

Contract 1

Record Drawings

Rev 6-9-98

CITY OF SUPERIOR, WISCONSIN DEPARTMENT OF PUBLIC WORKS

PLANS FOR THE CONSTRUCTION OF CONTRACT 1

Contract 1: East Second Street Relief Sewer Record Drawings

EAST 2ND STREET RELIEF SEWER

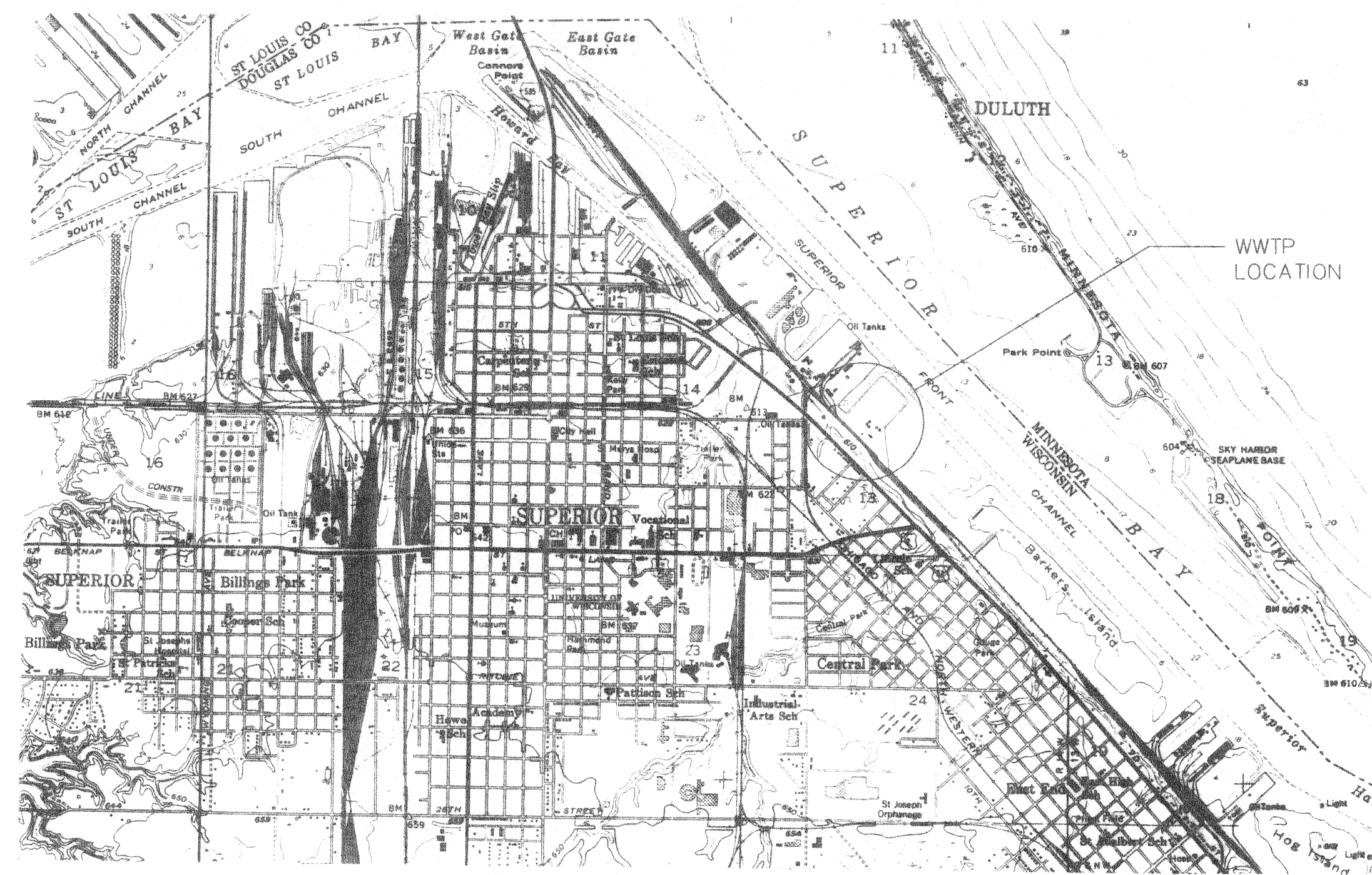
CITY OF SUPERIOR

CONSOER TOWNSEND & ASSOCIATES

DEPT. OF PUBLIC WORKS

JOHN VITO
DIRECTOR

As-built
Location MH?
LF between MH's
MH rim?



LOCATION MAP
SCALE: 1 = 24000

LEGEND	
NON-POTABLE PLANT WATER	NPW
CAST IRON PIPE	C.I.P.
DUCTILE IRON PIPE	D.I.P.
WASTE ACTIVATED SLUDGE	WAS
WROUGHT IRON PIPE	W.I.
PRIMARY SERVICE DUCT	—P—
ELECTRICAL	—E—
CHLORINE LINE	—Cl—
WATER	—W—
GAS	—G—
FORCEMAIN SEWER	==FM==
SANITARY SEWER	===S===
PROPOSED RELIEF SEWER	———R———
PROPOSED GRADE ELEVATION	+610.00
PROPOSED GAS	—G—

LIST OF CONTRACT DRAWINGS

SHEET NO.	TITLE SHEET
	COVER SHEET
1	LOCATION MAP, INDEX, AND LEGEND
2	WASTEWATER TREATMENT PLANT UNDERGROUND UTILITY SITE MAP
3	EXISTING SITE MAP AND PROPOSED ROUTING OF EAST 2ND STREET RELIEF SEWER
4	EAST 2ND STREET RELIEF SEWER PLAN AND PROFILE STA. 0+00 THROUGH STA. 15+72
5	EAST 2ND STREET RELIEF SEWER PLAN AND PROFILE STA. 15+72 THROUGH STA. 28+29
6	EAST 2ND STREET JUNCTION CHAMBER, GATE SCHEDULE, TYPICAL CONCRETE PAVEMENT SECTION, STORM SEWER CROSSING STRUCTURE AND STORM SEWER REPAIR
7	STRUCTURAL STANDARDS, NOTES AND DETAILS
8	GENERAL DETAILS

M:\PROJECTS\389901\CAD\RELIEF\DWG\LIST.DWG Plotted on 10/7/1994 @ 8:23 AM by KWAGEE

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED TN
DRAWN LED
CHECKED JC
DATE APRIL, 1994

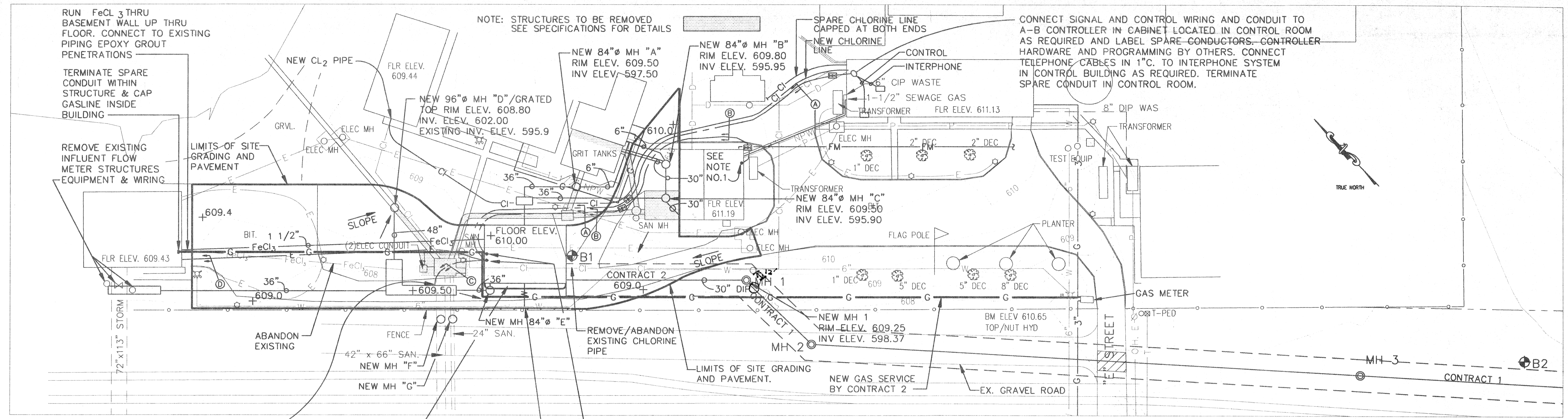
SCALE
NONE

**DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN**



CONTRACT NO. 1
LOCATION MAP, INDEX, & LEGEND

SHEET 1
OF 8 SHEETS
RECORD MAP NO.
CT&A PROJECT NO. 3899-01

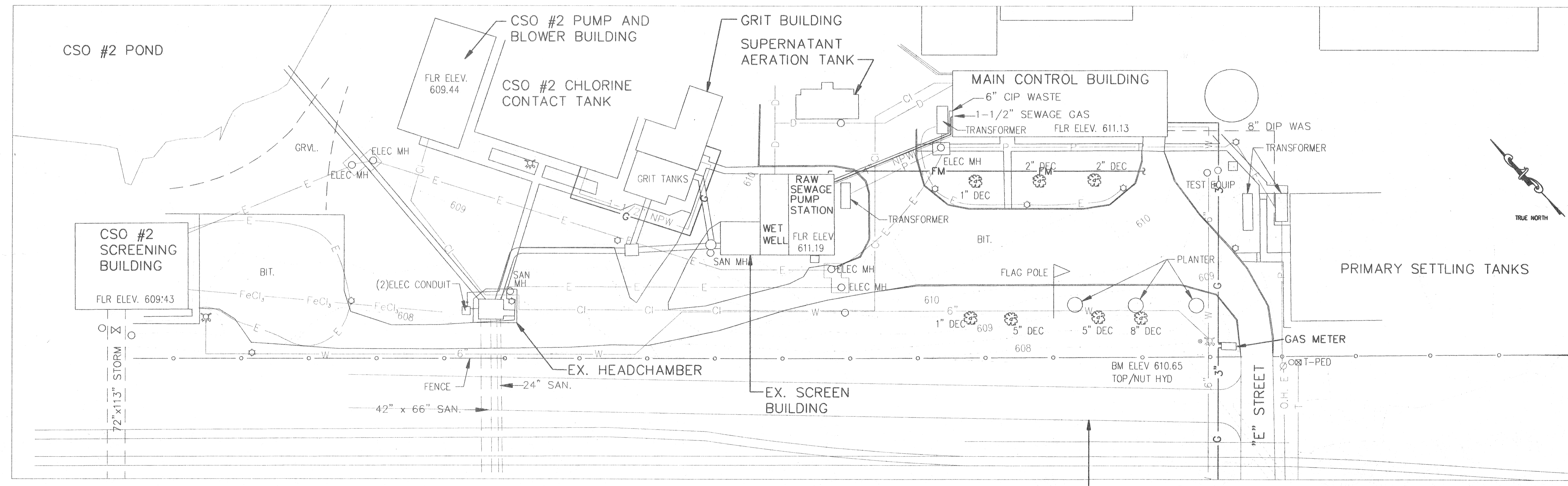


PROPOSED SITE PLAN

- NOTES**
- INSTALL A 150 A CIRCUIT BREAKER IN DISTRIBUTION CONTROL CENTER DCC #3 TO FEED SCREENING BUILDING. CONNECT 3#2/0, 1#2/0 NEUT, AND 1#2/0 GND. - 4"C. TO DCC #3 AS REQUIRED. TERMINATE SPARE CONDUIT WITHIN BUILDING STRUCTURE.

LEGEND

NON-POTABLE PLANT WATER	NPW
CAST IRON PIPE	C.I.P.
DUCTILE IRON PIPE	D.I.P.
WASTE ACTIVATED SLUDGE	WAS
WROUGHT IRON PIPE	W.I.
PRIMARY SERVICE DUCT	- P -
ELECTRICAL	- E -
CHLORINE LINE	- Cl -
WATER	- W -
GAS	- G -
DRAIN	- D -
FORCEMAIN SEWER	= FM =
SANITARY SEWER	== S ==
PROPOSED RELIEF SEWER	- R -
PROPOSED GRADE ELEVATION	+610.00
PROPOSED GAS	- G -



EXISTING SITE PLAN

M:\PROJECTS\389900\CAD\RELIEFS-PLT\SITE.DWG Plotted on 10/17/1994 @ 3:32 P.M. by LDUBET

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED	TN
DRAWN	LED
CHECKED	JC
DATE	APRIL, 1994

SCALE

30 0 30 60

FEET

**DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN**

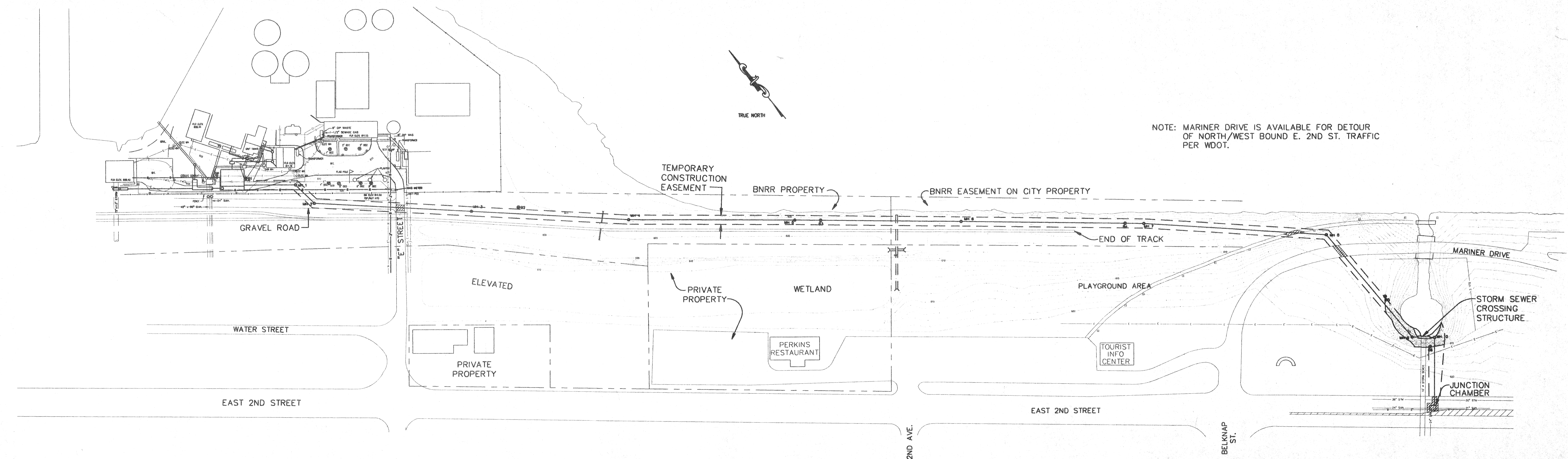
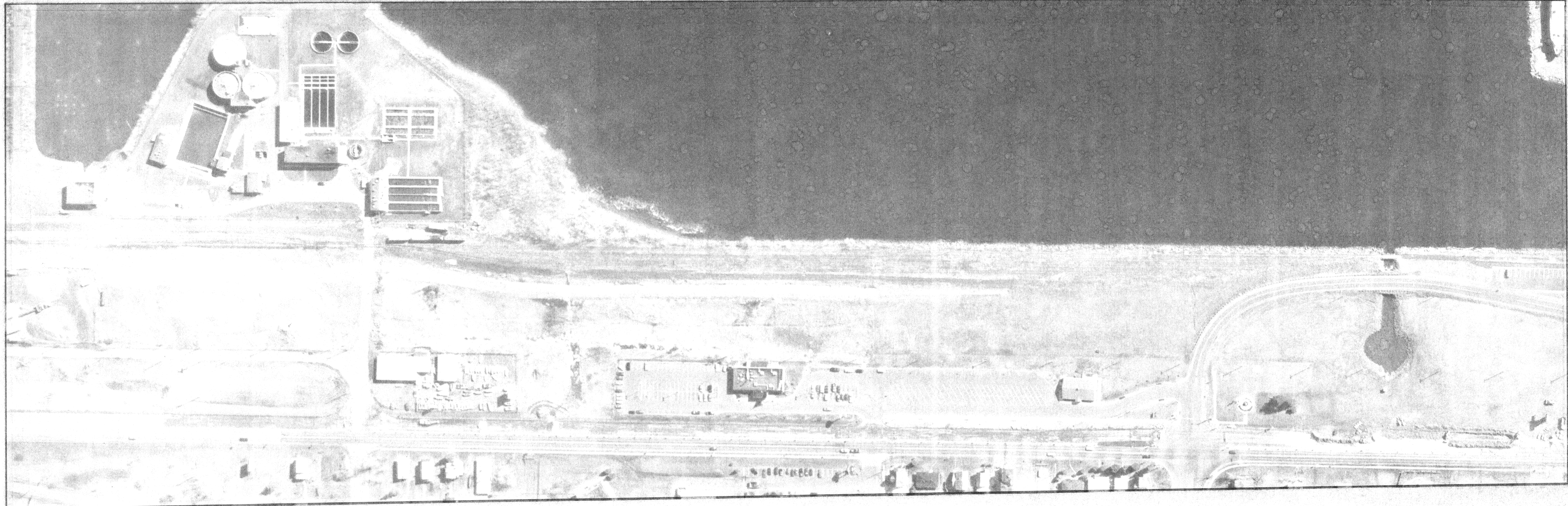
TOWNSEND ASSOCIATES

ENGINEERING PLANNING MANAGEMENT
2855 ANTHONY LANE SOUTH, SUITE 145
MINNEAPOLIS, MN. 55418-3265

EXISTING & PROPOSED SITE PLANS

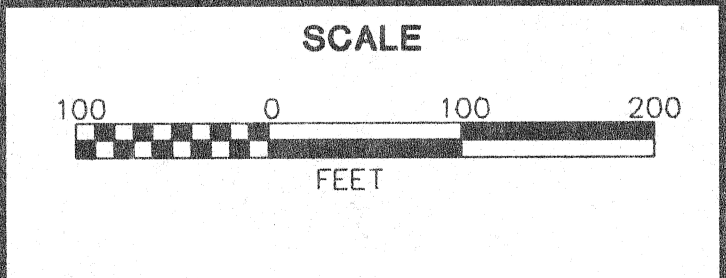
SHEET 2
OF 8 SHEETS

RECORD MAP NO.
CT&A PROJECT NO. 3899-01



NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED TN
 DRAWN LED
 CHECKED JC
 DATE APRIL, 1994



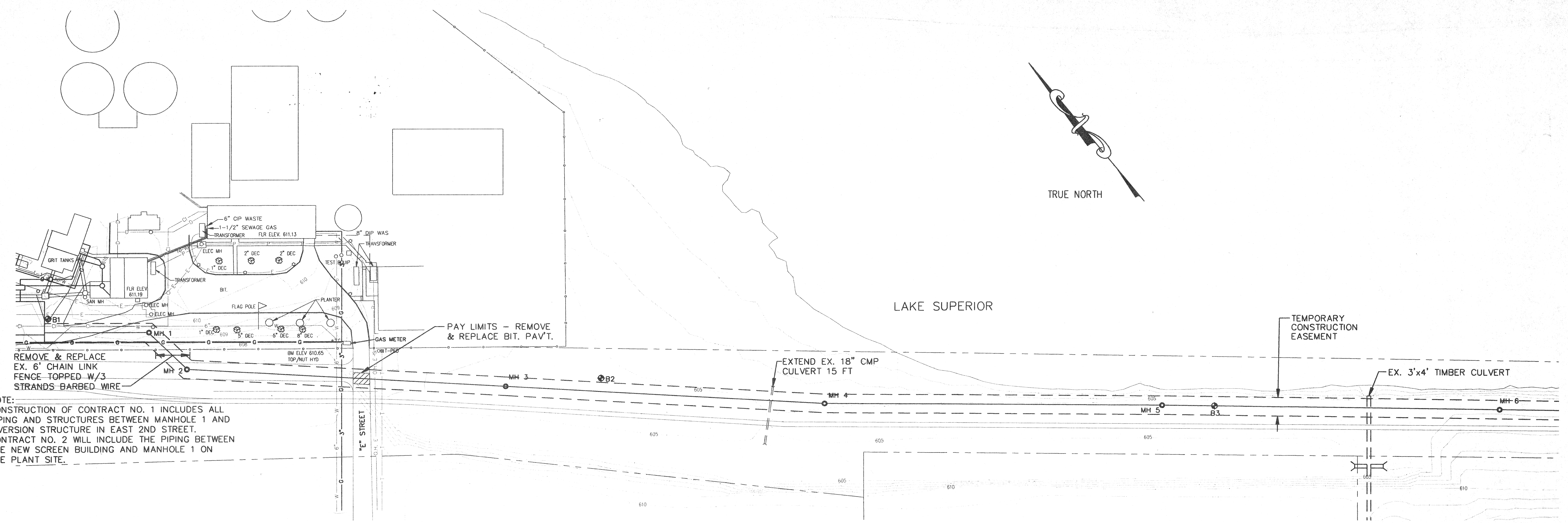
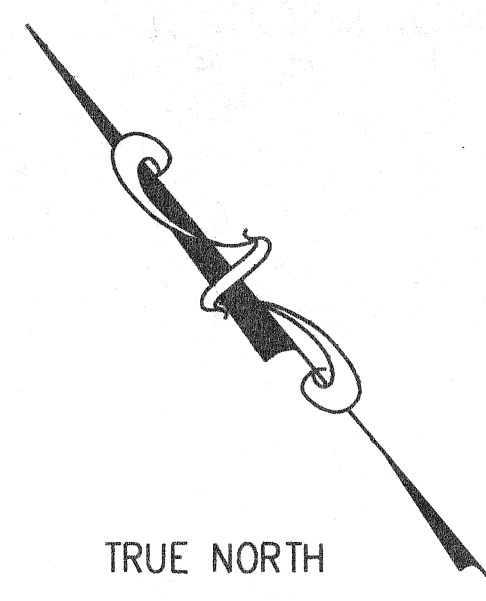
**DEPARTMENT OF PUBLIC WORKS
 CITY OF SUPERIOR, WISCONSIN**

CONDOR TOWNSEND ASSOCIATES
 ENGINEERING PLANNING MANAGEMENT
 2855 ANTHONY LANE SOUTH, SUITE 145
 MINNEAPOLIS, MN. 55418-3265

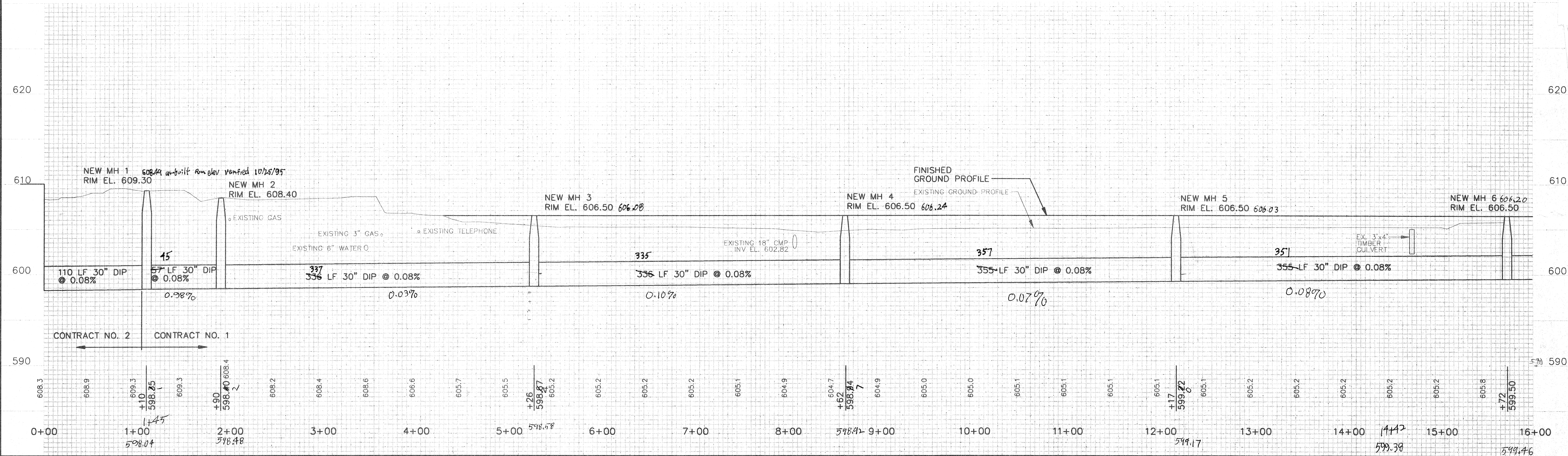
CONTRACT NO.1
 EXISTING SITE MAP AND PROPOSED
 ROUTING OF EAST 2ND STREET RELIEF SEWER

SHEET 3
 OF 8 SHEETS
 RECORD MAP NO.
 CT&A PROJECT NO. 3899-01

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NOTE:
 CONSTRUCTION OF CONTRACT NO. 1 INCLUDES ALL PIPING AND STRUCTURES BETWEEN MANHOLE 1 AND DIVERSION STRUCTURE IN EAST 2ND STREET.
 CONTRACT NO. 2 WILL INCLUDE THE PIPING BETWEEN THE NEW SCREEN BUILDING AND MANHOLE 1 ON THE PLANT SITE.



M:\PROJECTS\389900\DRAWING\RELIEF\SRLEF.DWG Plotted on 10/7/1994 @ 10:59 A.M. by KWAGE

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REVISIONS			

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 DRAWN LED
 CHECKED JC
 DATE APRIL, 1994

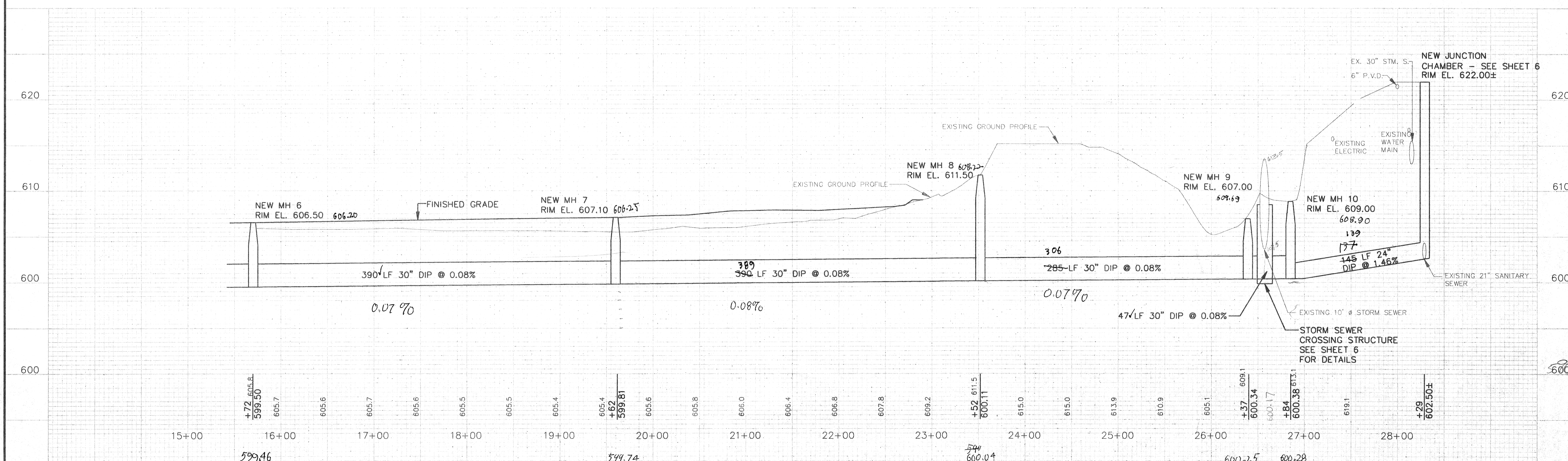
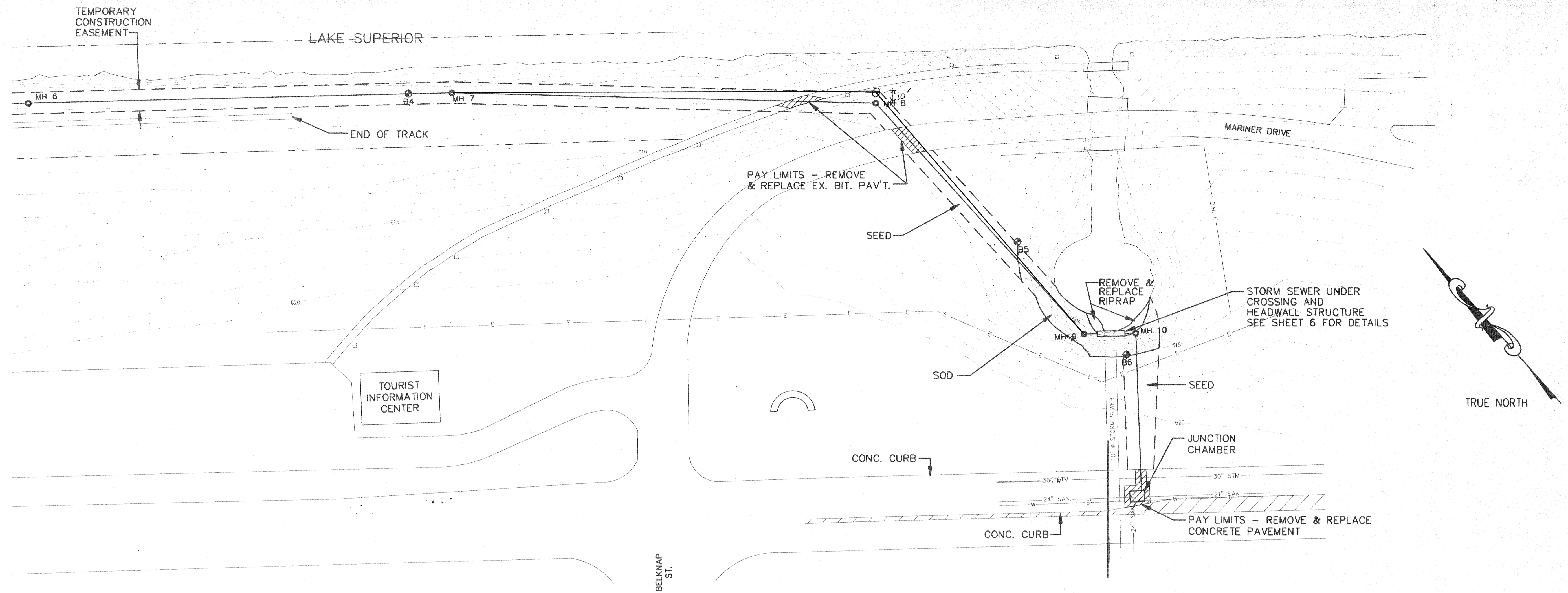
SCALE
 1" = 5' VERTICAL
 1" = 50' HORIZONTAL

**DEPARTMENT OF PUBLIC WORKS
 CITY OF SUPERIOR, WISCONSIN**



CONTRACT NO. 1
 EAST 2ND STREET RELIEF SEWER
 PLAN AND PROFILE
 STA. 0+00 THRU STA. 15+72

SHEET 4
 OF 8 SHEETS
 RECORD MAP NO.
 CT&A PROJECT NO. 3899-01



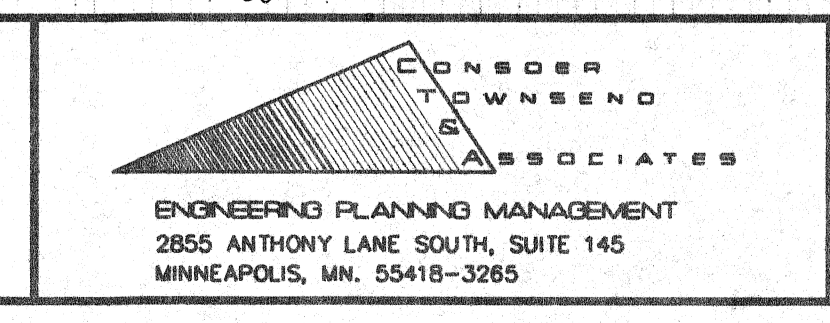
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REVISIONS			

DESIGNED TN
 DRAWN LED
 CHECKED JC
 DATE APRIL, 1994

SCALE
 1" = 5' VERTICAL
 1" = 50' HORIZONTAL

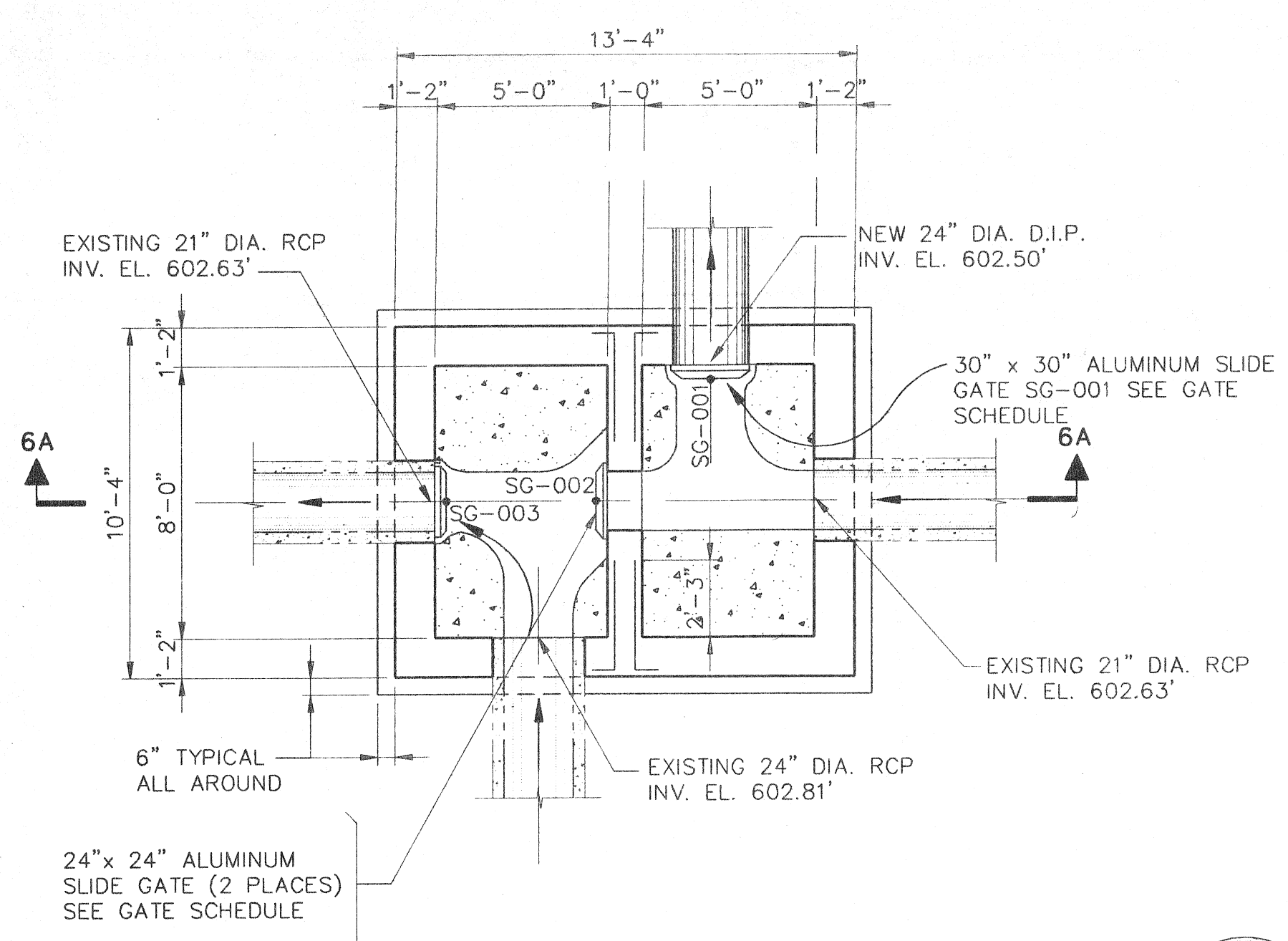
**DEPARTMENT OF PUBLIC WORKS
 CITY OF SUPERIOR, WISCONSIN**



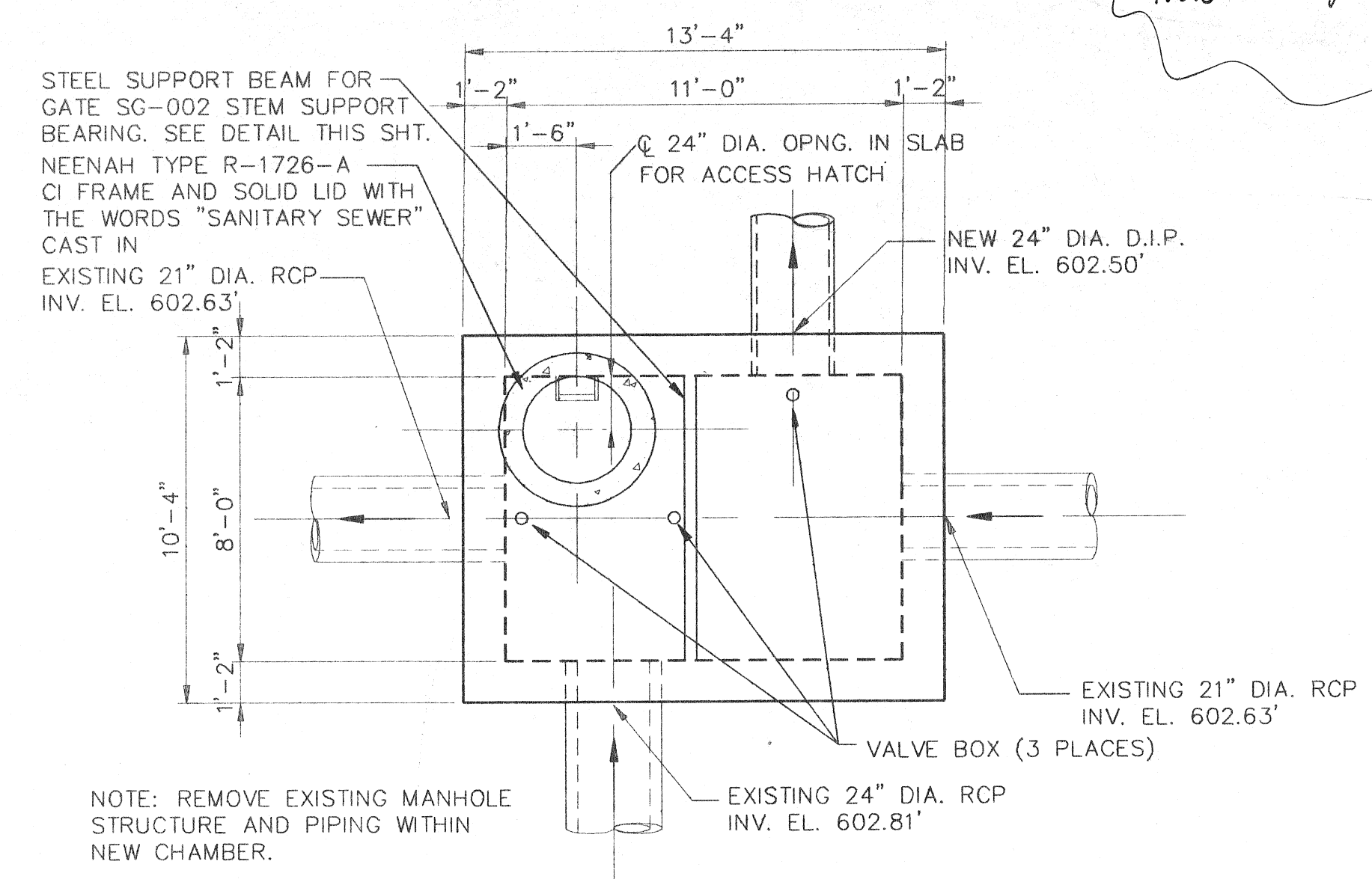
CONTRACT NO. 1
 EAST 2ND STREET RELIEF SEWER
 PLAN AND PROFILE
 STATION 15+72 THRU STA. 28+29

SHEET 5
 OF 8 SHEETS
 RECORD MAP NO.
 CT&A PROJECT NO. 3899-01

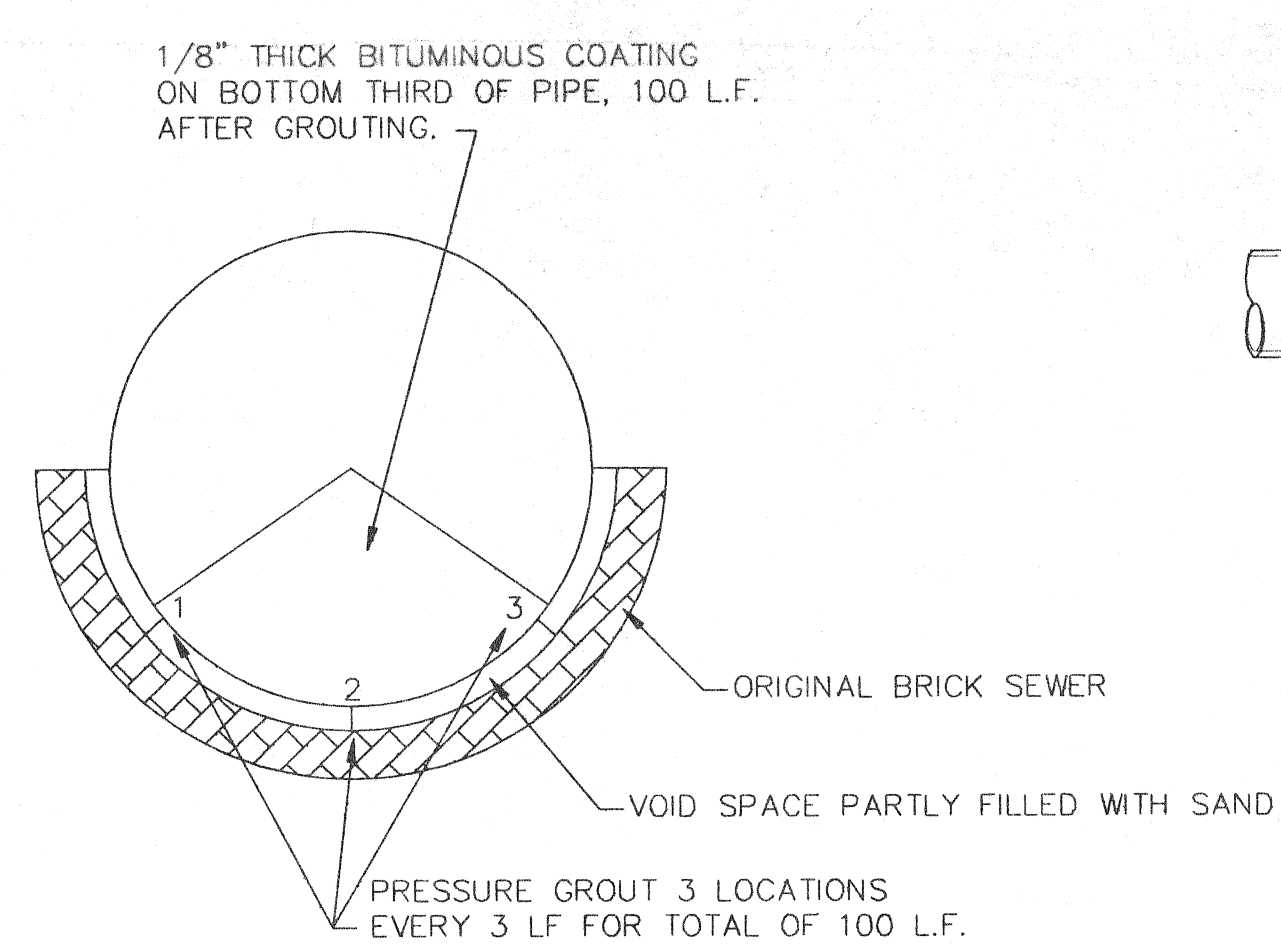
Note: For gate details - see shop drawings



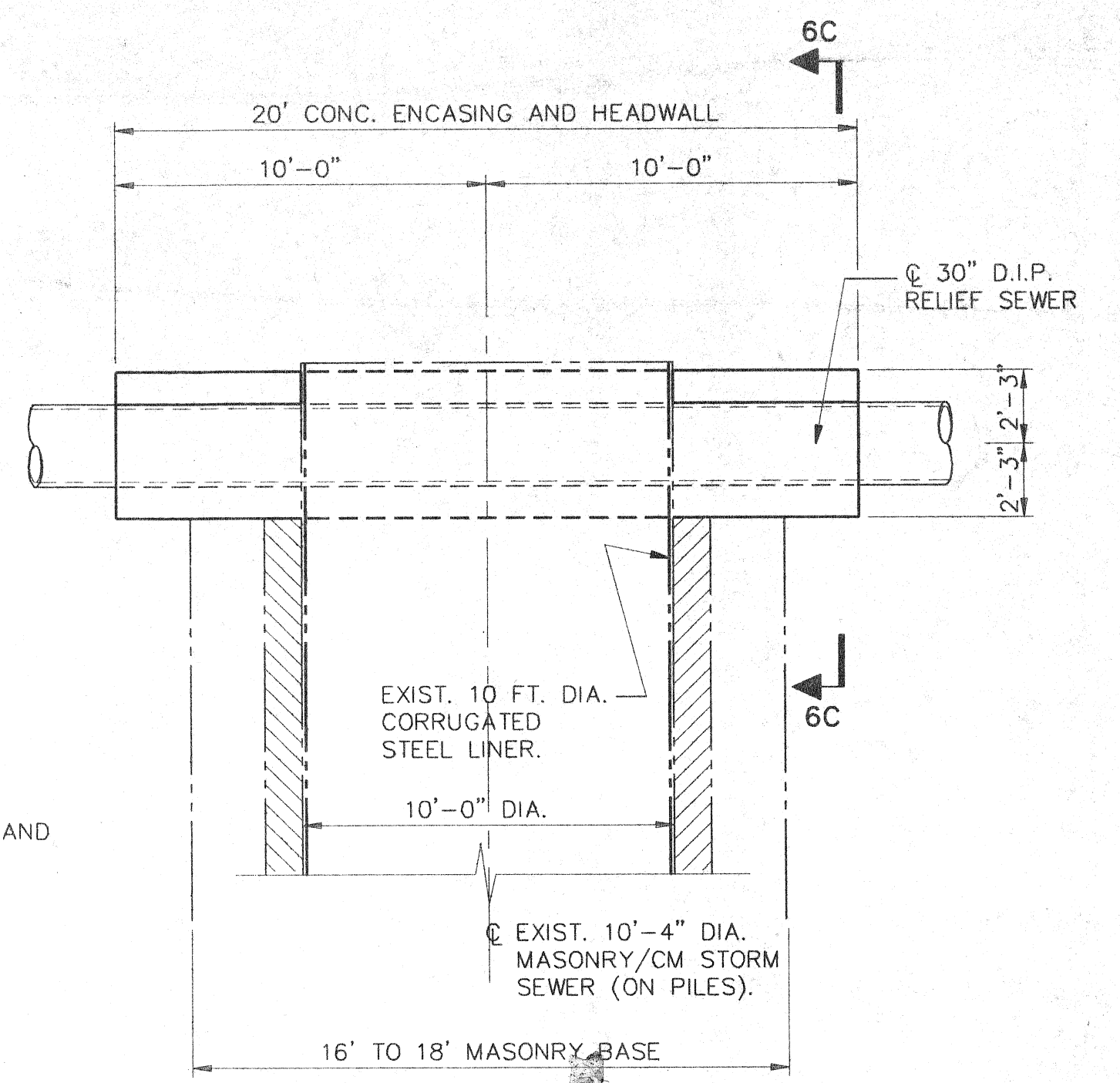
EAST 2ND STREET JUNCTION CHAMBER
BASE PLAN



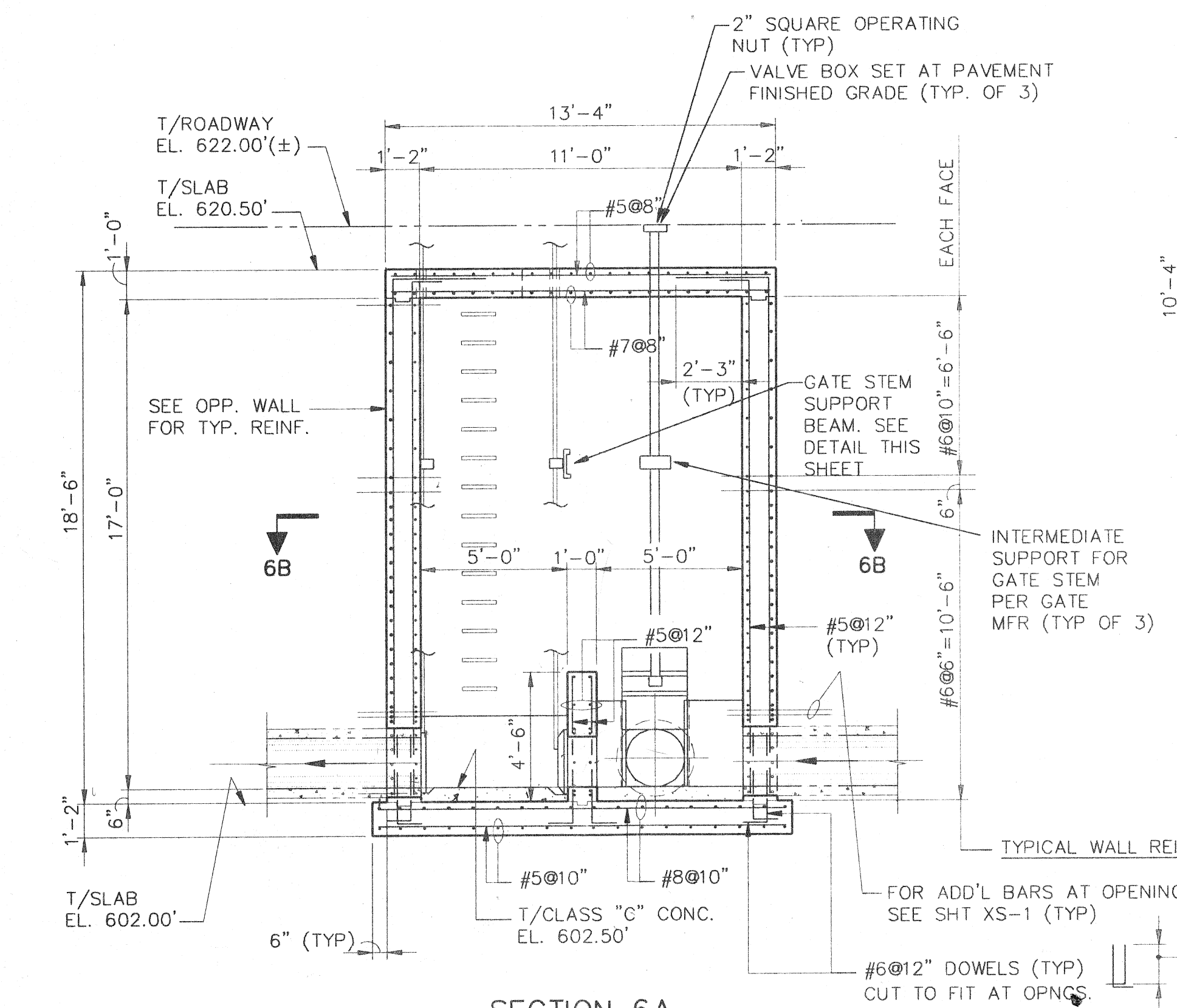
EAST 2ND STREET JUNCTION CHAMBER
TOP PLAN



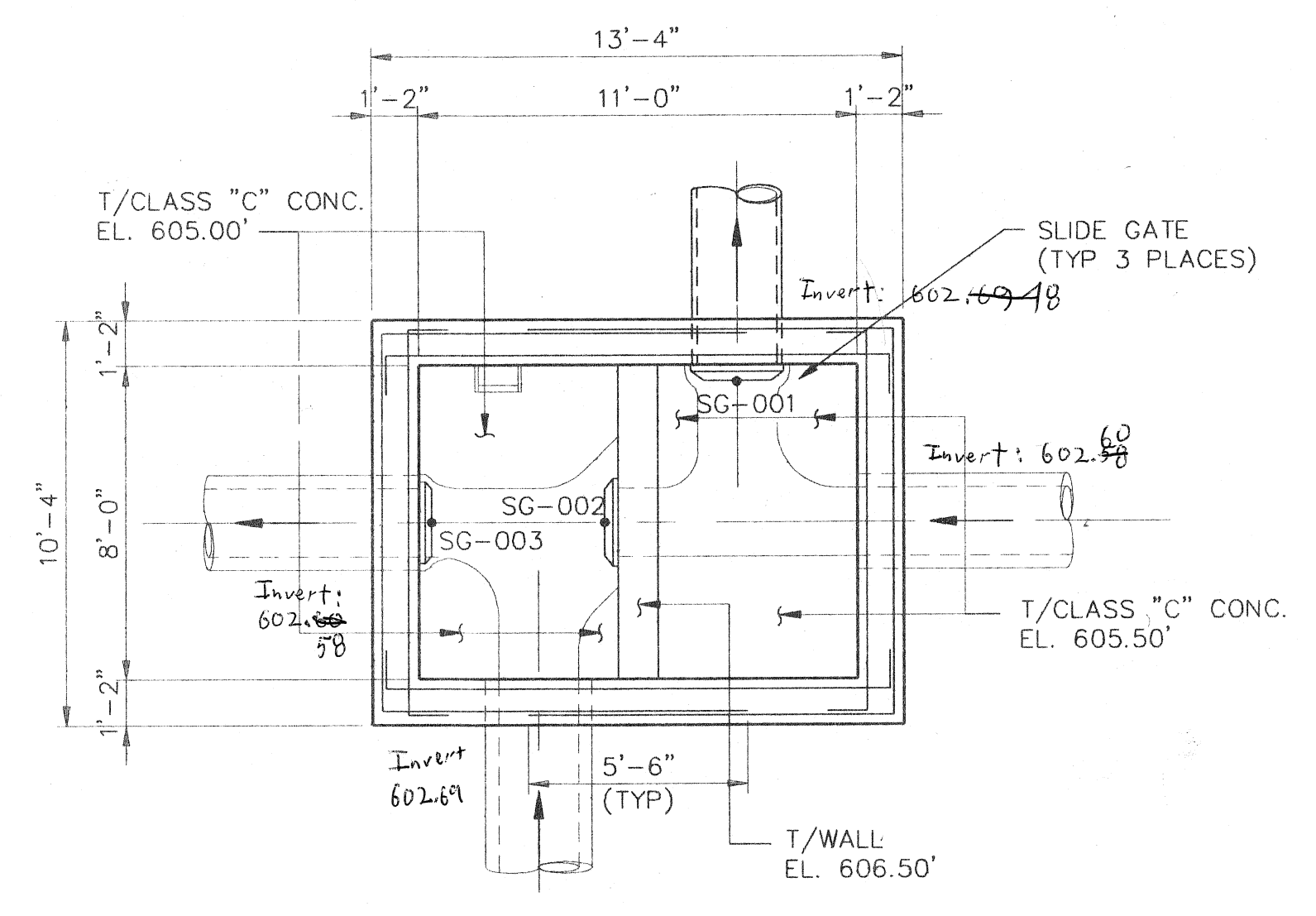
10' Ø STORM SEWER REPAIR
NO SCALE



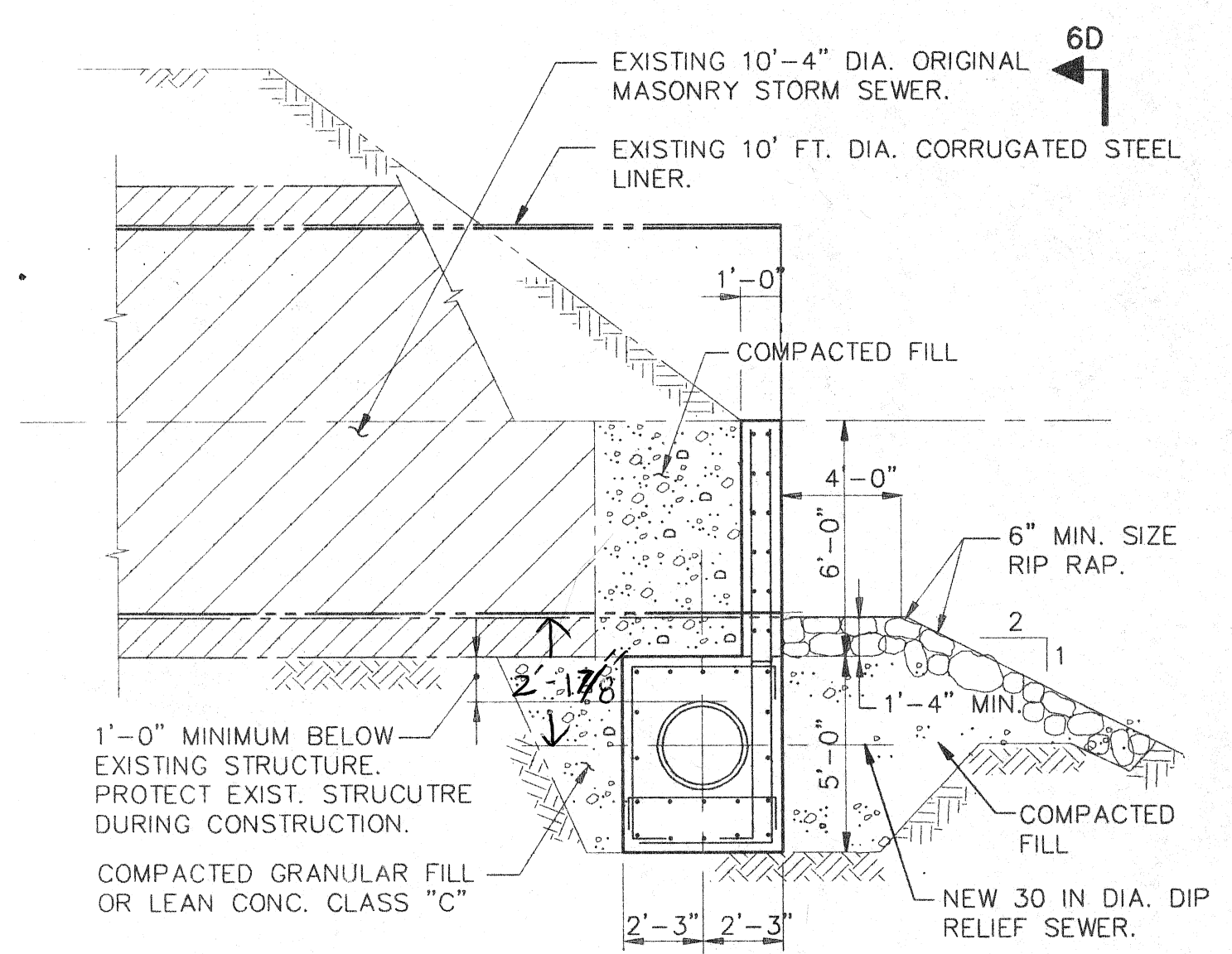
STORM SEWER CROSSING STRUCTURE
PLAN



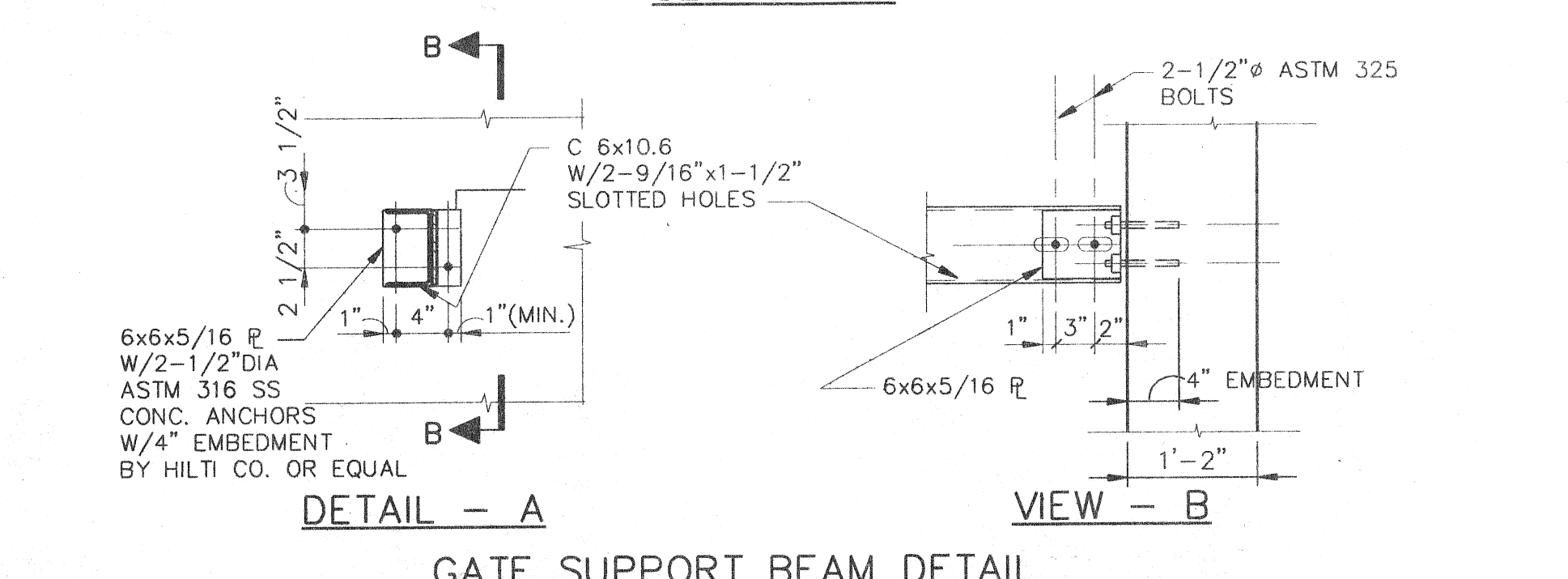
SECTION 6A



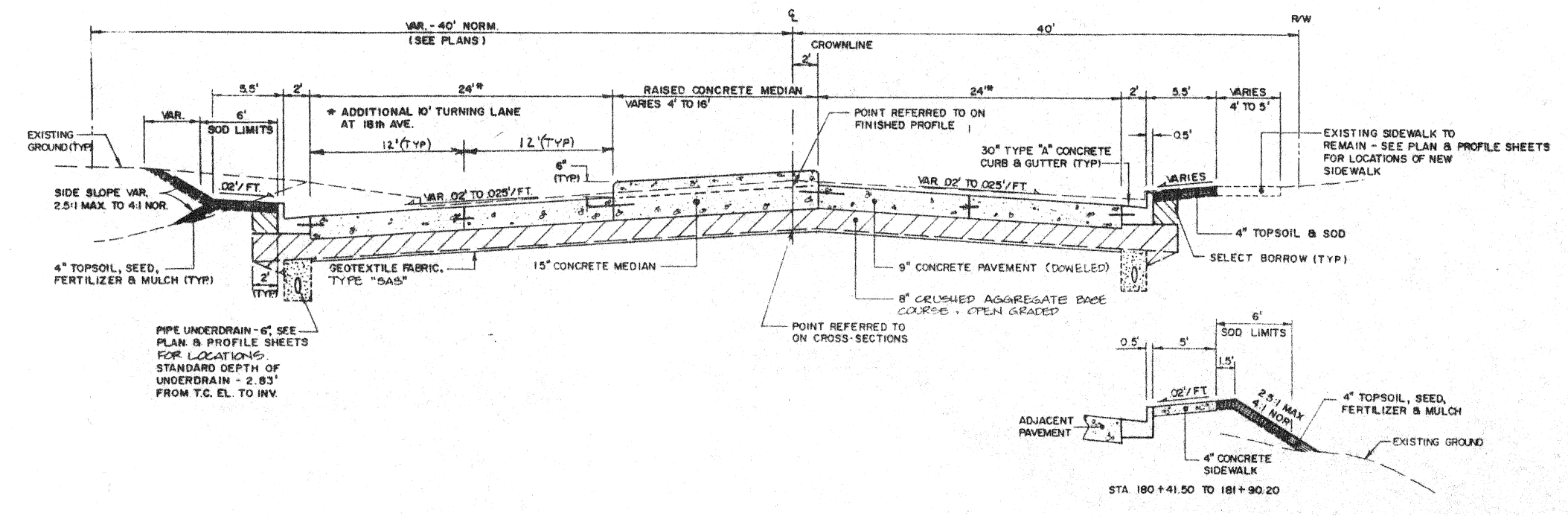
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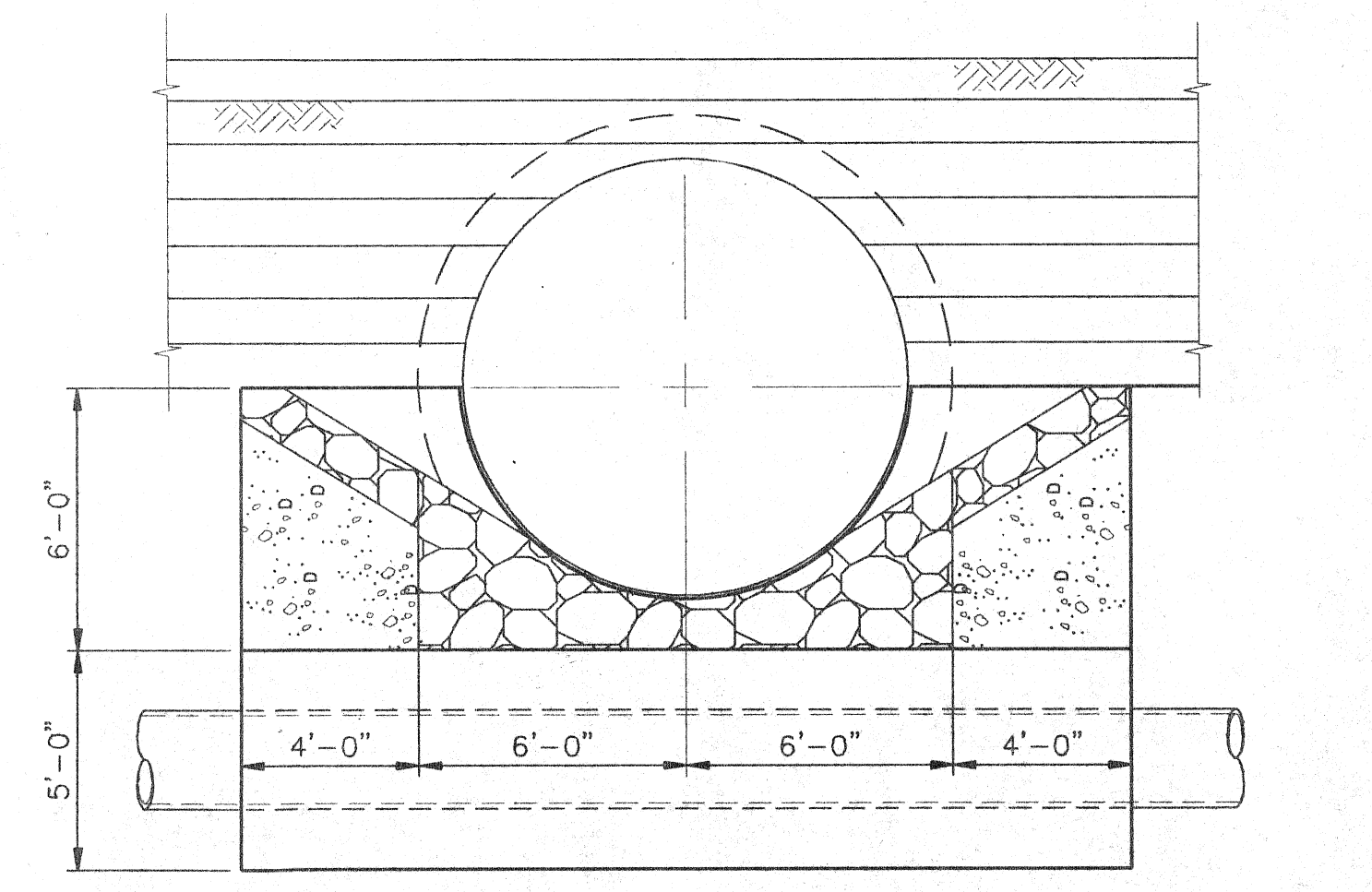
SECTION 6C



DETAIL - A
VIEW - B
GATE SUPPORT BEAM DETAIL



TYPICAL EXISTING CONCRETE PAVEMENT SECTION
NEAR EAST 2ND STREET JUNCTION CHAMBER
NO SCALE

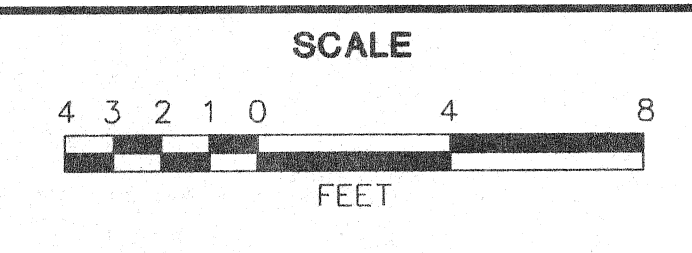


SECTION 6D

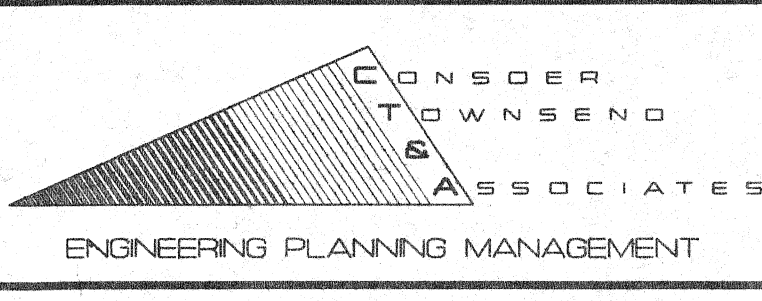
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NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

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DRAWN	LTS
CHECKED	NMP
DATE	OCT. 1994

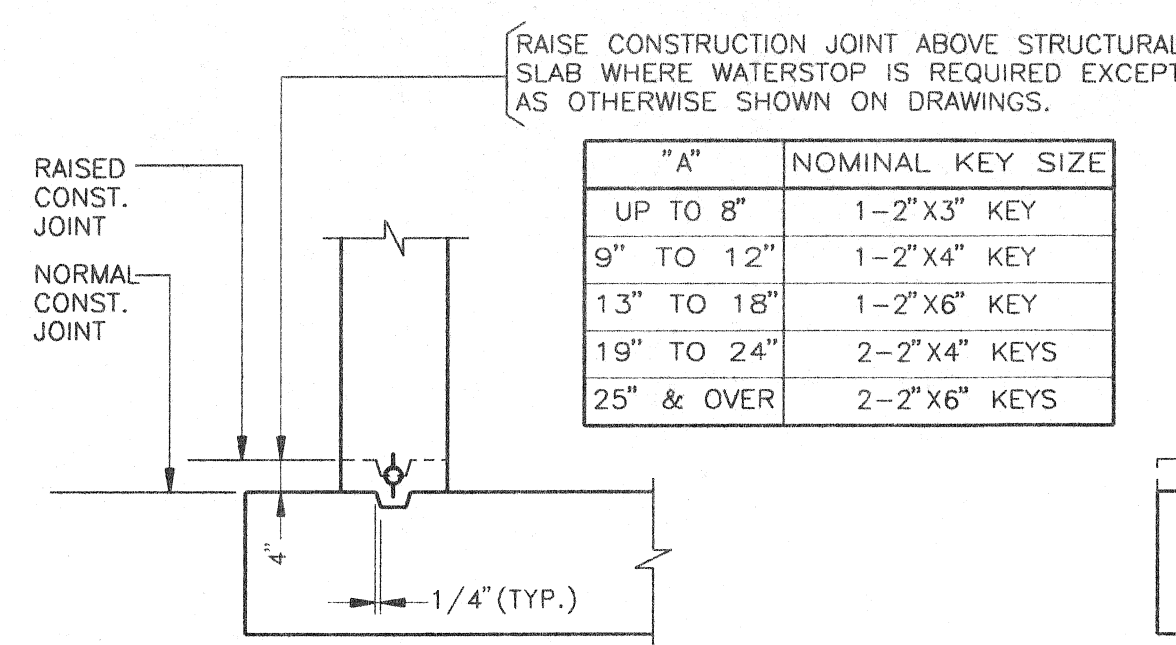


DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN



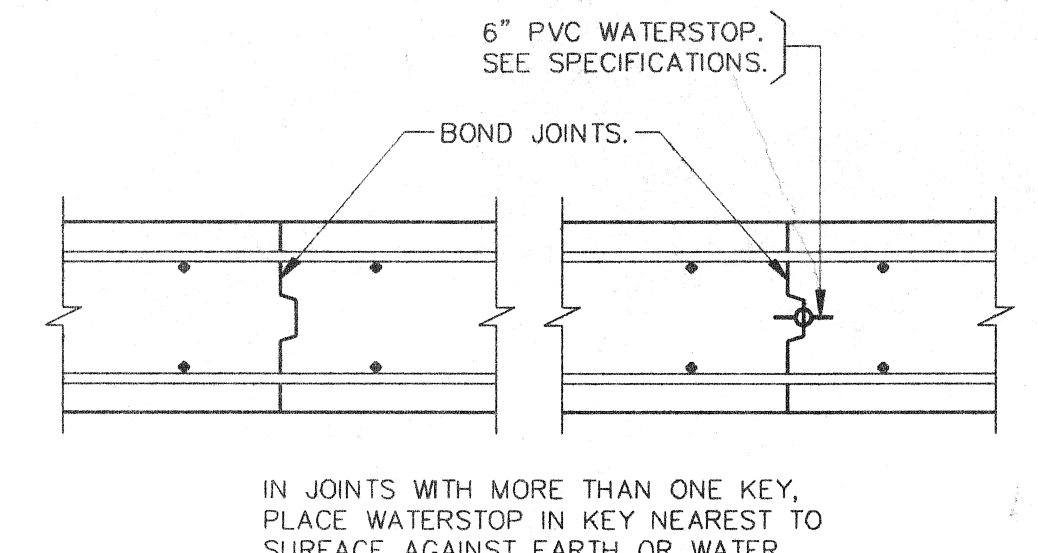
CONTRACT NO. 1
E. 2ND ST. JUNCTION CHAMBER, GATE SCHEDULE,
TYPICAL CONCRETE PAVEMENT SECTION,
STORM SEWER CROSSING STRUCTURE AND
STORM SEWER REPAIR

SHEET	6	SHEETS	8
OF	8		
RECORD MAP NO.	CT&A PROJECT NO. 3899-01		

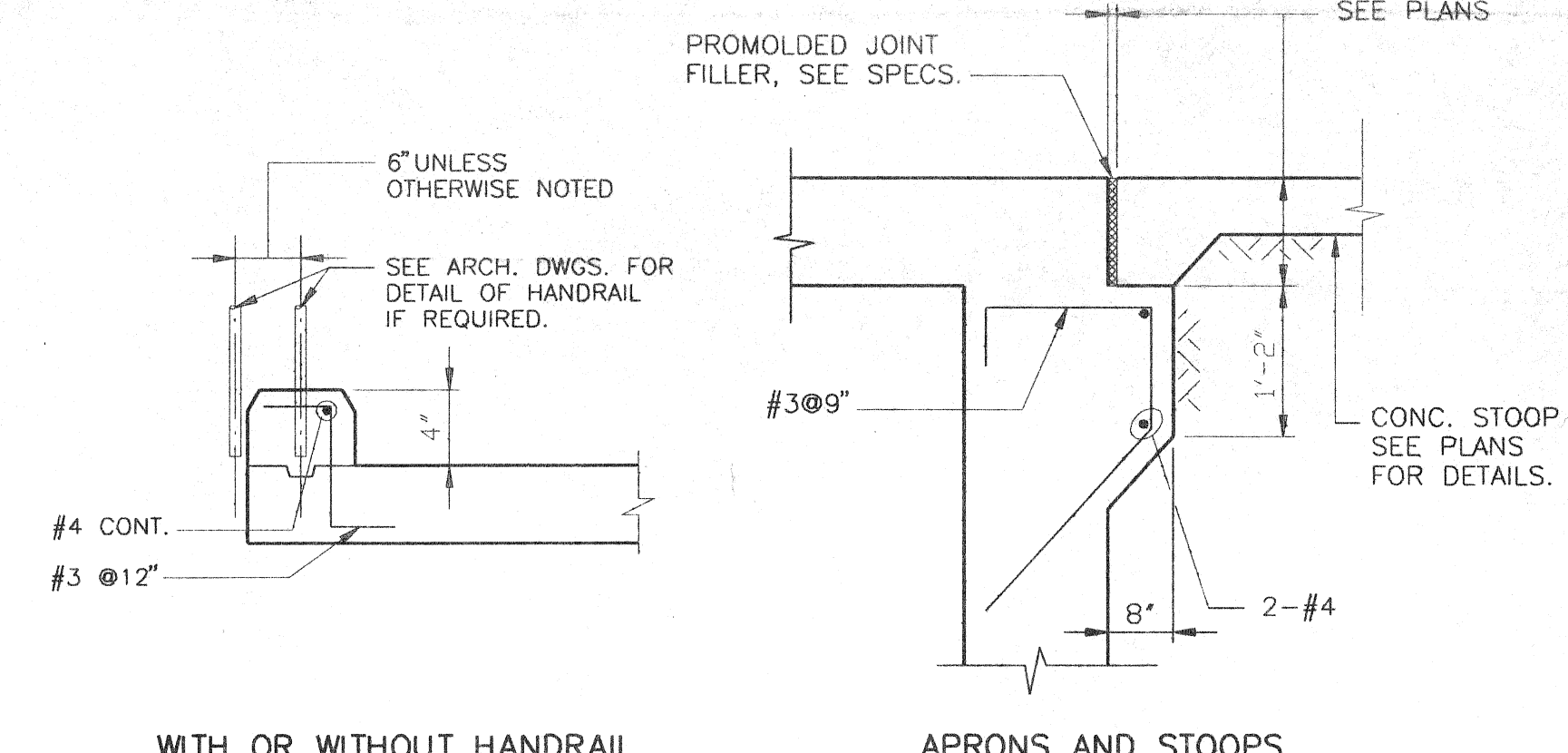


NUMBER AND SIZE OF KEYS SHOWN APPLY TO JOINTS IN SLABS AND TO BOTH VERTICAL AND HORIZONTAL JOINTS IN WALLS EXCEPT OTHERWISE NOTED ON DRAWINGS.

**CONSTRUCTION JOINTS
KEY DETAILS**



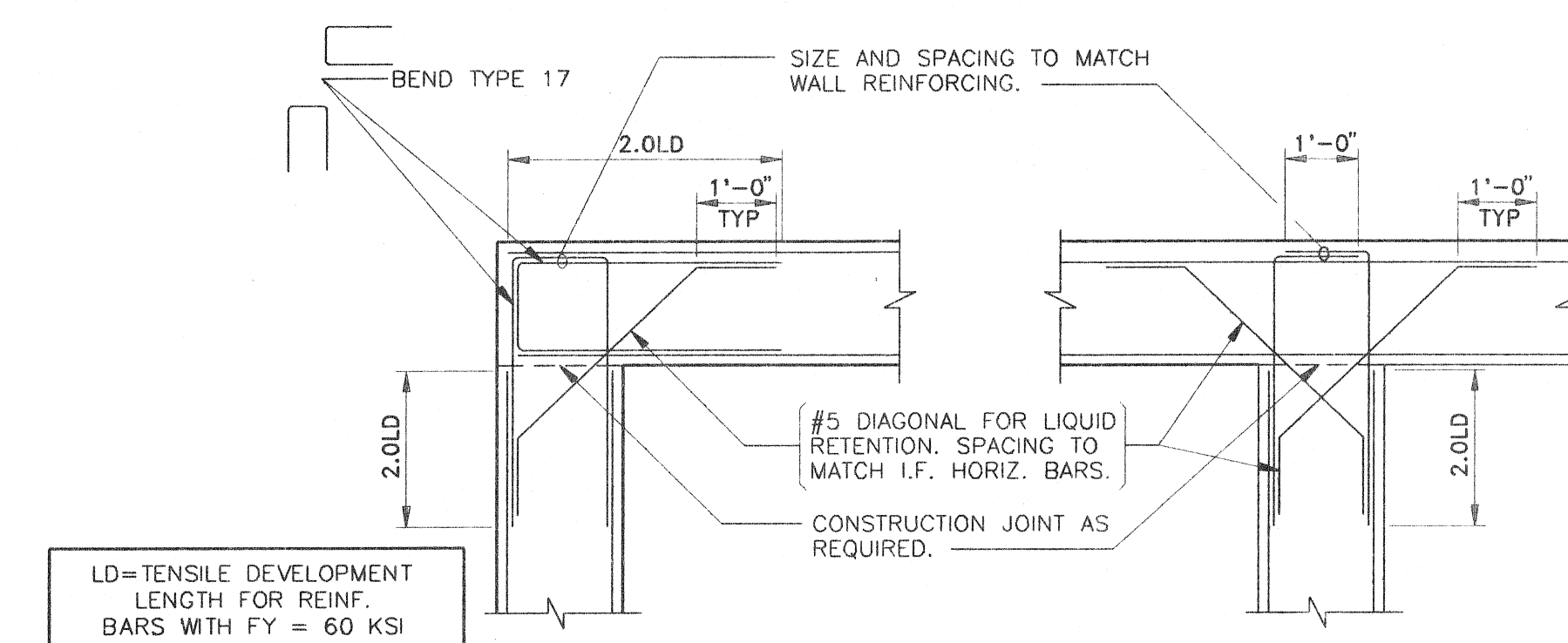
**CONSTRUCTION JOINTS
TYPE C1 TYPE C2**



**TYP. CONCRETE CURB DETAILS
SUPPORT BRACKET DETAIL**

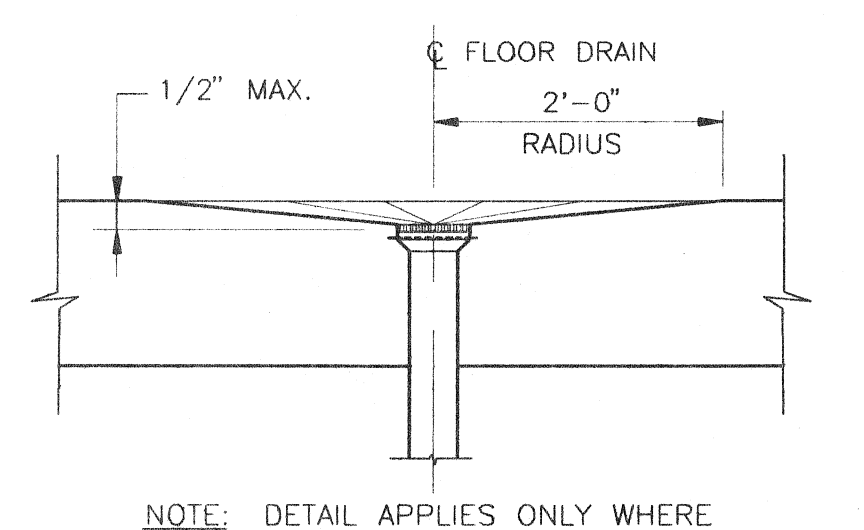
GENERAL NOTES FOR STRUCTURES

- CONCRETE**
- DESIGN AND CONSTRUCTION SHALL CONFORM TO THE LATEST BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE OF THE AMERICAN CONCRETE INSTITUTE (ACI 318)
 - ALL REINFORCING BARS SHALL CONFORM TO A.S.T.M A-615, GRADE 60. ARRANGEMENT AND DETAILS OF REINFORCING STEEL, INCLUDING BAR SUPPORTS AND SPACERS, SHALL BE IN ACCORDANCE WITH THE LATEST A.C.I. DETAILING MANUAL UNLESS OTHERWISE NOTED.
 - ALL SLAB AND BEAM REINFORCEMENT SHALL HAVE A MINIMUM EXTENSION INTO THE SUPPORT IN ACCORDANCE WITH THE LATEST A.C.I. CODE. IF SUCH EXTENSION IS NOT POSSIBLE, BARS SHALL TERMINATE IN STANDARD HOOKS.
 - HORIZONTAL WALL REINFORCEMENT AND TEMPERATURE REINFORCEMENT SHALL LAP A MINIMUM OF 1.7L_d AT SPLICES. WALL DOVELS AND WALL BAR EXTENSIONS AND ALL STRESS SPLICES SHALL LAP A MINIMUM OF 1.7 L_d UNLESS OTHERWISE NOTED.
 - PILASTERS SHALL HAVE DOWELS FROM FOUNDATIONS OR CONSTRUCTION BELOW OF SAME SIZE AND SPACING AS PILASTER VERTICAL STEEL. SEE FOOTING SCHEDULE.
 - UNLESS OTHERWISE NOTED ON THE DRAWINGS, CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS SHALL NOT BE LESS THAN THE FOLLOWING:
 - STRUCTURAL MEMBERS, FOUNDATIONS, WALLS AND SUSPENDED SLABS---4000 PSI
 - SLABS ON GRADE-----4000 PSI
 - LEAN CONCRETE OR GROUT FILL-----2000 PSI
 - UNLESS OTHERWISE SHOWN, THE COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS:
 - SLABS AND JOISTS
 - TOP AND BOTTOM OF FORMED SLABS FOR DRY CONDITION:
 - #14 AND #18 BARS-----1 1/2"
 - #11 BARS AND SMALLER-----1"
 - FORMED CONCRETE SURFACES EXPOSED TO EARTH, WATER OR WEATHER, AND OVER OR IN CONTACT WITH SEWAGE AND FOR BOTTOMS BEARING ON WORK MAT, OR SLABS SUPPORTING EARTH COVER:
 - ALL BARS-----2"
 - BEAMS AND COLUMNS
 - FOR DRY CONDITIONS:
 - STIRRUPS, SPIRALS AND TIES-----1 1/2"
 - PRINCIPAL REINFORCEMENT-----2"
 - EXPOSED TO EARTH, WATER, SEWAGE OR WEATHER:
 - STIRRUPS AND TIES-----2"
 - PRINCIPAL REINFORCEMENT-----2 1/2"
 - WALLS
 - FOR DRY CONDITIONS:
 - #11 BARS AND SMALLER-----1"
 - #14 AND #18 BARS-----1 1/2"
 - FORMED CONCRETE SURFACES EXPOSED TO EARTH, WATER, SEWAGE, WEATHER, OR IN CONTACT WITH GROUND:
 - CIRCULAR TANKS WITH RING TENSION-----2"
 - ALL OTHERS-----2"
 - WALLS 12" OR OVER IN THICKNESS WITH POURS MORE THAN 10 FEET-----2 1/2"
 - FLOORINGS AND BASE SLABS
 - AT FORMED SURFACES AND BOTTOMS BEARING ON CONCRETE WORK MAT-----2"
 - AT UNFORMED SURFACES AND BOTTOMS IN CONTACT WITH EARTH-----3"
 - TOP OF FOOTINGS - SAME AS SLABS
 - OVER TOP OF PILES-----2"

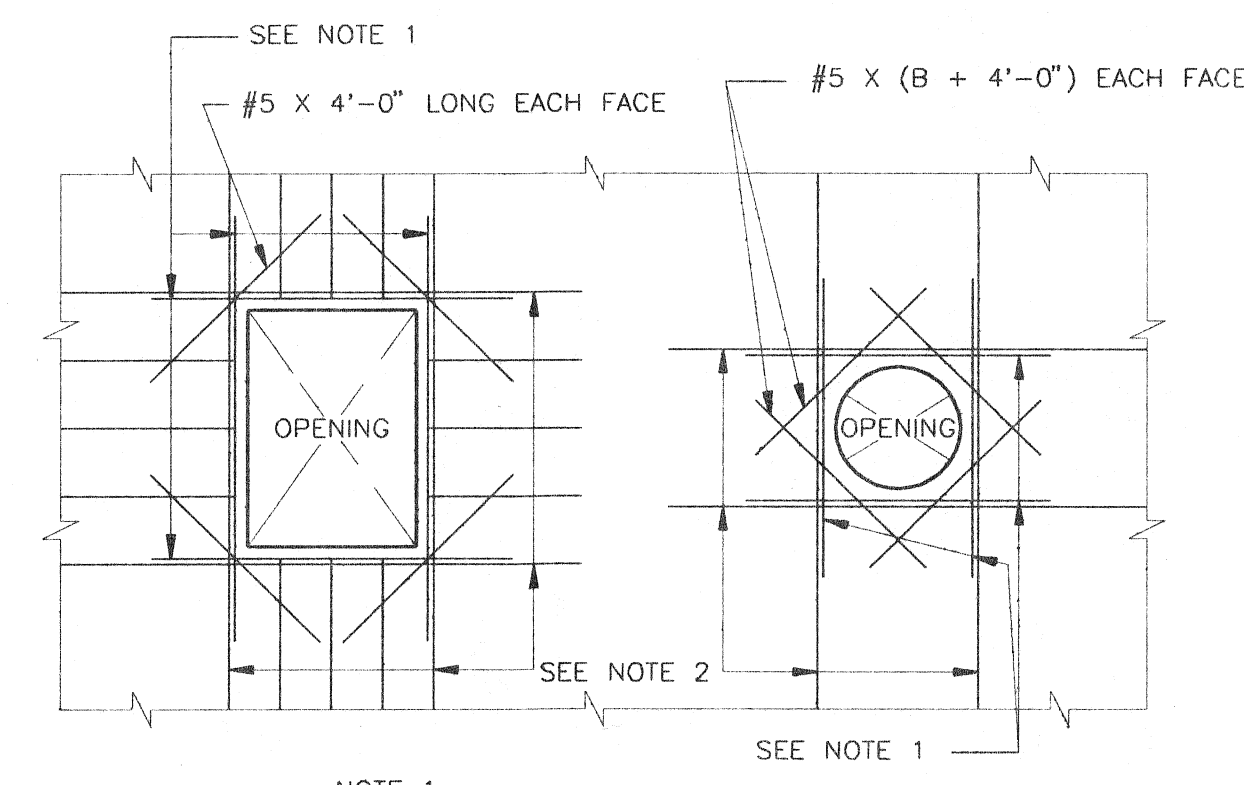


**TYP. DETAILS OF WALL REINFORCEMENT
CORNER INTERSECTION**

BAR SIZE	TENSION DEVELOPMENT LENGTH "LD" INCHES
3	12
4	12
5	15
6	19
7	26
8	35
9	44
10	56
11	68

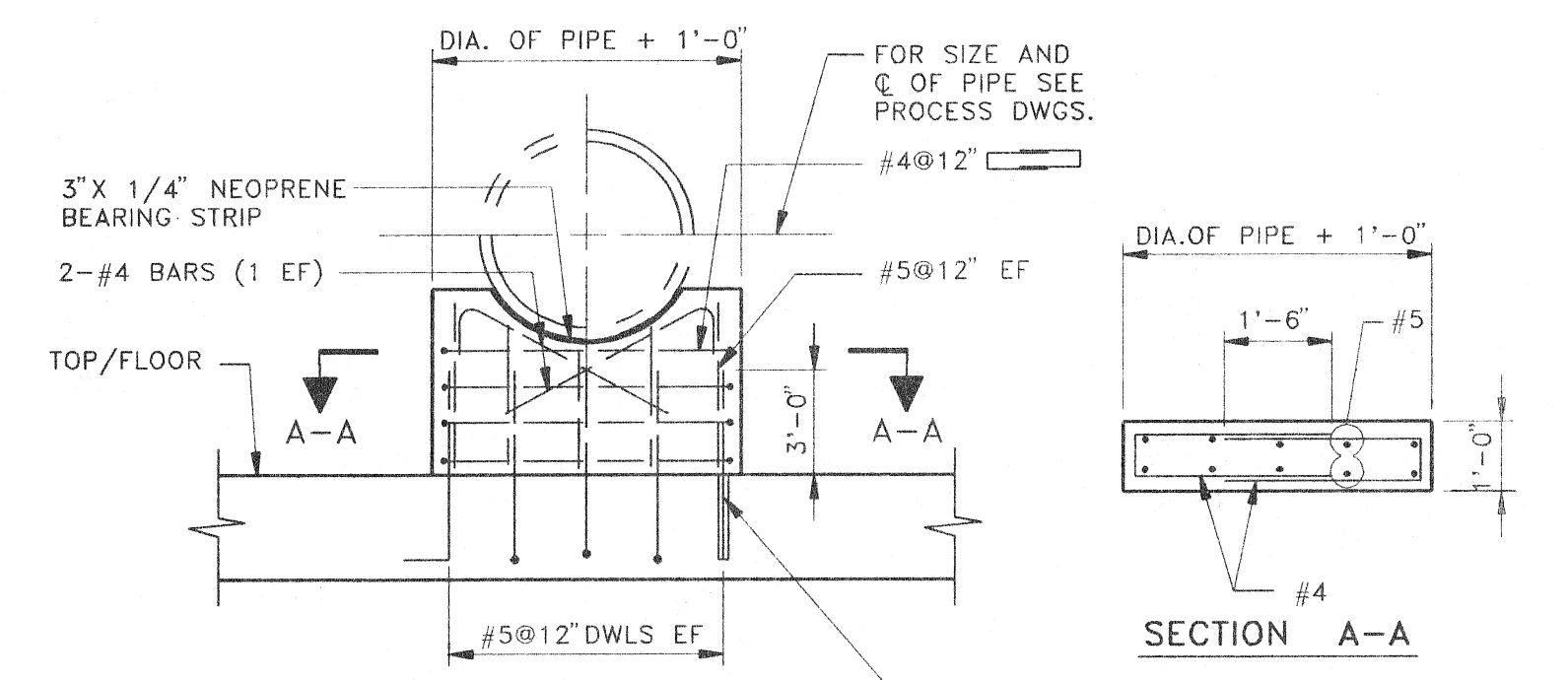


FLOOR DRAIN DETAIL

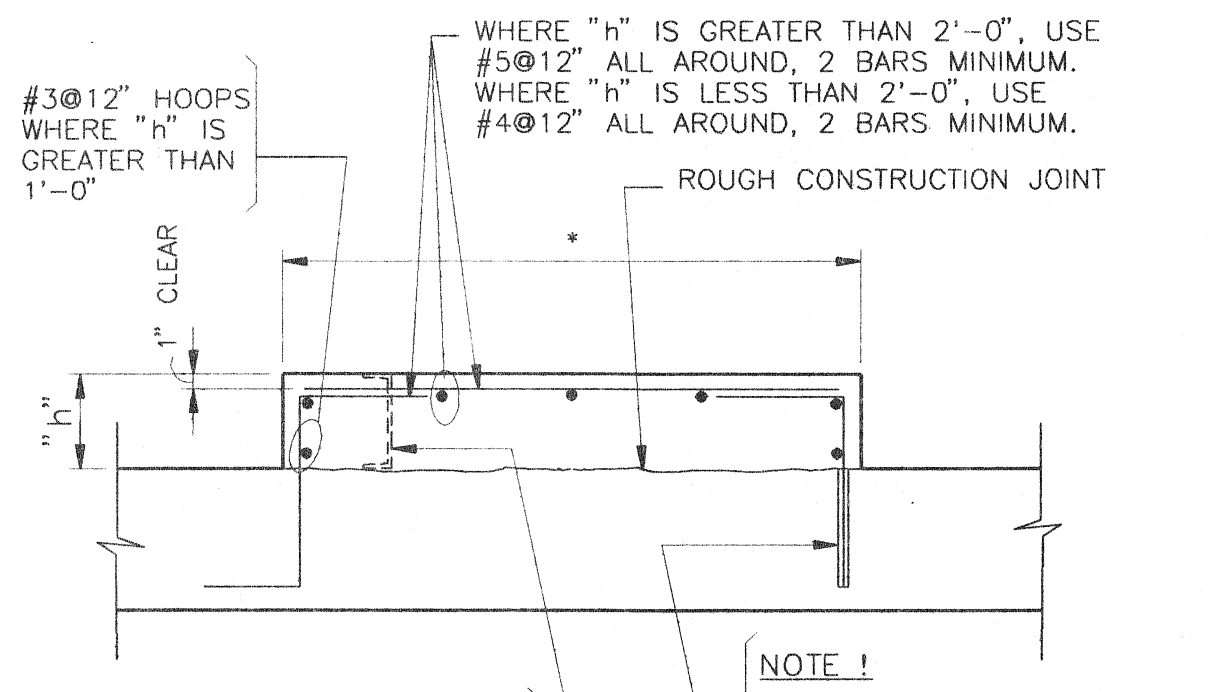


**ADDITIONAL REINFORCING STEEL AT OPENINGS
IN WALLS AND SLABS**

- NOTE 1
PROVIDE 2-#6x(B+4'-0") ADD'L TOP & BOTTOM AND 2-#6x(A+4'-0") ADD'L AT EACH SIDE OF OPENING IN WALLS ONLY.
- NOTE 2
PROVIDE ADD'L BARS EQUAL TO ONE-HALF OF BARS INTERRUPTED AT EACH SIDE OF OPENING AT 3" C/C. THESE BAR SHALL BE ORIGINAL SIZES AND LENGTHS AS THOSE OF THE INTERRUPTED BARS. (TYPICAL FOR OPENINGS IN SLABS AND PRESSURE WALLS.)



TYPICAL PIPE SUPPORT PIER



EQUIPMENT PAD DETAIL

ABBREVIATIONS

- | | |
|-----------------------------|-------------------------------------|
| ADD'L ----- ADDITIONAL | MIN. ----- MINIMUM |
| ALT ----- ALTERNATE | MTL ----- METAL |
| ARCH ----- ARCHITECT | OPNG ----- OPENING |
| BRG ----- BEARING | P ----- PLATE |
| BM ----- BEAM | P.V.C ----- POLYVINYL CHLORIDE |
| BOT ----- BOTTOM | R ----- RADIUS |
| BLDG ----- BUILDING | REINF ----- REINFORCEMENT |
| COL ----- COLUMN | SECT ----- SECTION |
| CONT ----- CONTINUOUS | STD ----- STANDARD |
| DET ----- DETAIL | STL ----- STEEL |
| DIA ----- DIAMETER | SYM ----- SYMMETRICAL |
| DWL ----- DRAWING | TYP ----- TYPICAL |
| DWL ----- DOWEL | VERT ----- VERTICAL |
| O.A. ----- OVERALL | W.W.F. ----- WELDED WIRE FABRIC |
| CL ----- CENTER LINE | T/ ----- TOP OF |
| CONC. ----- CONCRETE | B/ ----- BOTTOM OF |
| CTR'D ----- CENTERED | U.O.N. ----- UNLESS OTHERWISE NOTED |
| E.F. ----- EACH FACE | |
| E.W. ----- EACH WAY | |
| EL. ----- ELEVATION | |
| EXP. ----- EXPANSION | |
| EXT ----- EXTERIOR | |
| FTG ----- FOOTING | |
| H.P. ----- HIGH POINT | |
| I.D. ----- INSIDE DIMENSION | |
| I.F. ----- INSIDE FACE | |
| INT ----- INTERIOR | |
| L.P. ----- LOW POINT | |
| MAX ----- MAXIMUM | |
| MECH ----- MECHANICAL | |
| MFR. ----- MANUFACTURER | |

LEGEND

- EXISTING CONCRETE STRUCTURE
- NEW CONCRETE STRUCTURE
- EXISTING STEEL STRUCTURE
- NEW STEEL STRUCTURE
- EXISTING STRUCTURE TO BE REMOVED

* DIMENSIONS NOTED THUS TO BE DETERMINED BY EQUIPMENT MANUFACTURER.
DETAILS SHOWN ON THIS DRAWING ARE TYPICAL DETAILS AND SHALL BE USED WHOLLY OR IN PART WHERE THEY APPLY EXCEPT WHERE MODIFIED BY DETAILED DRAWINGS & SPECIFICATIONS.

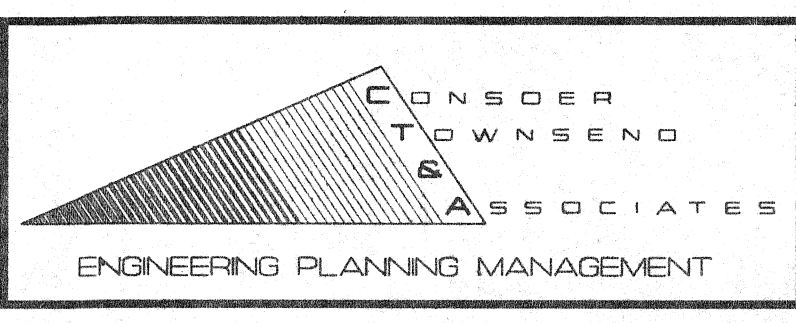
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REVISIONS			

DESIGNED	JAM
DRAWN	LTS
CHECKED	
DATE	

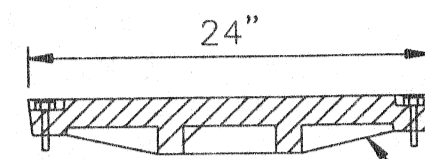
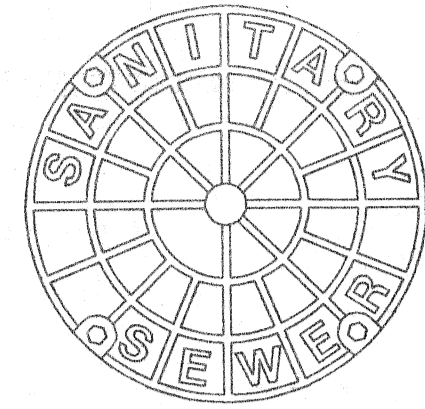
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**DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN**



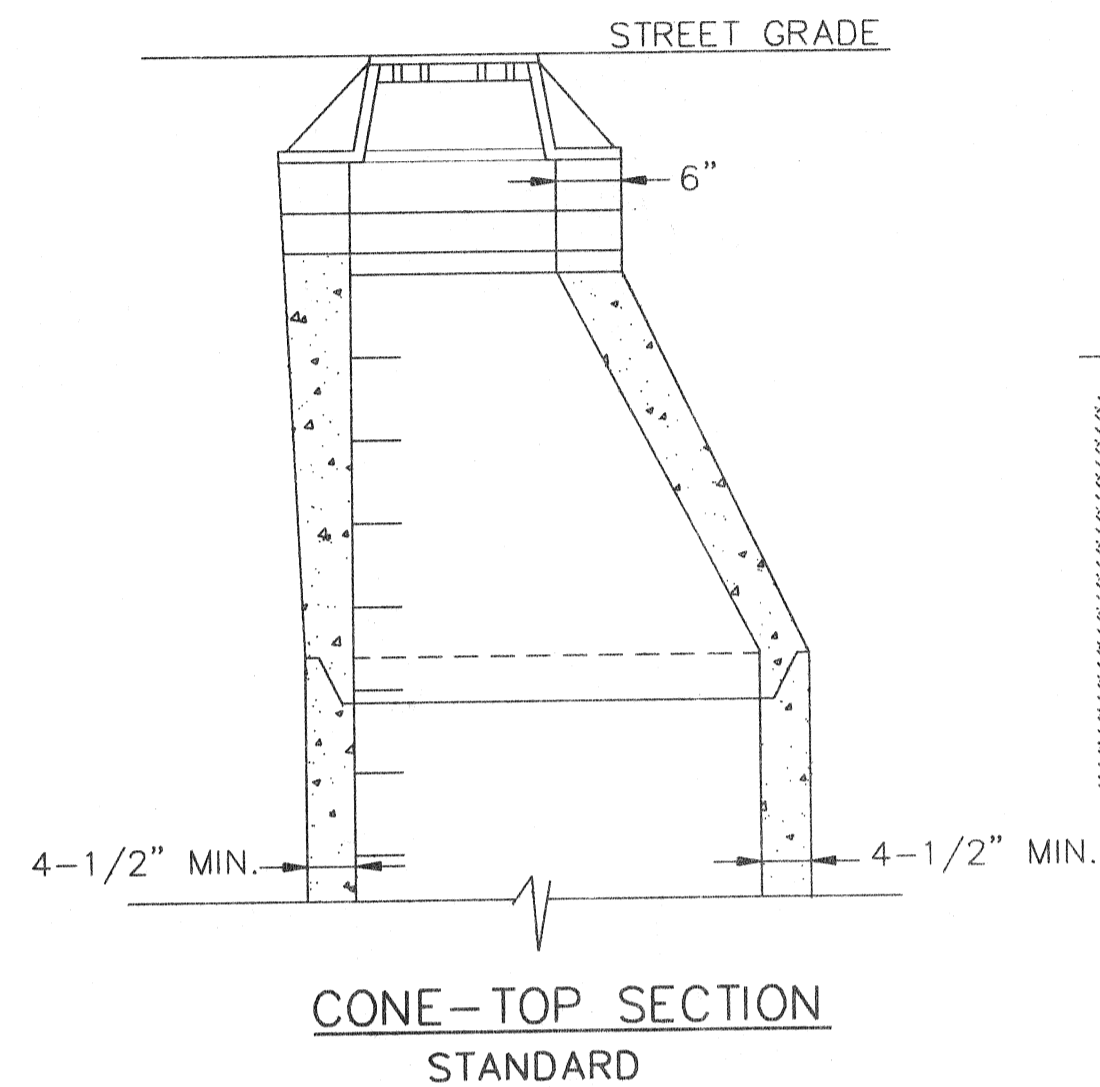
**STRUCTURAL STANDARDS
NOTES AND DETAILS**

SHEET 7	SHEETS
OF 8	
RECORD MAP NO. CT&A PROJECT NO. 3899-01	



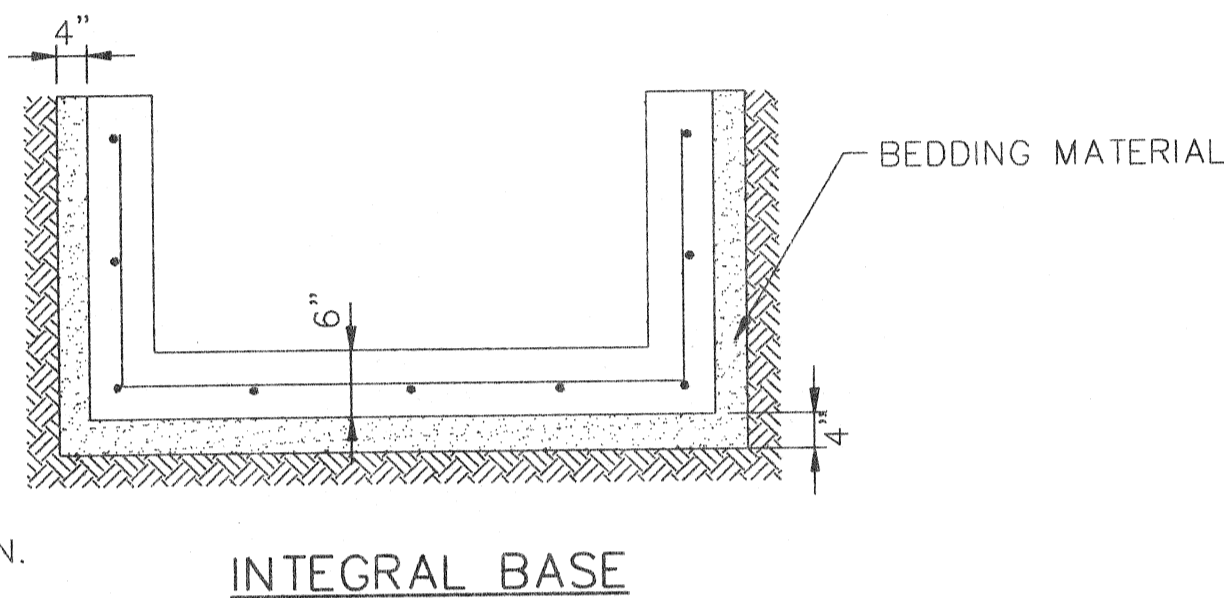
WATERTIGHT SANITARY MANHOLE COVER

WATERTIGHT BOLTED COVER AND FRAME - NEENAH R-1915-D



CONE-TOP SECTION STANDARD

TYPE I FRAME/CHIMNEY JOINT REQUIRED ON ALL SANITARY MANHOLES UNLESS OTHERWISE SPECIFIED. TYPE III JOINT REQUIRED ON ALL STORM MANHOLES.



INTEGRAL BASE

ADJUST FRAME TO GRADE WITH BRICK OR CONCRETE RINGS OF VARIABLE THICKNESS, MAXIMUM RING HEIGHT = 6". MINIMUM RING HEIGHT = 2". CONCRETE RINGS SHALL BE REINFORCED WITH ONE LINE OF STEEL CENTERED WITHIN THE RING. WHERE NECESSARY RINGS SHALL BE GROOVED TO RECEIVE STEP.

CONCRETE AND STEEL REINFORCEMENT SHALL CONFORM TO DESIGNATION C-478 REQUIREMENTS OF ASTM SPECIFICATIONS.

JOINTS SHALL BE WATERTIGHT AND SHALL BE MADE USING MORTAR OR BUTYL RUBBER GASKETS FOR STORM AND BUTYL RUBBER GASKETS FOR SANITARY MANHOLES.

AREA OF CIRCUMFERENTIAL STEEL = 0.12 SQ. INCH PER LINEAL FOOT.

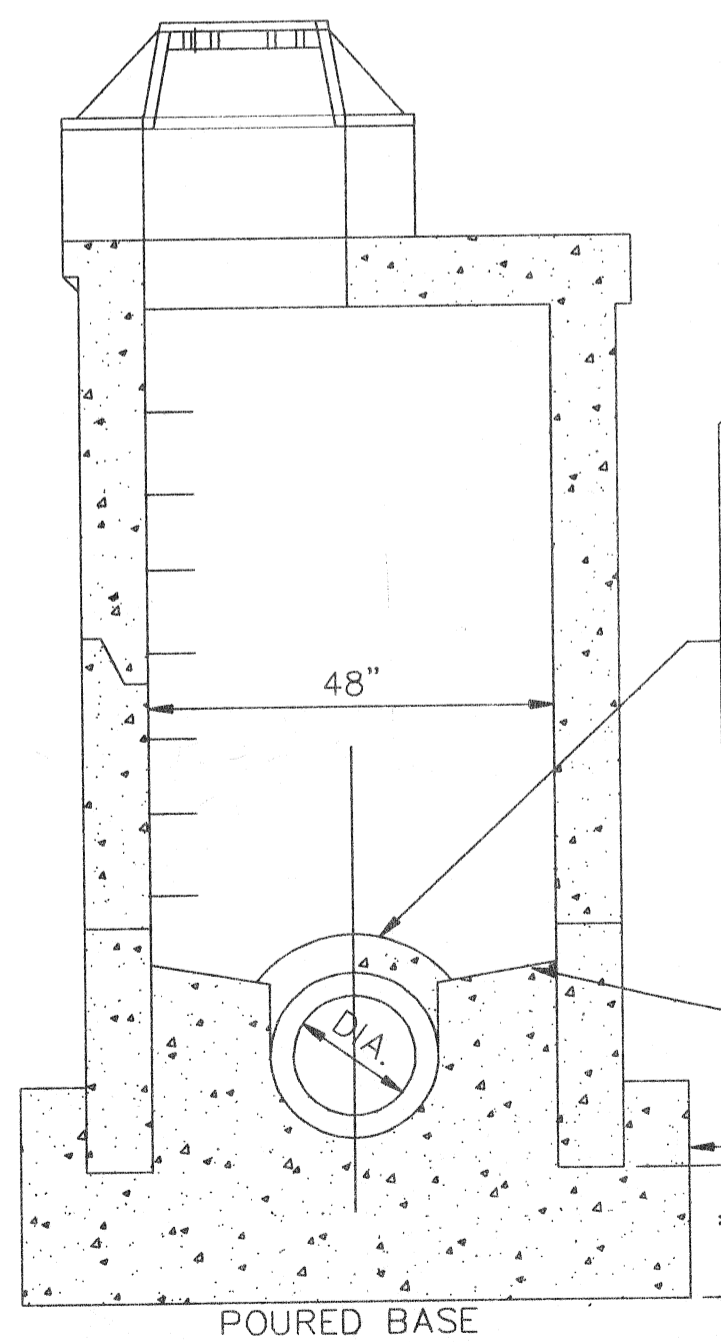
SPACE BETWEEN PIPE AND PRECAST MANHOLE WALL TO BE FILLED WITH BRICK MORTARED IN PLACE EXCEPT THAT AN APPROVED FLEXIBLE WATERTIGHT PIPE TO MANHOLE SEL IS REQUIRED FOR ALL FLEXIBLE SANITARY SEWER CONNECTIONS. THE ANNULAR SPACE BETWEEN THE PIPE AND MANHOLE WALL SHALL BE FILLED WITH FLEXIBLE BUTYL RUBBER GASKET MATERIAL BELOW SURFACE OF BENCH OR SPRINGLINE.

3" STONE CUSHION UNDER BASE IS REQUIRED ONLY ON WET SUB-GRADE.

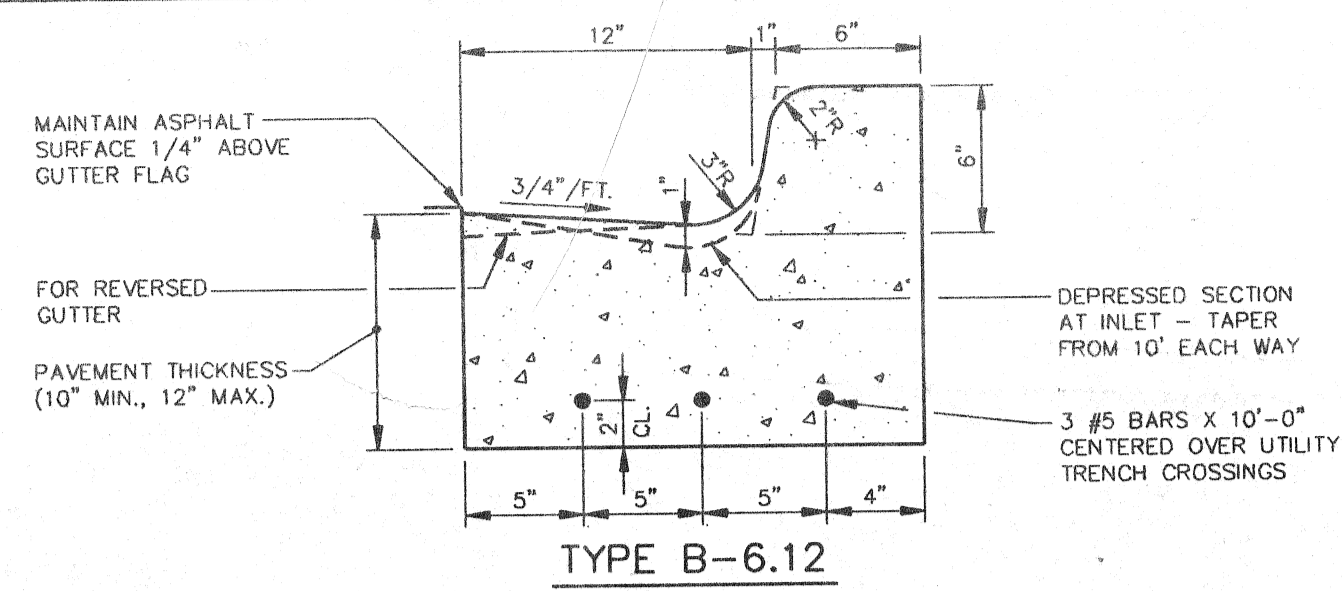
PROVIDE A MINIMUM 1/2" DIA. HOLE FOR LEAKAGE TEST NOT GREATER THAN 2" ABOVE LOWEST PIPE.

BENCH SLOPE - STORM MANHOLE 1" PER FOOT
- SANITARY MANHOLE 2" PER FOOT

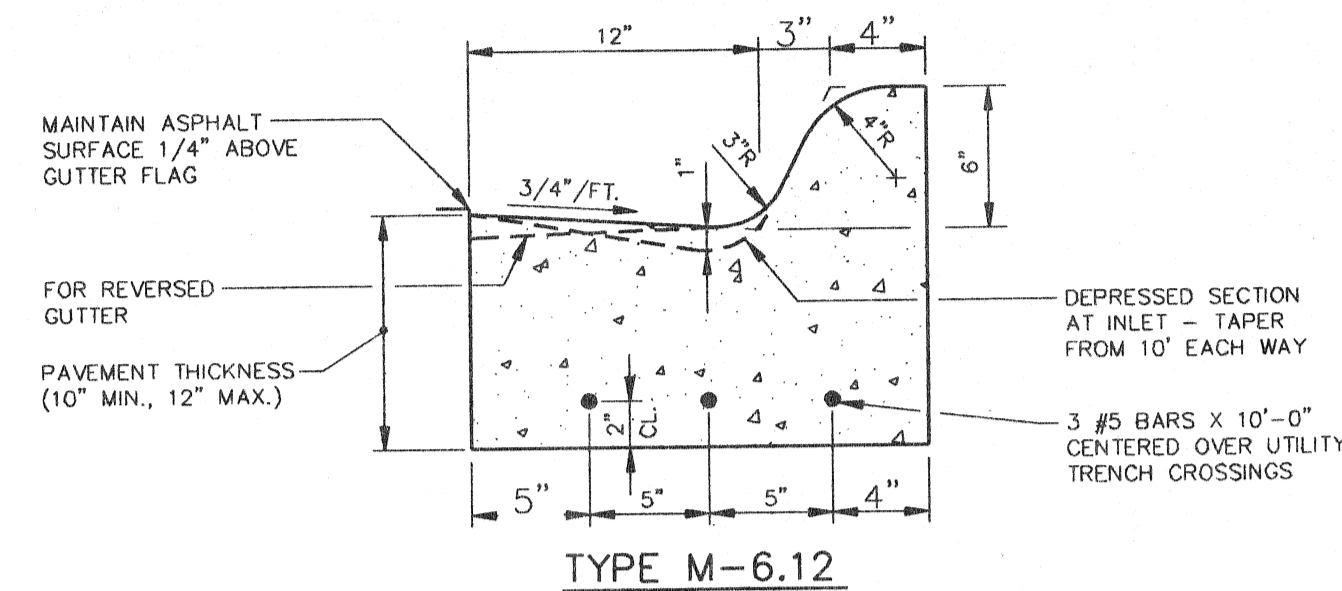
CLASS "D" CONCRETE



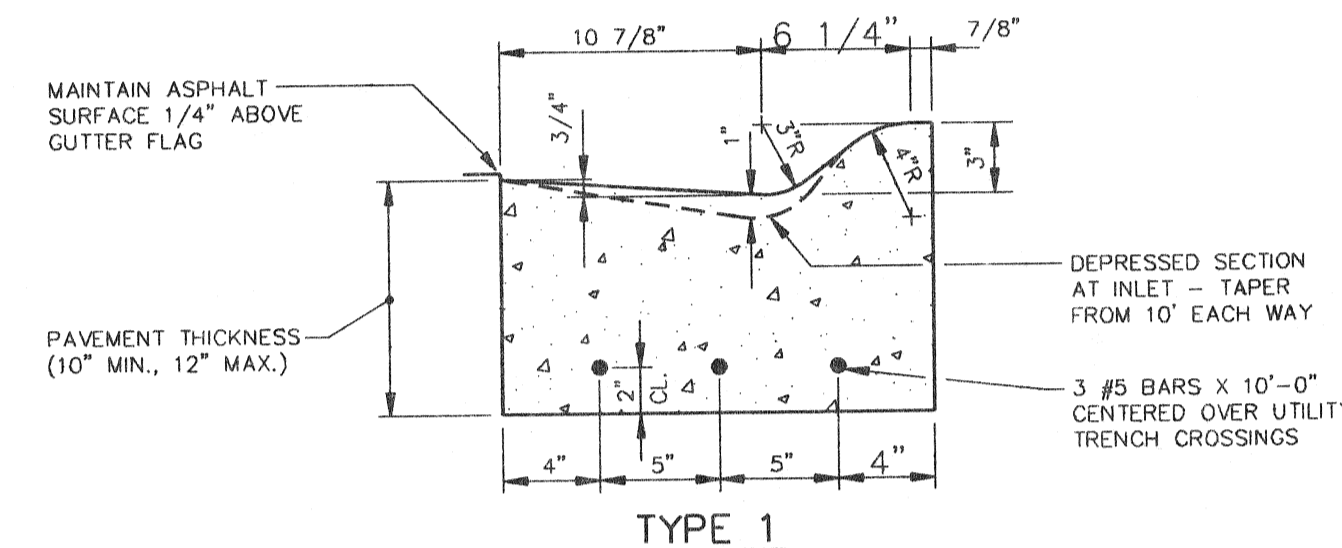
PRECAST MANHOLE MH'S 1 THRU 10



TYPE B-6.12

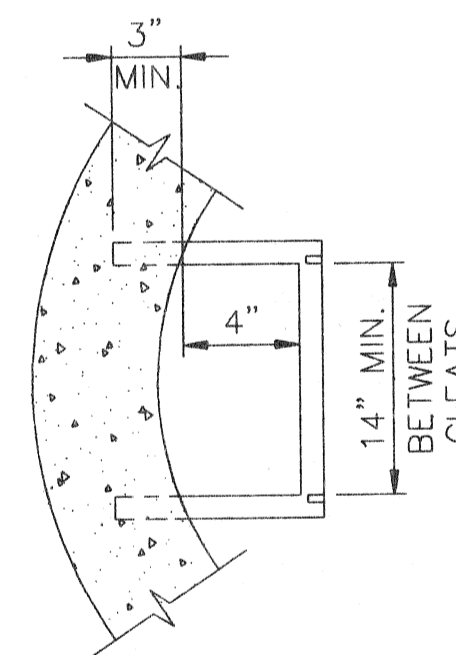


TYPE M-6.12

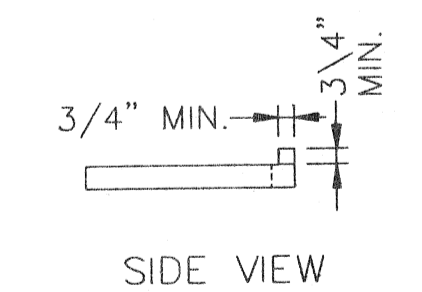


TYPE 1

CONCRETE CURB AND GUTTER



PRECAST MANHOLE



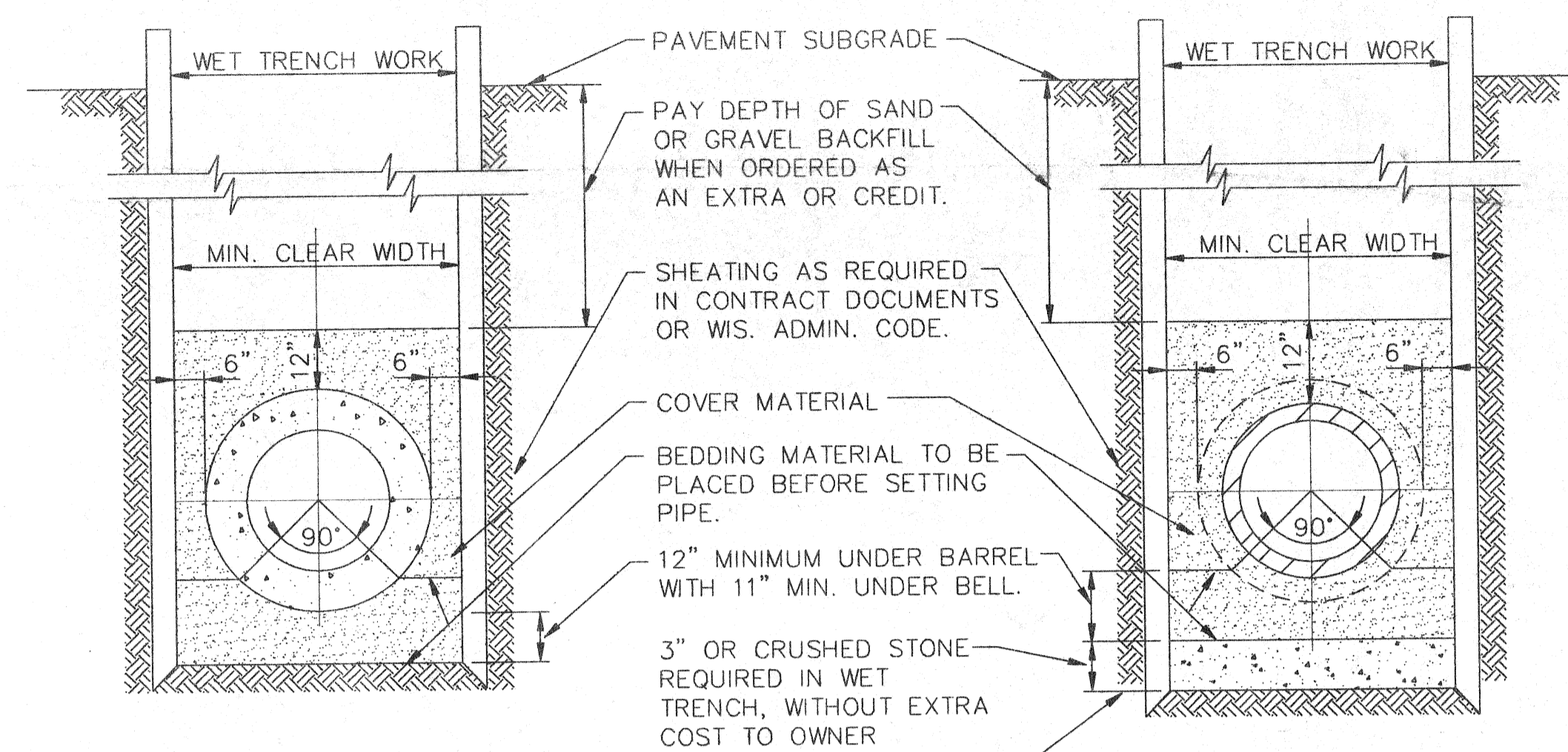
MANHOLE STEP DETAILS

PROVIDE CERTIFIED TEST DATA THAT THE STEPS CAN WITHSTAND AN 800-POUND VERTICAL LOAD WITHOUT MORE THAN 3/8-INCH PERMANENT SET WHEN TESTED IN ACCORDANCE WITH SECTION 10 A.S.T.M. C497.

PROVIDE CERTIFIED TEST DATA THAT THE INSTALLED STEPS CAN WITHSTAND A HORIZONTAL PULLOUT LOAD OF 400 POUNDS WITH THE LOAD APPLIED OVER A WIDTH OF 3 1/2" AND CENTERED ON THE RUNG.

STEPS MUST BE EQUALLY SPACED VERTICALLY IN THE ASSEMBLED MANHOLE AT A MAXIMUM DESIGN DISTANCE OF 16" ON CENTER.

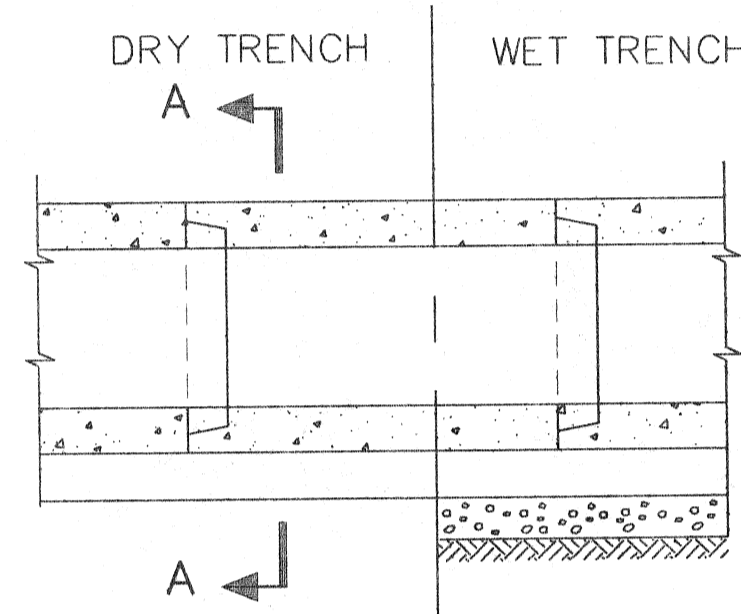
STEPS SHALL BE FABRICATED OF 1/2" DIA. GRADE 60 STEEL REINFORCING ROD WITH MOLDED PLASTIC COVERING.



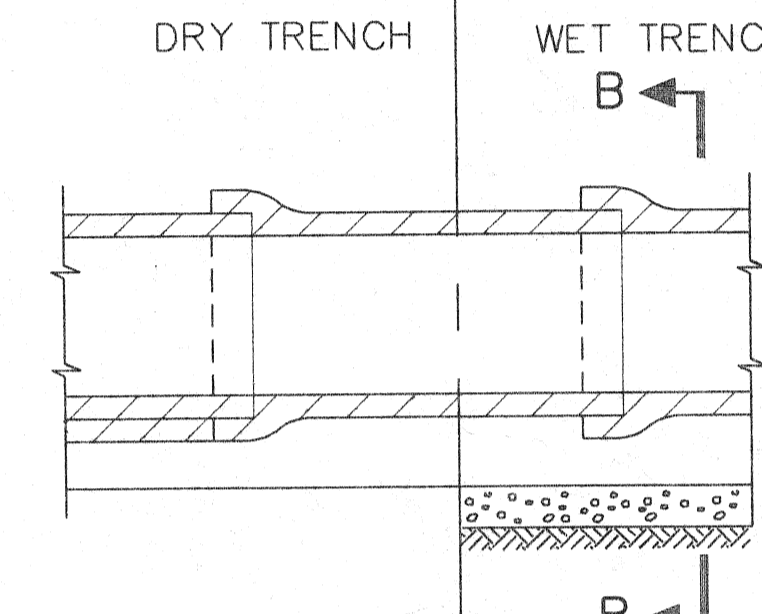
SECTION A-A

SECTION B-B

ADDITIONAL DEPTH OF CRUSHED STONE WHEN ORDERED AS AN EXTRA BY THE ENGINEER WILL BE PAID FOR AS PROVIDED IN SCHEDULE OF FIXED PRICES.

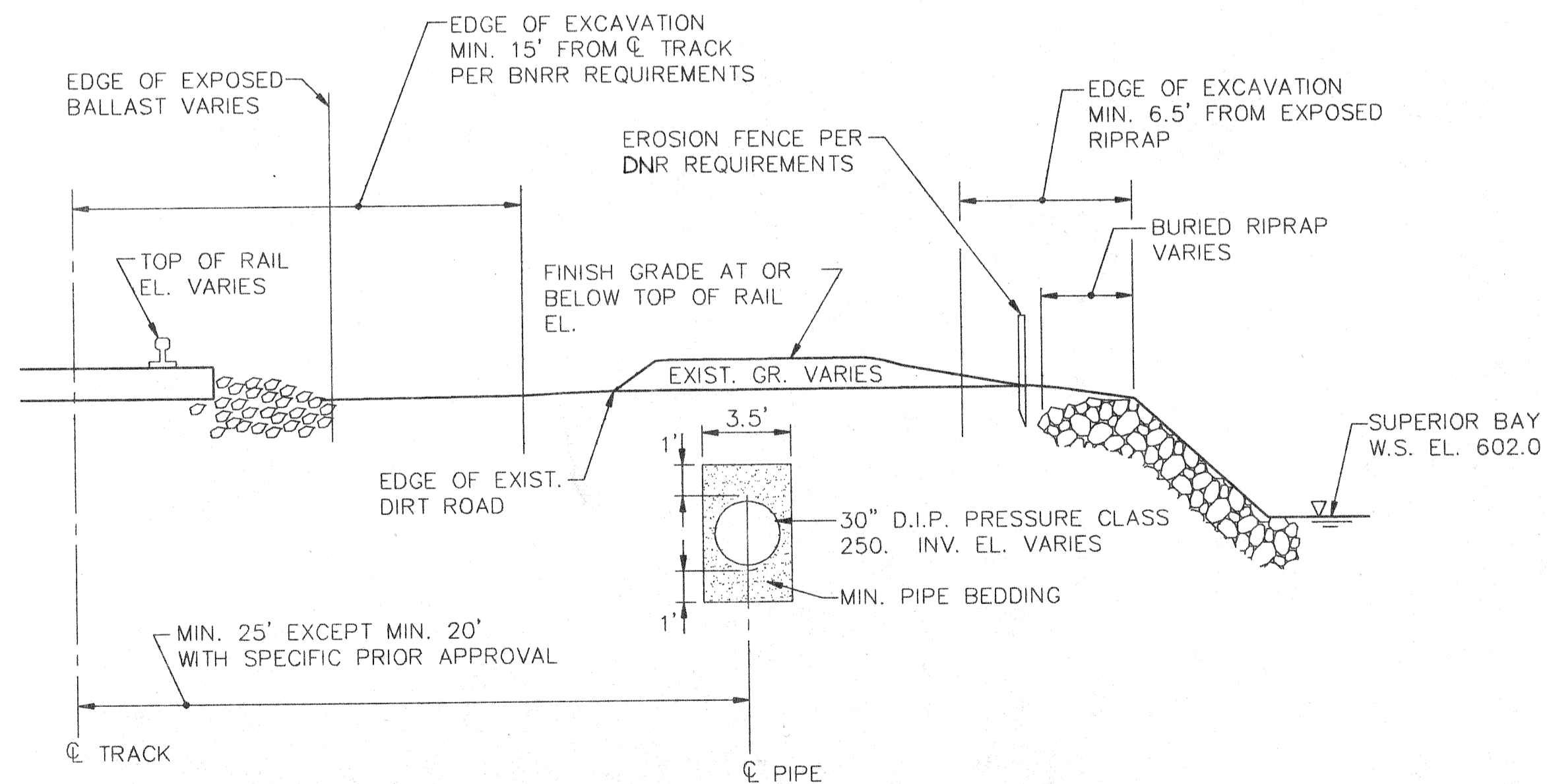


LONG'L. SEC. FOR PIPE WITH TONGUE AND GROOVE JOINT.



LONG'L. SEC. FOR PIPE WITH BELL.

STANDARD SECTION (CLASS "C" BEDDING)



TYPICAL CROSS-SECTION ALONG RAILROAD TRACK NOT TO SCALE

M:\PROJECTS\389900\CAD\RELIEF\S-XI.DWG Plotted on 10/25/1994 @ 9:25 A.M. by LDUBET

NO.	DATE	DESCRIPTION	APPROVED
REVISIONS			

DESIGNED	IN
DRAWN	LED
CHECKED	
DATE	APRIL, 1994

SCALE	NONE
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**DEPARTMENT OF PUBLIC WORKS
CITY OF SUPERIOR, WISCONSIN**

**CONDER
TOWNSEND
ASSOCIATES**
ENGINEERING PLANNING MANAGEMENT
2855 ANTHONY LANE SOUTH, SUITE 145
MINNEAPOLIS, MN. 55418-3265

GENERAL DETAILS

SHEET	8	SHEETS
OF	8	
CT&A PROJECT NO. 3899-00		