

VICINITY MAP

**TOWN OF CHAPEL HILL
NORTH CAROLINA**

MORGAN CREEK GREENWAY - PHASE 2

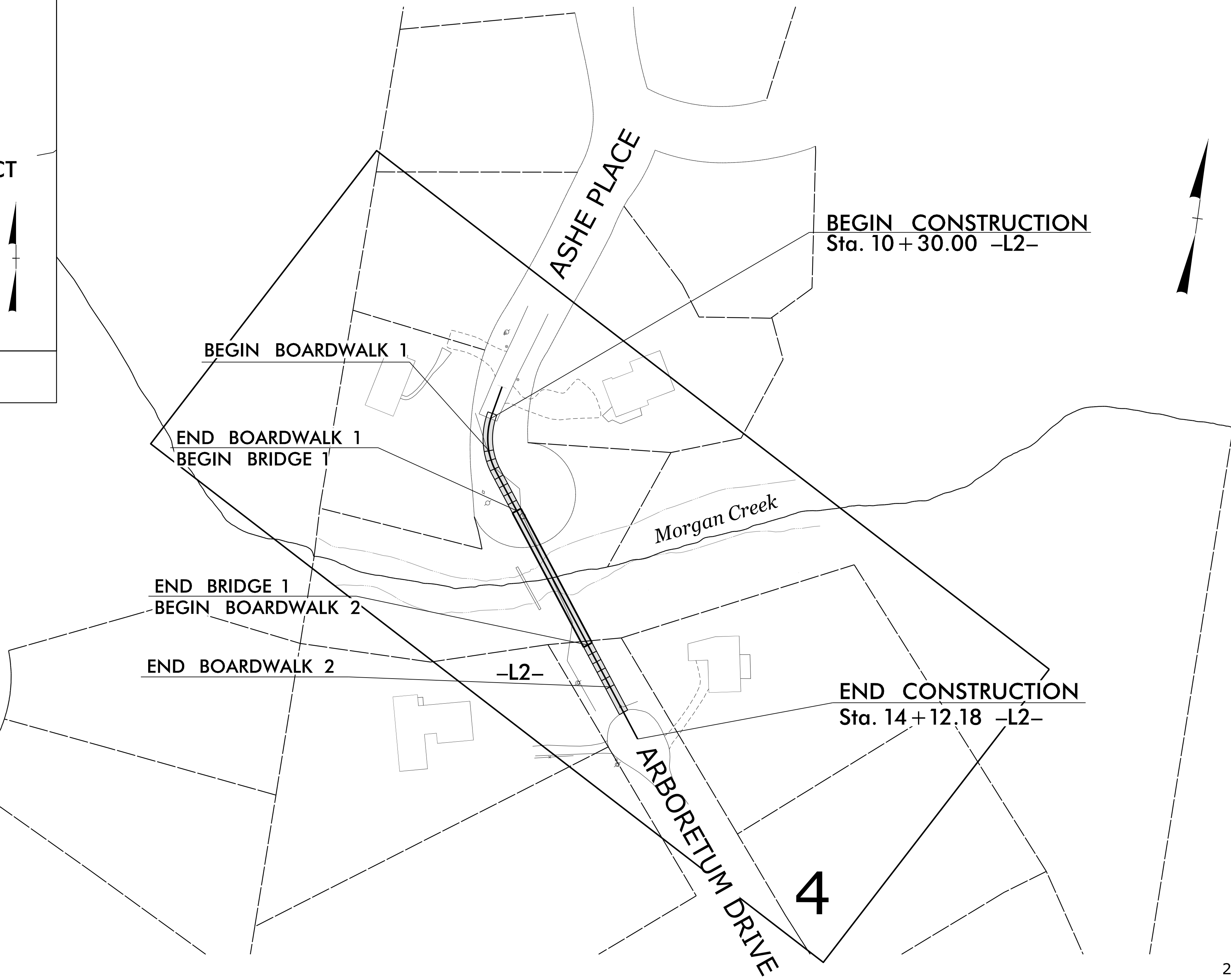
TYPE OF WORK:
GRADING, PAVING, STRUCTURES, DRAINAGE,
RETAINING WALLS, CULVERTS & EROSION CONTROL

INDEX OF SHEETS

1	TITLE
1A	PLAN SHEET SYMBOLS
1B	GENERAL NOTES
2	TYPICAL SECTIONS
4	GREENWAY PLAN AND PROFILE SHEETS



MORGAN CREEK
GREENWAY PHASE 2



METHOD OF GRADING:
CLEARING ON THIS PROJECT SHALL BE TO
LIMITS ESTABLISHED USING METHOD II.

DESIGN DATA	PROJECT LENGTH	GRAPHIC SCALES		
DESIGN SPEED = 20 MPH LEAN ANGLE = 15 DEGREES FUNC. CLASSIFICATION = GREENWAY	LENGTH OF PROJECT = 0.08 MILES	30 15 0 30 60	30 15 0 30 60	6 3 0 6 12
		PLANS	PROFILE (HORIZONTAL)	PROFILE (VERTICAL)

GREENWAY ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

STEWART
HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NC FIRM LICENSE No. F-1148
1151 SE Clay Parkway
Suite 101
Raleigh, NC 27601
(919) 557-0929

ECOLOGICAL ENGINEERING

DATE: DECEMBER 14, 2016

REVISIONS:

NO.	DATE

PROJECT NO.:

A16007.00

SCALE: NTS

1

NOTES

GENERAL NOTES

- 1 THE CONTRACTOR SHALL PERFORM ALL CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE JANUARY 2012 NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
- 2 WHERE ASPHALT SECTION IS REMOVED, CONTRACTOR SHALL USE A SAW CUT AT THE LIMITS OF DEMOLITION TO OBTAIN A CLEAN EDGE.
- 3 NO GRADING IS TO OCCUR IN THE TREE PROTECTION AREAS OR TREE CRITICAL ROOT ZONES.
- 4 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.
- 5 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.
- 6 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 AT HIS EXPENSE.
- 7 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.
- 8 ANY EXCAVATION MUST BE FILLED IN AND TAMPED AT THE CONCLUSION OF EACH WORK PERIOD, AND EQUIPMENT AND SUPPLIES RETURNED TO THE CONSTRUCTION STAGING AREA.
- 9 ORANGE 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 AND VEHICULAR TRAFFIC AWAY FROM HAZARDOUS AREAS.
- 10 CONTRACTOR SHALL STAKE CENTERLINE OF TRAIL ACCORDING TO PLANS AND OBTAIN APPROVAL FROM OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE RESOLVED PRIOR TO CONSTRUCTION.
- 11 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 THE TOWN OF CHAPEL HILL AND THE ENGINEER OF RECORD.
- 12 CONTRACTOR SHALL REVIEW TREE REMOVAL WITH OWNER'S REPRESENTATIVE AND OBTAIN APPROVAL PRIOR TO TREE REMOVAL. TRIM UP BRANCHES OF TREES TO PROVIDE 10' VERTICAL CLEARANCE ABOVE PAVEMENT SURFACE.
- 13 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.
- 14 TREES AND PLANTS WILL NOT BE DAMAGED OR REMOVED IN ORDER TO SERVICE AND MAINTAIN THE UTILITY, SIDEWALK, GREENWAY OR OTHER SIMILAR FEATURE
- 15 SUPERELEVATION TRANSITION IS SHOWN ON THE PLAN VIEW.

2012 NCDOT ROADWAY ENGLISH STD. DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH - N.C. DEPARTMENT OF TRANSPORTATION - RALEIGH, N.C., DATED JANUARY 17, 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

- DIVISION 2 - EARTHWORK
 - 200.02 Method of Clearing
- DIVISION 3 - PIPE CULVERTS
 - 300.01 Method of Pipe Installation
- DIVISION 8 - INCIDENTALS
 - 840.01 Brick Catch Basin
 - 840.02 Concrete Catch Basin
 - 840.03 Frame, Grates, and Hood
 - 840.14 Concrete Drop Inlet
 - 840.15 Brick Drop Inlet
 - 840.16 Drop Inlet Frame & Grates
 - 848.01 Concrete Sidewalk
 - 876.02 Guide for Rip Rap at Pipe Outlets
- DIVISION 9 - SIGNING
 - 904.50 Mounting of Type D, E, and F Signs on U Channel Posts
- DIVISION 12 - PAVEMENT MARKINGS, MARKERS, AND DELINEATION
 - 1205.01 Pavement Markings
- DIVISION 16 - EROSION CONTROL AND ROADSIDE DEVELOPMENT
 - See Sheet EC-1

ADDITIONAL NCDOT STANDARDS NOT ON THE LIST ABOVE MAY BE REQUIRED AS PER PLAN DETAILS AND SPECIFICATIONS.



MORGAN CREEK GREENWAY PHASE 2

GREENWAY ENGINEER

PRELIMINARY PLANS
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STEWART

DATE: DECEMBER 14, 2016

REVISIONS:	
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PROJECT NO.:

A16007.00

SCALE: 1"=30'

1A

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale *S.U.E. = Subsurface Utility Engineering

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	-X-X-X-
Proposed Woven Wire Fence	○
Proposed Chain Link Fence	□
Proposed Barbed Wire Fence	◇
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	☠ S ☠
Potential Contamination Area: Soil	☠ S ☠
Known Contamination Area: Water	☠ W ☠
Potential Contamination Area: Water	☠ W ☠
Contaminated Site: Known or Potential	☠ ?
BUILDINGS AND OTHER CULTURE:	
Gas Pump Vent or U/G Tank Cap	○
Sign	○ S
Well	○ W
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	--- WLB ---
Proposed Lateral, Tail, Head Ditch	-----
False Sump	▽

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○ MILEPOST 35
Switch	□ SWITCH
RR Abandoned	-----
RR Dismantled	-----

RIGHT OF WAY:

Baseline Control Point	◆
Existing Right of Way Marker	△
Existing Right of Way Line	-----
Proposed Right of Way Line	○ R/W
Proposed Right of Way Line with Iron Pin and Cap Marker	○ R/W ▲
Proposed Right of Way Line with Concrete or Granite RW Marker	○ R/W
Proposed Control of Access Line with Concrete C/A Marker	○ C/A
Existing Control of Access	○ C/A
Proposed Control of Access	○ C/A
Existing Easement Line	--- E ---
Proposed Temporary Construction Easement	--- E ---
Proposed Temporary Drainage Easement	--- TDE ---
Proposed Permanent Drainage Easement	--- PDE ---
Proposed Permanent Drainage / Utility Easement	--- DUE ---
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 Curb Ramp	○ CR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equality Symbol	⊕
Pavement Removal	⊗

VEGETATION:

Single Tree	☼
Single Shrub	☼
Hedge	-----
Woods Line	-----

Orchard	☼☼☼☼
Vineyard	□ Vineyard

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	⊕
Power Line Tower	⊗
Power Transformer	⊗
U/G Power Cable Hand Hole	□
H-Frame Pole	●
U/G Power Line LOS B (S.U.E.*)	--- P ---
U/G Power Line LOS C (S.U.E.*)	--- P ---
U/G Power Line LOS D (S.U.E.*)	--- P ---

TELEPHONE:

Existing Telephone Pole	●
Proposed Telephone Pole	○
Telephone Manhole	⊕
Telephone Pedestal	⊕
Telephone Cell Tower	⊗
U/G Telephone Cable Hand Hole	□
U/G Telephone Cable LOS B (S.U.E.*)	--- T ---
U/G Telephone Cable LOS C (S.U.E.*)	--- T ---
U/G Telephone Cable LOS D (S.U.E.*)	--- T ---
U/G Telephone Conduit LOS B (S.U.E.*)	--- TC ---
U/G Telephone Conduit LOS C (S.U.E.*)	--- TC ---
U/G Telephone Conduit LOS D (S.U.E.*)	--- TC ---
U/G Fiber Optics Cable LOS B (S.U.E.*)	--- T FO ---
U/G Fiber Optics Cable LOS C (S.U.E.*)	--- T FO ---
U/G Fiber Optics Cable LOS D (S.U.E.*)	--- T FO ---

WATER:

Water Manhole	⊕
Water Meter	○
Water Valve	⊗
Water Hydrant	⊕
U/G Water Line LOS B (S.U.E.*)	--- W ---
U/G Water Line LOS C (S.U.E.*)	--- W ---
U/G Water Line LOS D (S.U.E.*)	--- W ---
Above Ground Water Line	--- A/G Water ---

TV:

TV Pedestal	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	□
U/G TV Cable LOS B (S.U.E.*)	--- TV ---
U/G TV Cable LOS C (S.U.E.*)	--- TV ---
U/G TV Cable LOS D (S.U.E.*)	--- TV ---
U/G Fiber Optic Cable LOS B (S.U.E.*)	--- TV FO ---
U/G Fiber Optic Cable LOS C (S.U.E.*)	--- TV FO ---
U/G Fiber Optic Cable LOS D (S.U.E.*)	--- TV FO ---

GAS:

Gas Valve	◇
Gas Meter	⊕
U/G Gas Line LOS B (S.U.E.*)	--- G ---
U/G Gas Line LOS C (S.U.E.*)	--- G ---
U/G Gas Line LOS D (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 ---
SS Forced Main Line LOS B (S.U.E.*)	--- FSS ---
SS Forced Main Line LOS C (S.U.E.*)	--- FSS ---
SS Forced Main Line LOS D (S.U.E.*)	--- FSS ---

MISCELLANEOUS:

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



MORGAN CREEK GREENWAY PHASE 2

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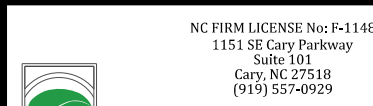
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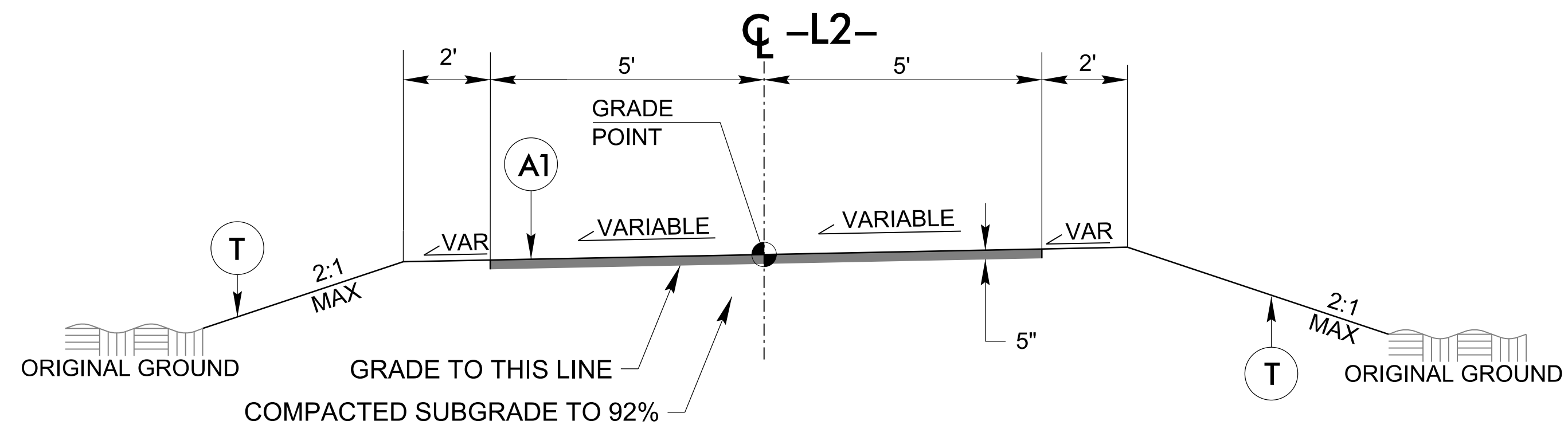
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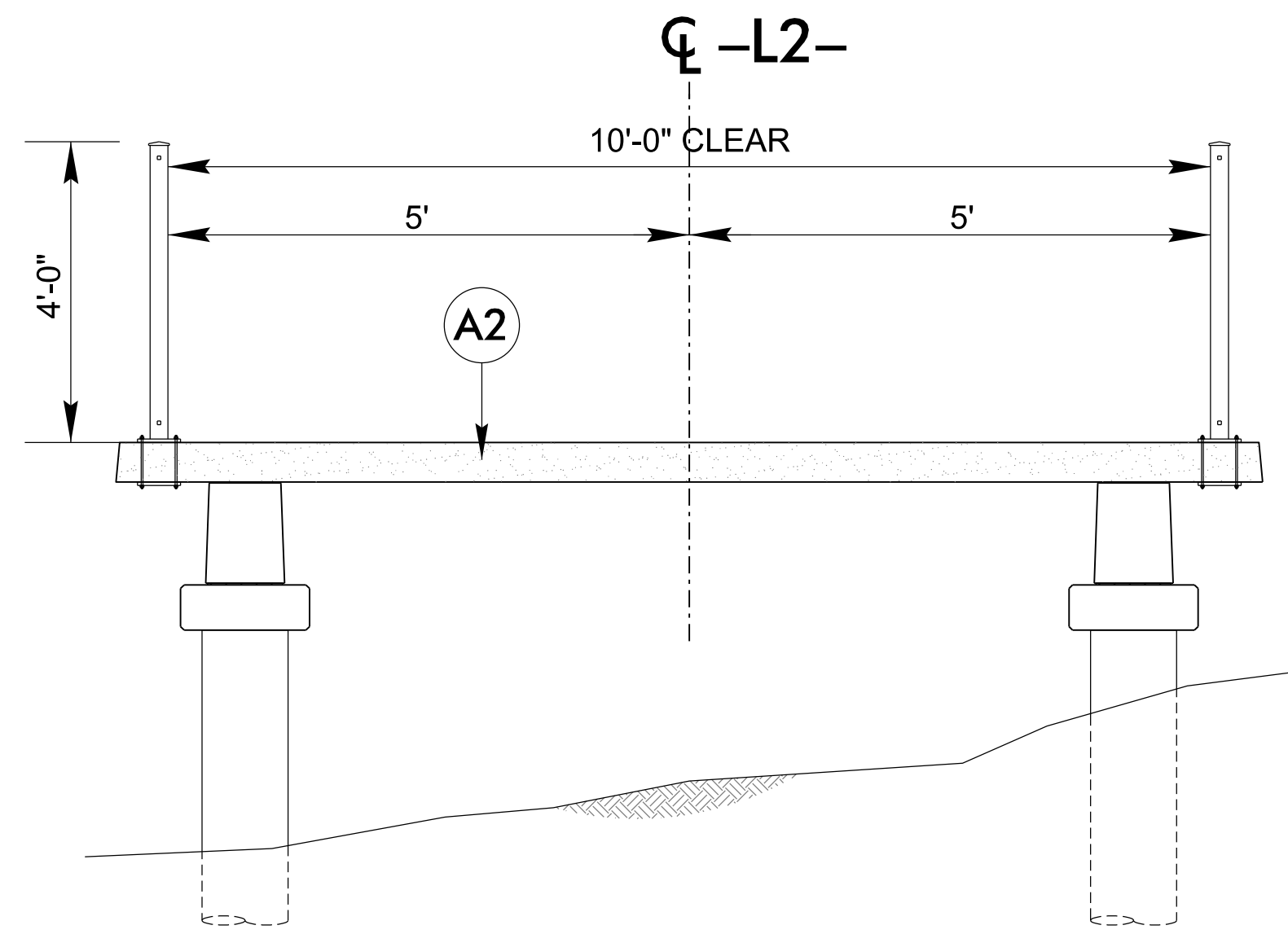
1B

PAVEMENT SCHEDULE	
A1	5" PORTLAND CEMENT CONCRETE PAVEMENT
A2	5 1/2" PORTLAND CEMENT CONCRETE DECKING
T	EARTH MATERIAL.



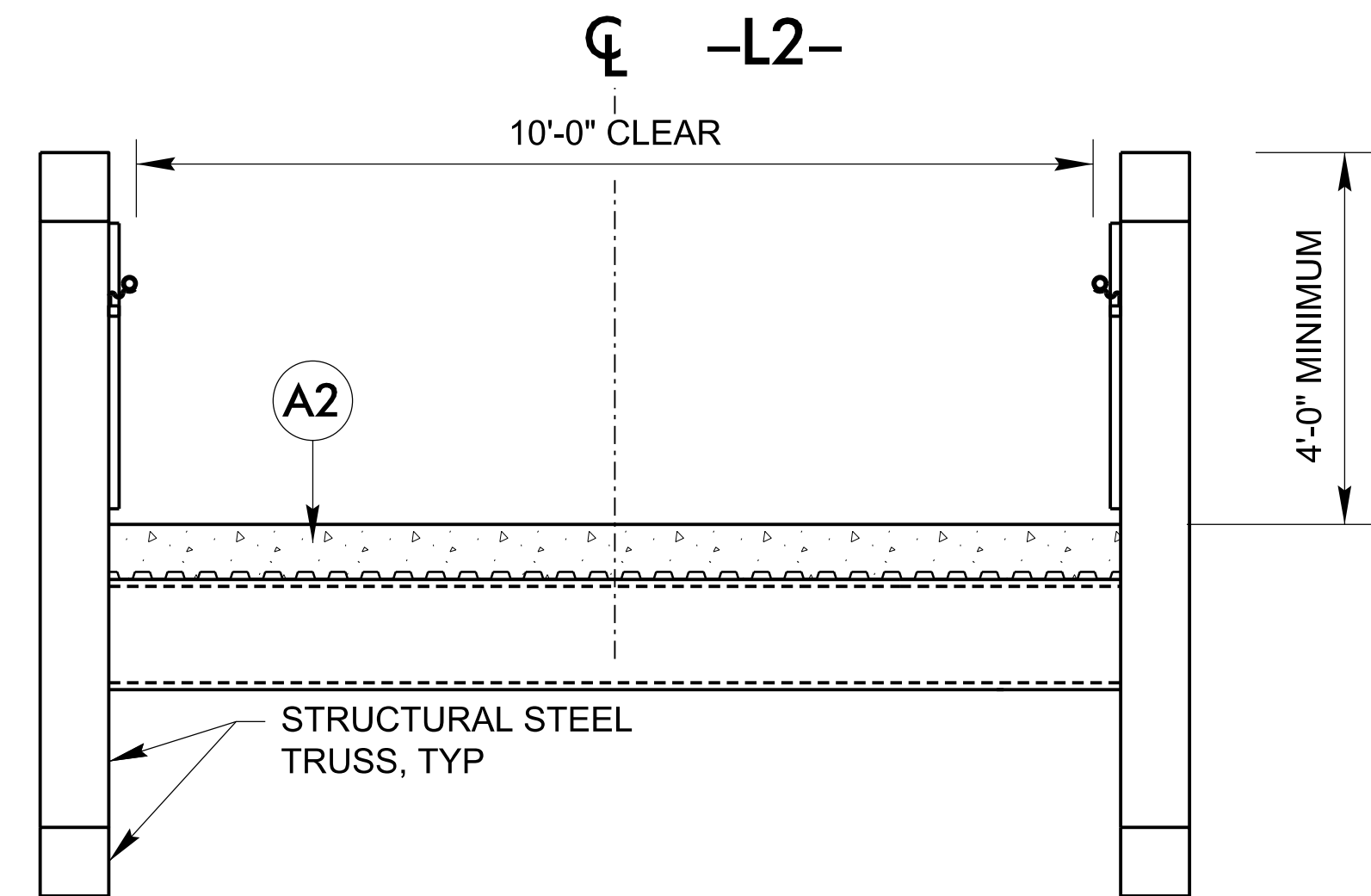
TYPICAL SECTION #1 - 10' CONCRETE MULTI-USE PATH

CHAIN	BEGIN STATION	END STATION
-L2-	STA. 10+30.00	STA. 10+70.00
-L2-	STA. 13+40.00	STA. 13+79.88



BOARDWALK TYPICAL SECTION

BOARDWALK NO.	CHAIN	BEGIN STATION	END STATION
1	-L2-	10+70.00	11+40.00
2	-L2-	13+00.00	13+40.00



BRIDGE TYPICAL SECTION

BRIDGE NO. (CLEAR WIDTH)	CHAIN	BEGIN STATION	END STATION
S1 (10')	-L2-	STA. 11+40.00	STA. 13+00.00



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STEWART

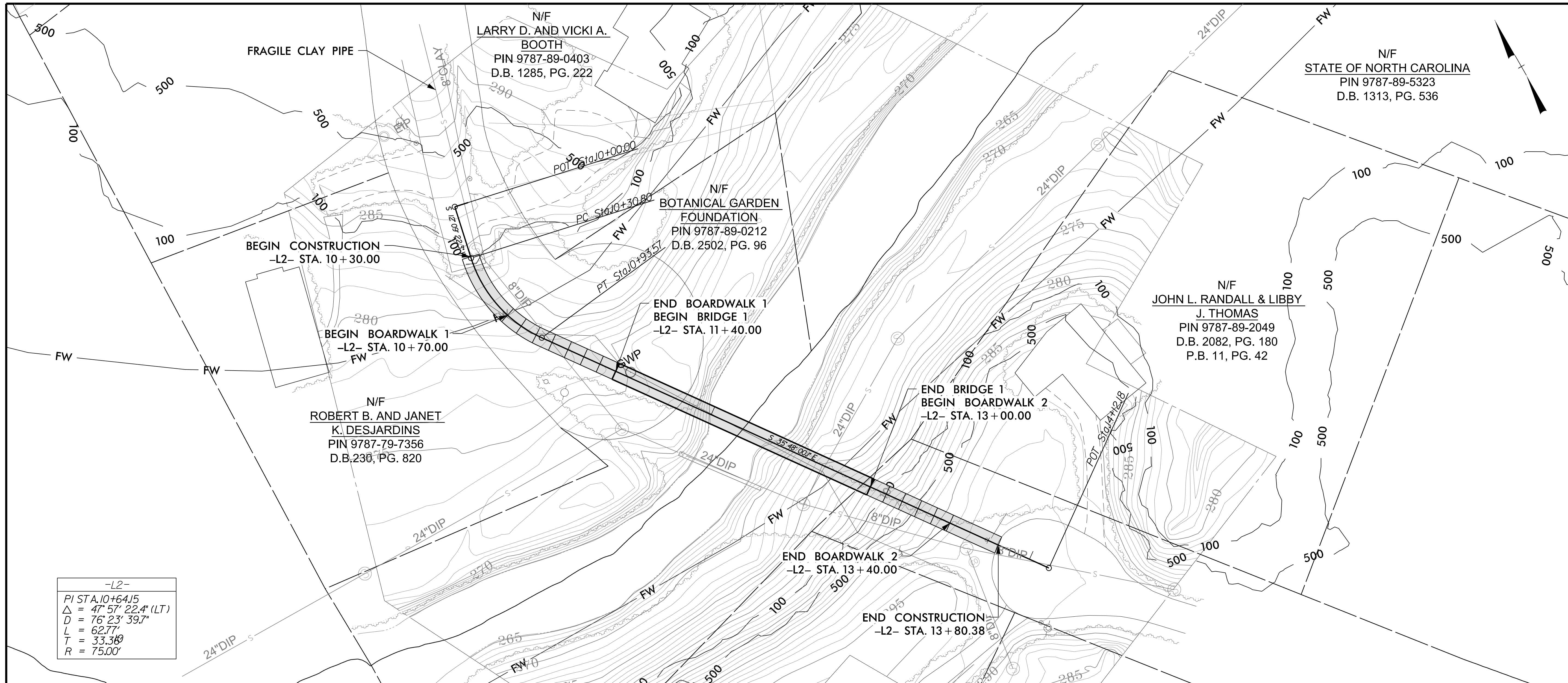
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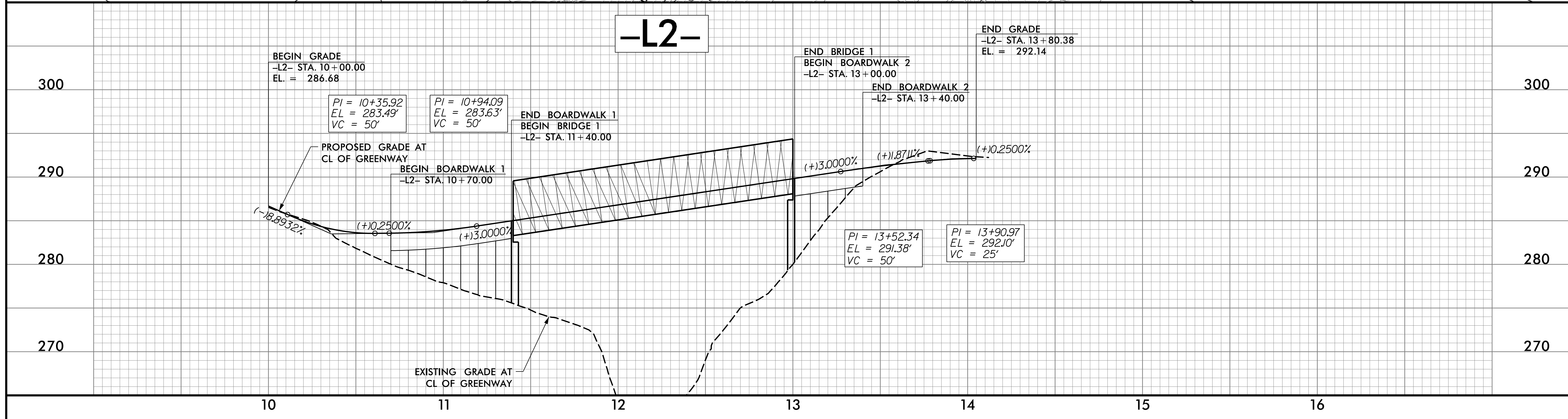
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SCALE: NTS



-L2-
 PI STA. 10+64.15
 $\Delta = 47^\circ 57' 22.4''$ (LT)
 $D = 76' 23' 39.7''$
 $L = 62.77'$
 $T = 33.38'$
 $R = 75.00'$





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Firm License No. C-1101
 421 Fayetteville St.
 Raleigh, NC 27601
 T 919.386.8750
 www.stewartinc.com

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