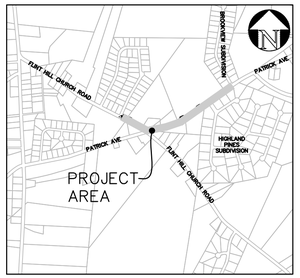
TIP PROJECT: ER-2971

CONTRACT:

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	ER-2971	1	9

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
3612.3.5	STP-0005(807)	PE
3612.3.5	STP-0005(807)	CONST.

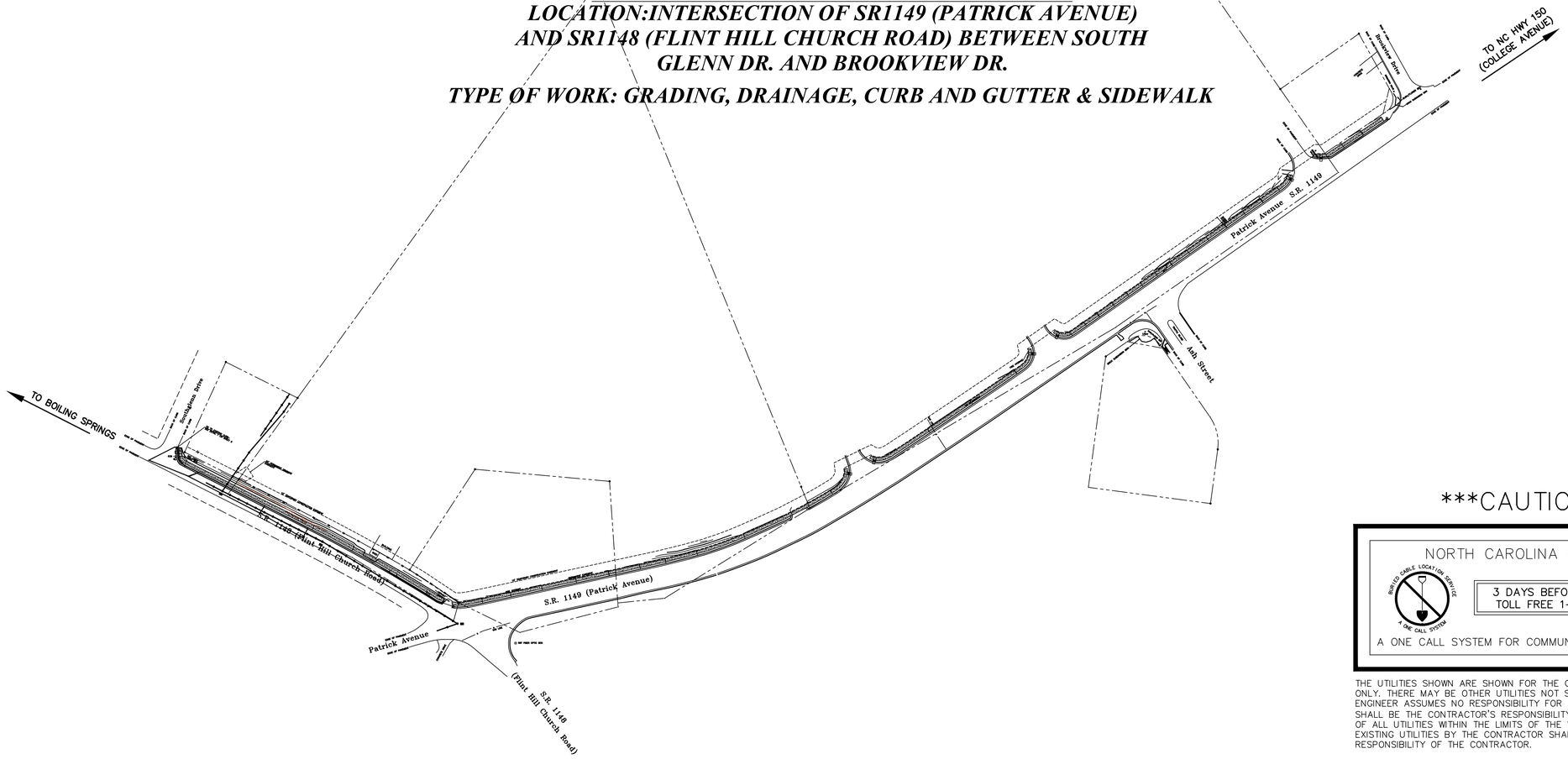


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CLEVELAND COUNTY

LOCATION:INTERSECTION OF SR1149 (PATRICK AVENUE) AND SR1148 (FLINT HILL CHURCH ROAD) BETWEEN SOUTH GLENN DR. AND BROOKVIEW DR.

TYPE OF WORK: GRADING, DRAINAGE, CURB AND GUTTER & SIDEWALK



CAUTION

NORTH CAROLINA ONE CALL

BURIED CABLE LOCATION SERVICE — A ONE CALL SYSTEM

3 DAYS BEFORE DIGGING CALL
TOLL FREE 1-800-632-4949

A ONE CALL SYSTEM FOR COMMUNITY AND JOB SAFETY.

THE UTILITIES SHOWN ARE SHOWN FOR THE CONTRACTOR'S CONVENIENCE ONLY. THERE MAY BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS SHOWN AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATIONS OF ALL UTILITIES WITHIN THE LIMITS OF THE WORK. ALL DAMAGE MADE TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

GRAPHIC SCALES

50 25 0 50 100

PLANS

PROJECT LENGTH

TOTAL LENGTH TIP PROJECT = 0.45 MI

Prepared in the Office of:

ODOM ENGINEERING, PLLC

152 EAST MAIN STREET, FOREST CITY, NC 28043

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:

LETTING DATE:

DAVID ODOM, PE
PROJECT ENGINEER

DAVID ODOM, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 21130 ENGINEER DAVID ODOM 10/26/17

SIGNATURE: ***P.E.***

ROADWAY DESIGN ENGINEER

SIGNATURE: ***P.E.***

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

0 5 10	PROJECT REFERENCE NO.	SHEET NO.
	ER-2971	2

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 21301 ENGINEER DAVID ODOM

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

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

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- Property Line
- Existing Iron Pin
- Property Monument
- Existing Chain Link Fence
- Proposed Silt Fence
- Proposed Chain Link Fence
- Benchmark
- Denuded Limits — DL

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap — V
- Sign — S
- Well — W
- Foundation
- Area Outline
- Building

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 — Z
- Disappearing Stream
- Spring — W
- Wetland — K
- Proposed Lateral, Tail, Head ~~Ditch~~ — FLOW
- False Sump

RAILROADS:

- Standard Gauge
- RR Signal Milepost — CSX TRANSPORTATION, 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
- Proposed Right of Way Line with Iron Pin and Cap Marker
- Proposed Right of Way Line with Concrete or Granite R/W Marker
- Proposed Control of Access Line with Concrete C/A Marker
- Existing Control of Access
- Proposed Control of Access
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Perm. 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 Wheel Chair Ramp — CR
- Existing Wood Guardrail
- Proposed Metal Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree — X
- Single Shrub — Y
- 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
- Storm Sewer

UTILITIES:

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

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

WATER:
- Water Meter — WM
- Water Valve — WV
- Water Hydrant — Exist. Proposed
- Recorded U/G Water Line — W

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

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

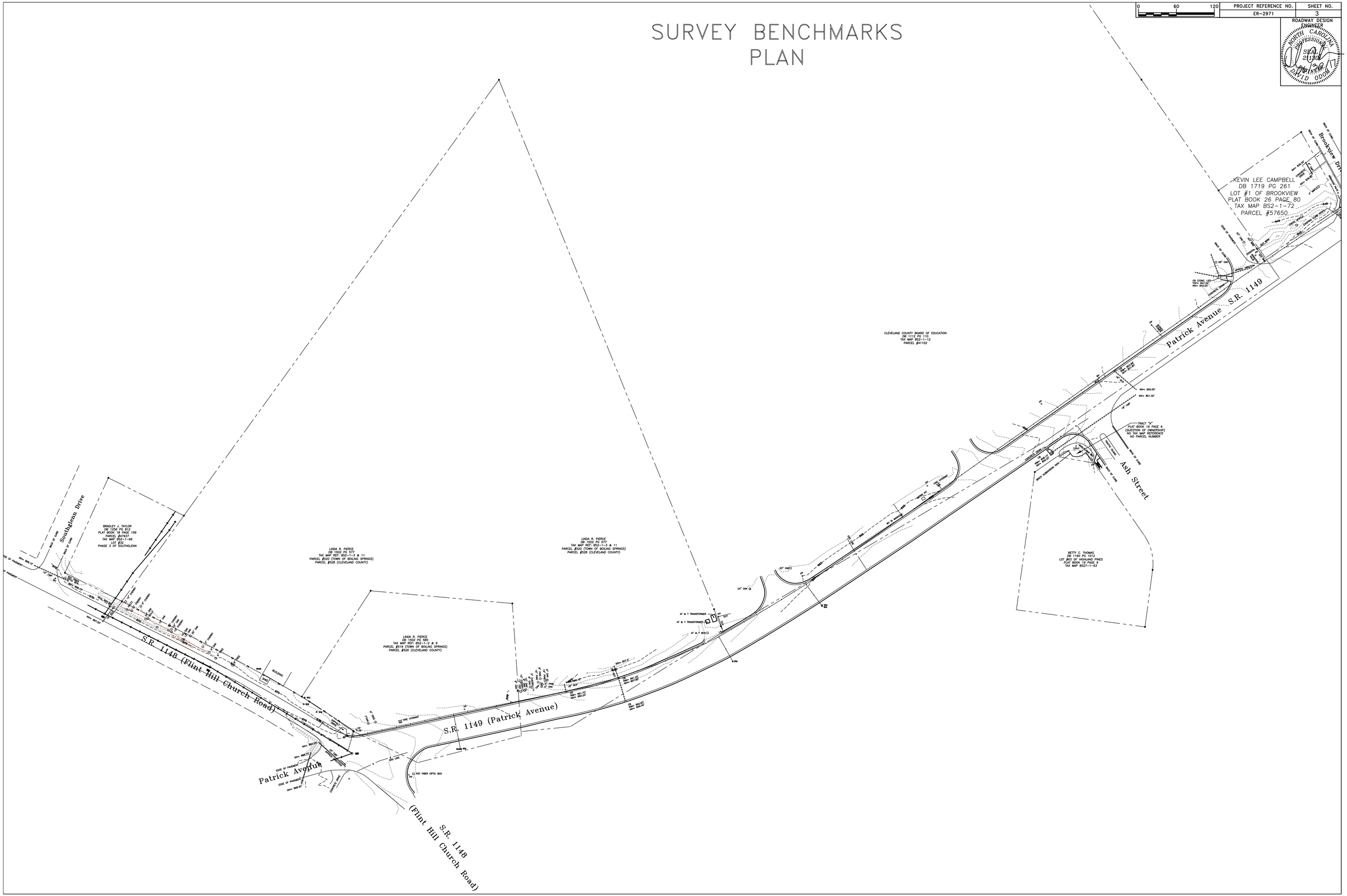
SANITARY SEWER:
- Sanitary Sewer Manhole — S
- Sanitary Sewer Cleanout — o
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:
- Utility Pole — O
- Utility Pole with Base — F
- Utility Located Object — S
- Utility Traffic Signal Box — 3
- Utility Unknown U/G Line — U/L
- 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.

PROJECT REFERENCE NO.	SHEET NO.
ER-2971	3

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 21101 ENGINEER DAVID ODOM

SURVEY BENCHMARKS PLAN

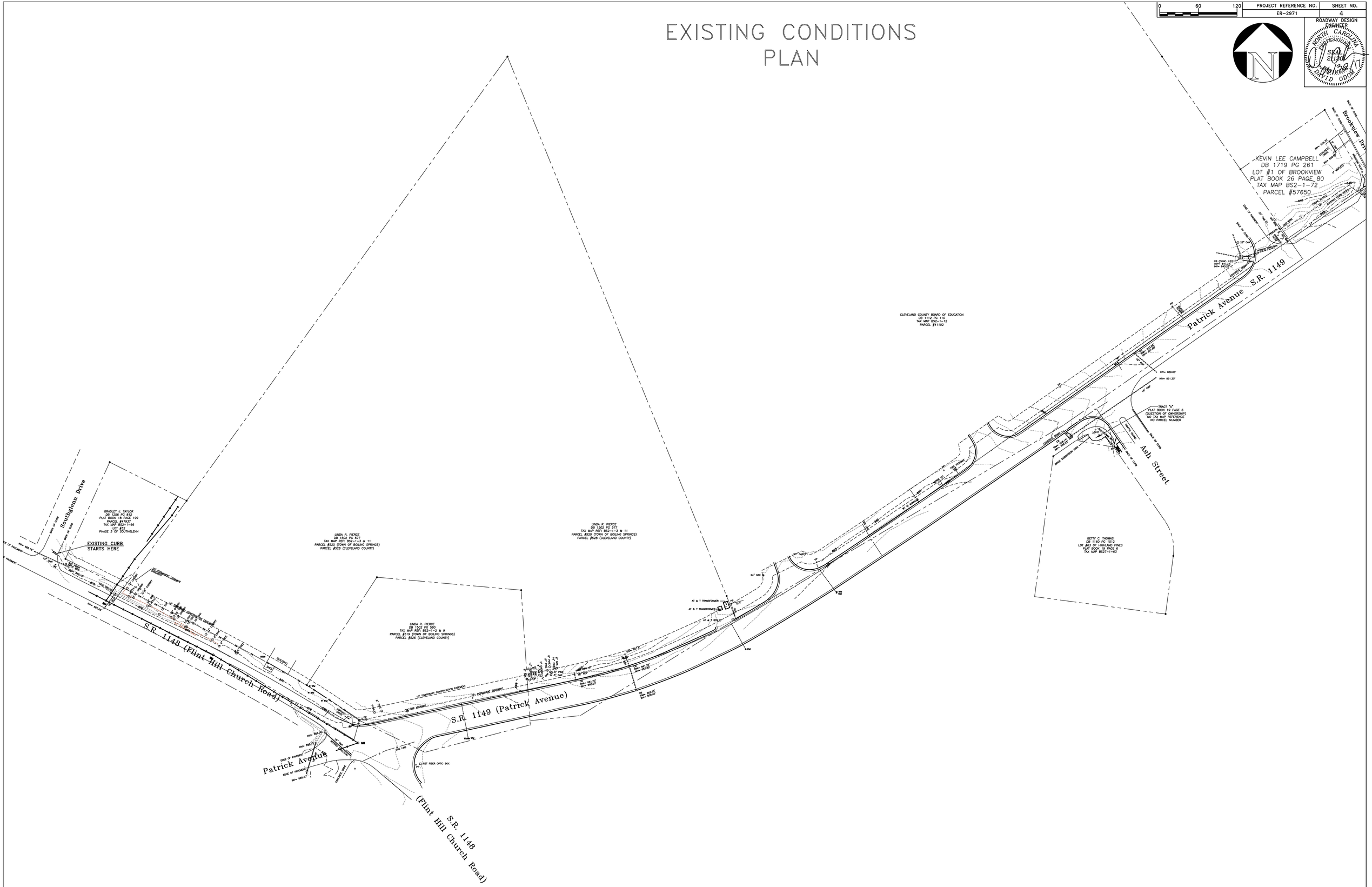


PROJECT REFERENCE NO.	SHEET NO.
ER-2971	4

0 60 120

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 21201 ENGINEER DAVID ODOM

EXISTING CONDITIONS PLAN

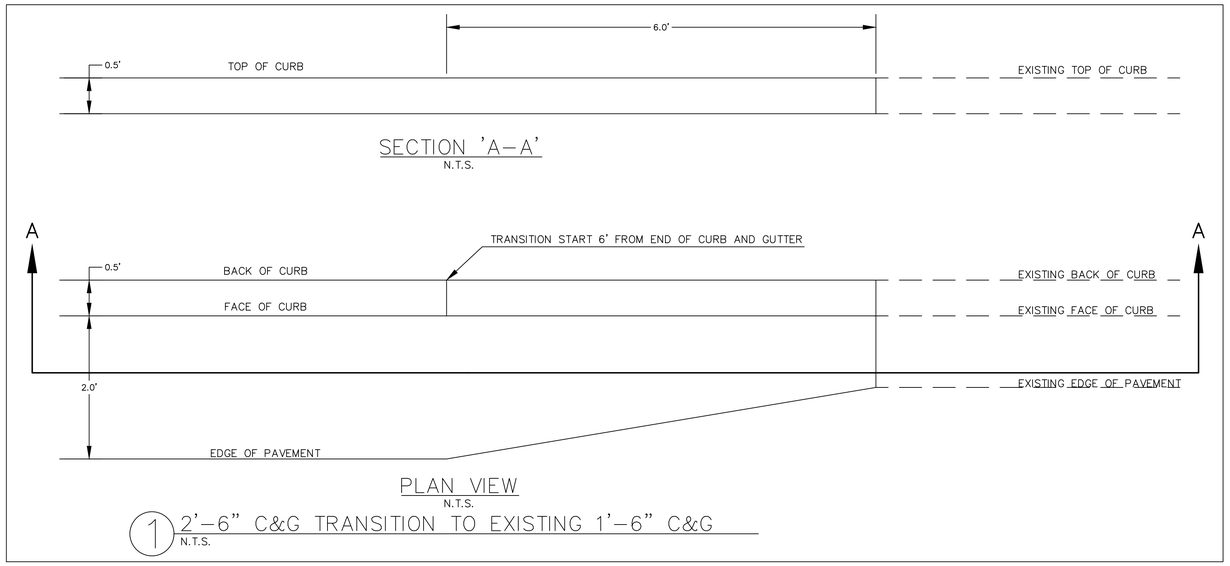


PROJECT REFERENCE NO.	SHEET NO.
ER-2971	5

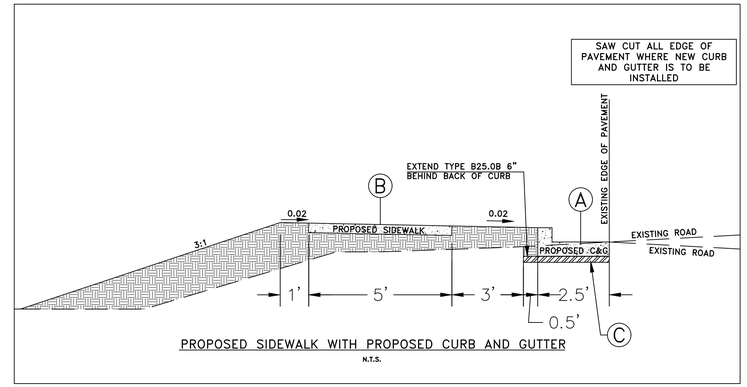
ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 21201 ENGINEER DAVID ODOM

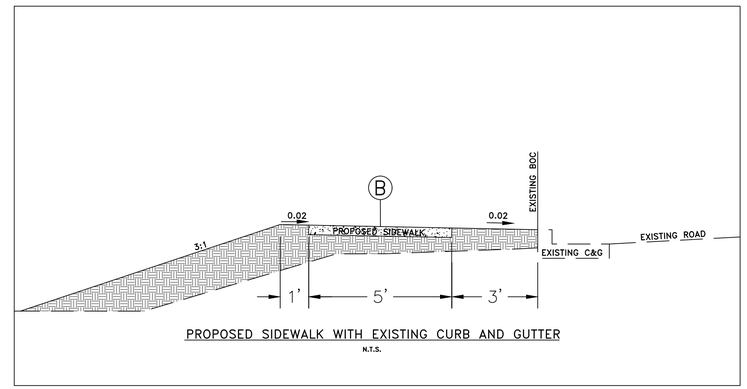
ER-2971 (BOILING SPRINGS - PATRICK AVENUE SIDEWALK PROJECT)

InletID	DrainArea (ac)	RunoffCoeff (C)	iInlet (in/hr)	IncrQ (cfs)	QCaptured (cfs)	GrateArea (sqft)	GrateLen (ft)	GrateWidth (ft)	GutterSpread (ft)	InletSpread (ft)	LineID	LineLength (ft)	InvertUp (ft)	InvertDn (ft)	LineSlope (ft/ft)	LineSize (in)	FlowRate (cfs)	Capac.Full (cfs)	VelAve (ft/s)	VelDn (ft/s)	VelUp (ft/s)	DnStrmLine No.
JB-1	0	0	0	0	....	....	....	....	....	....	PIPE-1	14	865.1	865.1	0.0071	24	0.61	19.11	0.2	0.19	0.2	Outfall
CB-2	0.04	0.9	8.47	0.31	0.31	2	3	2	2.5	2.5	PIPE-3	7.3	865.63	865.2	0.0589	24	0.31	54.89	0.12	0.1	0.13	1
CB-3	0.03	0.9	8.47	0.23	0.23	2	3	2	2	2	PIPE-4	64	866	865.2	0.0125	15	0.23	7.22	0.2	0.19	0.22	1
CB-1	0.03	0.9	8.47	0.23	0.23	2	3	2	2	2	PIPE-2	60	866	865.2	0.0133	15	0.23	7.46	0.2	0.19	0.22	1

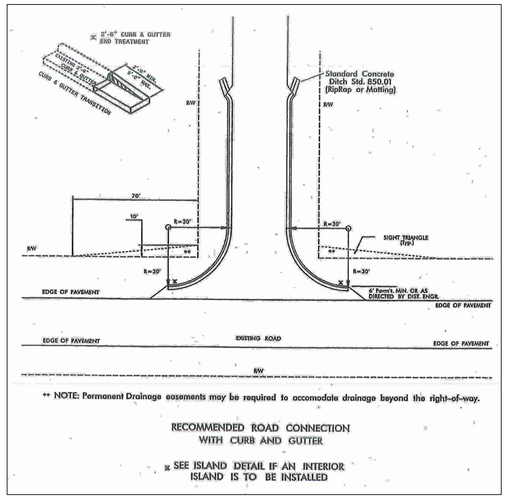


1 2'-6" C&G TRANSITION TO EXISTING 1'-6" C&G
N.T.S.

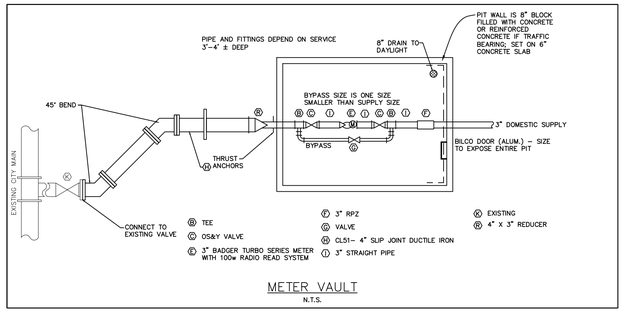




SCHEDULE	
A	2'-6" CONCRETE CURB AND GUTTER
B	4" CONCRETE SIDEWALK
C	PROP. 4" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.



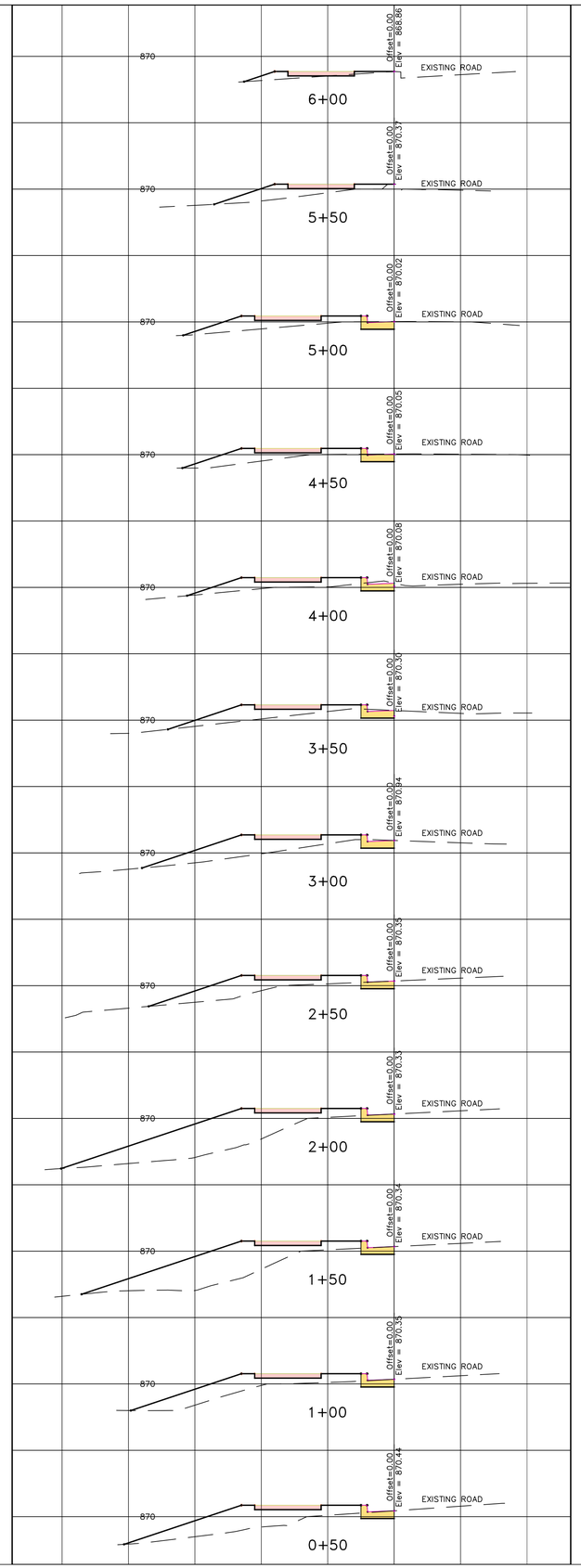
2 2'-6" C&G TRANSITION
N.T.S.

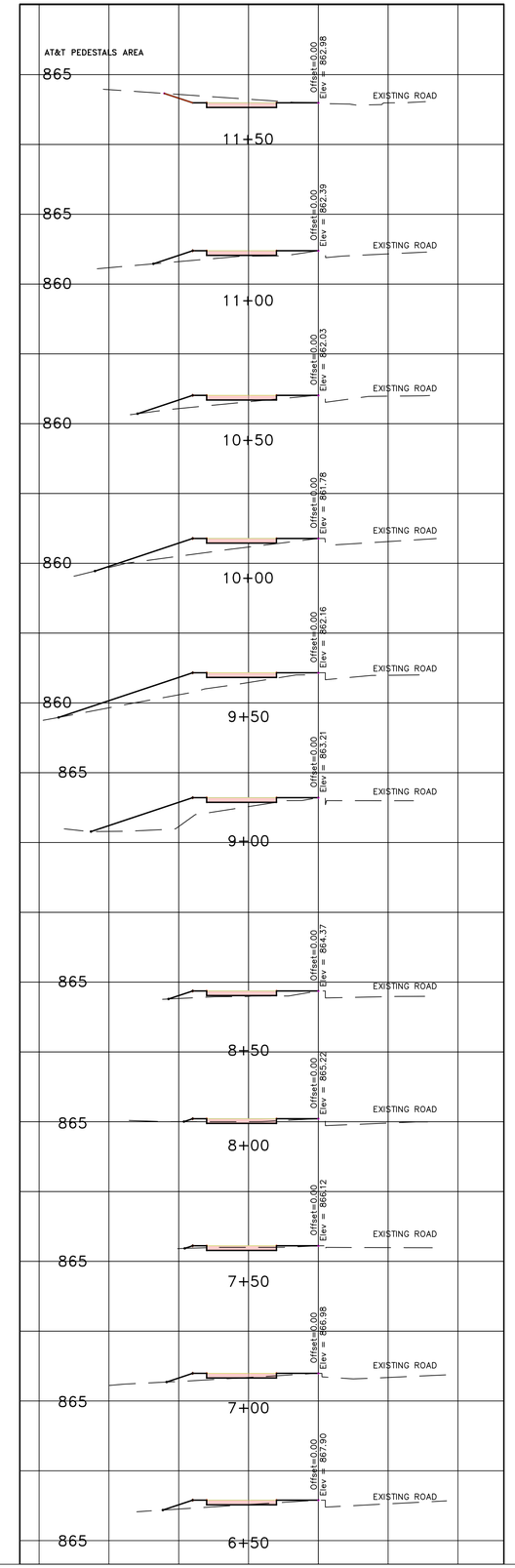


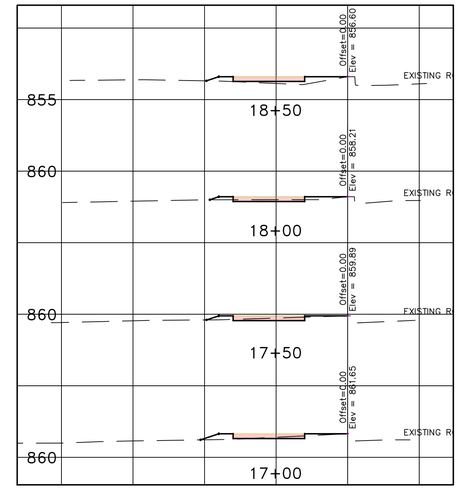
METER VAULT
N.T.S.

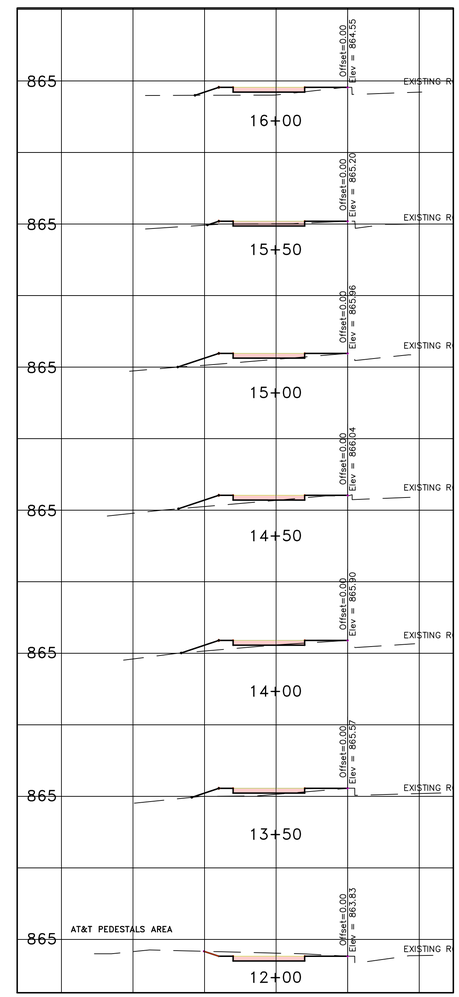
PROJECT REFERENCE NO.	SHEET NO.
ER-2971	6

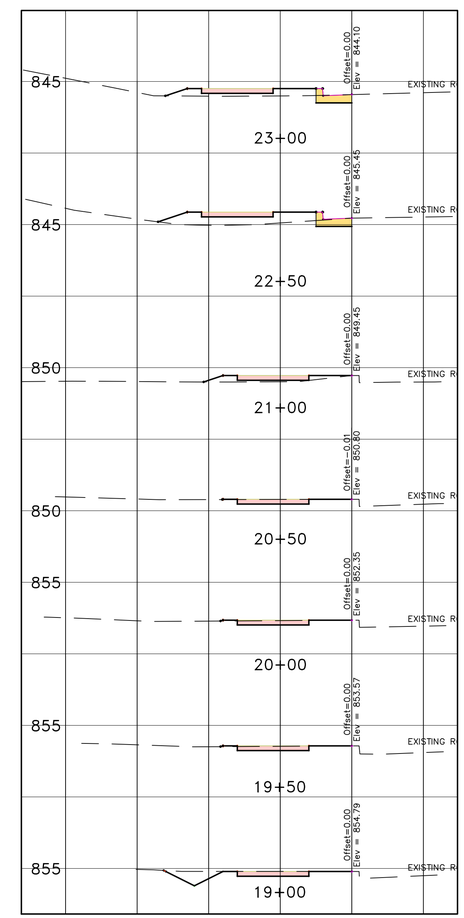
ROADWAY DESIGN ENGINEER











SECTIONS 12+50, 13+00 AND 16+50 ARE NOT SHOWN DUE TO THESE AREAS ARE SCHOOL DRIVES

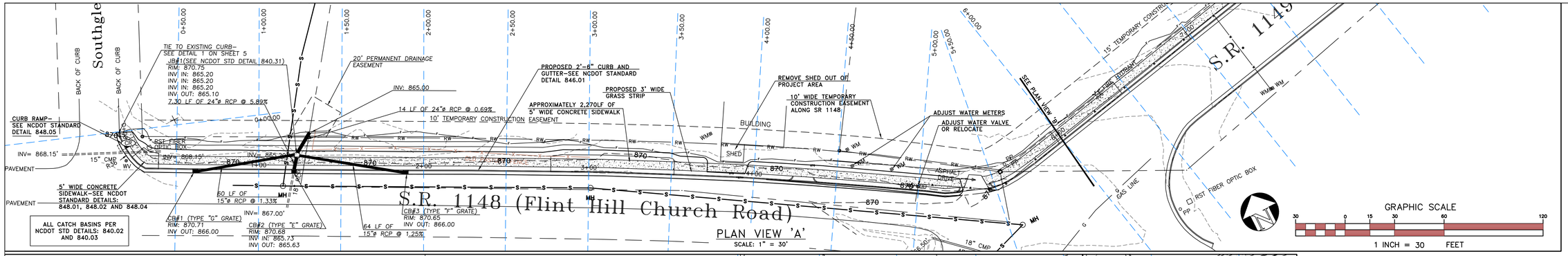
PROJECT REFERENCE NO.	SHEET NO.
ER-2971	7

ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 21202 ENGINEER DAVID ODOM
10/30/17

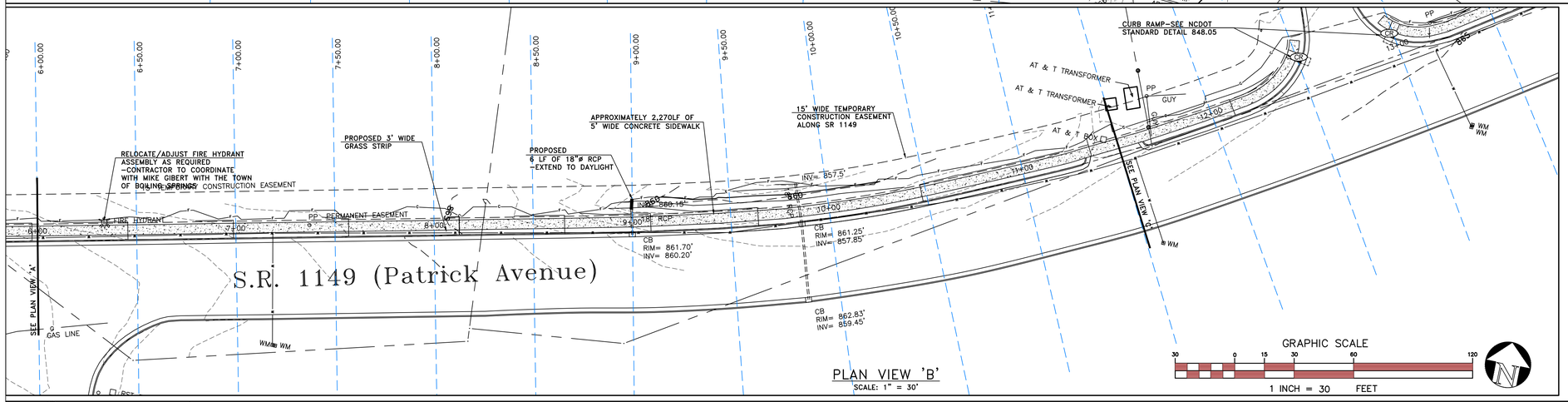
ALL UTILITIES AND POWER POLE ADJUSTMENTS WILL BE COORDINATED AND FINISHED BY THE TOWN OF BOILING SPRINGS BEFORE CONSTRUCTION BEGINS

SAW CUT ALL EDGE OF PAVEMENT WHERE NEW CURB AND GUTTER IS TO BE INSTALLED

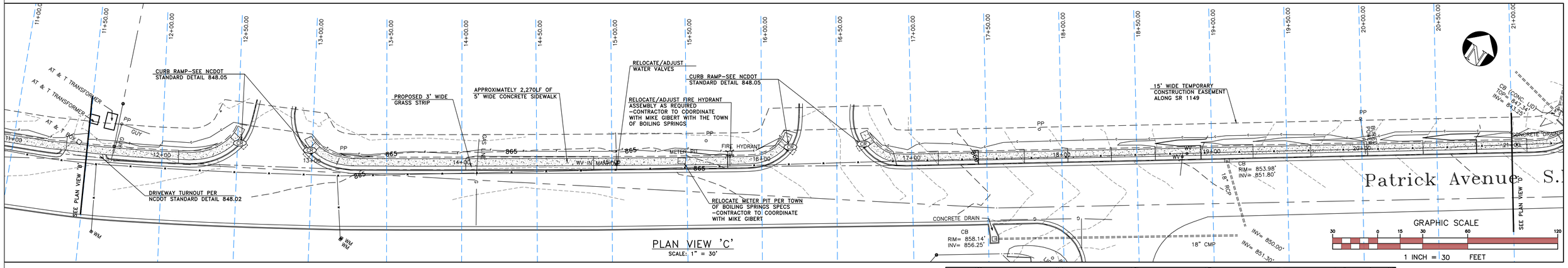
CONTRACTOR TO ADJUST WATER METER/VALVES BOXES AS NEEDED OR REQUIRED–COORDINATE WITH MIKE GIBERT (TOTAL OF (9) WATER METERS/VALVES AND (1) METER PIT)



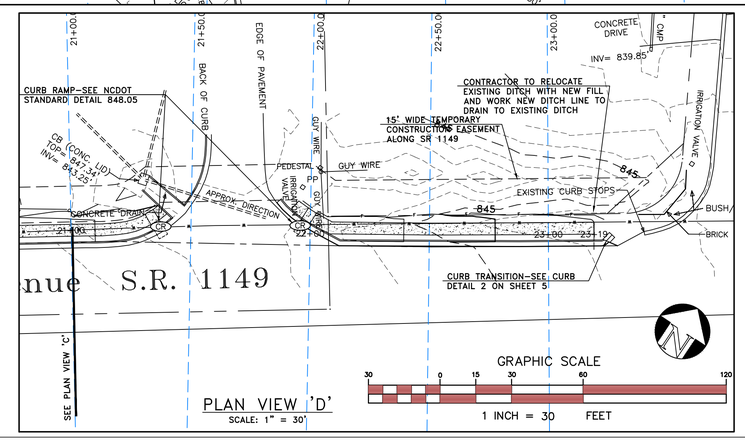
PLAN VIEW 'A'
SCALE: 1" = 30'



PLAN VIEW 'B'
SCALE: 1" = 30'



PLAN VIEW 'C'
SCALE: 1" = 30'



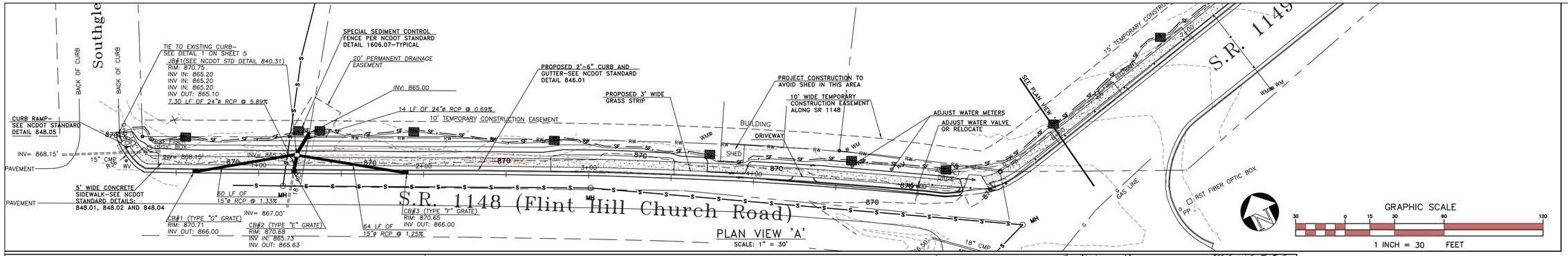
PLAN VIEW 'D'
SCALE: 1" = 30'

PROJECT REFERENCE NO.	SHEET NO.
ER-2971	8

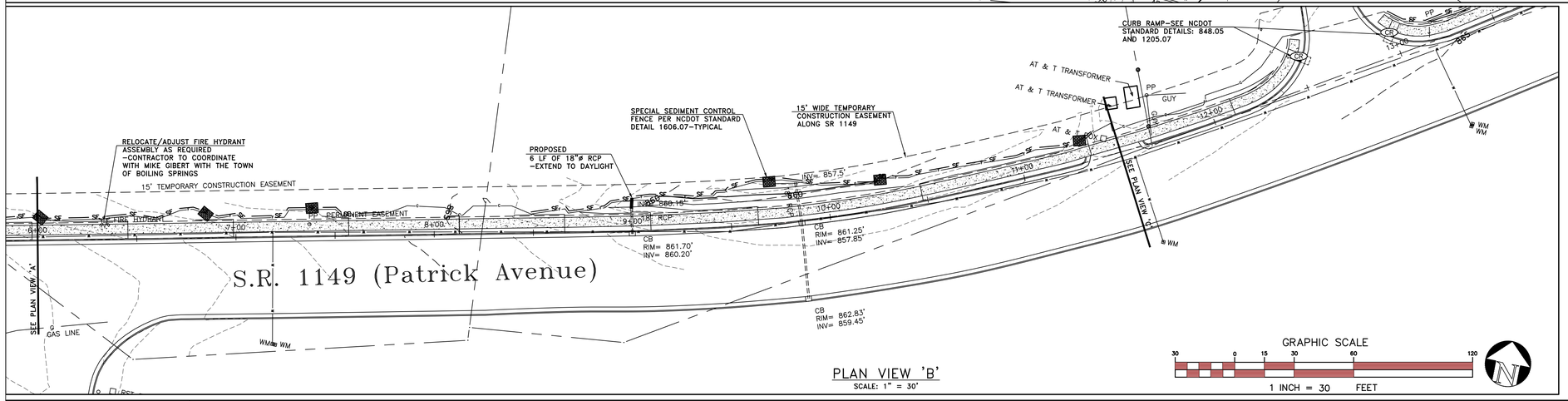
ROADWAY DESIGN ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL 21202 ENGINEER DAVID ODOM
10/30/17

PLACE ALL RIP RAP WEIR OUTLETS AT LOW SPOTS ALONG SILT FENCE

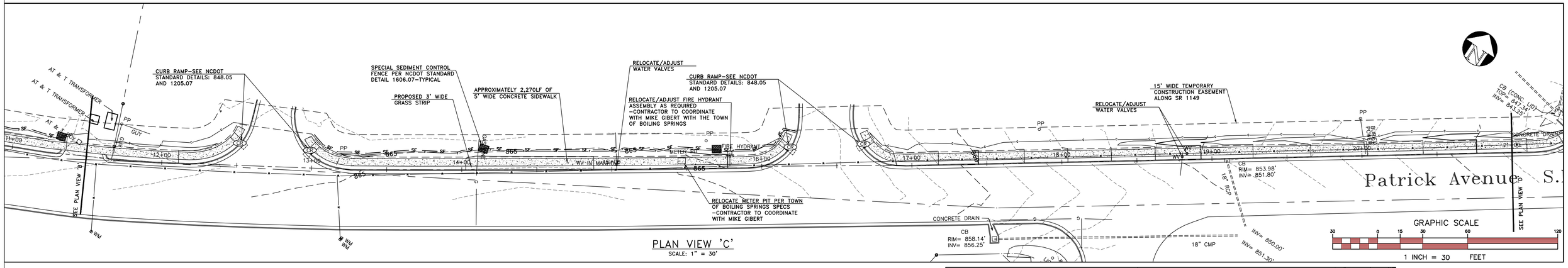
CONTRACTOR TO STABILIZE ALL DISTURBED AREAS AT THE END OF EACH WORK DAY



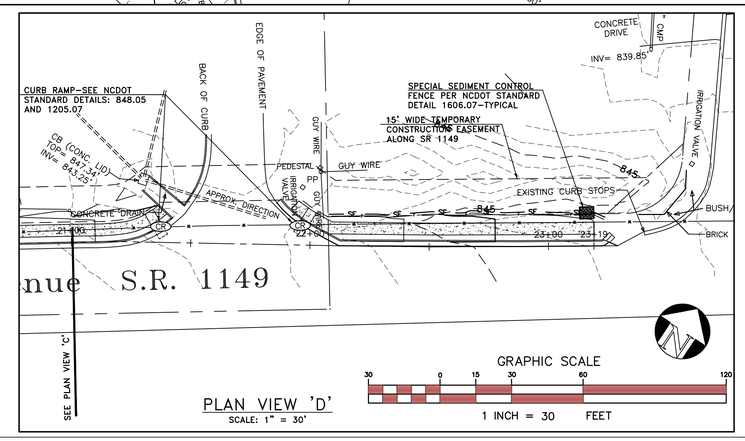
PLAN VIEW 'A'
SCALE: 1" = 30'



PLAN VIEW 'B'
SCALE: 1" = 30'



PLAN VIEW 'C'
SCALE: 1" = 30'



PLAN VIEW 'D'
SCALE: 1" = 30'

PROJECT REFERENCE NO.	SHEET NO.
ER-2971	9

ROADWAY DESIGN ENGINEER

NORTH CAROLINA PROFESSIONAL SEAL 21664 ENGINEER DAVID ODOM 10/26/17

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS SHOWN IN "ROADWAY STANDARD DRAWINGS" – PROJECT SERVICES UNIT – N.C. DEPARTMENT OF TRANSPORTATION – RALEIGH, N.C., DATED JANUARY 2012 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.01	WORK ZONE ADVANCE WARNING SIGNS
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1130.01	DRUM
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1180.01	SKINNY-DRUM
1205.01	PAVEMENT MARKINGS – LINE TYPES AND OFFSETS
1205.02	PAVEMENT MARKINGS – TWO-LANE AND MULTI-LANE ROADWAYS
1205.04	PAVEMENT MARKINGS – INTERSECTIONS
1205.05	PAVEMENT MARKINGS – TURN LANES
1205.06	PAVEMENT MARKINGS – LANE DROPS
1205.08	PAVEMENT MARKINGS – SYMBOLS AND WORD MESSAGES
1205.09	PAVEMENT MARKINGS – PAINTED ISLANDS
1205.10	PAVEMENT MARKINGS – SCHOOL AREAS
1250.01	RAISED PAVEMENT MARKERS – INSTALLATION SPACING
1251.01	RAISED PAVEMENT MARKERS – PERMANENT AND TEMPORARY

GENERAL NOTES:

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS, AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS OR RESULT IN DUPLICATE OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT EXCEPT WHEN OTHERWISE NOTED IN THE PLAN OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

1. DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:
   A. AUGUST 28, 2017 TO JUNE 8, 2018, MONDAY THROUGH FRIDAY, SCHOOL DROP OFF: ALL TRAVEL LANES ARE TO REMAIN OPEN BETWEEN 7:30 A.M. AND 8:00 A.M.
   B. AUGUST 28, 2017 TO JUNE 8, 2018, MONDAY THROUGH FRIDAY, SCHOOL PICK UP: ALL TRAVEL LANES ARE TO REMAIN OPEN BETWEEN 2:30 P.M. AND 3:30 P.M.

ROAD NAME

SR 1148 AND SR 1149

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.

2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 4:30 P.M. DECEMBER 31st TO 6:00 A.M. JANUARY 2ND IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 9:00 A.M. THE FOLLOWING TUESDAY.

3. FOR EASTER, BETWEEN THE HOURS OF 4:30 P.M. THURSDAY AND 9:00 A.M. MONDAY.

4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 4:30 P.M. FRIDAY TO 9:00 A.M. TUESDAY.

5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 4:30 P.M. THE DAY BEFORE INDEPENDENCE DAY AND 6:00 A.M. THE DAY AFTER INDEPENDENCE DAY.

   IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 4:30 P.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 9:00 A.M. THE TUESDAY AFTER INDEPENDENCE DAY.

6. FOR LABOR DAY, BETWEEN THE HOURS OF 4:30 P.M. FRIDAY AND 9:00 A.M. TUESDAY.

7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 4:30 P.M. TUESDAY TO 9:00 A.M. MONDAY.

8. FOR CHRISTMAS, BETWEEN THE HOURS OF 4:30 P.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 9:00 A.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

B) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

C) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED OR AS DIRECTED BY THE ENGINEER.

D) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

   WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS, OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

G) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP, OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

H) DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON SR 1148 or SR 1149.

PAVEMENT EDGE DROP OFF REQUIREMENTS

I) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

   BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

   BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

   BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

TRAFFIC PATTERN ALTERATIONS

J) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

K) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

L) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

TRAFFIC CONTROL DEVICES

M) WHEN LANE CLOSURES ARE NOT IN EFFECT SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER IN FEET THAN TWICE THE POSTED SPEED LIMIT (MPH) EXCEPT, 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY. REFER TO STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES SECTIONS 1130 (DRUMS), 1135 (CONES) AND 1180 (SKINNY DRUMS) FOR ADDITIONAL REQUIREMENTS.

PAVEMENT MARKINGS AND MARKERS

N) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

O) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

LOCAL NOTES:

MAINTAIN DRIVEWAY ACCESS TO ALL PARCELS DURING CONSTRUCTION.

TRAFFIC SHALL BE MAINTAINED DURING OPEN CUTTING OPERATIONS. FOR UTILITY CONSTRUCTION. ONLY ONE LANE MAY BE CLOSED AT ANY GIVEN TIME.

MANAGEMENT STRATEGIES:

SIDEWALK AND CURB AND CUTTER WILL ADDED USING TEMPORARY LANE CLOSURES AS NEEDED.