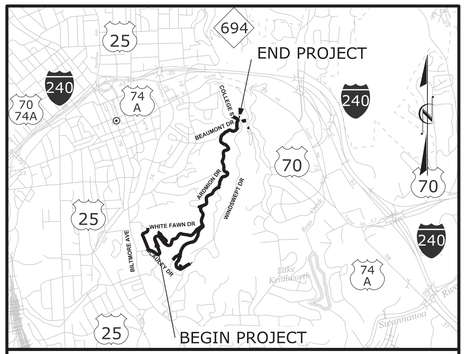
CITY OF ASHEVILLE
NORTH CAROLINA

BEAUCATCHER GREENWAY

LOCATION:
FROM WHITE FAWN RESERVOIR TO
HELEN'S BRIDGE

TYPE OF WORK:
GRADING, PAVING, STRUCTURE,
DRAINAGE, & EROSION CONTROL



VICINITY MAP

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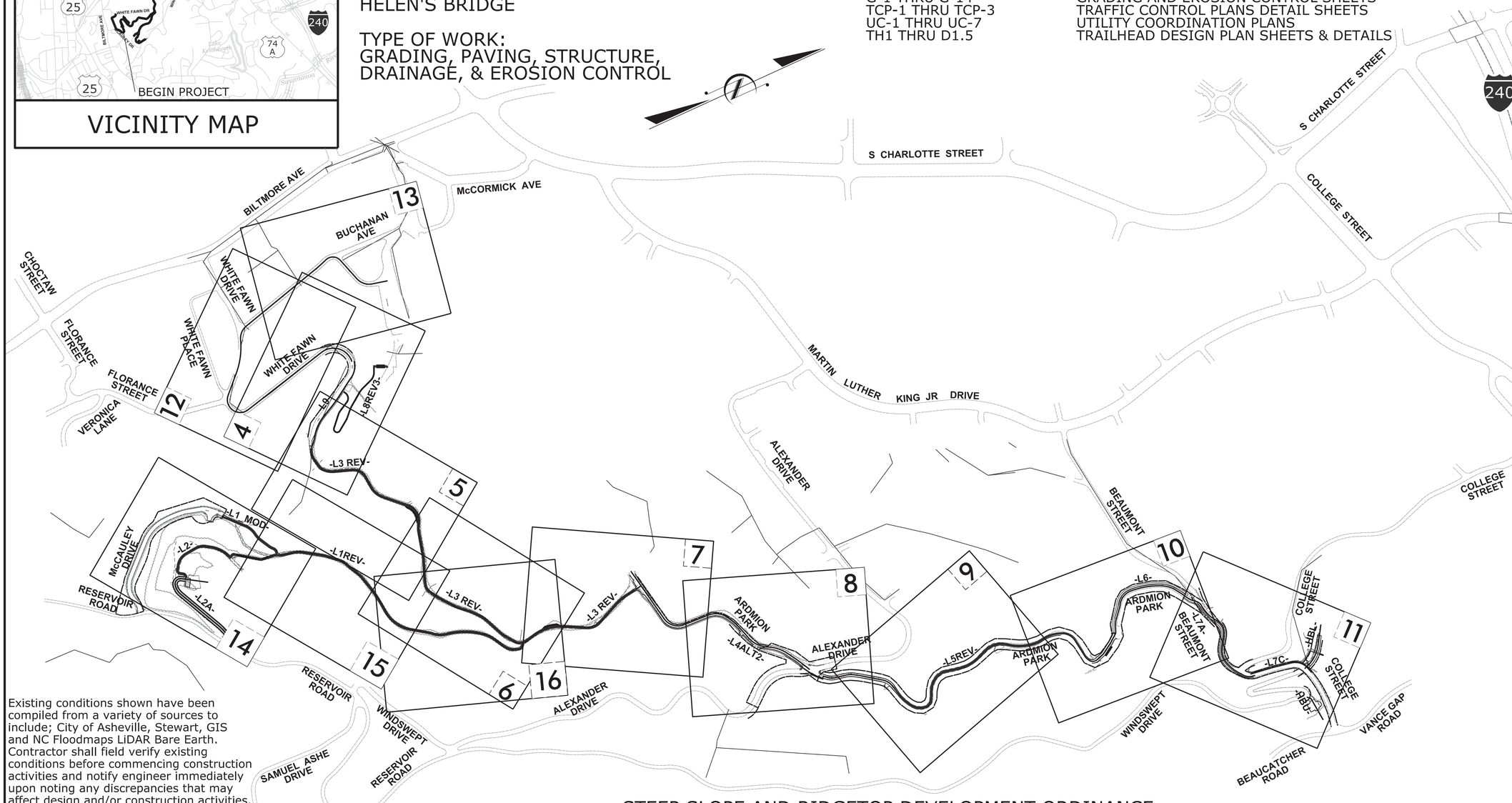

Existing conditions shown have been compiled from a variety of sources to include; City of Asheville, Stewart, GIS and NC Floodmaps LiDAR Bare Earth. Contractor shall field verify existing conditions before commencing construction activities and notify engineer immediately upon noting any discrepancies that may affect design and/or construction activities.

DESIGN DATA	*PROJECT LENGTH*
DESIGN SPEED = 20 MPH LEAN ANGLE = 15 DEGREES FUNC. CLASSIFICATION = GREENWAY	LENGTH OF PROJECT = 2.26 MILES

GRAPHIC SCALES

30 15 0 30 60 — PLANS
30 15 0 30 60 — PROFILE (HORIZONTAL)
6 3 0 6 12 — PROFILE (VERTICAL)

STEEP SLOPE AND RIDGETOP DEVELOPMENT ORDINANCE
SEC. 7-12-4 IS APPLICABLE TO THIS PROJECT.

Maximum Percentage of Site Grading By Existing Grade Zone A (For Properties at Elevations 2220'-2349')

Property	Street Name	Pin Number	Alignment & Stationing	Total Acreage	Graded Acreage	Existing Grade (%)	Percent of Site Graded (%)	Max. Percent Allowed (%)
CITY OF ASHEVILLE	BUCHANAN	964856680600000	L8REV3	21.32	0.276	40+	1.297	20
C JEM PROPERTIES LLC	MCCAULEY	964856420400000	L1REV, L1_MOD	2.12	0.000	40+	0.008	20

Maximum Percentage of Site Grading By Existing Grade Zone B (For Properties at Elevations 2350' & Above)

Property	Street Name	Pin Number	Alignment & Stationing	Total Acreage	Graded Acreage	Existing Grade (%)	Percent of Site Graded (%)	Max. Percent Allowed (%)
CITY OF ASHEVILLE	ALEXANDER	964866179800000	L3_REV, L1REV	29.47	1.557	40+	5.283	15
CITY OF ASHEVILLE	RESERVOIR	964856700400000	L1REV, L1_MOD	7.42	1.101	40+	14.844	15
CITY OF ASHEVILLE	WINDSWEPT	964980206500000	L7A	5.02	0.089	40+	1.782	15
CITY OF ASHEVILLE	COLLEGE	964970840800000	L7C	6.25	0.036	40+	0.579	15

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PLANS PREPARED BY:
Firm License No. C-1051
421 Fayetteville St.
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www.stewartinc.com
STEWART

GREENWAY ENGINEER:
NORTH CAROLINA PROFESSIONAL SEAL 30832 ENGINEER ROBERT A. WILLIAMS
10/5/16

HYDRAULICS ENGINEER:
NORTH CAROLINA PROFESSIONAL SEAL 042301 ENGINEER ANDREW J. HICKING

PROJECT NO.:
H13002.00

100% SUBMITTAL

1

Note: Not to Scale

**S.U.E. = Subsurface Utility Engineering*

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel/Sequence Number — 123
- Existing Fence Line
- Proposed Wooden Split Rail Fence
- Proposed Chain Link Fence
- Proposed Safety Rail
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB
- Existing Historic Property Boundary — HPB
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign
- Well
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — TCE
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Greenway Easement — PGE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Wheelchair Ramp — WCR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Existing Tree to Remain
- Tree to be Removed
- Orchard
- Vineyard — Vineyard

EROSION CONTROL:

- Tree Protection Fence — TP
- Silt Fence — SF
- Silt Fence Outlet
- Check Dam

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — S
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

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PROJECT NO.:
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1A

NOTES

GENERAL NOTES

1. THE CONTRACTOR SHALL PERFORM ALL CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE CITY OF ASHEVILLE STANDARD SPECIFICATIONS AND THE 2012 NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
2. WHERE ASPHALT OR CONCRETE SECTIONS ARE REMOVED, CONTRACTOR SHALL USE A SAW CUT AT THE LIMITS OF DEMOLITION TO OBTAIN A CLEAN EDGE.
3. ALL TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO LAND DISTURBANCE OPERATIONS INCLUDING TREE REMOVAL, IN SUCH A MANNER AS TO CLEARLY AND ADEQUATELY SEPARATE ALL TREES TO BE REMOVED FROM REMAINING VEGETATION.
4. NO GRADING IS TO OCCUR IN THE TREE PROTECTION AREAS OR TREE CRITICAL ROOT ZONES.
5. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL INSPECTIONS, CERTIFICATIONS, EQUIPMENT, ETC. THAT MAY BE REQUIRED.
6. THE CONTRACTOR MUST, AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS OR RUBBISH CAUSED BY HIM, HIS EMPLOYEES, OR HIS WORK. ALL DEBRIS SHALL BE REMOVED FROM THE SITE ON A DAILY BASIS.
7. RELOCATION OF EXISTING UTILITIES TO BE COORDINATED WITH THE LOCAL UTILITY PROVIDER(S).
8. EXISTING UTILITIES AND STRUCTURES SHOWN BOTH UNDERGROUND AND ABOVE ARE BASED ON THE BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO BEGINNING RELATED CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE IMMEDIATELY.
9. CONTRACTOR SHALL LOCATE ALL UTILITIES AND UTILITY ELEVATIONS PRIOR TO CONSTRUCTION. ALL UTILITIES TO REMAIN SHALL BE PROTECTED BY THE CONTRACTOR. ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY CONTRACTOR.
10. CONTRACTOR SHALL RESTORE ALL LAY DOWN AND STAGING AREAS TO ORIGINAL CONDITIONS AND TO THE SATISFACTION OF THE OWNER, PRIOR TO DEMOBILIZATION AT THE CONCLUSION OF THE PROJECT.
11. CONSTRUCTION/SAFETY FENCING REMOVED TO FACILITATE ACCESS BY THE CONTRACTOR FOR CONSTRUCTION MUST BE REPLACED AT THE END OF EACH WORK PERIOD TO DIRECT PEDESTRIAN TRAFFIC AWAY FROM HAZARDOUS AREAS.
12. DEMOLITION, AND SUBSEQUENT CONSTRUCTION OF STORM DRAINAGE FACILITIES SHALL BE PERFORMED IN SUCH A MANNER THAT THE OLD PIPE AND STRUCTURES ARE REMOVED AND NEW STRUCTURES AND PIPING ARE IMMEDIATELY PUT INTO SERVICE.
13. CONTRACTOR SHALL ENSURE THAT STORM DRAINAGE DOES NOT REMAIN OUT OF SERVICE FOR LONGER THAN 12 HOURS AT A TIME. PROVISIONS SHALL BE MADE TO MAINTAIN STORM WATER DRAINAGE DURING CONSTRUCTION.
14. STATIONING IS APPROXIMATE. CONTRACTOR SHALL VERIFY ALL STATIONING FOR APPLICABILITY TO EXISTING CONDITIONS PRIOR TO CONSTRUCTION. DEVIATION FROM ALIGNMENT DUE TO LARGE TREES OR OTHER OBSTACLES ETC SHALL BE APPROVED BY CITY OF ASHEVILLE.
15. CONTRACTOR SHALL MAINTAIN ALL ABOVE AND BELOW GROUND STORM WATER DRAINAGE AND PATTERNS AND PIPING AS THEY CURRENTLY EXIST UNLESS NOTED OTHERWISE. ANY DISTURBANCE OF THE PATTERNS OR STRUCTURES BY THE CONTRACTOR SHALL BE CORRECTED BY THE CONTRACTOR TO CONDITION PRIOR TO DISTURBANCE. CLEAN OUT STORM WATER PIPE ONLY IF NOTED ON PLAN AND ACCORDING TO DETAIL.
16. CONTRACTOR ACCESS FOR TRAIL CONSTRUCTION SHALL BE CONFIRMED BY CONTRACTOR WITH OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
17. CONTRACTOR SHALL PROVIDE SILT FENCING IN ALL AREAS AND EROSION CONTROL MEASURES AS NEEDED OR DIRECTED BY THE EROSION CONTROL INSPECTOR. IF ADDITIONAL MEASURES ARE REQUIRED IN ADDITION TO THE PLANS, COMPENSATION WILL BE PROVIDED PER THE CONTRACT PROVISIONS.
18. VEGETATION ON BANKS AND WETLANDS SHOULD BE HAND CUT WITH ROOT MATS UNDISTURBED.
19. THE ENGINEER AND OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND METHODS ASSOCIATED WITH PROJECT AS SET FORTH IN THESE PLANS. IF DEPARTURES FROM THE SPECIFICATIONS OR DRAWINGS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASONS THEREOF SHALL BE SUBMITTED TO THE OWNER IN WRITING FOR REVIEW. NO DEPARTURES FROM THE CONTRACT DOCUMENTS SHALL BE MADE WITHOUT THE WRITTEN PERMISSION OF THE OWNER.
20. ALL STORM DRAIN FRAMES, GRATES, AND HOODS SHALL BE STAMPED WITH IN ACCORDANCE WITH THE CITY OF ASHEVILLE STANDARDS.
21. EXISTING CONDITIONS SHOWN HAVE BEEN COMPILED FROM A VARIETY OF SOURCES TO INCLUDE; CITY OF ASHEVILLE, STEWART, GIS AND NC FLOODMAPS LIDAR BARE EARTH. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS BEFORE COMMENCING CONSTRUCTION ACTIVITIES AND NOTIFY ENGINEER IMMEDIATELY UPON NOTING ANY DISCREPANCIES THAT MAY AFFECT DESIGN AND/OR CONSTRUCTION ACTIVITIES.
22. CONTRACTOR SHALL FIELD LOCATE ALL PROPOSED TREE PLANTINGS APPROX. EVERY 100' AND CONTRACTOR SHALL FIELD LOCATE ALL PROPOSED SHRUB PLANTINGS EVERY 200'. CONTRACTOR SHALL COORDINATE WITH OWNER FOR APPROVAL PRIOR TO ALL PLANTING LOCATIONS.
23. CONTRACTOR SHALL ADJUST ALL SANITARY SEWER MANHOLE RIM ELEVATIONS TO MATCH PROPOSED GRADE. CONTRACTOR SHALL CONTACT BUNCOMBE COUNTY MSD TO OBTAIN PREFERRED MANHOLE COVERS. COVERS WILL BE PROVIDED BY MSD AT NO COST TO THE CONTRACTOR.

CITY OF ASHEVILLE TYPICAL GREENWAY CONSTRUCTION NOTES

1. TRAIL SHALL BE CONSTRUCTED PER PLANS AND ACCORDING TO ALL OTHER PERTINENT DETAILS AND SPECIFICATIONS.
2. CONTRACTOR SHALL CONFINE CONSTRUCTION ACTIVITY WITHIN LIMITS OF CONSTRUCTION.
3. CONTRACTOR SHALL RETAIN A PLS TO STAKE CENTERLINE OF THE TRAIL AS SHOWN ON THE LAYOUT PLAN. THE TRAIL IS TO BE STAKED AT 50' INTERVALS IN THE FIELD.
4. STAKED CENTERLINE OF THE TRAIL IS TO BE APPROVED BY THE CITY OF ASHEVILLE,
5. ERECT TREE PROTECTION FENCE ALONG LIMIT OF CONSTRUCTION FOR INSPECTION BY CITY OF ASHEVILLE SITE INSPECTOR.
6. INSTALL REQUIRED EROSION CONTROL MEASURE PRIOR TO CONSTRUCTION.
7. CONTRACTOR TO CALL FOR UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
8. PROPOSED PAVEMENT SHALL MEET EXISTING PAVEMENT FLUSH.
9. TRAIL TO EXHIBIT 2% CROSS SLOPE TOWARDS CREEK OR LOW AREA, OR PER SUPER ELEVATIONS SHOWN ON THE PLANS.
10. SIDE SLOPE SHALL BE 2:1 MAXIMUM AND 2% MINIMUM SLOPE EXCEPT WHERE OTHERWISE NOTED.
11. ALL DISTURBED AREAS SHALL BE SEEDED PER SPECIFICATION.
12. GRADE SIDE SLOPES AND ADJACENT GROUND TO DRAIN. ENSURE THAT THERE IS NO STANDING WATER ON EITHER SIDE OF THE TRAIL. INSTALL DIVERSION DITCH AS NEEDED TO DIRECT WATER TO CULVERTS.
13. ADDITIONAL CULVERTS WILL BE ADDED AS NEEDED DURING CONSTRUCTION TO PREVENT EROSION AND SLICK SPOTS ON GREENWAY TRAIL.
14. DRAINAGE CULVERTS SHALL BE CONCRETE AND HAVE A FLARED END SECTION ON BOTH ENDS. A CLASS B RIP-RAP DISSIPATER WITH FILTER FABRIC SHALL BE INSTALLED AT THE PIPE OUT-FLOW.
15. TREES SHALL BE LIMBED UP A VERTICAL DISTANCE OF 10 FEET FROM THE FOREST FLOOR, WITHIN 5 FEET FROM THE OUTSIDE EDGE OF THE TRAIL. REMOVE DANGEROUS TREE LIMBS HANGING OVER TRAIL AS DIRECTED BY THE PARK PLANNER. DEAD TREES THAT PRESENT A DANGER TO PEDESTRIANS UTILIZING THE TRAIL SHALL BE REMOVED DURING CONSTRUCTION.
16. THE ENGINEERING INSPECTOR SHALL INSPECT PROOF ROLL OF GREENWAY TRAIL PRIOR TO PLACEMENT OF FABRIC AND 6" OF CRUSHED STONE. THE TRAIL SHALL ALSO BE PROOF ROLLED PRIOR TO PAVING. A MINIMUM OF 92% COMPACTION IS REQUIRED.
17. ALL TRAILS THAT INTERSECT WITH ROADS OR PARKING LOTS SHALL BE SECURED WITH STANDARD GATES OR BOLLARDS AS SHOWN ON THE PLANS.
18. THE EDGES OF PAVED TRAILS SHALL BE A MINIMUM OF 2' TO THE EDGE OF RAISED MANHOLES.
19. SAFETY RAILING SHALL BE LOCATED AS SHOWN ON PLANS.
20. THE CONTRACTOR SHALL ENSURE THAT ALL ACCESS POINTS LEADING TO THE TRAIL ARE POSTED WITH SIGNS THAT READ TRAIL CLOSED FOR CONSTRUCTION.
21. FOR ALL CONSTRUCTED SEVERE SLOPES GREATER THAN 2:1 AND GREATER THAN FIVE FEET IN HEIGHT, AN INSPECTION AND A STABILITY CERTIFICATE ARE REQUIRED BY A NC REGISTERED PE WITH GEOTECHNICAL EXPERTISE SUFFICIENT TO PERFORM THE INSPECTION AND STABILITY ANALYSIS.

GREENWAY SPECIAL PROVISIONS:

1. PLACARD DENOTING DESIGN LOADING AND CLEAR WIDTH SHALL BE LOCATED ON EACH END OF EACH BOARDWALK AND BRIDGE.

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SEQUENCE OF CONSTRUCTION ACTIVITIES

1. A PRECONSTRUCTION CONFERENCE MUST BE HELD PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES. A MANDATORY PRE-CONSTRUCTION MEETING WILL ALSO BE REQUIRED WITH THE LAND QUALITY SECTION OF NCDENR BEFORE LAND-DISTURBING ACTIVITIES BEGIN. CALL XXX-XXX-XXXX TO SCHEDULE A MEETING.

2. INSTALL CONSTRUCTION ENTRANCES AND CONCRETE TRUCK WASHOUT PITS PER DETAIL AS NEEDED. STAGING AREAS NOT IDENTIFIED ON THE PLANS WILL NEED TO BE DISCUSSED WITH CITY OF ASHEVILLE PRIOR TO THE START OF CONSTRUCTION.

3. DETERMINE AND MARK LIMITS OF DISTURBANCE.

4. INSTALL TREE PROTECTION FENCING, SILT FENCE, AND SILT FENCE OUTLETS. SILT FENCE OUTLETS SHALL BE INSTALLED PER FIELD LOCATED LOW POINTS AND AS SHOWN ON APPROVED PLANS. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES.

5. CALL FOR ON SITE INSPECTION BY ENVIRONMENTAL INSPECTOR AND OBTAIN CERTIFICATE OF COMPLIANCE.

6. TOPSOIL REMOVAL AND/OR STORAGE AREAS SHALL BE CONTAINED WITHIN THE PROPOSED LIMITS OF DISTURBANCE.

7. BEGIN CLEARING AND GRUBBING. MAINTAIN DEVICES AS NEEDED. INSTALL PERMANENT PIPES DURING THE CLEARING AND GRUBBING PHASE AS NEEDED. ROUGH GRADE SITE. INSURE THAT SEDIMENT LADEN WATER IS DIRECTED TO SEDIMENT CONTROL DEVICES.

8. INSPECT AND MAINTAIN ALL EROSION CONTROL MEASURES EVERY 7 DAYS AND AFTER EACH SIGNIFICANT RAINFALL (0.5 INCHES OR GREATER) AND DOCUMENT WITH INSPECTION REPORTS.

9. THE AMOUNT OF DISTURBED AREA REQUIRED TO BE TEMPORARILY SEEDED IS LIMITED TO 2,000 LF OF TRAIL OR THE TIME FRAME GUIDELINES AS SPECIFIED BY NCG-010000 GENERAL CONSTRUCTION PERMIT ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY. TEMPORARY GROUND COVER STABILIZATION SHALL OCCUR WITHIN 7 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY, WITH THE FOLLOWING EXCEPTIONS IN WHICH TEMPORARY GROUND COVER SHALL BE PROVIDED IN 14 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.

10. DURING CULVERT INSTALLATION, PROTECT INLETS WITH INLET PROTECTION. INSTALL CULVERTS IN JURISDICTIONAL AREAS ACCORDING TO NCDOT BEST MANAGEMENT PRACTICES FOR CONSTRUCTION AND MAINTENANCE ACTIVITIES MANUAL. CULVERT INSTALLATIONS IN STREAMS WILL REQUIRE DEWATERING BY USE OF COFFER DAMS/IMPERVIOUS DIKES AND PUMPS TO MAINTAIN WATER QUALITY STANDARDS. CULVERT TO BE CONSTRUCTED IN THE DRY. CONTRACTOR TO COORDINATE WITH EROSION CONTROL INSPECTOR. ANY TEMPORARY COFFER DAM SHALL BE CONSTRUCTED OF MATERIALS SUCH AS SHEET PILING, SANDBAGS OR CLEAN CLASS 1 RIP RAP OR LARGER STONE THAT WILL NOT CONTRIBUTE TO TURBIDITY OR SILTATION OF THE WATER BODY. A TEMPORARY SEDIMENTATION BAG SHALL BE USED PER NCDOT STANDARD DRAWING NUMBER 1630.06. SANDBAGS SHALL BE OF THE FILTER FABRIC TYPE, DOUBLE BAGGED AND INDIVIDUALLY TIED TO PREVENT SAND LEAKAGE. THEY SHALL BE PLACED AND REMOVED MANUALLY TO PREVENT SPILLAGE. ONLY CLEAN SAND, FREE OF DEBRIS, SILT, FINE PARTICLES OR OTHER FOREIGN SUBSTANCES, SHALL BE USED TO FILL THE BAGS. THE COFFERDAM SHALL BE ENTIRELY REMOVED IMMEDIATELY UPON COMPLETION OF WORK. DURING PERIODS OF WORK ACTIVITY, FLOW IMMEDIATELY DOWNSTREAM OF THE WORKSITE SHALL EQUAL FLOW IMMEDIATELY UPSTREAM OF THE WORKSITE. ALL OTHER OPTIONS WILL NEED PRIOR APPROVAL. SEE SHEET 2D FOR DETAIL. NO DIRECT PAYMENT SHALL BE MADE FOR THE WORK OF INSTALLATION, MAINTENANCE, AND REMOVAL OF IMPERVIOUS DIKE(S) AS DESCRIBED IN THIS PROVISION. PAYMENT FOR SUCH WORK SHALL BE DISTRIBUTED AMONG THE VARIOUS PAY ITEMS.

11. ALL BANK AND CHANNEL STABILIZATION SHALL BE MAINTAINED DAILY UNTIL PERMANENT STABILIZATION HAS BEEN ACCOMPLISHED. TEMPORARY ACCESS ROADS SHALL BE PERMANENTLY STABILIZED AFTER CONSTRUCTION AND DECOMMISSIONED AT THE DIRECTION OF THE LAND OWNER.

12. ALL STAGING AND LAY DOWN AREAS SHALL BE PERMANENTLY STABILIZED ONCE MATERIAL AND EQUIPMENT IS REMOVED.

13. AS AREAS ARE BROUGHT UP TO FINISH GRADE, SPREAD TOPSOIL OVER ALL AREAS TO RECEIVE TURF OR LANDSCAPING. SEED ALL AREAS WITHIN NPDES SPECIFIED TIMEFRAME OF COMPLETING ACTIVITY. PERMANENT GRASS SHALL BE INSTALLED FOR ALL AREAS AT FINAL GRADE AND IN SEASON. FERTILIZE, WATER AND RESEED AS REQUIRED TO ESTABLISH AND MAINTAIN A VIGOROUS STAND OF GRASS.

14. AFTER COMPLETION OF CONSTRUCTION AND THE SITE IS STABILIZED, REMOVE ALL ACCUMULATED SEDIMENT FROM SEDIMENT TRAPPING MEASURES AND SPREAD EVENLY ACROSS THE SITE. THEN REMOVE TEMPORARY EROSION CONTROL MEASURES, SMOOTH AREA AND APPLY APPROPRIATE GRASS.

15. WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR FINAL SITE INSPECTION BY ENVIRONMENTAL OFFICER. OBTAIN CERTIFICATE OF COMPLIANCE.

16. CONTRACTOR IS REQUIRED TO MAINTAIN A WEEKLY WRITTEN REPORT OF SEDIMENT AND EROSION CONTROL DEVICES.

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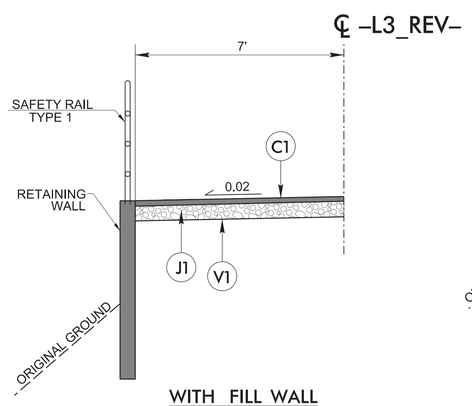
1C

PAVEMENT SCHEDULE

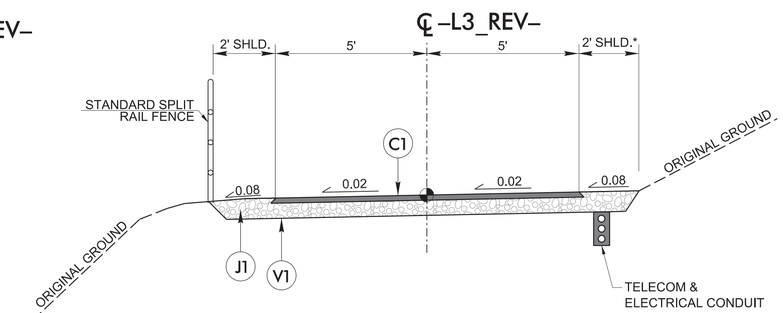
A1	4.5″ PORTLAND CEMENT CONCRETE PAVEMENT WITH WELDED WIRE MESH.	T	EARTH MATERIAL. STRUCTURAL FILL SHOULD BE PLACED IN UNIFORM LIFTS OF 8 INCHES OR LESS (LOOSE MEASURE), AND COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY AND WITHIN 3 PERCENT OF THE OPTIMUM MOISTURE AS DEFINED BY THE STANDARD PROCTOR COMPACTION TEST. THE UPPER 12 INCHES OF THE STRUCTURAL FILL PLACED SHOULD BE COMPACTED TO 98 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. TO CONFIRM THAT THE SPECIFIED DEGREE OF COMPACTION IS OBTAINED, FIELD DENSITY TESTING SHOULD BE PERFORMED IN EACH LIFT BY A SOILS TECHNICIAN. SEE PROJECT GEOTECH REPORT FOR MORE DETAILED INFORMATION.
C1	PROP. APPROX 2" DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER. SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2"		
E1	PROP. APPROX 2" DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 2".		
E2	PROP. APPROX 5" DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 570 LBS. PER SQ. YD.	U	EXISTING PAVEMENT.
J1	PROPOSED 6" AGGREGATE BASE COURSE.	V1	GEOTEXTILE SEPARATOR FABRIC
J2	PROPOSED 8" AGGREGATE BASE COURSE		

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



WITH FILL WALL

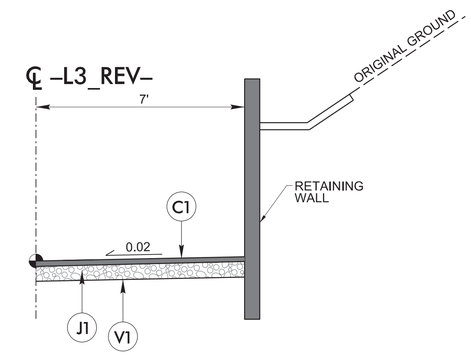
–L3_REV– STA. 23+60 TO STA. 26+00 LT



TYPICAL SECTION #1 – 10′ ASPHALT TRAIL

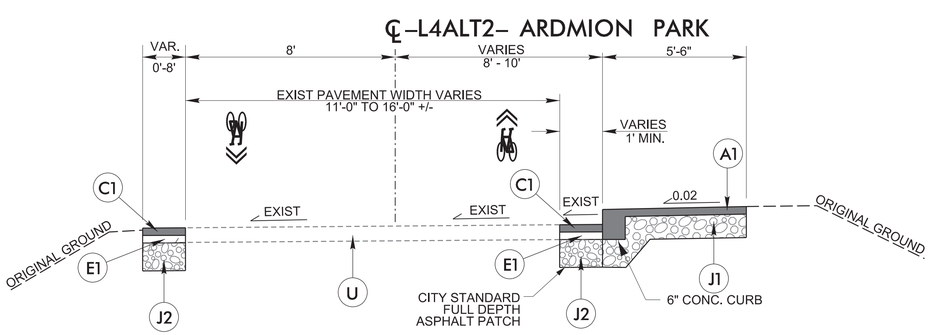
–L3_REV– STA. 10+14.17 TO STA. 23+60
–L3_REV– STA. 26+00 TO STA. 27+75
–L3_REV– STA. 29+90 TO STA. 30+75

* 1′ SHLD (RT) FROM STA. 13+75 TO STA. 14+00



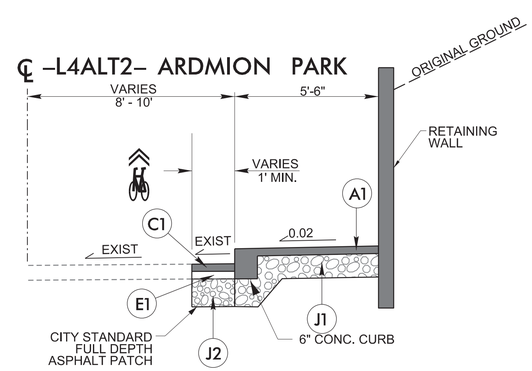
WITH CUT WALL

–L3_REV– STA. 27+75 TO STA. 29+90 WITH CONC. DITCH BEHIND WALL RT
–L3_REV– STA. 30+75 TO STA. 31+25 WITH CONC. DITCH BEHIND WALL RT



TYPICAL SECTION #2 – CONCRETE SIDEWALK

–L4ALT2– STA. 9+84.59 TO STA. 10+75
–L4ALT2– STA. 16+30 TO STA. 19+77



WITH CUT WALL

–L4ALT2– STA. 10+75 TO STA. 16+30 RT

NOTE:
Safety rail types vary throughout the project, see plans and details for type of safety rail to be used.

BEAUCATCHER GREENWAY
WHITE FAWN RESERVOIR
TO
HELEN'S BRIDGE

PLANS PREPARED BY:

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GREENWAY ENGINEER:

NORTH CAROLINA PROFESSIONAL SEAL 30932 ENGINEER ROBERT A. WILLIAMS
10/5/16

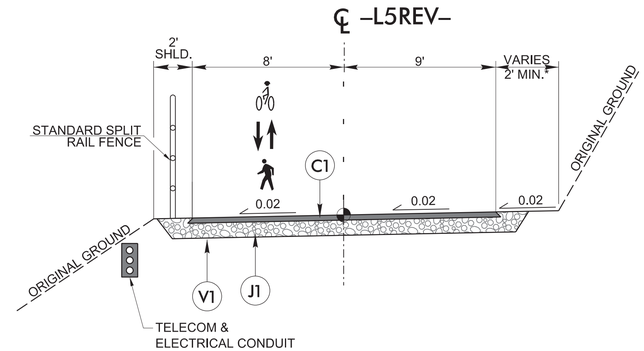
HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

2

A1	4.5" PORTLAND CEMENT CONCRETE PAVEMENT
C1	PROP. APPROX. 2", TYPE S9.5B
E1	PROP. APPROX. 2", TYPE B25.0B
E2	PROP. APPROX. 5", TYPE B25.0B
J1	PROPOSED 6" AGGREGATE BASE COURSE.
J2	PROPOSED 8" AGGREGATE BASE COURSE
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V1	GEOTEXTILE SEPARATOR FABRIC

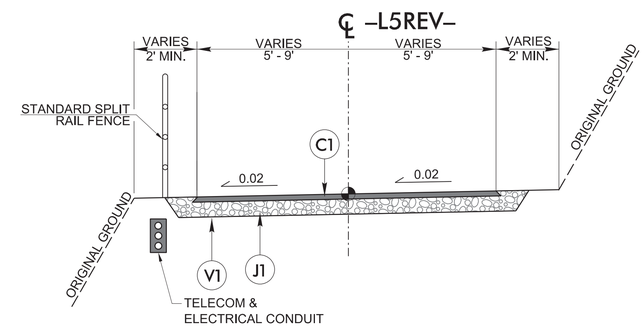
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION #3 – 17' ASPHALT SHARED TRAIL & DRIVEWAY ON EXISTING GRAVEL DRIVEWAY

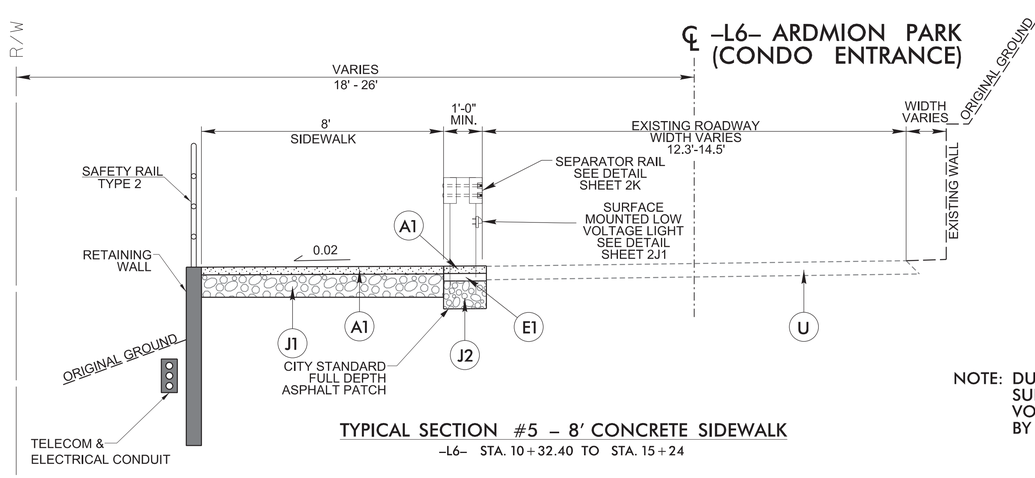
–L5REV– STA. 11+40.57 TO STA. 14+75

* 1' SHLD (RT) FROM STA. 13+65 TO STA. 13+90



TYPICAL SECTION #4 – 10'–18' VARIABLE WIDTH ASPHALT DRIVEWAY

–L5REV– STA. 14+75 TO STA. 28+20



TYPICAL SECTION #5 – 8' CONCRETE SIDEWALK

–L6– STA. 10+32.40 TO STA. 15+24

NOTE: DUSK TO DAWN SENSOR AND POWER SUPPLY, FOR SURFACE MOUNTED LOW VOLTAGE LIGHT, TO BE FIELD LOCATED BY CONTRACTOR.

NOTE:
Safety rail types vary throughout the project, see plans and details for type of safety rail to be used.

CITY OF ASHEVILLE NORTH CAROLINA

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10/5/16

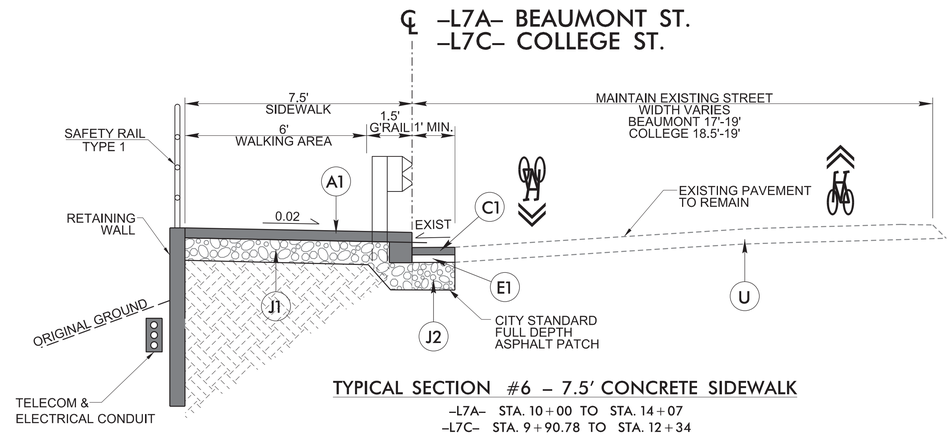
HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

2A

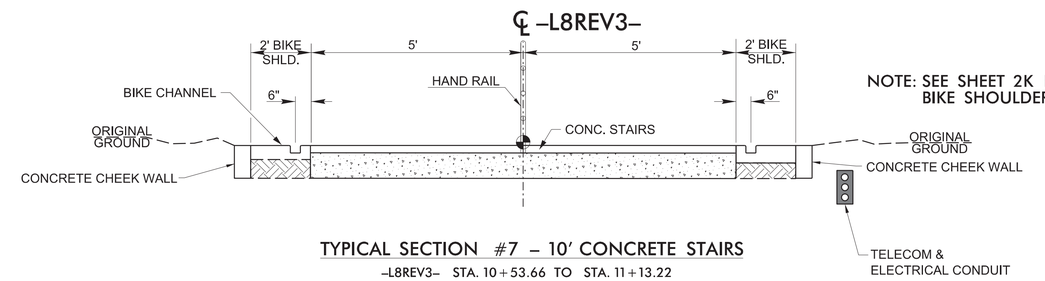
A1	4.5" PORTLAND CEMENT CONCRETE PAVEMENT
C1	PROP. APPROX. 2", TYPE S9.5B
E1	PROP. APPROX. 2", TYPE B25.0B
E2	PROP. APPROX. 5", TYPE B25.0B
J1	PROPOSED 6" AGGREGATE BASE COURSE.
J2	PROPOSED 8" AGGREGATE BASE COURSE
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V1	GEOTEXTILE SEPARATOR FABRIC

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION #6 – 7.5' CONCRETE SIDEWALK

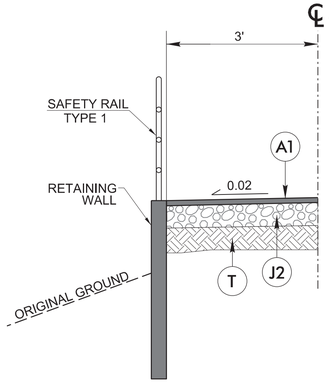
–L7A– STA. 10+00 TO STA. 14+07
–L7C– STA. 9+90.78 TO STA. 12+34



NOTE: SEE SHEET 2K FOR CONCRETE STAIRS, BIKE SHOULDER & CHEEK WALL DETAILS.

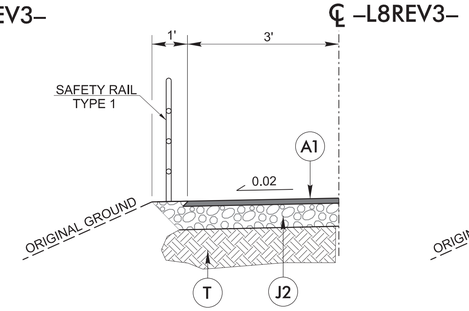
TYPICAL SECTION #7 – 10' CONCRETE STAIRS

–L8REV3– STA. 10+53.66 TO STA. 11+13.22



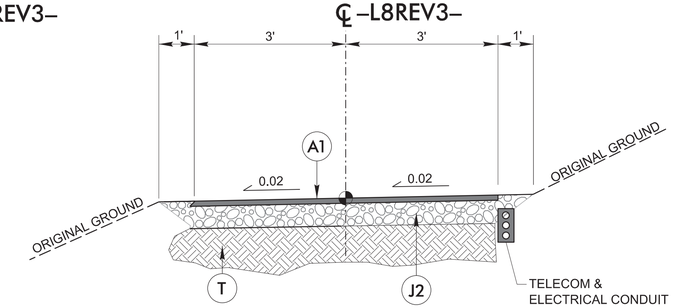
WITH FILL WALL

–L8REV3– STA. 11+65 TO STA. 12+15 LT
–L8REV3– STA. 13+70 TO STA. 14+20 LT
–L8REV3– STA. 15+80 TO STA. 16+72.78 RT
–L8REV3– STA. 16+40 TO STA. 16+97.49 LT



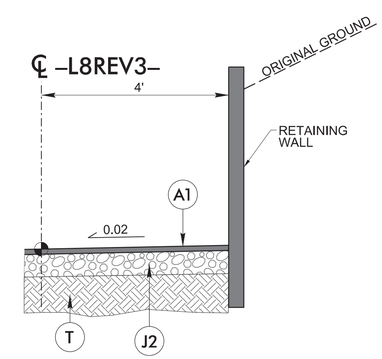
WITH SAFETY RAIL

–L8REV3– STA. 11+05 TO STA. 11+65 LT
–L8REV3– STA. 12+15 TO STA. 12+20 LT
–L8REV3– STA. 15+00 TO STA. 15+80 RT



TYPICAL SECTION #8 – 6' CONCRETE TRAIL

–L8REV3– STA. 13+36.25 TO STA. 13+70
–L8REV3– STA. 14+20 TO STA. 15+00



WITH CUT WALL

–L8REV3– STA. 12+20 TO STA. 13+36.25 RT

NOTE:
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10/5/16

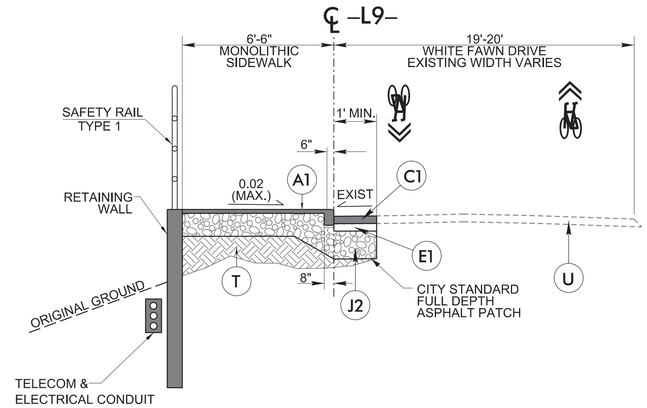
HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

2B

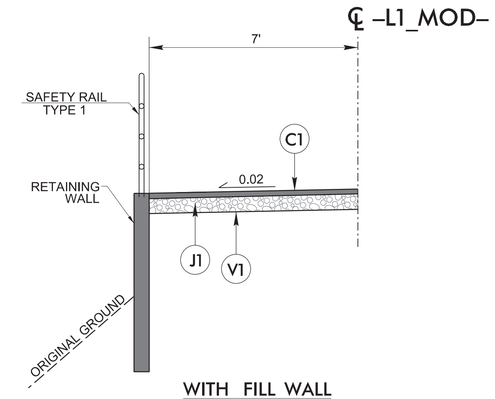
A1	4.5" PORTLAND CEMENT CONCRETE PAVEMENT
C1	PROP. APPROX. 2", TYPE S9.5B
E1	PROP. APPROX. 2", TYPE B25.0B
E2	PROP. APPROX. 5", TYPE B25.0B
J1	PROPOSED 6" AGGREGATE BASE COURSE.
J2	PROPOSED 8" AGGREGATE BASE COURSE
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V1	GEOTEXTILE SEPARATOR FABRIC

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



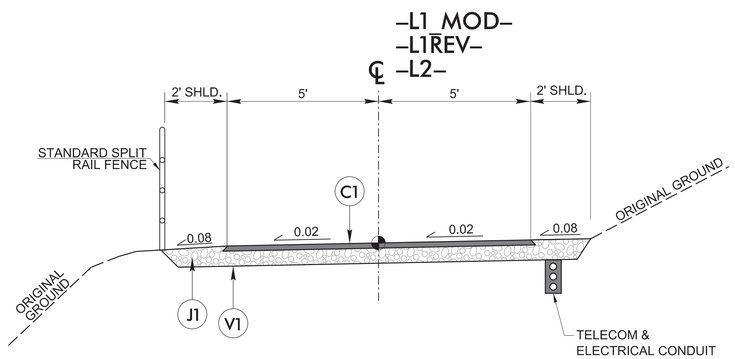
TYPICAL SECTION #9 – 6'–6" CONCRETE MONOLITHIC SIDEWALK

–L9– STA. 11+58.13 TO STA. 14+63.98



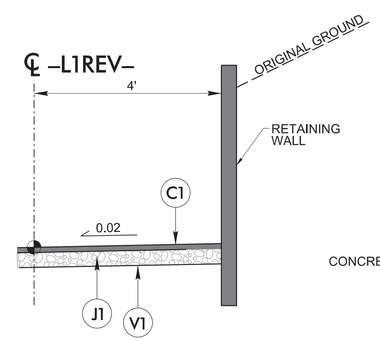
WITH FILL WALL

–L1_MOD– STA. 11+20.00 TO STA. 13+09.00 LT



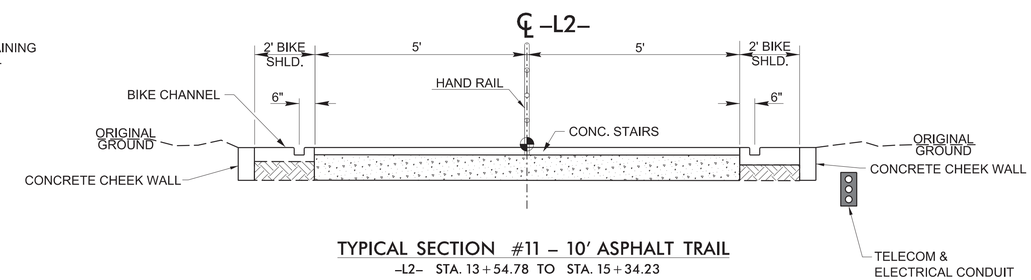
TYPICAL SECTION #10 – 10' ASPHALT TRAIL

–L1MOD– STA. 10+00.00 TO STA. 11+20.00
–L1MOD– STA. 13+09.00 TO STA. 13+21.25
–L1REV– STA. 15+75.46 TO STA. 26+55.00
–L2– STA. 9+49.69 TO STA. 13+54.78
–L2– STA. 15+34.23 TO STA. 15+41.04



WITH CUT WALL

–L1_REV– STA. 26+55.00 TO 29+20.00 RT

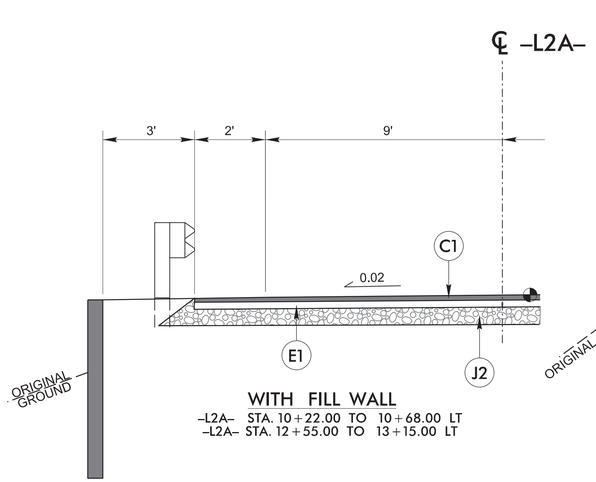


TYPICAL SECTION #11 – 10' ASPHALT TRAIL

–L2– STA. 13+54.78 TO STA. 15+34.23

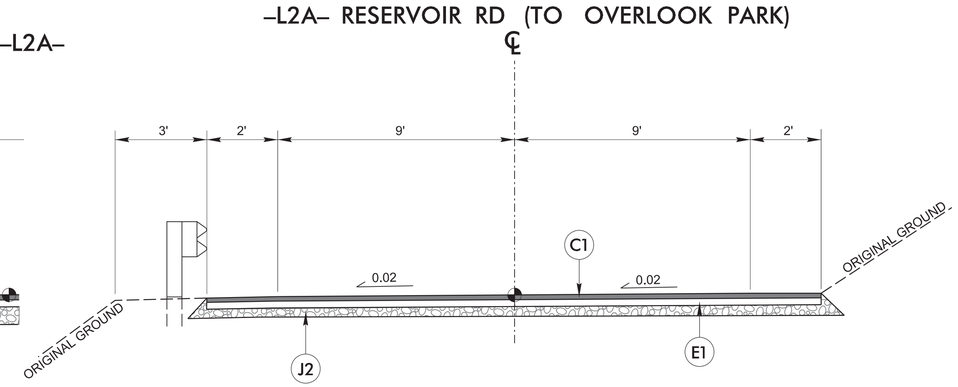
NOTE: SEE SHEET 2K FOR CONCRETE STAIRS,
BIKE SHOULDER & CHEEK WALL DETAILS.

–L2A– RESERVOIR RD (TO OVERLOOK PARK)



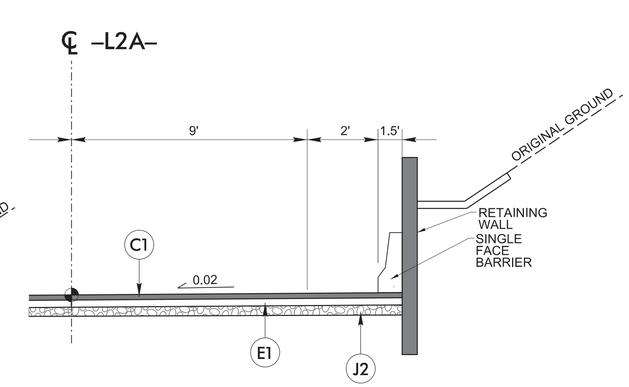
WITH FILL WALL

–L2A– STA. 10+22.00 TO 10+68.00 LT
–L2A– STA. 12+55.00 TO 13+15.00 LT



TYPICAL SECTION #12

–L2A– STA. 10+00.00 TO 10+22.00
–L2A– STA. 10+68.00 TO 12+55.00
–L2A– STA. 14+10.00 TO 14+85.00



WITH CUT WALL

–L2A– STA. 13+00 TO STA. 14+10

NOTE:
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NORTH CAROLINA PROFESSIONAL SEAL 30602 ENGINEER ROBERT A. WILLIAMS
10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:

H13002.00

2C

MECHANICALLY STABILIZED EARTH (MSE) NOTES:

FOR MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALLS, SEE MECHANICALLY STABILIZED EARTH RETAINING WALLS PROVISION.

USE AN MSE WALL SYSTEM WITH SEGMENTAL RETAINING WALL UNITS (SRW) UNITS THAT MEET ARTICLE 1040-4 OF THE 2012 NCDOT STANDARD SPECIFICATIONS.

WHEN USING AN MSE WALL SYSTEM WITH SRW UNITS, FREEZE-THAW DURABLE SRW UNITS THAT MEET ARTICLE 1040-4 OF THE NCDOT STANDARD SPECIFICATIONS ARE REQUIRED.

BEFORE BEGINNING MSE WALL DESIGN FOR RETAINING WALLS, SURVEY WALL LOCATION AND SUBMIT A REVISED WALL PROFILE VIEW (WALL ENVELOPE) FOR REVIEW. DO NOT START WALL DESIGN OR CONSTRUCTION UNTIL THE REVISED WALL ENVELOPE IS ACCEPTED.

DESIGN RETAINING WALL NO. FOR THE FOLLOWING:
1) H = DESIGN HEIGHT + EMBEDMENT
2) DESIGN LIFE = 100 YEARS
3) MAXIMUM FACTORED VERTICAL PRESSURE ON FOUNDATION MATERIAL = 2500 LB/SF
4) MINIMUM REINFORCEMENT LENGTH SHALL BE DETERMINED BY WALL DESIGNER. REINFORCEMENT SHOULD NOT ENCROACH UNDER EXISTING ROADWAYS.
5) MINIMUM EMBEDMENT = 2.0 FT
6) PROVIDE A 4' BENCH AT THE BASE OF THE WALL 6:1 OR FLATTER, OR PROVIDE ADDITIONAL EMBEDMENT EQUIAL TO A DEPTH THAT WILL PROVIDE A THEORETICAL 4' BENCH SHOULD UPPER MATERIAL BE REMVOED.
7) REINFORCED ZONE AGGREGATE PARAMETERS:

AGGREGATE TYPE*	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (ϕ) DEGREES	COHESION (c) LB/SF
COARSE	110	38	0
FINE	115	34	0
*SEE MSE RETAINING WALLS PROVISION FOR COARSE AND FINE AGGREGATE MATERIAL REQUIREMENTS.			

8) IN-SITU ASSUMED MATERIAL PARAMETERS:

MATERIAL TYPE	UNIT WEIGHT (γ) LB/CF	FRICTION ANGLE (ϕ) DEGREES	COHESION (c) LB/SF
BACKFILL	130	32	0
FOUNDATION	125	28	0

DESIGN RETAINING WALLS WITHIN 10' OF EDGE OF ROADWAYS FOR A LIVE LOAD (TRAFFIC) SURCHARGE.

FOUNDATIONS FOR SIGNS OR LIGHTING MAY BE LOCATED BEHIND RETAINING WALLS AND MAY INTERFERE WITH REINFORCEMENT. BEFORE BEGINNING MSE WALL CONSTRUCTION, SUBMIT PROPOSED CONSTRUCTION METHODS FOR THESE FOUNDATIONS FOR APPROVAL.

EXISTING OR FUTURE OBSTRUCTIONS SUCH AS FOUNDATIONS, GUARDRAIL, FENCE OR HANDRAIL POSTS, PAVEMENTS, PIPES, INLETS OR UTILITIES MAY INTERFERE WITH REINFORCEMENT FOR RETAINING WALLS.

DO NOT PLACE LEVELING PAD CONCRETE, AGGREGATE OR REINFORCEMENT FOR RETAINING WALLS UNTIL EXCAVATION DIMENSIONS AND FOUNDATION MATERIAL ARE APPROVED.

"TEMPORARY SHORING" MAY BE REQUIRED FOR RETAINING WALLS. TEMPORARY SHORING SHALL BE IN ACCORDANCE WITH THE TEMPORARY SHORING PROVISION, AND THE MSE RETAINING WALLS PROVISION FOR TEMPORARY SHORING FOR WALL CONSTRUCTION. TEMPORARY SHORING IS CONSIDERED INCIDENTAL TO THE WALL CONSTRUCTION, NO SEPARATE PAYMENT WILL BE MADE FOR TEMPORARY SHORING.

WALL DESIGNER IS RESPONSIBLE FOR BOTH LOCAL AND GLOBAL STABILITY OF THE RETAINING WALL.

ESTIMATED FILL WALL QUANTITIES (SF)				
-L8REV3-	GRAVITY/MSE WALL NO.	1	325	SF
-L8REV3-	GRAVITY/MSE WALL NO.	3	362	SF
-L8REV3-	GRAVITY/MSE WALL NO.	4A	675	SF
-L8REV3-	GRAVITY/MSE WALL NO.	4	2222	SF
-L9-	GRAVITY/MSE WALL NO.	5	1024	SF
-L3_REV-	GRAVITY/MSE WALL NO.	6A	1189	SF
-L5-	OMITTED	12	OMITTED	
-L6-	GRAVITY/MSE WALL NO.	13	2330	SF
-L7C-	GRAVITY/MSE WALL NO.	16	1003	SF
-L1MOD-	GRAVITY/MSE WALL NO.	17	1656	SF
-L2A-	OMITTED	22	OMITTED	
-L2A-	OMITTED	23	OMITTED	
-HBL-	GRAVITY/MSE WALL NO.	25	307	SF
-HBU-	GRAVITY/MSE WALL NO.	27	205	SF

ESTIMATED CUT WALL QUANTITIES (SF)				
-L8REV3-	GRAVITY/MSE WALL NO.	2	756	SF
-L3_REV-	OMITTED	6	OMITTED	
-L3_REV-	GRAVITY/MSE WALL NO.	7	2072	SF
-L3_REV-	GRAVITY/MSE WALL NO.	8	397	SF
-L9-	OMITTED	9	OMITTED	
-L3_REV-	OMITTED	9A	OMITTED	
-L4ALT2-	GRAVITY/MSE WALL NO.	10	4545	SF
-L5REV-	OMITTED	11	OMITTED	
-L7A-	GRAVITY/MSE WALL NO.	14	299	SF
-L7A-	GRAVITY/MSE WALL NO.	15	342	SF
-L7A-	GRAVITY/MSE WALL NO.	15A	2057	SF
-L1REV-	GRAVITY/MSE WALL NO.	20	319	SF
-L2A-	GRAVITY/MSE WALL NO.	21	2911	SF
-HBL-	GRAVITY/MSE WALL NO.	24	1525	SF
-HBU-	GRAVITY/MSE WALL NO.	26	394	SF

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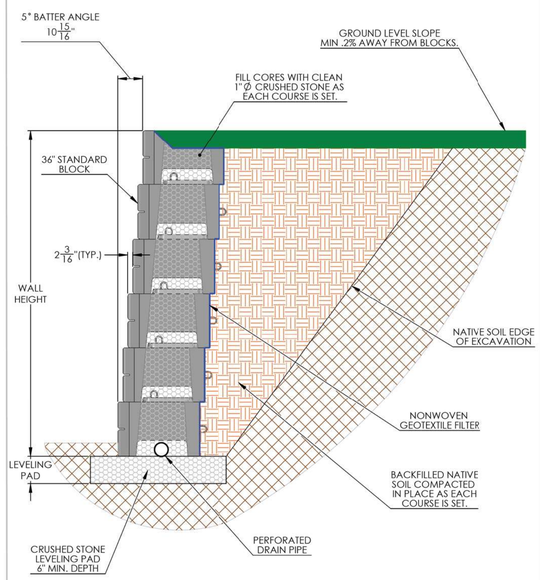
10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

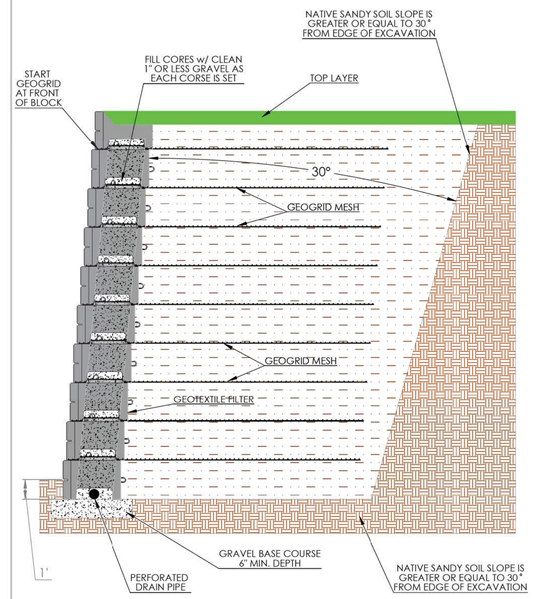
2D

TYPICAL GRAVITY WALL WITH 36" BLOCK

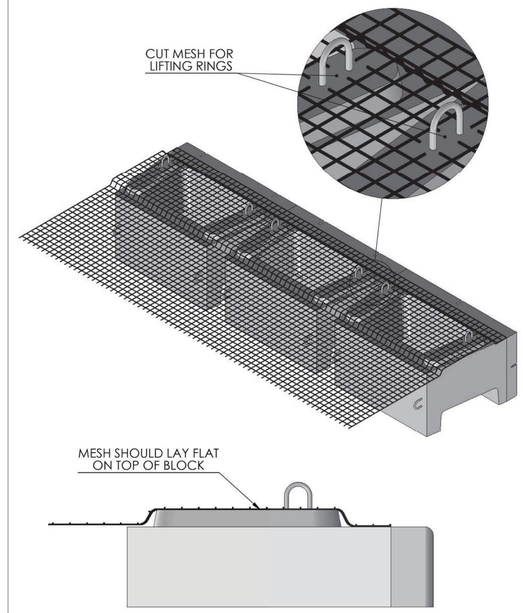


TITLE: 12' RETAINING SECTION
DWG NO. WD-14
SCALE: 1:30 | SHEET 1 OF 1

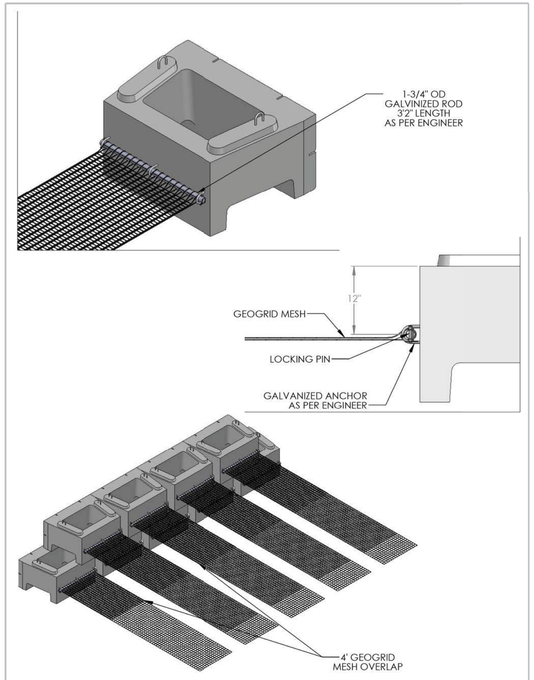
20' GEOGRID FRICTION CONNECTION



TITLE: 20' FRICTION DETAIL
DWG NO. M-03
SCALE: 1:42 | SHEET 1 OF 1

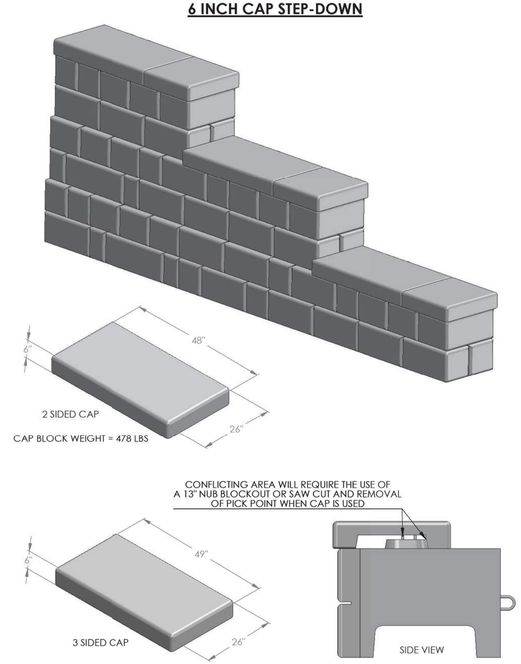


TITLE: FRICTION CONNECTION
DWG NO. M-01
SCALE: 1:7 | SHEET 1 OF 1



TITLE: POSITIVE CONNECTION
DWG NO. M-02
SCALE: 1:15 | SHEET 1 OF 1

6 INCH CAP STEP-DOWN



TITLE: 6" CAP BLOCK SCENARIO
DWG NO. CB-01
SCALE: 1:4 | SHEET 1 OF 1

NOTES:

1. CONTRACTOR TO PROVIDE A JOINT @ THE WALL STEPS
2. CITY OF ASHEVILLE SHALL SELECT CONCRETE COLOR. CONTRACTOR TO PROVIDE COLORED CONCRETE SAMPLES
3. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO ANY WALL CONSTRUCTION.
4. ALL WALLS TO BE CONSTRUCTED WITHIN CITY OF ASHEVILLE PROPERTY OR RIGHT OF WAY LIMITS.
5. THE APPEARANCE OF THE OVERALL WALL SHALL BE A STONE OR SYNTHETIC STONE FINISH IN ACCORDANCE WITH CITY OF ASHEVILLE ZONING STANDARDS. CONTRACTOR SHALL SUBMIT SAMPLE AND SPECIFICATION OF WALL SYSTEM TO ENGINEER FOR APPROVAL.

CITY OF ASHEVILLE NORTH CAROLINA

BEAUCATCHER GREENWAY
WHITE FAWN RESERVOIR
TO
HELEN'S BRIDGE

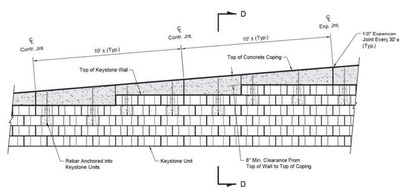
PLANS PREPARED BY:
STEWART
Firm License No. C-1051
421 Fayetteville St.
Suite 400
Raleigh, NC 27601
T 919.380.8750
www.stewartinc.com

GREENWAY ENGINEER:
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 30932 ROBERT A. WILLIAMS
10/5/16

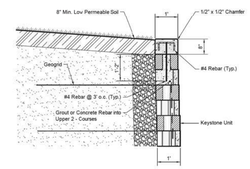
HYDRAULICS ENGINEER:

PROJECT NO.: H13002.00

2E



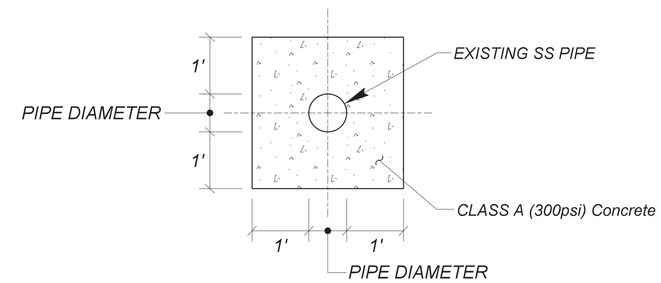
Partial C.I.P Top Concrete Coping Elevation



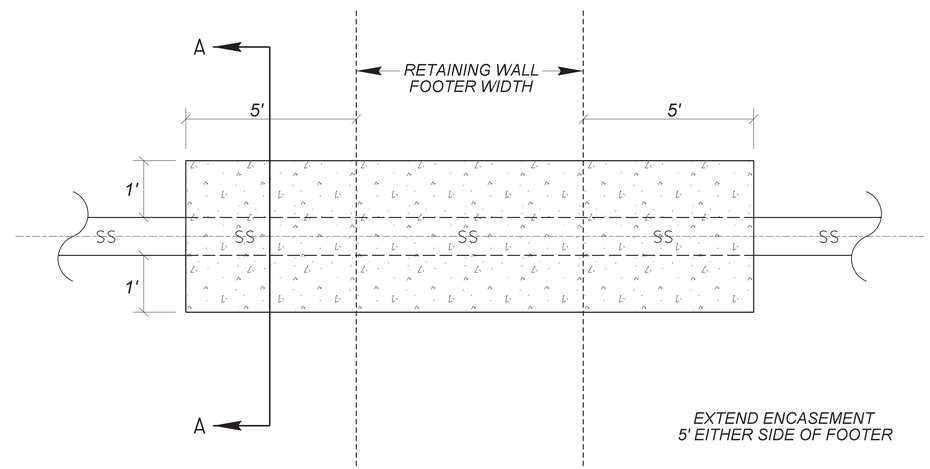
Note:
1. Maintain 2" minimum cover on all rebar.
2. Full expansion joints shall be placed every 3rd joint and at all wall radius and bend points.

Section D - D
C.I.P. Top Concrete Coping

CONCRETE ENCASEMENT DETAIL



A-A View



Plan View

NOTES:

1. CONTRACTOR TO PROVIDE A JOINT @ THE WALL STEPS
2. CITY OF ASHEVILLE SHALL SELECT CONCRETE COLOR. CONTRACTOR TO PROVIDE COLORED CONCRETE SAMPLES
3. CONCRETE SHALL HAVE A "BRUSHED" FINISH

CITY OF ASHEVILLE NORTH CAROLINA

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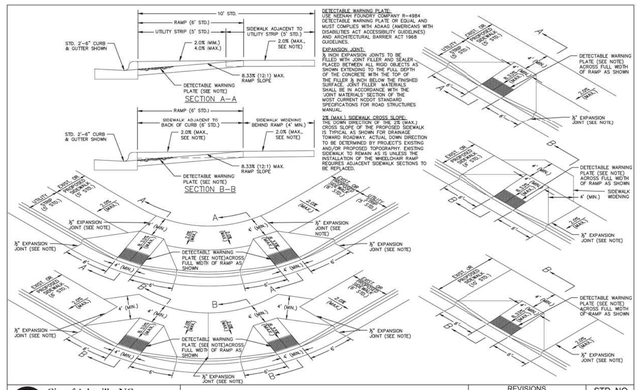
10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

2F



DETECTABLE WARNING PLATE:
USE NEENAH FOUNDRY COMPANY R-4984 DETECTABLE WARNING PLATE OR EQUAL AND MUST COMPLIES WITH ADAAG (AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES) AND ARCHITECTURAL BARRIER ACT 1968 GUIDELINES.

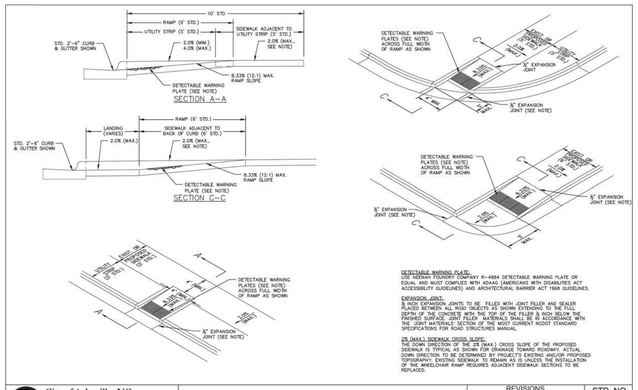
EXPANSION JOINT:
½ INCH EXPANSION JOINTS TO BE FILLED WITH JOINT FILLER AND SEALER PLACED BETWEEN ALL RIGID OBJECTS AS SHOWN EXTENDING TO THE FULL DEPTH OF THE CONCRETE WITH THE TOP OF THE FILLER & INCH BELOW THE FINISHED SURFACE. JOINT FILLER - WATERPROOFED SHALL BE IN ACCORDANCE WITH THE JOINT MATERIALS SECTION OF THE MOST CURRENT NCDOT STANDARD SPECIFICATIONS FOR ROAD STRUCTURES MANUAL.

2% (MAX.) SIDEWALK CROSS SLOPE:
THE DOWN DIRECTION OF THE 2% (MAX.) CROSS SLOPE OF THE PROPOSED SIDEWALK IS TYPICAL AS SHOWN FOR DRAINAGE TOWARD ROADWAY. ACTUAL DOWN DIRECTION TO BE DETERMINED BY PROJECT'S EXISTING AND/OR PROPOSED SIDEWALK. EXISTING SIDEWALK TO REMAIN AS IS UNLESS THE INSTALLATION OF THE WHEELCHAIR RAMP REQUIRES ADJACENT SIDEWALK SECTIONS TO BE REPLACED.

City of Asheville, NC
Standard Specifications and Details Manual

STANDARD WHEELCHAIR RAMP

REVISIONS DATE	DESCRIPTION	STD. NO.
		3.17



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EXPANSION JOINT:
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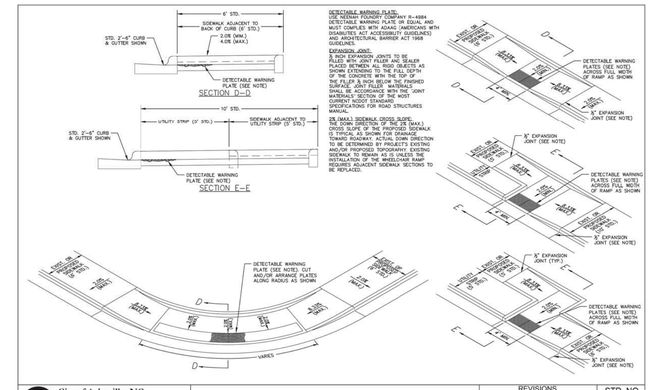
City of Asheville, NC
Standard Specifications and Details Manual

STANDARD WHEELCHAIR RAMP

REVISIONS DATE	DESCRIPTION	STD. NO.
		3.17A



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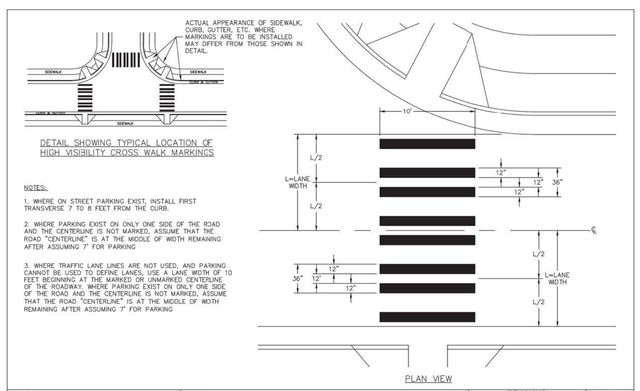
City of Asheville, NC
Standard Specifications and Details Manual

STANDARD WHEELCHAIR RAMP

REVISIONS DATE	DESCRIPTION	STD. NO.
		3.17B



NOTES:

1. WHERE ON STREET PARKING EXIST, INSTALL FIRST TRANSVERSE 7 TO 8 FEET FROM THE CURB.

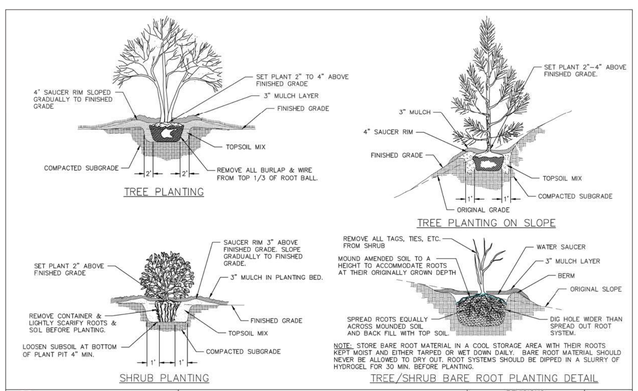
2. WHERE PARKING EXIST ON ONLY ONE SIDE OF THE ROAD AND THE CENTERLINE IS NOT MARKED, ASSUME THAT THE ROAD "CENTERLINE" IS AT THE MIDDLE OF WIDTH REMAINING AFTER ASSUMING 7' FOR PARKING

3. WHERE TRAFFIC LANE LINES ARE NOT USED, AND PARKING CANNOT BE USED TO DEFINE LANES, USE A LANE WIDTH OF 10 FEET BEGINNING AT THE MARKED OR UNMARKED CENTERLINE OF THE ROADWAY. WHERE PARKING EXIST ON ONLY ONE SIDE OF THE ROAD AND THE CENTERLINE IS NOT MARKED, ASSUME THAT THE ROAD "CENTERLINE" IS AT THE MIDDLE OF WIDTH REMAINING AFTER ASSUMING 7' FOR PARKING

City of Asheville, NC
Standard Specifications and Details Manual

HIGH VISABILTY CROSS WALK

REVISIONS DATE	DESCRIPTION	STD. NO.
		3.30



NOTE: STORE BARE ROOT MATERIAL IN A COOL STORAGE AREA WITH THEIR ROOTS KEPT MOIST AND EITHER TARPED OR WET DOWN DAILY. BARE ROOT MATERIAL SHOULD NEVER BE ALLOWED TO DRY OUT. ROOT SYSTEMS SHOULD BE DIPPED IN A SLURRY OF HYDROGEL FOR 30 MIN. BEFORE PLANTING.

City of Asheville, NC
Standard Specifications and Details Manual

TREE & SHRUB PLANTING DETAIL

REVISIONS DATE	DESCRIPTION	STD. NO.
		3.22F

UNIQUE LIGHTING SYSTEMS®

Niche Light
Brass Niche Light
Odyssey™ Series

GEMINI: 12V & 24V Brass Niche Light

PROJECT:	
TYPE:	
CATALOG NUMBER:	
LAMP(S):	
NOTES:	

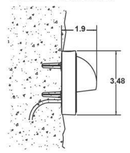
FIXTURE ORDERING INFORMATION

Example: GEMI-12-20 (Gemini, 12 Volt, 20 Watt, 25' Wire Lead, Weathered Brass)

MODEL NAME	VOLTAGE	WATTAGE	WIRE LENGTH	FINISH	OPTIONS
GEMI	12=12 Volt 24=24 Volt	L1= LED, 1W, 3000K L2= LED, 2W, 3000K 20= 20W Xelogen NL= No Lamp	Leave blank for standard 25' length * 0= 3' wire lead * 50= 50' wire lead	leave blank for standard WB finish P= Standard powder coat finishes. List your desired color in the order comments area.	* 6P= Six Pack

NOTE: Pre-lamped LED fixtures are NOT available with 24V lamps. LED fixtures and six pack options are available ONLY with a 25' wire lead. For additional painted finishes or six pack options contact our factory.

DIMENSIONS:



Powder Coated Finishes

Tucson Tan	TT
White	WH
Black	BK
Verde Green	VG
Titanium Knight	TK

Standard Finish

Weathered Brass	

Stock powder coated colors displayed are subject to varying shades and hues. Upon request, at additional cost, A Limited Warranty applies to all powder coated products. Custom colors are available upon request. Please inquire about cost and lead times. Contact factory for custom colors and matching paint options.

FLEX™ Series LED — Unique Lighting Systems® fixtures are available with LED lamps. Please specify the lamp code when ordering.

* Only available with the NL wattage option.
Unique Lighting Systems® reserves the right to modify the design and/or construction of the fixture shown without further notification.

SPECIFICATIONS

Our Commitment
Unique Lighting Systems' highest commitment is to set the standard for manufacturing innovative and quality products. This commitment is evident through our detailed inspection processes and extensive field testing. From the initial design process of each product, to the final assembly of each custom-made individual part, our manufacturing process accomplishes the highest level of performance and durability carried through to final delivery to the end user. Durable construction and beautiful styling make Unique fixtures the ideal solution for any residential or commercial application. Unique Lighting™ already holds numerous product patents and we are constantly developing innovative ideas to help expand the lighting industry.

Materials
Crafted from cast brass.

Body
Fully cast brass.

Shroud
Fully machined. Twist/lock shroud for easy relamping and adjusting.

Lens
Frosted tempered glass lens.

Lamp
For use with a Xelogen lamp up to 20W. ***FLEX™*** Series LED lamps are available in 1W or 2W T3 lamps. LED lamps are available in 3000K color temperatures.

Electrical Requirements
A remote 12V or 24V transformer required, may be ordered separately from Unique Lighting Systems®. Voltage range for 12V halogen amps is 10.8V to 12V. Voltage range for 24V halogen lamps is 21.6V to 24V. Voltage range for 12V ***FLEX™*** Series LED lamps is 10V-18V.

Socket
Specification grade, beryllium copper lamp holder. GU5.3 base.

Wiring
Exclusive UF Intelli-Flex wire with anti-moisture migration connections.

Mounting Hardware
Mounting hardware, screws and anchors with foam leveling gasket.

Finish
Exclusive Weathered Brass finish is standard. Unique™ Lightings' Weathered Brass finish is a "living finish" and will naturally patina and change over time. Polyester powder coat finishes are also available (see chart above).

Warranty
The Odyssey Family of products from Unique Lighting Systems® carries a limited lifetime warranty against manufacturer's defects.

Manufacturing
Manufactured to ISO 9001-2008 Quality standard.

IL 2108:2004 R12.07
CSA C22.2.9.0-96 (R2006)

Unique Lighting Systems®
www.uniquelighting.com

5825 Jasmine Street
Riverside, CA 92504

T 800-955-4831
F 800-955-9852

CITY OF ASHEVILLE NORTH CAROLINA

BEAUCATCHER GREENWAY
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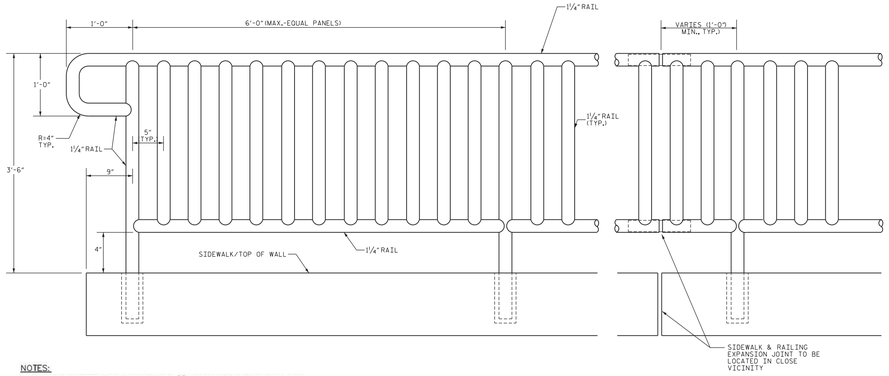
GREENWAY ENGINEER:
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 30932 ROBERT A. WILLIAMS
10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

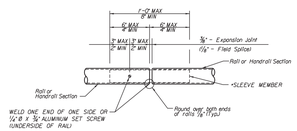
2G



NOTES:

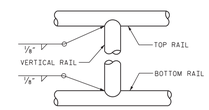
1. CONSTRUCT PROPOSED STEEL PIPE RAIL OF 1 ¼" SCHEDULE 40 PLAIN END STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A53.
2. CONSTRUCT STEEL PIPE IN ACCORDANCE WITH SECTION 1074 OF THE NCDOT STANDARD SPECIFICATION.
3. WELD IN ACCORDANCE WITH ARTICLE 1072-18 OF THE STANDARD SPECIFICATIONS.
4. ALL POST SECTIONS ARE TO BE CONSTRUCTED PLUMB, NOT PERPENDICULAR TO THE SIDEWALK.
5. USE APPROVED NON-SHRINK GROUT IN ACCORDANCE WITH SECTION 1003 OF THE NCDOT STANDARD SPECIFICATIONS FOR HANDRAIL FOOTINGS.
6. PLACEMENT OF HANDRAIL IN RELATION TO WALL AND SIDEWALK MAY BE MODIFIED AS DIRECTED BY THE ENGINEER.
7. PIPE SURFACE TO BE PREPARED BEFORE PRIMING IN ACCORDANCE WITH THE SOCIETY FOR PROTECTIVE COATING SPECIFICATIONS.
8. PIPE TO BE DELIVERED TO WORK SITE PRIMED PAINTED.
9. PAINT SCHEDULE:

PRIME COAT: SHERWIN WILLIAMS B50NZ0003 – KEM BOND® HIGH SOLIDS ALKYD UNIVERSAL METAL PRIMER RED OXIDE OR EQUAL.
INTERMEDIATE COAT: SHERWIN WILLIAMS B58T00604 – MACROPOXY® 645 FAST CURE EPOXY A ULTRADEEP/SLEAK TINT BASE OR EQUAL.
TOP COAT: MIXTURE AS PER MANUFACTURE INSTRUCTIONS OF SHERWIN WILLIAMS B65B00600-ACROLON® 218 HS POLYURETHANE – GLOSS PART A, BLACK AND B65V00600-ALCOLON® 218 HS POLYURETHANE – GLOSS PART B HARDENER OR EQUAL.



EXPANSION JOINT DETAILS

*SLEEVE MEMBER SIZE
FOR 1¼" SCH.40 PIPE USE 1" SCH.40 SLEEVE

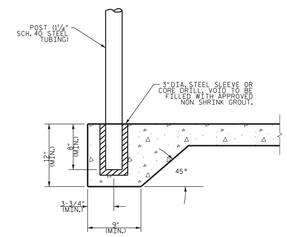


RAIL CONNECTION

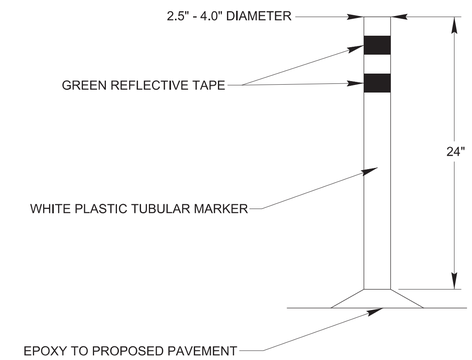
SAFETY RAIL

TYPE 1

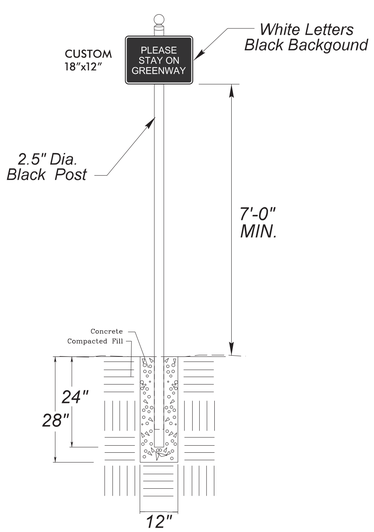
TO BE USED IN CONJECTION WITH DROP OFFS THAT EXCEED 30" IN HEIGHT.
(SEE PLANS FOR LOCATIONS.)



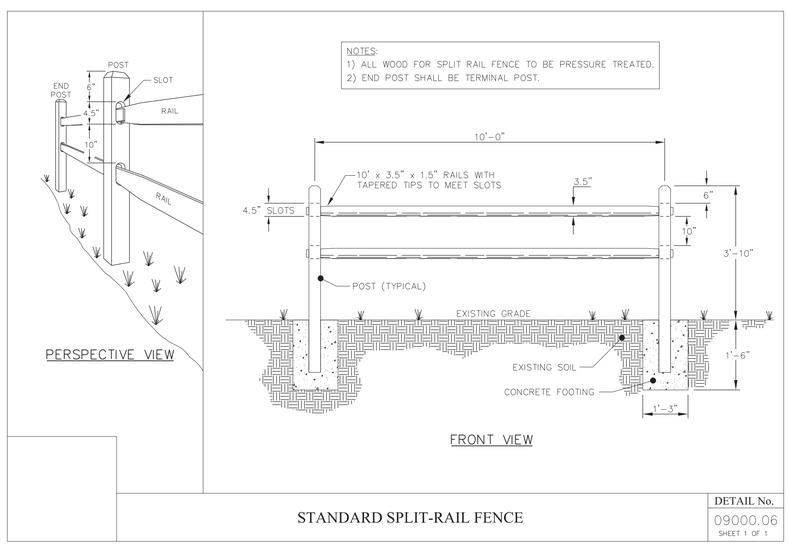
SECTION VIEW



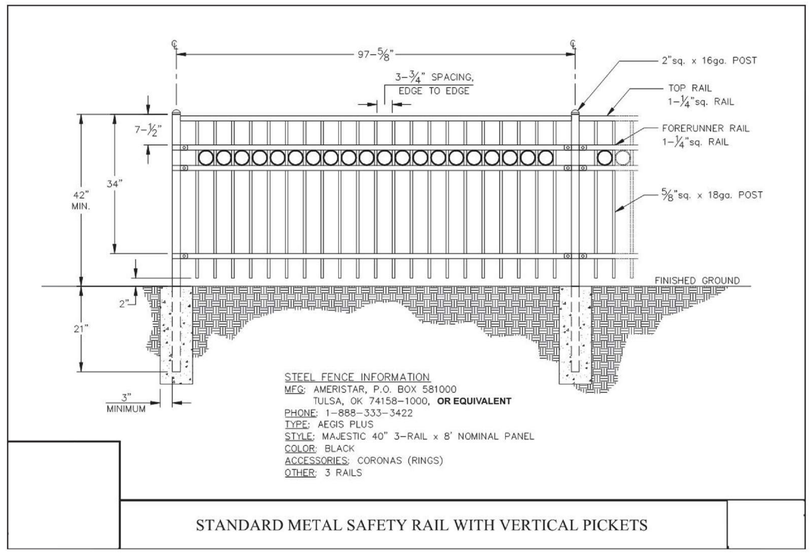
TUBULAR DELINEATOR DETAIL



Custom Sign Detail



STANDARD SPLIT-RAIL FENCE
(SEE PLANS FOR LOCATIONS)



SAFETY RAIL

TYPE 2
(SEE PLANS FOR LOCATIONS)

CITY OF ASHEVILLE NORTH CAROLINA

BEAUCATCHER GREENWAY
WHITE FAWN RESERVOIR
TO
HELEN'S BRIDGE

PLANS PREPARED BY:

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GREENWAY ENGINEER:

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HYDRAULICS ENGINEER:

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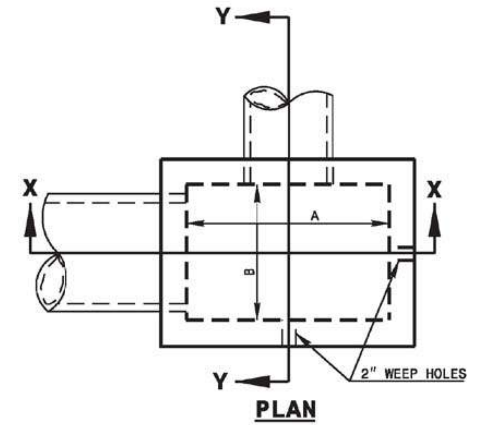
H13002.00

2H



NOTES: USE CLASS "B" CONCRETE THROUGHOUT.

PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR, 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.

FOR 8'-0" IN HEIGHT OR LESS USE 6" WALLS AND BOTTOM SLAB. OVER 8'-0" TO 16'-0" IN HEIGHT USE 8" WALLS AND BOTTOM SLAB. ADJUST QUANTITIES ACCORDINGLY.

CONSTRUCT WITH PIPE CROWNS MATCHING.

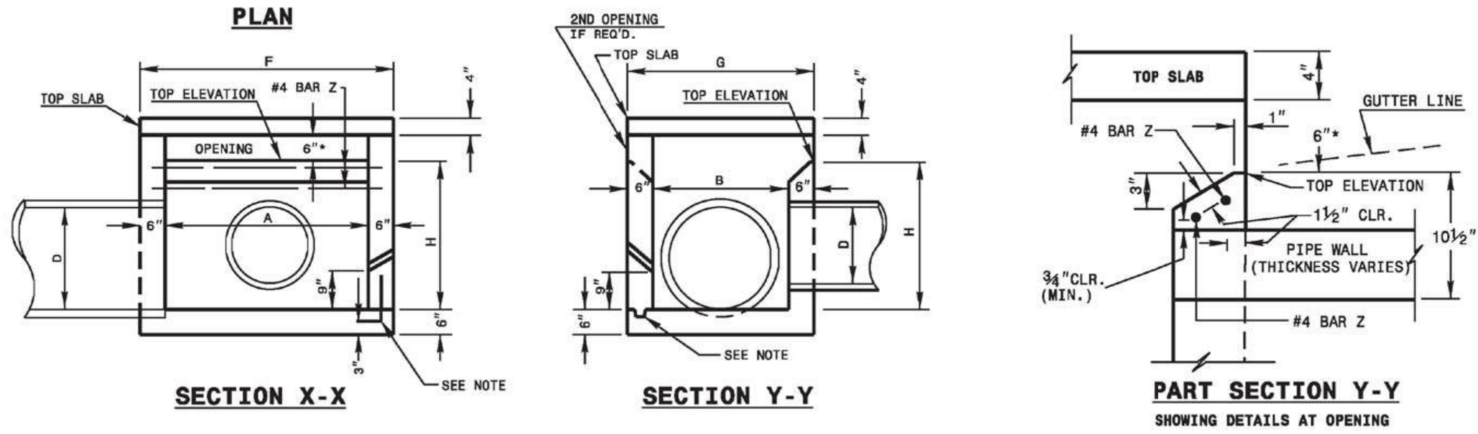
INSTALL 2" WEEPHOLES AS DIRECTED BY THE ENGINEER.

INSTALL STONE DRAINS, OF A MINIMUM OF 1 CUBIC FOOT OF NO. 78M STONE IN A POROUS FABRIC BAG OR WRAP, AT EACH WEEP HOLE OR AS DIRECTED BY THE ENGINEER.

CHAMFER ALL EXPOSED CORNERS 1".

DRAWING NOT TO SCALE.

* INCREASE THE SIZE OF THE 6" OPENING TO 8" MAX., AS DIRECTED BY THE ENGINEER BY ADDING 2" TO THE WALL HIEGHT ABOVE THE TOP ELEVATION. ADJUST QUANTITIES ACCORDINGLY.



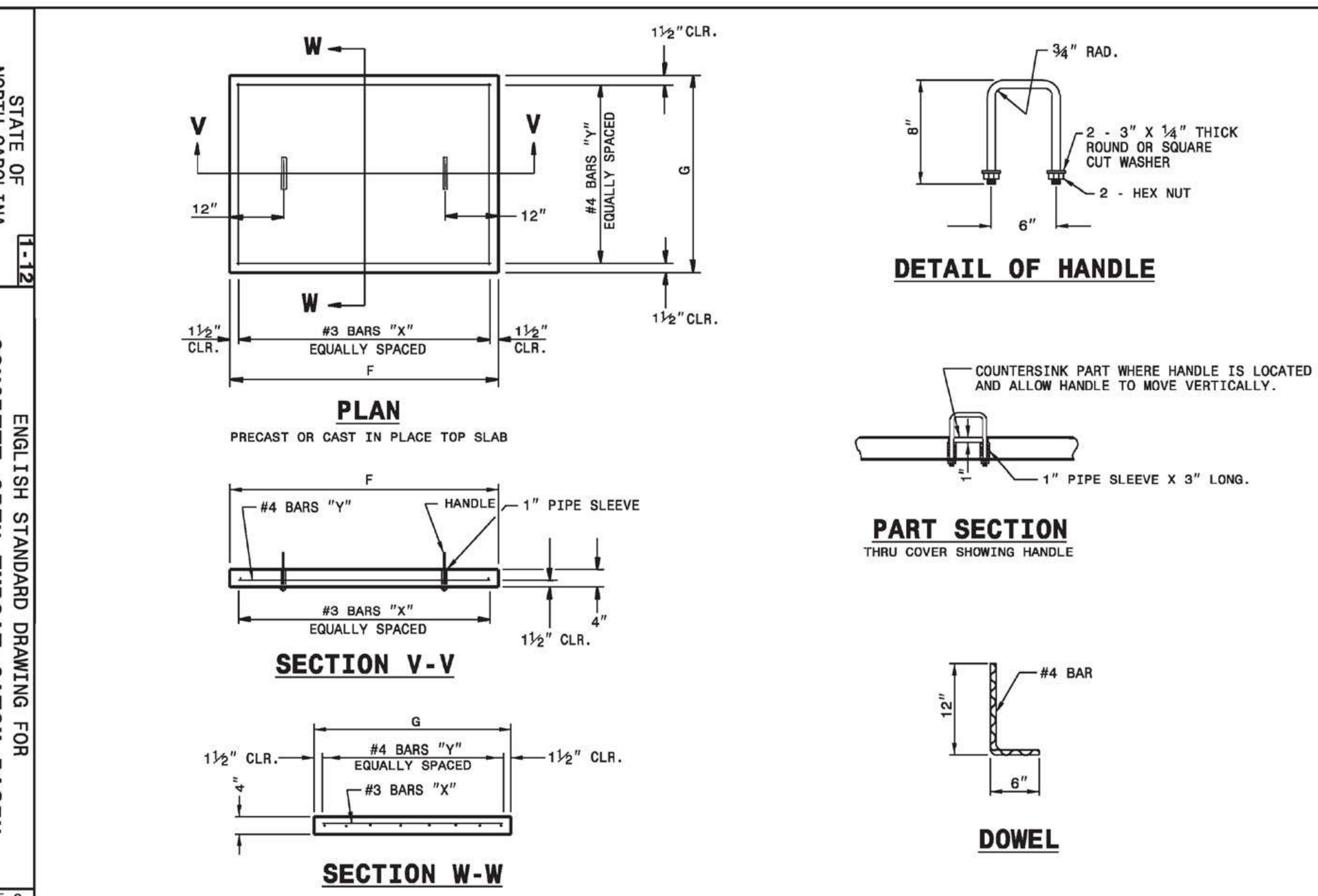
MIN. DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN (BASED ON MIN. HEIGHT, H)

DIM'S OF BOX & PIPE				REINFORCING						TOP & BOT. SLAB DIMENSIONS		CU. YDS. CONC. IN BOX			TOTAL QUANTITIES BOX & SLABS		DEDUCTION ONE PIPE		DED. ONE 6" THROAT OPENING
PIPE	SPAN	WIDTH	HEIGHT	BARS - X		BARS - Y		BARS - Z											
D	A	B	H	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	F	G	TOP SLAB	BOT. SLAB	WALL/FT. HT.	LBS. REINF.	YD³ (MIN H)	C.S.	R.C.	YD³
12"	3'-6"	2'-3"	1'-10"	4	3'-0"	6	4'-3"	2	4'-3"	4'-6"	3'-3"	0.181	0.271	0.250	27	1.046	0.015	0.032	0.046
15"	3'-6"	2'-3"	2'-1"	4	3'-0"	6	4'-3"	2	4'-3"	4'-6"	3'-3"	0.181	0.271	0.250	27	1.108	0.023	0.036	0.046
18"	4'-0"	2'-8"	2'-4"	5	3'-5"	7	4'-9"	2	4'-9"	5'-0"	3'-8"	0.226	0.340	0.284	35	1.379	0.033	0.049	0.053
24"	4'-0"	2'-8"	2'-10"	5	3'-5"	7	4'-9"	2	4'-9"	5'-0"	3'-8"	0.226	0.340	0.284	35	1.521	0.059	0.085	0.053
30"	4'-0"	3'-6"	3'-4"	5	4'-3"	9	4'-9"	2	4'-9"	5'-0"	4'-6"	0.278	0.417	0.315	43	1.916	0.092	0.127	0.053
36"	4'-6"	4'-0"	3'-10"	5	4'-9"	10	5'-3"	2	5'-3"	5'-6"	5'-0"	0.340	0.510	0.352	51	2.390	0.132	0.178	0.059
42"	5'-0"	4'-6"	4'-4"	5	5'-3"	12	5'-9"	2	5'-9"	6'-0"	5'-6"	0.407	0.611	0.389	64	2.914	0.180	0.243	0.066
48"	5'-0"	5'-0"	4'-10"	5	5'-9"	13	5'-9"	2	5'-9"	6'-0"	6'-0"	0.444	0.666	0.407	68	3.298	0.235	0.317	0.066

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

ENGLISH STANDARD DRAWING FOR
CONCRETE OPEN THROAT CATCH BASIN
12" THRU 48" PIPE

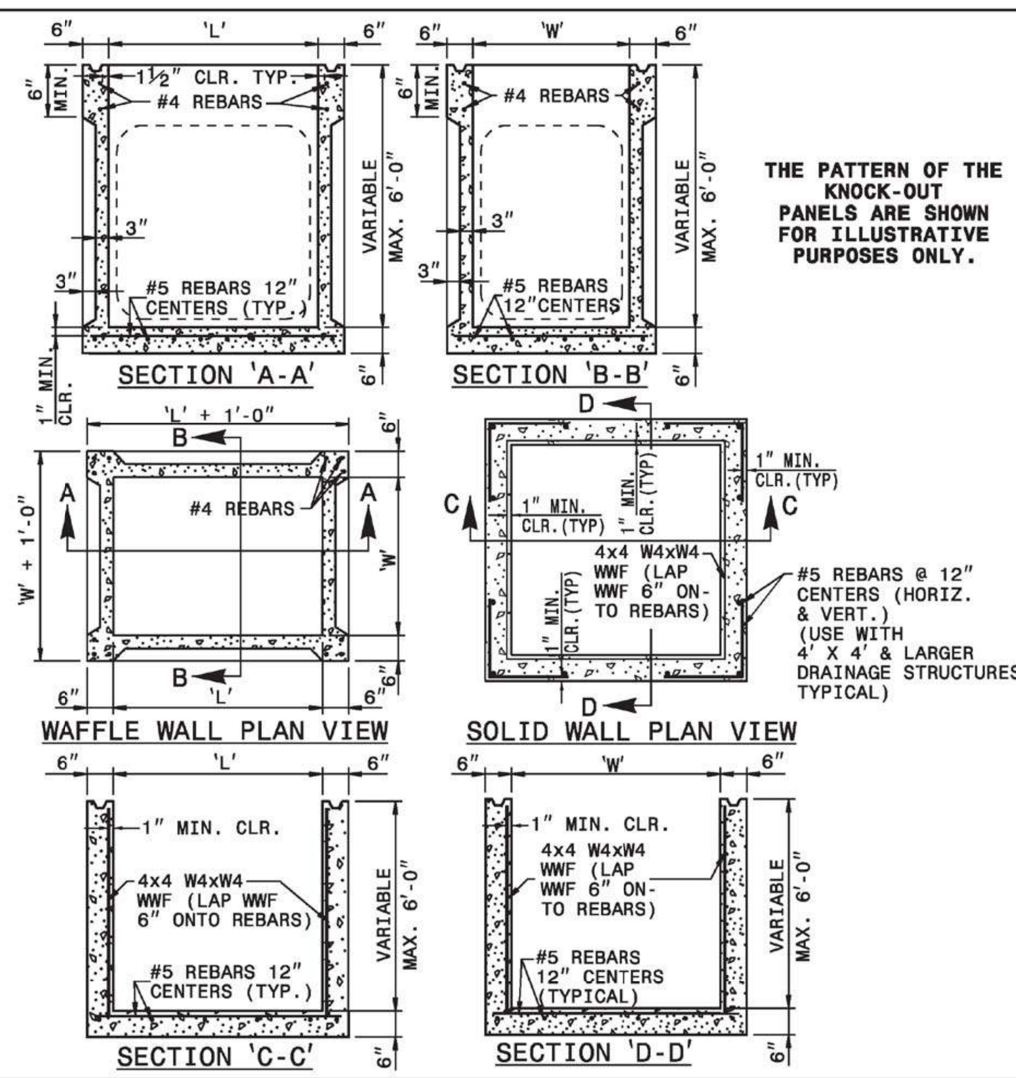
SHEET 1 OF 2
840.04



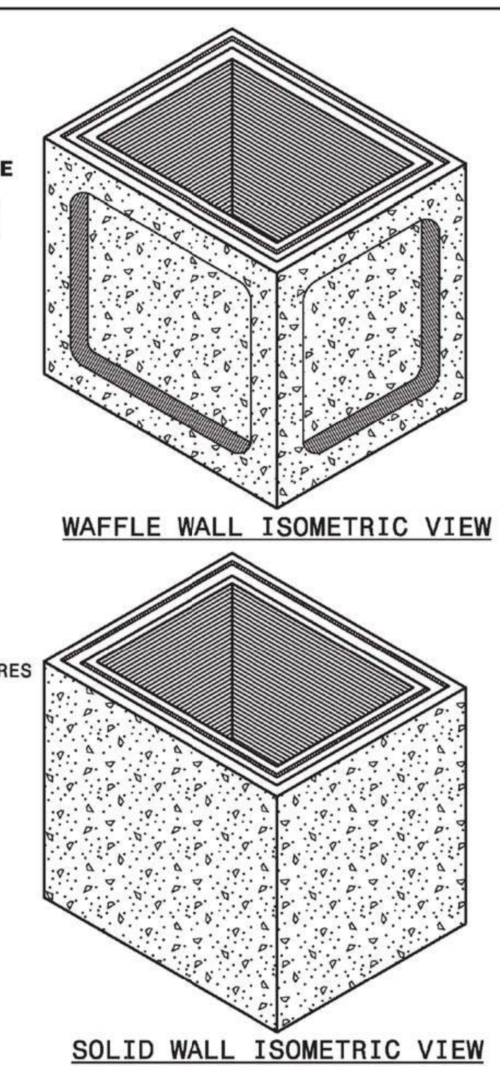
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

ENGLISH STANDARD DRAWING FOR
CONCRETE OPEN THROAT CATCH BASIN
12" THRU 48" PIPE

SHEET 2 OF 2
840.04



THE PATTERN OF THE KNOCK-OUT PANELS ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.



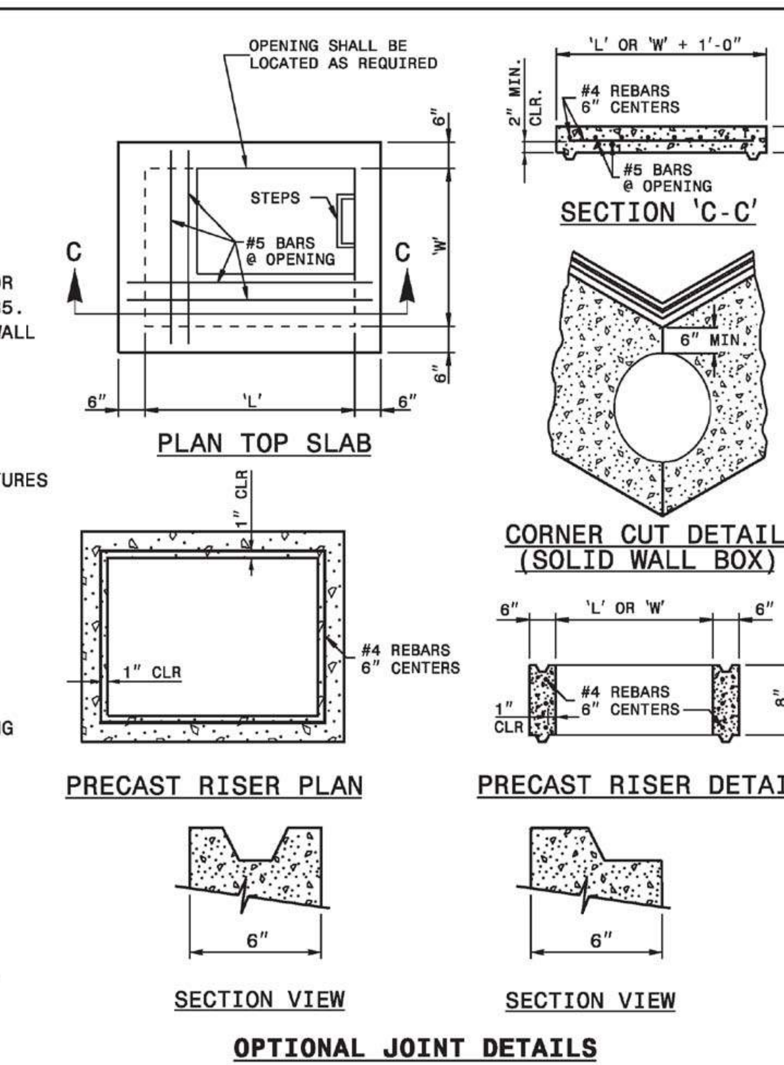
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

ENGLISH STANDARD DRAWING FOR
PRECAST DRAINAGE STRUCTURE
(SOLID AND WAFFLE WALL)

SHEET 1 OF 2
840.45

GENERAL NOTES:

- * THIS PRECAST BOX MAY BE USED FOR THE FOLLOWING STANDARDS: 840.01, 840.02, 840.04, 840.05, 840.11, 840.12, 840.14, 840.15, 840.17, 840.18, 840.19, 840.26, 840.27, 840.28, 840.31, 840.32 AND 840.41.
- * INSTALL PRECAST DRAINAGE STRUCTURES AND PAY FOR IN ACCORDANCE WITH SPECIFICATION SECTION 840.
- * DO NOT PLACE PRECAST DRAINAGE STRUCTURES UNDER TRAFFIC OR WHERE TRAFFIC WILL BE DETOURED.
- * USE 4000 PSI CONCRETE.
- * PROVIDE ALL REINFORCING STEEL WHICH MEETS ASTM A615 FOR GRADE 60 AND WELDED WIRE FABRIC CONFORMING TO ASTM A185.
- * LIMIT MAXIMUM DEPTH TO TOP OF BOTTOM SLAB FOR WAFFLE WALL STRUCTURE TO 10'-0"; LIMIT SOLID WALL STRUCTURE TO 15'-0".
- * PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704.
- * CUT OR FORM OPENINGS FOR PIPE TO PROVIDE REQUIRED SIZE AND LOCATION. ORIENT WAFFLE WALL STRUCTURES SO THAT PIPES ENTER THROUGH THE KNOCKOUT/WAFFLE PANELS ONLY. PIPES MAY ENTER THROUGH THE CORNERS OF SOLID WALL BOXES IF A MINIMUM OF 6" OF WALL IS PROVIDED ABOVE THE HOLE.
- * ALL ELEMENTS PRECAST TO MEET ASTM C913.
- * FRAME AND GRATE HEIGHT MAY BE ADJUSTED WITH CONCRETE OR BRICK IN ACCORDANCE WITH STANDARD 840.25.
- * PROVIDE PRECAST STRUCTURES OVER 4'-0" IN DEPTH WITH STEPS AS DIRECTED BY THE ENGINEER.
- * WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR AS LONG AS THE SAME AREA OF STEEL IS PROVIDED.
- * SEAL JOINTS WITH A FLEXIBLE BUTYL RUBBER BASE CONFORMING TO FEDERAL SPECIFICATION SS-S-21A, AASHTO M-198, TYPE B - BUTYL RUBBER.
- * LIMIT MAXIMUM STRUCTURE SIZE TO INSIDE CLEAR DIMENSIONS OF 5'-0" X 5'-0".
- * THE OUTSIDE PIPE DIAMETER PLUS 2" OR THE OPENING REQUIRED FOR FRAME AND GRATE IS THE MINIMUM STRUCTURE SIZE WHICHEVER IS GREATER.
- * USE MANHOLE FRAME AND COVER AS INDICATED ON THE PLANS. REINFORCE OPENING AS SHOWN ON THIS SHEET.



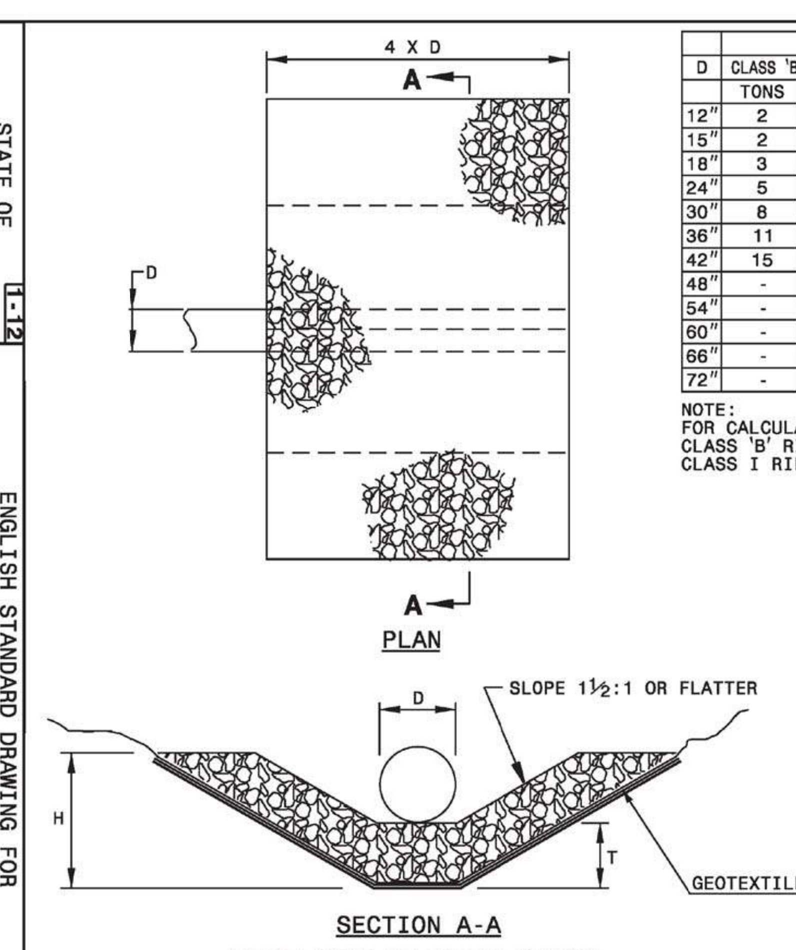
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

ENGLISH STANDARD DRAWING FOR
PRECAST DRAINAGE STRUCTURE
(GENERAL NOTES AND DETAILS)

SHEET 2 OF 2
840.45

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

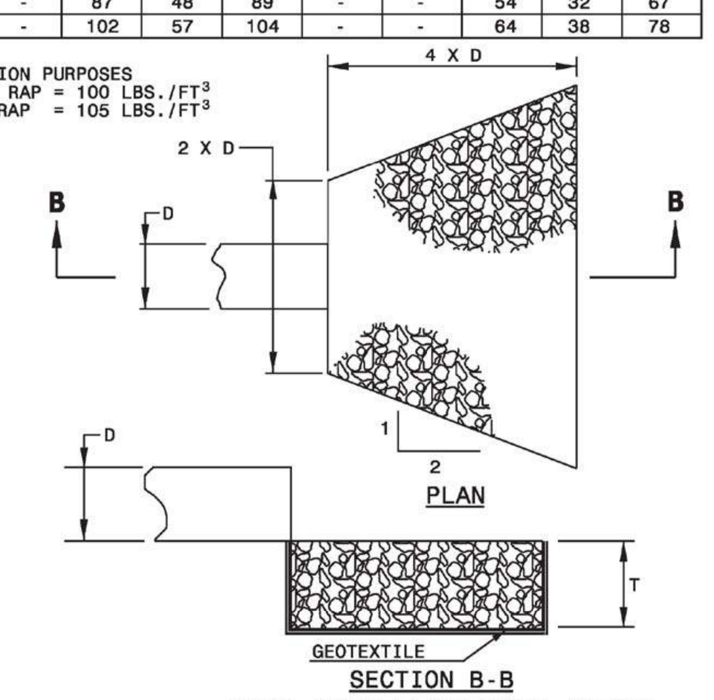
ENGLISH STANDARD DRAWING FOR
GUIDE FOR RIP RAP AT PIPE OUTLETS



H= RIP RAP TO TOP OF PIPE (MAX. H = D + T)
T= 15" CLASS I RIP RAP, UNLESS OTHERWISE SHOWN ON PLANS
T= 12" CLASS 'B' RIP RAP, UNLESS OTHERWISE SHOWN ON PLANS

D	OUTLET W/DITCH					OUTLET W/O DITCH				
	CLASS 'B' RIP RAP		CLASS I RIP RAP			CLASS 'B' RIP RAP		CLASS I RIP RAP		
	TONS	GEO-TEXTILE (S.Y.)	S.Y.	TONS	GEO-TEXTILE (S.Y.)	TONS	GEO-TEXTILE (S.Y.)	S.Y.	TONS	GEO-TEXTILE (S.Y.)
12"	2	5	5	2	5	1	4	2	1	4
15"	2	7	7	3	7	1	5	3	2	6
18"	3	10	9	4	10	2	7	4	2	8
24"	5	14	15	7	15	3	11	7	4	12
30"	8	21	21	11	22	5	16	11	7	17
36"	11	28	29	15	30	7	22	16	10	23
42"	15	37	39	20	39	10	28	22	13	30
48"	-	-	49	26	50	-	-	28	17	38
54"	-	-	60	33	62	-	-	36	21	47
60"	-	-	73	40	75	-	-	44	26	56
66"	-	-	87	48	89	-	-	54	32	67
72"	-	-	102	57	104	-	-	64	38	78

NOTE:
FOR CALCULATION PURPOSES
CLASS 'B' RIP RAP = 100 LBS./FT³
CLASS I RIP RAP = 105 LBS./FT³



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C. 1-12

ENGLISH STANDARD DRAWING FOR
GUIDE FOR RIP RAP AT PIPE OUTLETS

SHEET 1 OF 1
876.02

BEAUCATCHER GREENWAY
WHITE FAWN RESERVOIR TO HELEN'S BRIDGE

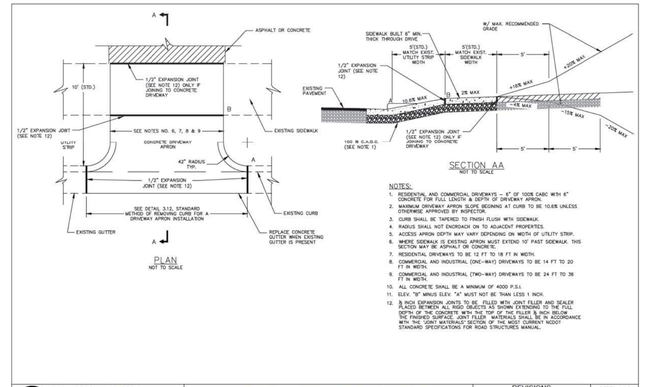
PLANS PREPARED BY:
STEWART
Firm License No. C-1051
421 Fayetteville St, Suite 400
Raleigh, NC 27601
T 919.380.8750
www.stewartinc.com

GREENWAY ENGINEER:
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 30932 ROBERT A. WILLIAMS 10/5/16

HYDRAULICS ENGINEER:
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 042301 ANDREW J. HICKLING

PROJECT NO.:
H13002.00

2I



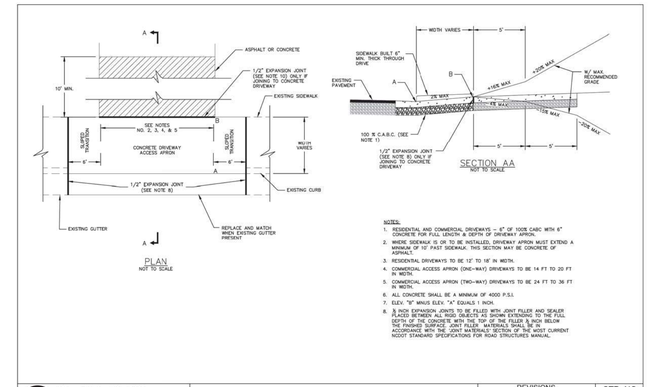
NOTES:

1. RESIDENTIAL AND COMMERCIAL DRIVEWAYS – 6" OF 1000 CABC WITH 6" CONCRETE FOR FULL LENGTH & DEPTH OF DRIVEWAY APRON.
2. MAXIMUM DRIVEWAY APRON SLOPE BEGINNING AT CURB TO BE 10.6% UNLESS OTHERWISE APPROVED BY INSPECTOR.
3. CURB SHALL BE TAPERED TO FINISH FLUSH WITH SIDEWALK.
4. RADIUS SHALL NOT ENCROACH ON TO ADJACENT PROPERTIES.
5. ACCESS APRON DEPTH MAY VARY DEPENDING ON WIDTH OF UTILITY STRIP.
6. WHERE SIDEWALK IS EXISTING APRON MUST EXTEND 10' PAST SIDEWALK. THIS SECTION MAY BE CONCRETE OR ASPHALT.
7. RESIDENTIAL DRIVEWAYS TO BE 12 FT TO 18 FT IN WIDTH.
8. COMMERCIAL AND INDUSTRIAL (ONE-WAY) DRIVEWAYS TO BE 14 FT TO 20 FT IN WIDTH.
9. COMMERCIAL AND INDUSTRIAL (TWO-WAY) DRIVEWAYS TO BE 24 FT TO 36 FT IN WIDTH.
10. ALL CONCRETE SHALL BE A MINIMUM OF 4000 P.S.I.
11. ELEV. "B" MINUS ELEV. "A" MUST NOT BE THAN LESS 1 INCH.
12. ¾ INCH EXPANSION JOINTS TO BE FILLED WITH JOINT FILLER AND SEALER PLACED BETWEEN ALL RIGID OBJECTS AS SHOWN EXTENDING TO THE FULL DEPTH OF THE CONCRETE WITH THE TOP OF THE FILLER ¼ INCH BELOW THE FINISHED SURFACE. JOINT FILLER MATERIALS SHALL BE IN ACCORDANCE WITH THE "JOINT MATERIALS" SECTION OF THE MOST CURRENT NCDOT STANDARD SPECIFICATIONS FOR ROAD STRUCTURES MANUAL.

City of Asheville, NC
Standard Specifications and Details Manual

STANDARD DRIVEWAY APRON WITH SIDEWALK & UTILITY STRIP

REVISIONS		STD. NO.
DATE	DESCRIPTION	
6/9/15	REVISED APRON CURB NO	3.15



NOTES:

1. RESIDENTIAL AND COMMERCIAL DRIVEWAYS – 6" OF 1000 CABC WITH 6" CONCRETE FOR FULL LENGTH & DEPTH OF DRIVEWAY APRON.
2. WHERE SIDEWALK IS OR TO BE INSTALLED, DRIVEWAY APRON MUST EXTEND A MINIMUM OF 10' PAST SIDEWALK. THIS SECTION MAY BE CONCRETE OF ASPHALT.
3. RESIDENTIAL DRIVEWAYS TO BE 12' TO 18' IN WIDTH.
4. COMMERCIAL ACCESS APRON (ONE-WAY) DRIVEWAYS TO BE 14 FT TO 20 FT IN WIDTH.
5. COMMERCIAL ACCESS APRON (TWO-WAY) DRIVEWAYS TO BE 24 FT TO 36 FT IN WIDTH.
6. ALL CONCRETE SHALL BE A MINIMUM OF 4000 P.S.I.
7. ELEV. "B" MINUS ELEV. "A" EQUALS 1 INCH.
8. ¾ INCH EXPANSION JOINTS TO BE FILLED WITH JOINT FILLER AND SEALER PLACED BETWEEN ALL RIGID OBJECTS AS SHOWN EXTENDING TO THE FULL DEPTH OF THE CONCRETE WITH THE TOP OF THE FILLER ¼ INCH BELOW THE FINISHED SURFACE. JOINT FILLER MATERIALS SHALL BE IN ACCORDANCE WITH THE "JOINT MATERIALS" SECTION OF THE MOST CURRENT NCDOT STANDARD SPECIFICATIONS FOR ROAD STRUCTURES MANUAL.

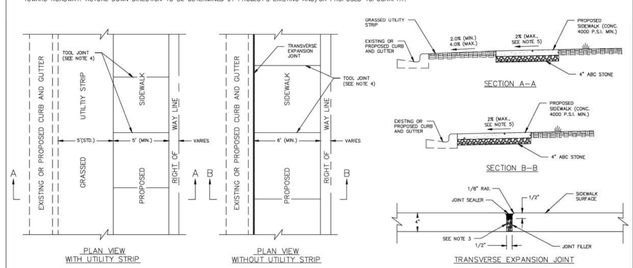
City of Asheville, NC
Standard Specifications and Details Manual

STANDARD DRIVEWAY ACCESS APRON WITH SIDEWALK ADJACENT TO CURB

REVISIONS		STD. NO.
DATE	DESCRIPTION	
		3.15A

NOTES:

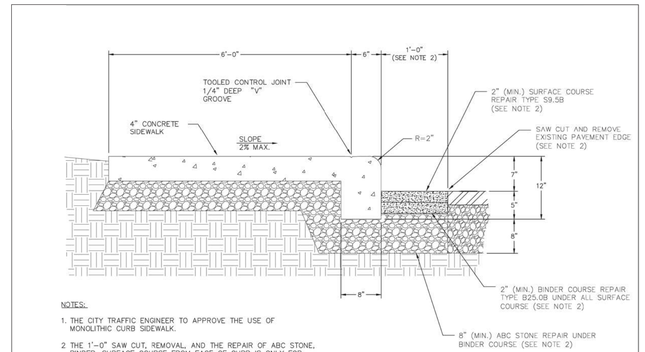
1. TRANSVERSE EXPANSION JOINTS TO BE SPACED AT A MAXIMUM OF 50 FEET. WHEN SIDEWALK ABUTS CURB (WITHOUT UTILITY STRIP), EXPANSION JOINT SHALL BE PLACE BETWEEN BACK OF CURB AND SIDEWALK FOR THE LENGTH OF THE SIDEWALK.
2. ALL CONCRETE TO BE FINISHED WITH CURING COMPOUND.
3. TRANSVERSE EXPANSION JOINT MATERIALS SHALL BE IN ACCORDANCE WITH THE "JOINT MATERIALS" SECTION OF THE MOST CURRENT NCDOT STANDARD SPECIFICATIONS FOR ROAD STRUCTURES MANUAL.
4. TOOL JOINTS SHALL BE SPACED TO MATCH THE WIDTH OF THE SIDEWALK BUT BE NO LESS THAN FIVE (5) FEET APART OR NO LESS THAN SIX (6) FEET FOR SIDEWALK WITHOUT UTILITY STRIP. TOOL JOINTS SHALL BE 3/4 INCH DEEP AND MUST NOT BE SEALED. FOR NEW CURB AND GUTTER CONSTRUCTED WITH THE SIDEWALK, CURB AND GUTTER TOOL JOINT SHALL BE PLACED AS SPACED AND INLINE WITH SIDEWALK TOOL JOINT.
5. THE DOWN DIRECTION OF THE 2% (MAX.) CROSS SLOPE OF THE PROPOSED SIDEWALK IS TYPICAL AS SHOWN FOR DRAINAGE TOWARD ROADWAY. ACTUAL DOWN DIRECTION TO BE DETERMINED BY PROJECT'S EXISTING AND/OR PROPOSED TOPOGRAPHY.



City of Asheville, NC
Standard Specifications and Details Manual

STANDARD CONCRETE SIDEWALK

REVISIONS		STD. NO.
DATE	DESCRIPTION	
6/9/15	ADD. PLAN V EW W/O UTILITY STRIP	
6/9/15	ADD. SECT. V EW W/O UTILITY STRIP	3.16
6/9/15	REVISED NOTES 1 AND 4	



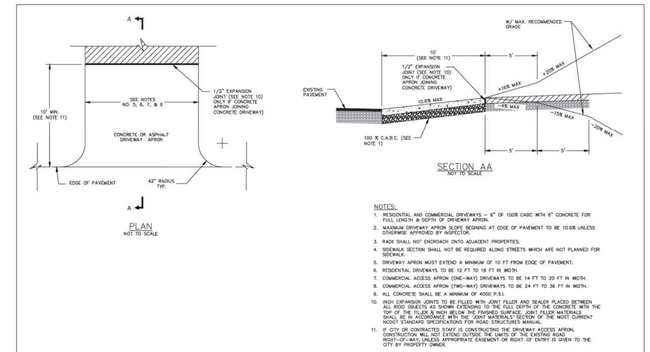
NOTES:

1. THE CITY TRAFFIC ENGINEER TO APPROVE THE USE OF MONOLITHIC CURB SIDEWALK.
2. THE 1'–0" SAW CUT, REMOVAL, AND THE REPAIR OF ABC STONE, BINDER, SURFACE COURSE FROM FACE OF CURB IS ONLY FOR THE INSTALLATION OF THE MONOLITHIC CURB & SIDEWALK ADJACENT TO AN EXISTING STREET.

City of Asheville, NC
Standard Specifications and Details Manual

MONOLITHIC CURB & SIDEWALK

REVISIONS		STD. NO.
DATE	DESCRIPTION	
		3.16A



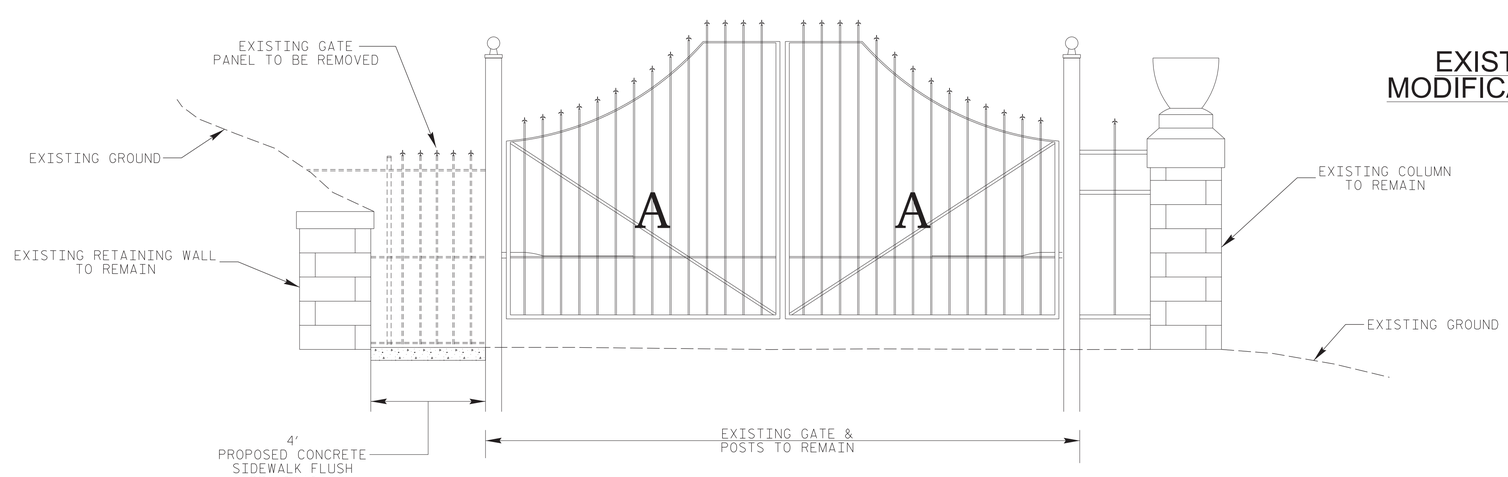
NOTES:

1. RESIDENTIAL AND COMMERCIAL DRIVEWAYS – 6" OF 1000 CABC WITH 6" CONCRETE FOR FULL LENGTH & DEPTH OF DRIVEWAY APRON.
2. MAXIMUM DRIVEWAY APRON SLOPE BEGINNING AT EDGE OF PAVEMENT TO BE 10.6% UNLESS OTHERWISE APPROVED BY INSPECTOR.
3. RADII SHALL NOT ENCROACH ONTO ADJACENT PROPERTIES.
4. SIDEWALK SECTION SHALL NOT BE REQUIRED ALONG STREETS WHICH ARE NOT PLANNED FOR SIDEWALK.
5. DRIVEWAY APRON MUST EXTEND A MINIMUM OF 10 FT FROM EDGE OF PAVEMENT.
6. RESIDENTIAL DRIVEWAYS TO BE 12 FT TO 18 FT IN WIDTH.
7. COMMERCIAL ACCESS APRON (ONE-WAY) DRIVEWAYS TO BE 14 FT TO 20 FT IN WIDTH.
8. COMMERCIAL ACCESS APRON (TWO-WAY) DRIVEWAYS TO BE 24 FT TO 36 FT IN WIDTH.
9. ALL CONCRETE SHALL BE A MINIMUM OF 4000 P.S.I.
10. INCH EXPANSION JOINTS TO BE FILLED WITH JOINT FILLER AND SEALER PLACED BETWEEN ALL RIGID OBJECTS AS SHOWN EXTENDING TO THE FULL DEPTH OF THE CONCRETE WITH THE TOP OF THE FILLER & INCH BELOW THE FINISHED SURFACE. JOINT FILLER MATERIALS SHALL BE IN ACCORDANCE WITH THE "JOINT MATERIALS" SECTION OF THE MOST CURRENT NCDOT STANDARD SPECIFICATIONS FOR ROAD STRUCTURES MANUAL.
11. IF CITY OR CONTRACTED STAFF IS CONSTRUCTING THE DRIVEWAY ACCESS APRON, DRIVEWAY APRON MUST EXTEND A MINIMUM OF 10 FT FROM THE EDGE OF PAVEMENT, RIGHT-OF-WAY, UNLESS APPROPRIATE EASEMENT OR RIGHT OF ENTRY IS GIVEN TO THE CITY BY PROPERTY OWNER.

City of Asheville, NC
Standard Specifications and Details Manual

STANDARD DRIVEWAY ACCESS APRON WITHOUT CURB & WITHOUT SIDEWALK

REVISIONS		STD. NO.
DATE	DESCRIPTION	
6/9/15	ADDED NOTE 11	3.15C



EXISTING GATE MODIFICATION DETAIL

CITY OF ASHEVILLE NORTH CAROLINA

BEAUCATCHER GREENWAY
WHITE FAWN RESERVOIR
TO
HELEN'S BRIDGE

PLANS PREPARED BY:

STEWART
Firm License No. C-1051
421 Fayetteville St.
Suite 400
Raleigh, NC 27601
T 919.380.8750
www.stewartinc.com

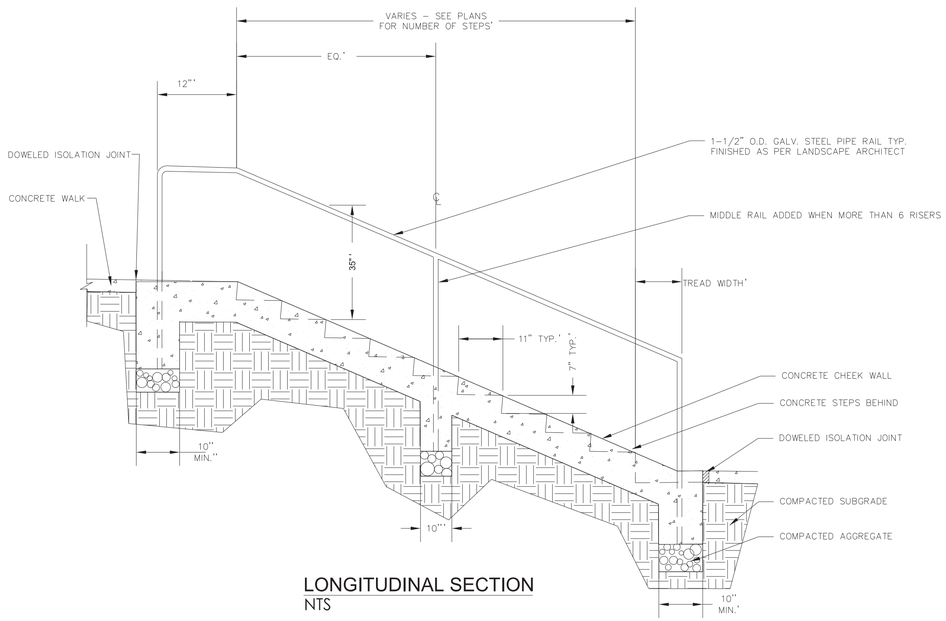
GREENWAY ENGINEER:

NORTH CAROLINA PROFESSIONAL SEAL 30932 ENGINEER ROBERT A. WILLIAMS
10/5/16

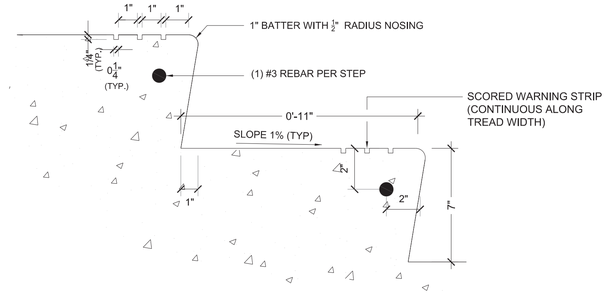
HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

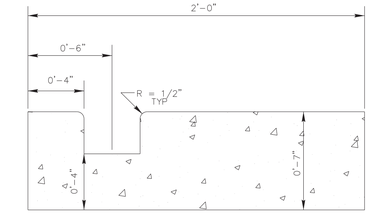
2J



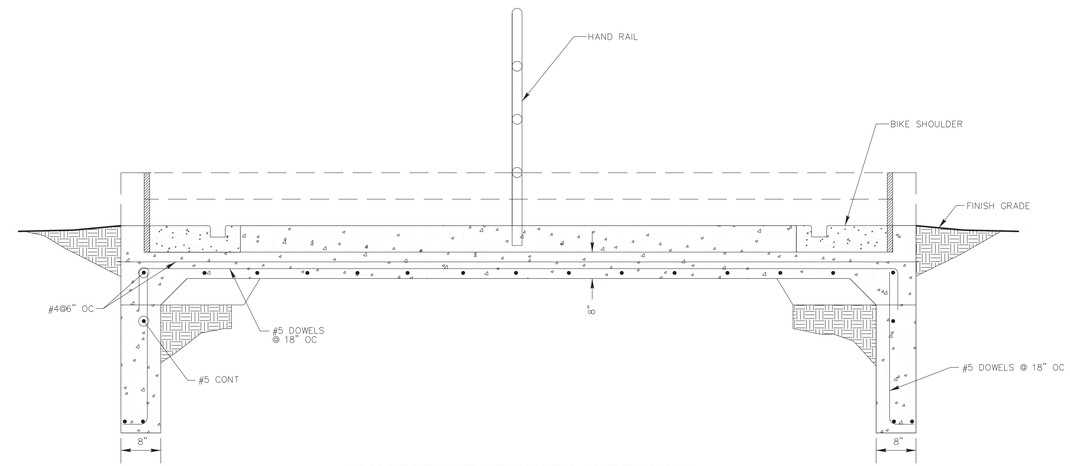
LONGITUDINAL SECTION
NTS



CONCRETE STAIR ENLARGEMENT
NTS

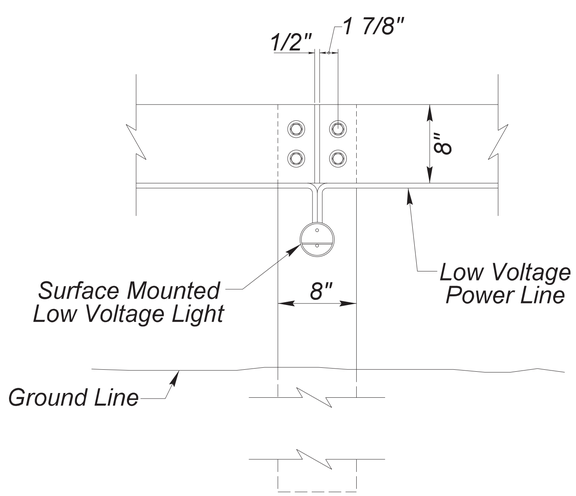


BIKE SHOULDER DETAIL
NTS

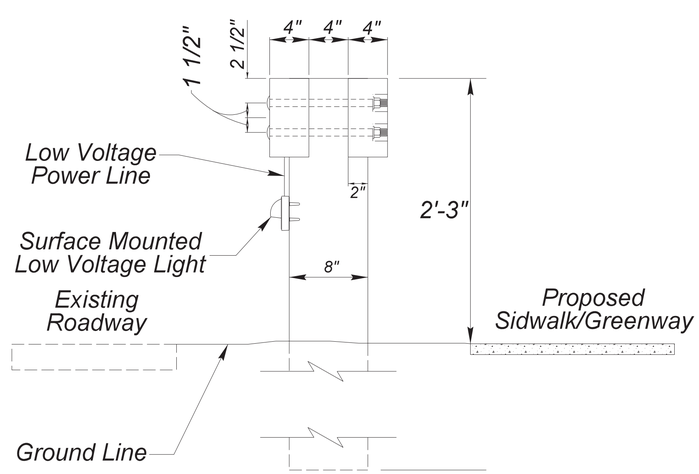


CONCRETE STAIRS WITH CHEEK WALL
NTS

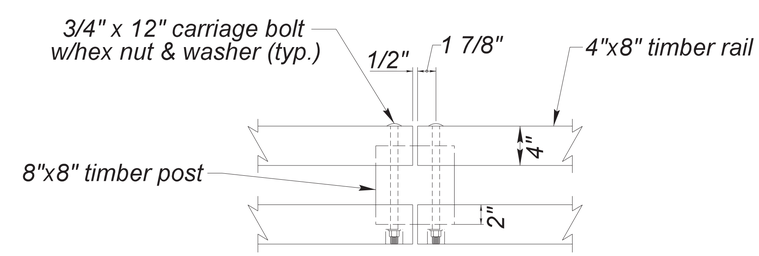
SEPARATOR RAIL DETAILS



Post Connection



Typical Separator Rail Cross Section



Plan View

Notes:

1. *Field Locate Low Voltage Power Supply Within Existing Right of Way. Receive Approval From City of Asheville Prior To Final Placement.*
2. *Lighting Shall Be LED.*
3. *Lighting Shall Be Weather Resistant.*
4. *Lighting Shall Be Controlled by Dusk to Dawn Sensor.*
5. *See Light Fixture Details and Specs on Sheet 2G.*

CITY OF ASHEVILLE NORTH CAROLINA

BEAUCATCHER GREENWAY
WHITE FAWN RESERVOIR TO HELEN'S BRIDGE

PLANS PREPARED BY:
Firm License No. C-1051
421 Fayetteville St.
Suite 400
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T 919.380.8750
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STEWART

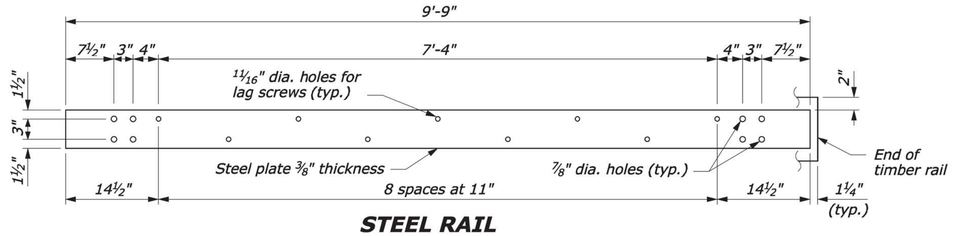
GREENWAY ENGINEER:
NORTH CAROLINA PROFESSIONAL SEAL 30032 ENGINEER ROBERT A. WILLIAMS
10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

2K

STATE	PROJECT	SHEET NUMBER

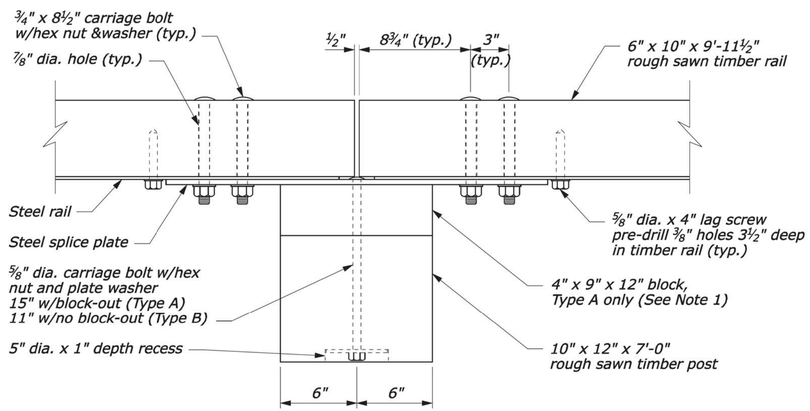


STEEL RAIL

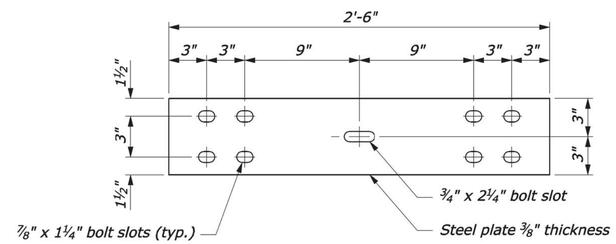
PLATE WASHER

NOTE:

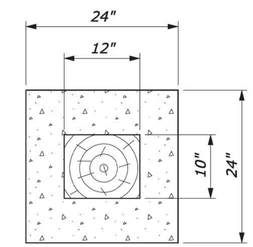
1. Use the Type A, blocked-out, system or the Type B, non-blocked-out, system as specified in the plans.
2. Use weathering steel for all structural steel and fastener hardware as specified.
3. Place a terminal section (See Standards 617-61 and 617-62) on both approach and trailing ends of barrier installations.

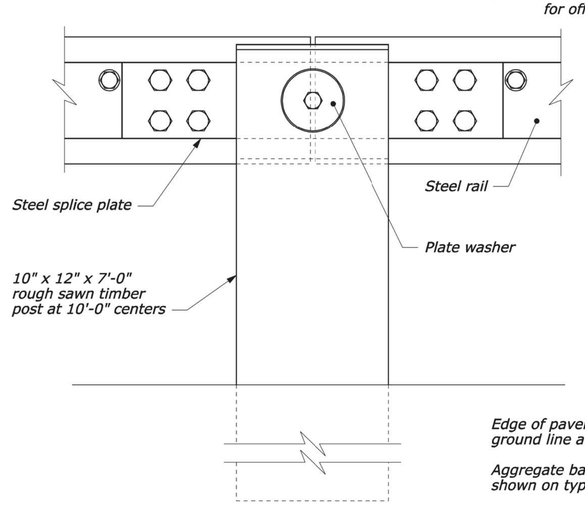


PLAN



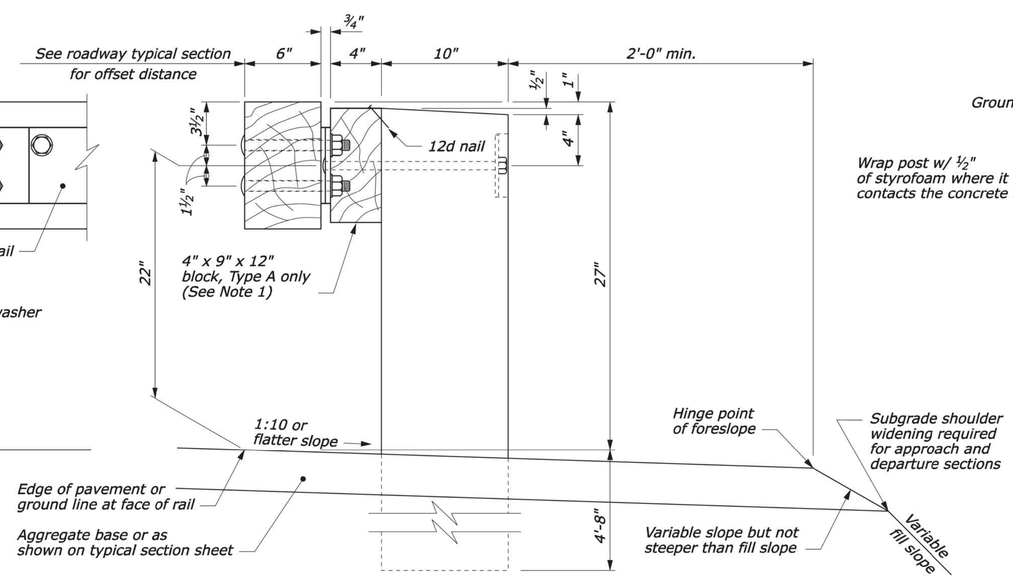
STEEL SPLICE PLATE





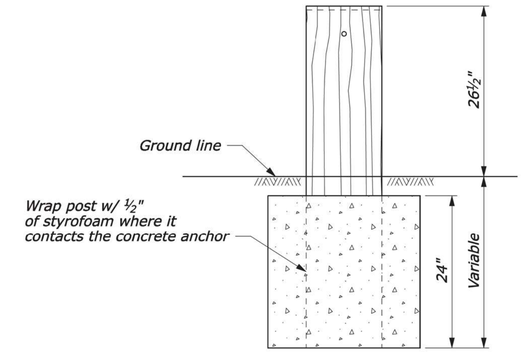
ELEVATION

POST CONNECTION



TYPICAL GUARDRAIL CROSS SECTION

NO SCALE



24" dia. round anchor is an acceptable alternative.
Reduced size acceptable in solid rock.

CONCRETE ANCHOR FOR SHORT GUARDRAIL POST

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

STEEL-BACKED TIMBER GUARDRAIL
TYPE A & TYPE B

STANDARD APPROVED FOR USE 3/1990
REVISED: 4/1994 6/2005

STANDARD 617-60

20-Sep-2007 06:42 AM
F:\StandDraw\st61760.dgn [US Customary]

CITY OF ASHEVILLE NORTH CAROLINA

BEAUCATCHER GREENWAY
WHITE FAWN RESERVOIR
TO
HELEN'S BRIDGE

PLANS PREPARED BY:
Firm License No. C-1051
421 Fayetteville St.
Suite 400
Raleigh, NC 27601
T 919.380.8750
www.stewartinc.com
STEWART

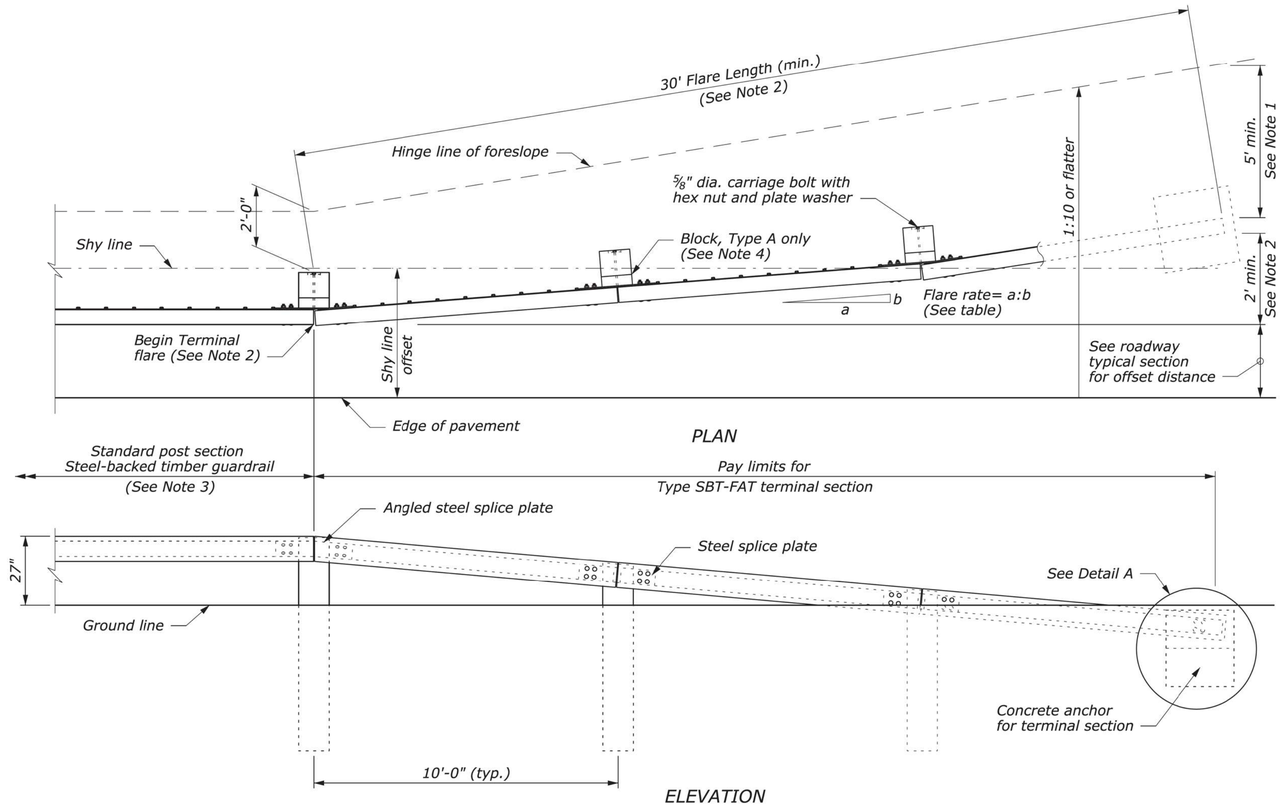
GREENWAY ENGINEER:
NORTH CAROLINA PROFESSIONAL SEAL 20032 ENGINEER ROBERT A. WILLIAMS
10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

2K1

STATE	PROJECT	SHEET NUMBER



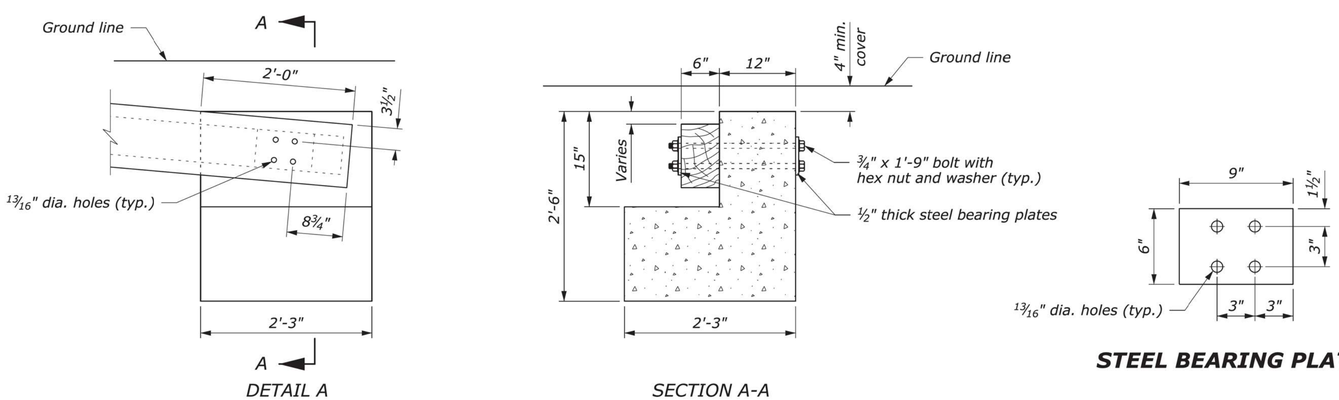
APPROACH & DEPARTURE FLARE WITH FLARED ANCHOR TERMINAL (FAT)

NOTE:

1. Extend the fill widening a minimum of 5 feet behind the guardrail, unless otherwise directed by the CO.
2. The guardrail flare shown in the plan view is the minimum length and rate required. As directed by the CO, flare the guardrail so that the terminal section is outside the clear zone. If the terminal section cannot be located outside the clear zone, it should be flared as far as practical from the road at the maximum rate indicated on the Guardrail Flare Rates table.
3. See Standard 617-60, Steel-Backed Timber Guardrail, Type SBTA and SBTB, for timber, structural steel, and hardware details.
4. On the Type A, blocked-out guardrail, include the blocks in terminal section, except on the concrete anchor. For the Type B, non-blocked-out guardrail, no blocks are included.

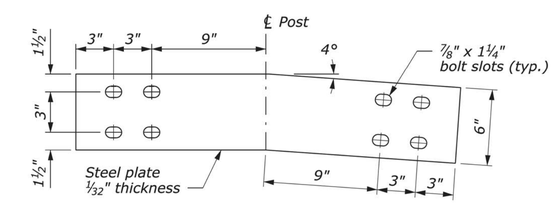
GUARDRAIL FLARE RATE TABLE

Design Speed (mph)	Shy line offset (ft)	Flare rate inside shy line (a:b)	Flare rate outside shy line (a:b)
60	8.0	26:1	14:1
50	6.5	21:1	11:1
40	5.0	16:1	8:1
30 and less	3.5	13:1	7:1



CONCRETE ANCHOR

STEEL BEARING PLATE



ANGLED STEEL SPLICE PLATE

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

U.S. CUSTOMARY STANDARD

STEEL-BACKED TIMBER GUARDRAIL TERMINAL SECTION TYPE SBT-FAT

STANDARD APPROVED FOR USE 1/1990
REVISED: 4/1994 6/2005
DRAFT: 12/2013

STANDARD 617-61

24 December 2013 6:54 AM c:\myfiles\pw_production\dms67487\Standard_617-61.DRAFT.dgn [USC]

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10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
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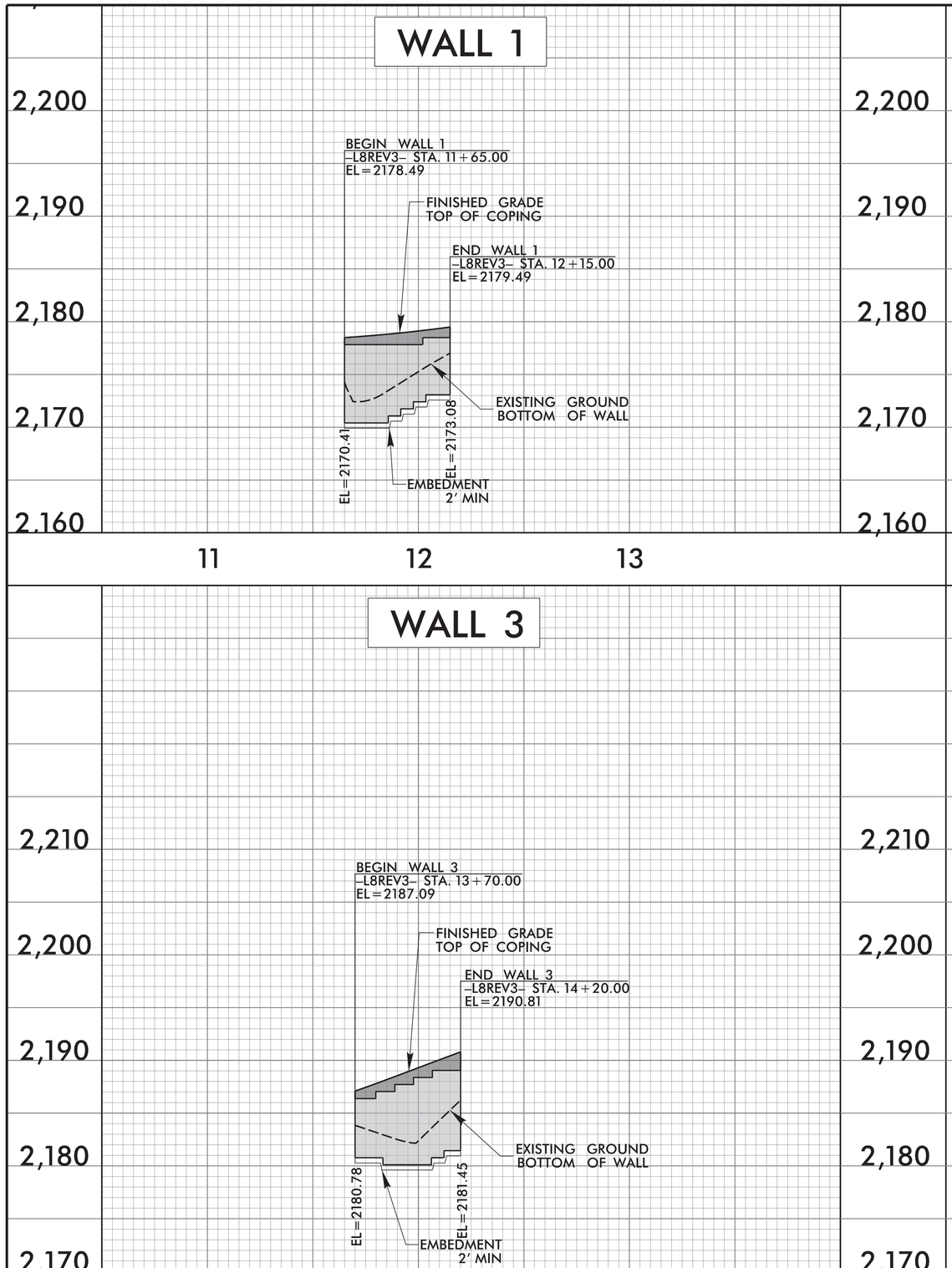
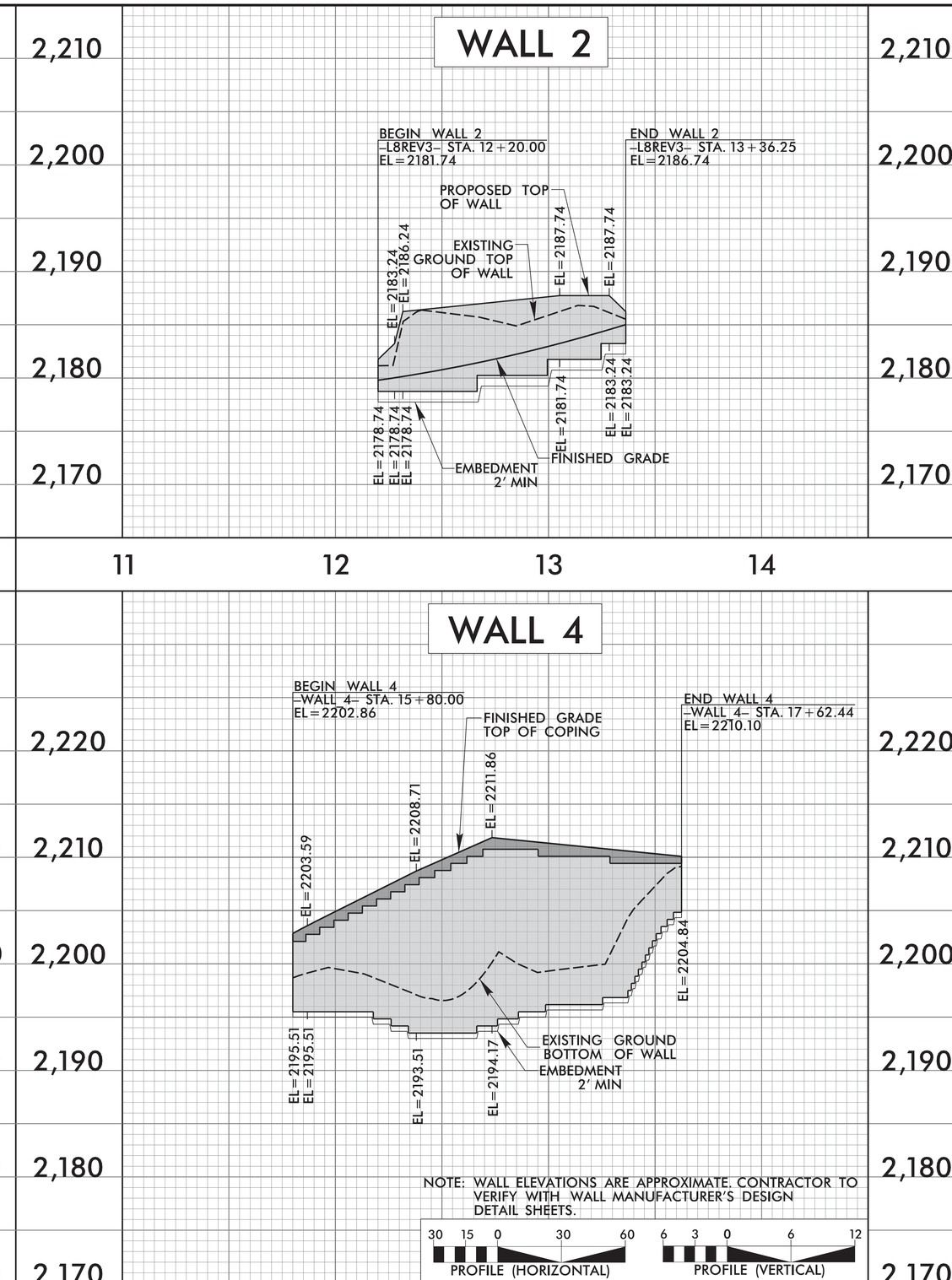
2K2





NOTE: WALL ELEVATIONS ARE APPROXIMATE. CONTRACTOR TO VERIFY WITH WALL MANUFACTURER'S DESIGN DETAIL SHEETS.

30 15 0 30 60 PROFILE (HORIZONTAL)

6 3 0 6 12 PROFILE (VERTICAL)

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PROJECT NO.:
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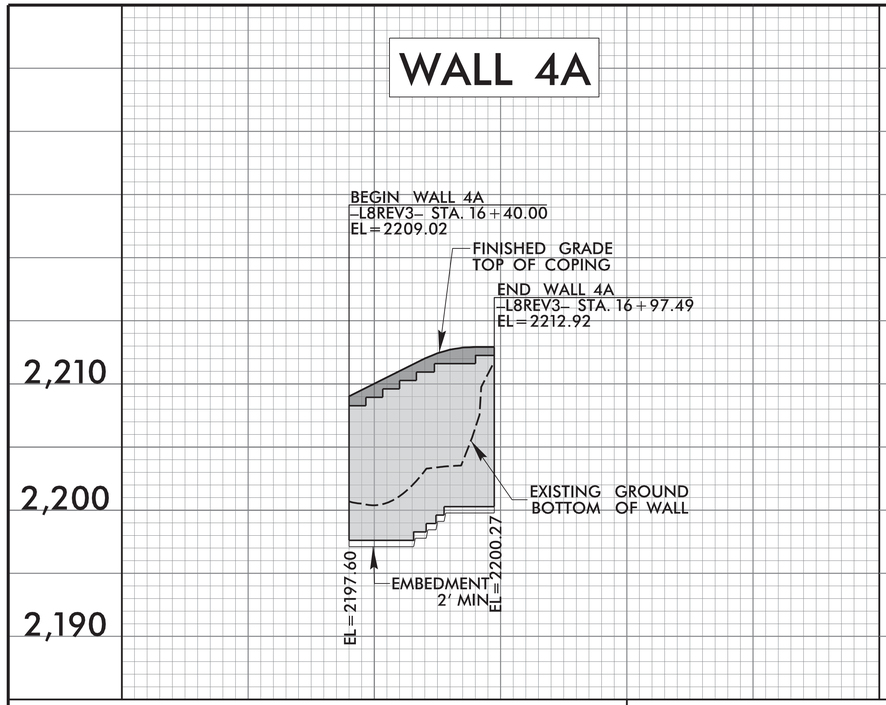
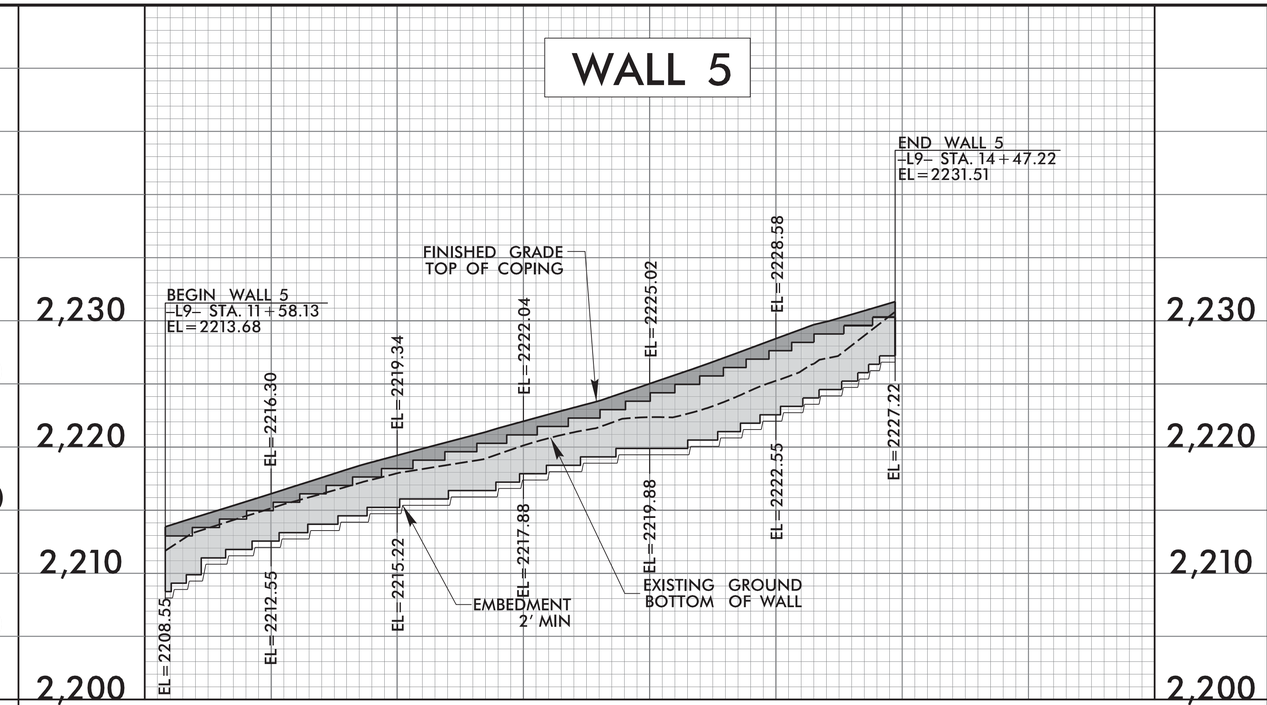
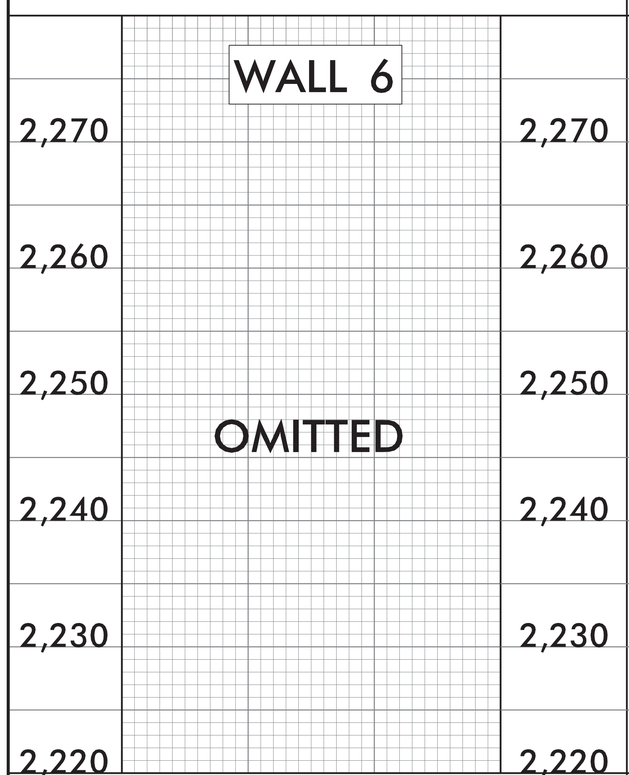
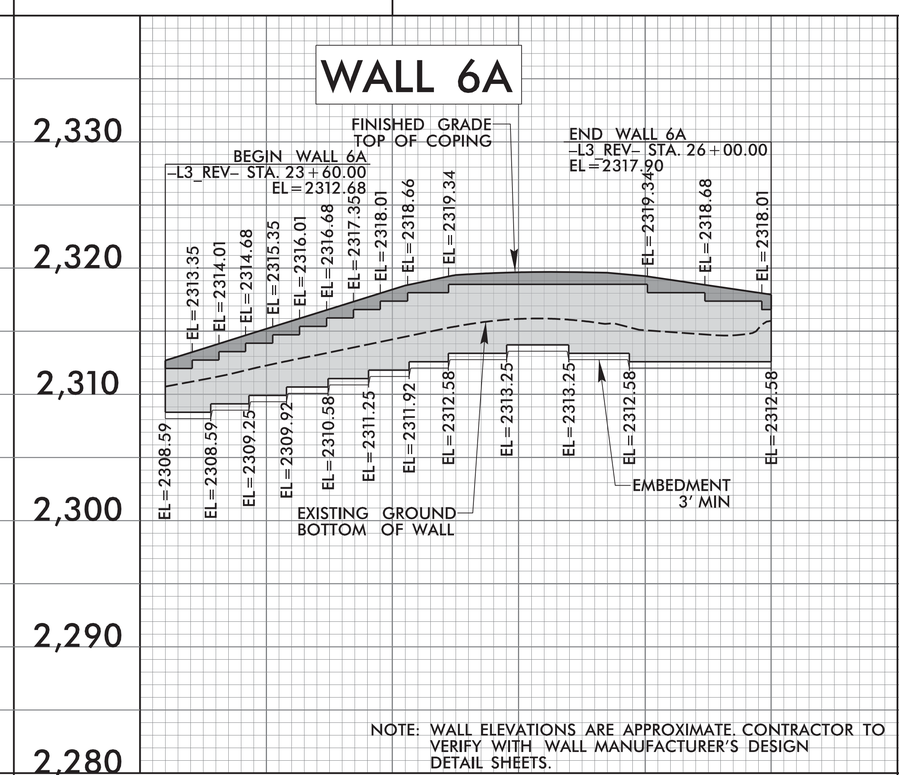
2L









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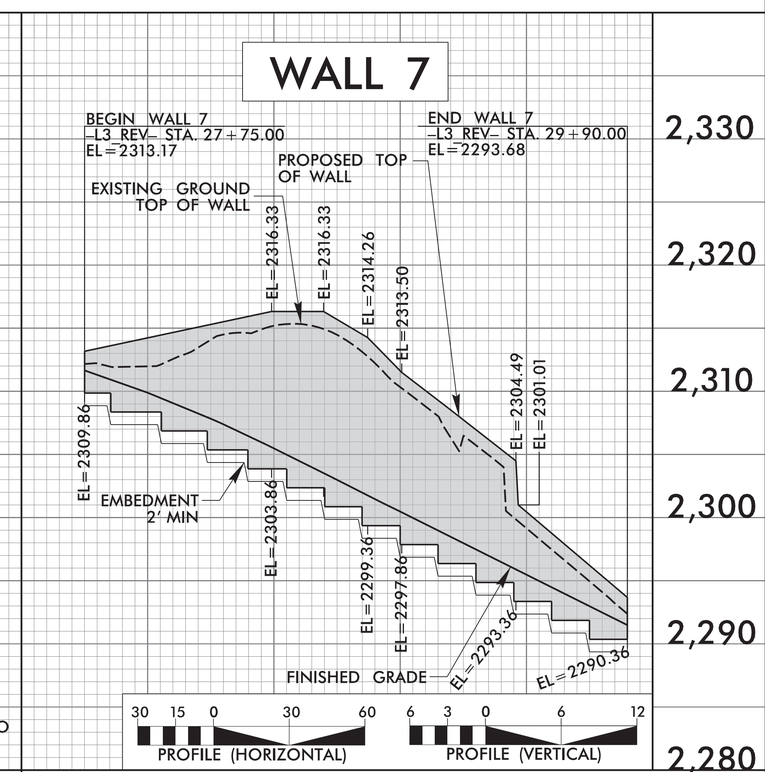

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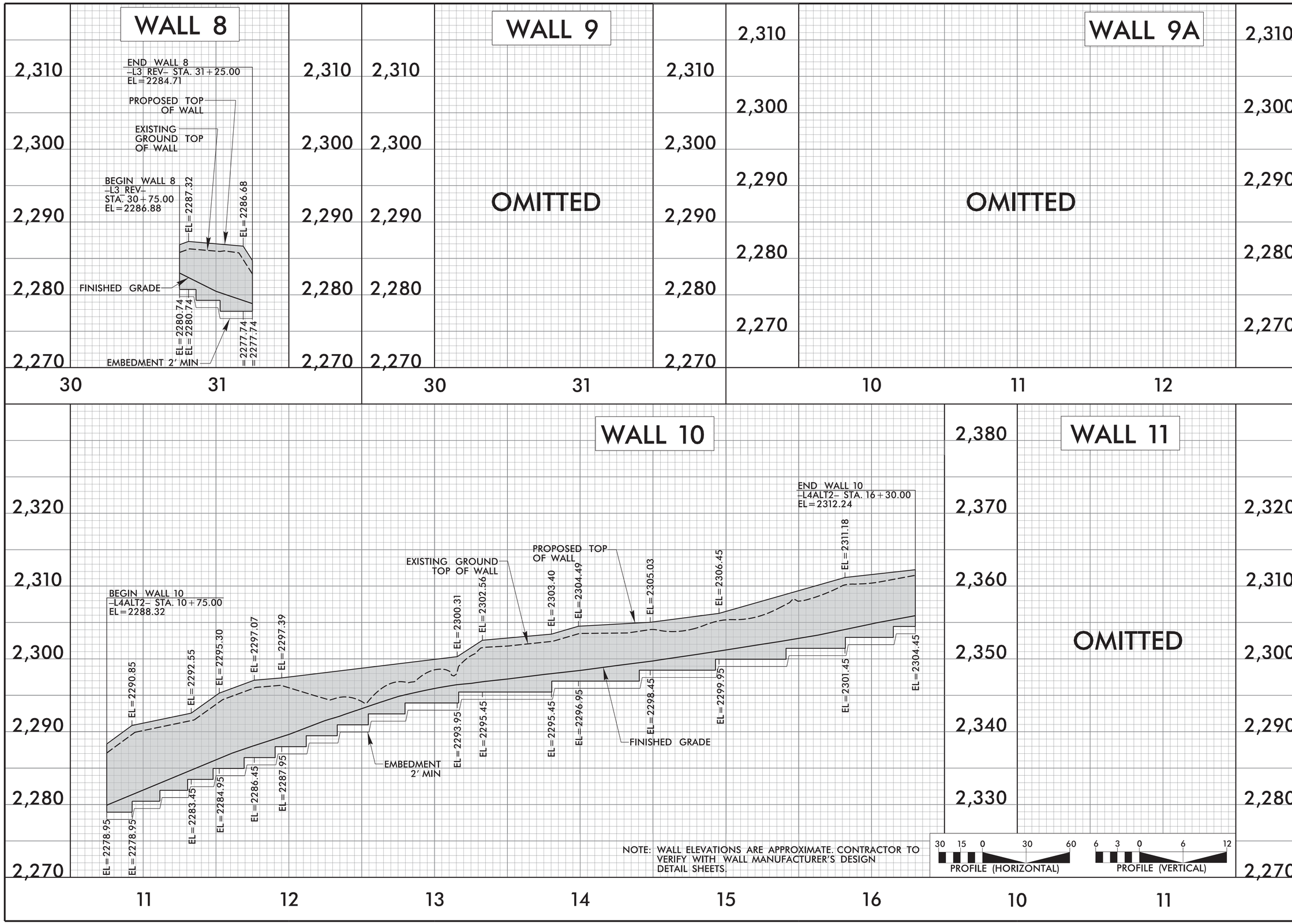
PROJECT NO.:
H13002.00

2M



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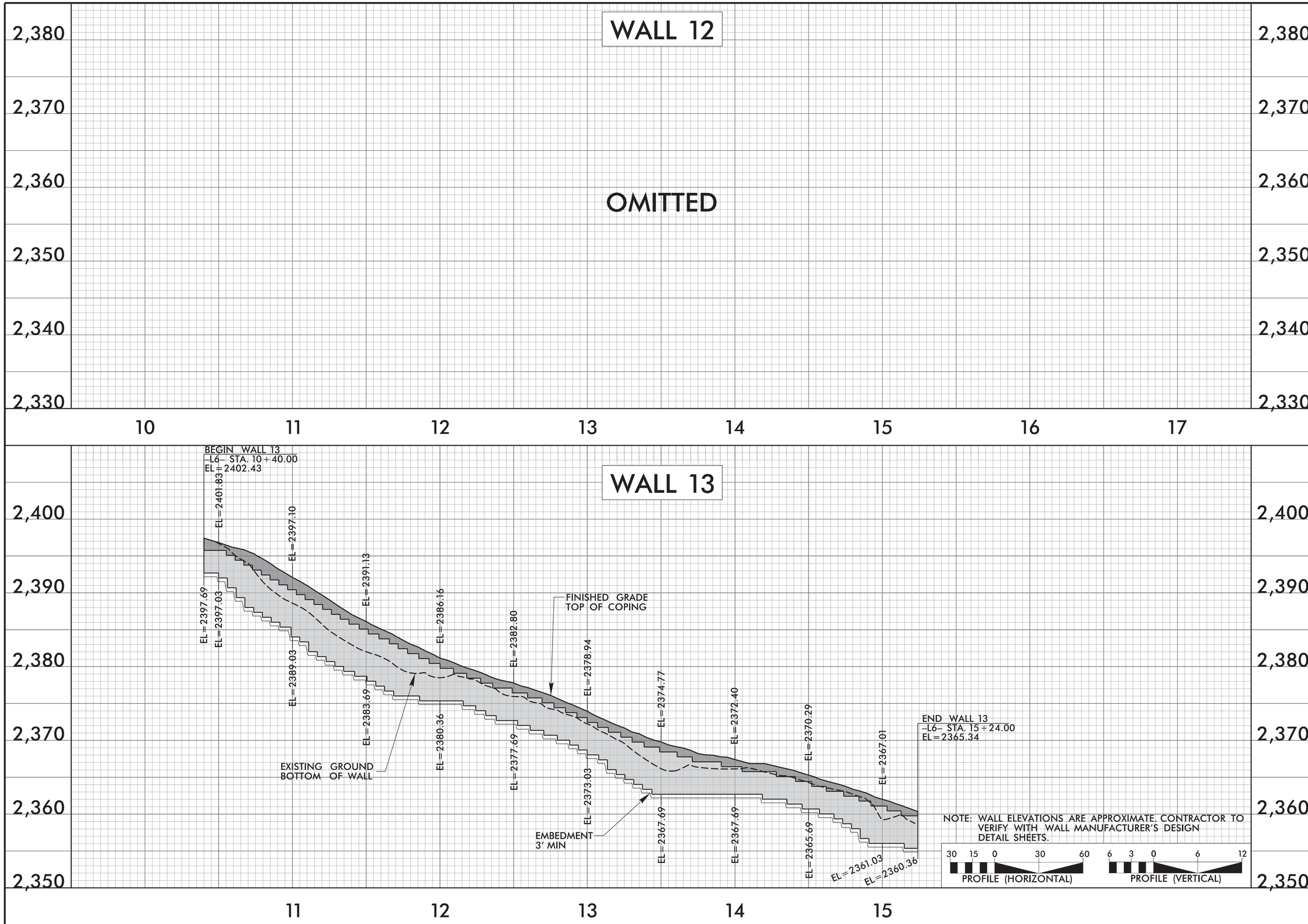

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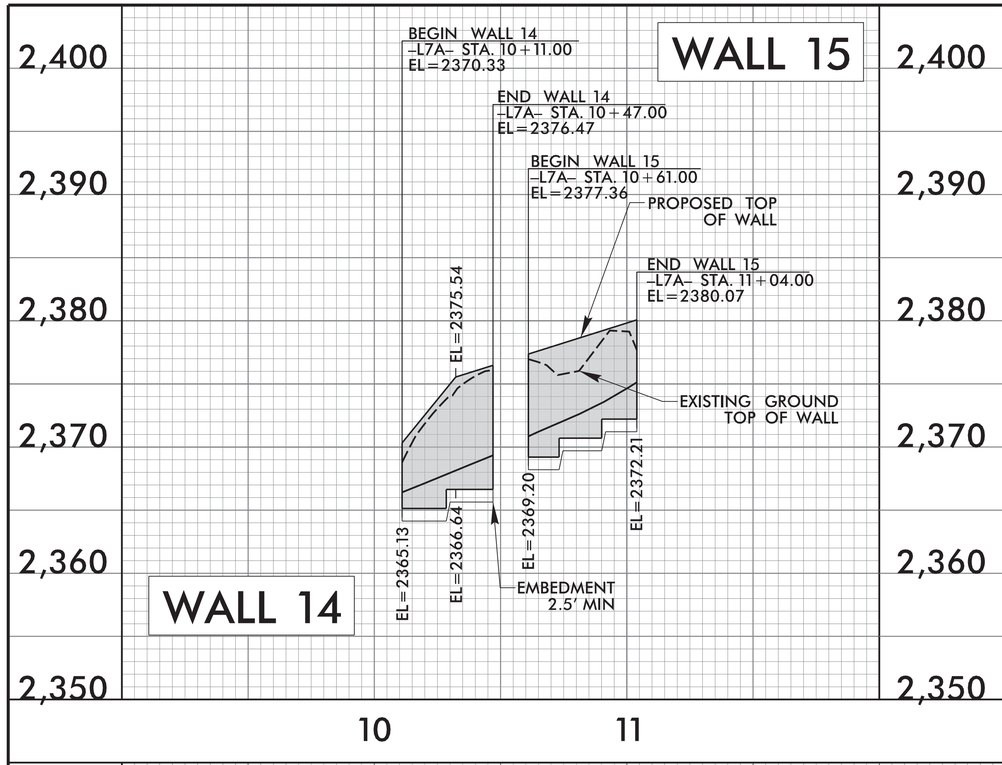

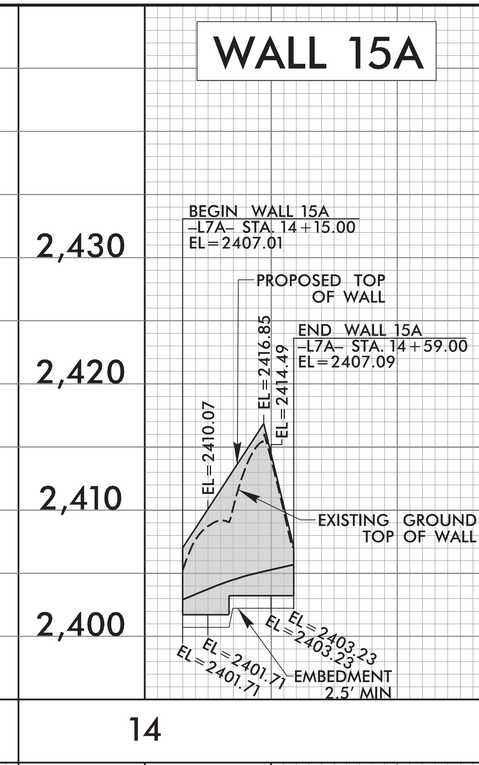

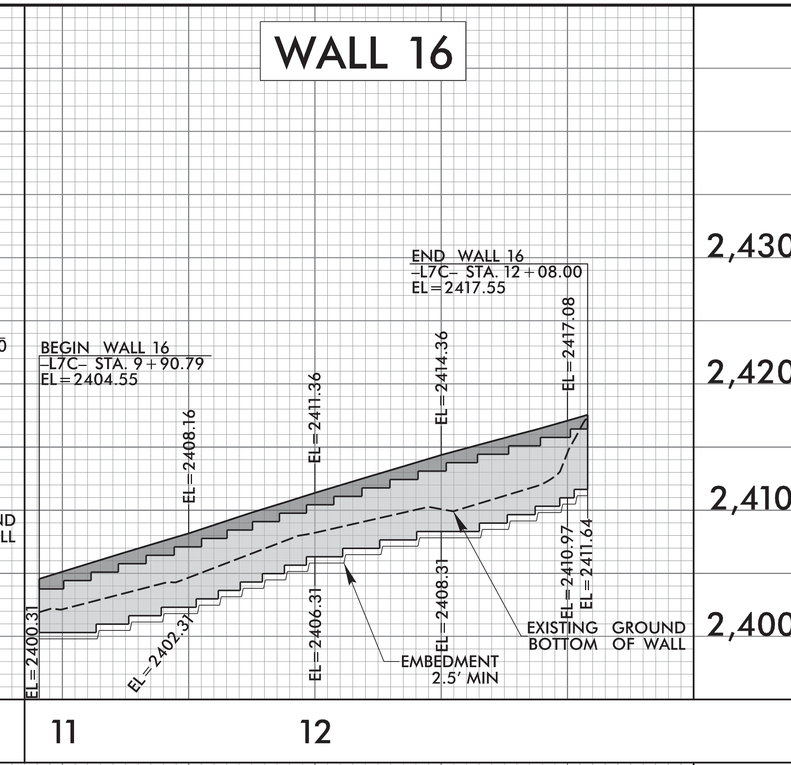

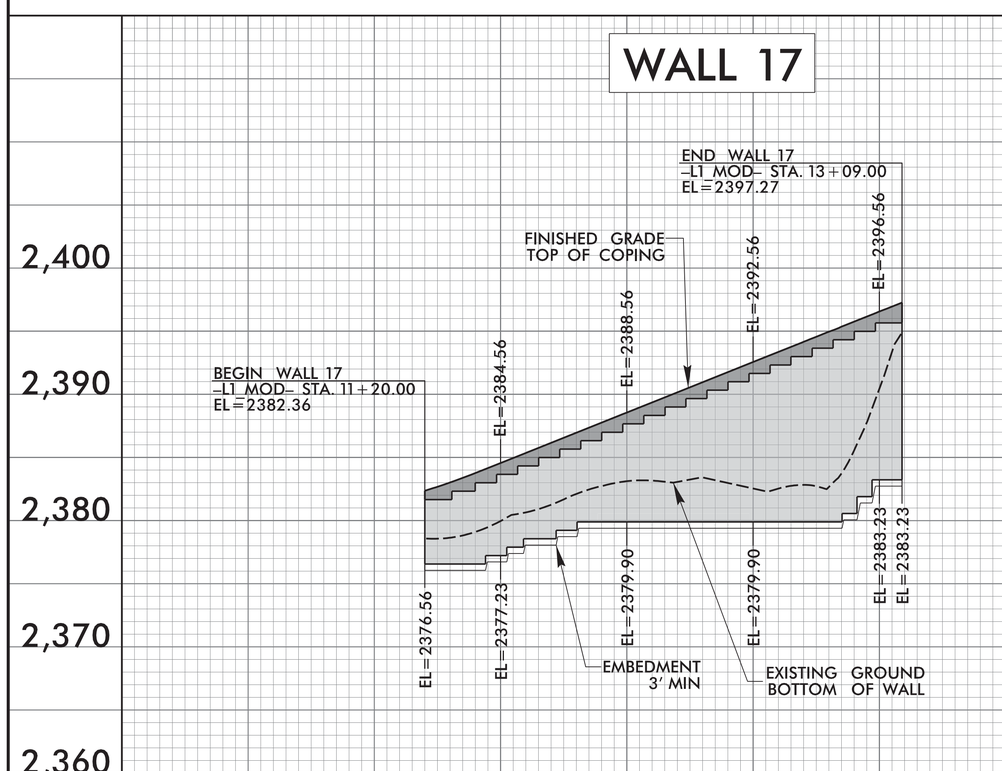

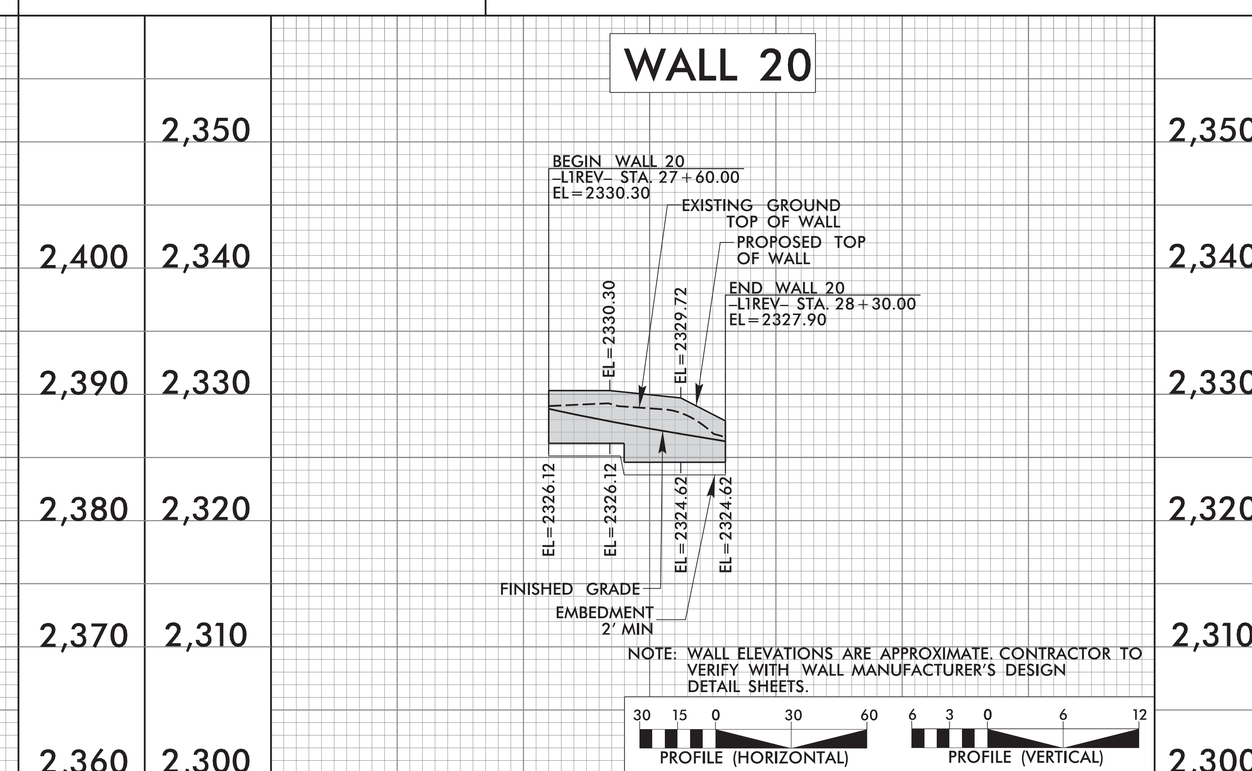

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10/5/16

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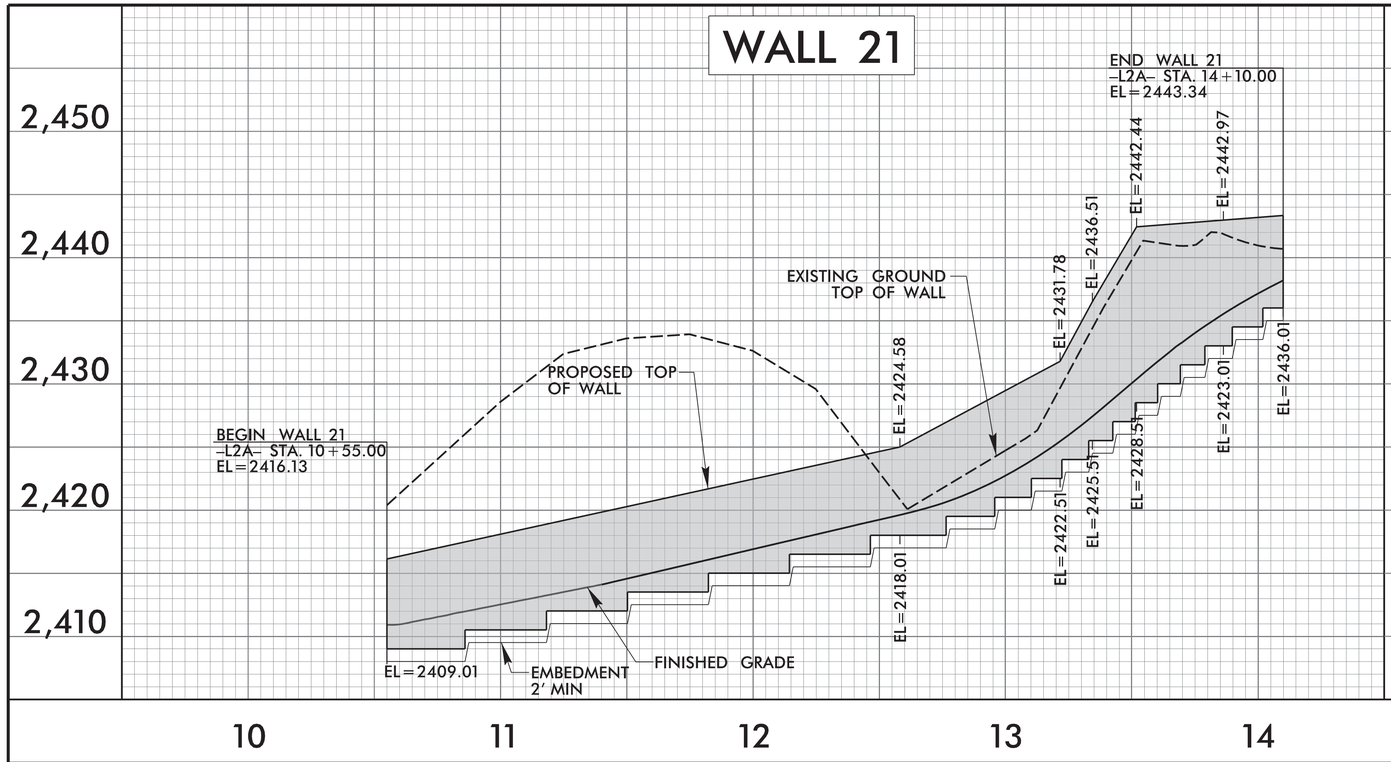
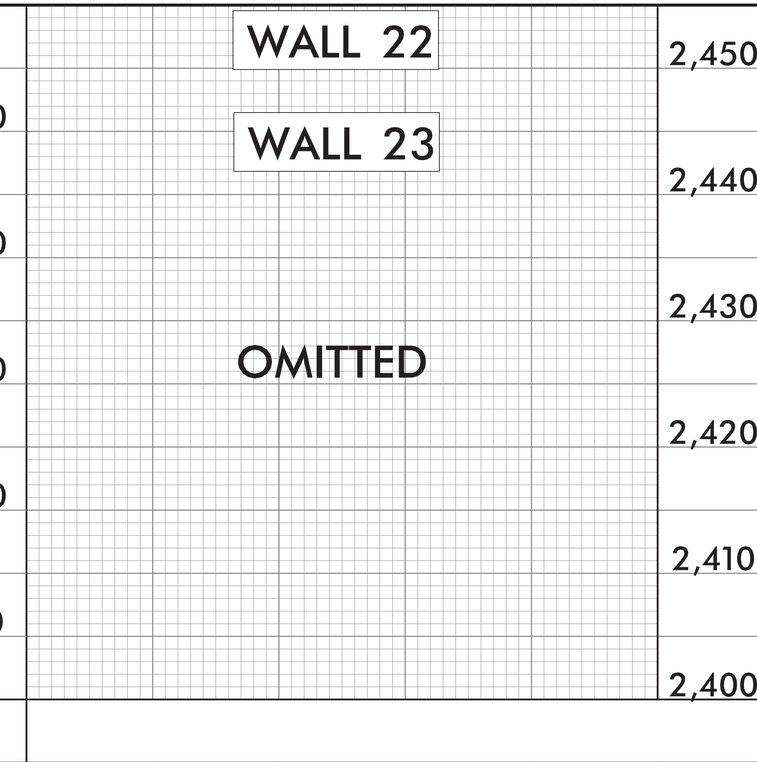
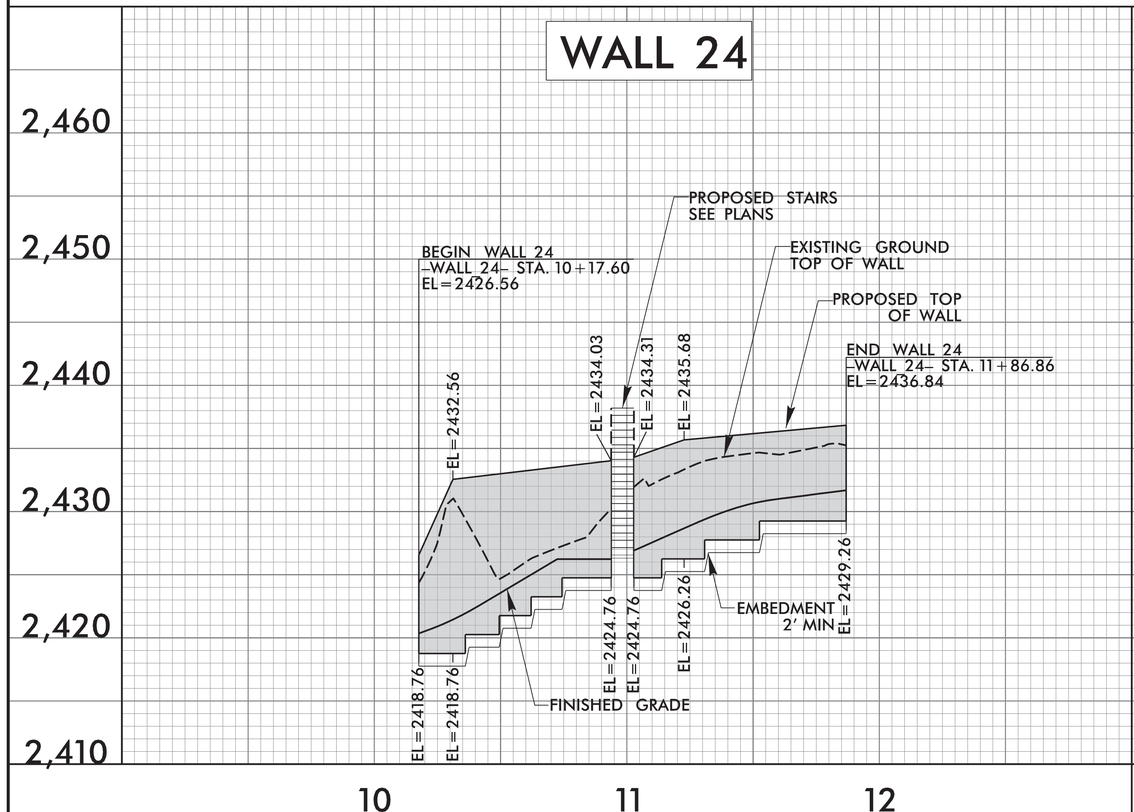
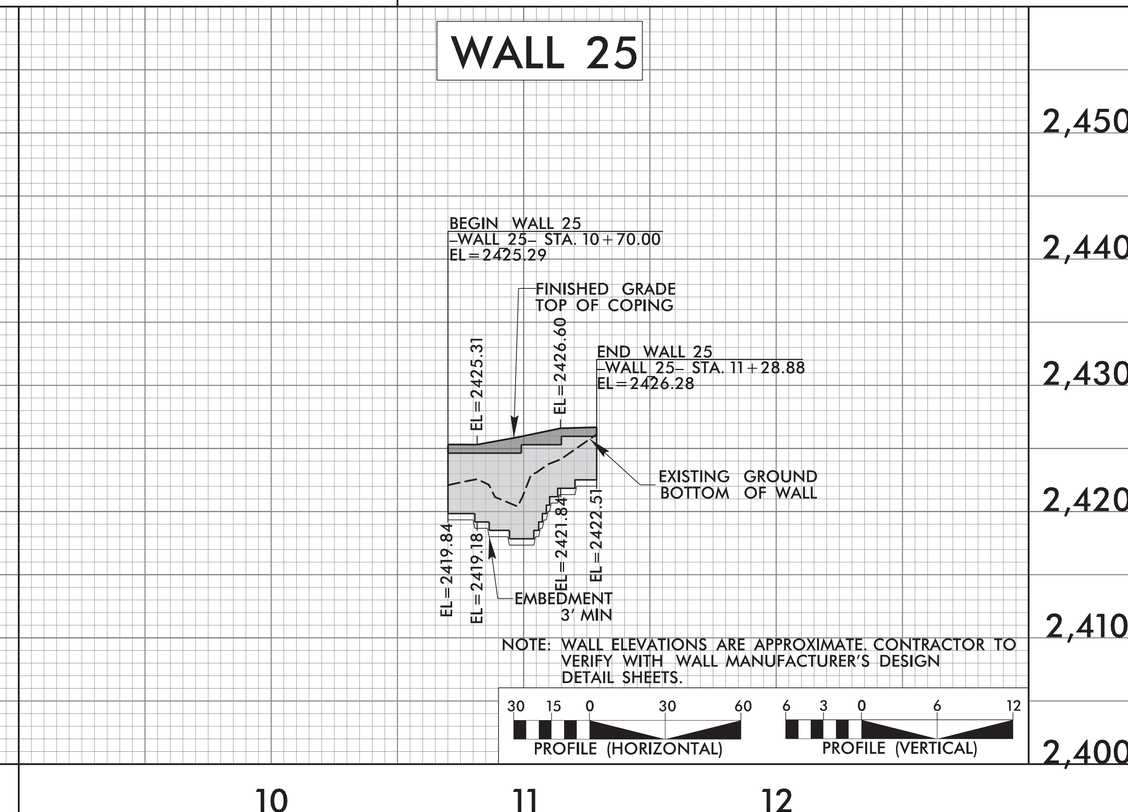
H13002.00

2P









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10/5/16

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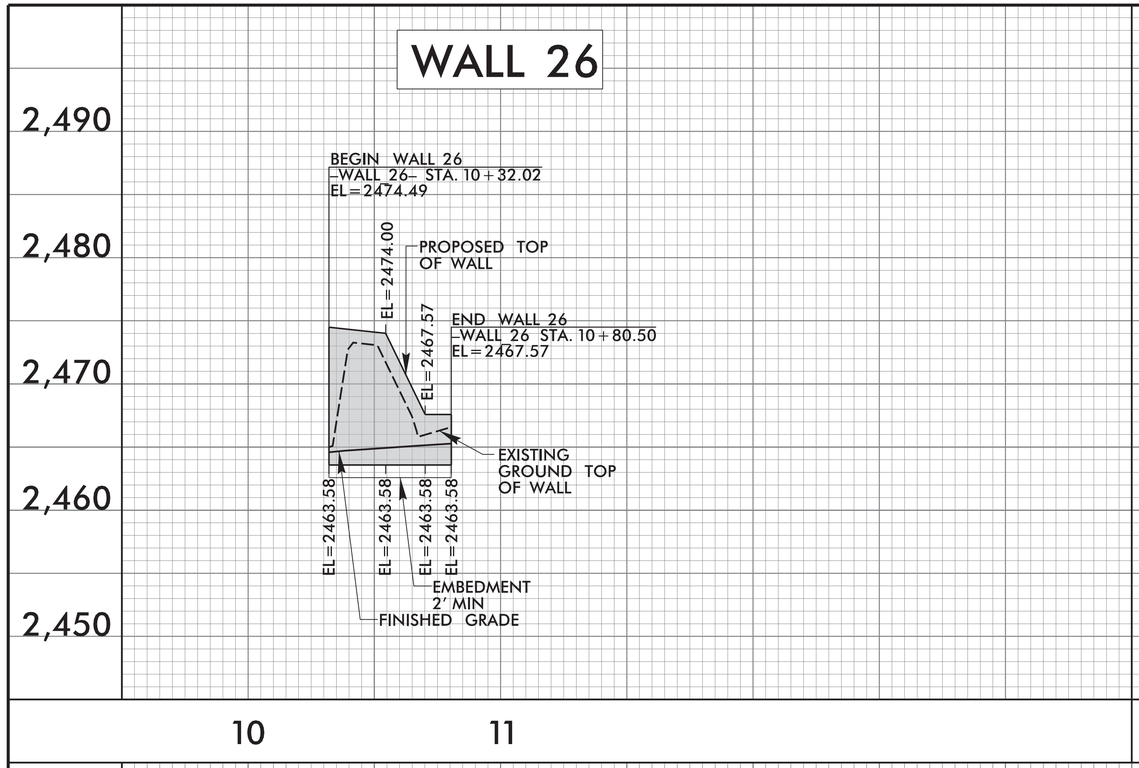
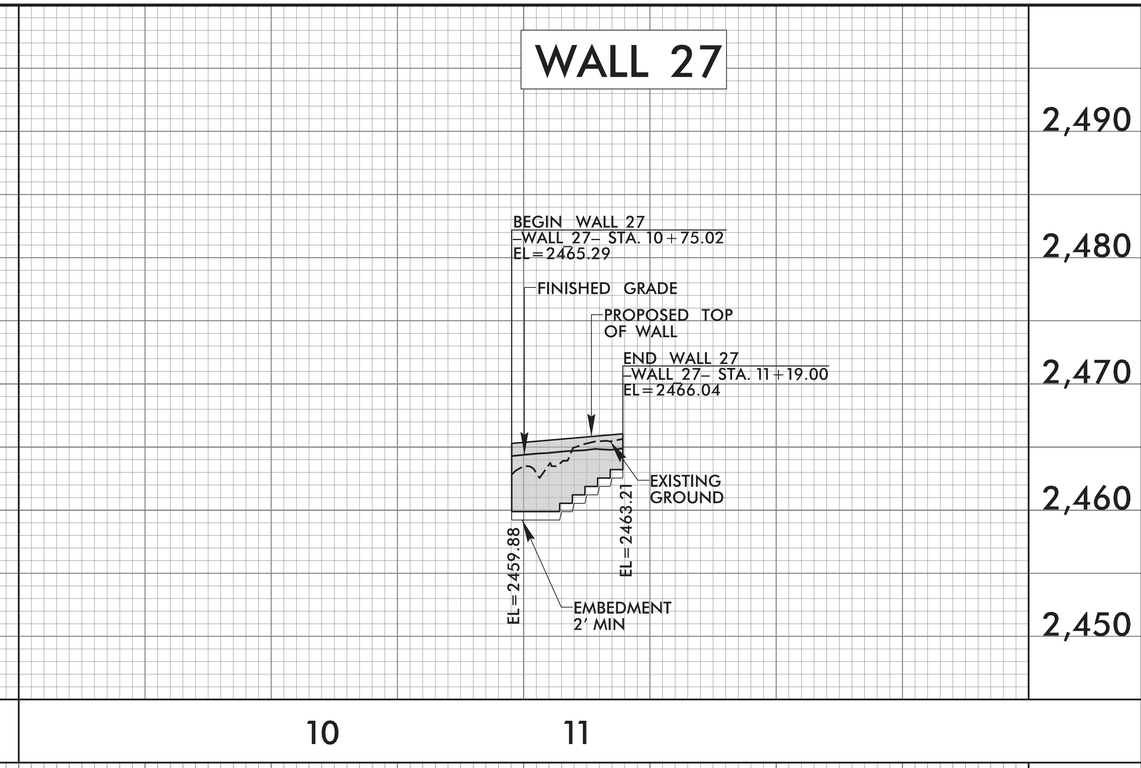
2Q

WALL 26



WALL 27



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30 15 0 30 60
PROFILE (HORIZONTAL)

6 3 0 6 12
PROFILE (VERTICAL)

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PROJECT NO.:
H13002.00

2R

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

NOTE: Invert Elevations are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300–5".

											Dissipator Pad		
Str #	From	To	Size (IN)	TYPE	Length (FT)	STR TYPE	Top EL	Invert In	Invert Out	Slope	CL I RR (TN)	Geotextile (SY)	Notes
1						PRECAST HW	2157.5		2155.0				L9
	401	1	18	RCP CL IV	10.0			2155.5	2155.0	5%	8	20	
401						MH	2170.0	2165.0	2155.5				L9
	402	401	18	RCP CL IV	40.0			2169.0	2165.0	10%			
402						MH	2181.0	2177.0	2169.0				L9
	403	402	18	RCP CL IV	40.0			2181.0	2177.0	10%			
403						MH	2193.0	2189.0	2181.0				L9
	2	403	18	RCP CL IV	38.3			2192.8	2189.0	10%			
2						CB	2205.1	-	2192.8				L9
	3	403	18	RCP CL IV	35.0			2192.5	2189.0	10%			
3						MH	2205.3	2201.3	2192.5				L9
	4	3	18	RCP CL IV	34.1			2203.5	2201.3	6%			
4						CB	2207.6	2203.6	2203.5				L9
	4A	4	18	RCP CL IV	35.1			2206.5	2203.6	8%			
4A						DI	2209.5	2206.6	2206.5				L9
	5	4A	18	RCP CL IV	67.0			2210.2	2206.6	5%			
5						CB	2213.3	2210.3	2206.5				L9
	6	5	18	RCP CL IV	104.6			2216.6	2210.3	6%			
6						CB	2219.6						L9
7						PRECAST HW			2229.4				L3REV
	8	7	18	HDPE	24.2			2230.8	2229.4	5.8%	2	8	
8						DI	2233.6		2230.8				L3REV
9						PRECAST HW			2242.0				L3REV
	10	9	18	RCP CL IV	23.6			2242.7	2242.0	3%	2	8	
10						PRECAST HW			2242.7				L3REV
11						PRECAST HW			2253.2				L3REV
	12	11	18	RCP CL IV	20.7			2253.4	2253.2	1%	2	8	
12						PRECAST HW			2253.4				L3REV
13						PRECAST HW			2272.7				L3REV
	14	13	18	HDPE	20.8			2273.4	2272.7	3%	2	8	
14						PRECAST HW			2273.4				L3REV
15						PRECAST HW			2287.2				L3REV
	16	15	24	RCP CL IV	19.6			2287.4	2287.2	1%	6	18	
16						PRECAST HW			2287.4				L3REV
17						PRECAST HW			2301.2				L3REV
	18	17	18	RCP CL IV	18.7			2301.4	2301.2	1%	2	8	
18						PRECAST HW			2301.4				L3REV
19						PRECAST HW			2304.4				L3REV
	20	19	18	RCP CL IV	17.2			2305.5	2304.4	6%	2	8	
20						PRECAST HW			2305.5				L3REV
21						PRECAST HW			2305.7				L3REV
	22	21	18	RCP CL IV	26.0			2306.0	2305.7	1%	2	8	
22						DI	2313.5	2308.5	2306.0				L3REV
	23	22	18	HDPE	78.2			2312.5	2308.5	5%			
23						MH	2316.4	2312.6	2312.5				L3REV
	24	23	18	HDPE	42.5			2315.2	2312.6	6%			
24						DI	2319.0	2315.3	2315.2				L3REV
	26	24	18	RCP CL IV	26.7			2316.0	2315.3	3%			
26						DI	2319.8		2316.0				L3REV
27						PRECAST HW			2308.3				L3REV
	28	27	18	RCP CL IV	22.9			2309.3	2308.3	4%	2	8	
28						DI	2312.2		2309.3				L3REV
29						PRECAST HW			2286.0				L3REV
	30	29	18	RCP CL IV	27.0			2286.3	2286.0	1%			
30						DI	2290.9		2286.3				L3REV
34						PRECAST HW			2389.9				L1REV
	33	34	18	RCP CL IV	20.0			2391.5	2389.9	8%	2	8	
33						DI	2394.3		2391.5				L1REV
36						PRECAST HW			2407.2				L2A
	35	36	18	RCP CL IV	27.1			2407.5	2407.2	1%	2	8	
35						DI	2411.4		2407.5				L2A
702						PRECAST HW			2279.2				L3REV
	701	702	18	RCP CL IV	27.3			2279.5	2279.2	1%	20	34	
701						DI	2283.0		2279.5				L3REV
801	801	Existing Pipe	15	HDPE	5.0	DI	2313.6	2311.0	2310.9	2%			Extend Existing 15" HDPE to DI, L4ALT2
31						JB W/ MH	2338.0		2335.0				Approx Invert, L5REV
	32	31	24	RCP CL IV	24.5			2336.2	2335.0	5%			
32						Precast HW	2339.3		2336.2				L5REV
902						PRECAST HW			2372.7				L5REV
	901	902	24	RCP CL IV	31.7			2373.7	2372.7	3%	6	18	
901						PRECAST HW			2373.7				L5REV
910						PRECAST HW			2415.9				L7C
	911	910	18	RCP CL IV	16.0			2416.5	2415.9	4%	2	8	
911						DI	2419.5	2416.6	2416.5				L7C
	914	911	18	RCP CL IV	40.6			2417.0	2416.6	1%			
914						DI	2421.0		2417.0				L7C

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I. (N.S.)	GRATED DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

CITY OF ASHEVILLE NORTH CAROLINA

BEAUCATCHER GREENWAY
WHITE FAWN RESERVOIR
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www.stewartinc.com

GREENWAY ENGINEER:
NORTH CAROLINA PROFESSIONAL SEAL 30932 ENGINEER ROBERT A. WILLIAMS
10/5/16

HYDRAULICS ENGINEER:
NORTH CAROLINA PROFESSIONAL SEAL 042301 ENGINEER ANDREW J. HICKLING

PROJECT NO.:
H13002.00

1 TREE NUMBER SYMBOLOGY (SEE GRADING AND EROSION CONTROL PLANS, SHEETS G-4 THRU G-14)

TREE DESCRIPTION LEGEND

ASH = ASH
BIRCH = BIRCH
BL.CH. = BLACK CHERRY
BL.OAK = BLACK OAK
BL.WLNT = BLACK WALNUT
B.PEAR = BRADFORD PEAR
CATALPA = CATALPA
CHERRY = CHERRY
DW = DOGWOOD (UNIDENTIFIED)
FIR = FIR
FDW = FLOWERING DOGWOOD
HEM = HEMLOCK
HIC = HICKORY
IRONWOOD = IRONWOOD
KDW = KOREAN DOGWOOD
LOC = LOCUST
MAP = MAPLE
N.R.OAK = NORTHERN RED OAK
OAK = OAK
PINE = PINE
POP = POPLAR
SASS = SASSAFRASE
SUGARBERRY = SUGARBERRY
SUMAC = SUMAC
SW = SOURWOOD
SYC = SYCAMORE
THUJA = THUJA
TOH = TREE OF HEAVEN
WALNUT = WALNUT
W.OAK = WHITE OAK
W.PINE = WHITE PINE

TREE REMOVAL SUMMARY 1 OF 4

#	DESCRIPTION	TO REMAIN	TO BE REMOVED	#	DESCRIPTION	TO REMAIN	TO BE REMOVED
1	9" W PINE	X		51	14" OAK		X
2	8" POP		X	52	10" SW		X
3	8" MAP		X	53	16" LOC		X
4	8" POP		X	54	9" SASS		X
5	8" POP		X	55	12" CHERRY	X	
6	13" W PINE	X		56	10" W PINE	X	
7	13" SUMAC	X		57	10" LOC	X	
8	15" CATALPA	X		58	9" CHERRY		X
9	8" IRONWOOD	X		59	14" OAK	X	
10	10" W PINE		X	60	11" OAK	X	
11	9" LOC		X	61	11" OAK	X	
12	15" POP		X	62	9" OAK	X	
13	8" OAK	X		63	16" OAK	X	
14	15" MAP	X		64	8" OAK	X	
15	20" OAK	X		65	8" OAK	X	
16	15" OAK	X		66	12" OAK	X	
17	10" POP	X		67	23" OAK	X	
18	20" OAK	X		68	8" OAK	X	
19	14" OAK		X	69	14" LOC	X	
20	17" OAK		X	70	13" OAK	X	
21	8" SASS		X	71	9" DOUBLE OAK	X	
22	11" SW		X	72	10" DOUBLE OAK	X	
23	20" MAP		X	73	16" OAK	X	
24	11" OAK	X		74	19" OAK	X	
25	9" POP	X		75	14"/11" DOUBLE LOC	X	
26	10" OAK		X	76	8" OAK	X	
27	14" BIRCH	X		77	13" LOC	X	
28	10" SW		X	78	17" OAK	X	
29	9" MAP	X		79	8" OAK	X	
30	9" OAK		X	80	15" OAK	X	
31	10" CHERRY	X		81	9" W PINE	X	
32	8" OAK	X		82	11" SUMAC	X	
33	14" POP	X		83	17" POP	X	
34	24" POP	X		84	10" MAP	X	
35	14" POP		X	85	10" MAP	X	
36	8" POP	X		86	8" MAP	X	
37	26" POP	X		87	15" SUMAC	X	
38	15" SW	X		88	21" CHERRY	X	
39	8" POP	X		89	8" DW	X	
40	15" POP		X	90	11" MAP	X	
41	9" SW		X	91	15" OAK	X	
42	14" LOC		X	92	12" OAK		X
43	13"/13"/8" TRIPLE MAP		X	93	14" OAK	X	
44	4" DW		X	94	14" MAP		X
45	30" MAP	X		95	19" LOC		X
46	18" POP		X	96	14" OAK		X
47	11" CHERRY	X		97	14" LOC	X	
48	8" CHERRY	X		98	8" SW		X
49	20" POP		X	99	26" POP	X	
50	8" DW		X	100	13" SUMAC	X	

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NORTH CAROLINA PROFESSIONAL SEAL 30432 ENGINEER ROBERT A. WILLIAMS
10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

3A

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TREE DESCRIPTION LEGEND

ASH = ASH
BIRCH = BIRCH
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TREE REMOVAL SUMMARY 2 OF 4

#	DESCRIPTION	TO REMAIN	TO BE REMOVED	#	DESCRIPTION	TO REMAIN	TO BE REMOVED
101	13" POP	X		151	THUJA sp	X	
102	28" CHERRY		X	152	THUJA sp	X	
103	1" DOUBLE CHERRY	X		153	THUJA sp	X	
104	25" POP	X		154	9" HEM	X	
105	20" LOC		X	155	9",6" HEM (FORKED)	X	
106	14" SUMAC	X		156	5" FIR	X	
107	9" SUMAC	X		157	17" B.PEAR	X	
108	8" OAK		X	158	9" FIR	X	
109	8" OAK		X	159	10" FIR	X	
110	8" OAK		X	160	7" FIR	X	
111	30"/28" FORKED OAK	X		161	14" FIR	X	
112	13" CHERRY		X	162	14" FIR	X	
113	8" OAK		X	163	9" FDW		X
114	16" OAK	X		164	18" SUGARBERRY	X	
115	12" CHERRY	X		165	27" W.PINE	X	
116	20" OAK	X		166	8" KDW		X
117	8" CHERRY		X	167	7" FDW		X
118	10" DOUBLE SUMAC	X		168	11" FDW		X
119	9" OAK	X		169	20" OAK	X	
120	22" OAK	X		170	13" OAK	X	
121	10" OAK	X		171	7" KDW		X
122	21" OAK		X	172	13" FDW		X
123	10" OAK		X	173	10",9" DOUBLE CATALPA	X	
124	12" MAP	X		174	8" KDW		X
125	21" OAK	X		175	6" KDW		X
126	17" TRIPLE OAK	X		176	7" FDW		X
127	8" OAK		X	177	17",18",18" N.R.OAK	X	
128	13" OAK		X	178	11" BL.WLNT	X	
129	11" OAK	X		179	18" W.OAK	X	
130	12" OAK	X		180	5" FDW		X
131	16" CHERRY	X		181	20" W.OAK	X	
132	12" OAK		X	182	9" FDW		X
133	10" ASH	X		183	15" BL.OAK	X	
134	10" OAK	X		184	5" FDW		X
135	11" OAK	X		185	18" N.R.OAK		X
136	13" OAK		X	186	5" FDW		X
137	11" OAK	X		187	9" N.R.OAK	X	
138	26" OAK		X	188	5" FDW		X
139	9" OAK	X		189	20" N.R.OAK		X
140	11" OAK	X		190	3" FDW		X
141	24" OAK	X		191	34" W.PINE	X	
142	14" OAK	X		192	5" FDW	X	
143	17" OAK	X		193	18" CHERRY	X	
144	8" OAK	X		194	24"/12" DOUBLE POP		X
145	30" W.PINE	X		195	19" OAK	X	
146	2" MAPLE	X		196	30" POP	X	
147	1" MAPLE	X		197	20" LOC	X	
148	26" W.PINE	X		198	11" MAPLE	X	
149	6" BL.CH.	X		199	10" CHERRY	X	
150	34" PINE	X		200	12" MAP	X	

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10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

3B

1 TREE NUMBER SYMBOLOGY (SEE GRADING AND EROSION CONTROL PLANS, SHEETS G-4 THRU G-14)

TREE DESCRIPTION LEGEND

ASH = ASH
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WALNUT = WALNUT
W.OAK = WHITE OAK
W.PINE = WHITE PINE

TREE REMOVAL SUMMARY 3 OF 4

#	DESCRIPTION	TO REMAIN	TO BE REMOVED	#	DESCRIPTION	TO REMAIN	
201	20" MAP	X		251	32" PINE	X	
202	19" CHERRY	X		252	26" OAK	X	
203	17" LOC	X		253	15" MAP	X	
204	27" CHERRY	X		254	27" POP	X	
205	8" MAPLE	X		255	9" SW	X	
206	12" MAPLE	X		256	19" POP	X	
207	8" DOUBLE CHERRY	X		257	11" OAK	X	
208	10" MAP	X		258	14" POP	X	
209	10" MAP	X		259	9" SW	X	
210	22" CHERRY	X		260	12" POP	X	
211	23" LOC	X		261	12" OAK	X	
212	10" CHERRY		X	262	11" SW	X	
213	25" OAK		X	263	21",25",19" TRIPLE OAK	X	
214	31" OAK	X		264	9" SW	X	
215	8" MAP	X		265	15"/9" TWIN OAK	X	
216	9" MAP	X		266	11" TWIN POP	X	
217	52" OAK	X		267	16" POP	X	
218	26" OAK		X	268	18" POP	X	
219	14" OAK	X		269	16" OAK	X	
220	31" OAK		X	270	8" POP	X	
221	14" LOC		X	271	12" POP	X	
222	29" OAK	X		272	10" SW	X	
223	10" MAP		X	273	13" SW	X	
224	14" LOC		X	274	10" LOC	X	
225	10" TOH		X	275	24" POP	X	
226	9" TOH		X	276	30" OAK	X	
227	33" OAK	X		277	10" SW	X	
228	9" MAP		X	278	31" OAK	X	
229	11" OAK		X	279	9" SW	X	
230	33" OAK	X		280	16" PINE	X	
231	9" MAP		X	281	11" MAP	X	
232	29" OAK	X		282	12" SW	X	
233	12" MAP	X		283	8" OAK	X	
234	9" CHERRY	X		284	13" PINE	X	
235	21" PINE		X	285	19" MAP	X	
236	31" OAK	X		286	14" ASH	X	
237	34" OAK	X		287	11" SW	X	
238	44" OAK	X		288	10"/18" TWIN OAK	X	
239	32" OAK	X		289	9" POP		X
240	8" POP	X		290	17" POP	X	
241	26" OAK	X		291	11" PINE	X	
242	11" POP	X		292	10" OAK	X	
243	46" OAK	X		293	20" OAK	X	
244	32" POP		X	294	11" CHERRY	X	
245	21" OAK		X	295	19" POP	X	
246	15" LOC		X	296	12" PINE	X	
247	17" LOC		X	297	9" SW	X	
248	24" POP	X		298	12" POP	X	
249	14" SW	X		299	10" POP	X	
250	11" TWIN OAK	X		300	13" POP	X	

CITY OF ASHEVILLE NORTH CAROLINA

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10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

3C

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TREE REMOVAL SUMMARY 4 OF 4

#	DESCRIPTION	TO REMAIN	TO BE REMOVED	#	DESCRIPTION	TO REMAIN	TO BE REMOVED
301	15" POP	X		355	9" SW	X	
302	8" POP	X		356	13" SW	X	
303	8" POP	X		357	27" OAK	X	
304	11" POP	X		358	18"/10" TWIN SYC		X
305	28" OAK	X		359	13" POP		X
306	13" POP	X		360	10" POP		X
307	18" MAP	X		361	12" MAP	X	
308	16" LOC	X		362	11" BIRCH		X
309	9" POP	X		363	15" OAK		X
310	10" SW	X		364	12" MAP	X	
311	8" POP	X		365	11" CHERRY	X	
312	11" POP	X		366	15" OAK	X	
313	13" SYC		X	367	22" LOC	X	
314	14" MAP	X		368	18" OAK	X	
315	14" POP	X		369	10" OAK	X	
316	16" POP	X		370	11" OAK	X	
317	16" LOC	X		371	23" OAK	X	
318	11" CHERRY	X		372	23" OAK	X	
319	13" OAK	X		373	33" OAK	X	
320	13" OAK	X		374	8" CHERRY	X	
321	15" CHERRY	X		375	16" OAK	X	
322	10" POP	X		376	14" OAK	X	
323	33" OAK	X		377	8" MAP	X	
324	17" POP	X		378	31" OAK	X	
325	9" POP	X		379	13" OAK	X	
326	13" OAK	X		380	18" PINE	X	
327	10" MAP	X		381	10" CHERRY	X	
328	18" OAK	X		382	10" WALNUT	X	
329	19" POP	X		383	15" OAK	X	
330	10" MAP	X		384	18"/10" TWIN SYC	X	
331	22" OAK	X		385	33" MAP	X	
332	12" MAP	X		386	22" MAP	X	
333	16" HIC	X		387	32" CHERRY	X	
334	12" OAK	X		388	17" WALNUT	X	
335	19" OAK	X		389	25" WALNUT	X	
336	12" OAK	X		390	14" WALNUT	X	
337	19" OAK	X		391	9" WALNUT	X	
338	9" OAK	X		392	15" WALNUT		X
339	30" OAK	X		393	13" WALNUT		X
340	14" OAK	X		394	17" WALNUT		X
341	12"/8" TWIN OAK	X		395	17" WALNUT		X
342	11" POP	X		396	26" LOC	X	
343	16" OAK	X		397	21" LOC	X	
344	21" OAK	X		398	10" MAP	X	
345	19" MAP	X		399	25" OAK (DEAD)		X
346	16" OAK	X		400	33" OAK	X	
347	12" POP	X		401	10" MAP	X	
348	8" POP	X		402	35" OAK (DEAD)	X	
349	10" POP	X		403	10" BIRCH	X	
350	14" POP	X		404	9" POP	X	
351	8" POP	X		405	12" POP	X	
352	16"/20" TWIN OAK	X		406	23" POP	X	
353	12" MAP	X		407	13" POP		X
354	32" OAK	X		408	10" POP		X

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10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

3D

BEGIN PROJECT
–L8REV3– STA. 10+53.66

PROPOSED STAIRS (SEE DETAIL SHEET 2K)

BEGIN SAFETY RAIL (TYPE 1) –L8REV3– STA. 11+05.00 LT

BEGIN WALL 1 –L8REV3– STA. 11+65.00 4.00' LT

END WALL 1 –L8REV3– STA. 12+15.00 4.00' LT

INSTALL SIGN –L3REV3– STA. 12+20, 4' LT.

CAUTION STEPS AHEAD — CUSTOM 12"x18"

INSTALL SIGN –L3_REV– STA. 10+25.00 8' LT.

YIELD TO PEDS — R9-6 12"x18"

UNDERGROUND ELECTRIC BOX

ARY SEWER EANOUT

FOR TRAILHEAD DESIGN SEE TRAILHEAD PLANS SHEETS TH1.0 & TH1.2

BEGIN STAIRS –L8REV3– STA. 10+60.76

BRICK COLUMN

BEGIN METAL HANDRAIL –L8REV3– STA. 10+64.00

SEE DETAIL 1
EST 8 TONS CLASS 'I' RIP RAP
EST 20 SY FILTER FABRIC
VELOCITY DISSIPATOR PAD

REMOVE EXISTING CHAIN LINK FENCE

END METAL HANDRAIL –L8REV3– STA. 11+05.00

END STAIRS –L8REV3– STA. 11+13.22

CITY OF ASHEVILLE
P.B. 5, PG. 14
PIN 964856680600000

BEGIN WALL 2 –L8REV3– STA. 12+20.00 4.00' RT

R=10'

BEGIN WALL 3 –L8REV3– STA. 13+70.00 4.00' LT

END WALL 3 –L8REV3– STA. 14+20.00 4.00' LT

END WALL 5 –L9– STA 14+47.22
END SAFETY RAIL (TYPE 1) –L9– STA 14+63.98

END WALL 2 –L8REV3– STA. 13+36.25 4.00' RT

END SAFETY RAIL (TYPE 1) –L8REV3– STA. 14+60.00 LT

END WALL 4
END SAFETY RAIL (TYPE 1) –WALL_4– STA. 17+62.44= –L9– STA. 10+96.31 1.50' LT

BEGIN WALL 4 –WALL_4– STA. 15+80.00= –L8REV3– STA. 15+80.00 4.00' RT

BEGIN SAFETY RAIL (TYPE 1) –L8REV3– STA. 15+00.00 RT

–L8REV3–

–L9–

MATCHLINE –L3 REV– STA. 10+50.00 SEE SHEET 5

R/W SHARROW –L9– STA 11+25

T.B.M. REBAR W/CAP ELEVATION: 2207.98'

APPROXIMATE LOCATION OF EXISTING GAS LINE

SHARROW –L10– STA 29+05

BEGIN WALL 4A
BEGIN SAFETY RAIL (TYPE 1) –L8REV3– STA 16+40 4.00 LT

INSTALL SIGN –L8REV3– STA. 16+95, 4'LT

W7-5 (18"x18")

R/W SHARROW –L9– STA 12+70

SHARROW –L9– STA 13+94

FOR TRAILHEAD DESIGN SEE TRAILHEAD PLANS SHEETS TH3.0 & TH3.2

TYRONE N. GREENLEE
WILLIAM N. GREENLEE
D.B. 6E, PG. 936
P.B. 5, PG. 63
PIN 964847900900000

VIJAY KAPOOR (ET AL)
FLORENCE KAPOOR (ET AL)
D.B. 5117, PG. 1734
P.B. 5, PG. 63
PIN 964846994800000

SHARROW –L10– STA 28+95

PARKING AREA TO BE CONSTRUCTED AS CONCRETE.

BEGIN 6"x12" CURB UPSTREAM OF CATCH BASIN

SHARROW –L10– STA 27+94

SHARROW –L10– STA 28+03

END WALL 4A –L8REV3– STA. 16+97.49
BEGIN 6' CONCRETE MONOLITHIC CURB & SIDEWALK
BEGIN WALL 5
BEGIN SAFETY RAIL (TYPE 1) –L9– STA 11+58.13 6.5' LT

END 6' CONCRETE MONOLITHIC CURB & SIDEWALK –L9– STA. 14+47.22

REMOVE EXISTING GATE
INSTALL BOLLARD –L9– STA 14+50

END CONCRETE TRAIL –L9– STA 14+63.98
BEGIN 10' ASPHALT TRAIL

CONTRACTOR SHALL FIELD LOCATE THE SANITARY SEWER LINE AND FIELD ADJUST THE PROPOSED BOLLARD AS NECESSARY TO PREVENT THE FOOTERS FROM IMPACTING THE SANITARY SEWER LINE IN THIS AREA.

CITY OF ASHEVILLE
D.B. 4720, PG. 1011
P.B. 124, PG. 48
PIN 964866179800000

END 6' CONCRETE SIDEWALK –L8REV3– STA. 16+97.49

SHARROW –L10– STA 26+92

–L10–

WHITE FAWN DRIVE

SHARROW –L10– STA 26+83

SHARROW –L10– STA 25+35

SHARROW –L10– STA 25+25

FOR TRAILHEAD DESIGN SEE TRAILHEAD PLANS SHEETS TH2.0 & TH2.2

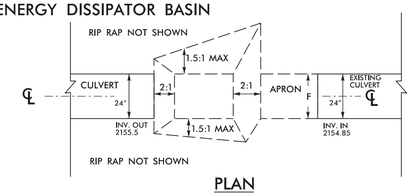
MATCHLINE –L10– STA. 25+00.00 SEE SHEET 12

DETAIL 1

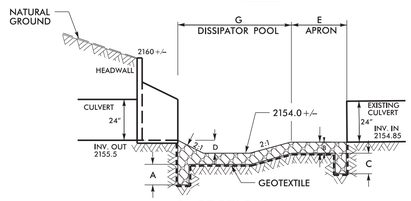
RIP-RAPPED ENERGY DISSIPATOR BASIN

DIM. (ft)	RIP RAP BASIN #		
A	15"		
B	15"		
C	15"		
D	12"		
E	1.0'		
F	2.0'		
G	4.0' +/-		

ALL DIMENSIONS APPROXIMATE



PLAN



℄ SECTION

NOT TO SCALE

30 15 0 30 60
SCALE: 1" = 30'

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FOR -L8REV3- & -L9- PROFILE VIEW, SEE SHEET 4A
FOR -L3REV- PROFILE VIEW SEE SHEET 5A

CITY OF ASHEVILLE NORTH CAROLINA

BEAUCATCHER GREENWAY
WHITE FAWN RESERVOIR
TO
HELEN'S BRIDGE

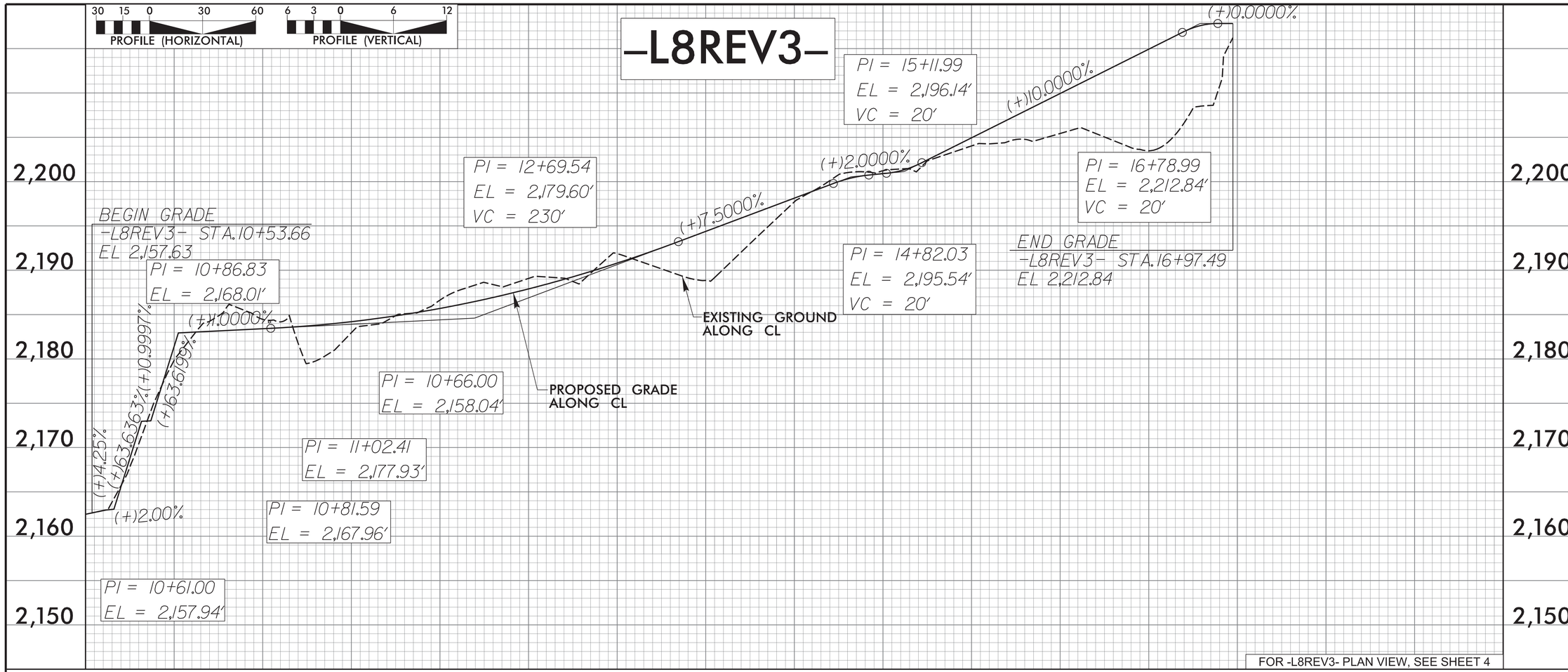
PLANS PREPARED BY:
Firm License No. C-1051
421 Fayetteville St.
Suite 400
Raleigh, NC 27601
t 919.380.8750
www.stewartinc.com
STEWART

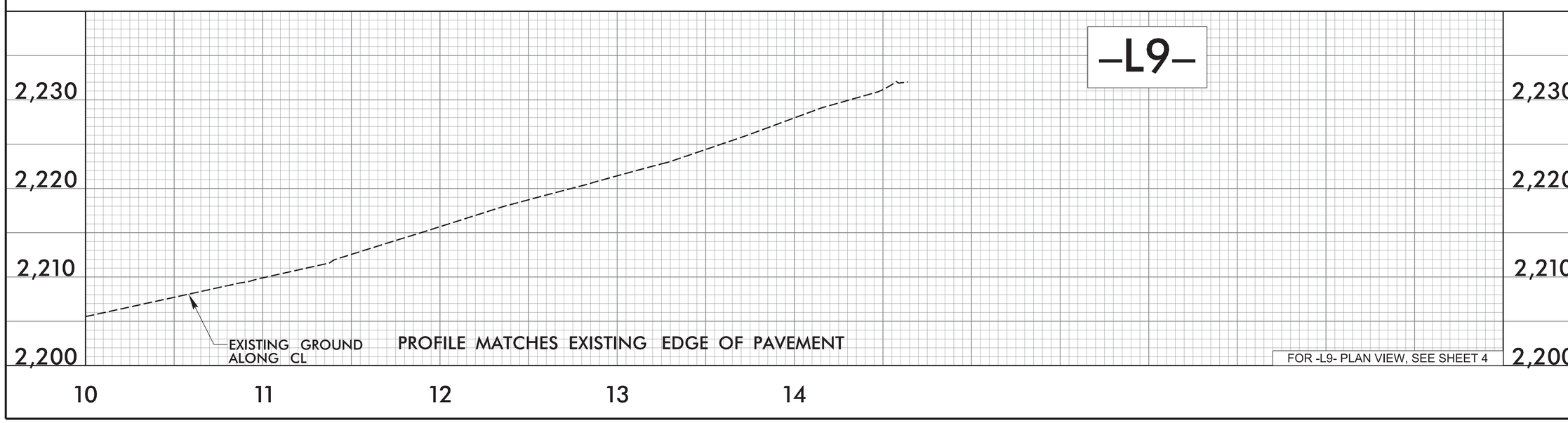
GREENWAY ENGINEER:
NORTH CAROLINA PROFESSIONAL SEAL 30832 ENGINEER ROBERT A. WILLIAMS
10/5/16

HYDRAULICS ENGINEER:
NORTH CAROLINA PROFESSIONAL SEAL 042301 ENGINEER ANDREW J. HICKLING

PROJECT NO.:
H13002.00

4





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GREENWAY ENGINEER:
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10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

4A

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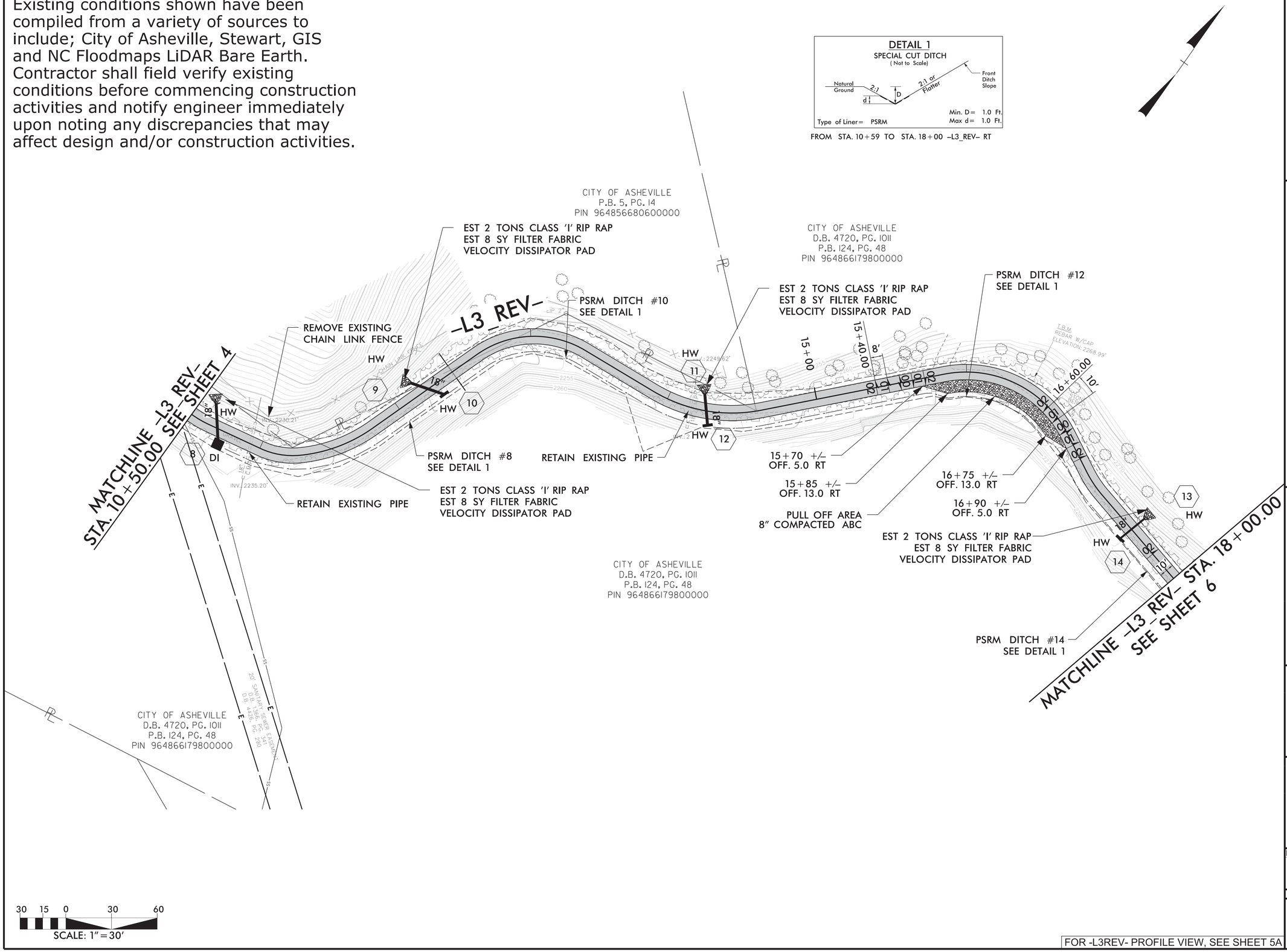

FOR -L3REV- PROFILE VIEW, SEE SHEET 5A

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10/5/16

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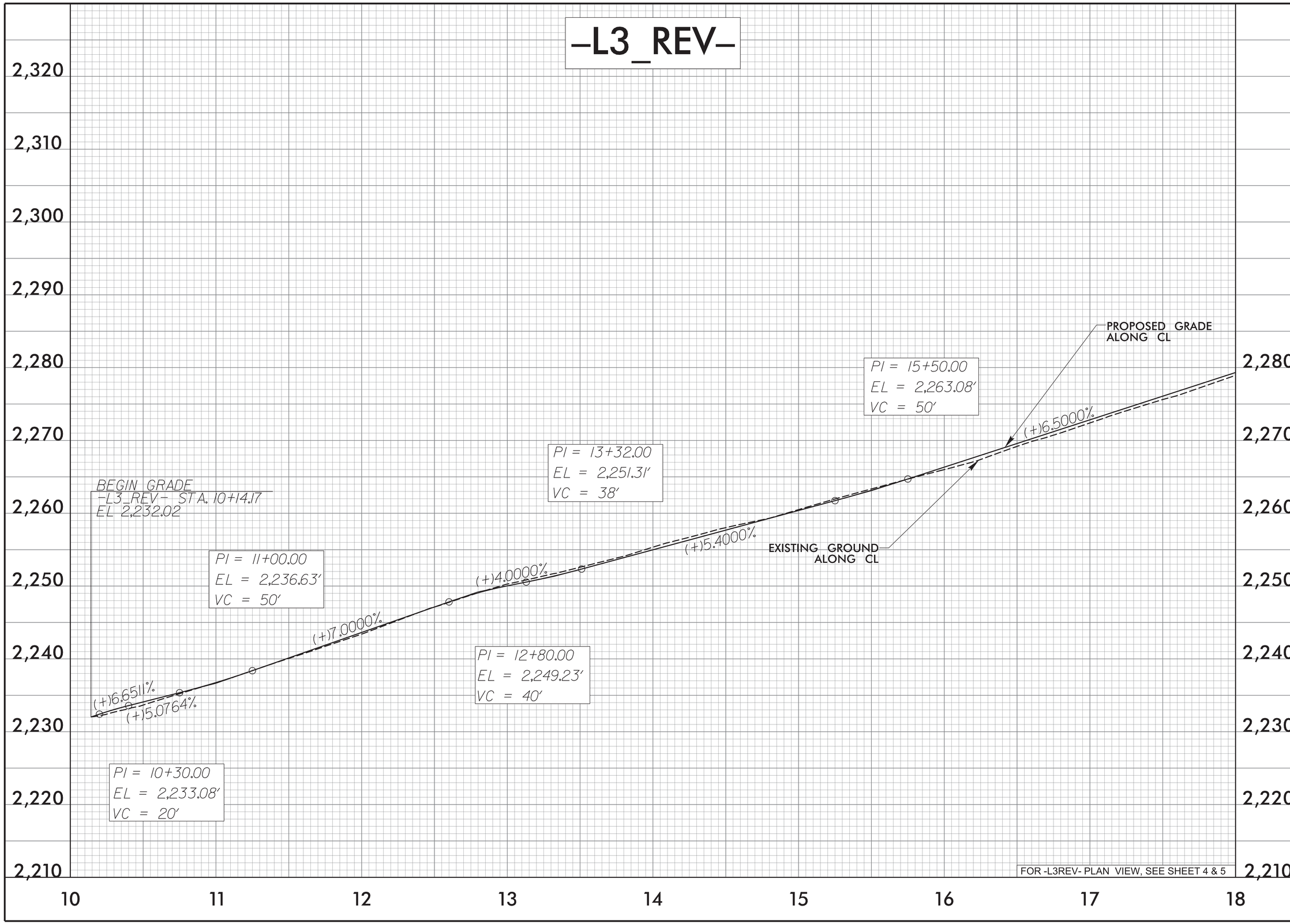
NORTH CAROLINA PROFESSIONAL SEAL 042301 ENGINEER ANDREW J. HIGGLING

PROJECT NO.:
H13002.00

5



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H13002.00

5A

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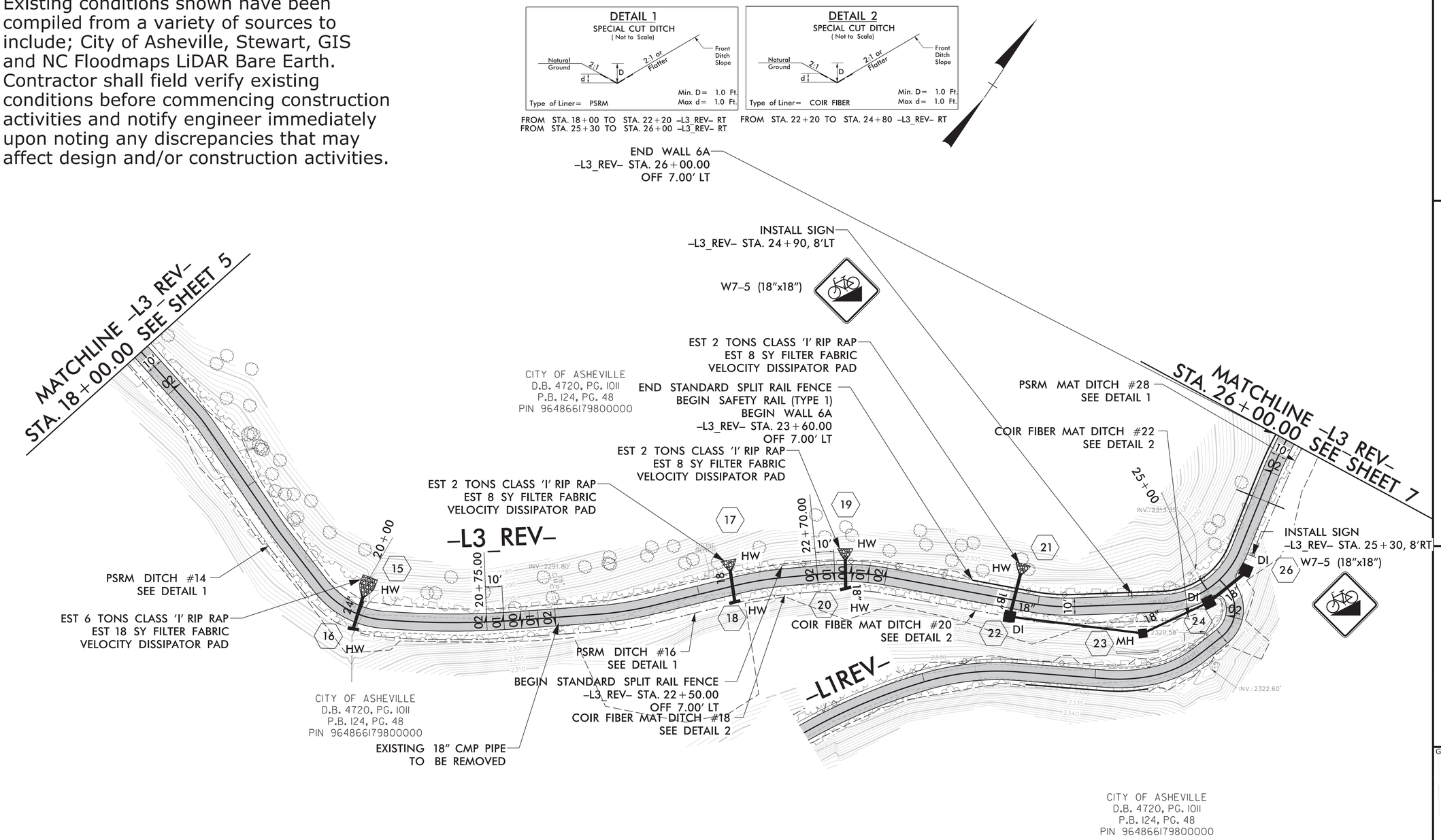

30 15 0 30 60
SCALE: 1" = 30'

FOR -L1REV- PLAN AND PROFILE VIEW, SEE SHEETS 14, 14A, 15 & 15A
FOR -L3- PROFILE VIEW, SEE SHEET 6A

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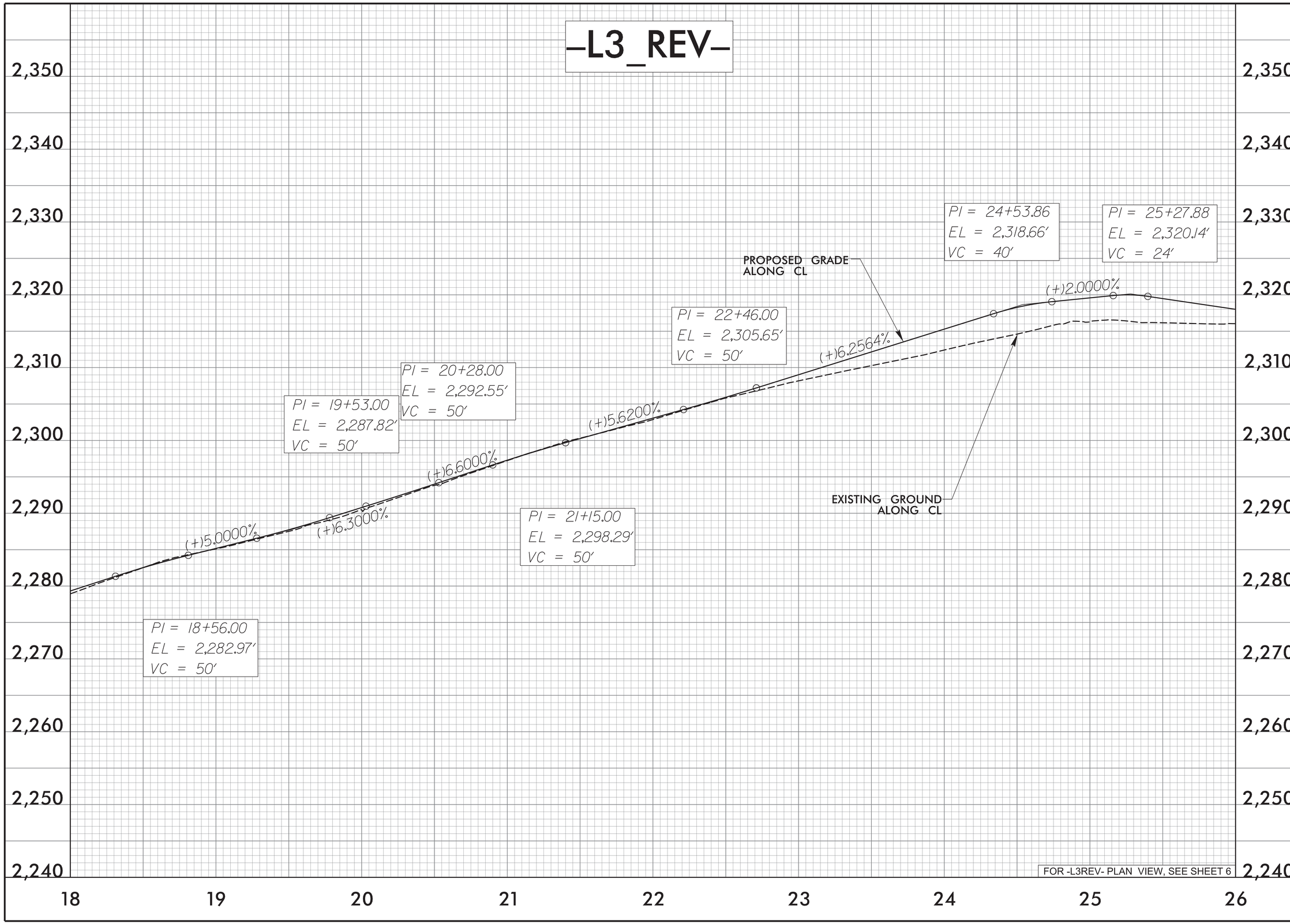
10/5/16

HYDRAULICS ENGINEER:
NORTH CAROLINA PROFESSIONAL SEAL 042301 ENGINEER ANDREW J. HICKLING

PROJECT NO.:
H13002.00

6



CITY OF ASHEVILLE NORTH CAROLINA

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10/5/16

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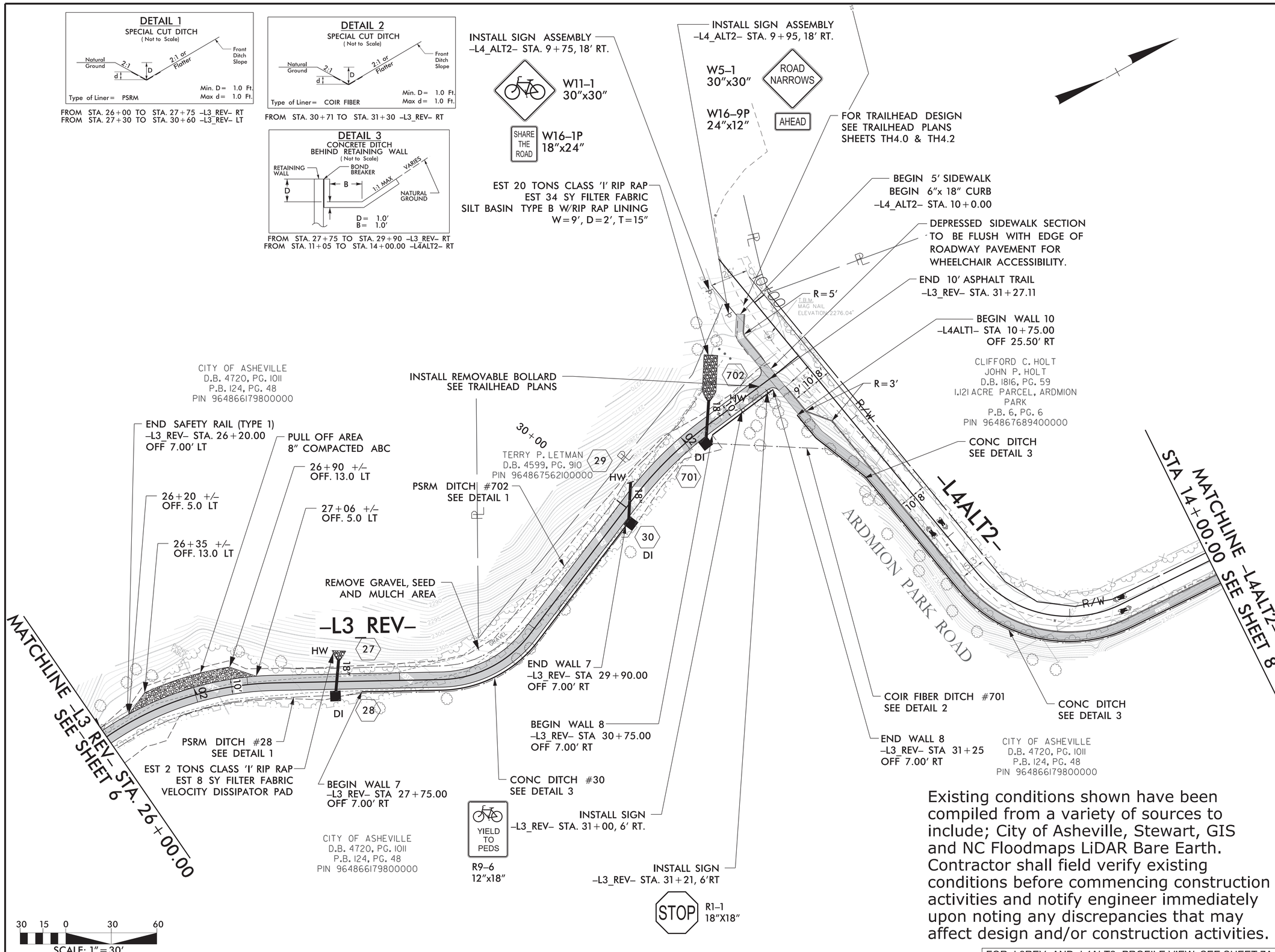
PROJECT NO.:
H13002.00

6A



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FOR -L3REV- AND -L4ALT2- PROFILE VIEW, SEE SHEET 7A

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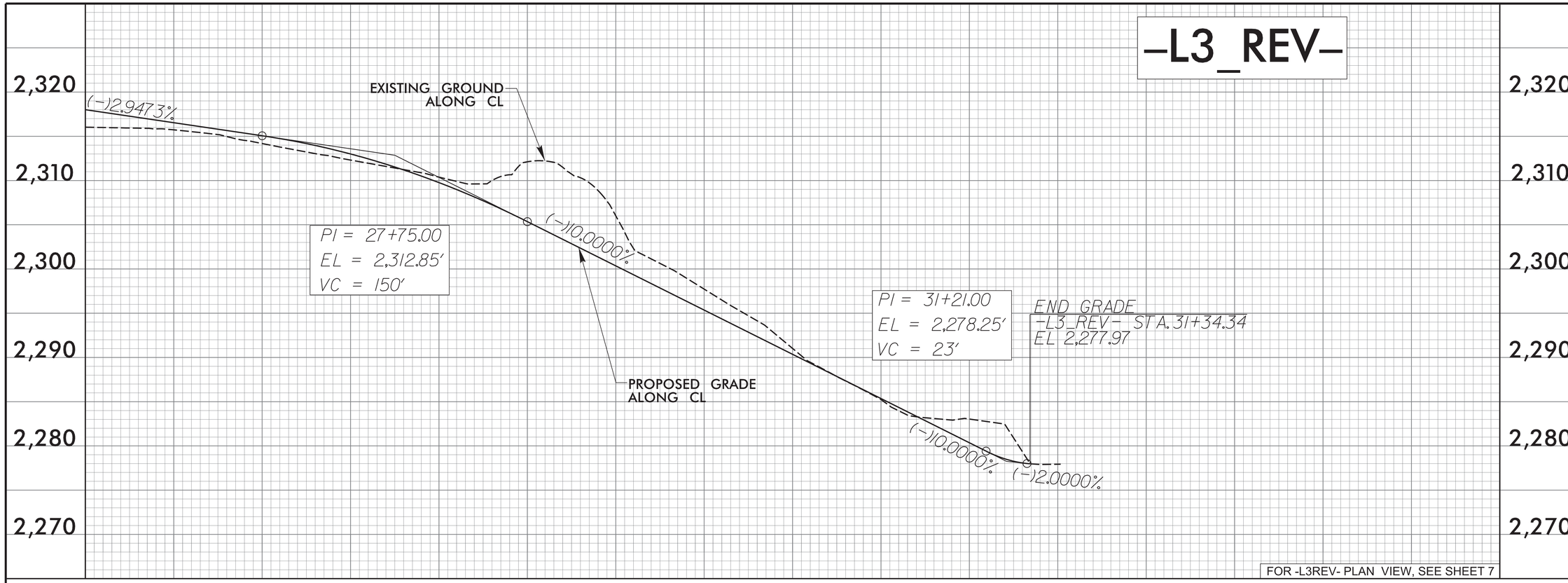
10/5/16

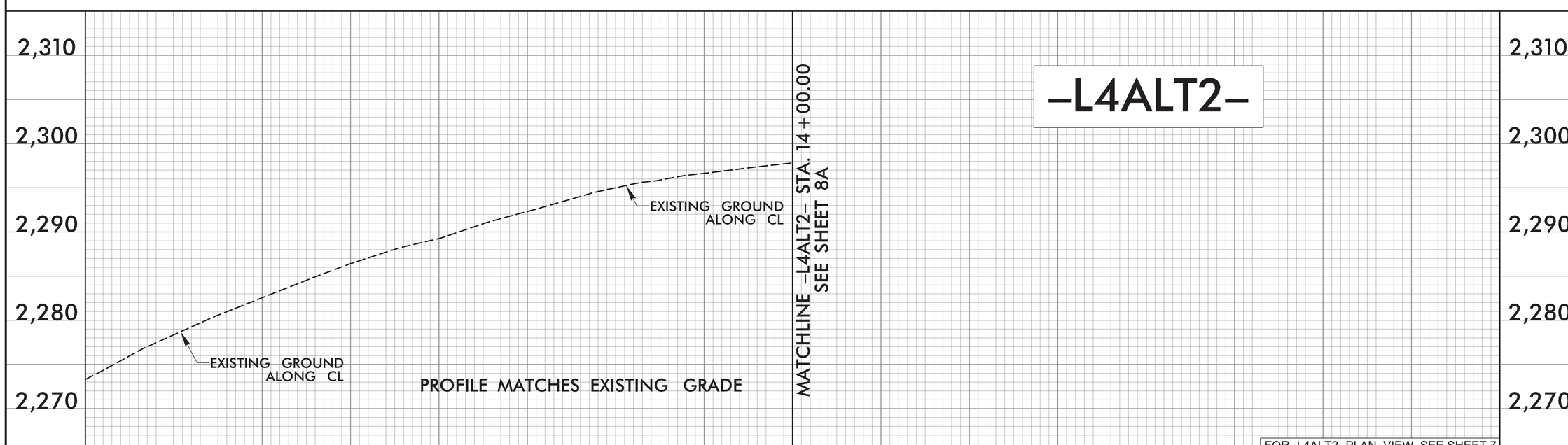
HYDRAULICS ENGINEER:

NORTH CAROLINA PROFESSIONAL SEAL 042301 ENGINEER ANDREW J. HICKLING

PROJECT NO.:

H13002.00





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10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

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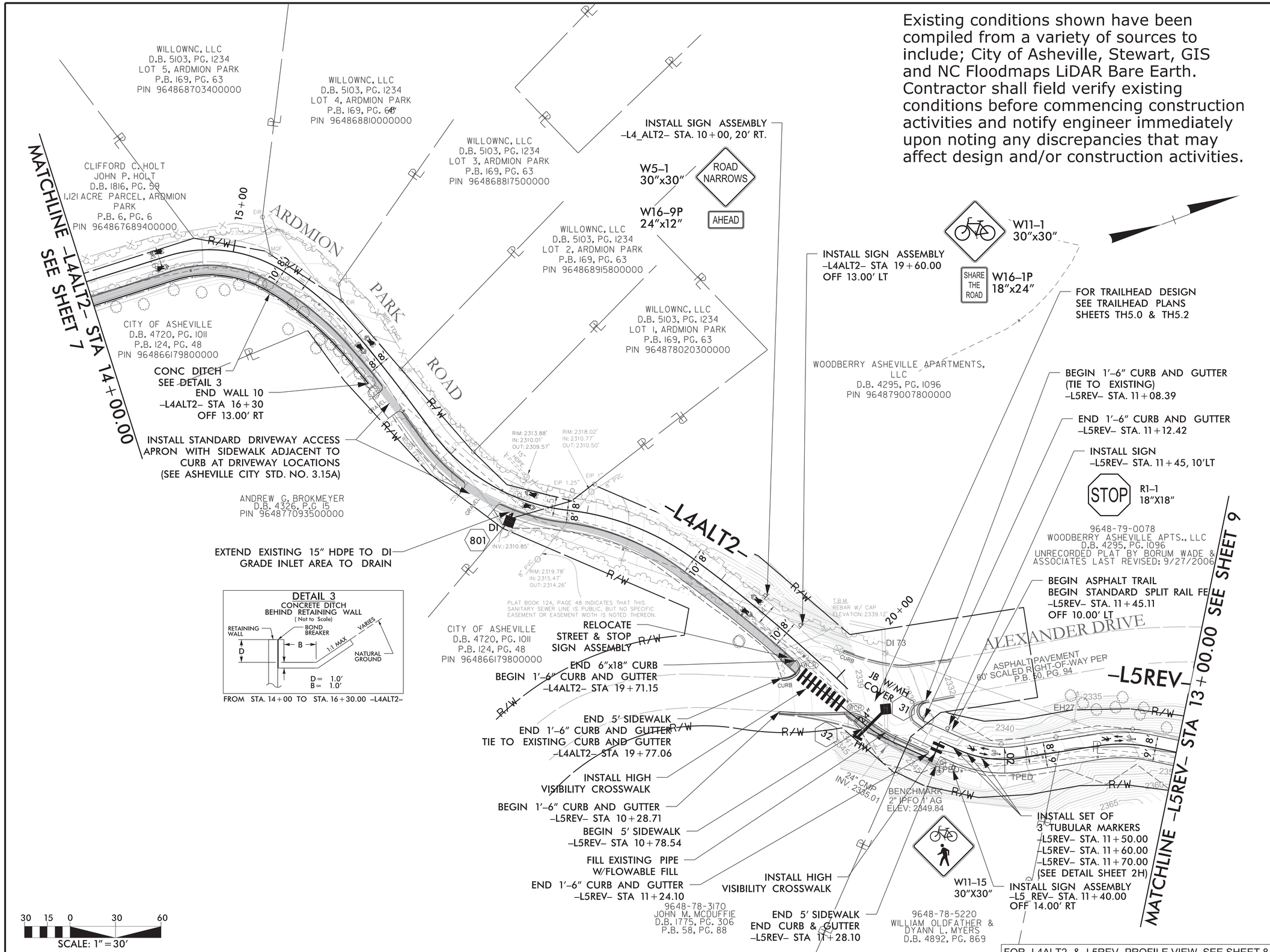

FOR -L4ALT2- & -L5REV- PROFILE VIEW, SEE SHEET 8A

BEAUCATCHER GREENWAY
WHITE FAWN RESERVOIR TO HELEN'S BRIDGE

PLANS PREPARED BY:
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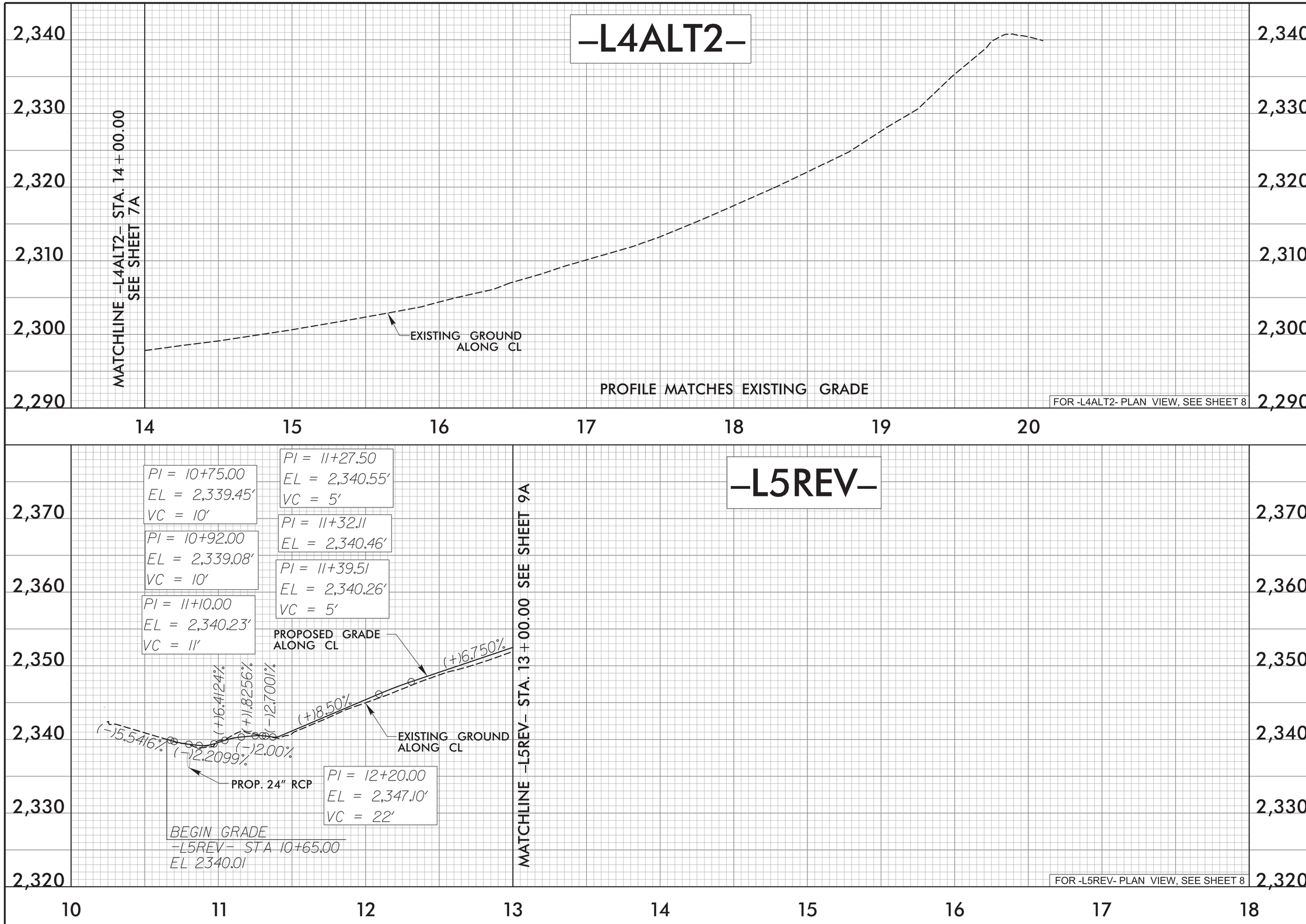
10/5/16

HYDRAULICS ENGINEER:
NORTH CAROLINA PROFESSIONAL SEAL 042301 ENGINEER ANDREW J. HICKLING

PROJECT NO.:
H13002.00

8



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Suite 400
Raleigh, NC 27601
T 919.380.8750
www.stewartinc.com

GREENWAY ENGINEER:
NORTH CAROLINA PROFESSIONAL SEAL 30932 ENGINEER ROBERT A. WILLIAMS
10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

8A

MATCHLINE -L5REV-
STA 13+00.00 SEE SHEET 8

INSTALL SIGN ASSEMBLY
-L5_REV- STA. 14+20.00
OFF 13.00' LT

W11-15
30"X30"

SHARE THE ROAD

W16-1P
18"X24"

9648-79-0078
WOODBERRY ASHEVILLE APTS., LLC
D.B. 4295, PG. 1096
UNRECORDED PLAT BY BORUM WADE & ASSOCIATES LAST REVISED: 9/27/2006

WATER METER (2)

ASPHALT PAVEMENT

FOR TRAILHEAD DESIGN
SEE TRAILHEAD PLANS
SHEETA TH6.0 & TH6.2

ROCK OUTCROP

REMOVE EXISTING CONCRETE PAD &
INSTALL STANDARD DRIVEWAY ACCESS
APRON WITHOUT CURB WITHOUT SIDEWALK
(SEE ASHEVILLE CITY STD. NO. 3.15C)

15+00

END STANDARD SPLIT RAIL FENCE
-L5REV- STA. 15+50.00
OFF 7.00' LT

REMOVE EXISTING GATE
INSTALL SET OF 3 BOLLARDS
-L5REV- STA 14+75

-L5REV-

9648-78-5481
VINCENT D. WRIGHT, AND
WIFE ANN L. WRIGHT
D.B. 835, PG. 482

50' RIGHT-OF-WAY
ARDMION PARK ROAD
P.B. 32, PG. 36
P.B. 34, PG. 86

20+00

STONE CULVERT
5' HIGH x 1.5' WIDE
INV. 2355.7

902

HW

24"

9648-79-0078
WOODBERRY ASHEVILLE APTS., LLC
D.B. 4295, PG. 1096
UNRECORDED PLAT BY BORUM WADE & ASSOCIATES LAST REVISED: 9/27/2006

ARDMION PARK ROAD

BROKEN ASPHALT PAVEMENT

9648-78-7700
DAVID N. WRIGHT
D.B. 1605, PG. 408

EST 6 TONS CLASS 'I' RIP RAP
EST 18 SY FILTER FABRIC
VELOCITY DISSIPATOR PAD

CONCRETE STRUCTURE

WALL

901

REPLACE EXISTING CULVERT

3' x 2' STONE
CULVERT
INV. 2372.1

9648-79-7012
ARDMION ASSOCIATES
D.B. 1437, PG. 226

GATE

CNF
N:689272.91
E:947588.38
EL:2407.93

MAGNETIC NAIL FOUND

BENCHMARK
1/2" IPFO 1' AG
ELEV: 2417.99

3/4" IPFO
0.7' AG

9648-79-7012
ARDMION ASSOCIATES
D.B. 1437, PG. 226

9648-79-7362
ARDMION ASSOCIATES
D.B. 1313, PG. 653

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30 15 0 30 60
SCALE: 1" = 30'

FOR -L5REV- PROFILE VIEW, SEE SHEET 9A

MATCHLINE -L5REV-
STA 23+50.00
SEE SHEET 10

CITY OF ASHEVILLE NORTH CAROLINA

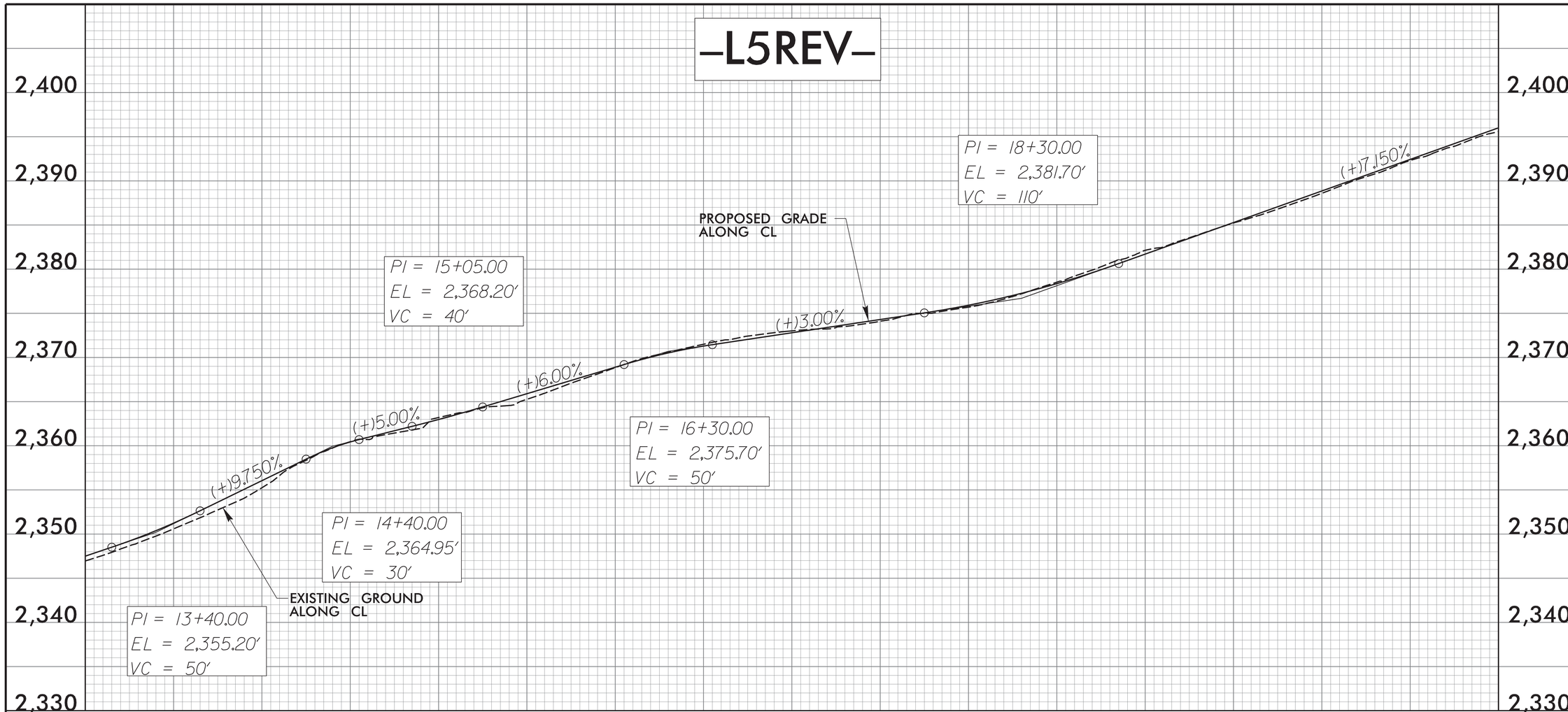
BEAUCATCHER GREENWAY
WHITE FAWN RESERVOIR
TO
HELEN'S BRIDGE

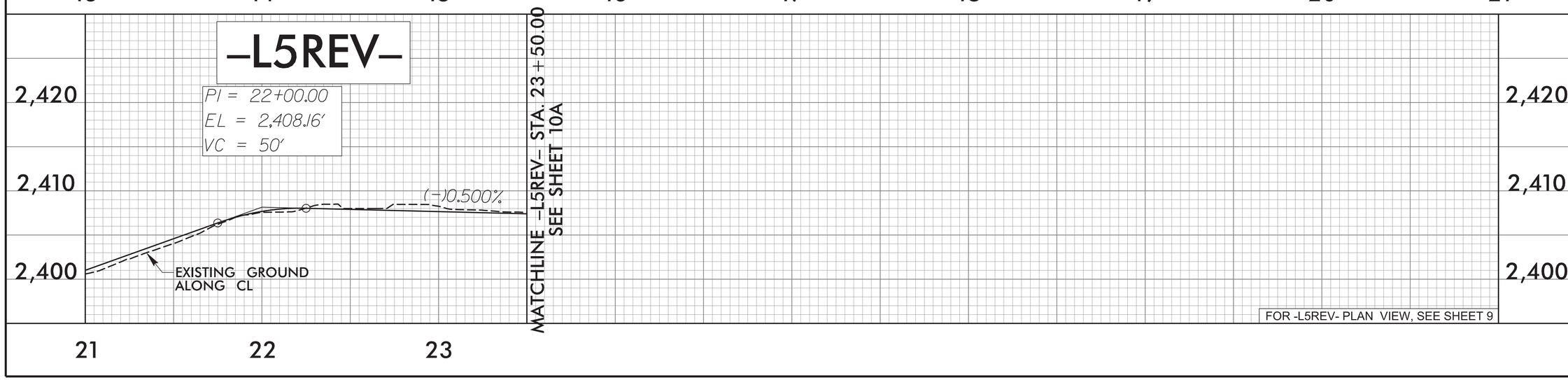
PLANS PREPARED BY:
Firm License No. C-1051
421 Fayetteville St.
Suite 400
Raleigh, NC 27601
T 919.380.8750
www.stewardinc.com
STEWART

GREENWAY ENGINEER:
NORTH CAROLINA PROFESSIONAL SEAL 30932 ENGINEER ROBERT A. WILLIAMS
10/5/16

HYDRAULICS ENGINEER:
NORTH CAROLINA PROFESSIONAL SEAL 042301 ENGINEER ANDREW J. NICKING

PROJECT NO.:
H13002.00





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GREENWAY ENGINEER:
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10/5/16

HYDRAULICS ENGINEER:

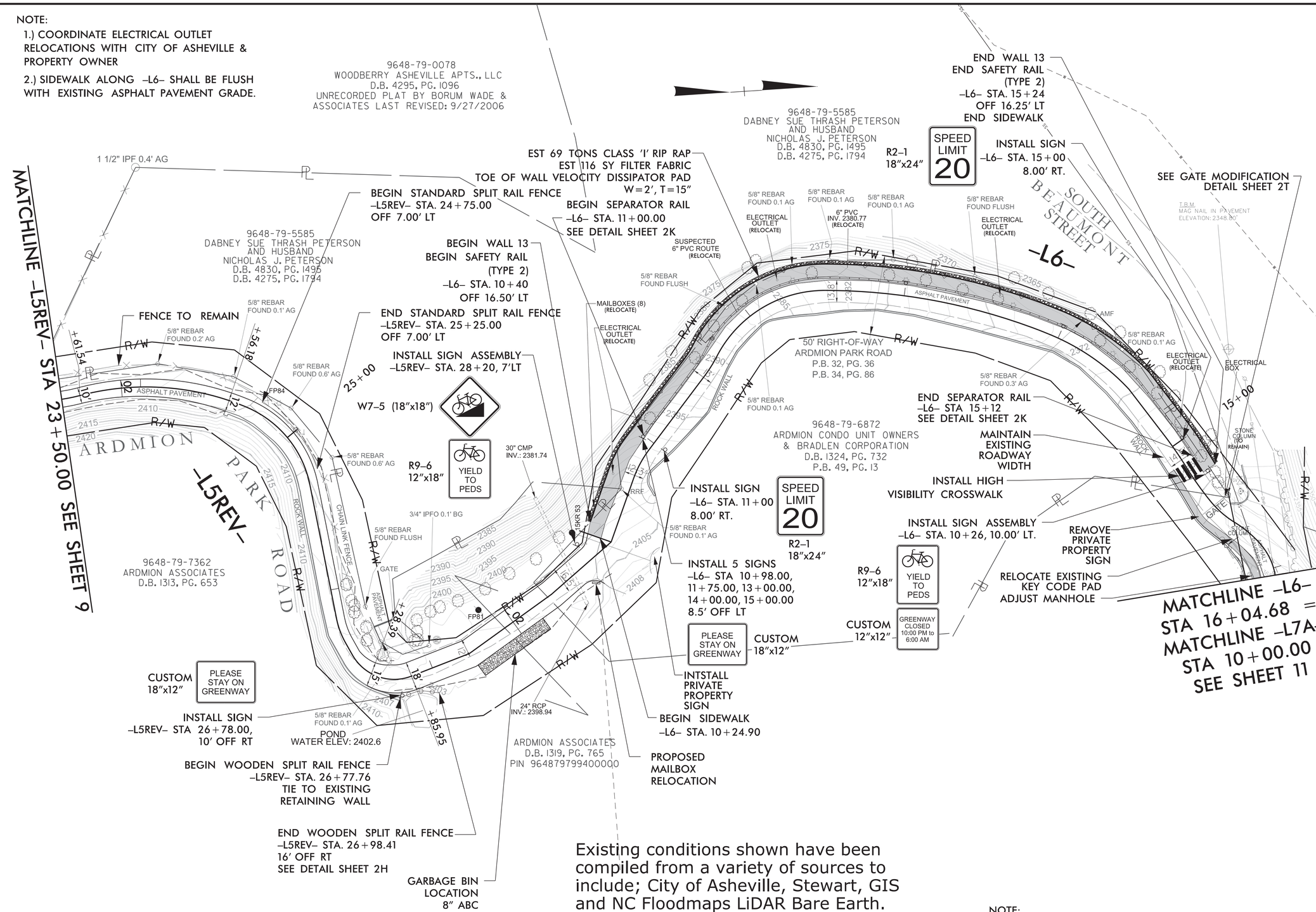
PROJECT NO.:
H13002.00

9A

NOTE:

1.) COORDINATE ELECTRICAL OUTLET RELOCATIONS WITH CITY OF ASHEVILLE & PROPERTY OWNER

2.) SIDEWALK ALONG –L6– SHALL BE FLUSH WITH EXISTING ASPHALT PAVEMENT GRADE.



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NOTE:

1. RELOCATE WATER METER SERVING ARDMION CONDOS TO PROPERTY LINE. LOCATION TO BE DETERMINED IN FIELD.
2. RELOCATE PARABOLIC MIRROR SERVING ARDMION CONDOS. LOCATION TO BE DETERMINED IN FIELD.

FOR -L5REV- AND -L6- PROFILE VIEW, SEE SHEET 10A

CITY OF ASHEVILLE NORTH CAROLINA

BEAUCATCHER GREENWAY

WHITE FAWN RESERVOIR TO HELEN'S BRIDGE

PLANS PREPARED BY:
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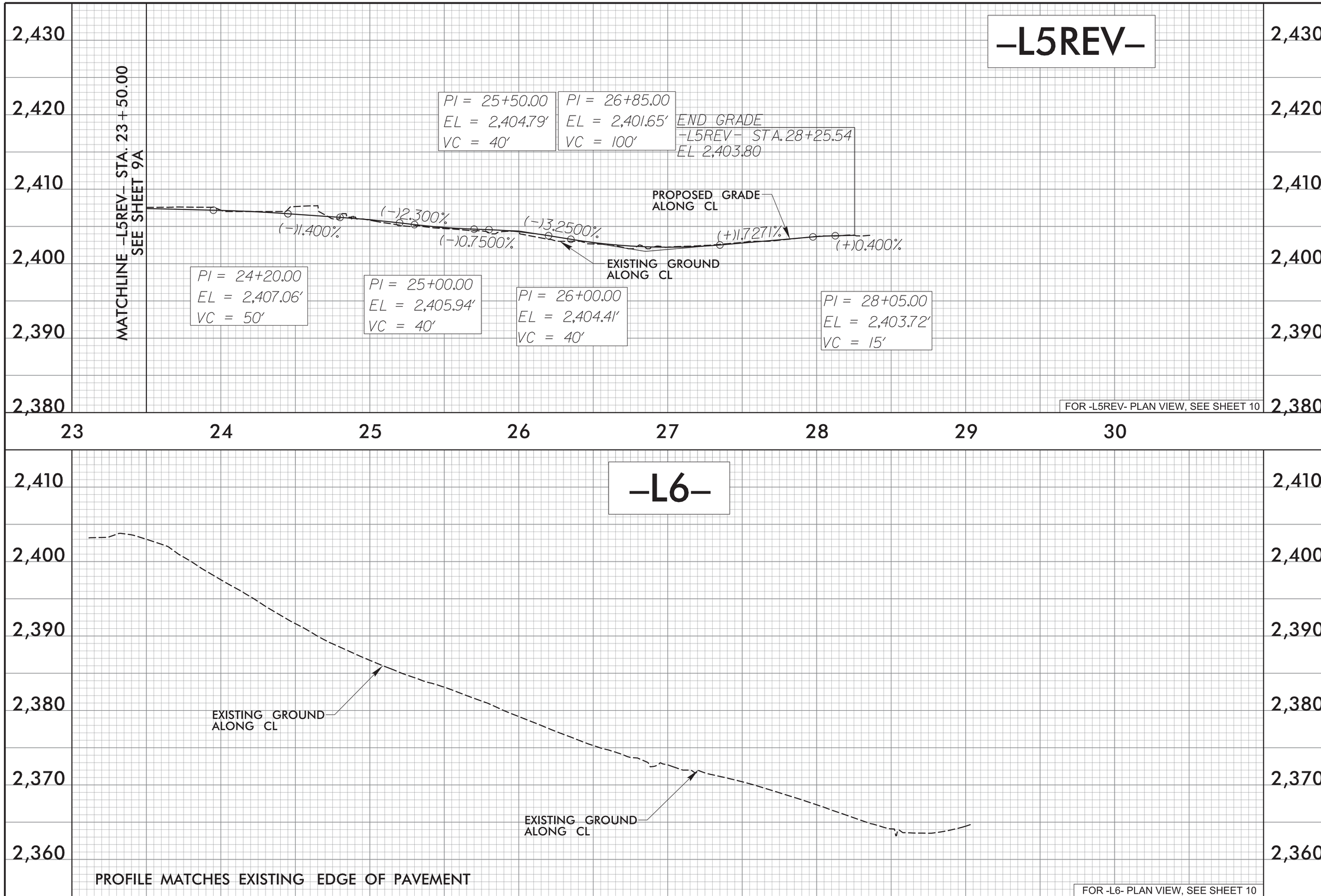
10/5/16

HYDRAULICS ENGINEER:

NORTH CAROLINA PROFESSIONAL SEAL 042301 ENGINEER ANDREW J. HICKING

PROJECT NO.:

H13002.00



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10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

10A

MATCHLINE –L6– STA 16+04.68 =
MATCHLINE –L7A– STA 10+00.00 SEE SHT 10

BEGIN WALL 14
–L7A– STA. 10+11.00 14.50′ RT

HARRIET A.
TREVERTON BINDERIM
EDWARD TREVERTON
D.B. 4097, PG. 513
PIN 964970812400000

END WALL 14
–L7A– STA. 10+47.00 14.50′ RT

INSTALL STANDARD DRIVEWAY ACCESS APRON WITH SIDEWALK ADJACENT TO CURB AT DRIVEWAY LOCATIONS (SEE ASHEVILLE CITY STD. NO. 3.15A)

BEGIN ONE WAY
R6–6
24″x30″

INSTALL SIGN
–L7A– STA 11+20
7.00′ LT & 16.00′ RT

CITY OF ASHEVILLE
D.B. 730, PG. 212
AREA 2
P.B. 134, PG. 104
PIN 964970840800000

ARDMION ASSOCIATES
D.B. 1319, PG. 765
PIN 964879799400000

BEGIN WALL 16
BEGIN SAFETY RAIL (TYPE 1)
–L7C– STA 9+90.78
OFF 22.38′ LT

EXTEND CURB & BUILD CONC. FLUME TO EXISTING DITCH

FOR TRAILHEAD DESIGN SEE TRAILHEAD PLANS SHEETS TH8.0 & TH8.2

END WALL 25
–WALL_25– STA. 11+28.88 =
–HBL– STA. 11+01.88 18.01′ LT

BEGIN WALL 25
–WALL_25– STA. 10+70.00 =
–HBL– STA. 10+70.00 36.33′ LT

STANDARD DRIVEWAY ACCESS APRON WITH SIDEWALK ADJACENT TO CURB (SEE ASHEVILLE CITY STD. NO. 3.15A)

END SAFETY RAIL (TYPE 1)
–L7C– STA. 12+25.00
OFF 7.75′ LT

END WALL 16
–L7C– STA 12+08.00
OFF 7.00′ LT

WOODEN GUARDRAIL

END WALL 24
–WALL_24– STA. 11+86.86 =
–HBL– STA. 11+78.15 10.84′RT

END PROJECT
–L7C– STA. 12+85.82

INSTALL APPROX. 20 STEPS
START EL=2426.56+/–
END EL=2438.23+/–
FOR DETAIL SEE SHEET 2K

FESTIVA REAL ESTATE HOLDINGS, LLC
TRACT 2
D.B. 4966, PG. 1194
PIN 964980174000000

BEGIN WALL 24
–WALL_24– STA. 10+17.60 =
–HBL– STA. 10+17.60 15.71′ RT

W11–1
30″x30″

INSTALL SIGN ASSEMBLY
–L7C– STA. 12+35, 7.5′LT

SHARE THE ROAD
W16–1P
18″x24″

CONCRETE DITCH #914
SEE DETAIL 3

CITY OF ASHEVILLE
D.B. 730, PG. 212
AREA 2
P.B. 134, PG. 104
PIN 964970840800000

END SIDEWALK
–L7C– STA. 12+34.00

END WOODEN GUARDRAIL –L7C– 12+26

END SIDEWALK
END WALL 15A
–L7A– STA. 14+59.00 10.50′ RT
EST 2 TONS CLASS ′I′ RIP RAP
EST 8 SY FILTER FABRIC
VELOCITY DISSIPATOR PAD

BEGIN WOODEN GUARDRAIL –L7C– 10+00

BEGIN WALL 26
–HBU– STA. 10+32.02 26.02′ RT

END WALL 15
–L7A– STA. 11+04.00 13.56′ RT

CITY OF ASHEVILLE
D.B. 5094, PG. 774
P.B. 163, PG. 144
PIN 964980206500000

SANITARY SEWER ENCASING SEE DETAIL SHEET 2F

BEGIN WALL 15
–L7A– STA. 10+61.00 14.50′ RT

INSTALL HIGH VISIBILITY CROSSWALK

END WALL 26
–WALL_26– STA. 10+80.50 =
–HBU– STA. 10+75.02 33.50′ RT

EST 6 TONS CLASS ′I′ RIP RAP
EST 18 SY FILTER FABRIC
VELOCITY DISSIPATOR PAD

END WALL 27
–WALL_27– STA. 11+19.00 =
–HBU– STA. 10+75.02 15′ LT

BEGIN WALL 15A
–L7A– STA. 14+15.00 10.50′ RT

CITY OF ASHEVILLE
D.B. 5094, PG. 774
P.B. 163, PG. 144
PIN 964980206500000

DO NOT ENTER
R5–1
30″x30″

WRONG WAY
R5–1a
36″x24″

END ONE WAY
R6–7
24″x30″

INSTALL SIGN ASSEMBLY
–L7A– STA 13+70 12.00′ LT & 15.00′ RT
"END ONE WAY" TO BE INSTALLED ON BACK OF "DO NOT ENTER" "WRONG WAY" SIGN ASSEMBLY

INSTALL APPROX. 30LF+/– OF CHAINLINK FENCE TO BLOCK ACCESS TO BRIDGE CROSSING. INSTALL "NO TRESSPASSING" SIGN. EXISTING GATE TO BE REMOVED.

BEGIN WALL 27
–HBU– STA. 10+75.02 15′ RT

FOR -L7A- AND -L7C- PROFILE VIEW, SEE SHEET 11A

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30 15 0 30 60
SCALE: 1″=30′

DETAIL 3
CONCRETE DITCH BEHIND RETAINING WALL
(Not to Scale)
RETAINING WALL
BOND BREAKER
D
B
1:1 MAX
VARIES
NATURAL GROUND
D= 1.0′
B= 1.0′
FROM STA. 10+18.72 TO STA. 10+88.12 –L4ALT2–

BEAUCATCHER GREENWAY
WHITE FAWN RESERVOIR
TO
HELEN'S BRIDGE

PLANS PREPARED BY:
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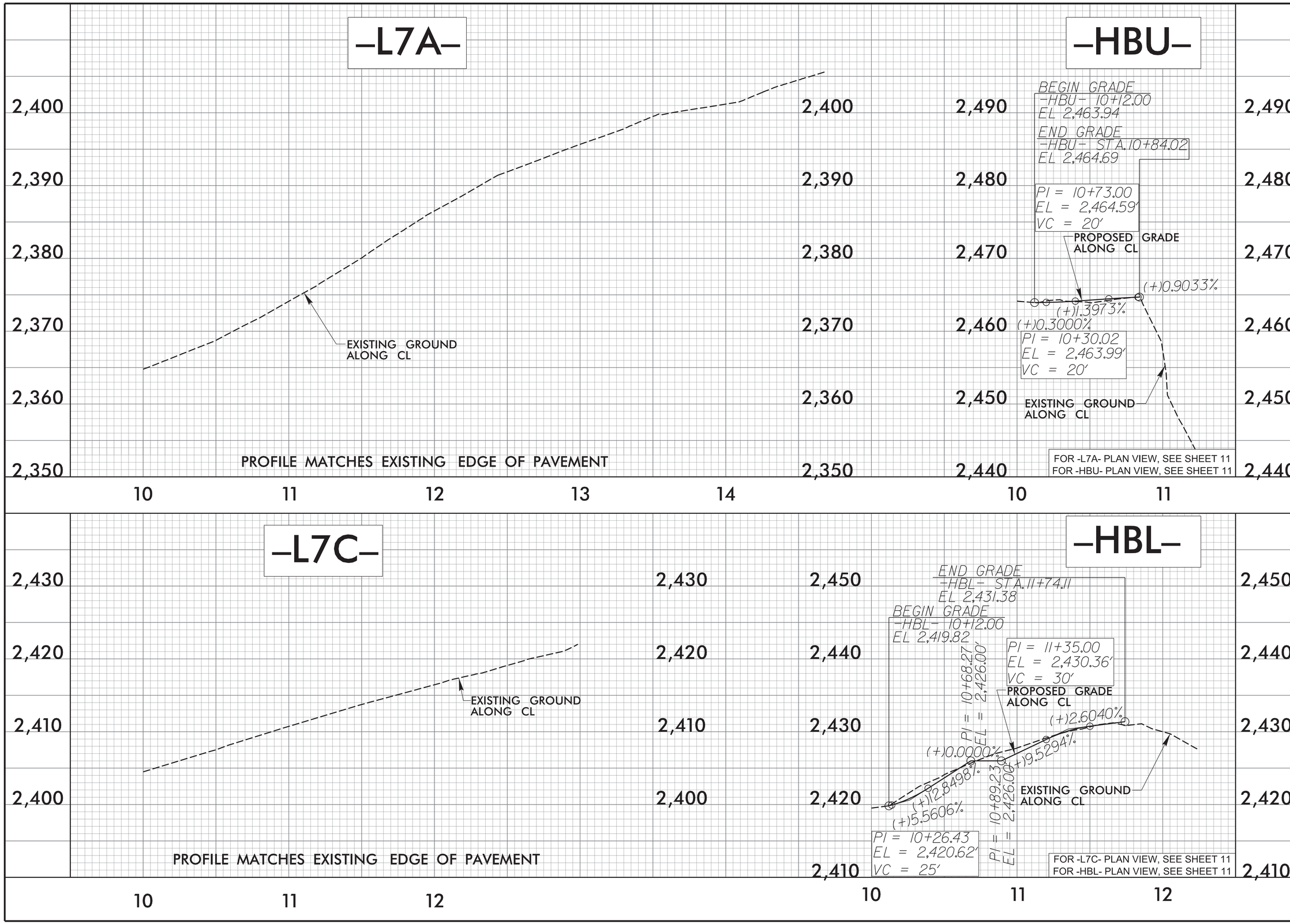
GREENWAY ENGINEER:
NORTH CAROLINA PROFESSIONAL SEAL 30932 ENGINEER ROBERT A. WILLING
10/5/16

HYDRAULICS ENGINEER:
NORTH CAROLINA PROFESSIONAL SEAL 042301 ENGINEER ANDREW J. HICKLING

PROJECT NO.:
H13002.00

11



CITY OF ASHEVILLE NORTH CAROLINA

BEAUCATCHER GREENWAY
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GREENWAY ENGINEER:
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 30932 ROBERT A. WILLIAMS
10/5/16

HYDRAULICS ENGINEER:

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11A

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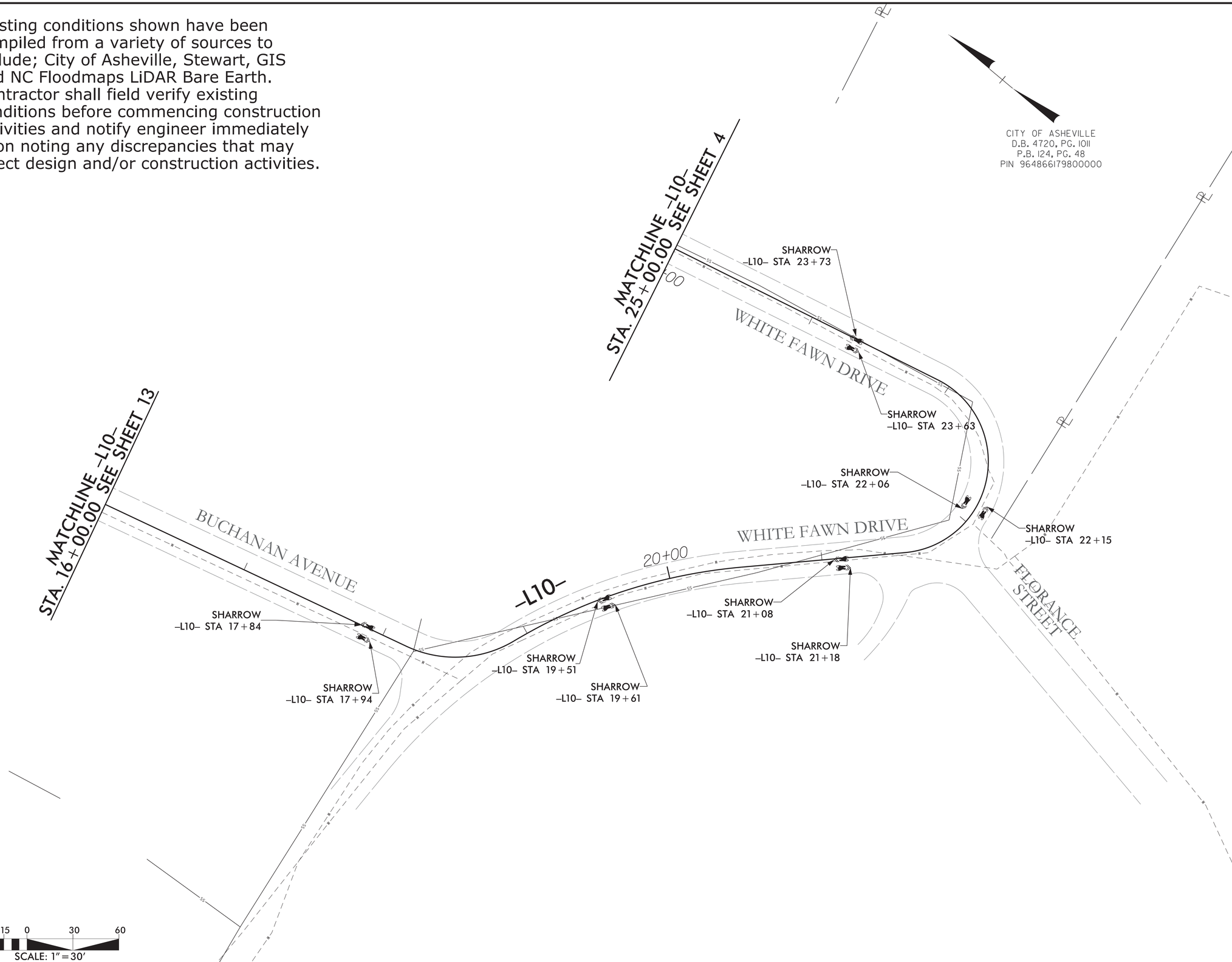

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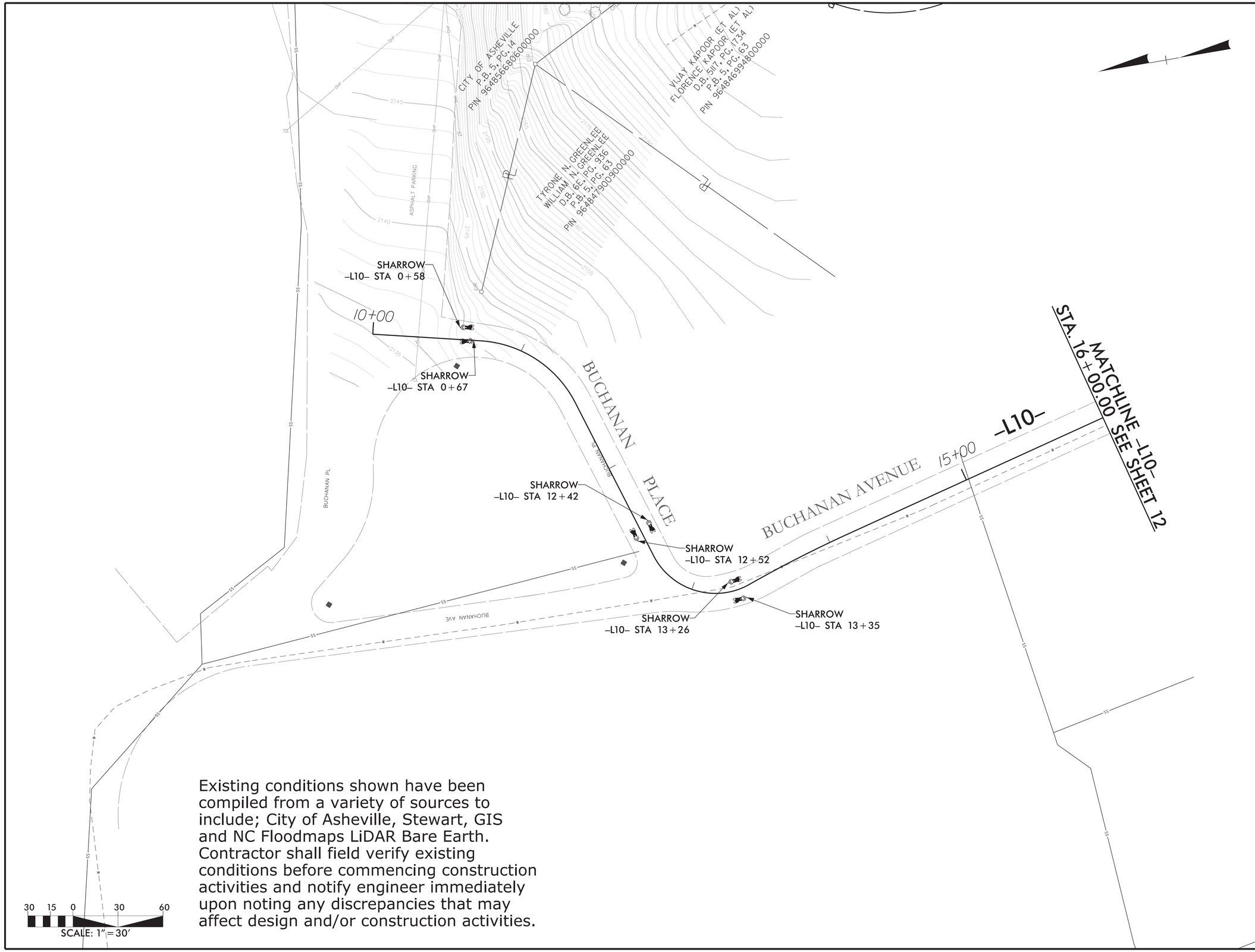
10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

12



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10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:

H13002.00

13

FOR -L1_MOD- AND -L2- PROFILE VIEW, SEE SHEET 14A
FOR -L2A- PROFILE VIEW, SEE SHEET 14B
FOR -L1REV- PLAN AND PROFILE VIEW, SEE SHEETS 14A, 15, 15A, 16 & 16A

BEGIN SAFETY RAIL (TYPE 1)
–L1_MOD– STA 10+90.00
OFF 7.00' LT

BEGIN WALL 17
–L1_MOD– STA 11+20.00
OFF 7.00' LT

EST 2 TONS CLASS 'I' RIP RAP
EST 8 SY FILTER FABRIC
VELOCITY DISSIPATOR PAD
CITY OF ASHEVILLE
AREA "A"
P.B. 167, PG. 196
PIN 964856700400000

MATCHLINE
–L1REV– STA 17+00.00
SEE SHEET 15

R1–1
18"X18"

INSTALL SIGN
–L1_MOD– STA. 10+05.00.00, 12'LT

INSTALL COLLAPSIBLE BOLLARD
–L1_MOD– STA. 10+05.00.00, 5'LT

R=50'

W7–5 (18"x18")

–L1_MOD–

PARTNERS IN MERCY, LLC
D.B. 4159, PG. 828
LOT 3, SISTER OF MERCY SUBDIVISION
P.B. 118, PG. 141
PIN 964855297400000

DETAIL 3
CONCRETE DITCH
BEHIND RETAINING WALL
(Not to Scale)

RETAINING WALL
BOND BREAKER
VARIES
1:1 MAX
NATURAL GROUND
D
B
D= 1.0'
B= 1.0'

FROM STA. 10+55 TO STA. 14+10.00 –L2A– RT

INSTALL SIGN
–L1_MOD– STA. 13+00, 8'RT

END WALL 17

END SAFETY RAIL (TYPE 1)

R1–1
18"X18"

BEGIN STANDARD SPLIT RAIL FENCE
–L1_MOD– STA 13+09.00
OFF 7.00' LT

EST 19 TONS CLASS 'I' RIP RAP
EST 23 SY FILTER FABRIC
TOE OF WALL VELOCITY DISSIPATOR PAD
W=2', T=15"

END CHEEK WALL 19
–L2– STA. 15+34.23 LT

–L1REV–

END SAFETY RAIL (TYPE 1)
–L1REV– STA.
15+85.06 LT

SEE SHEET 2K FOR CONCRETE
STAIRS WITH CHEEK WALL DETAIL
(WALLS 18 & 19)

BEGIN 10' ASPHALT TRAIL
–L1_MOD– STA. 10+00.00

BEGIN CHEEK WALL 19
BEGIN SAFETY RAIL (TYPE 1)
–L2– STA. 13+64.22 LT

INSTALL SIGN
–L_MOD– STA. 10+50, 8' RT

W7–5 (18"x18")

INSTALL SIGN
–L1REV– STA. 15+85, 8' RT

W7–5 (18"x18")

MCAULEY DRIVE

CITY OF ASHEVILLE
MINUTE BOOK 21
JANUARY 1, 1926
CONDEMNATION PROCEEDINGS
TRACT NO. 1 & 2
PIN 964856700400000

END SAFETY RAIL
–L2– STA. 15+50.00 RT

END CHEEK WALL 18
–L2– STA. 15+34.23 RT

BEGIN CHEEK WALL 18
BEGIN SAFETY RAIL (TYPE 1)
–L2– STA. 13+64.22 RT

PROPOSED STAIRS

–L2–

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SEE PLAT BOOK 118, PG. 141
FOR OTHER
EASEMENTS WITHIN MCAULEY
DRIVE R/W

PARTNERS IN MERCY, LLC
D.B. 4159, PG. 828
LOT 4, SISTER OF MERCY SUBDIVISION
P.B. 118, PG. 141
PIN 964855365500000

LANDSCAPE AREA

PROP SINGLE ARM GATE

CITY OF ASHEVILLE
MINUTE BOOK 21
JANUARY 1, 1926
CONDEMNATION PROCEEDINGS
TRACT NO. 1 & 2
PIN 964856700400000

INSTALL SIGN
–L2A– STA. 10+47.00, 16'LT

R1–1
18"x18"

CONC DITCH #35
SEE DETAIL 3

END WALL 21
–L2A– STA. 14+10.00 12.5' RT

BEGIN WALL 21
–L2A– STA. 10+55.00 13.92' RT

END GUARDRAIL
–L2A– STA. 14+28.00

PROP SINGLE FACE
CONC. BARRIER

2 PAVED SHOULDER

–L2A–

INSTALL SIGN
–L1REV– STA. 14+60.00, 14' LT

INSTALL SIGN
–L1REV– STA. 15+85, 8' RT

W7–5 (18"x18")

W7–5 (18"x18")

2' PAVED SHOULDER

CITY OF ASHEVILLE
MINUTE BOOK 21
JANUARY 1, 1926
CONDEMNATION PROCEEDINGS
TRACT NO. 1 & 2
PIN 964856700400000

R=25'

R=12'

BEGIN GUARDRAIL
–L2A– STA. 10+48.50

EST 2 TONS CLASS 'I' RIP RAP
EST 8 SY FILTER FABRIC
VELOCITY DISSIPATOR PAD

RESERVOIR ROAD

30 15 0 30 60
SCALE: 1" = 30'

BEAUCATCHER GREENWAY
WHITE FAWN RESERVOIR
TO
HELEN'S BRIDGE

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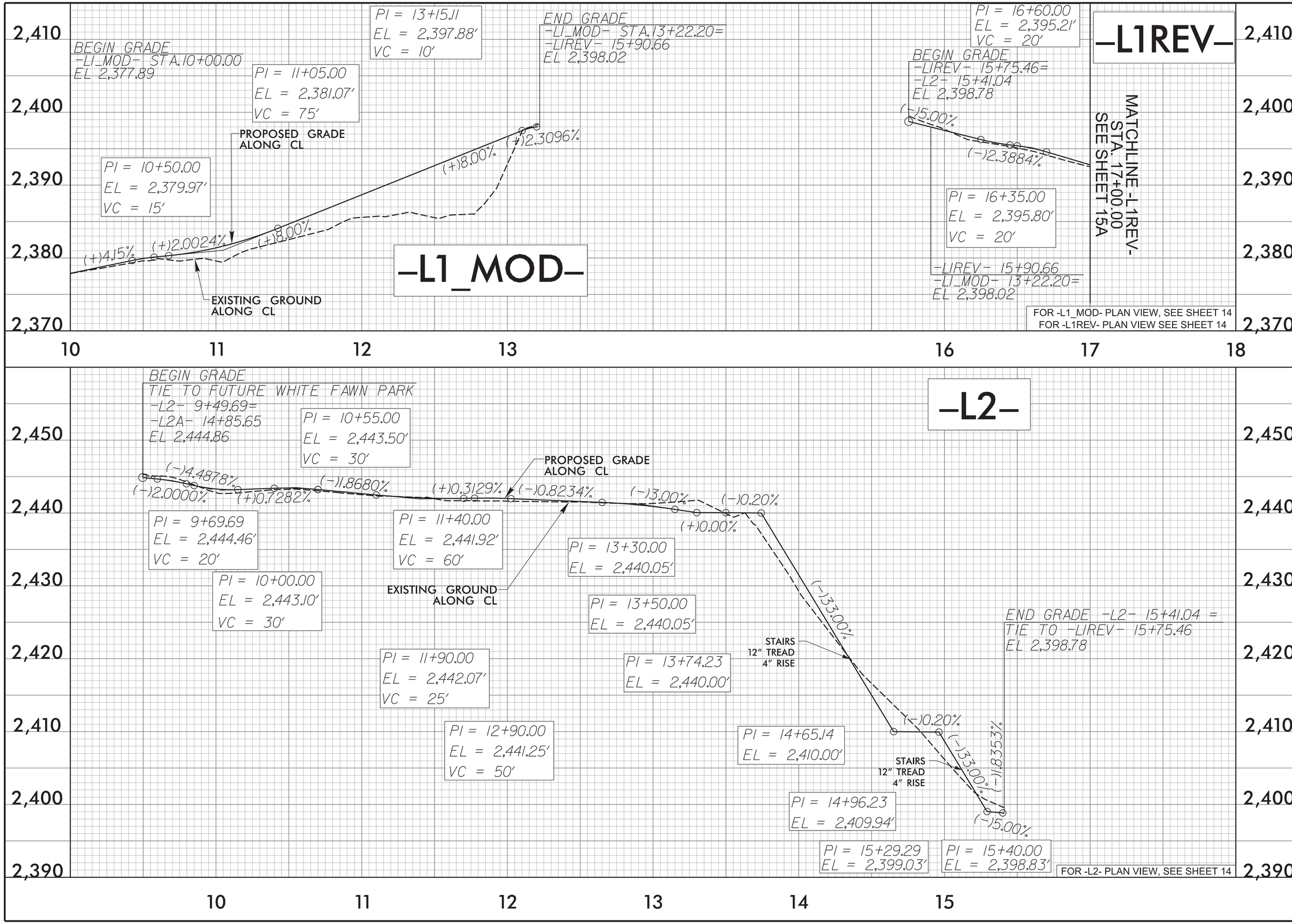
NORTH CAROLINA PROFESSIONAL SEAL 30832 ENGINEER ROBERT A. WILLIAMS
10/5/16

HYDRAULICS ENGINEER:
NORTH CAROLINA PROFESSIONAL SEAL 042301 ENGINEER ANDREW J. HICKLING

PROJECT NO.:
H13002.00

14



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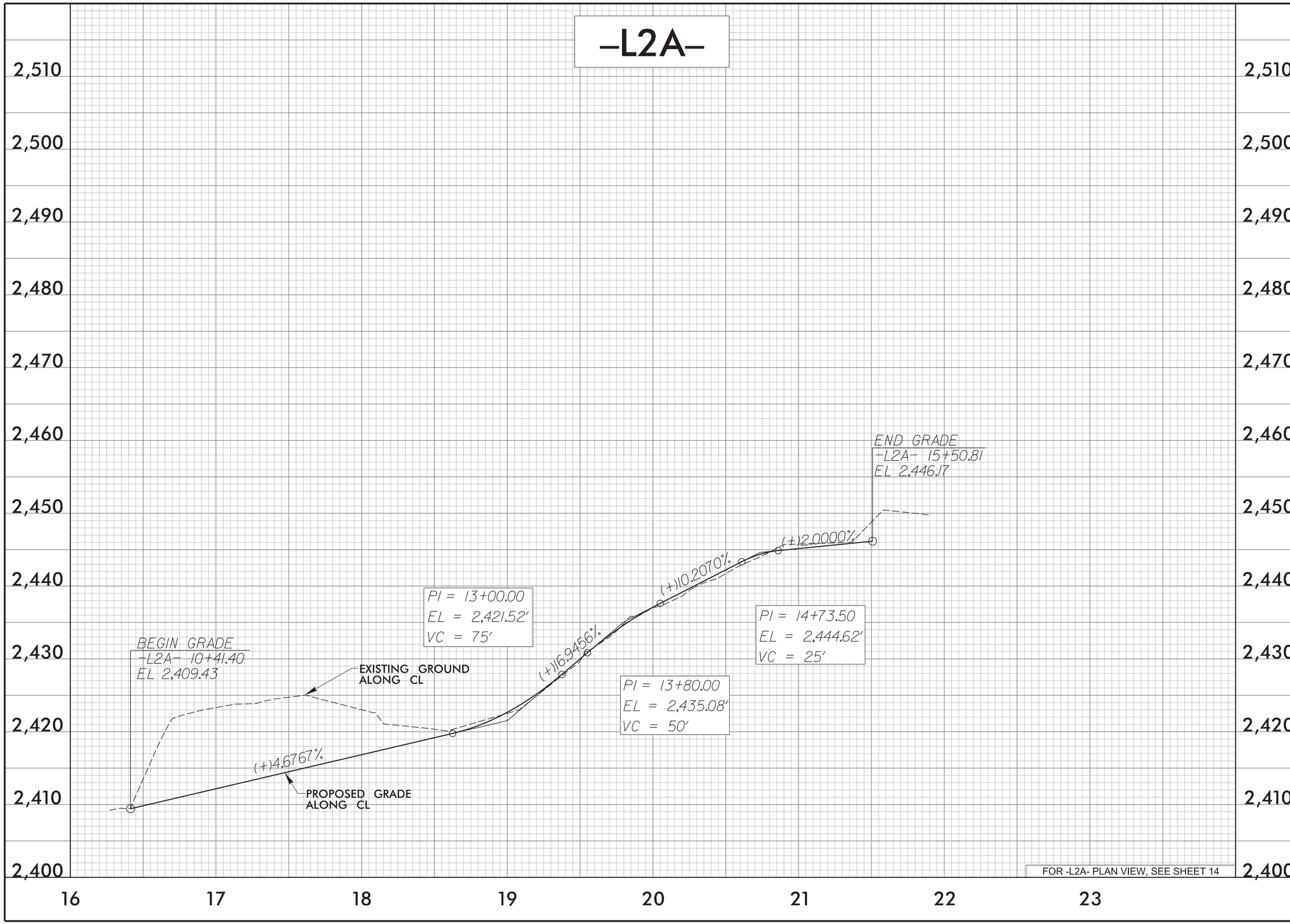
10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

14A



FOR -L2A- PLAN VIEW, SEE SHEET 14

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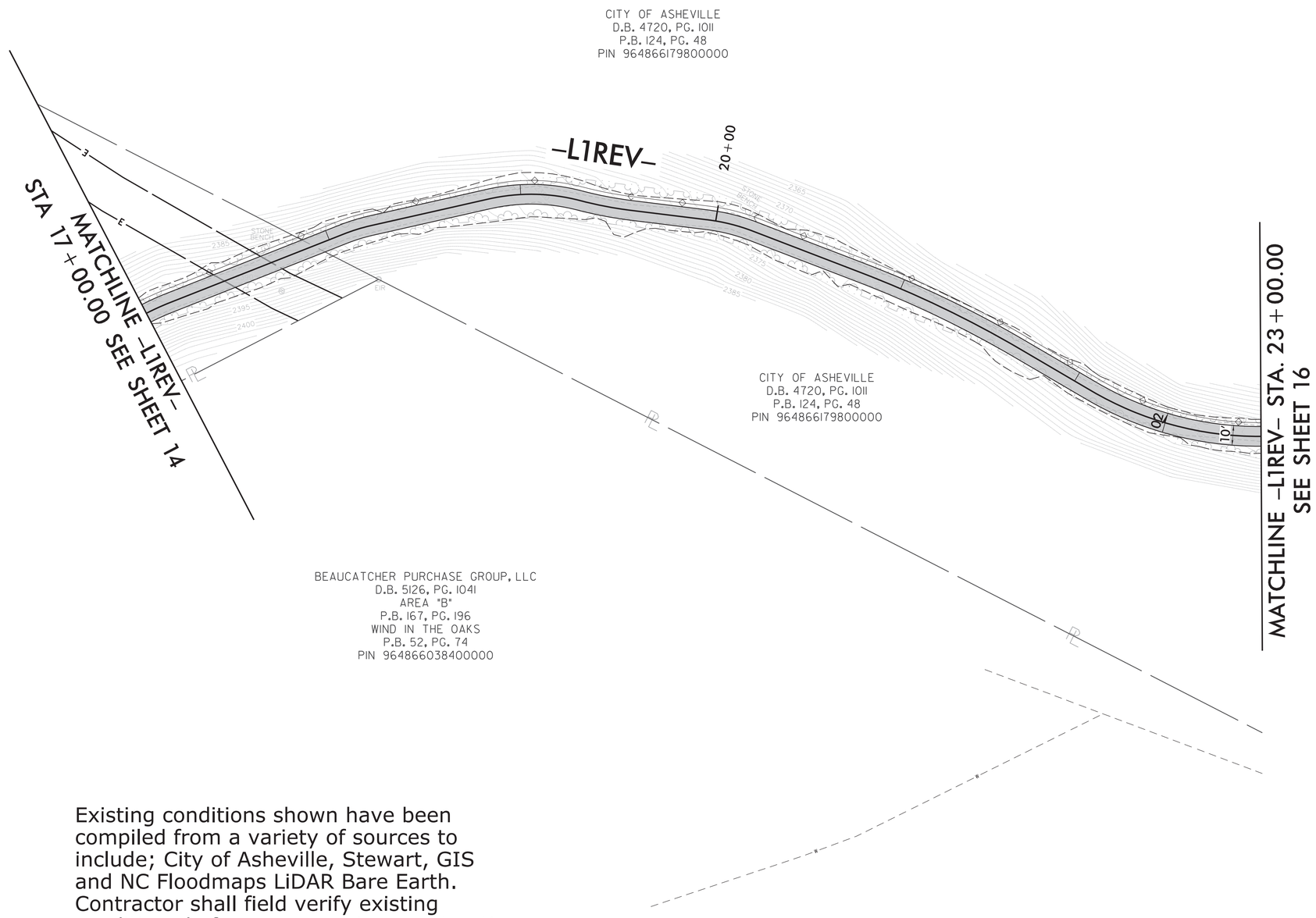
10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

14B



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30 15 0 30 60
SCALE: 1" = 30'

FOR -L1REV- PROFILE VIEW, SEE SHEET 15A

CITY OF ASHEVILLE NORTH CAROLINA

BEAUCATCHER GREENWAY

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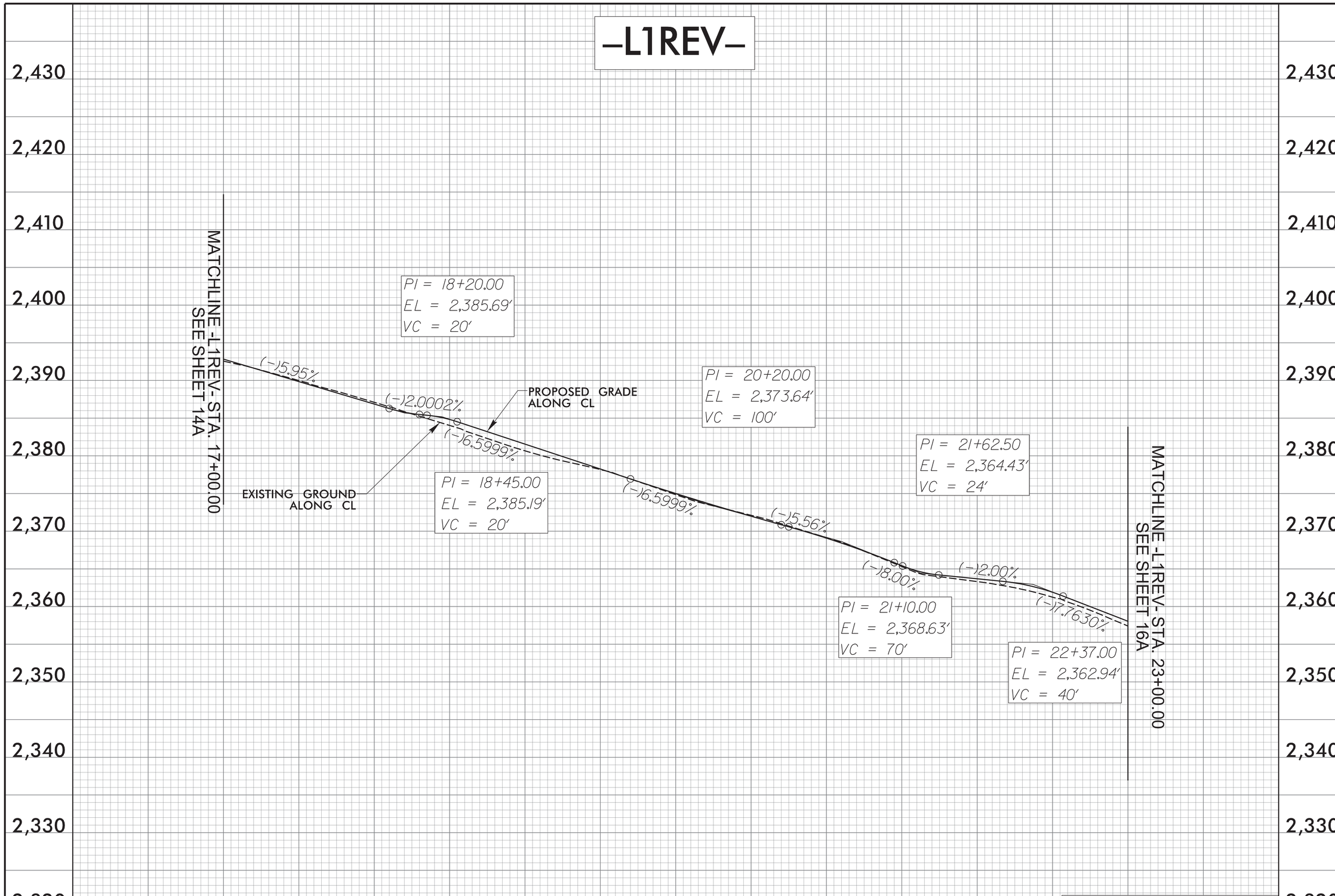
10/5/16

HYDRAULICS ENGINEER:

NORTH CAROLINA PROFESSIONAL SEAL 042301 ENGINEER ANDREW J. HIGGLING

PROJECT NO.:
H13002.00

–L1REV–



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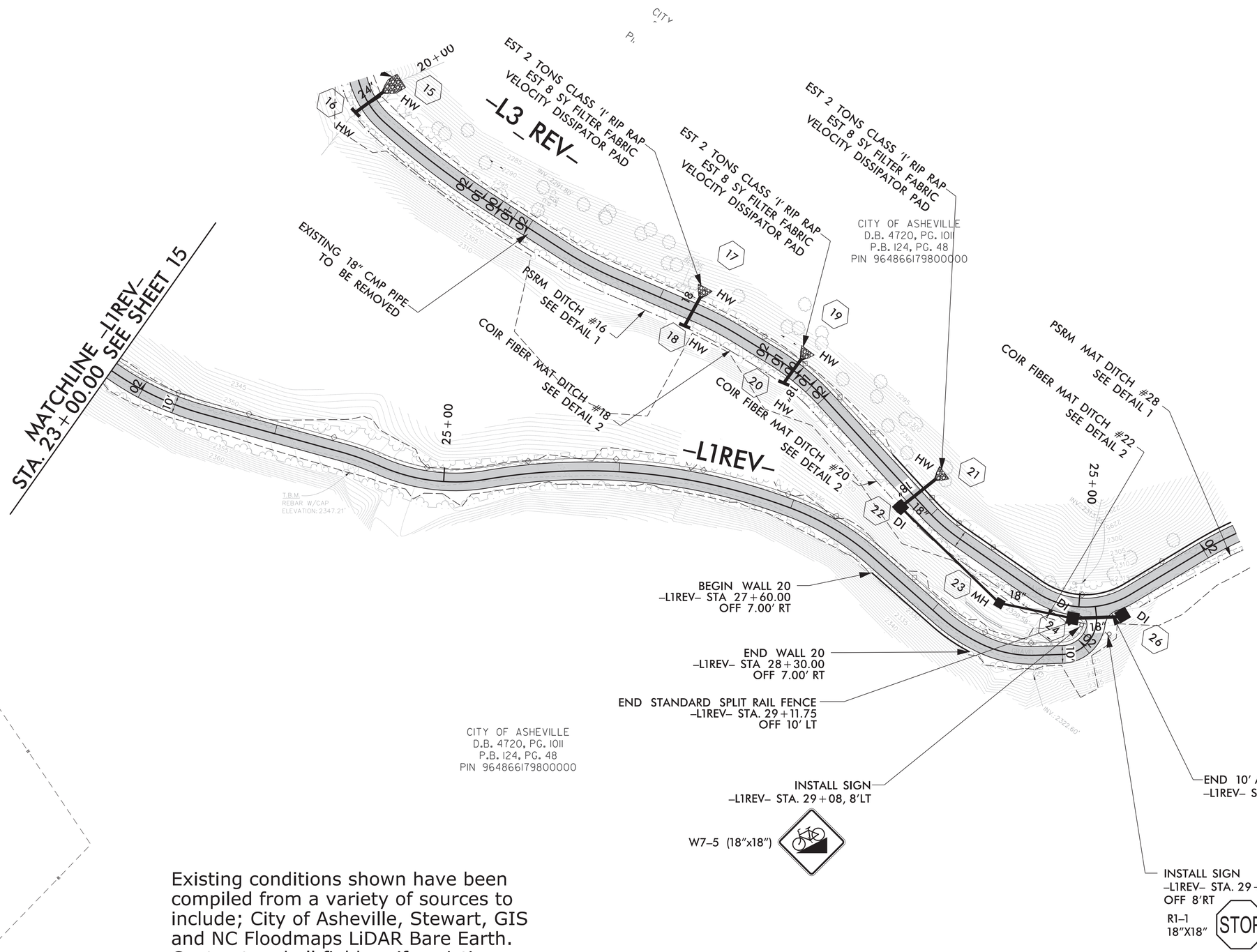
GREENWAY ENGINEER:
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 30602 ROBERT A. WILLIAMS
10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

15A



CITY OF ASHEVILLE
D.B. 4720, PG. 1011
P.B. 124, PG. 48
PIN 964866179800000

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30 15 0 30 60
SCALE: 1" = 30'

FOR -L1REV- PROFILE VIEW, SEE SHEET 16A
FOR -L3REV- PLAN AND PROFILE VIEW SEE SHEETS 4, 5, 5A, 6, 6A, 7, &7A.

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PROJECT NO.:
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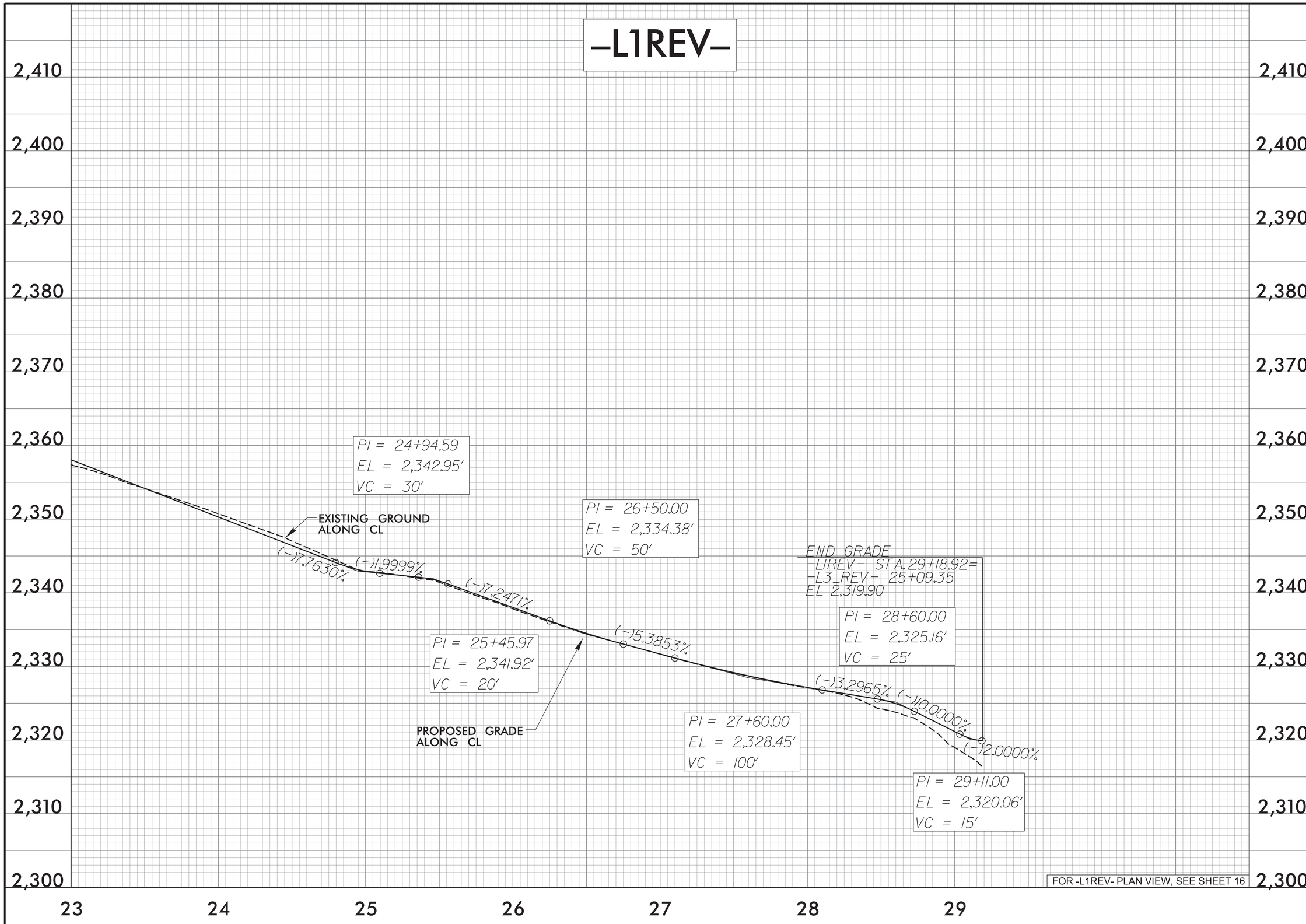
16



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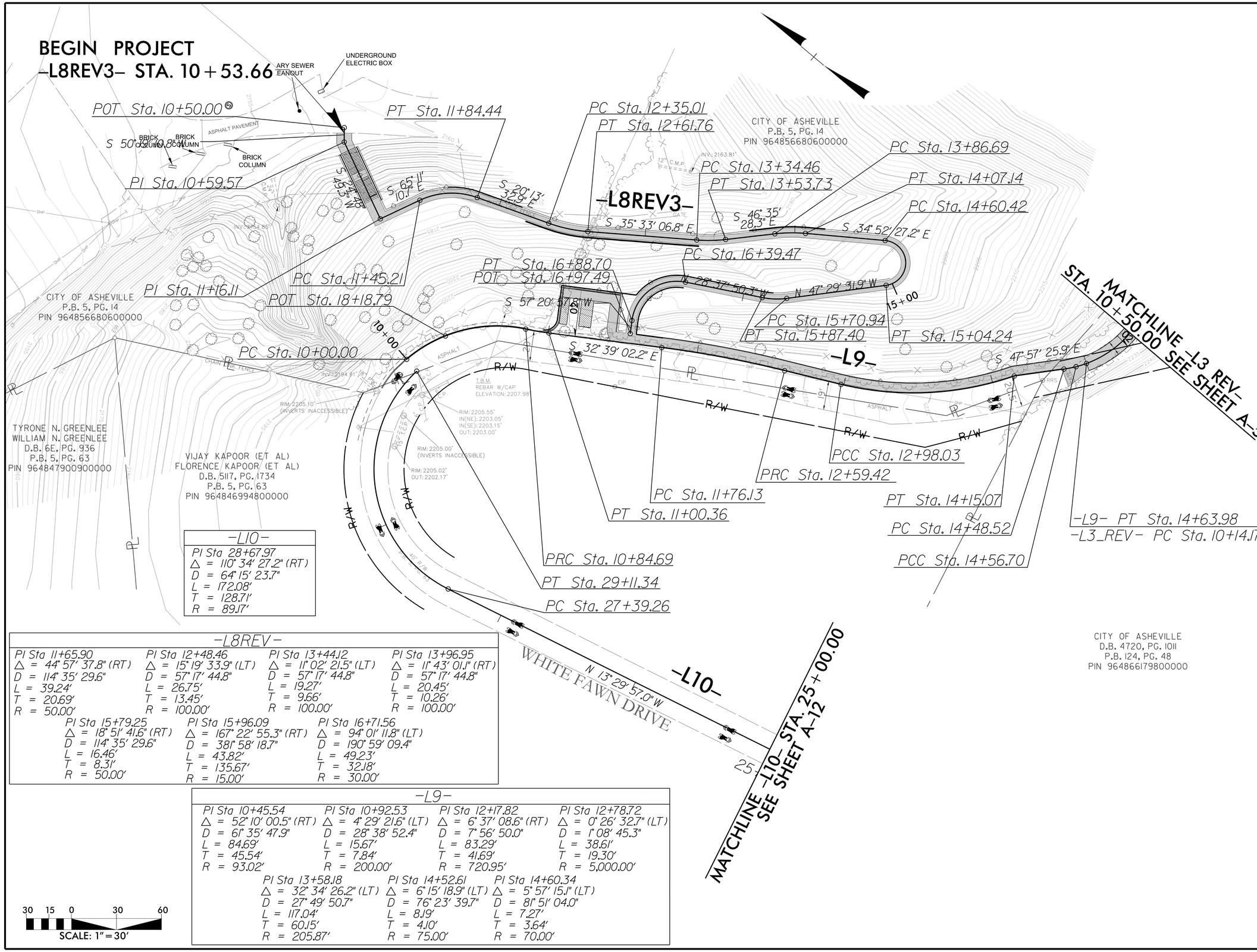
16A



-L10-

PI Sta 28+67.97	
Δ = 110° 34' 27.2" (RT)	
D = 64° 15' 23.7"	
L = 172.08'	
T = 128.71'	
R = 89.17'	

-L8REV-

PI Sta 11+65.90	PI Sta 12+48.46	PI Sta 13+44.12	PI Sta 13+96.95
Δ = 44° 57' 37.8" (RT)	Δ = 15° 19' 33.9" (LT)	Δ = 11° 02' 21.5" (LT)	Δ = 11° 43' 01.1" (RT)
D = 114° 35' 29.6"	D = 57° 17' 44.8"	D = 57° 17' 44.8"	D = 57° 17' 44.8"
L = 39.24'	L = 26.75'	L = 19.27'	L = 20.45'
T = 20.69'	T = 13.45'	T = 9.66'	T = 10.26'
R = 50.00'	R = 100.00'	R = 100.00'	R = 100.00'

PI Sta 15+79.25	PI Sta 15+96.09	PI Sta 16+71.56
Δ = 18° 51' 41.6" (RT)	Δ = 167° 22' 55.3" (RT)	Δ = 94° 01' 11.8" (LT)
D = 114° 35' 29.6"	D = 381° 58' 18.7"	D = 190° 59' 09.4"
L = 16.46'	L = 43.82'	L = 49.23'
T = 8.31'	T = 135.67'	T = 32.18'
R = 50.00'	R = 15.00'	R = 30.00'

-L9-

PI Sta 10+45.54	PI Sta 10+92.53	PI Sta 12+17.82	PI Sta 12+78.72
Δ = 52° 10' 00.5" (RT)	Δ = 4° 29' 21.6" (LT)	Δ = 6° 37' 08.6" (RT)	Δ = 0° 26' 32.7" (LT)
D = 61° 35' 47.9"	D = 28° 38' 52.4"	D = 7° 56' 50.0"	D = 1° 08' 45.3"
L = 84.69'	L = 15.67'	L = 83.29'	L = 38.61'
T = 45.54'	T = 7.84'	T = 41.69'	T = 19.30'
R = 93.02'	R = 200.00'	R = 720.95'	R = 5,000.00'

PI Sta 13+58.18	PI Sta 14+52.61	PI Sta 14+60.34
Δ = 32° 34' 26.2" (LT)	Δ = 6° 15' 18.9" (LT)	Δ = 5° 57' 15.1" (LT)
D = 27° 49' 50.7"	D = 76° 23' 39.7"	D = 81° 51' 04.0"
L = 117.04'	L = 8.19'	L = 7.27'
T = 60.15'	T = 4.10'	T = 3.64'
R = 205.87'	R = 75.00'	R = 70.00'

BEAUCATCHER GREENWAY
WHITE FAWN RESERVOIR
TO
HELEN'S BRIDGE

PLANS PREPARED BY:
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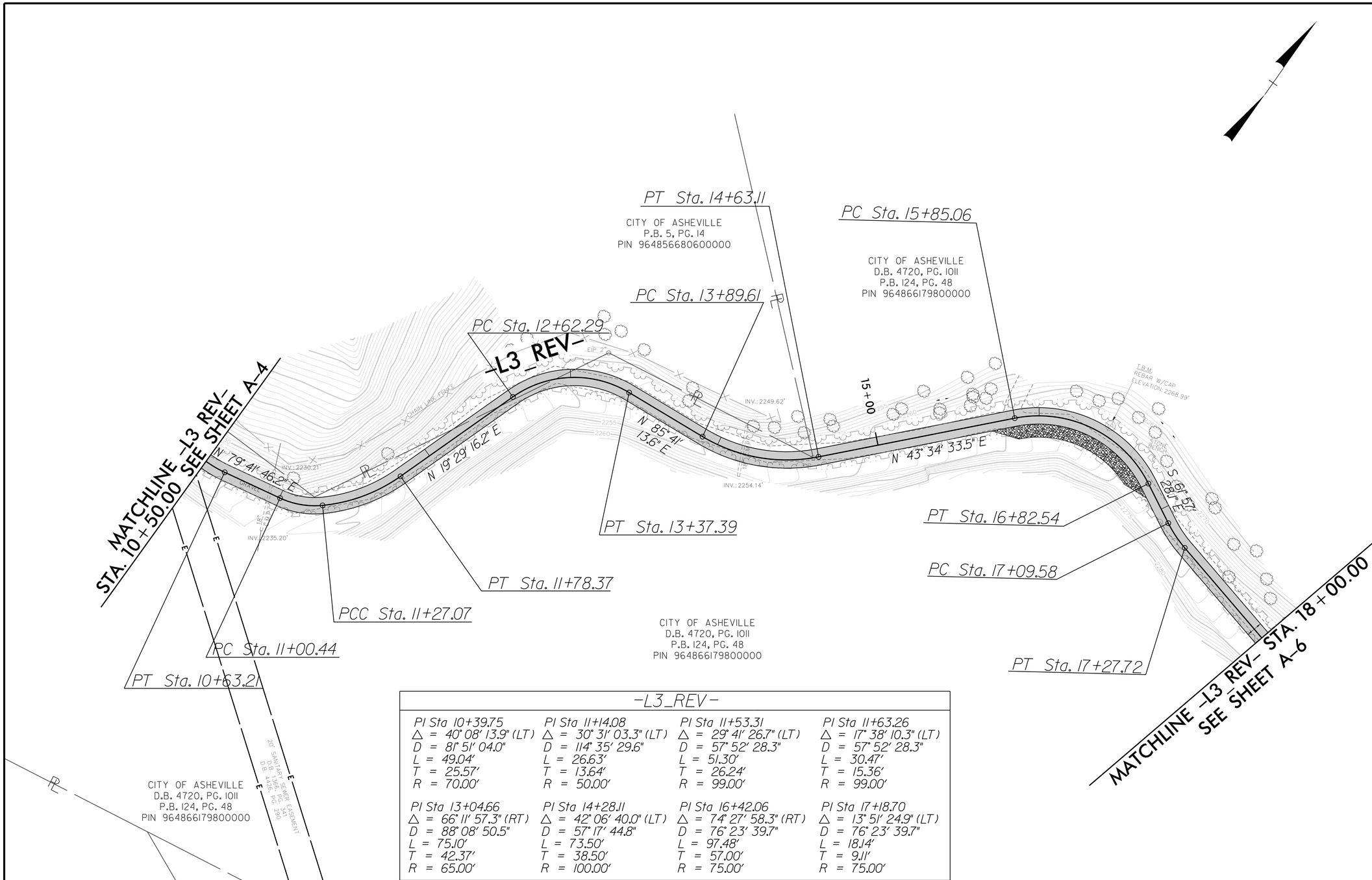
GREENWAY ENGINEER:
NORTH CAROLINA PROFESSIONAL SEAL 30832 ENGINEER ROBERT A. WILLIAMS
10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

A-4



-L3_REV-

PI Sta 10+39.75	PI Sta 11+14.08	PI Sta 11+53.31	PI Sta 11+63.26
Δ = 40° 08' 13.9" (LT)	Δ = 30° 31' 03.3" (LT)	Δ = 29° 41' 26.7" (LT)	Δ = 17° 38' 10.3" (LT)
D = 81° 51' 04.0"	D = 114° 35' 29.6"	D = 57° 52' 28.3"	D = 57° 52' 28.3"
L = 49.04'	L = 26.63'	L = 51.30'	L = 30.47'
T = 25.57'	T = 13.64'	T = 26.24'	T = 15.36'
R = 70.00'	R = 50.00'	R = 99.00'	R = 99.00'
PI Sta 13+04.66	PI Sta 14+28.11	PI Sta 16+42.06	PI Sta 17+18.70
Δ = 66° 11' 57.3" (RT)	Δ = 42° 06' 40.0" (LT)	Δ = 74° 27' 58.3" (RT)	Δ = 13° 51' 24.9" (LT)
D = 88° 08' 50.5"	D = 57° 17' 44.8"	D = 76° 23' 39.7"	D = 76° 23' 39.7"
L = 75.10'	L = 73.50'	L = 97.48'	L = 18.14'
T = 42.37'	T = 38.50'	T = 57.00'	T = 9.11'
R = 65.00'	R = 100.00'	R = 75.00'	R = 75.00'

CITY OF ASHEVILLE
NORTH CAROLINA

BEAUCATCHER GREENWAY
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PLANS PREPARED BY:
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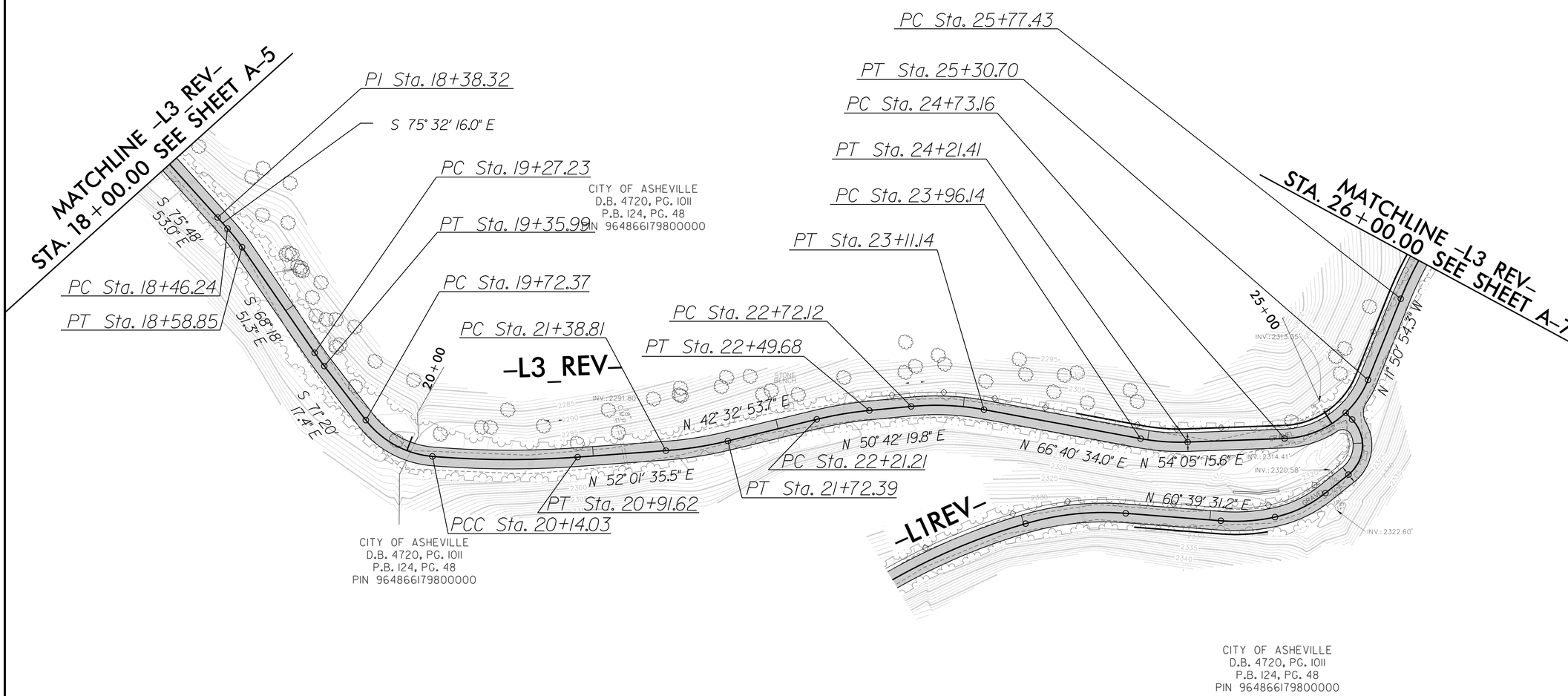
GREENWAY ENGINEER:
NORTH CAROLINA PROFESSIONAL SEAL 30832 ENGINEER ROBERT A. WILLIAMS
10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

A-5

-L3_REV-				
PI Sta 18+52.55	PI Sta 19+31.61	PI Sta 19+94.49	PI Sta 20+52.90	PI Sta 21+55.64
△ = 7° 13′ 24.7″ (RT)	△ = 3° 01′ 26.1″ (LT)	△ = 47° 44′ 39.9″ (LT)	△ = 8° 53′ 27.2″ (LT)	△ = 9° 28′ 41.8″ (LT)
D = 57° 17′ 44.8″	D = 34° 30′ 55.9″	D = 114° 35′ 29.6″	D = 11° 27′ 33.0″	D = 28° 13′ 28.3″
L = 12.61′	L = 8.76′	L = 41.66′	L = 77.59′	L = 33.58′
T = 6.31′	T = 4.38′	T = 22.13′	T = 38.87′	T = 16.83′
R = 100.00′	R = 166.00′	R = 50.00′	R = 500.00′	R = 203.00′
PI Sta 22+35.47	PI Sta 22+91.75	PI Sta 24+08.83	PI Sta 25+05.59	
△ = 8° 09′ 26.1″ (RT)	△ = 15° 58′ 14.1″ (RT)	△ = 12° 35′ 18.3″ (LT)	△ = 65° 56′ 09.9″ (LT)	
D = 28° 38′ 52.4″	D = 40° 55′ 32.0″	D = 49° 49′ 20.7″	D = 114° 35′ 29.6″	
L = 28.47′	L = 39.02′	L = 25.27′	L = 57.54′	
T = 14.26′	T = 19.64′	T = 12.68′	T = 32.43′	
R = 200.00′	R = 140.00′	R = 115.00′	R = 50.00′	



30 15 0 30 60
SCALE: 1″ = 30′

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PROJECT NO.:
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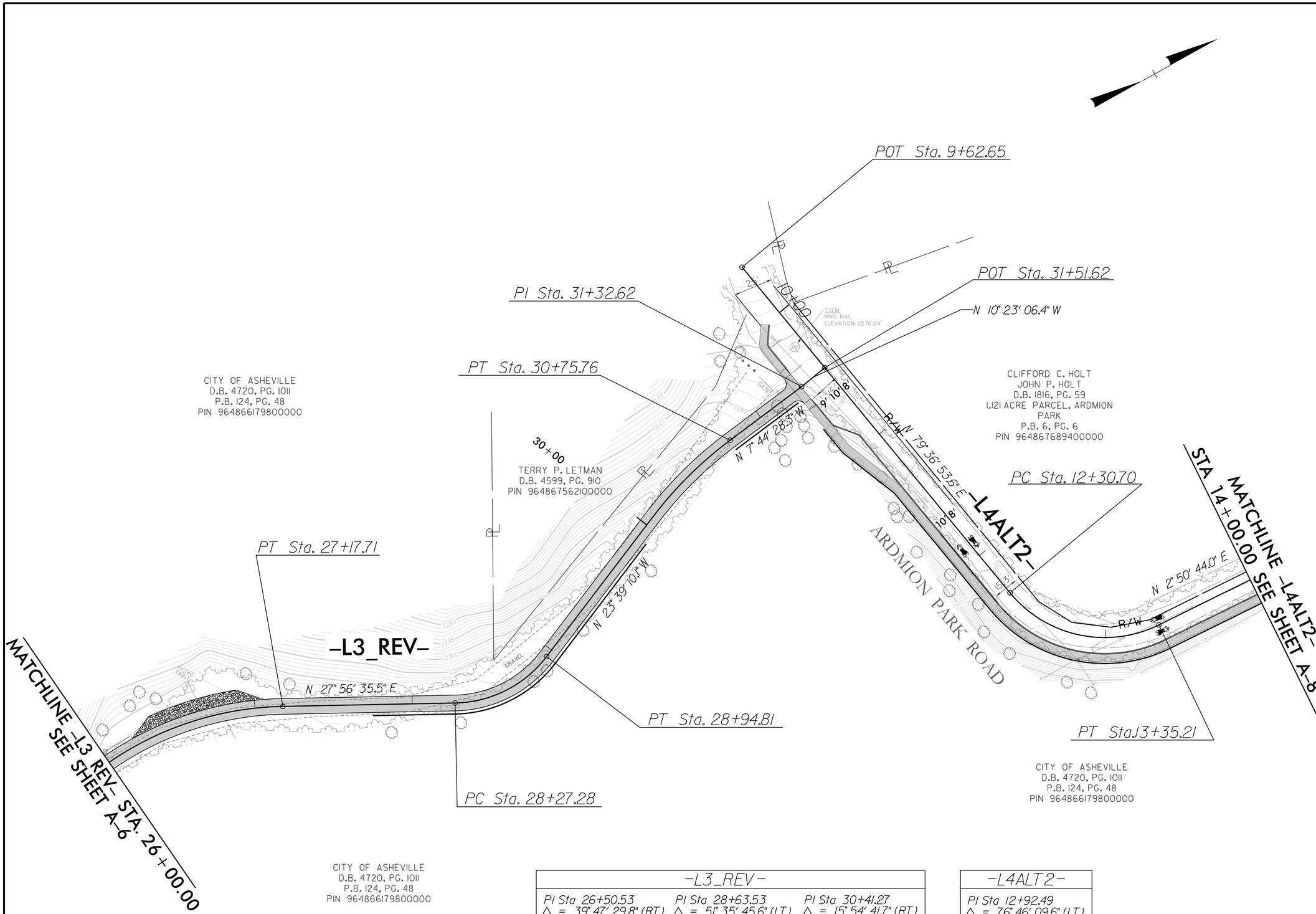
A-6



-L3_REV-		
PI Sta 26+50.53	PI Sta 28+63.53	PI Sta 30+41.27
△ = 39° 47' 29.8" (RT)	△ = 51° 35' 45.6" (LT)	△ = 15° 54' 41.7" (RT)
D = 28° 21' 51.3"	D = 76° 23' 39.7"	D = 22° 55' 05.9"
L = 140.29'	L = 67.54'	L = 69.43'
T = 73.11'	T = 36.25'	T = 34.94'
R = 202.00'	R = 75.00'	R = 250.00'

-L4ALT2-
PI Sta 12+92.49
△ = 76° 46' 09.6" (LT)
D = 73° 27' 22.1"
L = 104.51'
T = 61.79'
R = 78.00'

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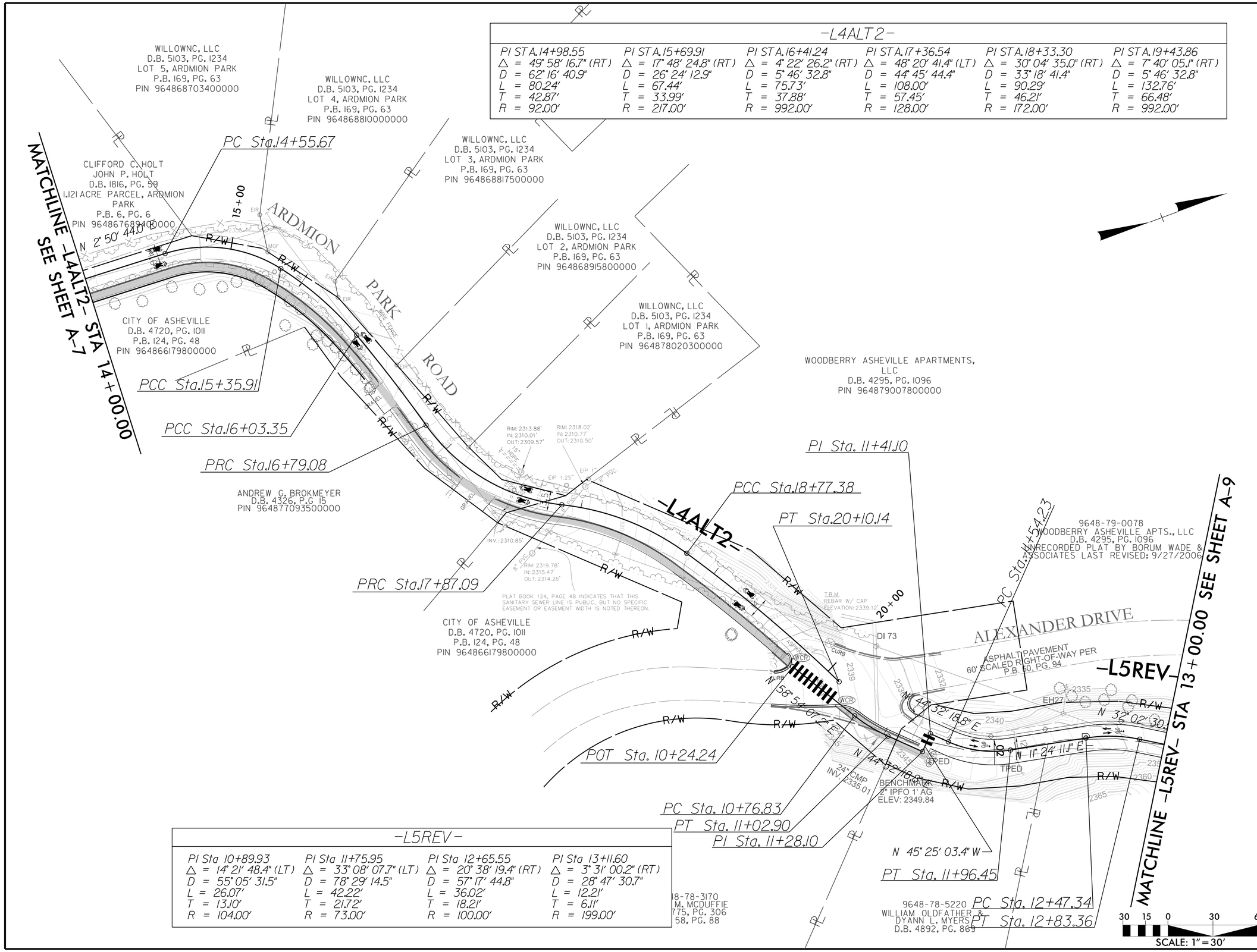
-L4ALT2-					
PI STA.14+98.55	PI STA.15+69.91	PI STA.16+41.24	PI STA.17+36.54	PI STA.18+33.30	PI STA.19+43.86
△ = 49° 58' 16.7" (RT)	△ = 17° 48' 24.8" (RT)	△ = 4° 22' 26.2" (RT)	△ = 48° 20' 41.4" (LT)	△ = 30° 04' 35.0" (RT)	△ = 7° 40' 05.1" (RT)
D = 62° 16' 40.9"	D = 26° 24' 12.9"	D = 5° 46' 32.8"	D = 44° 45' 44.4"	D = 33° 18' 41.4"	D = 5° 46' 32.8"
L = 80.24'	L = 67.44'	L = 75.73'	L = 108.00'	L = 90.29'	L = 132.76'
T = 42.87'	T = 33.99'	T = 37.88'	T = 57.45'	T = 46.21'	T = 66.48'
R = 92.00'	R = 217.00'	R = 992.00'	R = 128.00'	R = 172.00'	R = 992.00'



-L5REV-			
PI Sta 10+89.93	PI Sta 11+75.95	PI Sta 12+65.55	PI Sta 13+11.60
△ = 14° 21' 48.4" (LT)	△ = 33° 08' 07.7" (LT)	△ = 20° 38' 19.4" (RT)	△ = 3° 31' 00.2" (RT)
D = 55° 05' 31.5"	D = 78° 29' 14.5"	D = 57° 17' 44.8"	D = 28° 47' 30.7"
L = 26.07'	L = 42.22'	L = 36.02'	L = 12.21'
T = 13.10'	T = 21.72'	T = 18.21'	T = 6.11'
R = 104.00'	R = 73.00'	R = 100.00'	R = 199.00'

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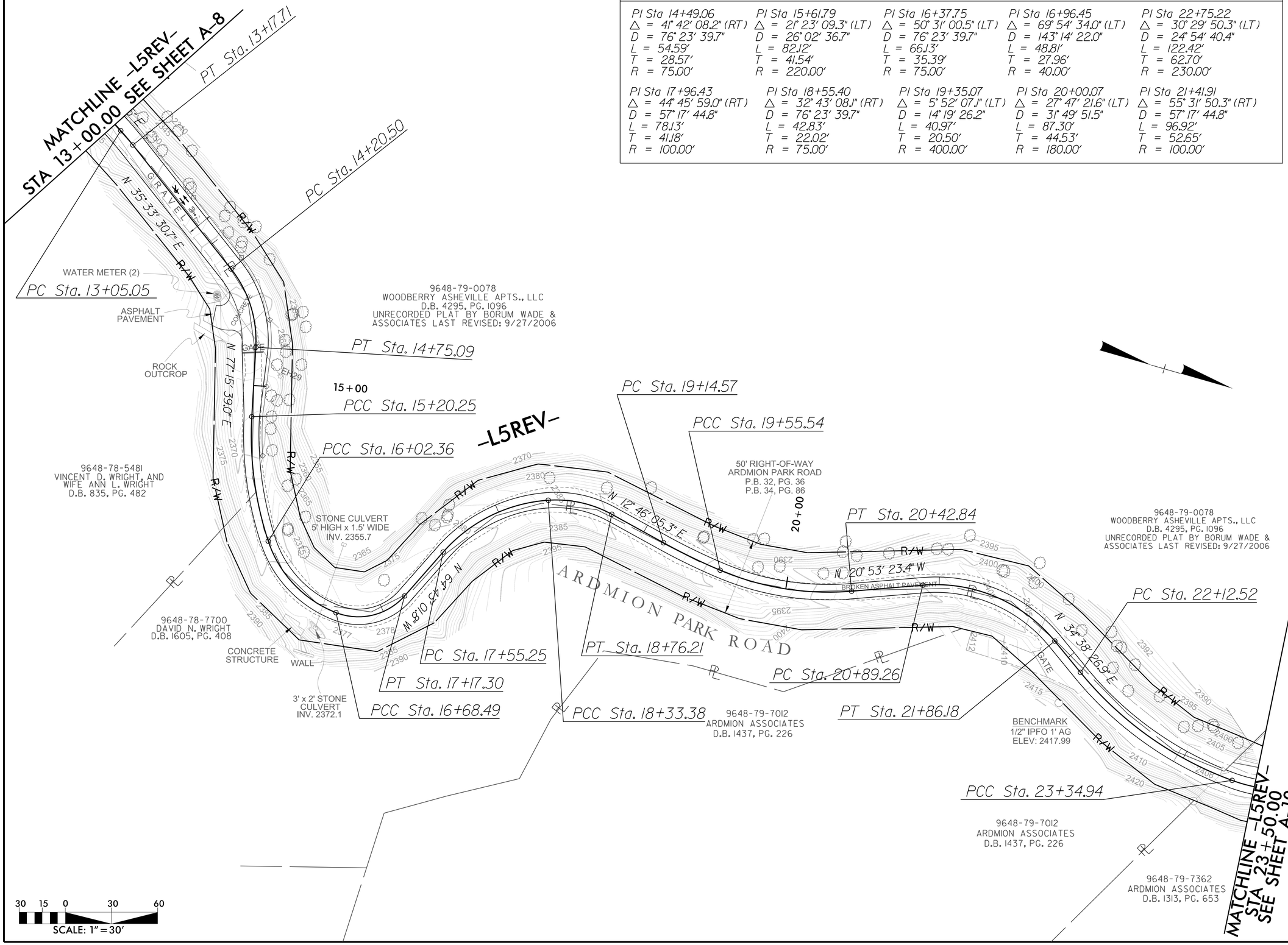
A-8

-L5REV-

PI Sta 14+49.06 △ = 41° 42′ 08.2″ (RT) D = 76° 23′ 39.7″ L = 54.59′ T = 28.57′ R = 75.00′	PI Sta 15+61.79 △ = 21° 23′ 09.3″ (LT) D = 26° 02′ 36.7″ L = 82.12′ T = 41.54′ R = 220.00′	PI Sta 16+37.75 △ = 50° 31′ 00.5″ (LT) D = 76° 23′ 39.7″ L = 66.13′ T = 35.39′ R = 75.00′	PI Sta 16+96.45 △ = 69° 54′ 34.0″ (LT) D = 143° 14′ 22.0″ L = 48.81′ T = 27.96′ R = 40.00′	PI Sta 22+75.22 △ = 30° 29′ 50.3″ (LT) D = 24° 54′ 40.4″ L = 122.42′ T = 62.70′ R = 230.00′
PI Sta 17+96.43 △ = 44° 45′ 59.0″ (RT) D = 57° 17′ 44.8″ L = 78.13′ T = 41.18′ R = 100.00′	PI Sta 18+55.40 △ = 32° 43′ 08.1″ (RT) D = 76° 23′ 39.7″ L = 42.83′ T = 22.02′ R = 75.00′	PI Sta 19+35.07 △ = 5° 52′ 07.1″ (LT) D = 14° 19′ 26.2″ L = 40.97′ T = 20.50′ R = 400.00′	PI Sta 20+00.07 △ = 27° 47′ 21.6″ (LT) D = 31° 49′ 51.5″ L = 87.30′ T = 44.53′ R = 180.00′	PI Sta 21+41.91 △ = 55° 31′ 50.3″ (RT) D = 57° 17′ 44.8″ L = 96.92′ T = 52.65′ R = 100.00′



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10/5/16

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PROJECT NO.:
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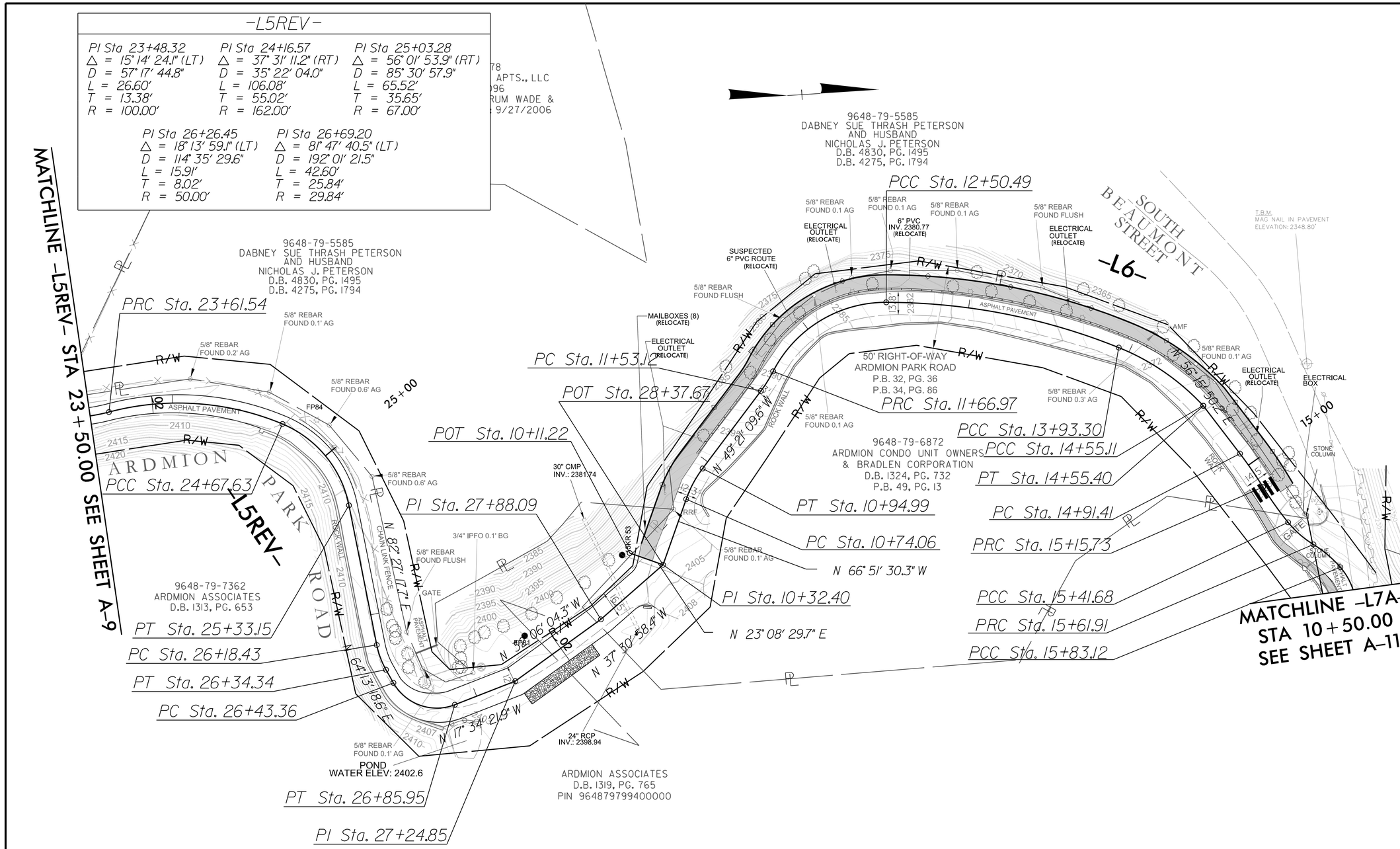
A-9

-L5REV-

PI Sta 23+48.32	PI Sta 24+16.57	PI Sta 25+03.28
Δ = 15° 14′ 24.1″ (LT)	Δ = 37° 31′ 11.2″ (RT)	Δ = 56° 01′ 53.9″ (RT)
D = 57° 17′ 44.8″	D = 35° 22′ 04.0″	D = 85° 30′ 57.9″
L = 26.60′	L = 106.08′	L = 65.52′
T = 13.38′	T = 55.02′	T = 35.65′
R = 100.00′	R = 162.00′	R = 67.00′

PI Sta 26+26.45	PI Sta 26+69.20
Δ = 18° 13′ 59.1″ (LT)	Δ = 81° 47′ 40.5″ (LT)
D = 114° 35′ 29.6″	D = 192° 01′ 21.5″
L = 15.91′	L = 42.60′
T = 8.02′	T = 25.84′
R = 50.00′	R = 29.84′



-L6-

PI Sta 10+84.61	PI Sta 11+60.06	PI Sta 12+13.51	PI Sta 13+22.78	PI Sta 14+24.71
Δ = 17° 30′ 20.8″ (RT)	Δ = 9° 48′ 04.8″ (LT)	Δ = 62° 57′ 56.5″ (RT)	Δ = 21° 50′ 49.8″ (RT)	Δ = 25° 06′ 28.3″ (RT)
D = 83° 38′ 36.5″	D = 70° 44′ 07.9″	D = 75° 23′ 21.1″	D = 15° 17′ 52.1″	D = 40° 37′ 25.6″
L = 20.93′	L = 13.86′	L = 83.52′	L = 142.81′	L = 61.81′
T = 10.55′	T = 6.95′	T = 46.54′	T = 72.28′	T = 31.41′
R = 68.50′	R = 81.00′	R = 76.00′	R = 374.54′	R = 141.04′

PI Sta 14+55.25	PI Sta 15+03.58	PI Sta 15+28.72	PI Sta 15+51.89	PI Sta 15+72.60	PI Sta 15+94.18
Δ = 5° 29′ 49.9″ (RT)	Δ = 5° 44′ 01.9″ (RT)	Δ = 7° 27′ 38.5″ (LT)	Δ = 19° 19′ 30.9″ (LT)	Δ = 17° 29′ 00.5″ (RT)	Δ = 31° 40′ 20.2″ (RT)
D = 1909° 51′ 33.6″	D = 23° 34′ 42.6″	D = 28° 45′ 11.7″	D = 95° 29′ 34.7″	D = 82° 26′ 23.9″	D = 146° 54′ 44.1″
L = 0.29′	L = 24.32′	L = 25.95′	L = 20.24′	L = 21.21′	L = 21.56′
T = 0.14′	T = 12.17′	T = 12.99′	T = 10.22′	T = 10.69′	T = 11.06′
R = 3.00′	R = 243.00′	R = 199.27′	R = 60.00′	R = 69.50′	R = 39.00′

30 15 0 30 60
SCALE: 1" = 30'

CITY OF ASHEVILLE NORTH CAROLINA

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10/5/16

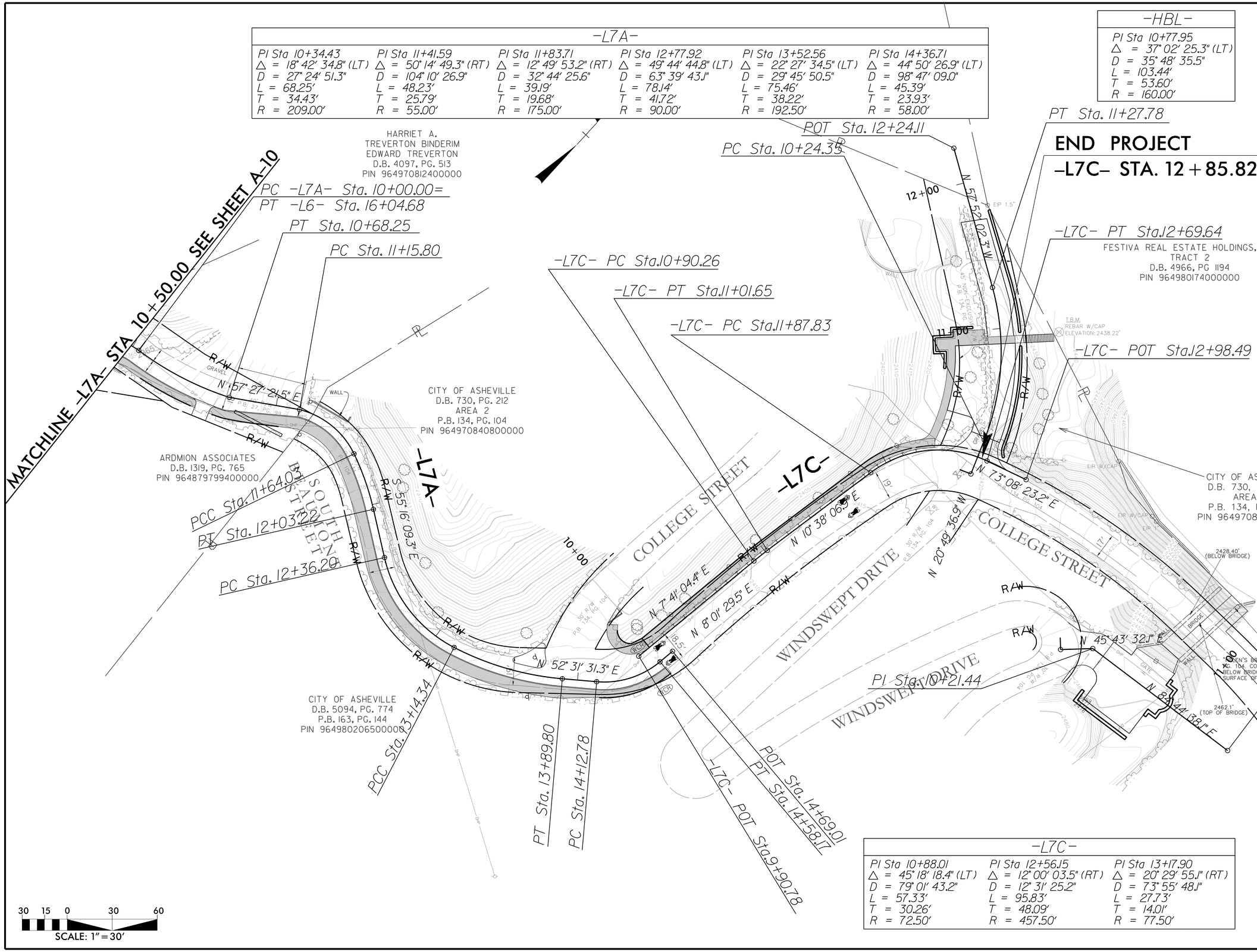
HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

A-10

-L7A-					
PI Sta 10+34.43	PI Sta 11+41.59	PI Sta 11+83.71	PI Sta 12+77.92	PI Sta 13+52.56	PI Sta 14+36.71
△ = 18° 42′ 34.8″ (LT)	△ = 50° 14′ 49.3″ (RT)	△ = 12° 49′ 53.2″ (RT)	△ = 49° 44′ 44.8″ (LT)	△ = 22° 27′ 34.5″ (LT)	△ = 44° 50′ 26.9″ (LT)
D = 27° 24′ 51.3″	D = 104° 10′ 26.9″	D = 32° 44′ 25.6″	D = 63° 39′ 43.1″	D = 29° 45′ 50.5″	D = 98° 47′ 09.0″
L = 68.25′	L = 48.23′	L = 39.19′	L = 78.14′	L = 75.46′	L = 45.39′
T = 34.43′	T = 25.79′	T = 19.68′	T = 41.72′	T = 38.22′	T = 23.93′
R = 209.00′	R = 55.00′	R = 175.00′	R = 90.00′	R = 192.50′	R = 58.00′

-HBL-
PI Sta 10+77.95
△ = 37° 02′ 25.3″ (LT)
D = 35° 48′ 35.5″
L = 103.44′
T = 53.60′
R = 160.00′



-L7C-		
PI Sta 10+88.01	PI Sta 12+56.15	PI Sta 13+17.90
△ = 45° 18′ 18.4″ (LT)	△ = 12° 00′ 03.5″ (RT)	△ = 20° 29′ 55.1″ (RT)
D = 79° 01′ 43.2″	D = 12° 31′ 25.2″	D = 73° 55′ 48.1″
L = 57.33′	L = 95.83′	L = 27.73′
T = 30.26′	T = 48.09′	T = 14.01′
R = 72.50′	R = 457.50′	R = 77.50′

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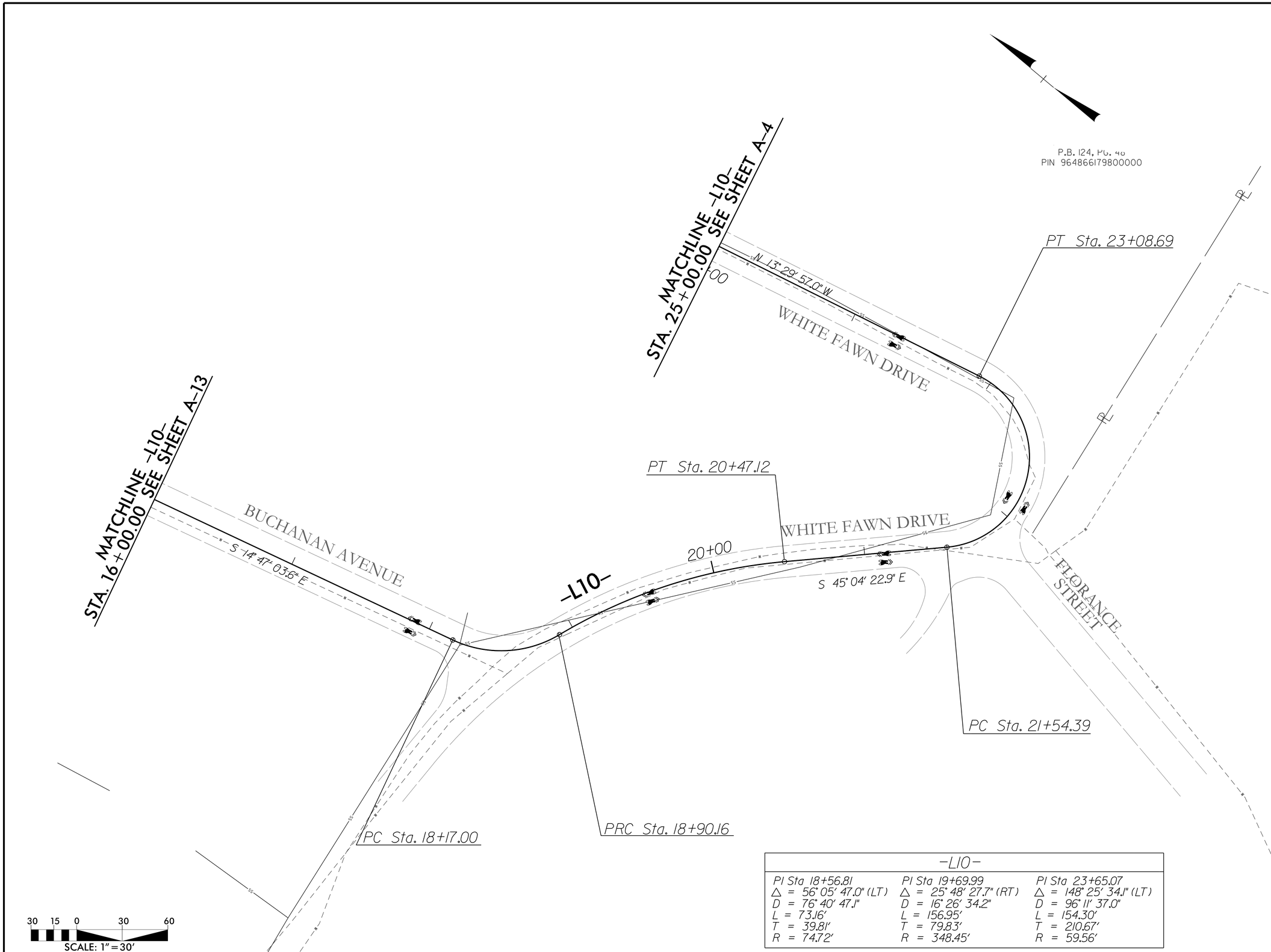
A-11



-L10-		
PI Sta 18+56.81	PI Sta 19+69.99	PI Sta 23+65.07
△ = 56° 05' 47.0" (LT)	△ = 25° 48' 27.7" (RT)	△ = 148° 25' 34.1" (LT)
D = 76° 40' 47.1"	D = 16° 26' 34.2"	D = 96° 11' 37.0"
L = 73.16'	L = 156.95'	L = 154.30'
T = 39.81'	T = 79.83'	T = 210.67'
R = 74.72'	R = 348.45'	R = 59.56'

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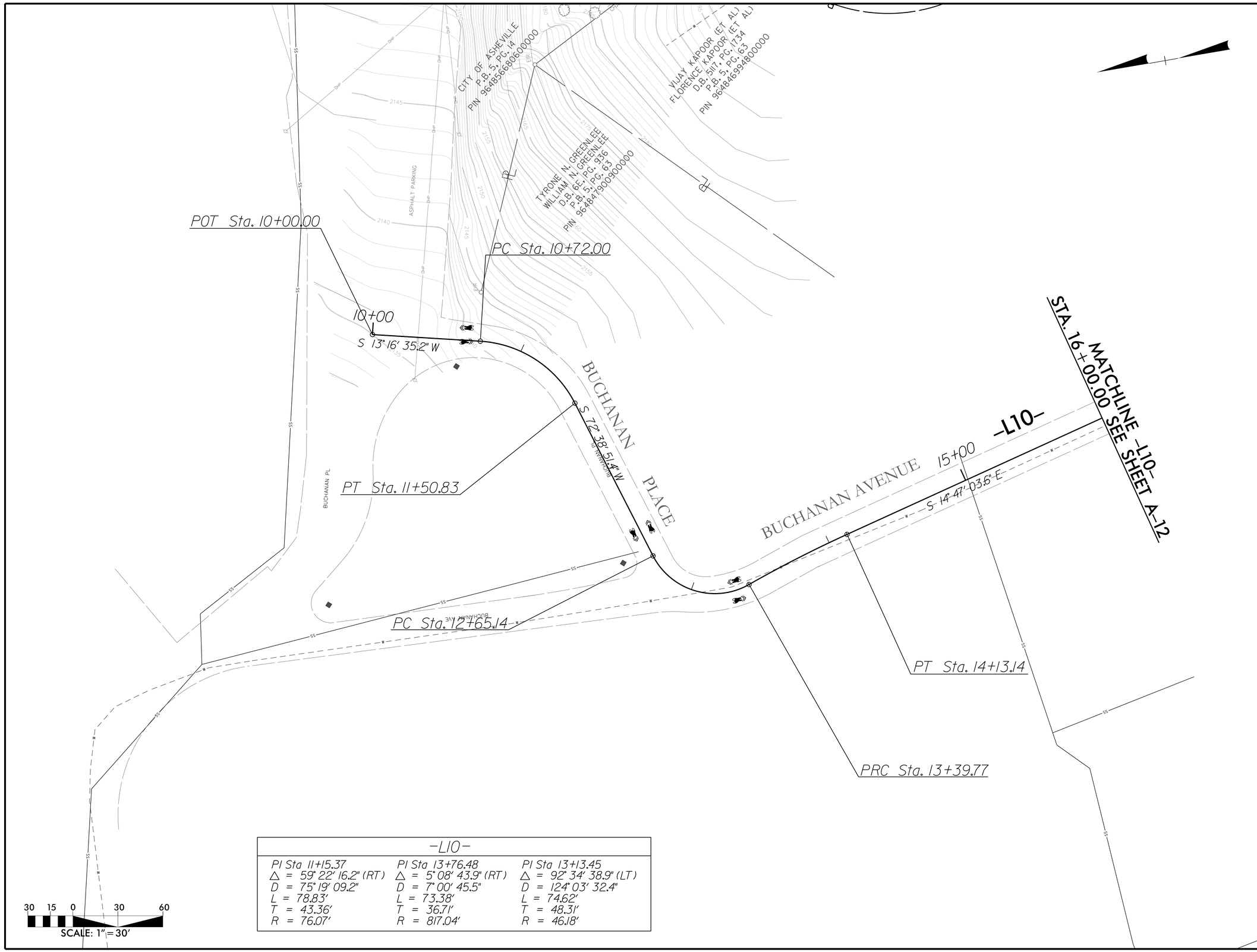
A-12



-L10-		
PI Sta 11+15.37	PI Sta 13+76.48	PI Sta 13+13.45
△ = 59° 22' 16.2" (RT)	△ = 5° 08' 43.9" (RT)	△ = 92° 34' 38.9" (LT)
D = 75° 19' 09.2"	D = 7° 00' 45.5"	D = 124° 03' 32.4"
L = 78.83'	L = 73.38'	L = 74.62'
T = 43.36'	T = 36.71'	T = 48.31'
R = 76.07'	R = 817.04'	R = 46.18'

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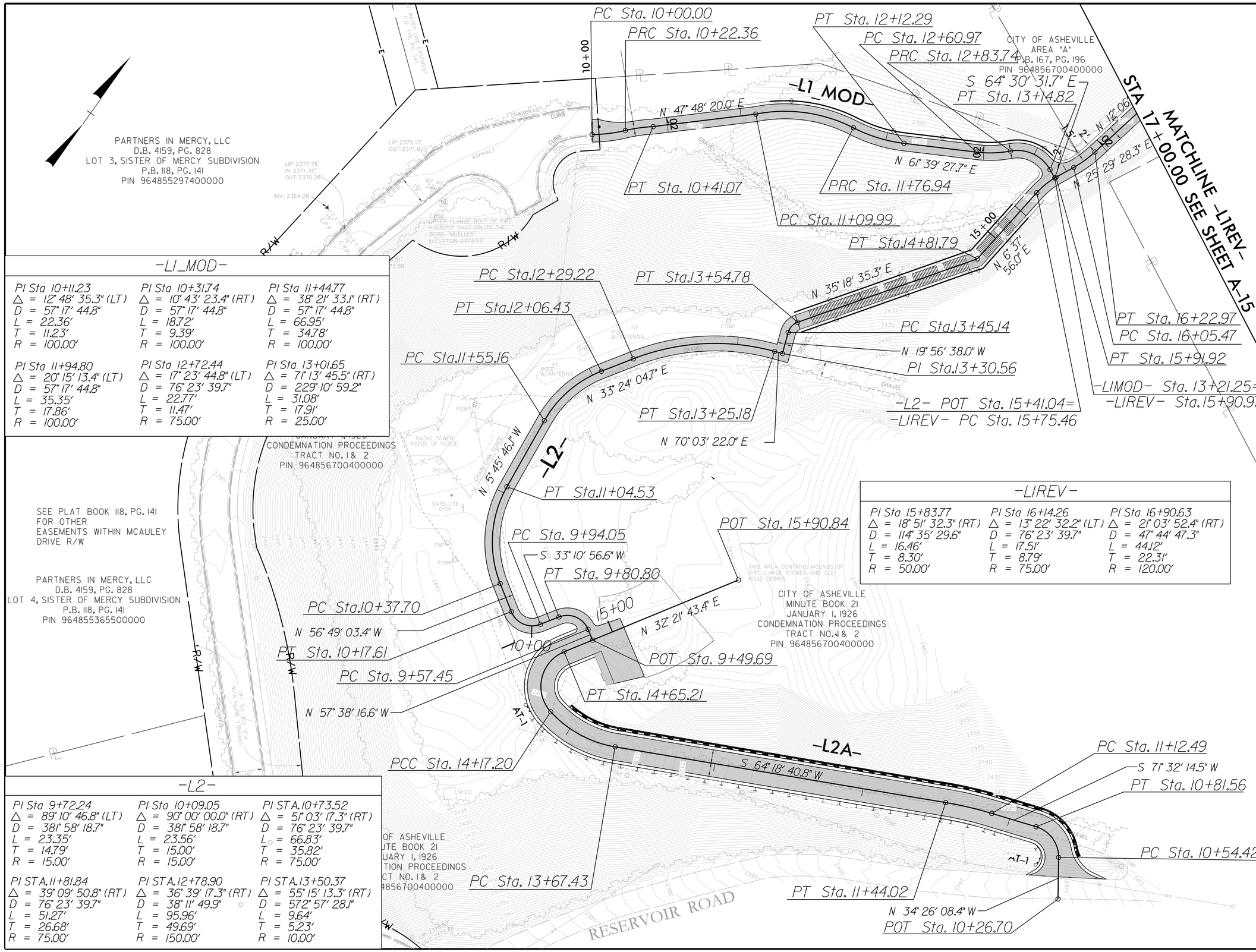
A-13



-L1_MOD-

PI Sta 10+11.23 △ = 12° 48' 35.3" (LT) D = 57° 17' 44.8" L = 22.36' T = 11.23' R = 100.00'	PI Sta 10+31.74 △ = 10° 43' 23.4" (RT) D = 57° 17' 44.8" L = 18.72' T = 9.39' R = 100.00'	PI Sta 11+44.77 △ = 38° 21' 33.1" (RT) D = 57° 17' 44.8" L = 66.95' T = 34.78' R = 100.00'
PI Sta 11+94.80 △ = 20° 15' 13.4" (LT) D = 57° 17' 44.8" L = 35.35' T = 17.86' R = 100.00'	PI Sta 12+72.44 △ = 17° 23' 44.8" (LT) D = 76° 23' 39.7" L = 22.77' T = 11.47' R = 75.00'	PI Sta 13+01.65 △ = 71° 13' 45.5" (RT) D = 229° 10' 59.2" L = 31.08' T = 17.91' R = 25.00'

-L2-

PI Sta 9+72.24 △ = 89° 10' 46.8" (LT) D = 381° 58' 18.7" L = 23.35' T = 14.79' R = 15.00'	PI Sta 10+09.05 △ = 90° 00' 00.0" (RT) D = 381° 58' 18.7" L = 23.56' T = 15.00' R = 15.00'	PI ST A.10+73.52 △ = 51° 03' 17.3" (RT) D = 76° 23' 39.7" L = 66.83' T = 35.82' R = 75.00'
PI ST A.11+81.84 △ = 39° 09' 50.8" (RT) D = 76° 23' 39.7" L = 51.27' T = 26.68' R = 75.00'	PI ST A.12+78.90 △ = 36° 39' 17.3" (RT) D = 38° 11' 49.9" L = 95.96' T = 49.69' R = 150.00'	PI ST A.13+50.37 △ = 55° 15' 13.3" (RT) D = 572° 57' 28.1" L = 9.64' T = 5.23' R = 10.00'

-LIREV-

PI Sta 15+83.77 △ = 18° 51' 32.3" (RT) D = 114° 35' 29.6" L = 16.46' T = 8.30' R = 50.00'	PI Sta 16+14.26 △ = 13° 22' 32.2" (LT) D = 76° 23' 39.7" L = 17.51' T = 8.79' R = 75.00'	PI Sta 16+90.63 △ = 21° 03' 52.4" (RT) D = 47° 44' 47.3" L = 44.12' T = 22.31' R = 120.00'

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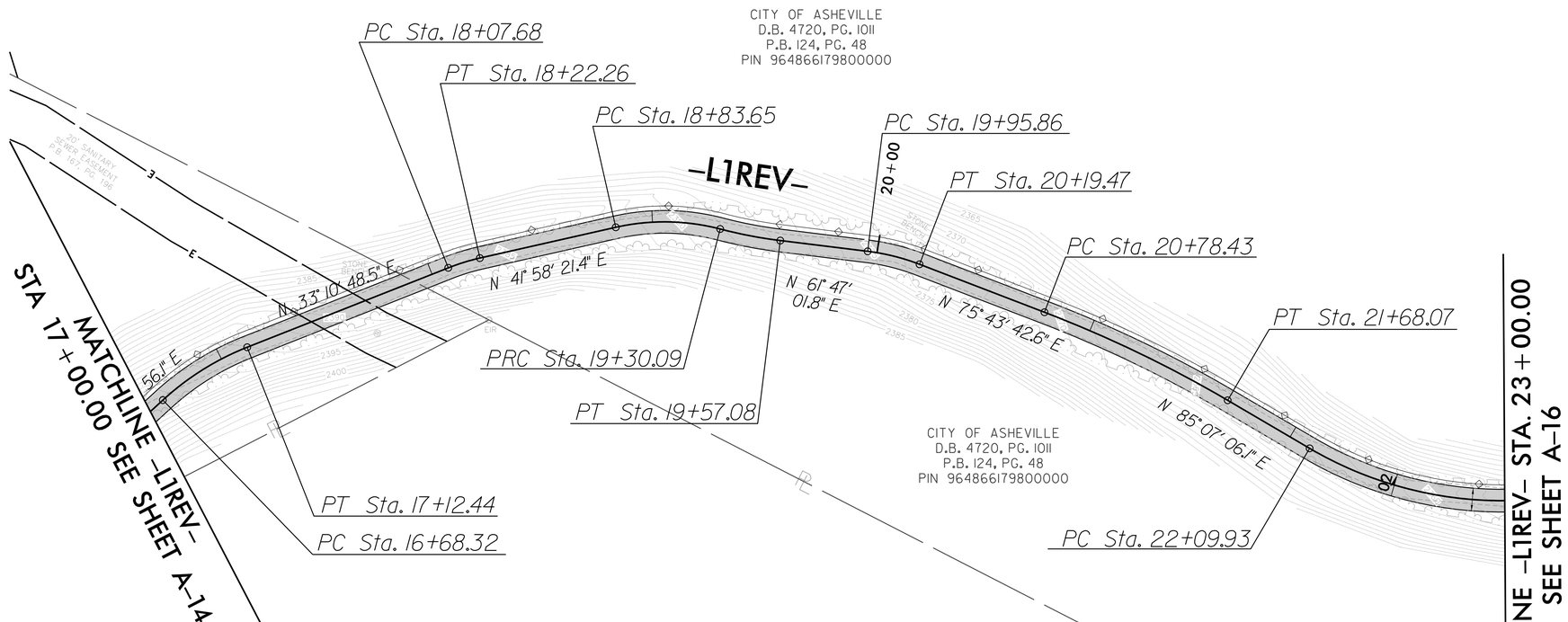
A-14



BEAUCATCHER PURCHASE GROUP
D.B. 5126, PG. 1041
AREA "B"
P.B. 167, PG. 196
WIND IN THE OAKS
P.B. 52, PG. 74
PIN 9648660384000000

-L1_REV-		
PI Sta 18+14.99 △ = 8° 47' 32.9" (RT) D = 60° 18' 40.8" L = 14.58' T = 7.30' R = 95.00'	PI Sta 19+07.32 △ = 27° 25' 48.3" (RT) D = 59° 04' 04.1" L = 46.44' T = 23.67' R = 97.00'	PI Sta 22+89.17 △ = 50° 30' 20.2" (LT) D = 34° 06' 16.7" L = 148.09' T = 79.24' R = 168.00'
PI Sta 19+43.61 △ = 7° 37' 07.8" (LT) D = 28° 13' 28.3" L = 26.99' T = 13.52' R = 203.00'	PI Sta 20+07.73 △ = 13° 56' 40.8" (RT) D = 59° 04' 04.1" L = 23.61' T = 11.86' R = 97.00'	PI Sta 21+23.35 △ = 9° 23' 23.5" (RT) D = 10° 28' 28.4" L = 89.64' T = 44.92' R = 547.00'

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PLANS PREPARED BY:

Firm License No. C-1051
421 Fayetteville St.
Suite 400
Raleigh, NC 27601
T 919.380.8750
www.stewartinc.com
STEWART

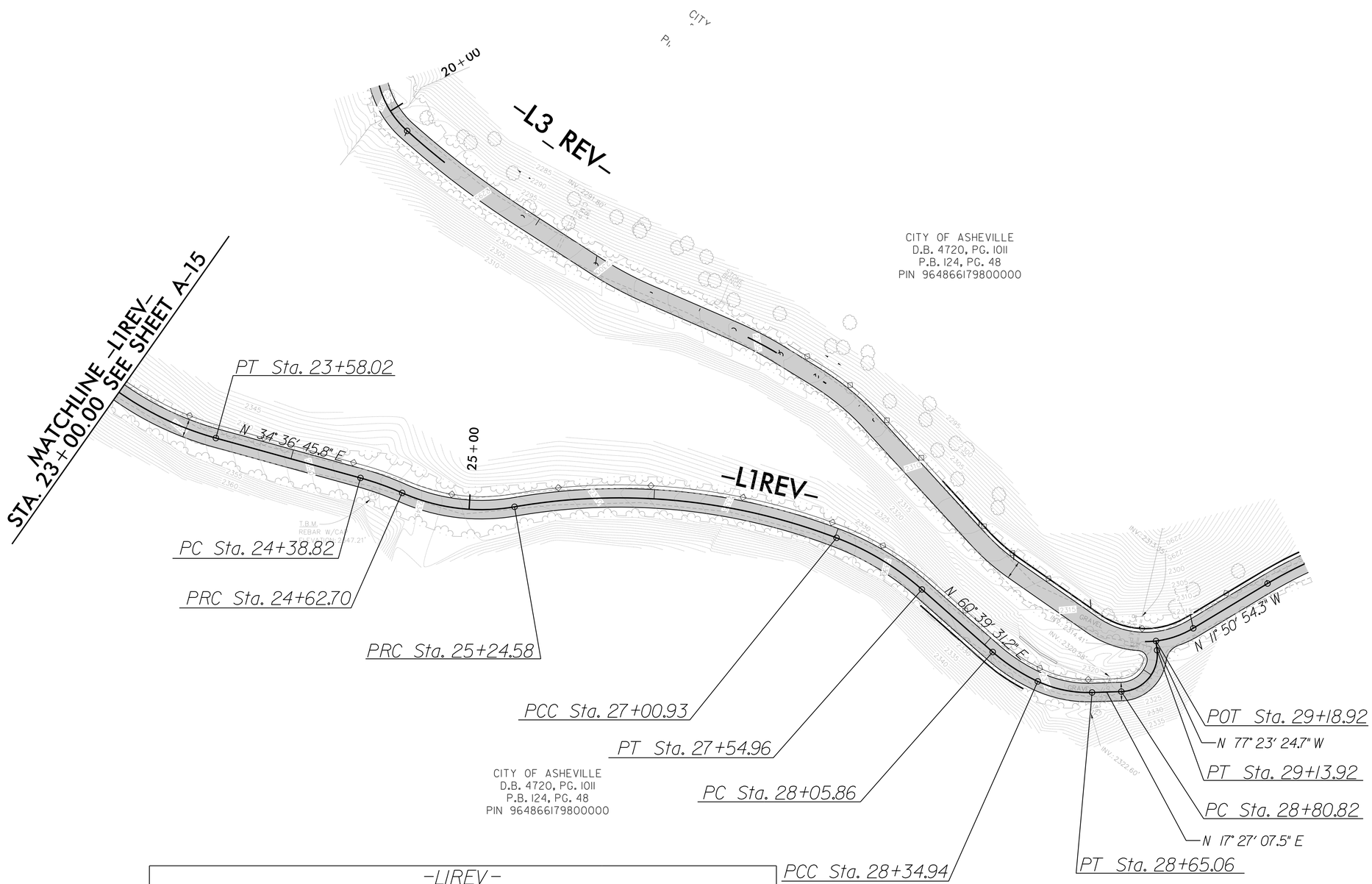
GREENWAY ENGINEER:

NORTH CAROLINA PROFESSIONAL SEAL 30032 ENGINEER ROBERT A. WILLIAMS
10/5/16

HYDRAULICS ENGINEER:

PROJECT NO.:
H13002.00

A-15



-L1REV-

PI Sta 24+50.78	PI Sta 24+94.57	PI Sta 26+14.91	PI Sta 27+28.24
△ = 8° 33' 08.5" (RT)	△ = 33° 45' 54.7" (LT)	△ = 30° 37' 05.9" (RT)	△ = 20° 38' 25.7" (RT)
D = 35° 48' 35.5"	D = 54° 34' 02.7"	D = 17° 21' 44.5"	D = 38° 11' 49.9"
L = 23.88'	L = 61.88'	L = 176.35'	L = 54.04'
T = 11.96'	T = 31.87'	T = 90.33'	T = 27.31'
R = 160.00'	R = 105.00'	R = 330.00'	R = 150.00'

PI Sta 28+20.51	PI Sta 28+50.27	PI Sta 29+02.58
△ = 16° 39' 46.4" (LT)	△ = 26° 32' 37.2" (LT)	△ = 94° 50' 32.2" (LT)
D = 57° 17' 44.8"	D = 88° 08' 50.5"	D = 286° 28' 44.0"
L = 29.08'	L = 30.11'	L = 33.11'
T = 14.64'	T = 15.33'	T = 21.77'
R = 100.00'	R = 65.00'	R = 20.00'

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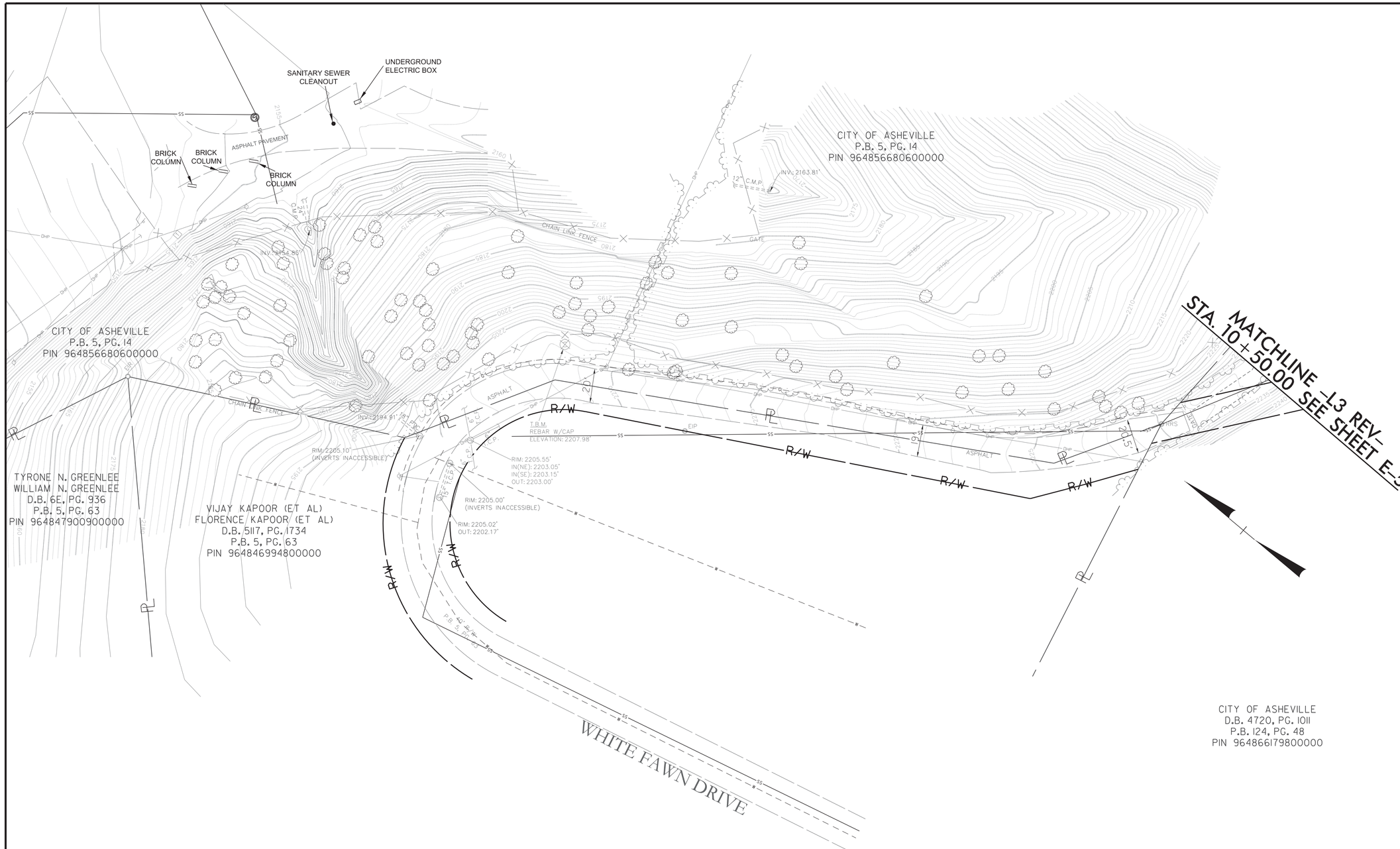

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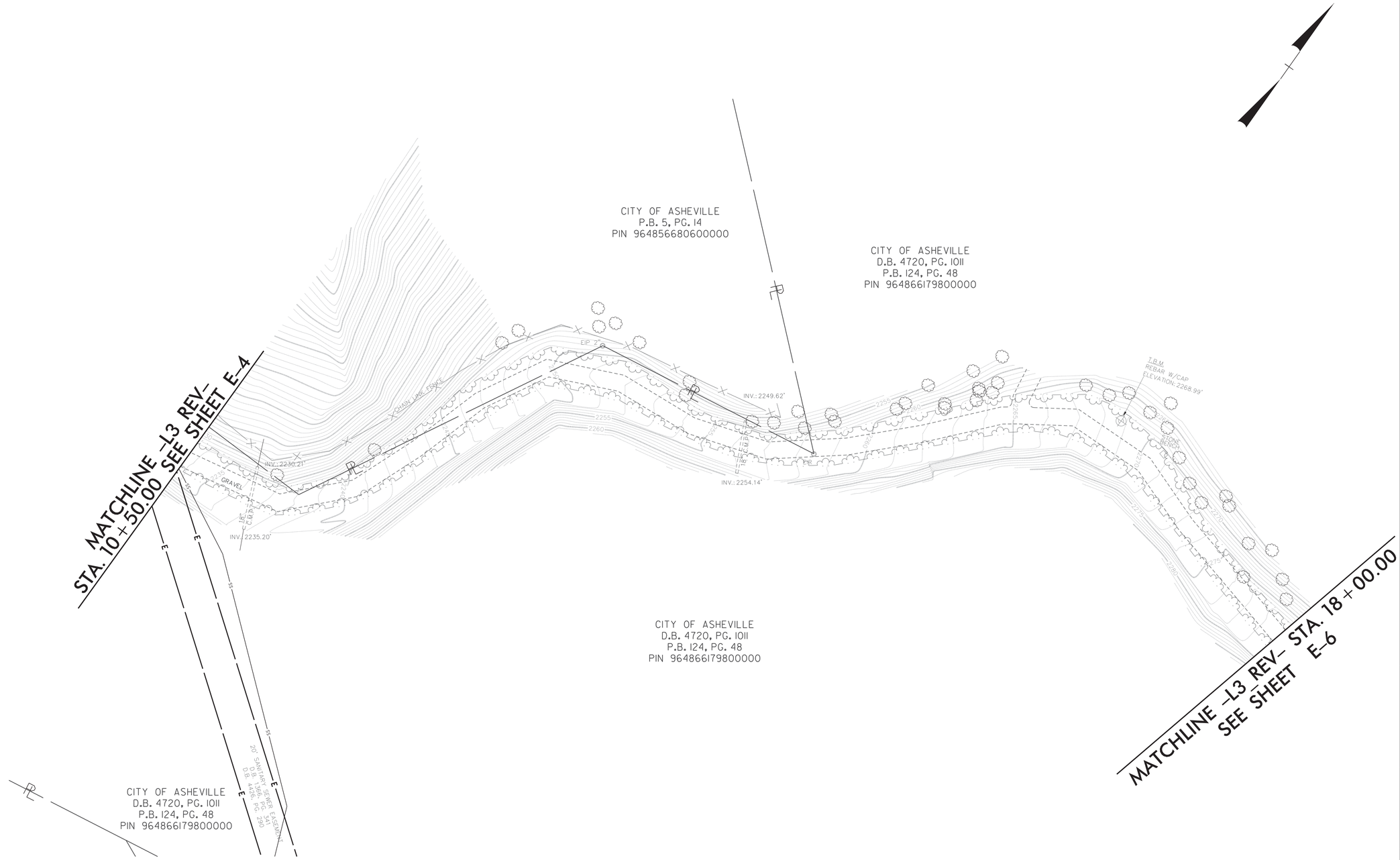
E-4



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30 15 0 30 60
SCALE: 1" = 30'

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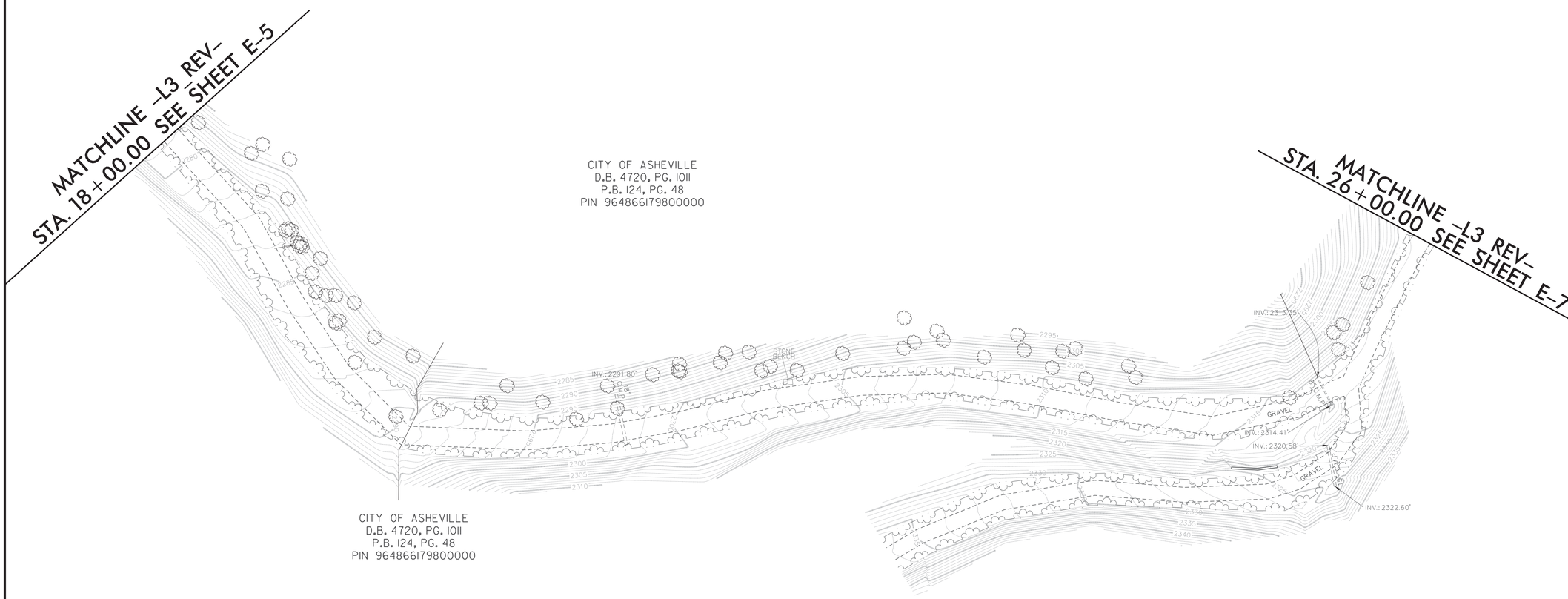
E-5



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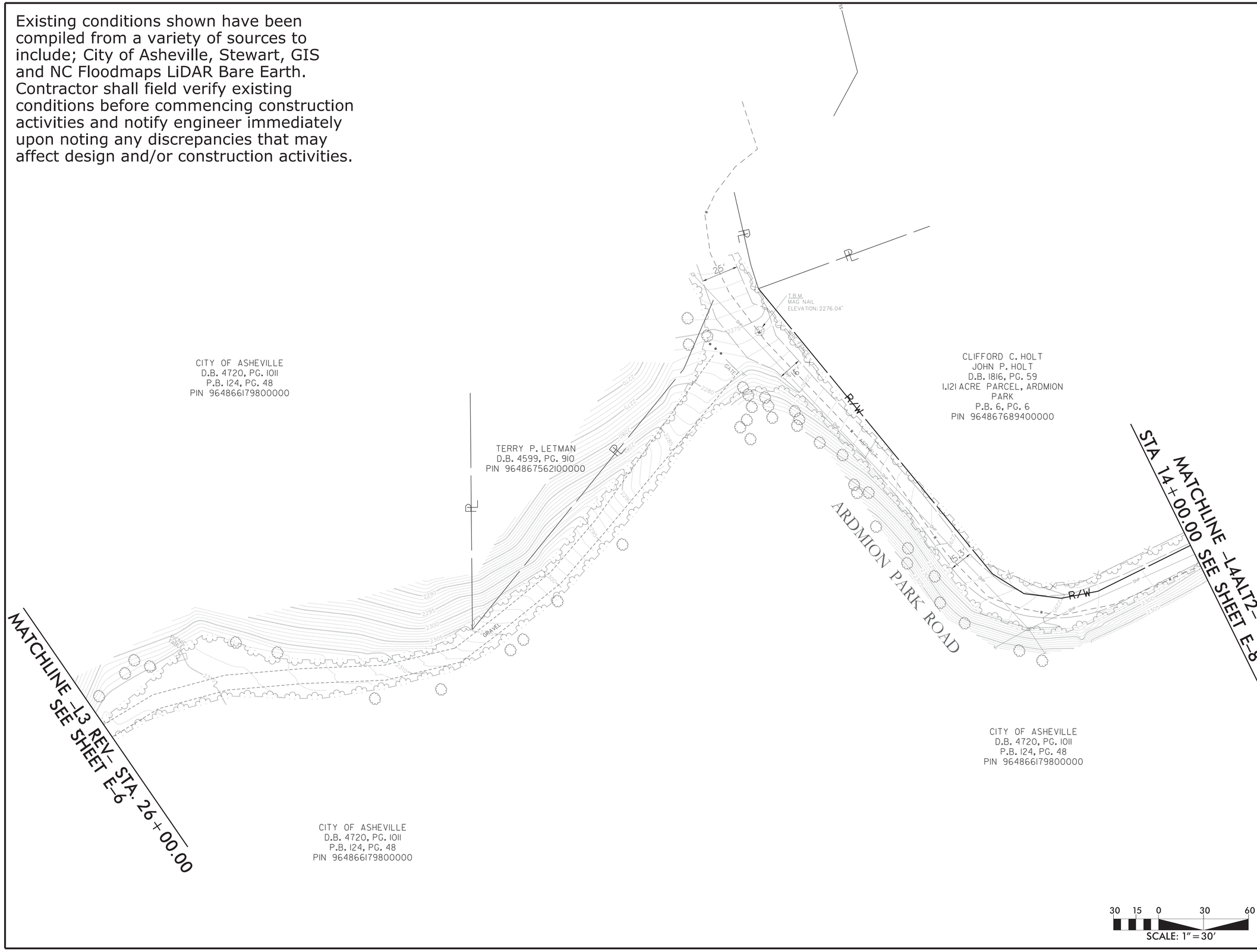

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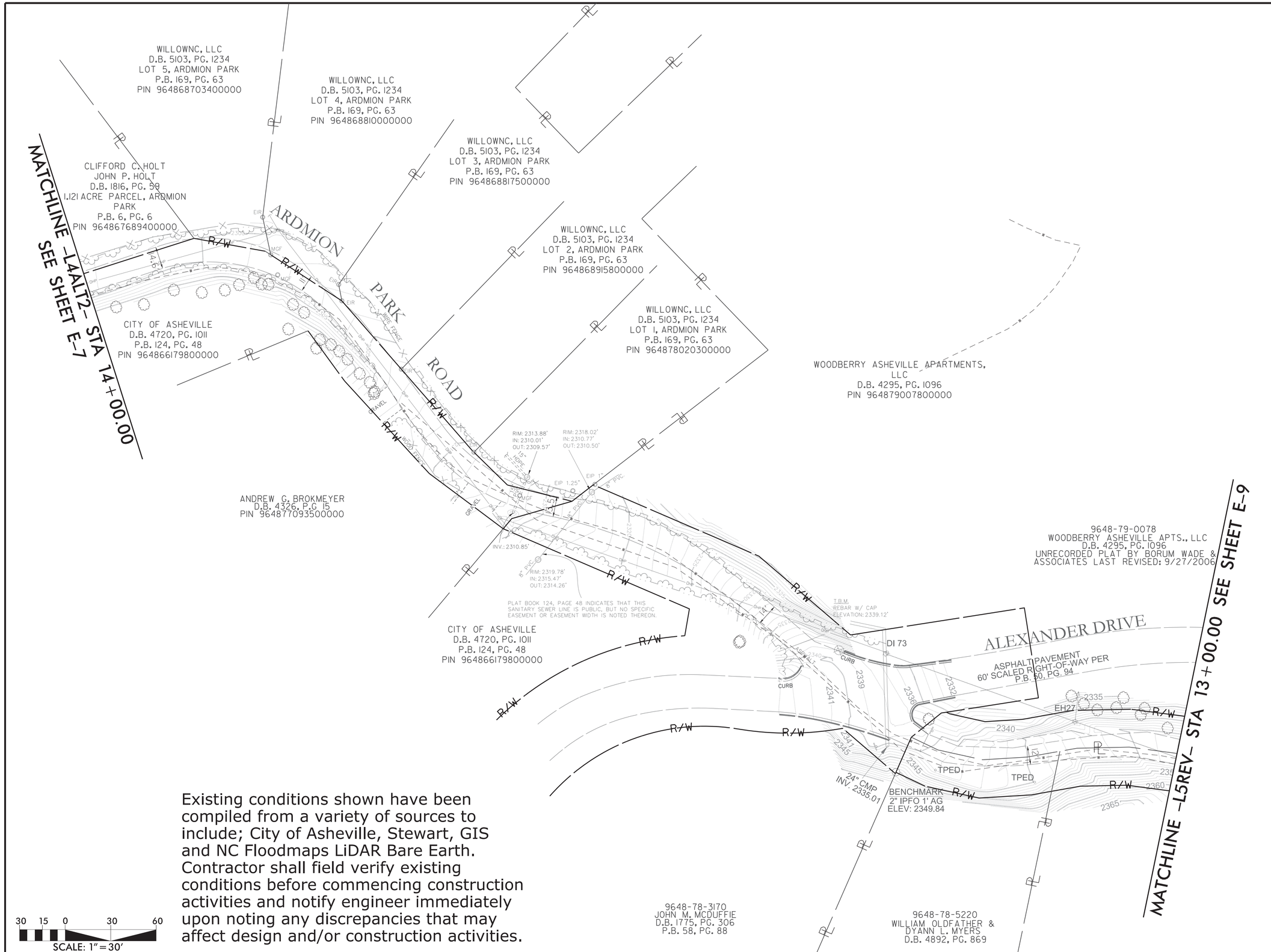
E-7



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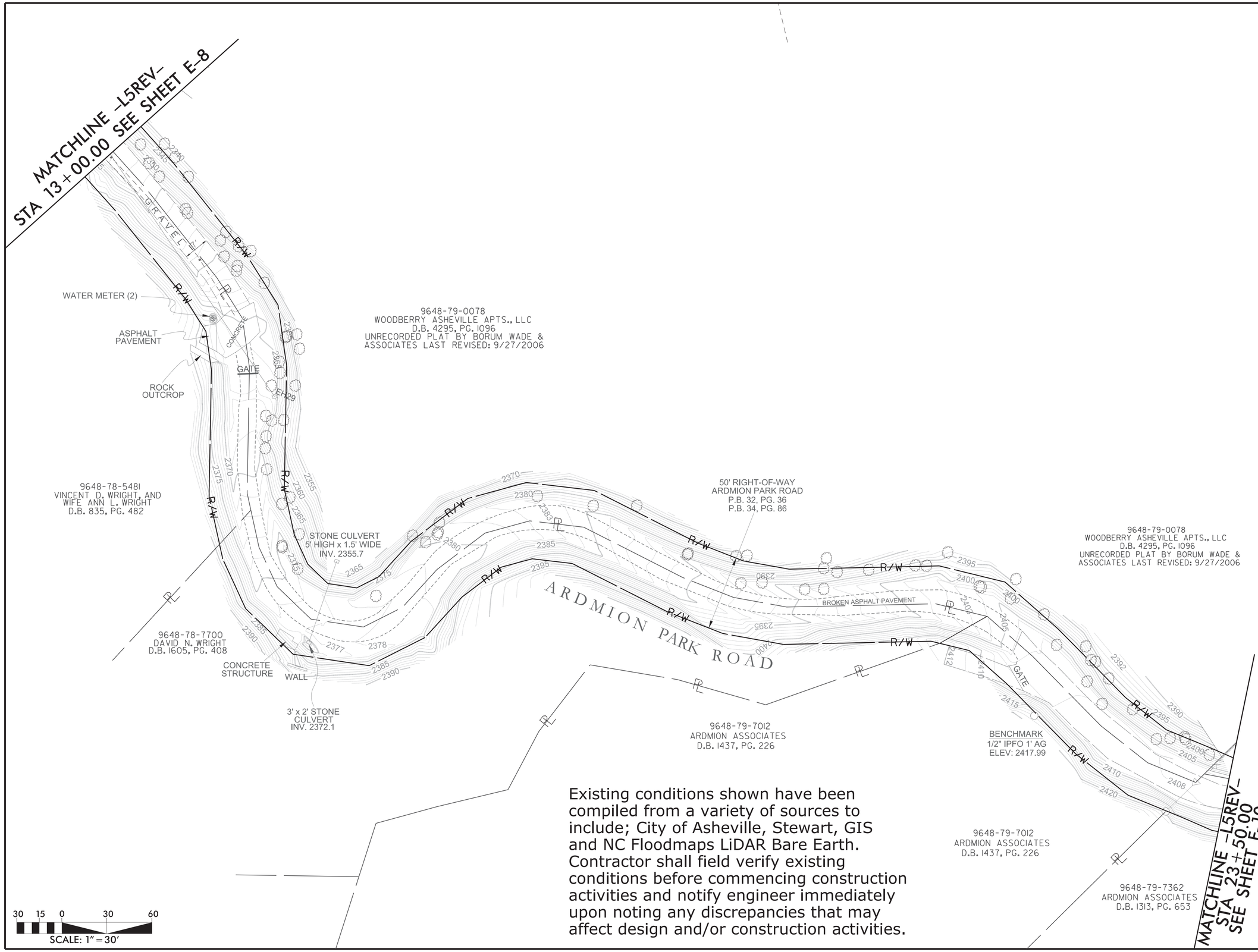

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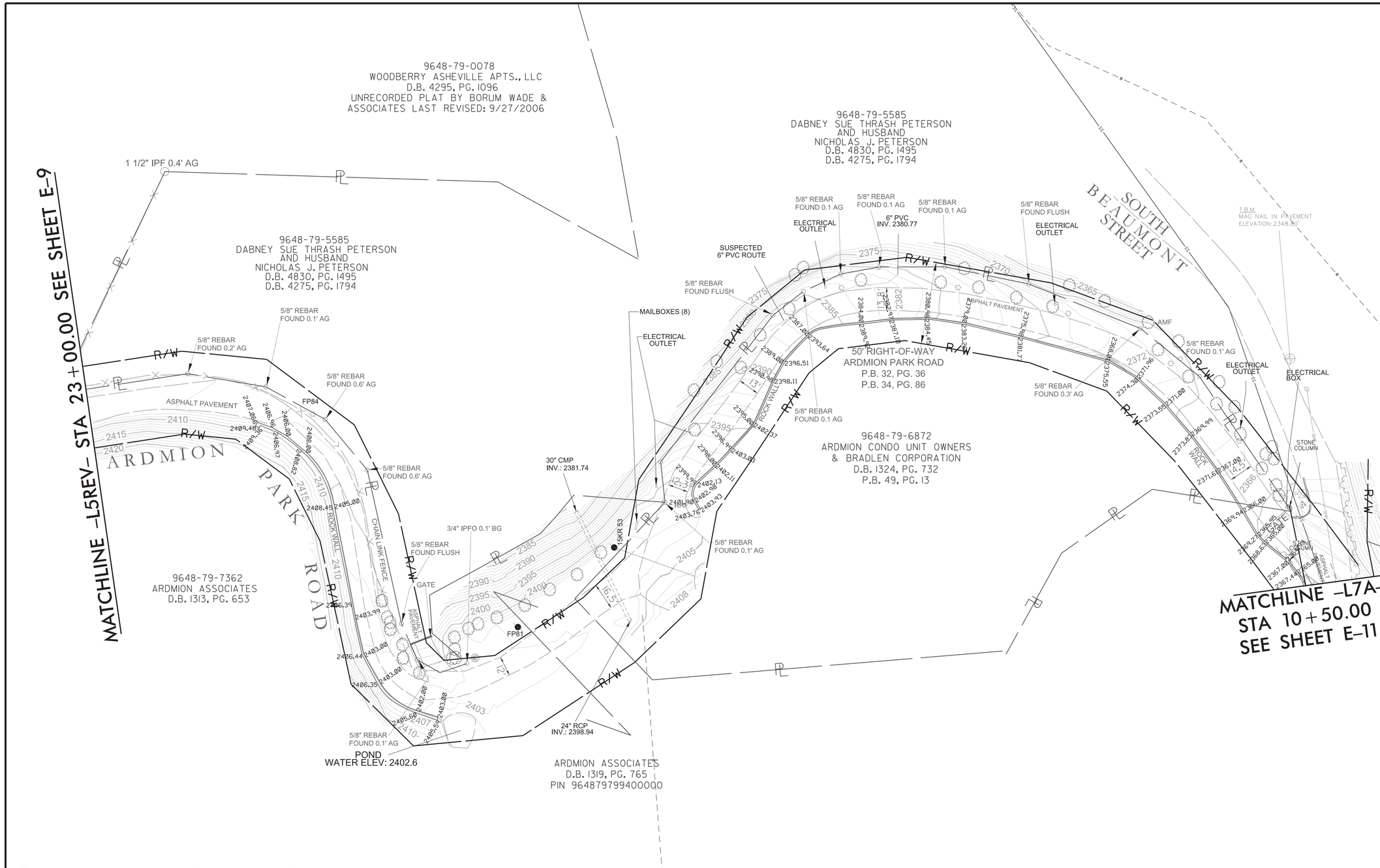

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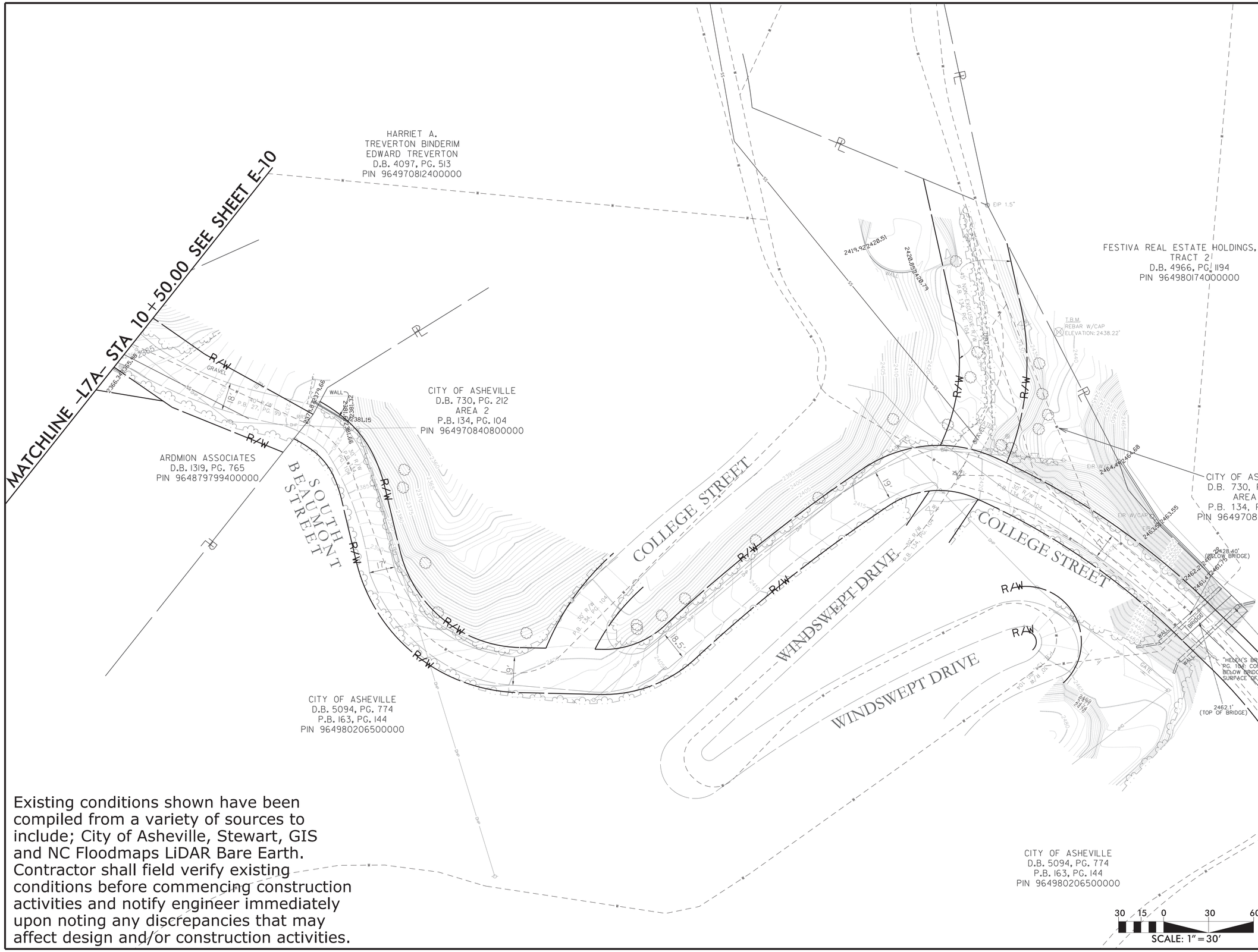

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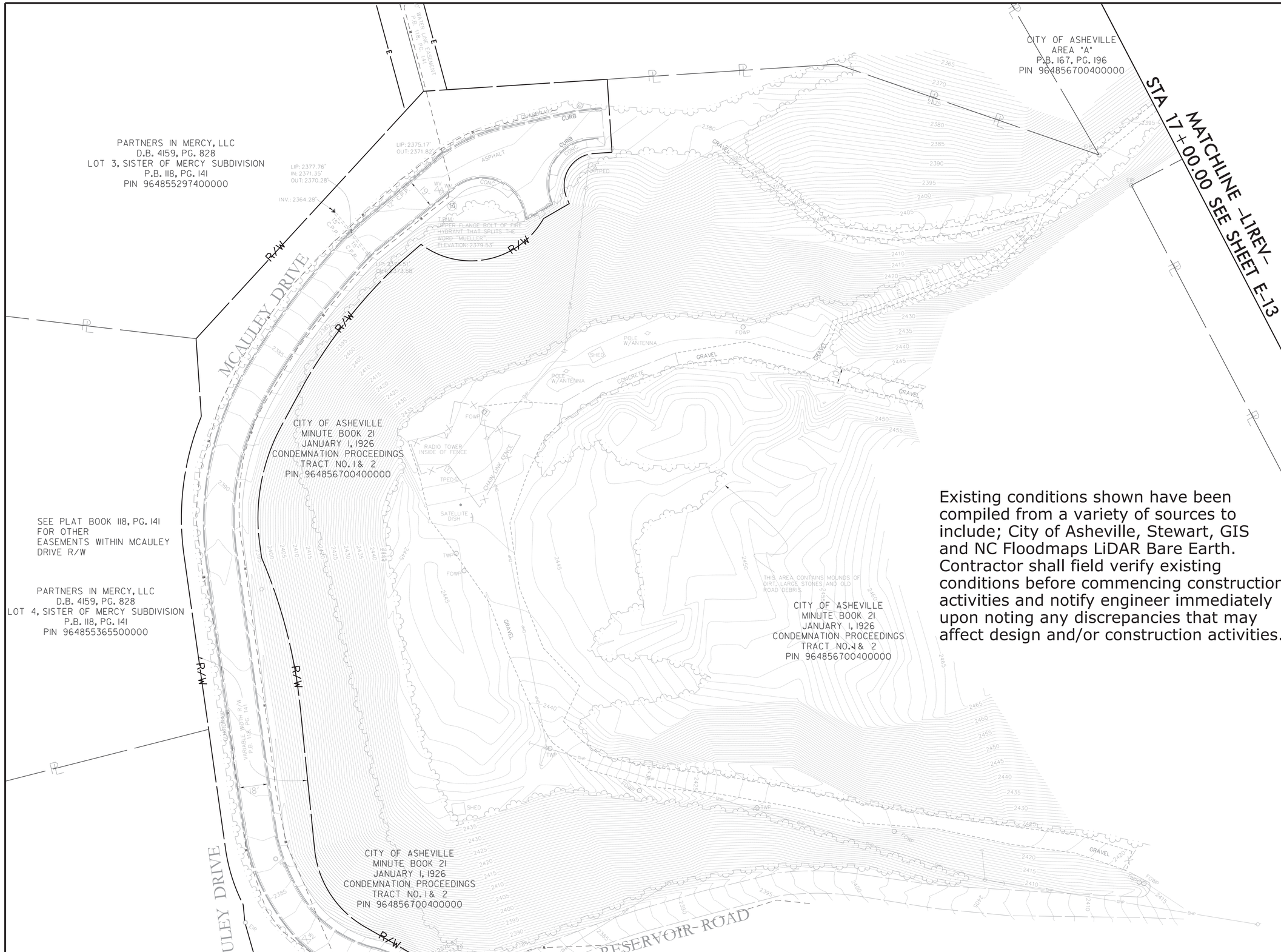

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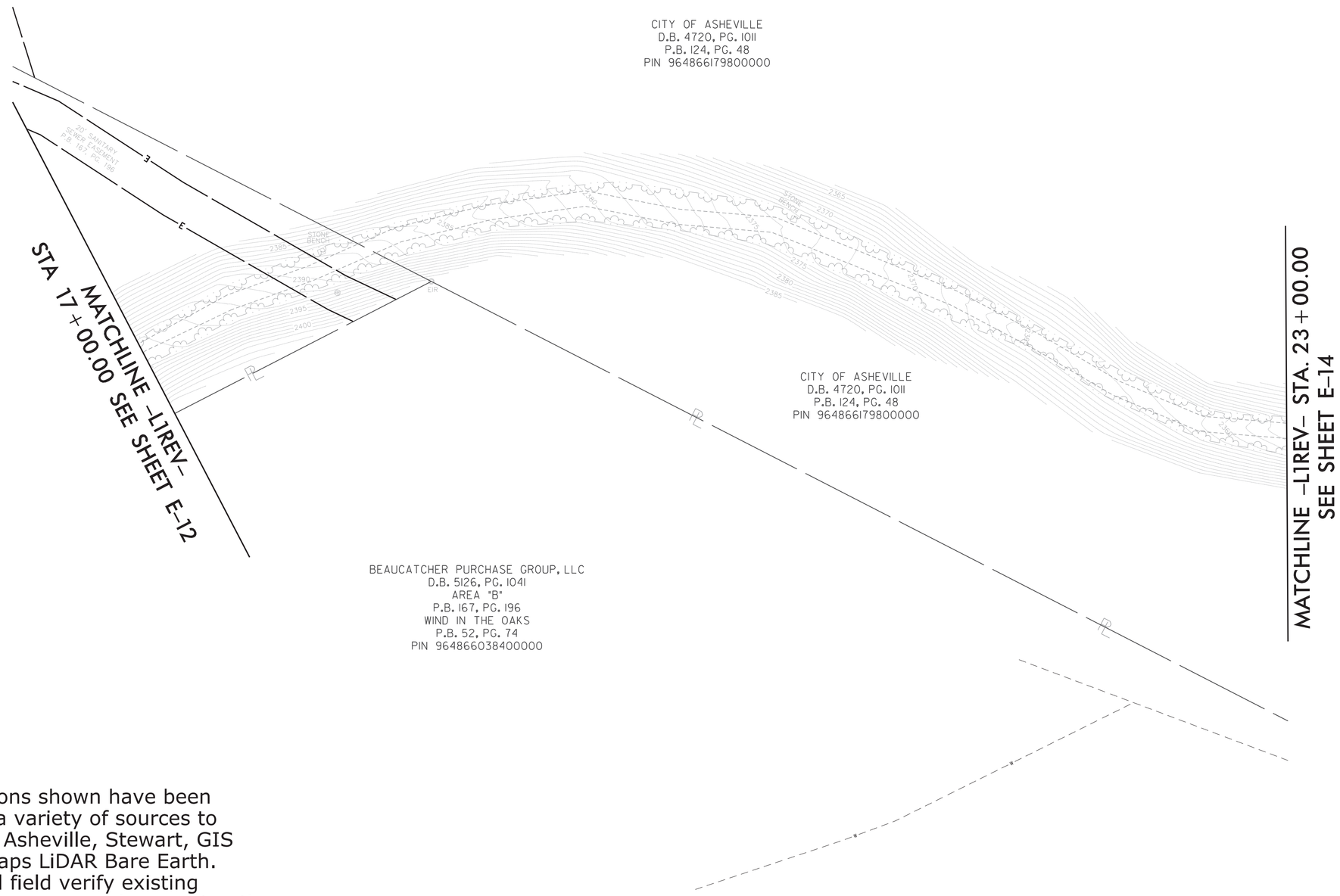

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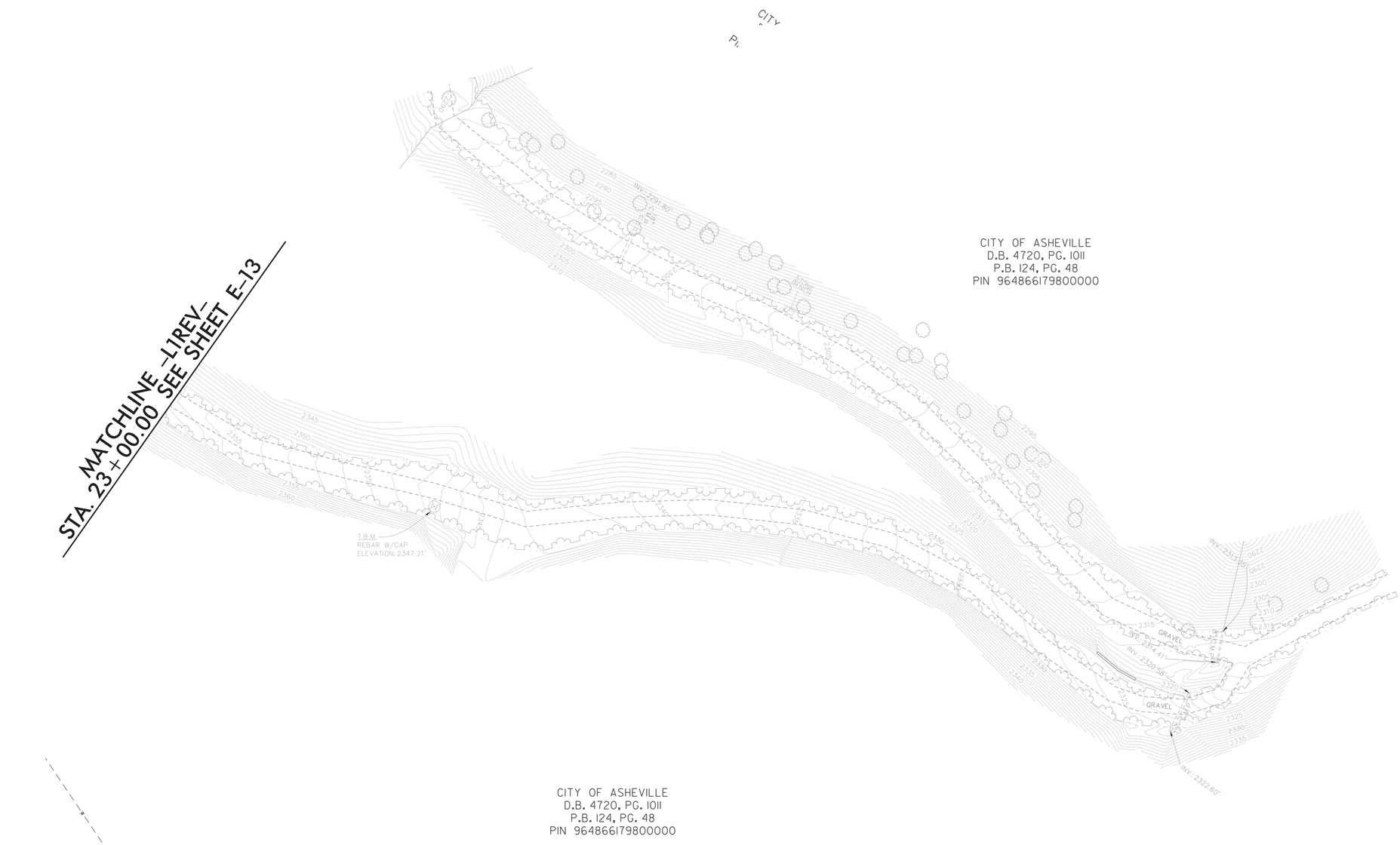

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