

UTILITIES

WISCONSIN ELECTRIC POWER COMPANY
100 WEST LAWRENCE STREET
APPLETON, WISCONSIN 54911
ATTENTION: MR. N. P. SCHEMM
DIGGERS HOTLINE
TELEPHONE 1-414-735-8445

GENERAL TELEPHONE COMPANY OF WISCONSIN
3203 LINCOLN AVENUE
TWO RIVERS, WISCONSIN 54241
ATTENTION: MR. R. J. DUCKETT, SUPERVISOR-NETWORK FACILITIES
DIGGERS HOTLINE
TELEPHONE 1-800-242-8511
TOLL FREE

WISCONSIN GAS COMPANY
1921 SOUTH 8th STREET
P.O. BOX 789
WISCONSIN RAPIDS, WISCONSIN 54494
ATTENTION: MR. DEAN SULLIVAN
TELEPHONE 1-715-432-2800

DEPARTMENT OF PUBLIC WORKS
800 WEST PEARL STREET
SEYMOUR, WISCONSIN 54165
ATTENTION: MR. EARL GOSSE
TELEPHONE 1-414-833-2397

STANDARD DETAIL DRAWINGS

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GENERAL NOTES

THE LOCATION OF EXISTING AND PROPOSED UTILITY FACILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

THE UTILITIES SHALL ADJUST THEIR FACILITIES TO FIT THE NEW HIGHWAY CONSTRUCTION.

INLET AND DISCHARGE ELEVATIONS SHOWN ON THE PLAN SHEETS ARE APPROXIMATE AND SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. EXACT LOCATION OF THE MAINLINE, SIDE ROAD, PRIVATE AND FIELD ENTRANCE CULVERT PIPES SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

CUBIC YARDS OF FILL AS SHOWN ON THE PLAN SHEETS PERTAINS TO EMBANKMENT CONSTRUCTED FROM UNCLASSIFIED EXCAVATION. THE VOLUME OF THE FILL WAS EXPANDED BY 33% TO 43% TO DETERMINE THE AMOUNT OF MATERIAL NECESSARY TO COMPLETE THE EMBANKMENT.

WHEN THE QUANTITY OF THE ITEM OF BASE COURSE OR SUBBASE COURSE IS MEASURED BY THE TON, THE DEPTH OF THICKNESS AS SHOWN ON THE PLAN IS APPROXIMATE. THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE FERTILIZED, SEED, AND MULCH AS DIRECTED BY THE ENGINEER.

SEED MIXTURE SHALL BE NO. 4 IN CURB AND GUTTER AREAS, NO. 2 IN RURAL AREAS. CURB AND GUTTER RADII ARE SHOWN TO THE FRONT FACE OF CURB.

CURB HEIGHTS AT THE END OF CURB AND GUTTER SHALL BE TAPERED FROM 2 INCHES TO 6 INCHES IN 5 FEET.

CURB RAMP OPENINGS AS SHOWN ON THE PLAN ARE APPROXIMATE. THE EXACT LOCATIONS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

FINAL MARKING AND SIGNING TO BE DONE BY OUTAGAMIE COUNTY.

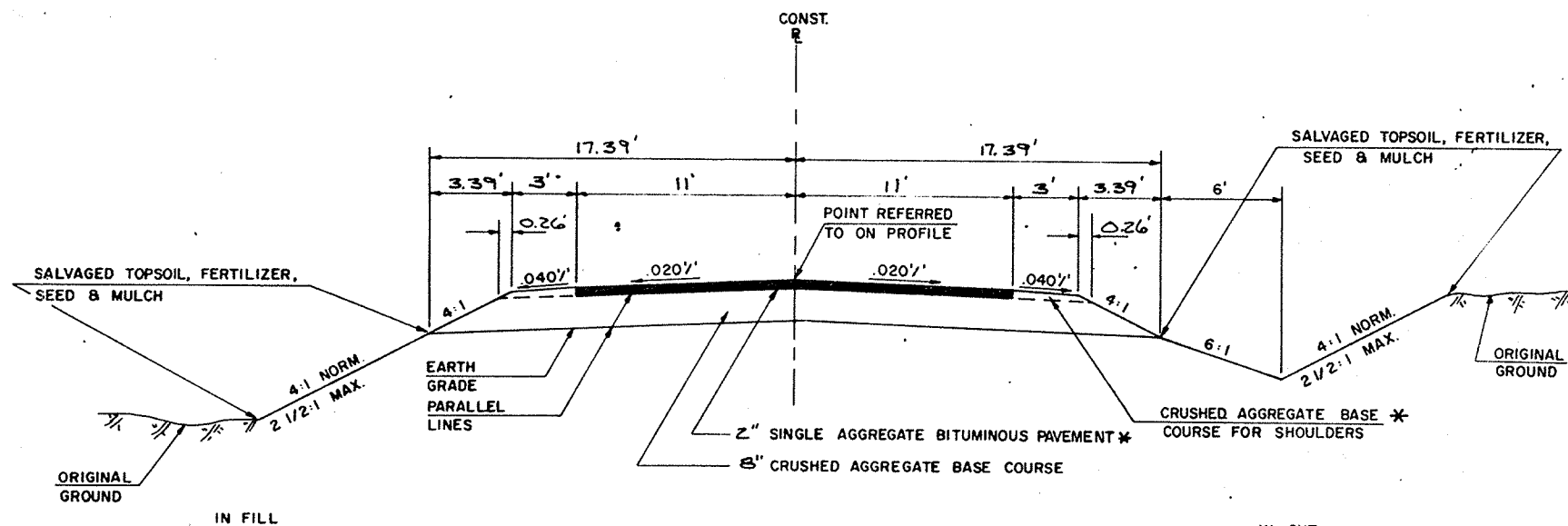
THE EXACT LOCATION AND LIMITS OF THE SILT FENCE SHALL BE AS DIRECTED BY THE ENGINEER.

SILT FENCE SHALL MEET THE MATERIAL SPECIFICATIONS FOR SANDY SOIL.

CONSTR. PERMITS FOR P.E. CONSTRUCTION HAVE BEEN OBTAINED, WHICH RIGHTS SHALL BE EXTENDED TO THE CONTRACTORS.

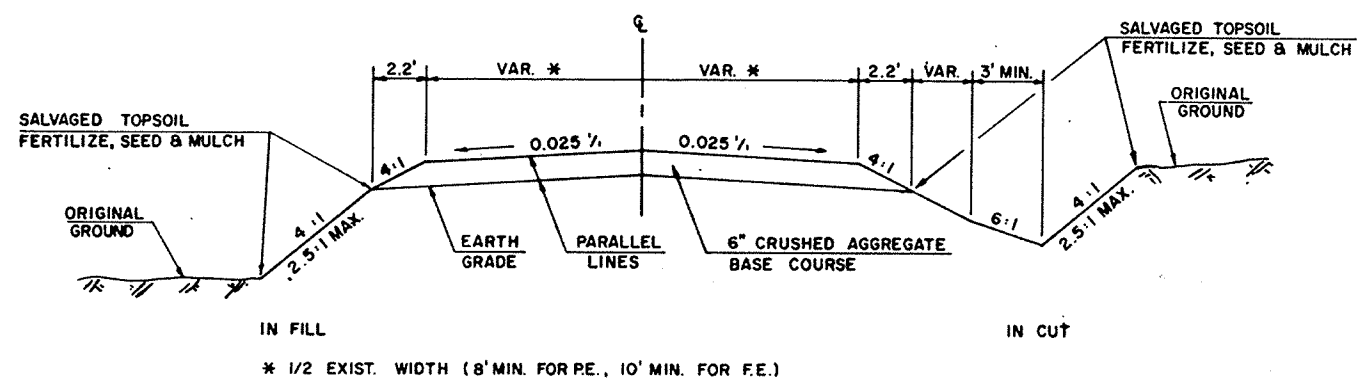
COUNTY SURVEYOR OR SURVEYS CONTACT PERSON
FRANK CHARLESWORTH, JR. - OUTAGAMIE CO.
ZONING ADMINISTRATOR
410 SOUTH WALNUT STREET
APPLETON, WISCONSIN 54166
PHONE: 414-735-5255

STATE PROJECT NUMBER	SHEET NO.
6007-1-73/74	2.1
DETAILS	
C.T.H. "G"	OUTAGAMIE CO.



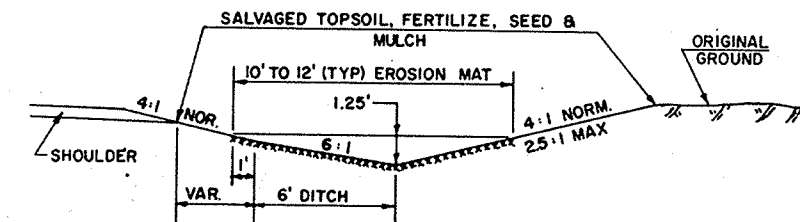
* NOT PART OF THIS CONTRACT

**TYPICAL FINISHED SECTION
SIDE ROADS**

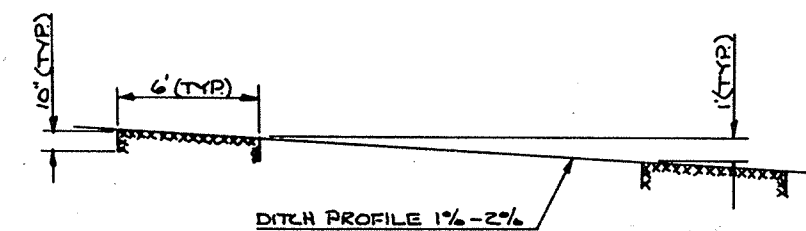


* 1/2 EXIST. WIDTH (8' MIN. FOR P.E., 10' MIN. FOR F.E.)

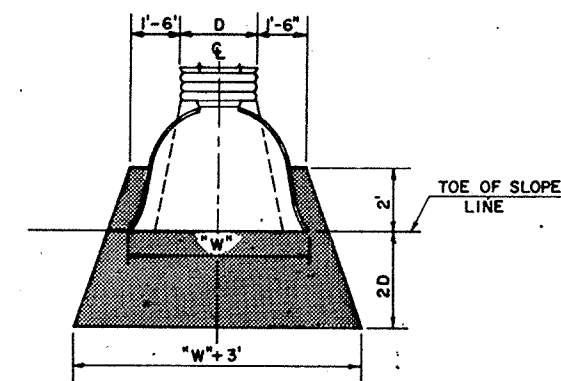
TYPICAL CROSS SECTION FOR PRIVATE & FIELD ENTRANCES



TYPICAL INSTALLATION FOR EROSION MAT



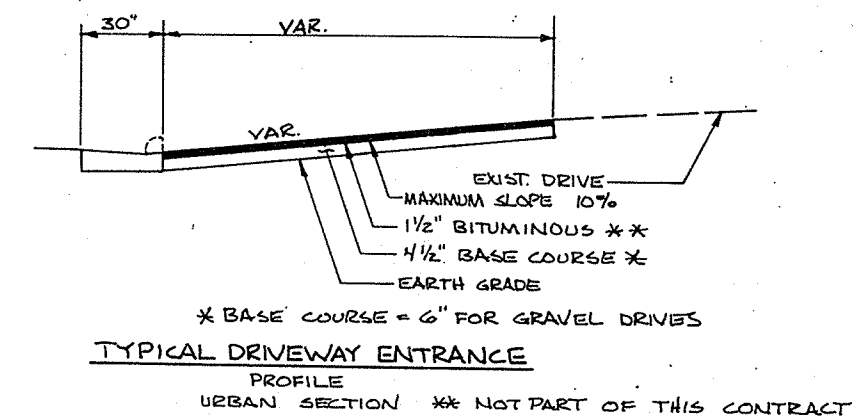
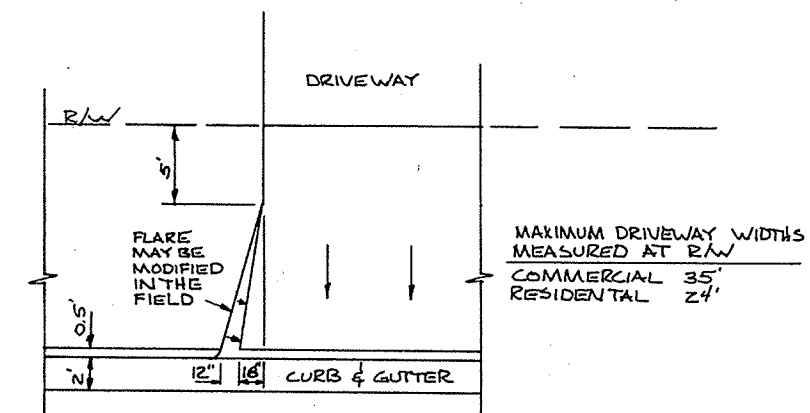
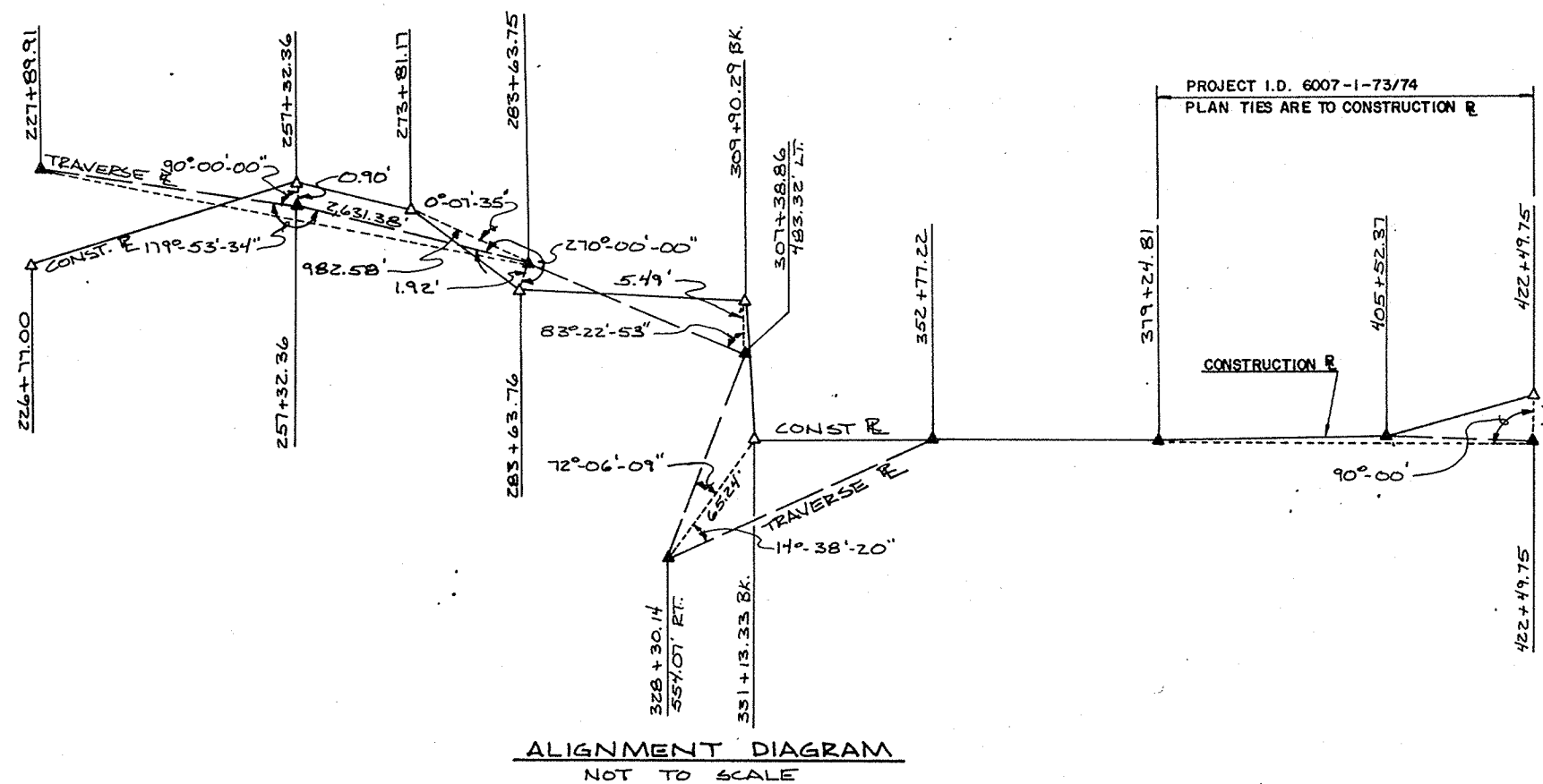
EROSION MAT DITCH CHECKS



PLACE SOD AS SHOWN OR AS DIRECTED
BY THE ENGINEER IN THE FIELD.

SOD AT PIPE END
CONCRETE OR METAL

STATE PROJECT NUMBER	SHEET NO.
6007-1-73/74	23
DETAILS	
C.T.H. "G"	OUTAGAMIE CO.



DATE 01/05/89

ESTIMATE OF QUANTITIES

ITEM	ITEM DESCRIPTION	UNIT	TOTAL	6007-01-74 QUANTITY
52260	REINFORCED CONCRETE APRON ENDWALLS FOR CULVERT PIPE, 12-INCH	EACH	1.00	1.00
60133	CONCRETE CURB AND GUTTER, 30-INCH, TYPE D	L.F.	3,635.00	3,635.00
60825	REINFORCED CONCRETE PIPE, CLASS III, STORM SEWER, 12-INCH	L.F.	273.00	273.00
61110	MANHOLES, TYPE 1	EACH	1.00	1.00
61121	INLETS, TYPE 1	EACH	3.00	3.00
61122	INLETS, TYPE 3	EACH	6.00	6.00
61151	MANHOLE COVERS, TYPE J	EACH	1.00	1.00
61161	INLET COVERS, TYPE A	EACH	3.00	3.00
61167	INLET COVERS, TYPE H	EACH	6.00	6.00
61182	ADJUSTING MANHOLE COVERS	EACH	4.00	4.00
61910	MOBILIZATION	L.S.	1.00	1.00
90001	PRODUCING AND HAULING BREAKER RUN SUBBASE COURSE	TON	7,100.00	7,100.00
90002	PRODUCING AND HAULING CRUSHED AGGREGATE BASE COURSE	TON	7,700.00	7,700.00

SHEET 3

STATE PROJECT NUMBER	SHEET NO.
6007-1-74	3A
MISCELLANEOUS QUANTITIES FOR	
C.T.H. "G"	OUTAGAMIE CO.

INLETS, MANHOLES, AND COVERS 6007-1-74

STRUCTURE NUMBER	LOCATION	DISTANCE LT./RT.	STRUCTURE	TYPE	COVER	GRATE	EDGE OF PAVEMENT ELEV.	FLOWLINE ELEVATION	DEPTH (FEET)	REMARKS
1	401+50	20.5'LT.	INLET	1	A	LT.	780.27	704.09	5.1	
3	420+43	20.5'LT.	INLET	3	H	LT.	783.32	778.32	4.0	
5	420+60	20.5'RT.	INLET	3	H	RT.	783.37	778.57	4.8	
6	420+43	24'RT.	MANHOLE	1	J	---	783.70	777.80	4.7	CONSTRUCT OVER EXISTING STORM SEWER
7	415+60	20.5'LT.	INLET	3	H	LT.	781.85	777.95	2.9	
8	415+60	20.5'RT.	INLET	3	H	RT.	781.85	777.55	3.3	
10	412+46	20.5'LT.	INLET	1	A	LT.	780.90	776.92	2.9	
12	410+60	20.5'LT.	INLET	3	H	LT.	780.34	776.54	2.8	
13	410+60	20.5'RT.	INLET	3	H	RT.	780.34	776.14	3.2	
15	408+80	20.5'LT.	INLET	1	A	RT.	781.24	776.16	4.0	

STORM SEWER 6007-1-74

LOCATION FROM TO	SIZE INCH	LENGTH FEET	TYPE	CLASS	ELEVATION INLET DISCHARGE	REMARKS
1 2	12"	80	R.C.P.	III	774.09 772.50	1-12" R.C. ENDWALL REQ'D.
3 4	12"	10	R.C.P.	III	778.32 778.20	
5 6	12"	15	R.C.P.	III	778.57 778.13	
7 8	12"	36	R.C.P.	III	777.95 777.55	
8 9	12"	4	R.C.P.	III	777.55 777.50	*
10 11	12"	44	R.C.P.	III	776.92 776.48	*
12 13	12"	36	R.C.P.	III	776.54 776.14	
13 14	12"	4	R.C.P.	III	776.14 776.00	*
15 16	12"	44	R.C.P.	III	776.16 775.72	*

*-CONNECT TO EXISTING STORM SEWER LEAD

ADJUSTING MANHOLE COVERS 6007-1-74

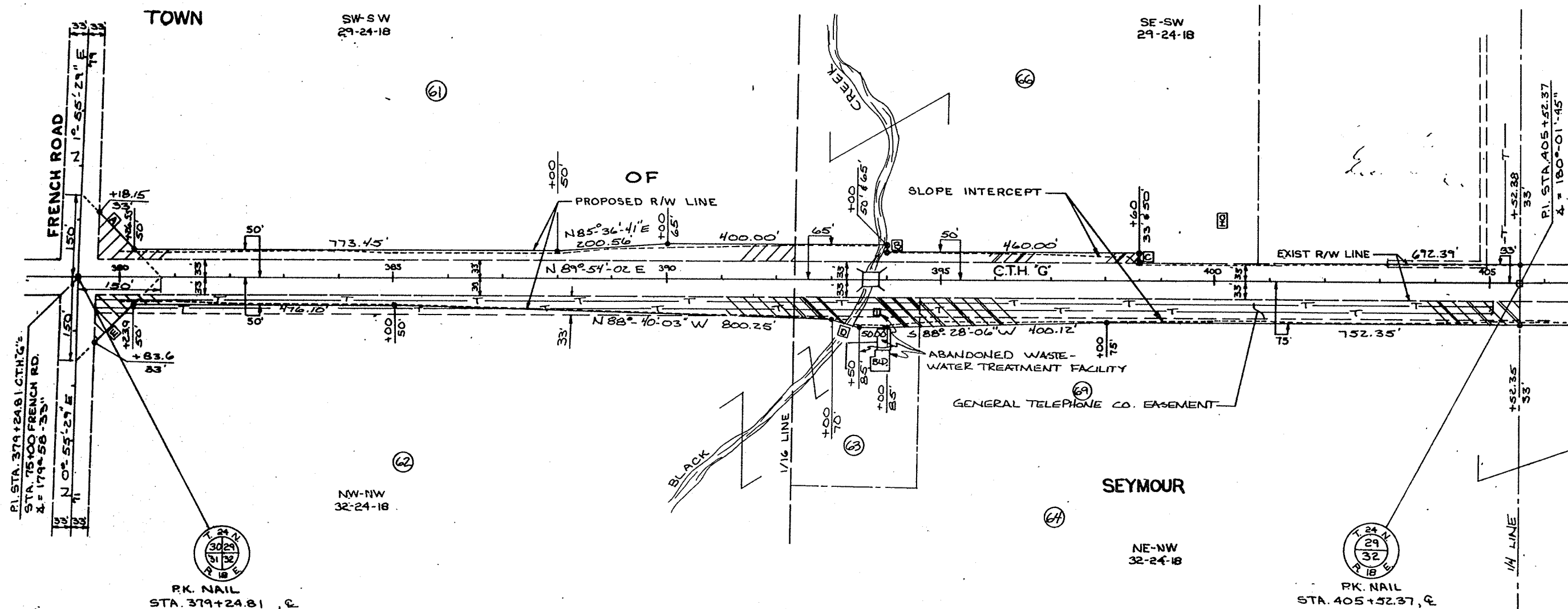
LOCATION	TYPE	EACH
394+00± L	SANITARY	1 *
398+00± L	SANITARY	1 *
402+00± L	SANITARY	1 *
405+25, 16' LEFT	SANITARY	1 *
406+94, CENTERLINE	SANITARY	1 *
406+94, 16' LEFT	SANITARY	1 *
406+94, 44' RIGHT	SANITARY	1 *
407+76, 16' LEFT	SANITARY	1 *
408+80, 24' RIGHT	STORM	1
410+24, CENTERLINE	SANITARY	1 *
410+60, 24' RIGHT	STORM	1
412+01, 16' LEFT	SANITARY	1 *
412+46, 24' RIGHT	SANITARY	1 *
414+08, CENTERLINE	SANITARY	1 *
415+60, 24' RIGHT	STORM	1
415+78, 16' LEFT	SANITARY	1 *
418+10, CENTERLINE	SANITARY	1 *
420+25, 12' LEFT	SANITARY	1 *
420+44, 7' LEFT	STORM	1
* BY OTHERS		

CONCRETE GURB AND GUTTER 30-INCH, TYPE "D" 6007-1-74

LOCATION	LIN. FT.
398+60 - 421+47 LEFT	2,272
408+80 - 422+50 RIGHT	1,363

PRODUCING AND HAULING CRUSHED AGGREGATE BASE COURSE AND BREAKER RUNSUBBASE
COURSE (6007-1-74)

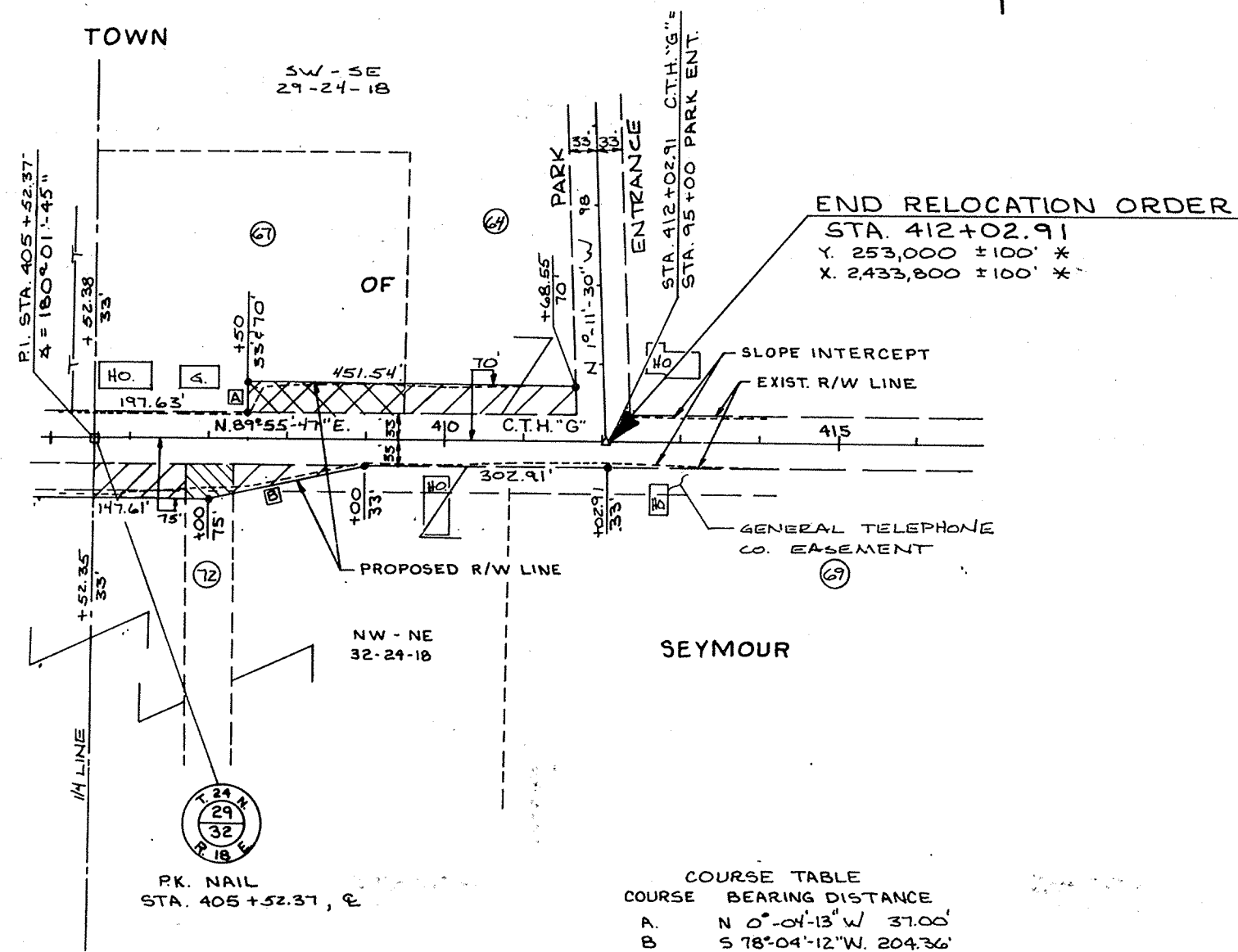
REVISION DATE	ROUTE C.T.H. 'G'	COUNTY OUTAGAMIE	DATE	R/W PROJECT NUMBER 6007-1-00	SHEET NUMBER 4.13
	SCALE, FT. 0 100 200			FEDERAL PROJECT NUMBER 6007-1-73,74 4	



COURSE TABLE

COURSE	BEARING	DISTANCE
A	$S 44^{\circ} 05' 15'' E$	138.86'
B	$S 0^{\circ} 05' 58'' E$	15.00'
C	$S 0^{\circ} 05' 58'' E$	17.00'
D	$N 73^{\circ} 24' 01'' W$	52.20'
E	$S 45^{\circ} 24' 46'' W$	142.67'

REVISION DATE	ROUTE C.T.H. "G"	COUNTY OUTAGAMIE	DATE	R/W PROJECT NUMBER 6007-1-00	SHEET NUMBER 4.14
	SCALE, FT. 0 100 200			FEDERAL PROJECT NUMBER 6007-1-73,74	4.1



SCHEDULE OF LANDS & INTERESTS REQUIRED

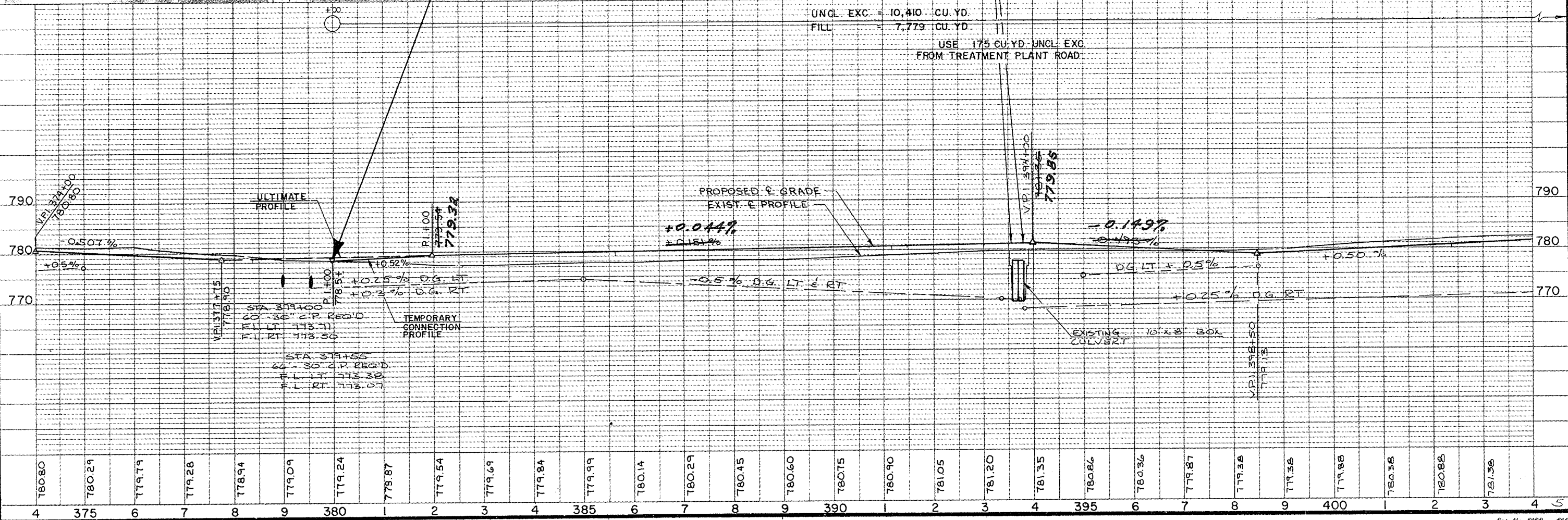
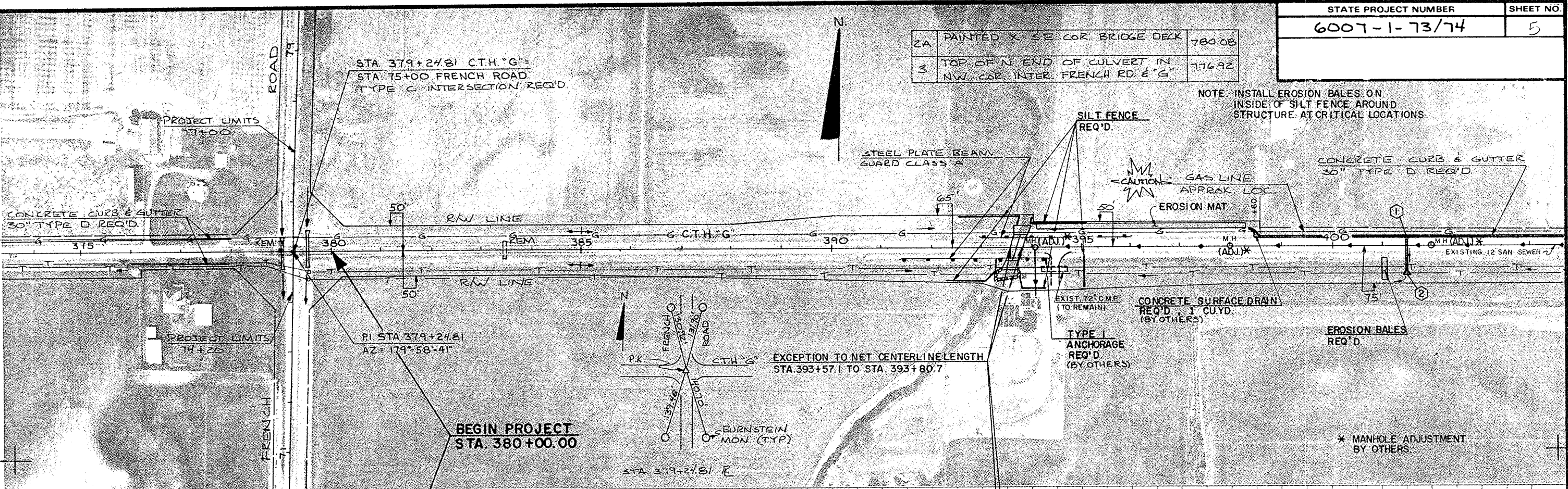
AREAS SHOWN IN THE TOTAL ACRES COLUMN MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.

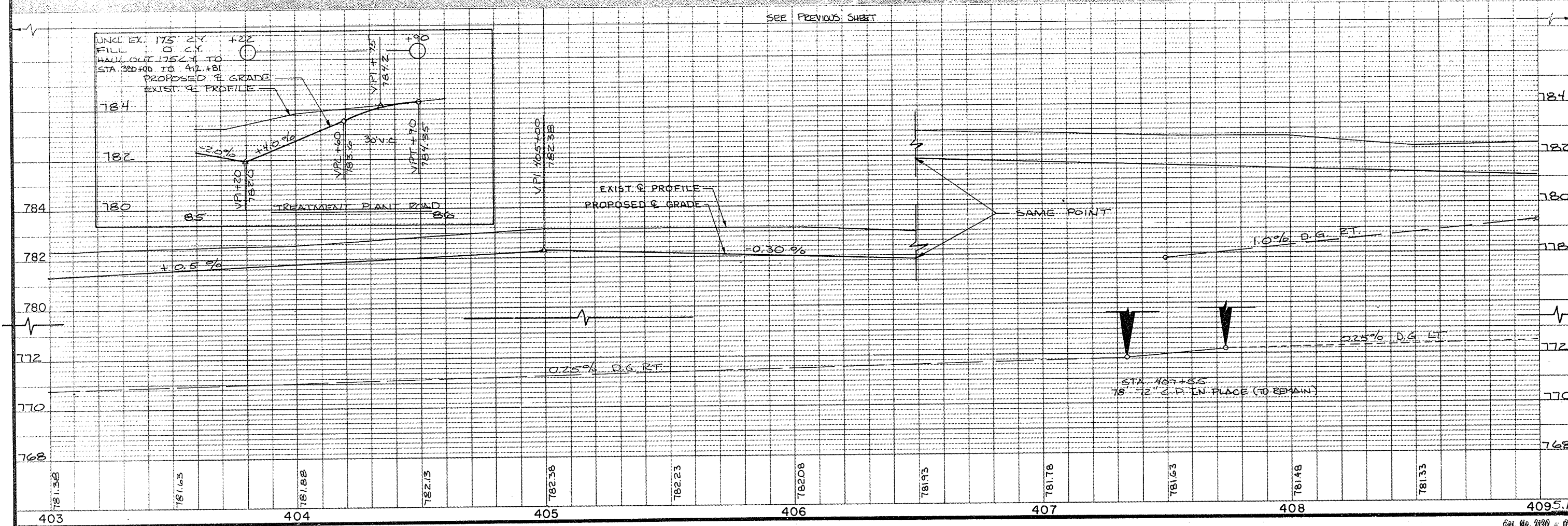
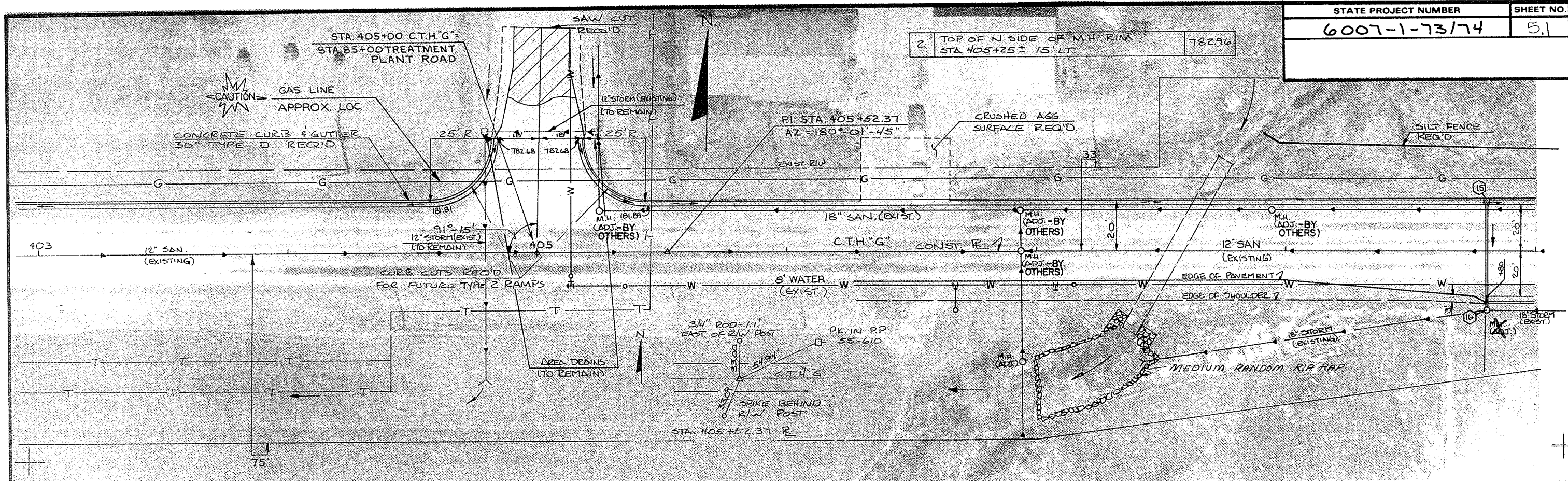
PARCEL SHEET NO.	OWNER	INTEREST REQUIRED	TOTAL ACRES	R/W ACRES	EXIST. ACRES	TOTAL ACRES	TOTAL L&I ACRES
61	ELAINE A. COURT	FEE	80.00	0.61	1.08	1.75	78.25
62	EARL & MARCELLA COURT	FEE	40.00	0.72	1.09	1.81	39.19
63	DAVID PEOTTER	FEE	2.00	0.24	0.00	0.24	1.76
64	KARL & SHIRLEY MUESTER	FEE	58.32	1.43	1.57	2.02	56.30
66	CARL L. & BETTE B. ISE	FEE	25.00	0.21	0.61	0.80	24.10
67	DANIEL G. & DONNA M. SCHMIDT	FEE	3.00	0.17	0.30	0.47	2.53
68	WISCONSIN ELECTRIC POWER COMPANY	FEE	1.00	0.05	—	0.05	0.95
69	GENERAL TELEPHONE COMPANY	RELEASE OF RIGHTS	—	—	—	—	—
70	—	—	—	—	—	—	—
71	WISCONSIN ELECTRIC POWER COMPANY	RELEASE OF RIGHTS	—	—	—	—	—
72	CITY OF SEYMOUR	FEE	0.90	0.06	0.04	0.10	0.80

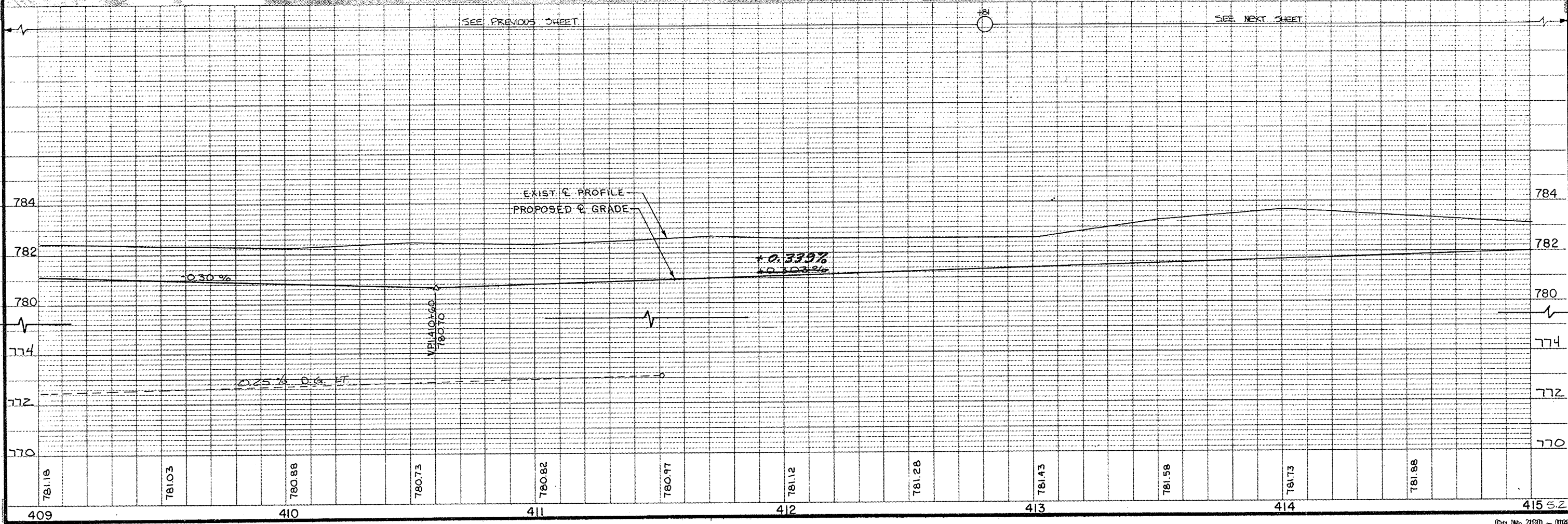
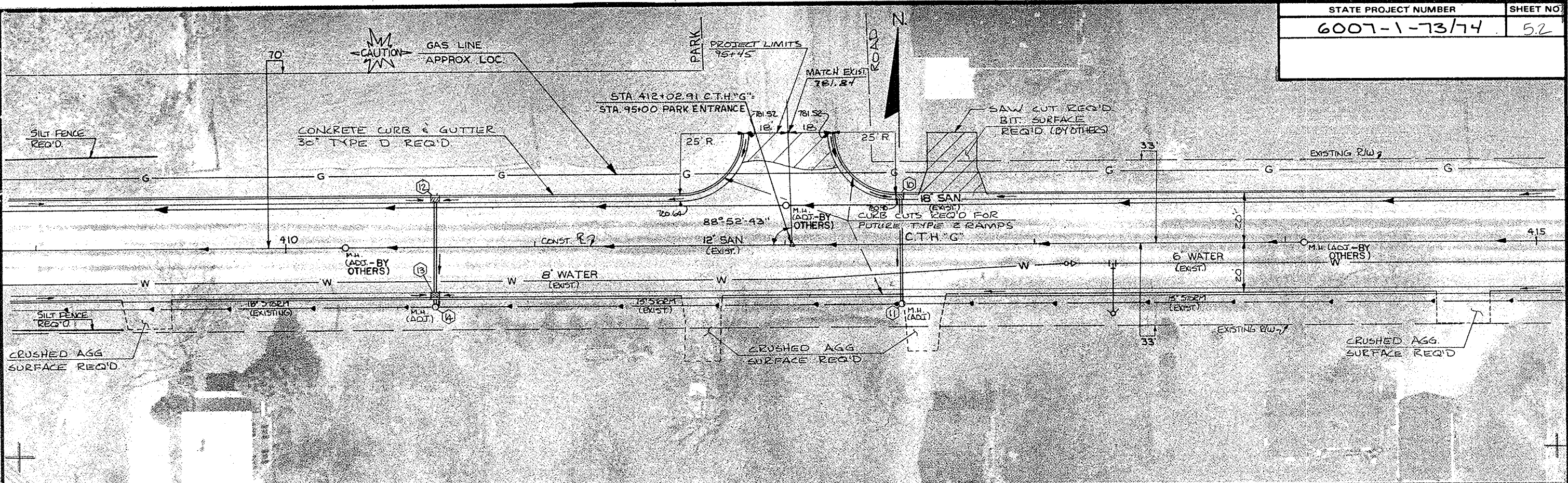
* COORDINATES SCALED FROM U.S.G.S. TOPOGRAPHIC MAP SEYMOUR, 7.5 MIN. SERIES, WISCONSIN, QUADRANGLE FOR IDENTIFICATION ONLY

2A	PAINTED X SEE COR. BRIDGE DECK	780.08
3	TOP OF N. END OF CULVERT IN NW COR. INTER. FRENCH RD. & "G"	776.92

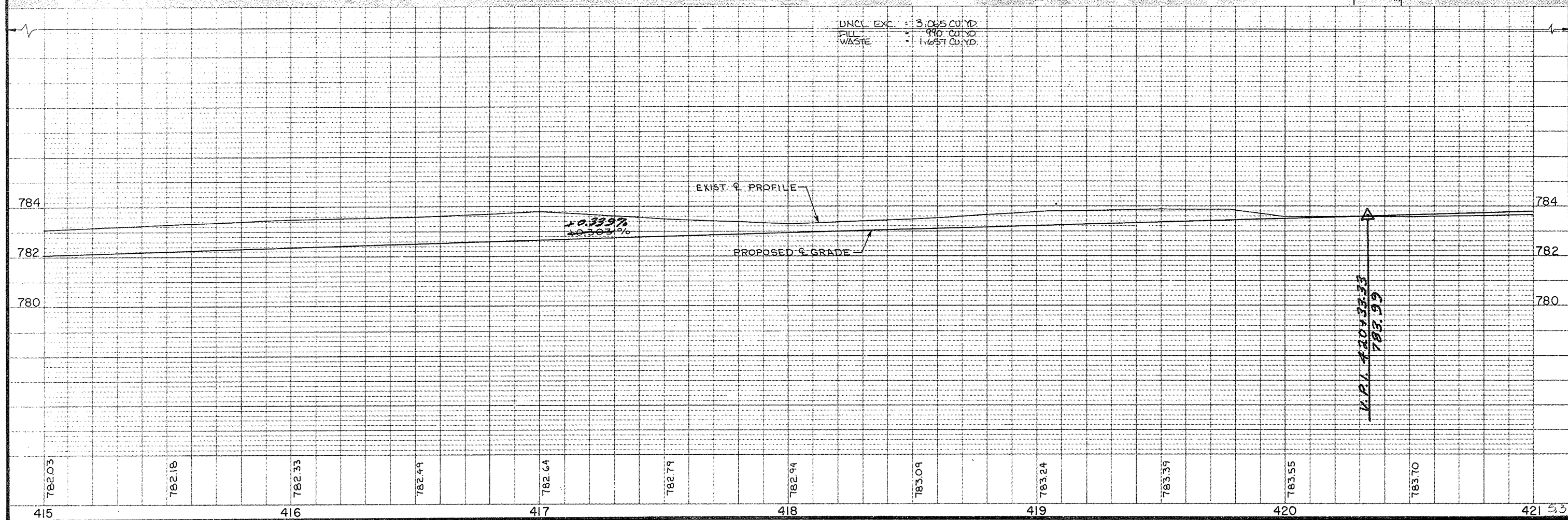
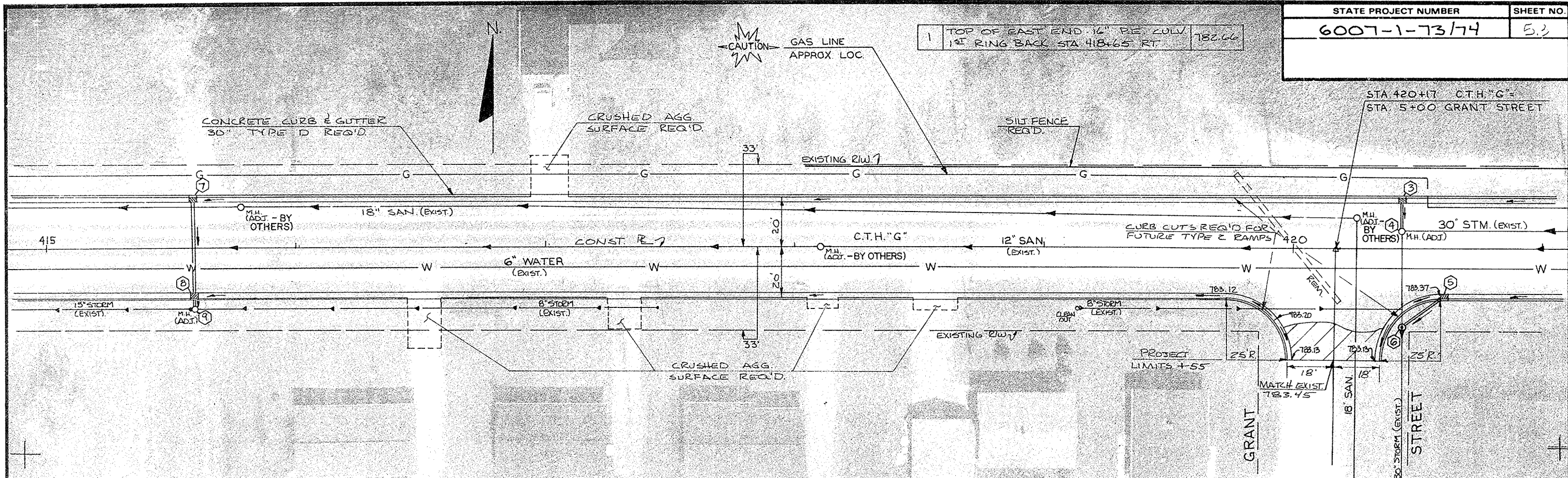
NOTE: INSTALL EROSION BALES ON INSIDE OF SILT FENCE AROUND STRUCTURE AT CRITICAL LOCATIONS.

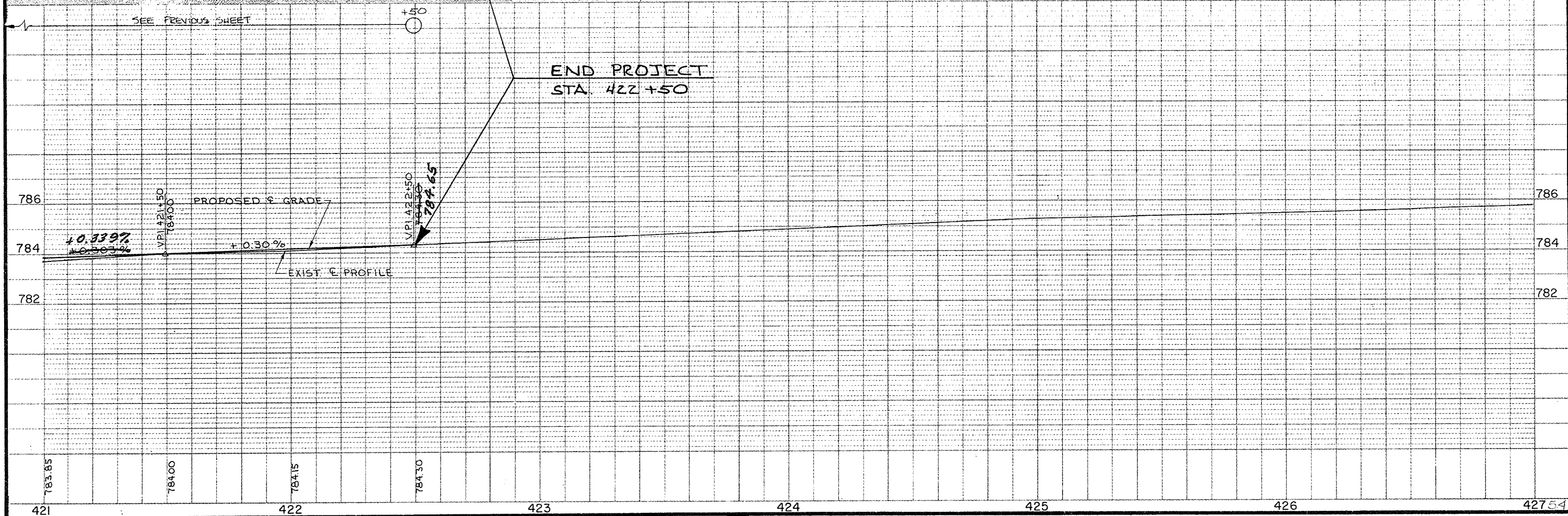
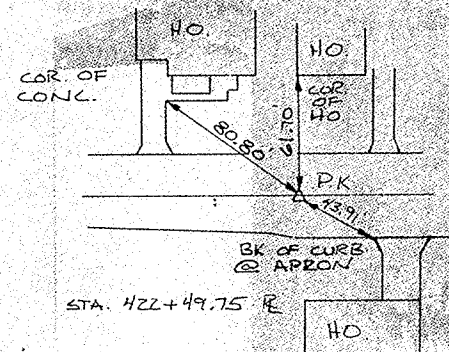
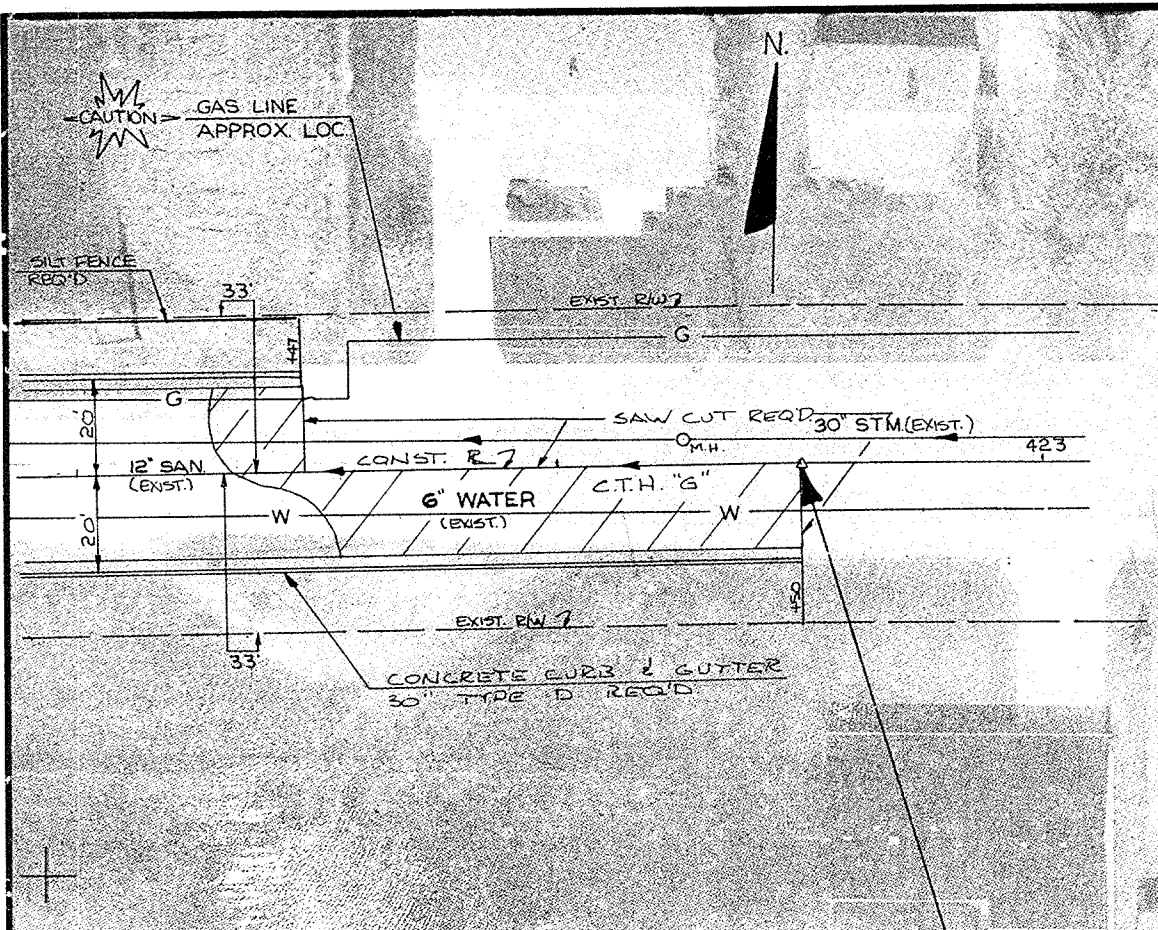


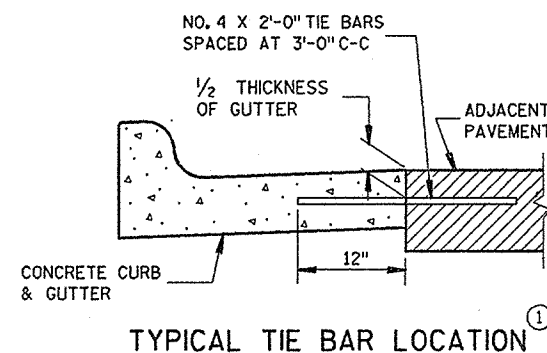
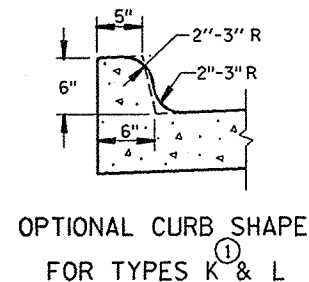
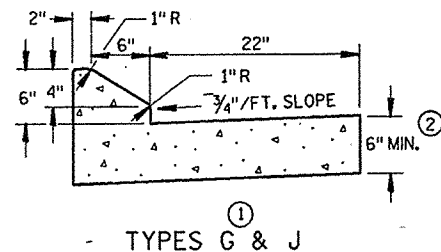
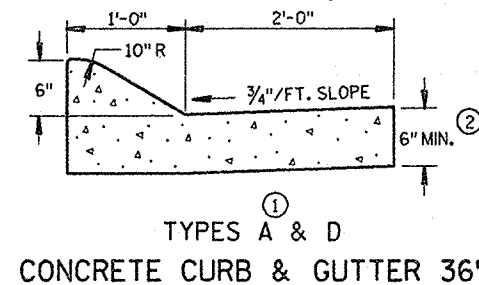
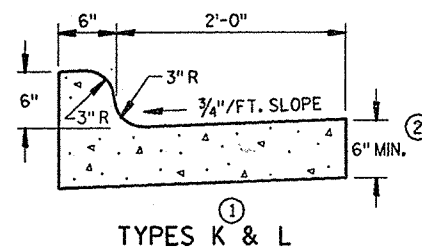
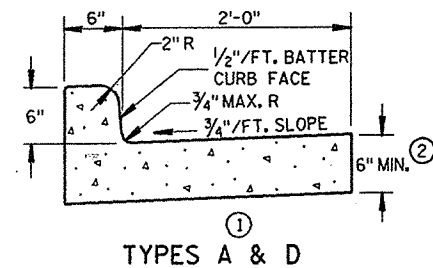




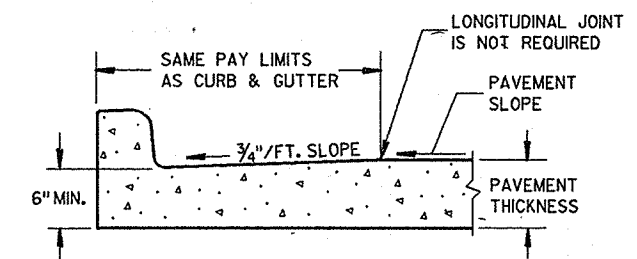
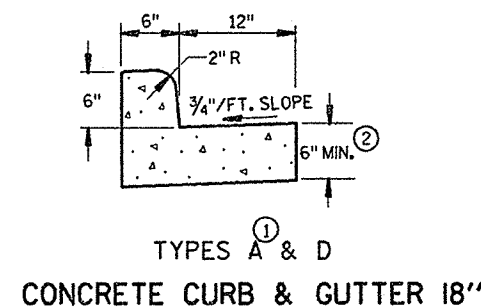
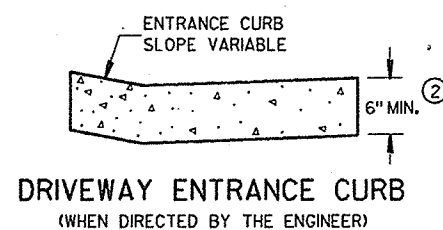
STATE PROJECT NUMBER	SHEET NO.
6007-1-73/74	5.3



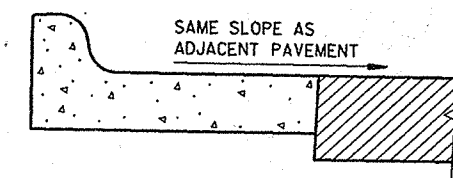




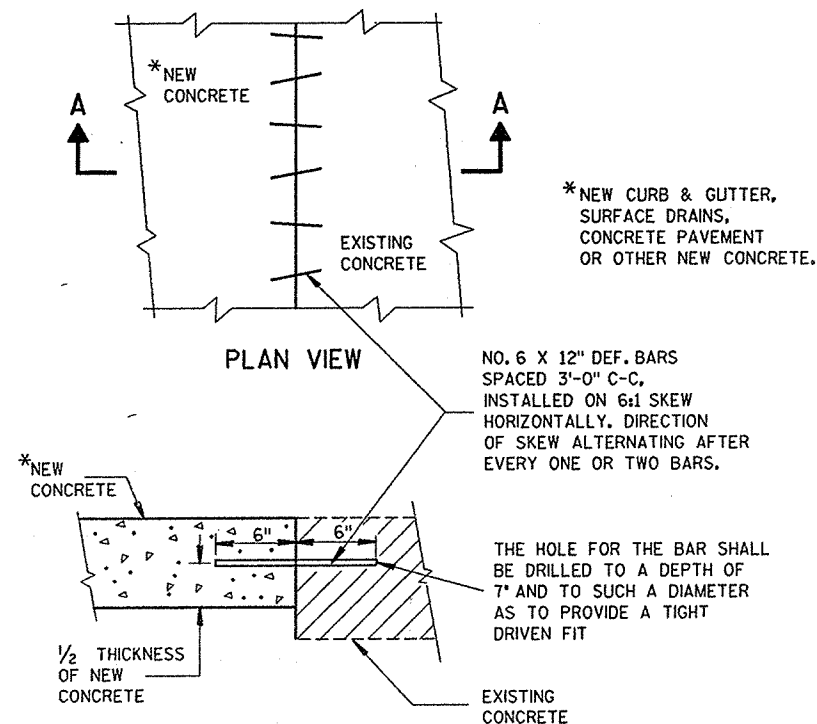
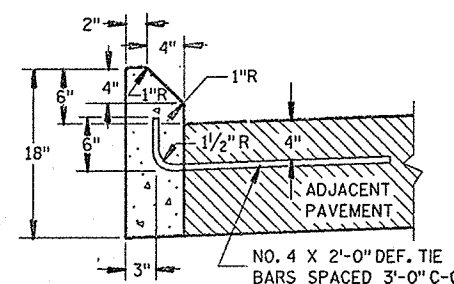
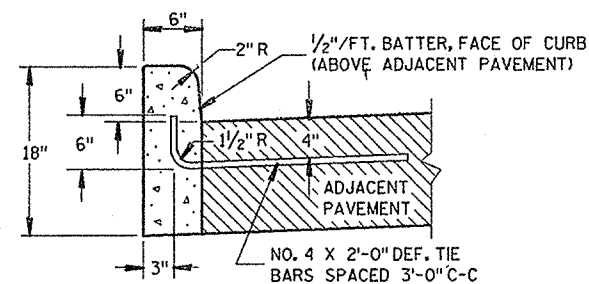
CONCRETE CURB & GUTTER 30"



PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



REVERSE SLOPE GUTTER ③
(TYPICAL FOR ALL CURB & GUTTER TYPES)



GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

SEALANT IS NOT REQUIRED IN THE JOINTS OF CONCRETE CURB OR CONCRETE CURB & GUTTER EXCEPT AS REQUIRED FOR INTEGRAL GUTTER.

PAVEMENT TIES ARE REQUIRED, WHEN INCLUDED IN THE CONTRACT, WHERE CONCRETE CURB, CONCRETE CURB AND GUTTER OR CONCRETE PAVEMENT IS PLACED ADJACENT TO EXISTING CONCRETE.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. TIE BARS AND A LONGITUDINAL CONSTRUCTION JOINT ARE NOT REQUIRED WITH THIS ALTERNATE.

PAVEMENT JOINTS SHALL BE EXTENDED THROUGH INTEGRAL CURB & GUTTER. JOINTS IN INTEGRAL GUTTER SHALL HAVE THE SAME DIMENSIONS AS THE JOINTS IN THE ADJACENT PAVEMENT. JOINTS IN INTEGRAL CURB SHALL BE 1/8" WIDE.

JOINTS IN INTEGRAL CURB & GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME SEALANT SPECIFIED FOR THE PAVEMENT JOINT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB & GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE COURSE AND UNCLASSIFIED EXCAVATION LIMITS ARE TWO FEET BEHIND THE BACK OF CURBS.

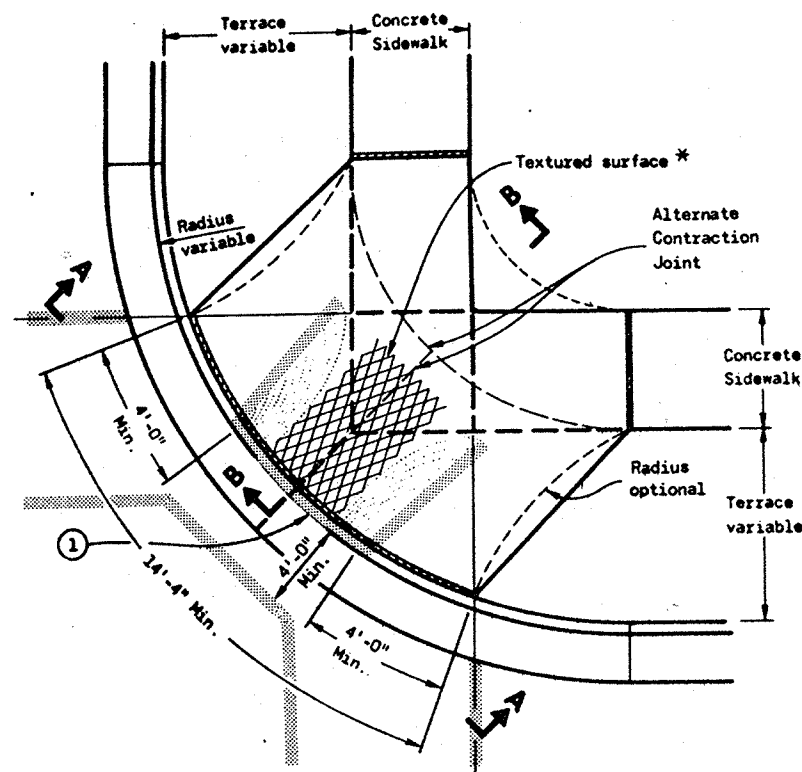
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G AND K.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATIONS WILL BE SHOWN ELSEWHERE IN THE PLAN.

CONCRETE CURB, CONCRETE
CURB & GUTTER AND
PAVEMENT TIES

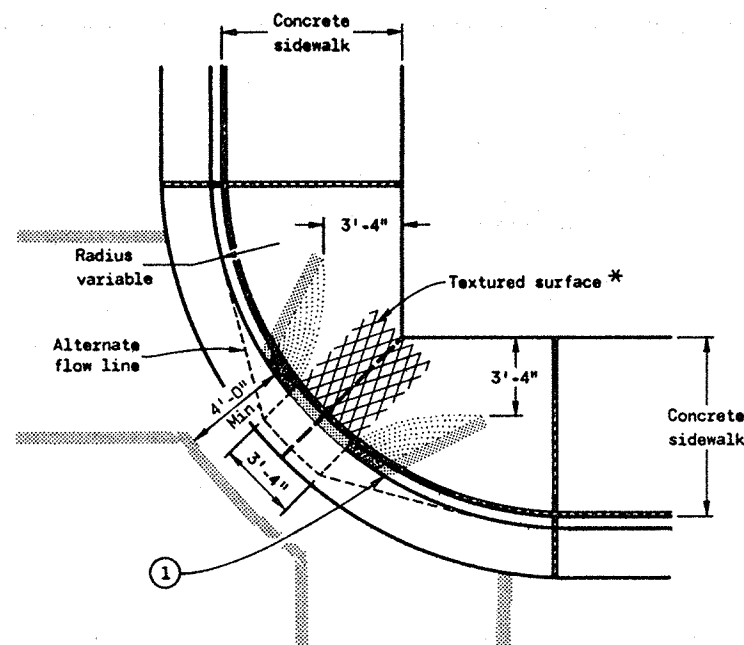
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10-23-86
DATE
FHWA

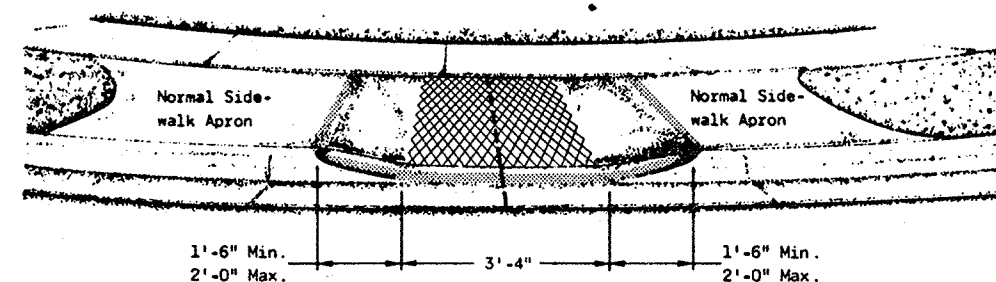
STATE DESIGN ENGINEER FOR HWYS



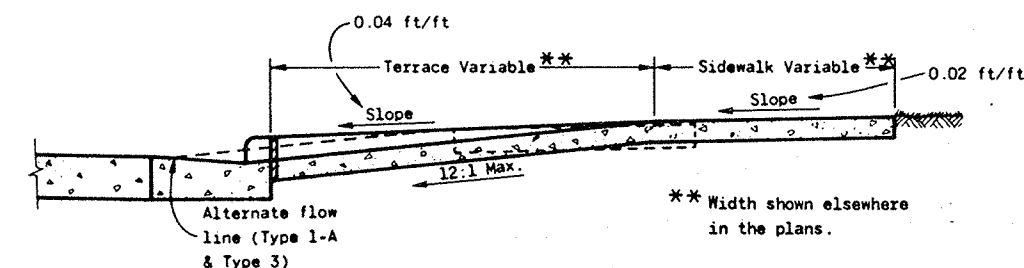
PLAN VIEW
TYPE 1 RAMP
(CENTER OF CORNER RADIUS)



PLAN VIEW
TYPE 1-A RAMP
(NO TERRACE)



VIEW A-A



SECTION B-B

1" EXPANSION JOINTS - SIDEWALK
 --- CONTRACTION JOINTS
 Location of joints may be varied from those shown to better fit site conditions and/or local government preference.

GENERAL NOTES

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Ramps shall be built at 12:1 or flatter. When necessary, the sidewalk elevation may be lowered to meet the high point on the ramp.

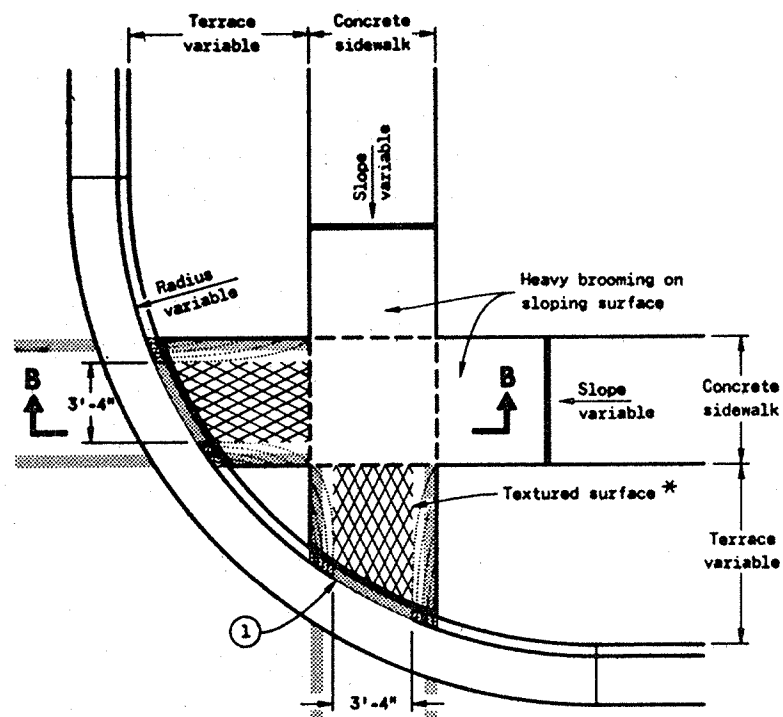
Type 1 or Type 1-A Ramps shall have a normal sidewalk apron and curb on both sides of ramp.

Curb ramps shall be measured and paid for as Concrete Sidewalk and Concrete Curb and Gutter.

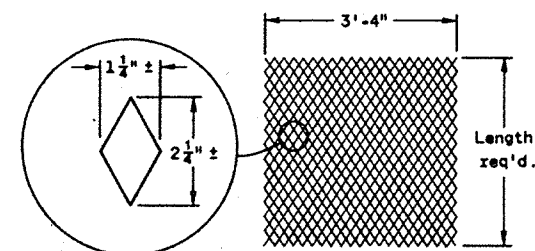
Surface texturing shall consist of linear impressions approximately $\frac{1}{4}$ inch to $\frac{3}{8}$ inch in depth and width, oriented to provide a uniform pattern of diamond shapes measuring approximately $1\frac{1}{2}$ inches in width by $2\frac{1}{4}$ inches in length, with the length being parallel to the direction of pedestrian movement. This surface texture may be achieved by impressing and removing a piece of expanded metal regular industrial mesh into the surface of the ramp while the concrete is in a plastic state.

① The ramp shall be bordered on both sides and on the curb line with a 4 inch wide yellow stripe or with brick of a contrasting color. Normally the paint stripe alternate will be used. The municipality or the department will apply this striping unless otherwise specified in the contract.

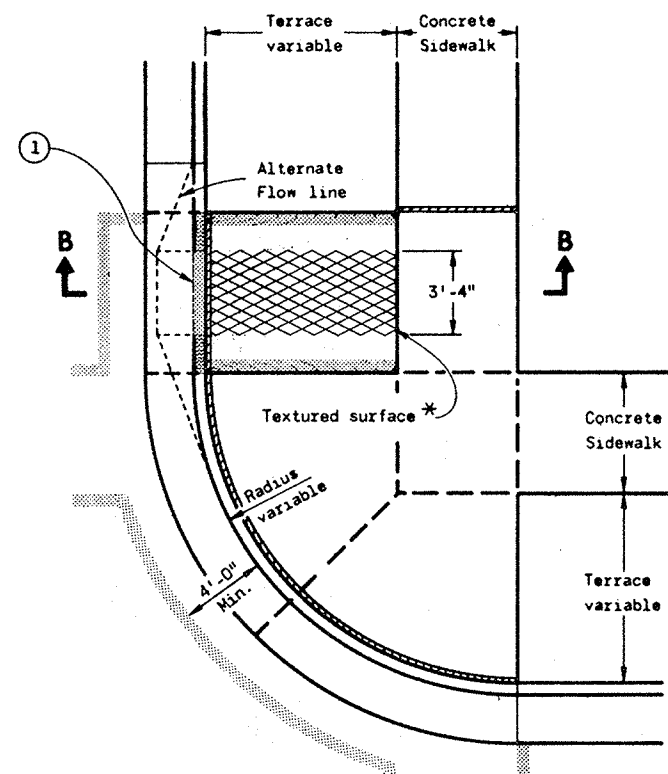
If a municipality requires the brick alternate, special details and provisions are shown elsewhere in the plans.



PLAN VIEW
TYPE 2 RAMP
(ON LINE WITH SIDEWALK)



DETAIL OF DIAMOND PATTERN *

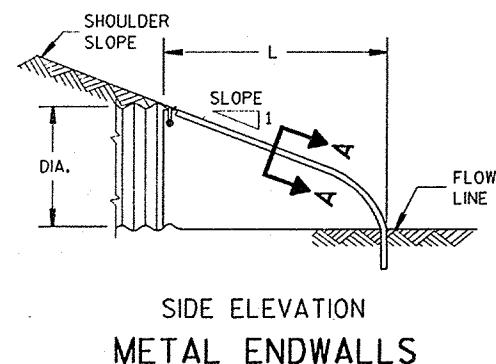
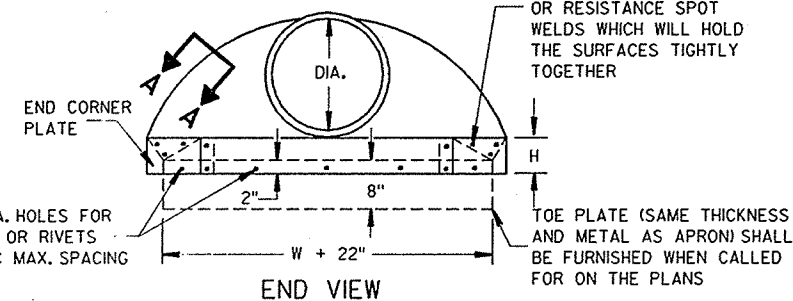
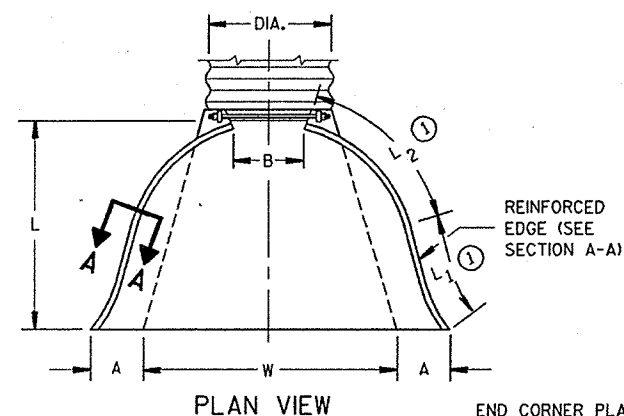


PLAN VIEW
TYPE 3 RAMP
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS	
State of Wisconsin Department of Transportation	
APPROVED 10-23-84 DATE	 CHIEF DESIGN ENGINEER
FHWA	

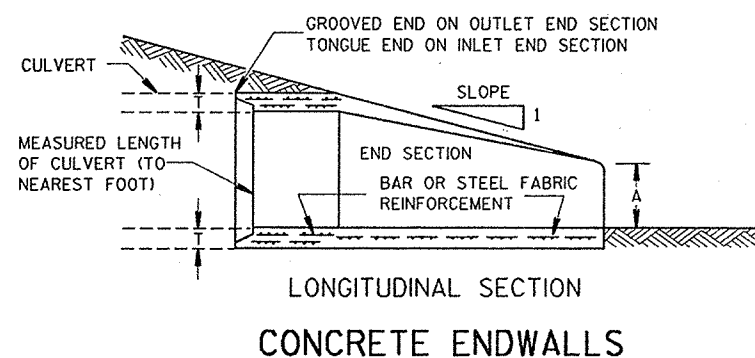
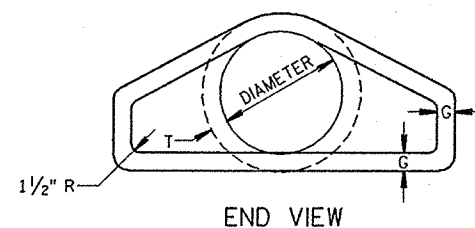
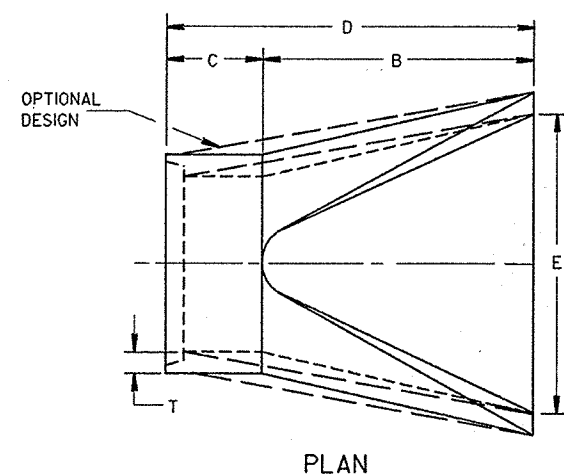
METAL APRON ENDWALLS													
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY		
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L ₁ ①	L ₂ ①	W (±2")				
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.		
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.		
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.		
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.		
24	.079	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.		
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.		
36	.109	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.		
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.		
48	.109	.105	18	27	12	78	24	81	90	2 1/2 to 1	3 Pc.		
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/2 to 1	3 Pc.		
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.		
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.		
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.		
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.		
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.		
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.		
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.		

* EXCEPT CENTER PANEL
SEE GENERAL NOTES

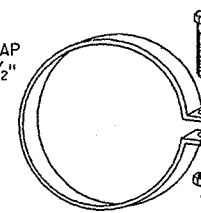


REINFORCED CONCRETE APRON ENDWALLS										
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE		
	T	A	B	C	D	E	G			
12	2	4	24	48 7/8	72 7/8	24	2	3 to 1		
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1		
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1		
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1		
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1		
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1		
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1		
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1		
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1		
48	5	24	72	26	98	84	5	3 to 1		
54	5 1/2	27	65	33 1/4-35	98 1/4-100	90	5 1/2	2 5/8 to 1		
60	6	30-35	60	39	99	96	5	2 to 1		
66	6 1/2	24-30	72-78	21-27	99	102	5 1/2	2 to 1		
72	7	24-36	78	21	99	108	6	2 to 1		
78	7 1/2	24-36	78	21	99	114	6 1/2	2 to 1		
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1		
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1		

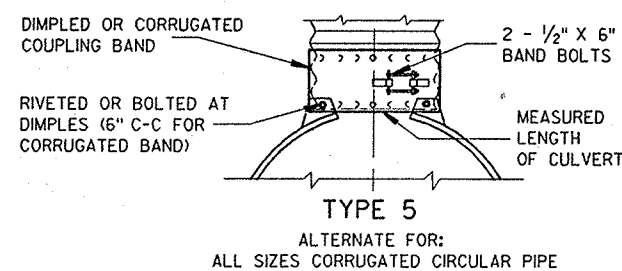
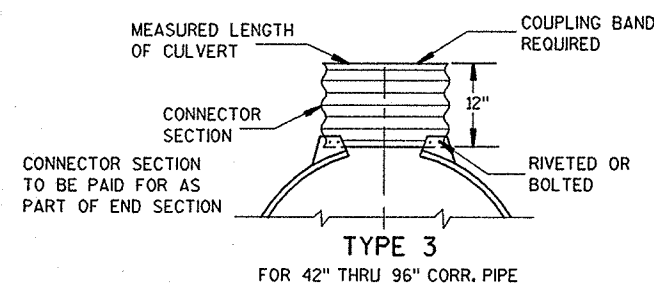
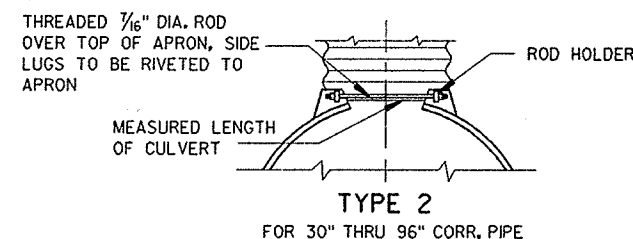
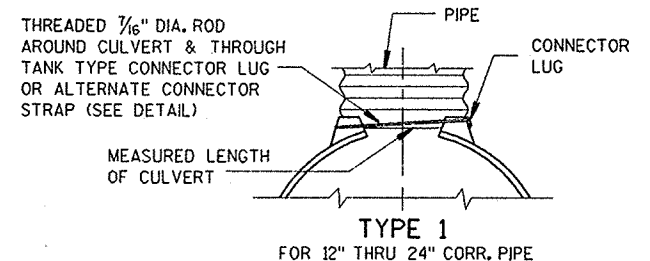
* MINIMUM
** MAXIMUM



1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



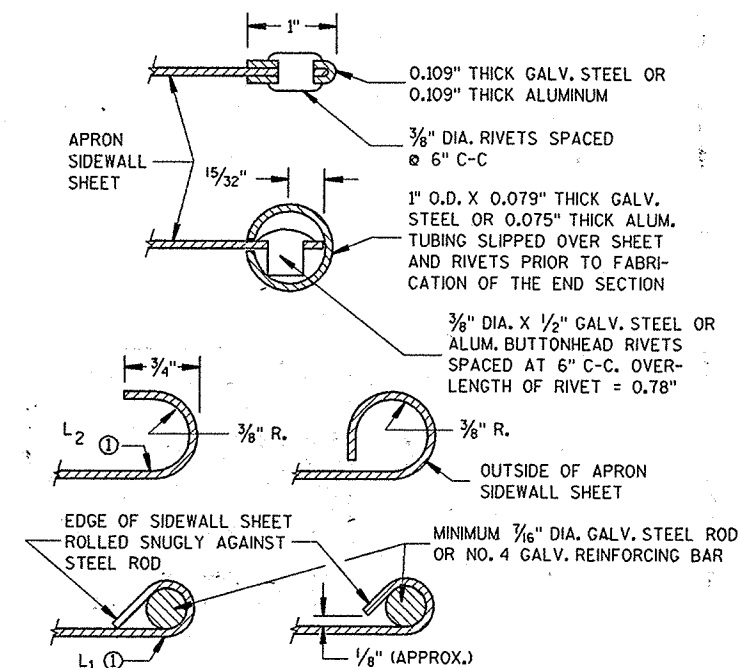
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VICE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

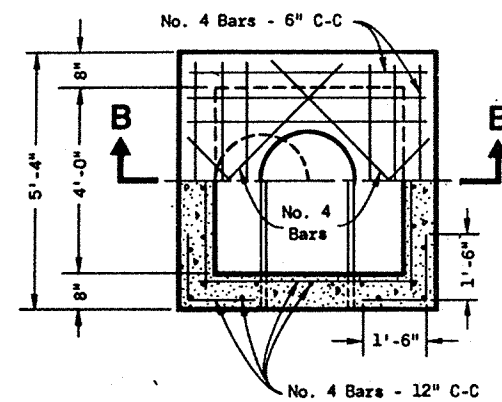
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

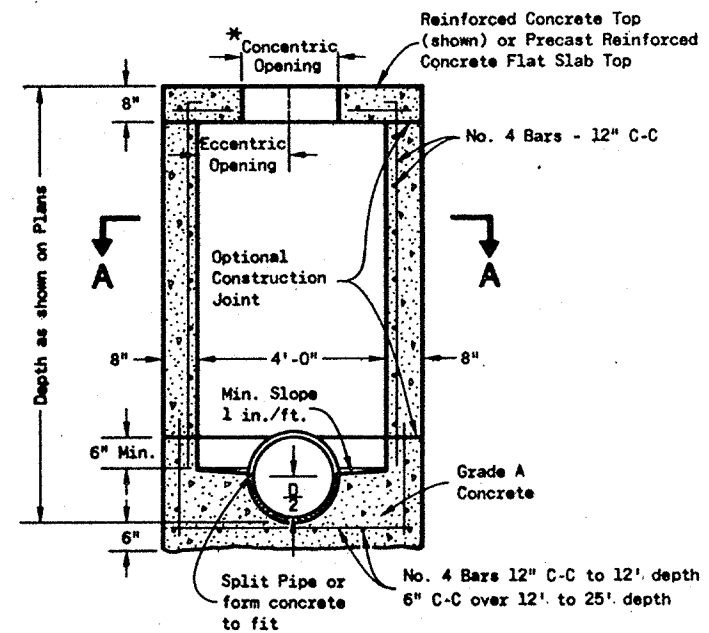
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

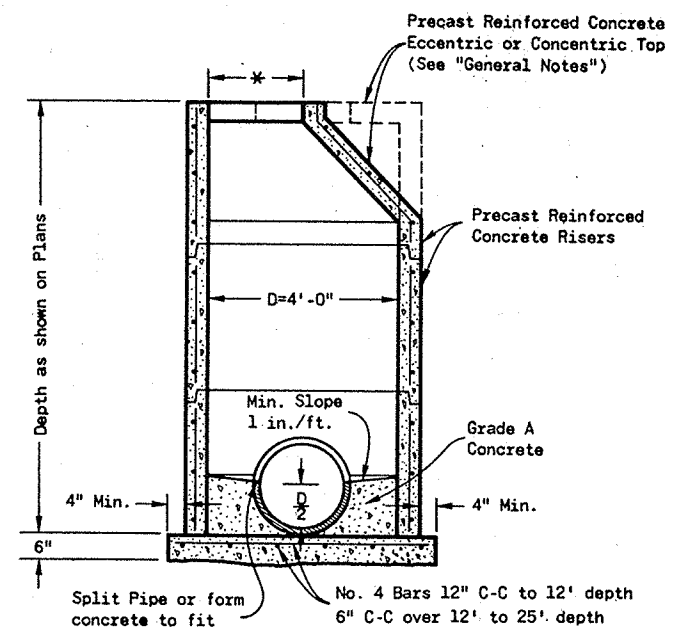
APPROVED
12/17/87
DATE
STATE DESIGN ENGINEER FOR HWYS
FHWA



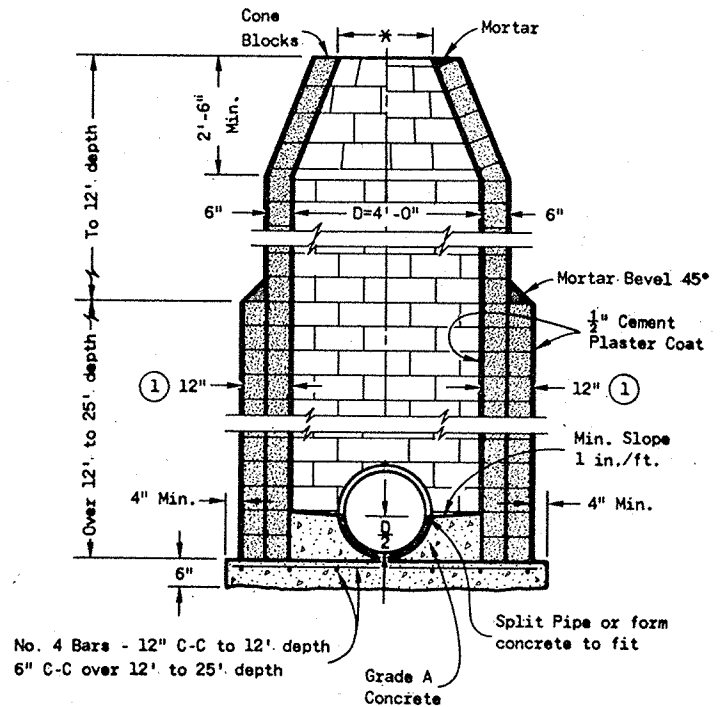
HALF SECTION A-A



SECTION B-B
REINFORCED CONCRETE



PRECAST REINFORCED CONCRETE



CONCRETE BLOCK

GENERAL NOTES

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Detailed drawings for proposed alternate designs for underground drainage structures shall be submitted to the Engineer for approval providing that such alternate designs make provision for equivalent capacity and strength.

All drainage structures are designated on the plans as "Manholes 1-C", "Catch Basins 1-B", "Inlets 3-H", etc. The first digit designates the masonry portion of the structure, and the following letter designates the type of cover to be used to comprise the complete unit.

Precast Reinforced Bases shall be placed on a bed of material at least 6 inches in depth, which meets the requirements for Granular Backfill. This bedding shall be compacted and provide uniform support for the entire area of the base.

Precast Reinforced Concrete Cone Tops (Eccentric or Concentric) may be used on concrete block structures. The Cone Tops shall be installed on a bed of mortar.

Eccentric Cone Tops may be used on all structures, and Concentric Cone Tops shall be used only on structures 5 feet or less in depth, unless otherwise directed by the Engineer.

Steps meeting the following requirements shall be installed in all structures over 5 feet in depth: 16 inch C-C maximum spacing; project a minimum clear distance of 4 inches from the wall at the point of embedment; minimum length of 10 inches; minimum wall embedment of 3 inches; and be capable of supporting a concentrated load of 300 lbs. Ferrous metal steps not painted or treated to resist corrosion shall have a minimum cross sectional dimension of 1 inch.

Solid Aluminum steps shall have a minimum cross sectional dimension of 0.75 inch. Aluminum surfaces to be embedded in concrete shall be given one coat of suitable quality paint, such as zinc chromate primer conforming to Federal Specification TT-P-645 or equivalent. Steps of approved Polypropylene plastic coated reinforcement bar will be acceptable.

All bar steel reinforcement shall be embedded 2 inches clear unless otherwise shown or noted.

Precast Reinforced Concrete Risers may be placed with tongue up or down.

All Precast Inlet Units shall conform to the pertinent requirements of AASHTO Designation M 199.

- * Use 2'-0" diameter opening with Type "C", "L" and "J" covers, or 3'-0" diameter with Type "K" and "M" covers.
- ① 2 courses 6" block.

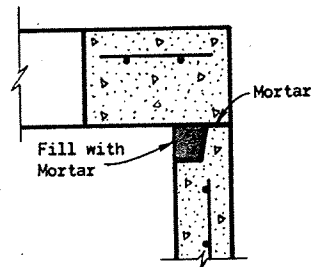
MANHOLES TYPE 1

State of Wisconsin
Department of Transportation

APPROVED
4-13-82
DATE

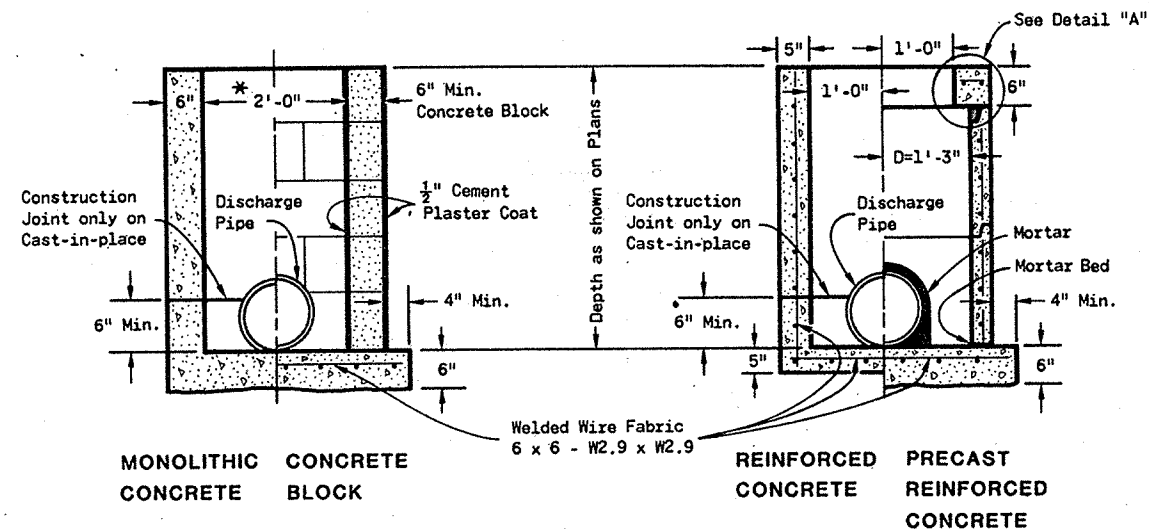
[Signature]
CHIEF DESIGN ENGINEER

S.D.D. 8 B 6-3



DETAIL "A"

* Selection of square or circular design will be based on the pipe sizes and the Inlet Cover being utilized.



INLETS TYPE 1

GENERAL NOTES

Details of construction, materials and workmanship not shown on this drawing shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

Detailed drawings for proposed alternate designs for underground drainage structures shall be submitted to the Engineer for approval providing that such alternate designs make provision for equivalent capacity and strength.

All Precast Inlet units shall conform to the pertinent requirements of AASHTO Designation M 199.

All drainage structures are designated on the plans as "Manholes 1-C", "Catch Basins 1-B", "Inlets 3-H", etc. The first digit designates the masonry portion of the structure, and the following letter designates the type of cover to be used to comprise the complete unit.

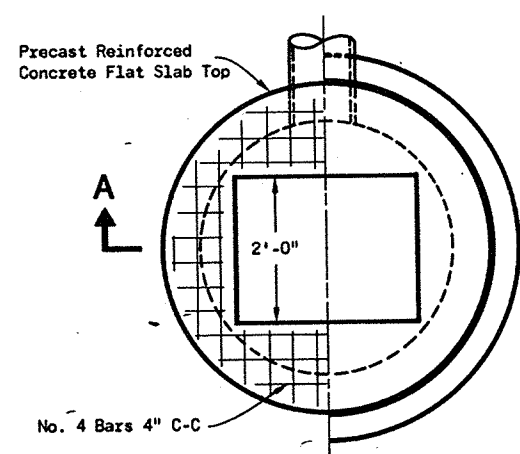
Precast Reinforced Bases shall be placed on a bed of material at least 6 inches in depth, which meets the requirements for Granular Backfill. This bedding shall be compacted and provide uniform support for the entire area of the base.

Precast Reinforced Concrete Flat Slab Tops may be used on the structures. The Tops shall be installed on a bed of mortar.

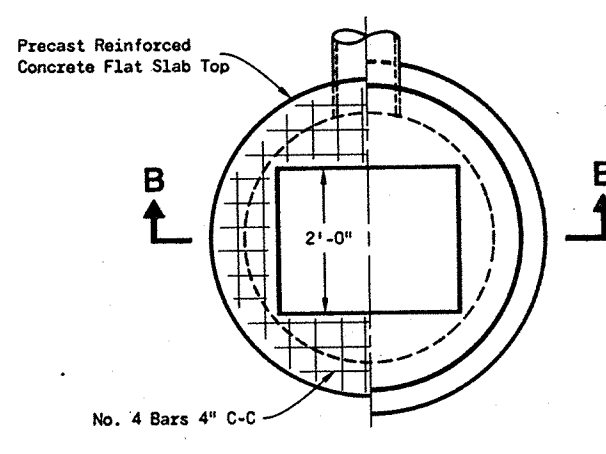
All Bar Steel reinforcement shall be embedded 2 inches clear unless otherwise shown or noted.

Precast Reinforced Concrete Risers shall be placed with tongue down.

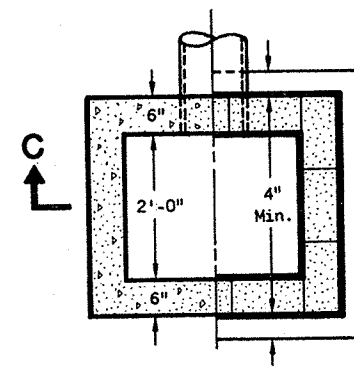
- ① Use 2'-6" opening for Type 2 Inlets and 3'-0" opening for Type 3 Inlets.



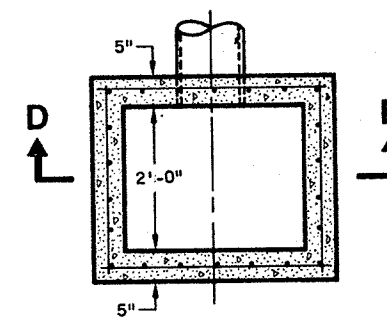
PLAN VIEW



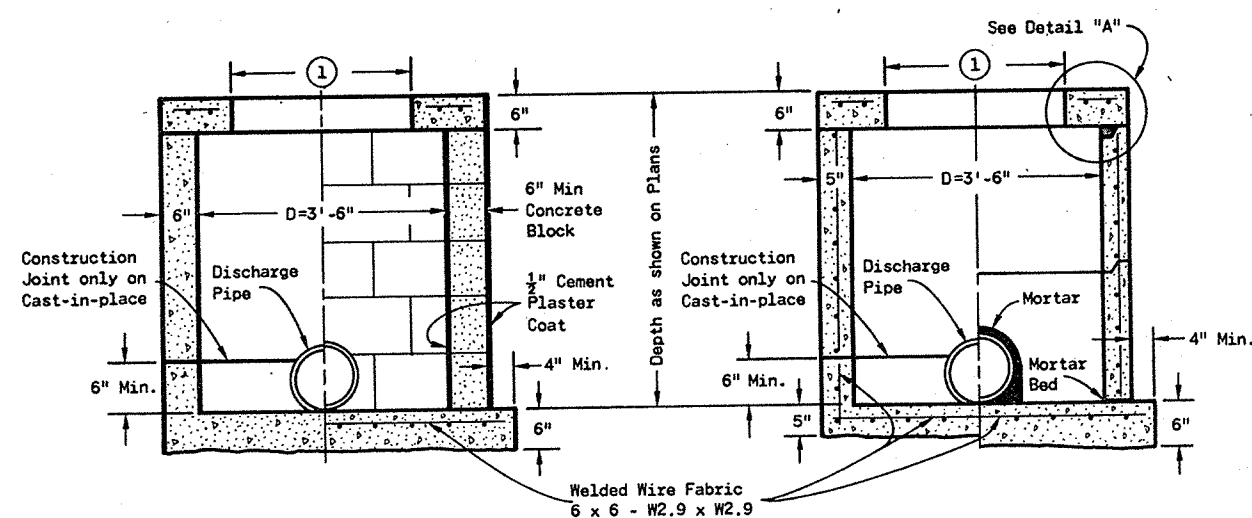
PLAN VIEW



PLAN VIEW



PLAN VIEW

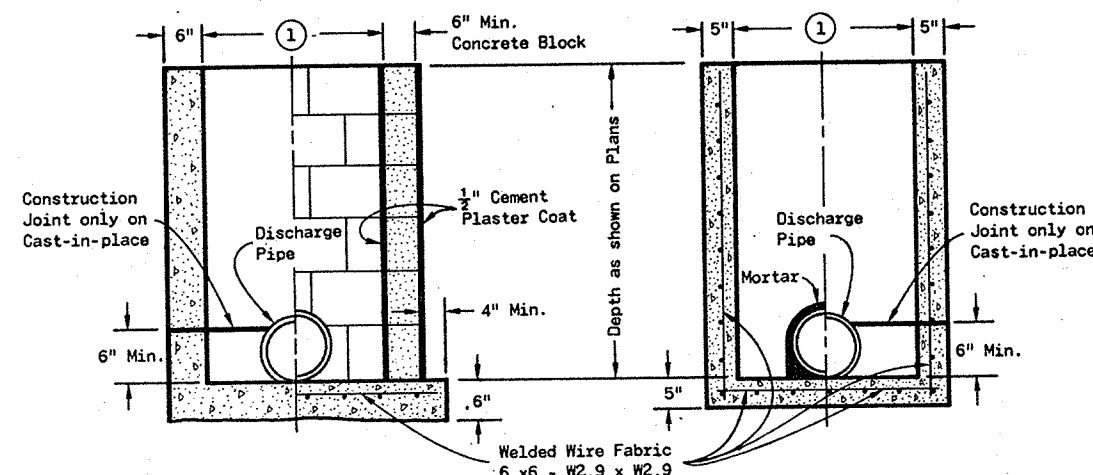


MONOLITHIC CONCRETE
CONCRETE BLOCK

SECTION A-A

REINFORCED CONCRETE
PRECAST REINFORCED CONCRETE

SECTION B-B



MONOLITHIC CONCRETE
CONCRETE BLOCK

SECTION C-C

PRECAST REINFORCED CONCRETE
REINFORCED CONCRETE

SECTION D-D

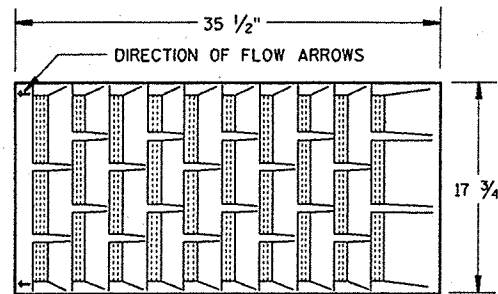
INLETS TYPE 2 & 3

INLETS TYPE 1, 2 & 3

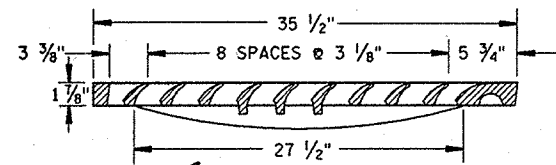
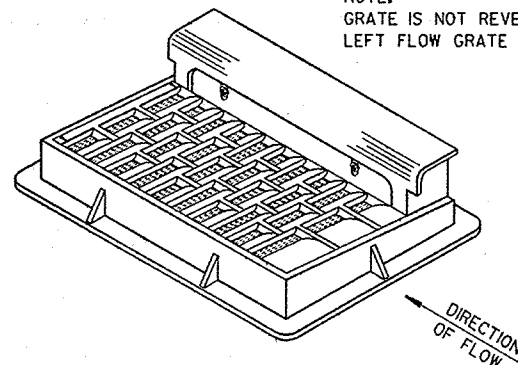
State of Wisconsin
Department of Transportation

APPROVED
4-13-82
DATE
FHWA

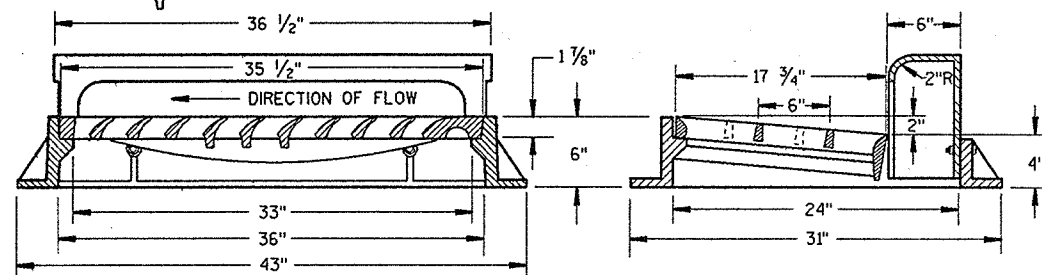
D. J. Alford
CHIEF DESIGN ENGINEER



NOTE:
GRATE IS NOT REVERSIBLE.
LEFT FLOW GRATE IS SHOWN

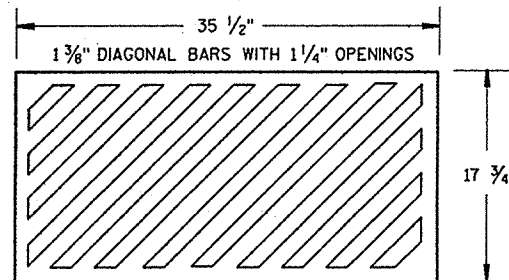


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"



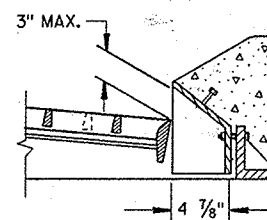
TYPE "H"

(APPROXIMATE WEIGHT 510 LBS.)

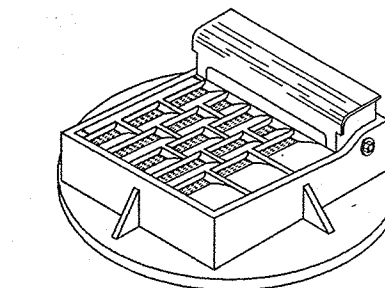
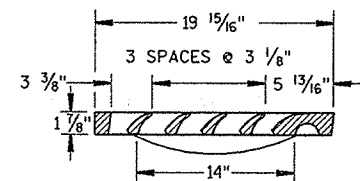
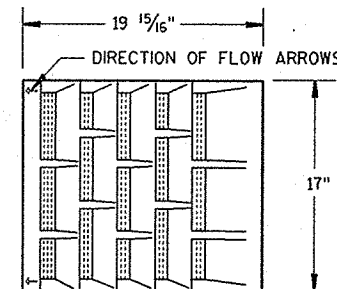


SPECIAL GRATE NO. 1

(APPROXIMATE WEIGHT 175 LBS.)
(NOTE AS TYPE H1 ON DRAINAGE TABLE)

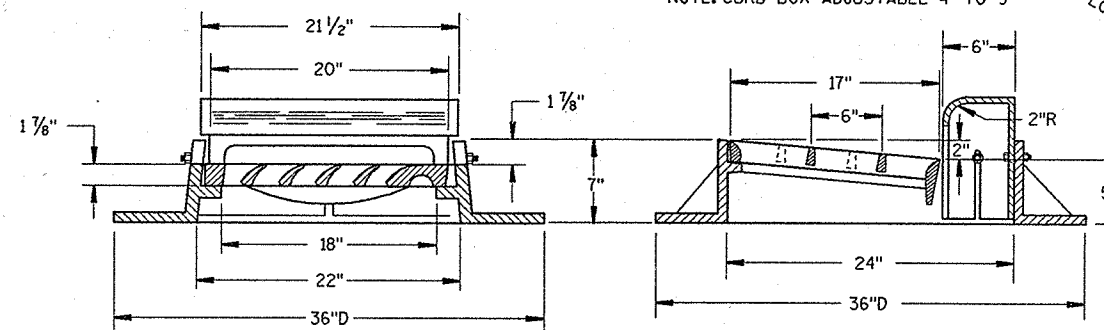


MOUNTABLE CURB BOX FOR TYPES "A" & "H" COVERS



NOTE:
GRATE IS NOT REVERSIBLE
LEFT FLOW GRATE IS SHOWN

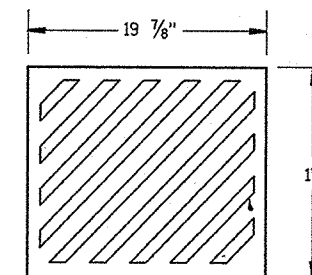
NOTE: CURB BOX ADJUSTABLE 4" TO 9"



TYPE "A"

(APPROXIMATE WEIGHT 410 LBS.)

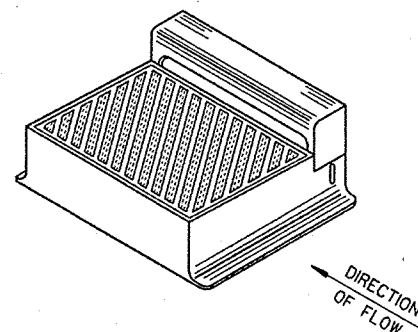
1" DIAGONAL BARS
WITH 1 1/2" OPENINGS



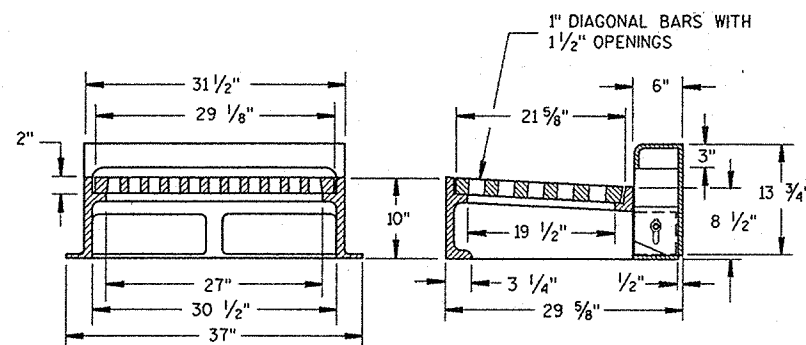
SPECIAL GRATE NO. 1

(APPROXIMATE WEIGHT 85 LBS.)

(NOTE AS TYPE A1 ON DRAINAGE TABLE)



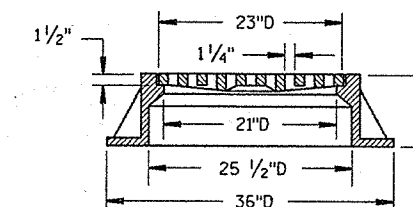
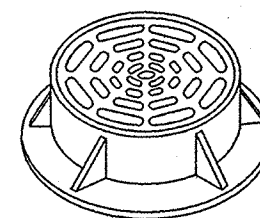
DIAGONAL SLOTS, SHALL BE ORIENTED
TO THE DIRECTION OF FLOW AS ILLUSTRATED.
GRATES ARE MANUFACTURED TO BE REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

(APPROXIMATE WEIGHT 650 LBS.)



TYPE "C"

(APPROXIMATE WEIGHT 365 LBS.)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL CATCH BASIN, MANHOLE AND INLET COVERS WHICH ARE PLACED IN VEHICULAR TRAFFIC AREAS SHALL BE "NON-ROCKING" TYPE.

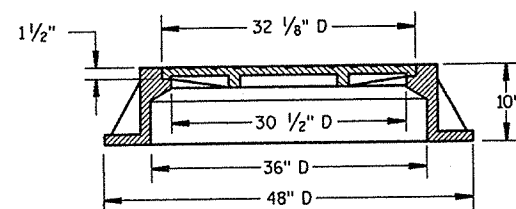
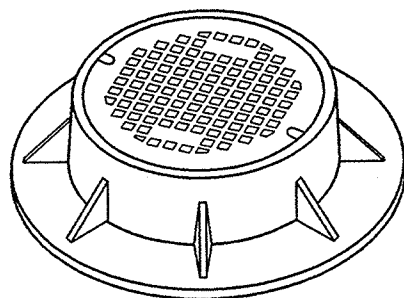
THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.

INLET COVERS

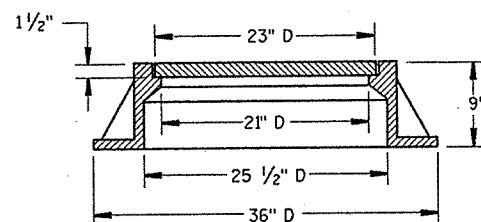
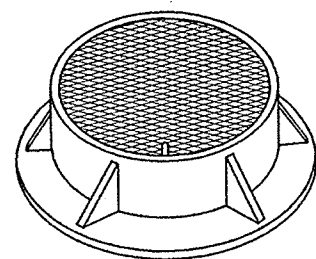
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-11-88
DATE
FHWA

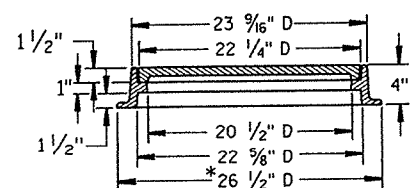
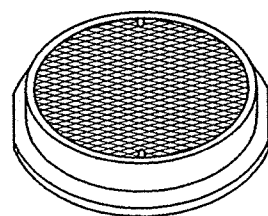
STATE DESIGN ENGINEER FOR HWYS



TYPE "K"
(APPROXIMATE WEIGHT 775 LBS.)

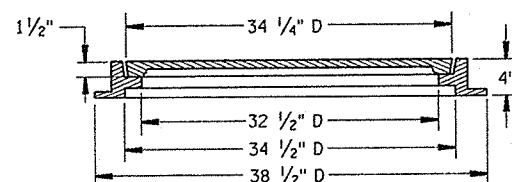
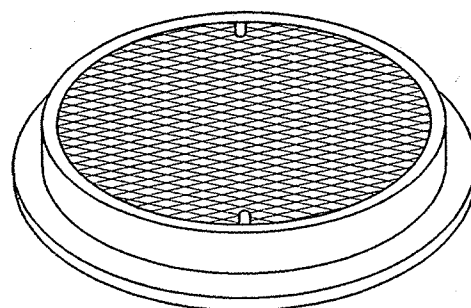


TYPE "J"
(APPROXIMATE WEIGHT 395 LBS.)



* THIS DIMENSION IS 25 1/2" ON BEVELED SIDE

TYPE "L"
(APPROXIMATE WEIGHT 146 LBS.)



TYPE "M"
(APPROXIMATE WEIGHT 385 LBS.)

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL COVERS PLACED IN VEHICULAR TRAFFIC AREAS SHALL BE "NON-ROCKING" TYPE.

THE ACTUAL WEIGHT OF COVERS MAY VARY WITHIN 5 PERCENT, PLUS OR MINUS, OF THE APPROXIMATE WEIGHT.

MANHOLE COVERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

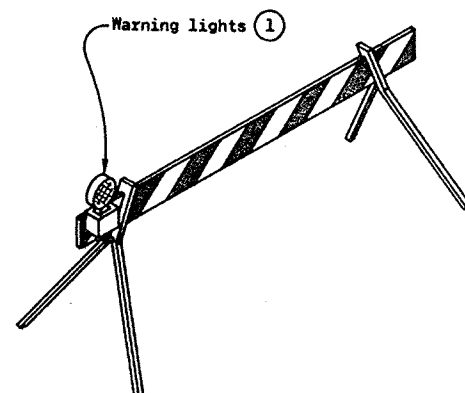
APPROVED
8-11-88
DATE
FHWA

[Signature]
STATE DESIGN ENGINEER FOR HWYS

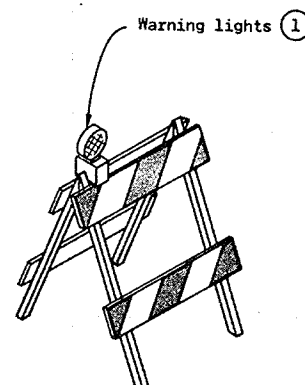
TABLE OF BARRICADE CHARACTERISTICS

BARRICADE TYPE	I	II	III
Height	3' Minimum		5' Minimum
*Rail Width	8" Minimum to 12" Maximum		
Rail Length	2' Minimum		4' Minimum
**Stripe Width	6" at 45° Angle		
Stripe Colors	Reflectorized Orange & White		

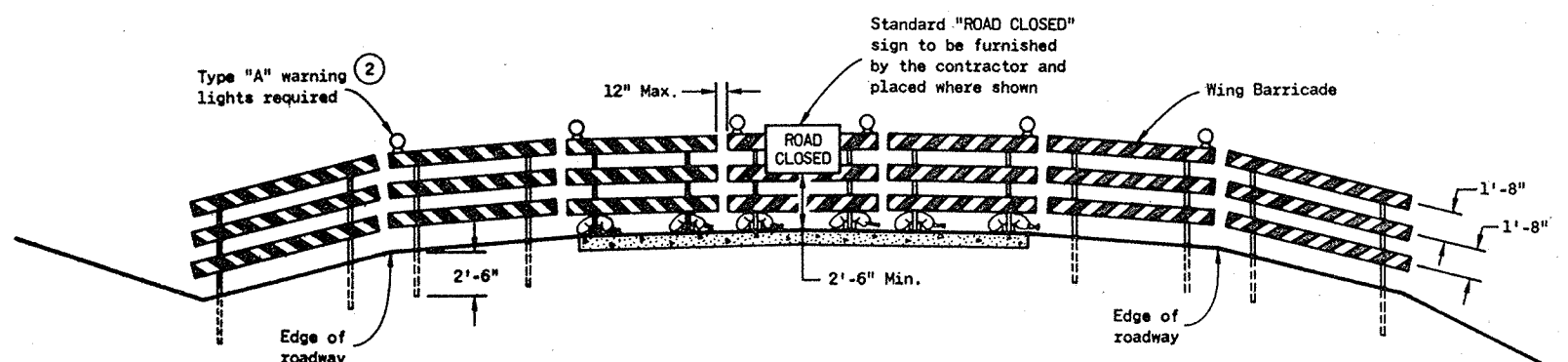
* Nominal dimensions when barricade is constructed of lumber.
 ** Shall be 4" for rail lengths less than 3'.



TYPICAL TYPE I BARRICADE

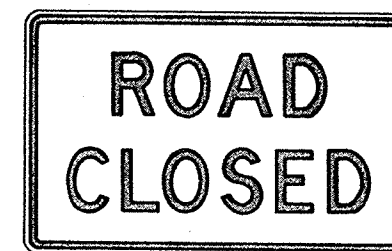


TYPICAL TYPE II BARRICADE



TYPICAL INSTALLATION SHOWING TYPE III BARRICADE

CONSTRUCTION BARRICADES



R11-2

48" x 30"

Black Lettering on Reflective
White Background

Letter Series "D"

Letter height 8"



W20-3

48" x 48"

Black Lettering on Reflective
Orange Background

Letter Series "D"

Letter height 7"

STANDARD SIGNS - TYPE II

GENERAL NOTES

The contractor shall furnish, erect and maintain barricades and signs. Details regarding location, spacing, dimensions, fabrication, material, sign lettering, lighting devices and color of barricades and signs shall conform to this drawing, the Manual On Uniform Traffic Control Devices, the Standard Specifications, Special Provisions and/or plans.

Type III Barricades and Signs shall be erected at the termini of projects and at other road or street locations where it is necessary to control or eliminate public access to the construction area.

Type I and II Barricades shall be used on projects when traffic is to be maintained through the construction area.

The actual field location of barricade installations and advance signs shall be as directed by the Engineer.

Each barricade shall have the name and telephone number of a person responsible for 24 hour emergency service printed in letters at least 1/4 inch in height on the barricade rails. Prior to May 1, 1983, such information may be shown on either front or back faces of the barricade rails. After May 1, 1983, all printed information or identification markings shall be shown only on the back side of barricade rails.

Type I Barricades may include other unstriped horizontal panels necessary to provide stability.

On high speed expressways or in other situations where barricades may be susceptible to overturning in the wind, sandbags should be used for ballasting. Sandbags may be placed on lower parts of the frame or stays to provide the required ballast but shall not be placed on top of any striped rail.

① Unless otherwise provided elsewhere in the contract, warning lights are required on all barricades which will be located near traffic operations during periods of inclement weather or hours of darkness. Barricades used to shield isolated hazards shall be equipped with Type "A" (low intensity - flashing) lights unless Type "B" (high intensity) - flashing lights are specified elsewhere in the contract documents. Barricades used for channelization or delineation of the travel path shall be equipped with Type "C" (steady burn) lights except for the initial barricade(s) in sequence, which shall be equipped with Type "A" or "B" lights as previously noted.

② Two warning lights shall be provided on the center barricade and at least one warning light shall be provided on each of the other barricades within the roadway limits. Spacing of the warning lights shall be uniform to the edge of roadway as shown.

CONSTRUCTION BARRICADES & STANDARD SIGNS

State of Wisconsin
Department of Transportation

APPROVED
9-14-81
DATE

[Signature]
CHIEF DESIGN ENGINEER

FHWA