Minn. Proj. No.

MINNESOTA DEPARTMENT OF TRANSPORTATION

THE COUNTY OF OLMSTED

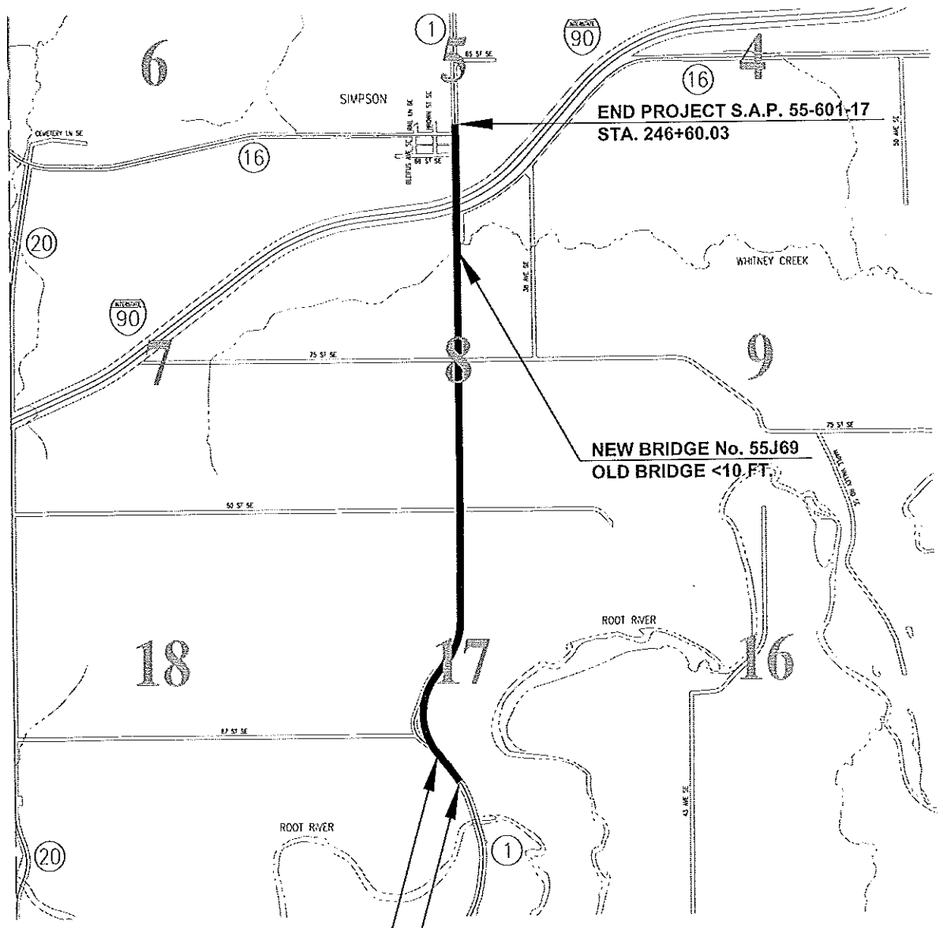
CONSTRUCTION PLAN FOR GRADING, AGGREGATE BASE, BITUMINOUS SURFACING & BRIDGE No. 55J68 & 55J69

LOCATED ON C.S.A.H. 1 BETWEEN NORTH BRANCH ROOT RIVER AND THE JUNCTION OF CSAH 16 (WEST) (GEOGRAPHIC DESCRIPTION)

FROM 224.49 FEET NORTH AND 66.80 FEET EAST OF THE S. 1/4 CORNER OF SEC. 17, T 105 N, R 13 W TO 802.97 FEET SOUTH AND 11.99 FEET EAST OF THE CENTER OF SEC. 5, T 105 N, R 13 W (LEGAL DESCRIPTION)

S.A.P. NO. 55-601-17

GROSS LENGTH	12510.03	FEET	2.369	MILES
BRIDGES LENGTH	38.16	FEET	0.007	MILES
EXCEPTIONS LENGTH	0.00	FEET	0.000	MILES
NET LENGTH	12510.03	FEET	2.369	MILES



PLAN SYMBOLS

ROAD AND ROADWAY FEATURES
PROJECTED ROAD
PRIMITIVE ROAD
UNSURFACED ROAD
GRADED AND DRAINED ROAD
SOIL SURFACE ROAD
GRAVEL OR STONE ROAD
BITUMINOUS ROAD
PAVED ROAD
DIVIDED ROAD
TRUNK HIGHWAY UNDER CONSTRUCTION
ROADS IN UNINCORPORATED COMMUNITIES, EXTENSIONS OF LOCAL ROADS (NOT F.A.S.) INTO MUNICIPALITIES AND FRONTAGE ROADS
POINTS BETWEEN WHICH DISTANCES ARE MEASURED INDICATED THUS 4 0.2 4

ROAD SYSTEM DESIGNATIONS
INTERSTATE TRUNK HIGHWAY (35)
U.S. NUMBERED TRUNK HIGHWAY (52)
STATE NUMBERED TRUNK HIGHWAY (33)
COUNTY STATE AID HIGHWAY (5)
COUNTY ROAD (12)
COUNTY STATE AID IN ADJOINING COUNTY (5)
FEDERAL AID INTERSTATE SYSTEM F.A.I.
NATIONAL FOREST HIGHWAY N.F.H.
NATIONAL FOREST DEVELOPMENT N.F.D.
STATE FOREST ROAD S.F.R.
STATE PARK ROAD S.P.R.

RAILROADS
RAILROAD (ANY NUMBER OF TRACKS) USED BY A SINGLE OPERATING COMPANY OR BY TRACKS OF ANOTHER CARRIER UNDER TRACKAGE RIGHTS
RAILROADS IN JUXTAPOSITION (TWO OR MORE TRACKS OF SEPARATELY OPERATED COMPANIES ON ADJACENT RIGHTS OF WAY)
RAILROAD STATION
GRADE CROSSING
UNDERPASS (HIGHWAY BELOW)
OVERPASS (HIGHWAY ABOVE)

AIRWAYS
RUNWAY
MILITARY FIELD
COMMERCIAL OR MUNICIPAL FIELD
LANDING AREA OR STRIP
AIRWAY LIGHT BEACON, GENERAL

STRUCTURES
(Lateral Symbols Over 20' Wide)
HIGHWAY BRIDGE
SMALL BRIDGES CLOSELY SPACED
CULVERT
TRUSS
Other Structures
PEDESTRIAN BRIDGE
DAM WITH ROAD
DAM WITHOUT ROAD
LEVEE OR DIKE WITH ROAD
LEVEE OR DIKE WITHOUT ROAD
MINOR STRUCTURES (5' TO 20' SPAN)
CONCRETE FORD OR DIP
FORD - ROAD ESTABLISHED

BOUNDARIES
NATIONAL OR STATE
COUNTY
CIVIL TOWNSHIP
CONGRESSIONAL TOWNSHIP (U.S. LAND)
CORPORATE LINE
SECTION LINE
CONGESTED AREA
NATIONAL OR STATE PARK
NATIONAL OR STATE FOREST
GAME REFUGE
AIRPORT
WILDLIFE MANAGEMENT AREA (STATE) OR WATERFOWL AREA (FEDERAL)

DRAINAGE
NARROW STREAM
WIDE STREAM
MARSH OR SWAMP LAND
DRAINAGE DITCH
LAKE OR POND

CONSERVATION
FOREST RANGER STATION
GUARD OR RANGER STATION (NOT PERMANENTLY OCCUPIED)
FISH HATCHERY
GAME PRESERVE
OBSERVATION OR LOOKOUT TOWER
SMALL PARK (SP = STATE, CP = COUNTY, MP = MUNICIPAL, WP = WAYSIDE) P
PUBLIC ACCESS POINT

RECREATION
GOLF COURSE OR COUNTRY CLUB
GUN CLUB
ATHLETIC FIELD
AMUSEMENT PARK
PICNIC GROUND
PLAYGROUND, BALLFIELD ETC.
BATHING BEACH OR SWIMMING POOL
SCENIC SITE
CAMP SITE
CAMP OR LODGE

FARM AND DWELLING UNITS
FARM UNIT
DWELLING OTHER THAN FARM
BARRACKS OR DORMITORIES FOR STUDENTS, WORKERS, MIGRANTS ETC.
SEASONAL DWELLING
ROWS OR GROUPS OF DWELLINGS CLOSELY SPACED (NUMBER ADJACENT TO SYMBOL INDICATES NUMBER OF EACH UNIT)

INDUSTRIAL
FACTORY OR INDUSTRIAL PLANT
SAWMILL
STORAGE TANKS, OIL OR GAS
GRAIN ELEVATOR
BEET DUMP
STOCKYARD, FEEDLOT
QUARRY
MILK DEPOT, CREAMERY OR CHEESE FACTORY
WAREHOUSE

COMMERCIAL
STORE OR SMALL BUSINESS ESTABLISHMENT
HOTEL
MOTEL
TOURIST COURT
DRIVE-IN THEATRE
NURSERY
GREENHOUSE

PUBLIC SERVICE FACILITIES
POST OFFICE
FIRE STATION
MUSEUM
PUBLIC LIBRARY
SCHOOL
RADIO STATION
SEWAGE DISPOSAL PLANT
HOSPITAL
TOWN HALL

CITY CENTERS
COUNTY SEAT
CITY CENTER
INCORPORATED CITY (GENERALIZED)
UNINCORPORATED COMMUNITY

MISCELLANEOUS MAP FEATURES
CHURCH, OTHER RELIGIOUS INSTITUTIONS
CEMETERY
RACEWAY, RACE COURSE, SPEEDWAY
GRAVEL PIT
SANITARY LANDFILL
AUTO JUNKYARD
HIGHWAY GARAGE
DEPARTMENT OF TRANSPORTATION DISTRICT OFFICE
VALVE HOUSE
NATURAL GAS, PETROLEUM PRODUCTS, CRUDE OIL OR WATER
GAS OR PUMPING STATION
NATURAL GAS, PETROLEUM PRODUCTS, CRUDE OIL OR WATER
PIPELINE, NATURAL GAS
PIPELINE, PETROLEUM PRODUCTS
PIPELINE, CRUDE OIL
PIPELINE, WATER
TRANSMISSION LINE (EHV OR OVER)
POWER PLANT
TRANSFORMER STATION
LATITUDE AND LONGITUDE INTERSECTION
HISTORIC SITE, STATE OR NATIONAL OPEN TO PUBLIC

SCALES
PLAN: 100 FEET
PROFILE: 100 FEET HORIZ. / 10 FEET VERT.
CROSS SECTIONS: 20 FEET HORIZ. and VERT.
INDEX MAP: 1/2 MILE

GOVERNING SPECIFICATIONS

THE 2005 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" SHALL GOVERN.

INDEX

SHEET No.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATED QUANTITIES AND STANDARD PLATES
3-4	TYPICAL SECTIONS
5-8	QUANTITY TABULATIONS
9	ENTRANCE AND TURN LANE DETAILS
10	SUBSURFACE DRAIN DETAILS
11-21	C.S.A.H. 1 PLAN AND PROFILE
22	87TH STREET PLAN AND PROFILE
23	80TH STREET PLAN AND PROFILE
24	75TH STREET PLAN AND PROFILE
25	C.S.A.H. 16 (EAST) PLAN AND PROFILE
26	SUPERELEVATION DIAGRAM
27-31	EROSION CONTROL PLANS
32-39	EROSION CONTROL DETAILS
40-89	C.S.A.H. 1 CROSS SECTIONS
90	87TH STREET CROSS SECTIONS
91-92	80TH STREET CROSS SECTIONS
93-94	75TH STREET CROSS SECTIONS
95	C.S.A.H. 16 (EAST) CROSS SECTIONS
96-103	BRIDGE 55J68 PLAN AND DETAILS
104-108	6x6 CONCRETE BOX PLAN AND DETAILS
109-114	BRIDGE 55J69 PLAN AND DETAILS
115-116	TRAFFIC CONTROL PLANS

THIS PLAN CONTAINS 116 SHEETS

DESIGN DESIGNATION: S.A.P. 55-601-17

ADT (Current Year)	= 2,376 (2007)
ADT (Future Year)	= 3,802 (2027)
HCADT (Heavy Commercial)	= 5.9%
Functional Classification	= Major Collector
10 Ton Design	
Soil Factor	= 130%
No. of Traffic Lanes	= 2 at 12 Ft.
Shoulder Width	= 6 Ft.

Design Speed 55 MPH Based on Stopping Sight Distance
Stopping Sight Distance based on 3.5 Ft. Height of Eye and 2.0 Ft. Height of Object
Design Speed not achieved at:

AS-BUILT
MAR 04 2010
ENGINEERING

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA".

DESIGN ENGINEER: I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

DATE 9/27/07 REG. NUMBER 19917
PRINTED NAME: KAYE M. BIENIEK
SIGNED NAME: Kaye M Bieniek
COUNTY DESIGN ENGINEER

DESIGNED BY: J. GOODMAN

DATE 9/27/07 REG. NUMBER 10897
Michael S Sheridan
APPROVED: OLMSTED COUNTY ENGINEER

Asst Andy Schmidt DATE: 10-3-07
DISTRICT STATE AID ENGINEER: REVIEWED FOR COMPLIANCE WITH STATE-AID RULES/POLICY

for Andy Schmidt DATE: 10-3-07
STATE AID ENGINEER: APPROVED FOR STATE-AID & FEDERAL-AID FUNDING

S.A.P. 55-601-17	Sheet No. 1 of 116 Sheets

FILE NAME: P27SCT01.DWG DATE: 08-13-07

STATEMENT OF ESTIMATED QUANTITIES

SPECIFICATION NO.	ITEM	ITEM NOTES	UNITS	S.A.P. 55-601-17		TOTAL ESTIMATED QUANTITIES
				PARTICIPATING	NON PARTICIPATING	
2101.501	CLEARING		ACRE	2.85		(P) 2.85
2101.502	CLEARING		TREE	114		114
2101.506	GRUBBING		ACRE	2.85		(P) 2.85
2101.507	GRUBBING		TREE	122		122
2104.501	REMOVE CONCRETE CULVERT		LIN. FT.	199		199
2104.501	REMOVE METAL CULVERT		LIN. FT.	850		850
2104.501	REMOVE STONE RETAINING WALL	(1)	LIN. FT.	22		22
2104.501	REMOVE FENCE	(2)	LIN. FT.	10824		10824
2104.501	REMOVE CONCRETE BOX CULVERT		LIN. FT.	150		150
2104.505	REMOVE BITUMINOUS PAVEMENT	(3)	SQ. YD.	36532		36532
2104.509	REMOVE MISCELLANEOUS STRUCTURE	(4)	EACH	1		1
2104.513	SAWING BITUMINOUS PAVEMENT (FULL DEPTH)		LIN. FT.	561		561
2104.523	SALVAGE SIGN	(5)	EACH	1		1
2105.515	UNCLASSIFIED EXCAVATION	(6)	CU. YD.	94602		(P) 94602
2105.522	SELECT GRANULAR BORROW (CV)	(7)	CU. YD.	31629		(P) 31629
2112.501	SUBGRADE PREPARATION	(8)	ROAD STA.	14		(P) 14
2123.503	MOTOR GRADER	(2) (9)	HOUR	12		12
2123.508	15 CU. YD. SCRAPER	(2) (9)	HOUR	12		12
2123.509	DOZER	(2) (9)	HOUR	12		12
2130.501	WATER	(2) (10)	M-GALLONS	90		90
2211.501	AGGREGATE BASE, CLASS 5 MOD.	(11)	TON	26560		26560
2221.501	AGGREGATE SHOULDERING, CLASS 2	(12)	TON	2001		2001
2360.501	TYPE SP 9.5 WEARING COURSE MIX (3C)	(13)	TON	4248		4248
2360.501	TYPE SP 12.5 WEARING COURSE MIX (3C)	(14)	TON	10757		10757
2412.511	6x6 PRECAST CONCRETE BOX CULVERT		LIN. FT.	120		120
2412.511	10x8 PRECAST CONCRETE BOX CULVERT		LIN. FT.	79		79
2412.511	14x4 PRECAST CONCRETE BOX CULVERT		LIN. FT.	250		250
2412.512	6x6 PC CONC. BOX CULVERT END SECTION		EACH	2		2
2412.512	10x8 PC CONC. BOX CULVERT END SECTION		EACH	2		2
2412.512	14x4 PC CONC. BOX CULVERT END SECTION		EACH	2		2
2442.501	REMOVE OLD BRIDGE	(15)	LUMP SUM	1		1
2451.507	GRANULAR BEDDING (CV)	(16)	CU. YD.	349		(P) 349
2501.511	18" CS PIPE CULVERT		LIN. FT.	257		257
2501.511	24" CS PIPE CULVERT		LIN. FT.	254		254
2501.511	30" CS PIPE CULVERT		LIN. FT.	98		98
2501.511	36" CS PIPE CULVERT		LIN. FT.	46		46
2501.511	24" RC PIPE CULVERT		LIN. FT.	220		220
2501.511	42" RC PIPE CULVERT	(17)	LIN. FT.	32		32
2501.515	18" CS PIPE APRON		EACH	12		12
2501.515	24" CS PIPE APRON		EACH	12		12
2501.515	30" CS PIPE APRON		EACH	4		4
2501.515	36" CS PIPE APRON		EACH	2		2
2501.515	24" RC PIPE APRON		EACH	6		6
2501.515	42" RC PIPE APRON		EACH	1		1
2501.521	42" SPAN CS PIPE-ARCH CULVERT		LIN. FT.	42		42
2501.521	44" SPAN RC PIPE-ARCH CULVERT		LIN. FT.	84		84
2501.525	42" SPAN CS PIPE-ARCH APRON		EACH	2		2
2501.525	44" SPAN RC PIPE-ARCH APRON		EACH	2		2
2502.501	4" PRECAST CONCRETE HEADWALL		EACH	44		44
2502.521	4" T.P. PIPE DRAIN		LIN. FT.	660		660
2502.541	4" PERF. P.E. PIPE DRAIN		LIN. FT.	20810		20810
2511.501	RANDOM RIPRAP, CLASS III	(2)	CU. YD.	172		172
2563.601	TRAFFIC CONTROL		LUMP SUM	1		1

STATEMENT OF ESTIMATED QUANTITIES

SPECIFICATION NO.	ITEM	ITEM NOTES	UNITS	S.A.P. 55-601-17		TOTAL ESTIMATED QUANTITIES
				PARTICIPATING	NON PARTICIPATING	
2573.502	SILT FENCE, TYPE MACHINE SLICED	(2) (18)	LIN. FT.	5275		5275
2573.512	TEMPORARY DITCH CHECK, TYPE 1	(2)	LIN. FT.	650		650
2573.512	TEMPORARY DITCH CHECK, TYPE 3	(2)	LIN. FT.	3040		3040
2573.513	TEMPORARY DITCH CHECK, TYPE 7	(2)	CU. YD.	315		315
2573.540	FILTER LOG, TYPE STRAW BIOROLL	(2)	LIN. FT.	4576		4576
2573.550	EROSION CONTROL SUPERVISOR		LUMP SUM	1		1
2575.501	SEEDING		ACRE	23.2		23.2
2575.502	SEED, MIXTURE 110		POUND	2179		2179
2575.502	SEED, MIXTURE 250		POUND	1525		1525
2575.505	SODDING TYPE EROSION	(2)	SQ. YD.	7420		7420
2575.511	MULCH MATERIAL, TYPE 1		TON	30.8		30.8
2575.519	DISK ANCHORING		ACRE	15.4		15.4
2575.523	EROSION CONTROL BLANKET, CATEGORY 3	(2)	SQ. YD.	22662		22662
2575.523	EROSION CONTROL BLANKET, CATEGORY 4	(2)	SQ. YD.	2926		2926
2575.523	EROSION CONTROL BLANKET, CATEGORY 5	(2)	SQ. YD.	5074		5074
2575.532	FERTILIZER, TYPE 1 ANALYSIS 12-12-12		POUND	4642		4642
2575.570	RAPID STABILIZATION METHOD 1		ACRE	6		6
2582.502	4" SOLID LINE WHITE - EPOXY		LIN. FT.	24951		24951
2582.502	4" SOLID LINE YELLOW - EPOXY		LIN. FT.	3495		3495
2582.502	4" BROKEN LINE YELLOW - EPOXY		LIN. FT.	1820		1820
2582.502	4" DOUBLE SOLID LINE YELLOW - EPOXY		LIN. FT.	2822		2822

(1) CONSISTS OF STONE RETAINING WALL AT STA. 160+08 - 38' TO 60' RT..

(2) SPECIFICATION 1903 SHALL NOT APPLY FOR THESE ITEMS.

(3) INCLUDES 4666 SQ. YDS. FOR REMOVAL FROM STA. 228+50.00 TO STA. 246+60.03.

(4) CONSISTS OF LIMESTONE PILLAR AND SIGN AT STA. 160+12 - 35' RT..

(5) CONSISTS OF SIGN AT STA. 148+63 - 53' TO 57' RT..

(6) INCLUDES 50 CU. YDS. OF UNCLASSIFIED EXCAVATION FROM STA. 242+10.03 TO STA. 246+60.03 AND 9669 CU. YDS. OF TOPSOIL EXCAVATION.

(7) INCLUDES 463 CU. YDS. FOR C.S.A.H. 16 (EAST).

(8) STA. 228+50.00 TO STA. 242+30.00.

(9) TO BE USED FOR FIELD TILE RESTORATION AND MISCELLANEOUS SHAPING IN THE FIELD, AS DIRECTED BY THE ENGINEER.

(10) INCLUDED FOR DUST CONTROL WITHIN THE PROJECT LIMITS ONLY, AS DIRECTED BY THE ENGINEER.

(11) INCLUDES 1798 TONS FOR SIDE ROADS, 636 TONS FOR DRIVEWAYS AND FIELD ENTRANCES AND 386 TONS FROM STA. 228+50.00 TO STA. 242+30.00.

(12) INCLUDES 62 TONS FOR C.S.A.H. 16 (EAST).

(13) INCLUDES 164 TONS FOR SIDE ROADS AND 59 TONS FOR DRIVEWAYS.

(14) INCLUDES 491 TONS FOR SIDE ROADS AND 79 TONS FOR DRIVEWAYS.

(15) CONSISTS OF BRIDGE No. 88705 AT STA. 127+46.72 - C/L.

(16) GRANULAR BEDDING TO BE USED AT BOX CULVERTS. ALL OTHER CENTERLINE PIPE CULVERTS SHALL BE PLACED ON CLASS "B" BEDDING WHICH SHALL BE INCIDENTAL TO THE PIPE CULVERT ITEM.

(17) INCLUDES 12.00 L.F. FOR TWO 42" x 30° R.C.P. BENDS.

(18) ITEM INCLUDES MAINTENANCE DURING THE LENGTH OF THE CONTRACT AND REMOVAL ONCE TURF HAS BEEN ESTABLISHED.

BASIS OF QUANTITY

AGGREGATE BASE, CLASS 5 MOD. - 140 LBS./CU. FT. COMPACTED
AGGREGATE SHOULDERING, CLASS 2 - 140 LBS./CU. FT. COMPACTED
BITUMINOUS MIXTURE - 110 LBS./SQ. YD./1 INCH DEPTH
SEED MIXTURE 110 - 100 LBS./ACRE
SEED MIXTURE 250 - 70 LBS./ACRE
MULCH MATERIAL TYPE 1 - 2 TONS/ACRE EXCEPT EROSION BLANKET AND SOD AREAS
DISK ANCHORING - ALL SEEDING AREAS EXCEPT 1:2 SLOPES AND SOD AREAS
COMMERCIAL FERTILIZER - 200 LBS./ACRE

STANDARD PLATES

THE FOLLOWING STANDARD PLATES, APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION SHALL APPLY ON THIS PROJECT.

PLATE NO.	DESCRIPTION
3000L	REINFORCED CONCRETE PIPE
3006G	GASKET JOINT FOR R.C. PIPE
3040F	CORRUGATED METAL PIPE CULVERT
3100G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE
3110G	CONCRETE APRON FOR REINFORCED CONCRETE PIPE-ARCH
3122K	METAL APRON FOR C.M. PIPE-ARCH CULVERT
3123J	METAL APRON FOR C.S. PIPE
3124B	METAL APRON CONNECTION
3131C	PRECAST CONCRETE HEADWALL FOR SUBSURFACE DRAINS
3133C	RIPRAP AT RCP OUTLETS
3134C	RIPRAP AT CMP OUTLETS
3145F	CONCRETE PIPE TIES
3221C	CORRUGATED STEEL PIPE COUPLING BAND
8000i	STANDARD BARRICADES
9000D	APPROACHES AND ENTRANCES
9102D	TURF ESTABLISHMENT AREAS (AT PIPE CULVERT ENDS)

UTILITY LOCATIONS

GOPHER STATE ONE CALL 1-800-252-1166

CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITY LOCATIONS AND ELEVATIONS PRIOR TO CONSTRUCTION. ALL INPLACE UTILITIES MAY NOT BE SHOWN ON THIS PLAN.

CERTIFIED BY Kaye M Prierwick REG. NO. 19917 9/27 2007
LICENSED PROFESSIONAL ENGINEER

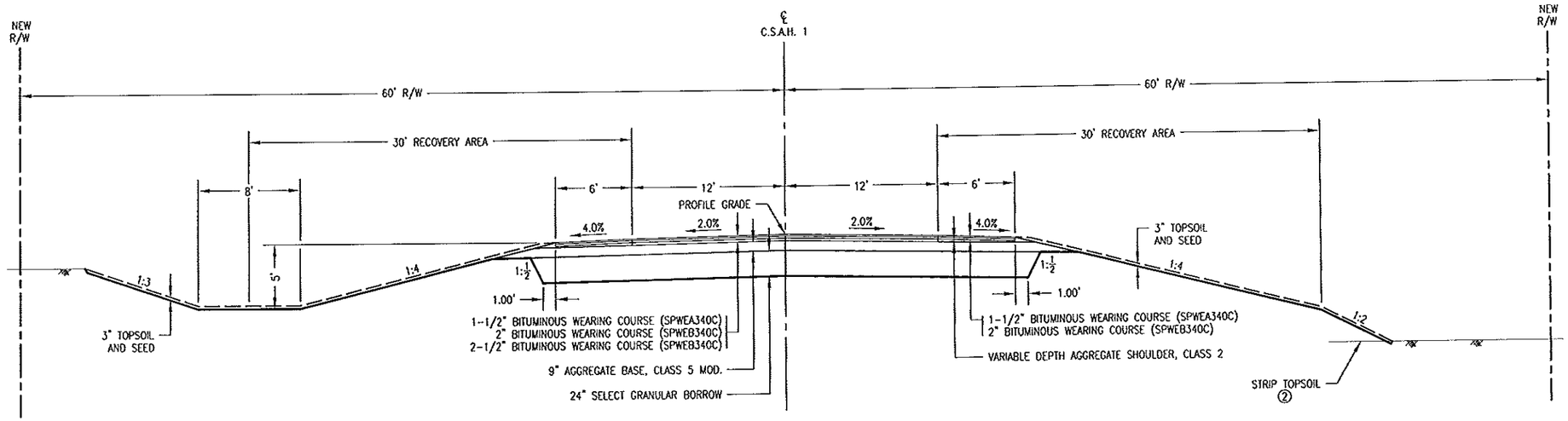
S.A.P. 55-601-17

TITLE: ESTIMATED QUANTITIES

Sheet No. 2 of 116 Sheets

FILE NAME: P272E001.DWG DATE: 06-14-07

ALL UTILITY POLES AND OTHER UNYIELDING OBJECTS SHALL BE REMOVED AND RELOCATED OUTSIDE OF THE RECOVERY AREA.

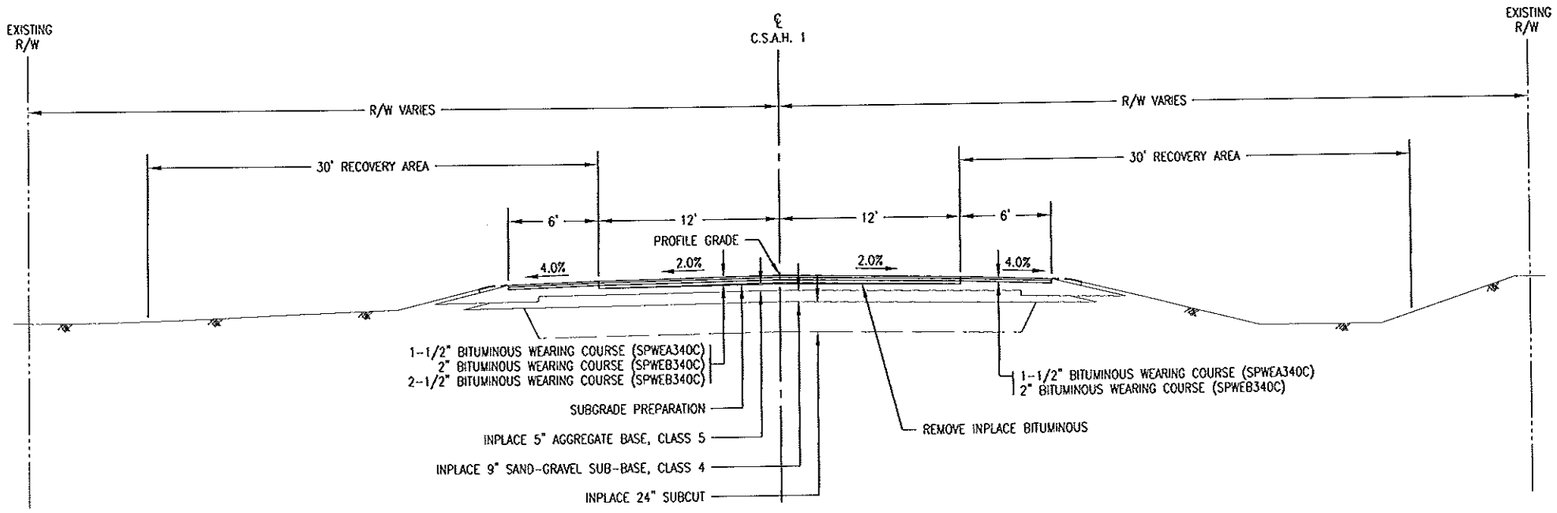


TYPICAL SECTION
STA. 124+44.20 TO STA. 228+50.00

NOTES:

① SEE SUPERELEVATION DIAGRAM AND CROSS SECTIONS FOR ADDITIONAL CROSS SLOPE INFORMATION.

② SALVAGE THE EXISTING TOPSOIL AND USE AS SLOPE DRESSING TO THE EXTENT AVAILABLE. TOPSOIL EXCAVATION SHALL BE INCLUDED IN UNCLASSIFIED EXCAVATION FOR PAYMENT AND NO ADDITIONAL COMPENSATION WILL BE MADE FOR STOCKPILING AND RESPREADING OF THE TOPSOIL.



TYPICAL SECTION
STA. 228+50.00 TO STA. 242+30.00

CERTIFIED BY Kayne M Rosenau REG. NO. 19917 9/27 2007
LICENSED PROFESSIONAL ENGINEER

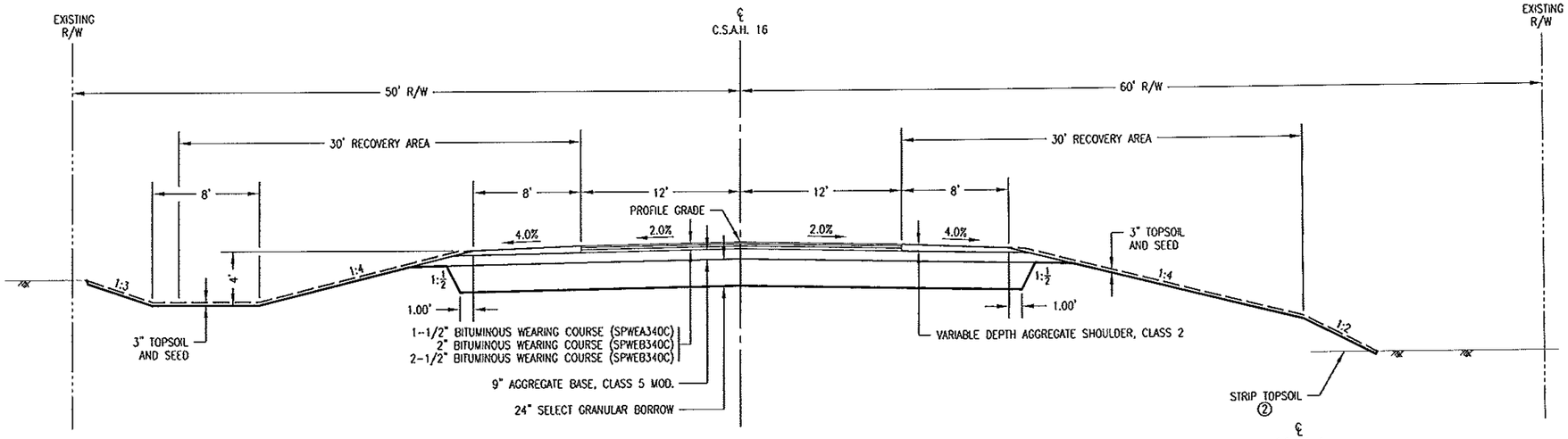
S.A.P. 55-601-17

TITLE: TYPICAL SECTIONS

Sheet No. 3 of 116 Sheets

FILE NAME: P273Y01.DWG DATE: 08-13-07

ALL UTILITY POLES AND OTHER UNYIELDING OBJECTS SHALL BE REMOVED AND RELOCATED OUTSIDE OF THE RECOVERY AREA.

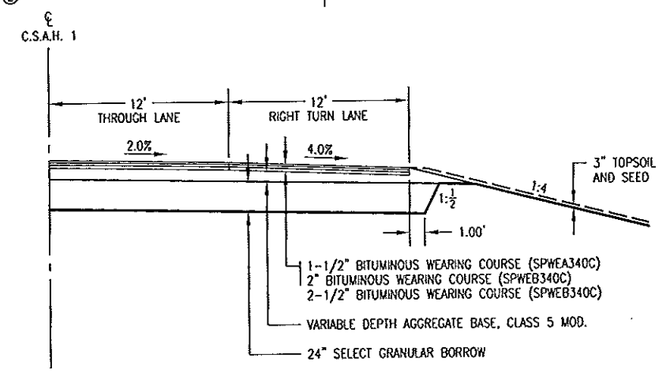


TYPICAL SECTION
C.S.A.H. 16 (EAST)

NOTES:

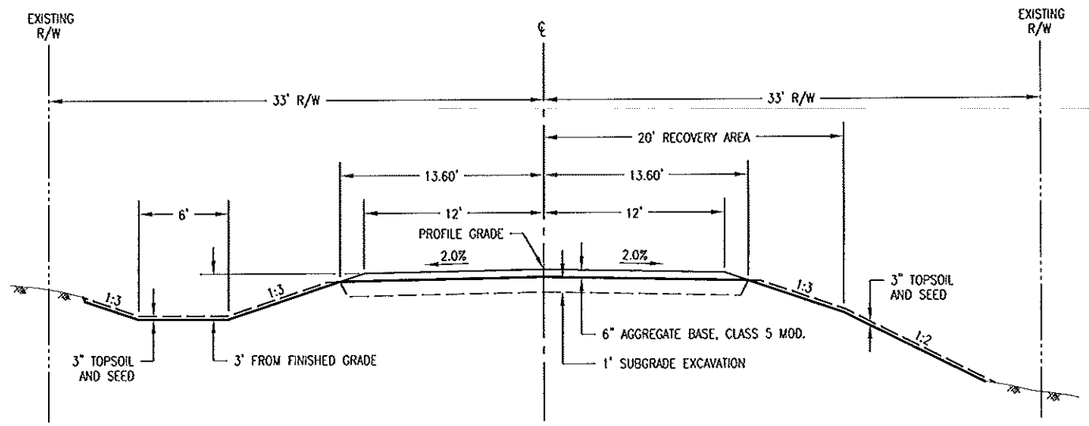
① SEE SUPERELEVATION DIAGRAM AND CROSS SECTIONS FOR ADDITIONAL CROSS SLOPE INFORMATION.

② SALVAGE THE EXISTING TOPSOIL AND USE AS SLOPE DRESSING TO THE EXTENT AVAILABLE. TOPSOIL EXCAVATION SHALL BE INCLUDED IN UNCLASSIFIED EXCAVATION FOR PAYMENT AND NO ADDITIONAL COMPENSATION WILL BE MADE FOR STOCKPILING AND RESPREADING OF THE TOPSOIL.

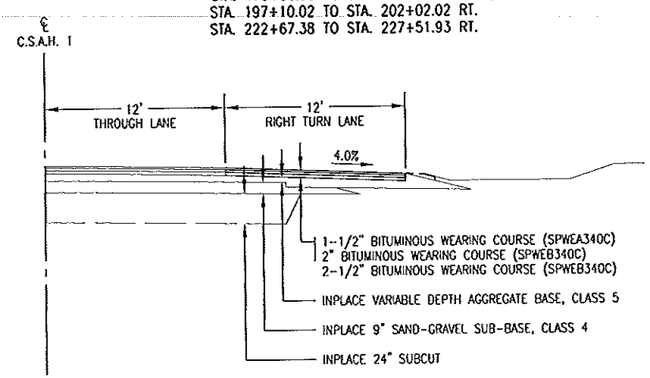


RIGHT TURN LANE SECTION
STA. 134+85.50 TO STA. ~~139+77.50~~ LT. 139+75 Lt
STA. ~~171+10.25~~ TO STA. 176+02.15 RT. 171+30
STA. 175+86.90 TO STA. ~~180+78.95~~ LT. 180+50 Lt
STA. 197+10.02 TO STA. 202+02.02 RT.
STA. 222+67.38 TO STA. 227+51.93 RT.

AS-BUILT
MAR 0 4 2010
ENGINEERING



TYPICAL SECTION
87TH STREET S.E., 80TH STREET S.E. AND 75TH STREET S.E.



RIGHT TURN LANE SECTION
STA. 241+67.03 TO STA. 246+60.03 LT.

TITLE: TYPICAL SECTIONS

CERTIFIED BY Kayc M Bienick REG. NO. 19917 5/21 2007
LICENSED PROFESSIONAL ENGINEER

S.A.P. 55-601-17

Sheet No. 4 of 116 Sheets

FILE NAME: P2317702.DWG DATE: 04-23-07

SURFACE DRAINAGE REMOVAL

STATION	LOCATION	INPLACE STRUCTURE	METAL CULVERT (1)	CONCRETE CULVERT (1)	CONCRETE BOX CULVERT (1)(2)
			LIN. FT.	LIN. FT.	LIN. FT.
C.S.A.H. 1					
123+70.00	LT.	18" CMP	33		
128+17.56	C/L	71" SPAN CMP-A	56		
132+15.00	LT.	10x4 CONCRETE BOX			20
139+55.00	LT.	24" CMP	32		
141+50.00	LT.	24" CMP	32		
147+95.00	LT.	18" CMP	32		
148+82.67	LT.	18" CMP	42		
157+14.50	C/L	4x4 CONCRETE BOX			81
159+90.00	RT.	24" CMP	33		
160+20.00	LT.	24" CMP	32		
171+27.00	RT.	18" CMP	32		
173+80.00	C/L	24" RCP		57	
185+30.00	C/L	24" RCP		78	
196+18.15	RT.	24" CMP	42		
203+30.00	C/L	36" RCP		64	
205+45.00	RT.	18" CMP	32		
209+46.00	LT.	24" CMP	32		
209+46.00	RT.	24" CMP	32		
217+88.00	RT.	24" CMP	31		
221+35.00	C/L	8x8 CONCRETE BOX			49
222+18.89	LT.	35" SPAN CMP-A	40		
87TH STREET S.E.					
7+68.00	C/L	30" CMP	41		
80TH STREET S.E.					
19+73.48	C/L	18" CMP	64		
30+30.68	C/L	18" CMP	58		
75TH STREET S.E.					
39+44.00	C/L	30" CMP	49		
40+52.00	C/L	30" CMP	49		
C.S.A.H. 16 (EAST)					
50+93.07	C/L	24" CMP	56		
TOTALS			850	199	150

(1) REMOVAL LENGTH INCLUDES APRONS WHEN PRESENT.

(2) REMOVAL OF HEADWALLS AND WINGWALLS SHALL BE CONSIDERED INCIDENTAL TO THE REMOVAL OF THE BOX CULVERT.

TREE REMOVAL

STATION	LOCATION	CLEARING		GRUBBING	
		ACRE (3)	TREE (4)	ACRE (3)	TREE (4)
C.S.A.H. 1					
124+02-127+47	RT.	0.25		0.25	
124+75-127+87	LT.	0.20		0.20	
127+80-131+94	LT.	0.35		0.35	
128+58-134+16	RT.	0.60		0.60	
132+89-140+00	RT.	1.30		1.30	
140+23	RT.				1
142+02	RT.				1
142+46	RT.				1
145+26	RT.				1
145+55	RT.				1
146+28-148+53	RT.		21		21
151+49	LT.		1		1
151+67	LT.		1		1
156+59-157+10	RT.		6		6
157+62	RT.		1		1
158+67-159+73	RT.		14		14
160+24-162+48	RT.		49		49
162+89	RT.		1		1
163+01	RT.		1		1
165+97	RT.		1		1
176+82-177+20	RT.				3
177+87-178+52	LT.	0.05		0.05	
196+47-198+63	RT.		14		14
199+27-199+79	RT.	0.05		0.05	
208+65	LT.		1		1
209+00	LT.		1		1
218+90	LT.		1		1
87TH STREET S.E.					
7+50-8+00	RT.	0.05		0.05	
75TH STREET S.E.					
39+25	LT.		1		1
TOTALS		2.85	114	2.85	122

(3) CLEARING AND GRUBBING BY THE ACRE HAS BEEN COMPUTED TO A POINT 10 FEET OUTSIDE THE CONSTRUCTION LIMITS.

(4) MULTIPLE TRUNKS GROWING FROM ONE ROOT SHALL BE CONSIDERED ONE TREE FOR PAYMENT.

FENCE REMOVAL

STATION	LOCATION		REMARKS
		LIN. FT.	
C.S.A.H. 1			
126+60-129+15	LT.	265	
128+28-148+05	RT.	2017	
148+25-148+76	LT.	54	
148+98-159+99	LT.	1069	
153+71-158+34	RT.	475	
160+23-162+53	LT.	239	
162+61-171+15	RT.	854	
171+41-175+63	RT.	422	
176+36-195+82	RT.	1972	
198+62-201+63	RT.	324	
202+31-208+12	LT.	647	
209+81-218+51	LT.	880	
215+19-217+72	RT.	277	
218+39-219+85	RT.	175	
218+51-222+16	LT.	373	
219+85-227+23	RT.	781	
TOTALS		10824	

CERTIFIED BY Kaye M Kriemelt REG. NO. 19917 9/27 2007
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S.A.P. 55-601-17

TITLE: QUANTITY TABULATIONS

Sheet No. 5 of 116 Sheets

FILE NAME: P2703T01.DWG DATE: 06-14-07

SURFACE DRAINAGE

STATION	LOCATION (1)		ELEVATION (1)(2)		SLOPE	REINFORCED CONCRETE						CORRUGATED STEEL					APRON
						R.C.P.		RCP-ARCH	PRECAST BOX CULVERT			C.S.P.				CSP-ARCH	
						24"	42"	44" SPAN	6x6	10x8	14x4	18"	24"	30"	36"	42" SPAN	
	INLET	OUTLET	INLET	OUTLET	%	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.	(2 EACH)
C.S.A.H. 1																	
123+70.00--DRIVEWAY	42.00' LT.		1165.06		2.13							44 ~~39~~					18" G.S.
130+11.34--132+39.36	97.06' LT.	48.35' RT.	1187.73	1186.16	0.57						250						14x4 P.C. END SECTION
130+66.74-131+00.13	45.83' RT.	27.12' RT.	1190.35	1186.75	8.72		32 (3)										42" R.C.P. (4)
141+50.00--DRIVEWAY	57.50' LT.		1250.22		5.84								64				24" G.S.
147+95.00--FIELD ENT.	43.30' LT.		1280.83		3.05							42					18" G.S.
148+82.67--DRIVEWAY	38.04' LT.		1283.17		2.29							42					18" G.S.
156+93.61--157+31.00	61.60' LT.	77.96' RT.	1258.83	1249.76	6.28				120								6x6 P.C. END SECTION
159+90.00--DRIVEWAY	39.40' RT.		1274.36		3.06								36				24" G.S.
162+10.00--FIELD ENT.	42.00' LT.		1278.89		2.40								~~39~~ 40				24" G.S.
169+50.00--FIELD ENT.	42.00' RT.		1293.36		0.76							38					18" G.S.
173+80.00--173+80.00	37.78' LT.	52.43' RT.	1294.01	1291.35	2.95	78											24" R.C.P.
185+30.00--185+30.00	45.44' RT.	50.77' LT.	1284.29	1281.45	2.95	84											24" R.C.P.
196+18.15--DRIVEWAY	42.00' RT.		1276.52		0.69								42				24" G.S.
203+30.00--203+30.00	47.08' RT.	52.88' LT.	1259.84	1256.86	2.98			~~84~~ 92									44" SPAN RCP-A
209+46.00--DRIVEWAY	43.00' LT.		1256.11		3.17							48					18" G.S.
209+46.00--FIELD ENT.	42.00' RT.		1256.72		0.80								34				24" G.S.
217+88.00--FIELD ENT.	42.00' RT.		1240.12		3.52								39				24" G.S.
221+25.20--221+44.80	55.59' LT.	55.59' RT.	1222.99	1222.71	0.25					79							10x8 P.C. END SECTION
222+18.89--FIELD ENT.	54.72' LT.		1227.93		3.08										46		36" G.S.
87TH STREET S.E.																	
7+68.00--7+68.00	17.33' LT.	24.59' RT.	1211.62	1209.07	6.08											42	42" SPAN GS-ARCH
80TH STREET S.E.																	
19+54.50--19+54.50	23.86' LT.	24.14' RT.	1295.55	1295.20	0.72							48					18" G.S.
75TH STREET S.E.																	
39+44.00--39+44.00	19.99' RT.	32.90' LT.	1263.99	1260.58	6.45									53			30" G.S.
40+52.00--40+52.00	21.09' RT.	23.91' LT.	1263.47	1262.72	1.67									45			30" G.S.
C.S.A.H. 16 (EAST)																	
50+66.55--50+66.55	32.19' LT.	38.04' RT.	1233.78	1232.08	2.42	58											24" R.C.P.
169+10 RT FIELD ENT	42.00 RT											40					18" GS
TOTALS						220	32	~~84~~ 92	120	79	250	~~257~~ 302	~~254~~ 255	98	46	42	(5)

(1) R.C.P. AND RCP-ARCH CULVERT LOCATIONS AND ELEVATIONS ARE GIVEN TO THE END OF THE APRON.
C.S.P. AND CSP-ARCH CULVERT LOCATIONS AND ELEVATIONS ARE GIVEN TO THE END OF THE BARREL.

(2) ELEVATIONS SHOWN FOR ENTRANCE CULVERTS ARE FLOWLINE ELEVATIONS AT THE C/L OF THE ENTRANCE.

(3) INCLUDES 12.00 L.F. FOR TWO 42" x 30" R.C.P. BENDS.

(4) ONLY ONE APRON REQUIRED IN THIS LOCATION.

(5) CONSISTS OF: 6 - 24" R.C.P. APRONS
1 - 42" R.C.P. APRON
2 - 44" SPAN RCP-A APRONS
2 - 6x6 P.C. END SECTIONS (15' SKEW INLET AND OUTLET)
2 - 10x8 P.C. END SECTIONS (15' SKEW INLET AND OUTLET)
2 - 14x4 P.C. END SECTIONS (15' SKEW INLET, 45' SKEW OUTLET)
12 - 18" G.S. APRONS
12 - 24" G.S. APRONS
4 - 30" G.S. APRONS
2 - 36" G.S. APRONS
2 - 42" SPAN GS-ARCH APRONS

AS-BUILT
MAR 0 4 2010
ENGINEERING

FILE NAME: P2730T02.DWG DATE: 06-14-07

TITLE: QUANTITY TABULATIONS

CERTIFIED BY Kaye M Bruinsma REG. NO. 19917 9/27 2007
LICENSED PROFESSIONAL ENGINEER

S.A.P. 55-601-17

Sheet No. 6 of 116 Sheets

BITUMINOUS AND AGGREGATE

STATION	LOCATION	BITUMINOUS		AGGREGATE	
		SPWEA340C	SPWEB340C	CL. 5 MOD.	CL. 2
		TON	TON	TON	TON
C.S.A.H. 1					
123+70.00--DRIVEWAY	LT.	6	8	38	
124+44.20--126+37.35	LT. & RT.	64	156	448	49
126+37.35--128+77.35	LT. & RT.	79	194	544	49
128+77.35--131+65.35	LT. & RT.	95	232	653	58
131+65.35--134+85.50	LT. & RT.	103	255	723	77
132+00.00--DRIVEWAY	LT.	6	9	73	
134+85.50--139+77.50	LT. & RT.	185	512	1282	66
139+77.50--144+34.67	LT. & RT.	151	369	1062	118
141+50.00--DRIVEWAY	LT.	6	9	54	
144+34.67--147+22.67	LT. & RT.	95	232	650	56
147+22.67--150+10.67	LT. & RT.	95	232	650	56
147+95.00--FIELD ENT.	LT.			26	
148+82.67--DRIVEWAY	LT.	7	9	54	
148+94.67--DRIVEWAY	RT.	7	9	54	
150+10.67--155+17.60	LT. & RT.	167	409	1178	131
155+17.60--159+01.60	LT. & RT.	127	310	874	82
159+01.60--171+10.25	LT. & RT.	399	975	2696	203
159+90.00--DRIVEWAY	RT.	7	9	41	
162+10.00--FIELD ENT.	LT.			26	
169+50.00--FIELD ENT.	RT.			26	
171+10.25--175+86.90	LT. & RT.	178	495	1119	37
175+86.90--180+78.95	LT. & RT.	182	505	1138	37
177+50.00--DRIVEWAY	LT.	6	8	50	
180+78.95--197+10.02	LT. & RT.	538	1316	3639	274
188+75.00--FIELD ENT.	LT.			26	
196+18.15--DRIVEWAY	RT.	7	9	54	
197+10.02--202+02.02	LT. & RT.	182	506	1145	38
202+02.02--222+67.38	LT. & RT.	677	1660	4567	340
209+46.00--DRIVEWAY	LT.	7	9	57	
209+46.00--FIELD ENT.	RT.			26	
217+88.00--FIELD ENT.	RT.			26	
222+18.89--FIELD ENT.	LT.			31	
222+67.38--227+51.93	LT. & RT.	184	507	1159	41
227+51.93--228+50.00	LT. & RT.	29	74	187	11
228+50.00--242+30.00	LT. & RT.	445	1099	386	216
242+10.03--246+60.03	LT.	50	149		
87TH STREET S.E.					
7+50.00--9+88.00	LT. & RT.	17	53	341	
80TH STREET S.E.					
18+50.00--19+88.00	LT. & RT.	18	54	255	
30+12.00--31+25.00	LT. & RT.	18	54	230	
75TH STREET S.E.					
38+37.50--39+88.00	LT. & RT.	15	46	249	
40+12.00--42+25.00	LT. & RT.	18	54	322	
C.S.A.H. 16 (EAST)					
50+12.66--51+62.50	LT. & RT.	44	128	401	62
68TH STREET S.E.					
69+50.00--69+88.00	LT. & RT.	15	46		
C.S.A.H. 16 (WEST)					
79+46.00--79+88.00	LT. & RT.	19	56		
TOTALS		4248	10757	26560	2001

PAVEMENT MARKINGS

STATION	LOCATION	4" SOLID LINE WHITE EPOXY	4" SOLID LINE YELLOW EPOXY	4" DOUBLE SOLID LINE YELLOW EPOXY	4" BROKEN LINE YELLOW EPOXY
		LIN. FT.	LIN. FT.	LIN. FT.	LIN. FT.
C.S.A.H. 1					
124+44.20--134+45.27	LT.	1003			
124+44.20--151+40.00	LT. & RT.			2696	
124+44.20--175+60.38	RT.	5110			
135+25.62--137+47.50	LT.	224			
135+25.62--175+44.66	LT.	4027			
151+40.00--161+50.00	LT.		1010		
151+40.00--161+65.00	RT.				200
161+65.00--164+50.00	LT.				60
161+65.00--164+50.00	RT.		285		
164+50.00--206+17.50	RT.				830
171+50.00--174+45.00	LT.		295		
173+40.25--175+60.38	RT.	220			
176+29.11--178+48.95	LT.	220			
176+29.11--201+60.14	LT.	2531			
176+43.93--201+59.89	RT.	2516			
199+40.02--201+59.89	RT.	220			
202+43.79--227+26.01	RT.	2483			
202+44.26--237+58.80	LT.	3515			
206+17.50--211+82.50	LT.				120
206+17.50--211+82.50	RT.		565		
211+82.50--233+65.00	RT.				430
216+10.00--221+20.00	LT.		510		
224+97.38--227+26.01	RT.	229			
233+65.00--241+95.00	LT.				170
233+65.00--241+95.00	RT.		830		
228+17.95--242+30.00	RT.	1412			
238+42.80--241+23.80	LT.	281			
241+95.00--242+30.00	RT.				10
242+10.03--244+30.03	LT.	220			
242+10.03--246+60.03	LT.	450			
C.S.A.H. 16 (EAST)					
50+32.63--51+62.50	LT.	163			
50+42.41--51+62.50	LT. & RT.			120	
50+42.41--51+62.50	RT.	121			
C.S.A.H. 16 (WEST)					
79+46.00--79+51.91	LT. & RT.			6	
79+46.00--79+51.91	RT.	6			
TOTALS		24951	3495	2822	1820

DATE: 04-30-07

FILE NAME: P273103.DWG

CERTIFIED BY Kaye M Bienich REG. NO. 19917 5/21 2007
LICENSED PROFESSIONAL ENGINEER

S.A.P. 55-601-17

TITLE: QUANTITY TABULATIONS

TURF ESTABLISHMENT AND EROSION CONTROL

STATION	LOCATION	RANDOM RIPRAP CLASS III	SILT FENCE TYPE MACHINE SLICED	TEMPORARY DITCH CHECK TYPE 1 ①	TEMPORARY DITCH CHECK TYPE 3 ①	TEMPORARY DITCH CHECK TYPE 7 ①	FILTER LOG TYPE STRAW BIOROLL ②	SEEDING	SEED MIXTURE 110	SEED MIXTURE 250	SODDING TYPE EROSION	MULCH MATERIAL TYPE 1	DISK ANCHORING	EROSION CONTROL BLANKET CATEGORY 3	EROSION CONTROL BLANKET CATEGORY 4	EROSION CONTROL BLANKET CATEGORY 5	COMMERCIAL FERTILIZER 12-12-12	REMARKS
		CU. YD.	LIN. FT.	LIN. FT.	LIN. FT.	CU. YD.	LIN. FT.	ACRE	POUND	POUND	SQ. YD.	TON	ACRE	SQ. YD.	SQ. YD.	SQ. YD.	POUND	
C.S.A.H. 1																		
121+50.00-148+82.67	RT.		75		32	234	864	3.6	363	254		2.8	1.4	8064	617	2480	726	
123+00.00-123+58.00	LT.		70					0.05	3	2		0.05	0.05	87			6	
123+70.00-DRIVEWAY	LT.										22							18" C.S.P. - SOD INLET & OUTLET
123+82.00-131+88.00	LT.					54	192	1.0	95	66	330	0.7	0.4	1743	351	627	202	
130+11.34-132+39.36	LT. & RT.	41																14x4 P.C. BOX - RIPRAP INLET & OUTLET
131+00.13	RT.										34							42" R.C.P. - SOD INLET
132+12.00-134+73.50	LT.		460					0.9	74	52	594	1.5	0.7				172	
134+97.50-141+38.00	LT.		500		112	27	208	1.7	155	108	815	2.6	1.3	295		882	342	
141+50.00-DRIVEWAY	LT.																	24" C.S.P. - SOD INLET & OUTLET
141+62.00-147+85.00	LT.				16		16	0.7	58	41	428	1.2	0.6				134	
147+95.00-FIELD ENT.	LT.										22							18" C.S.P. - SOD INLET & OUTLET
148+05.00-148+70.67	LT.							0.05	3	2	201	0.05	0.05				14	
148+82.67-DRIVEWAY	LT.																	18" C.S.P. - SOD INLET & OUTLET
148+94.67-162+00.00	LT.		300		304		304	1.2	120	84	165	1.6	0.8	1448		434	246	
149+06.67-159+78.00	RT.		800		160		160	1.1	108	76	174	1.6	0.8	790		431	224	
156+93.61-157+31.00	LT. & RT.	40																6x6 P.C. BOX - RIPRAP INLET & OUTLET
159+90.00-DRIVEWAY	RT.																	24" C.S.P. - SOD INLET & OUTLET
160+02.00-169+40.00	RT.				320		320	0.9	89	62	178	1.3	0.6	1193			186	
162+10.00-FIELD ENT.	LT.										28							24" C.S.P. - SOD INLET & OUTLET
162+20.00-175+74.90	LT.			150	240		336	1.3	132	92		2.0	1.0	1414			264	
169+50.00-FIELD ENT.	RT.										22							18" C.S.P. - SOD INLET & OUTLET
169+60.00-175+90.15	RT.		450	25			16	0.5	49	34		1.0	0.5				98	
173+80.00	LT. & RT.										28							24" R.C.P. - SOD INLET & OUTLET
175+98.90-177+38.00	LT.							0.2			693						30	
176+14.15-196+06.15	RT.			75	368		416	1.9	185	130	132	3.1	1.6	1434			374	
177+62.00-188+65.00	LT.		300		128		128	1.0	81	57	909	1.2	0.6	866			200	
185+30.00	LT. & RT.										28							24" R.C.P. - SOD INLET & OUTLET
188+85.00-201+90.02	LT.		510		336		336	1.3	131	92		1.8	0.9	1689	267	89	262	
196+18.15-DRIVEWAY	RT.																	24" C.S.P. - SOD INLET & OUTLET
196+30.15-201+90.02	RT.				176		176	0.6	37	26	1337	0.5	0.2	216	356		128	
202+14.02-209+34.00	LT.		355		48		48	0.7	59	41	641	1.2	0.6				146	
202+14.02-209+36.00	RT.				144		144	0.7	73	51		1.3	0.6	493			146	
203+30.00	LT. & RT.	14									29							44" SPAN RCP-ARCH - SOD INLET, RIPRAP OUTLET
209+46.00-DRIVEWAY	LT.																	18" C.S.P. - SOD INLET & OUTLET
209+46.00-FIELD ENT.	RT.										28							24" C.S.P. - SOD INLET & OUTLET
209+56.00-217+78.00	RT.				272		272	0.8	82	57		1.0	0.5	900	474		164	
209+58.00-222+08.89	LT.		780		240		240	1.2	111	78	372	1.6	0.8	601	533	131	236	
217+88.00-FIELD ENT.	RT.										28							24" C.S.P. - SOD INLET & OUTLET
217+98.00-227+31.93	RT.		675	100	96		160	0.9	85	60		1.6	0.8		328		170	
221+25.20-221+44.80	LT. & RT.	48																10x8 P.C. BOX - RIPRAP INLET & OUTLET
222+18.89-FIELD ENT.	LT.										58							36" C.S.P. - SOD INLET & OUTLET
222+28.89-228+50.00	LT.			225	48		192	0.7	71	50		0.9	0.5	1298			142	
227+71.93-228+74.53	RT.			75			48	0.2	15	10		0.2	0.1	131			30	
87TH STREET S.E.																		42" SPAN CSP-ARCH - SOD INLET, RIPRAP OUTLET
7+68.00	LT. & RT.	16									28							
80TH STREET S.E.																		18" C.S.P. - SOD INLET & OUTLET
19+54.50	LT. & RT.										11							
75TH STREET S.E.																		30" C.S.P. - SOD INLET, RIPRAP OUTLET
39+44.00	LT. & RT.	13									19							30" C.S.P. - SOD INLET & OUTLET
40+52.00	LT. & RT.										38							
C.S.A.H. 16 (EAST)																		24" R.C.P. - SOD INLET & OUTLET
50+66.55	LT. & RT.										28							
TOTALS		172	5275	650	3040	315	4576	23.2	2179	1525	7420	30.8	15.4	22662	2926	5074	4642	

① TEMPORARY DITCH CHECKS SHALL BE PLACED AS SOON AS DITCH IS CUT AND TOPSOIL IS IN PLACE. THEY SHALL BE REMOVED JUST BEFORE FINAL DITCH SHAPING AND SEEDING.

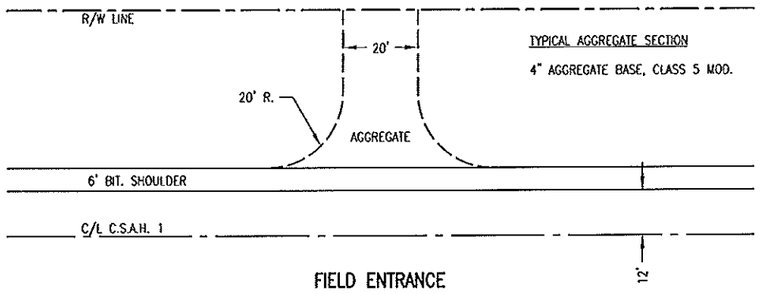
② STRAW BIOROLLS TO BE USED AS PERMANENT DITCH CHECKS AFTER SEEDING, MULCHING AND EROSION BLANKETS HAVE BEEN PLACED.

FILE NAME: P2730704.DWG DATE: 05-04-07

CERTIFIED BY Kevin M Biemeck REG. NO. 19917 5/21 2007
LICENSED PROFESSIONAL ENGINEER

S.A.P. 55-601-17

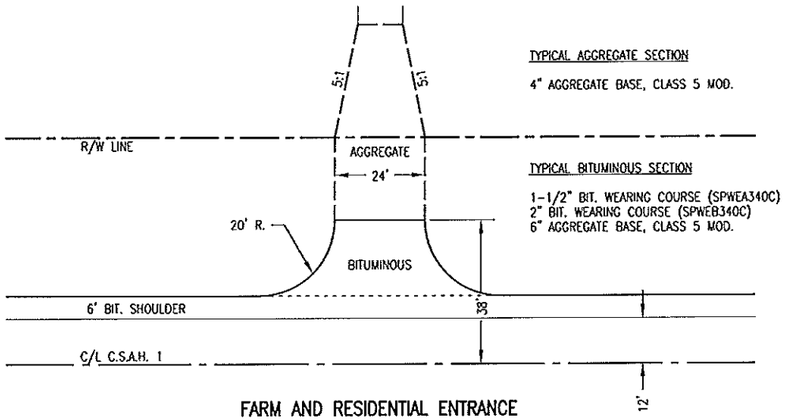
TITLE: QUANTITY TABULATIONS



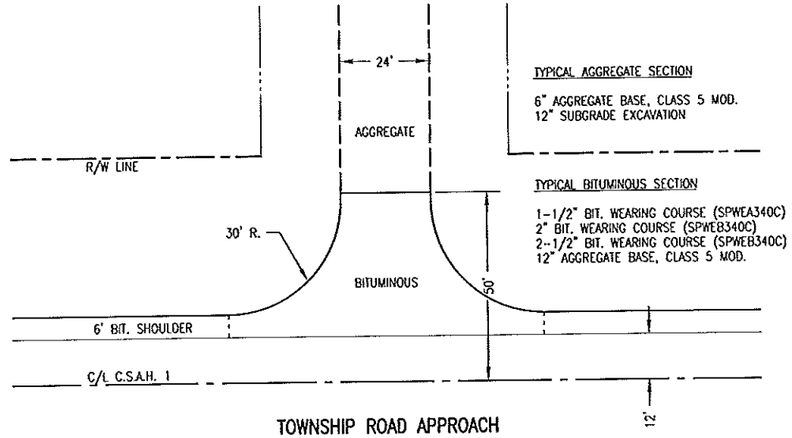
FIELD ENTRANCE

TYPICAL AGGREGATE SECTION

4" AGGREGATE BASE, CLASS 5 MOD.

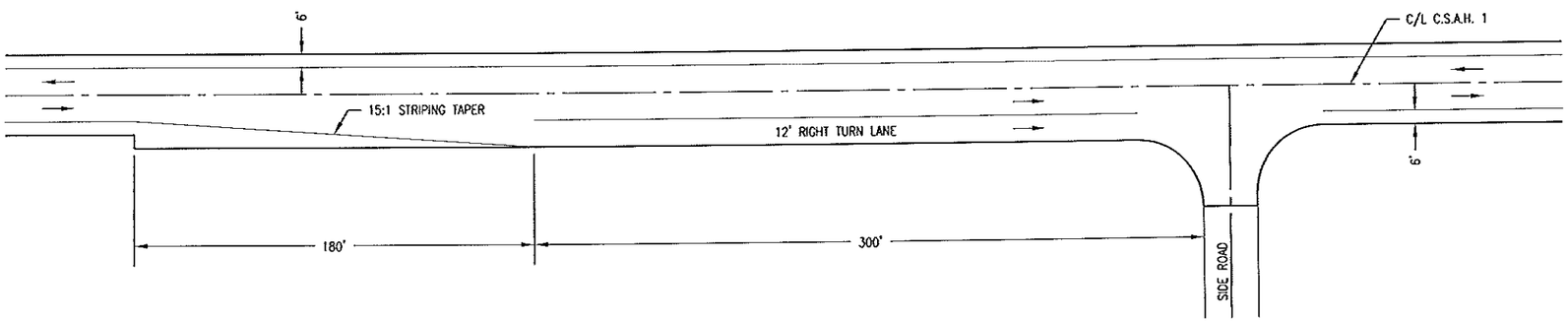


FARM AND RESIDENTIAL ENTRANCE



TOWNSHIP ROAD APPROACH

APPROACHES AND ENTRANCES



TYPICAL RIGHT TURN LANE

CERTIFIED BY Kaye M Bienert LICENSED PROFESSIONAL ENGINEER REG. NO. 19917 5/21 2007

S.A.P. 55-601-17

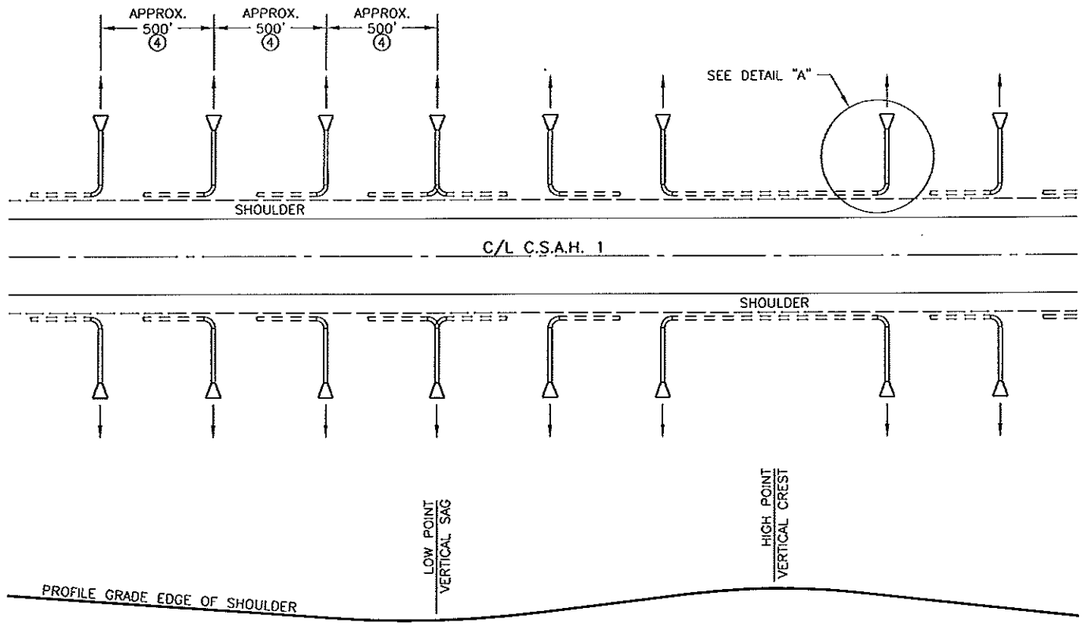
TITLE: ENTRANCE AND TURN LANE DETAILS

Sheet No. 9 of 116 Sheets

FILE NAME: P273MD01.DWG DATE: 04-23-07

SUBSURFACE DRAIN DETAILS AND CONSTRUCTION NOTES

PLAN VIEW

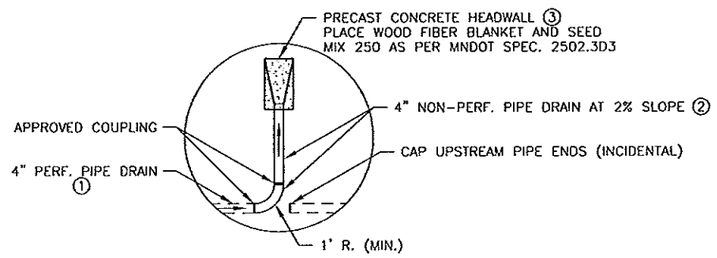


LEGEND

= = = = 4" PERFORATED PIPE DRAIN

═══ 4" NON-PERFORATED PIPE DRAIN

▷ PRECAST CONCRETE HEADWALL



DETAIL "A"

CONSTRUCTION NOTES

① PAYMENT FOR 4" PERFORATED PIPE DRAIN SHALL BE FULL COMPENSATION FOR TRENCHING, FABRIC WRAPPED PERF. PIPE DRAIN, INSTALLATION, FILTER AGGREGATE BACKFILL AND COMPACTION, BITUMINOUS OR AGGREGATE CAP, AND ALL OTHER ASSOCIATED WORK.

② PAYMENT FOR 4" NON-PERFORATED PIPE DRAIN SHALL BE FULL COMPENSATION FOR TRENCHING, FURNISHING AND PLACING PIPE AND CONNECTIONS, BACKFILL AND COMPACTION, AND ALL OTHER ASSOCIATED WORK.

③ PAYMENT FOR PRECAST CONCRETE HEADWALLS SHALL BE FULL COMPENSATION FOR PLACING HEADWALL, WOOD FIBER BLANKET AND SEED, AND ALL OTHER ASSOCIATED WORK.

④ IF AN OUTLET HAPPENS TO FALL WITHIN A CROSS-OVER OR DITCH BLOCK, INCREASE THE LENGTH OF THE PERFORATED PIPE TO A POINT WHERE AN OUTLET CAN BE SATISFACTORILY CONSTRUCTED AS DIRECTED BY THE ENGINEER.

⑤ EXCESS EXCAVATED MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH MNDOT SPEC. 2104.3C3.

SUBSURFACE DRAINS

STATION	LOCATION ⑥	4" PERF. P.E. PIPE DRAIN	4" NON-PERF. T.P. PIPE DRAIN	PRECAST CONCRETE HEADWALL	HEADWALL LOCATION ⑦⑧
		LIN. FT.	LIN. FT.	EACH	
C.S.A.H. 1					
124+45-129+00	LT. & RT.	910	13 Lt 30 16 Rt	2	124+55 Rt, 124+45 Lt
129+00-133+50	LT. & RT.	900	16 Lt 30 16 Rt	2	131+08 Rt, 129+00 Lt
133+50-137+75	LT. & RT.	850	17 Lt 30 12 Rt	2	135+35 Lt ~~133+50~~ 134+20 Rt
137+75-142+00	LT. & RT.	850	13 Lt 30 14 Rt	2	138+78 Lt ~~137+75~~ 137+65 Rt
142+00-146+00	LT. & RT.	800	16 Lt 30 15 Rt	2	142+~~00~~45 Lt, Rt
146+00-153+00	LT. & RT.	1400	20 Lt 60 13 Rt	4	146+00, 153+00
153+00-157+48	LT. & RT.	896	14 Lt 30 16 Rt	2	157+48 ⑨
157+48-162+48	LT. & RT.	1000	23 Lt 0 20 Rt	0	
162+48-167+48	LT. & RT.	1000	16 Lt 30 15 Rt	2	162+48
167+48-172+48	LT. & RT.	1000	17 Lt 30 16 Rt	2	167+48
172+48-180+00	LT. & RT.	1504	17 Lt 60 17 Lt, 17 Rt	~~3~~	172+48, 180+00 Rt only
180+00-184+00	LT. & RT.	800	17 Lt 30 18 Rt	2	184+00
184+00-189+00	LT. & RT.	1000	15 Lt 30 17 Rt	2	189+~~00~~40 Lt, Rt
189+00-193+40	LT. & RT.	880	17 Lt 30 17 Rt	2	193+40
193+40-198+40	LT. & RT.	1000	14 Lt 30 14 Rt	2	198+40
198+40-203+40	LT. & RT.	1000	20 Lt 30 20 Rt	2	203+25 Rt, 203+40 Lt
203+40-208+40	LT. & RT.	1000	14 Lt 30 14 Rt	2	208+~~40~~02
208+40-213+40	LT. & RT.	1000	19 Lt 30 15 Rt	2	213+~~40~~25
213+40-218+40	LT. & RT.	1000	15 Lt 30 22 Rt	2	218+40
218+40-222+69	LT. & RT.	858	15 Lt 30 18 Rt	2	222+69 ⑨
222+69-227+00	LT. & RT.	862	0	0	
227+00-228+50	LT. & RT.	300	~~30~~	~~2~~	~~227+00~~
END 227+68 Lt, 227+15 Rt					
TOTALS		20583 ~~20810~~	670' ~~660~~	41 ~~44~~	

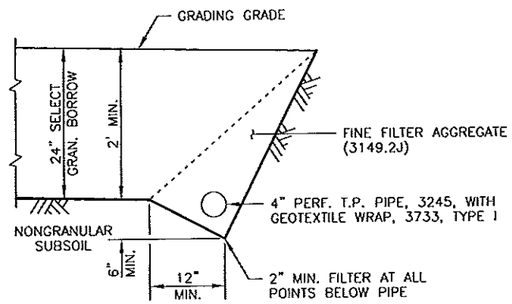
⑥ FINAL LOCATION AND ELEVATION SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

⑦ OUTLET ALL TO DITCH OR EMBANKMENT.

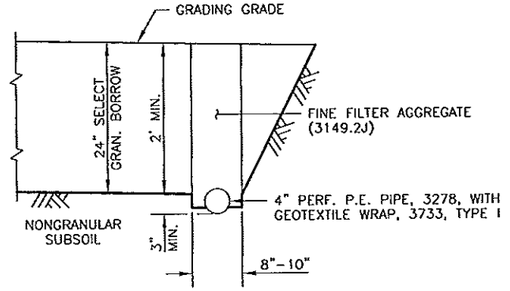
⑧ STATIONS SHOWN BELOW ARE APPROXIMATE LOCATIONS OF SUBSURFACE DRAIN OUTLETS.

⑨ CONNECT PIPES WITH A "Y" CONNECTION AND USE ONE HEADWALL.

SUBSURFACE DRAIN, SUBCUT DRAIN TYPE



TYPICAL SECTION (OPTION No. 1)



TYPICAL SECTION (OPTION No. 2)

SEE SPECIAL PROVISIONS FOR MATERIAL AND CONSTRUCTION DETAILS. OPTION No. 2 MAY ONLY BE USED WHEN PIPE IS TO BE PLACED BY MACHINE TRENCHER.

AS-BUILT

MAR 0 4 2010

ENGINEERING

TITLE: SUBSURFACE DRAIN DETAILS

CERTIFIED BY Kevin M Biermeier LICENSED PROFESSIONAL ENGINEER REG. NO. 19917 5/21 20 07

S.A.P. 55-601-17

Sheet No. 10 of 116 Sheets

FILE NAME: P273W002.DWG DATE: 04-23-07

STA. 123+70.00 – DRIVEWAY LT.
REMOVE INPL. 18" x 33 L.F. CMP
18" x 39.00 L.F. C.S.P. – 42.00' LT.
2 – 18" G.S. APRONS

STA. 123+00.00
MATCH INPLACE DITCH

STA. 127+00.00 – FIELD ENT. LT.
NO INPLACE CULVERT
NO CULVERT REQUIRED
REMOVE FIELD ENTRANCE

STA. 132+00.00 – DRIVEWAY LT.
NO INPLACE CULVERT
CONSTRUCT DRIVEWAY OVER REPLACEMENT
BRIDGE No. 55J68

STA. 132+15.00 – DRIVEWAY LT.
REMOVE INPL. 10x4 x 20 L.F. CONCRETE
BOX CULVERT AND CONCRETE WINGWALLS
NO CULVERT REQUIRED
REMOVE DRIVEWAY

BEGIN S.A.P. 55-601-17
STA. 121+50.00

STA. 121+50.00
MATCH INPLACE DITCH

STA. 124+44.20
BEGIN C/L GRADING

CONSTRUCTION LIMITS

REMOVE INPLACE
BRIDGE No. 88705

REPLACEMENT
BRIDGE No. 55J68

CONSTRUCTION LIMITS

175' R/W

6" drainage w/ sock

STA. 133+00.00

MATCH LINE

PI STA. 123+30.94
Δ=23°31'15" LT.
D=03°00'00"
R=1909.86
L=784.02
T=397.61
X=633992.7204
Y=121828.8259

STA. 127+46.72 – C/L
BRIDGE No. 88705
REMOVE INPL. 10x4 x 36 L.F. CONCRETE
BOX CULVERT AND CONCRETE WINGWALLS
NO CULVERT REQUIRED

STA. 128+17.56 – C/L
REMOVE INPL. 71" SPAN x 56 L.F. CMP-A
NO CULVERT REQUIRED

STA. 131+00.00 – C/L (60° SKEW)
BRIDGE No. 55J68
NO INPLACE CULVERT
14x4 x 250.00 L.F. P.C. BOX CULVERT
2 – 14x4 P.C. BOX CULVERT END SECTIONS
8 C.Y. CL. III RIPRAP AT INLET
33 C.Y. CL. III RIPRAP AT OUTLET

STA. 131+00.13 – 45.83' RT.
NO INPLACE CULVERT
42" x 20.00 L.F. R.C.P.
2 – 42" x 30' R.C.P. BENDS
1 – 42" R.C.P. APRON
CONNECT TO 42" R.C.P. STUB
ON BRIDGE No. 55J68

PI STA. 139+33.09
Δ=76°43'09" RT.
D=05°15'00"
R=1091.35
L=1461.32
T=863.74
X=632959.6011
Y=123068.0015

0 25 50 100
SCALE IN FEET

C/L PROFILE
ELEVATION

EXISTING C/L PROFILE
FINISHED C/L PROFILE

PVI STA. 123+00.00
PVI EL. 1167.97
425' V.C.
M=1.38

+0.40%

+3.00%

PVI STA. 129+25.00
PVI EL. 1186.72
300' V.C.
M=1.07

+5.84%

AS-BUILT
MAR 04 2010
ENGINEERING

EXISTING C/L ELEVATION

DATE: 06-15-07

FILE NAME: P273CP01.DWG

CERTIFIED BY Kaye M Brenneke REG. NO. 19917 9/27 2007
LICENSED PROFESSIONAL ENGINEER

TITLE: C.S.A.H. No. 1
CONSTRUCTION PLAN & PROFILE
STA. 120+00.00 to STA. 133+00.00

S.A.P. 55-601-17

Sheet No. 11 of 116 Sheets

STA. 134+85.50 – 87TH ST. S.E.
SEE 87TH ST. S.E. PLAN & PROFILE
DRAWING FOR CULVERT NOTES

87TH ST. S.E.

STA. 139+77.50
BEGIN 12' TURN LANE

STA. 140+09.8 – 79.7' LT.
150.00' C/L DR. RAD.

STA. 139+55.00 – FIELD ENT. LT.
REMOVE INPL. 24" x 32 L.F. CMP
NO CULVERT REQUIRED
REMOVE FIELD ENTRANCE

STA. 141+50.00 – DRIVEWAY LT.
REMOVE INPL. 24" x 32 L.F. CMP
24" x 64.00 L.F. C.S.P. – 57.50' LT.
2 – 24" G.S. APRONS

CONSTRUCTION LIMITS

STA. 133+00.00

STA. 145+00.00

MATCH LINE

CONSTRUCTION LIMITS

MATCH LINE

PI STA. 139+33.09
Δ=76°43'09" RT.
D=05°15'00"
R=1091.35
L=1461.32
T=863.74
X=632959.6011
Y=123068.0015

0 25 50 100
SCALE IN FEET

C/L PROFILE ELEVATION

EXISTING C/L PROFILE
FINISHED C/L PROFILE

+5.84%

P.V.C.

AS-BUILT
MAR 04 2010
ENGINEERING

C/L PROFILE ELEVATION

CERTIFIED BY Kaye M Bienich REG. NO. 19917 9/27 2007
LICENSED PROFESSIONAL ENGINEER

S.A.P. 55-601-17

TITLE:
C.S.A.H. No. 1
CONSTRUCTION PLAN & PROFILE
STA. 133+00.00 to STA. 145+00.00

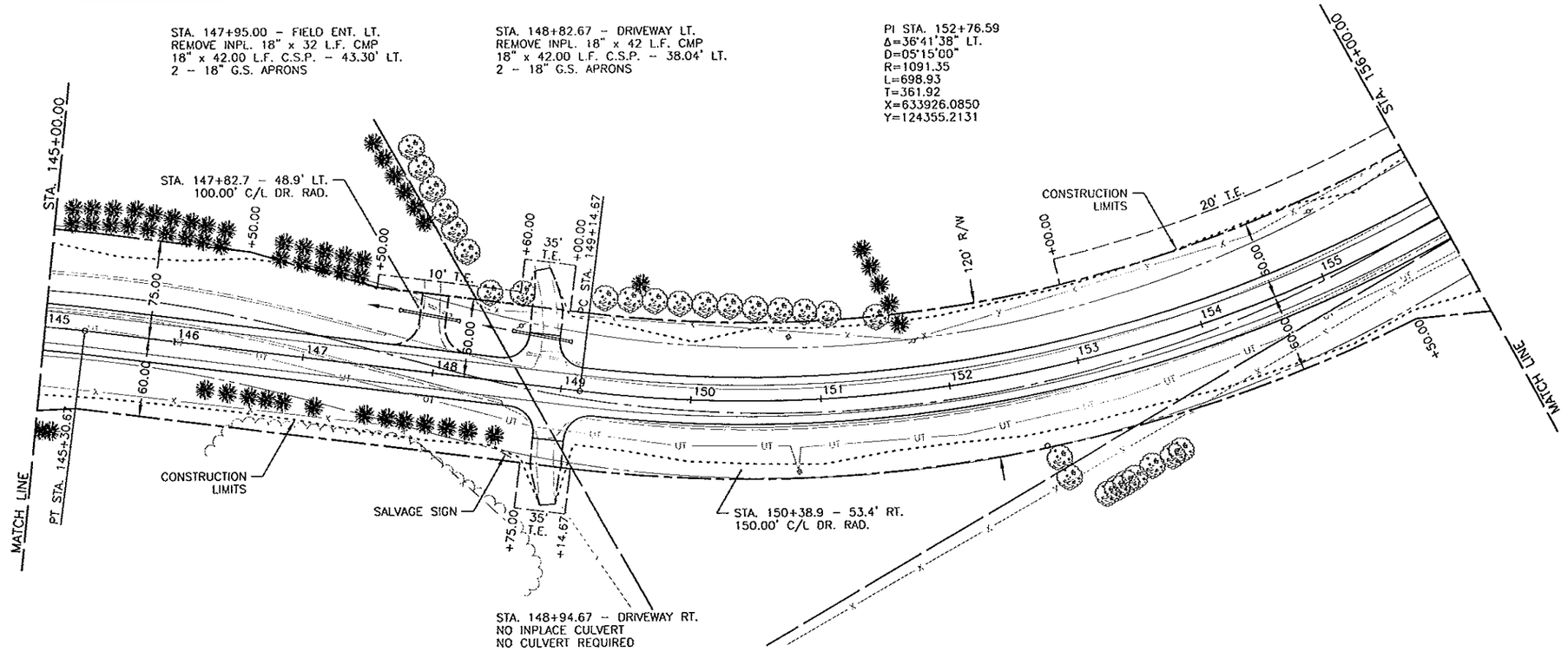
Sheet No. 12 of 116 Sheets

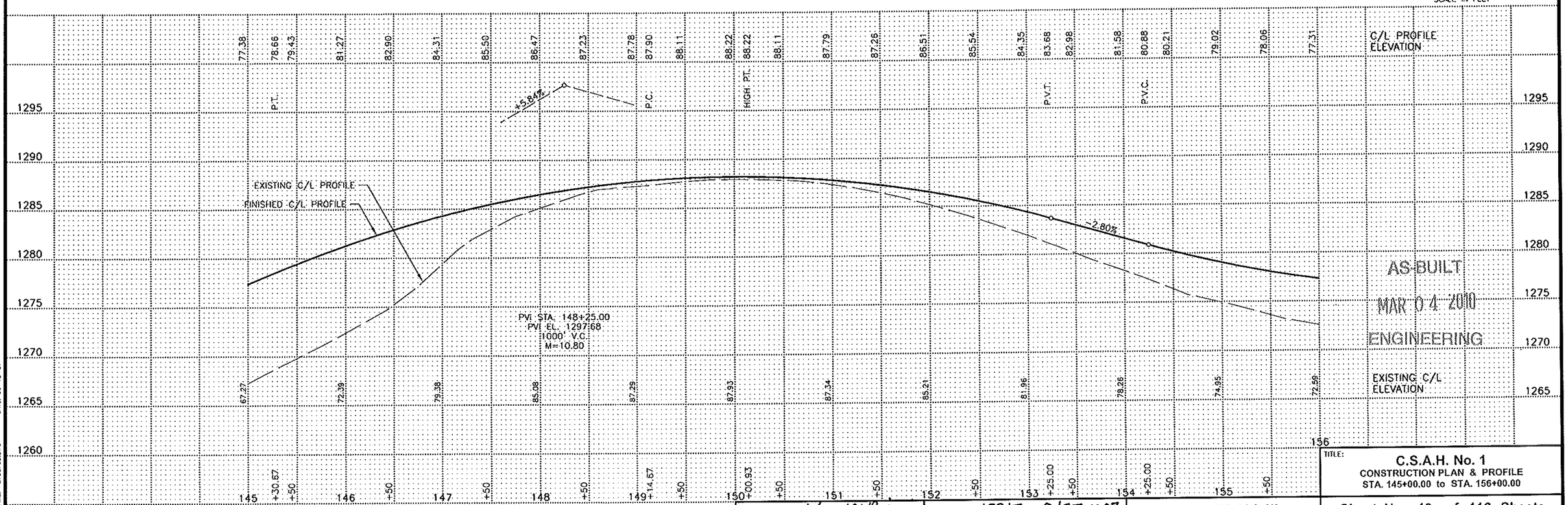
DATE: 06-15-07
FILE NAME: P273CP02.DWG

STA. 147+95.00 – FIELD ENT. LT.
REMOVE INPL. 18" x 32 L.F. CMP
18" x 42.00 L.F. C.S.P. – 43.30' LT.
2 – 18" G.S. APRONS

STA. 148+82.67 – DRIVEWAY LT.
REMOVE INPL. 18" x 42 L.F. CMP
18" x 42.00 L.F. C.S.P. – 38.04' LT.
2 – 18" G.S. APRONS

PI STA. 152+76.59
Δ=36°41'38" LT.
D=05°15'00"
R=1091.35
L=698.93
T=361.92
X=633926.0850
Y=124355.2131





AS-BUILT
MAR 04 2010
ENGINEERING

CERTIFIED BY Paul M Pommerening REG. NO. 19917 9/27 2007
LICENSED PROFESSIONAL ENGINEER

S.A.P. 55-601-17

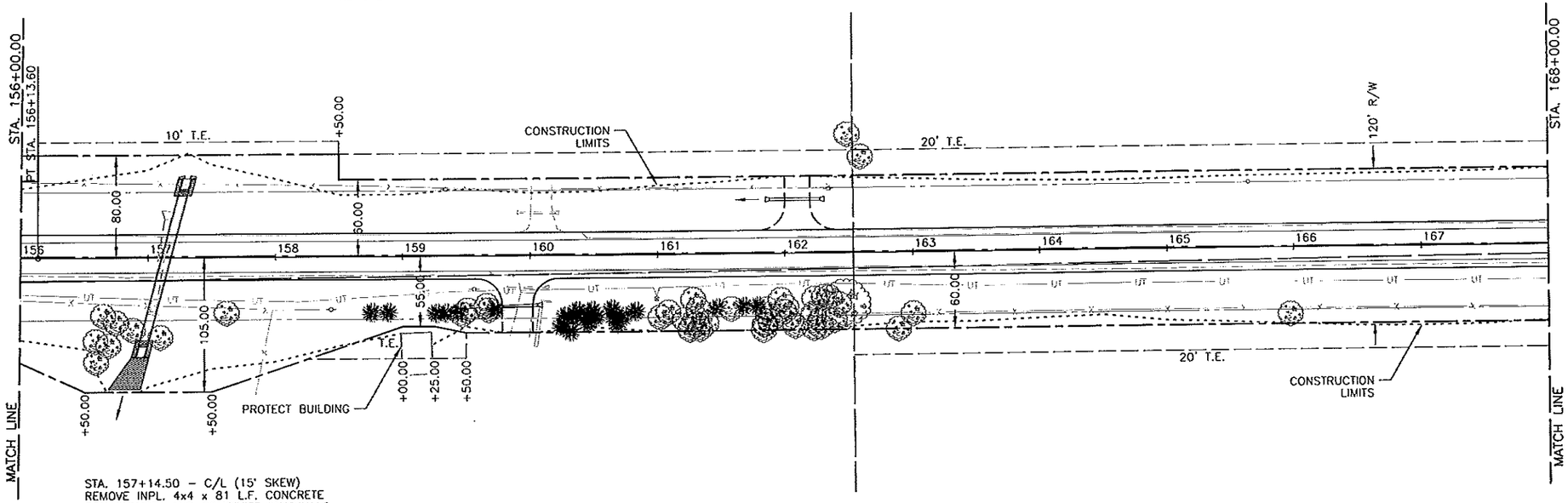
TITLE: C.S.A.H. No. 1
CONSTRUCTION PLAN & PROFILE
STA. 145+00.00 to STA. 156+00.00

Sheet No. 13 of 116 Sheets

FILE NAME: P273CP03.DWG DATE: 06-15-07

STA. 160+20.00 – FIELD ENT. LT.
REMOVE INPL. 24" x 32 L.F. CMP
NO CULVERT REQUIRED
REMOVE FIELD ENTRANCE

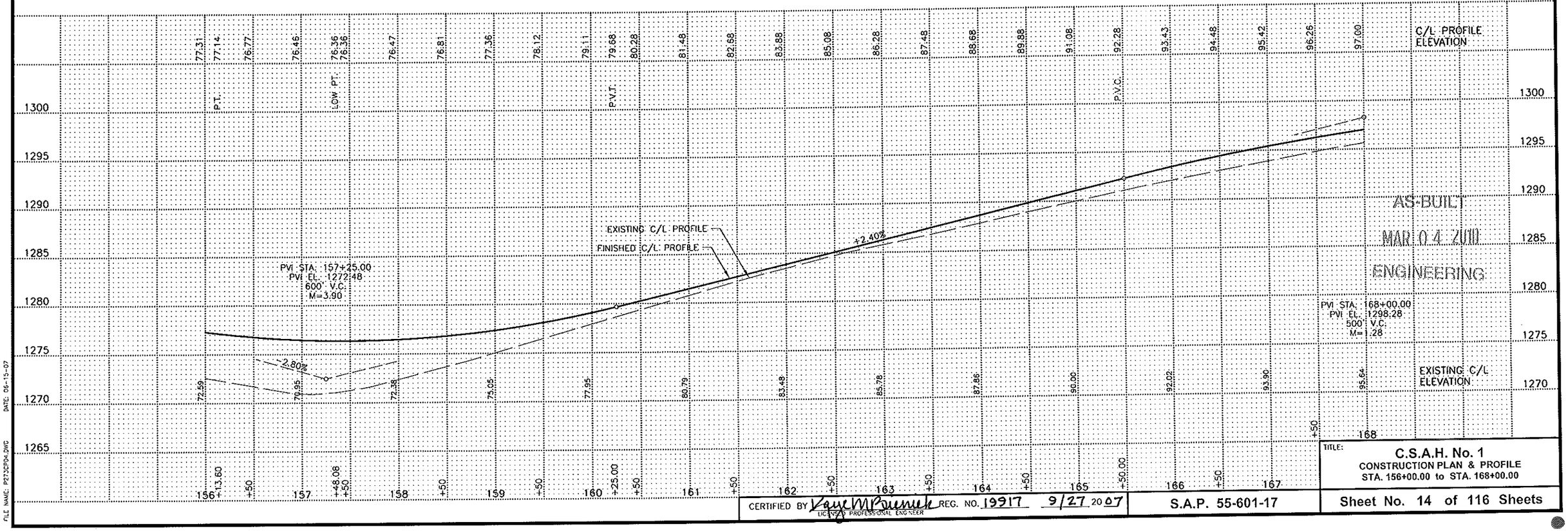
STA. 162+10.00 – FIELD ENT. LT.
NO INPLACE CULVERT
24" x 39.00 L.F. C.S.P. – 42.00' LT.
2 – 24" G.S. APRONS



STA. 157+14.50 – C/L (15° SKEW)
REMOVE INPL. 4x4 x 81 L.F. CONCRETE
BOX CULVERT AND CONCRETE WINGWALLS
6x6 x 120.00 L.F. CONCRETE BOX CULVERT
2 – 6x6 CONCRETE BOX CULVERT END SECTIONS
7 C.Y. CL. III RIPRAP AT INLET
33 C.Y. CL. III RIPRAP AT OUTLET

STA. 159+90.00 – DRIVEWAY RT.
REMOVE INPL. 24" x 33 L.F. CMP
24" x 36.00 L.F. C.S.P. – 39.40' RT.
2 – 24" G.S. APRONS

0 25 50 100
SCALE IN FEET



AS-BUILT
MAR 04 2008
ENGINEERING

CERTIFIED BY Dave M Pruniek REG. NO. 19917 9/27 2007
LICENSED PROFESSIONAL ENGINEER

TITLE: C.S.A.H. No. 1
CONSTRUCTION PLAN & PROFILE
STA. 156+00.00 to STA. 168+00.00

S.A.P. 55-601-17

Sheet No. 14 of 116 Sheets

DATE: 06-15-07
FILE NAME: P273CP04.DWG

STA. 175+86.90 – 80TH ST. S.E.
SEE 80TH ST. S.E. PLAN & PROFILE
DRAWING FOR CULVERT NOTES

STA. 177+50.00 – DRIVEWAY LT.
NO INPLACE CULVERT
NO CULVERT REQUIRED

STA. 176+00.0 – 47.4' LT.
150.00' C/L DR. RAD.

STA. 168+00.00

STA. 180+00.00

CONSTRUCTION LIMITS

20' T.E.

60.00

12" FORCEMAIN

+30.00

35' T.E.

+70.00

120' R/W

168 169 170 171 172 173 174 175 176 177 178 179

UT

STA. 171+10.25
BEGIN 12' TURN LANE

20' T.E.

80TH ST. S.E.

CONSTRUCTION LIMITS

PROTECT MONITORING WELL AND ELECTRIC PANEL

MATCH LINE

MATCH LINE

STA. 169+50.00 – FIELD ENT. RT.
NO INPLACE CULVERT
18" x 38.00 L.F. C.S.P. – 42.00' RT.
2 – 18" G.S. APRONS

STA. 171+27.00 – FIELD ENT. RT.
REMOVE INPL. 18" x 32 L.F. CMP
NO CULVERT REQUIRED
REMOVE FIELD ENTRANCE

STA. 173+80.00 – C/L
REMOVE INPL. 24" x 57 L.F. RCP
24" x 78.00 L.F. R.C.P.
2 – 24" R.C.P. APRONS

STA. 176+02.15 – 80TH ST. S.E.
SEE 80TH ST. S.E. PLAN & PROFILE
DRAWING FOR CULVERT NOTES

PI STA. 175+79.90
Δ=00°30'19" LT.
X=633934.4804
Y=126683.4217

0 25 50 100
SCALE IN FEET

C/L PROFILE ELEVATION

97.00 97.64 98.18 98.62 98.95 99.18 99.36 99.54 99.72 99.90 00.08 00.26 00.44 00.62 00.76 00.81 00.81 00.80 00.78 00.66 00.46 00.17 99.80 99.34 98.84 98.34 97.84

P.V.T. P.V.C. HIGH PT. P.I. P.V.T.

1310 1305 1300 1295 1290 1285 1280 1275

EXISTING C/L PROFILE
FINISHED C/L PROFILE

+0.36% -1.00%

PVI STA. 168+00.00
PVI EL. 1298.28
500' V.C.
M=1.28

PVI STA. 176+50.00
PVI EL. 1301.34
400' V.C.
M=0.68

95.64 97.03 98.01 98.59 98.89 98.90 99.07 99.37 99.71 99.95 99.54 98.81 97.77

EXISTING C/L ELEVATION

168 +50 169 +50 170 +50.00 171 +50 172 +50 173 +50 174 +50.00 +55.88 +79.90 175 +50 176 +50 177 +50 178 +50.00 179 +50 180

AS-BUILT
MAR 04 2011
ENGINEERING

DATE: 08-15-07

FILE NAME: P273CP05.DWG

CERTIFIED BY Kaye M Pavnick REG. NO. 19917 9/27 2007
LICENSED PROFESSIONAL ENGINEER

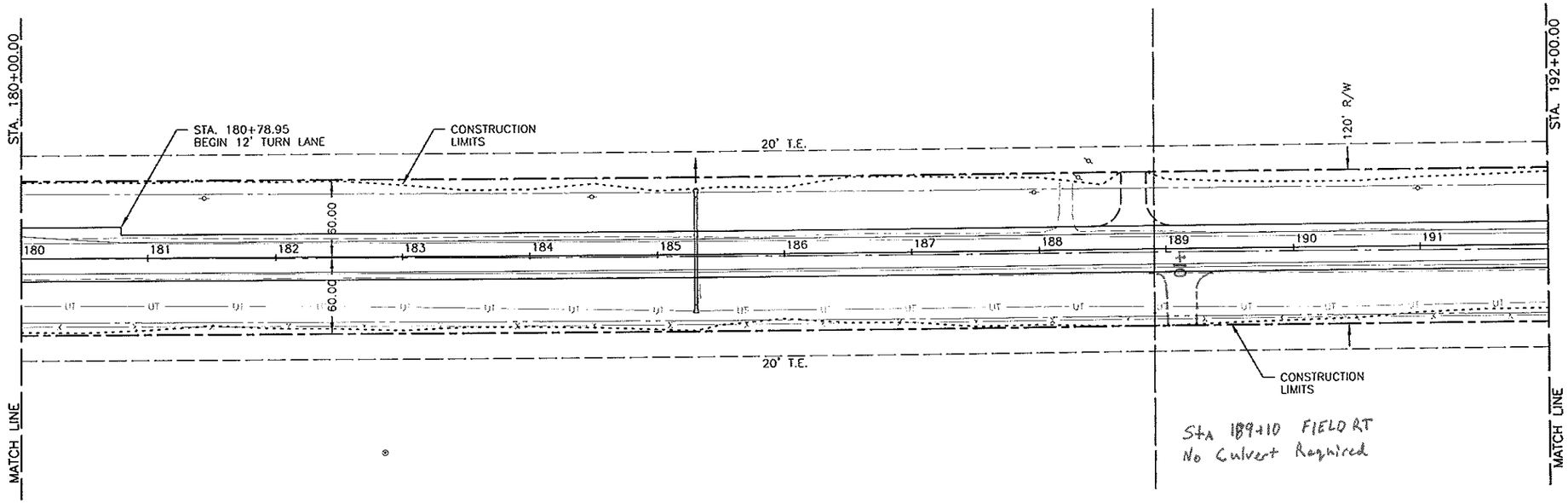
S.A.P. 55-601-17

TITLE: C.S.A.H. No. 1
CONSTRUCTION PLAN & PROFILE
STA. 168+00.00 to STA. 180+00.00

Sheet No. 15 of 116 Sheets

STA. 188+21.00 – FIELD ENT. LT.
NO INPLACE CULVERT
NO CULVERT REQUIRED
REMOVE FIELD ENTRANCE

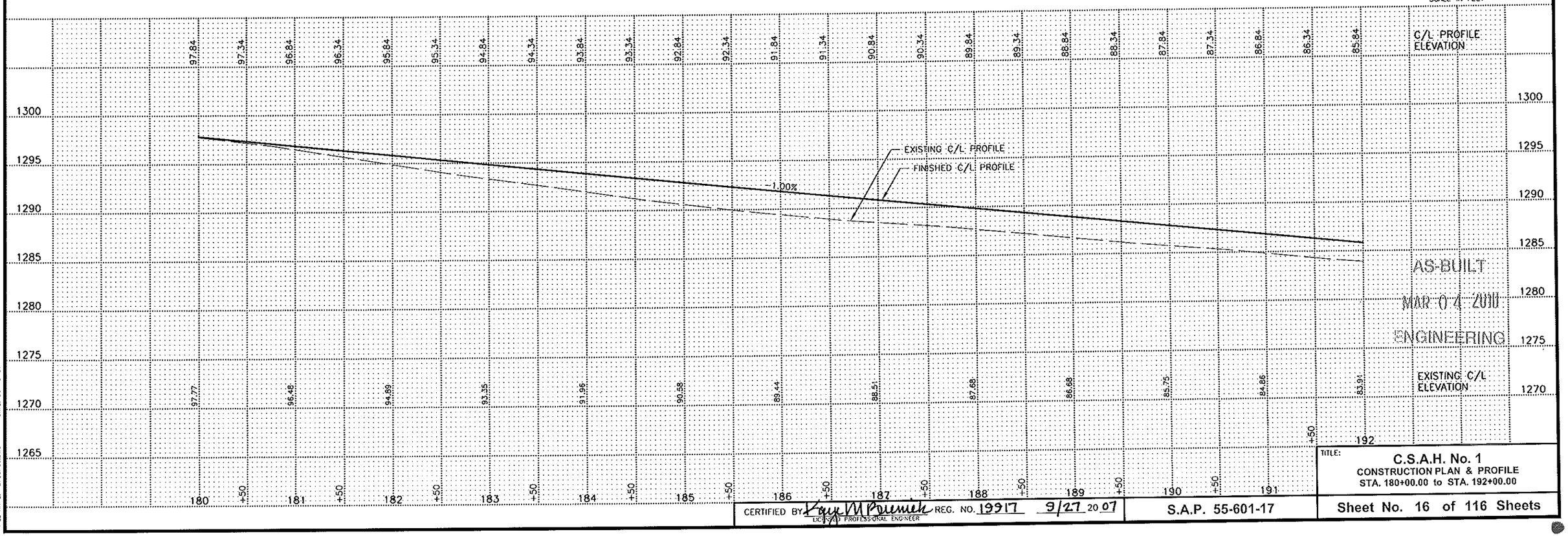
STA. 188+75.00 – FIELD ENT. LT.
NO INPLACE CULVERT
NO CULVERT REQUIRED



STA 189+10 FIELD RT
No Culvert Required

STA. 185+30.00 – C/L
REMOVE INPL. 24" x 78 L.F. RCP
24" x 84.00 L.F. R.C.P.
2 – 24" R.C.P. APRONS

0 25 50 100
SCALE IN FEET



AS-BUILT
MAR 04 2010
ENGINEERING

DATE: 06-13-07
FILE NAME: P273CP06.DWG

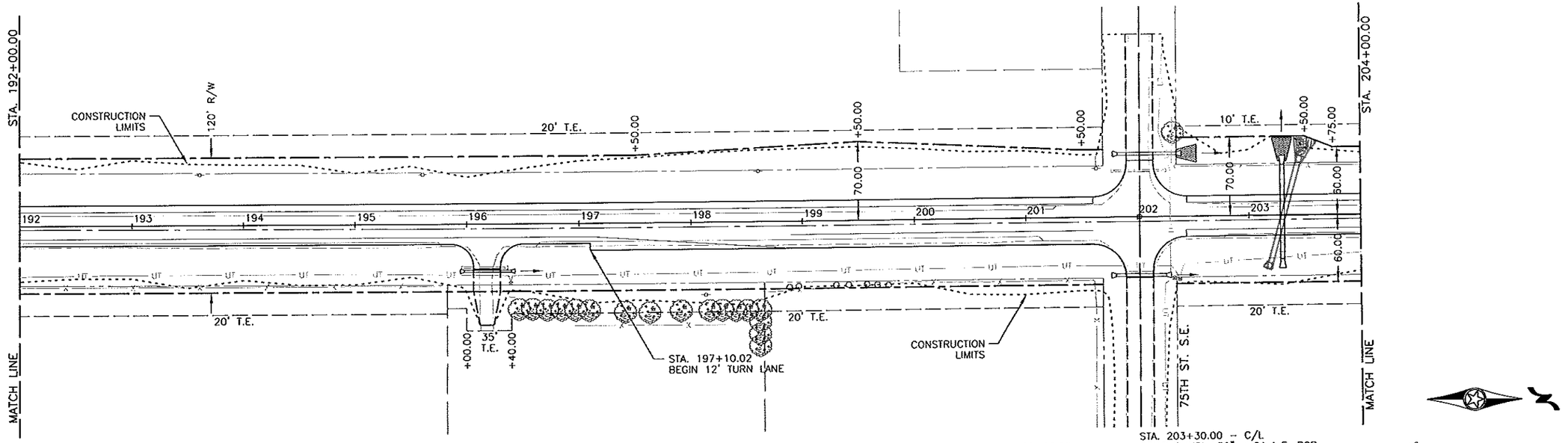
CERTIFIED BY Kaye M Prewitt REG. NO. 19917 9/27 2007
LICENSED PROFESSIONAL ENGINEER

TITLE:
C.S.A.H. No. 1
CONSTRUCTION PLAN & PROFILE
STA. 180+00.00 to STA. 192+00.00

S.A.P. 55-601-17

Sheet No. 16 of 116 Sheets

STA. 202+02.02 – 75TH ST. S.E.
SEE 75TH ST. S.E. PLAN & PROFILE
DRAWING FOR CULVERT NOTES



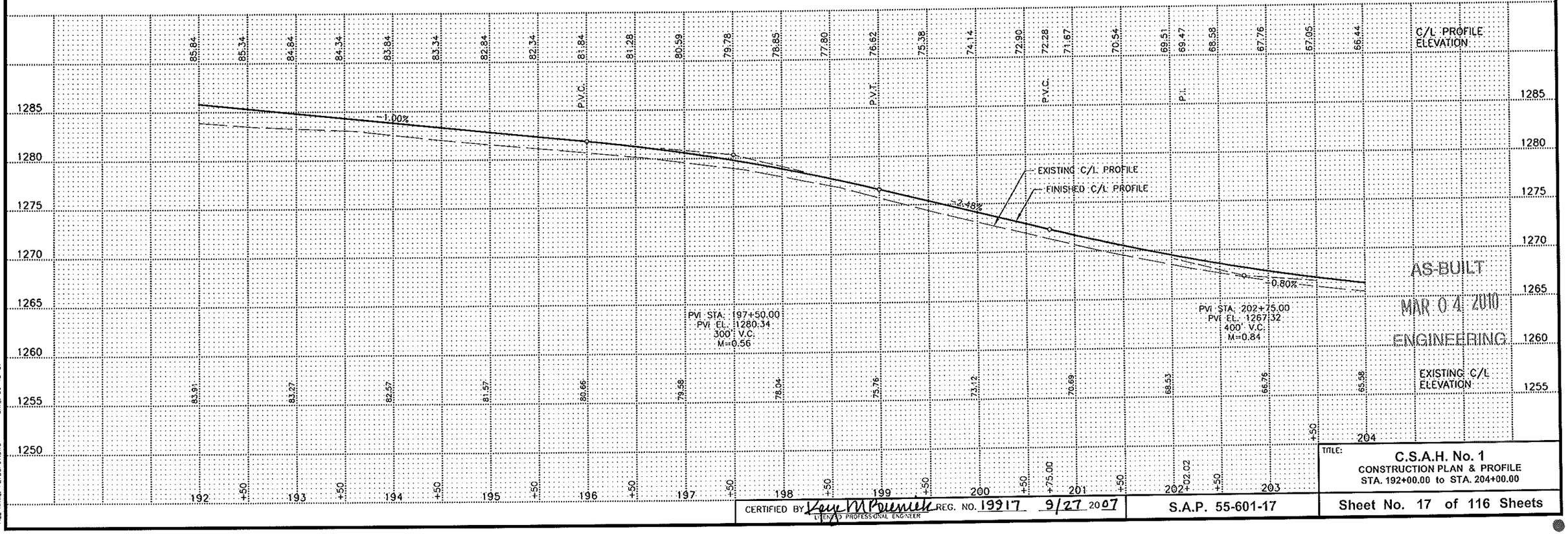
STA. 196+18.15 – DRIVEWAY RT.
REMOVE INPL. 24" x 42 L.F. CMP
24" x 42.00 L.F. C.S.P. – 42.00' RT.
2 – 24" G.S. APRONS

STA. 202+02.02 – 75TH ST. S.E.
SEE 75TH ST. S.E. PLAN & PROFILE
DRAWING FOR CULVERT NOTES

PI STA. 202+02.02
Δ=00°08'12" LT.
X=633920.8169
Y=129305.5046

STA. 203+30.00 – C/L
REMOVE INPL. 36" x 64 L.F. RCP
44" SPAN x ~~84.00~~ 92' L.F. RCP-ARCH SKEW 8°
2 – 44" SPAN RCP-ARCH APRONS
14 C.Y. CL. III RIPRAP AT OUTLET

0 25 50 100
SCALE IN FEET



AS-BUILT
MAR 04 2010
ENGINEERING

DATE: 06-13-07
FILE NAME: P273SP07.DWG

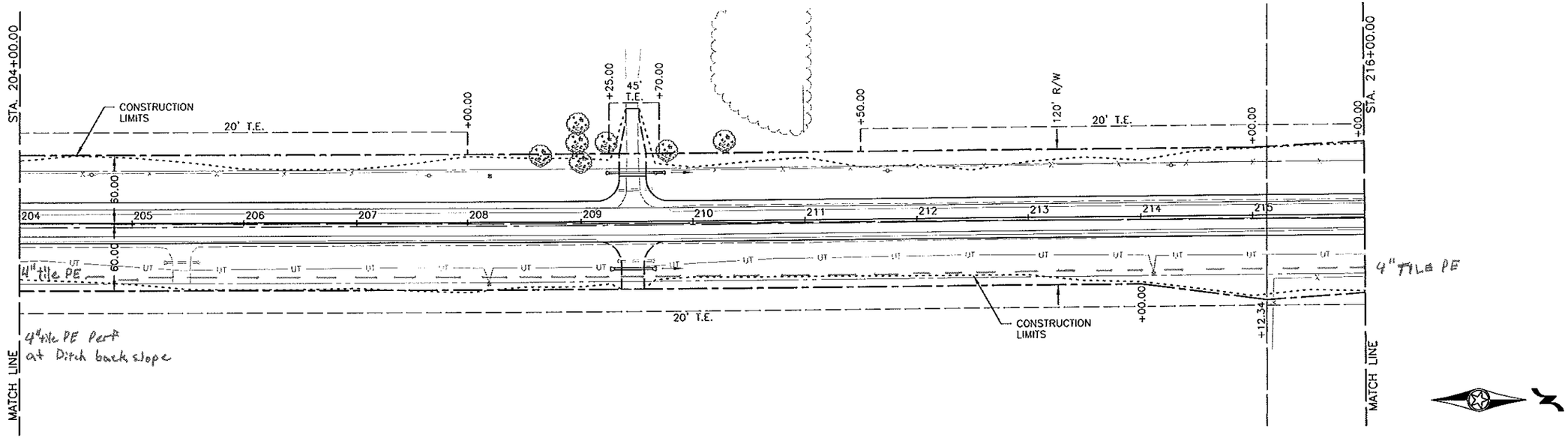
CERTIFIED BY Kay M Brunick REG. NO. 19917 9/27 2007
LICENSED PROFESSIONAL ENGINEER

TITLE: C.S.A.H. No. 1
CONSTRUCTION PLAN & PROFILE
STA. 192+00.00 to STA. 204+00.00

S.A.P. 55-601-17

Sheet No. 17 of 116 Sheets

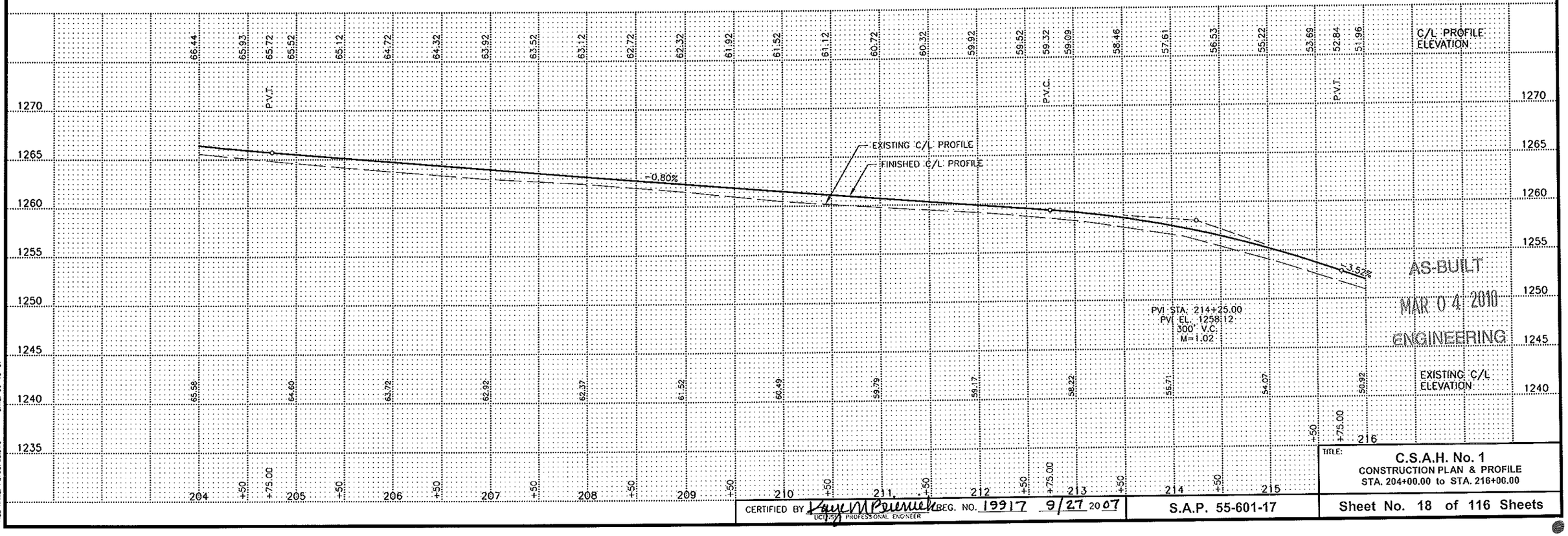
STA. 209+46.00 – DRIVEWAY LT.
REMOVE INPL. 24" x 32 L.F. CMP
18" x 48.00 L.F. C.S.P. – 43.00' LT.
2 – 18" G.S. APRONS



STA. 205+45.00 – FIELD ENT. RT.
REMOVE INPL. 18" x 32 L.F. CMP
NO CULVERT REQUIRED
REMOVE FIELD ENTRANCE

STA. 209+46.00 – FIELD ENT. RT.
REMOVE INPL. 24" x 32 L.F. CMP
24" x 34.00 L.F. C.S.P. – 42.00' RT.
2 – 24" G.S. APRONS

0 25 50 100
SCALE IN FEET



AS-BUILT
MAR 04 2010
ENGINEERING

DATE: 06-13-07
FILE NAME: P273CP08.DWG

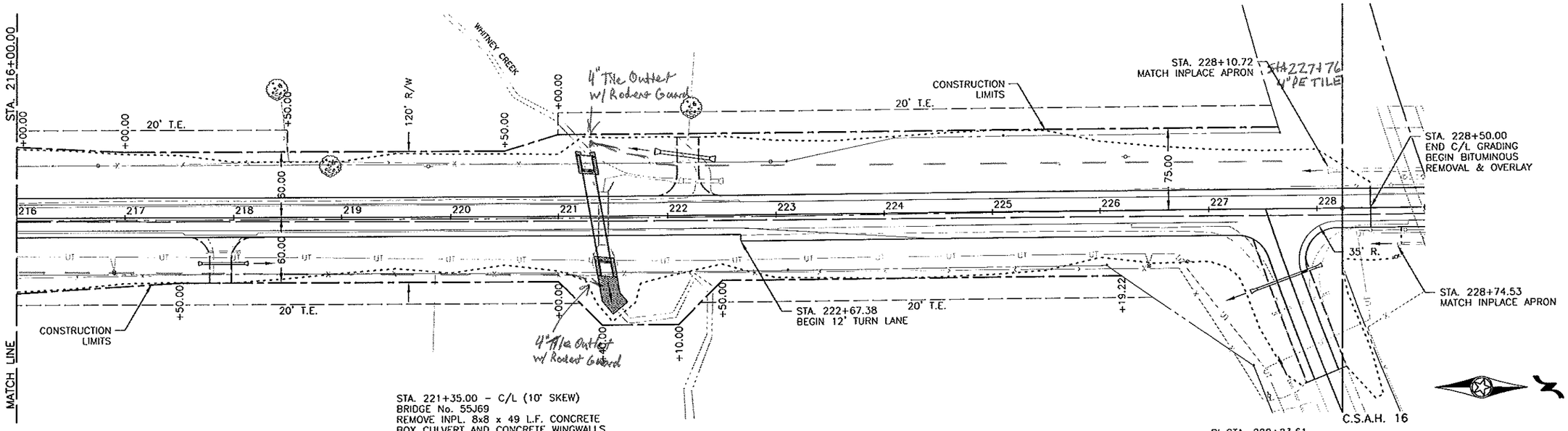
CERTIFIED BY Dave M Pavlicek REG. NO. 19917 9/27 2007
LICENSED PROFESSIONAL ENGINEER

TITLE: C.S.A.H. No. 1
CONSTRUCTION PLAN & PROFILE
STA. 204+00.00 to STA. 216+00.00

S.A.P. 55-601-17

Sheet No. 18 of 116 Sheets

STA. 222+18.89 – FIELD ENT. LT.
REMOVE INPL. 35" SPAN x 40 L.F. CMP-A
36" x 46.00 L.F. C.S.P. – 54.72' LT.
2 – 36" G.S. APRONS



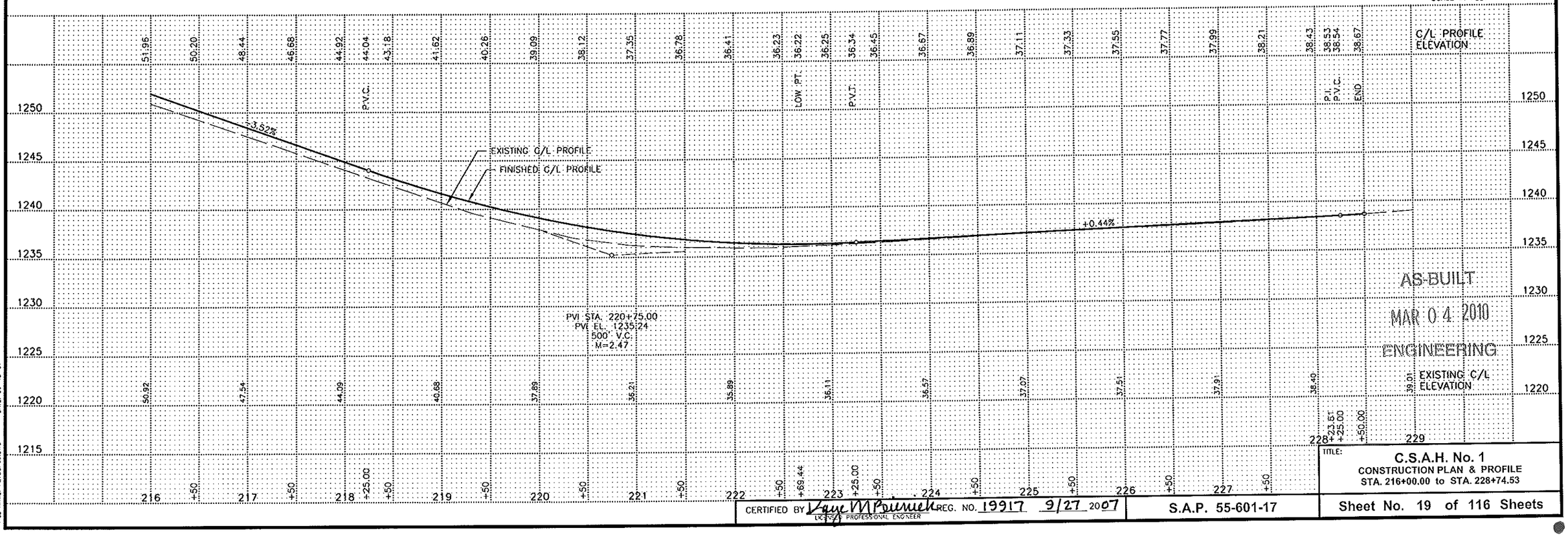
STA. 217+88.00 – FIELD ENT. RT.
REMOVE INPL. 24" x 31 L.F. CMP
24" x 39.00 L.F. C.S.P. – 42.00' RT.
2 – 24" G.S. APRONS

STA. 221+35.00 – C/L (10° SKEW)
BRIDGE No. 55J69
REMOVE INPL. 8x8 x 49 L.F. CONCRETE
BOX CULVERT AND CONCRETE WINGWALLS
10x8 x 79.00 L.F. P.C. BOX CULVERT
2 – 10x8 P.C. BOX CULVERT END SECTIONS
9 C.Y. CL. III RIPRAP AT INLET
39 C.Y. CL. III RIPRAP AT OUTLET

STA. 227+51.93 – C.S.A.H. 16 (EAST)
SEE C.S.A.H. 16 (EAST) PLAN & PROFILE
DRAWING FOR CULVERT NOTES

Pi STA. 228+23.61
Δ=00°08'55" LT.
X=633900.9064
Y=131927.0231

0 25 50 100
SCALE IN FEET



AS-BUILT
MAR 04 2010
ENGINEERING

DATE: 06-15-07
FILE NAME: P273CP09.DWG

CERTIFIED BY Dave M Preimesh REG. NO. 19917 9/27 2007
LICENSED PROFESSIONAL ENGINEER

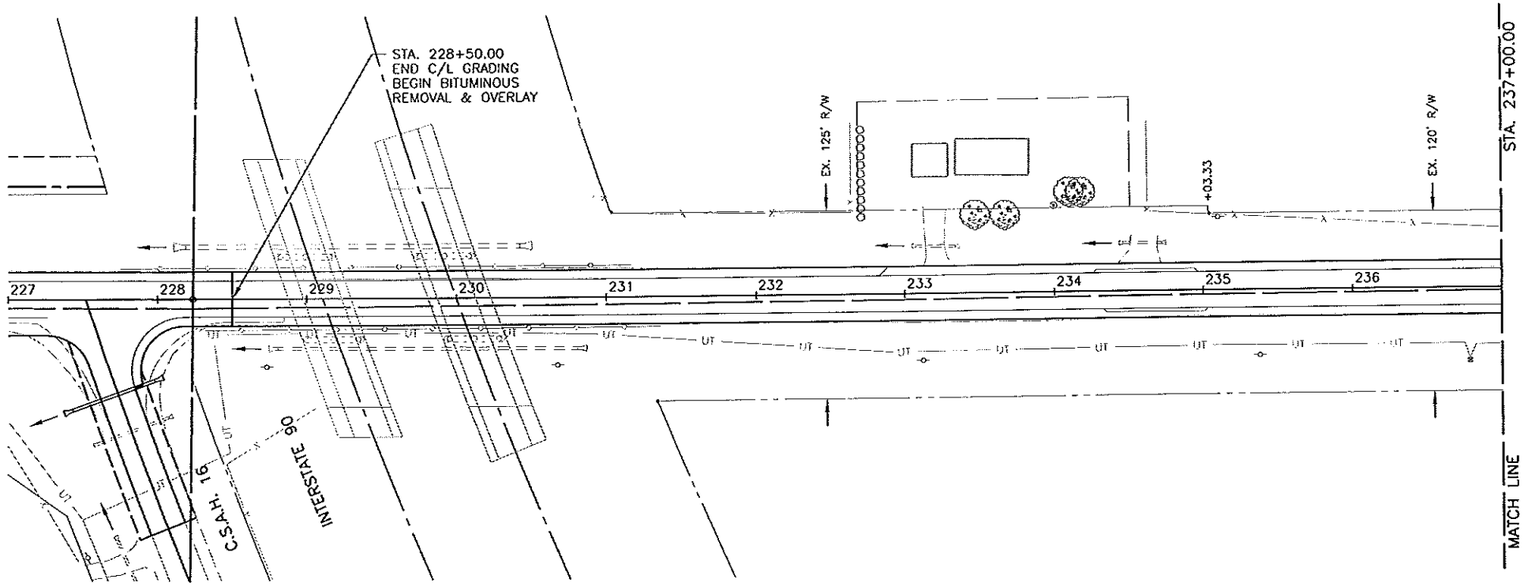
TITLE: C.S.A.H. No. 1
CONSTRUCTION PLAN & PROFILE
STA. 216+00.00 to STA. 228+74.53

S.A.P. 55-601-17

Sheet No. 19 of 116 Sheets

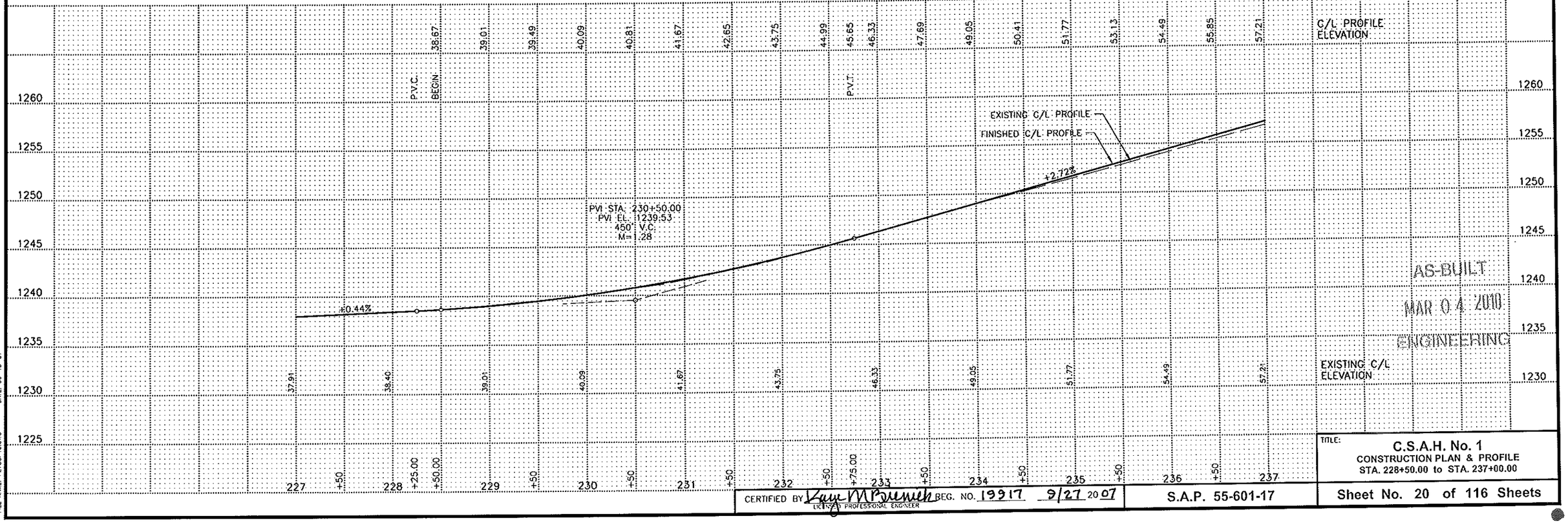
STA. 233+20.05 – DRIVEWAY LT.
INPLACE 18" CMP
LEAVE AS IS

STA. 234+59.50 – FIELD ENT. LT.
INPLACE 18" CMP
LEAVE AS IS



PI STA. 228+23.61
Δ=00°08'55" LT.
X=633900.9064
Y=131927.0231

0 25 50 100
SCALE IN FEET



AS-BUILT
MAR 04 2010
ENGINEERING

CERTIFIED BY Kaye M Prunuch REG. NO. 19917 9/27 2007
LICENSED PROFESSIONAL ENGINEER

S.A.P. 55-601-17

TITLE:
C.S.A.H. No. 1
CONSTRUCTION PLAN & PROFILE
STA. 228+50.00 to STA. 237+00.00

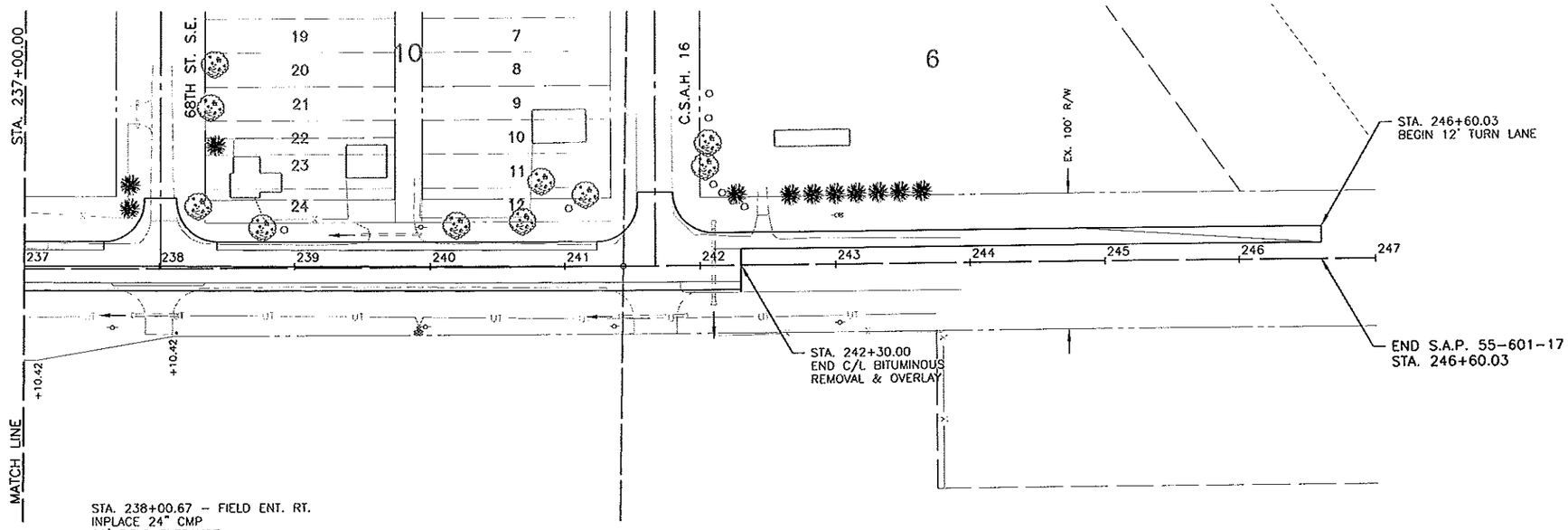
Sheet No. 20 of 116 Sheets

DATE: 06-15-07
FILE NAME: P273CP10.DWG

STA. 238+01.03 – 68TH ST. S.E.
NO INPLACE CULVERT
24' STREET APPROACH

STA. 239+76.10 – ALLEY LT.
INPLACE 18" CMP
LEAVE AS IS

STA. 241+67.03 – C.S.A.H. 16 (WEST)
NO INPLACE CULVERT
26' STREET APPROACH



STA. 238+00.67 – FIELD ENT. RT.
INPLACE 24" CMP
20' FIELD ENTRANCE

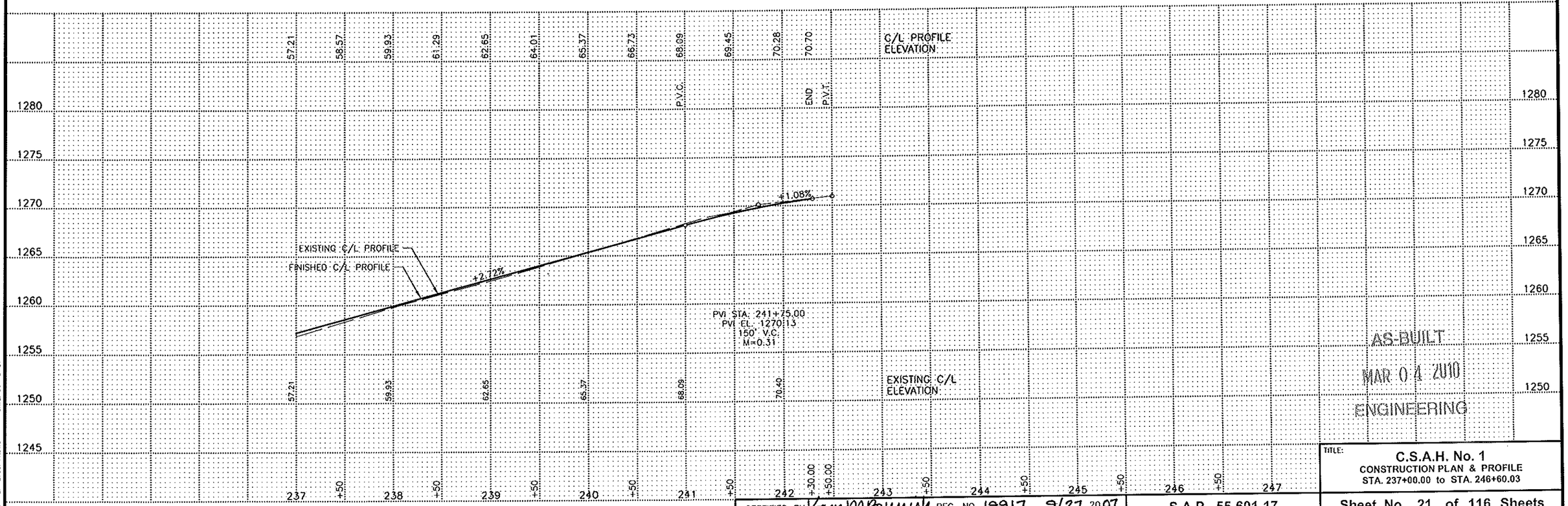
STA. 241+67.03 – FIELD ENT. RT.
INPLACE 24" CMP
32' FIELD ENTRANCE

PI STA. 241+43.30
Δ=00°16'17" LT.
X=633887.4582
Y=133246.6453

STA. 242+10.00 – C/L
INPLACE 28" SPAN RCP-A

POT STA. 247+00.00
X=633879.1493
Y=133803.2778

0 25 50 100
SCALE IN FEET



AS-BUILT
MAR 04 2010
ENGINEERING

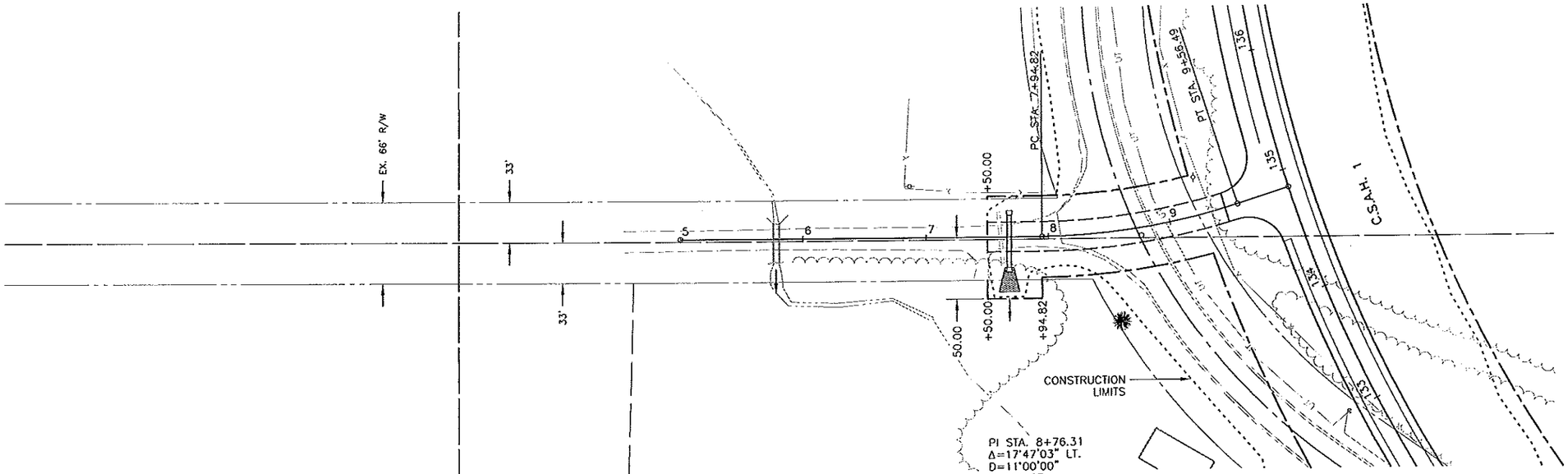
CERTIFIED BY Vaye M Brunsell REG. NO. 19917 9/27 2007
LICENSED PROFESSIONAL ENGINEER

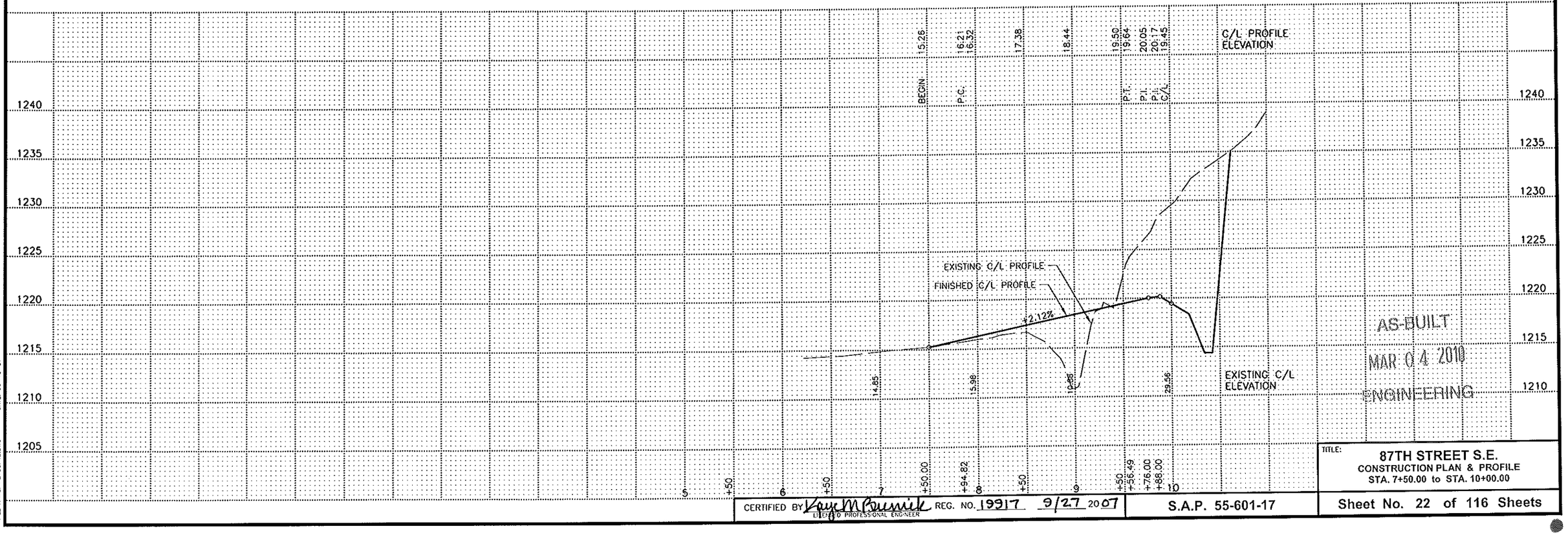
TITLE: C.S.A.H. No. 1
CONSTRUCTION PLAN & PROFILE
STA. 237+00.00 to STA. 246+60.03

S.A.P. 55-601-17

Sheet No. 21 of 116 Sheets

DATE: 06-15-07
FILE NAME: P272CP11.DWG





AS-BUILT
MAR 04 2010
ENGINEERING

TITLE: 87TH STREET S.E.
CONSTRUCTION PLAN & PROFILE
STA. 7+50.00 to STA. 10+00.00

CERTIFIED BY Kaye M Bauernik REG. NO. 19917 9/27 2007
LICENSED PROFESSIONAL ENGINEER

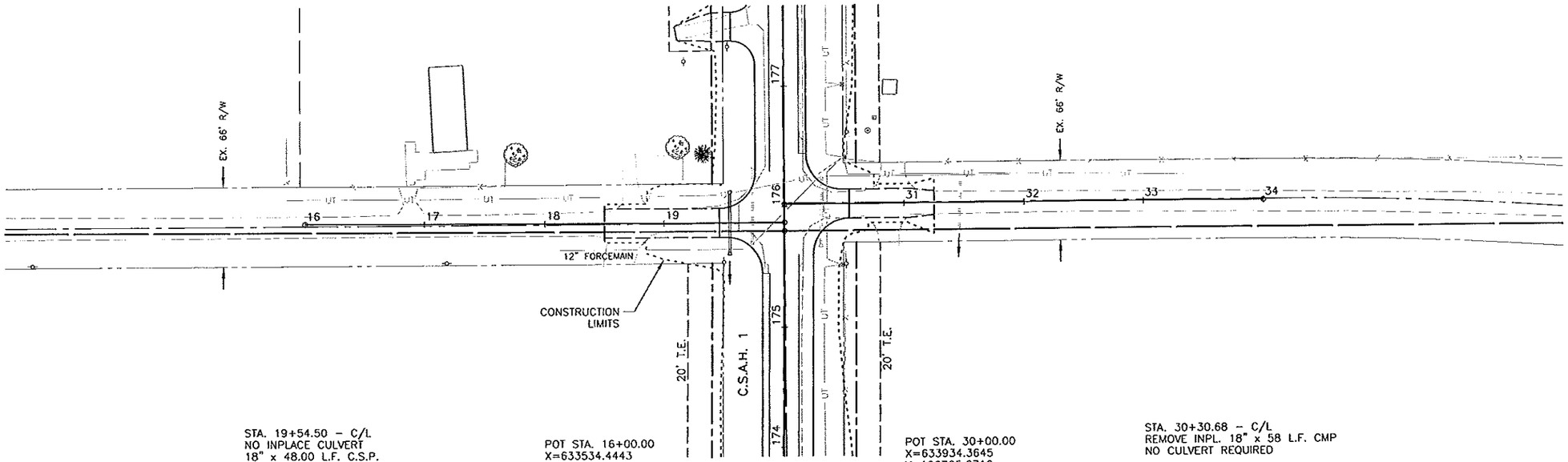
S.A.P. 55-601-17

Sheet No. 22 of 116 Sheets

DATE: 06-15-07
FILE NAME: P2750P12.DWG

STA. 18+73.00 – DRIVEWAY LT.
NO INPLACE CULVERT
NO CULVERT REQUIRED
LEAVE AS IS

STA. 30+88.00 – FIELD ENT. LT.
NO INPLACE CULVERT
NO CULVERT REQUIRED
LEAVE AS IS



STA. 18+63.00 – FIELD ENT. RT.
NO INPLACE CULVERT
NO CULVERT REQUIRED
LEAVE AS IS

STA. 19+54.50 – C/L
NO INPLACE CULVERT
18" x 48.00 L.F. C.S.P.
2 – 18" G.S. APRONS

STA. 19+73.48 – C/L
REMOVE INPL. 18" x 64 L.F. CMP
NO CULVERT REQUIRED

POT STA. 16+00.00
X=633534.4443
Y=126689.8478

POT STA. 20+00.00
X=633934.4439
Y=126690.4217

POT STA. 30+00.00
X=633934.3645
Y=126705.6716

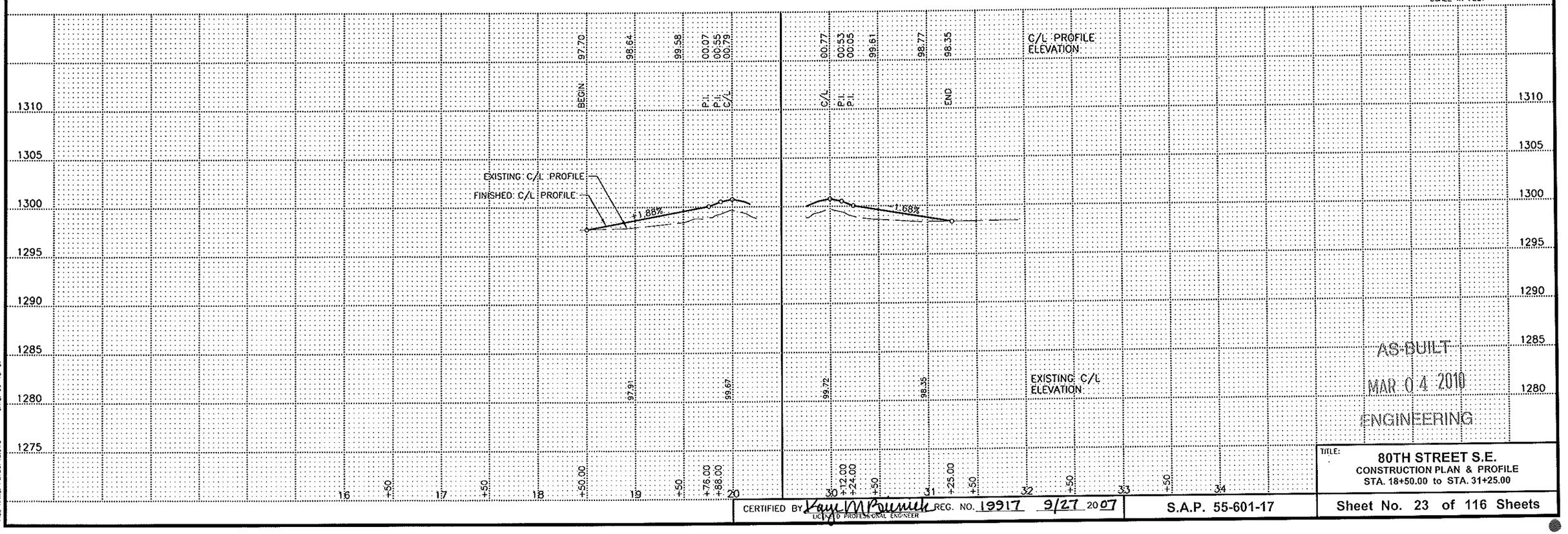
POT STA. 34+00.00
X=634334.3644
Y=126705.9273

STA. 30+30.68 – C/L
REMOVE INPL. 18" x 58 L.F. CMP
NO CULVERT REQUIRED

STA. 30+93.00 – FIELD ENT. RT.
NO INPLACE CULVERT
NO CULVERT REQUIRED
LEAVE AS IS

N

0 25 50 100
SCALE IN FEET



AS-BUILT
MAR 04 2010
ENGINEERING

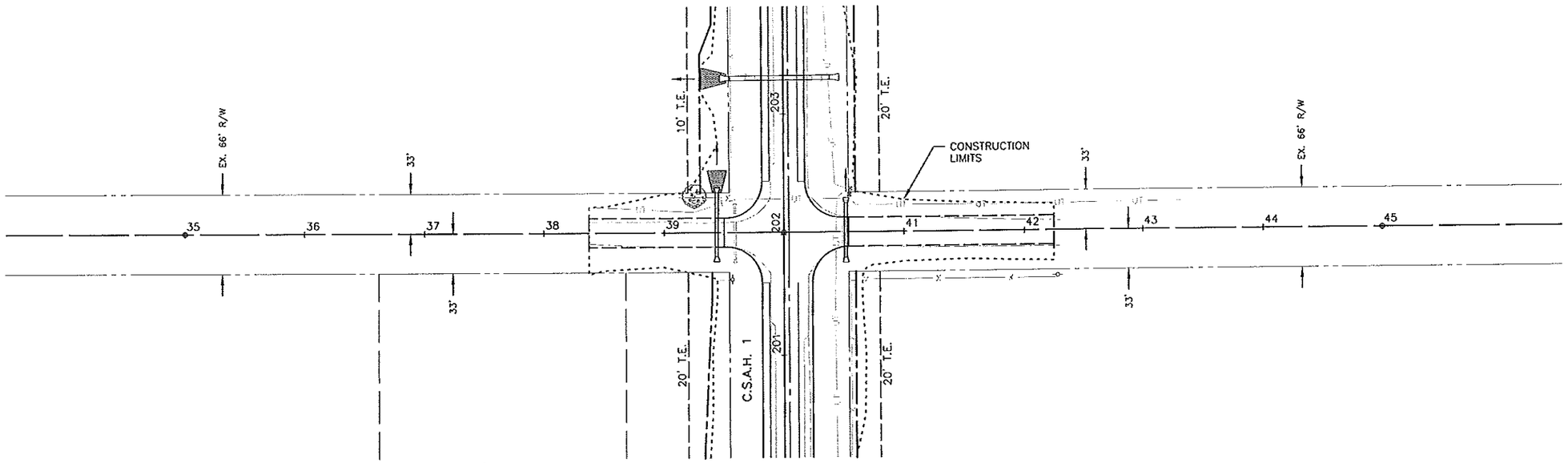
TITLE: 80TH STREET S.E.
CONSTRUCTION PLAN & PROFILE
STA. 18+50.00 to STA. 31+25.00

CERTIFIED BY Paul M Bourne REG. NO. 19917 9/27 2007
LICENSED PROFESSIONAL ENGINEER

S.A.P. 55-601-17

Sheet No. 23 of 116 Sheets

FILE NAME: P270SP13.DWG
DATE: 05-15-07



POT STA. 35+00.00
X=633420.8187
Y=129304.1443

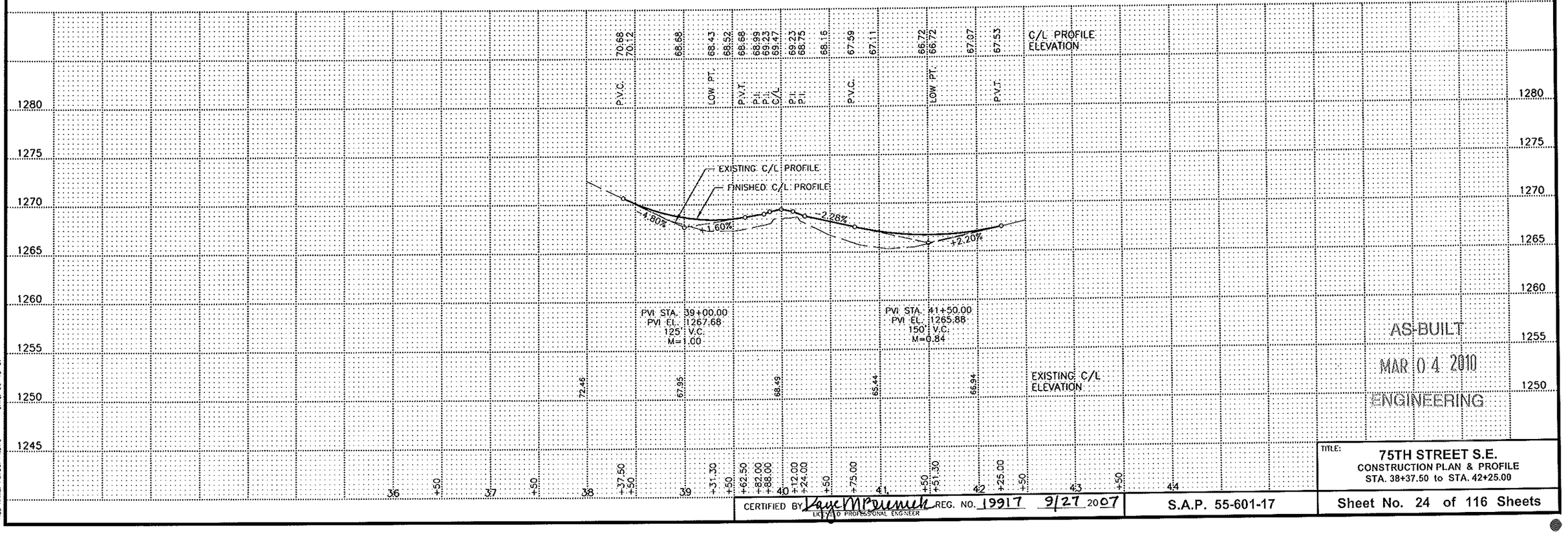
STA. 39+44.00 – C/L
REMOVE INPL. 30" x 49 L.F. CMP
30" x 53.00 L.F. C.S.P.
2 – 30" G.S. APRONS
13 C.Y. CL. III RIPRAP AT OUTLET

POT STA. 40+00.00
X=633920.8169
Y=129305.5046

STA. 40+52.00 – C/L
REMOVE INPL. 30" x 49 L.F. CMP
30" x 45.00 L.F. C.S.P.
2 – 30" G.S. APRONS

POT STA. 45+00.00
X=634420.8150
Y=129306.8648

0 25 50 100
SCALE IN FEET



AS-BUILT
MAR 04 2010
ENGINEERING

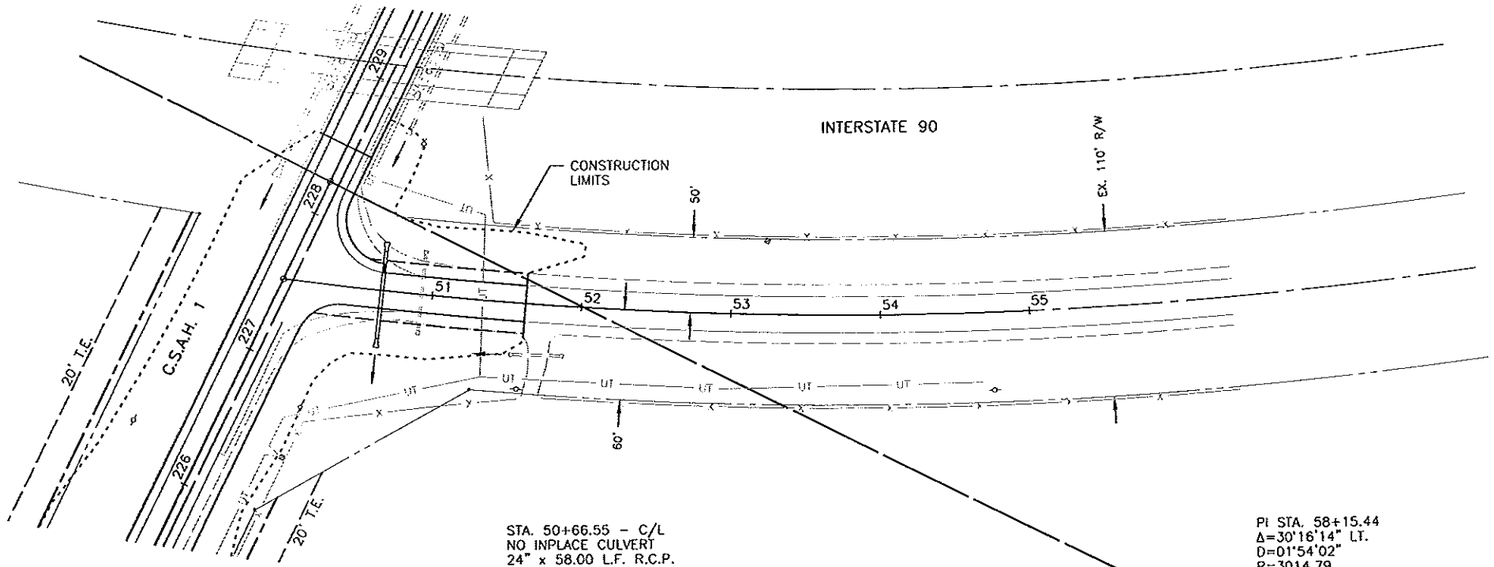
TITLE: 75TH STREET S.E.
CONSTRUCTION PLAN & PROFILE
STA. 38+37.50 to STA. 42+25.00

CERTIFIED BY Kay M Pruemer REG. NO. 19917 9/27 2007
LICENSED PROFESSIONAL ENGINEER

S.A.P. 55-601-17

Sheet No. 24 of 116 Sheets

FILE NAME: P273SP14.DWG DATE: 06-15-07



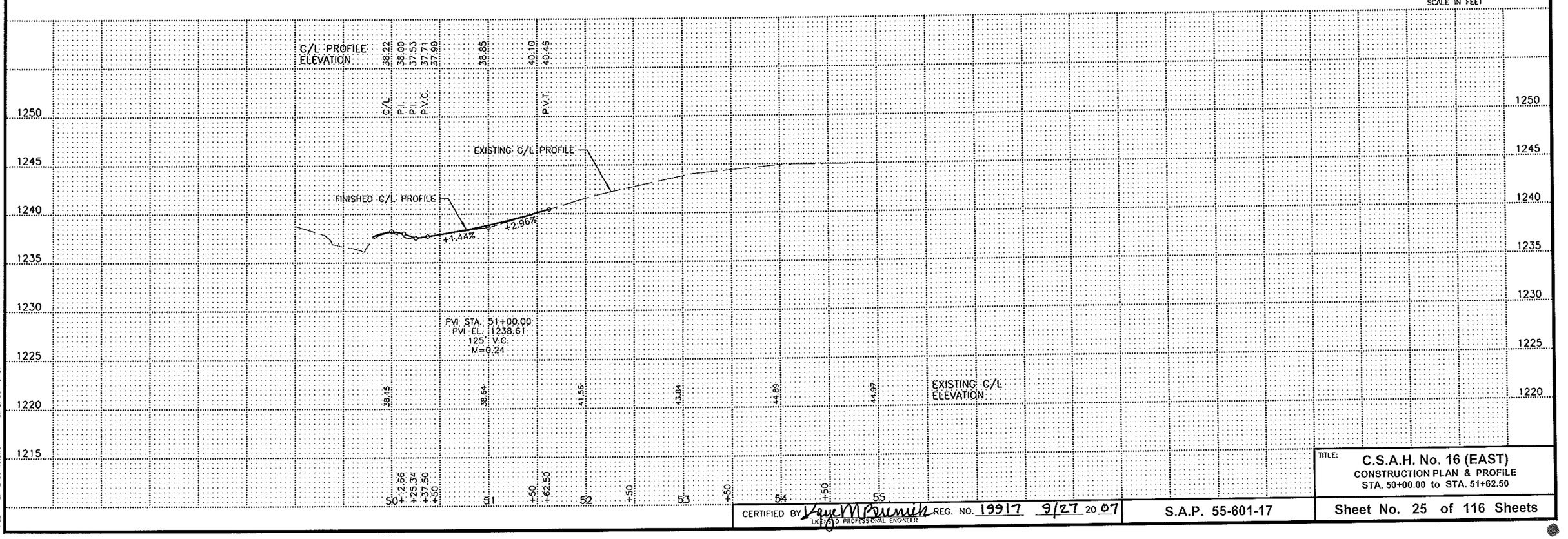
PC STA. 50+00.00
X=633901.4508
Y=131855.3402

STA. 50+66.55 – C/L
NO INPLACE CULVERT
24" x 58.00 L.F. R.C.P.
2 – 24" R.C.P. APRONS

STA. 50+93.07 – C/L
REMOVE INPL. 24" x 56 L.F. CMP
NO CULVERT REQUIRED

PI STA. 58+15.44
Δ=30°16'14" LT.
D=01°54'02"
R=3014.79
L=1592.77
T=815.44
X=634672.8666
Y=132119.6598

0 25 50 100
SCALE IN FEET



DATE: 08-13-07

FILE NAME: P273CP15.DWG

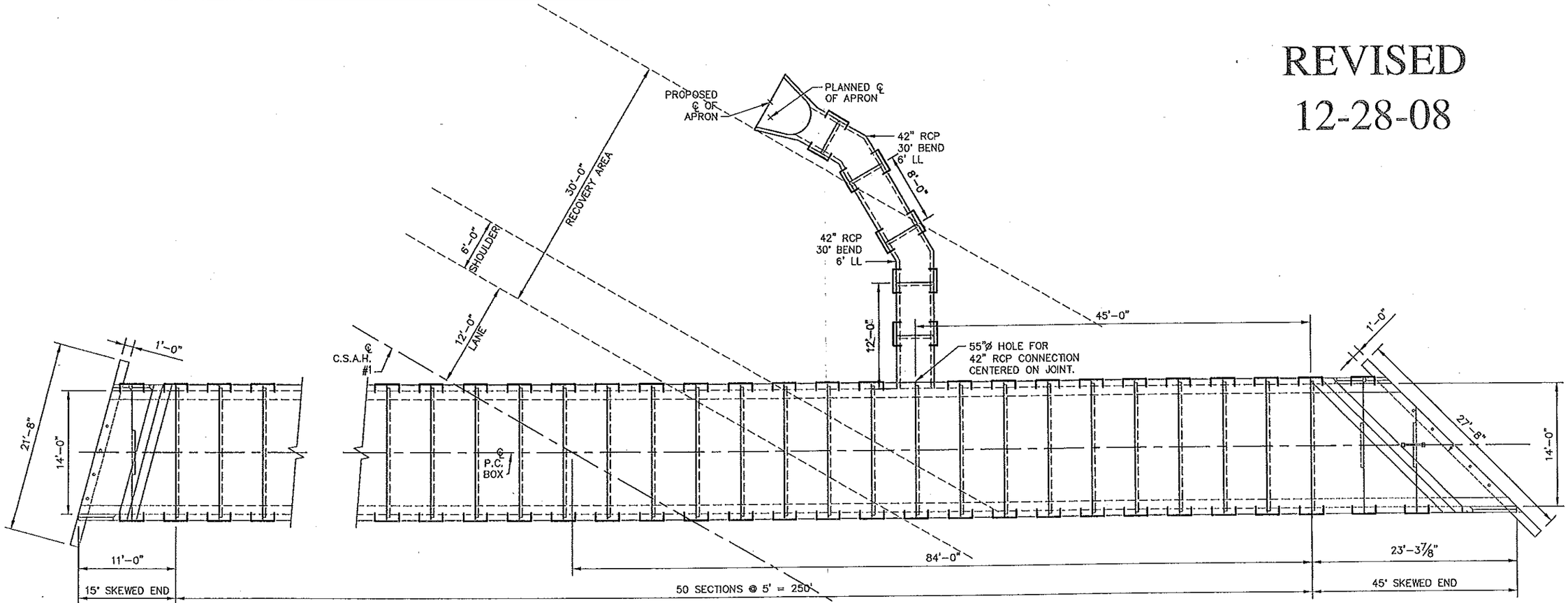
CERTIFIED BY Vance M Brunsvik REG. NO. 19917 9/27 20 07
LICENSED PROFESSIONAL ENGINEER

S.A.P. 55-601-17

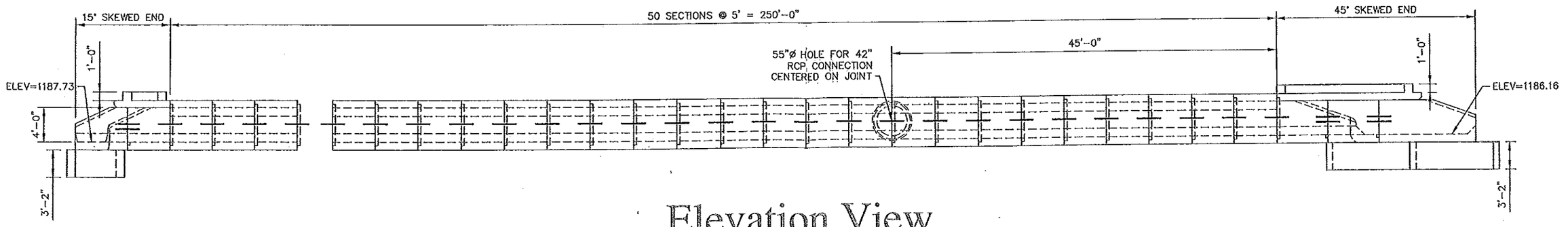
TITLE: C.S.A.H. No. 16 (EAST)
CONSTRUCTION PLAN & PROFILE
STA. 50+00.00 to STA. 51+62.50

Sheet No. 25 of 116 Sheets

REVISED
12-28-08



Plan View



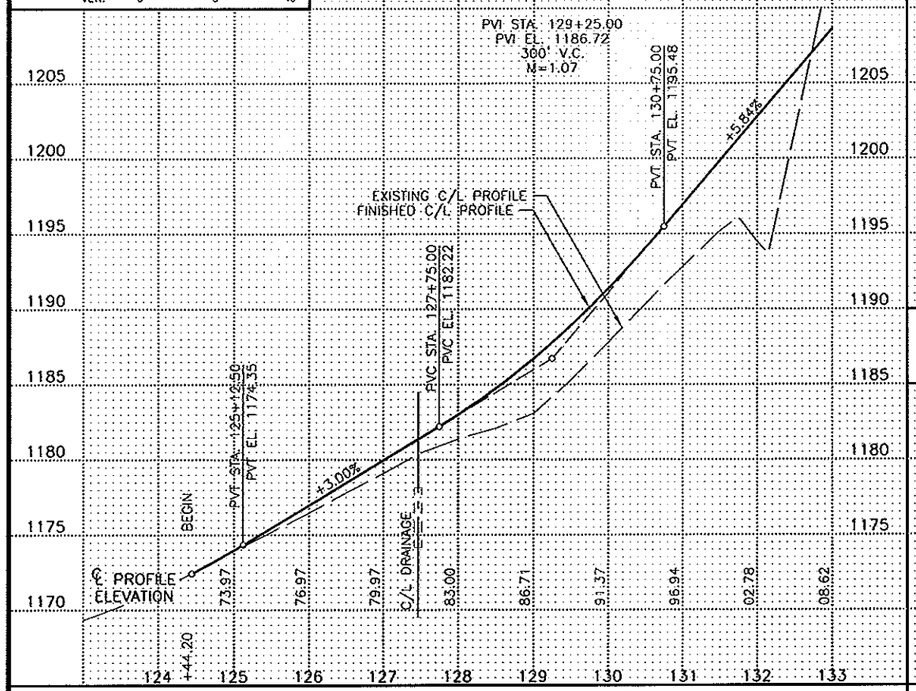
Elevation View

Architect: MN/ DOT Location: Olmsted County, MN	DRN. BY, Colly Findlay DATE: 12/27/2007	Project: SAP 55-601-17 Contractor: Holm Bros	HANCOCK Concrete Products Company, Inc.	TITLE: 14' x 4' Precast Box w/ 42" RCP Connection	SHEET: 1 OF: 1

Approved CSAH 1 - 8-07

CONTRACTED PROFILE

SCALE: HOR. 0 100 200
VER. 0 5 10

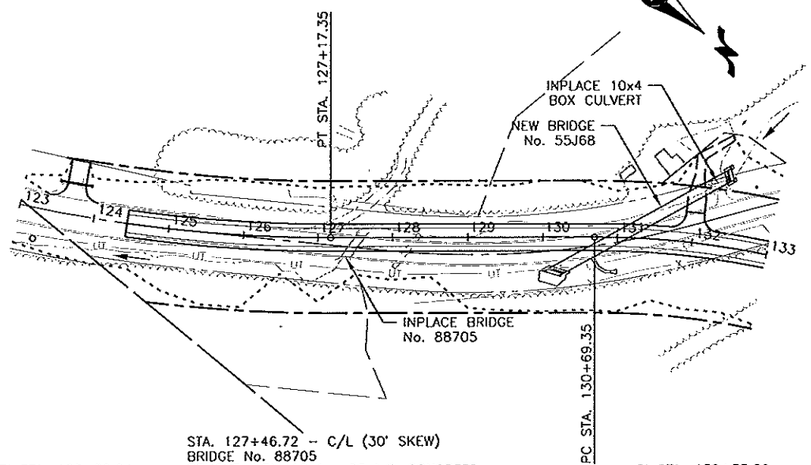


PLAT

0 100 200

1. UTILITIES ARE PRESENT IN CONSTRUCTION AREA. CONTRACTOR SHALL LOCATE AND PROTECT ALL UNDERGROUND UTILITIES.

TELEPHONE – QWEST (UNDERGROUND)
ELECTRIC – PEOPLES CO-OP (OVERHEAD)



PI STA. 123+30.94
Δ=23°31'15" LT.
D=03°00'00"
R=1909.86
L=784.02
T=397.61
X=633992.7204
Y=121828.8259

STA. 127+46.72 – C/L (30° SKEW)
BRIDGE No. 88705
REMOVE INPL. 10x4 x 36 L.F. CONCRETE BOX CULVERT AND CONCRETE WINGWALLS

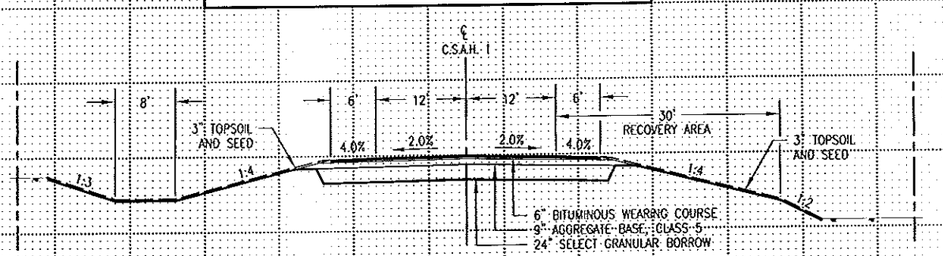
STA. 131+00.00 – C/L (60° SKEW)
BRIDGE No. 55J68
14x4 x 250.00 L.F. P.C. BOX CULVERT
1 – 14x4 P.C. END SECTION (15° SKEW, INLET)
1 – 14x4 P.C. END SECTION (45° SKEW, OUTLET)

PI STA. 139+33.09
Δ=76°43'09" RT.
D=05°15'00"
R=1091.35
L=1461.32
T=863.74
X=632959.6011
Y=123068.0015

FILE NAME: P2739S01.DWG DATE: 06-14-07

TYPICAL SECTIONS & PERTINENT DATA

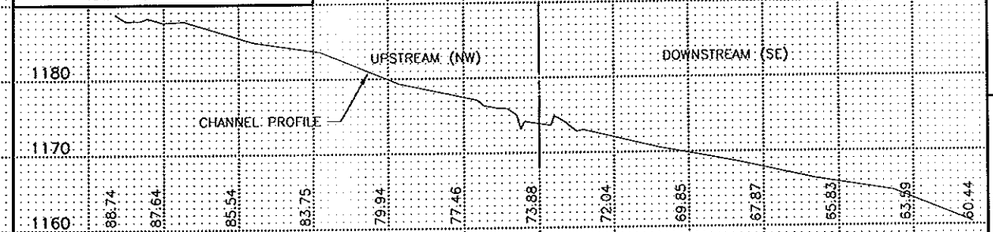
SCALES AS SHOWN



PROPOSED TYPICAL SECTION

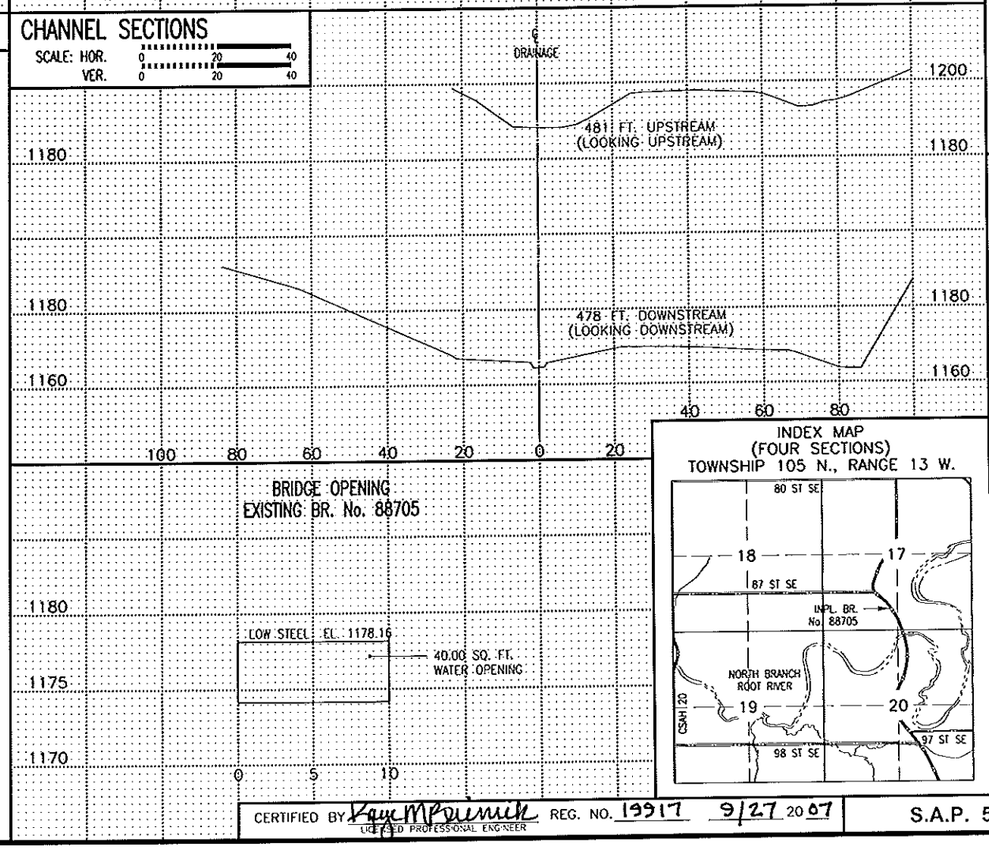
CHANNEL PROFILE

SCALE: HOR. 0 100 200
VER. 0 10 20



CHANNEL SECTIONS

SCALE: HOR. 0 20 40
VER. 0 20 40



BRIDGE OPENING
EXISTING BR. No. 88705

INDEX MAP
(FOUR SECTIONS)
TOWNSHIP 105 N., RANGE 13 W.

CERTIFIED BY Ray M Pomush REG. NO. 19917 9/27 2007
LICENSED PROFESSIONAL ENGINEER

S.A.P. 55-601-17

Fed. Proj. No. .

LOCATION ENGINEER'S OBSERVATIONS AT BRIDGE SITE

1. Special Features: Waterfalls, dams, floods, ice, debris, sliding banks, recreational boating

2. Other bridges or culverts over the same stream (particularly structures which carry high water without overflow of roadway): Given location, type, length, height above high water, cross-sectional area, etc.

3. Apparent highwater elevation _____ Obtained from _____

4. Other data: Approx. velocity of water at time of survey _____

HYDRAULIC ENGINEER'S RECOMMENDATION

DATE 01-03-07

Stream or ditch designation UNNAMED
Drainage area 0.39 SQ. MI.
Max. flood on record UNKNOWN Design flood (100 yr. freq.) 540 C.F.S.
Max. observed highwater elevation UNKNOWN Design highwater elevation 1194.5
Design mean velocity through structure 12.8 F.P.S. _____
Low superstructure at or above elevation 1191.73
Flowline elevation 1187.73 Skew angle 60°
Waterway area req'd below elevation _____ = _____ Sq. Ft. at Rt. angles to channel

In the interest of flood plain zoning the regional flood (157 yr. freq.) is 845 C.F.S. at stage 1200.0 and mean velocity of 15.1 F.P.S. with 0.0 Ft. swellhead
The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Dept. of Natural Resources.

FOUNDATION ENGINEER'S RECOMMENDATION

DATE _____

AS-BUILT

MAR 04 2010

ENGINEERING

Bridge survey sheets made from: SURVEY CONDUCTED BY OLMSTED COUNTY -- APRIL, 2006

Bench mark elevation 1164.26 (M.S.L. 1929 Adj.)
Location BRASS DISC IN SE CORNER OF BRIDGE 55536

MINNESOTA
DEPARTMENT OF TRANSPORTATION

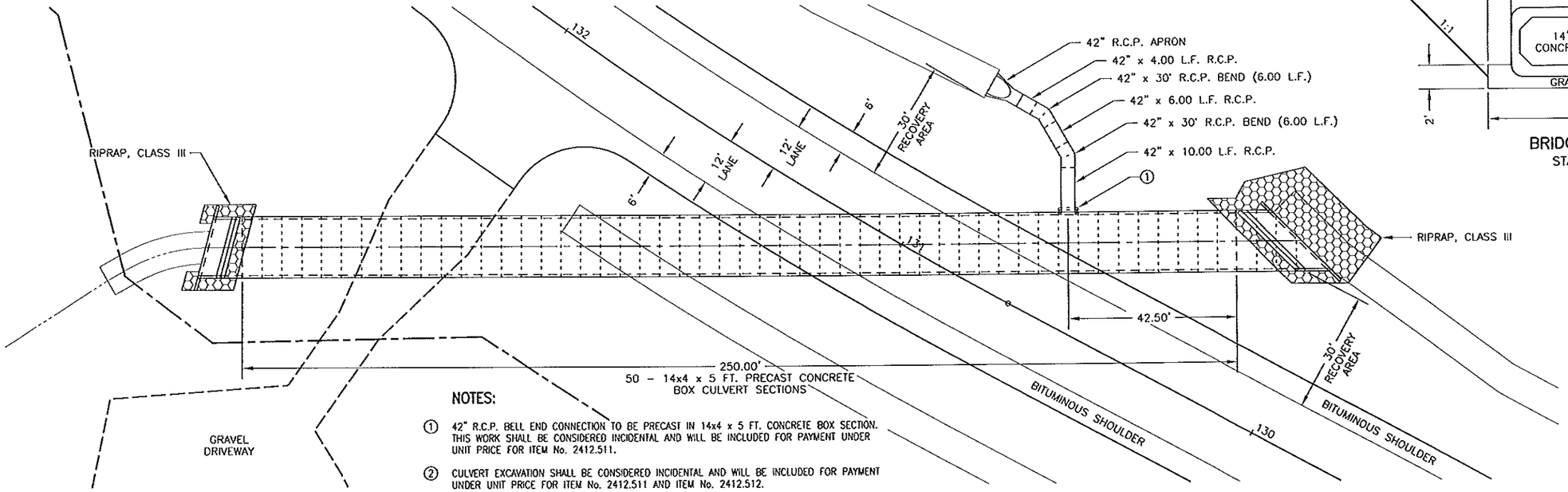
BRIDGE SURVEY

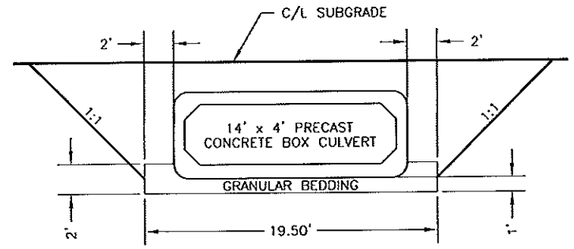
AT MILE POINT _____ ON C.S.A.H. 1 (T.H., C.S.A.H., C.R. etc.)

PROPOSED BRIDGE LOCATED 1.90 mi SOUTH OF JCT. OF C.S.A.H. 16 EAST & C.S.A.H. 1

SEC 17 TWP 105 N. R 13 W.
TOWNSHIP PLEASANT GROVE COUNTY OLMSTED
BRIDGE No. 55J68

Sheet No. 96 of 116 Sheets





BRIDGE No. 55J68
STA. 131+00.00

N

0 15 30
SCALE IN FEET

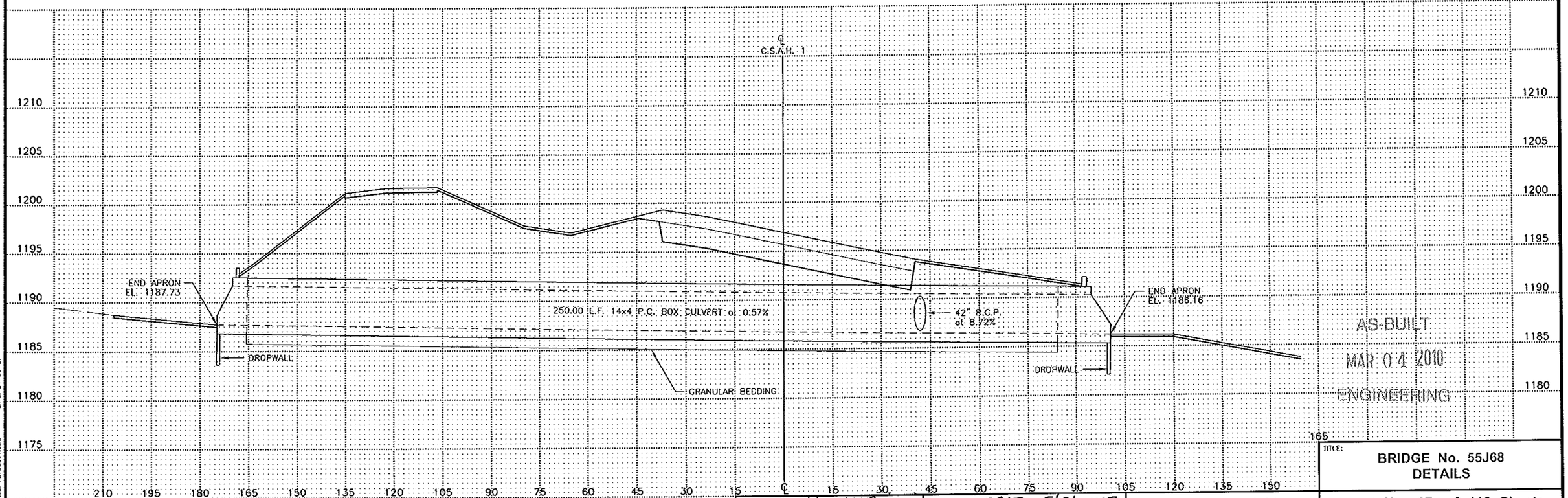
NOTES:

① 42" R.C.P. BELL END CONNECTION TO BE PRECAST IN 14x4 x 5 FT. CONCRETE BOX SECTION. THIS WORK SHALL BE CONSIDERED INCIDENTAL AND WILL BE INCLUDED FOR PAYMENT UNDER UNIT PRICE FOR ITEM No. 2412.511.

② CULVERT EXCAVATION SHALL BE CONSIDERED INCIDENTAL AND WILL BE INCLUDED FOR PAYMENT UNDER UNIT PRICE FOR ITEM No. 2412.511 AND ITEM No. 2412.512.

③ CULVERT TO BE BACKFILLED WITH EXCAVATION MATERIAL WHICH SHALL BE CONSIDERED INCIDENTAL TO UNCLASSIFIED EXCAVATION AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.

④ GRANULAR BEDDING TO BE PLACED UNDER BARREL SECTIONS ONLY.



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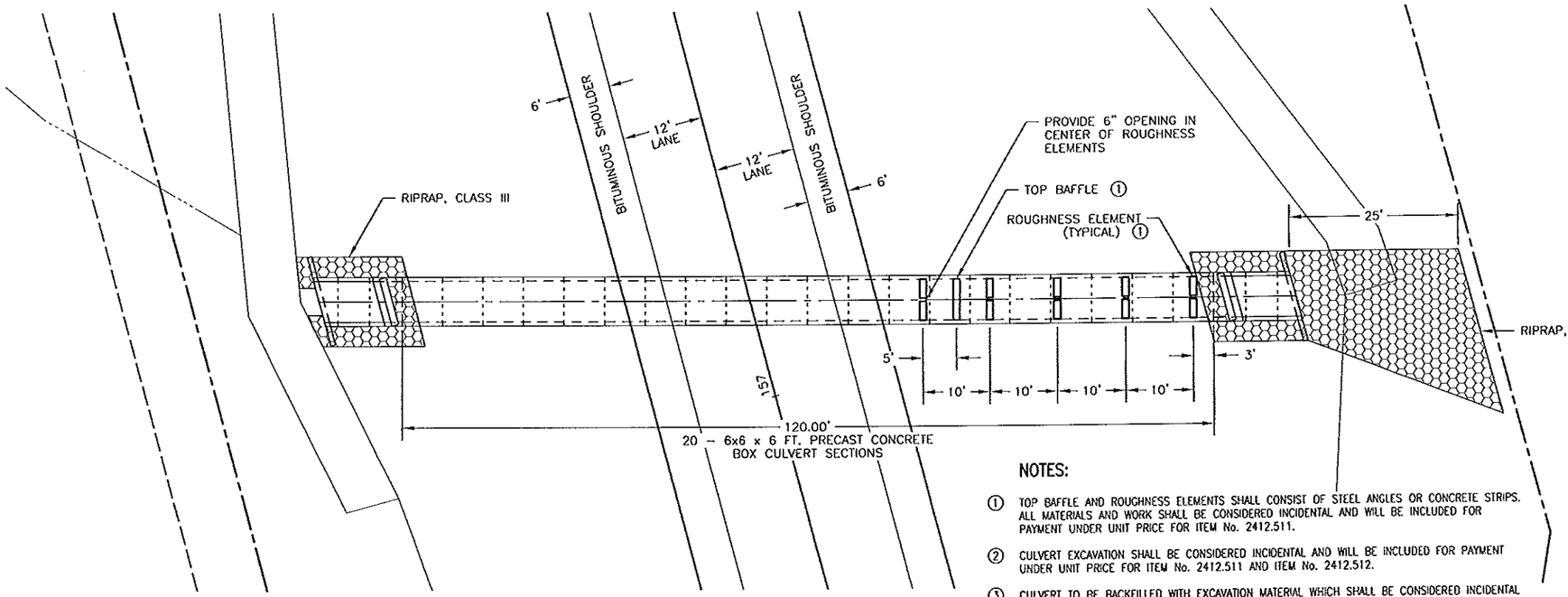
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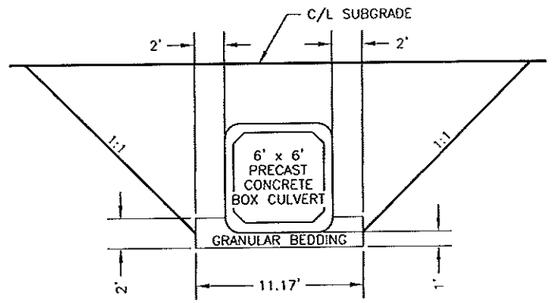
CERTIFIED BY Kay M Buenek REG. NO. 19917 5/21 2007
LICENSED PROFESSIONAL ENGINEER

S.A.P. 55-601-17

TITLE: BRIDGE No. 55J68 DETAILS

Sheet No. 97 of 116 Sheets

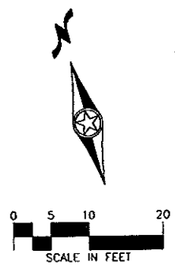


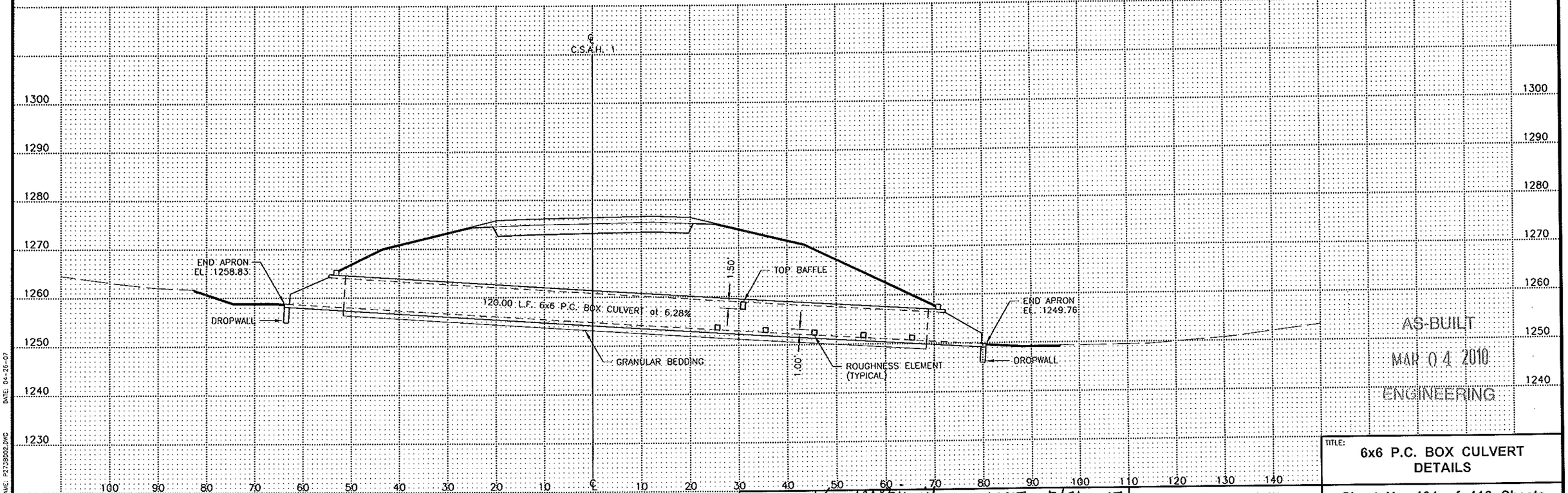


6' x 6' CONCRETE BOX
STA. 157+14.50

NOTES:

1. TOP BAFFLE AND ROUGHNESS ELEMENTS SHALL CONSIST OF STEEL ANGLES OR CONCRETE STRIPS. ALL MATERIALS AND WORK SHALL BE CONSIDERED INCIDENTAL AND WILL BE INCLUDED FOR PAYMENT UNDER UNIT PRICE FOR ITEM No. 2412.511.
2. CULVERT EXCAVATION SHALL BE CONSIDERED INCIDENTAL AND WILL BE INCLUDED FOR PAYMENT UNDER UNIT PRICE FOR ITEM No. 2412.511 AND ITEM No. 2412.512.
3. CULVERT TO BE BACKFILLED WITH EXCAVATION MATERIAL WHICH SHALL BE CONSIDERED INCIDENTAL TO UNCLASSIFIED EXCAVATION AND NO DIRECT COMPENSATION WILL BE MADE THEREFOR.
4. GRANULAR BEDDING TO BE PLACED UNDER BARREL SECTIONS ONLY.





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TITLE: 6x6 P.C. BOX CULVERT DETAILS

S.A.P. 55-601-17

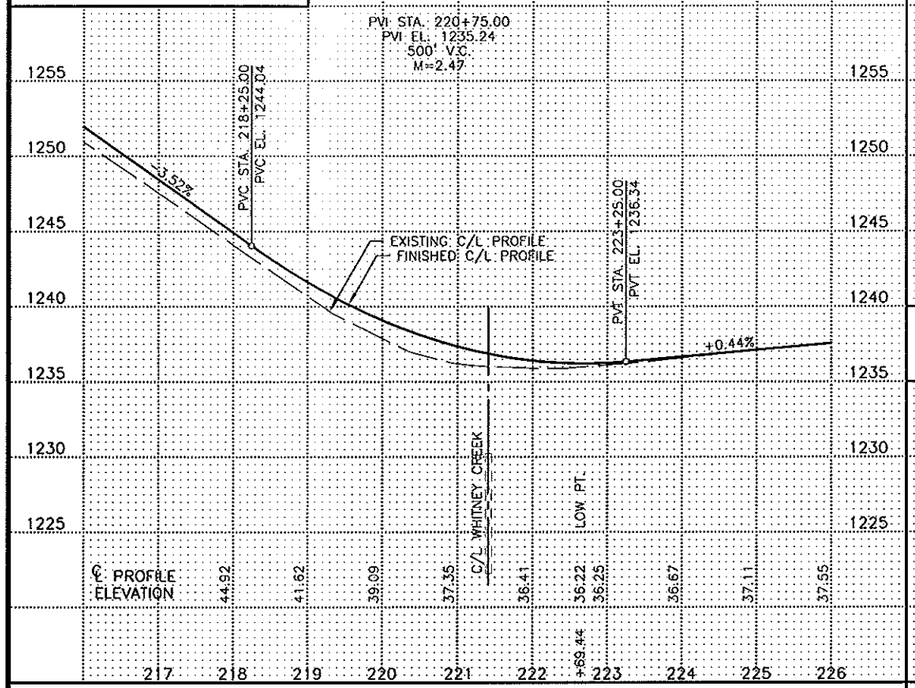
Sheet No. 104 of 116 Sheets

DATE: 04-26-07

FILE NAME: P2738092.DWG

CONTRACTED PROFILE

SCALE: HOR. 0 100 200
VER. 0 5 10

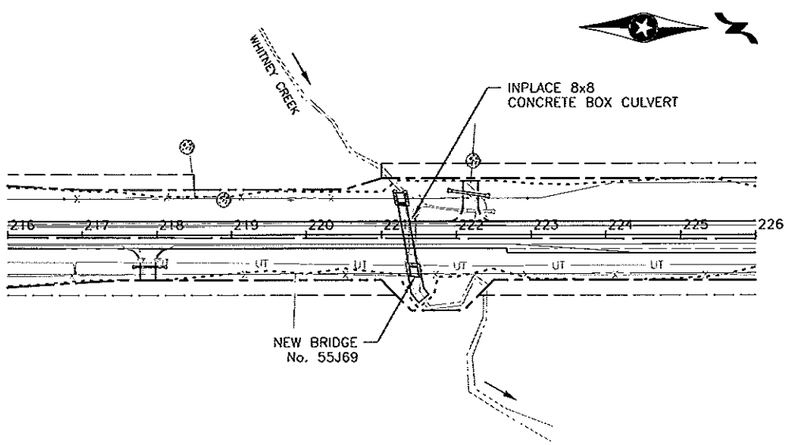


PLAT

SCALE: 0 100 200

1. UTILITIES ARE PRESENT IN CONSTRUCTION AREA. CONTRACTOR SHALL LOCATE AND PROTECT ALL UNDERGROUND UTILITIES.

TELEPHONE – QWEST (UNDERGROUND)
ELECTRIC – PEOPLES CO-OP (OVERHEAD)



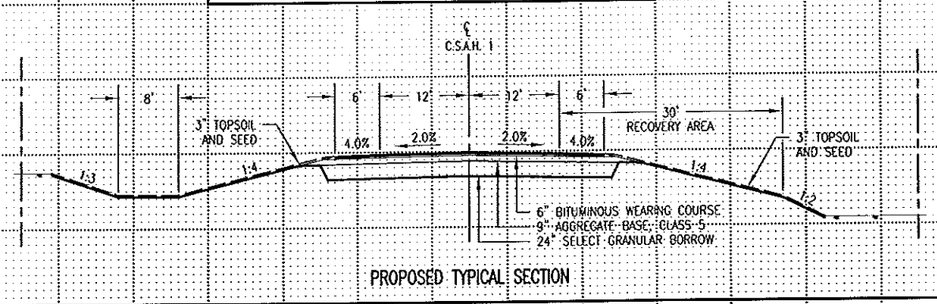
STA. 221+35.00 – C/L (10° SKEW)
BRIDGE No. 55J69
REMOVE INPL. 8x8 x 49 L.F. CONCRETE BOX CULVERT AND CONCRETE WINGWALLS
10x8 x 79.00 L.F. P.C. BOX CULVERT
2 – 10x8 P.C. END SECTIONS (15° SKEW)
9 C.Y. CL. III RIPRAP AT INLET
39 C.Y. CL. III RIPRAP AT OUTLET

POT STA. 216+00.00
X=633910.1995
Y=130703.4436
AZ=359°33'53"

POT STA. 226+00.00
X=633902.6047
Y=131703.4148
AZ=359°33'53"

TYPICAL SECTIONS & PERTINENT DATA

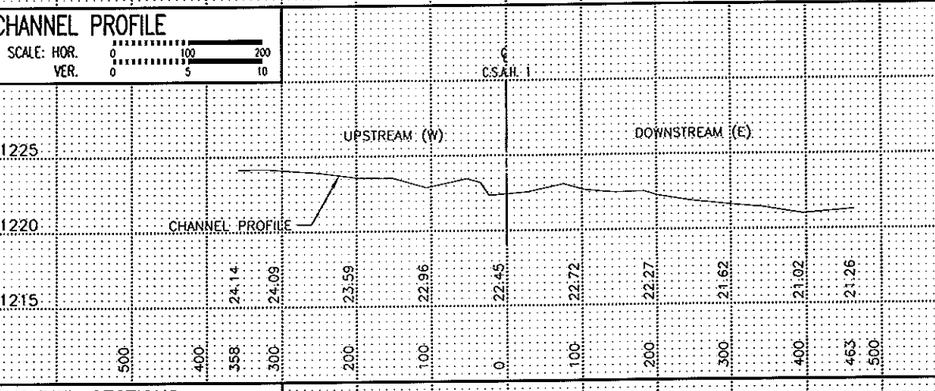
SCALES AS SHOWN



PROPOSED TYPICAL SECTION

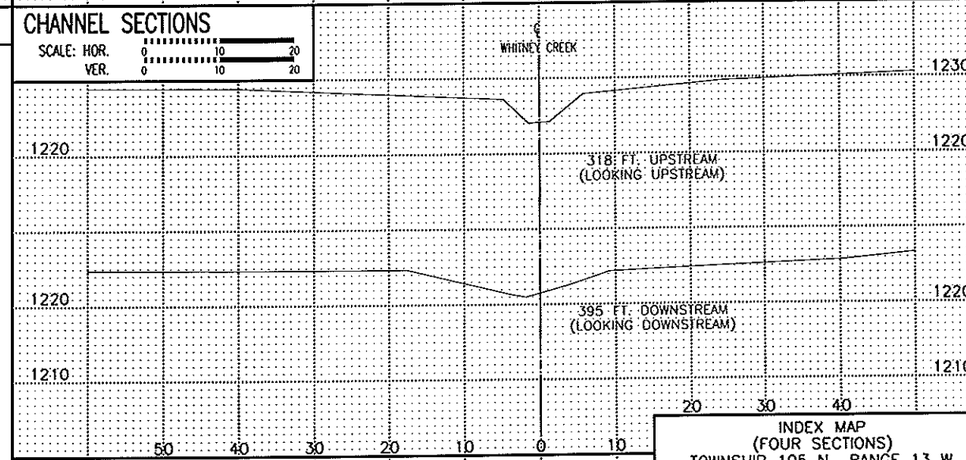
CHANNEL PROFILE

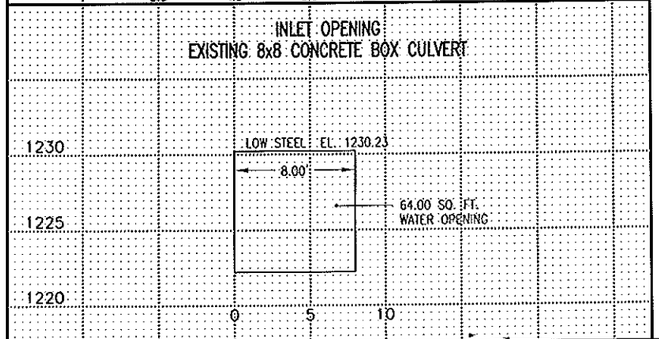
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VER. 0 5 10



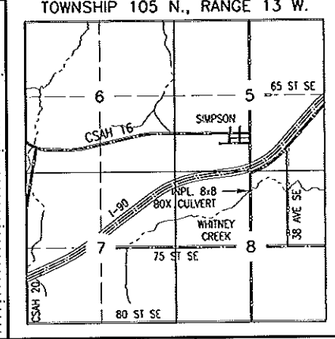
CHANNEL SECTIONS

SCALE: HOR. 0 10 20
VER. 0 10 20





INDEX MAP
(FOUR SECTIONS)
TOWNSHIP 105 N., RANGE 13 W.



Fed. Proj. No. .

LOCATION ENGINEER'S OBSERVATIONS AT BRIDGE SITE

1. Special Features: Waterfalls, dams, floods, ice, debris, sliding banks, recreational boating

2. Other bridges or culverts over the same stream (particularly structures which carry high water without overflow of roadway): Given location, type, length, height above high water, cross-sectional area, etc.

3. Apparent highwater elevation _____ Obtained from _____

4. Other data: Approx. velocity of water at time of survey _____

HYDRAULIC ENGINEER'S RECOMMENDATION

DATE 10-24-06

Stream or ditch designation WHITNEY CREEK
Drainage area 1.2 SQ. MI.
Max. flood on record UNKNOWN Design flood (100 yr. freq.) 750 C.F.S.
Max. observed highwater elevation UNKNOWN Design highwater elevation 1229.2
Design mean velocity through structure 11.5 F.P.S. _____
Low superstructure at or above elevation 1231.0
Flowline elevation 1223.0 Skew angle 10°
Waterway area req'd below elevation _____ = _____ Sq. Ft. at Rt. angles to channel

In the interest of flood plain zoning the regional flood (153 yr. freq.) is 1144 C.F.S. at stage 1236.2 and mean velocity of 15.4 F.P.S. with 0.0 Ft. freeboard
The above recommendation will provide a structure of adequate waterway to pass the regional flood within criteria established by the Dept. of Natural Resources.

FOUNDATION ENGINEER'S RECOMMENDATION

DATE _____

AS-BUILT

MAR 04 2010

ENGINEERING

Bridge survey sheets made from: SURVEY CONDUCTED BY OLMSTED COUNTY – MAY, 2006

Bench mark elevation 1261.47 (M.S.L. 1929 Adj.)
Location BRASS DISC IN SE CORNER OF BRIDGE 55806

MINNESOTA
DEPARTMENT OF TRANSPORTATION

BRIDGE SURVEY

AT MILE POINT _____ ON C.S.A.H. 1 (T.H., C.S.A.H., C.R. etc.)

PROPOSED BRIDGE LOCATED 0.10 mi SOUTH OF JCT. OF CS.A.H. 16 EAST & C.S.A.H. 1

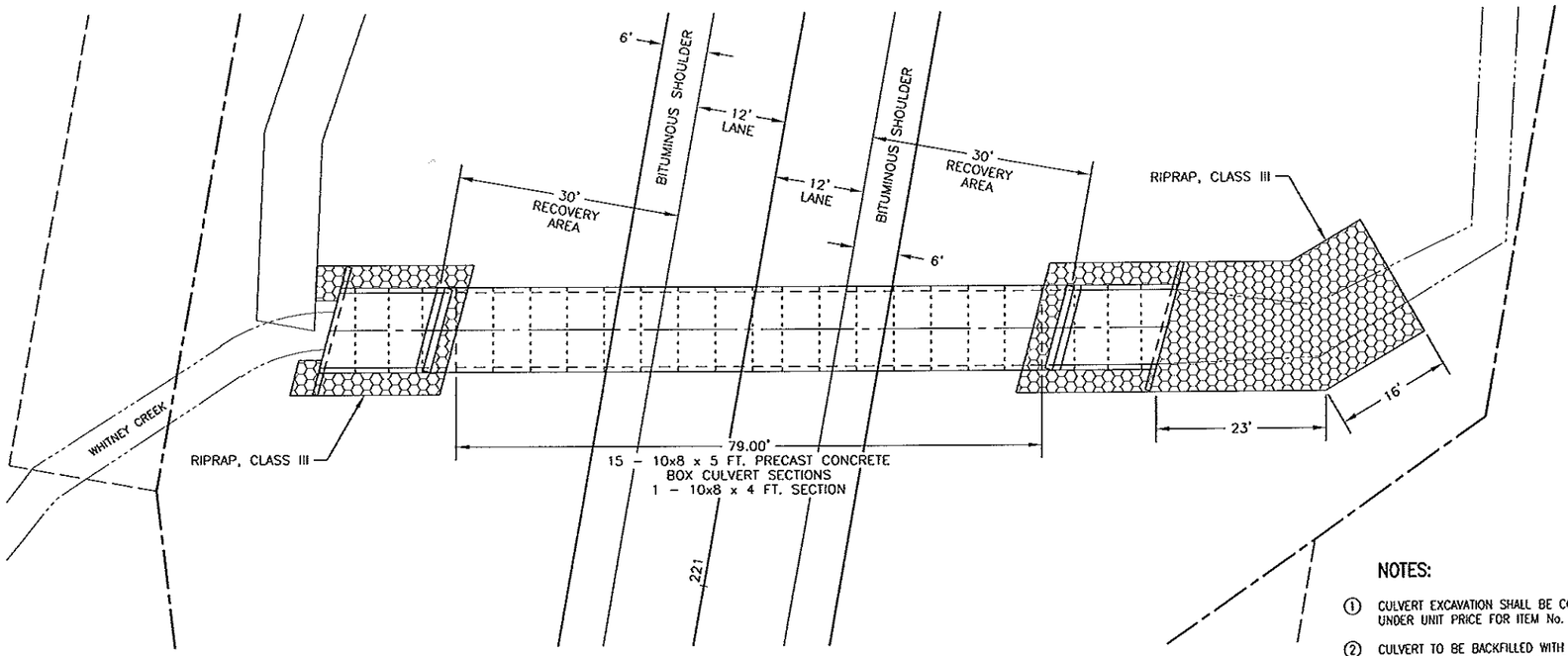
SEC 8 TWP 105 N. R 13 W.
TOWNSHIP PLEASANT GROVE COUNTY OLMSTED
BRIDGE No. 55J69

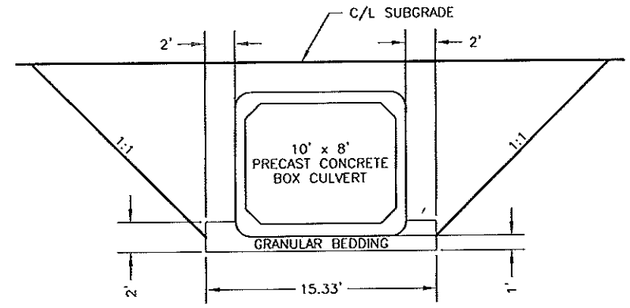
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S.A.P. 55-601-17

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FILE NAME: P2738502.DWG DATE: 06-14-07

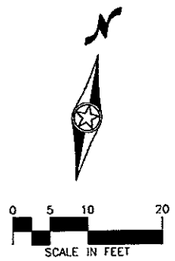


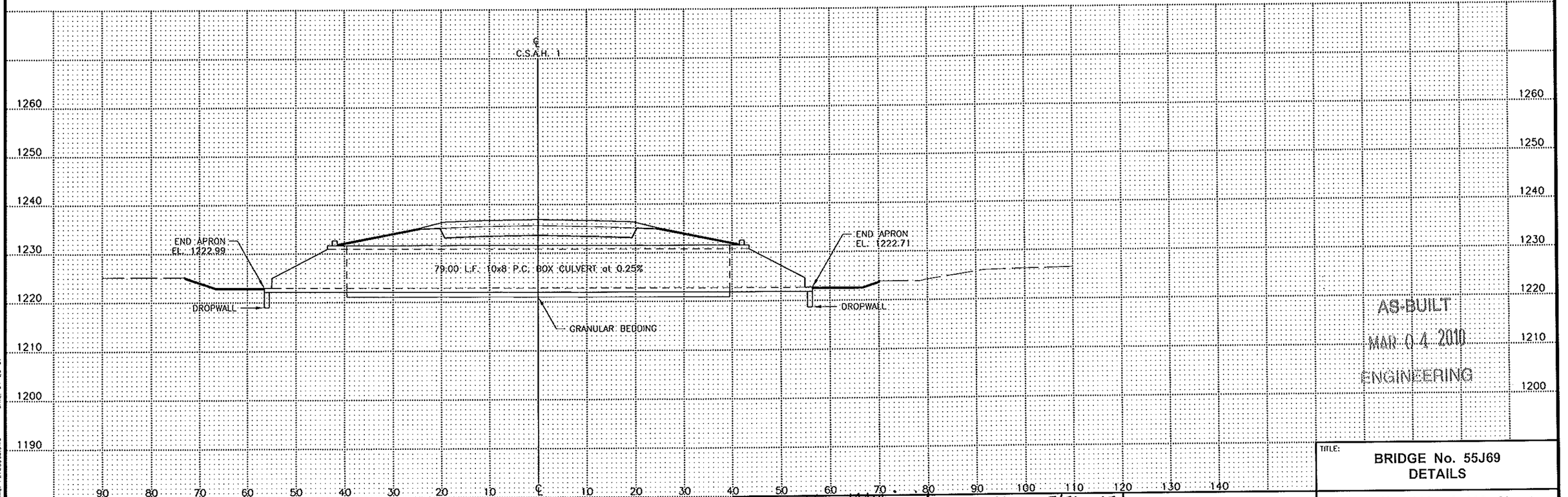


BRIDGE No. 55J69
STA. 221+35.00

NOTES:

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MAR 04 2010
ENGINEERING

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LICENSED PROFESSIONAL ENGINEER

TITLE: BRIDGE No. 55J69 DETAILS	
S.A.P. 55-601-17	Sheet No. 110 of 116 Sheets

DATE: 04-26-07
FILE NAME: P2738503.DWG