

LOCATION MAP

LATITUDE: 81°54'48" LONGITUDE: 39°52'21"

SCALE IN MILES  
0 1 2 3 4



PORTION TO BE IMPROVED  
INTERSTATE HIGHWAY  
STATE & FEDERAL ROUTES  
COUNTY & TOWNSHIP ROADS  
OTHER ROADS

DESIGN DESIGNATION

CURRENT ADT (2012) - - - - - 8,000  
DESIGN YEAR ADT (2024) - - - - - 8,900  
DESIGN HOURLY VOLUME (2024) - - - - - 890  
DIRECTIONAL DISTRIBUTION - - - - - 55%  
TRUCKS (24 HOUR B&C) - - - - - 9%  
DESIGN SPEED - - - - - 35 MPH  
LEGAL SPEED - - - - - 35 MPH  
DESIGN FUNCTIONAL CLASSIFICATION:  
RURAL MINOR ARTERIAL  
NHS PROJECT - - - - - NO

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES	
CONTACT BOTH SERVICES CALL TWO WORKING DAYS BEFORE YOU DIG	
CALL 1-800-362-2764 (TOLL FREE)	
OHIO UTILITIES PROTECTION SERVICE NON-MEMBERS MUST BE CALLED DIRECTLY	
OIL & GAS PRODUCERS PROTECTIVE SERVICE CALL: 1-800-925-0988	

PLAN PREPARED BY:  
Ohio Department of  
Transportation  
District 5

STATE OF OHIO  
DEPARTMENT OF TRANSPORTATION

PROJECT DESCRIPTION

PAVEMENT PLANING AND RESURFACING, UPGRADE  
SIDEWALKS, CURB RAMPS AND DRAINAGE  
STRUCTURES ON S.R. 60 IN DUNCAN FALLS FROM  
BRIDGE ST. TO MILLER'S LANE/WATERS ST.

MUS-60-8.03

WAYNE TOWNSHIP  
MUSKINGUM COUNTY

PROJECT EARTH DISTURBED AREA: X.XX ACRES  
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: X.XX ACRES  
NOTICE OF INTENT EARTH DISTURBED AREA: (NOI NOT REQUIRED)

INDEX OF SHEETS:

TITLE SHEET	1
TYPICAL SECTIONS	2-4
GENERAL NOTES	x
GENERAL SUMMARY	x
CALCULATIONS	x
S.R. 60 PLAN SHEETS	5-19
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S.R. 60 DRIVE PROFILES	20-29
CURB RAMP & DETECTABLE	
WARNING DETAILS	x
TRAFFIC CONTROL	x
RIGHT OF WAY	x

2010 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF  
OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING  
CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED  
IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT  
THE MAKING OF THESE IMPROVEMENTS WILL NOT REQUIRE  
THE CLOSING OF THE HIGHWAY AND PROVISIONS FOR THE  
MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS  
INDICATED IN THE PROPOSAL.

STAGE 2 SUBMISSION  
4/08/11

ENGINEER'S SEAL:	STANDARD CONSTRUCTION DRAWINGS					SUPPLEMENTAL SPECIFICATIONS				
	BP-3.1	10-19-07	HL-10.11	4-17-19	TC-42.10	1-19-07	MT-35.10	4-20-01	800	1-21-11
	BP-4.1	7-16-04	HL-10.12	10-15-10	TC-42.20	7-16-04	MT-97.12	10-15-10	802	10-15-10
	BP-5.1	7-28-00	HL-20.11	1-19-07	TC-52.10	1-19-07	MT-99.20	1-16-09	815	1-19-07
		10-15-10	HL-30.11	1-16-09	TC-52.20	1-19-07	MT-101.90	1-16-09	816	1-19-07
			HL-30.22	4-17-09	TC-71.10	1-15-10	MT-105.10	1-16-09	823	10-15-10
	CB-1.1	7-15-05	HL-60.11	1-19-07	TC-81.21	7-16-10	MT-110.10	1-16-09	832	5-05-09
	CB-2.2	7-15-05	HL-60.12	1-19-07	TC-83.10	1-19-07				
					TC-83.20	1-19-07				
	MH-1.1	7-19-02	TC-12.30	1-19-07	TC-85.10	10-16-09				
					TC-21.20	10-15-10	TC-85.20	10-15-10		
	DM-1.1	4-21-06	TC-22.10	1-19-01						
	DM-1.4	4-21-06	TC-41.20	1-19-01						
	DM-4.1	4-21-06	TC-41.30	1-19-07						
					TC-41.40	7-16-04				

APPROVED \_\_\_\_\_  
DATE \_\_\_\_\_ DISTRICT DEPUTY DIRECTOR

APPROVED \_\_\_\_\_  
DATE \_\_\_\_\_ DIRECTOR, DEPARTMENT OF  
TRANSPORTATION

RAILROAD INVOLVEMENT	NONE
CONSTRUCTION PROJECT NO.	86719
FEDERAL PROJECT NO.	E090 (897)

1  
X

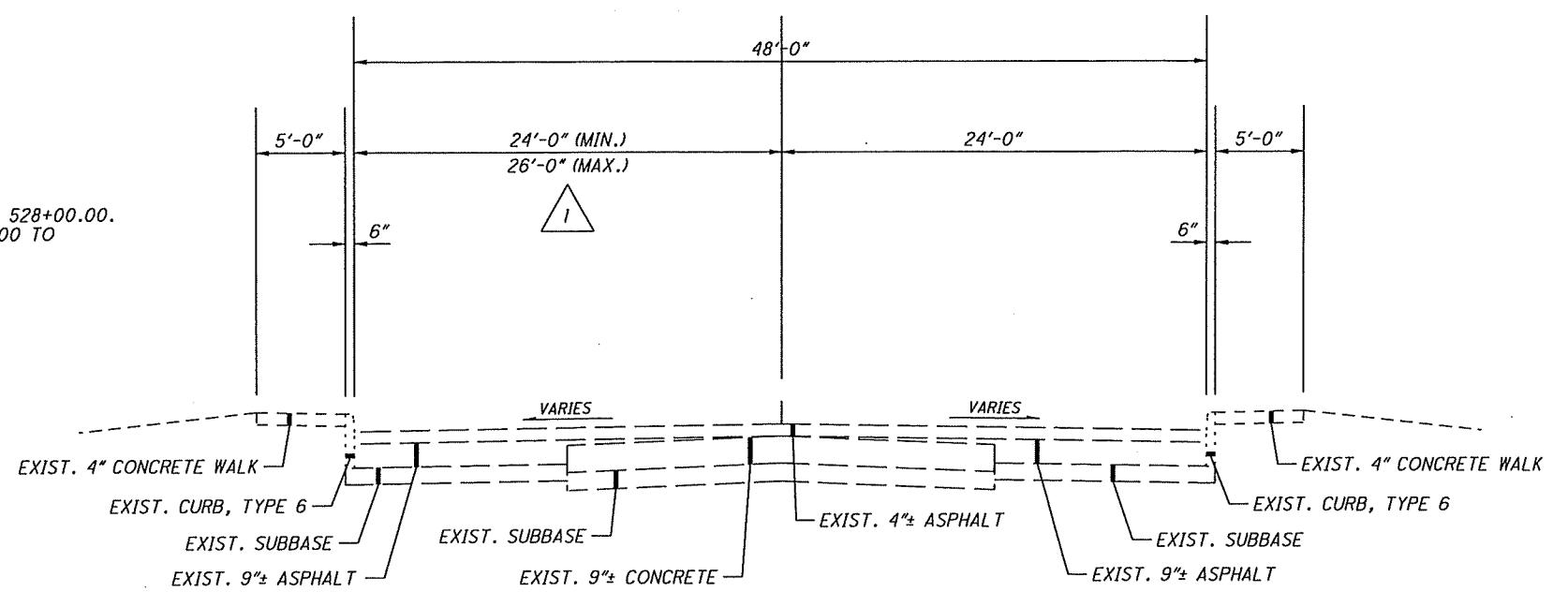
EXISTING TYPICAL SECTIONS (S.R. 60)

MUS-60-8.03

CALCULATED  
CHECKED

SURVEY AND CONSTRUCTION  
S.R. 60

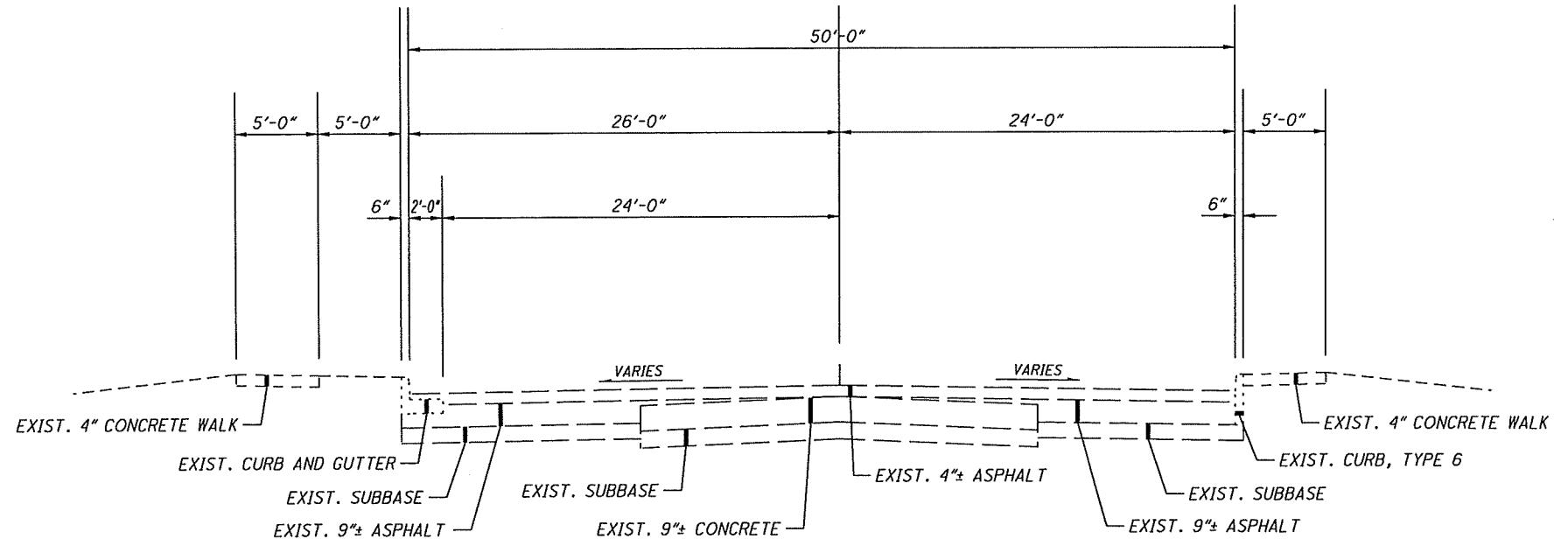
1 24'-0" FROM STA. 498+10.96 TO STA. 528+00.00.  
TAPERS FROM 24'-0" @ STA. 528+00.00 TO  
26'-0" @ STA. 528+50.00



S.R. 60 (EXISTING)  
SECTION APPLIES:

STA. 498+10.76 TO STA. 528+50.00 = 3,039.24 FT.  
TOTAL 3,039.24 FT.

SURVEY AND CONSTRUCTION  
S.R. 60



S.R. 60 (EXISTING)  
SECTION APPLIES:

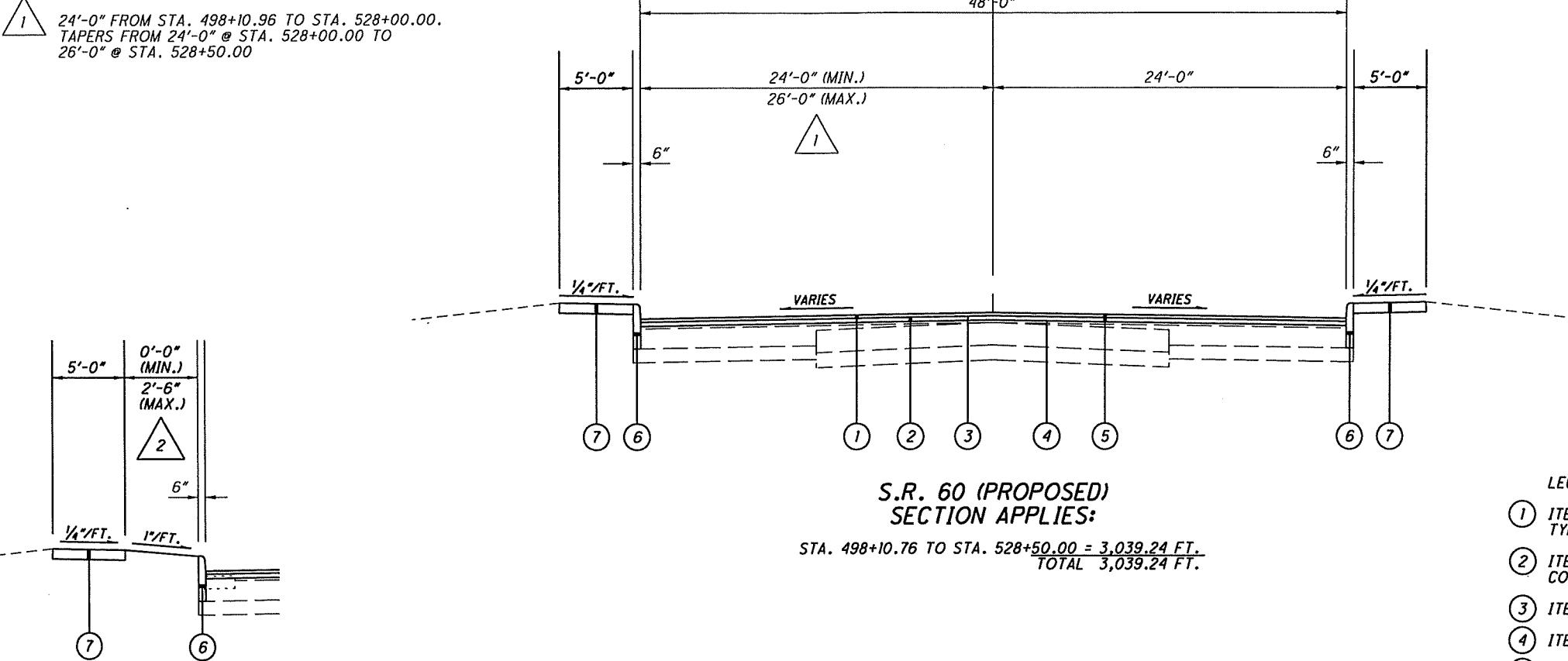
STA. 528+50.00 TO STA. 533+31.90 = 481.90 FT.  
TOTAL 481.90 FT.

PROPOSED TYPICAL SECTIONS (S.R. 60)

CALCULATED  
CHECKED

1 24'-0" FROM STA. 498+10.96 TO STA. 528+00.00.  
TAPERS FROM 24'-0" @ STA. 528+00.00 TO  
26'-0" @ STA. 528+50.00.

SURVEY AND CONSTRUCTION  
S.R. 60

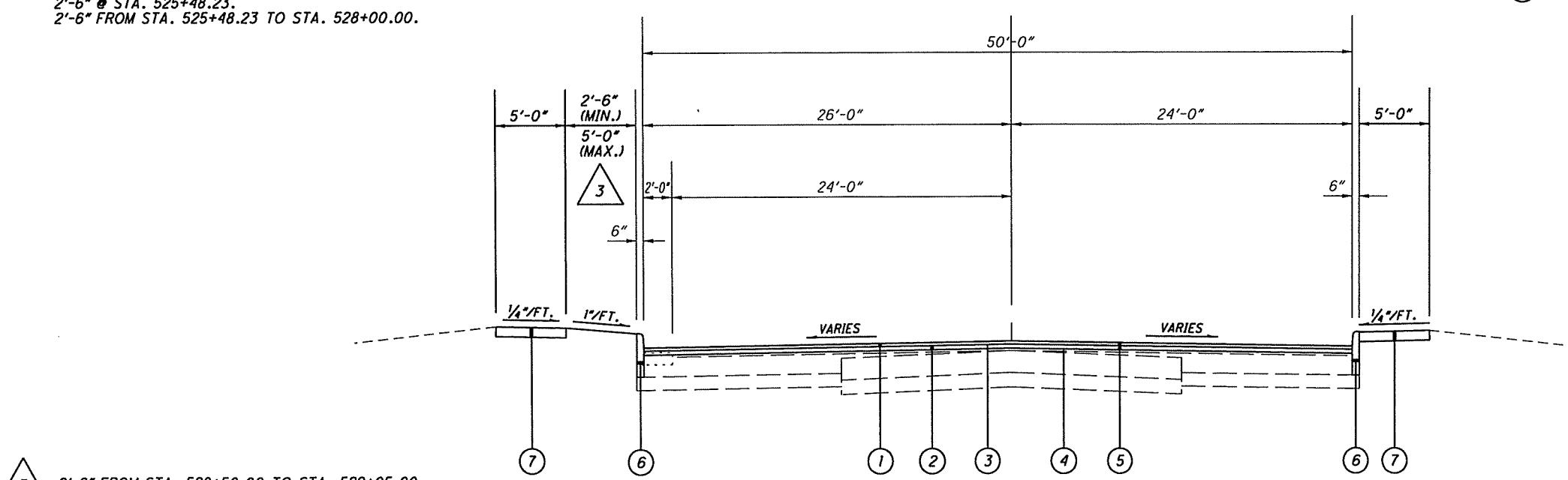


LEGEND

- 1 ITEM 448, 1 1/4" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG70-22M
- 2 ITEM 448, 1 1/4" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22
- 3 ITEM 407, TACK COAT, TRACKLESS TACK, INTERMEDIATE COURSE
- 4 ITEM 407, TACK COAT, TRACKLESS TACK, SURFACE COURSE
- 5 ITEM 254, PAVEMENT PLANING, ASPHALT CONCRETE (3")
- 6 ITEM 609, CURB, TYPE 6
- 7 ITEM 608, 4" CONCRETE WALK

2 0'-0" FROM STA. 498+10.76 TO STA. 525+20.46.  
TAPERS FROM 0'-0" @ STA. 525+20.46 TO  
2'-6" @ STA. 525+48.23.  
2'-6" FROM STA. 525+48.23 TO STA. 528+00.00.

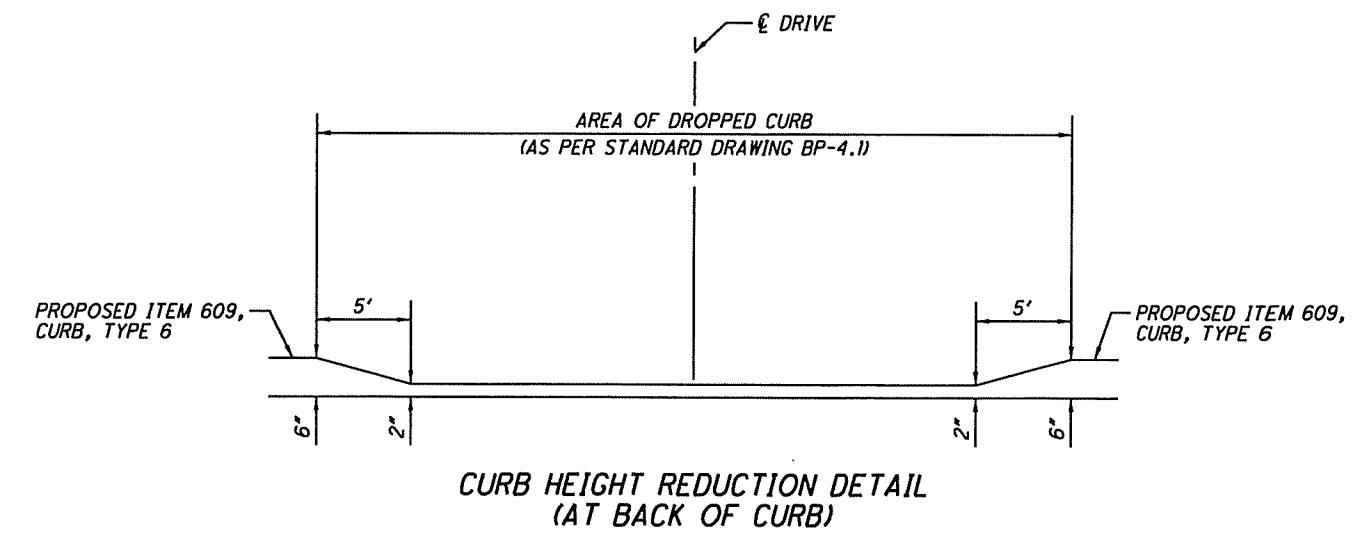
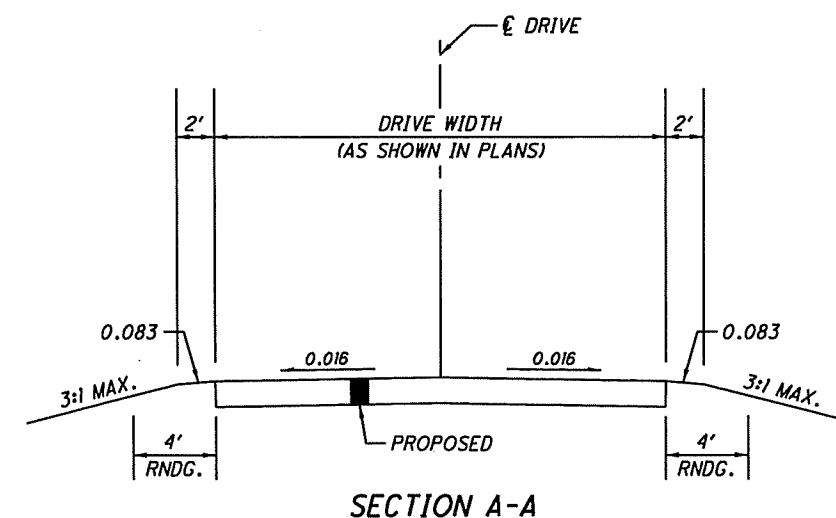
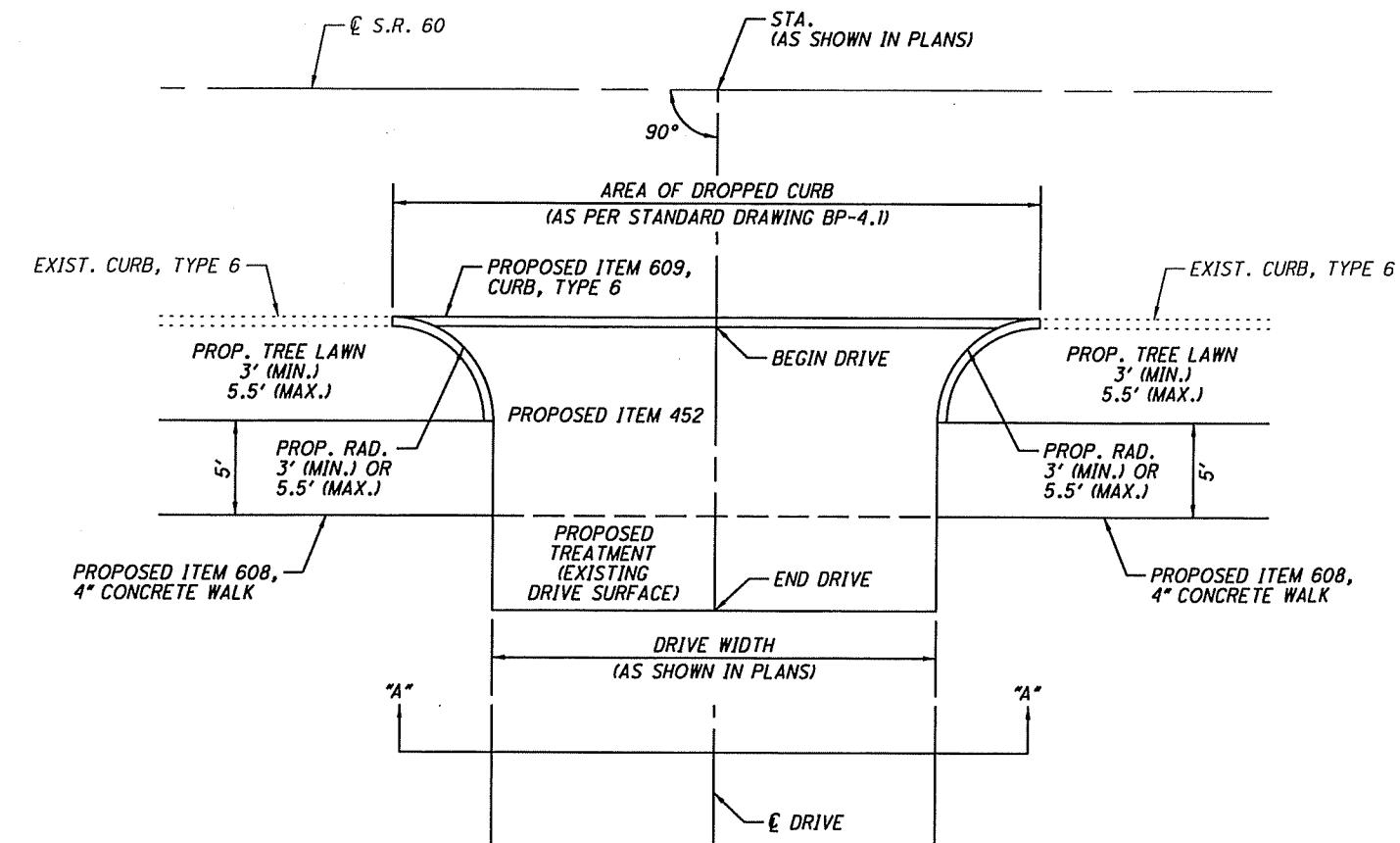
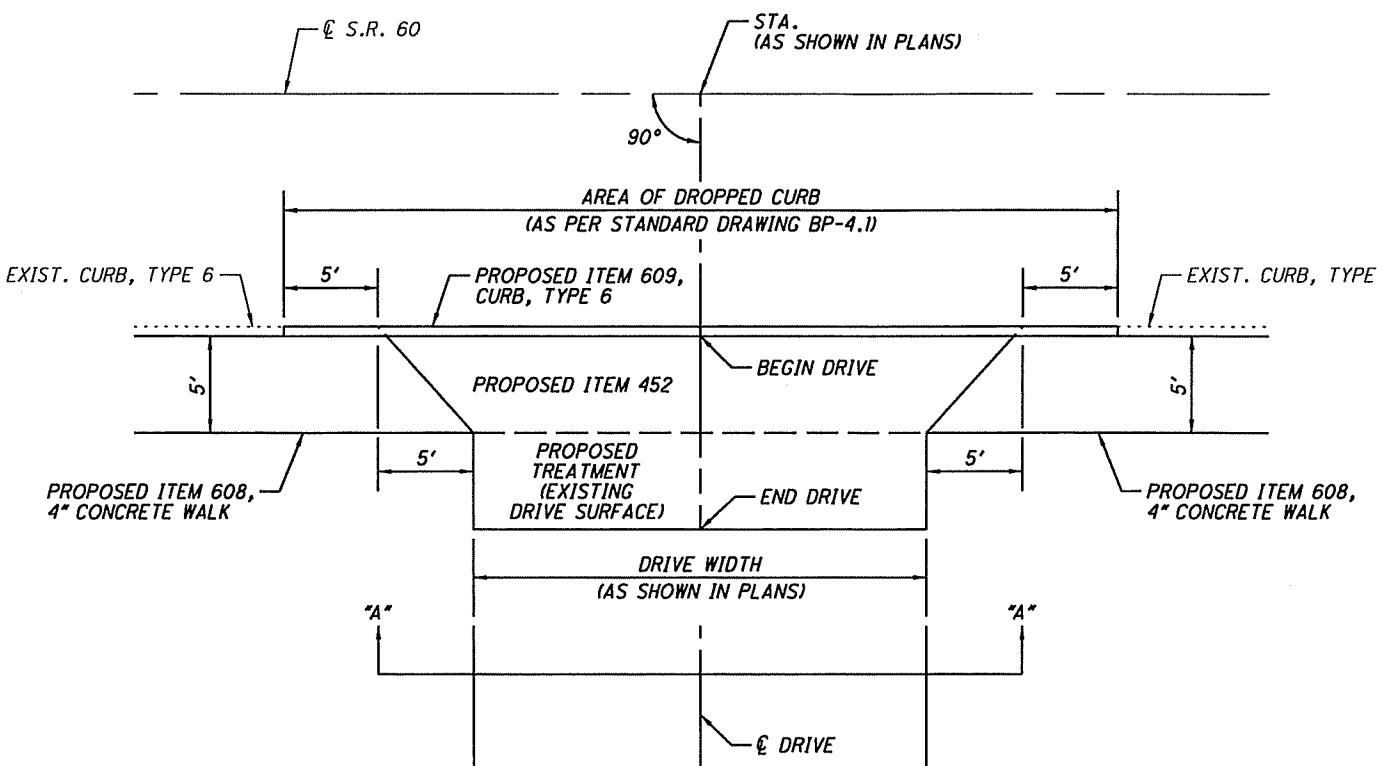
SURVEY AND CONSTRUCTION  
S.R. 60



STA. 528+50.00 TO STA. 533+31.90 = 481.90 FT.  
TOTAL 481.90 FT.

## PROPOSED TYPICAL SECTIONS (DRIVES)

MUS-60-8.03

4  
X

## RESIDENTIAL DRIVE

- 6" OF ITEM 452, NON-REINFORCED CONCRETE PAVEMENT

OR

- 1 1/4" OF ITEM 448, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS)
- ITEM 407 TACK COAT, TRACKLESS TACK, SURFACE COURSE @ (0.04 GAL./SQ. YD.)
- 3 1/2" OF ITEM 301, ASPHALT CONCRETE BASE, PG64-22 (DRIVEWAYS)

OR

- 6" ITEM 304, AGGREGATE BASE

## COMMERCIAL DRIVE

- 8" OF ITEM 452, NON-REINFORCED CONCRETE PAVEMENT

OR

- 1 1/4" OF ITEM 448, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22 (DRIVEWAYS)
- ITEM 407 TACK COAT, TRACKLESS TACK, SURFACE COURSE @ (0.04 GAL./SQ. YD.)
- 5" OF ITEM 301, ASPHALT CONCRETE BASE, PG64-22 (DRIVEWAYS)

OR

- 8" ITEM 304, AGGREGATE BASE

## UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

### CABLE:

TIME WARNER CABLE  
3760 INTERCHANGE DRIVE  
COLUMBUS, OHIO 43204  
ATTN: TERRY ALLEN  
614-255-6349

### ELECTRIC:

AMERICAN ELECTRIC POWER, CENTRAL OHIO REGION  
850 TECH CENTER DRIVE  
GAHANNA, OHIO 43230  
ATTN: PAUL PAXTON  
614-883-6831

### GAS:

THE ENERGY COOPERATIVE  
120 O'NEIL DRIVE  
HEBON, OHIO 43025  
ATTN: GREG WILSON  
740-348-1254

### TELEPHONE:

AT&T OHIO  
160 NORTH SIXTH STREET  
ZANESVILLE, OHIO 43701  
ATTN: SANDY RANDOLPH  
740-454-3455

### WATER:

DUNCAN FALLS ASSOCIATION  
6010 STOVERTOWN ROAD  
PHILO, OHIO 43771  
ATTN: ROBERT PLETCHER  
740-454-0401

MUSKINGUM COUNTY WATER DEPT.  
375 RICHARDS ROAD  
ZANESVILLE, OHIO 43701  
ATTN: DON MADDEN  
740-453-0678

## EXISTING PLANS

EXISTING PLANS ARE AVAILABLE FOR VIEWING OR PURCHASE AT THE ODOT DISTRICT 5 PRODUCTION OFFICE IN JACKSTOWN, OHIO.

## ELEVATION DATUM

USE THE FOLLOWING VERTICAL POSITIONING AND HORIZONTAL POSITIONING PARAMETERS FOR ALL SURVEYING:

### VERTICAL POSITIONING

ORTHOMETRIC HEIGHT DATUM: NAVD88  
GEOID: GEOID03

### HORIZONTAL POSITIONING

REFERENCE FRAME: NAD83 (CORS 96)  
ELLIPSOID: GRS 80  
MAP PROJECTION: LAMBERT CONFORMAL CONIC  
COORDINATE SYSTEM: OHIO STATE PLAN (SOUTH)

UNITS ARE IN U.S. SURVEY FEET.

## CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED FOR SUCH ITEMS SHALL BE INCORPORATED INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

## ITEM 253, PAVEMENT REPAIR

AN ESTIMATED QUANTITY FOR PAVEMENT REPAIR HAS BEEN INCLUDED IN THE PLAN TO BE USED AS DIRECTED BY THE ENGINEER. REPAIRS SHALL TAKE PLACE PRIOR TO THE PLANING/CHIP SEAL OPERATIONS. THE INTENT OF THIS OPERATION IS TO REPAIR THOSE AREAS OF PAVEMENT WHICH HAVE COMPLETELY FAILED (PUMPING OF SUB-BASE MATERIAL) AND NOT TO CORRECT SURFACE IRREGULARITIES. DEPTH OF EXCAVATION SHALL BE APPROXIMATELY 7". AFTER EXCAVATION HAS BEEN COMPLETED, THE FACE OF THE REPAIR SHALL BE COATED WITH 407 TACK COAT. REPLACEMENT MATERIAL WILL BE 7" OF ITEM 301 ASPHALT CONCRETE BASE, PG64-22 (PLACED AND COMPACTED AS DIRECTED). REPAIR QUANTITIES MAY BE USED ON THE MAINLINE PAVEMENT OR ON PAVED SHOULDERS. ALL EXCAVATION, MATERIALS, LABOR, EQUIPMENT, TOOLS, TRAFFIC CONTROL AND INCIDENTALS NEEDED TO COMPLETE THE WORK DESCRIBED ABOVE SHALL BE PAID FOR UNDER ITEM 253 PAVEMENT REPAIR, AS PER PLAN.

THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR THE ABOVE DESCRIBED PURPOSE.

### ITEM 253, PAVEMENT REPAIR LOCATION 1 - 250 CU.YD.

## ITEM 254, PAVEMENT PLANING, ASPHALT CONCRETE

DEPTH OF PLANING SHALL BE 3" FULL WIDTH OF PAVEMENT. THE ROADWAY SHALL BE PLANED SUCH THAT POSITIVE DRAINAGE IS CREATED FROM THE CENTER LINE TO THE EDGE OF PAVEMENT IN TANGENT SECTIONS AND SHALL FOLLOW EXISTING SUPERELEVATIONS WHERE APPLICABLE. ALL REQUIREMENTS OF ITEM 254 SHALL APPLY.

## BUTT JOINT

A BUTT JOINT WILL BE REQUIRED AT LOCATIONS SPECIFIED BELOW AND AT THE EXTRA AREAS WITH WEARING COURSE REMOVED.

**BUTT JOINTS SHALL BE AS PER STANDARD CONSTRUCTION DRAWING BP-3.1 UNLESS OTHERWISE SHOWN IN THE PLANS.**

MINIMUM BUTT JOINT LENGTHS SHALL BE 35' ON THE MAINLINE AND 10' ON THE EXTRA AREAS.

LOCATION	ROUTE	DESCRIPTION	S.L.M.	ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC CU. YD.
1	S.R. 60	BEGIN WORK	8.03	1.6
1	S.R. 60	END WORK	8.86	2.8
		TOTAL		4.4

## RESIDENTIAL AND COMMERCIAL DRIVES

AN ESTIMATED QUANTITY OF ITEM 448 ASPHALT CONCRETE, HAS BEEN INCLUDED IN THE PLAN TO BE USED AS DIRECTED BY THE ENGINEER TO PAVE APPROACH AREAS TO EXISTING DRIVEWAYS. PAVING SHALL TYPICALLY EXTEND 4' INTO THE DRIVEWAY (MEASURED FROM THE EDGE OF PAVEMENT OR PAVED SHOULDER IF PRESENT). THERE ARE 5 TYPES OF DRIVES: CONCRETE, ASPHALT, GRAVEL, GRAVEL WITH ASPHALT APRON AND FIELD/OIL WELL DRIVES. **FIELD DRIVES AND OIL WELL DRIVES SHALL NOT BE PAVED.** GRAVEL DRIVES SHALL BE PAVED BACK 4' INTO THE DRIVE-WAY UNLESS OTHERWISE DIRECTED BY THE ENGINEER. CONCRETE AND ASPHALT DRIVES SHALL HAVE BUTT JOINTS OR AS SHORT AN ASPHALT TAPER AS POSSIBLE (PREFERRED 4') AS DIRECTED BY THE ENGINEER SO AS TO PROVIDE A SMOOTH TRANSITION. GRAVEL DRIVES WITH ASPHALT APRONS SHALL ALSO HAVE BUTT JOINTS OR AS SHORT A ASPHALT TAPER AS POSSIBLE (PREFERRED 4') BUT ONLY IF THE EXISTING ASPHALT APRON IS IN AN ACCEPTABLE CONDITION TO BE PAVED OVER AS DIRECTED BY THE ENGINEER. IF THE ASPHALT APRON CANNOT BE PAVED OVER (FOR EXAMPLE, BROKEN INTO SMALL PIECES) AS DETERMINED BY THE ENGINEER, IT SHALL BE REMOVED BEFORE BEING PAVED BACK 4' INTO THE DRIVEWAY. ALL GRADING, PRIME OR TACK COAT, MATERIALS, LABOR, EQUIPMENT TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE DRIVES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE ITEMS LISTED BELOW.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE SUB-SUMMARIES FOR THE ABOVE DESCRIBED PURPOSE.

### ITEM 448, ASPHALT CONCRETE INTERM. COURSE, TYPE 2, PG 64-22 LOCATION 1 - 27 CU.YD.

### ITEM 448, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG 70-22M LOCATION 1 - 19 CU.YD.

### ITEM 202, WEARING COURSE REMOVED LOCATION 1 - 413 SQ.YD.

CALCULATED  
JLS  
CHECKED  
DNM

## GENERAL NOTES

MUS - 60 - 8.03

X  
X

**ITEM 407 TACK COAT, TRACKLESS TACK, INTERMEDIATE AND SURFACE COURSE**

**DESCRIPTION:** THIS WORK CONSISTS OF PREPARING AND TREATING A PAVED SURFACE WITH NTSS-1HM TRACKLESS TACK PRODUCED BY BLACKLIDGE EMULSIONS, INC. MEET ALL REQUIREMENTS OF CONSTRUCTION AND MATERIAL SPECIFICATIONS ITEM 407 TACK COAT EXCEPT AS NOTED BELOW.

**MATERIAL:** CONFORM TO THE FOLLOWING TYPICAL PHYSICAL PROPERTIES:

PARAMETER	TEST METHOD	MIN	MAX.
SAYBOLT FUROL VISCOSITY, SFS @ 25°C	ASTM D88	15	100
STORAGE STABILITY, 24 HRS, %	ASTM D244	—	1
STORAGE STABILITY, 5 DAYS, %	ASTM D244	—	5
RESIDUE BY DISTILLATION, %	ASTM D244	50	—
OIL DISTILLATE, %	ASTM D244	—	1
SIEVE TEST, %	ASTM D244	—	0.3

**TEST ON RESIDUE:**

PENETRATION, @ 25°C,	ASTM D5	—	20
SOFTENING POINT RANGE DEG C	ASTM D36	65	—
SOLUBILITY, %	ASTM D2042	97.5	—
ORIGINAL BINDER DSR@82°C			
G°/SIN δ, 10 RAD/SEC	AASHTO T111	1	—

NOTE: PRODUCT SHOULD NOT CONTAIN FILLER SUCH AS CLAY, ETC KEEP FROM FREEZING.

SUPPLY CERTIFIED TEST DATA TO THE ENGINEER SHOWING THE MATERIAL SUPPLIED WAS TESTED FOR AND MEETS THE ABOVE PROPERTIES.

**EQUIPMENT:** ALL REQUIREMENTS OF 407.03 APPLY. SEE MANUFACTURER'S REPRESENTATIVE FOR CORRECT DISTRIBUTOR SETTINGS. THOROUGHLY CLEAN ALL EQUIPMENT IF CATIONIC EMULSION WAS PREVIOUSLY USED.

**WEATHER LIMITATIONS:** ALL REQUIREMENTS OF 407.04 APPLY.

**PREPARATION OF SURFACE:** ALL REQUIREMENTS OF 407.05 APPLY..

**APPLICATION OF ASPHALT MATERIAL:** UNIFORMLY APPLY THE ASPHALT MATERIAL WITH A DISTRIBUTOR PER THE REQUIREMENTS OF 407.06 EXCEPT AS NOTED.

IF PRODUCT IS STORED FOR AN EXTENDED PERIOD OF TIME, PRIOR TO APPLICATION, AGITATE OR GENTLY CIRCULATE THE MATERIAL.

ALL NOZZLES AND SPRAY PATTERNS SHALL BE IDENTICAL TO ONE ANOTHER ALONG THE DISTRIBUTOR SPRAY BAR. THE ANGLE OF THE NOZZLE SHOULD A 15 TO 30 DEGREE ANGLE TO THE SPRAY BAR AXIS TO MAXIMIZE OVERLAP OR AS RECOMMENDED BY THE NOZZLE MANUFACTURER. CONTACT THE MANUFACTURER'S REPRESENTATIVE FOR REQUIRED SPRAY NOZZLE SIZE, AND DISTRIBUTOR AND NOZZLE SETTINGS.

APPLY AT A RATE OF 0.04 TO 0.08 GALLONS PER SQUARE YARD. RECOMMENDED APPLICATION TEMPERATURE IS 160°F TO 180°F. DO NOT EXCEED 180°F.

DILUTION IS NOT ALLOWED.

THE ENGINEER AND MANUFACTURER'S REPRESENTATIVE WILL APPROVE RATE OF APPLICATION, TEMPERATURE, DISTRIBUTOR SETTINGS, AND AREAS TO BE TREATED BEFORE APPLICATION OF THE TACK COAT. THE ENGINEER WILL DETERMINE THE ACTUAL APPLICATION IN GALLONS PER SQUARE YARD BY A CHECK ON THE PROJECT.

THE APPLICATION IS CONSIDERED SATISFACTORY WHEN THE MATERIAL IS APPLIED UNIFORMLY WITH NO VISIBLE EVIDENCE OF STREAKING OR RIDGING AND THE APPLICATION RATE IS ±10% OF THE SPECIFIED RATE.

**METHOD OF MEASUREMENT:** ALL REQUIREMENTS OF 407.07 APPLY.

**BASIS OF PAYMENT:** ALL REQUIREMENTS OF 407.08 APPLY.

**ITEM 407, TACK COAT, TRACKLESS TACK, INTERMEDIATE COURSE**

THE RATE OF APPLICATION OF THE 407 TACK COAT, TRACKLESS TACK, INTERMEDIATE COURSE SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.075 GALLONS PER SQUARE YARD FOR ESTIMATING PURPOSES ONLY.

**ITEM 407, TACK COAT, TRACKLESS TACK, SURFACE COURSE**

THE RATE OF APPLICATION OF THE 407 TACK COAT, TRACKLESS TACK, SURFACE COURSE SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.05 GALLONS PER SQUARE YARD FOR ESTIMATING PURPOSES ONLY.

**ITEM 617, COMPACTED AGGREGATE, AS PER PLAN**

ALL AGGREGATE SHALL BE 100% CRUSHED LIMESTONE. ALL QUALITY REQUIREMENTS EXCEPT SHALE SHALL BE WAIVED. OTHER GRADATION REQUIREMENTS SHALL BE AS SPECIFIED EXCEPT THE INDEX SHALL BE WAIVED. IF SO PERMITTED, THE CONTRACTOR MAY USE ASPHALT CONCRETE PAVEMENT (RACP MEETING REQUIREMENTS OF 617.02) IN LIEU OF CRUSHED LIMESTONE.

**REVIEW OF DRAINAGE FACILITIES**

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

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

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

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 603 CONDUIT ITEMS.

**UNRECORDED STORM WATER DRAINAGE**

FURNISH A CONTINUANCE FOR ALL UNRECORDED STORM WATER DRAINAGE, SUCH AS ROOF DRAINS, FOOTER DRAINS, OR YARD DRAINS, DISTURBED BY THE WORK. FURNISH EITHER AN OPEN CONTINUANCE OR AN UNOBSTRUCTED CONTINUANCE BY CONNECTING A CONDUIT THROUGH THE CURB OR INTO A DRAINAGE STRUCTURE. THE LOCATION, TYPE, SIZE AND GRADE OF THE NEEDED CONDUIT TO REPLACE OR EXTEND AN EXISTING DRAIN WILL BE DETERMINED BY THE ENGINEER. ALL SUCH CONTINUANCE REQUIRES A RIGHT OF WAY USE PERMIT.

THE FOLLOWING CONDUIT TYPES MAY BE USED: 707.33, 707.41 NON-PERFORATED, 707.42, 707.43, 707.45, 707.46, 707.47, 707.51, 707.52 SDR35.

THE FOLLOWING ITEM 603 ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE WORK NOTED ABOVE:

ITEM 604, 4" CONDUIT, TYPE B	50 FT.
ITEM 604, 4" CONDUIT, TYPE C	50 FT.
ITEM 604, 4" CONDUIT, TYPE E	50 FT.
ITEM 604, 4" CONDUIT, TYPE F	50 FT.

**ITEM 604, CATCH BASIN ADJUSTED TO GRADE****ITEM 604, MANHOLE ADJUSTED TO GRADE****ITEM 604, GAS VALVE BOX ADJUSTED TO GRADE****ITEM 638, VALVE BOX ADJUSTED TO GRADE**

THESE ITEMS SHALL BE USED TO ADJUST CATCH BASINS, MANHOLES, GAS VALVE BOXES AND WATER VALVE BOXES LOCATED THROUGH OUT THE PROJECT LIMITS AS DIRECTED BY THE ENGINEER.

ALL MATERIALS, LABOR EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK DESCRIBED SHALL BE INCLUDED FOR PAYMENT WITH THE ITEMS LISTED BELOW:

ITEM 604, CATCH BASIN ADJUSTED TO GRADE	9 EACH
ITEM 604, MANHOLE ADJUSTED TO GRADE	7 EACH
ITEM 604, GAS VALVE BOX ADJUSTED TO GRADE	6 EACH
ITEM 638, VALVE BOX ADJUSTED TO GRADE	19 EACH

**PAVEMENT MARKING**

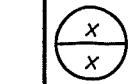
STOP LINES, CROSSWALK LINES, CHANNELIZING LINES, ETC., SHOWN IN THE PLANS ARE TAKEN FROM EXISTING MARKINGS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DOCUMENT EXISTING MARKING LOCATIONS (i.e. BY USE OF VIDEO, PICTURES) AND PLACE NEW PAVEMENT MARKINGS AS NEAR AS POSSIBLE TO THE EXISTING LOCATIONS UNLESS OTHERWISE DIRECTED BY THE ENGINEER. DOCUMENTATION OF PAVEMENT MARKING SHALL BE SUPPLIED TO THE ENGINEER BEFORE COMMENCEMENT OF ANY OPERATION WHICH WILL REMOVE/OBLITERATE MARKINGS.

**ITEM 621, RAISED PAVEMENT MARKER REMOVED**

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE PLANS TO REMOVE RAISED PAVEMENT MARKERS FOR DISPOSAL BY THE CONTRACTOR. RPM REMOVAL SHALL NOT OCCUR SOONER THAN 10 DAYS PRIOR TO RESURFACING OF THE ROADWAY. ALL RPM'S REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THE ABOVE DESCRIBED PURPOSE.

ITEM 621, RAISED PAVEMENT MARKER REMOVED	
LOCATION 1 – 840 EACH	



**ITEM 632, DETECTOR LOOP, AS PER PLAN**

ALL STOP LINE INDUCTANCE DETECTOR LOOPS SHALL BE THE POWER HEAD CONFIGURATION SHOWN ON TC-82.10. THE WIDTH SHALL BE AS SPECIFIED ON TC-82.10 AND THE LENGTH SHALL BE AS CURRENTLY CALLED FOR IN THE PLANS. THE STOP LINE DETECTOR LOOPS SHALL NOT BE WIRED TO ANY OTHER LOOPS AND SHALL HAVE ITS OWN DETECTOR CHANNEL.

ALL DILEMMA ZONE INDUCTANCE DETECTOR LOOPS CALLED FOR IN THE PLANS SHALL BE THE ANGULAR DESIGN DETECTION (ADD) LOOP AS SHOWN ON TC-82.10. DIMENSIONS SHALL BE AS SPECIFIED ON TC-82.10.

SYSTEM LOOPS SHALL BE AS DEPICTED IN THE PLANS.

ALL STOP LINE DETECTION SHALL BE TESTED FOR A BICYCLE TARGET AND ALL DILEMMA DETECTION ZONES SHALL BE TESTED FOR A MOTORCYCLE TARGET.

ALL DETECTOR LOOPS SHALL BE CUT INTO THE PLANED SURFACE OR THE PROPOSED INTERMEDIATE COURSE AT A DEPTH OF 4" FROM THE PROPOSED SURFACE ELEVATION. IF THE CONTRACTOR SO CHOOSES, THEY MAY CUT THE DETECTOR LOOPS INTO THE EXISTING ASPHALT BEFORE PLANING BUT SHALL MAKE SURE THE MATERIAL USED TO FILL THE SAW CUT IS LEFT FAR ENOUGH BELOW THE SURFACE COURSE THAT IT WILL NOT BE DISTURBED DURING THE PLANING OPERATION. THE CONTRACTOR SHALL TEST ALL LEAD-IN CABLES PRIOR TO MAKING THE FINAL SPLICING. PLACEMENT SHALL BE AS PER SPECIFICATION 632.10. FINAL LOCATIONS, SIZE AND ORIENTATION SHALL BE PROVIDED TO THE CONTRACTOR AT THE PRE-CONSTRUCTION MEETING. ALL MATERIALS, LABOR, TOOLS, EQUIPMENT, TRAFFIC CONTROL AND INCIDENTALS NECESSARY TO PERFORM THE WORK DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 632, DETECTOR LOOP, AS PER PLAN.

**LOCATION 1 - 12 EACH**

S.R.60 @ MILLERS LANE - 2 DELIMMA ZONE, 3 POWERHEAD,  
1 AUXILIARY  
S.R. 60 @ BRIDGE STREET - 4 DELIMMA ZONE, 2 POWERHEAD

**ITEM 653, TOPSOIL FURNISHED AND PLACED, AS PER PLAN**

THIS ITEM SHALL CONSIST OF FURNISHING AND PLACING TOPSOIL ADJACENT TO SIDEWALK AND CURB RAMPS THROUGHOUT THE PROJECT LIMITS AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL BE REQUIRED TO SEED AND MULCH THE TOPSOIL AS PER 659 OF THE 2010 CMS.

PAYMENT FOR ITEM 653, TOPSOIL FURNISHED AND PLACED, AS PER PLAN SHALL BE AT THE CONTRACT UNIT PRICE PER CUBIC YARD OF TOPSOIL FURNISHED AND PLACED, INCLUDING ALL OF THE LABOR, MATERIALS AND EQUIPMENT NEEDED TO COMPLETE THE WORK.

AN ESTIMATED QUANTITY OF 10 CU. YD. HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

**SEEDING AND MULCHING**

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

**ITEM 659, SEEDING AND MULCHING 217 SQ. YD.**  
(TOTALS CARRIED FROM SHEET 34)

**ITEM 659, REPAIR SEEDING AND MULCHING 11 SQ. YD.**  
(5% OF THE PERMANENT SEEDING AREA)  
 $0.05 \times 217 = 10.9$

**ITEM 659, INTER-SEEDING 11 SQ. YD.**  
(5% OF THE PERMANENT SEEDING AREA)  
 $0.05 \times 217 = 10.9$

**ITEM 659, COMMERCIAL FERTILIZER 0.06 TON**  
(ONE TON PER 7,410 SQ. YD. OF THE PERMANENT SEEDED AREA)  
 $2 \times (217 \div 7,410) = 0.059$

**ITEM 659, LIME 0.05 ACRE**  
(PERMANENT SEEDED AREA)  
 $217 \text{ SQ. YD.} \times 9 \text{ SQ. FT./SQ. YD.} \div 43,560 \text{ SQ. FT./ACRE} = 0.045 \text{ ACRE}$

**ITEM 659, WATER 2 M. GAL.**  
(0.0027 M. GAL. PER SQ. YD. OF THE PERMANENT SEEDED AREA)  
 $3 \times (217 \times 0.0027) = 1.758$

SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

**NOTIFICATION OF ROAD CLOSURE OR RESTRICTION**

IN ORDER FOR O.D.O.T. TO PROPERLY PERMIT OVERSIZE LOADS, PREPARE PROPER SIGNING WHEN REQUIRED AND FURTHER TO NOTIFY THE GENERAL MOTORING PUBLIC, THE CONTRACTOR SHALL NOTIFY (IN WRITING) THE DISTRICT 5 CONSTRUCTION ENGINEER WITH COPIES FOR THE DISTRICT 5 ROADWAY SERVICES MANAGER AND PROJECT ENGINEER NOT LESS THAN 21 DAYS BEFORE SUCH CLOSURE OR LANE RESTRICTIONS.

SEND NOTIFICATION TO:  
DISTRICT 5 CONSTRUCTION ENGINEER  
P.O. BOX 306  
JACKSONSTOWN, OH 43030  
PHONE: (740) 323-4400 EXT. 5241

**ITEM 614, WORK ZONE MARKING SIGN**

IN ACCORDANCE WITH CMS SECTION 614.04, THE QUANTITIES OF WORK ZONE MARKING SIGN HAVE BEEN CARRIED TO THE **SUB-SUMMARIES** TO BE USED AS DIRECTED BY THE ENGINEER.

W8-H12a (NO EDGE LINES): LOCATION 1 - 2 EACH  
W8-H15 (GROOVED PAVEMENT): LOCATION 1 - 13 EACH

**ITEM 614, WORK ZONE MARKING SIGN**  
LOCATION 1 - 15 EACH

**ITEM 614, MAINTAINING TRAFFIC**

A MINIMUM OF 1 LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT AND STANDARD DRAWINGS MT-97.10 AND MT-97.12.

**AT NO TIME SHALL TRAFFIC BE MAINTAINED ON THE PLANED SURFACE, AT LEAST ONE COURSE OF ASPHALT CONCRETE SHALL BE IN PLACE BEFORE OPENING TO TRAFFIC.**

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

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN. PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

**ACCESS TO ADJACENT PROPERTIES**

THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL RESIDENTIAL AND COMMERCIAL DRIVES AT ALL TIMES IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 614.

**DRIVEWAYS SHALL BE CLOSED TO TRAFFIC FOR THE ACTUAL TIME NECESSARY TO REMOVE THE EXISTING APRON AND CONSTRUCT THE NEW APRON. NO WORK WILL BE PERMITTED ON COMMERCIAL DRIVES DURING NORMAL BUSINESS HOURS AND/OR AS DIRECTED BY THE PROJECT ENGINEER.**

THE CONTRACTOR SHALL GIVE THE AFFECTED PROPERTY OWNERS A FIVE DAY MINIMUM WRITTEN NOTICE AS TO WHEN THE DRIVEWAYS WILL BE CLOSED FOR CONSTRUCTION.

TEMPORARY ACCESS WILL BE MAINTAINED, AS DIRECTED BY THE PROJECT ENGINEER, USING ITEM 410, COMPAKTED SURFACE, TYPE A OR B.

**SIDEWALKS SHALL BE CLOSED TO PEDESTRIAN TRAFFIC FOR THE ACTUAL TIME NECESSARY TO REMOVE THE EXISTING CONCRETE WALK AND CONSTRUCT THE NEW CONCRETE WALK. NO WORK WILL BE PERMITTED ON CONCRETE WALK IN THE AREA OF ENTRANCES TO BUSINESSES DURING NORMAL BUSINESS HOURS AND/OR AS DIRECTED BY THE PROJECT ENGINEER.**

**ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE**

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

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

- DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.
- DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).

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

- FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP). IN GENERAL, LEOS SHOULD BE POSITIONED AT THE POINT OF LANE RESTRICTION OR ROAD CLOSURE AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH INTERSECTIONS IN WORK ZONES.
- WHEN CONSTRUCTION VEHICLES ARE ENTERING/EXITING THE ZONE DIRECTLY FROM/INTO AN OPEN LANE OF TRAFFIC. IF A LANE HAS BEEN CLOSED TO PROVIDE AN ACCELERATION/DECELERATION LANE FOR THE VEHICLE, THE LEO WILL NOT BE REQUIRED.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. ONCE THE LEO HAS COMPLETED THE DUTIES DESCRIBED ABOVE AND STILL HAS TIME REMAINING ON HIS/HER SHIFT, THE LEO MAY BE ASKED TO PATROL THROUGH THE WORK ZONE (WITH FLASHING LIGHTS OFF) OR BE PLACED AT A LOCATION TO DETER MOTORISTS FROM SPEEDING. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE WHICH SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

**ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE (con't)**

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

**ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE 200 HOURS**

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE.

**ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN**

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, EIGHT CHANGEABLE MESSAGE SIGNS, ON SITE, FOUR OF THE SIGNS SHALL BE ON SITE FOR THE DURATION OF THE PROJECT. THE SIGN SHALL BE OF A TYPE SHOWN ON A LIST OF APPROVED PCMS UNITS MAINTAINED BY THE DIRECTOR (OFFICE OF MATERIALS MANAGEMENT). THE APPROVED LIST OF PORTABLE CHANGEABLE MESSAGE SIGNS CAN BE FOUND ON THE ODOT WEBSITE BY CLICKING ON THE SERVICES MENU, THEN CLICKING ON MATERIALS MANAGEMENT. THE LIST CONTAINS CLASS A AND B UNITS WITH MINIMUM LEGIBILITY DISTANCES OF 475 FT. AND 650 FT. RESPECTIVELY.

EACH SIGN SHALL BE TRAILER-MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM, TO DIM THE SIGN DURING DARKNESS, AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY. PCMS TRAILERS SHALL BE DELINEATED ON A PERMANENT BASIS BY AFFIXING CONSPICUITY TAPE CONFORMING TO CMS 614.03, IN A CONTINUOUS LINE ON THE FACE OF THE TRAILER AS SEEN BY ONCOMING ROAD USERS.

PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS SHALL BE TURNED OFF. ADDITIONALLY, WHEN NOT IN USE FOR EXTENDED PERIODS OF TIME, THE PCMS SHALL BE TURNED, FACING AWAY FROM ALL TRAFFIC, AND SHALL DISPLAY ONE OR MORE TYPE G YELLOW RETROREFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT, AND TO REVISE SIGN MESSAGES, IF NECESSARY.

(THE CONTRACTOR SHALL IMPLEMENT A SYSTEM WHEREBY CHANGEABLE MESSAGES WILL BE IMPLEMENTED WITHIN ONE HOUR FOLLOWING TELEPHONE NOTIFICATION FROM THE PROJECT ENGINEER TO A DESIGNATED PHONE.)

**ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGNS, AS PER PLAN (con't)**

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PRE-PROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE THE CAPABILITY TO STORE UP TO 99 MESSAGES. MESSAGE MEMORY OR PRE-PROGRAMMED DISPLAYS SHALL NOT BE LOST AS A RESULT OF POWER FAILURES TO THE ON-BOARD COMPUTER. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. THREE-LINE PRESENTATION FORMATS WITH UP TO SIX MESSAGE PHASES SHALL BE SUPPORTED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST TWICE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

(THE PCMS SHALL CONTAIN A CELLULAR TELEPHONE DATA LINK WHICH WILL (IN ACTIVE CELLULAR PHONE AREAS) ALLOW REMOTE SIGN ACTIVATION, MESSAGE CHANGES, MESSAGE ADDITIONS AND REVISIONS TO TIME OF DAY PROGRAMS. THE SYSTEM SHALL ALSO PERMIT VERIFICATION OF CURRENT AND PROGRAMMED MESSAGES. ONE REMOTE DATA INPUT DEVICE (LAPTOP COMPUTER PLUS MODEM OR EQUIVALENT) SHALL BE FURNISHED FOR USE BY THE DISTRICT TRAFFIC ENGINEER, OR EQUIVALENT, AND SHALL BE INSURED AGAINST THEFT.)

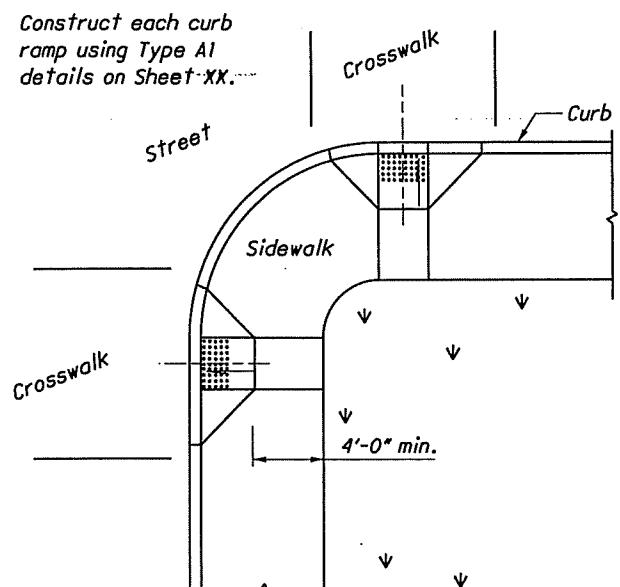
THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF CMS 614.07. THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS, WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS, TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS, INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC. THE ENTIRE COST TO CONTROL TRAFFIC, ACCRUED BY THE DEPARTMENT DUE TO THE CONTRACTOR'S NONCOMPLIANCE, WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24-HOUR-PER-DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

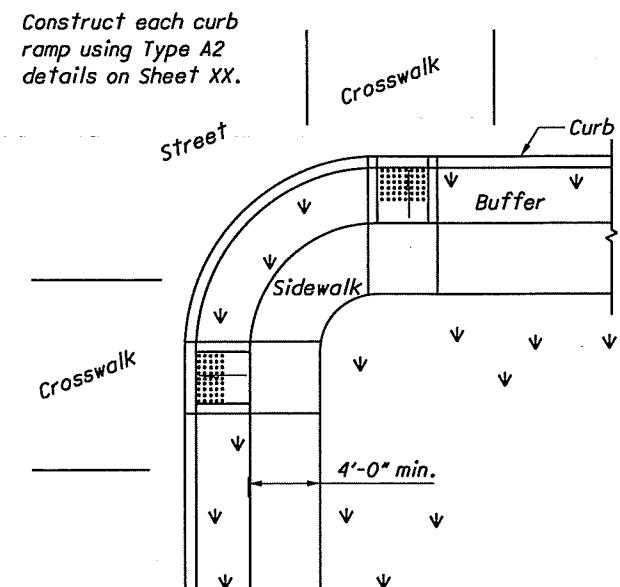
PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK. THE CONTRACTOR SHALL ONLY BE PAID FOR PCMS UNITS WHEN THEY ARE IN OPERATION ON THE PROJECT AS SPECIFIED IN THE PLANS OR BY THE ENGINEER.

2 PCMS FOR 20 DAYS (2 X 20 = 40)

**ITEM 614, PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 40 DAY**



Use curb ramps with flared sides at locations with wide sidewalks.



Use curb ramps with returned curbs where buffer is wide enough to accommodate ramp slope.

#### PERPENDICULAR CURB RAMPS

#### NOTES

**GENERAL:** This drawing shows curb ramp types details and placement examples for curb ramp construction, including the installation of detectable warnings.

Curb ramp types are shown on Sheet XX and include Perpendicular, Parallel, and Combined types as specified to be constructed in the locations shown in the project plans.

The contractor may adjust the placement of curb ramps if existing field conditions warrant with the approval of the Engineer.

Excavate, form, place, finish, and cure according to 608.03.A, 608.03.B, 608.03.C, and 608.03.E.

**DETECTABLE WARNING:** Install Detectable Warnings on each curb ramp with approved materials, as shown on Sheet XX. Install these proprietary products as per manufacturer's written instructions.

**DRAINAGE:** Contractor is to ensure the base of each constructed curb ramp allows for proper drainage, without exceeding allowable cross slope or ramp slopes. Vertical change in level exceeding  $\frac{1}{8}$ " between the 1) pavement and gutter, and 2) gutter and ramp, are not allowed.

**JOINTS:** Provide expansion joints in the curb ramp as extensions of walk joints and consistent with Item 608.03 requirements for a new concrete walk. Provide a  $\frac{1}{2}$ " Item 705.03 expansion joint filler around the edge of ramps built in existing concrete walks. Lines shown on this drawing indicate the ramp edges and slope changes, and do not necessarily indicate joint lines.

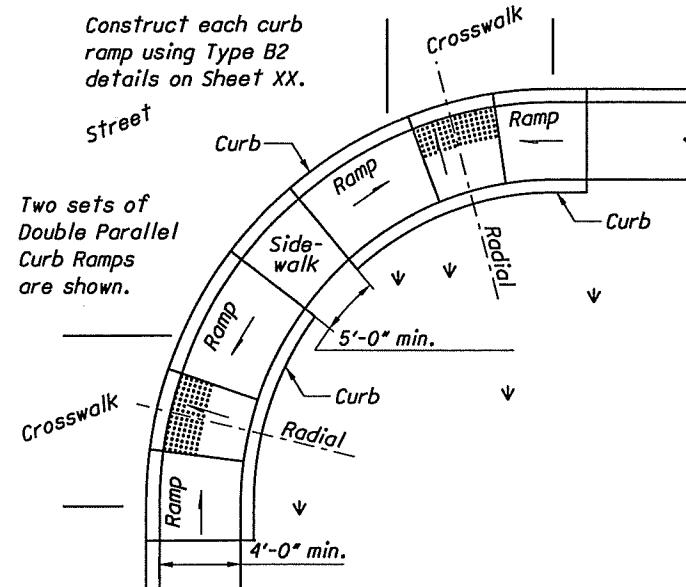
**METHOD OF MEASUREMENT:** The Department will measure Curb Ramps by the number of each completed curb ramp. The Department will measure Detectable Warnings in existing curb ramps and at grade crossings by the number of square feet completed.

Concrete Walk and Curb, Item 608 and 609, will be measured through out the curb ramp area and paid for under their respective Items.

**METHOD OF PAYMENT:** New Curb Ramps constructed in new or existing Walk are paid for under Item 690 Special Misc.: Curb Ramp, Type -- (A1, A2, B1, B2, B3, C1, C2, or D) each, and includes the cost of any additional materials and installation (including detectable warnings), grading, forming and finishing.

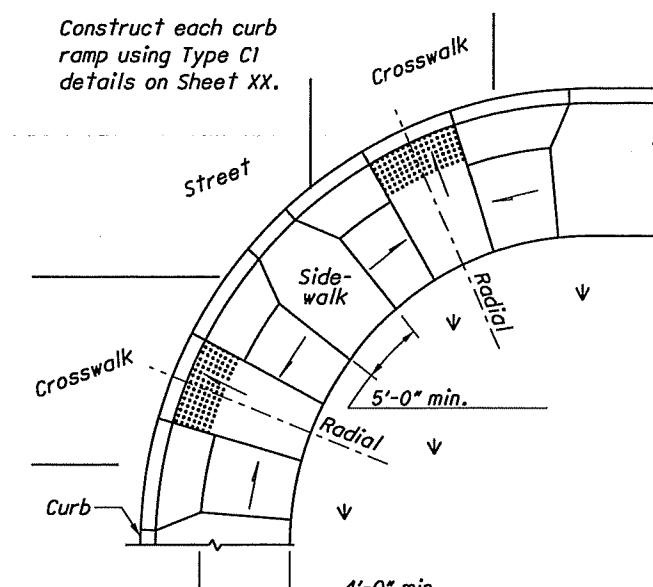
Detachable Warnings constructed in existing curb ramps or for at-grade crossing locations are paid for under Item 690-Special Misc.: Detachable Warning (Sq. Ft.) and is full compensation for excavation, backfill, base course material, reinforcing steel, expansion joint materials, and any incidentals required to complete the installation as specified. The work to cast the tiles in place will also require removal of existing pavement or sidewalk (Item 202) to the nearest joint, or if no joint exists, a minimum of 4 feet.

Removal of existing curb, pavement, walk (or existing curb ramps) are paid under Item 202.



Place on streets having wide turning radius and where sidewalks are narrow.

#### PARALLEL CURB RAMPS

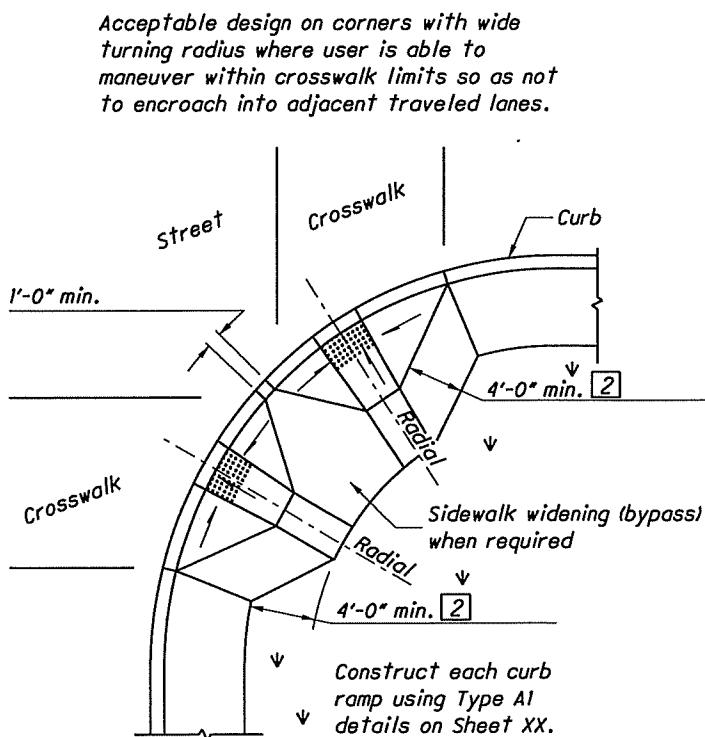


Curb ramp placement where streets have wide turning radius, and sufficient sidewalks width.

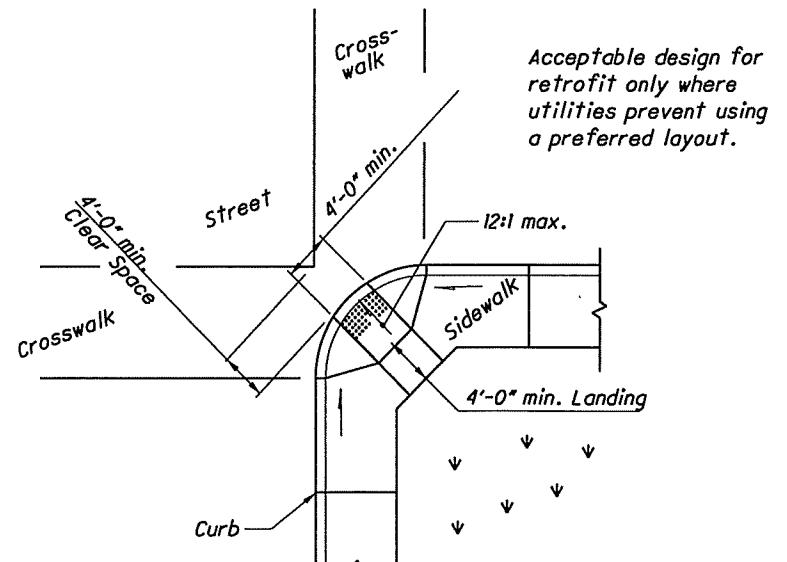
#### COMBINATION CURB RAMPS

#### LEGEND

[2] May be reduced to 3'-4" in existing sidewalks to better fit the walk configuration or where site conditions are restricted by narrow walks, pole foundations, drainage inlets, etc. The width may be tapered.



#### PERPENDICULAR RAMPS



Use this design only for existing walks, and when site constraints prohibit other designs. The diagonal Type D ramp may be constructed as either a Perpendicular, Parallel or Combination curb ramp type. Avoid using where curb radii are less than 20'-0".

#### DIAGONAL RAMP (Type D)

#### ACCEPTABLE CONSTRUCTION PLACEMENT



# OHIO DEPARTMENT OF TRANSPORTATION

DISTRICT 5, 9600 JACKSONTOWN ROAD S.E., P.O. Box 306, JACKSONTOWN, OHIO 43030-0306

May 9, 2011

Mr. Doug Davis, P.E., P.S.  
Muskingum County Engineer  
155 Rehl Road  
Zanesville, Ohio 43701-2778

Re: Mus-60-8.03

Dear Mr. Cannon:

Pursuant to Ohio Revised Code 163.05, the Ohio Department of Transportation is required to have on file a set of highway construction plans at your office. Included herewith is one reduced size set of the final right of way plans and one preliminary construction plans for constructing the above referenced project for your records.

Please feel free to call on me at anytime should you have any questions or need additional information.

Respectfully,

A handwritten signature in blue ink, appearing to read "Jason Sturgeon, P.E.".

Jason Sturgeon, P.E.  
Real Estate Administrator

c: file

## NOTES

The running slope of the ramp is preferred to be 12:1 or flatter. In existing sidewalks, where the maximum ramp slope is not feasible due to site constraints (e.g. utility poles or vaults, right-of-way limits) it may be reduced as follows:

- A) 10:1 for a max. rise of 6",
- B) 8:1 for a max. rise of 3",
- C) 6:1 over a max. run of 2'-0" for historic areas where a flatter slope is not feasible.

To prevent chasing the grade indefinitely, the transition from existing sidewalk to the curb ramp area is not required to exceed 15 feet in length.

While ramps may be skewed to the crosswalk, the entire lower landing area must fall within the cross walk that the ramp serves and cannot be located in the traveled lane of opposing traffic.

The counter slope of the gutter or street at the foot of a curb ramp, landing, or blended transitions shall be 20:1 or flatter.

The bottom edge of the ramp shall change planes perpendicular to the landing.

The edge of the curb shall be flush with the edge of the adjacent pavement and gutter and surface slopes that meet grade breaks shall also be flush.

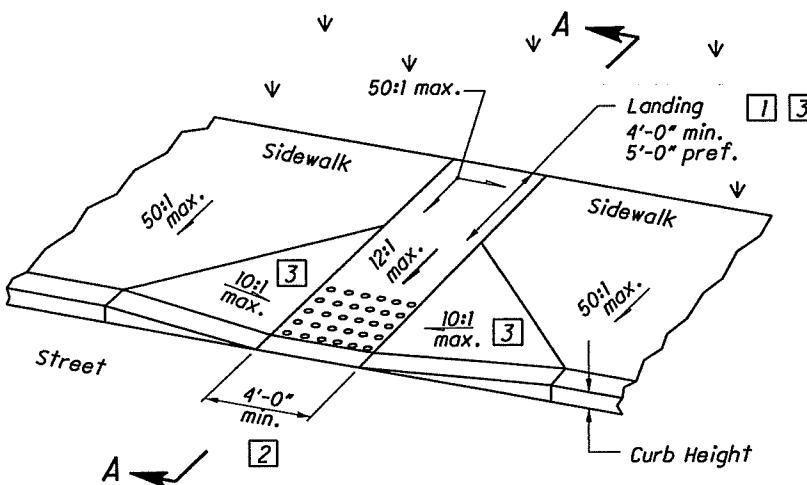
Ramp landings shall be 4' min. x 4' min. with a 50:1 or flatter cross slope and running slope, unless otherwise shown.

## LEGEND

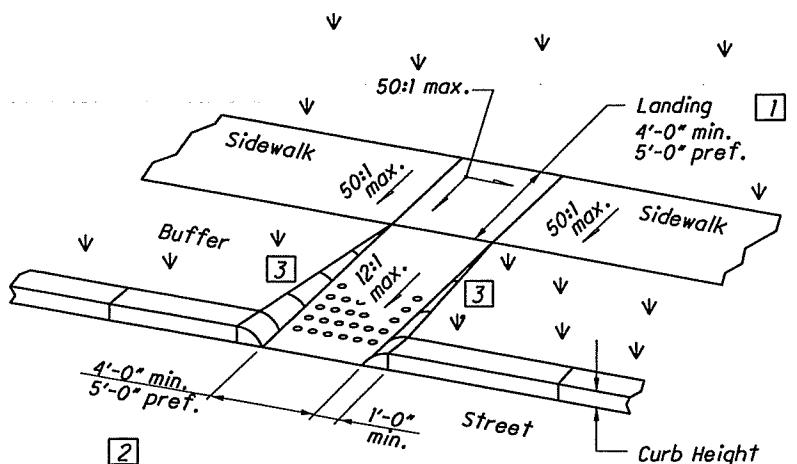
- [1] Dimension may be reduced to 3'-0" in existing sidewalks if the landing is unconstrained along the back edge.
- [2] May be reduced to 3'-4" in existing sidewalks to better fit the walk configuration or where site conditions are restricted by narrow walks, pole foundations, drainage inlets, etc. The width may be tapered.
- [3] Where landing width (D) has been reduced to 3'-0" the flared sides shall have a maximum slope of 12:1.

Flared sides are not required where the edges of a curb ramp are protected by landscaping or other barriers to travel by wheelchair users or pedestrians across the edge of the curb ramp. However, if the flared sides are used in these areas, they may be of any slope.

See Sheet XX for Sections.

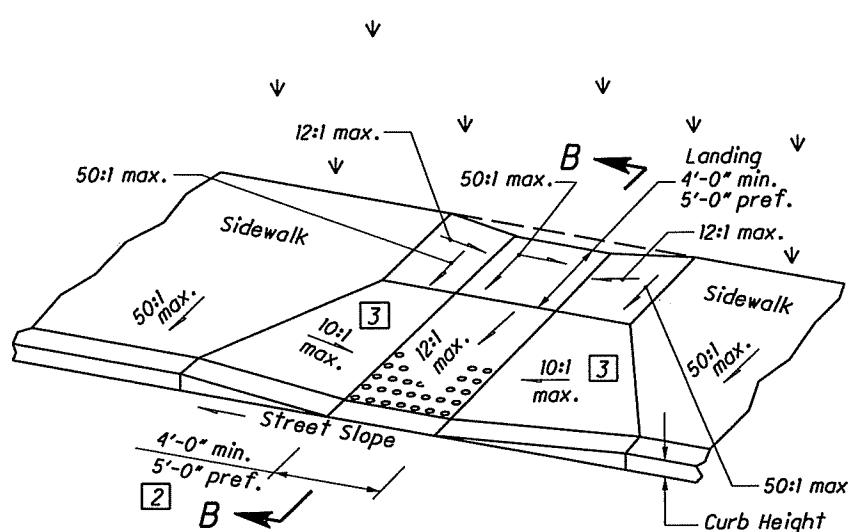


Type A1 (Perpendicular with flared sides)

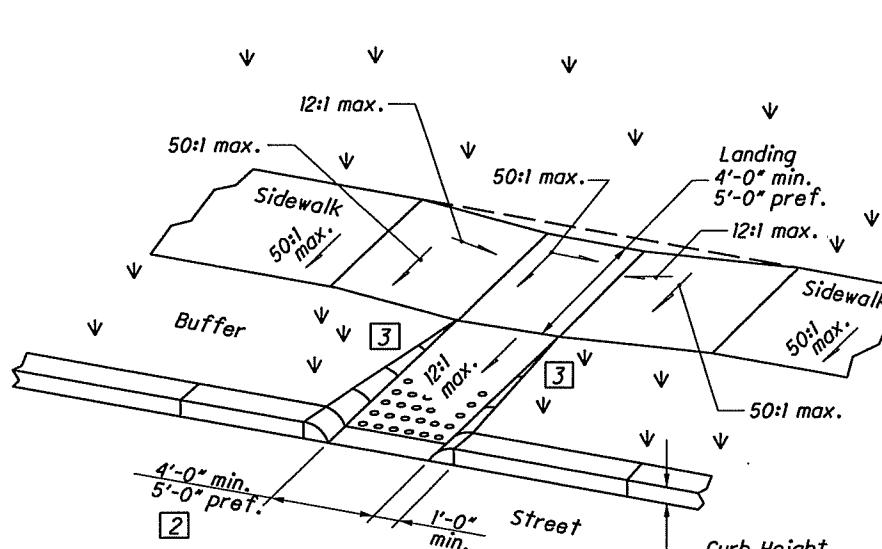


Type A2 (Perpendicular with returned curb)

## PERPENDICULAR CURB RAMP DETAILS

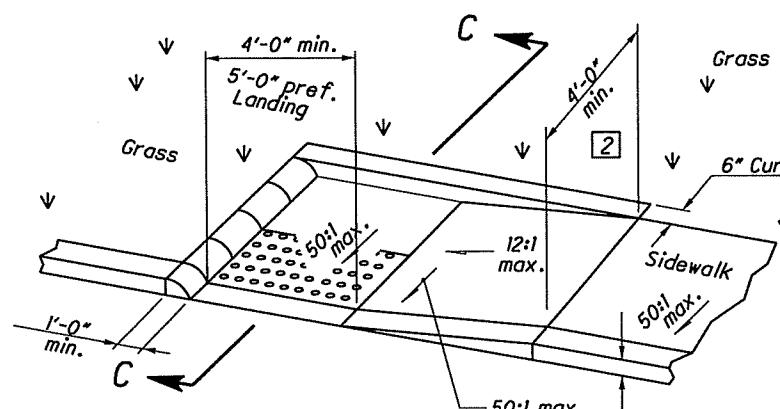


Type C1 (Combined with flared sides)

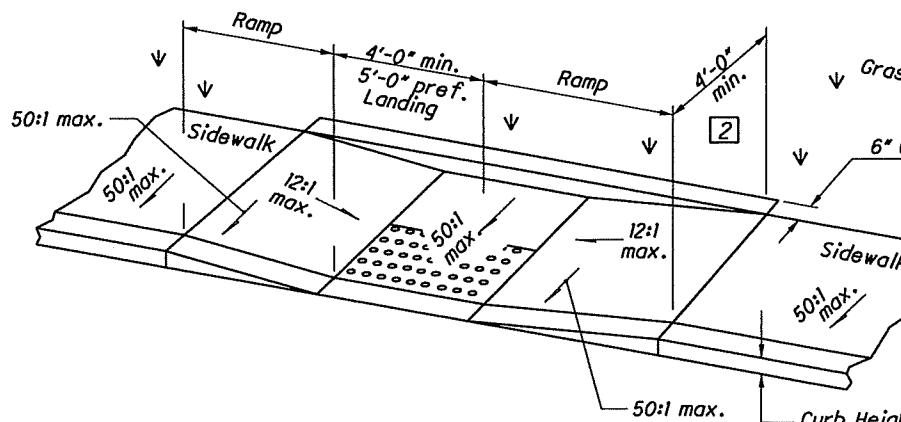


Type C2 (Combined with returned curb)

## COMBINED CURB RAMP DETAILS

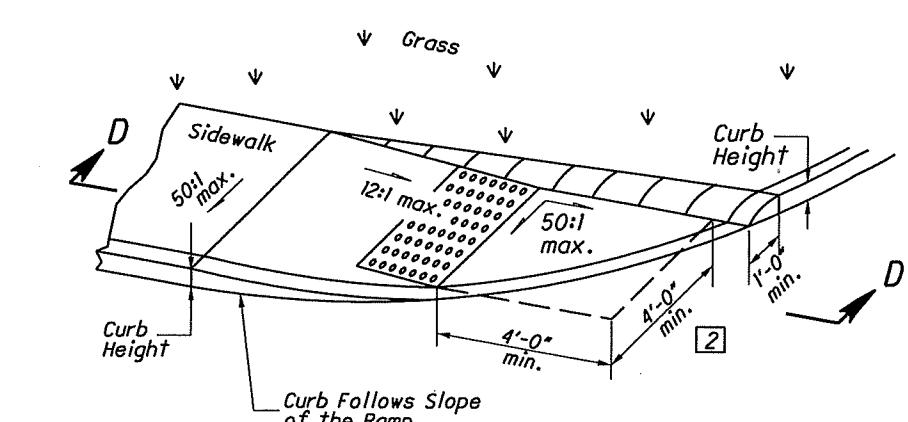


Type B1 (Single sided Parallel)

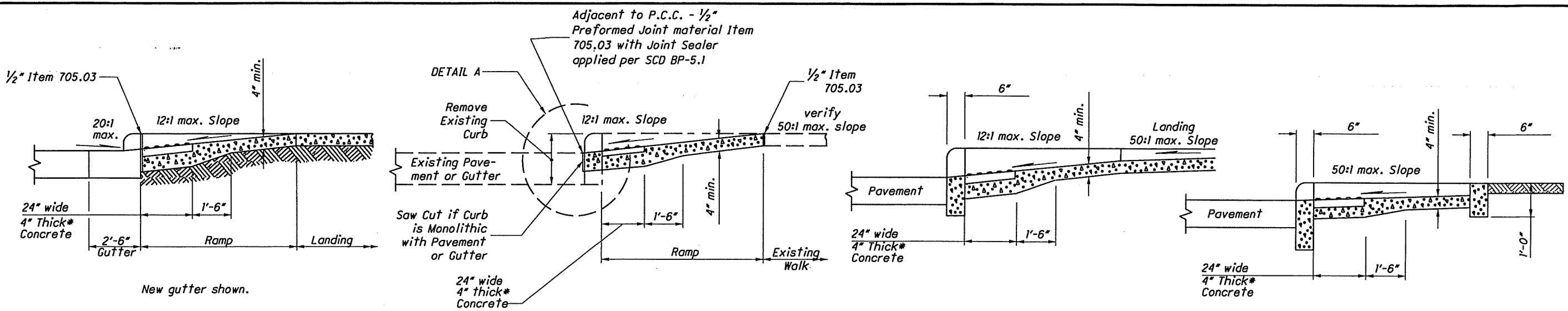


Type B2 (Double sided Parallel)

## PARALLEL CURB RAMP DETAILS



Type B3 (Single sided Parallel)



**SECTION D-D**  
See Sheet XX.

\*Where possible, pour ramp area integral with the curb, otherwise use 6" thick walk.

**DETECTABLE WARNING NOTES**

**GENERAL:** Detectable Warnings are a distinctive surface pattern of truncated domes which are detectable by cane or underfoot to alert people with vision impairments of their approach to streets and hazardous drop-offs.

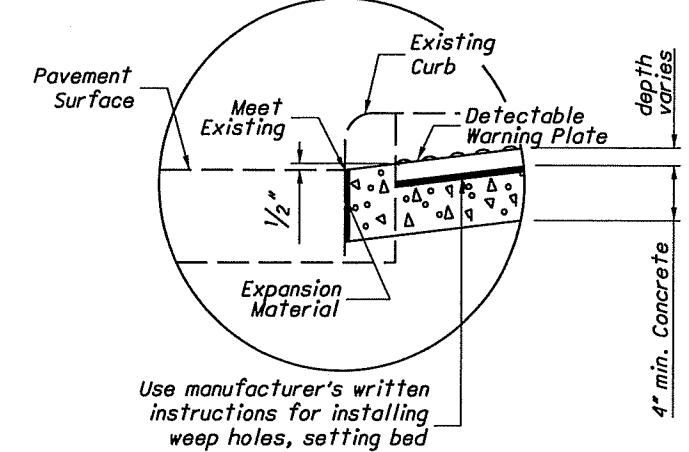
**PLACEMENT:** Detectable warnings are to be installed at any location where pedestrians might cross paths with vehicular traffic lanes, such as the base of curb ramps or at blended curbs. A 24" strip of domes is to be installed for the full width of the ramp or walk. Typical street corner placement locations are shown on Sheet XX.

The depth of concrete underneath detectable warning products shall be a minimum of 4". See DETAIL A.

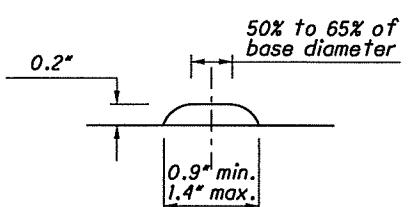
**ALIGNMENT:** Truncated domes should be aligned with the primary direction of the ramp as shown on the DETECTABLE WARNING ALIGNMENT Detail. Normally the detectable warnings should be flush with the back of the curb, but in skewed conditions at least one corner of the 24" strip should be adjacent to the back of curb. For non-standard layouts, detectable warning materials may have to be mitered and placed segmentally.

**PRODUCTS & COLORS:** Color of the detectable warnings should contrast with surrounding concrete walk and ramp. Black is not an acceptable color. Approved products and guidance on color may be found on the Office of Roadway Engineering Service's Detectable Warnings Approved List. Install products as per manufacturer's printed instructions.

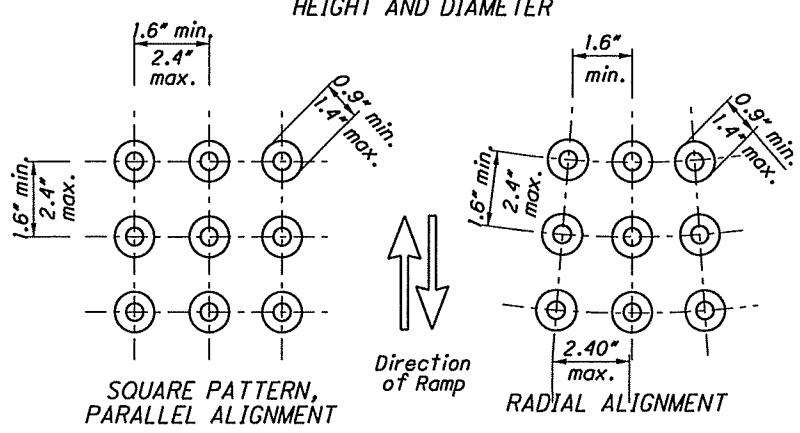
**SECTION B-B**  
See Sheet XX.



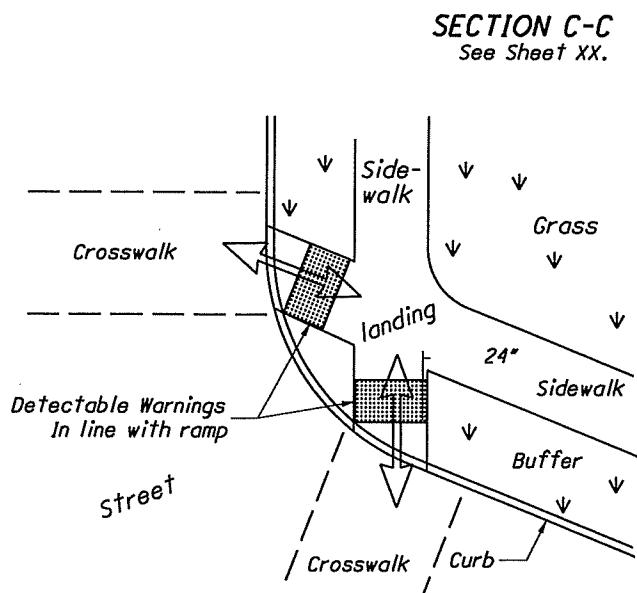
**DETAIL A**



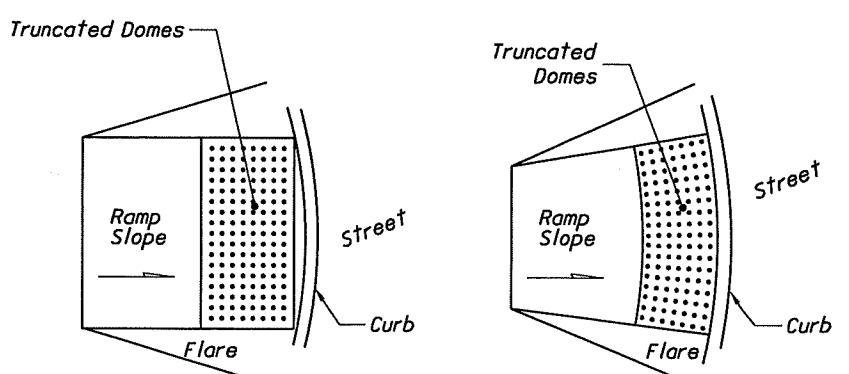
**HEIGHT AND DIAMETER**



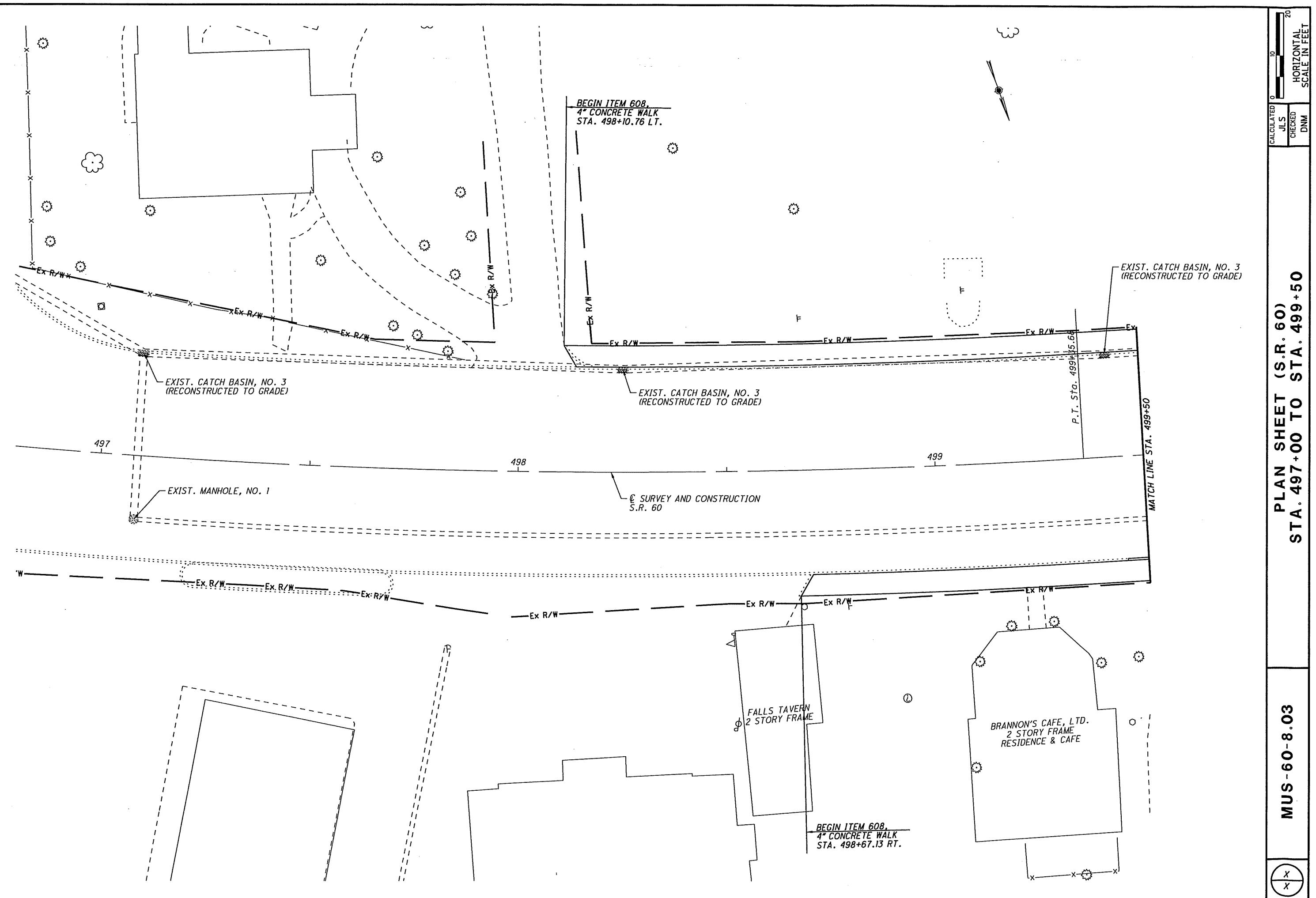
**TRUNCATED DOMES DETAILS**



**DETECTABLE WARNING ALIGNMENT**



**DOME ALIGNMENT ON RADIUSED CURB**

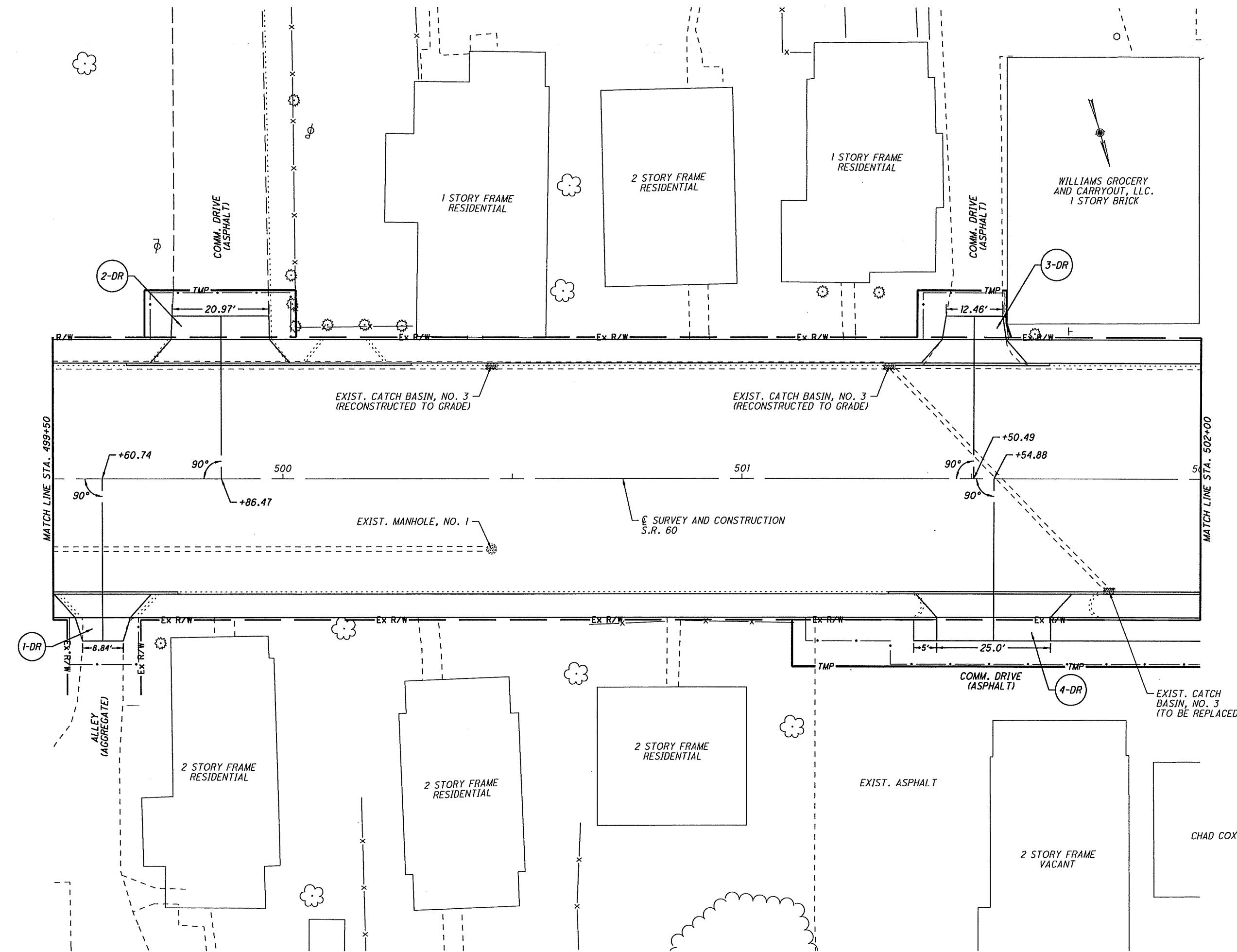


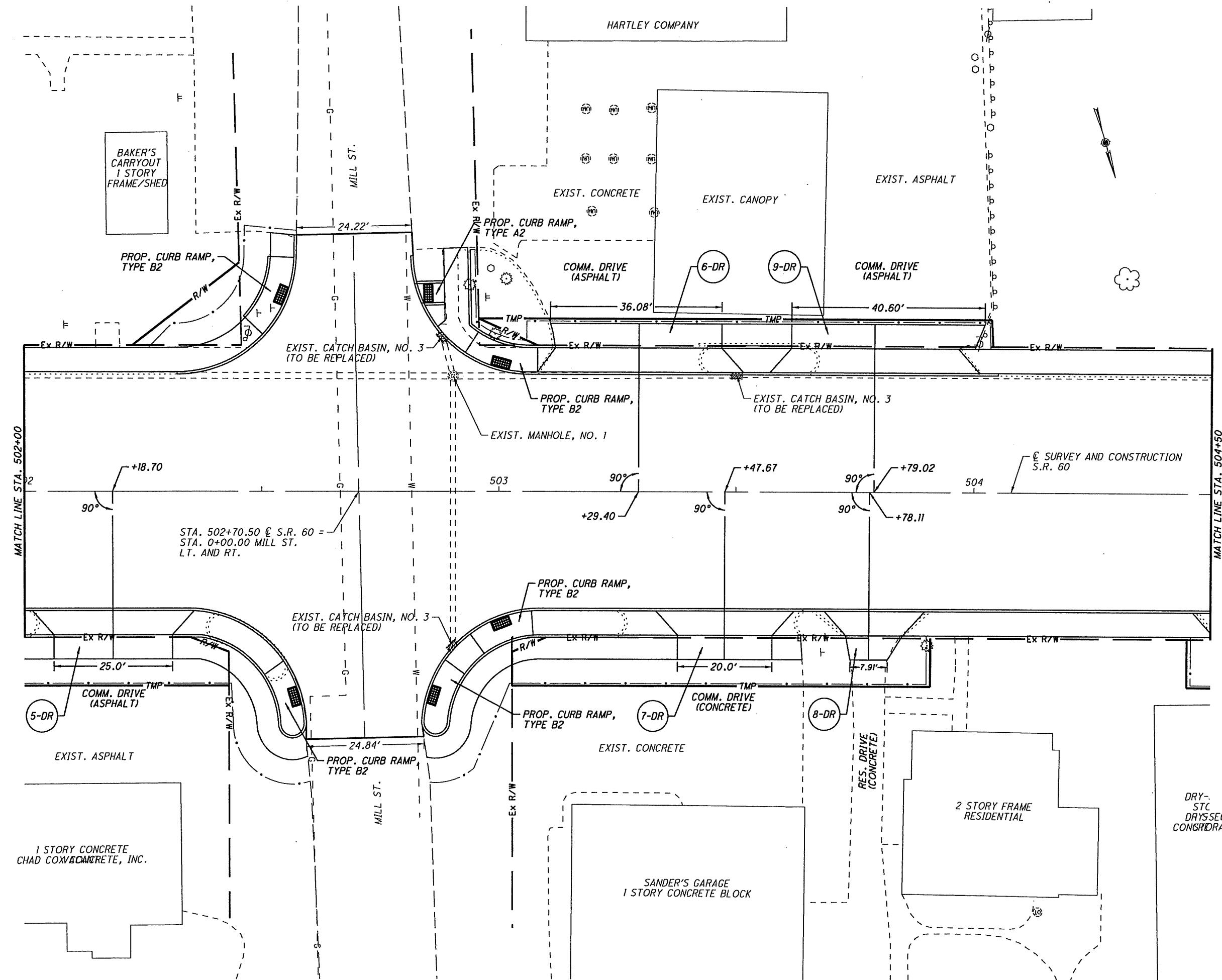
0 10 20  
CALCULATED  
JLS  
CHECKED  
DNM  
HORIZONTAL  
SCALE IN FEET

PLAN SHEET (S.R. 60)  
STA. 499 +50 TO STA. 502 +00

MUS - 60 - 8.03

X  
X

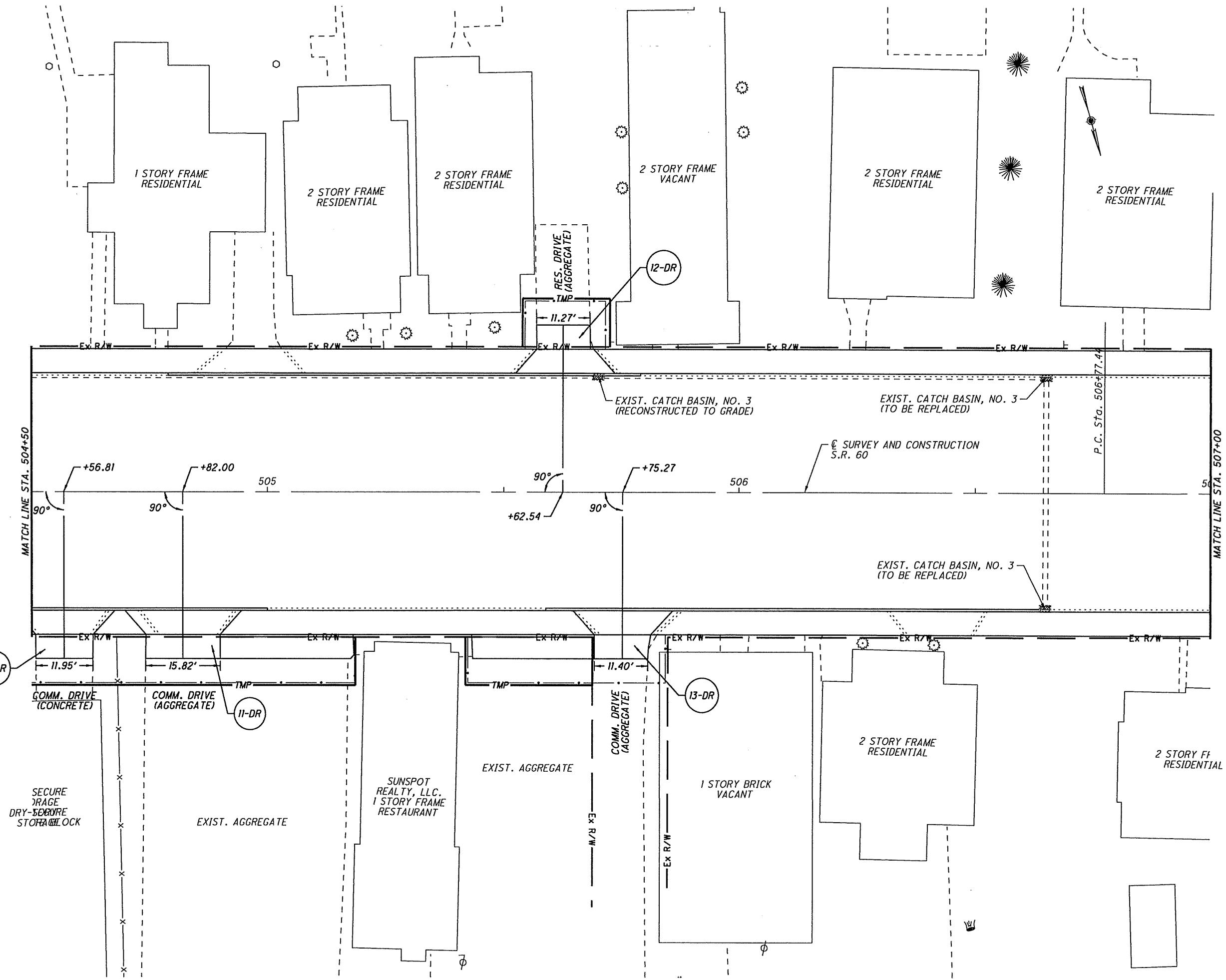




MUS-60-8.03

**PLAN SHEET (S.R. 60)**  
**STA. 502+00 TO STA. 504+50**

86719\_PPP\_03.DGN 5/09/11



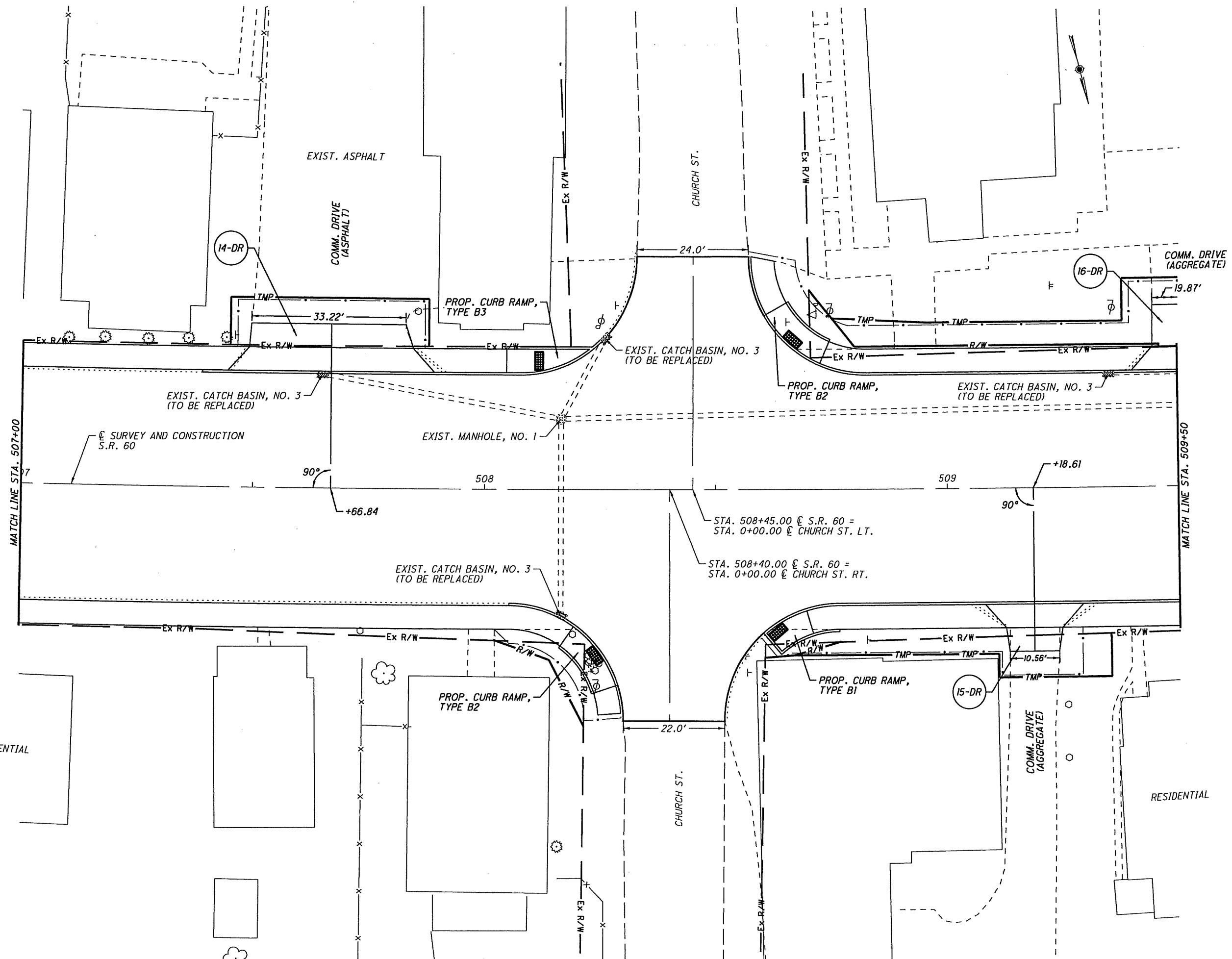
PLAN SHEET (S.R. 60)  
STA. 504+50 TO STA. 507+00

MUS-60-8.03

$\frac{x}{x}$

A scale bar for horizontal distance, marked at 10 and 20 feet. The bar is divided into four equal segments by vertical lines. The first segment is labeled '10' and the second segment is labeled '20'.

36719\_PPP\_04.DGN 4/28/11



PLAN SHEET (S.R. 60)  
STA. 507+00 TO STA. 509+50

MUS-60-8.03

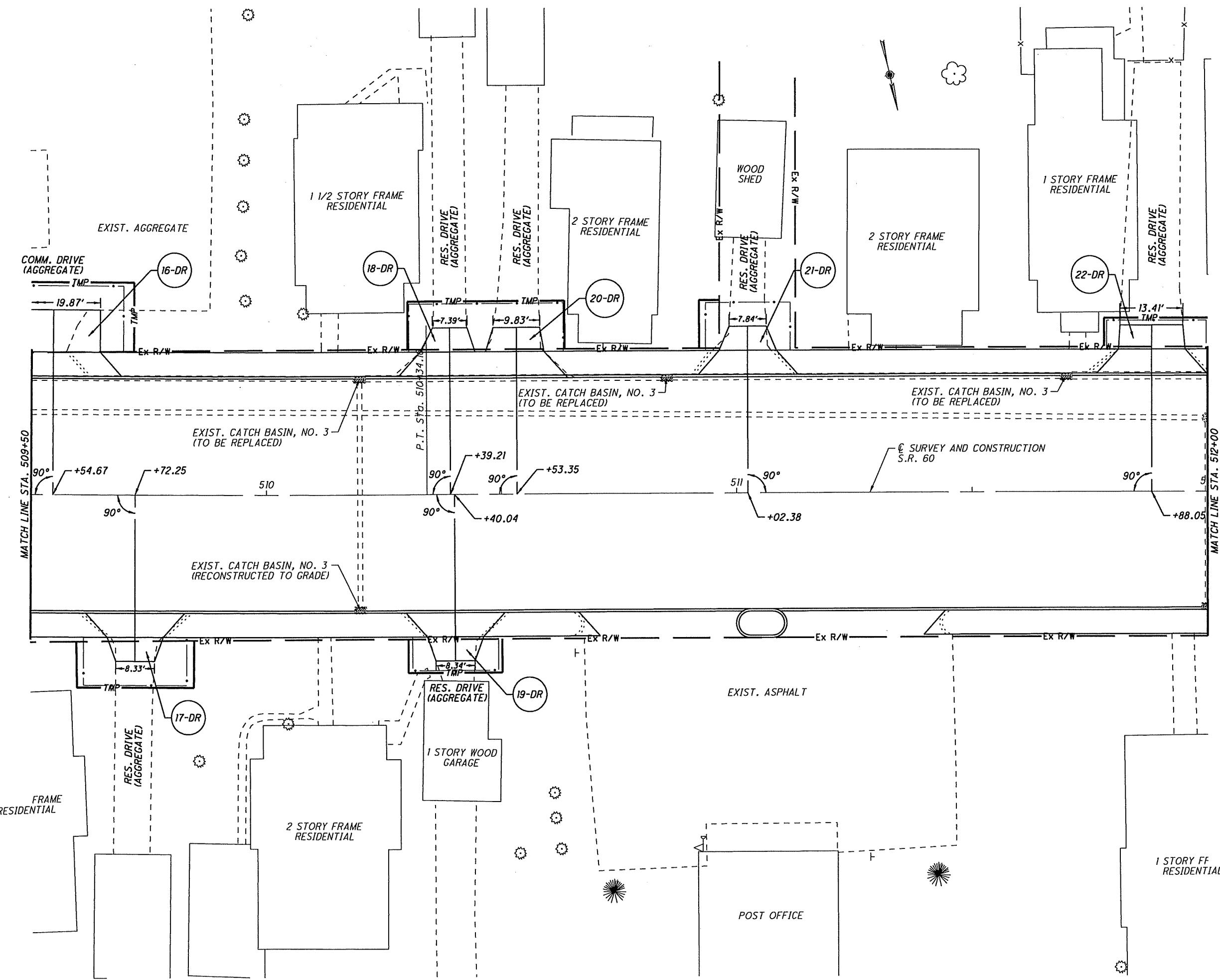
$x$   
 $x$

A scale bar with markings from 0 to 20 in increments of 10. To the left is a table:

CALCULATED	JLS
CHECKED	DNM

HORIZONTAL SCALE IN FEET

6719\_PPP\_05.DGN 4/28/11

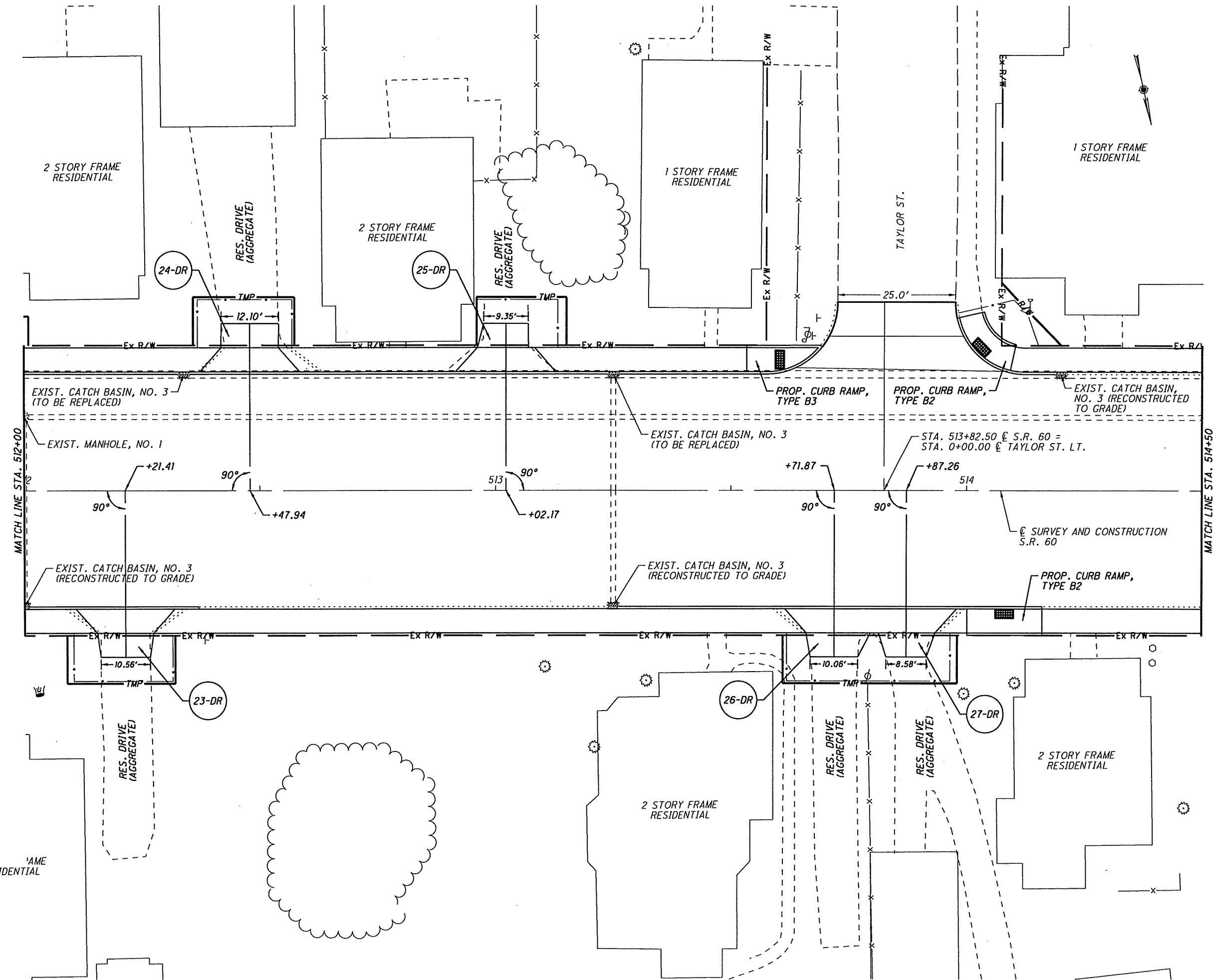


PLAN SHEET (S.R. 60)  
STA. 509+50 TO STA. 512+00

MUS-60-8.03

CALCULATED JLS	0	10	2
CHECKED DNM			HORIZONTAL SCALE IN FEET

3386719\_PPP\_06.DGN 4/28/11

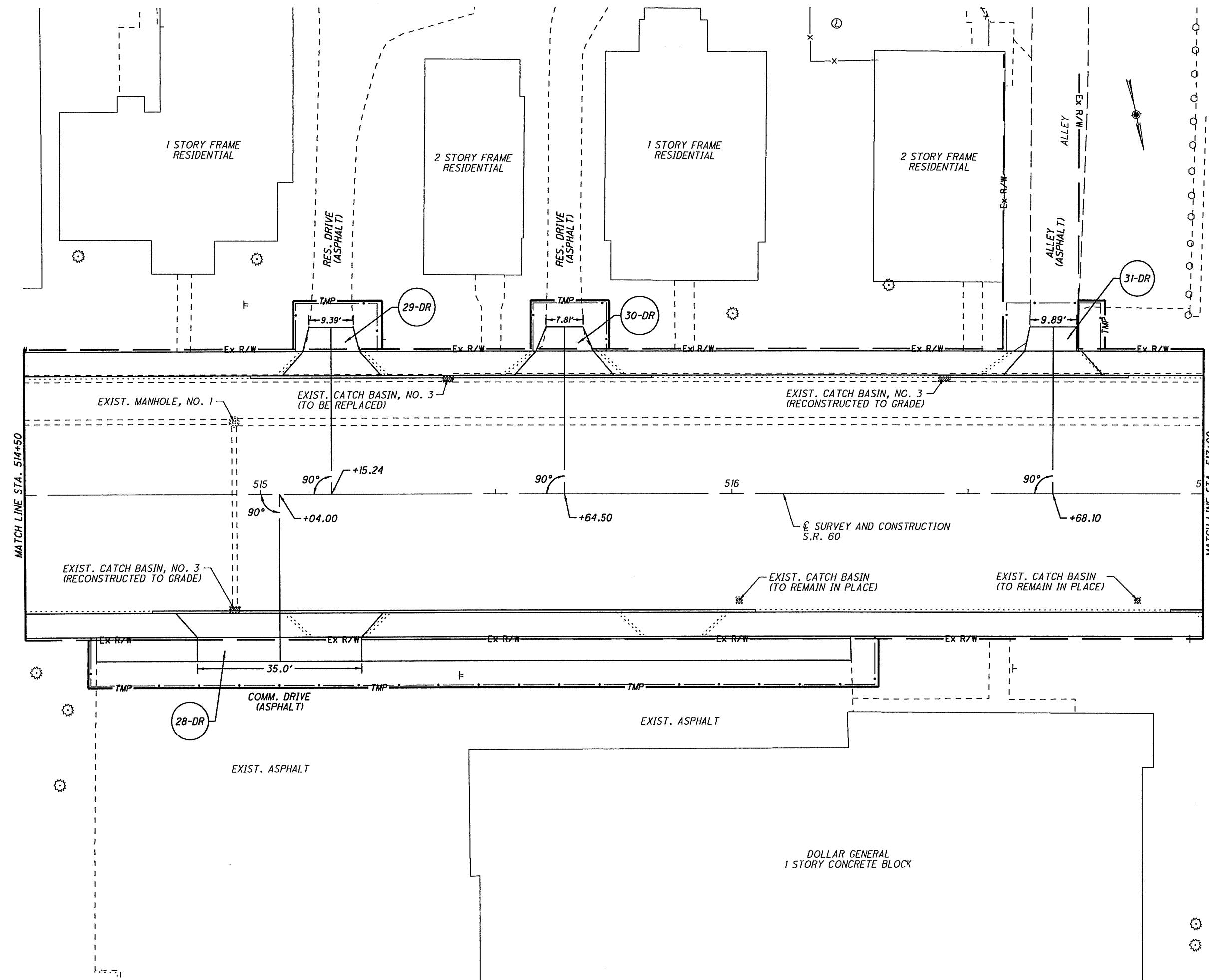


PLAN SHEET (S.R. 60)  
STA. 512+00 TO STA. 514+50

MUS-60-8.03

A scale bar with markings at 0, 10, and 20. To its right is a text box containing the text 'CALCULATED JLS' on the top line, 'CHECKED DNM' on the bottom line, and 'HORIZONTAL SCALE IN FEET' on the right side.

886719\_PPP\_07.DGN 4/28/11



**PLAN SHEET (S.R. 60)**  
**STA. 514+50 TO STA. 517+00**

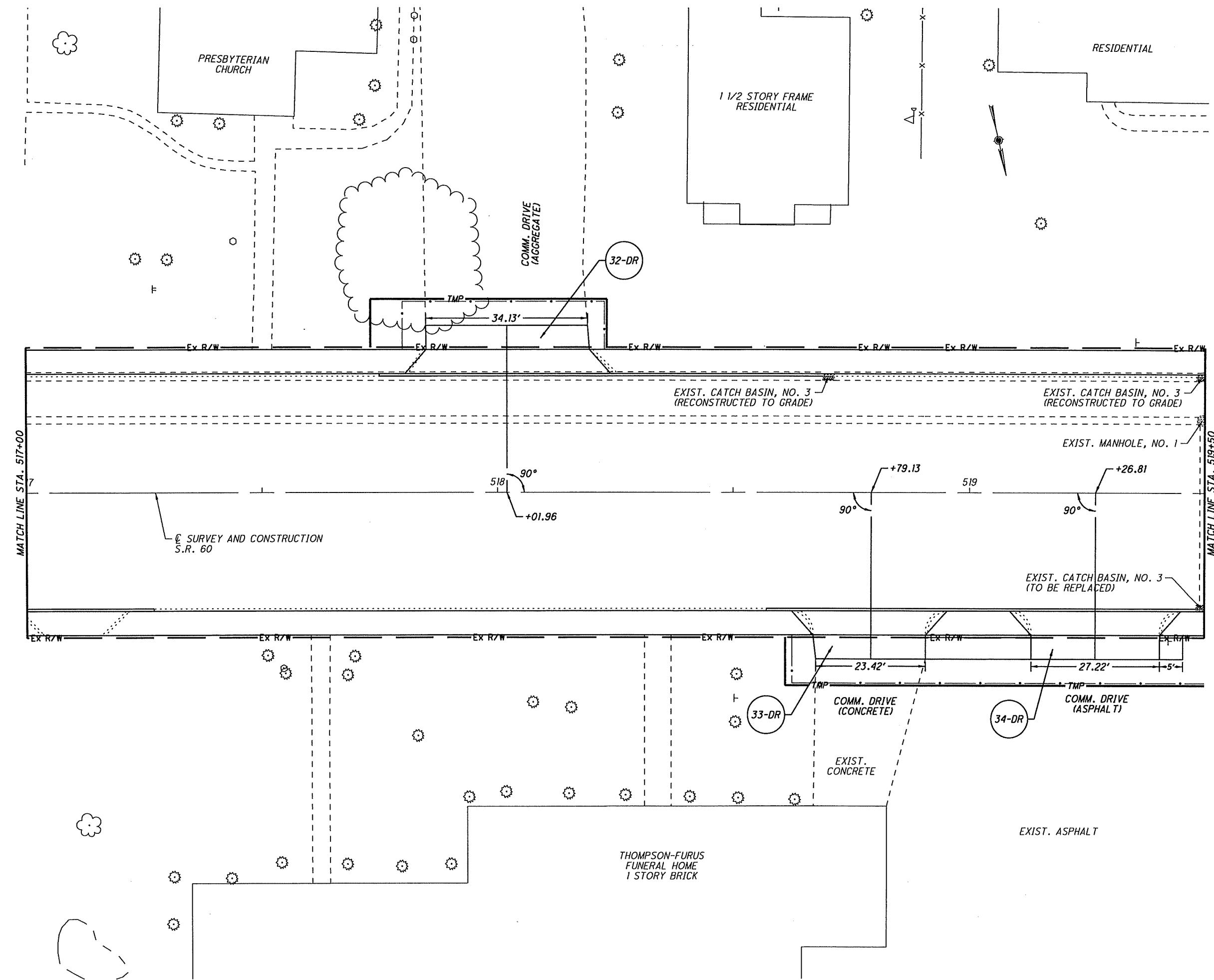
MUS-60-8.03

A scale bar with markings at 0, 10, and 20. To its right is a table:

CALCULATED	JLS
CHECKED	DNM

HORIZONTAL SCALE IN FEET

8613-PP-08.DGN 4/28/11



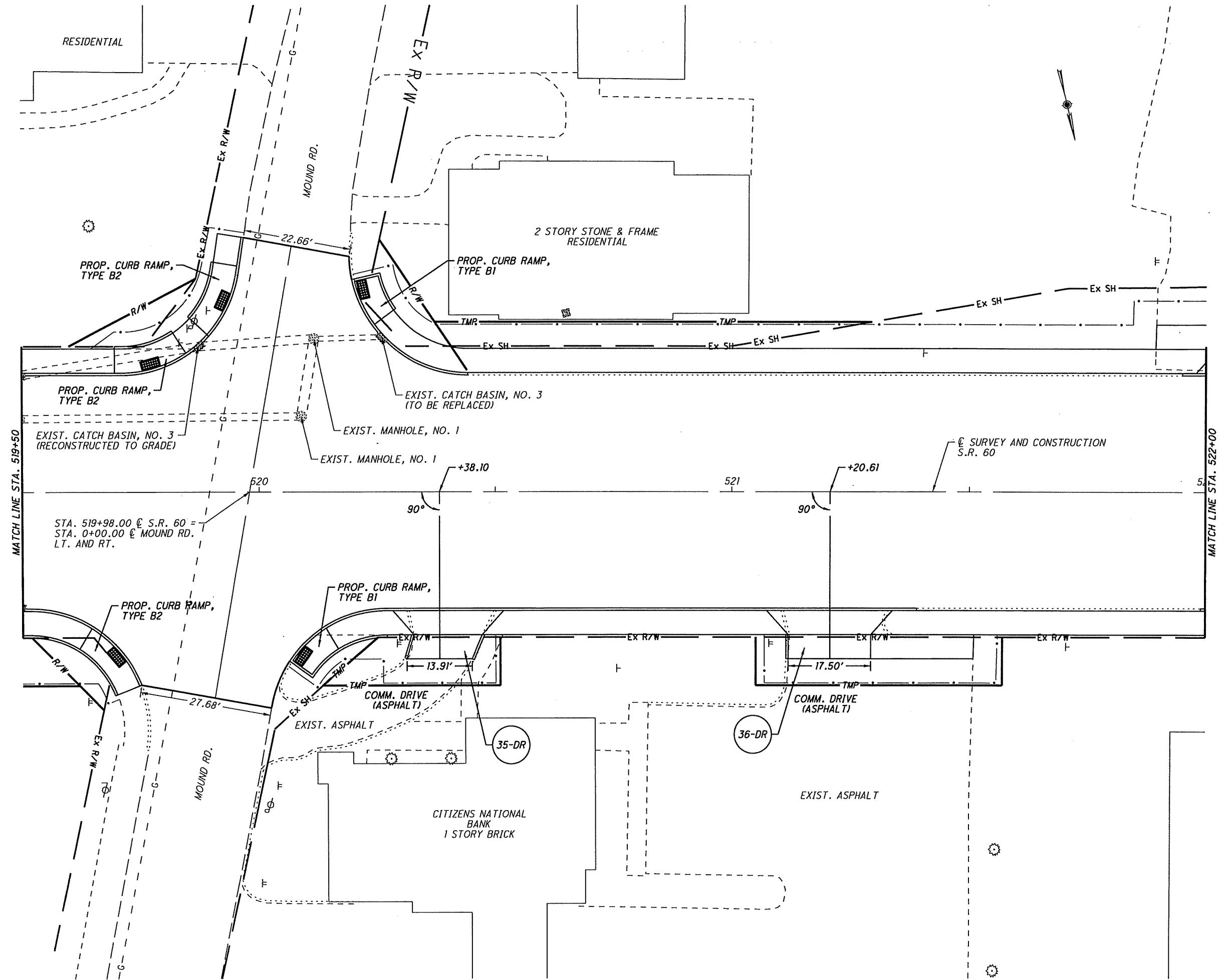
PLAN SHEET (S.R. 60)  
STA. 517+00 TO STA. 519+50

M U S - 6 0 - 8 . 0 3

A scale bar and a conversion table. The scale bar shows distances of 0, 10, and 20 feet. The conversion table shows:

CALCULATED JLS	0	10	20
CHECKED DNM			

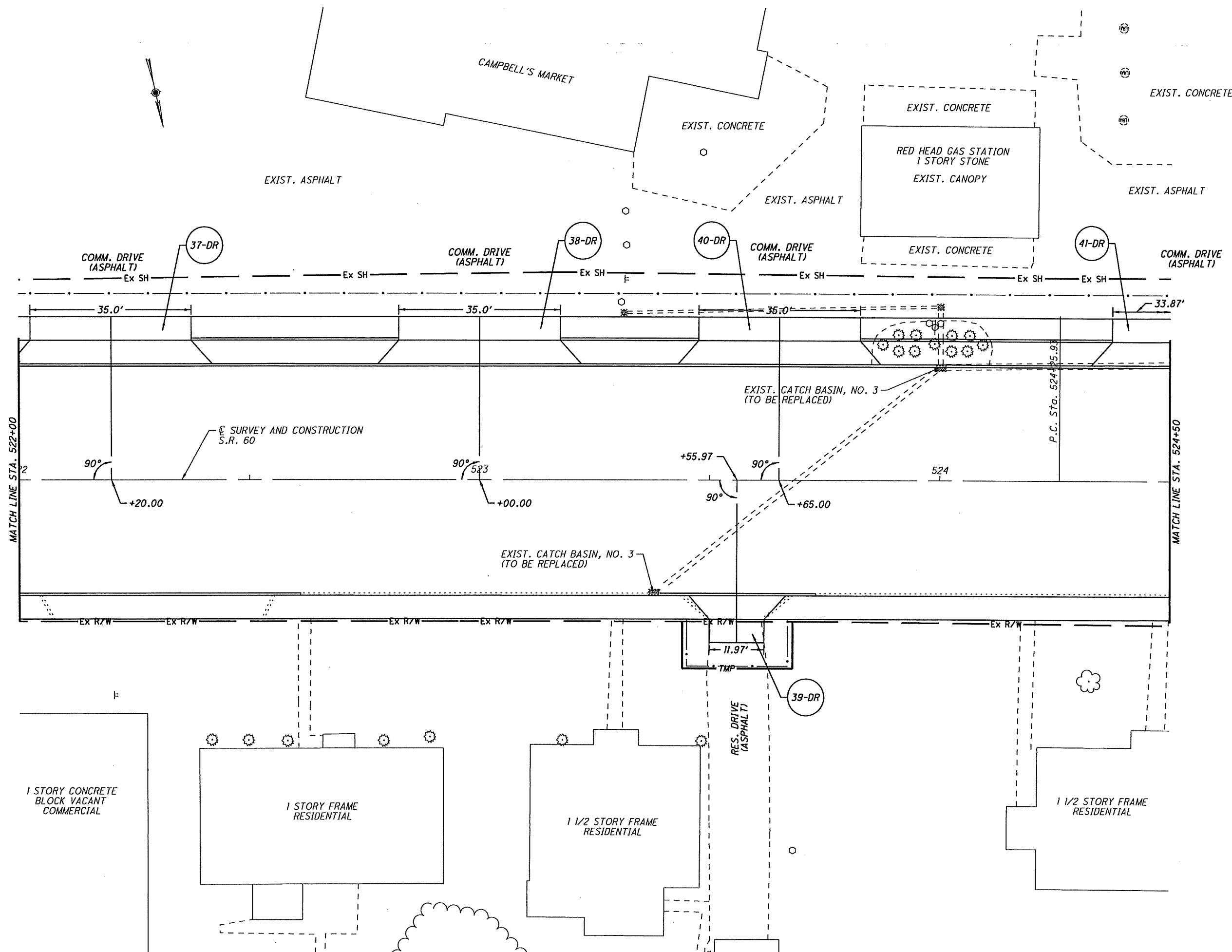
886719\_PPP\_09.DGN 4/28/11



**PLAN SHEET (S.R. 60)**  
**STA. 519+50 TO STA. 522+00**

MUS-60-8.03

86719\_PPP\_10.DGN 5/09/11



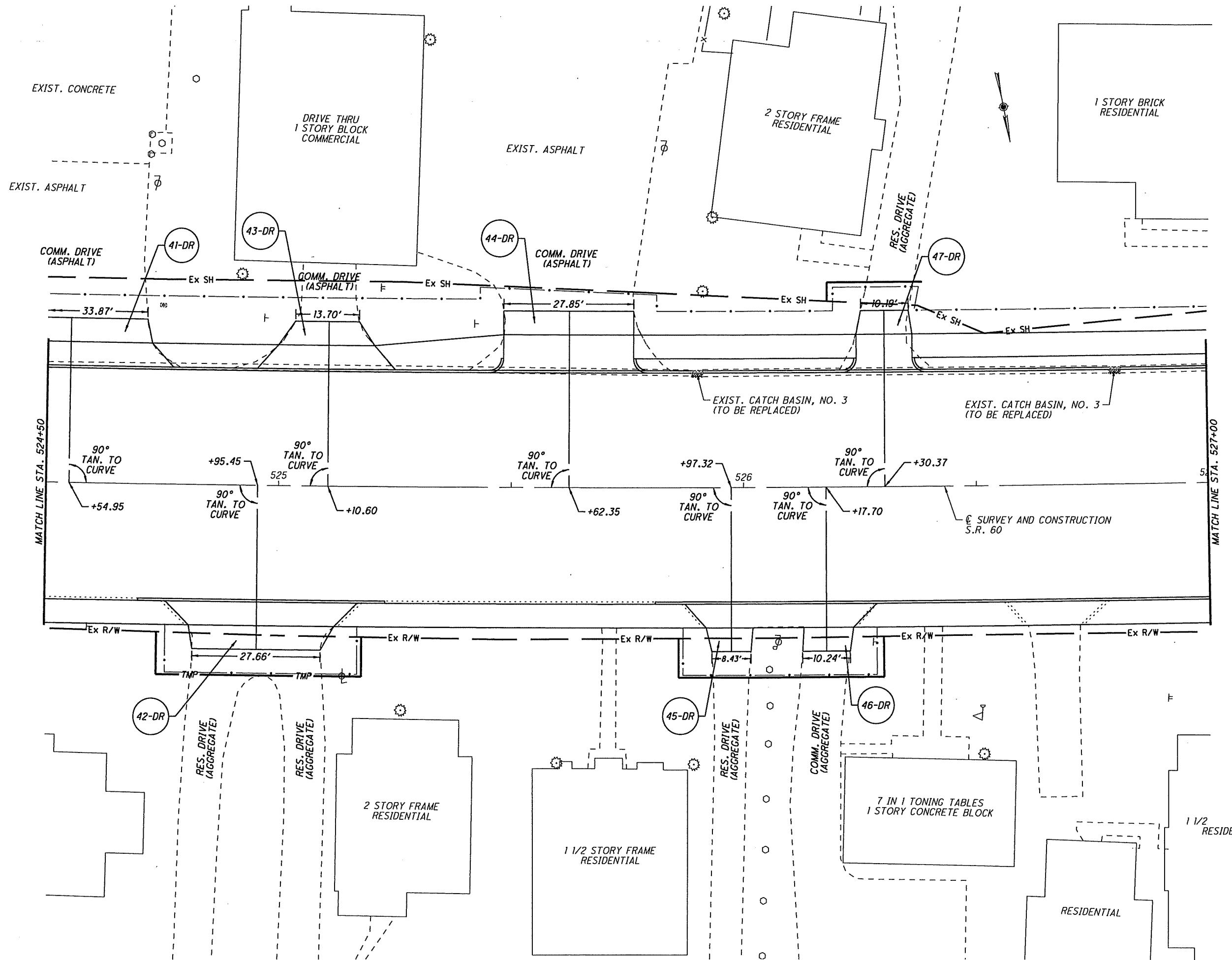
**PLAN SHEET (S.R. 60)**  
**STA. 522+00 TO STA. 524+50**

MUS-60-8.03

2  
10  
0

HORIZONTAL  
SCALE IN FEET

886719\_PPP\_11.DGN 4/28/11

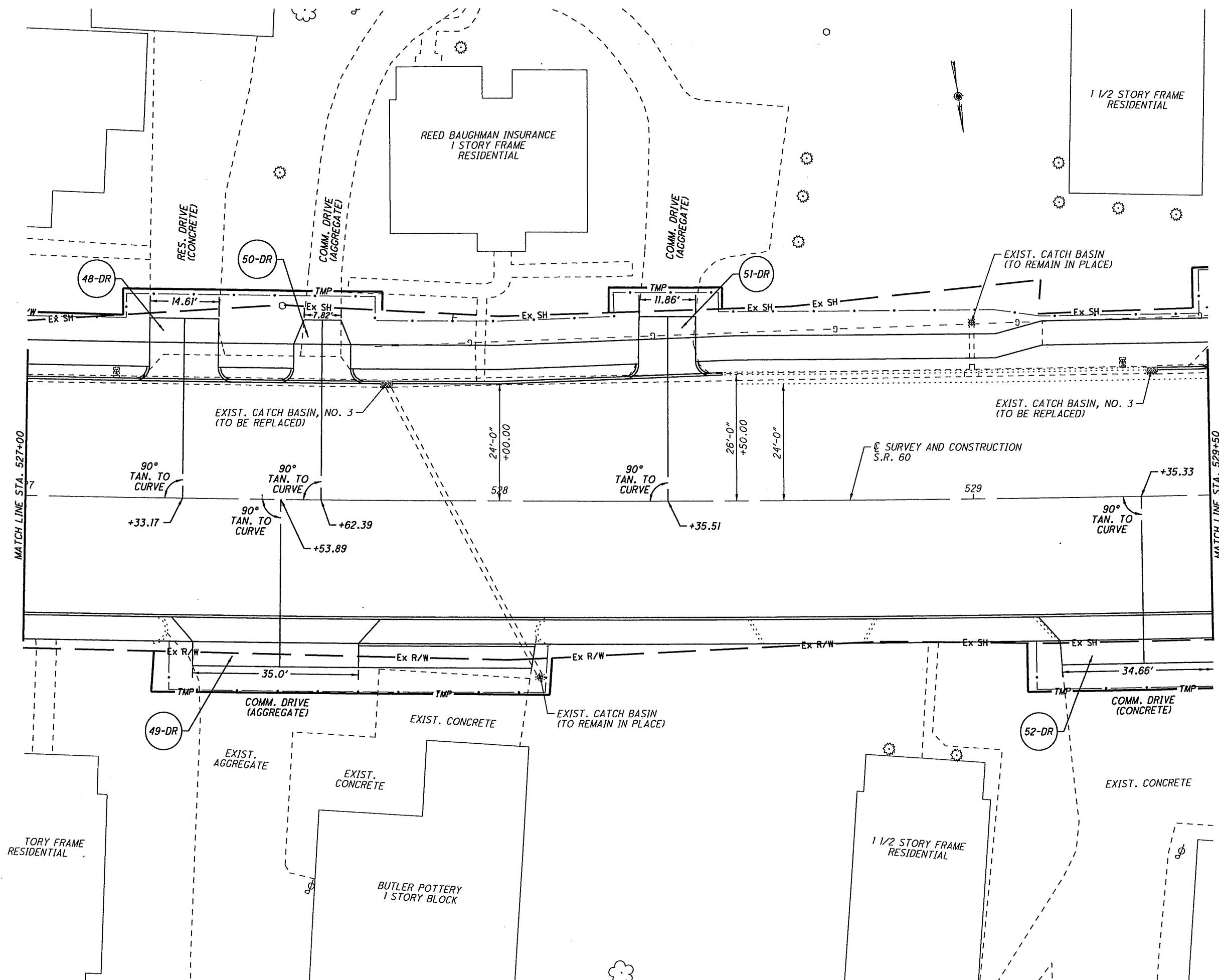


**PLAN SHEET (S.R. 60)**  
**STA. 524+50 TO STA. 527+00**

MUS-60-8.03

A scale bar for horizontal distance, marked at 10 and 20 feet. The bar is a horizontal line with vertical tick marks at 10 and 20. The word "HORIZONTAL" is written vertically above the scale, and "SCALE IN FEET" is written vertically below it.

886719\_PPP\_12.DGN 4/28/11



MUS-60-8.03

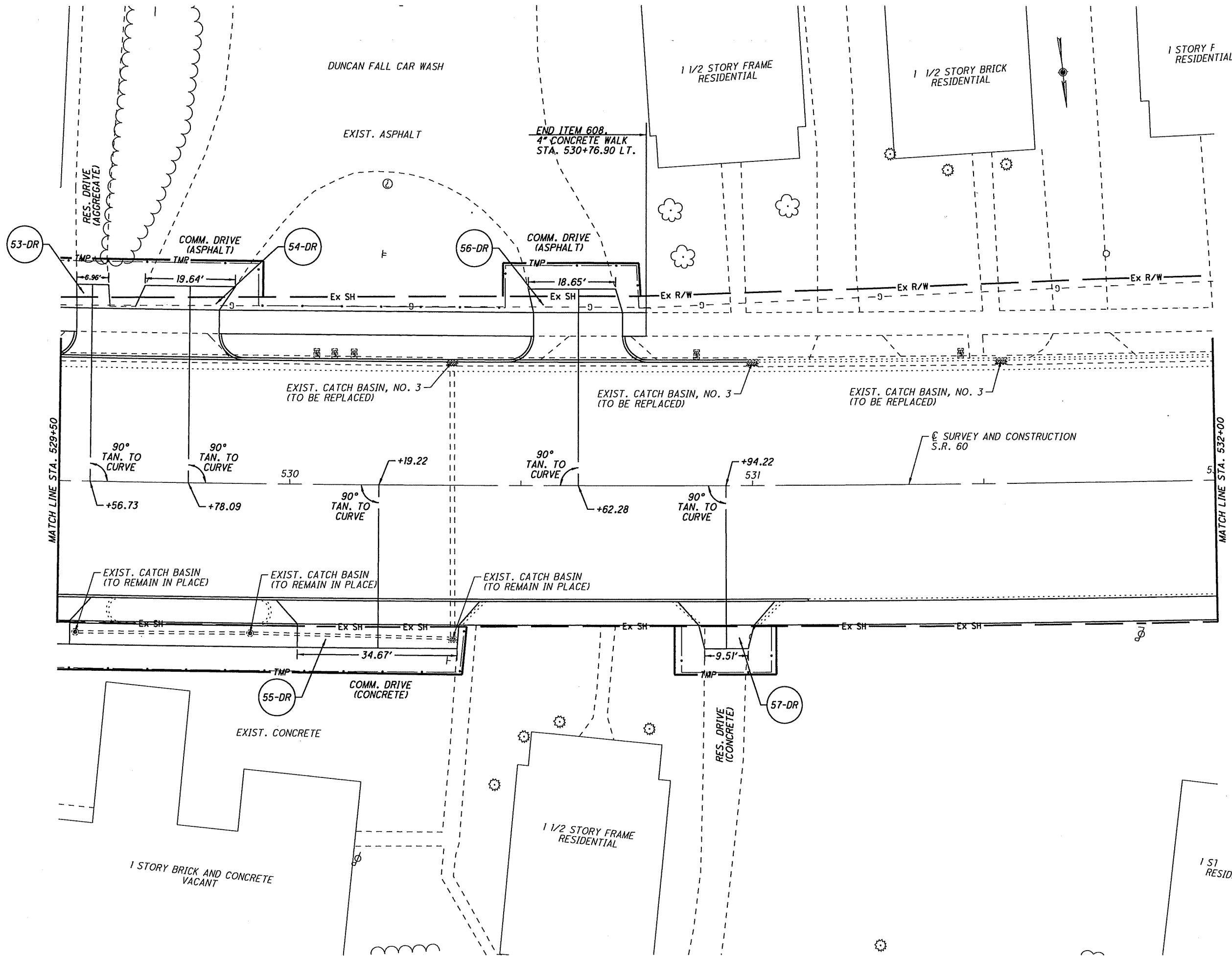
PLAN SHEET (S.R. 60)  
STA. 527+00 TO STA. 529+50

A scale bar with markings at 0, 10, and 20. Below it is a table:

CALCULATED	JLS
CHECKED	DNM

Horizontal Scale in Feet

886719\_PPP\_13.DGN 5/09/11

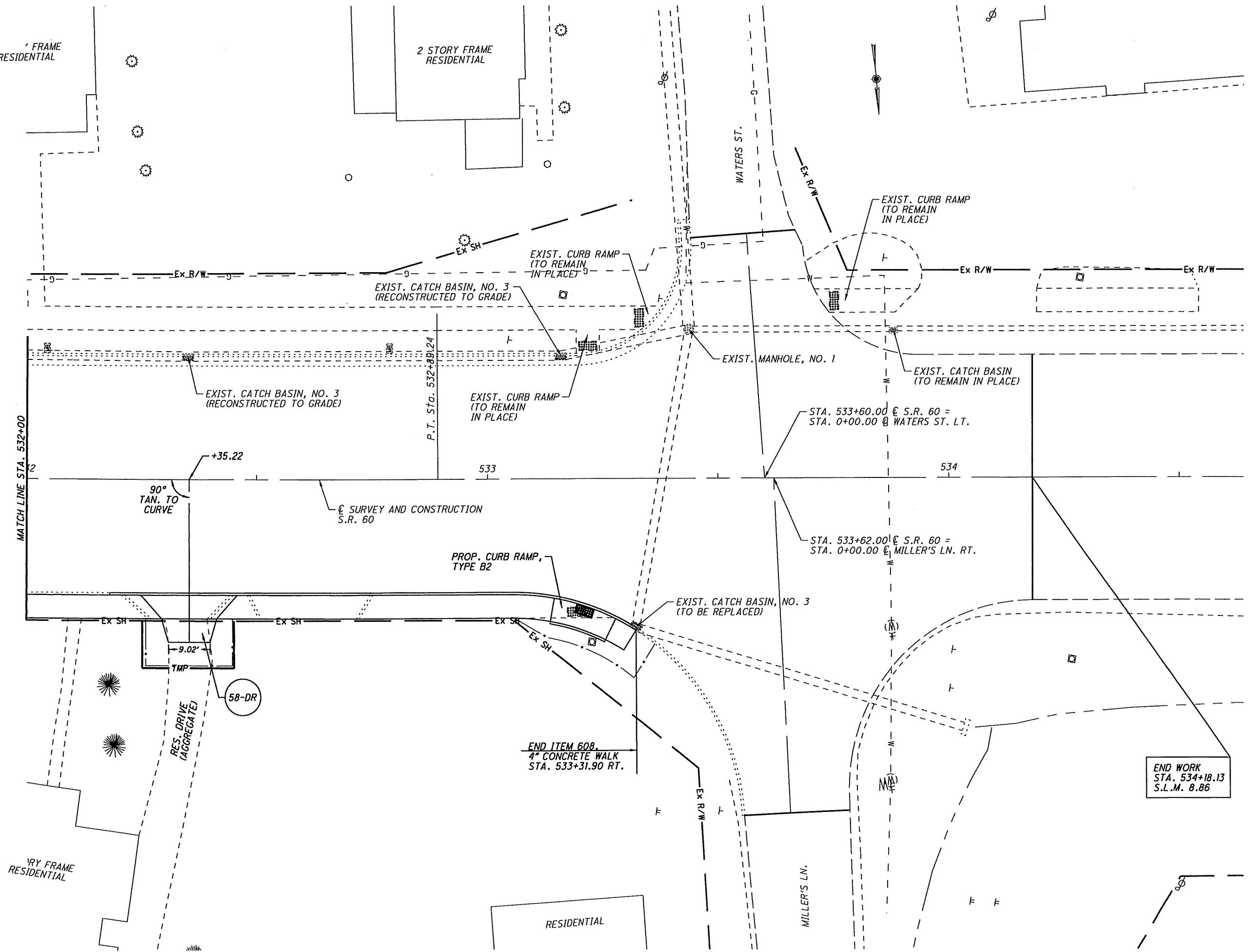


PLAN SHEET (S.R. 60)  
STA. 529+50 TO STA. 532+00

MUS-60-8.03

CALCULATED	JLS		20
CHECKED	DNM		HORIZONTAL SCALE IN FEET

86719 PPP\_14.DGN 5/09/11



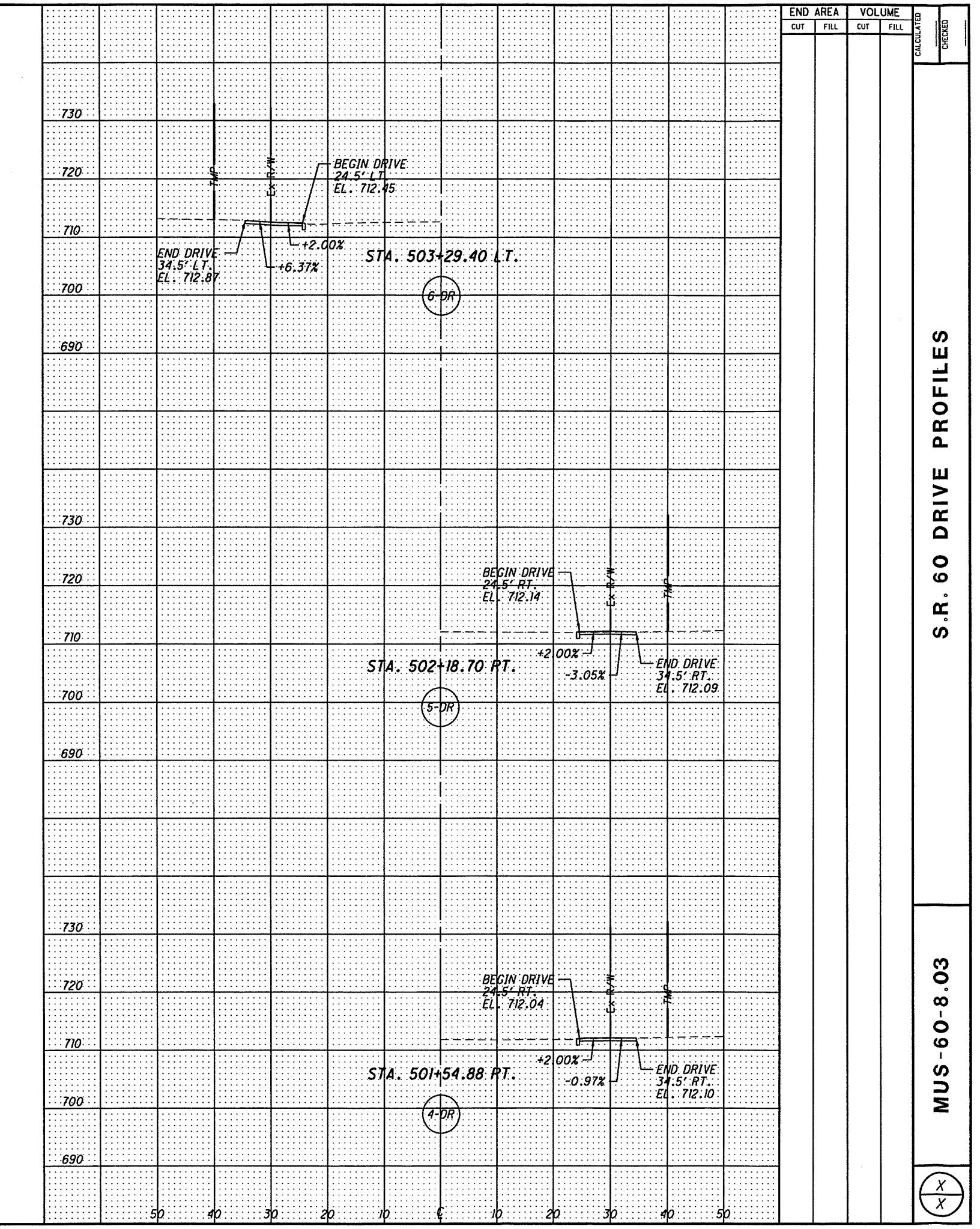
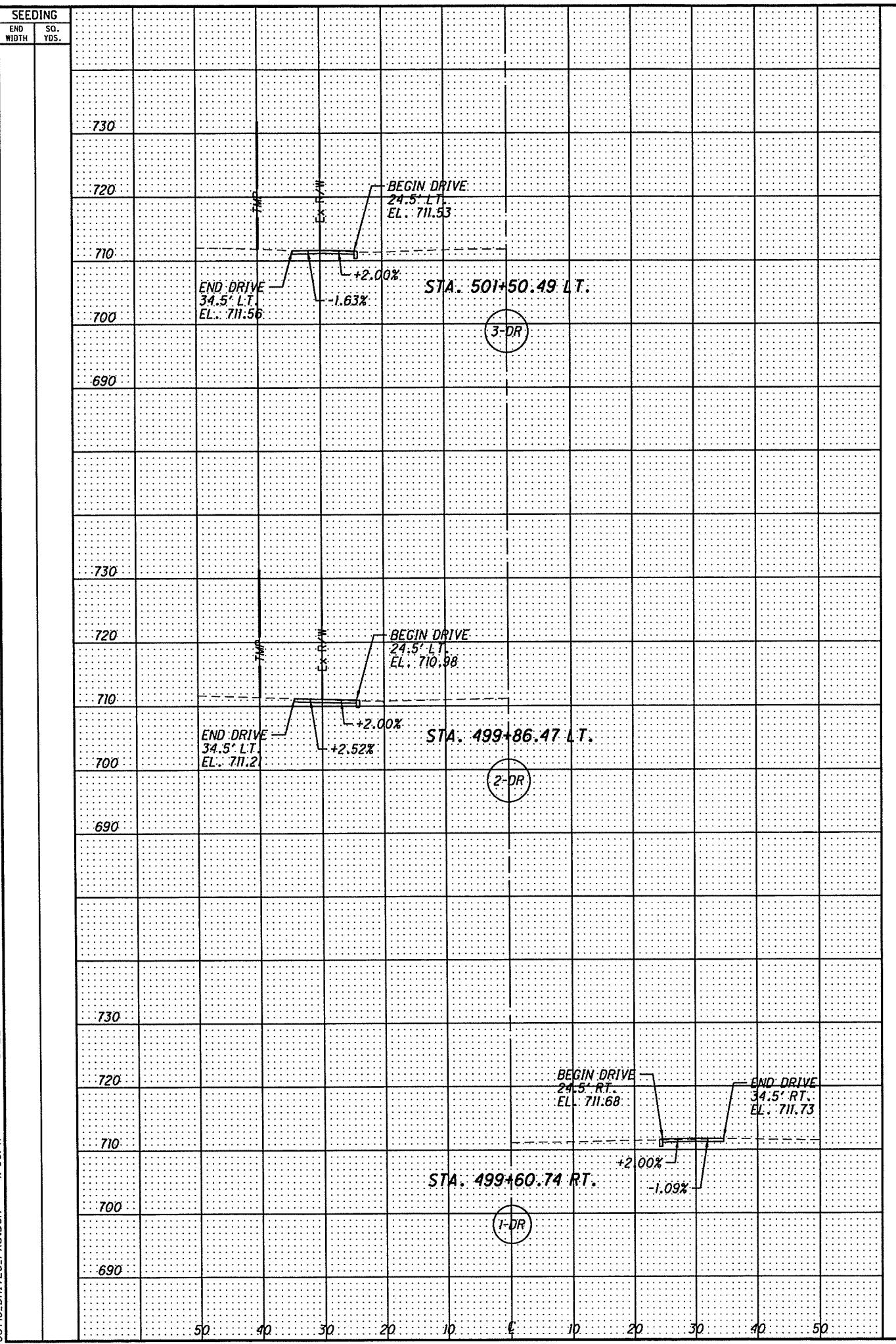
**PLAN SHEET (S.R. 60)**  
**STA. 532+00 TO STA. 534+18.13**

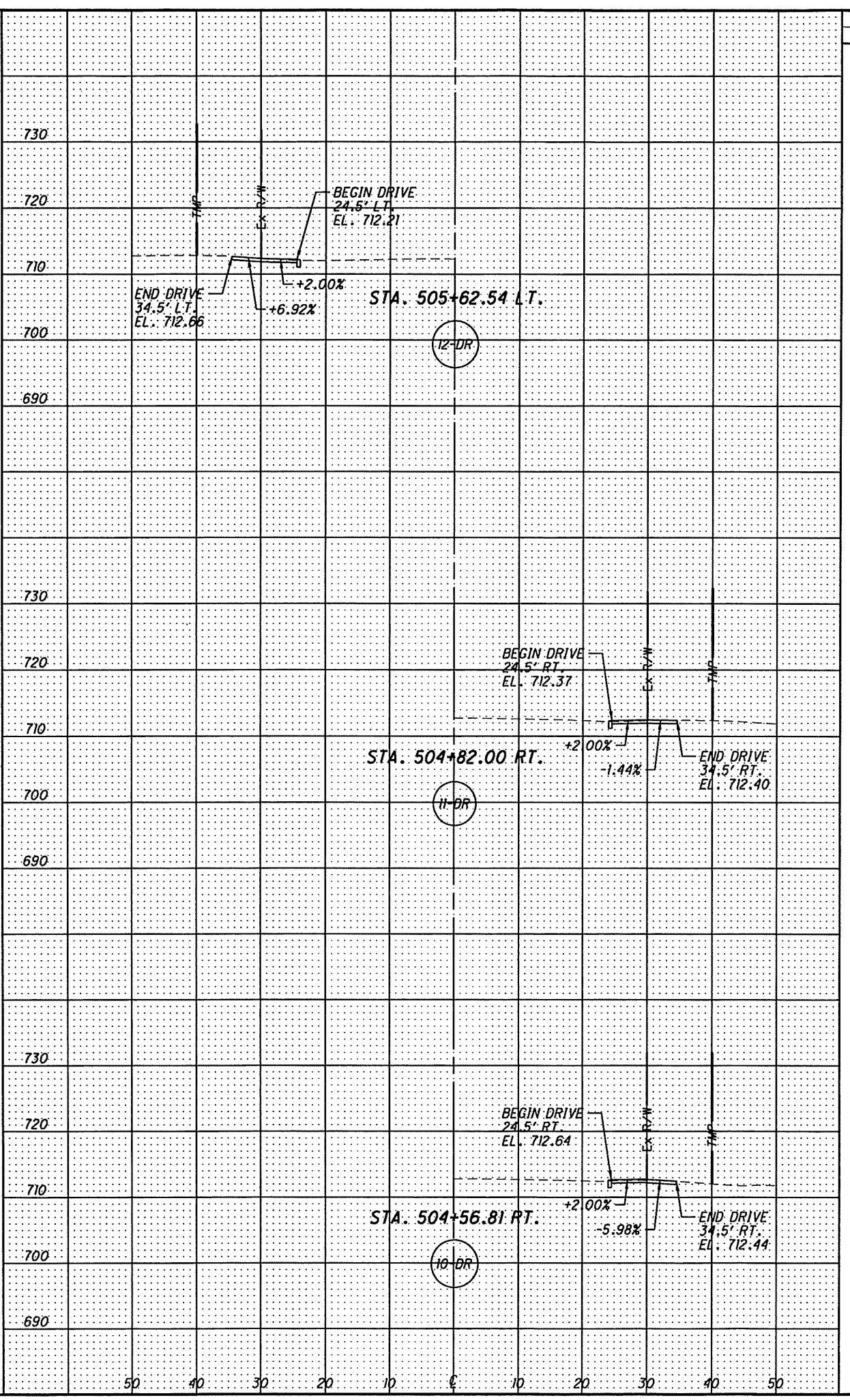
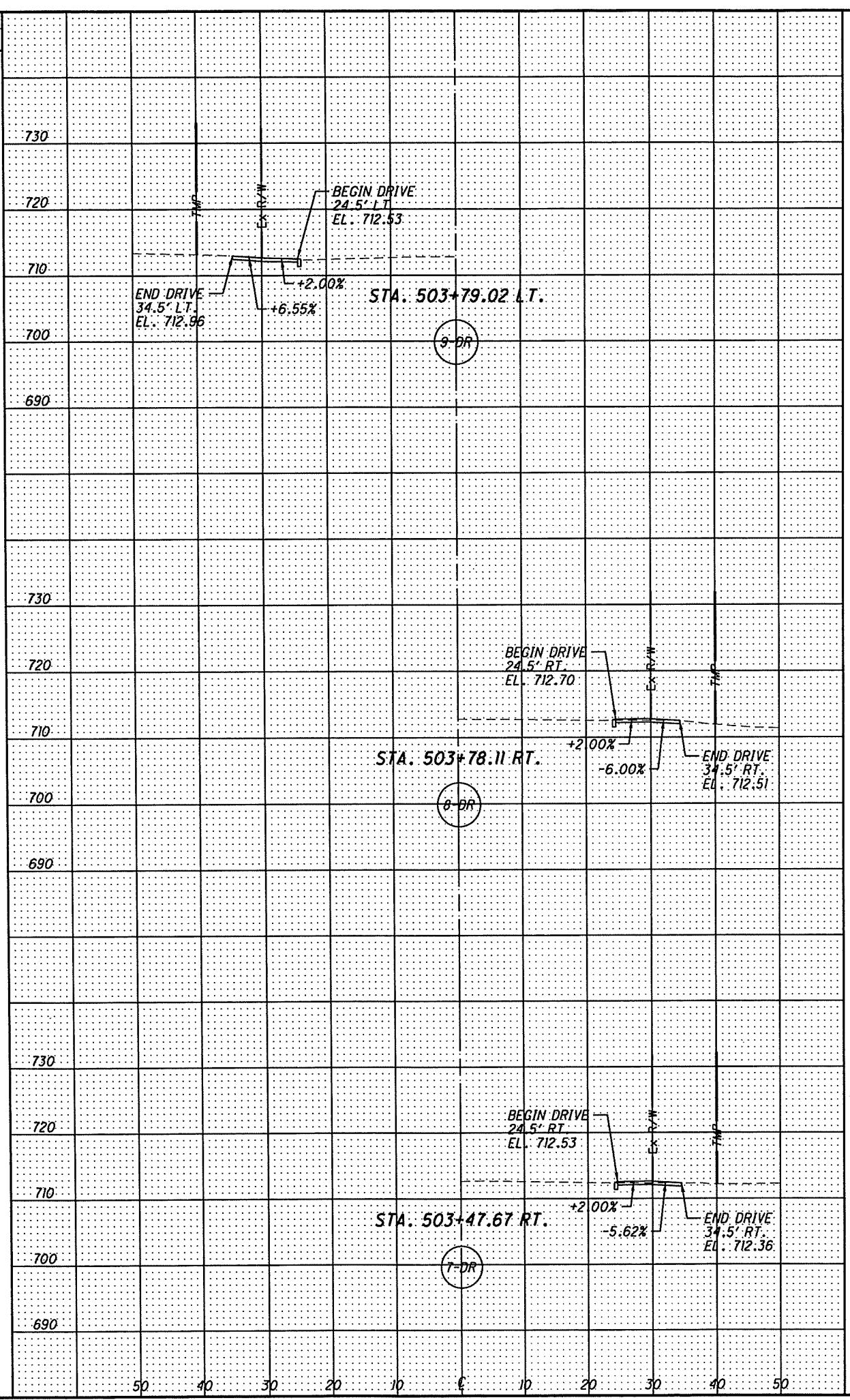
MUS-60-8.03

CALCULATED	0	10
JLS		
CHECKED		

HORIZONTAL  
SCALE IN FEET

3886719..PPP\_15.DGN 5/09/11

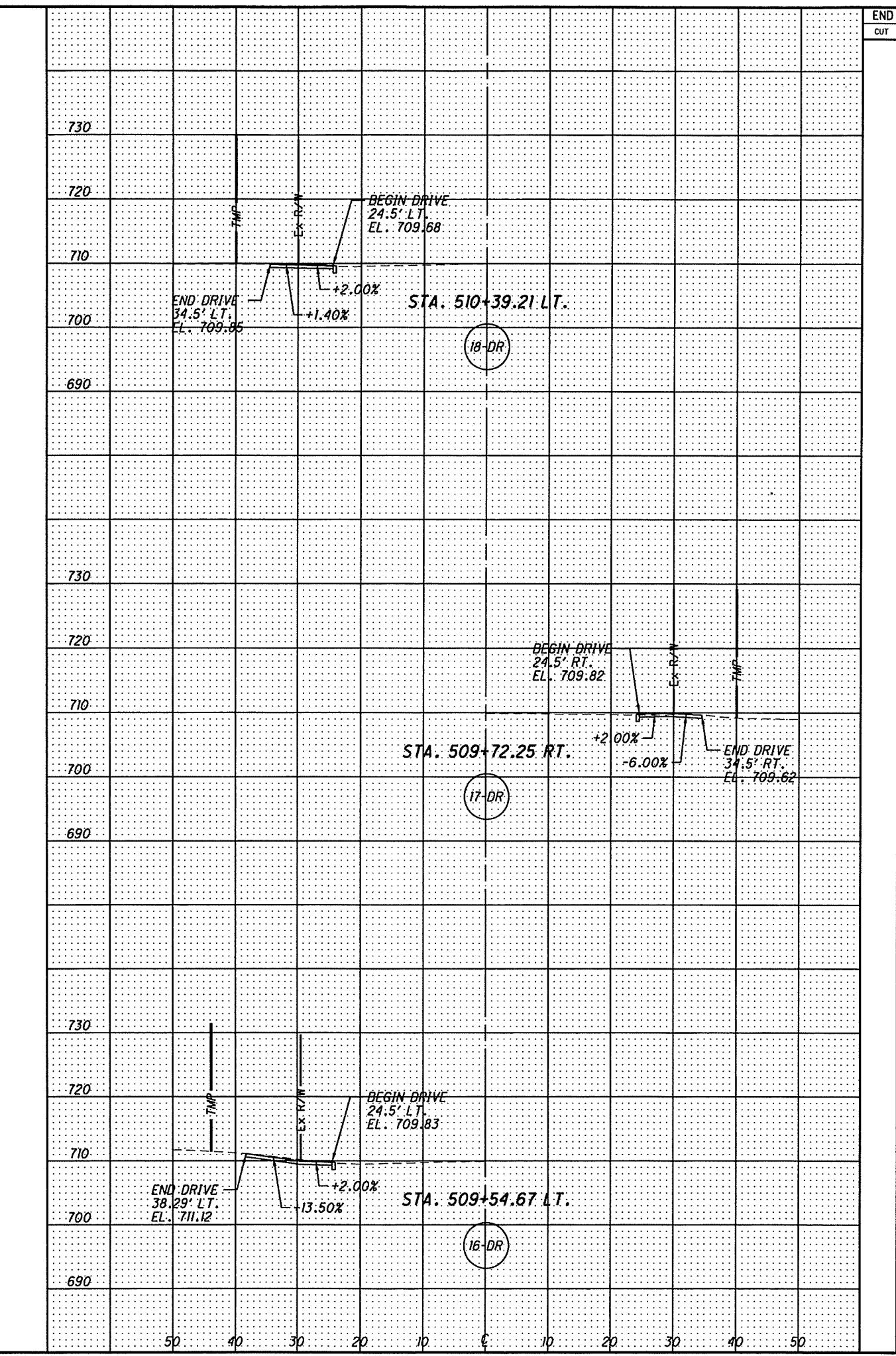
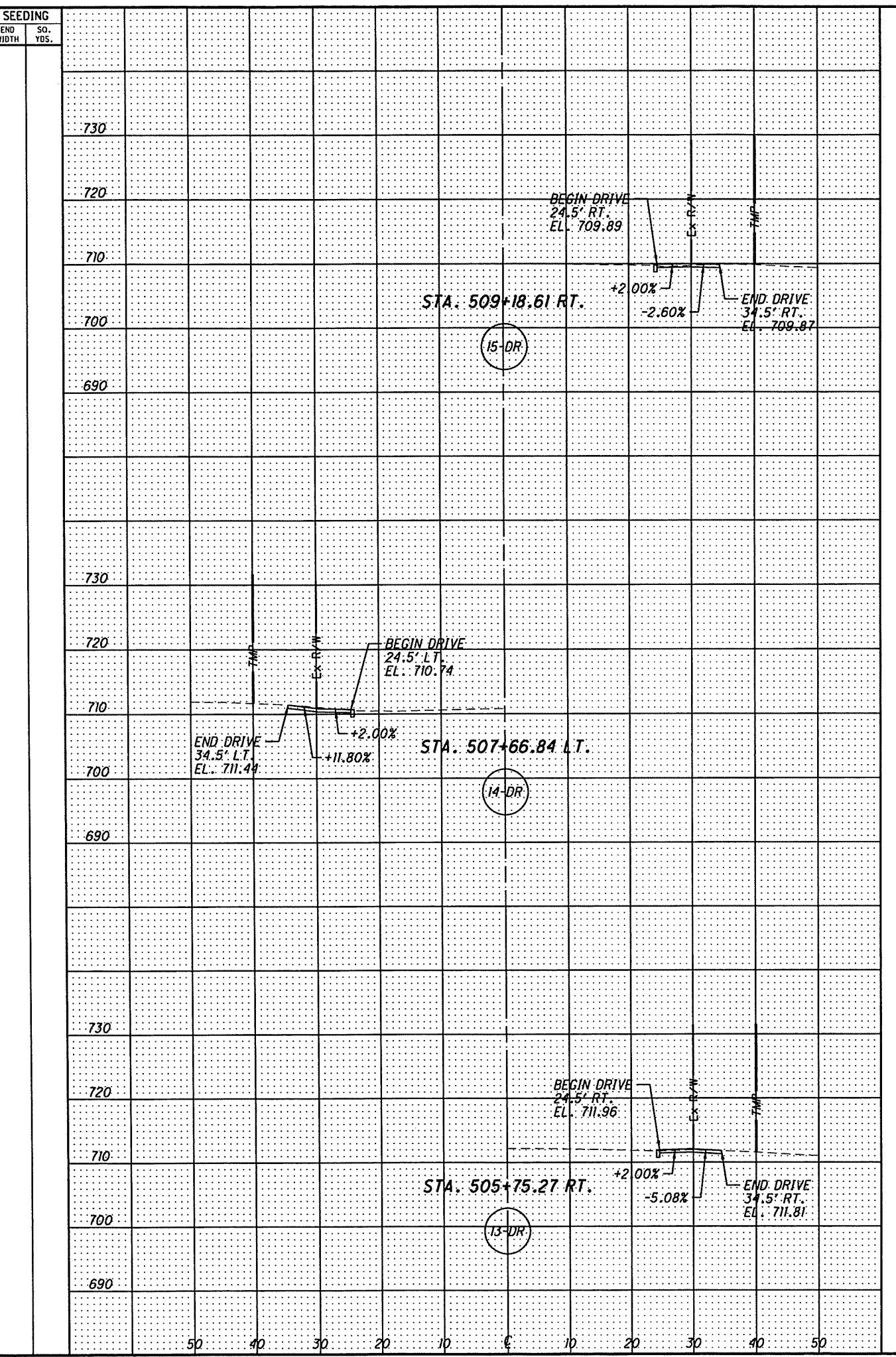




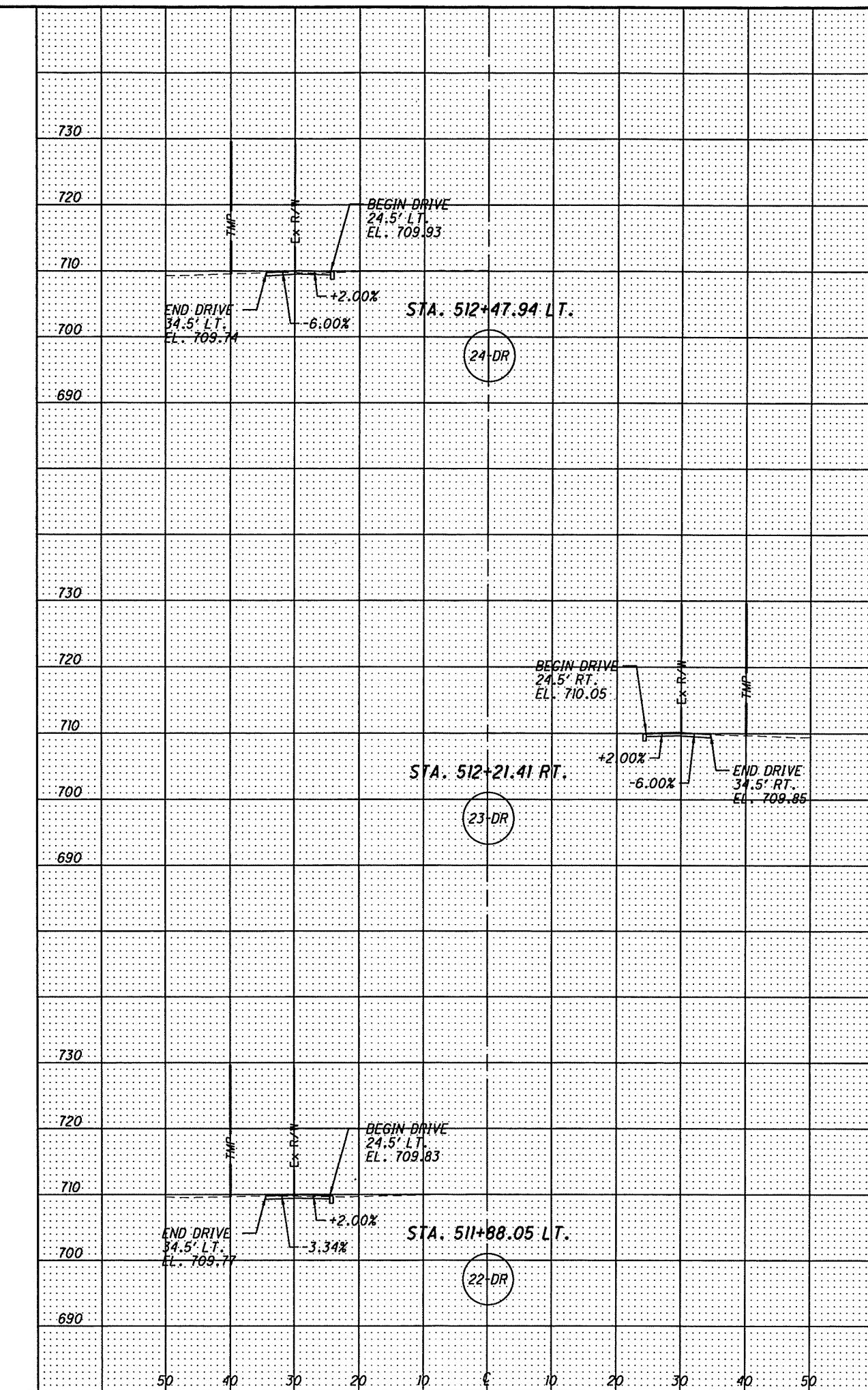
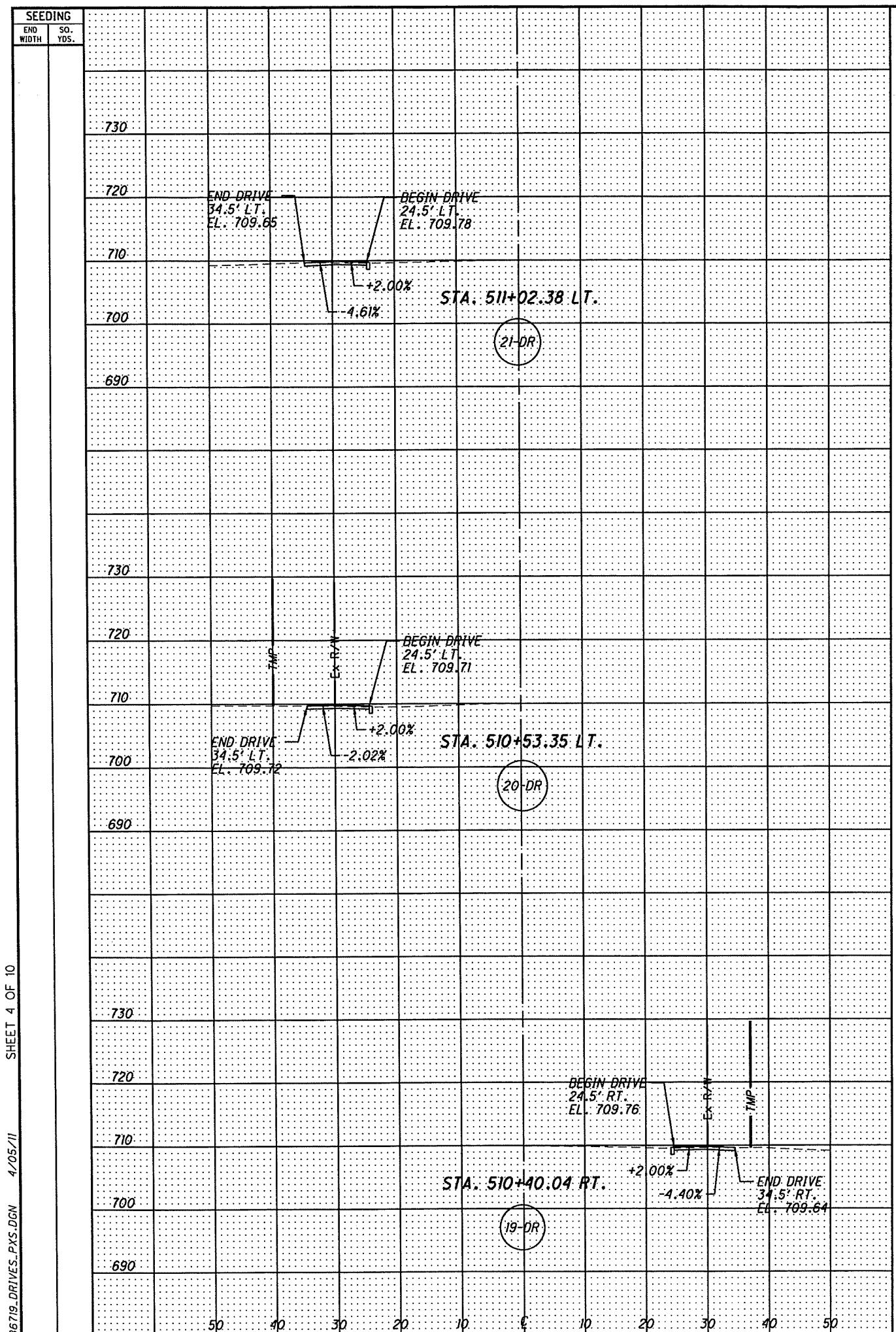
## S.R. 60 DRIVE PROFILES

MUS-60-8.03

END AREA		VOLUME		CALCULATED	CHECKED
CUT	FILL	CUT	FILL		



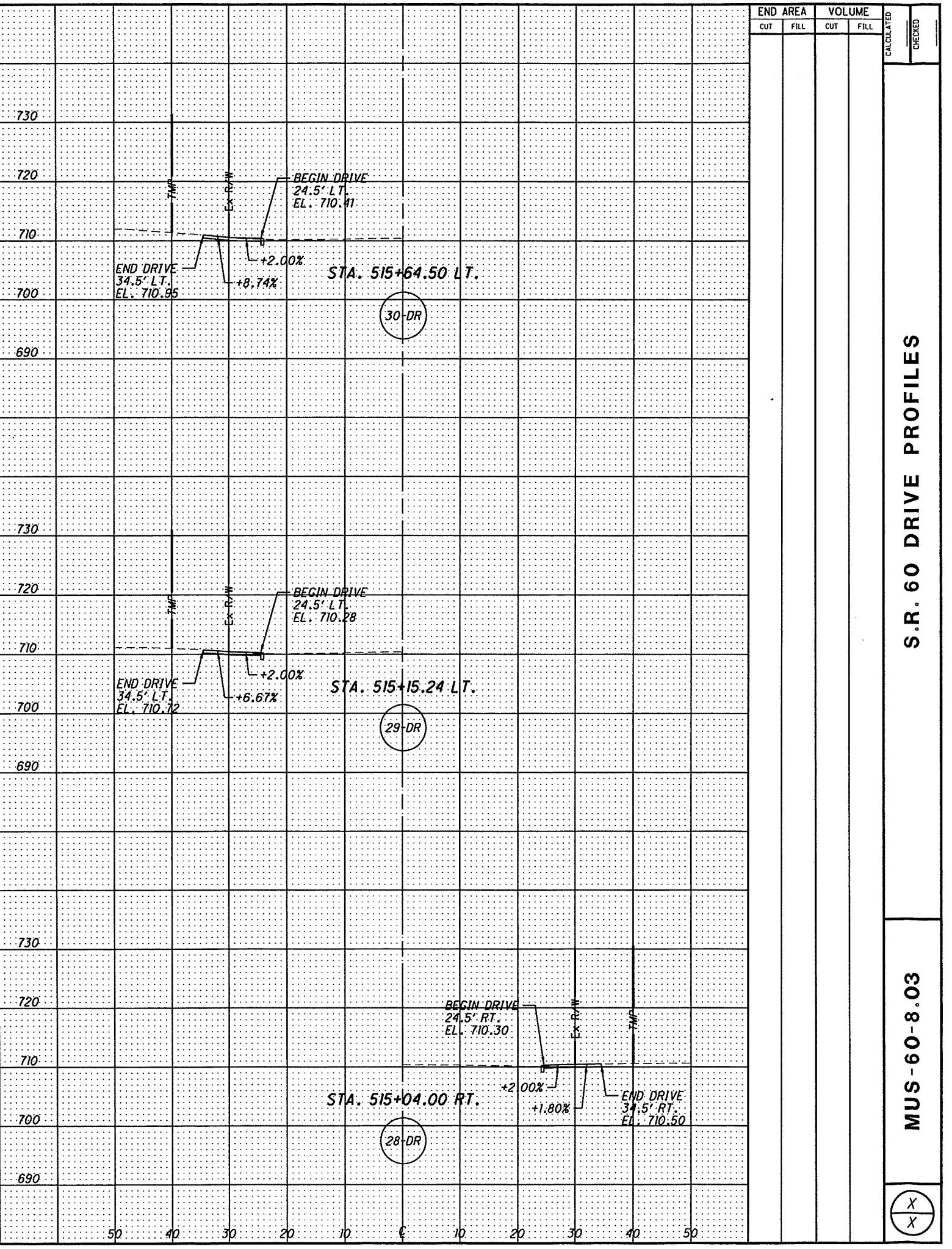
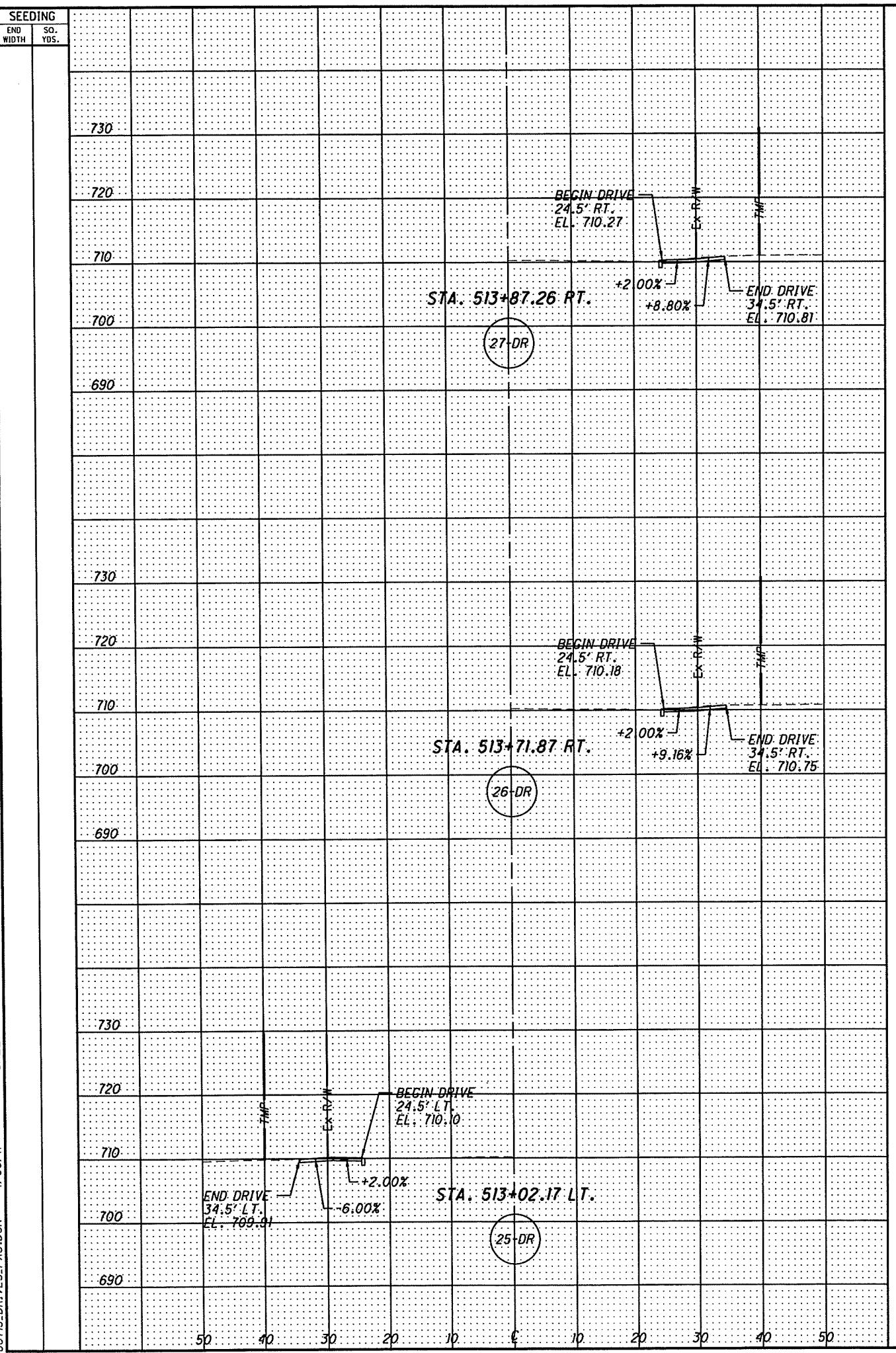
AREA FILL	VOLUME		CALCULATED _____
	CUT	FILL	CHECKED _____



MUS-60-8.03

S.R. 60 DRIVE PROFILES

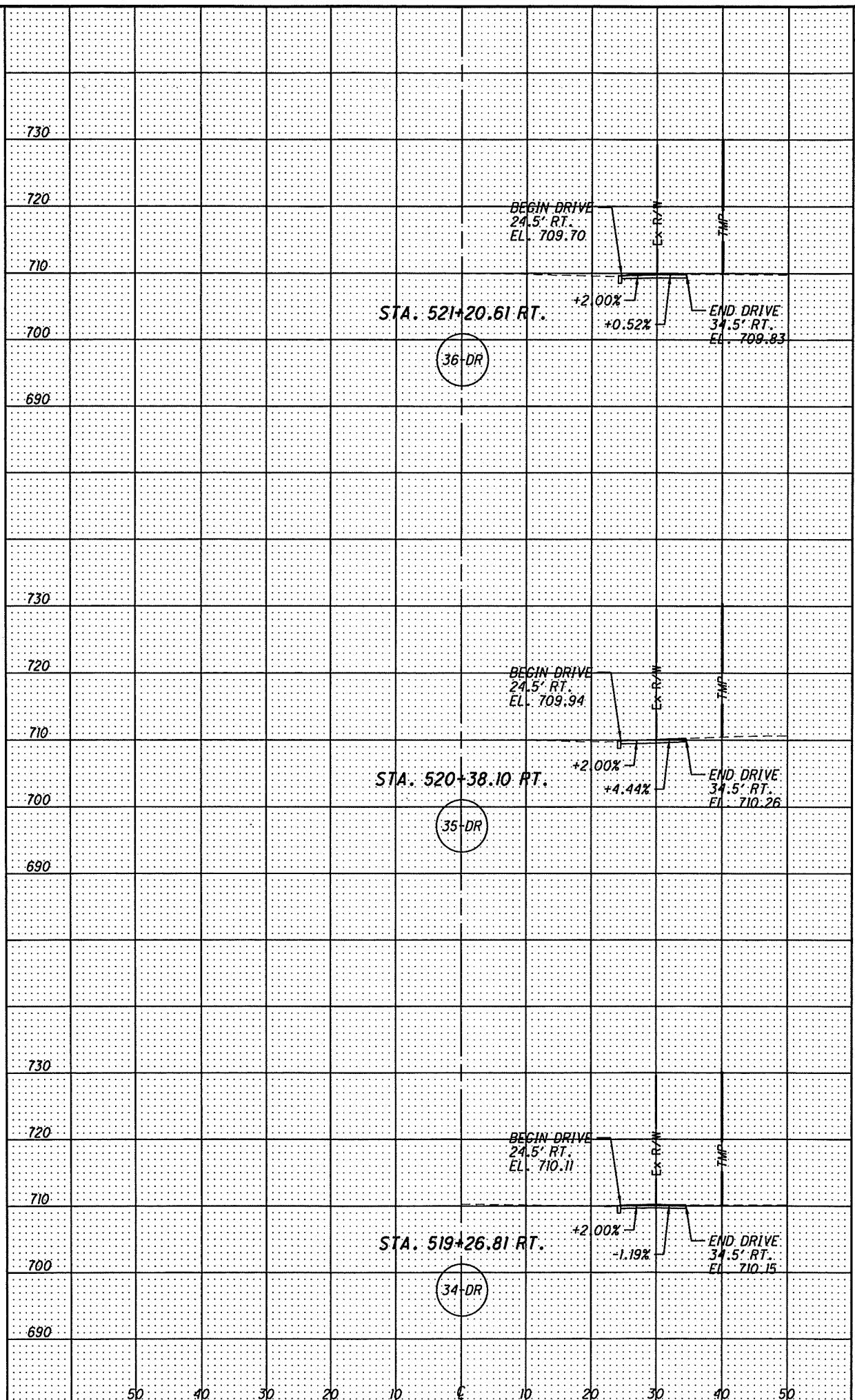
X  
X



## S.R. 60 DRIVE PROFILES

**MUS-60-8.03**

X  
X

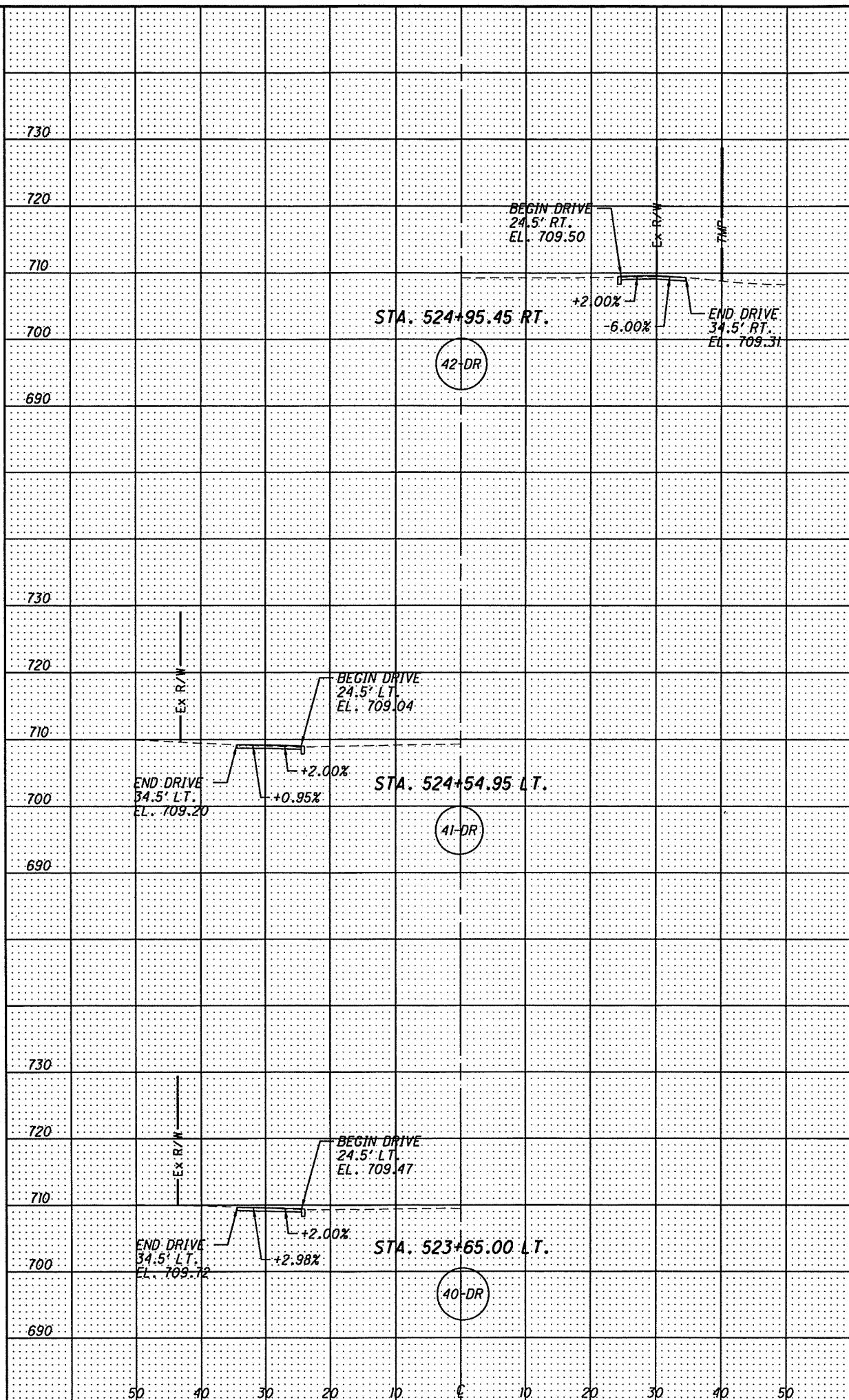


S.R. 60 DRIVE PROFILES

MUS-60-8.03

$\frac{x}{x}$

MUS-80-8.03      S.R. 80 DRIVE PROFILES



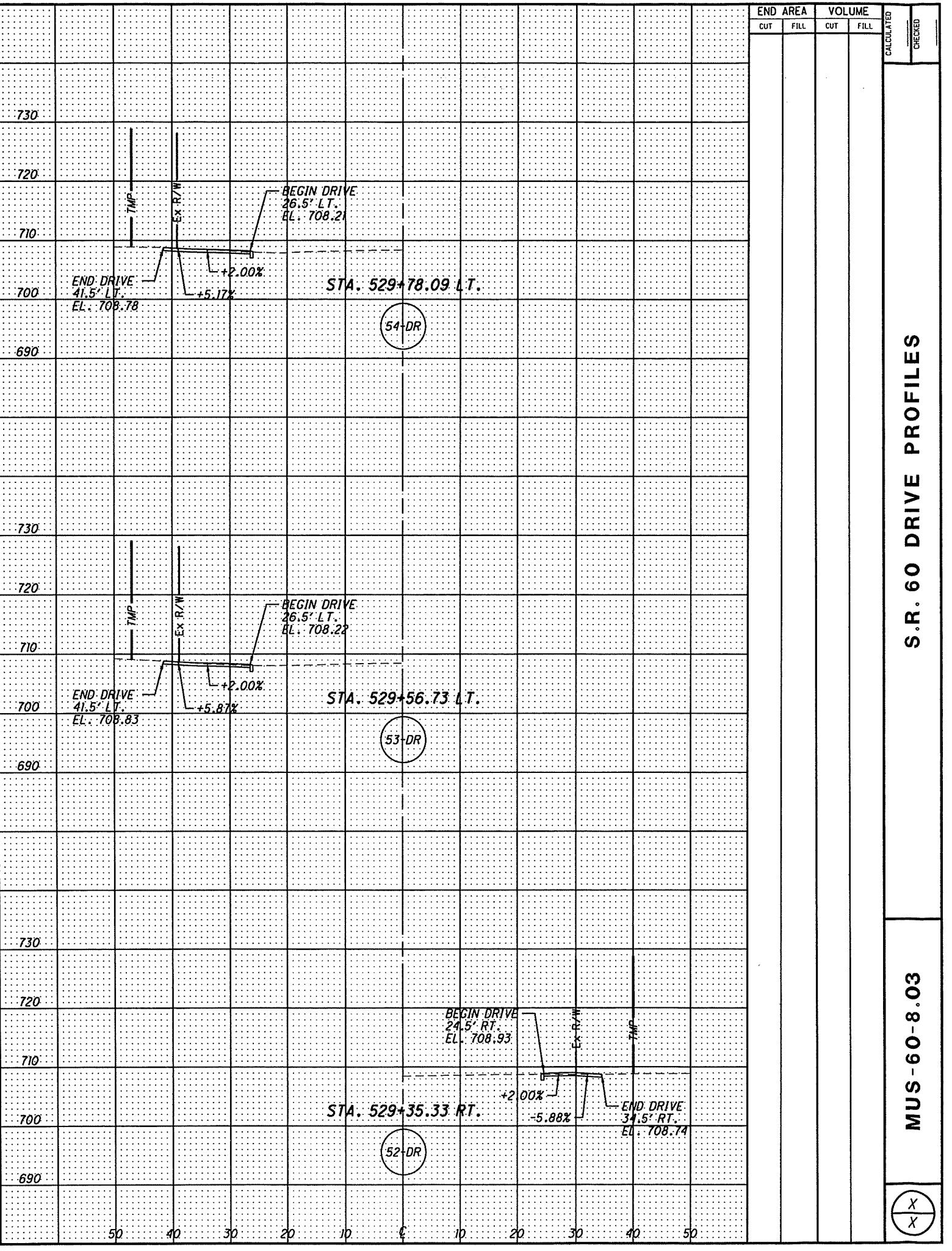
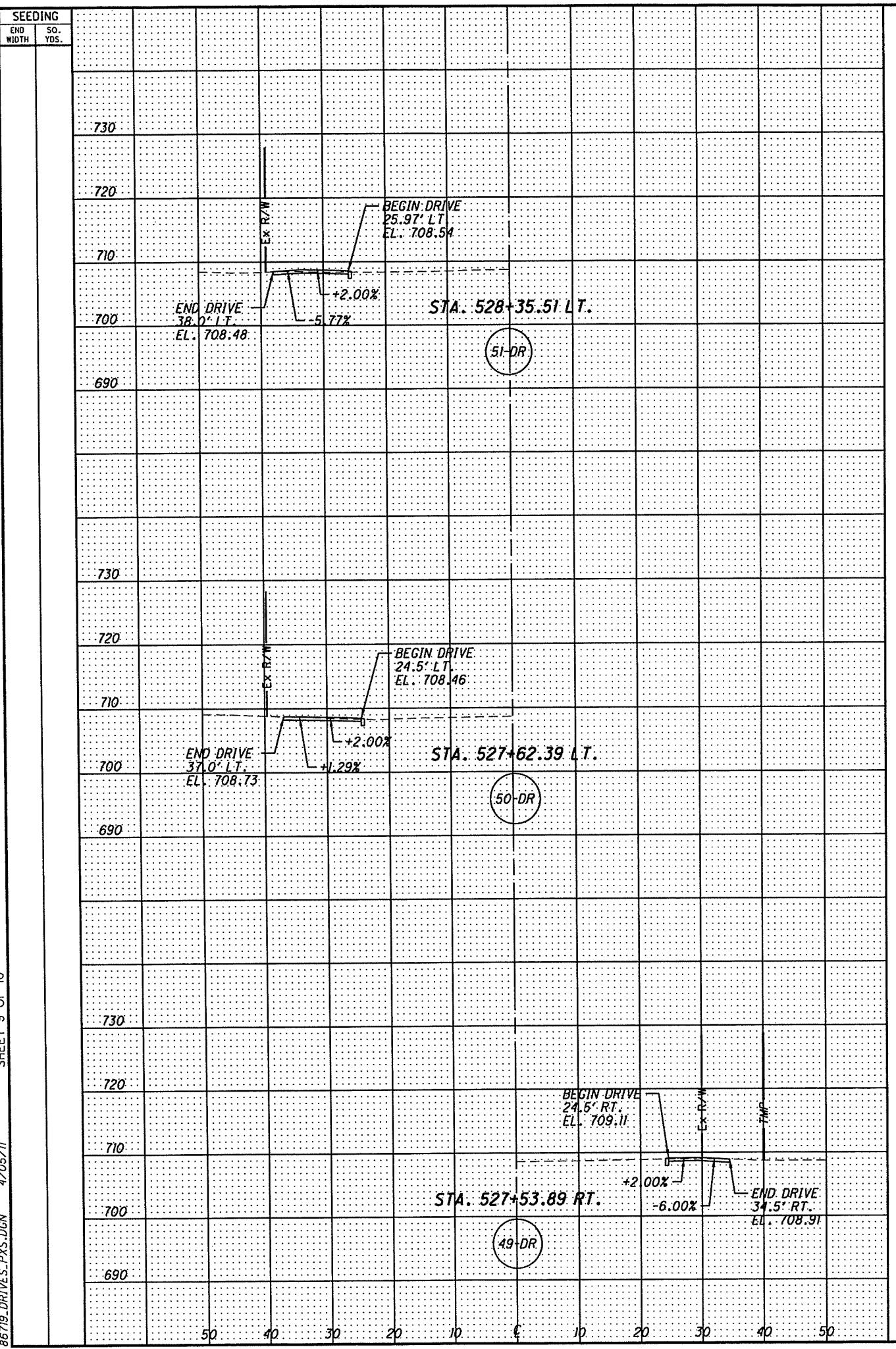
## S.R. 60 DRIVE PROFILES

MUS-60-8.03

X  
X

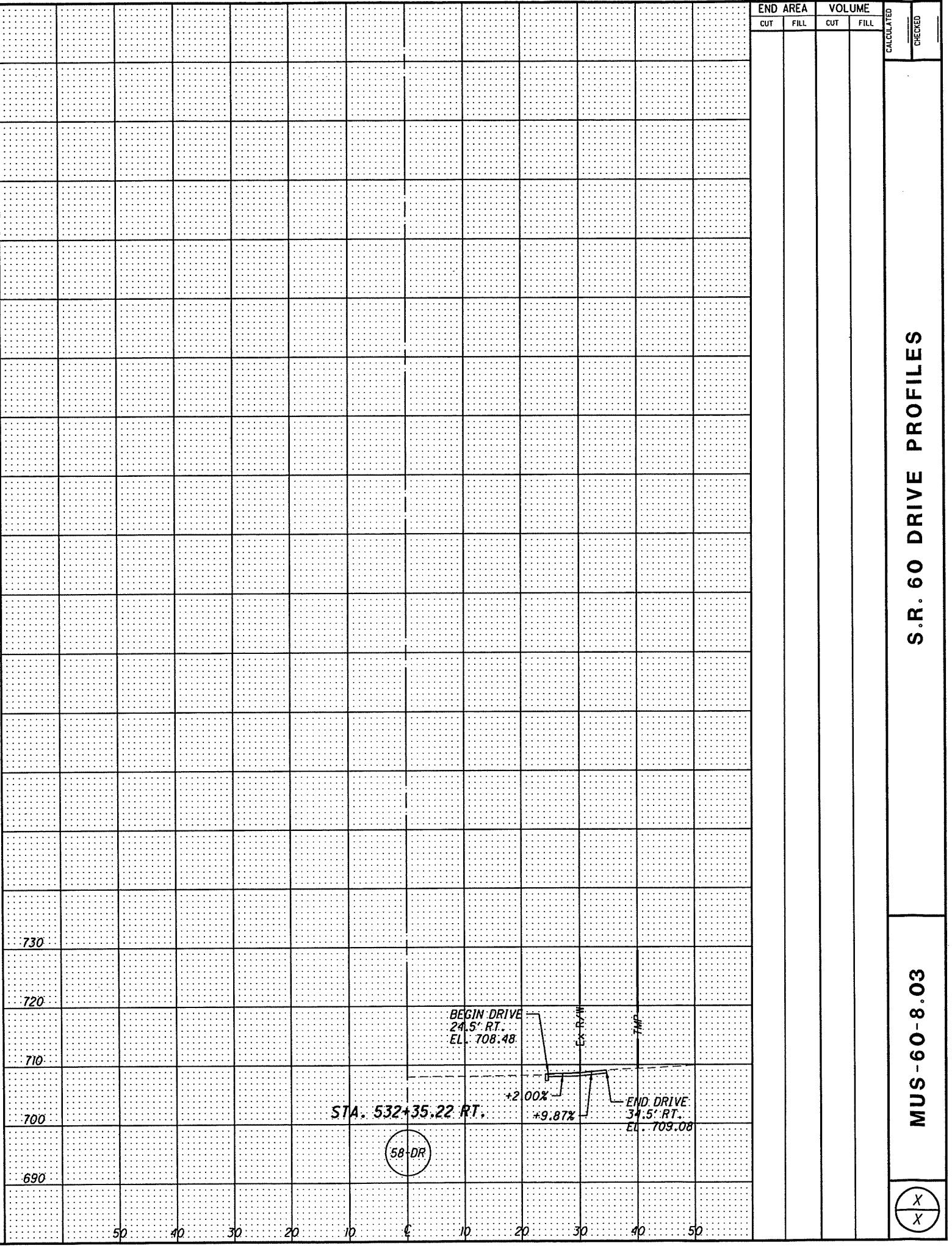
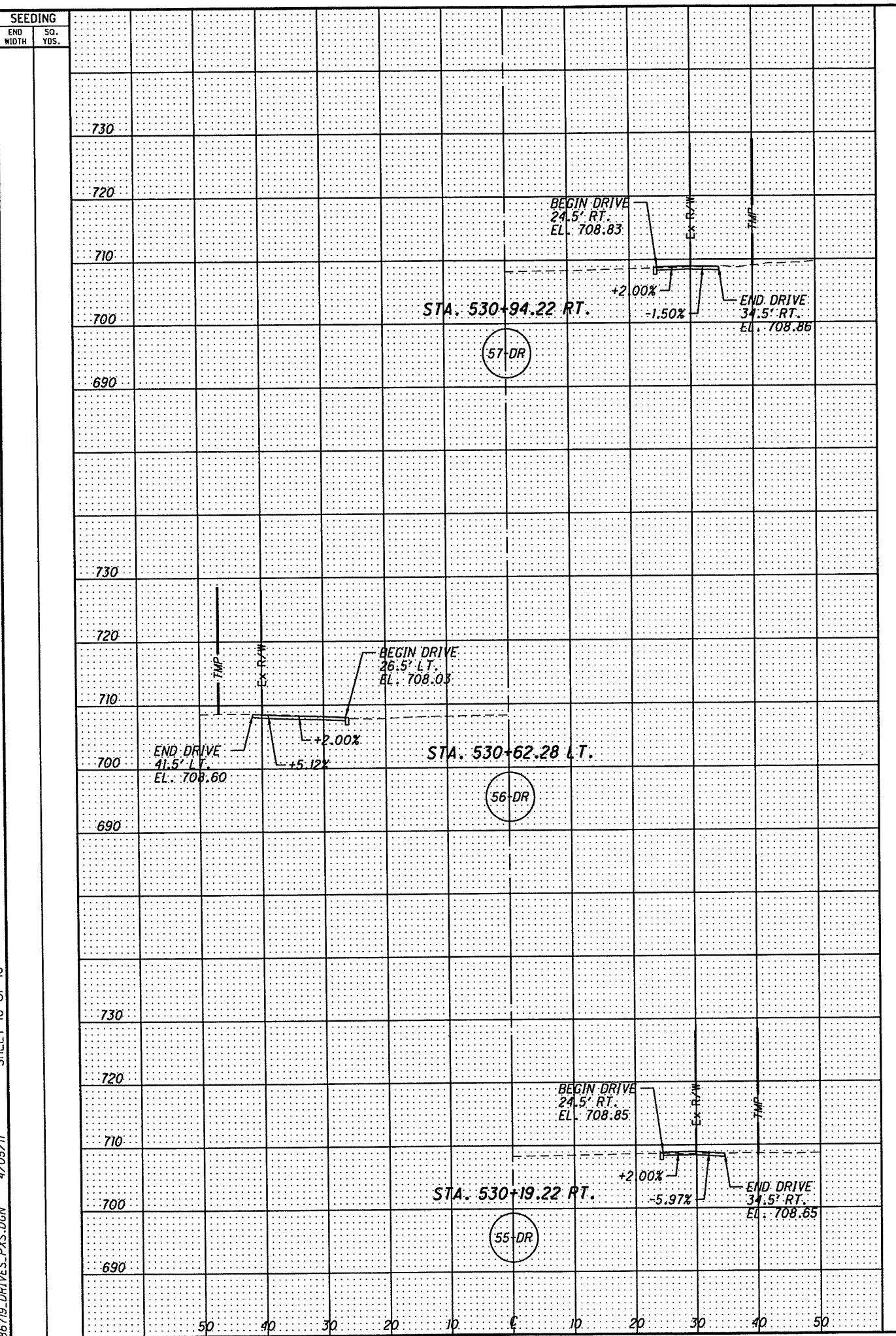
MUS-60-8.03		S.R. 60 DRIVE PROFILES	
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>		CALCULATED	CHECKED





## S.R. 60 DRIVE PROFILES

MUS-60-8.03



## S.R. 60 DRIVE PROFILES