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NO.	DATE	AS-BUILT DRAWINGS	COMMENTS	ISSUE / REVISIONS
1	10/05/09	AS-BUILT DRAWINGS		



**COVER SHEET FOR**  
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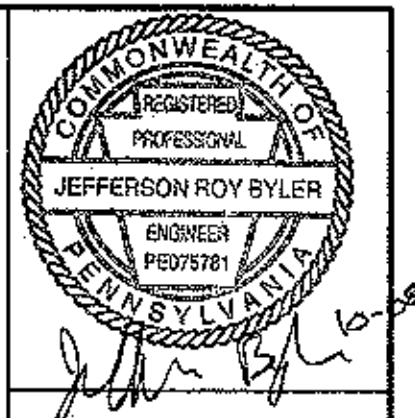
**BETTERMENT ORG. OF MANSFIELD**  
 51-B SOUTH MAIN STREET  
 MANSFIELD, PA 16833  
 PHONE Client phone

SHEET NO.: **CS-1**  
 PROJECT NO.: 5931-003

AS-BUILT DRAWINGS  
 FOR  
**BETTERMENT ORGANIZATION OF MANSFIELD**  
 I-99 BUSINESS PARK  
 LOCATED IN  
 BOROUGH OF MANSFIELD, TIOGA COUNTY, PENNSYLVANIA

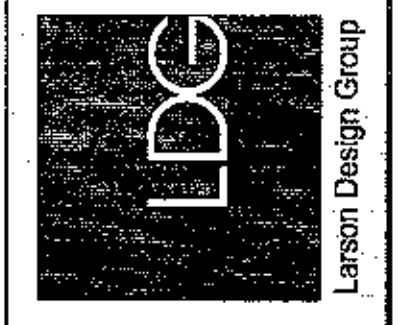
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SANITARY SEWER PROFILES	PR-5 - PR-7
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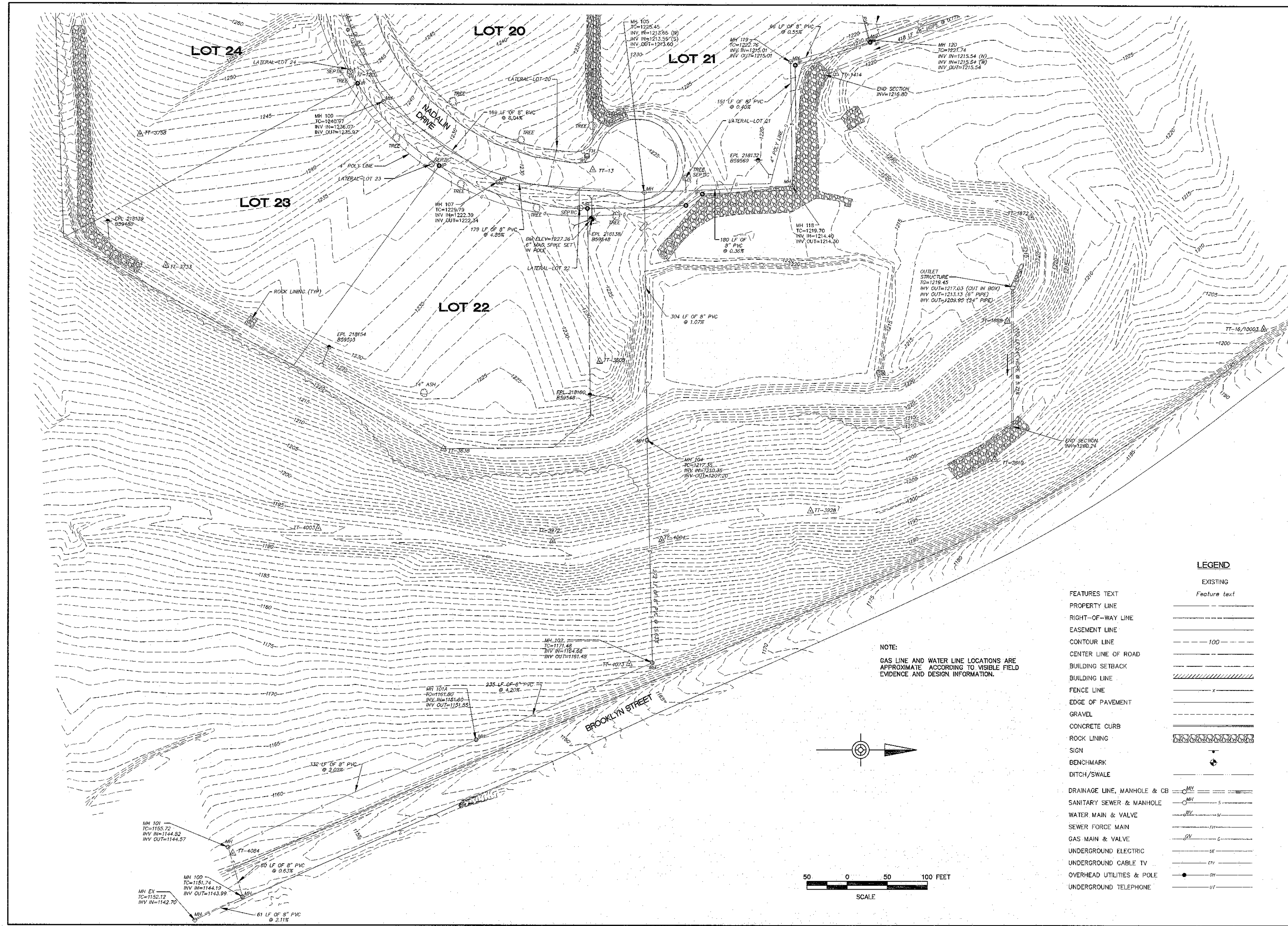


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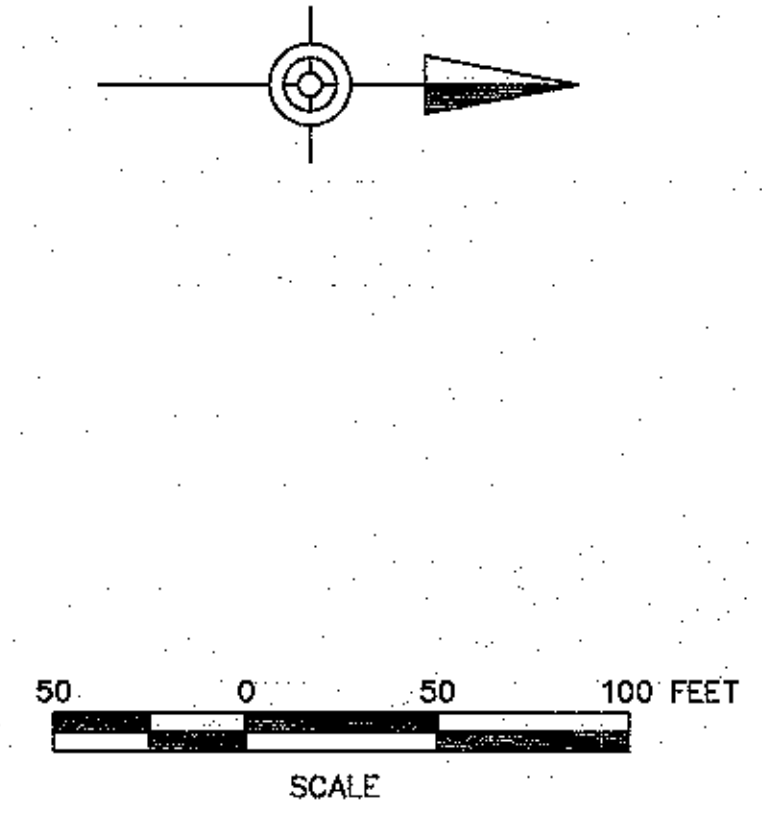
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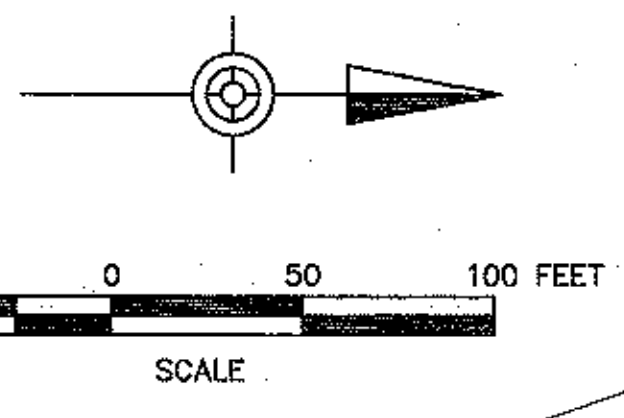


NOTE:  
 GAS LINE AND WATER LINE LOCATIONS ARE APPROXIMATE ACCORDING TO VISIBLE FIELD EVIDENCE AND DESIGN INFORMATION.



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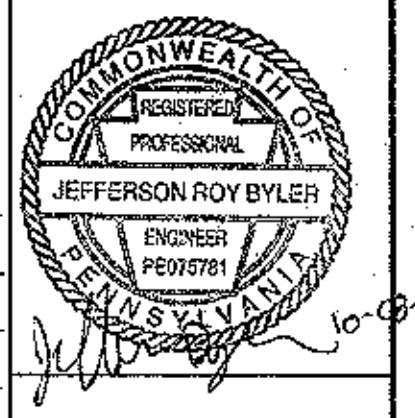
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RIGHT-OF-WAY LINE	---
EASEMENT LINE	---
CONTOUR LINE	--- 100 ---
CENTER LINE OF ROAD	---
BUILDING SETBACK	
BUILDING LINE	---
FENCE LINE	x
EDGE OF PAVEMENT	---
GRAVEL	
CONCRETE CURB	
ROCK LINING	
SIGN	+
BENCHMARK	+
DITCH/SWALE	---
DRAINAGE LINE, MANHOLE & CB	MH
SANITARY SEWER & MANHOLE	SS
WATER MAIN & VALVE	WV
SEWER FORCE MAIN	FM
GAS MAIN & VALVE	GV
UNDERGROUND ELECTRIC	UE
UNDERGROUND CABLE TV	CTV
OVERHEAD UTILITIES & POLE	OW
UNDERGROUND TELEPHONE	UT



NOTE:  
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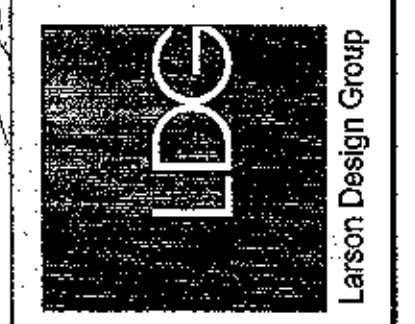
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---	RIGHT-OF-WAY LINE
---	EASEMENT LINE
---	CONTOUR LINE
---	FENCE LINE
---	EDGE OF PAVEMENT
---	GRAVEL
---	CONCRETE CURB
---	ROCK LINING
---	SIGN
---	BENCHMARK
---	DITCH/SWALE
---	DRAINAGE LINE, MANHOLE & CB
---	SANITARY SEWER & MANHOLE
---	WATER MAIN & VALVE
---	GAS MAIN & VALVE



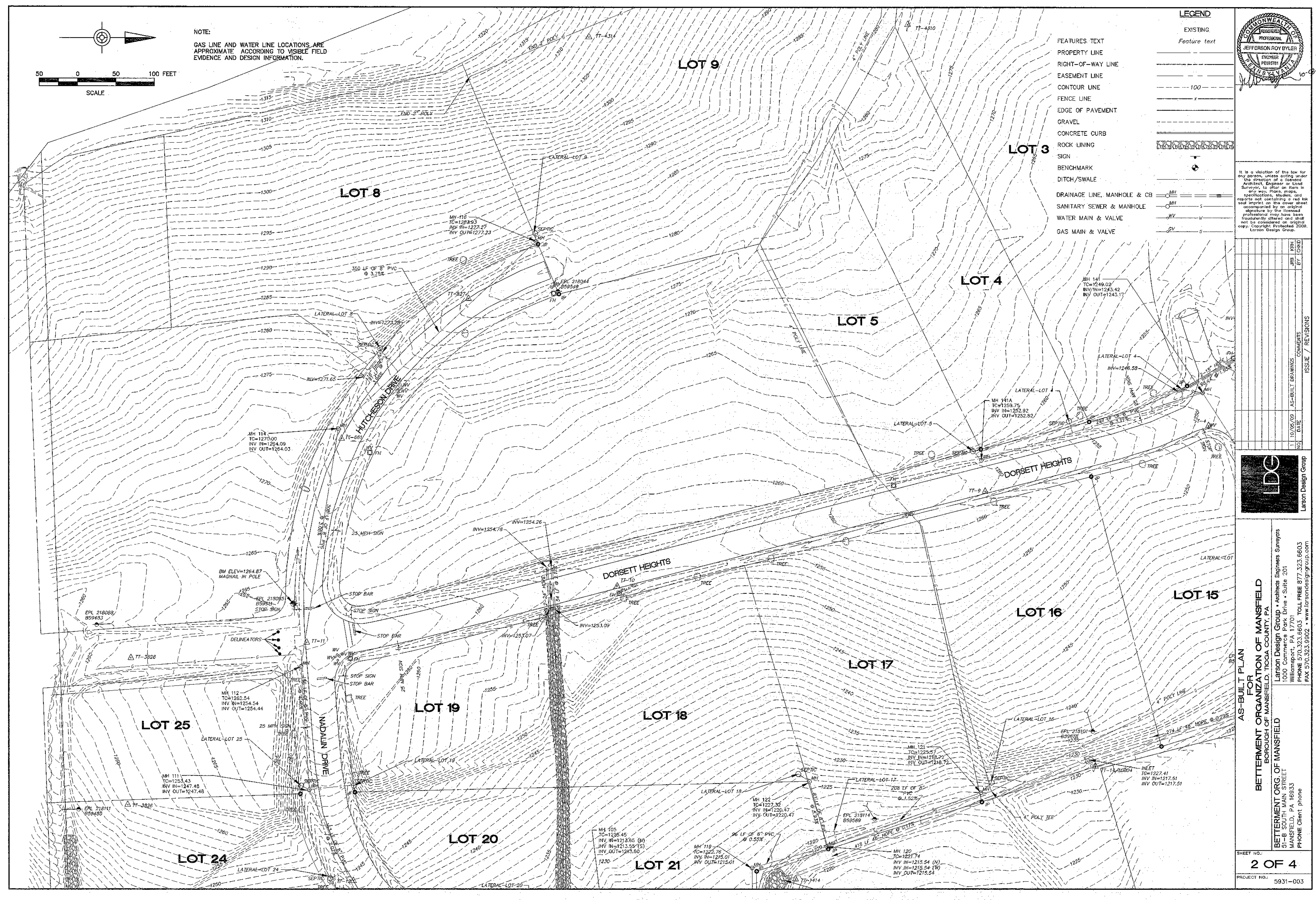
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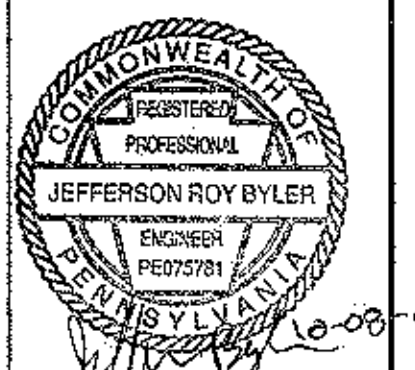
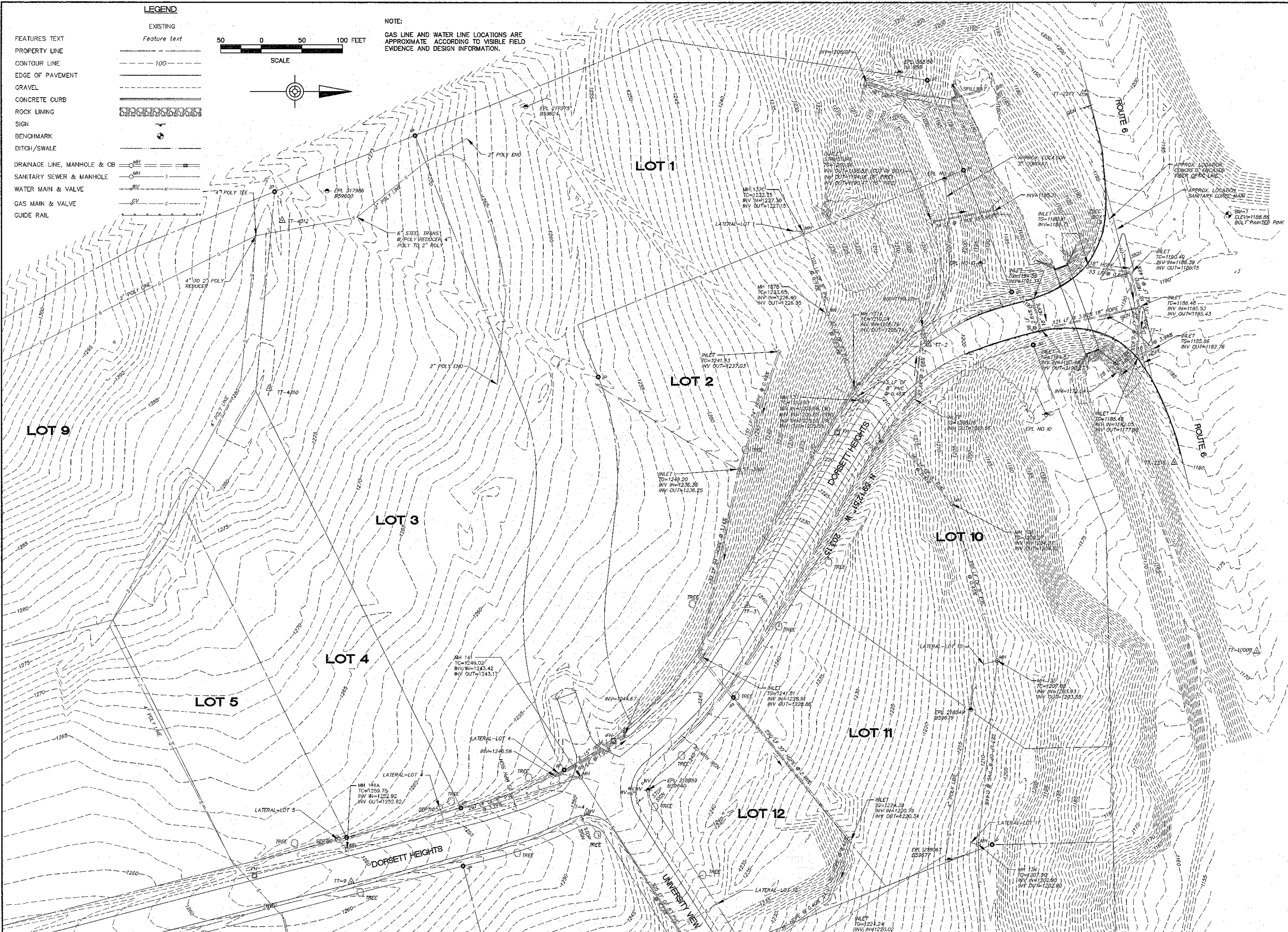
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SCALE

**FEATURES TEXT**

- PROPERTY LINE
- CONTOUR LINE
- EDGE OF PAVEMENT
- GRAVEL
- CONCRETE CURB
- ROCK LINING
- SIGN
- BENCHMARK
- DITCH/SWALE
- DRAINAGE LINE, MANHOLE & CB
- SANITARY SEWER & MANHOLE
- WATER MAIN & VALVE
- GAS MAIN & VALVE
- GUIDE RAIL

**NOTE:**  
GAS LINE AND WATER LINE LOCATIONS ARE APPROXIMATE ACCORDING TO VISIBLE FIELD EVIDENCE AND DESIGN INFORMATION.



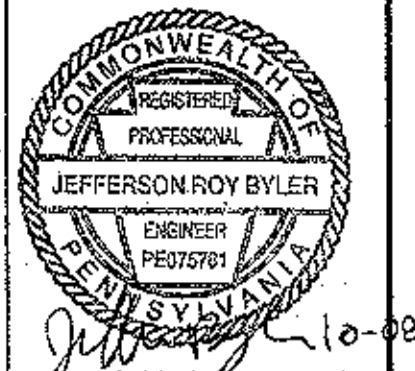
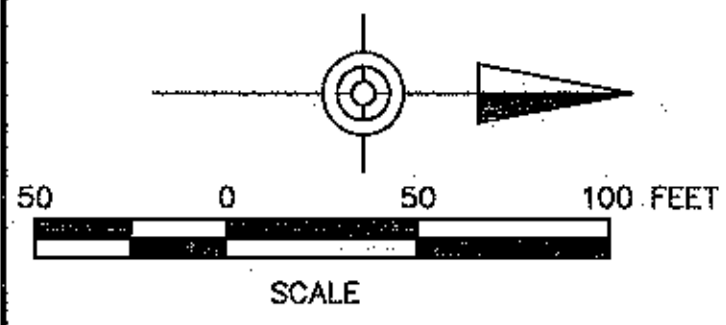
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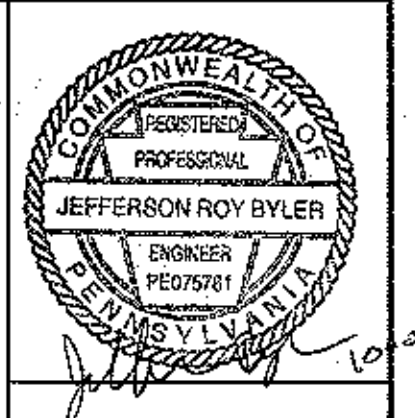
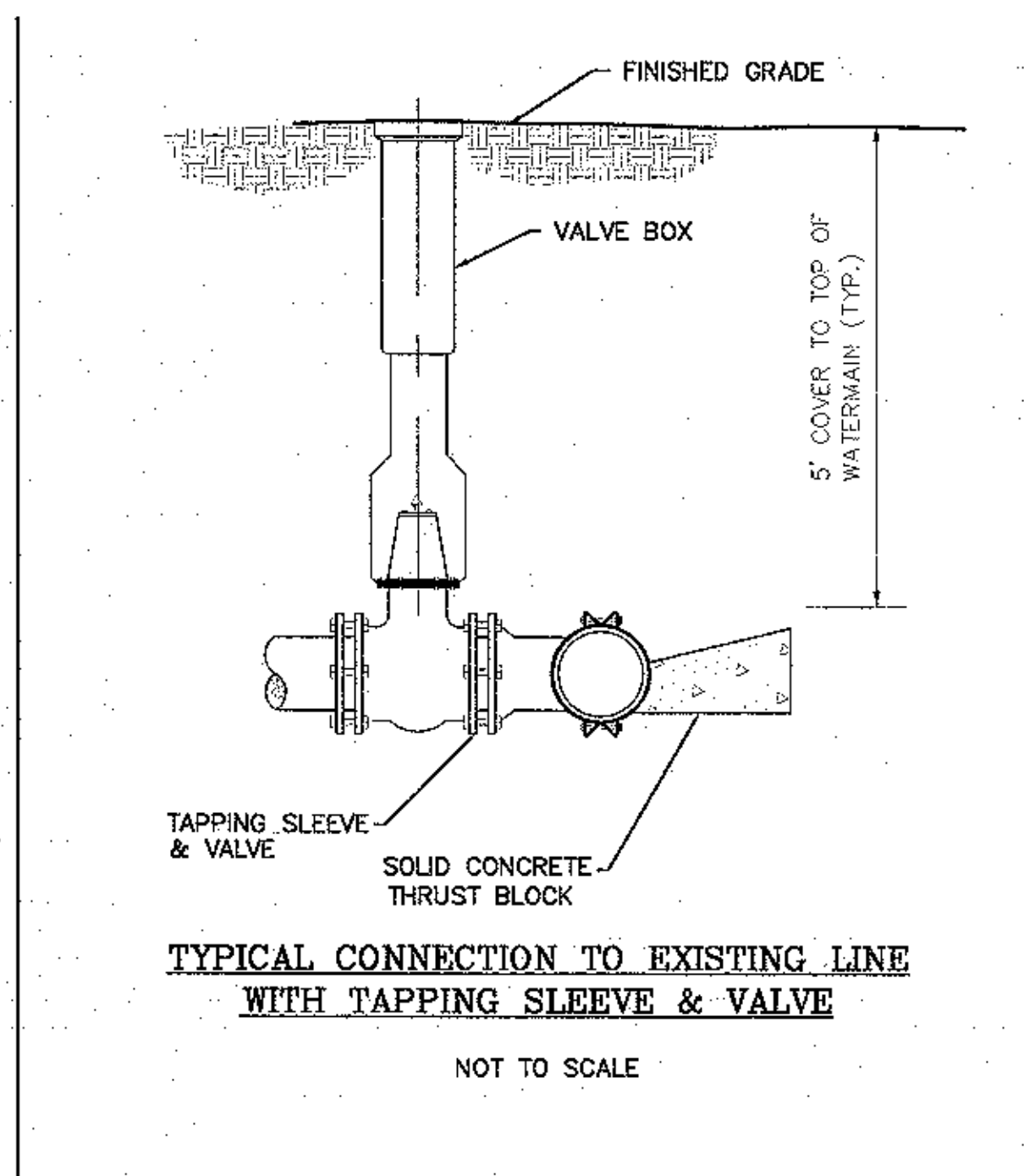
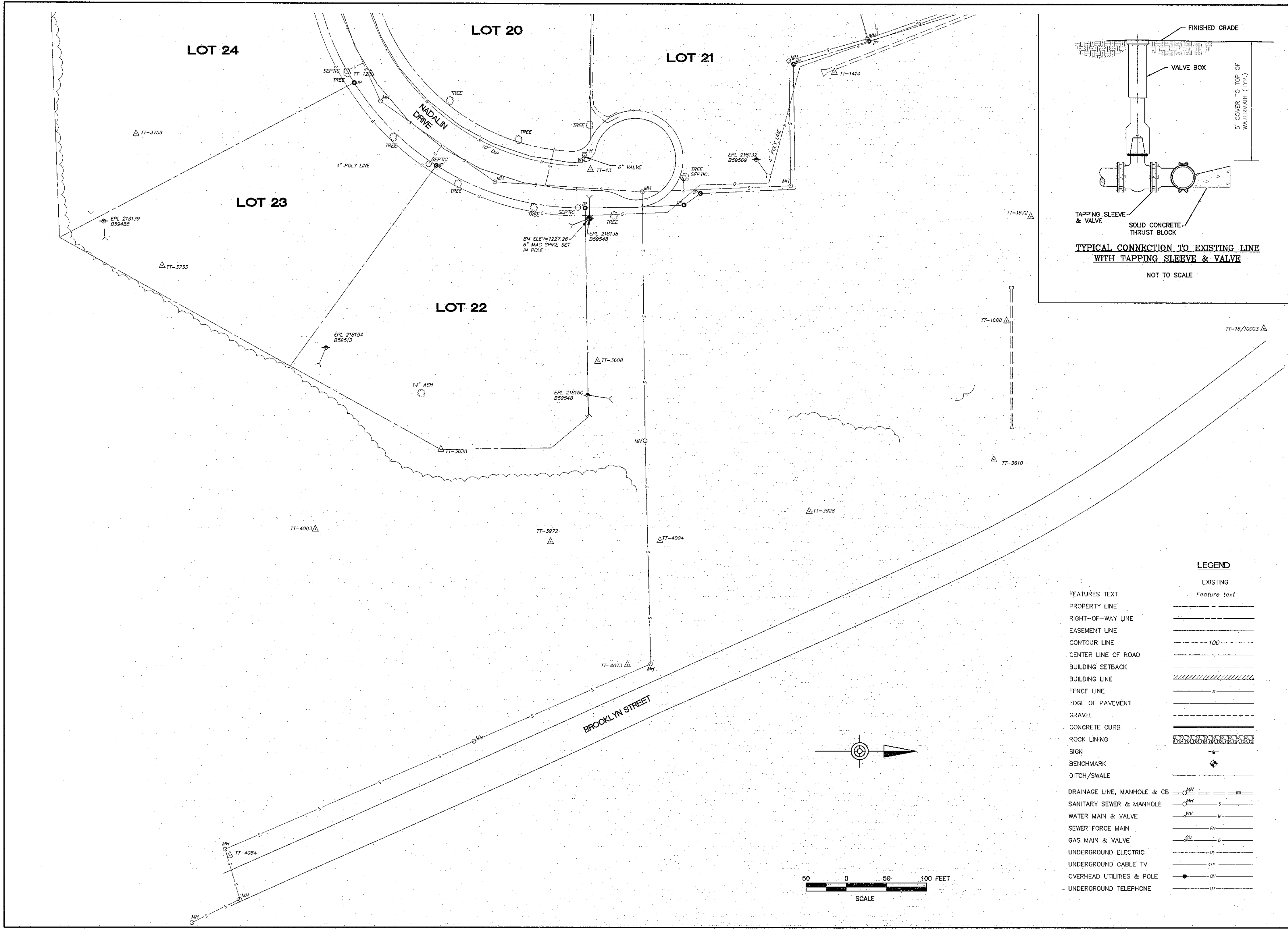
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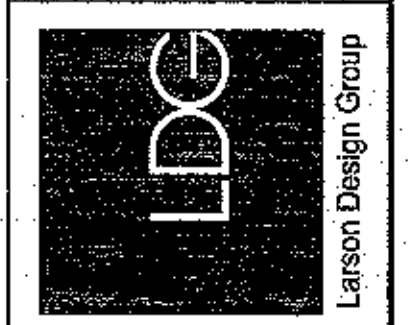
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 Feature text
- PROPERTY TEXT
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  - FENCE LINE
  - EDGE OF PAVEMENT
  - GRAVEL
  - CONCRETE CURB
  - ROCK LINING
  - SIGN
  - BENCHMARK
  - DITCH/SWALE
  - DRAINAGE LINE, MANHOLE & CB
  - SANITARY SEWER & MANHOLE
  - WATER MAIN & VALVE
  - GAS MAIN & VALVE
  - GUIDE RAIL

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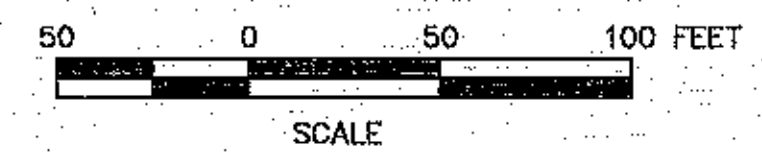
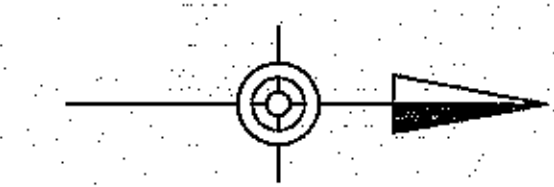
**WATERLINE AS-BUILT PLAN**  
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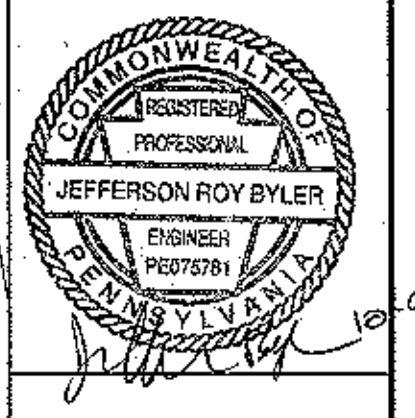
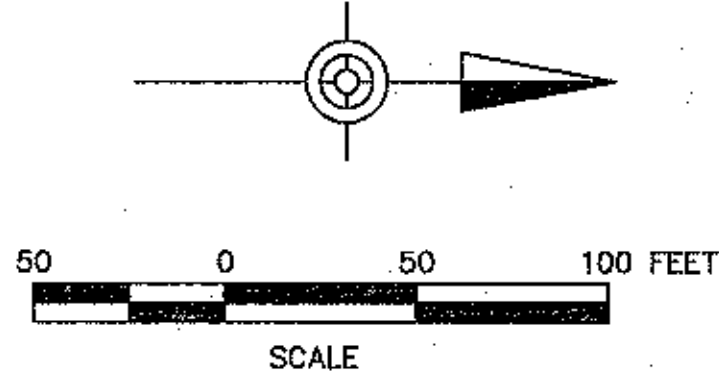
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SHEET NO.: **1 OF 4W**  
 PROJECT NO.: 5931-003

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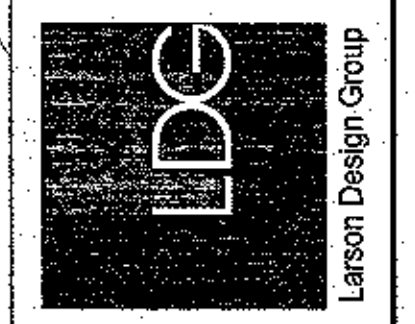
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RIGHT-OF-WAY LINE	---
EASEMENT LINE	---
CONTOUR LINE	---100---
CENTER LINE OF ROAD	---
BUILDING SETBACK	---
BUILDING LINE	---
FENCE LINE	---
EDGE OF PAVEMENT	---
GRAVEL	---
CONCRETE CURB	---
ROCK LINING	---
SIGN	---
BENCHMARK	---
DITCH/SWALE	---
DRAINAGE LINE, MANHOLE & CB	MH --- S ---
SANITARY SEWER & MANHOLE	MH --- S ---
WATER MAIN & VALVE	WV --- W ---
SEWER FORCE MAIN	FM ---
GAS MAIN & VALVE	GV --- G ---
UNDERGROUND ELECTRIC	UE ---
UNDERGROUND CABLE TV	CTV ---
OVERHEAD UTILITIES & POLE	OH ---
UNDERGROUND TELEPHONE	UT ---





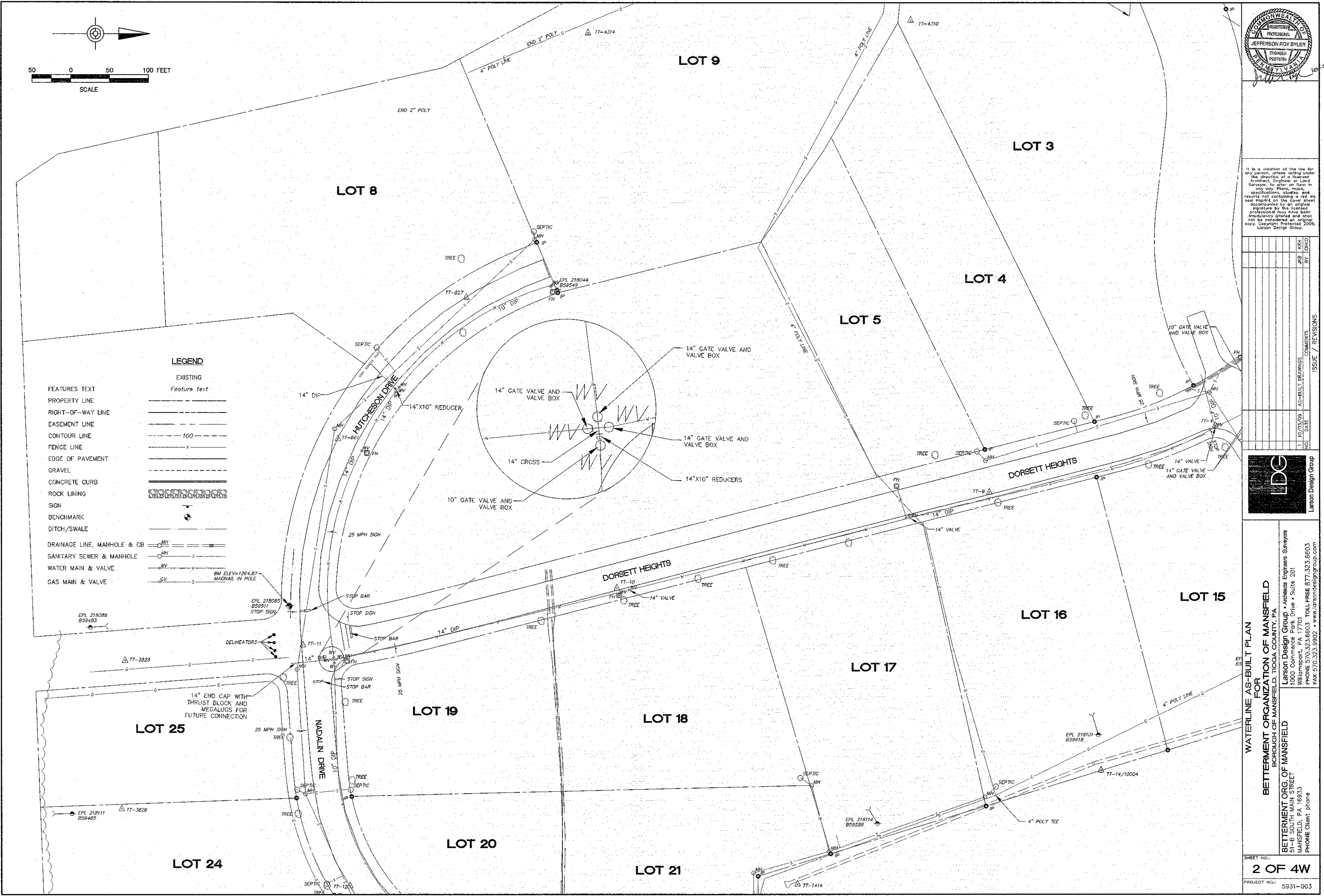
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1	10/03/09	AS-BUILT DRAWINGS		



**WATERLINE AS-BUILT PLAN**  
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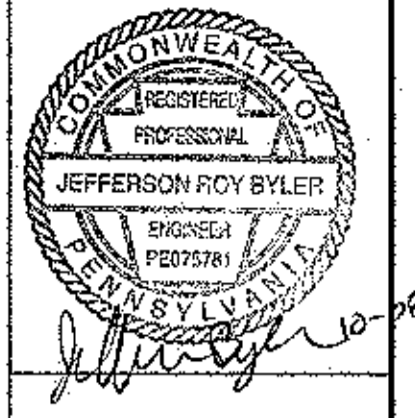
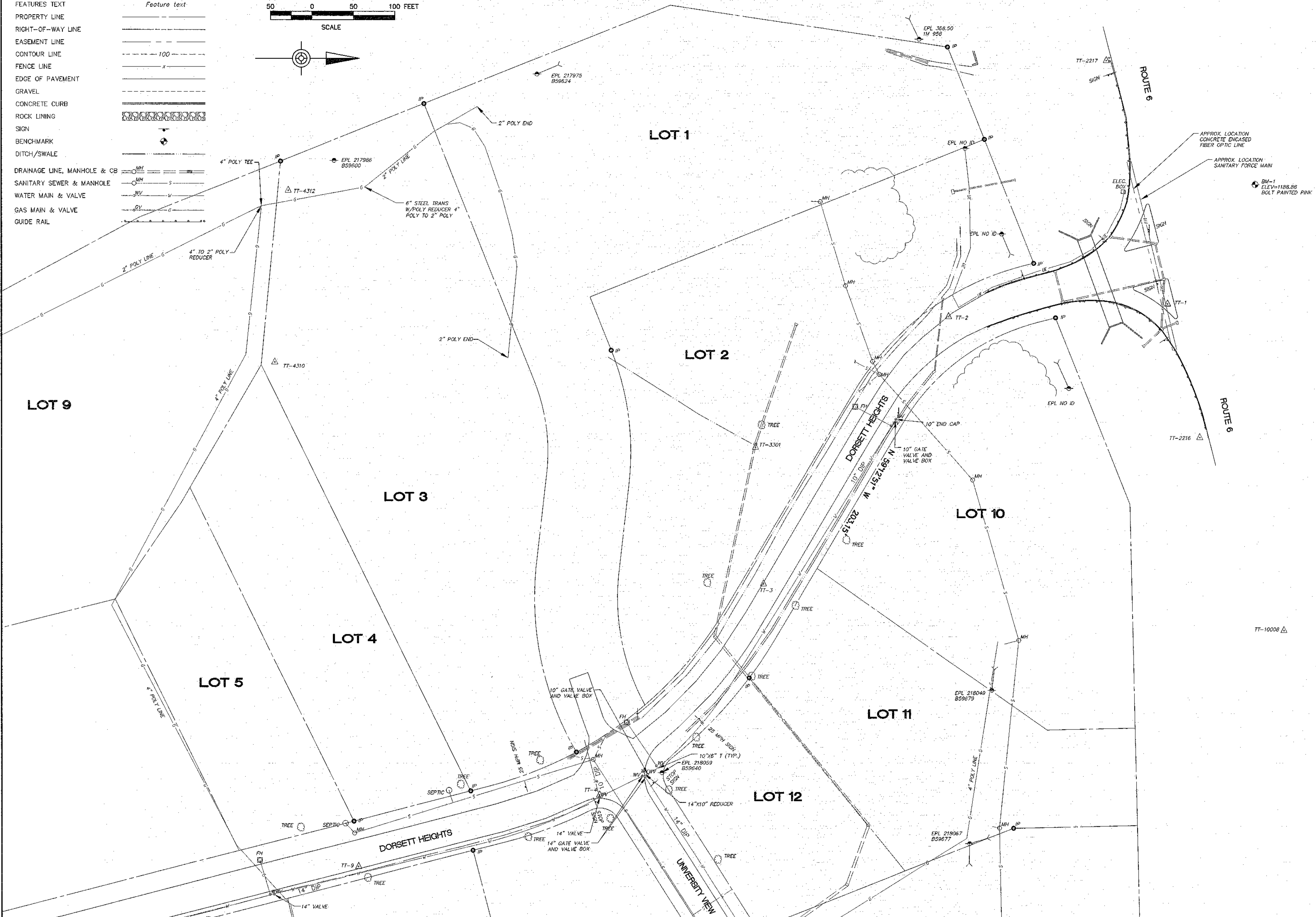
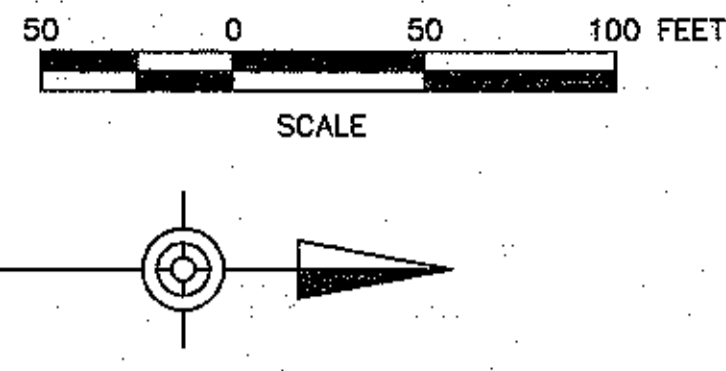
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**LEGEND**

FEATURES TEXT	EXISTING	Feature text
PROPERTY LINE	---	
RIGHT-OF-WAY LINE	---	
EASEMENT LINE	---	
CONTOUR LINE	---	100
FENCE LINE	---	x
EDGE OF PAVEMENT	---	
GRAVEL	---	
CONCRETE CURB	---	
ROCK LINING	---	
SIGN	---	
BENCHMARK	---	
DITCH/SWALE	---	
DRAINAGE LINE, MANHOLE & CB	---	
SANITARY SEWER & MANHOLE	---	
WATER MAIN & VALVE	---	
GAS MAIN & VALVE	---	
GUIDE RAIL	---	

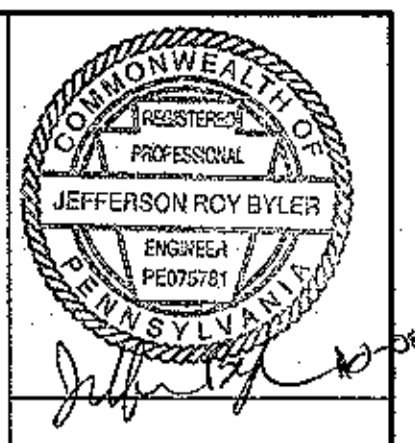
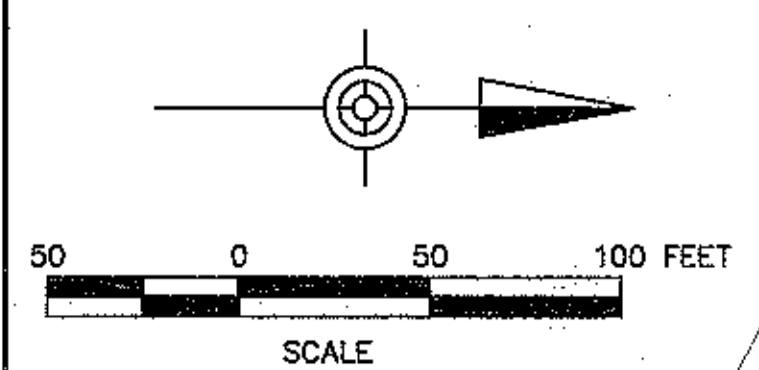
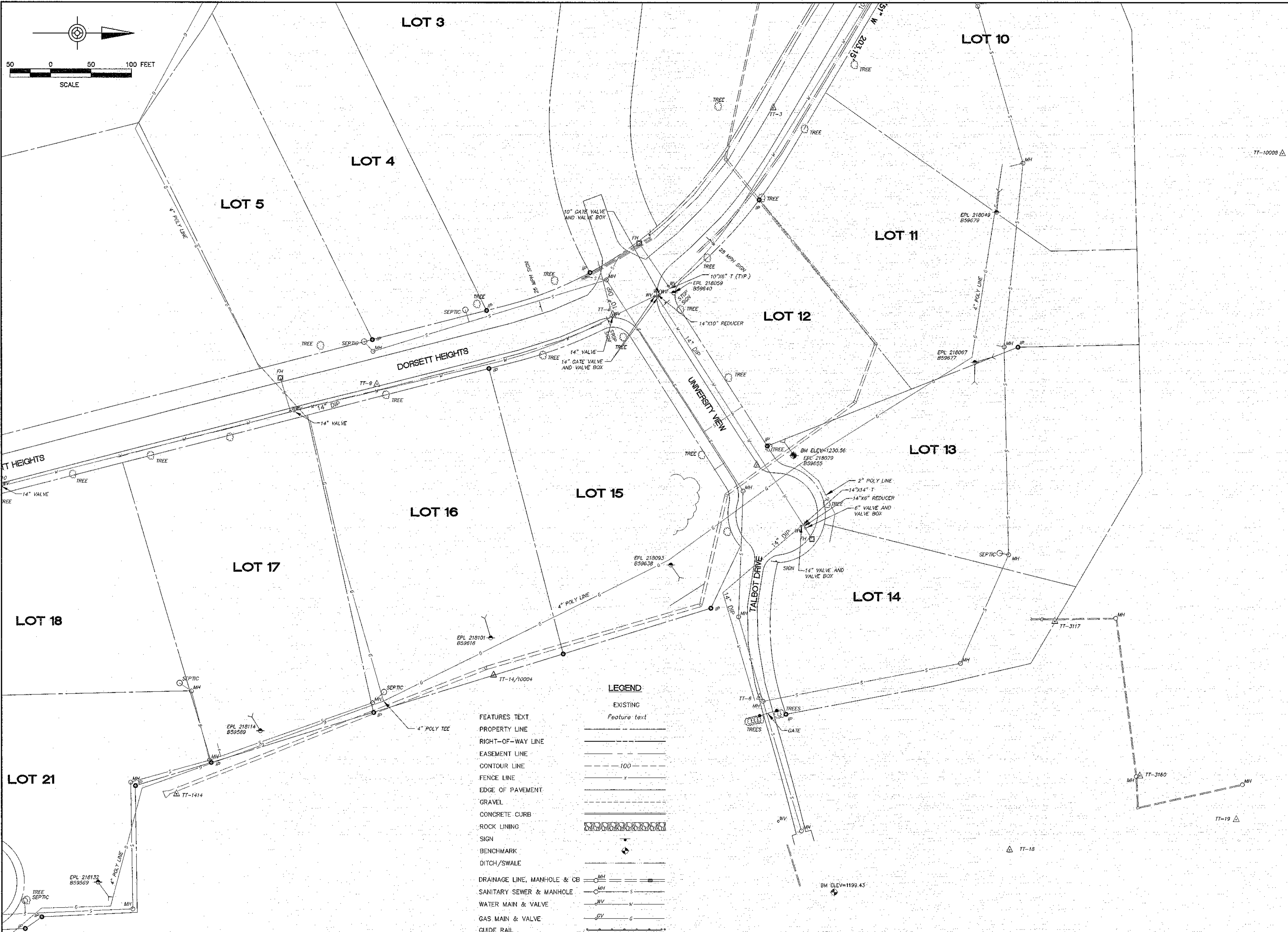


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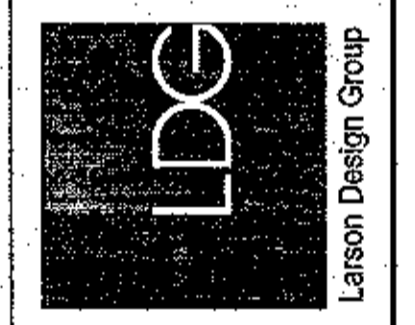


**WATERLINE AS-BUILT PLAN FOR BETTERMENT ORGANIZATION OF MANSFIELD**  
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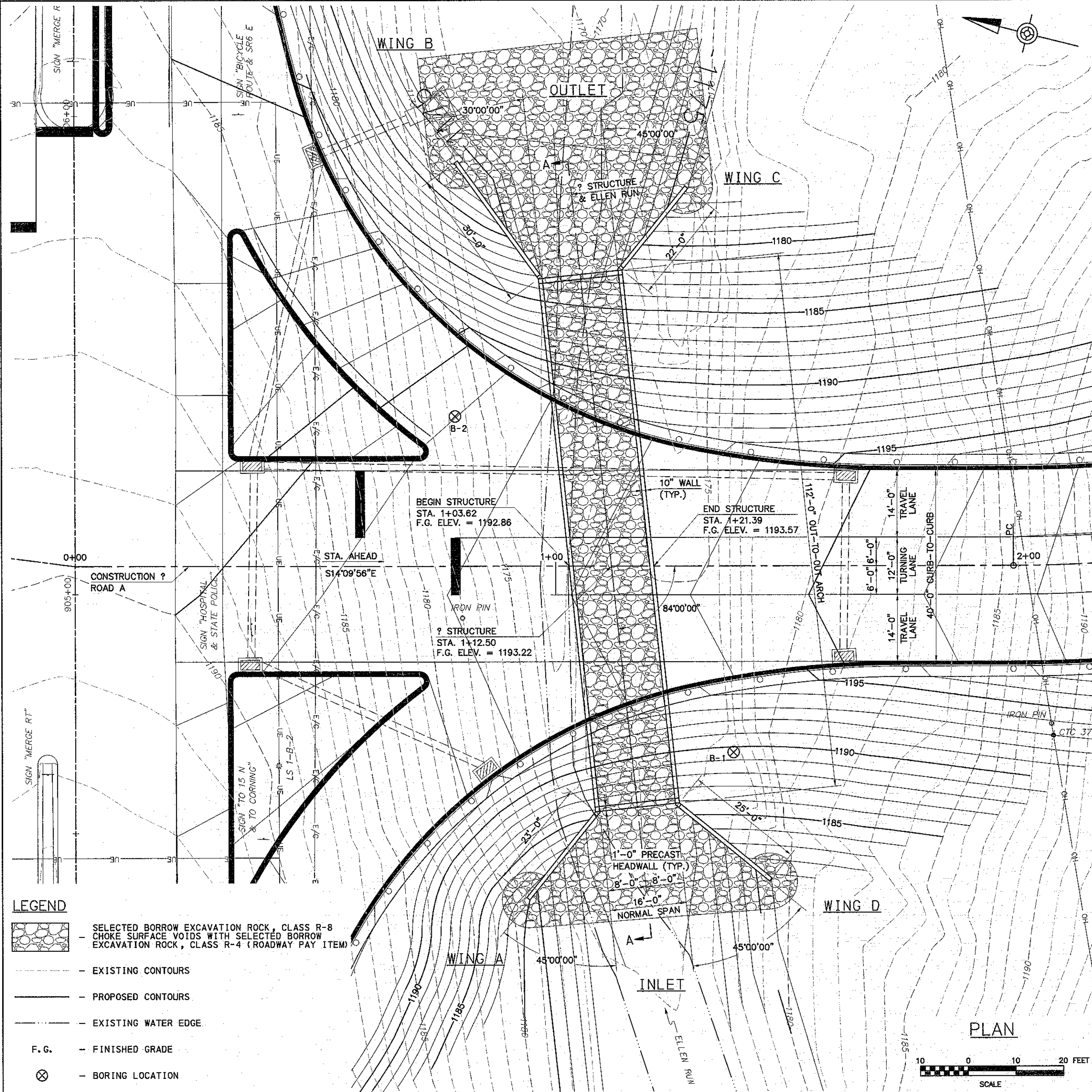


**WATERLINE AS-BUILT PLAN FOR BETTERMENT ORGANIZATION OF MANSFIELD**  
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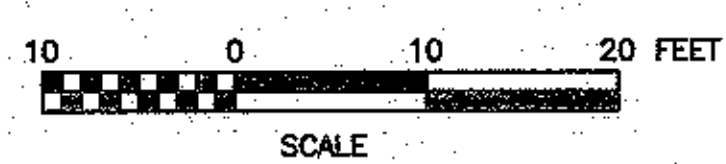
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**LEGEND**

- FEATURES TEXT
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- EASEMENT LINE
- CONTOUR LINE
- FENCE LINE
- EDGE OF PAVEMENT
- GRAVEL
- CONCRETE CURB
- ROCK LINING
- SIGN
- BENCHMARK
- DITCH/SWALE
- DRAINAGE LINE, MANHOLE & CB
- SANITARY SEWER & MANHOLE
- WATER MAIN & VALVE
- GAS MAIN & VALVE
- GUIDE RAIL



- LEGEND**
- SELECTED BORROW EXCAVATION ROCK, CLASS R-8  
CHOKED SURFACE VOIDS WITH SELECTED BORROW EXCAVATION ROCK, CLASS R-4 (ROADWAY PAY ITEM)
  - EXISTING CONTOURS
  - PROPOSED CONTOURS
  - EXISTING WATER EDGE
  - F. G.** - FINISHED GRADE
  - BORING LOCATION



**INDEX OF STRUCTURE DRAWINGS**

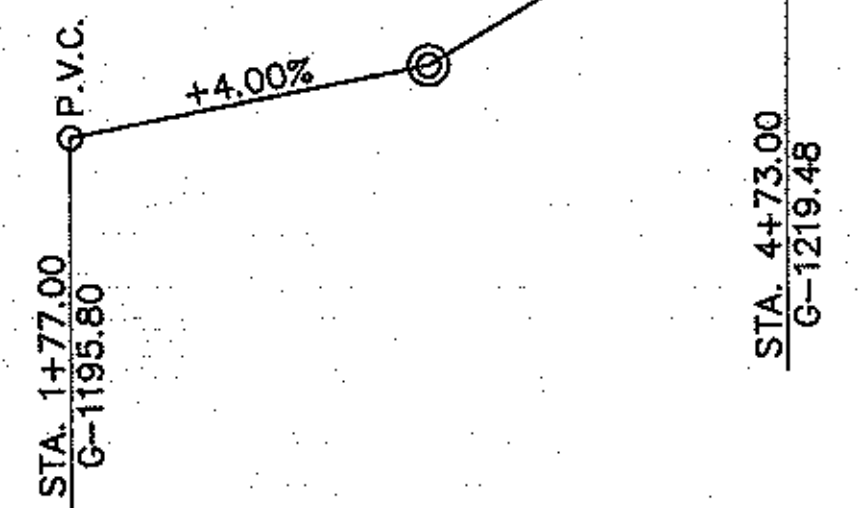
SHEET NO.	TITLE
S-1	GENERAL PLAN
S-2	ELEVATION & TYPICAL SECTION
S-3	GENERAL NOTES AND QUANTITIES
S-4	STAKE-OUT PLAN
S-5	FOOTING DETAILS
S-6	MISCELLANEOUS DETAILS
S-7	SOIL BORINGS

**HORIZONTAL CURVE DATA**

P.I. STA. 3+21.24  
 $\Delta = 45^{\circ}02'55''$  LT.  
 D = 19'05'55"  
 T = 124.41'  
 L = 235.87'  
 R = 300.00'  
 E = 24.77'  
 P.C. STA. 1+96.82  
 P.T. STA. 4+32.70

**VERTICAL CURVE DATA**

P.V.I. STA. = 3+25.00  
 ELEV = 1201.72  
 V.C. = 296.00'  
 M.O. = 3.19'  
 H.L.S.D. = 202.32'



**HYDRAULIC DATA**

DRAINAGE AREA = 1.49 SQ. MI.  
 DESIGN FLOOD FREQUENCY = 25 YEARS  
 MAGNITUDE = 1125 CFS  
 VELOCITY = 3.42 FPS  
 PERT. W.S. ELEV. = 1183.70  
 100 YEAR FLOOD RISK ASSESSMENT  
 MAGNITUDE = 1380 CFS  
 VELOCITY = 3.35 FPS  
 PERT. W.S. ELEV. = 1185.25  
 FLOOD OF RECORD: UNKNOWN

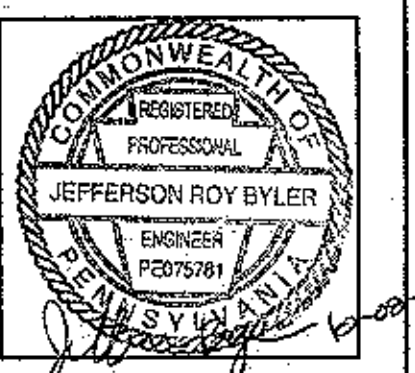
**SOIL BORING INFORMATION**

BORING	APPROXIMATE LOCATION
B-1	STA. 1+38.01, 38.95' RIGHT
B-2	STA. 0+79.73, 31.29' LEFT

**AS-BUILT**

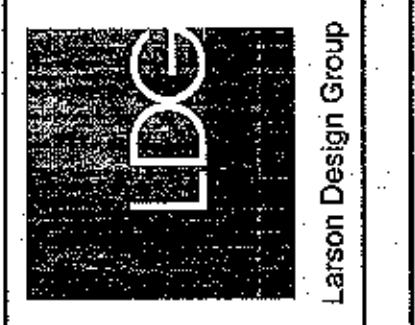
**SUPPLEMENTAL DRAWINGS**

DESCRIPTION	DWG. NO.	APP. DATE
CLASSIFICATION OF EARTHWORK	RC-10M	4-15-2004
CLASSIFICATION OF EARTHWORK FOR STRUCTURES	RC-11M	4-15-2004
BACKFILL AT STRUCTURES	RC-12M	3-30-2006
PAY LIMIT OF SUBBASE	RC-13M	4-15-2004
TYPE 2 STRONG POST GUIDE RAIL	RC-52M	3-30-2006
EROSION & SEDIMENT POLLUTION CONTROL	RC-70M	4-15-2004
REINFORCEMENT BAR FABRICATION DETAILS	BC-736M	1-21-2003
GEN. NOTES AND LEGEND FOR SOIL/ROCK DESC.	BC-795M	1-21-2003



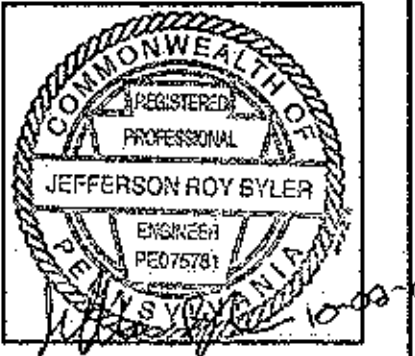
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GENERAL PLAN  
**BUSINESS PARK SUBDIVISION**  
 FOR  
**BETTERMENT ORGANIZATION OF MANSFIELD**  
 BOROUGH OF MANSFIELD, TIOGA COUNTY, PENNSYLVANIA

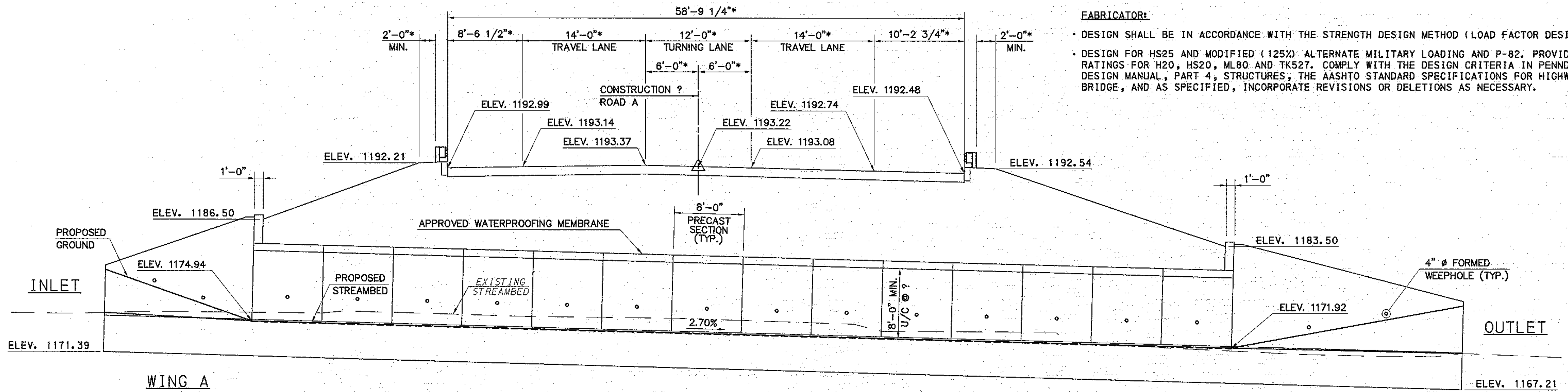
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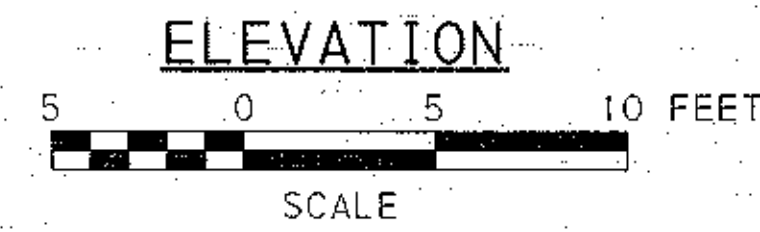
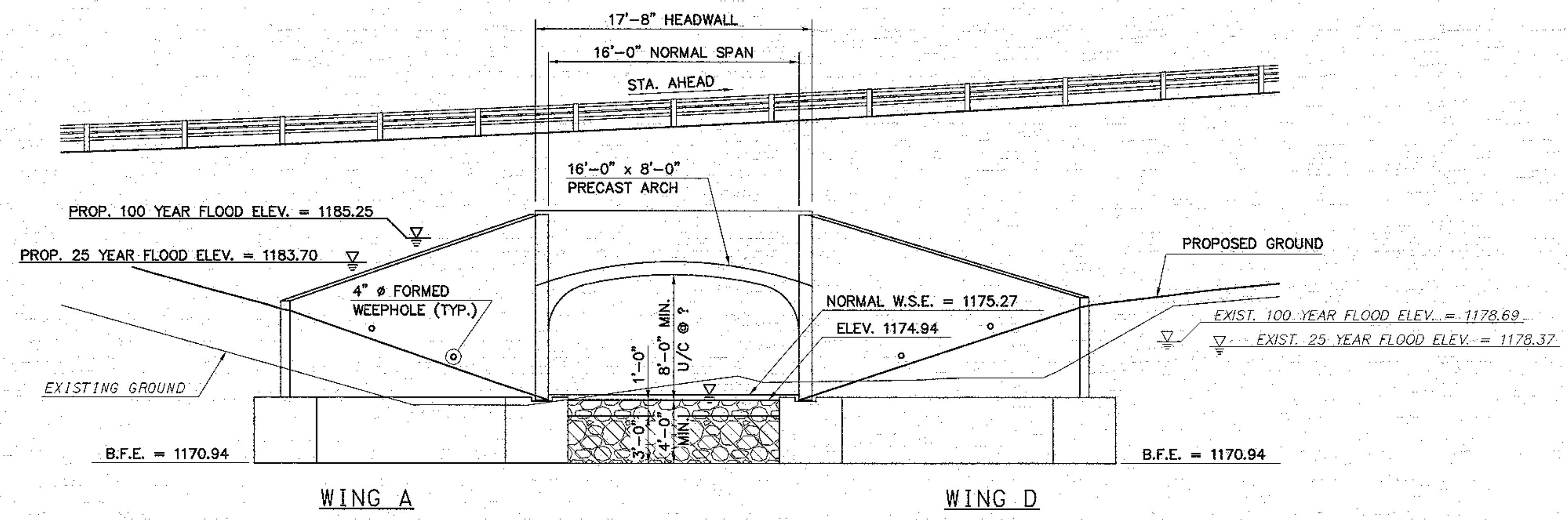
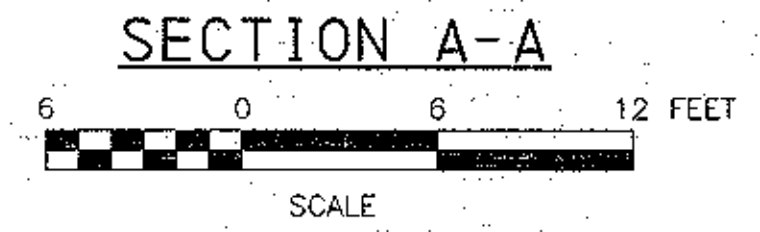
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ARCH CULVERT RATING SUMMARY				
LOADING	16' x 8' PRECAST ARCH CULVERT			
RATING	H20	HS20	ML80	TK527
INVENTORY (TONS)				
OPERATING (TONS)				

**FABRICATOR:**  
 • DESIGN SHALL BE IN ACCORDANCE WITH THE STRENGTH DESIGN METHOD (LOAD FACTOR DESIGN).  
 • DESIGN FOR HS25 AND MODIFIED (125%) ALTERNATE MILITARY LOADING AND P-82. PROVIDE RATINGS FOR H20, HS20, ML80 AND TK527. COMPLY WITH THE DESIGN CRITERIA IN PENNDOT DESIGN MANUAL, PART 4, STRUCTURES, THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGE, AND AS SPECIFIED, INCORPORATE REVISIONS OR DELETIONS AS NECESSARY.



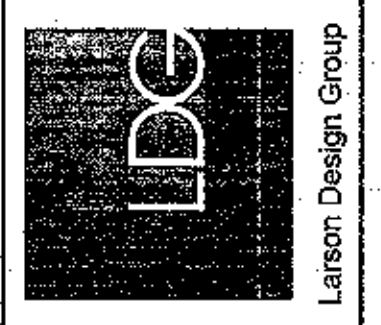
**STRUCTURE NOTES:**  
 MAXIMUM ALLOWABLE STRIP FOOTING BEARING CAPACITY = 3.30 TSF  
 MAXIMUM ACTUAL STRIP FOOTING BEARING PRESSURE = 2.90 TSF



- LEGEND**
- SELECTED BORROW EXCAVATION ROCK, CLASS R-8  
CHOKE SURFACE VOIDS WITH SELECTED BORROW EXCAVATION ROCK, CLASS R-4 (ROADWAY PAY ITEM)
  - SELECTED BORROW EXCAVATION ROCK, CLASS R-8 (ROADWAY PAY ITEM)  
GROUT ROCK TO AN ELEVATION 1'-0" BELOW TOP OF FOOTING
  - W.S.E. - WATER SURFACE ELEVATION
  - B.F.E. - BOTTOM FOOTING ELEVATION
  - U/C - UNDERCLEARANCE
  - \* - NORMAL TO ROADWAY ?

**AS-BUILT**

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ELEVATION & TYPICAL SECTION  
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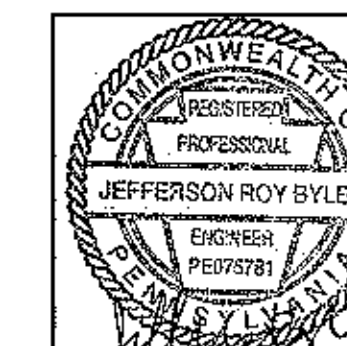
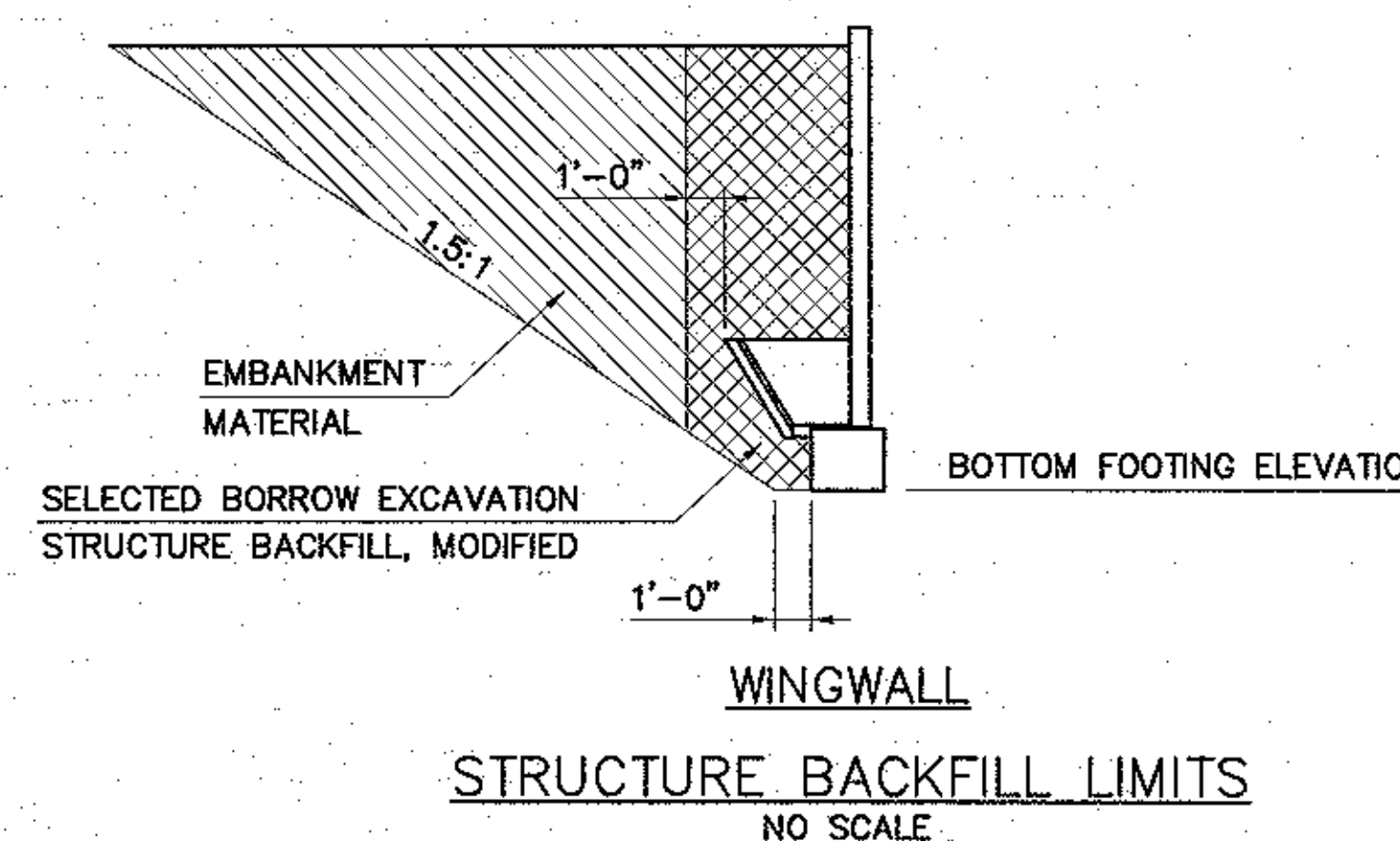
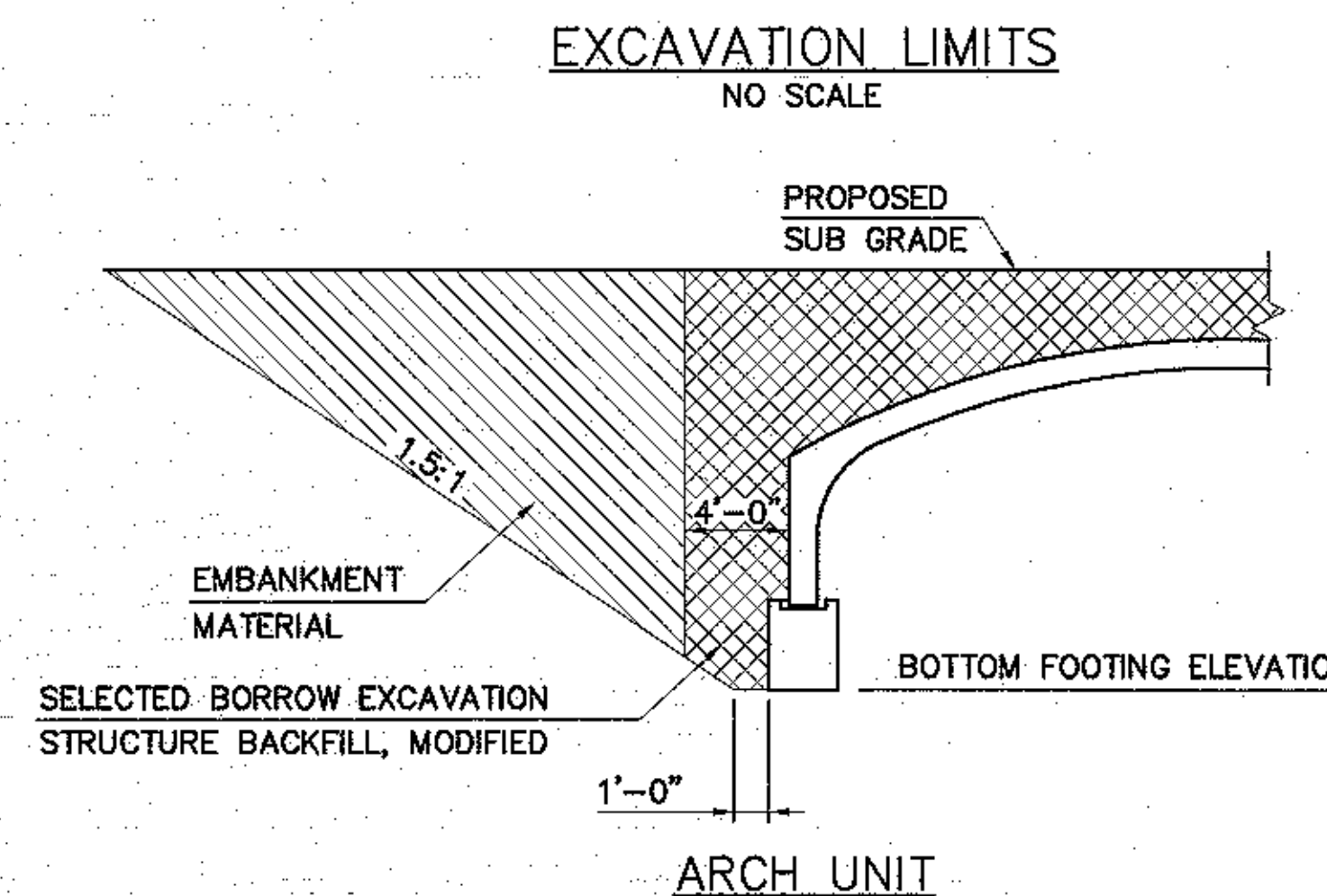
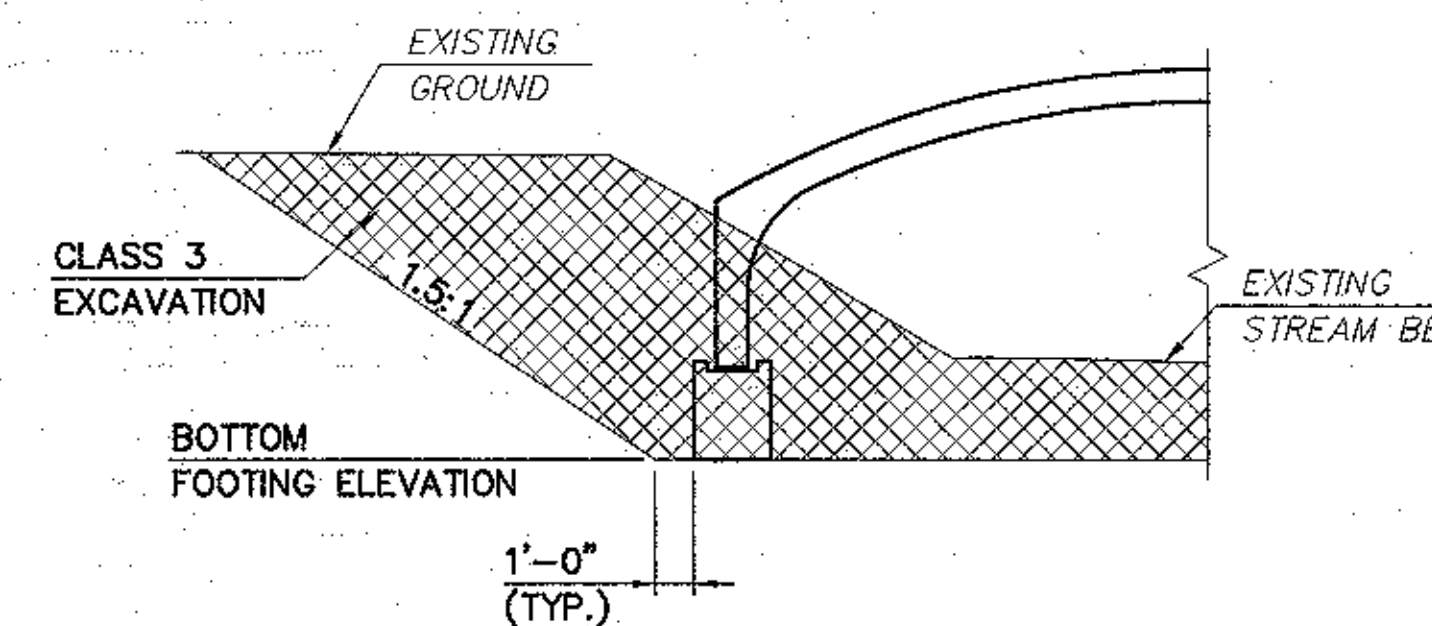
**GENERAL NOTES**

- PROVIDE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH THE PENNSYLVANIA DEPARTMENT OF TRANSPORTATION SPECIFICATIONS PUBLICATION 408/2007 AND CONTRACT SPECIAL PROVISIONS. CONSTRUCTION DETAILS OTHER THAN THOSE SHOWN SHALL CONFORM TO PENNDOT ROADWAY CONSTRUCTION STANDARD DRAWINGS, PUBLICATION 72M, AND BRIDGE CONSTRUCTION STANDARD DRAWINGS, PUBLICATION 219M.
- DESIGN SHALL BE IN ACCORDANCE WITH THE STRENGTH DESIGN METHOD (LOAD FACTOR DESIGN).
- DESIGN FOR HS25 AND MODIFIED (125%) ALTERNATE MILITARY LOADING AND P-82. PROVIDE RATINGS FOR H20, HS20, ML80 AND TK527. COMPLY WITH THE DESIGN CRITERIA IN PENNDOT DESIGN MANUAL, PART 4, STRUCTURES, THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, AND AS SPECIFIED, INCORPORATE REVISIONS OR DELETIONS AS NECESSARY.
- PROVIDE 2" CONCRETE COVER ON REINFORCEMENT BARS EXCEPT AS NOTED.
- USE CLASS A CEMENT CONCRETE IN THE FOOTINGS.
- A HIGHER CLASS OF CONCRETE MAY BE SUBSTITUTED FOR A LOWER CLASS CONCRETE AT NO ADDITIONAL COST TO THE OWNER.
- PROVIDE GRADE 60 REINFORCING STEEL BARS THAT MEET THE REQUIREMENTS OF ASTM FOR DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT (A615) OR AXLE STEEL (A617). DO NOT WELD GRADE 60 REINFORCING STEEL BARS UNLESS SPECIFIED. GRADE 40 REINFORCING MAY BE SUBSTITUTED WITH A PROPORTIONAL INCREASE IN CROSS-SECTIONAL AREA. DO NOT USE RAIL STEEL (A616) IN BRIDGE PIERS, ABUTMENTS, SHEAR BLOCKS, BEAMS, FOOTINGS, PILES, OR WHERE BENDING OR WELDING OF REINFORCEMENT BARS IS INDICATED.
- RAKE FINISH ALL HORIZONTAL CONSTRUCTION JOINTS EXCEPT AS INDICATED.
- CHAMFER EXPOSED CONCRETE EDGES 1" X 1" EXCEPT AS NOTED.
- ALL DIMENSIONS SHOWN ARE HORIZONTAL EXCEPT AS NOTED.
- PROVIDE MINIMUM LAP AND EMBEDMENT LENGTH OF REINFORCEMENT IN ACCORDANCE WITH 1998 AASHTO BRIDGE STANDARDS.
- COORDINATE THE REQUIREMENTS FOR PROTECTION AND/OR RELOCATION OF UTILITIES WITH THE UTILITY OWNER PRIOR TO STARTING WORK.
- VERIFY AND LOCATE ALL EXISTING UTILITIES PRIOR TO STARTING WORK. CONDUCT OPERATIONS IN A MANNER WHICH ENSURES THAT THE UTILITIES WILL NOT BE DISTURBED OR ENDANGERED AND ASSUME FULL RESPONSIBILITY FOR ANY DAMAGE TO UTILITIES DURING CONSTRUCTION. THE BOROUGH DOES NOT ASSUME RESPONSIBILITY FOR REIMBURSEMENT, PARTICIPATION IN DESIGN AND/OR REVISIONS OR LIABILITY FOR ACCURACY OF TYPE, SIZE, AND LOCATION OF ANY UTILITY.
- PROVIDE MINIMUM COVER OF 10" FROM THE TOP OF THE ARCH CROWN.
- DO NOT EXCEED A TWO (2) FOOT DIFFERENCE IN FILL ELEVATION ON THE SIDES DURING PLACEMENT OF THE BACKFILL. DO NOT ALLOW THE WHEELS OF ROLLERS TO COME CLOSER THAN ONE (1) FOOT TO THE FACE OF THE STRUCTURE DURING COMPACTION OF THE BACKFILL.
- PROVIDE A STIFF BROOM FINISH ON TOP OF THE NEW WINGS.
- PROVIDE WEEPHOLES (REINFORCED) AS SHOWN ON THE DRAWINGS OR AS INDICATED BY THE ENGINEER. PROVIDE 2 C.Y. OF NO. 57 COARSE AGGREGATE WRAPPED IN GEOTEXTILE, CLASS 1 AT EACH WEEP HOLE. THE COST OF WEEPHOLES IS INCIDENTAL TO THE PRECAST ARCH AND WINGWALLS.
- DIMENSIONS FOR HEADWALLS, WINGWALLS, AND THEIR REINFORCEMENT ARE TO BE DETERMINED BY THE FABRICATOR BASED ON THE VERTICAL GRADE DATA AND ELEVATIONS PROVIDED AND SHALL BE SHOWN ON THE FABRICATOR'S SHOP DRAWINGS.
- PROVIDE APPROVED WATERPROOFING MEMBRANE FOR THE ENTIRE TOP OF THE ARCH AND 9"(±) WIDE ALONG THE SIDE JOINTS.
- THE ARCH AND THE WINGWALLS SHALL BE DESIGNED WITH A LIVE LOAD SURCHARGE OF THREE (3) FEET.
- PROVIDE TWO (2) SPRAY COATS OF BITUMINOUS WATERPROOFING MATERIAL IN ACCORDANCE WITH PUBLICATION 408/2007, SECTION 1085.3(m). TWO (2) COATS OF PAINTED WATERPROOFING MAY BE SUBSTITUTED. APPLY TO OUTSIDE WALLS OF ARCH CULVERT NOT COVERED BY MEMBRANE WATERPROOFING AND REAR FACE OF WINGWALLS TO A LINE ONE FOOT BELOW GRADE.
- FABRICATOR TO CHECK THE STABILITY OF THE PRECAST ARCH SECTION AND WINGWALL PIECES DURING SHIPPING, DELIVERY, ERECTION AND ASSEMBLY.
- STRIP FOOTINGS MAY BE ORDERED BY THE ENGINEER TO BE AT ANY ELEVATION OR OF ANY DIMENSIONS NECESSARY TO PROVIDE A PROPER FOUNDATION.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE SAFE ERECTION OF THE ARCH, HEADWALLS AND WINGWALLS AND FOR PROVIDING ALL NECESSARY BRACING UNTIL THE SEGMENTS ARE IN A STABLE (FINAL) ERECTION CONDITION.
- PLACE SELECTED BORROW EXCAVATION ROCK, CLASS R-8 WITH FLOWABLE BACKFILL AND CHOKE VOIDS WITH R-4 ROCK AROUND FOOTING PRIOR TO SETTING SEGMENTS. THE R-8 ROCK SURFACE WILL BE CLEANED OF ANY EXCESS GROUT IN ORDER TO CREATE A NATURAL APPEARANCE.
- AS DIRECTED BY THE ENGINEER, THE CONTRACTOR WILL OVER-EXCAVATE SOFT, LOOSE, OR UNSUITABLE MATERIALS TO COMPETENT MATERIAL AND REPLACE WITH CLASS C CEMENT CONCRETE. ITEMS FOR CLASS 3 EXCAVATION AND CLASS C CEMENT CONCRETE ARE SHOWN IN THE PLANS. SINCE THIS WORK WILL BE "AS DIRECTED", A DETAIL IS NOT INCLUDED IN THE BRIDGE PLANS.

TABULATION OF BRIDGE BID ITEMS AND APPROXIMATE QUANTITIES			
QUANTITY	ITEM NO. UNIT	(INFORM.) QUANTITY & UNIT	DESCRIPTION
<input checked="" type="checkbox"/>	8541 0001 LS		ARCH CULVERT, AS DESIGNED
		1595 CY	CLASS 3 EXCAVATION
		112 L.F.	16'-0" X 8'-0" PRECAST REINFORCED CONCRETE ARCH CULVERT (3)(4)(5)
		4 EACH	PRECAST REINFORCED CONCRETE WINGWALLS (3)(4)
		199 CY	CLASS A CEMENT CONCRETE (2)
		799 CY	SELECTED BORROW EXCAVATION, STRUCTURE BACKFILL, MODIFIED (3)
		267 SY	MEMBRANE WATERPROOFING INSTALLED ON OTHER SURFACES
		18 CY	NO. 57 COARSE AGGREGATE (1)
		1 EACH	DIVERSION DIKE SYSTEM
AND	1002 0001		REINFORCEMENT BARS
8456	LB		(6)
<input checked="" type="checkbox"/>	8430 0001 LS		CAST-IN-PLACE ARCH CULVERT
90	0204 0100 CY		CLASS 3 EXCAVATION (3)(7)
425	0205 0364 TON		SELECTED BORROW EXCAVATION ROCK, CLASS R-4
2287	0205 0368 TON		SELECTED BORROW EXCAVATION ROCK, CLASS R-8 (3)
313	4220 0020 CY		FLOWABLE BACKFILL, TYPE C, MODIFIED
90	1001 0930 CY		CLASS C CEMENT CONCRETE (3)(8)

- (1) = INCLUDES GEOTEXTILE, CLASS 1, AT WEEPHOLES.
- (2) = INCLUDES EPOXY BONDING COMPOUND.
- (3) = SEE SPECIAL PROVISIONS.
- (4) = SECTION LENGTHS TO BE DETERMINED BY FABRICATOR.
- (5) = INCLUDES PRECAST HEADWALLS.
- (6) = FOR AS DESIGNED CULVERT, INCLUDED IN BRIDGE BID ITEMS. FOR ALTERNATE DESIGNS, INCLUDED IN ARCH CULVERT LUMP SUM BID ITEM.
- (7) = FOR OVEREXCAVATION OF STRIP FOOTINGS AS DIRECTED BY THE ENGINEER.
- (8) = PROVIDE CLASS C CEMENT CONCRETE, AS NEEDED, IN PLACE OF THE OVEREXCAVATED MATERIAL.

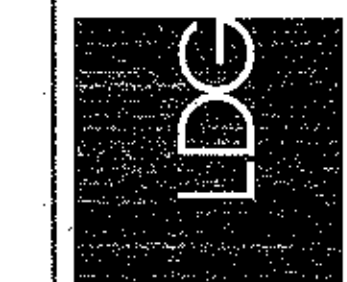
DIVERSION DIKE SYSTEM SUMMARY OF APPROXIMATE QUANTITIES (FOR INFORMATION ONLY) INCLUDED IN LUMP SUM STRUCTURE		
DESCRIPTION	UNITS	QUANTITY
CONCRETE GLARE SCREEN (PRECAST)	LF	40
SANDBAGS	CY	6
POLYETHYLENE LINER, 6 MIL	SY	86
48" TEMP. PIPE	LF	240



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GENERAL NOTES AND QUANTITIES  
BUSINESS PARK SUBDIVISION  
FOR  
BETTERMENT ORGANIZATION OF MANSFIELD  
BOROUGH OF MANSFIELD, TIOGA COUNTY, PENNSYLVANIA

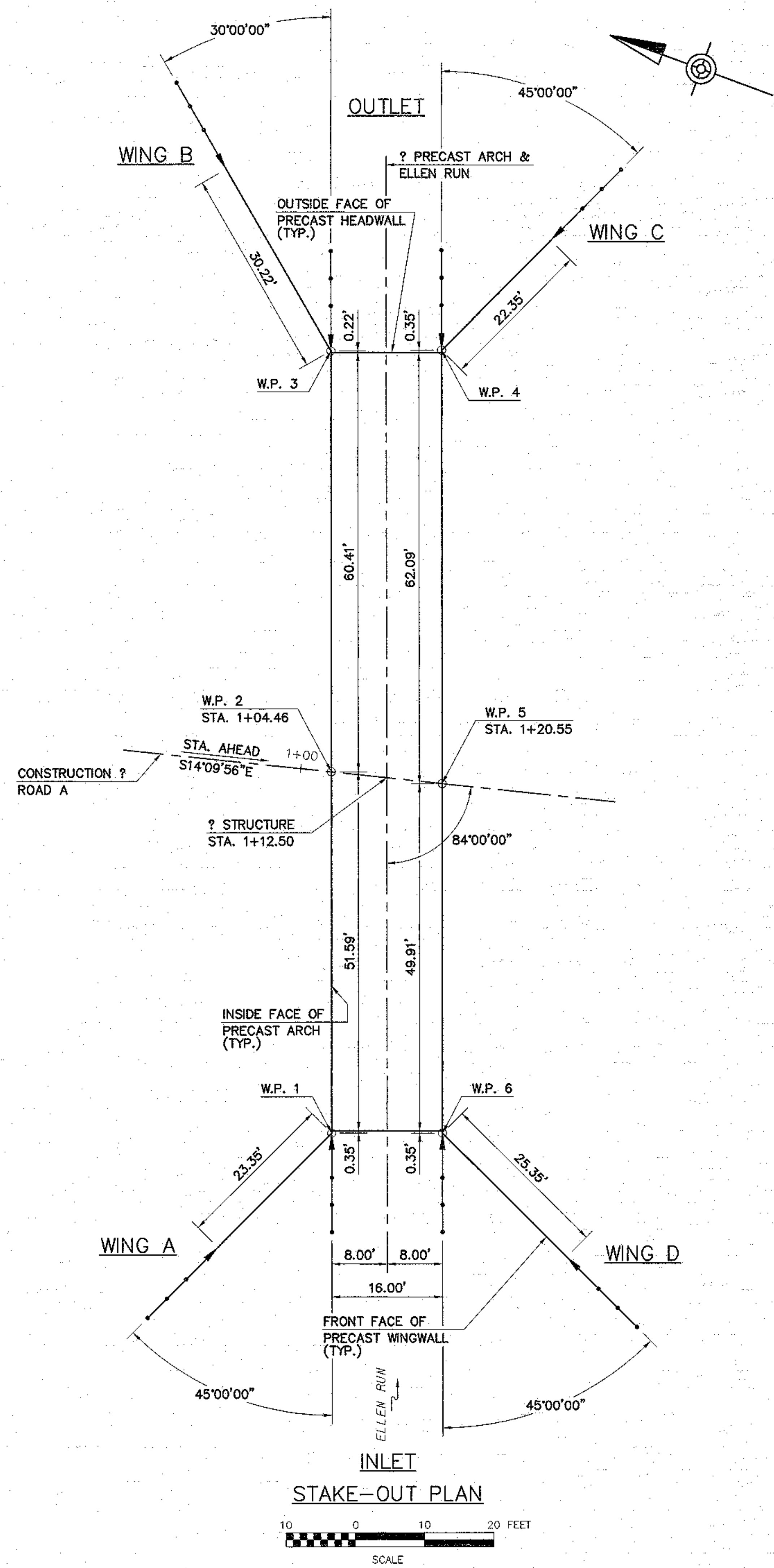
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5-3

PROJECT NO :

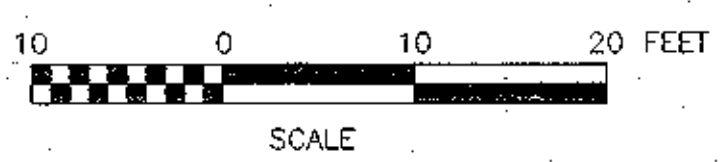
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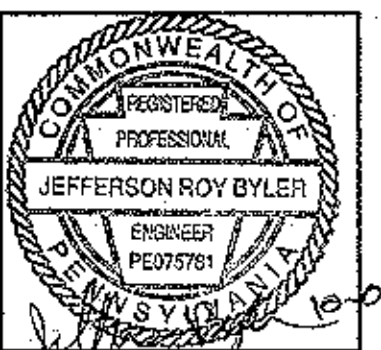


WORK POINT COORDINATES		
POINT	NORTHING	EASTING
W.P. 1	597209.5055	2148524.6658
W.P. 2	597227.4095	2148573.4182
W.P. 3	597248.3115	2148630.3339
W.P. 4	597233.3343	2148635.9641
W.P. 5	597211.8106	2148577.3553
W.P. 6	597194.4863	2148530.1815

NOTE:  
 FOUR PLACE COORDINATES ARE FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY A PRECISION BEYOND TWO DECIMAL PLACES.  
 WORK POINT COORDINATES ARE BASED ON AN ARBITRARY COORDINATE SYSTEM.



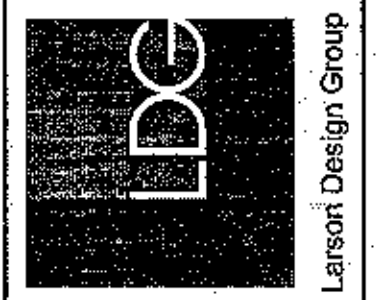
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S TAKE-OUT PLAN  
 BUSINESS PARK SUBDIVISION  
 FOR  
**BETTERMENT ORGANIZATION OF MANSFIELD**  
 BOROUGH OF MANSFIELD, TIoga COUNTY, PENNSYLVANIA

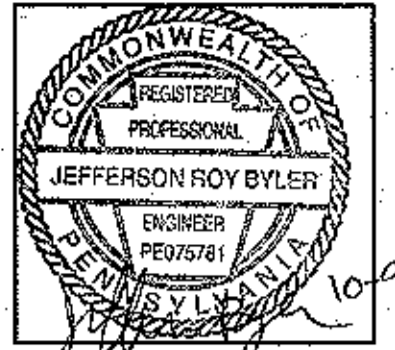
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**S-4**  
 PROJECT NO :  
 5931-002

REINFORCEMENT BAR SCHEDULE  
(FOR INFORMATION ONLY)

MARK	SIZE	LENGTH	NO.	TYPE	A	B	C	D	REMARKS
F401	4	15'-3"	337	1	3'-5"	3'-4"	1'-9"		
F601	6	58'-1"	40	STR					
F602	6	23'-7"	10	STR					
F603	6	30'-4"	10	STR					
F604	6	22'-7"	10	STR					
F605	6	25'-7"	10	STR					

NOTES:

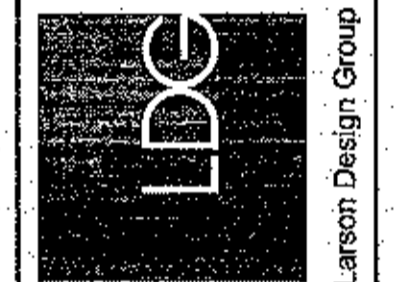
- FOR REINFORCEMENT BAR FABRICATION DETAILS, REFER TO PENNDOT STANDARD DRAWING BC-736.
- REINFORCEMENT BAR SCHEDULE IS FOR INFORMATION ONLY. VERIFY IT PRIOR TO BIDDING AND FABRICATION.
- FIGURES IN CIRCLES INDICATE BAR TYPES.
- DO NOT USE RAIL STEEL (A616M) IN BRIDGE PIER, ABUTMENTS, SHEAR BLOCKS, BEAMS, FOOTINGS, AND WHERE BENDING OR WELDING OF THE REINFORCEMENT BARS IS INDICATED.



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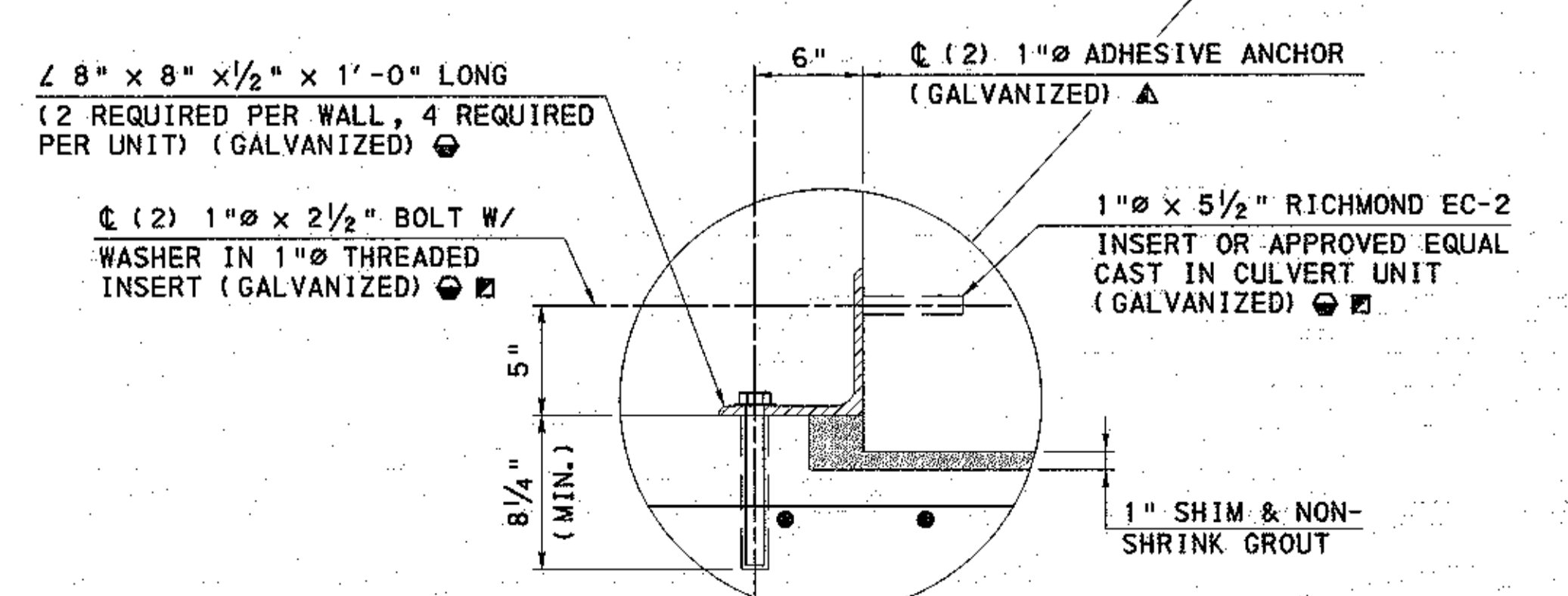
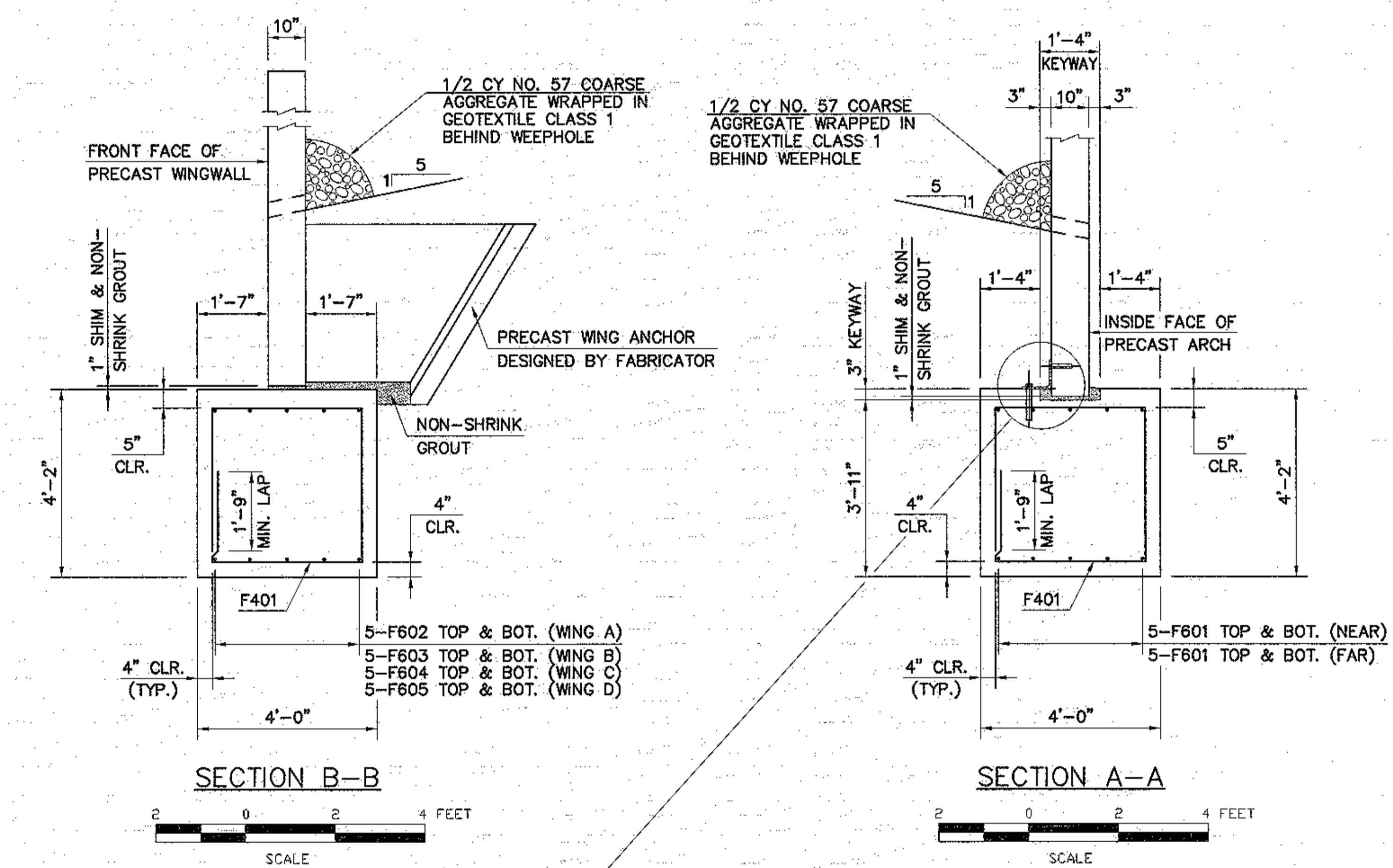
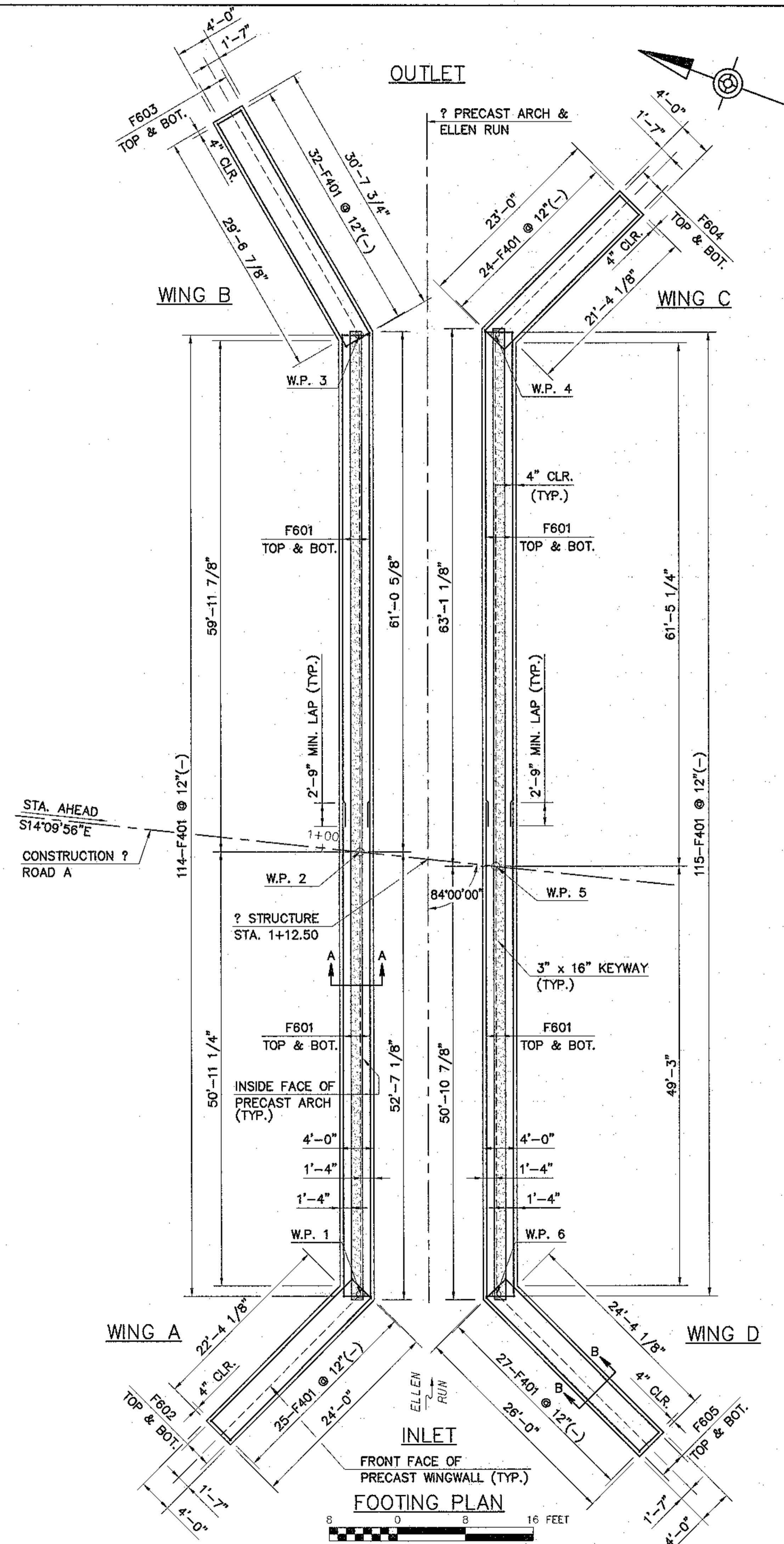
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BETTERMENT ORGANIZATION OF MANSFIELD  
BOROUGH OF MANSFIELD, TIOGA COUNTY, PENNSYLVANIA

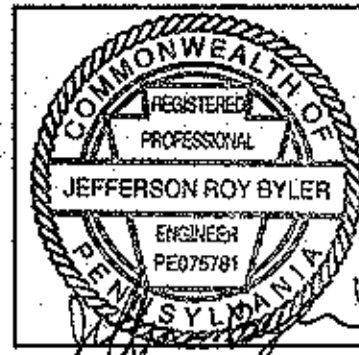
SHEET NO: 3-5  
PROJECT NO: 5931-002



AS-BUILT

LEGEND

- E.F. - EACH FACE
- F.F. - FRONT FACE
- R.F. - REAR FACE
- CLR. - CLEAR
- TYP. - TYPICAL
- W.P. - WORK POINT
- THREADED INSERTS TO BE INCORPORATED IN PRECAST ARCH BY THE FABRICATOR. WHERE THREADED INSERTS ARE USED WITH DEFORMED BARS, THE INSERTS MUST BE ONE SIZE SMALLER.
- TO BE SUPPLIED BY THE FABRICATOR AT NO ADDITIONAL COST.
- ▲ PROVIDED AND DRILLED IN THE FIELD BY THE CONTRACTOR.



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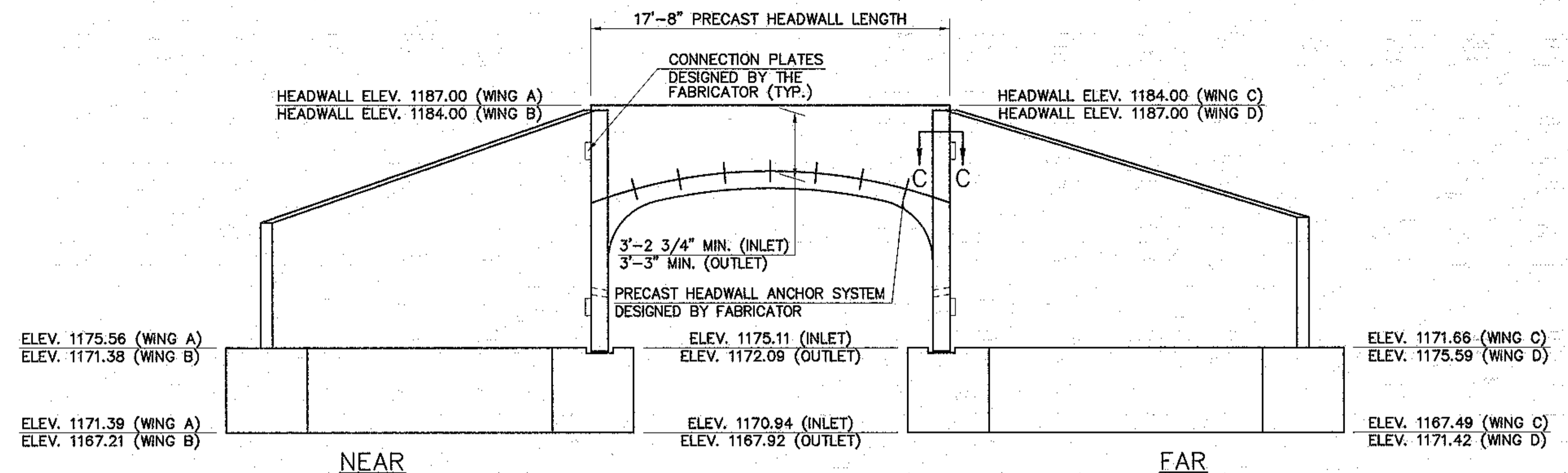


MISCELLANEOUS DETAILS  
BUSINESS PARK SUBDIVISION  
FOR  
BETTERMENT ORGANIZATION OF MANSFIELD  
BOROUGH OF MANSFIELD, TIOGA COUNTY, PENNSYLVANIA

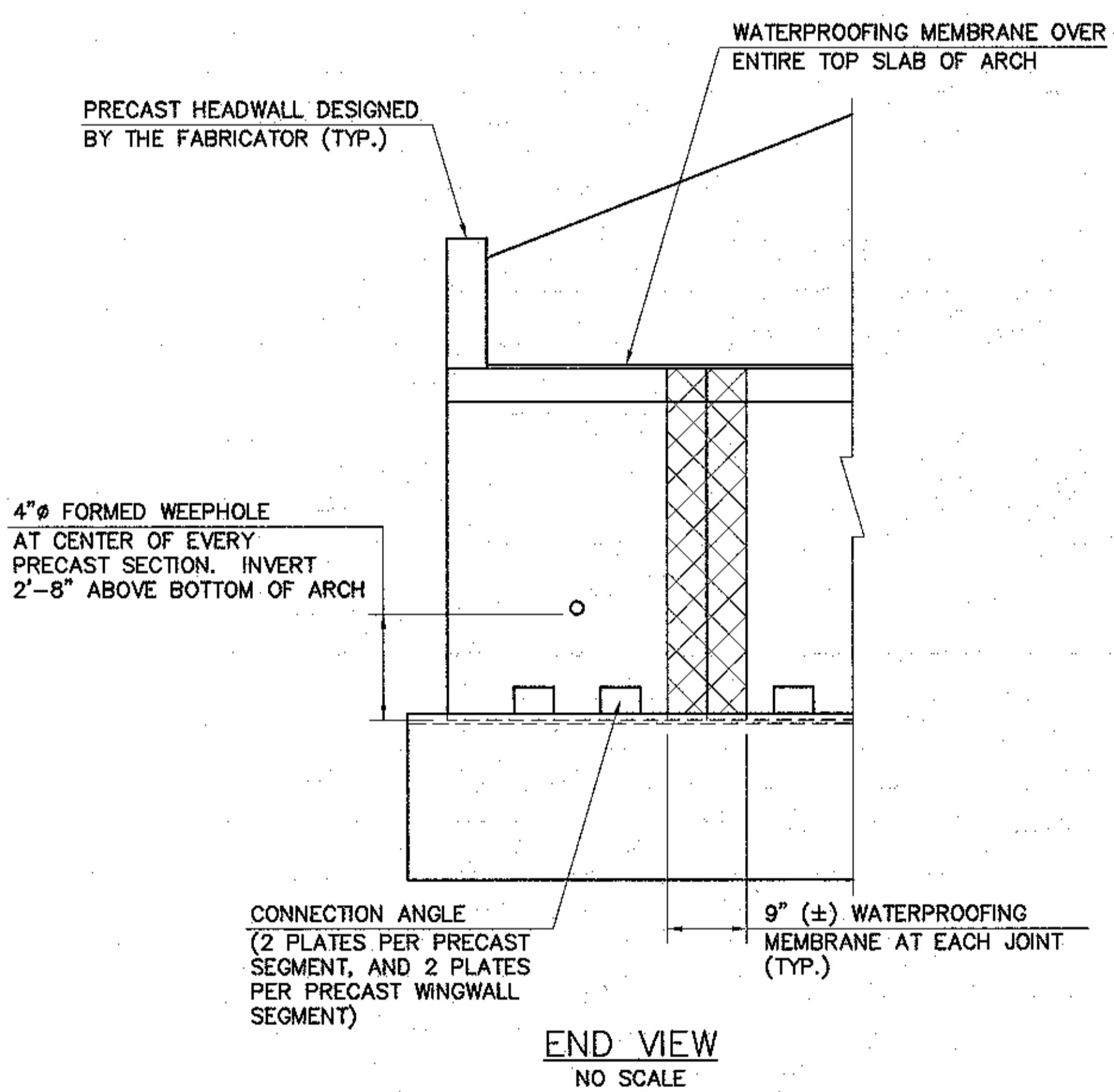
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**S-6**  
PROJECT NO:  
5931-002

**PRECAST ARCH CULVERT DESIGN**

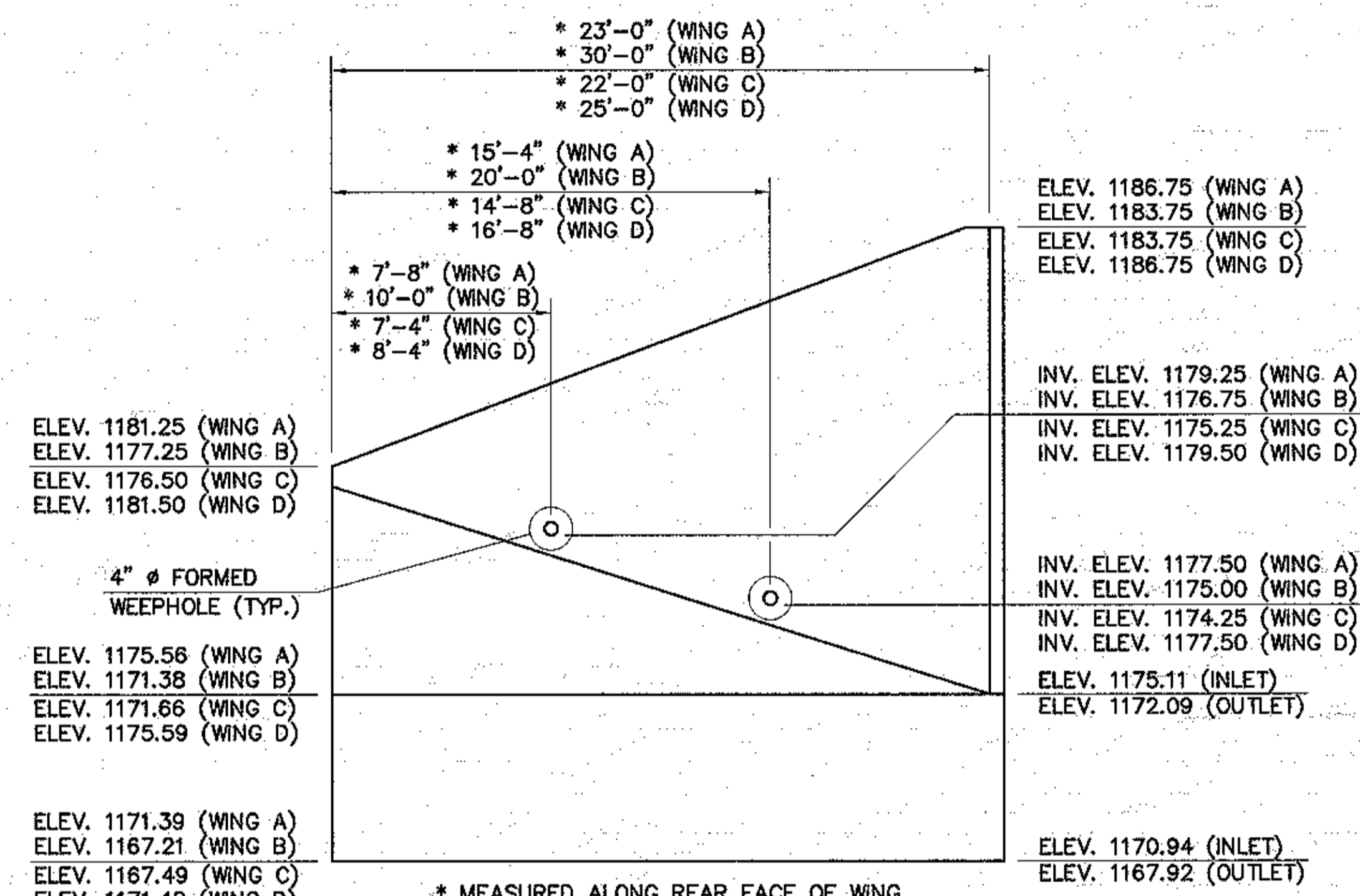
- $F_c = 5000$  P.S.I.
- GRADE 60 REINFORCING BARS
- ARCH THICKNESS = 10"
- WINGWALL THICKNESS = 10"
- HEADWALL THICKNESS = 12"
- MIN. COVER OVER REINFORCING BARS = PROVIDE 2" FOR THE TOP BARS OF THE TOP SLAB AND 1 1/2" FOR ALL OTHER BARS
- FILL HEIGHT = 10" MINIMUM
- UNIT WEIGHT OF FILL = 120 PCF
- DESIGN AND RATE THE PRECAST ARCH SEGMENTS FOR HS25 AND MODIFIED (125% ALTERNATE MILITARY LOADING AND P-82 WITH LOAD FACTOR DESIGN. PROVIDE RATINGS FOR H20, HS20, ML80 & TK527.
- DESIGN SPECIFICATIONS = DESIGN DIVISION OF 1998 AASHTO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" AND AS SUPPLEMENTED BY THE PENNDOT DESIGN MANUAL, PART 4, STRUCTURES, INCLUDING REVISIONS.
- THE ARCH AND WINGS SHALL BE DESIGNED WITH A LIVE LOAD SURCHARGE OF TWO (2) FEET.
- REFERENCE SHEET 3 OF 8 GENERAL NOTES.



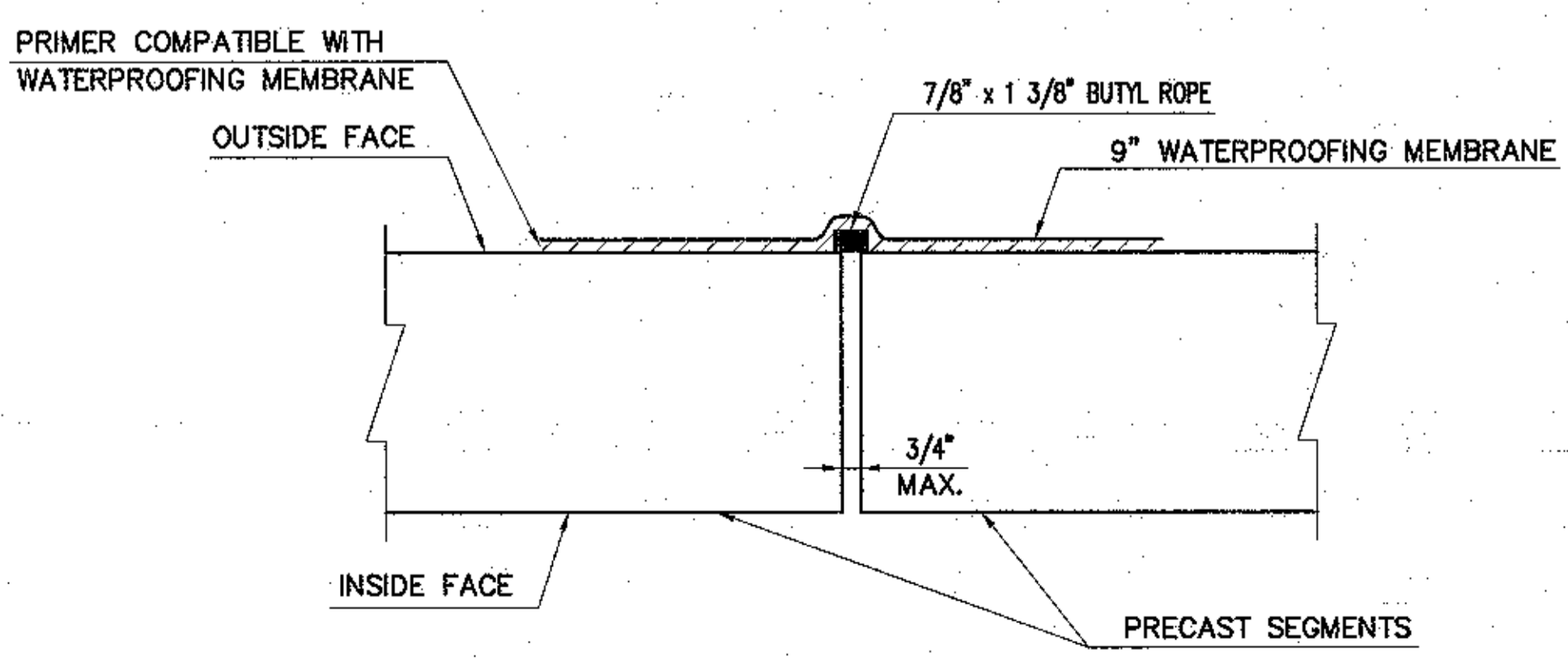
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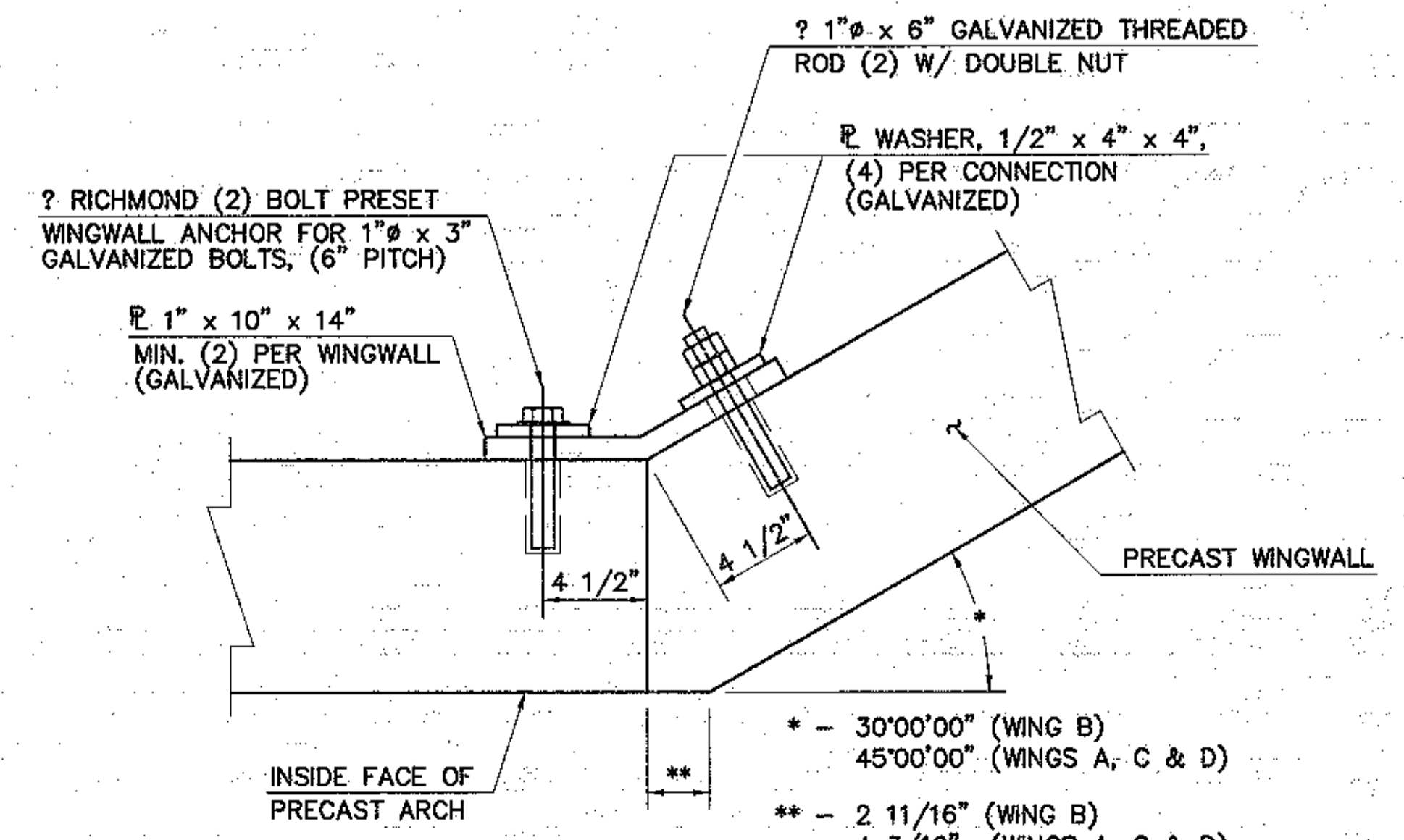
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**TYPICAL PRECAST WING ELEVATION**  
NO SCALE



**VERTICAL JOINT DETAIL**  
NO SCALE



**SECTION C-C**  
NO SCALE

**AS-BUILT**

**SOIL BORING B-1**

STATION 1+38.01  
38.95' RT. OF ?

ELEV.	A	B	C	D	E	F (SURF. ELEV.)	DESCRIPTION
1175.80							
1174.10	2.0	1	2				BROWN AND GRAY SILTY SAND WITH MANY ROCK FRAGMENTS. (GP) WET - MEDIUM DENSE
1173.80			1				
			4				
			12				
			13				
			14				
1171.80	4.0	2	9				
			3				
			2				
			9				
			23				
1169.80	6.0	3	20				GRAY AND BROWN CLAY WITH SOME ROCK FRAGMENTS. (CL) VERY MOIST - STIFF
			17				
			19				
			24				
1167.80	8.0	4	13				
			53				
			70				
1165.80	10.0	5	100				BROWN AND YELLOW SILTY FINE SAND WITH SS FRAGMENTS. (SM) MOIST - DENSE
							ELEV. 1166.80
							ELEV. 1163.80
							GRAY CLAYEY SILT (ML-CL) MOIST - HARD
1162.30	13.5						
			19				
			25				
			25				
			46				
1160.30	15.5	6					SPOON REFUSAL AT 18.7 FEET CASED HOLE TO 18.0 FEET BEGAN CORING AT 18.7 FEET
							ELEV. 1157.10
1157.30	18.5						
1157.10	18.7	7	100/2				
				1.7	85	65	GRAY FINE TO MEDIUM GRAINED SANDSTONE. THIN BEDDED - 0.5" TO 2" DIP IS < 5 DEGREES. THIN MUD SEAM AT 22' SOME MASSIVE BEDDING
1155.10	20.7						
				4.3	100	95	END OF BORING AT 25.0 FEET
1150.80	25.0						END OF BORING 25.0'

DRILLING DATE: 5/3/06  
DRILLING COMPANY: FOUNDATION SERVICES COMPANY  
DRILLER: R.E. KENNEDY / D. SWEIGERT  
INSPECTOR: EDWARD M. LESNY, P.E.  
EQUIPMENT USED: SKID-MOUNTED RIG  
DRILLING METHOD: DRIVE CASING/NX CORE

**SOIL BORING B-2**

STATION 0+79.73  
31.29' LT. OF ?

ELEV.	A	B	C	D	E	F (SURF. ELEV.)	DESCRIPTION
1175.00							
1173.00	2.0	1	2				BROWN SAND AND GRAVEL (SP TO GP) VERY MOIST TO WET - MEDIUM DENSE SPOON REFUSAL AT 7.5 FEET
1172.80			1				
			11				
			16				
			11				
			10				
			9				
1171.00	4.0	2	9				
			11				
			15				
			35				
1169.00	6.0	3	28				
			20				
			16				
1167.50	7.5	4	30-50/0				ELEV. 1167.50
							SANDSTONE BOULDERS AND CLAY (TILL) CORED TO 10', SPOON REFUSAL AT 10' CONTINUED CORING AT 10' ELEV. 1166.00
1165.00	10.0	5	50/0	1.3	52	0	GRAY INTERBEDDED SHALE AND SANDSTONE. FEW THIN CLAY SEAMS. SOME VERTICAL JOINTS. THIN TO MEDIUM BEDS. FOSSILS IN LAST 9 INCHES. MEDIUM HARD. DIP IS < 5 DEGREES.
							ELEV. 1166.00
				4.0	100	90	
1161.00	14.0						
				6.0	100	90	
							END OF BORING AT 20.0 FEET
1155.00	20.0						ELEV. 1155.00
							END OF BORING 20.0'

DRILLING DATE: 5/4/06  
DRILLING COMPANY: FOUNDATION SERVICES COMPANY  
DRILLER: R.E. KENNEDY / D. SWEIGERT  
INSPECTOR: EDWARD M. LESNY, P.E.  
EQUIPMENT USED: SKID-MOUNTED RIG  
DRILLING METHOD: DRIVE CASING/NX CORE

**LEGEND**

- COLUMN A - PROFILE DEPTH (ft)
- COLUMN B - SAMPLE NUMBER AND TYPE, S=SPLIT SPOON R=ROCK CORE
- COLUMN C - NUMBER OF BLOWS ON THE SPOON PER 0.5 FT. OF PENETRATION
- COLUMN D - AMOUNT OF RECOVERY (ft)
- COLUMN E - RECOVERY (%)
- COLUMN F - RQD (%)
- (SURF. ELEV.) - SURFACE ELEVATION

P.F.E. - PROPOSED BOTTOM OF FOOTING ELEVATION.

P.T.E. - ESTIMATED PILE TIP ELEVATION

▽ - FREE STANDING WATER RECORDED AFTER 0 HOURS.

▽ - FREE STANDING WATER RECORDED AFTER 24 HOURS.

**NOTES**

- STRIP FOOTING INFORMATION:
  - MAXIMUM ALLOWABLE BEARING PRESSURE - TONS/SF
- EXISTING STRUCTURE INFORMATION: N/A
  - REASON FOR STRUCTURE REPLACEMENT - NEW SUBDIVISION

FOR BORING LOCATION PLAN,  
SEE SHEET NO. 1

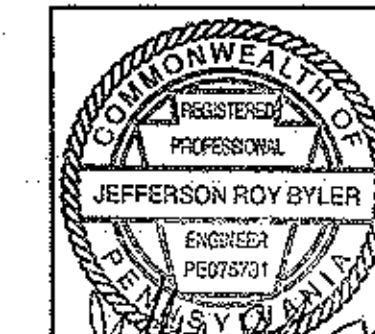
**FOUNDATION INVESTIGATION ENDORSEMENT**

I VERIFY THAT THE FOUNDATION INVESTIGATION ACCURATELY REPRESENT THE CONDITIONS ENCOUNTERED BY THE TEST BORING PROGRAM, INCLUDING BORING LOGS, EARTH SAMPLES, ROCK CORES, CLASSIFICATIONS OF MATERIALS, AND DEPTH CLASSIFICATION OF BORINGS.

DATE: \_\_\_\_\_

THIS SHEET IS INCLUDED FOR THE CONVENIENCE OF THE DEPARTMENT AND SHALL NOT BE CONSIDERED AS A PART OF THE CONTRACT DRAWINGS. (SEE SECTION 102.05 OF PUBLICATION 408).

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SOIL BORINGS  
BUSINESS PARK SUBDIVISION  
FOR  
BETTERMENT ORGANIZATION OF MANSFIELD  
BOROUGH OF MANSFIELD, TIoga COUNTY, PENNSYLVANIA

SHEET NO: S-7  
PROJECT NO: 5931-002

- ChB Chenango - Hydrological Group A
- MaB Mardin - Hydrological Group C
- MaC Mardin - Hydrological Group C
- Po Pope - Hydrological Group B
- VoB Volusia - Hydrological Group C
- VoC Volusia - Hydrological Group C
- VoD3 Volusia - Hydrological Group C
- VvD3 Volusia - Hydrological Group C

NPDES PERMIT BOUNDARY = 84.5 ACRES

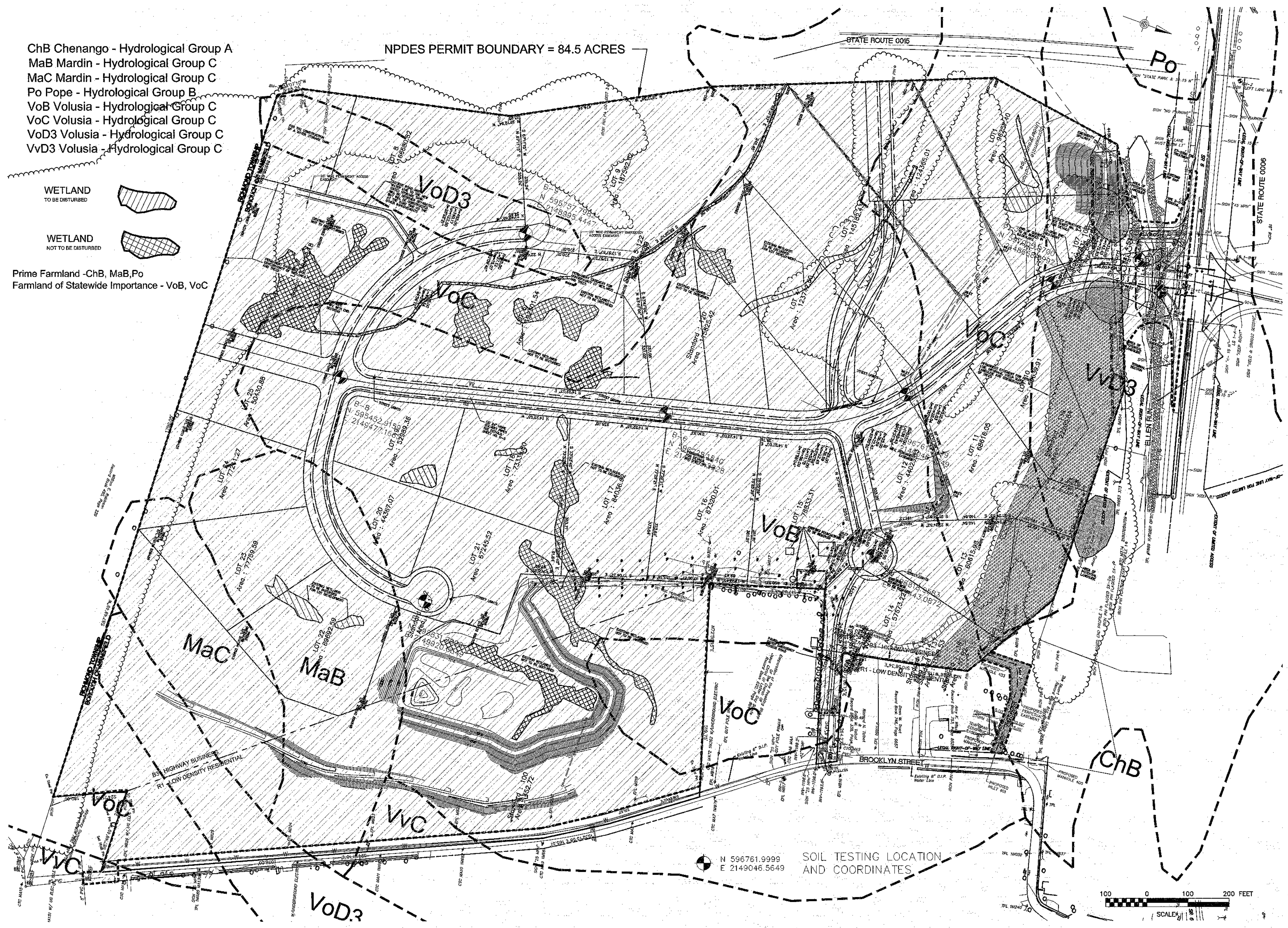
WETLAND  
TO BE DISTURBED



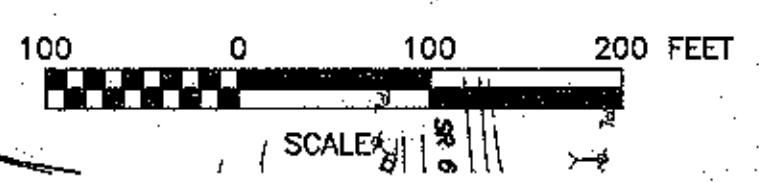
WETLAND  
NOT TO BE DISTURBED



Prime Farmland - ChB, MaB, Po  
Farmland of Statewide Importance - VoB, VoC



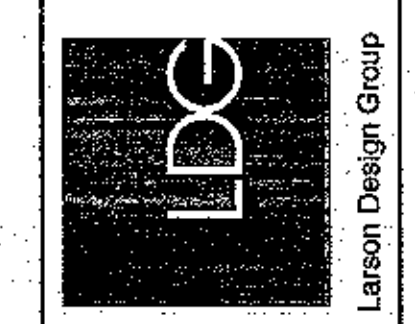
SOIL TESTING LOCATION AND COORDINATES  
N 596761.9999  
E 2149046.5649



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SOILS MAP AND BORING LOCATIONS  
BUSINESS PARK SUBDIVISION  
FOR  
BETTERMENT ORGANIZATION OF MANSFIELD  
BOROUGH OF MANSFIELD, TIOGA COUNTY, PENNSYLVANIA

SHEET NO: ES-1  
PROJECT NO: 5931-002

SP-2

BENCHMARKS BASED ON NGVD 29 DATUM

BM-1: SOUTHERN MOST BOLT (PAINTED PINK) ON LS 1-B-3  
ELEVATION: 1188.88'  
N 597408.2360 E 2148464.1327

BM-2: PDH DISK ON BRIDGE  
ELEVATION: 1217.33'  
N 597266.7287 E 2148051.0164

BM-3: SQUARE CUT ON N.E. CORNER OF RET. WALL (MARKED BM. WITH 037)  
ELEVATION: 1311.47'  
N 5995076.8299 E 2148864.1116

BM-4: SQUARE CUT ON N.E. CORNER OF HEADWALL  
ELEVATION: 1198.56'  
N 596889.3242 E 2149908.1013

BM-5: RAILROAD SPIKE ON BASE OF PLOE # MB 17  
ELEVATION: 1198.62'  
N 596800.9073 E 2150026.743

SP-1

FOLDER CHANNEL 7

FOLDER Brooklyn ST

FOLDER POND R.O.W

FOLDER Pond 2

Proposed Signalized Intersection

FOLDER ROAD A STR: 2150 TO 8+50

FOLDER ROAD A STR: 8+50 TO 21+00

FOLDER ROAD D AND EMERGENCY ACCESS

FOLDER Pond 1

FOLDER CHANNEL 12

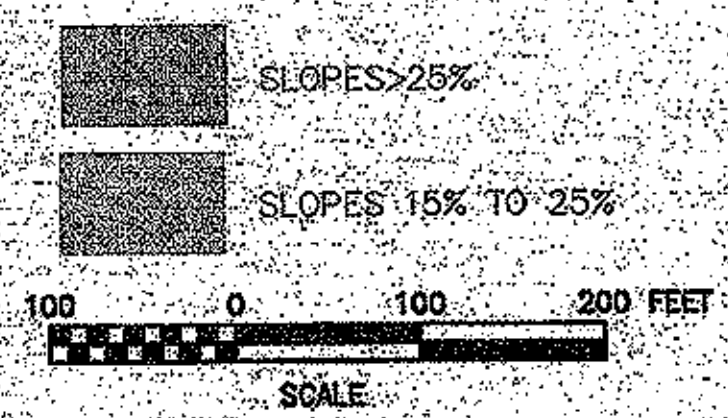
FOLDER ROAD 2

SP-3

SP-4

FOLDER LOT 13 AND 14 DRAINAGE SWALE

FOLDER Brooklyn ST



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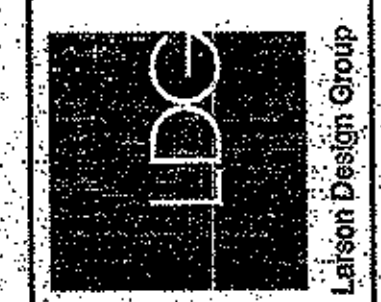
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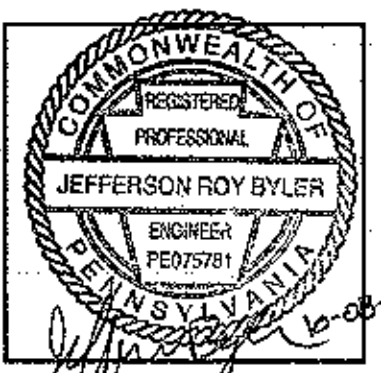
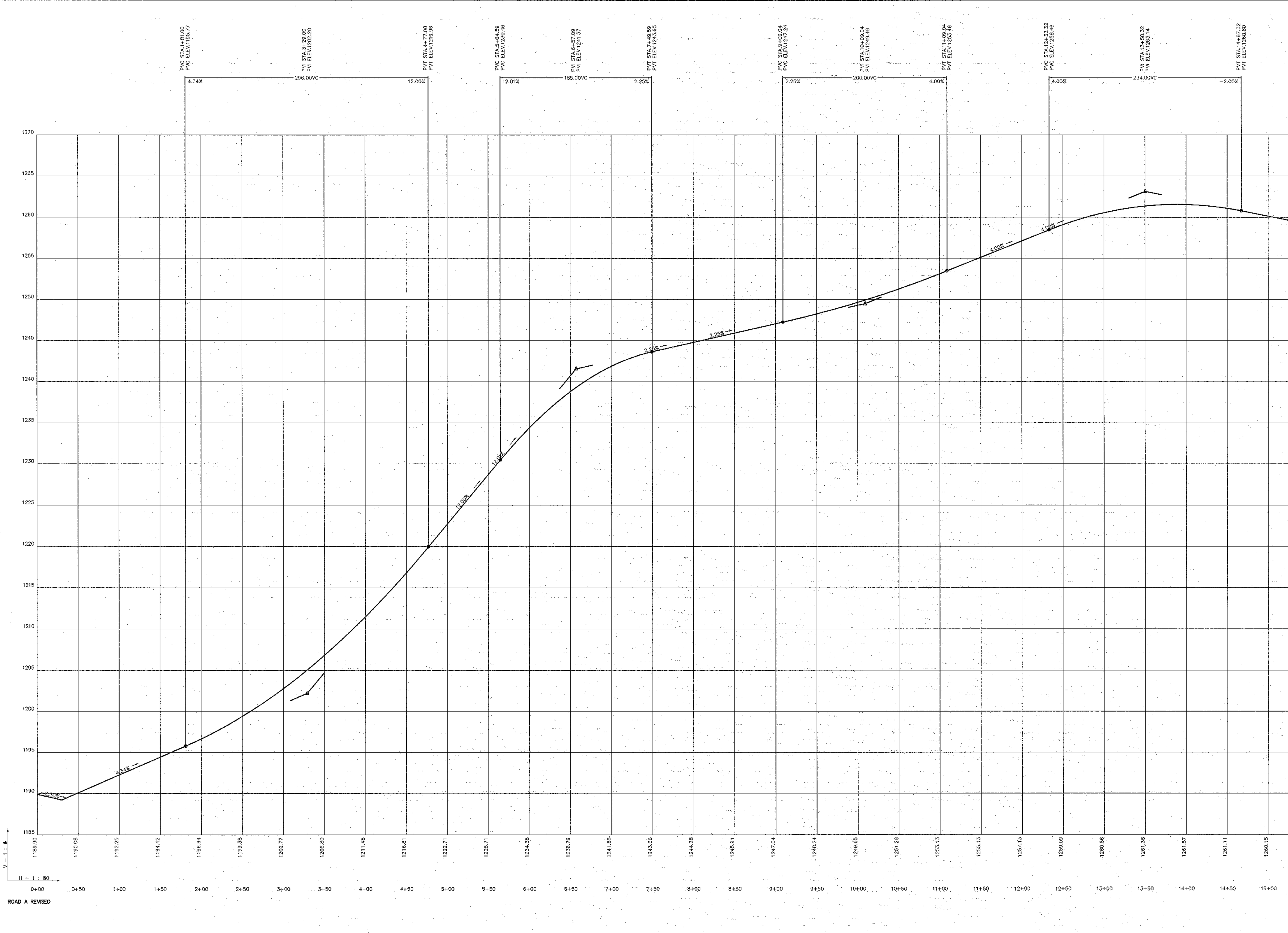
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INDEX MAP PHOTO KEY  
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FOR  
BETTERMENT ORGANIZATION OF MANSFIELD  
BOROUGH OF MANSFIELD, TIOGA COUNTY, PENNSYLVANIA

SHEET NO:  
PHOTO  
1  
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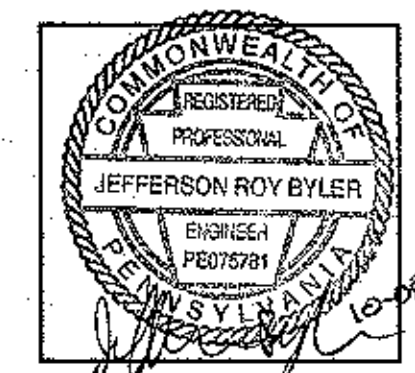
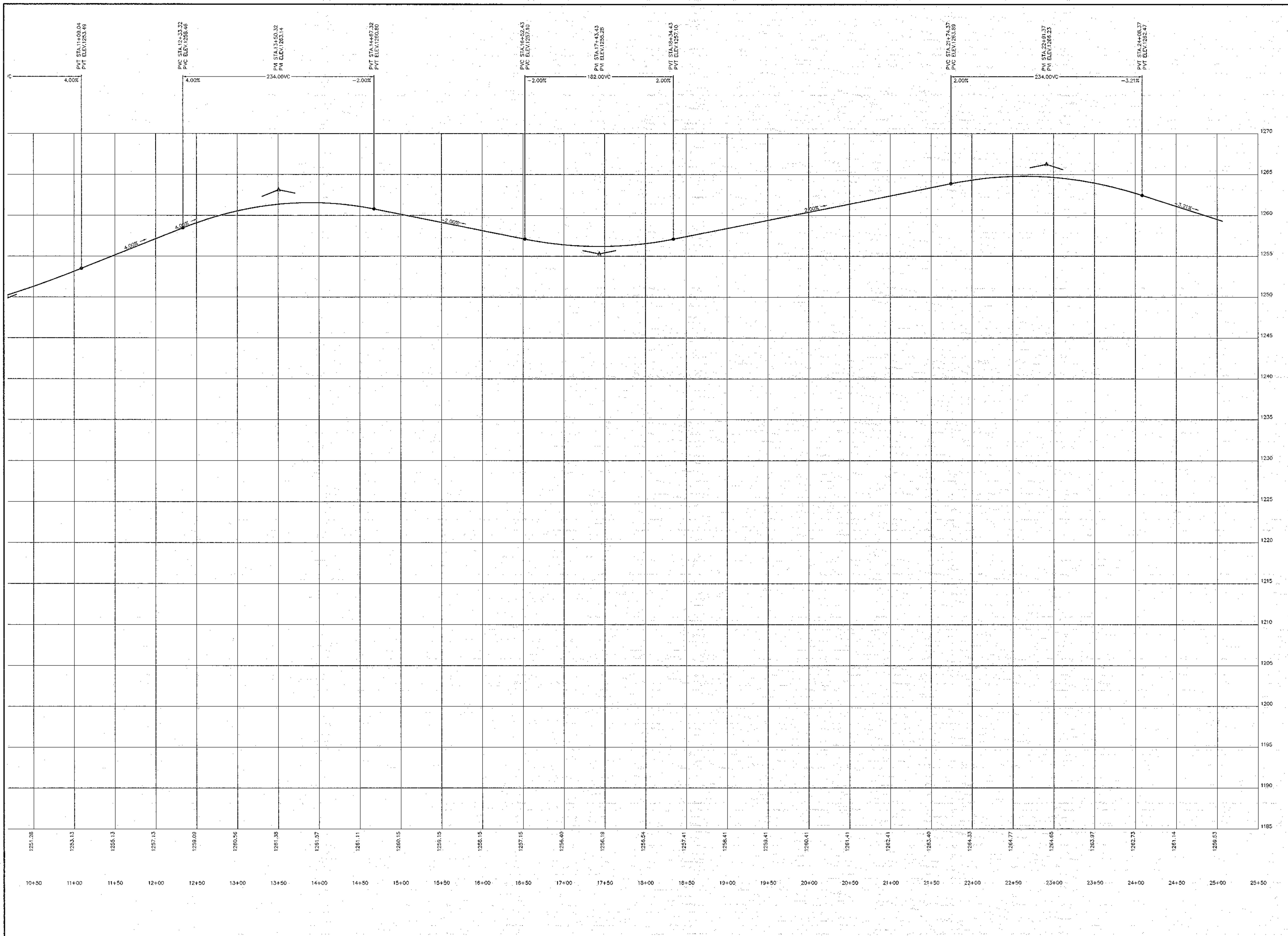
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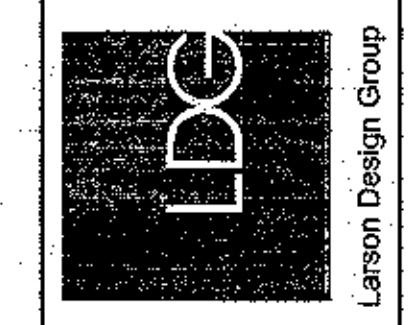
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**BUSINESS PARK SUBDIVISION**  
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**BETTERMENT ORGANIZATION OF MANSFIELD**  
 BOROUGH OF MANSFIELD, TOGA COUNTY, PENNSYLVANIA

SHEET NO :  
**PR-1**  
 PROJECT NO :  
 5931-002



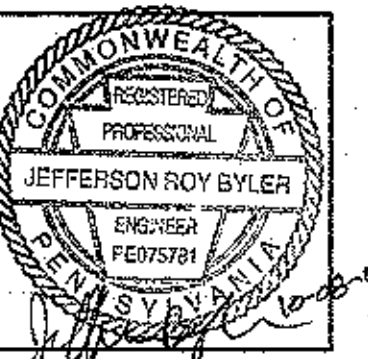
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**AS BUILT PROFILE SHEET 2**  
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 BOROUGH OF MANSFIELD, TIOGA COUNTY, PENNSYLVANIA

SHEET NO :  
**PR-2**  
 PROJECT NO :  
 5931-002



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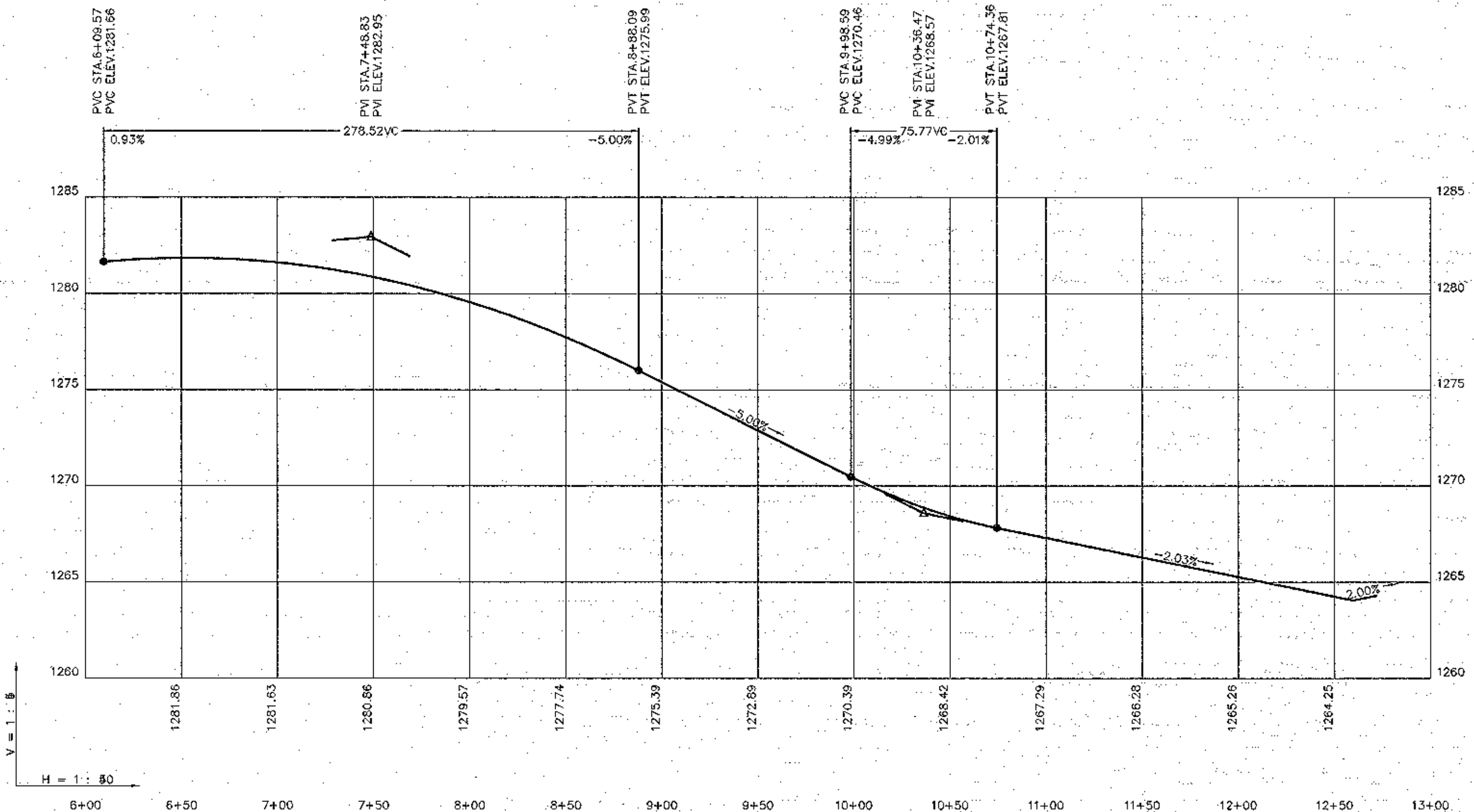
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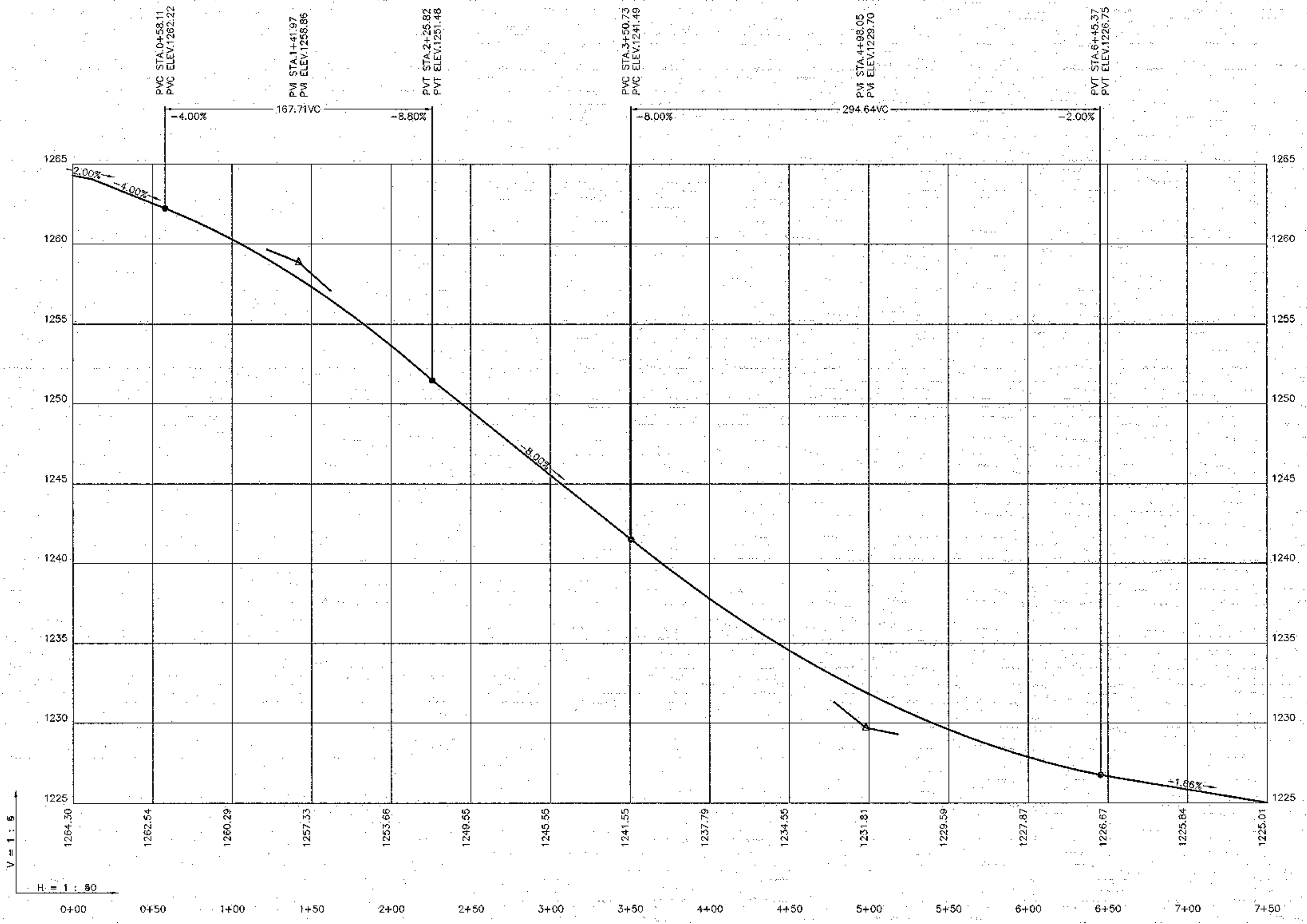
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ROAD C REVISED

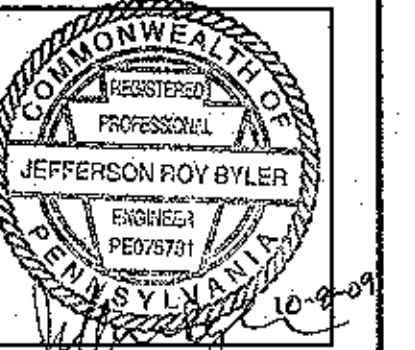
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SHEET NO :  
**PR-3**

PROJECT NO :  
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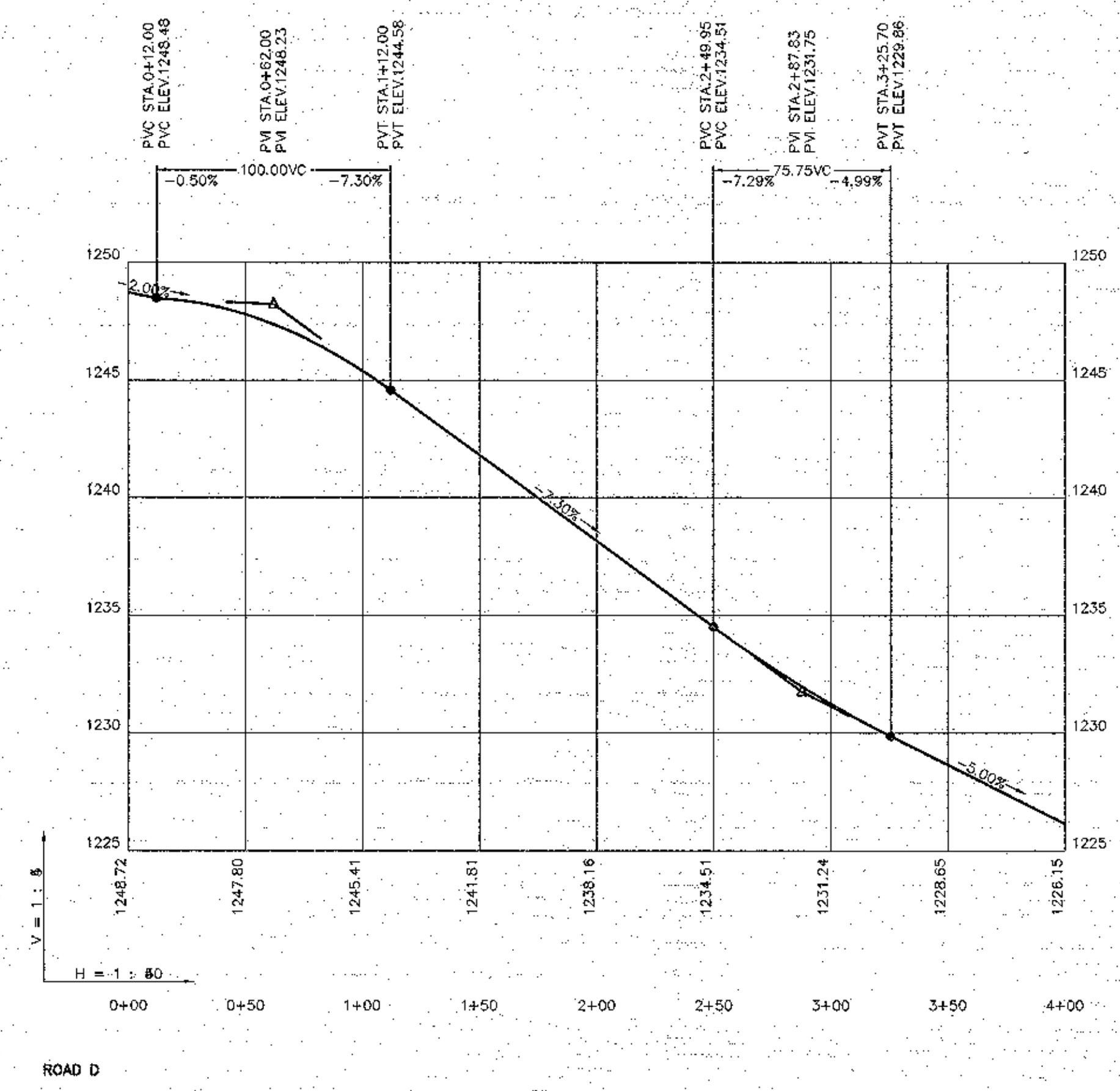
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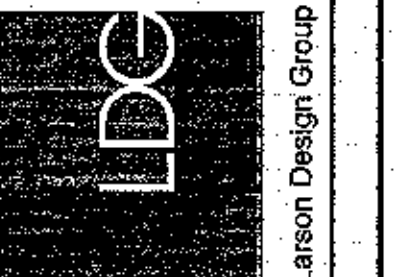
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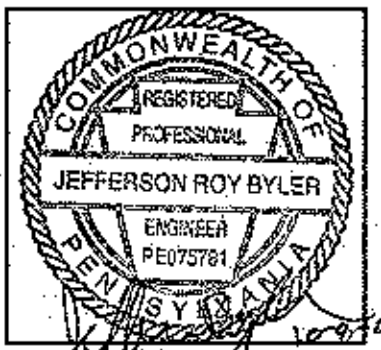



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 BOROUGH OF MANSFIELD, TOGA COUNTY, PENNSYLVANIA

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**PR-4**  
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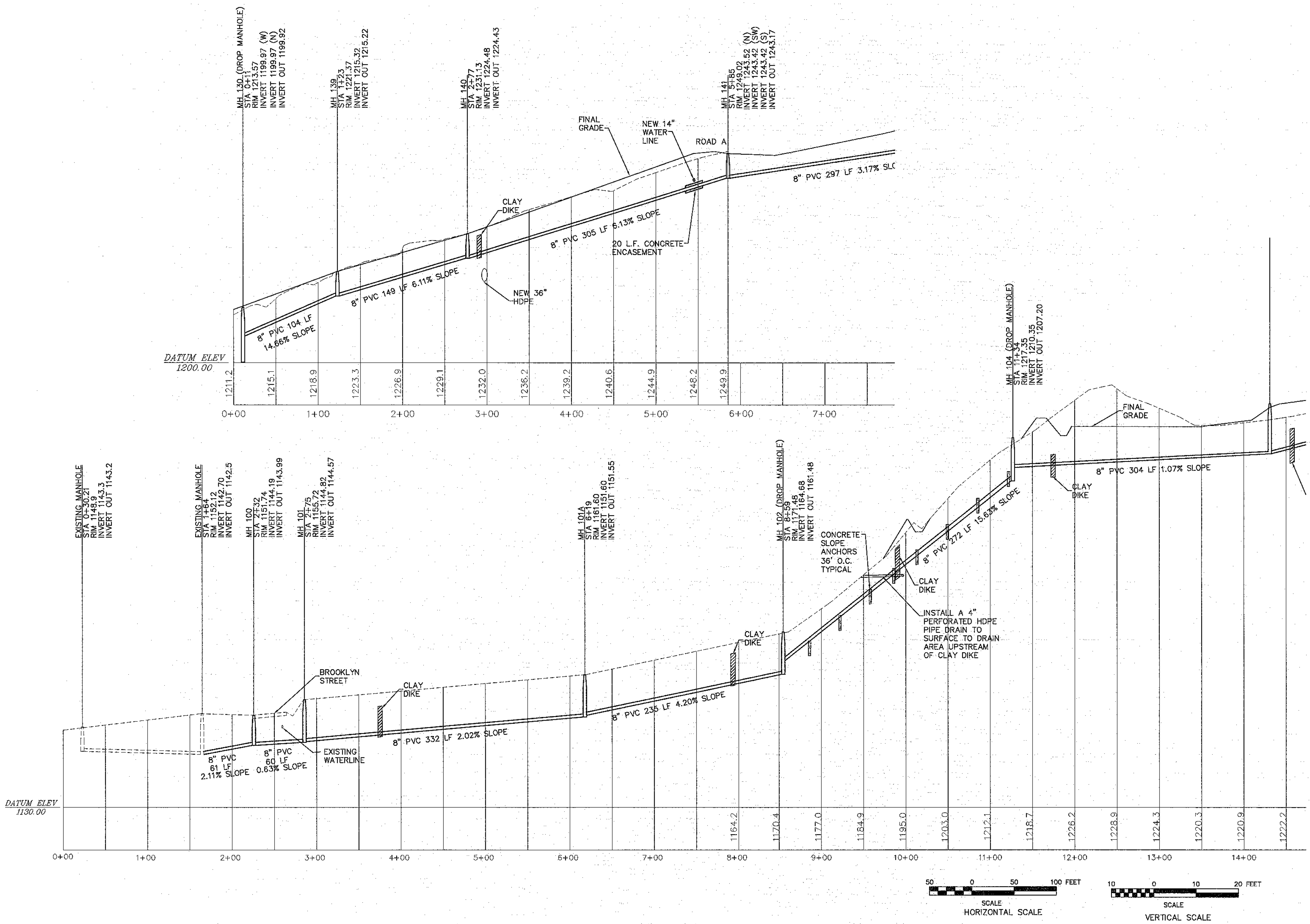
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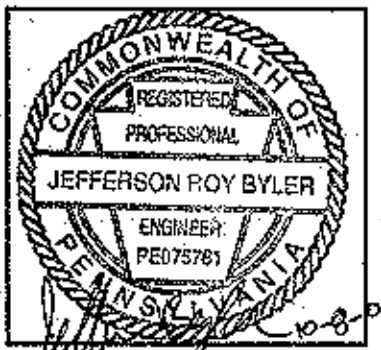
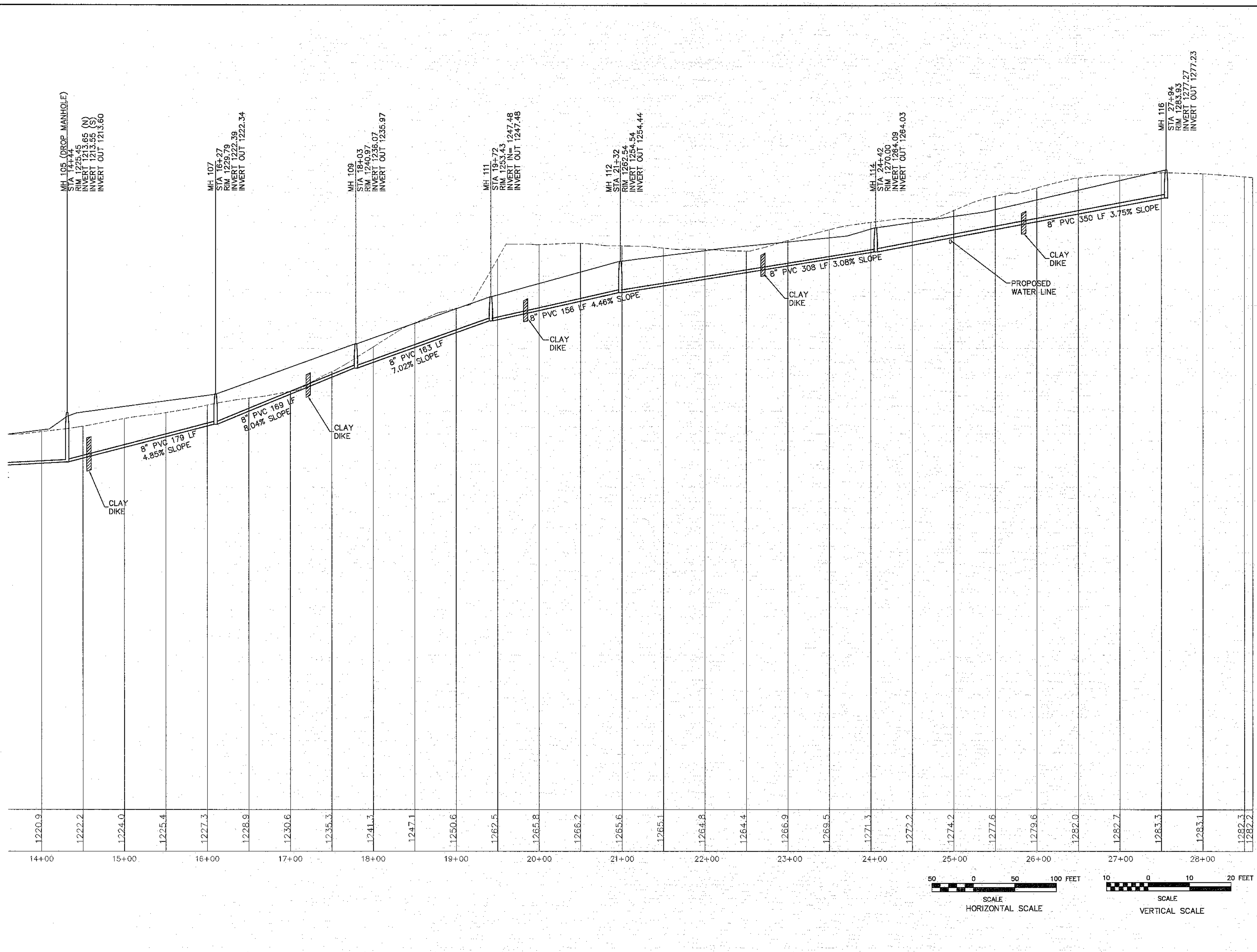


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**BUSINESS PARK SUBDIVISION**  
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**BETTERMENT ORGANIZATION OF MANSFIELD**  
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SHEET NO: **PR-5**

PROJECT NO: 5931-002





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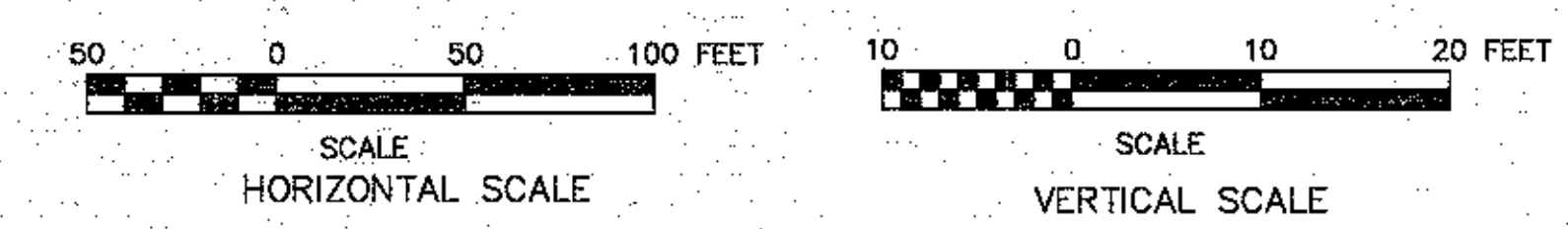
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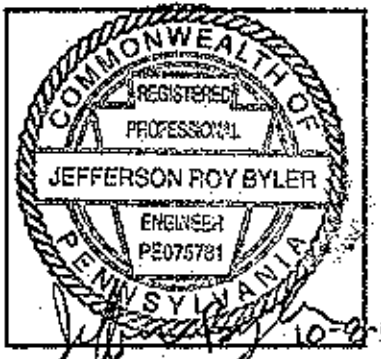
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 BOROUGH OF MANSFIELD, TOGA COUNTY, PENNSYLVANIA

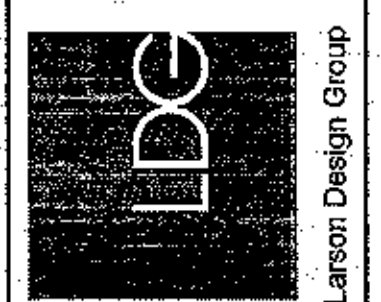
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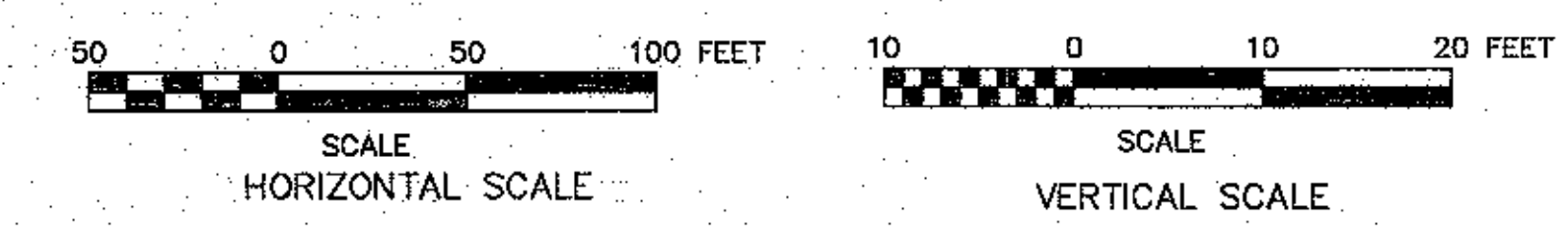
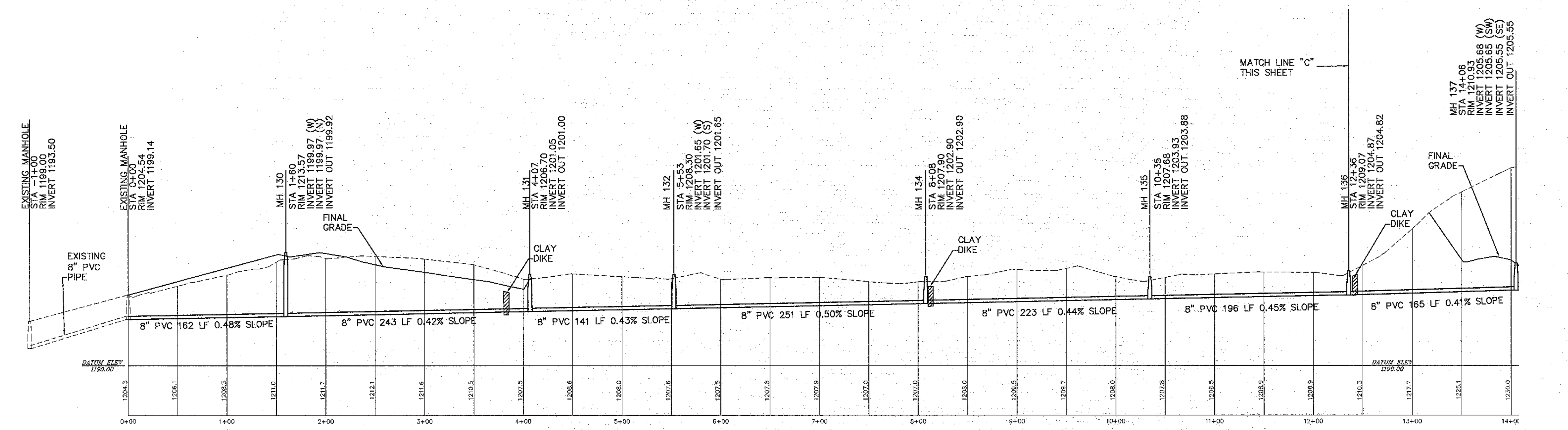
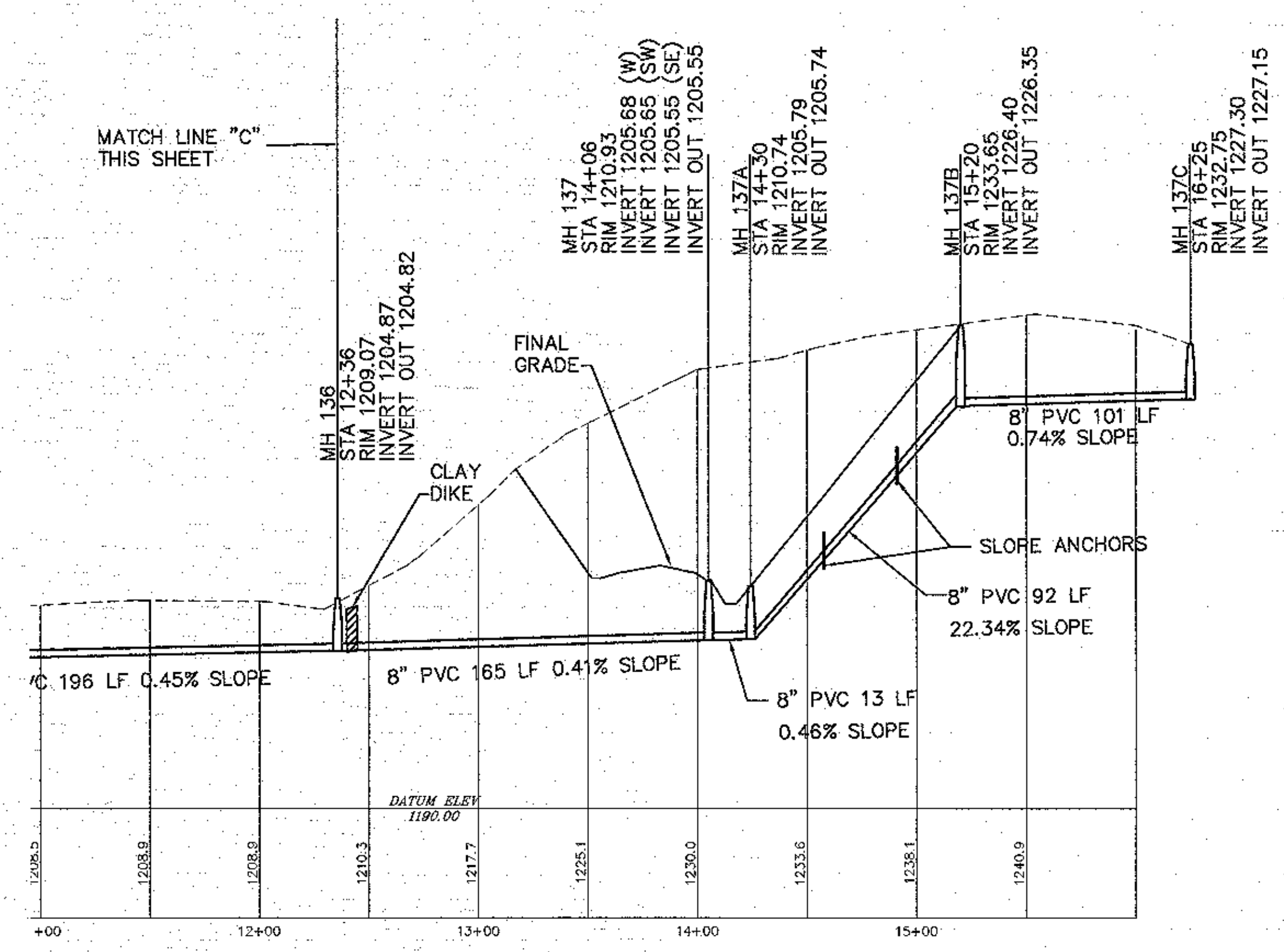
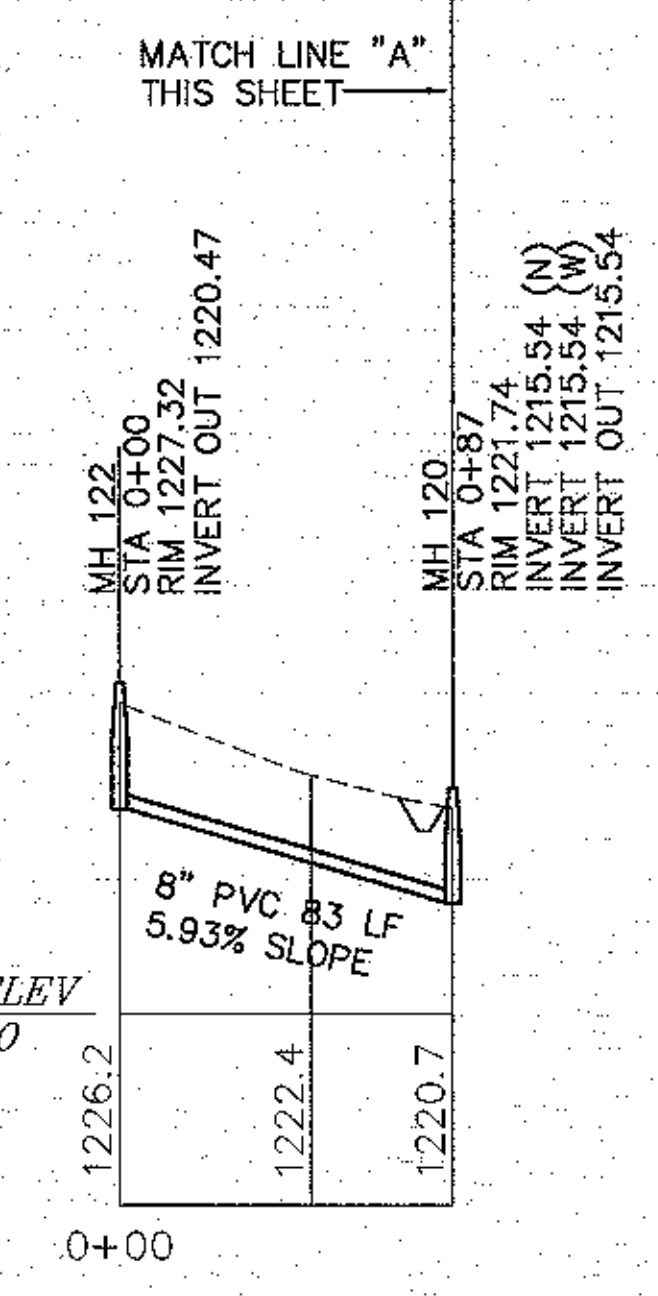
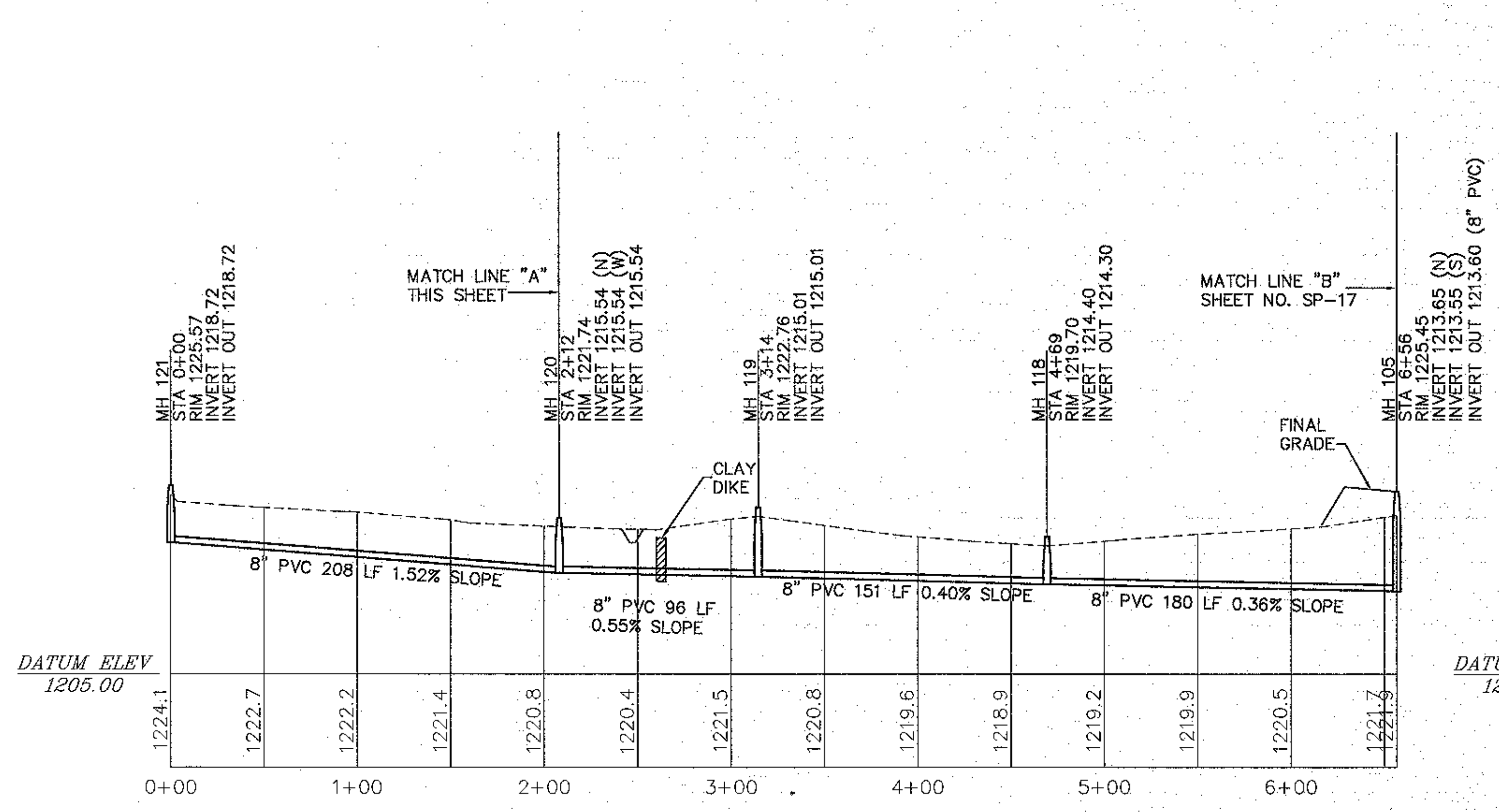
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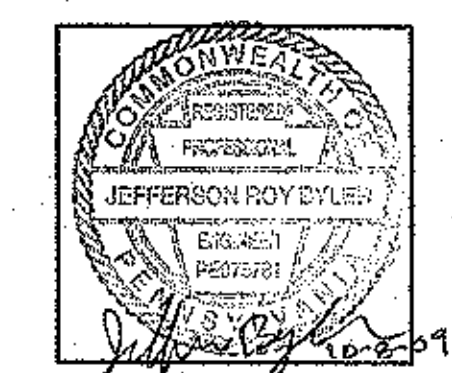
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**SANITARY SEWER LINE PROFILE 3**  
**BUSINESS PARK SUBDIVISION**  
 FOR  
**BETTERMENT ORGANIZATION OF MANSFIELD**  
 BOROUGH OF MANSFIELD, TOGA COUNTY, PENNSYLVANIA

SHEET NO: **PR-7**  
 PROJECT NO: 5931-002





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SCALE: AS SHOWN

REVISIONS:

3	REVISED	2/2/07
4	REVISED	5/16/07

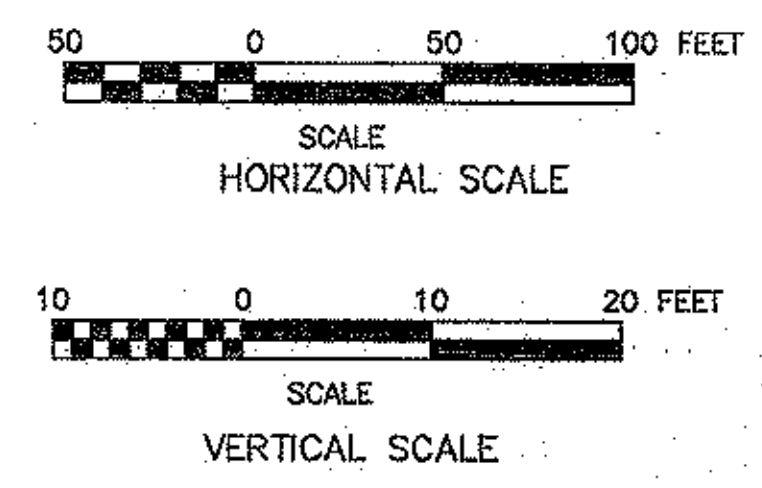
ARCHITECTS ENGINEERS SURVEYORS  
 1000 Commerce Park Drive • Suite 201  
 Williamsport, PA 17701  
 Phone: 570.323.6603  
 Toll free: 877.323.6603  
 Fax: 570.323.9902  
 www.larsondesigngroup.com

Larson Design Group

PROFILE AND TYPICAL SECTIONS  
 BUSINESS PARK SUBDIVISION  
 FOR  
**BETTERMENT ORGANIZATION OF MANSFIELD**  
 BOROUGH OF MANSFIELD, TIOGA COUNTY, PENNSYLVANIA

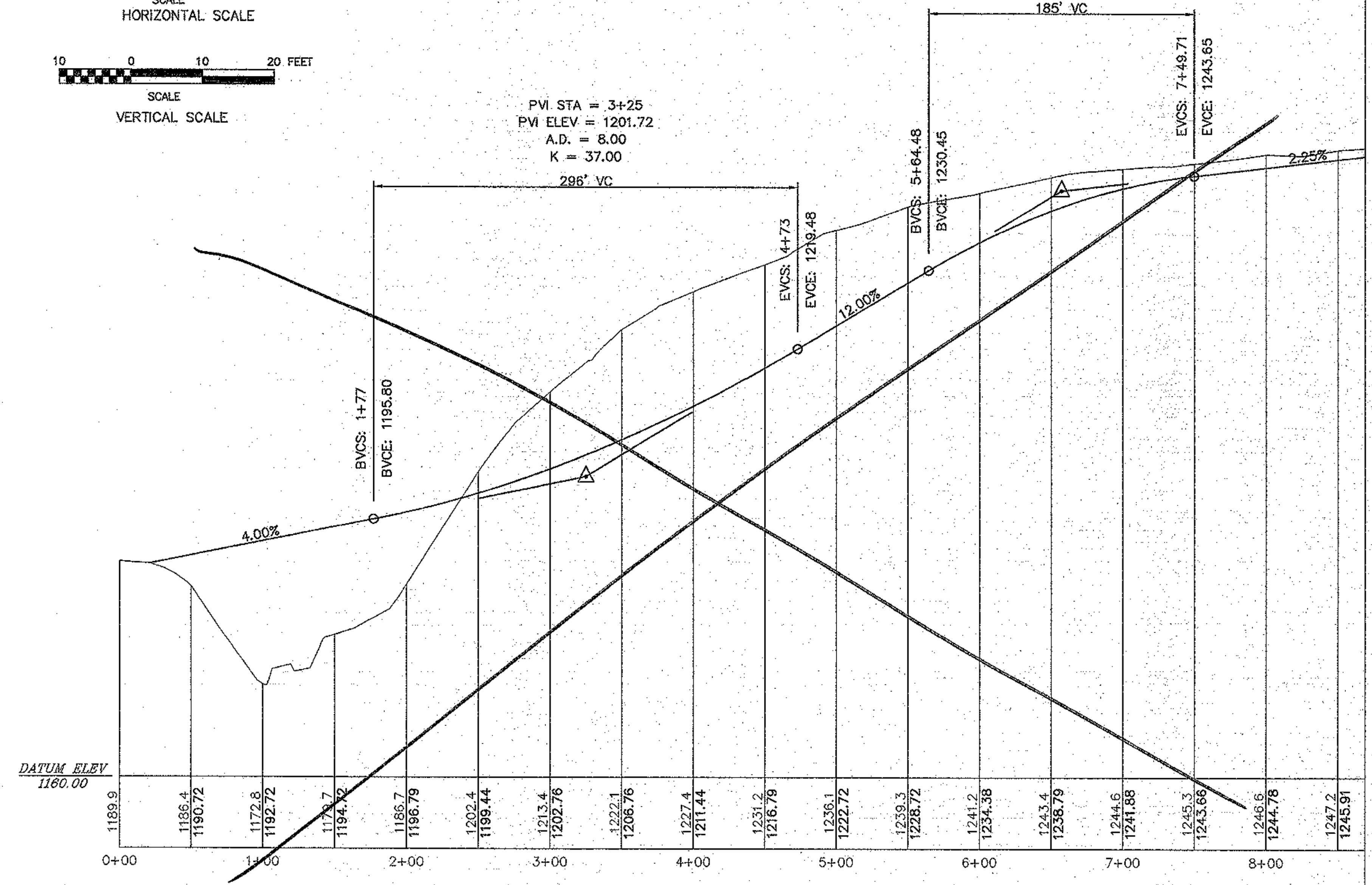
SHEET NO.: **HOP-3**

PROJECT NO.: 5931-002

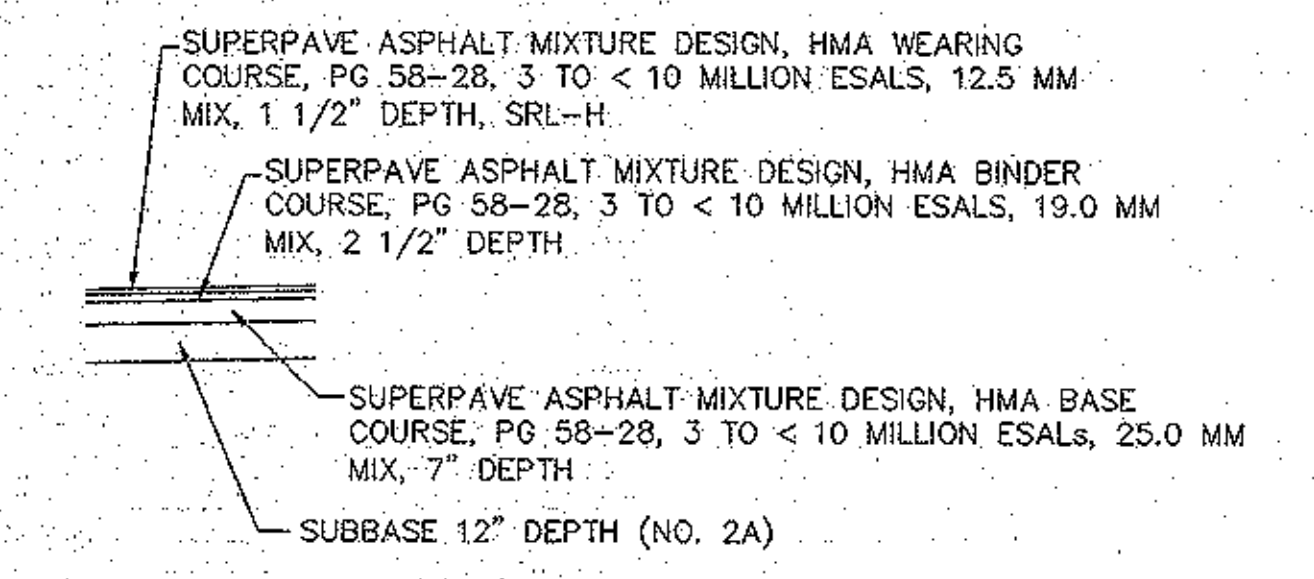


PVI STA = 6+57.09  
 PVI ELEV = 1241.57  
 A.D. = -9.75  
 K = 19.00

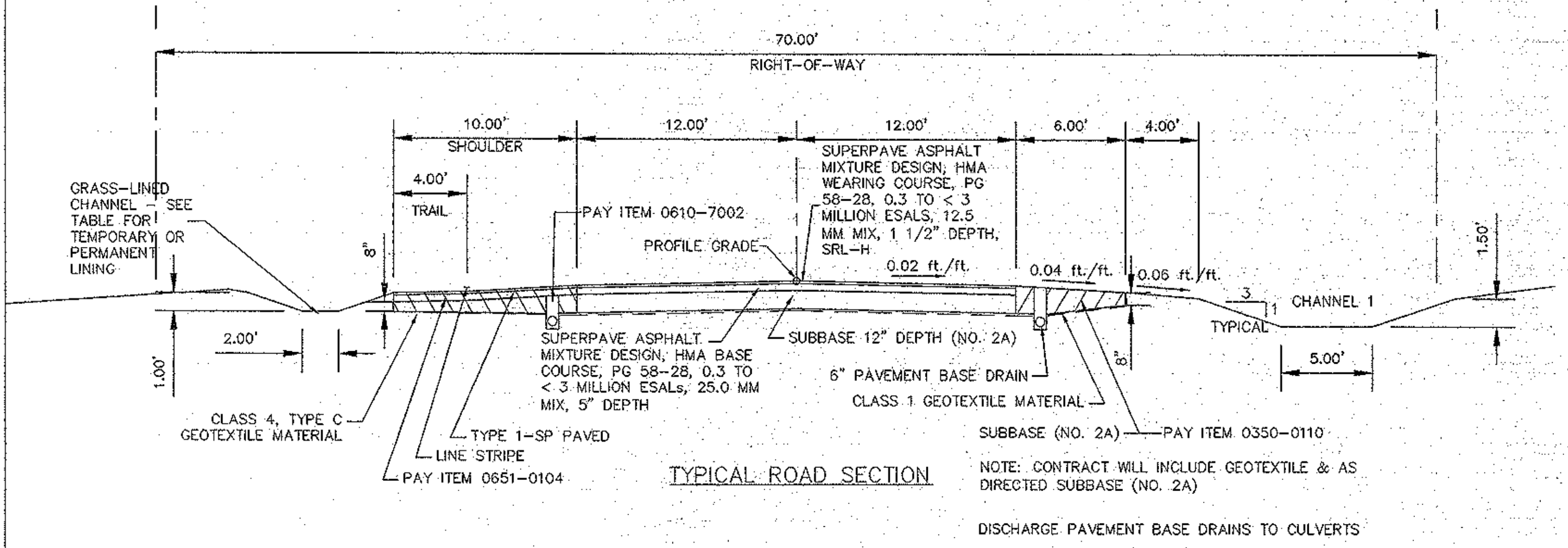
PVI STA = 3+25  
 PVI ELEV = 1201.72  
 A.D. = 8.00  
 K = 37.00



**ROAD A - PROFILE**



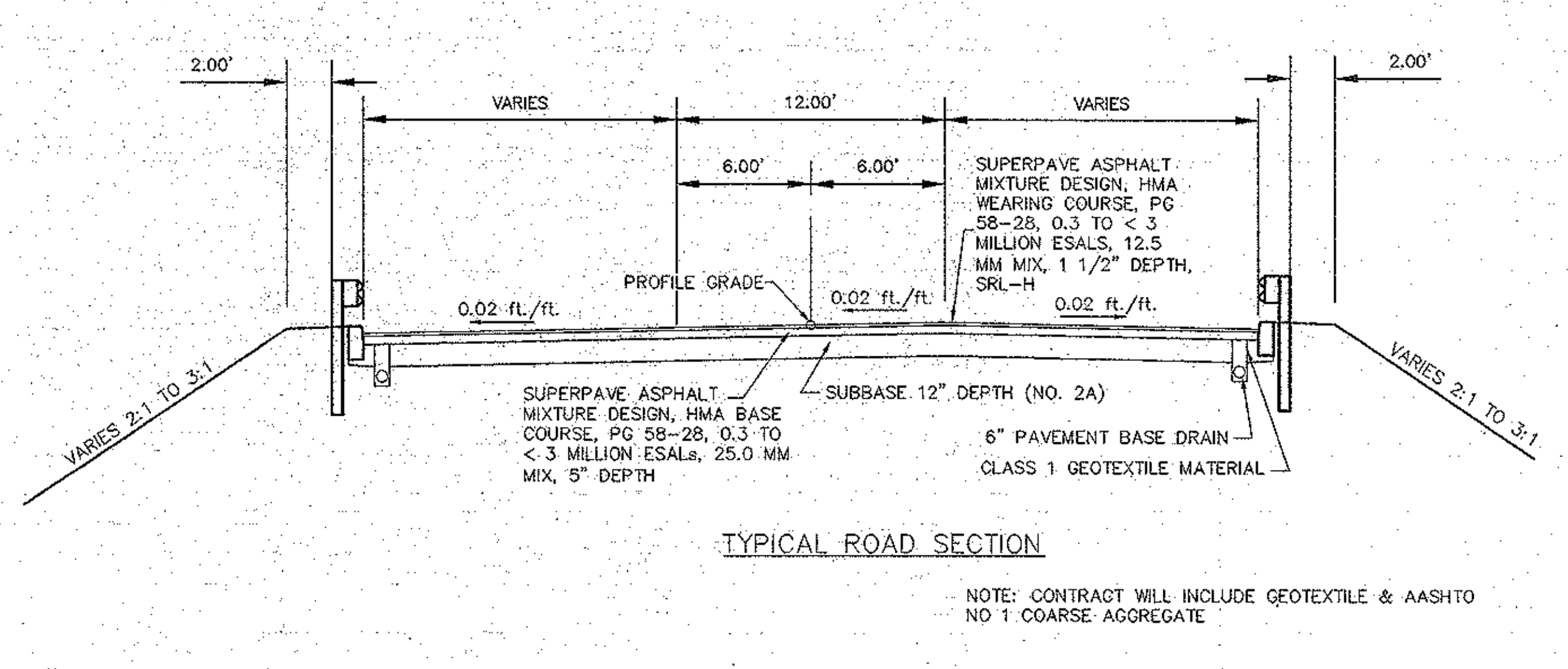
**SR 6 PAVING DETAIL**



**TYPICAL ROAD SECTION**

NOTE: CONTRACT WILL INCLUDE GEOTEXTILE & AS DIRECTED SUBBASE (NO. 2A)

DISCHARGE PAVEMENT BASE DRAINS TO CULVERTS



**TYPICAL ROAD SECTION**

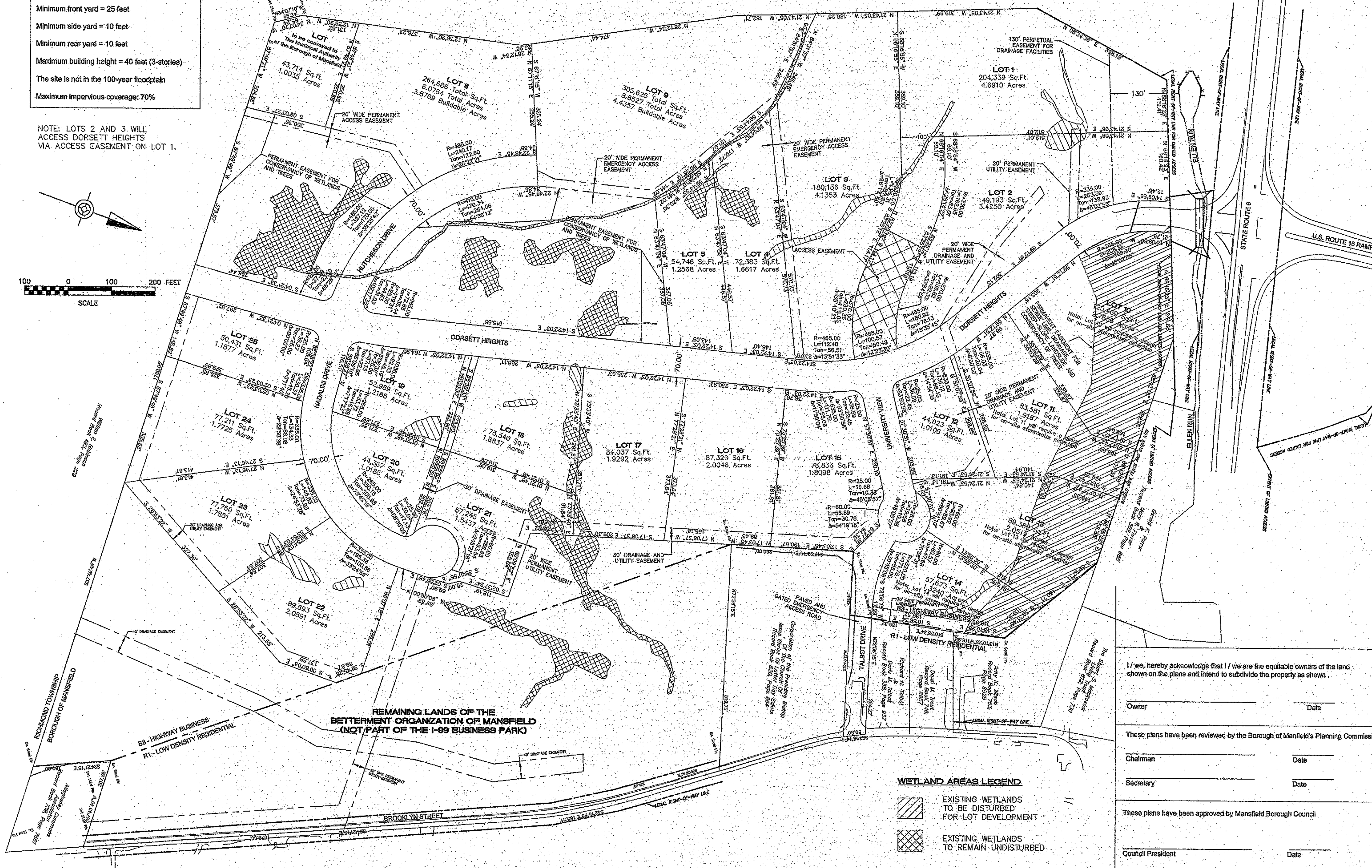
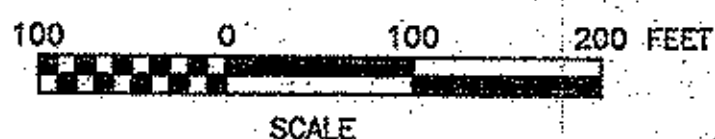
NOTE: CONTRACT WILL INCLUDE GEOTEXTILE & AASHTO NO 1 COARSE AGGREGATE

**ZONING INFORMATION:**

**ZONING DISTRICT - B3 (HIGHWAY BUSINESS)**

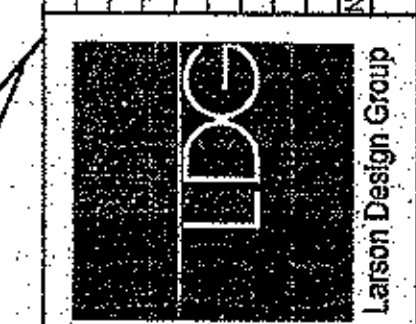
- Minimum lot size = 10,000 square feet
- Minimum lot width = 100 feet
- Minimum lot depth = N/A
- Minimum front yard = 25 feet
- Minimum side yard = 10 feet
- Minimum rear yard = 10 feet
- Maximum building height = 40 feet (3-stories)
- The site is not in the 100-year floodplain
- Maximum impervious coverage: 70%

NOTE: LOTS 2 AND 3 WILL ACCESS DORSETT HEIGHTS VIA ACCESS EASEMENT ON LOT 1.



4/8/09  
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NO.	DATE	REVISION	BY	CHKD.
1	8/19/08	REVISED SUBMISSION		
2	04/08/09	REVISED LOT 2 AND 10		



**REVISED SUBMISSION PLAN I-99 BUSINESS PARK FOR BETTERMENT ORGANIZATION OF MANSFIELD**  
 BOROUGHS OF MANSFIELD, TOBAGO COUNTY, PENNSYLVANIA  
 Larson Design Group - Architects Engineers Surveyors  
 1000 Commerce Park Drive - Suite 201  
 Williamsport, PA 17701  
 PHONE 570.323.6603 TOLL FREE 877.323.6603  
 FAX 570.323.9802 - www.larsondesigngroup.com

I / we, hereby acknowledge that I / we are the equitable owners of the land shown on the plans and intend to subdivide the property as shown.

Owner \_\_\_\_\_ Date \_\_\_\_\_

These plans have been reviewed by the Borough of Mansfield's Planning Commission

Chairman \_\_\_\_\_ Date \_\_\_\_\_

Secretary \_\_\_\_\_ Date \_\_\_\_\_

These plans have been approved by Mansfield Borough Council

Council President \_\_\_\_\_ Date \_\_\_\_\_

Secretary \_\_\_\_\_ Date \_\_\_\_\_