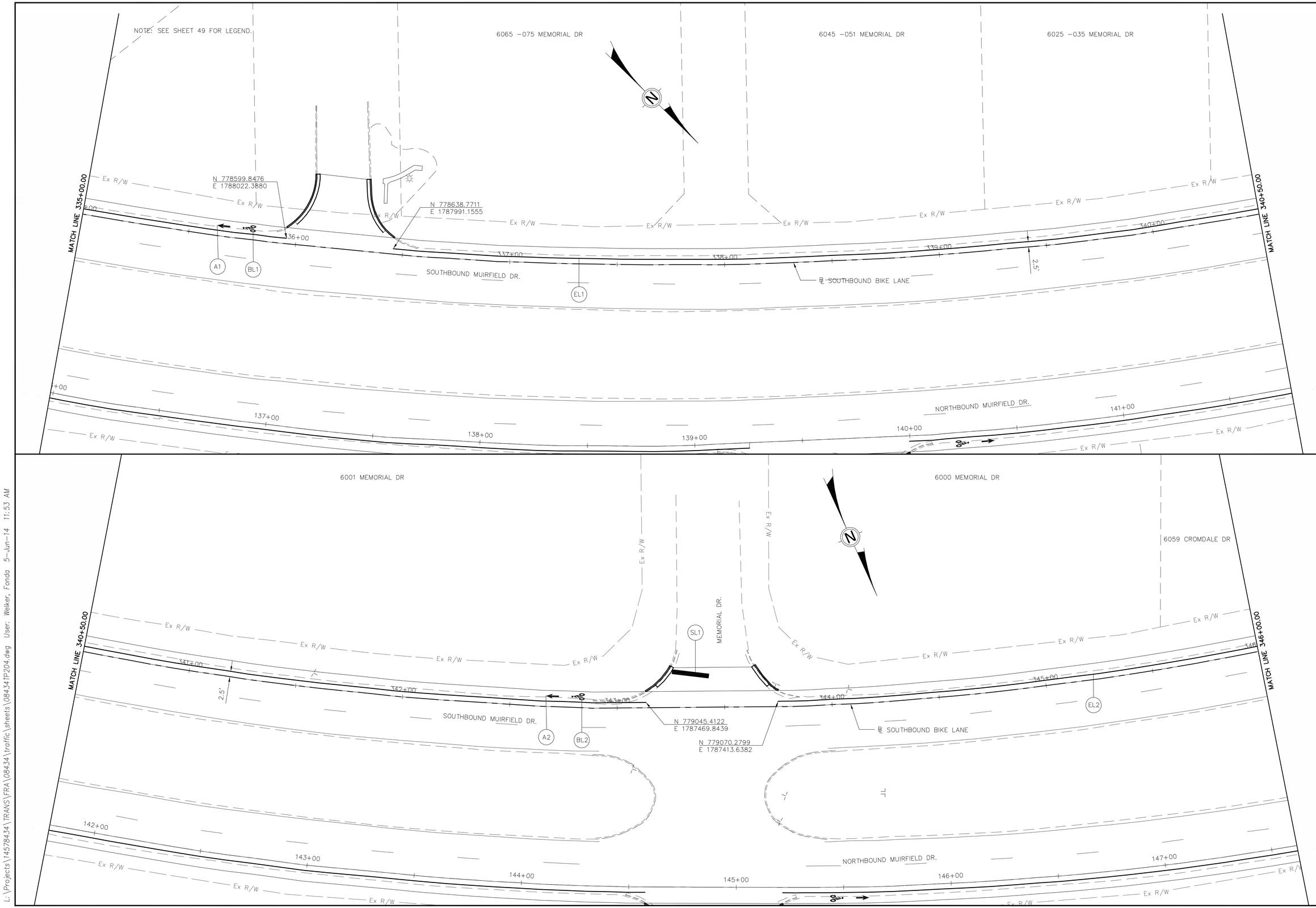

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

SIGNING AND PAVEMENT MARKING PLANS - SOUTHBOUND
STA. 335+00 TO STA. 346+00

MUIRFIELD DRIVE BIKE LANES

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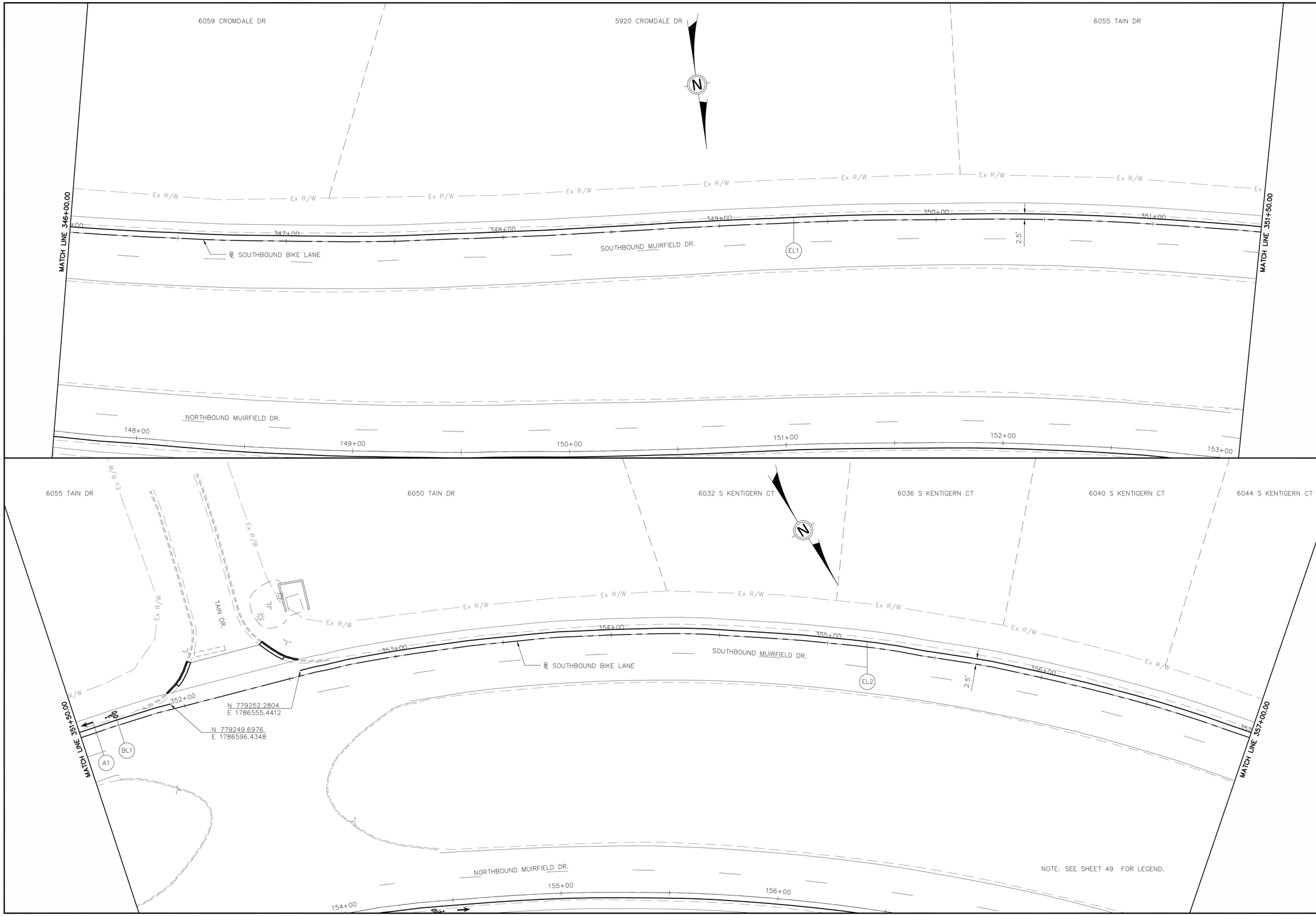

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

SIGNING AND PAVEMENT MARKING PLANS - SOUTHBOUND
STA. 346+00 TO STA. 357+00

MUIRFIELD DRIVE BIKE LANES

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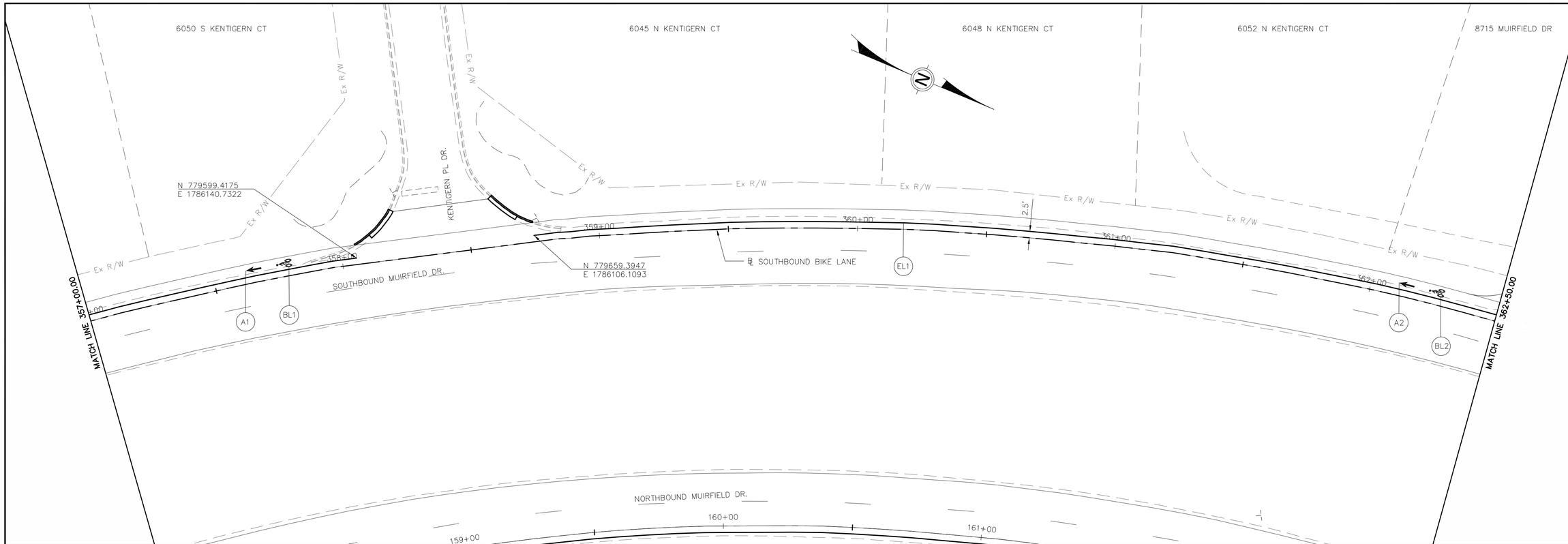
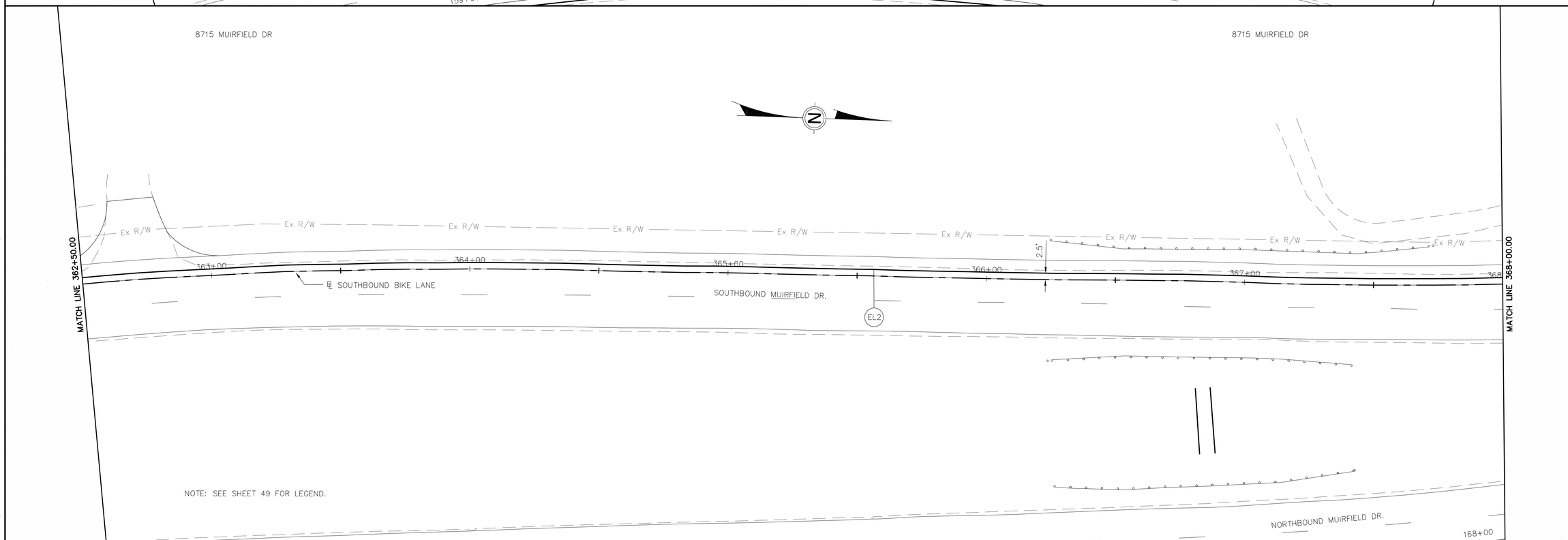




NOTE: SEE SHEET 49 FOR LEGEND.

0 10 20 40
HORIZONTAL SCALE IN FEET

CALCULATED FGW
CHECKED GEE

SIGNING AND PAVEMENT MARKING PLANS - SOUTHBOUND
STA. 357+00 TO STA. 368+00

MUIRFIELD DRIVE BIKE LANES

L:\Projects\14578434\TRANS\FRA\08434\traffic\sheets\08434TP206.dwg User: Sakian, Natalie 5-Jun-14 11:49 AM

NOTE: SEE SHEET 49 FOR LEGEND.

8715 MUIRFIELD DR

MATCH LINE 368+00.00

MATCH LINE 373+50.00

MATCH LINE 373+50.00

MATCH LINE 378+00.00

Ex R/W

COMMERCIAL DR.

N 780848.6195
E 1785913.0288

N 780907.9068
E 1785889.4493

N 781230.1088
E 1785680.7597

N 781279.5228
E 1785644.8391

2.5'

2.5'

369+00

370+00

371+00

372+00

373+00

374+00

375+00

376+00

377+00

378+00

SOUTHBOUND MUIRFIELD DR.

NORTHBOUND MUIRFIELD DR.

℄ SOUTHBOUND BIKE LANE

A1

BL1

EL1

A2

BL2

EL2

SL1

169+00

170+00

171+00

172+00

173+00

174+00

175+00

176+00

177+00

178+00

8609–8611 CRAIGSTON CT

8610–8612 CRAIGSTON CT

1811 TREMONT RD

8672 CRAIGSTON CT

8682 CRAIGSTON CT

CRAIGSTON CT.

HORIZONTAL SCALE IN FEET

0 10 20 40

CALCULATED FGW

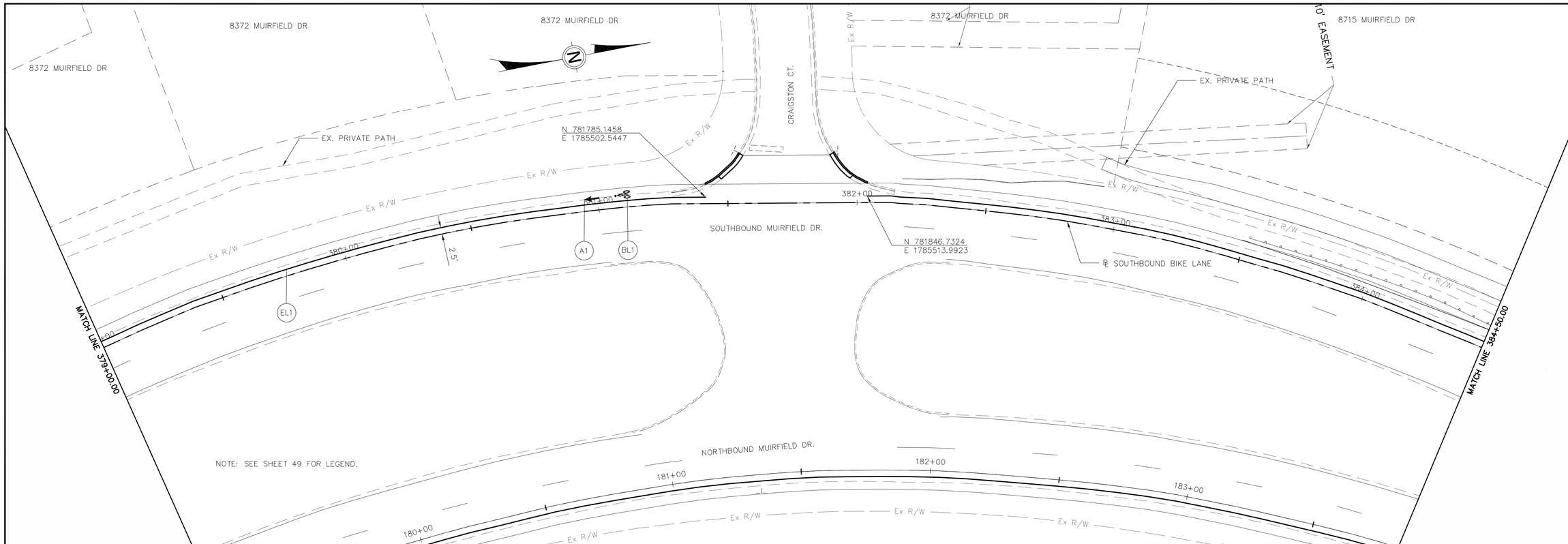
CHECKED GEE

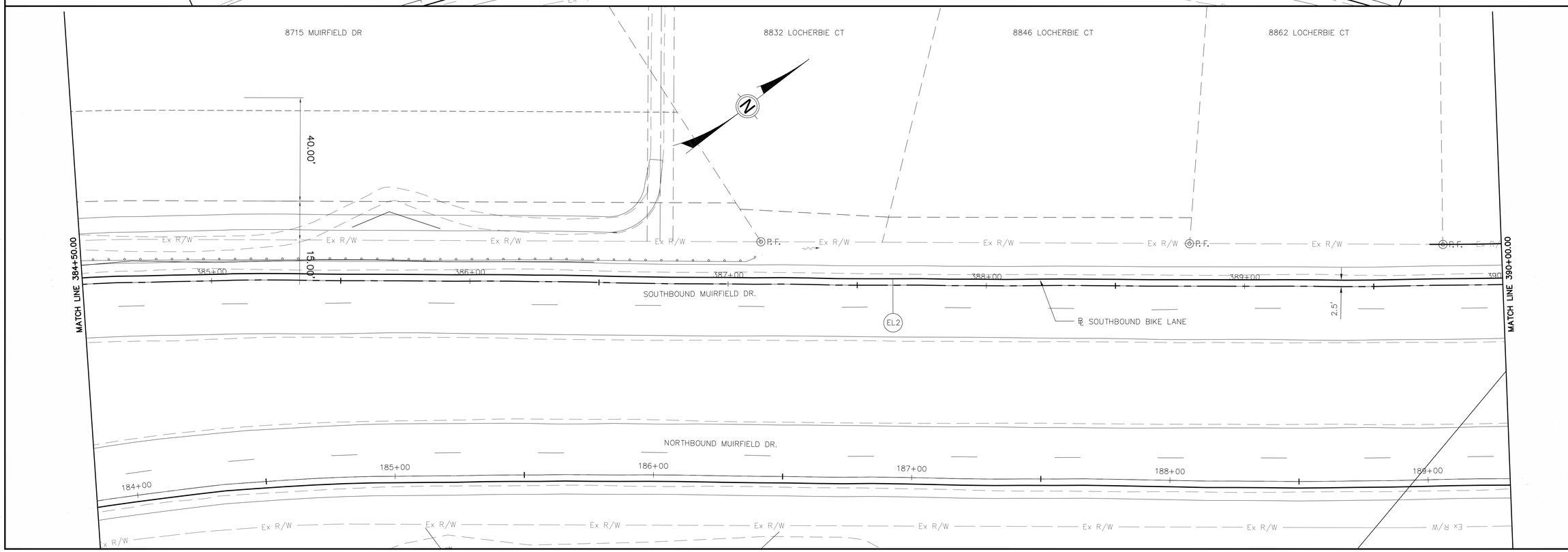
SIGNING AND PAVEMENT MARKING PLANS – SOUTHBOUND

STA. 368+00 TO STA. 379+00

MUIRFIELD DRIVE BIKE LANES

L:\Projects\14578434\TRANS\FRA\08434\traffic\sheets\08434TP207.dwg User: Sakian, Natalie 5-Jun-14 11:46 AM





HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

SIGNING AND PAVEMENT MARKING PLANS – SOUTHBOUND
STA. 379+00 TO STA. 390+00

MUIRFIELD DRIVE BIKE LANES

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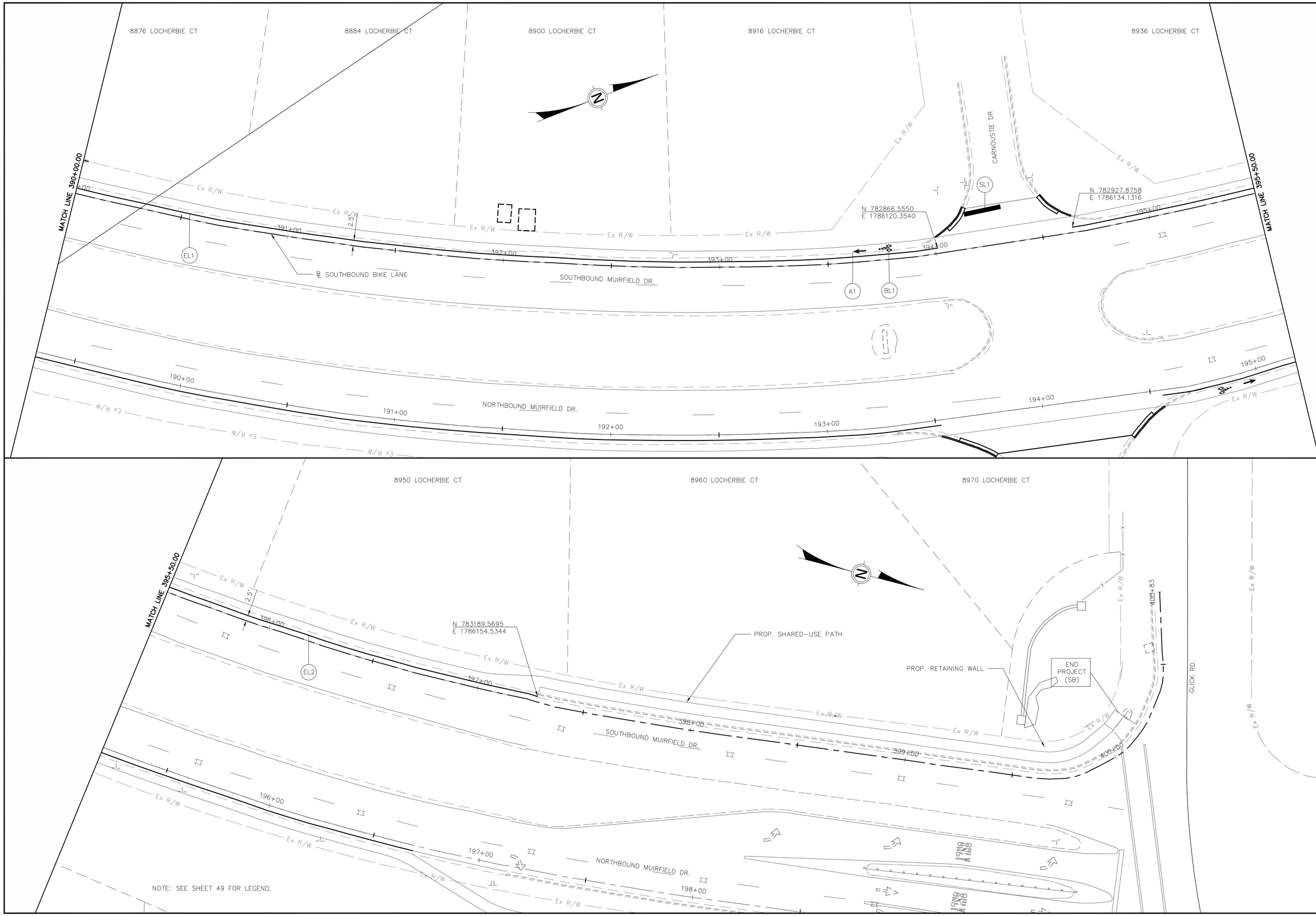

HORIZONTAL SCALE IN FEET
0 10 20 40

CALCULATED FGW
CHECKED GEE

SIGNING AND PAVEMENT MARKING PLANS - SOUTHBOUND
STA. 390+00 TO GLICK RD.

MUIRFIELD DRIVE BIKE LANES

L:\Projects\14578434\TRANS\FRA\08434\traffic\sheets\08434TP209.dwg User: Sakian, Natalie 5-Jun-14 11:41 AM