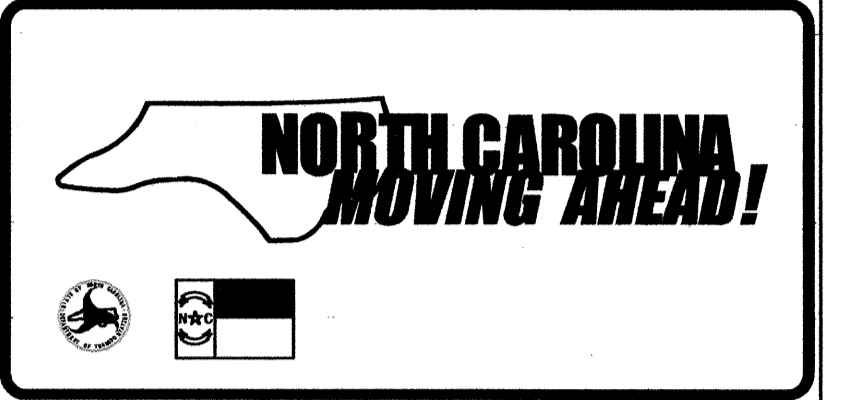


STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	WBS 37748	I	
WBS ELEMENT NO.	F.A. PROJ. NO.	DESCRIPTION	
37748		PE, RW, UTILITY,	
37748		CONSTRUCTION	



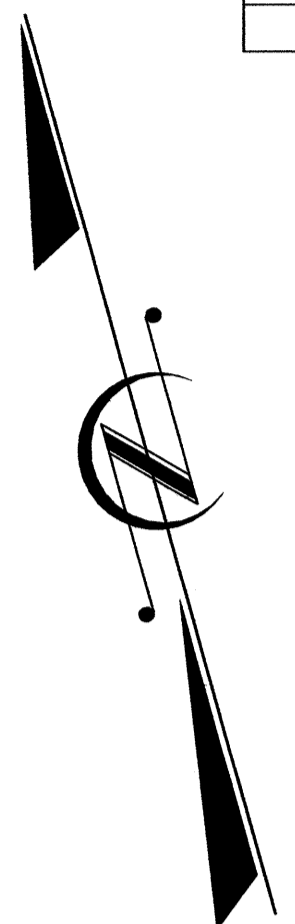
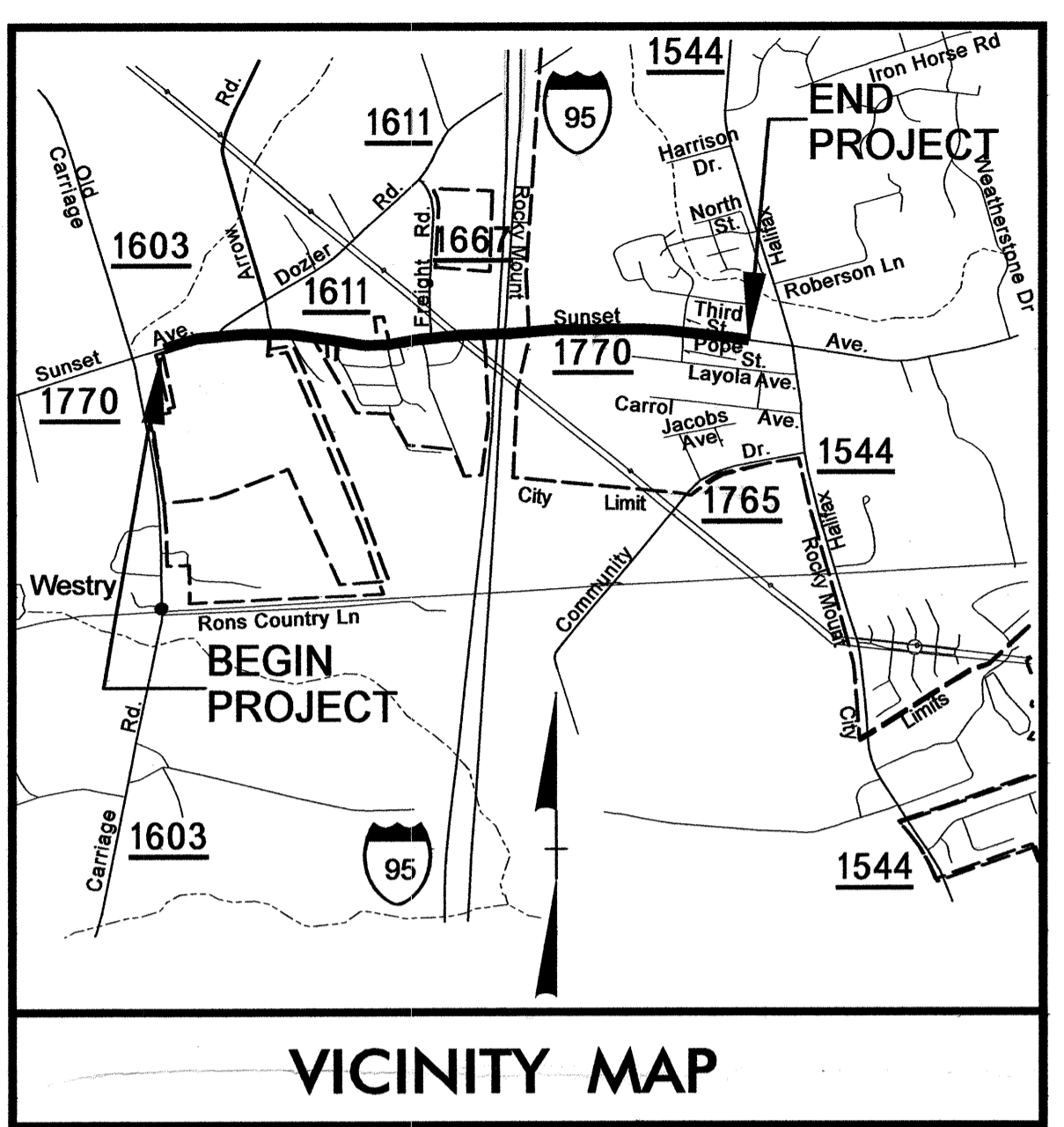
STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

NASH COUNTY

LOCATION: SR 1770 (SUNSET AVENUE) FROM EAST OF SR 1603 TO WEST OF SR 1544

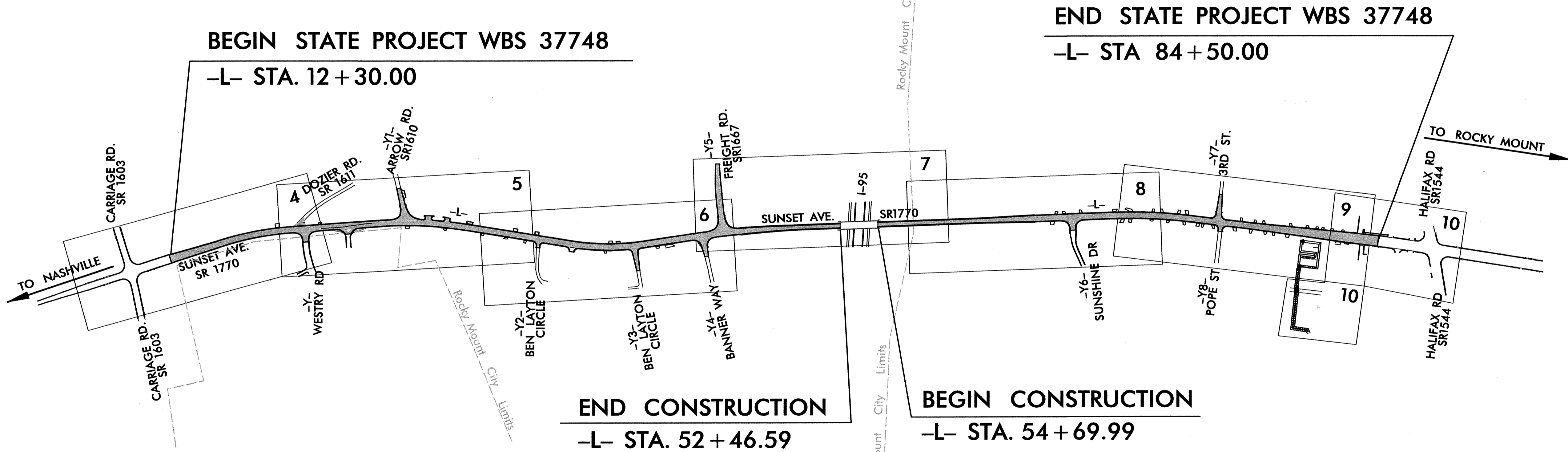
TYPE OF WORK: GRADING, PAVING, AND DRAINAGE

See Sheet 1-A For Index of Sheets

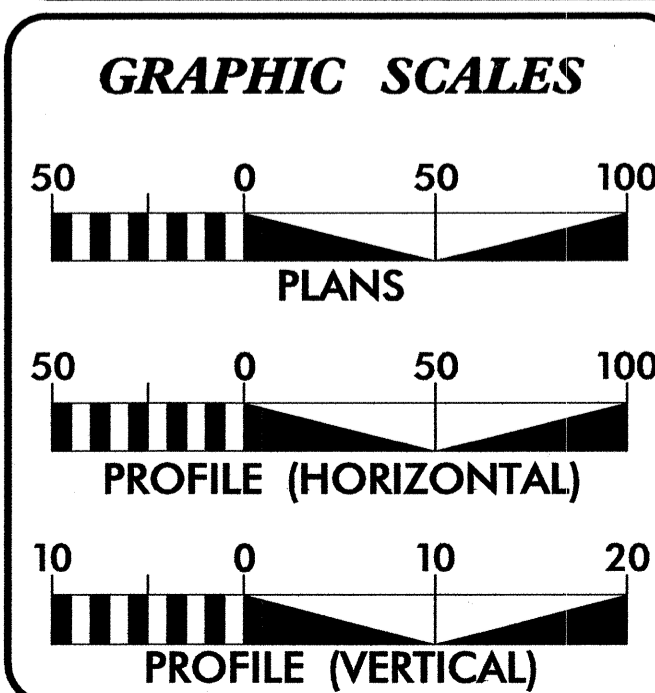


WBS 37748

PROJECT: C201912



NCDOT CONTACT: JERRY PAGE, P.E.
DIV. PROJECT MANAGER
DIVISION FOUR



DESIGN DATA

ADT 2005 = 12,000

DHV = %
D = %
T = % *
V = 50 MPH

* TTST % DUAL %

PROJECT LENGTH

LENGTH ROADWAY NCMA PROJECT WBS 37748 = 1.367 MI

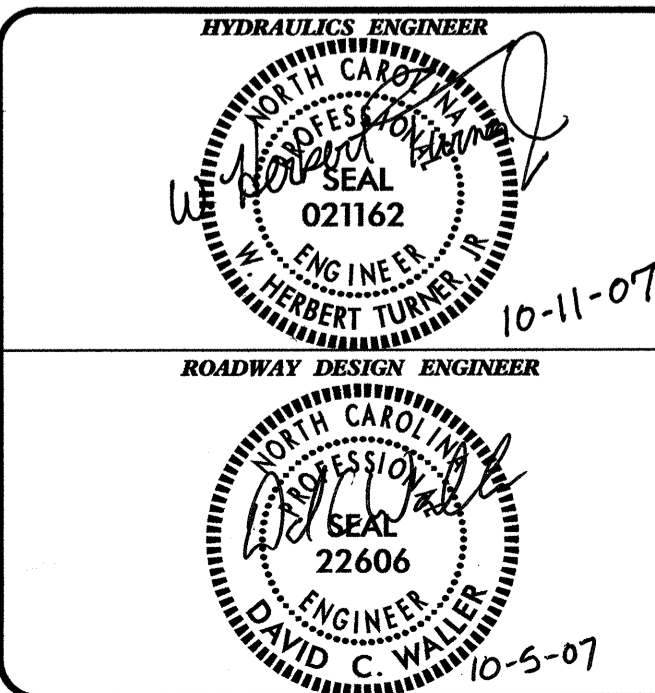
TOTAL LENGTH NCMA PROJECT WBS 37748 = 1.367 MI

Prepared In the Office of:
KO & ASSOCIATES, P.C.
1011 Schaub Dr. Suite 202, Raleigh NC, 27606
(919) 851-6066

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: David C. Waller, P.E.
PROJECT ENGINEER

LETTING DATE: December 18, 2007
PROJECT DESIGN ENGINEER



**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

STATE DESIGN ENGINEER
**DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION**

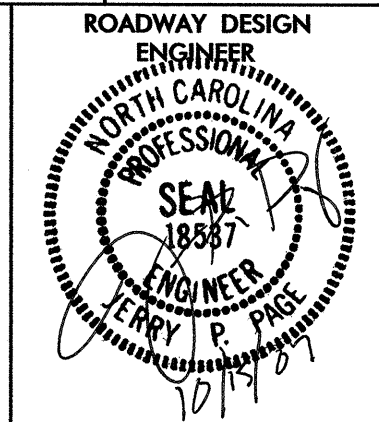
APPROVED
DIVISION ADMINISTRATOR

DATE

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5/28/99

PROJECT REFERENCE NO. 37748 SHEET NO. 1-A



EFF. 07-18-06
REV. 01-02-07

SHEET NUMBER	SHEET
1	TITLE SHEET
1-A	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS
1-B	CONVENTIONAL SYMBOLS
2 THRU 2-A	PAVEMENT SCHEDULE, TYPICAL SECTIONS, WEDGING DETAIL, 5" CONCRETE MONOLITHIC ISLAND DETAIL, AND MILLING DETAIL
2-B	INTERSECTION DETAILS
2-C	DETAIL OF DRY DETENTION BASIN
3	SUMMARY OF QUANTITIES
3-A THRU 3-E	SUMMARY OF DRAINAGE QUANTITIES
3-F	EARTHWORK SUMMARY
3-G	RIGHT-OF-WAY AREA DATA
4 THRU 10	PLAN/PROFILE SHEETS
11 THRU 12	PROFILE SHEETS (Y LINES)
NCMA-1	ADVANCE WARNING WORK ZONE SIGN DETAIL
EC-1 THRU EC-10	EROSION CONTROL PLANS
X-SUM	CROSS SECTION SUMMARY SHEET
X-1 THRU X-35	CROSS-SECTIONS

GENERAL NOTES:

2006 SPECIFICATIONS
EFFECTIVE: 07-18-06
REVISED: 07-18-06

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

ASPHALT, EARTH, AND CONCRETE SHOULDER CONSTRUCTION ON THE HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01.

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.02 USING 3' RADIUS OR RADIUS AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

STREET TURNOUT:

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADIUS NOTED ON PLANS.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE EMBARO, SUDDENLINK, TIME WARNER CABLE, AND THE CITY OF ROCKY MOUNT (WATER, SEWER, GAS & POWER)

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

WHEELCHAIR RAMPS:

CURB CUTS FOR FUTURE WHEELCHAIR RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. THE CONSTRUCTION OF ALL CURB CUTS FOR FUTURE WHEELCHAIR RAMPS SHALL BE IN ACCORDANCE WITH STD. 848.05.

2006 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated July 18, 2006 are applicable to this project and by reference hereby are considered a part of these plans:

STD. NO.	TITLE
DIVISION 2 - EARTHWORK	
200.03	Method of Clearing - Method III
225.02	Guide for Grading Subgrade - Secondary and Local
225.04	Method of Obtaining Superlevation - Two Lane Pavement
225.06	Method of Grading Sight Distance at Intersections
DIVISION 3 - PIPE CULVERTS	
300.01	Method of Pipe Installation - Method 'A'
DIVISION 5 - SUBGRADE, BASES AND SHOULDERS	
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
DIVISION 6 - ASPHALT BASES AND PAVEMENTS	
654.01	Pavement Repairs
DIVISION 8 - INCIDENTALS	
838.01	Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
838.21	Reinforced Concrete Endwall - for Single 54" Pipe 90 Skew
838.45	Notes for Reinforced Concrete Endwall - Std. Dwg 838.21 thru 838.40
838.51	Reinforced Brick Endwall - for Single 54" Pipe 90 Skew
838.75	Notes for Reinforced Brick Endwall - Std. Dwg 838.51 thru 838.70
838.80	Precast Endwalls - 12" thru 72" Pipe 90 Skew
840.00	Concrete Base Pad for Drainage Structures
840.01	Brick Catch Basin - 12" thru 54" Pipe
840.02	Concrete Catch Basin - 12" thru 54" Pipe
840.03	Frame, Grates and Hood - for Use on Standard Catch Basin
840.04	Concrete Open Throat Catch Basin - 12" thru 48" Pipe
840.05	Brick Open Throat Catch Basin - 12" thru 48" Pipe
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
840.18	Concrete Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.24	Frames and Narrow Slot Sag Grates
840.27	Brick Grated Drop Inlet Type 'B' - 12" thru 36" Pipe
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.34	Traffic Bearing Junction Box - for Use with Pipes 42" and Under
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.54	Manhole Frame and Cover
840.71	Concrete and Brick Pipe Plug
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
848.02	Driveway Turnout - Radius Type
848.04	Street Turnout
848.05	Wheelchair Ramp - Curb Cut
850.01	Concrete Paved Ditches
866.01	Chain Link Fence - 4', 5' and 6' High Fence
876.02	Guide for Rip Rap at Pipe Outlets

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Note: Not to Scale

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

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

State Line	-----
County Line	-----
Township Line	-----
City Line	-----
Reservation Line	-----
Property Line	-----
Existing Iron Pin	○
Property Corner	⊗
Property Monument	□
Parcel/Sequence Number	(23)
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	-o-o-o-
Proposed Chain Link Fence	-□-□-□-
Proposed Barbed Wire Fence	-◇-◇-◇-
Existing Wetland Boundary	-WLB-
Proposed Wetland Boundary	-WLB-
Existing High Quality Wetland Boundary	-HQ WLB-
Existing Endangered Animal Boundary	-EAB-
Existing Endangered Plant Boundary	-EPB-

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	▭
River Basin Buffer	-RBB-
Flow Arrow	←
Disappearing Stream	→
Spring	⊙
Swamp Marsh	⊕
Proposed Lateral, Tail, Head Ditch	←
False Sump	▭

RAILROADS:

Standard Gauge	-----
RR Signal Milepost	○
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 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 Permanent Utility Easement	-PUE-

ROADS AND RELATED FEATURES:

Existing Edge of Pavement	-----
Existing Curb	-----
Proposed Slope Stakes Cut	-C-
Proposed Slope Stakes Fill	-F-
Proposed Wheel Chair Ramp	WCR
Curb Cut for Future Wheel Chair Ramp	CCFR
Existing Metal Guardrail	-----
Proposed Guardrail	-----
Existing Cable Guiderail	-----
Proposed Cable Guiderail	-----
Equaility Symbol	⊕
Pavement Removal	▭

VEGETATION:

Single Tree	⊕
Single Shrub	⊕
Hedge	-----
Woods Line	-----
Orchard	-----
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	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	PH
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	⊙
Telephone Booth	⊕
Telephone Pedestal	⊕
Telephone Cell Tower	⊕
U/G Telephone Cable Hand Hole	PH
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	⊙
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	⊕
TV Tower	⊗
U/G TV Cable Hand Hole	PH
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:

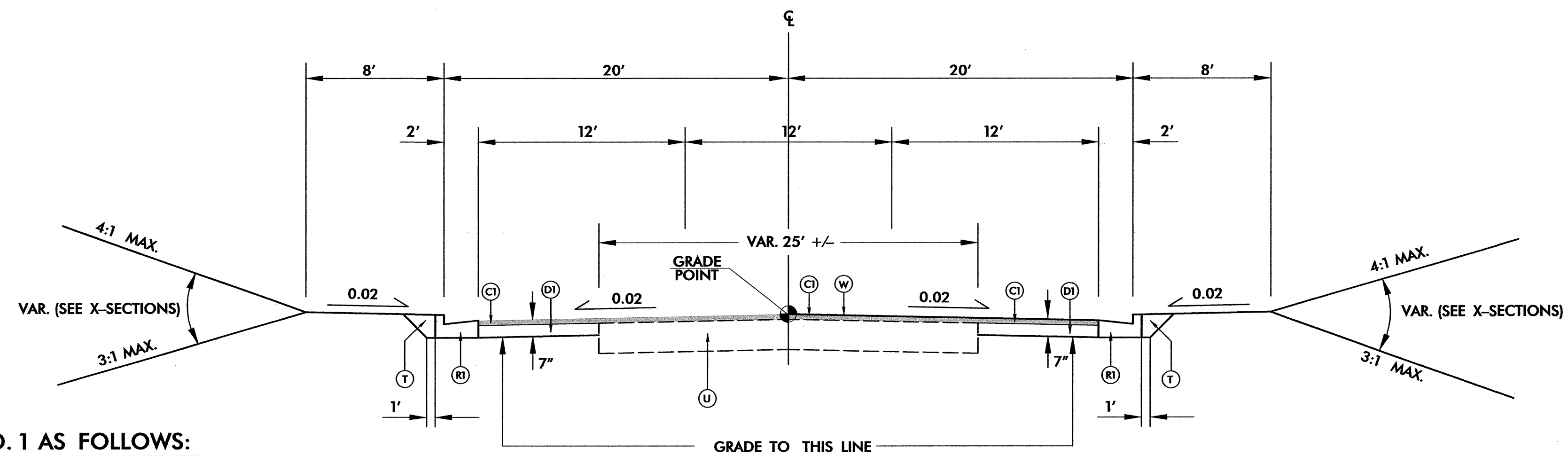
Gas Valve	◇
Gas Meter	⊕
Recorded U/G Gas Line	G
Designated U/G Gas Line (S.U.E.*)	G
Above Ground Gas Line	A/G Gas

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	⊕
Utility Unknown U/G Line	U/L
U/G Tank; Water, Gas, Oil	▭
A/G Tank; Water, Gas, Oil	▭
U/G Test Hole (S.U.E.*)	⊕
Abandoned According to Utility Records	AATUR
End of Information	E.O.I.



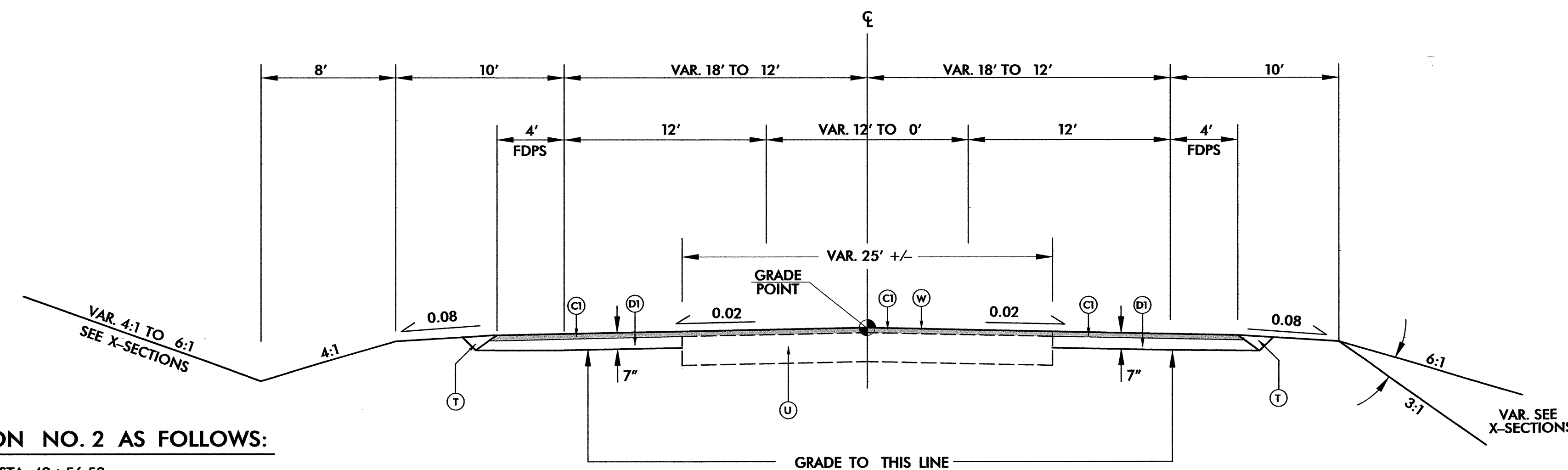
USE TYPICAL SECTION NO. 1 AS FOLLOWS:

- L- STA. 12+30.00 TO -L- STA. 46+56.53
- L- STA. 64+00.00 TO -L- STA. 83+40.40 RT
- L- STA. 64+00.00 TO -L- STA. 82+91.07 LT

TYPICAL SECTION NO. 1

PAVEMENT SCHEDULE	
C1	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C2	PROP. VAR. 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 TO EXCEED 2" IN DEPTH.
C3	PROP. APPROX. 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
D1	PROP. APPROX. 4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 456 LBS. PER SQ. YD.
D2	PROP. VAR. DEPTH ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I19.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH, TO BE PLACED IN LAYERS NOT LESS THAN 2 1/2" IN DEPTH OR GREATER THAN 4" IN DEPTH.
R1	2'-6" CONCRETE CURB AND GUTTER.
R2	5" MONOLITHIC CONCRETE ISLAND
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT.

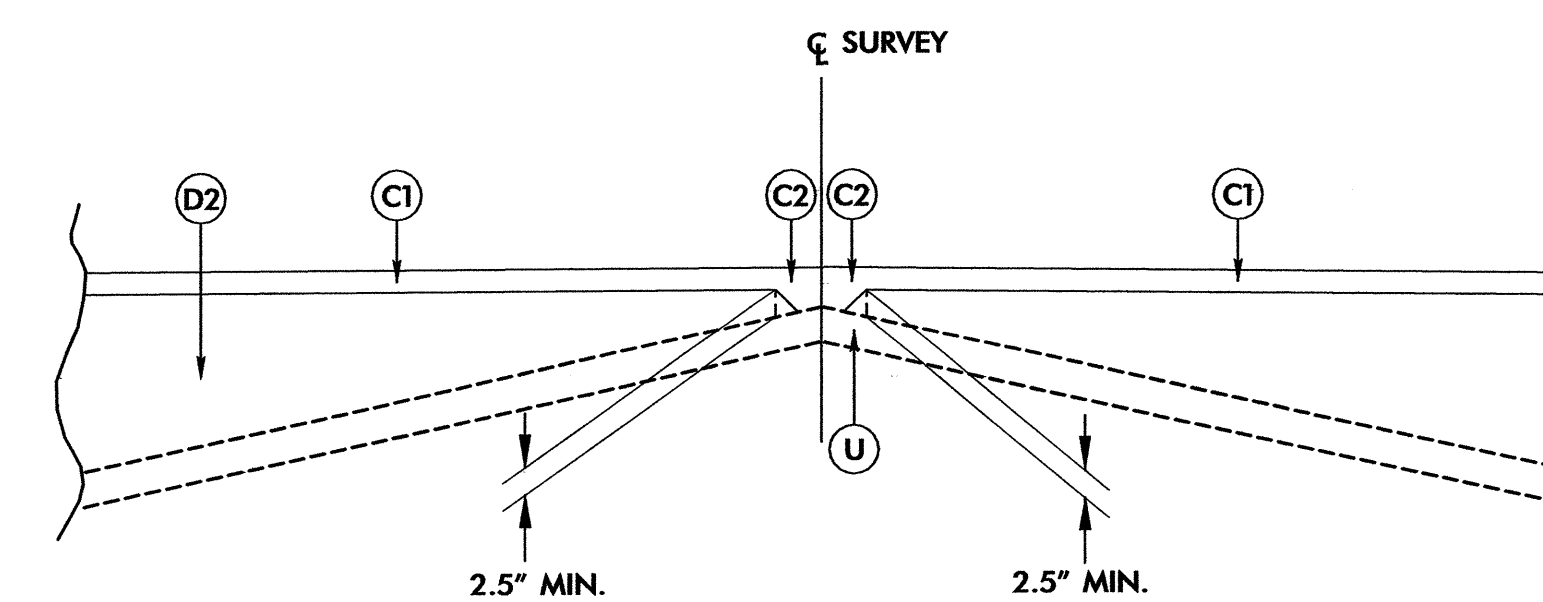
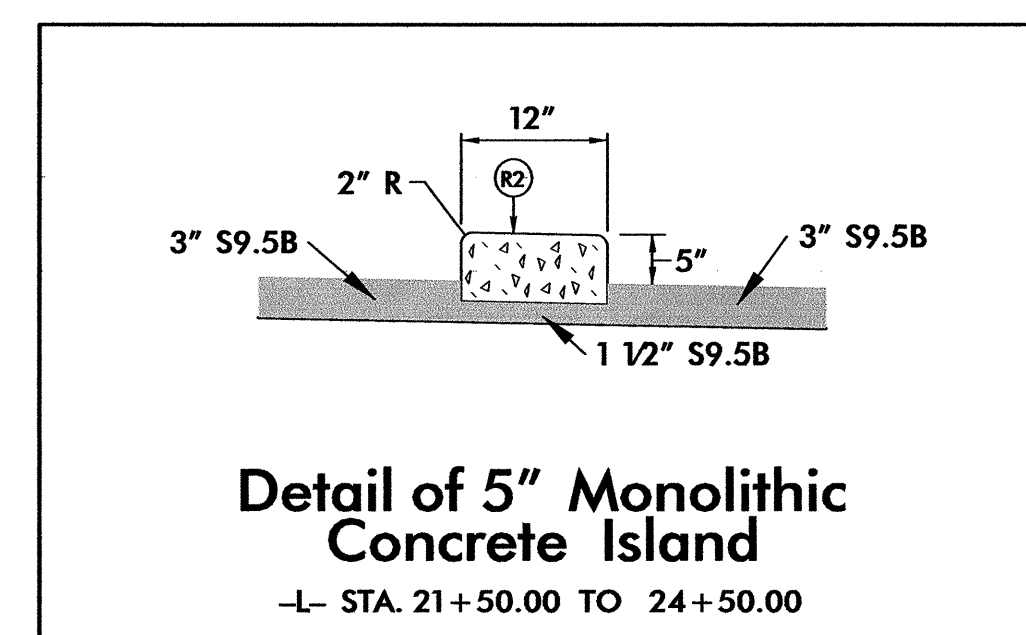
NOTE: ALL PAVEMENT SLOPES ARE 1:1 UNLESS NOTED OTHERWISE



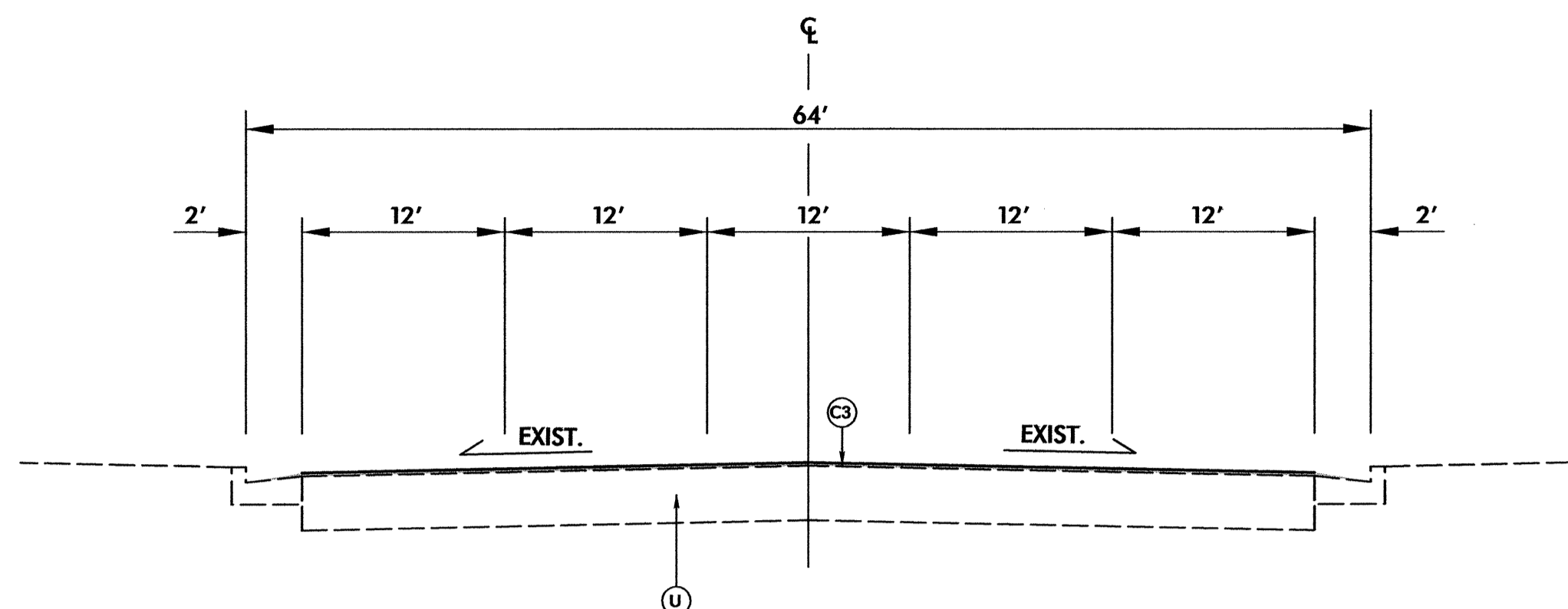
USE TYPICAL SECTION NO. 2 AS FOLLOWS:

- L- STA. 46+56.53 TO -L- STA. 49+56.53
- L- STA. 61+00.00 TO -L- STA. 64+00.00

TYPICAL SECTION NO. 2



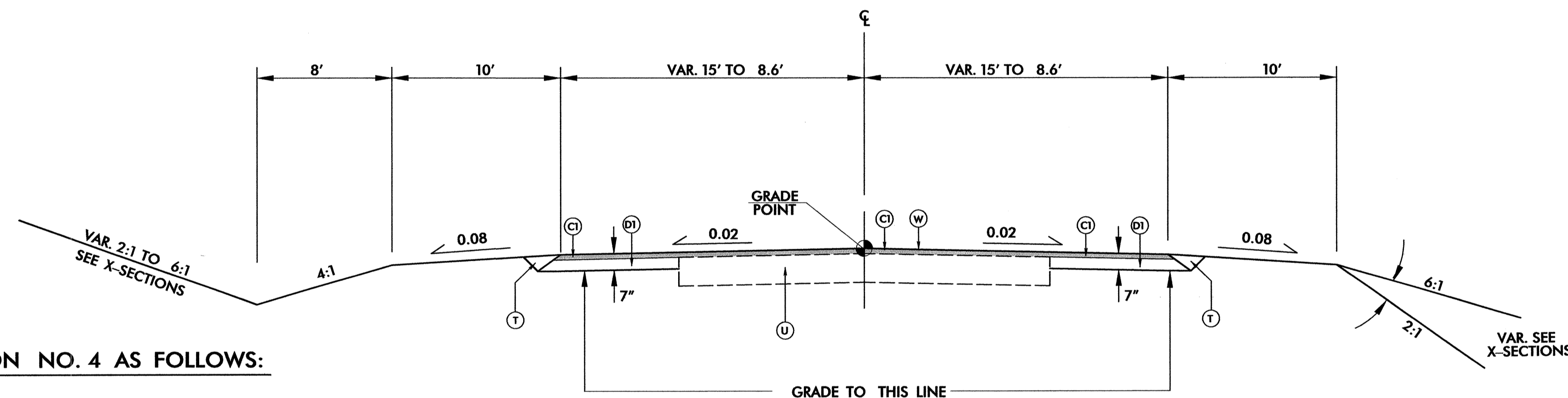
Detail Showing Method of Wedging



TYPICAL SECTION NO. 3

USE TYPICAL SECTION NO. 3 AS FOLLOWS:

- L- STA. 83+40.40 TO -L- STA. 84+50.00 RT
- L- STA. 82+91.07 TO -L- STA. 84+50.00 LT



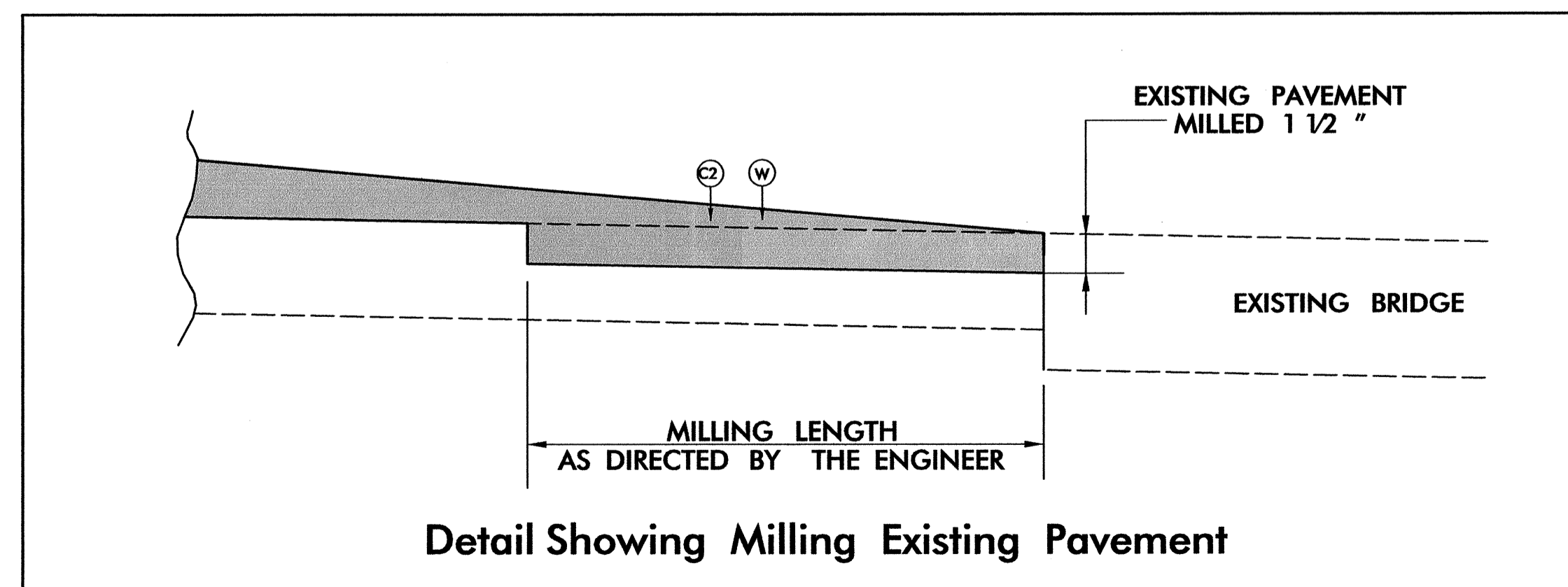
TYPICAL SECTION NO. 4

USE TYPICAL SECTION NO. 4 AS FOLLOWS:

-Y- LINES

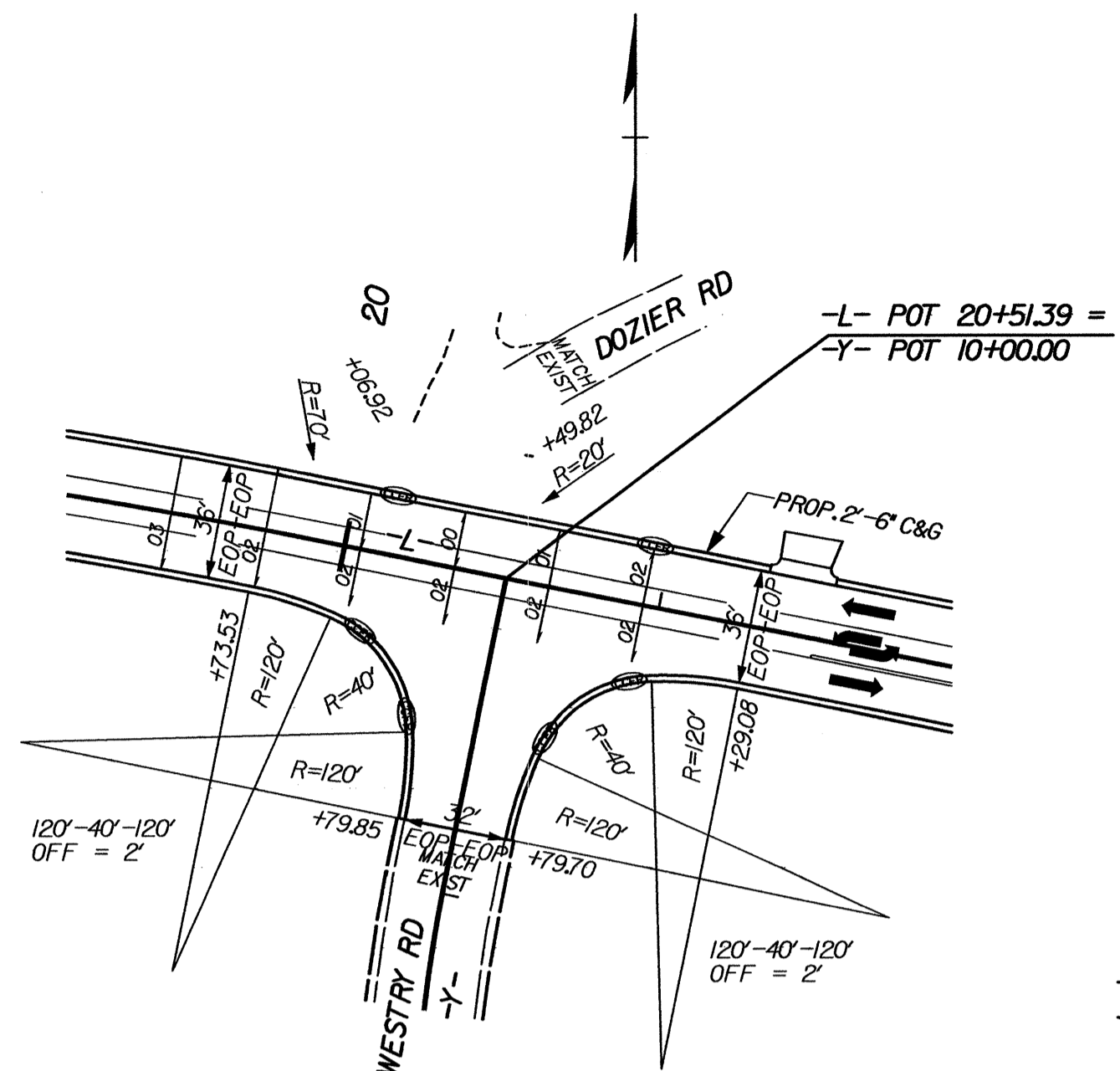
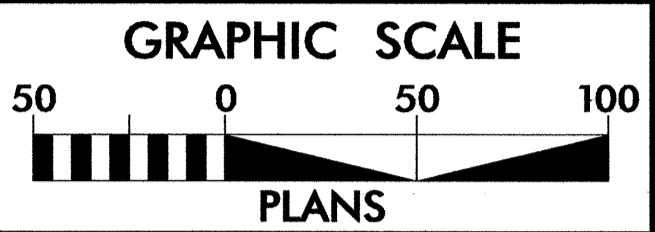
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C2	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 2" IN DEPTH.
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T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT.

NOTE: ALL PAVEMENT SLOPES ARE 1:1 UNLESS NOTED OTHERWISE

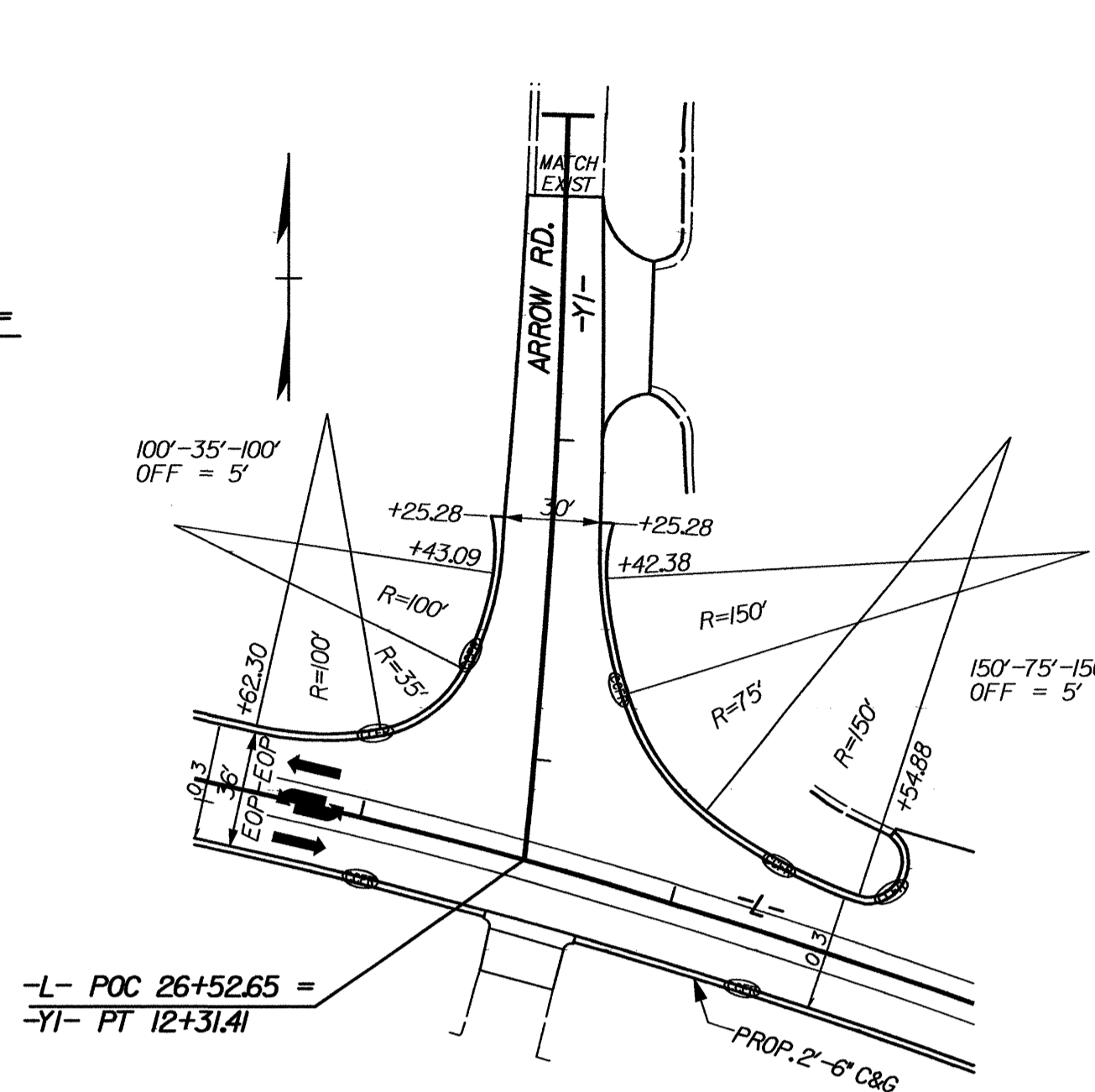


Detail Showing Milling Existing Pavement

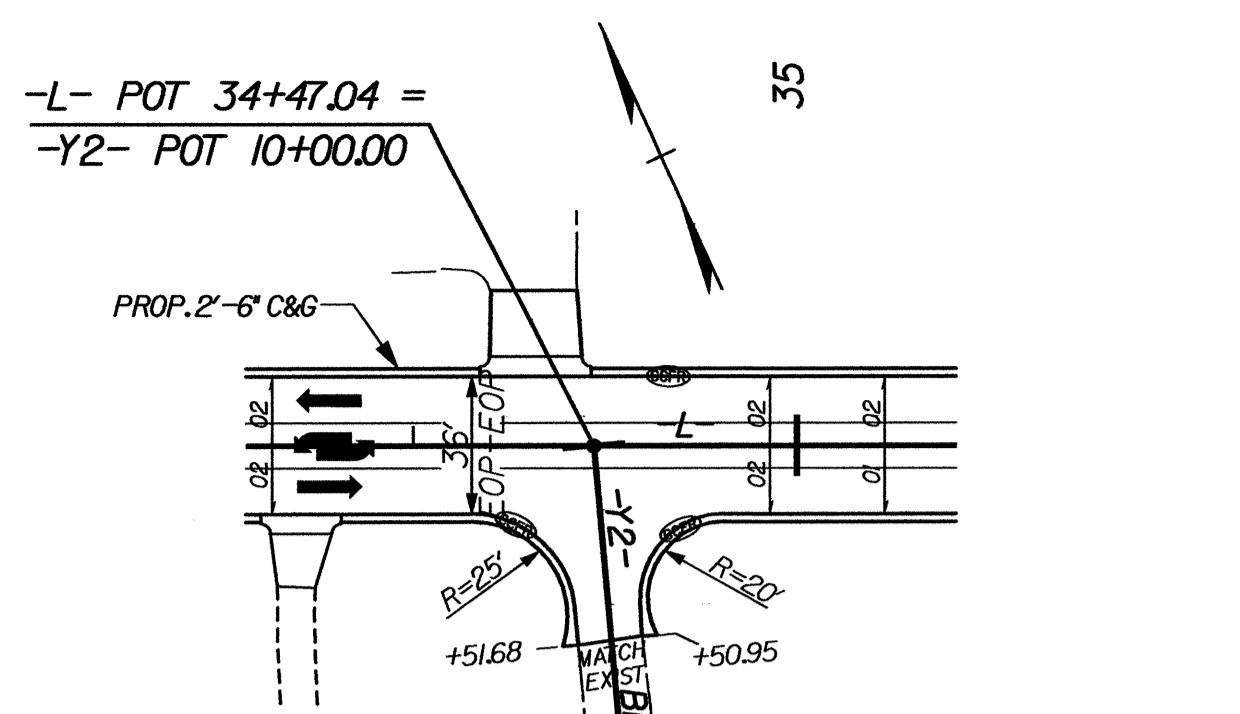
PROJECT REFERENCE NO. WBS 37748	SHEET NO. 2-B
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	



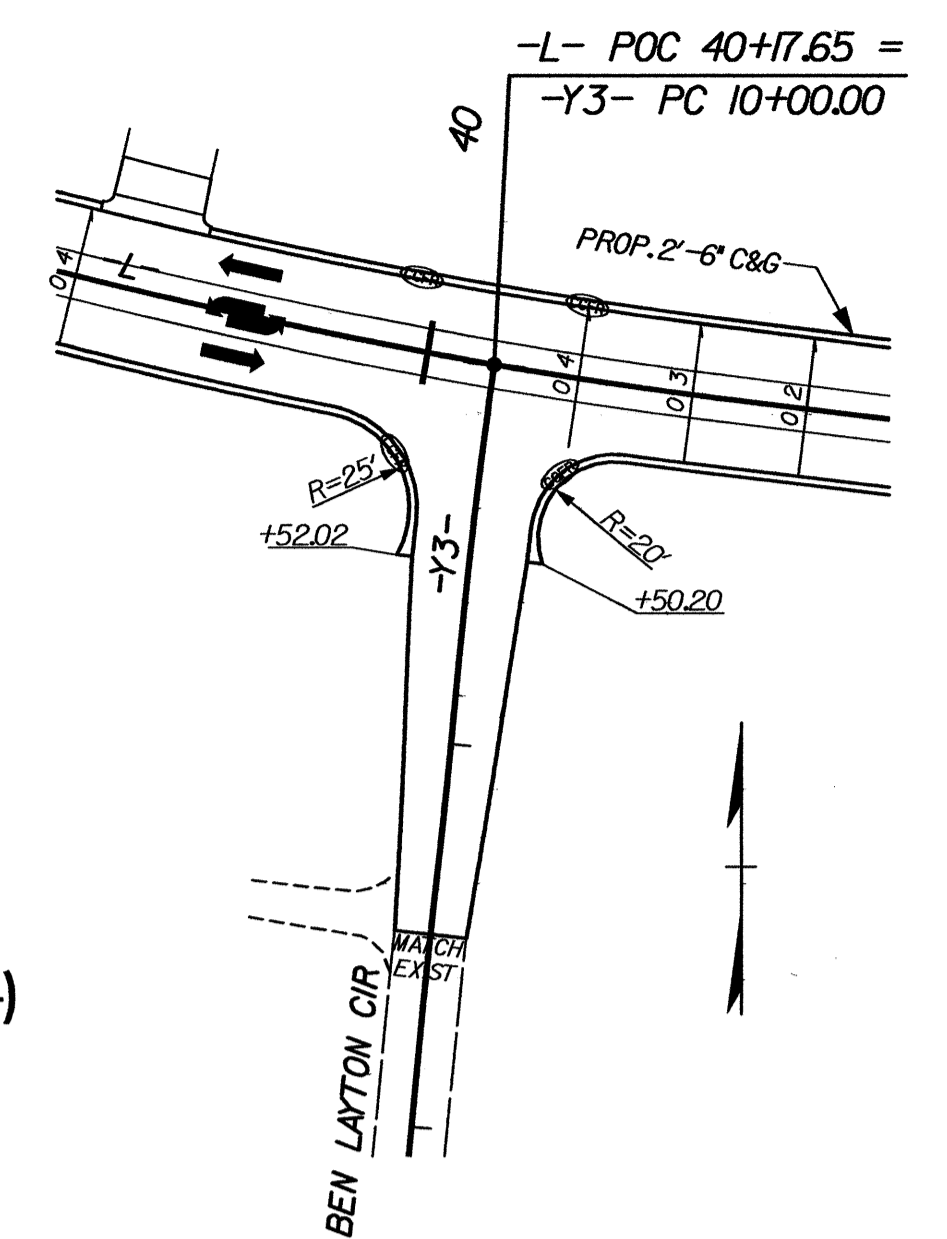
**SUNSET AVE (-L-)/WESTRY RD (-Y-)
INTERSECTION DETAIL**
INTERSECTION DETAIL SHOWN FROM PLAN SHEET 5



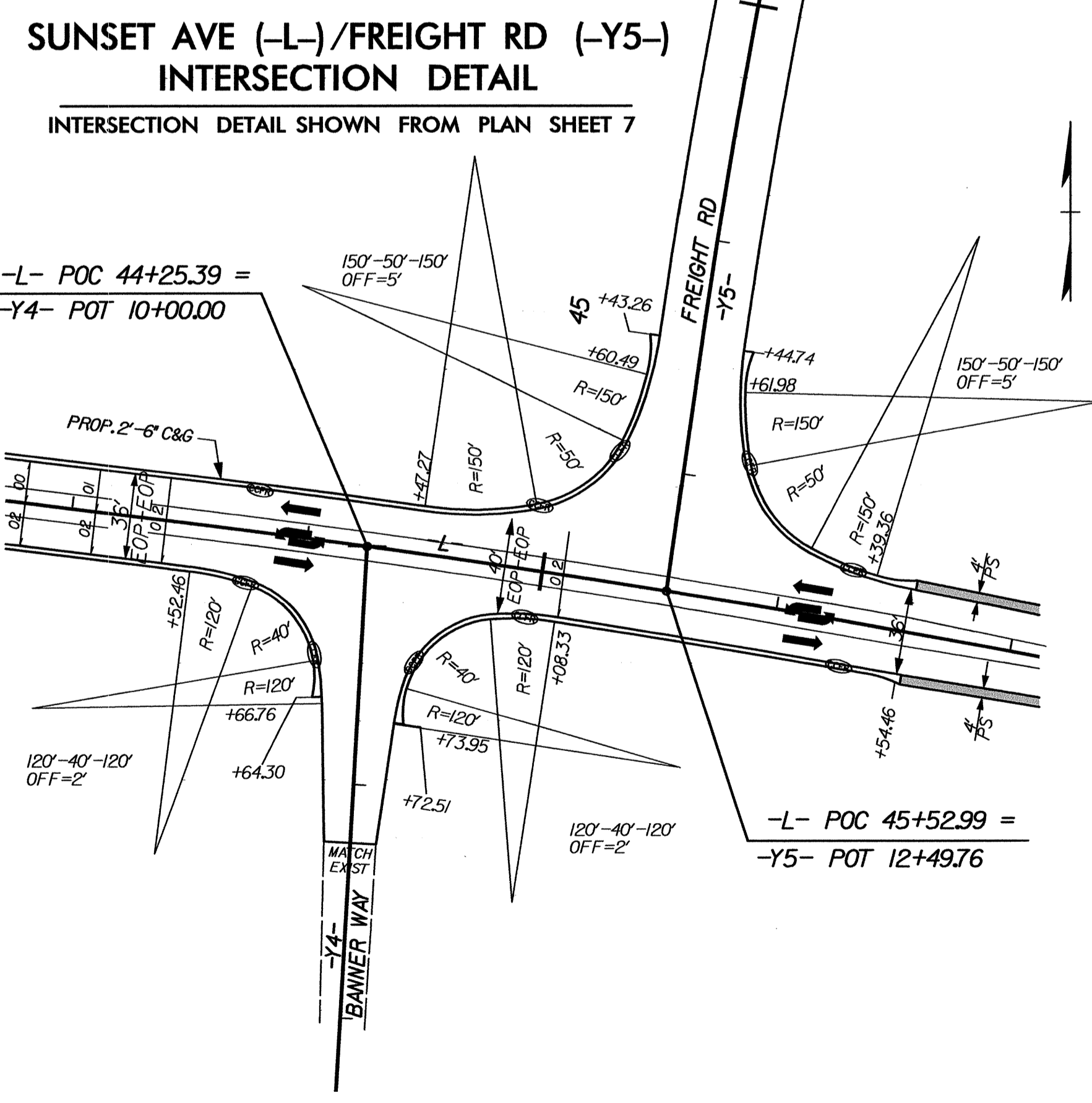
**SUNSET AVE (-L-)/ARROW RD. (-Y1-)
INTERSECTION DETAIL**
INTERSECTION DETAIL SHOWN FROM PLAN SHEET 5



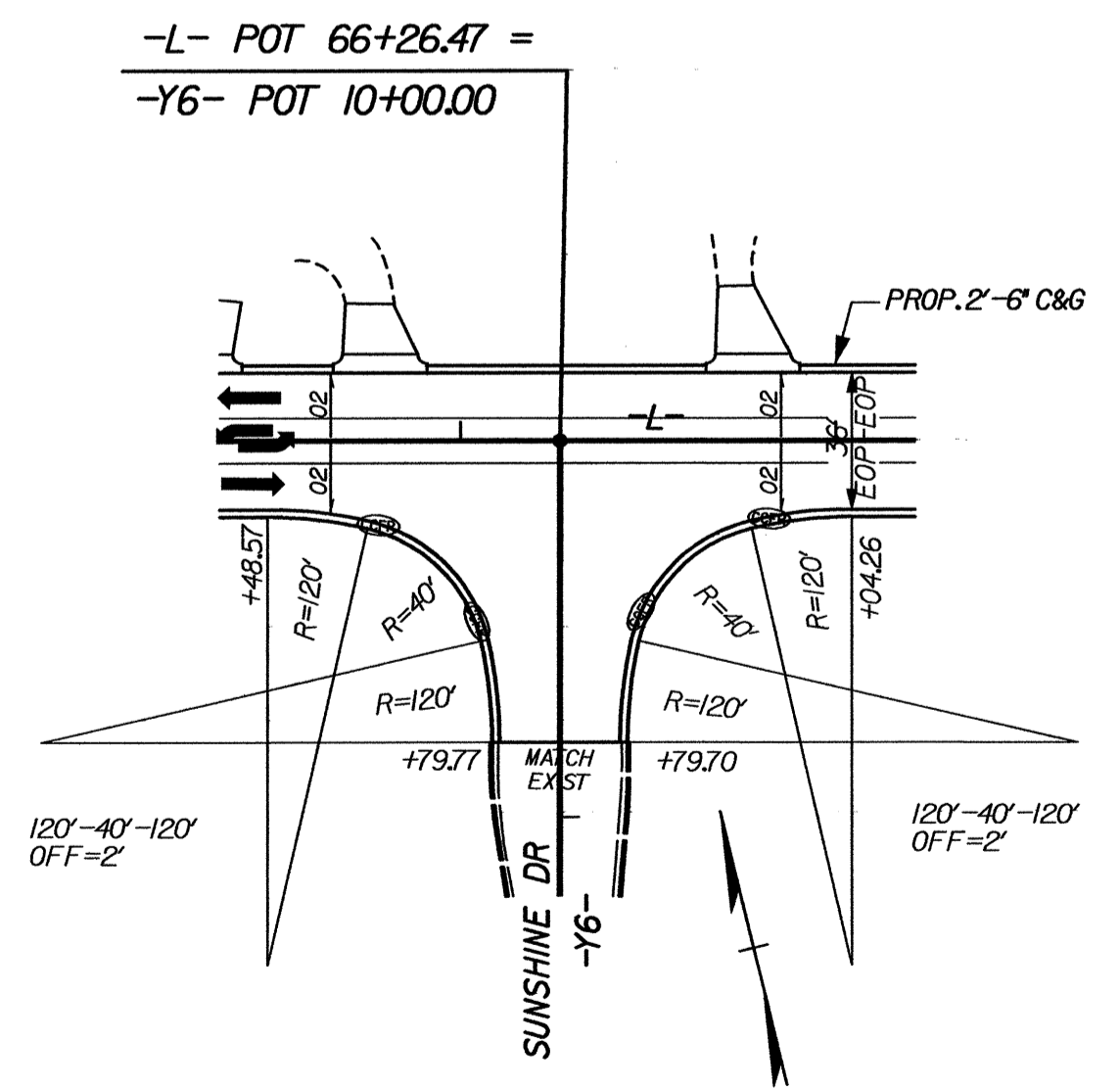
**SUNSET AVE (-L-)/BEN LAYTON CIR (-Y2-)
INTERSECTION DETAIL**
INTERSECTION DETAIL SHOWN FROM PLAN SHEET 6



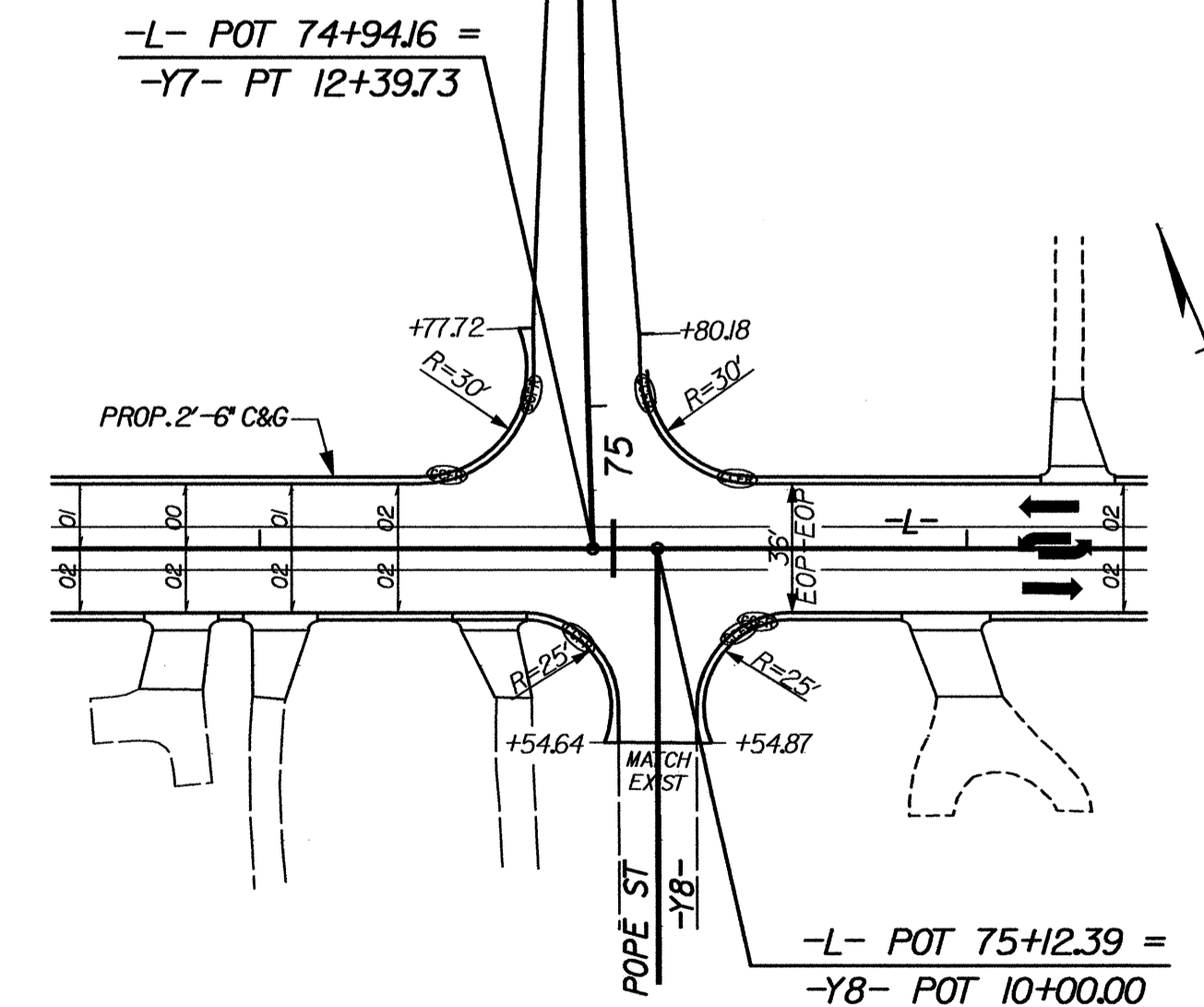
**SUNSET AVE (-L-)/BEN LAYTON CIR (-Y3-)
INTERSECTION DETAIL**
INTERSECTION DETAIL SHOWN FROM PLAN SHEET 6



**SUNSET AVE (-L-)/FREIGHT RD (-Y5-)
INTERSECTION DETAIL**
INTERSECTION DETAIL SHOWN FROM PLAN SHEET 7



**SUNSET AVE (-L-)/SUNSHINE DR (-Y6-)
INTERSECTION DETAIL**
INTERSECTION DETAIL SHOWN FROM PLAN SHEET 8

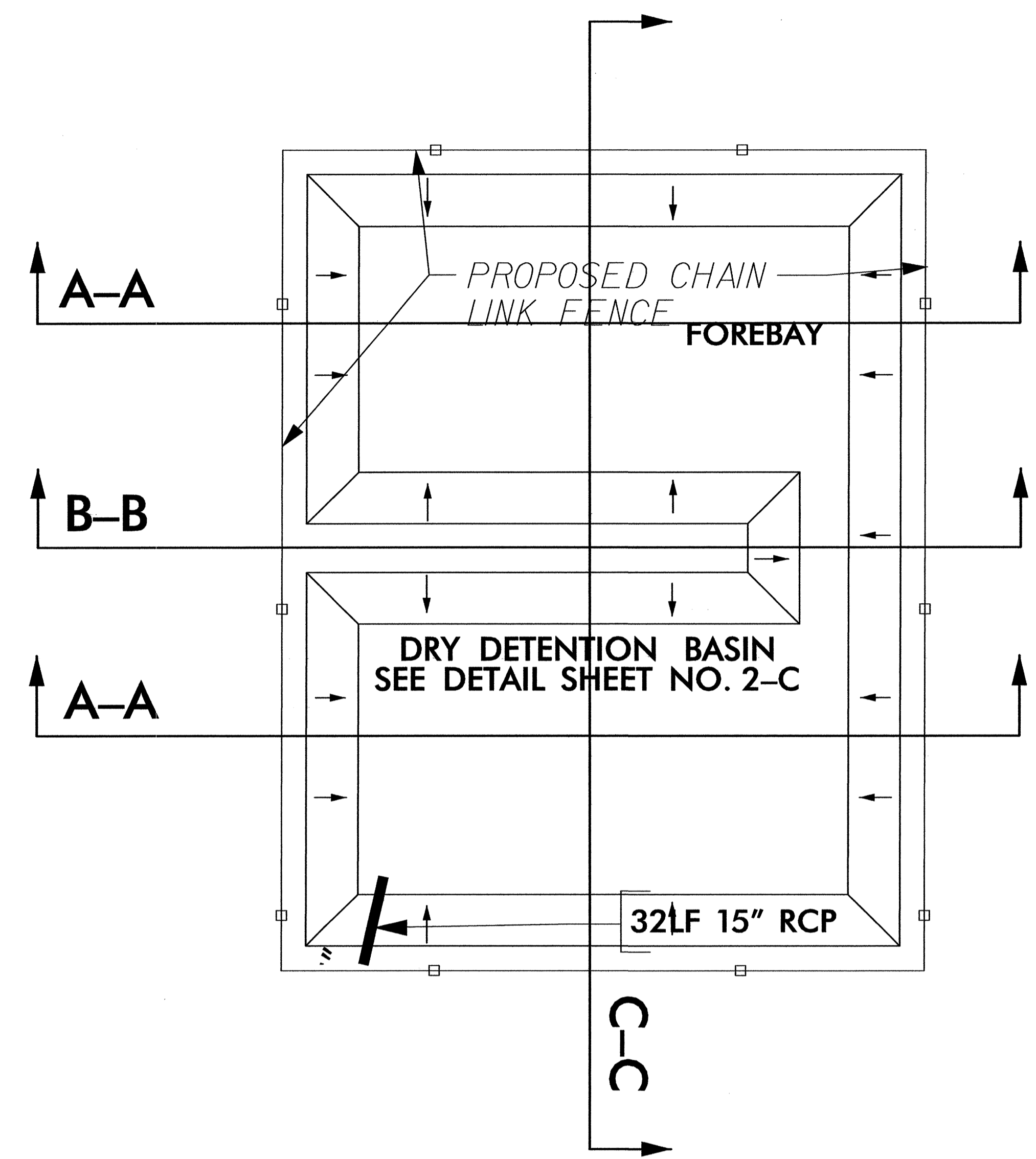


**SUNSET AVE (-L-)/POPE ST (-Y8-)
INTERSECTION DETAIL**
INTERSECTION DETAIL SHOWN FROM PLAN SHEET 9

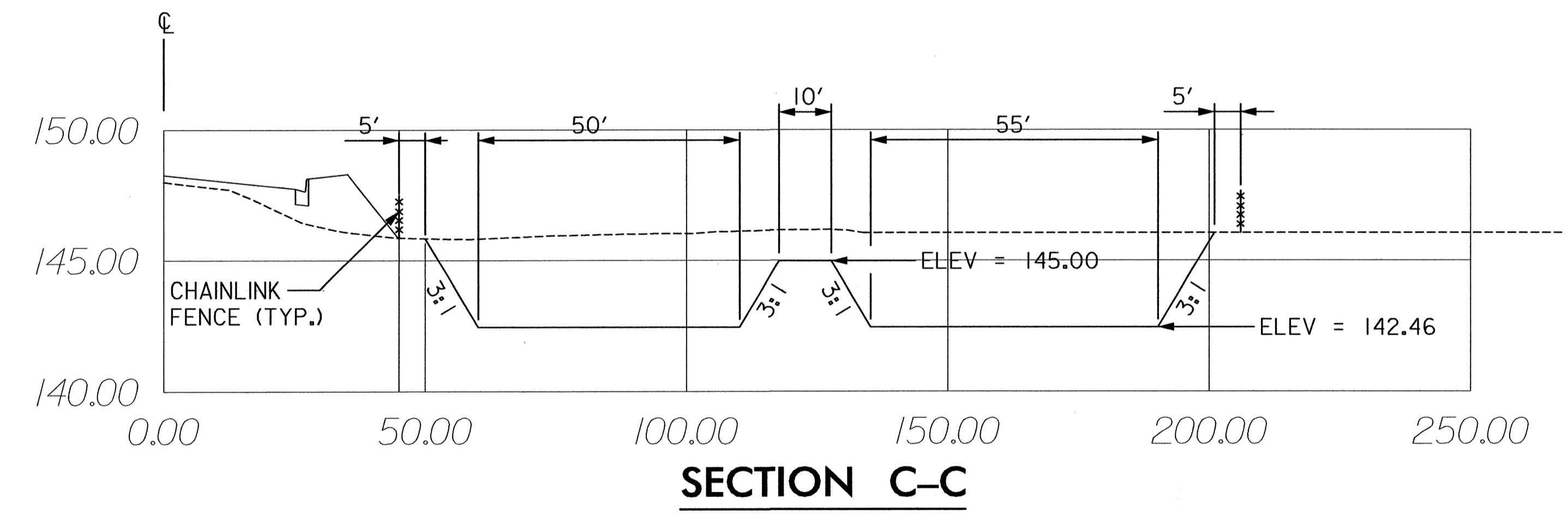
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KO & ASSOCIATES, P.C.

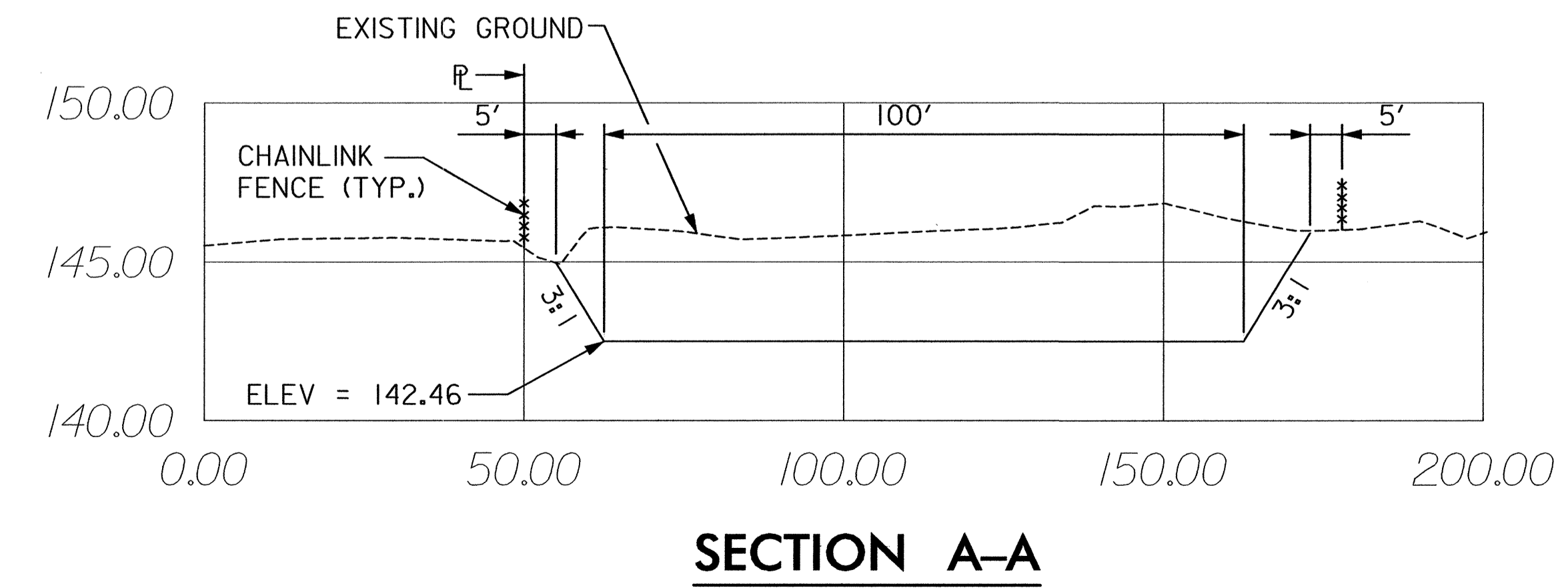
PROJECT REFERENCE NO. WBS 37748	SHEET NO. 2-C
RW SHEET NO.	
ROADWAY DESIGN ENGINEER DAVID C. WALKER SEAL 22606 10-5-07	HYDRAULICS ENGINEER W. HERBERT TURNER, JR. SEAL 021162 10-11-07



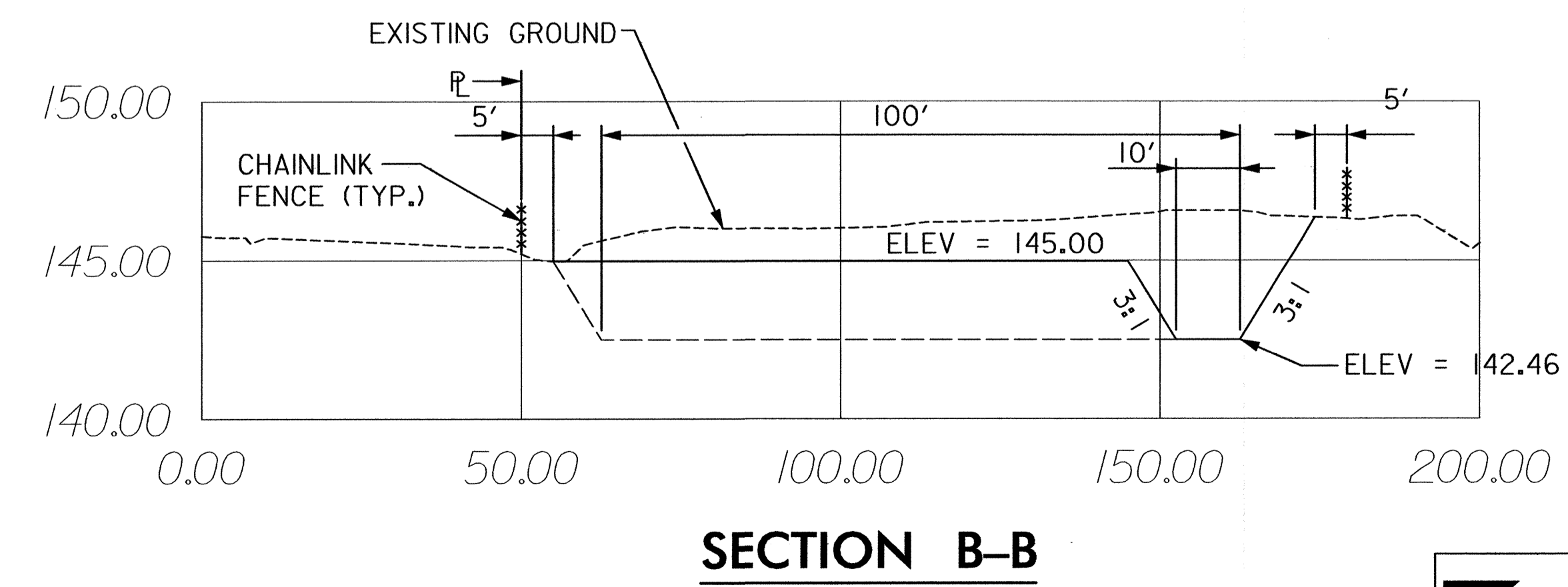
DETAIL OF DRY DETENTION BASIN



SECTION C-C



SECTION A-A



SECTION B-B

Plans prepared by:
KO & ASSOCIATES, P.C.
 Consulting Engineers
 1011 SCHAUB DR., SUITE #202
 RALEIGH, N.C. 27606
 (919) 851-6066

10/26/98

COMPUTED BY: _____ DATE: _____
 CHECKED BY: _____ DATE: _____

SUMMARY OF QUANTITIES

PROJECT REFERENCE NO. WBS 37748 SHEET NO. 3

STATE OF NORTH CAROLINA
 DIVISION OF HIGHWAYS
 ROADWAY SUMMARY OF QUANTITIES FOR CONTRACT - C201912

ItemNumber	Sec #	Quantity	Unit	Description	ItemNumber	Sec #	Quantity	Unit	Description
000100000-N	800	Lump Sum		MOBILIZATION	440500000-E	1110	192	SF	WORK ZONE SIGNS (PORTABLE)
004300000-N	226	Lump Sum		GRADING	441000000-E	1110	288	SF	WORK ZONE SIGNS (BARRICADE MOUNTED)
005000000-E	226	1	ACR	SUPPLEMENTARY CLEARING & GRUBBING	441500000-N	1115	2	EA	FLASHING ARROW PANELS, TYPE C
005700000-E	226	800	CY	UNDERCUT EXCAVATION	442000000-N	1120	2	EA	CHANGEABLE MESSAGE SIGN
008000000-E	SP	1,500	TON	CLASS IV SUBGRADE STABILIZATION	443000000-N	1130	150	EA	DRUMS
013400000-E	240	300	CY	DRAINAGE DITCH EXCAVATION	443500000-N	1135	100	EA	CONES
019600000-E	270	2,500	SY	FABRIC FOR SOIL STABILIZATION	444500000-E	1145	200	LF	BARRICADES (TYPE III)
031800000-E	300	550	TON	FOUNDATION CONDITIONING MATERIAL, MINOR STRS	445500000-N	1150	480	MD	FLAGGER
036600000-E	310	1,428	LF	15" RC PIPE CULVERTS, CLASS III	448000000-N	1165	1	EA	TMIA
037200000-E	310	1,324	LF	18" RC PIPE CULVERTS, CLASS III	451000000-N	SP	50	HR	POLICE
037800000-E	310	1,240	LF	24" RC PIPE CULVERTS, CLASS III	452000000-N	1266	50	EA	TUBULAR MARKERS (FIXED)
038400000-E	310	1,048	LF	30" RC PIPE CULVERTS, CLASS III	465000000-N	1251	150	EA	TEMPORARY RAISED PAVEMENT MARKERS
040800000-E	310	88	LF	54" RC PIPE CULVERTS, CLASS III	468500000-E	1205	5,000	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 90 MILS)
099500000-E	340	2,300	LF	PIPE REMOVAL	468600000-E	1205	20,000	LF	THERMOPLASTIC PAVEMENT MARKING LINES (4", 120 MILS)
122000000-E	545	1,500	TON	INCIDENTAL STONE BASE	469500000-E	1205	150	LF	THERMOPLASTIC PAVEMENT MARKING LINES (8", 90 MILS)
133000000-E	607	500	SY	INCIDENTAL MILLING	471000000-E	1205	350	LF	THERMOPLASTIC PAVEMENT MARKING LINES (24", 120 MILS)
149800000-E	610	4,460	TON	ASPHALT CONC INTERMEDIATE COURSE, TYPE 119.0B	472500000-E	1205	40	EA	THERMOPLASTIC PAVEMENT MARKING SYMBOL (90 MILS)
151900000-E	610	5,320	TON	ASPHALT CONC SURFACE COURSE, TYPE S9.5B	481000000-E	1205	4,000	LF	PAINT PAVEMENT MARKING LINES (4")
156000000-E	620	529	TON	ASPHALT BINDER FOR PLANT MIX, GRADE PG 64-22	483500000-E	1205	200	LF	PAINT PAVEMENT MARKING LINES (24")
169300000-E	654	120	TON	ASPHALT PLANT MIX, PAVEMENT REPAIR	484500000-N	1205	36	EA	PAINT PAVEMENT MARKING SYMBOL
220900000-E	838	7	CY	ENDWALLS	485000000-E	1205	100	LF	REMOVAL OF PAVEMENT MARKING LINES (4")
222000000-E	838	10	CY	REINFORCED ENDWALLS	487000000-E	1205	100	LF	REMOVAL OF PAVEMENT MARKING LINES (24")
225300000-E	840	3	CY	PIPE COLLARS	490000000-N	1251	200	EA	PERMANENT RAISED PAVEMENT MARKERS
226400000-E	840	0.2	CY	PIPE PLUGS	491500000-E	1264	4	EA	7 U-CHANNEL POSTS
228600000-N	840	69	EA	MASONRY DRAINAGE STRUCTURES	495500000-N	1264	4	EA	OBJECT MARKERS (END OF ROAD)
230800000-E	840	4	LF	MASONRY DRAINAGE STRUCTURES	600000000-E	1605	5,445	LF	TEMPORARY SILT FENCE
236400000-N	840	13	EA	FRAME WITH TWO GRATES, STD 840.16	600600000-E	1610	75	TON	STONE FOR EROSION CONTROL, CLASS A
236600000-N	840	3	EA	FRAME WITH TWO GRATES, STD 840.24	600900000-E	1610	660	TON	STONE FOR EROSION CONTROL, CLASS B
237400000-N	840	8	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (E)	601200000-E	1610	635	TON	SEDIMENT CONTROL STONE
237400000-N	840	20	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (F)	601500000-E	1615	7.5	ACR	TEMPORARY MULCHING
237400000-N	840	20	EA	FRAME WITH GRATE & HOOD, STD 840.03, TYPE ** (G)	601800000-E	1620	300	LB	SEED FOR TEMPORARY SEEDING
239600000-N	840	2	EA	FRAME WITH COVER, STD 840.54	602100000-E	1620	1.25	TON	FERTILIZER FOR TEMPORARY SEEDING
247400000-N	SP	Lump Sum		GENERIC DRAINAGE ITEM DRY DETENTION BASIN	602400000-E	1622	50	LF	TEMPORARY SLOPE DRAINS
254900000-E	846	9,775	LF	2'-6" CONCRETE CURB & GUTTER	602700000-N	1622	2	EA	INLET PROTECTION AT TEMPORARY SLOPE DRAINS
261200000-E	848	710	SY	6" CONCRETE DRIVEWAY	602900000-E	SP	1,000	LF	SAFETY FENCE
261900000-E	850	12	SY	4" CONCRETE PAVED DITCH	603000000-E	1630	2,400	CY	SILT EXCAVATION
265500000-E	852	35	SY	5" MONOLITHIC CONCRETE ISLANDS (KEYED IN)	603600000-E	1631	3,000	SY	MATTING FOR EROSION CONTROL
336000000-E	863	80	LF	REMOVE EXISTING GUARDRAIL	603800000-E	SP	2,650	SY	PERMANENT SOIL REINFORCEMENT MAT
353600000-E	866	750	LF	CHAIN LINK FENCE, 48" FABRIC	604200000-E	1632	1,340	LF	1/4" HARDWARE CLOTH
354200000-E	866	65	EA	METAL LINE POSTS FOR 48" CHAIN LINK FENCE	607000000-N	SP	4	EA	SPECIAL STILLING BASINS
354800000-E	866	10	EA	METAL TERMINAL POSTS FOR 48" CHAIN LINK FENCE	607103000-E	SP	600	LF	COIR FIBER BAFFLES
355400000-E	866	2	EA	METAL GATE POSTS FOR *** CHAIN LINK FENCE, DOUBLE GATE (48")	608400000-E	1660	8	ACR	SEEDING & MULCHING
356500000-E	866	1	EA	DOUBLE GATES, *** HIGH, *** WIDE, *** OPENING (48" HIGH, 10' WIDE, 20' OPENING)	608700000-E	1660	4.5	ACR	MOWING
364900000-E	876	40	TON	RIP RAP, CLASS B	609000000-E	1661	100	LB	SEED FOR REPAIR SEEDING
365600000-E	876	240	SY	FILTER FABRIC FOR DRAINAGE	609300000-E	1661	0.25	TON	FERTILIZER FOR REPAIR SEEDING
440000000-E	1110	468	SF	WORK ZONE SIGNS (STATIONARY)	609600000-E	1662	175	LB	SEED FOR SUPPLEMENTAL SEEDING
					610800000-E	1665	6	TON	FERTILIZER TOPDRESSING
					611100000-E	SP	96	LF	IMPERVIOUS DIKE
					611400000-N	SP	3	HR	SPECIALIZED HAND MOWING
					611700000-N	SP	12	EA	RESPONSE FOR EROSION CONTROL

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 Date: 10/26/98

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

SUMMARY OF EARTHWORK

IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	UNDERCUT	EMBT+%	BORROW	WASTE
SUMMARY NO. 1					
-L- 12+30.00 TO 52+46.59 LT	32		4988	4956	
-Y1- 10+25.00 TO 11+50.00	2		90	88	
-Y5- 10+45.00 TO 12+00.00	15		148	133	
TOTAL SUMMARY NO. 1	49		5226	5177	
SUMMARY NO. 2					
-L- 12+30.00 TO 52+46.59 RT	87		3352	3265	
-Y- 10+50.00 TO 10+79.82	19		8		11
-Y2- 10+45.00 TO 10+51.68	2		7	5	
-Y3- 10+50.00 TO 11+50.00	34		13		21
-Y4- 10+50.00 TO 11+25.00	10		57	47	
TOTAL SUMMARY NO. 2	152		3437	3317	32
SUMMARY NO. 3					
-L- 54+69.99 TO 84+50.00 LT	61		2777	2716	
-Y7- 10+75.00 TO 12+00.00	63		5		58
TOTAL SUMMARY NO. 3	124		2782	2716	58
SUMMARY NO. 4					
-L- 54+69.99 TO 84+50.00 RT	74		2305	2231	
-Y6- 10+50.00 TO 10+79.73	3		18	15	
-Y8- 10+50.00 TO 10+54.75	1		4	3	
TOTAL SUMMARY NO. 4	78		2327	2249	
SUB-TOTAL (SUMMARY 1 THRU 4)	403		13772	13459	90
WASTE IN LEIU OF BORROW				-90	-90
PROJECT TOTALS	403		13772	13369	
Estimated for Replacing Topsoil on Borrow Pit				668	
GRAND TOTAL	403			14037	
SAY	450			14100	

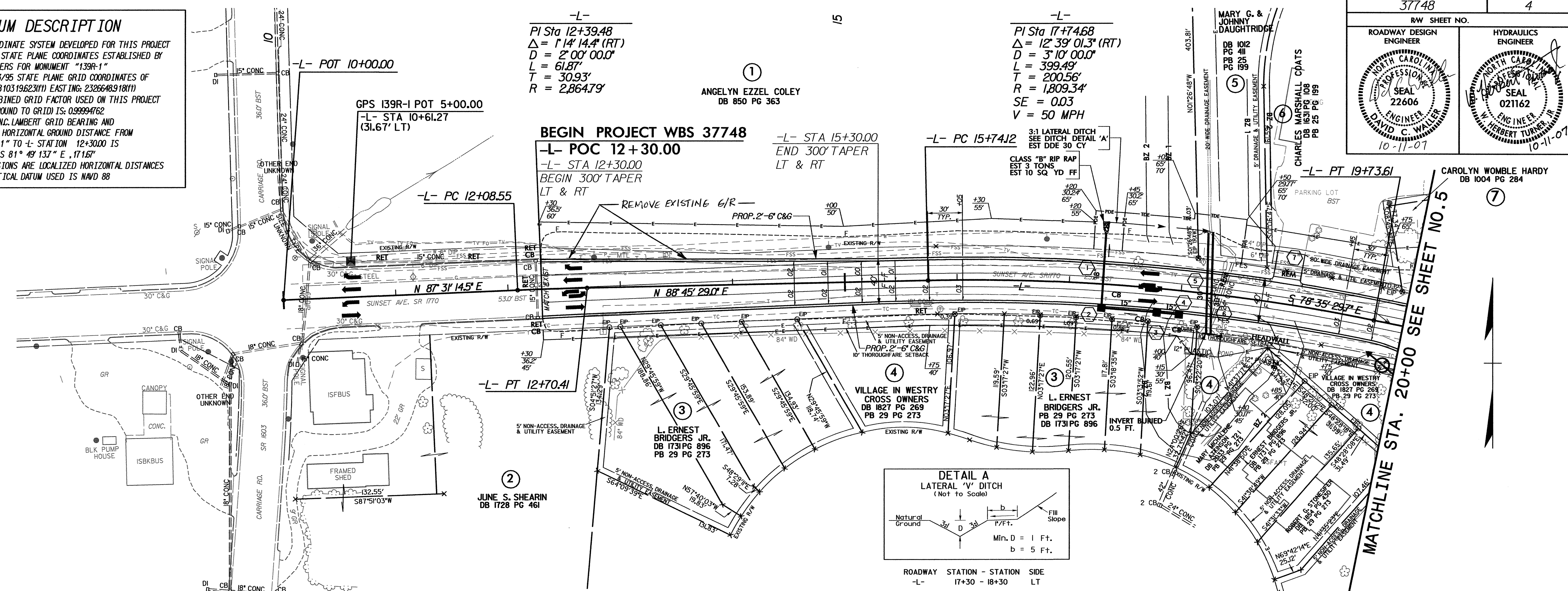
Note: Approximate quantities only. Unclassified Excavation, Borrow Excavation, Shoulder Borrow, Fine Grading, Clearing and Grubbing, Breaking of Existing Pavement, and Removal of Existing Pavement will be paid for at the contract lump sum price for "Grading."

8/17/99

DATUM DESCRIPTION

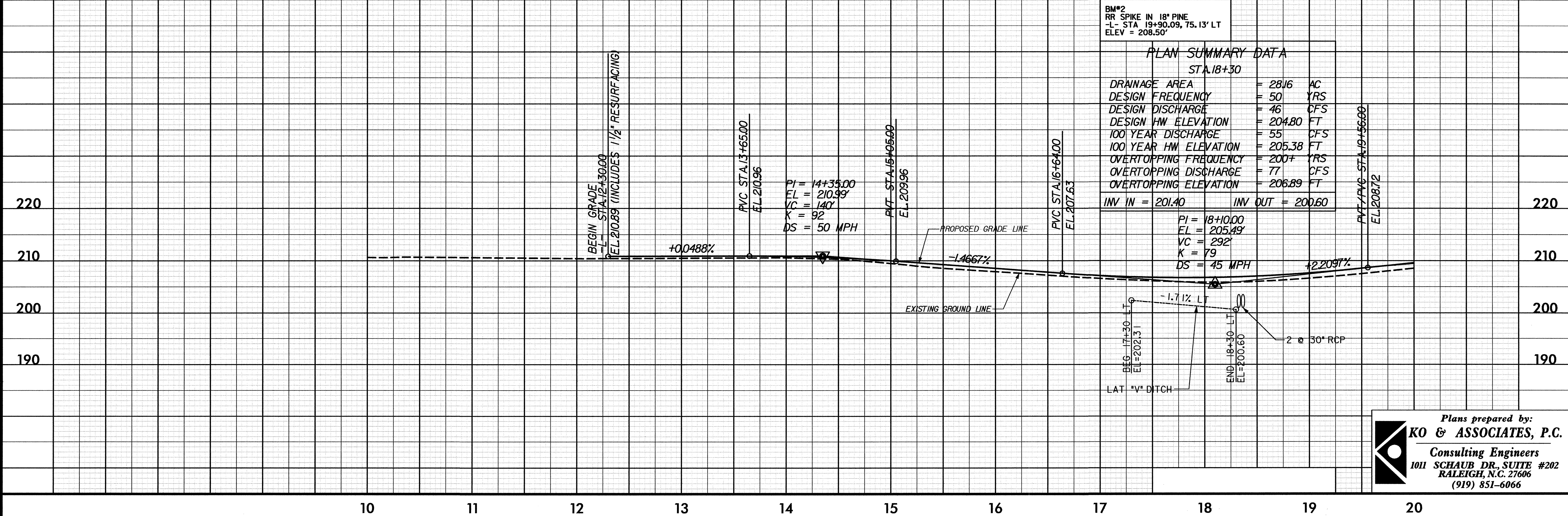
THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY OTHERS FOR MONUMENT "139R-1" WITH NAD 1983/95 STATE PLANE GRID COORDINATES OF NORTHING: 8103196231(F) EASTING: 2326648918(F) THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.99994762 THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "139R-1" TO +L- STATION 12+30.00 IS S 81° 49' 13.7" E , 171.61' ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88

PROJECT REFERENCE NO. 37748	SHEET NO. 4
RW SHEET NO.	HYDRAULICS ENGINEER
ROADWAY DESIGN ENGINEER	SEAL
DAVID C. WALKER 22606 10-11-07	DAVID C. WALKER 22606 10-11-07



PLAN SUMMARY DATA
STA. 18+30

DRAINAGE AREA	= 28.16	AC
DESIGN FREQUENCY	= 50	YRS
DESIGN DISCHARGE	= 46	CFS
DESIGN HW ELEVATION	= 204.80	FT
100 YEAR DISCHARGE	= 55	CFS
100 YEAR HW ELEVATION	= 205.38	FT
OVERTOPPING FREQUENCY	= 200+	YRS
OVERTOPPING DISCHARGE	= 77	CFS
OVERTOPPING ELEVATION	= 206.89	FT
INV IN	= 201.40	
INV OUT	= 200.60	

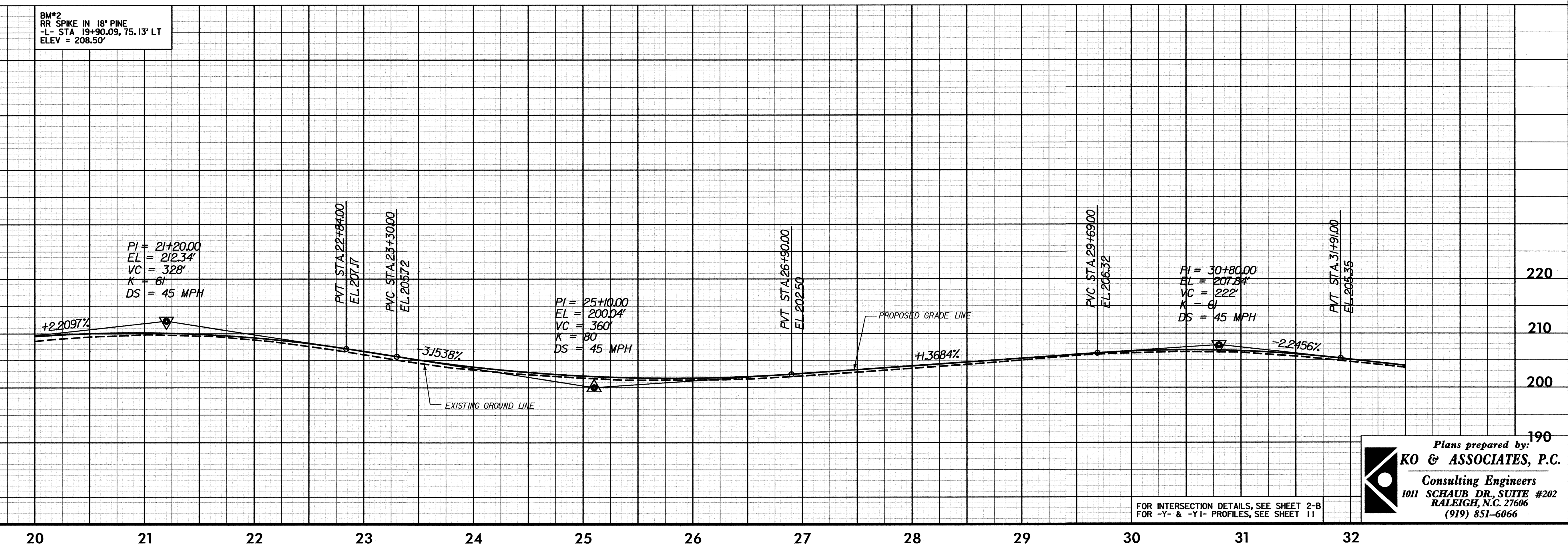
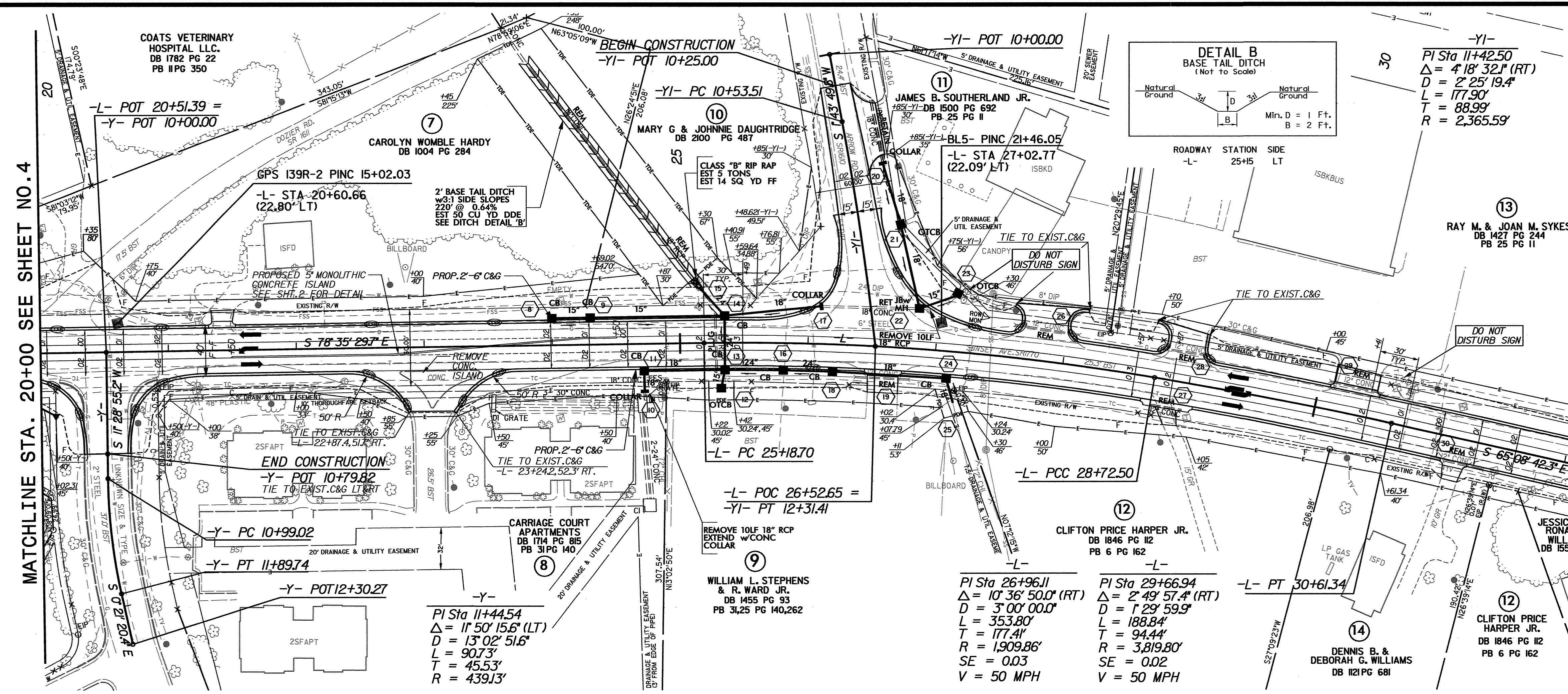


Plans prepared by:
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10/17/2007
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PROJECT REFERENCE NO. 37748	SHEET NO. 5
RW SHEET NO.	
ROADWAY DESIGN ENGINEER DAVID C. WALKER 22606 10-11-07	HYDRAULICS ENGINEER HERBERT TURNER, JR. 021162 10-11-07



Plans prepared by:
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 Consulting Engineers
 1011 SCHAUH DR., SUITE #202
 RALEIGH, N.C. 27606
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FOR INTERSECTION DETAILS, SEE SHEET 2-B
 FOR -Y- & -YI- PROFILES, SEE SHEET 11

RAY M. & JOAN M. SYKES
DB 1427 PG 244
PB 25 PG 11

-BL6- PINC 27+34.89

-L- STA 32+88.87
(27.18' LT)

JEFFEREY &
DENISE E. SYKES
DB 1427 PG 240
PB 22 PG 33

DO NOT
DISTURB SIGN

-L- POT 34+47.04 =
-Y2- POT 10+00.00

(19)
RUPERT E. BLAND
DB 1191 PG 457
PB 15 PG 378

-L-
PI Sta 38+58.39
 $\Delta = 17' 52' 41.5''$ (LT)
D = 4' 00' 00.0"
L = 446.96'
T = 225.31'
R = 1,432.39'
SE = 0.04
V = 50 MPH

(21)
McKENNEY JR. &
ROSE DIXON
DB 1647 PG 703
PB 20 PG 216

-BL7- PINC 33+40.76
-L- STA 38+99.36
(17.69' LT)

(24)
JOHNNY A. DEW
DB 1396 PG 540
PB 20 PG 308

-L- POC 40+17.65 =
-Y3- PC 10+00.00

-L-
PI Sta 46+69.23
 $\Delta = 6' 30' 47.3''$ (RT)
D = 1' 00' 00.0"
L = 651.31'
T = 326.01'
R = 5,729.58'
SE = 0.02
V = 50 MPH

-L- POC 44+25.39 =
-Y4- POT 10+00.00

(26)
ARROW, INC.
DB 2117 PG 93
PB 15 PG 378

PROJECT REFERENCE NO.	37748	SHEET NO.	6
ROADWAY DESIGN ENGINEER	DAVID C. WALLER		
HYDRAULICS ENGINEER	HERBERT TURNER		
PROFESSIONAL SEAL	22606	PROFESSIONAL SEAL	021162
DATE	10-5-07	DATE	10-11-07

MATCHLINE STA. 32+50
SEE SHEET NO. 5

MATCHLINE STA. 45+00
SEE SHEET NO. 7

END CONSTRUCTION
-Y2- POT 10+51.68

JESSICA C. &
RONALD D. WILLIAMS
DB 1551 PG 1030

-Y2- PC 11+21.82

-Y2- PT 11+38.38

-Y2- PT 12+13.70

-Y2- POT 12+24.74

-Y2- PC 11+74.70

-Y2- PT 12+31.70

-Y2- POT 12+24.74

-Y2- POT 12+24.74

-Y2- POT 12+24.74

-Y2- POT 12+24.74

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-Y2- POT 12+24.74

-Y2- POT 12+24.74

-Y2- POT 12+24.74

-Y2- POT 12+24.74

-Y2-
PI Sta 10+79.17
 $\Delta = 2' 28' 11.9''$ (LT)
D = 9' 55' 47.8"
L = 24.87'
T = 12.44'
R = 577.00'

-Y2-
PI Sta 11+30.10
 $\Delta = 0' 37' 58.0''$ (RT)
D = 3' 49' 11.0"
L = 16.57'
T = 8.28'
R = 1,500.00'

-Y2-
PI Sta 11+94.45
 $\Delta = 22' 20' 54.9''$ (LT)
D = 57' 17' 44.8"
L = 39.01'
T = 19.75'
R = 100.00'

-Y2-
PI Sta 11+94.45
 $\Delta = 22' 20' 54.9''$ (LT)
D = 57' 17' 44.8"
L = 39.01'
T = 19.75'
R = 100.00'

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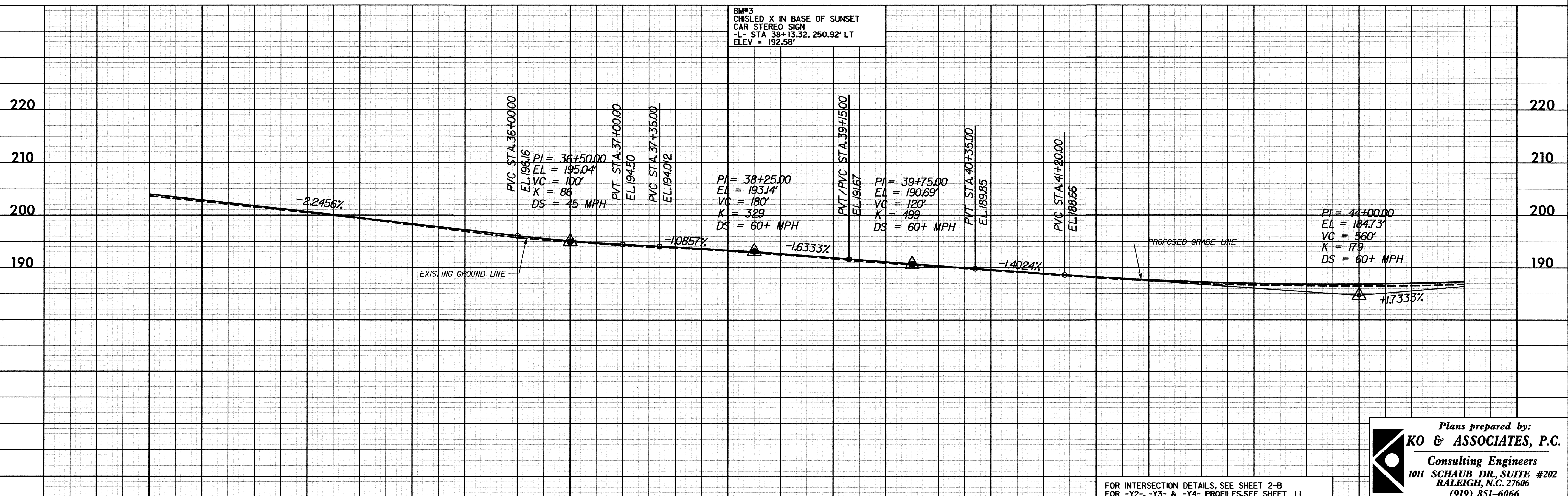
-Y2-
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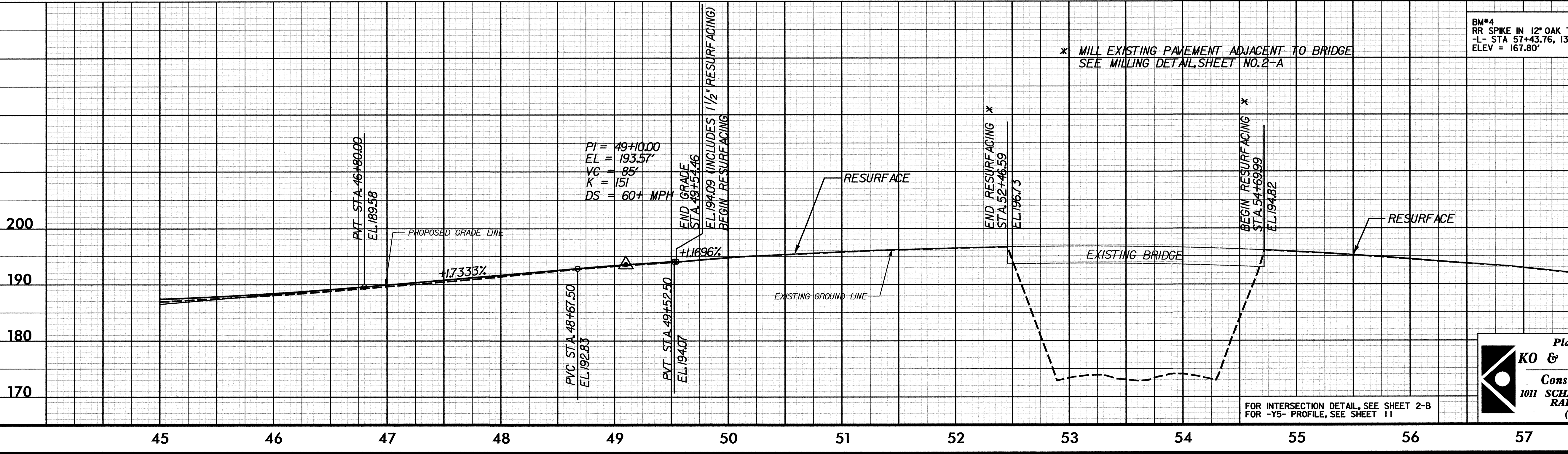
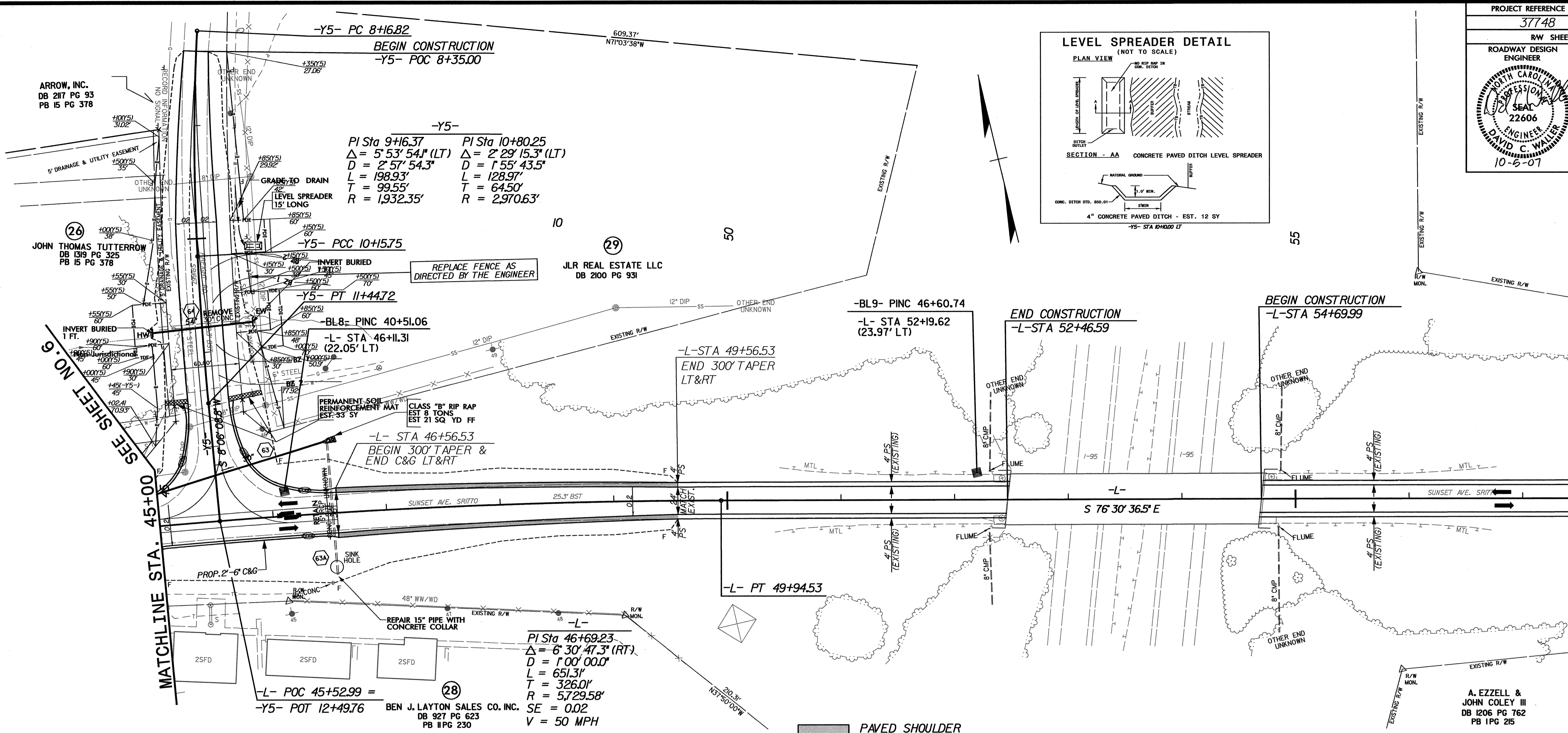
-Y2-
PI Sta 11+94.45
 $\Delta = 22' 20' 54.9''$ (LT)
D = 57' 17' 44.8"
L = 39.01'
T = 19.75'
R = 100.00'

-Y2-
PI Sta 11+94.45
 $\Delta = 22' 20' 54.9''$ (LT)
D = 57' 17' 44.8"
L = 39.01'
T = 19.75'
R = 100.00'



8/17/99
10/5/2007
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PROJECT REFERENCE NO. 37748	SHEET NO. 7
RW SHEET NO.	
ROADWAY DESIGN ENGINEER DAVID C. WALLER SEAL 22606 10-5-07	HYDRAULICS ENGINEER HERBERT TURNER, JR. SEAL 021162 10-11-07



BM#4
RR SPIKE IN 12" OAK TREE
-L- STA 57+43.76, 136.46' LT
ELEV = 167.80'

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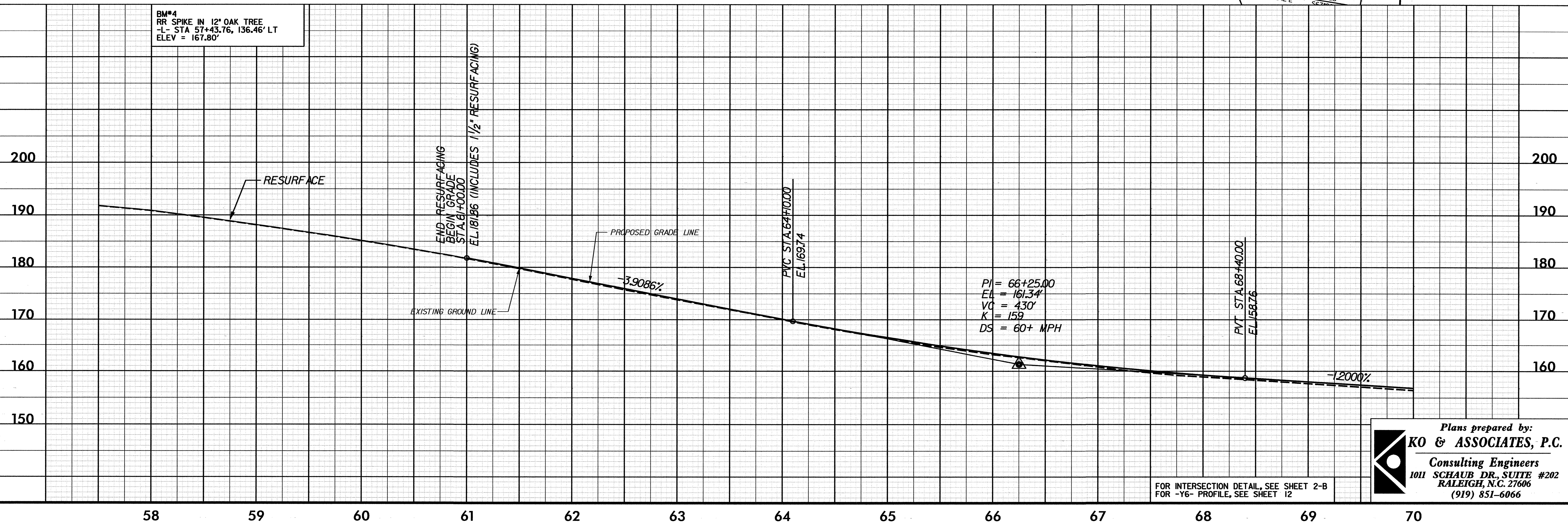
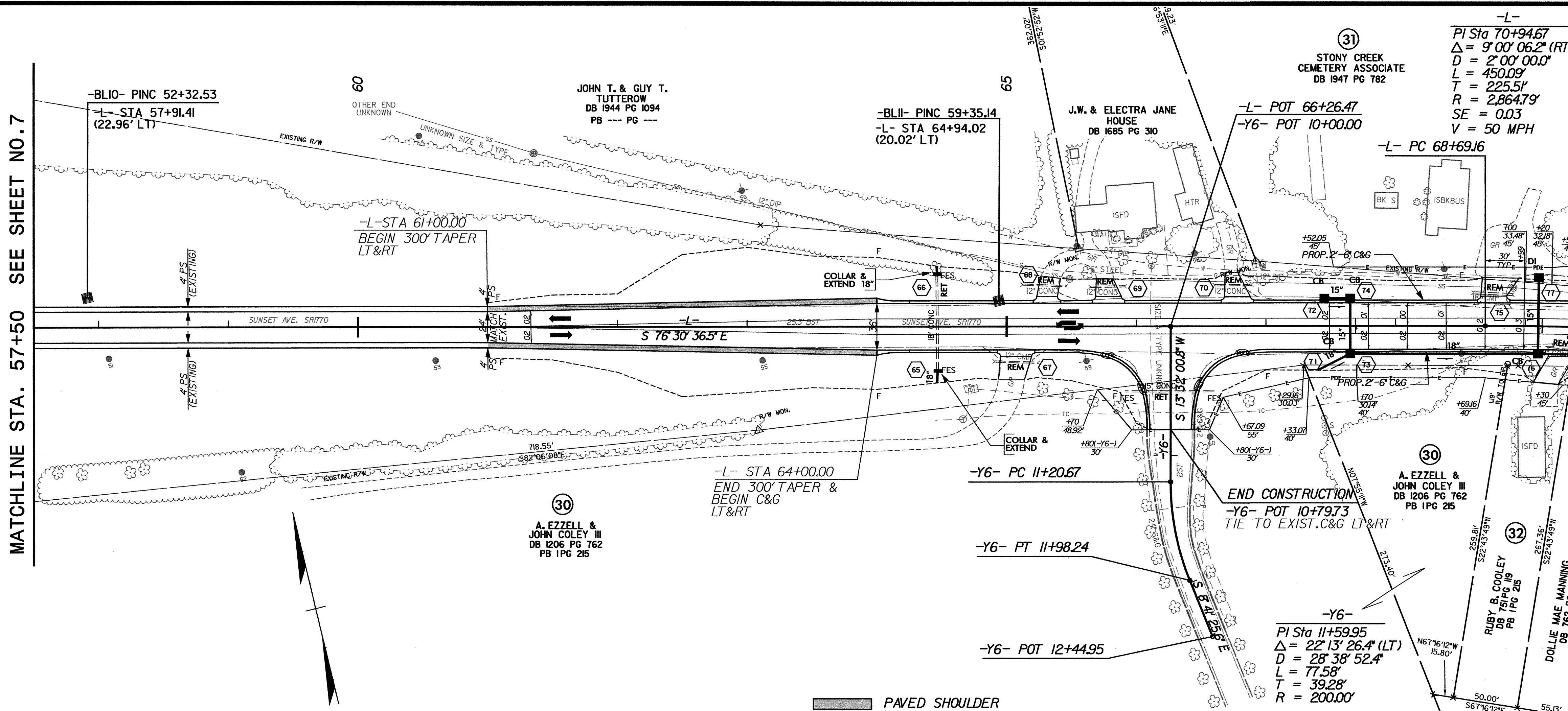
FOR INTERSECTION DETAIL, SEE SHEET 2-B
FOR -Y5- PROFILE, SEE SHEET 11

MATCHLINE STA. 57+50 SEE SHEET NO. 8

8/17/99

10/5/2007
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PROJECT REFERENCE NO. 37748	SHEET NO. 8
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



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FOR INTERSECTION DETAIL, SEE SHEET 2-B
 FOR -Y6- PROFILE, SEE SHEET 12

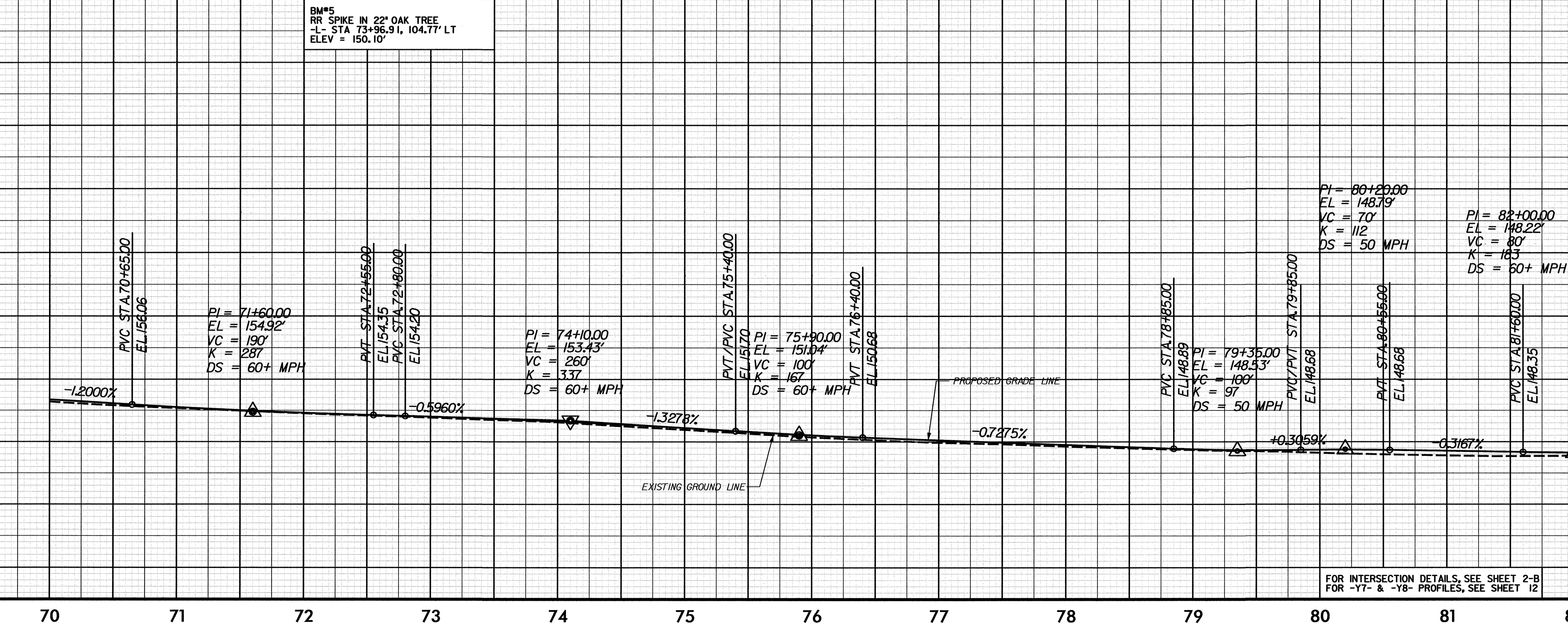
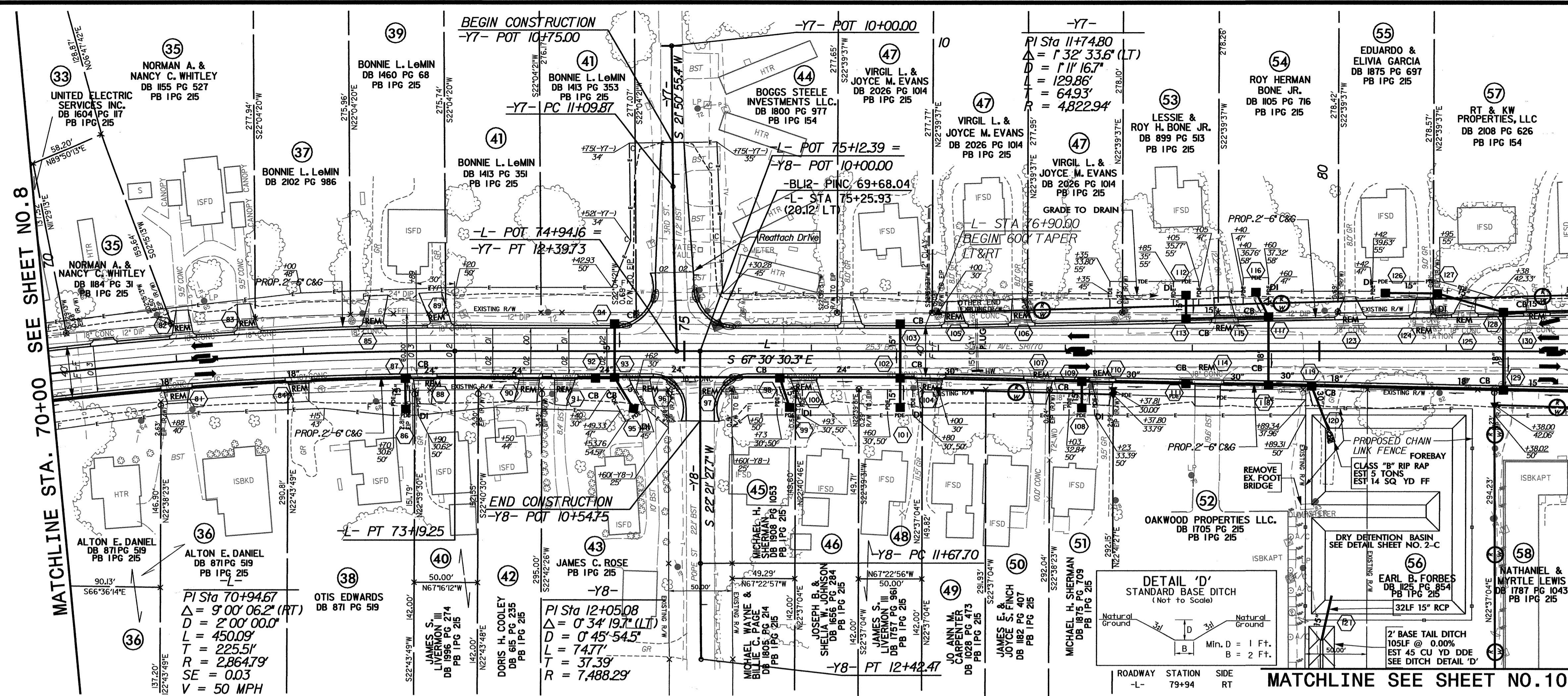
8/17/99

8/17/99

PROJECT REFERENCE NO. 37748	SHEET NO. 9
RW SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

MATCHLINE STA. 70+00 SEE SHEET NO. 8

MATCHLINE STA. 82+00 SEE SHEET NO. 10



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FOR INTERSECTION DETAILS, SEE SHEET 2-B
 FOR -Y7- & -Y8- PROFILES, SEE SHEET 12

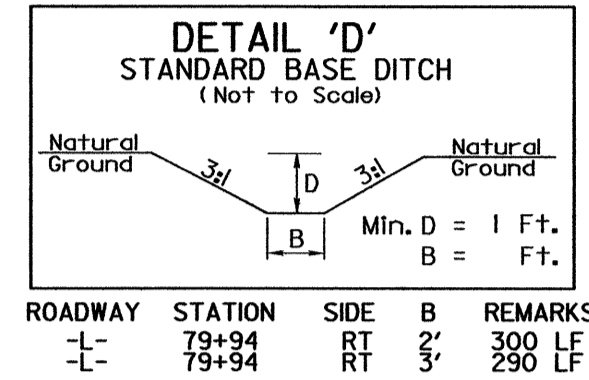
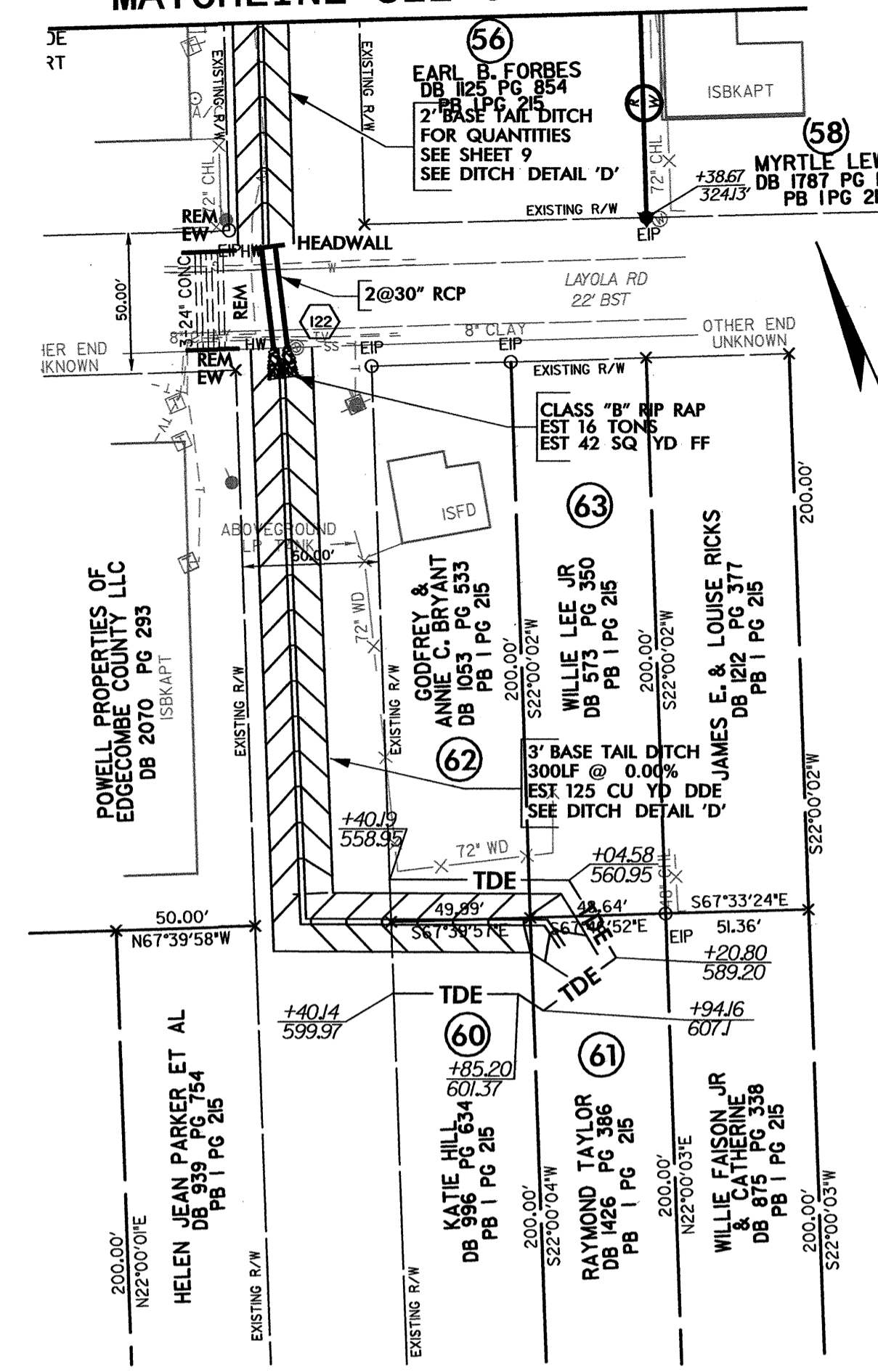
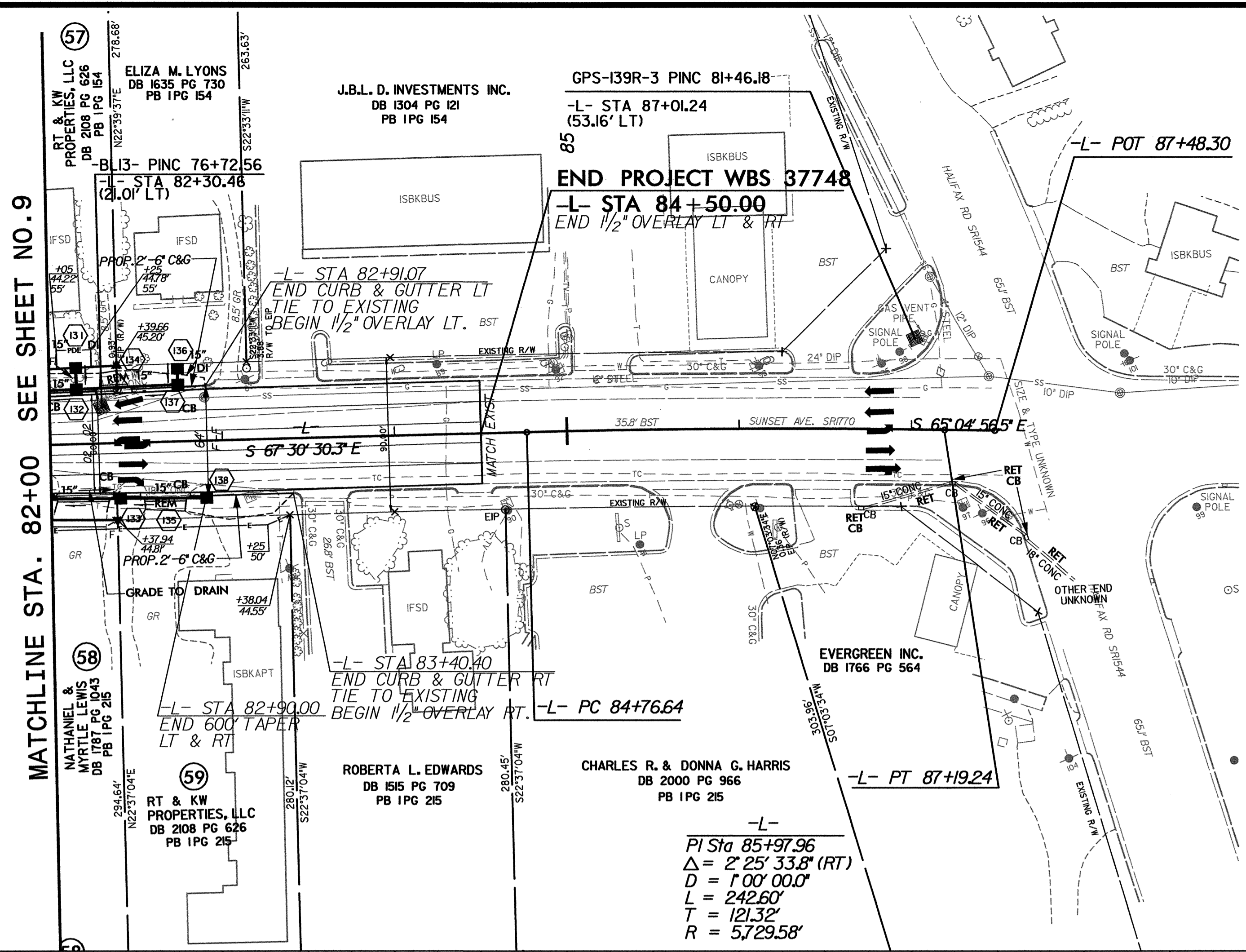
8/17/99

9/14/2007
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PROJECT REFERENCE NO. 37748		SHEET NO. 10	
RW SHEET NO.		HYDRAULICS ENGINEER	
ROADWAY DESIGN ENGINEER		SEAL 22606 10-11-07	
SEAL 22606 10-11-07		SEAL 021162 10-11-07	

MATCHLINE STA. 82+00 SEE SHEET NO.9

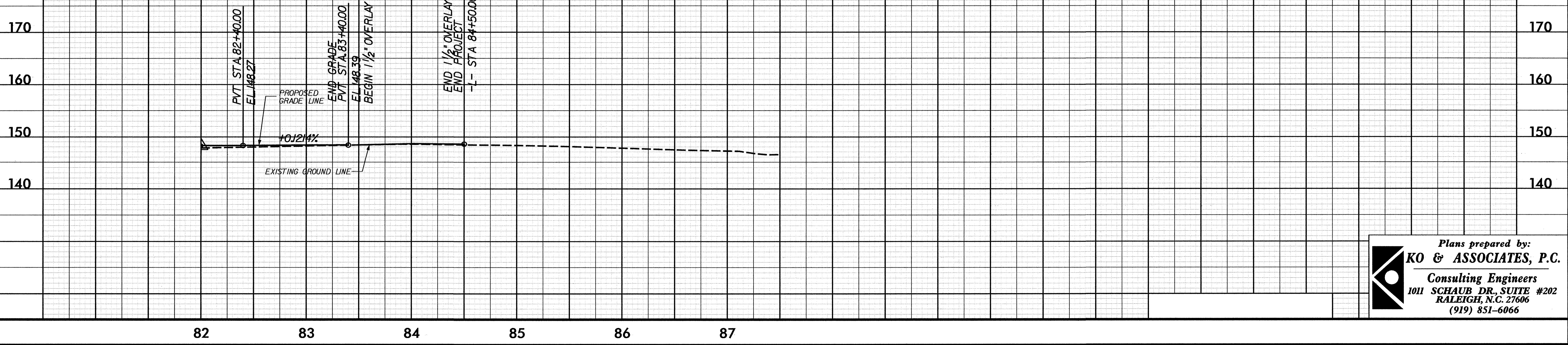
MATCHLINE SEE SHEET NO.9



STRUCTURE HYDRAULIC DATA
2 @ 30" RCP

DRAINAGE AREA	= 16.18	AC
DESIGN DISCHARGE	= 28.0	CFS
DESIGN FREQUENCY	= 25	YRS
DESIGN HW ELEVATION	= 144.91	FT
Q100 DISCHARGE	= 45.00	CFS
Q100 HW ELEVATION	= 145.74	FT
OVERTOPPING FREQUENCY	= 200+	YRS
OVERTOPPING DISCHARGE	= 64	CFS
OVERTOPPING ELEVATION	= 146.71	FT
INVERT IN = 142.63		INVERT OUT = 142.43

$PI = 82+00.00$
 $EL = 148.22$
 $VC = 80$
 $K = 183$
 $DS = 60+ MPH$



Plans prepared by:
KO & ASSOCIATES, P.C.
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 1011 SCHAUB DR., SUITE #202
 RALEIGH, N.C. 27606
 (919) 851-6066

B/17/99

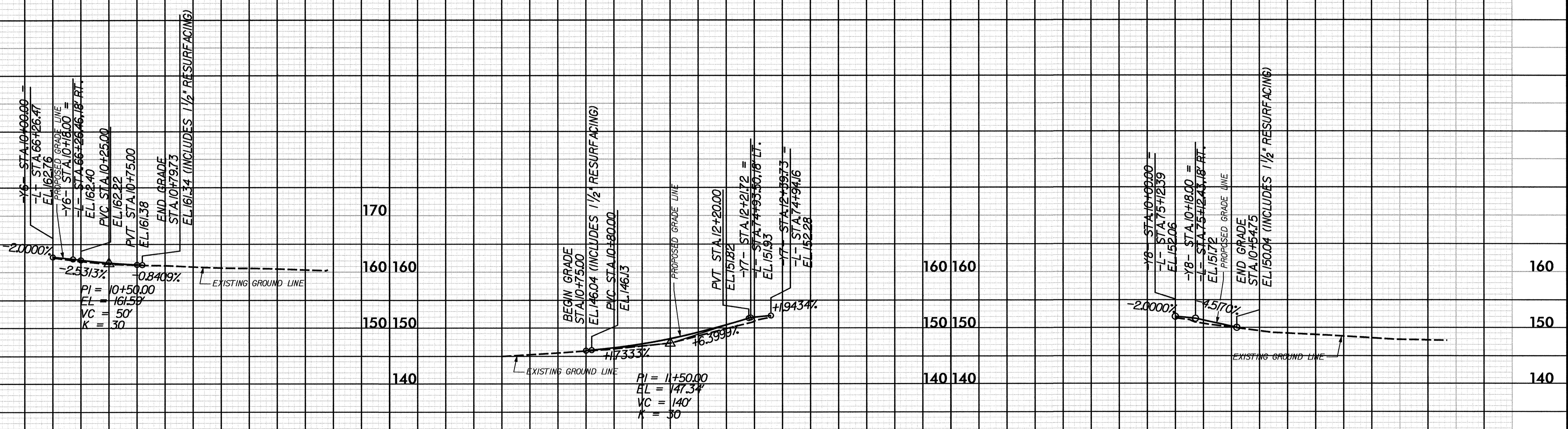
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PROJECT REFERENCE NO. 37748	SHEET NO. 12
ROADWAY DESIGN ENGINEER DAVID C. WALLER SEAL 22606 10-6-07	HYDRAULICS ENGINEER HERBERT TURNER JR. SEAL 021162 10-11-07

-Y6- SUNSHINE DR.

-Y7- 3RD ST

-Y8- POPE ST.



10

11

12

10

11

12

10

11

12

FOR -Y6- PLAN, SEE SHEET 8
FOR -Y7- & -Y8- PLANS, SEE SHEET 9

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