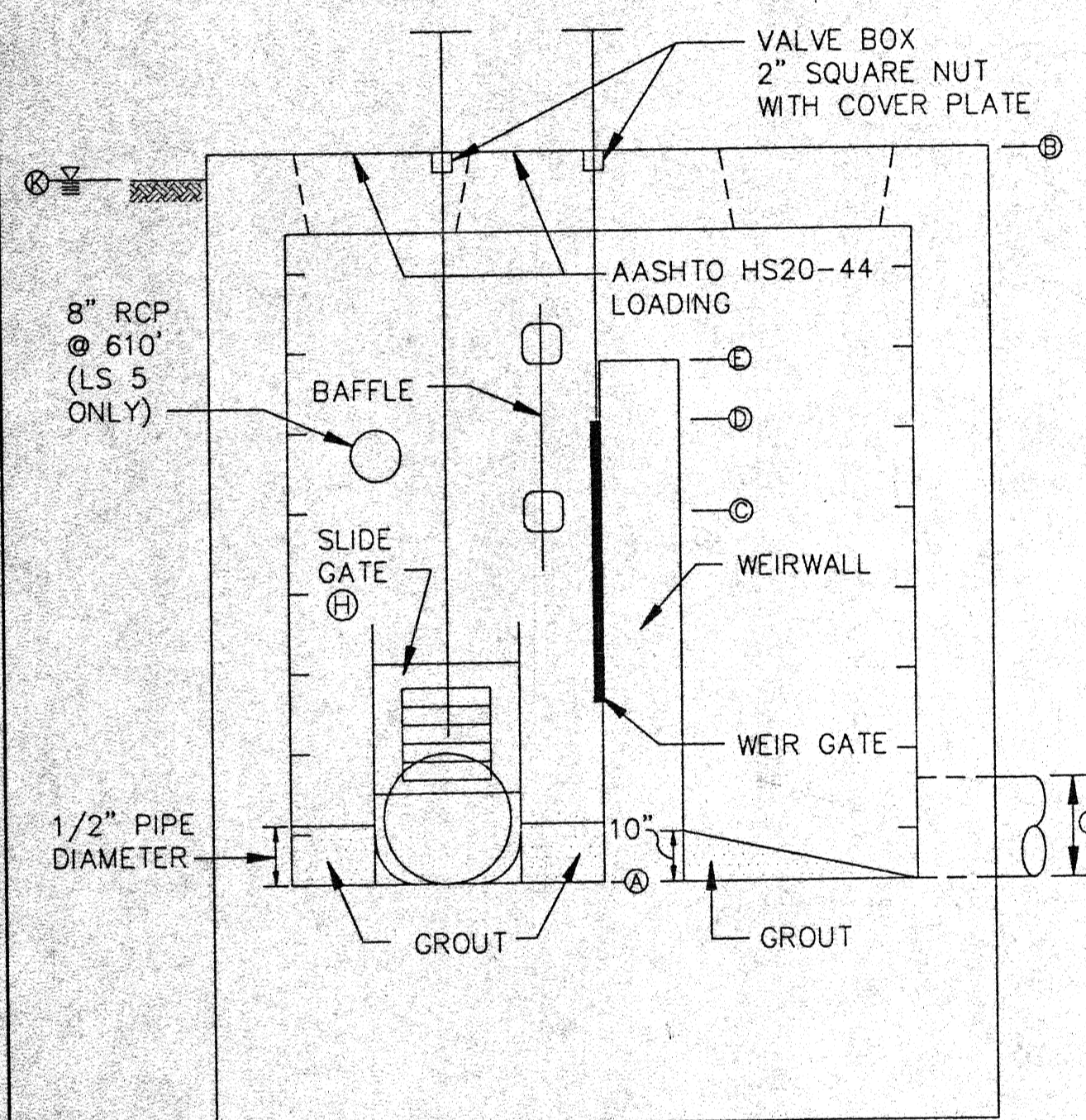
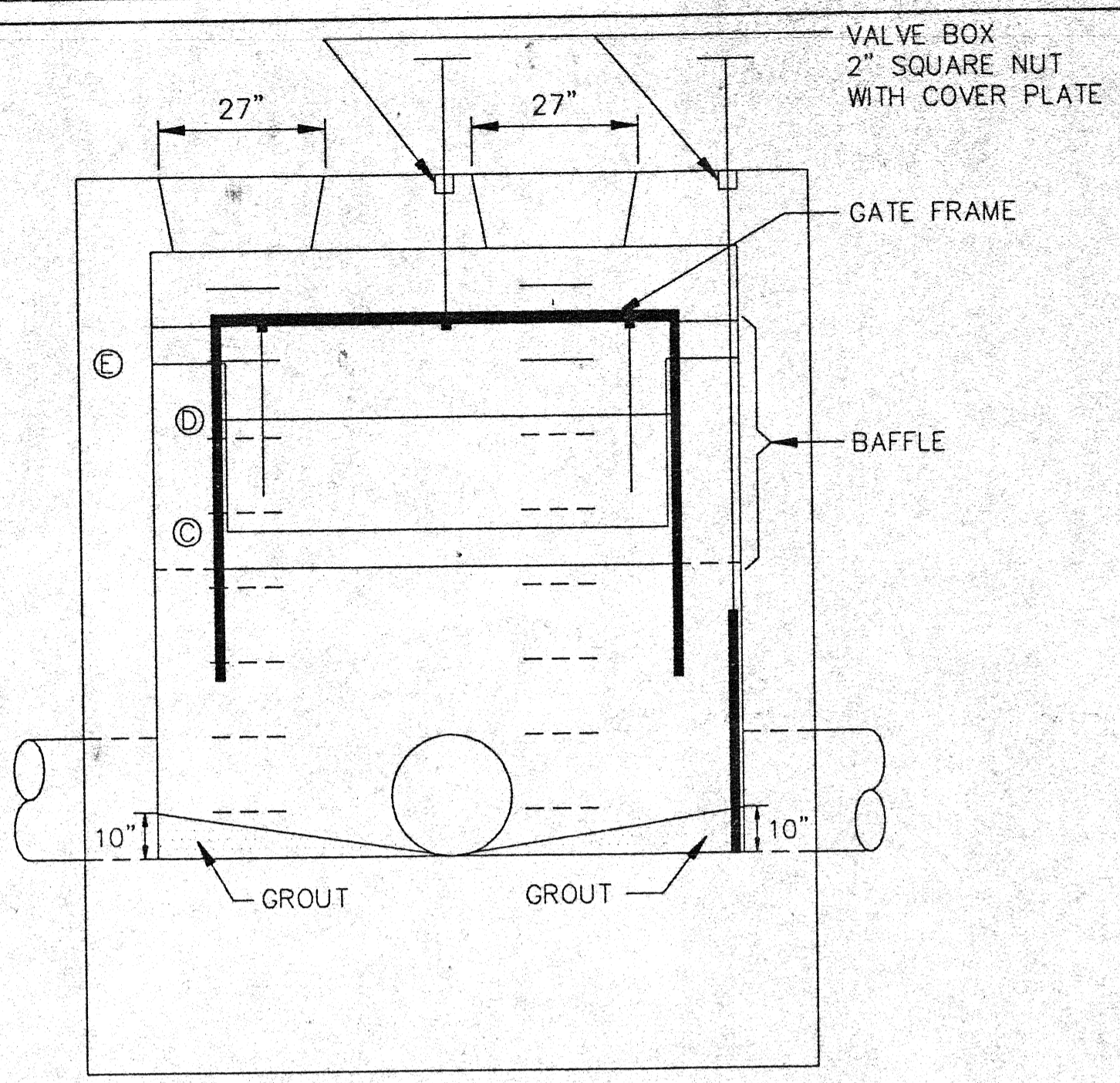
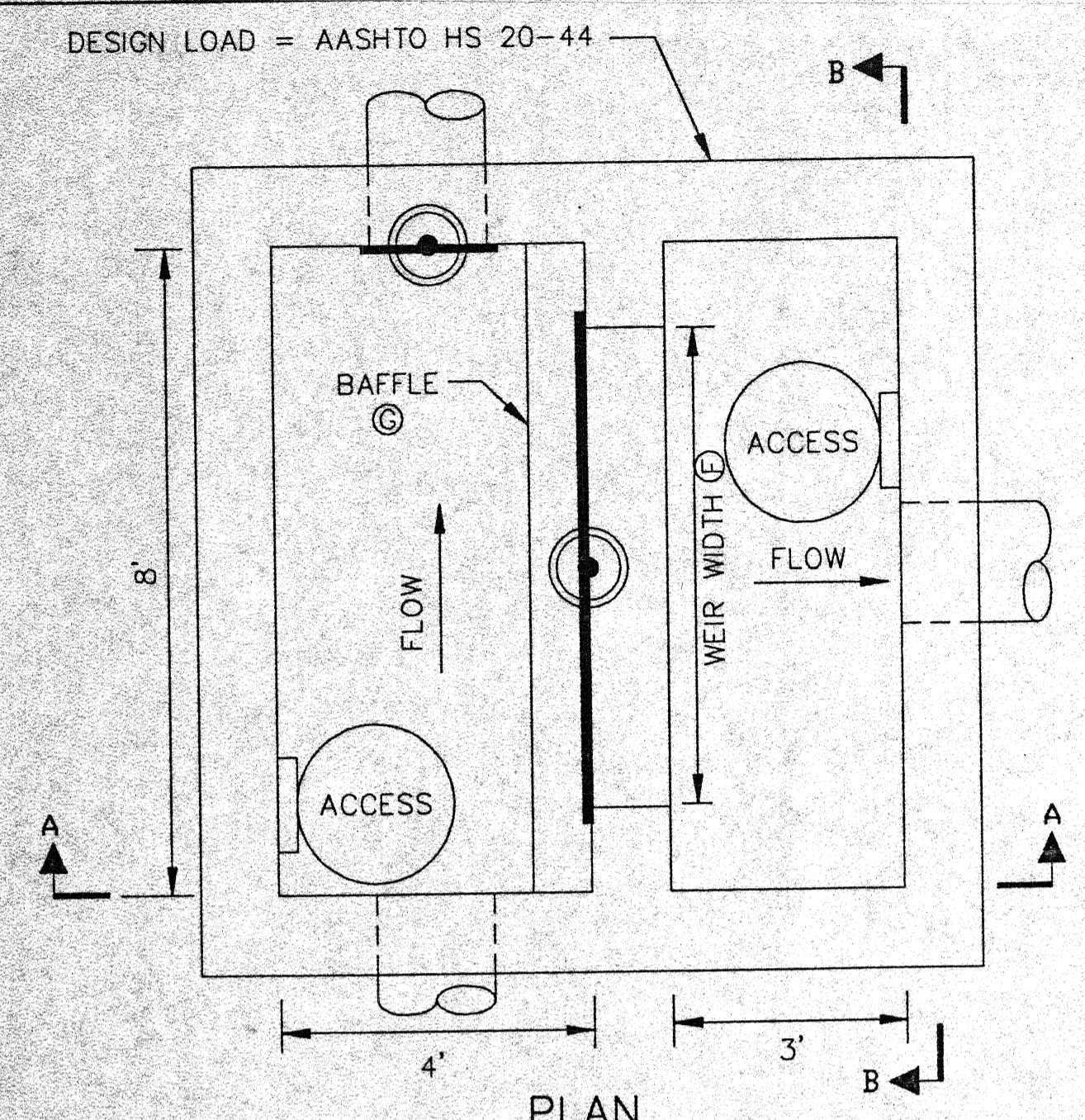


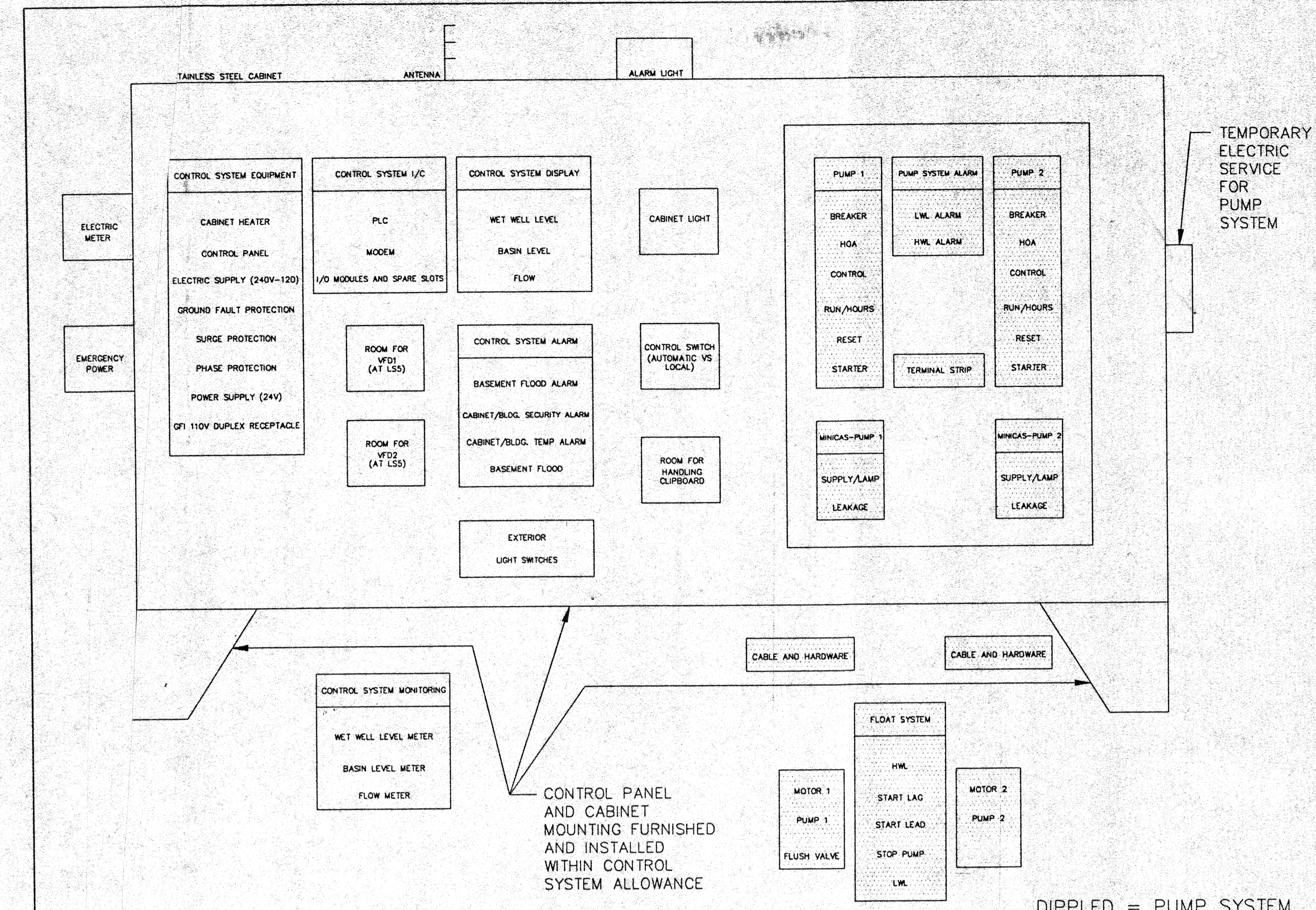
LIFT STATION DIVERSION STRUCTURES

LIFT STATION PUMP AND CONTROL SYSTEMS -- CABINET/SYSTEM SCHEMATIC

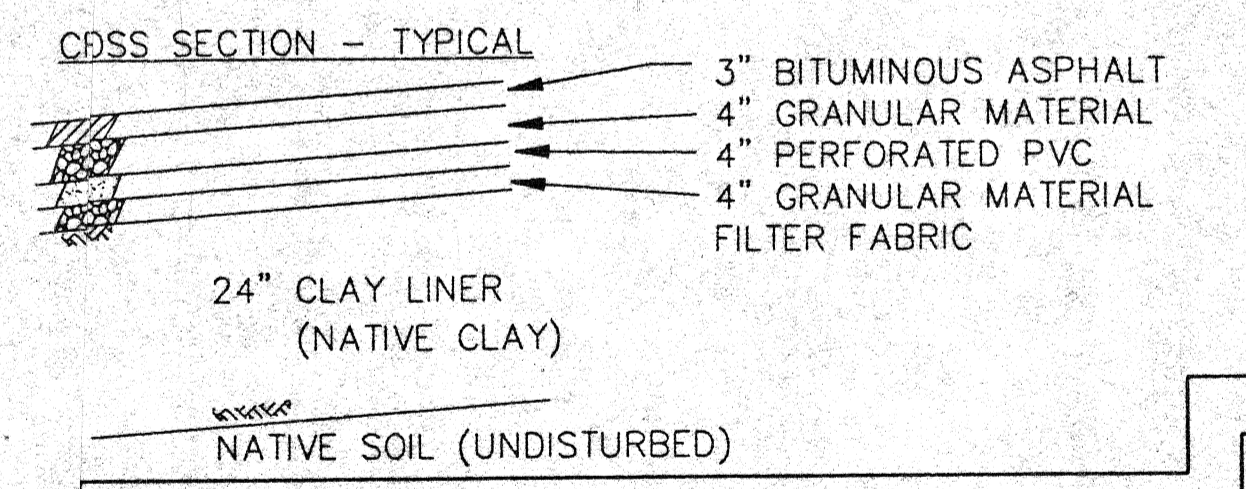
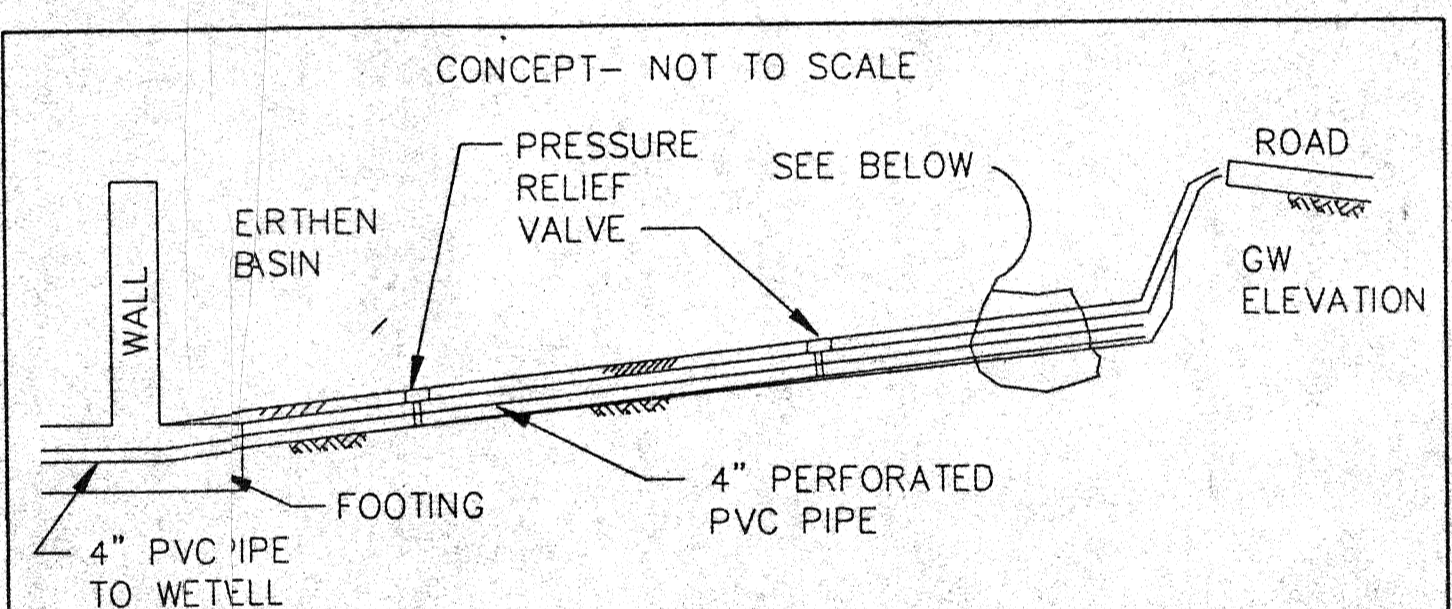
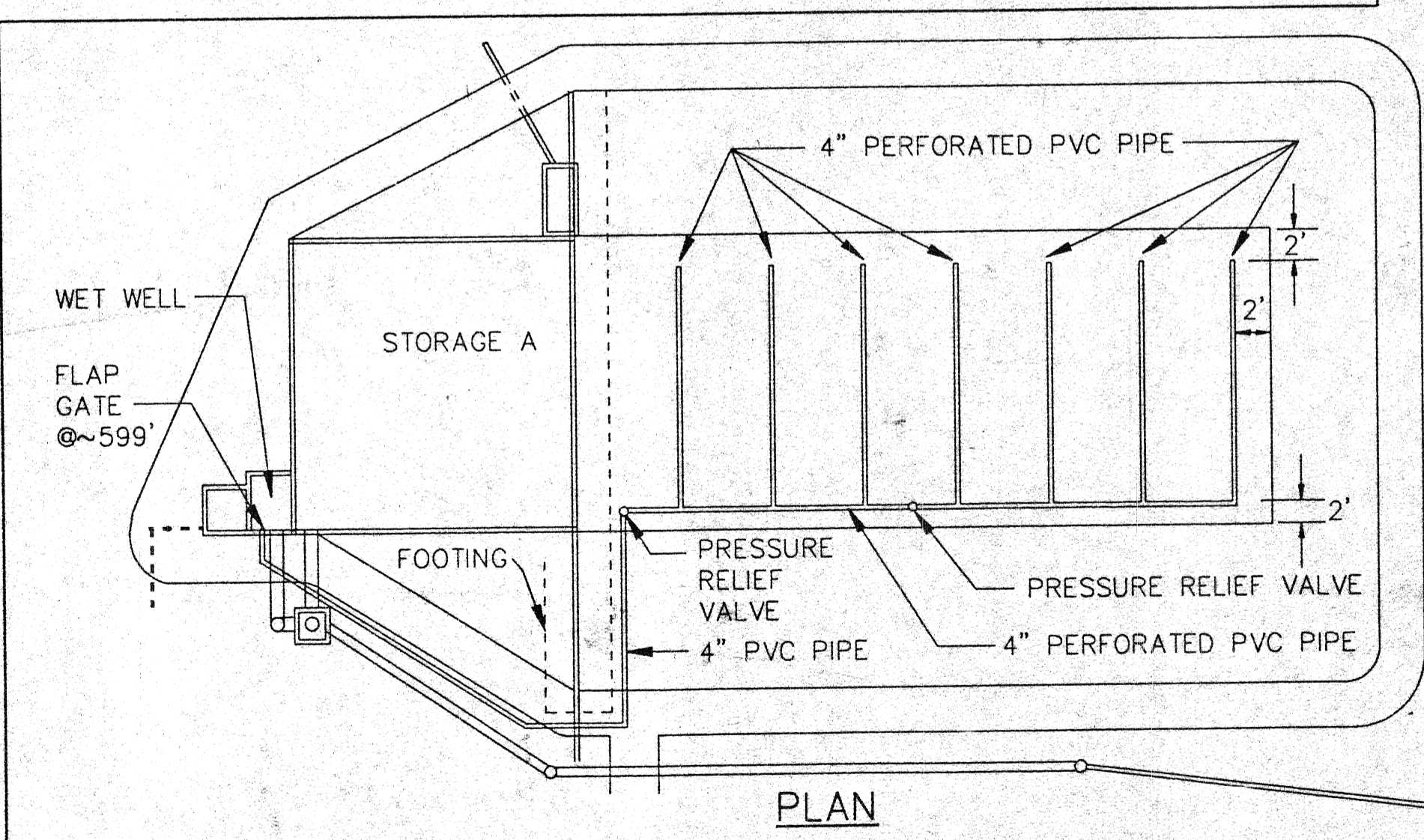


DIVERSION STRUCTURES--LIFT STATIONS 5, 6, AND 7

ATTRIBUTE	LS 5	LS 6	LS 7
A INVERT ELEVATION (FT)	604.24	605.9	605.1
B RIM ELEVATION (FT)	~616	~614	~614
C MINIMUM WEIR ELEVATION (FT)	612.25	609.25	609.25
D MAXIMUM WEIR ELEVATION (FT)	613.75	610.75	610.75
E WEIR WALL ELEVATION (FT)	614.5	611.5	611.5
F WEIR WIDTH (FT)	6.0	6.0	6.0
G BAFFLE SIZE (FT X FT)	3H X 8W	3H X 8W	3H X 8W
H SLIDE GATE SIZE-DWF OUT (IN X IN)	24 X 24	12 X 12	12 X 12
I OVERFLOW INVERT ELEVATION (FT)	605.1	605.0	605.0
J OVERFLOW PIPE DIAMETER (IN)	24	12	12
K EXTREME GROUNDWATER LEVEL (FT)	GRADE	GRADE	GRADE
DESIGN MAXIMUM OVERFLOW (CFS)	10.0	5.4	5.0



LIFT STATION 7 - UNDERDRAIN SCHEMATIC



PUMP AND CONTROL SYSTEM NOTES

1. **GENERAL CONTRACTOR**
 INCLUDE ALLOWANCE COST IN BID. INCLUDE ALL INCIDENTAL WORK FOR COMPLETE SYSTEM, COORDINATION, MOUNTING OF PANEL, ALL ELECTRIC SERVICE, ELECTRIC AND CONTROL, CONDUIT AND WIRING. FURNISH AND INSTALL COMPLETE PUMP SYSTEM, PROVIDE COMPLETE LIFT STATION OPERATION, MONITORING AND ALARM IRRESPECTIVE EQUIPMENT/WORK OF THE ALLOWANCE. MOUNTING OF BRACKETS FOR ULTRASONIC LEVEL MONITORS. REMOVE AND STORE EXISTING PLC, AND RADIO SYSTEM. MOUNTING OF BRACKETS FOR ULTRASONIC LEVEL MONITORS. REMOVE AND STORE EXISTING PLC, AND RADIO SYSTEM.

2. **CONTROL SYSTEM ALLOWANCE**
 THIS ALLOWANCE SHALL INCLUDE THE FOLLOWING: CONTROL SYSTEM PER THIS DRAWING AND SPECIFICATION 16950". PANEL AND PEDESTAL WITH ROOM FOR GENERAL CONTRACTORS PUMP SYSTEM. MOUNTING WET WELL LEVEL MONITORS, SPECIAL CONTROL WIRES, AND METER CALIBRATION.

PANEL BOARD SCHEDULE

VOLTAGE-120/240V 1Ø		MAINS 50 AMP MAIN BREAKER, 100 AMP MAIN	
BRANCH CIRCUIT	No.	DESIGNATION	BRANCH CIRCUIT
DESIGNATION	1	2	ULTRASONIC
MAGMETER	3	4	CONTROL PANEL
WEIR GATE OPERATOR	5	6	*LIGHT POLE
*LIGHT POLE	7	8	GFI
GFI	9	10	SPARE
*LIGHT POLE	11	12	SPARE
GFI			

* NUMBER OF GFI CIRCUIT BREAKERS DEPENDENT ON SITE LOCATIONS
 ALL CIRCUIT BREAKERS 20 AMP

FEEDER/BRANCH CIRCUIT SCHEDULE

ITEM	VOLTAGE	PH	MOTOR HP	AMPERE	WIRE SIZE	CONDUIT SIZE	REMARKS
SERVICE ENTRANCE	240/120	3		100	2	1-1/4	LOCATION AS REQUIRED
CONTROL PANEL	240	3		100	2	1-1/4	
PUMP MOTOR NO. 1	240	3	20/10*	27/14*	10/12*	3/4	*10 HP AT LIFT STATION NO. 7 ONLY
PUMP MOTOR NO. 2	240	3	20/10*	27/14*	10/12*	3/4	*10 HP AT LIFT STATION NO. 7 ONLY
LIGHT POLE	240	1			8	3/4	*SEE LIGHT POLE LAYOUT FOR EACH STATION
LIGHT PANEL	240/120	1		50	8	3/4	12 CIRCUIT LIGHTING PANEL 100 AMP MAINS
MAGNETIC FLOW METER POWER	120	1		1	12	3/4	CONNECT AS REQUIRED
MAGNETIC FLOW METER CONTROL					2/C	3/4	MANUFACTURER RECOMMENDED SIGNAL CABLE
ULTRASONIC METER POWER	120	1		1	12	3/4	CONNECT AS REQUIRED
ULTRASONIC METER CONTROL					2/C	3/4	MANUFACTURER RECOMMENDED SIGNAL CABLE
WEIR GATE POWER	120	1	.33	7.2	12	3/4	FUTURE USE
WEIR GATE CONTROL					4/#14	3/4	FUTURE USE

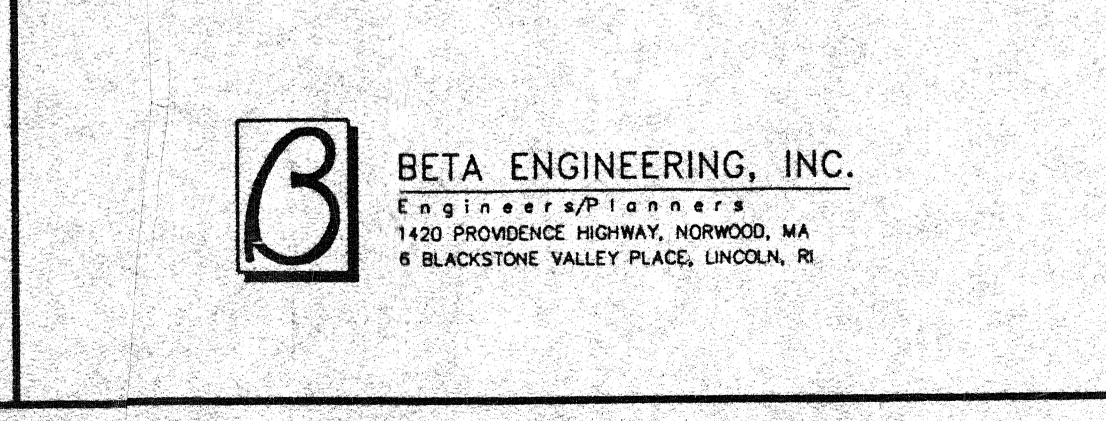
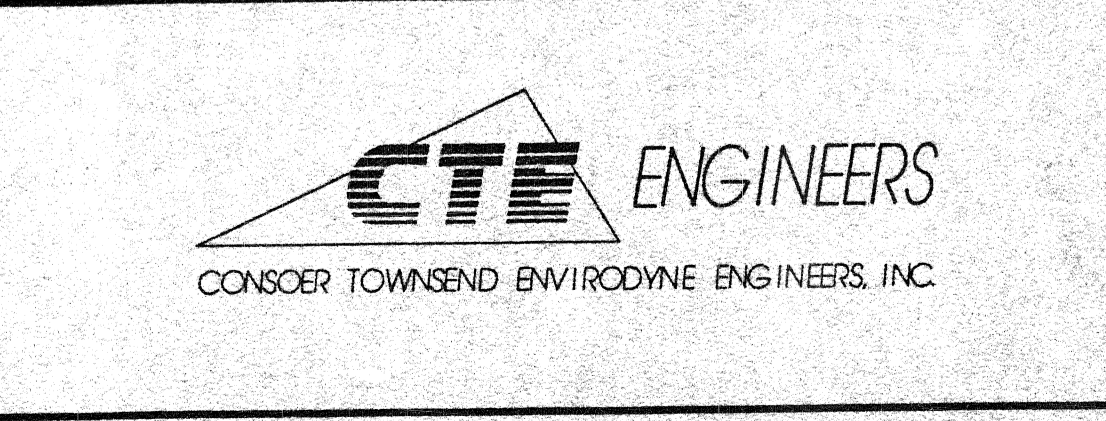
PROJECTS_389905-3_00501.DWG Printed on 7/23/08 @ 2:22 PM by MDC/STW

DESIGNED D.W
 DRAWN B.H.P.
 CHECKED _____
 DATE _____

NO. DATE DESCRIPTION APPROVED

REVISIONS

SCALE
 NO SCALE

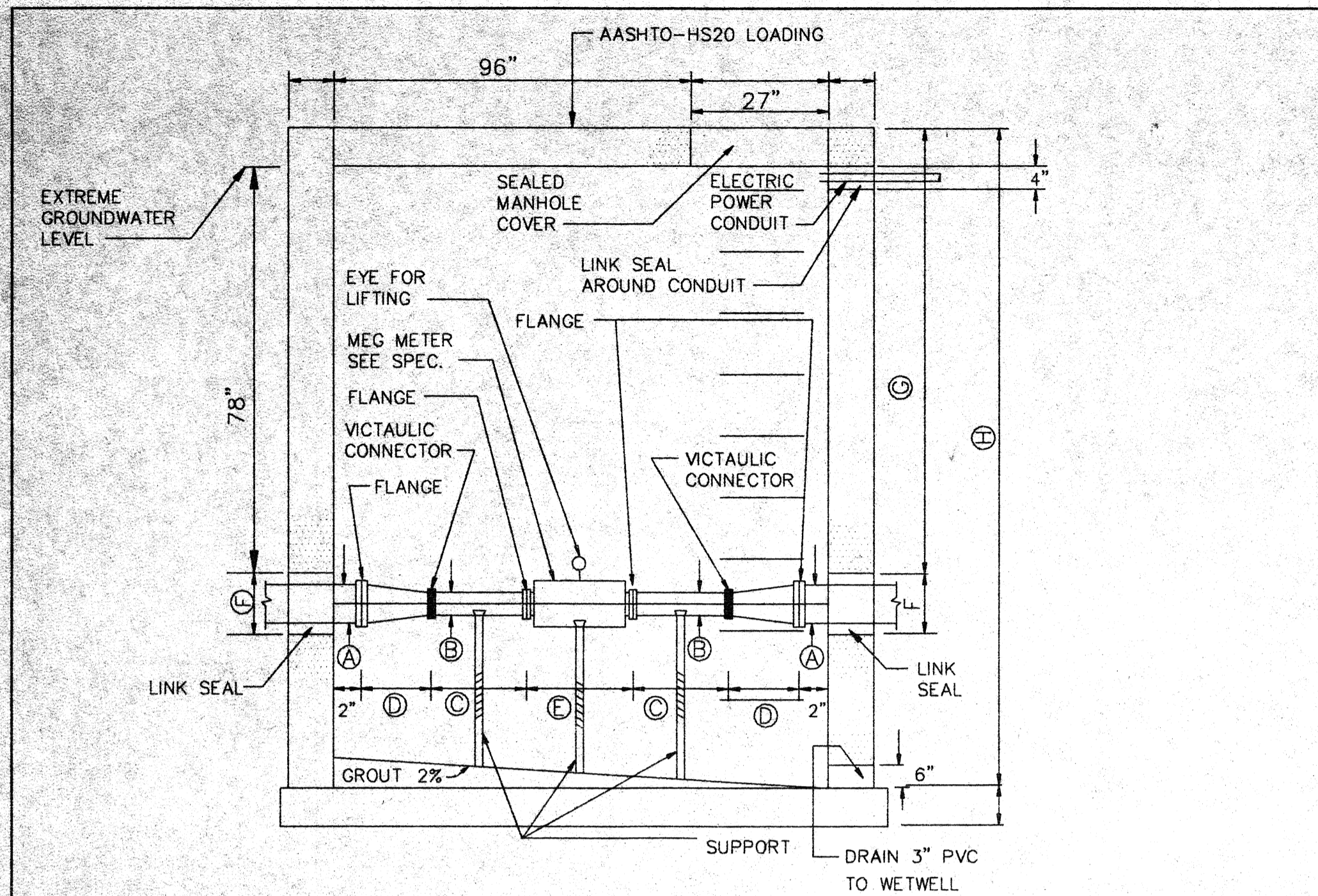


CITY OF SUPERIOR, WISCONSIN
 DEPARTMENT OF PUBLIC WORKS

CONTRACT NO. 3
 LIFT STATION & STORAGE IMPROVEMENTS

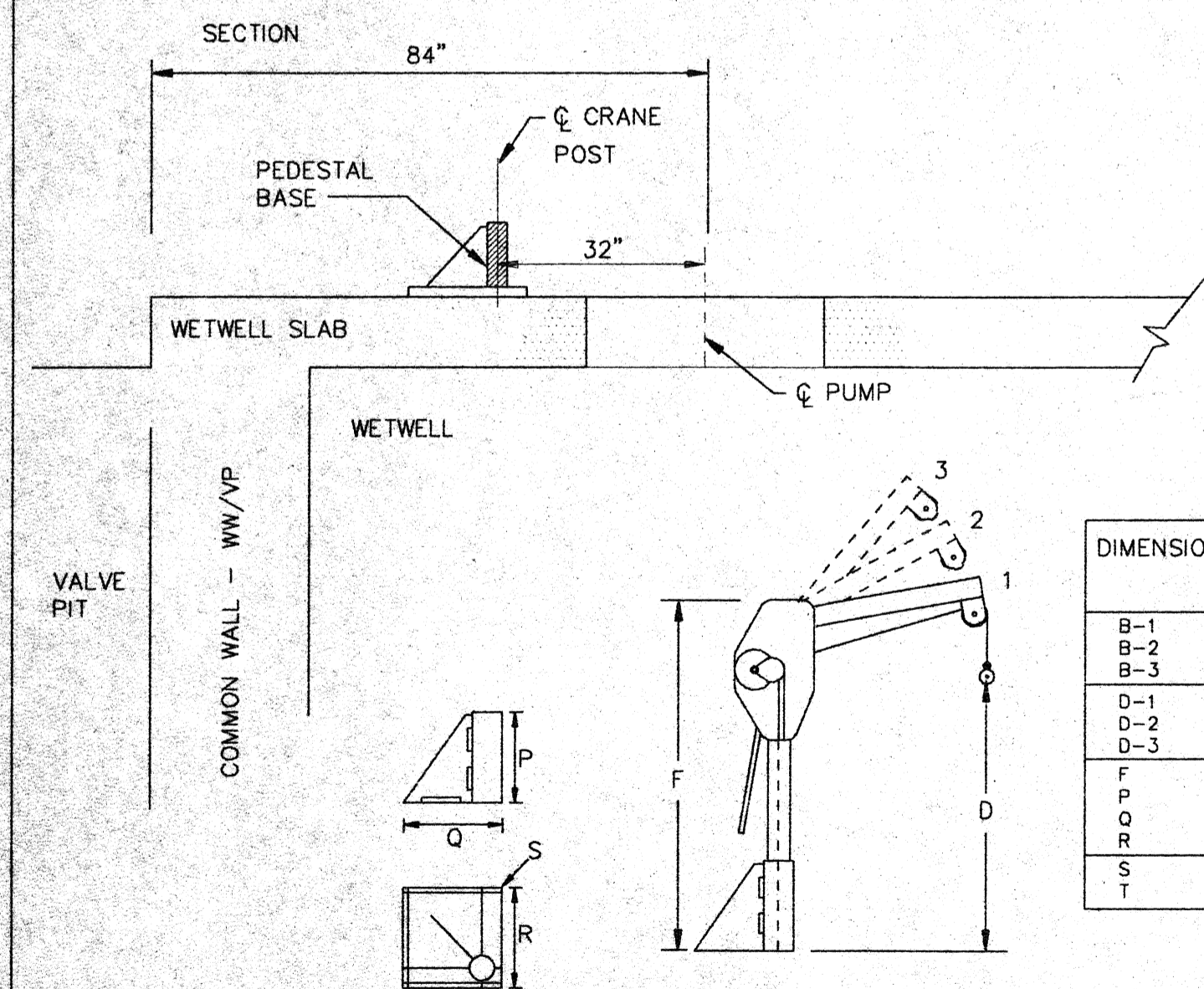
SHEET G-6
 OF SHEETS
 PROJECT NO. 3899-03

METER MANHOLE



	LS 5	LS 6	LS 7
LINK SEAL/FORCE MAIN OD/ID	10"/6"	10"/6"	8"/4"
LINK SEAL/CONDUIT OD/ID	8"/4"	8"/4"	8"/4"
LINK SEAL/DRAIN OD/ID	8"/4"	8"/4"	8"/4"
FORCE MAIN ϕ , (A)	8"	8"	6"
MAG METER ϕ , (B)	6"	6"	4"
MAG METER ℓ , (C)	~12"-18"	~12"-18"	~12"-18"
ENLARGEMENT/REDUCER SMALL ϕ , LARGE ϕ	8"/6"	8"/6"	6"/4"
SMALL ϕ PIPE ℓ , (D)	18"	18"	12"
ENLARGEMENT/REDUCER ℓ , (E)	11"	11"	9"
FORCE MAIN PENETRATION, OD (F)	10"	10"	8"
GRADE TO F.M. INVERT (G)	8'	6.15'	6'
GRADE TO DRAIN INVERT (H)	9'	7.15'	7'

- NOTES:**
- EXTREME GROUNDWATER ELEVATION IS AT GRADE.
 - EARTH COVER 0'-0".
 - DESIGN LOADING - AASHTO HS 20-44
 - PLAN VIEW SHAPE = SQUARE OR CIRCULAR.
 - STRUCTURE SHALL BE SEALED TO EXTERNAL WATER SOURCES.
 - D.I.P. SPOOL WITH VITAUIC TYPE ENDS TO BE PROVIDED AT ALL METER MANHOLES. SPOOL LENGTH TO BE 2x C+E. PAINTED AS DIRECTED BY OWNER OR ENGINEER.



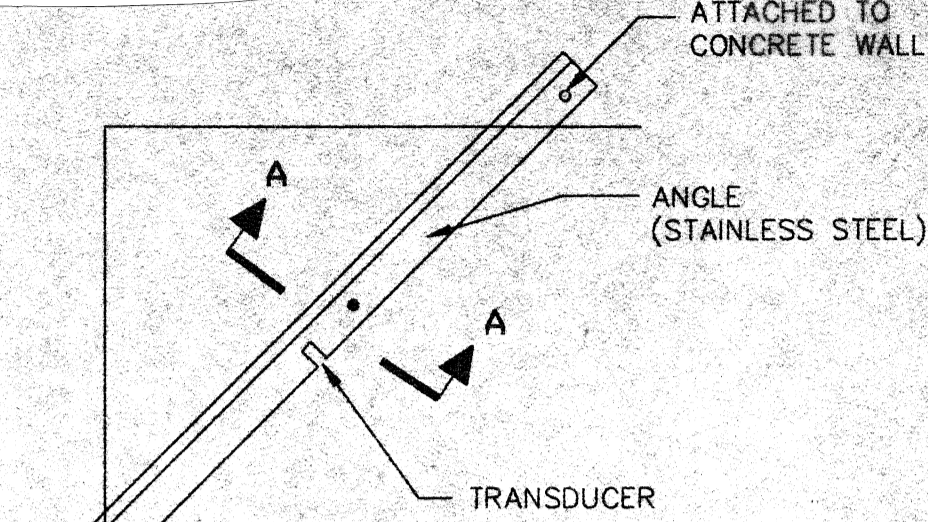
DIMENSIONS	MODEL 5123M1SS	
	WITH 523SS BASE	WITH 523SSF BASE
B-1	32.0 IN	32.0 IN
B-2	31.0 IN	31.0 IN
B-3	28.0 IN	28.0 IN
D-1	41.0 IN	27.0 IN
D-2	50.0 IN	36.0 IN
D-3	59.0 IN	45.0 IN
F	56.0 IN	42.0 IN
Q	14.0 IN	14.0 IN
R	15.9 IN	9.0 IN
S	.69 IN	-
T	.38 IN	.38 IN

DAVIT CRANE

(THERN PORTABLE DAVIT CRANE MODEL NO. 5123M1SS)

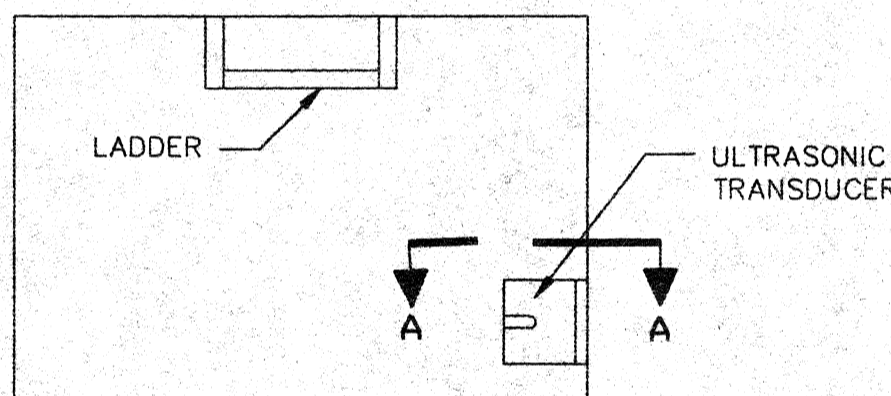
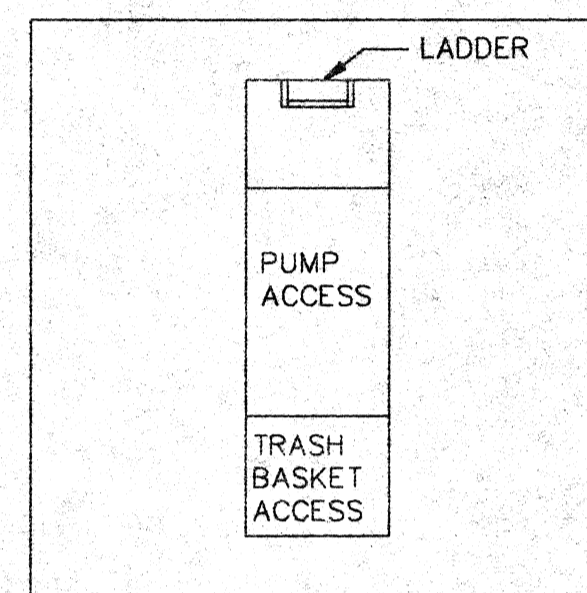
ULTRASONIC LEVEL METER

- General Notes:**
- Supports to be 316 Grade L stainless steel
 - Provide spare DIP to be available in each meter manhole for replacement of magnetic flow meter and pipe end pieces when removed.

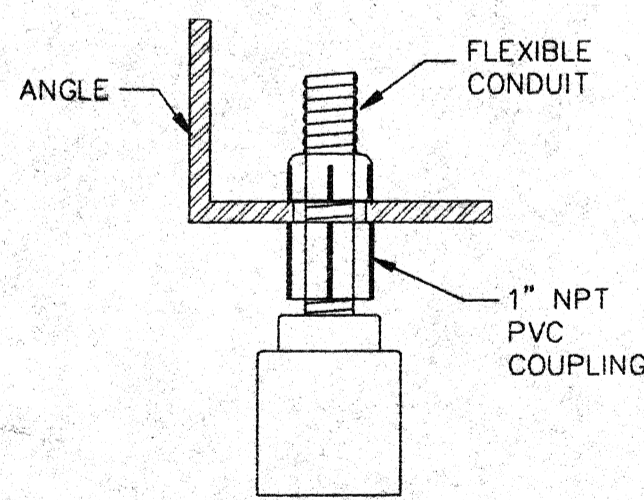


EXTERIOR BRACKET (STORAGE)

PLAN



INTERIOR BRACKET (WET WELL)



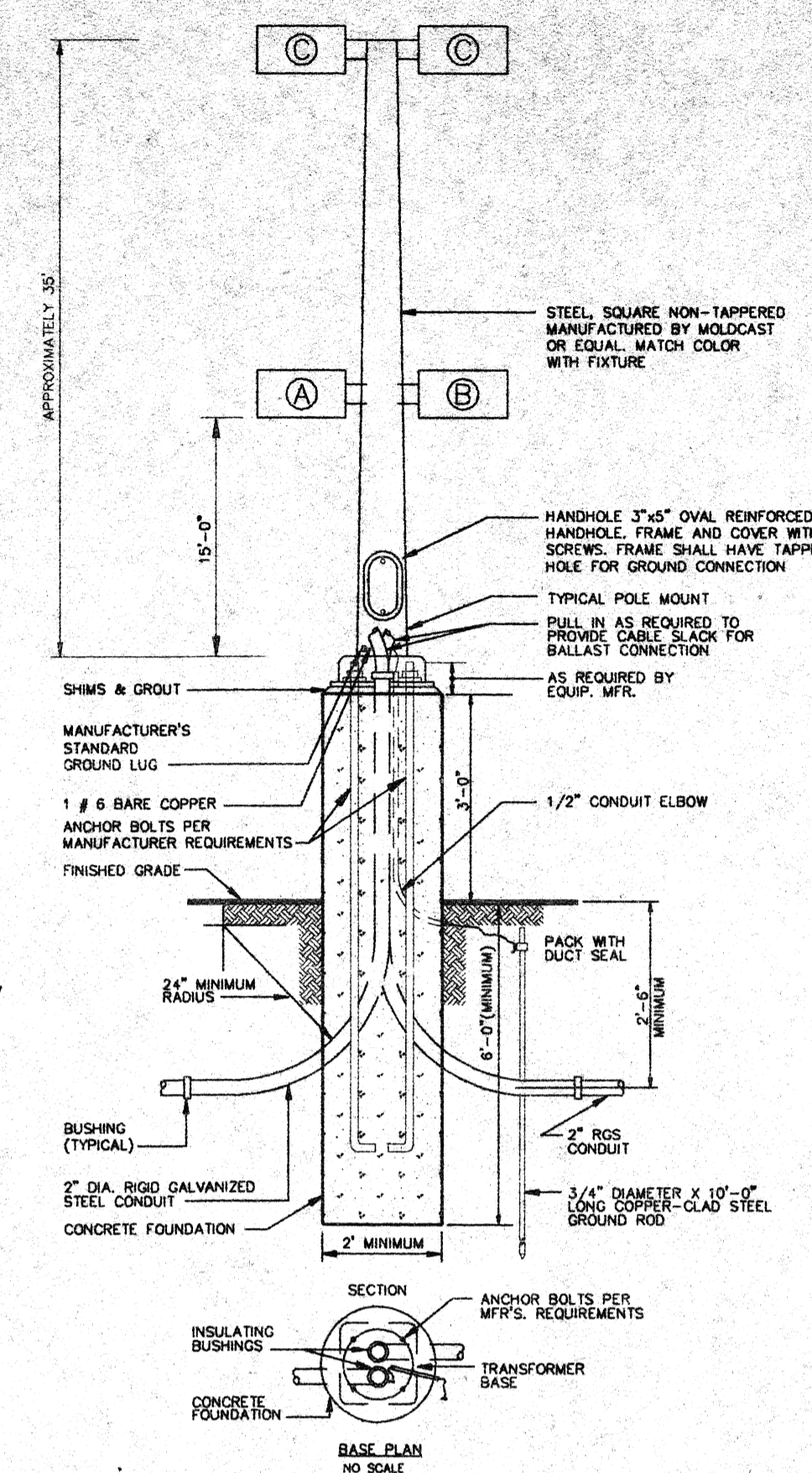
SECTION A - A

LIGHT POLE

LIGHTING POLE TYPE	EQUIPMENT REQUIREMENTS		
	FIXTURE TYPE	QUANTITY	CONTROL
I	(A)	1	PHOTO CONTROL
	(B)	1	CONTROL PANEL INTERIOR SWITCH
	(C)	2	CONTROL PANEL INTERIOR SWITCH
II	(C)	2	CONTROL PANEL INTERIOR SWITCH
III	(A)	1	PHOTO CONTROL
	(B)	1	CONTROL PANEL INTERIOR SWITCH
	(C)	3	CONTROL PANEL INTERIOR SWITCH

- (A) 150 WATT HIGH PRESSURE SODIUM WITH PHOTO CONTROL AND TYPE III REFLECTOR AS MANUFACTURED BY MOLDCAST MODEL NO. MF 1325-24-7-3-0-XX-PCR OR EQUAL.
- (B) 400 WATT METAL HALIDE SWITCHED, WITH TYPE IV REFLECTOR AS MANUFACTURED BY MOLDCAST MODEL NO. MF 2441-24-7-3-0-XX.
- (C) 400 WATT HIGH PRESSURE SODIUM SWITCHED, WITH TYPE III REFLECTOR AS MANUFACTURED BY MOLDCAST MODEL NO. MF 2340-24-N-3-0-XX.
- N = # OF FIXTURES REQUIRED AS DESCRIBED IN LIGHTING FIXTURE TYPE SCHEDULE.
- XX = COLOR TO BE DETERMINED BY OWNER.
- POLE - 35 FEET SQUARE STEEL NON-TAPERED AS MANUFACTURED BY MOLDCAST MODEL NO. S1635JB, COLOR TO BE DETERMINED BY OWNER.

- THE VOLTAGE FOR ALL FIXTURES SHALL BE 240 VOLT.
- SWITCHES MOUNTED IN CONTROL PANEL SHALL BE 20 AMP.
- MINIMUM WIRE SIZE SHALL BE #10 AWG, THHW. CALCULATE VOLTAGE DROP AND RESIZE WIRE AS NECESSARY.
- INCLUDE ALL WIRE, CONDUIT, MOUNTING EQUIPMENT AND ALL APPURTENANCES NECESSARY FOR A COMPLETE INSTALLATION.
- PRIOR TO ORDERING CONSULT WITH OWNER ON DIRECTION AND ANGLE OF FIXTURE MOUNTS.
- ALL POLES MUST BE FACTORY DRILLED FOR THE FIXTURES SPECIFIED.
- MODEL NO. WERE AS OF 6/96. VERIFY WITH MANUFACTURER PRIOR TO BIDDING.

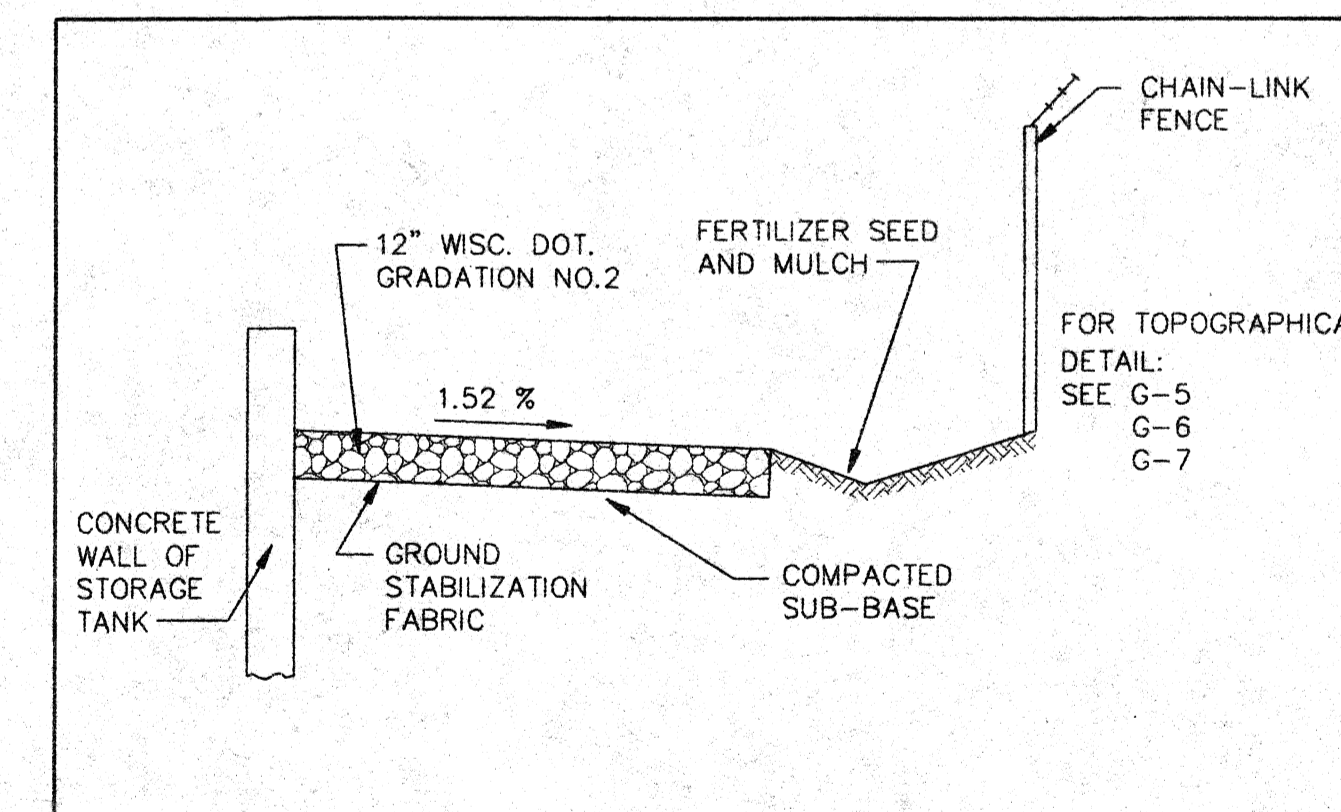


TYPICAL POLE FOUNDATION DETAIL

Add following to light pole drawing:

- 120 V, 20 Amp, GFCI, weatherproof duplex receptacle to be provided at base of all light poles. Receptacles to be switched at control panel.
- Switches to control yard lighting to be housed in control panel.

ACCESS ROAD - BASE



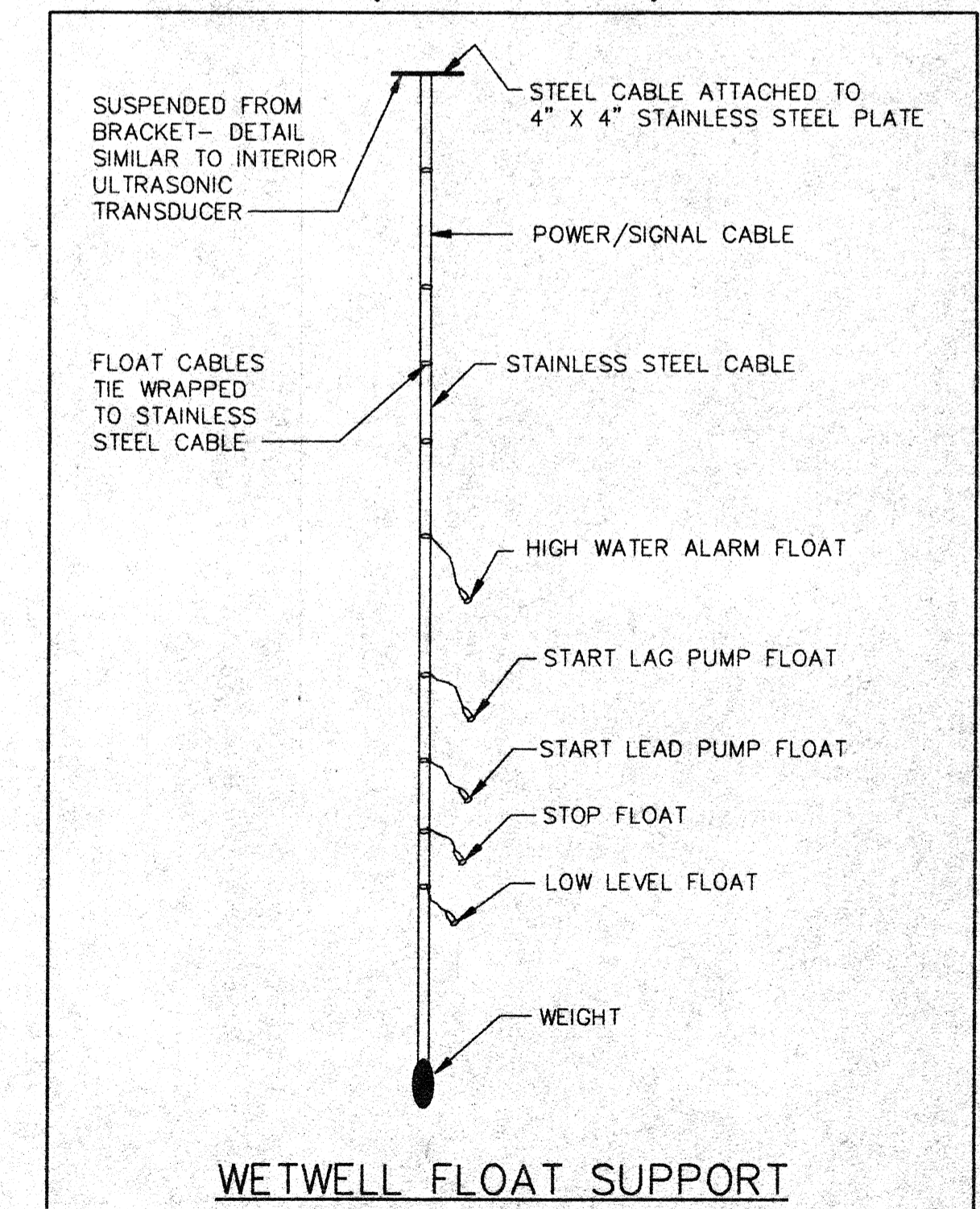
Sheet G-7:

- Remove davit crane drawing and information (see revised crane in Item 6 of Specifications above).
- Rename Ultrasonic Level Meter Drawing as Level Meters and modify Section A-A with the following:

- Ultrasonic Level Meter Transducer Bracket/Assembly Notes:**
- All hardware and brackets to be stainless steel.
 - 1/4" lip to be provided on bracket.

- Float Tree Bracket/Assembly Notes:**
- Float tree cable to be stainless steel and attached to 1/4" stainless steel plate for placement on bracket.
 - All hardware and brackets to be stainless steel.
 - 1/4" lip to be provided on bracket.
 - Stainless steel handle for lifting of float system to be provided.
3. Add following to meter manhole drawing:

(FLOAT TREE)



WETWELL FLOAT SUPPORT

DESIGNED	D.W.
DRAWN	B.H.P.
CHECKED	
DATE	

SCALE

NO SCALE

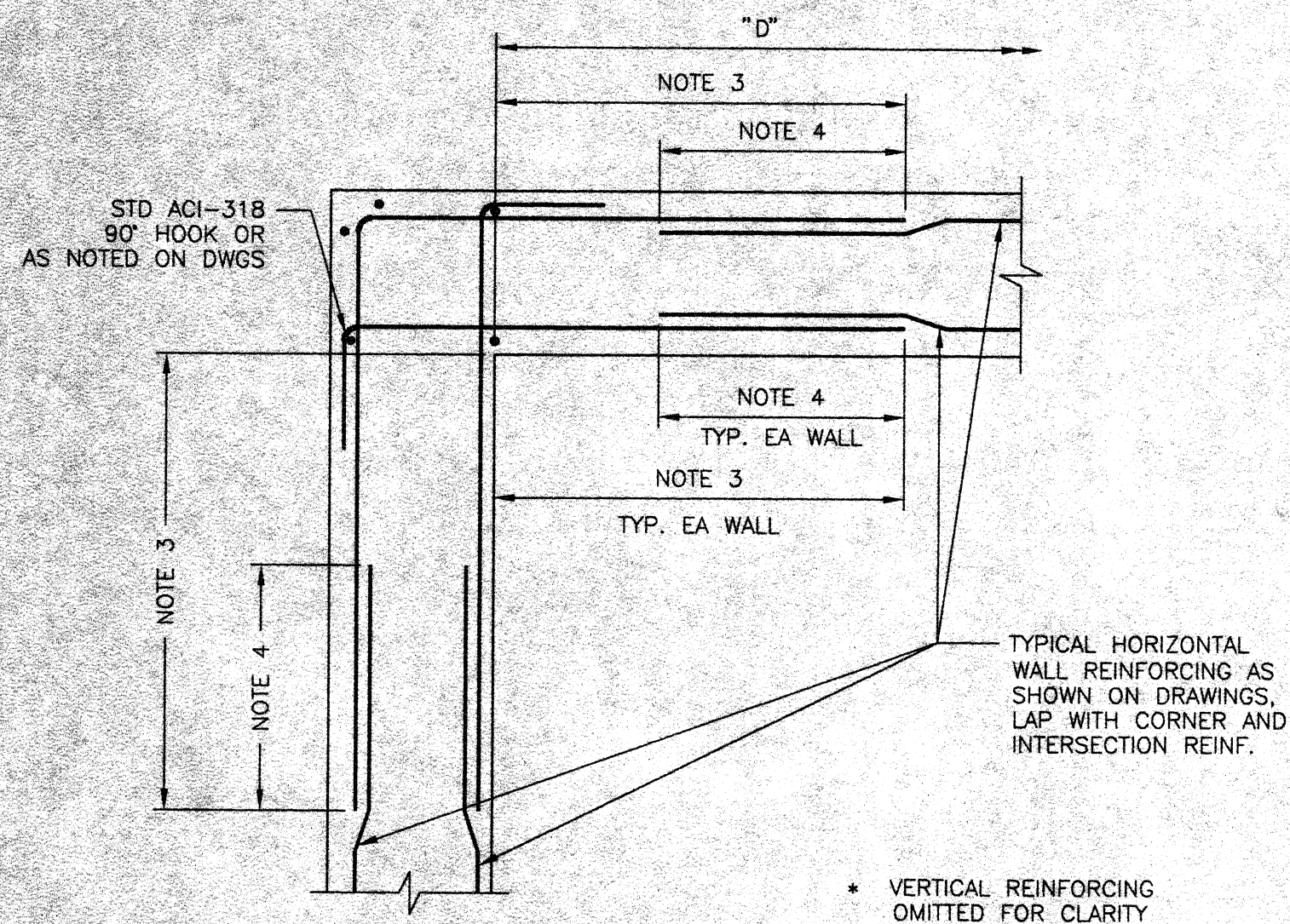


**CITY OF SUPERIOR, WISCONSIN
DEPARTMENT OF PUBLIC WORKS**

CONTRACT NO. 3

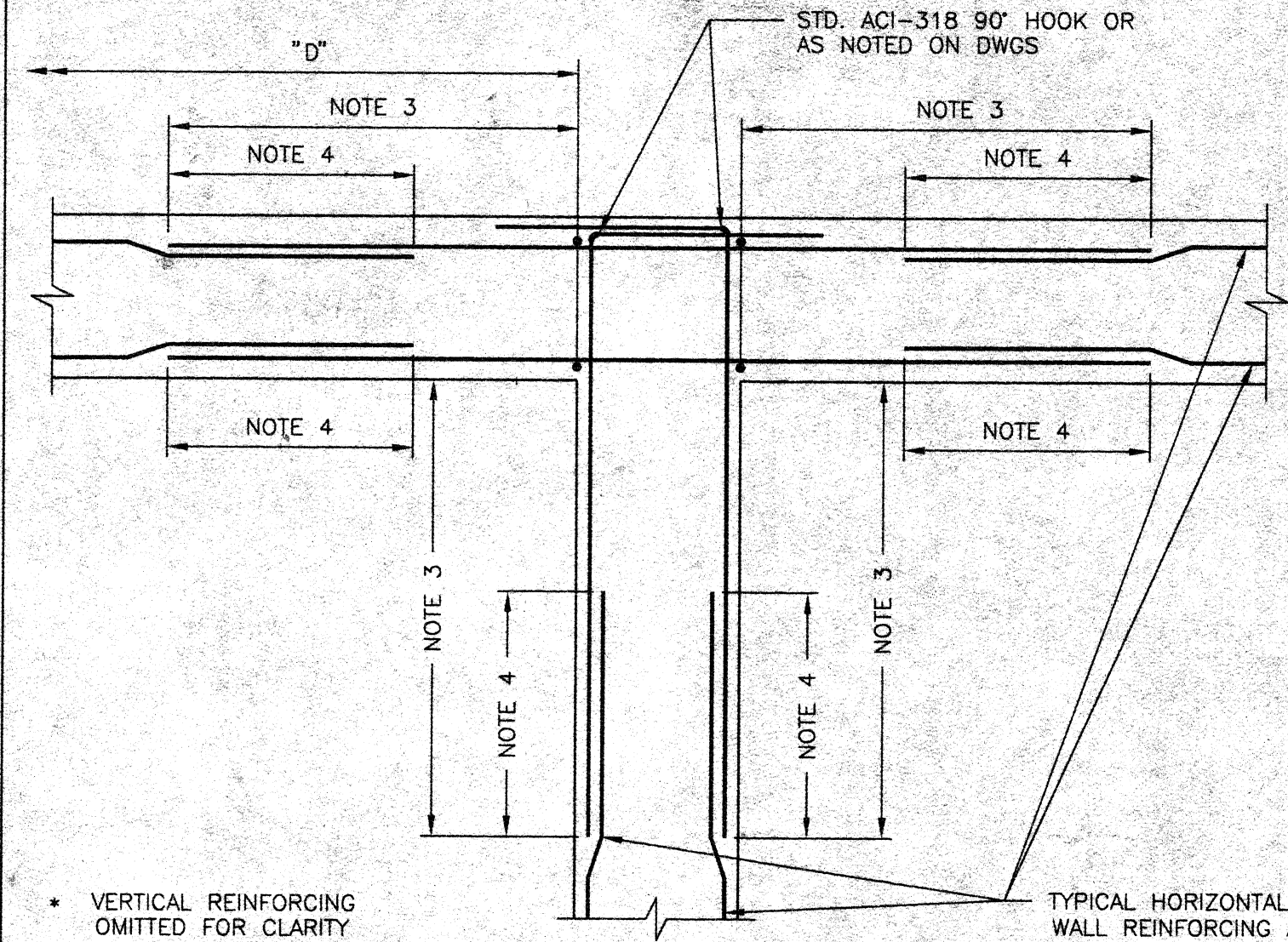
LIF I STATION & STORAGE IMPROVEMENTS

SHEET	G-7
OF	SHEETS
PROJECT NO.	3899-03



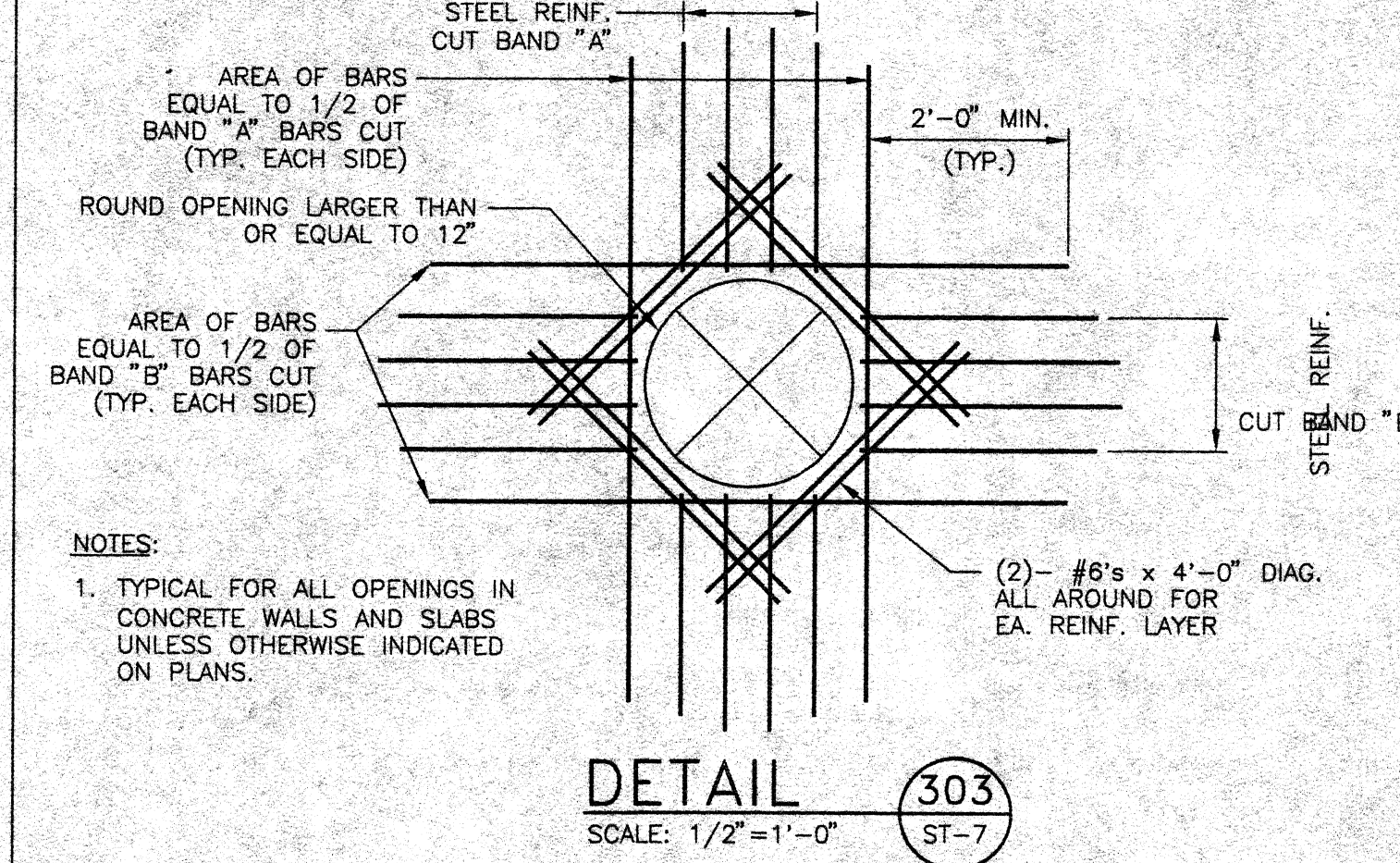
- NOTES:
1. TYPICAL HORIZONTAL WALL CORNER REINFORCING LAYOUT IS SHOWN TO AVOID CONGESTION AND PERMIT PROPER PLACEMENT. FOR SIZE AND SPACING, SEE PLANS. ALL HORIZONTAL REINFORCING AT CORNERS AND INTERSECTIONS SHALL BE FABRICATED AND INSTALLED WITH SPLICES LOCATED WHERE SHOWN REGARDLESS OF BAR SIZE AND SPACING.
 2. D = LENGTH OF WALL PARALLEL TO BAR LENGTH IN QUESTION.
 3. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 3" SHALL BE THE LESSER OF D/4, 10 FEET, OR 1.0 TIMES THE HEIGHT OF THE WALL, EXCEPT THAT IN NO CASE SHALL IT BE LESS THAN 2.0 FEET.
 4. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 4" SHALL BE 40 BAR DIAMETERS MINIMUM. USE THE LAP LENGTH AS REQUIRED FOR THE SMALLER OF THE TWO REINFORCING BARS BEING SPLICED.

DETAIL 301
NOT TO SCALE
ST-7



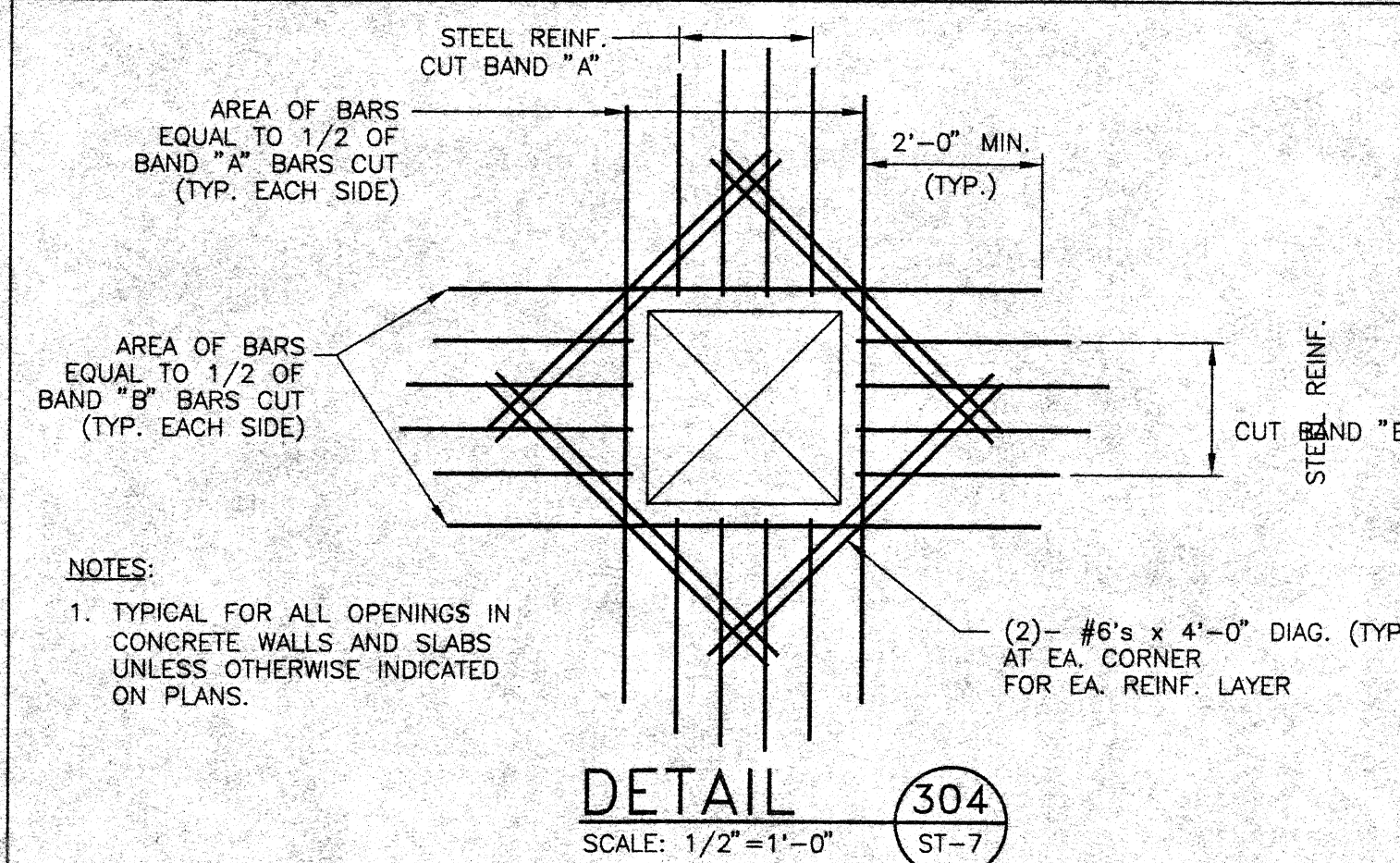
- NOTES:
1. TYPICAL HORIZONTAL WALL INTERSECTION REINFORCING LAYOUT IS SHOWN TO AVOID CONGESTION AND PERMIT PROPER PLACEMENT. FOR SIZE AND SPACING, SEE PLANS. ALL HORIZONTAL REINFORCING AT CORNERS AND INTERSECTIONS SHALL BE FABRICATED AND INSTALLED WITH SPLICES LOCATED WHERE SHOWN REGARDLESS OF BAR SIZE AND SPACING.
 2. D = LENGTH OF WALL PARALLEL TO BAR LENGTH IN QUESTION.
 3. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 3" SHALL BE THE LESSER OF D/4, 10 FEET, OR 1.0 TIMES THE HEIGHT OF THE WALL, EXCEPT THAT IN NO CASE SHALL IT BE LESS THAN 2.0 FEET.
 4. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 4" SHALL BE 40 BAR DIAMETERS MINIMUM. USE THE LAP LENGTH AS REQUIRED FOR THE SMALLER OF THE TWO REINFORCING BARS BEING SPLICED.

DETAIL 302
NOT TO SCALE
ST-7



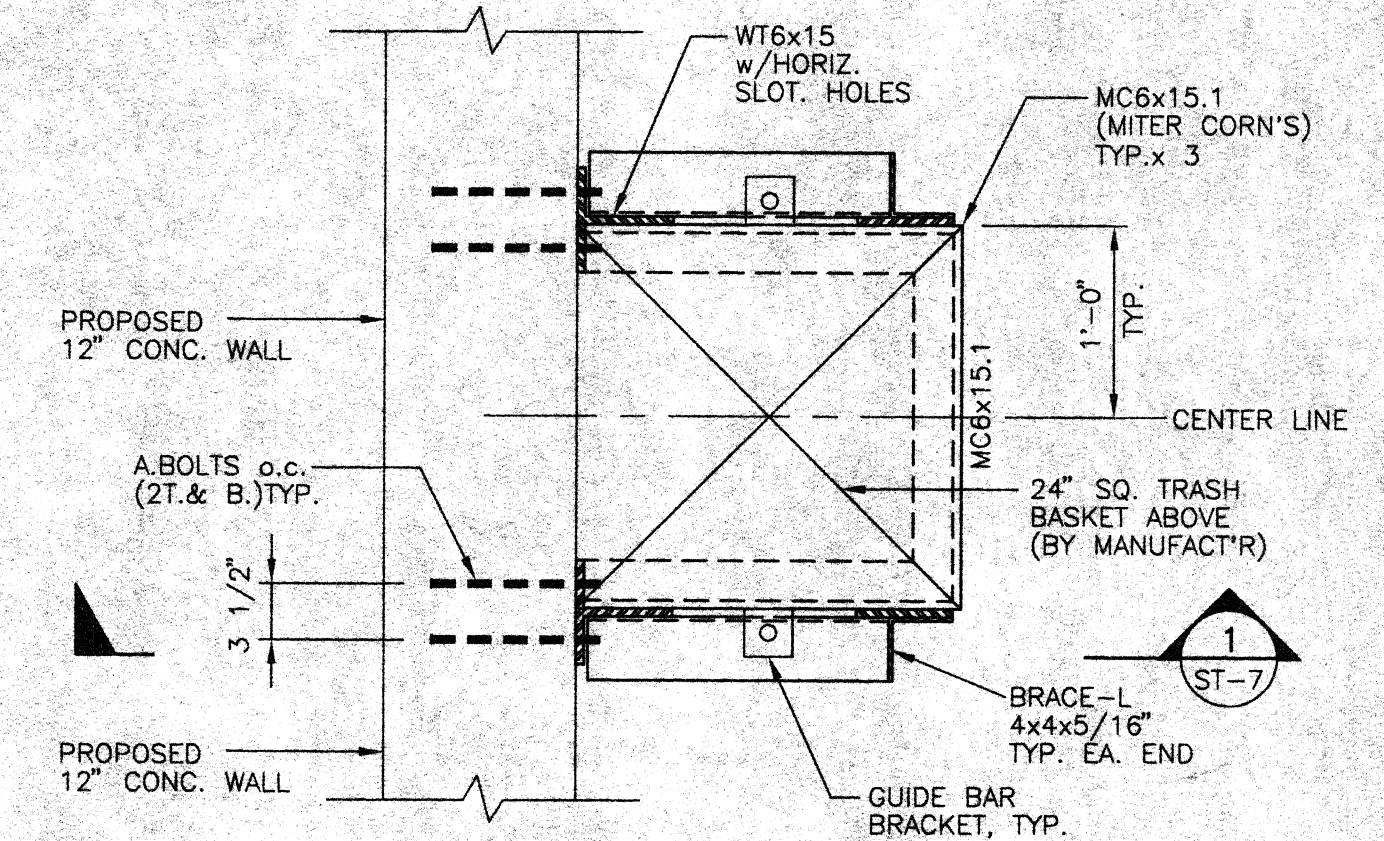
- NOTES:
1. TYPICAL FOR ALL OPENINGS IN CONCRETE WALLS AND SLABS UNLESS OTHERWISE INDICATED ON PLANS.

DETAIL 303
SCALE: 1/2" = 1'-0"
ST-7

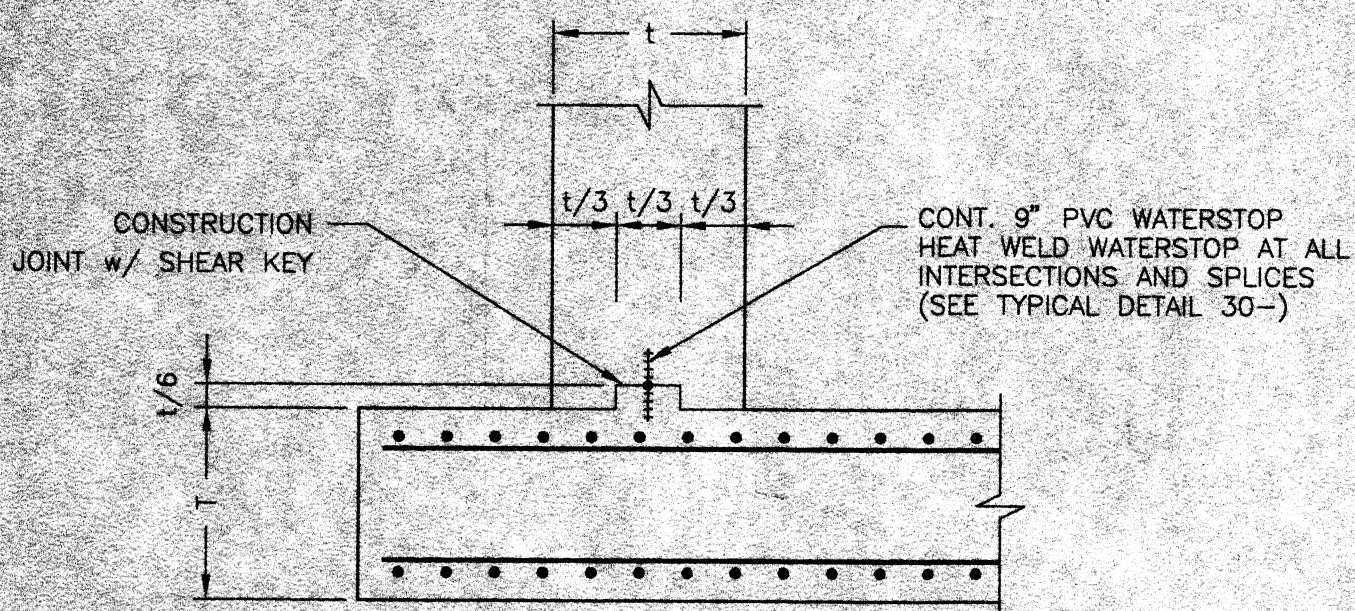


- NOTES:
1. TYPICAL FOR ALL OPENINGS IN CONCRETE WALLS AND SLABS UNLESS OTHERWISE INDICATED ON PLANS.

DETAIL 304
SCALE: 1/2" = 1'-0"
ST-7

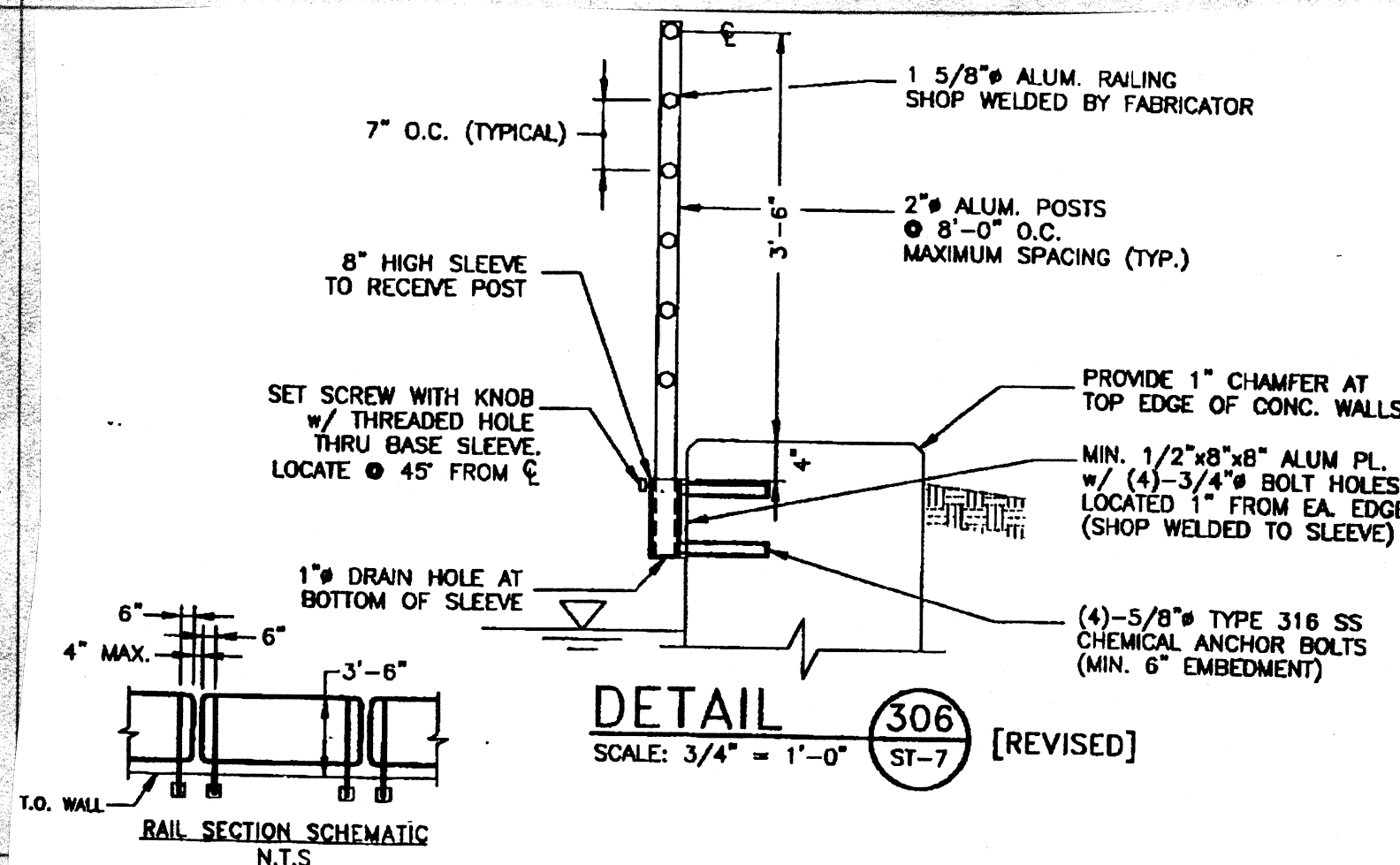


TRASH BASKET PLAN
SCALE: 1" = 1'-0"
ST-7

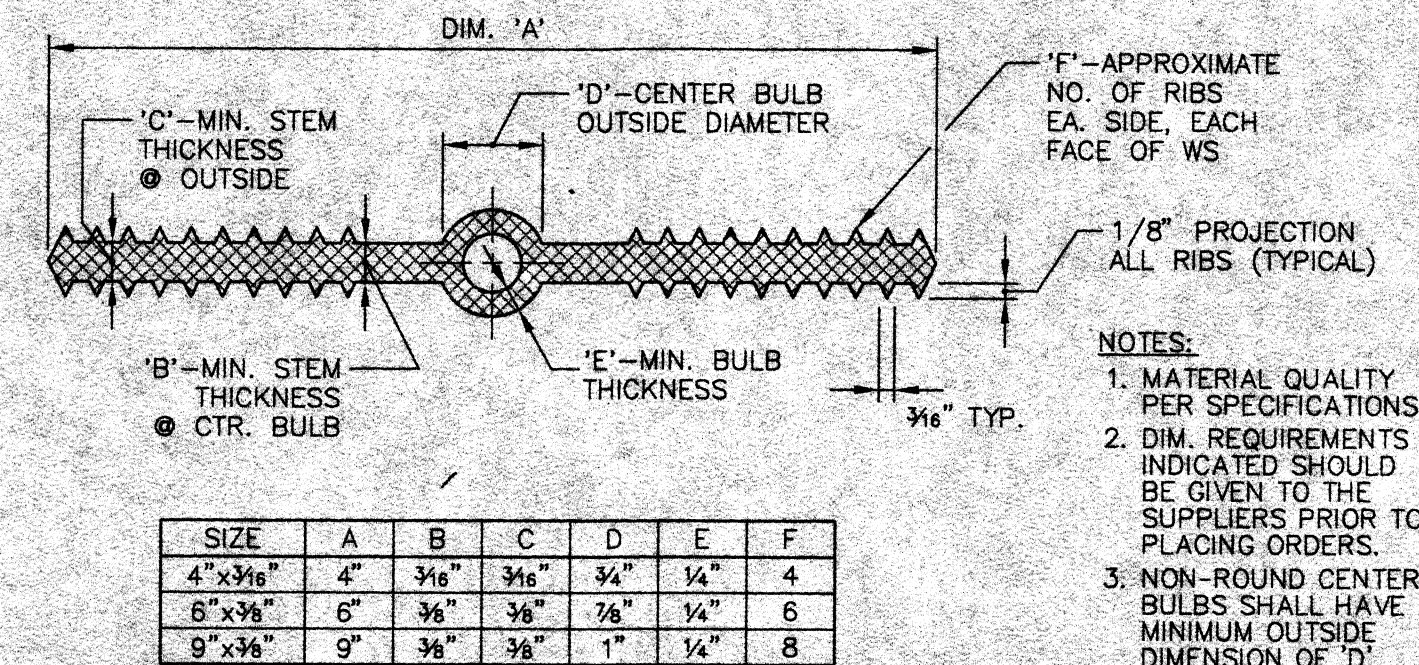


- NOTES:
1. T = FOOTING THICKNESS AS DETAILED.
 2. t = WALL THICKNESS.

DETAIL 305
SCALE: 1/2" = 1'-0"
ST-7

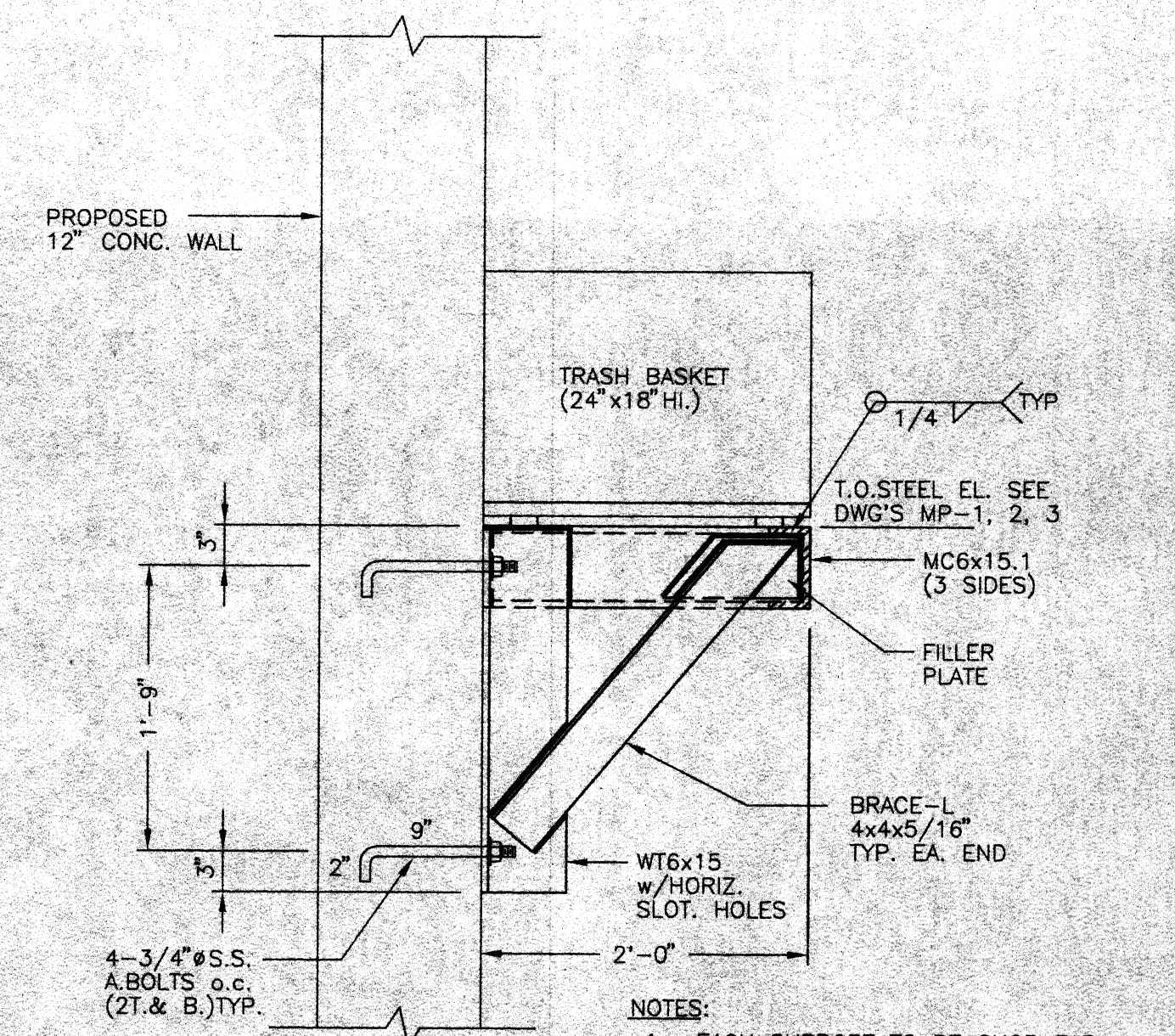


DETAIL 306 [REVISED]
SCALE: 3/4" = 1'-0"
ST-7



- NOTES:
1. MATERIAL QUALITY PER SPECIFICATIONS.
 2. DIM. REQUIREMENTS INDICATED SHOULD BE GIVEN TO THE SUPPLIERS PRIOR TO PLACING ORDERS.
 3. NON-ROUND CENTER BULBS SHALL HAVE A MINIMUM OUTSIDE DIMENSION OF 'D'.

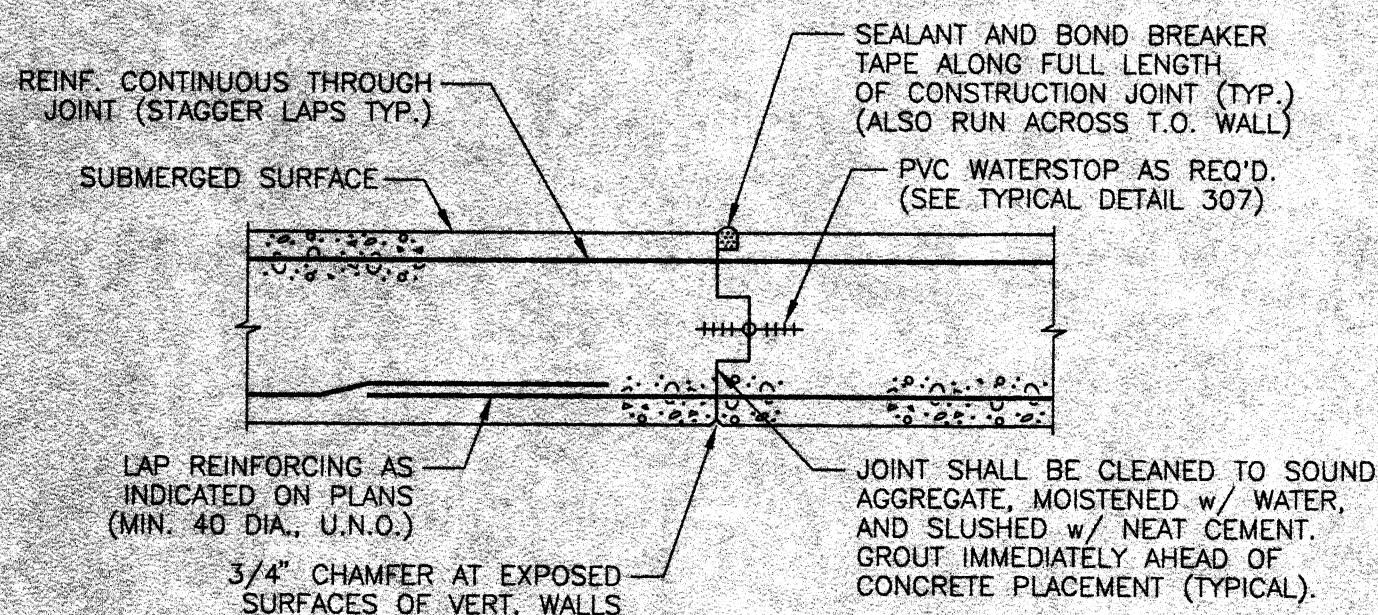
PVC WATERSTOP DETAIL 307
NOT TO SCALE
ST-7



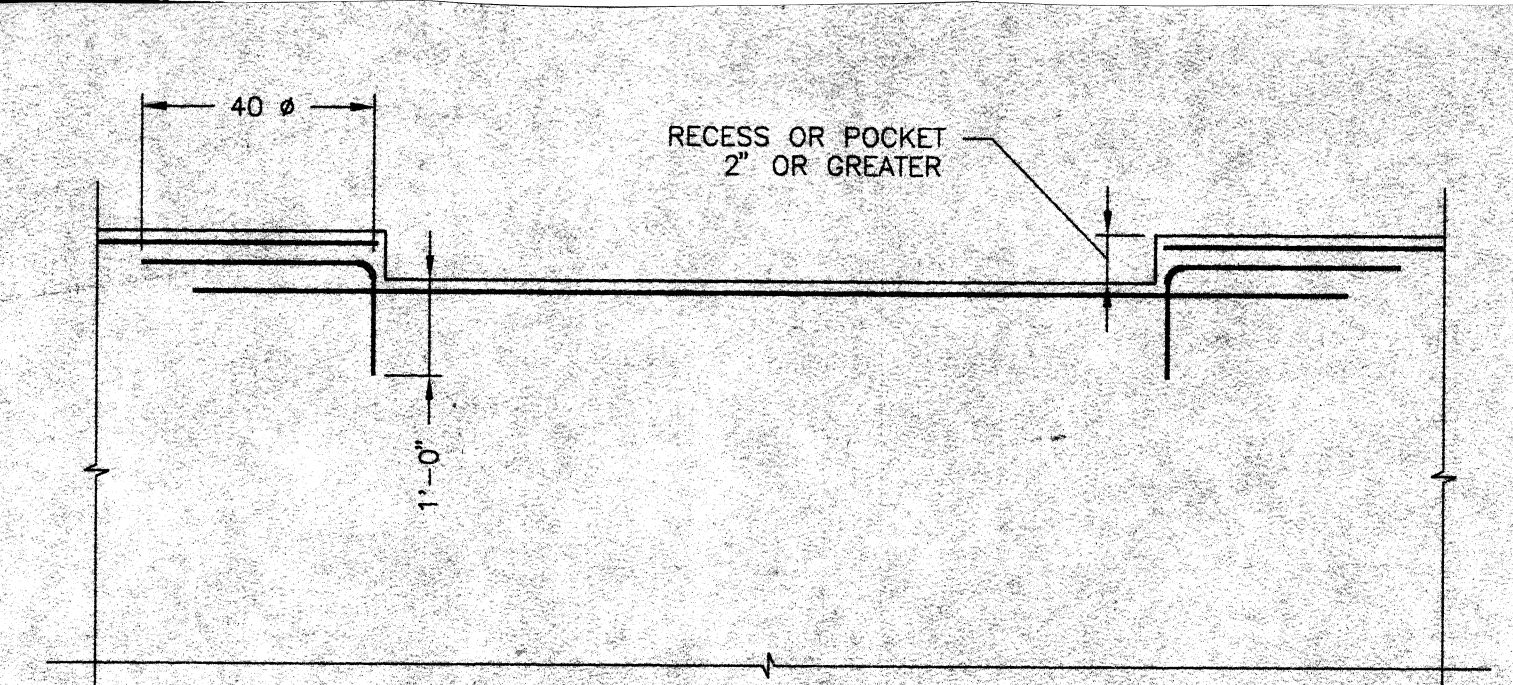
- NOTES:
1. EACH SUPPORT TO BE SHOP FAB. FULLY WELDED AND SHIPPED IN ONE PIECE.
 2. ALL STEEL MEMBERS TO BE HOT-DIPPED GALVANIZED.
 3. COORDINATE W/G.C. OR BASKET MANUF'R FOR SIZES BEFORE FABRICATION.

SECTION 1
SCALE: 1" = 1'-0"
ST-7

2 SUPPORTS REQ'D
AT WET WELLS-LIFT STA. 5, 6 & 7
SEE MECH. DWG'S MP-1, MP-2, MP-3



[PLAN @ WALL, SECTION @ MAT SLAB]
CONSTRUCTION JOINT DETAIL 308
NOT TO SCALE
ST-7



RECESSED WALL DETAIL 309
NOT TO SCALE
ST-7

NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION
REVISIONS				

DRAWN BY	GNB
DEPT. CHECK	RSW
PROJ. CHECK	JF

BETA ENGINEERING, INC.
Engineers/Planners

SCALE:
SCALE: AS SHOWN

LIFT STATION NO. 5,6,&7
SUPERIOR, WISCONSIN
DETAILS
STRUCTURAL

JOB: 632
DATE: JUNE 26, 1996
FILE: 632ST7.DWG
SHEET: ST-7

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

STRUCTURAL ABBREVIATIONS

AL	ALUMINUM	HORZ	HORIZONTAL
ALT	ALTERNATE	IF	INSIDE FACE
BOT	BOTTOM	LONG.	LONGITUDINAL
BOF	BOTTOM OF FOOTING	MAX	MAXIMUM
BM	BEAM	MIN	MINIMUM
BRG	BEARING	NTS	NOT TO SCALE
CJ	CONSTRUCTION JOINT	OC	ON CENTER
CL	CENTER LINE	OF	OUTSIDE FACE
CLR	CLEARANCE	RC	REINFORCED CONCRETE
COL	COLUMN	SIM	SIMILAR
CONC	CONCRETE	SPECS	SPECIFICATIONS
CONN	CONNECTION	SQ	SQUARE
DIA	DIAMETER	T&B	TOP AND BOTTOM
EA	EACH	TOC	TOP OF CONCRETE
EF	EACH FACE	TRANSV	TRANSVERSE
EL	ELEVATION	TOS	TOP OF STEEL
EW	EACH WAY	TOW	TOP OF WALL
EXP JT	EXPANSION JOINT	TYP	TYPICAL
FDN	FOUNDATION	VERT	VERTICAL
FTG	FOOTING	WS	WATERSTOP
GALV	GALVANIZE (HOT DIPPED)	WWF	WELDED WIRE FABRIC

STRUCTURAL LEGEND

-----C-----	INDICATES CENTER LINE
[602.00]-----	INDICATES BOTTOM OF FOOTING ELEVATION
[612.00]-----	INDICATES TOP OF WALL ELEVATION
-----	INDICATES PROPOSED WORK
-----	INDICATES EXISTING CONDITIONS
-----	INDICATES EXISTING HIDDEN CONDITIONS
-----	INDICATES NEW CONCRETE/ CONCRETE FILL

NOTE:
CONTRACTOR SHALL PROTECT ALL STRUCTURES FROM BOUYANCY DURING CONSTRUCTION UNTIL ENTIRE STRUCTURE IS COMPLETED AND BACKFILLED AS DIRECTED.
SPECIAL BOUYANCY COMPENSATION IS REQUIRED DURING CONSTRUCTION AND FUTURE MODIFICATIONS SEE GENERAL NOTES.

LIFT STATION No. 5, 6 & 7

**GEOTECHNICAL DESIGN CRITERIA
EARTH AND HYDROSTATIC PRESSURES**

- AT REST ABOVE GROUNDWATER TABLE (GWT) EQUIVALENT FLUID PRESSURE (EFP) = 70 PCF
- AT REST BELOW GWT; EFP = 110 PCF
- SATURATED SOIL WEIGHT = 120 PCF
- SURCHARGE = 350 PSF
- K_a = 0.40
- K_p = 0.58
- DESIGN 100 YEAR FLOOD ELEVATION = AT GRADE

STRUCTURAL NOTES

GENERAL

- DESIGN IS IN ACCORDANCE WITH, AND CONSTRUCTION SHALL CONFORM TO REQUIREMENTS OF THE WISCONSIN ADMINISTRATIVE CODE, DEPARTMENT OF INDUSTRY, LABOR AND HUMAN RELATIONS, CHAPTERS IHR 50 TO 64, 'BUILDING AND HEATING, VENTILATING AND AIR CONDITIONING', WITH ALL ITS REVISIONS.
- INFORMATION REGARDING EXISTING CONSTRUCTION AND CONDITIONS IS BASED ON FIELD INSPECTION, AND IS INCLUDED TO ASSIST THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY OR COMPLETENESS.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHEN UNANTICIPATED OR APPARENTLY DANGEROUS CONDITIONS ARE UNCOVERED DURING CONSTRUCTION OR DEMOLITION.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE PORTION OF THE WORK.
- OPENINGS LESS THAN 12" MAXIMUM DIMENSION IN SLABS AND WALLS ARE GENERALLY NOT SHOWN ON STRUCTURAL DRAWINGS. SEE MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS (IF ANY) FOR LOCATIONS AND DIMENSIONS OF CHASES, INSERTS, SLEEVES, OPENINGS AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS.
- DETAILS NOT SPECIFICALLY SHOWN SHALL BE SIMILAR TO THOSE FOR MOST NEARLY SIMILAR CONDITION AS DETERMINED BY THE ENGINEER.
- THE CONTRACTOR SHALL SHORE, BRACE, SHEETPILE OR OTHERWISE SUPPORT THE STRUCTURE AS REQUIRED TO MAINTAIN STRUCTURAL INTEGRITY AT ALL TIMES.
- HEADERS SHALL BE PLACED ACROSS TOP OF SHORING POSTS AND SHALL BE TIGHT AGAINST UNDERSIDE OF STRUCTURE ABOVE.
- SHORING SHALL BEAR ON SLEEPERS TO PREVENT DAMAGE TO STRUCTURE BELOW.
- TEMPORARY SHORES SHALL BE DESIGNED, ERECTED, SUPPORTED, BRACED AND MAINTAINED BY THE CONTRACTOR TO SUPPORT SAFELY ALL DEAD LOADS PRESENTLY CARRIED BY THE STRUCTURE, WORK BEING SHORED, AND ANY CONSTRUCTION LIVE LOADS.
- NEW STRUCTURAL SYSTEMS SHALL BE COMPLETELY INSTALLED AND CAPABLE OF SUPPORTING DESIGN LOADS BEFORE SHORES ARE REMOVED. SHORES SHALL BE RELEASED GRADUALLY.

DESIGN LOADS (EXCEPT AS NOTED):

SNOW - (ZONE 1):	
LIVE LOAD	40 PSF
STRUCTURAL SLAB - WET WELL AREAS	
LIVE LOAD	350 PSF
WHEEL / AXLE LOAD	HS-20

FOUNDATIONS

- BASE SLABS HAVE BEEN DESIGNED BASED UPON A PRESUMPTIVE BEARING CAPACITY OF:
LIFT STATIONS NO'S 5 & 6 = 1500 PSF
LIFT STATION NO. 7 = 2000 PSF
THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF UNSUITABLE BEARING MATERIALS EXIST.
- THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE VALIDITY OF SUBSURFACE CONDITIONS WHERE DESCRIBED ON DRAWINGS, SPECIFICATIONS, TEST BORINGS OR TEST PITS. THESE DATA ARE INCLUDED ONLY TO ASSIST THE CONTRACTOR DURING CONSTRUCTION, AND REPRESENT CONDITIONS ONLY AT THESE SPECIFIC LOCATIONS AT THE PARTICULAR TIME THEY WERE PERFORMED.
- THE FOUNDATION DESIGN IS BASED ON INFORMATION PROVIDED IN GEOTECHNICAL REPORTS, "SUBSURFACE SOIL EXPLORATION REPORT, SUPERIOR LIFT STATIONS 5 & 6, EAST 2nd STREET SUPERIOR, WISCONSIN, DATED 4/21/95, PREPARED BY TWIN PORTS TESTING, INC., SUPERIOR, WI. ALSO, "GEOTECHNICAL EXPLORATION, PROPOSED STORAGE TANK, LIFT STATION #7, CITY OF SUPERIOR, PUBLIC WORKS DEPARTMENT SUPERIOR, WISCONSIN, GME PROJECT NO. D-17700 DATED 7/6/94 PREPARED BY GME CONSULTANTS, INC., SUPERIOR, WI., INCLUDING THE SUPPLEMENTAL DATED 1/11/96.
- UNSUITABLE BEARING MATERIALS, SUCH AS MISCELLANEOUS FILL AND ORGANIC SOILS MAY EXIST IN AREAS OF NEW FOUNDATIONS. EXISTING UNSUITABLE MATERIALS SHALL BE EXCAVATED TO 1'-0" MIN. AS DIRECTED OR AS INDICATED ON THE DRAWINGS AND SHALL BE FOLLOWED BY PLACEMENT OF COMPACTED GRAVEL FILL OR CRUSHED STONE AS SPECIFIED.
- WHERE ROCK IS ENCOUNTERED, IT SHALL BE EXCAVATED TO 1'-0" BELOW BOTTOMS OF FOOTINGS AND SLABS AND REPLACED WITH A 1'-0" LAYER OF COMPACTED GRAVEL OR SAND.
- NO FOUNDATION CONCRETE SHALL BE PLACED IN WATER OR ON FROZEN SOIL.
- BACKFILL UNDER ANY PORTION OF THE STRUCTURE SHALL BE COMPACTED IN 6" LIFTS.
- COMPACT SOIL TO 95% OF MAX. DRY DENSITY UNDER FOOTINGS AND SLABS ACCORDING TO ASTM D-1557.
- PLACE CONSTRUCTION JOINTS AND P.V.C. WATERSTOPS IN SLABS AND FOUNDATION WALLS IN ACCORDANCE WITH DETAILS AND AT LOCATIONS INDICATED ON DRAWINGS.
- FOUNDATION WALLS ENCLOSING BELOW GRADE AREAS SHALL BE BRACED OR HAVE ROOF SLABS OR FRAMING SECURELY IN PLACE PRIOR TO BACKFILLING. CONCRETE SHALL REACH 75% OF THE DESIGN STRENGTH PRIOR TO BACKFILLING.
- BACKFILL SHALL BE PLACED AND COMPACTED SIMULTANEOUSLY ON BOTH SIDES OF FOUNDATION WALLS WHEREVER POSSIBLE.
- CONTRACTOR SHALL MAINTAIN CONTINUOUS CONTROL OF SURFACE AND SUBSURFACE WATER DURING CONSTRUCTION SO THAT WORK IS DONE UNDER DRY CONDITIONS ON UNDISTURBED SUBGRADE MATERIAL OR COMPACTED FILL, AS APPLICABLE. IT IS ANTICIPATED THAT SHEETING & DEWATERING WILL BE REQUIRED.
- ALL EMBANKMENTS AND BACKFILL AROUND STRUCTURES SHALL BE COMPACTED TO 90%.
- ALL BELOW GRADE CONCRETE WALLS SHALL BE COATED WITH A BITUMINOUS BASED DAMPPROOFING MATERIAL.
- STRUCTURES ARE DESIGNED FOR GROUNDWATER ELEVATIONS BASED ON INFORMATION PROVIDED IN THE GEOTECHNICAL REPORTS PREPARED BY GME CONSULTANTS, INC., SEE NOTE 3. ABOVE.
- ALL EXCAVATIONS MUST COMPLY WITH THE REQUIREMENTS OF OSHA 29 CFR, PART 1926, SUBPART P, "EXCAVATIONS AND TRENCHES."

STRUCTURAL NOTES, CONT.

CONCRETE

- CONCRETE WORK SHALL CONFORM TO LATEST EDITIONS OF "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318) AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301) AND ACI 350 "ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES"
- CONCRETE SHALL BE PROPORTIONED, MIXED AND PLACED UNDER THE SUPERVISION OF THE APPROVED TESTING AGENCY.
- CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI, UNLESS OTHERWISE NOTED.
- ALL CONCRETE SHALL BE AIR-ENTRAINED.
- CONCRETE SHALL BE CURED FOR A MINIMUM OF (7) SEVEN DAYS BEFORE ANY LOADS ARE APPLIED THERETO.
- CONSTRUCTION JOINTS SHALL BE PLACED AS SHOWN ON THE DRAWINGS. CHANGES SHALL NOT BE MADE WITHOUT APPROVAL OF THE ENGINEER.
- CONCRETE SHALL BE PLACED SO THAT SLAB THICKNESS IS AT NO POINT LESS THAN THAT INDICATED ON DRAWINGS.
- CONCRETE SLABS AND WALLS SHALL BE CAST ALTERNATELY OR IN A CHECKERBOARD PATTERN SO THAT SECTIONS ARE PLACED NO SOONER THAN 3 DAYS APART.
- PROVIDE A SMOOTH RUBBED SURFACE, FREE FROM BURRS, TIE HOLES, HONEYCOMBING, ETC. ON EXPOSED CONCRETE WALLS.
- PROVIDE A STEEL TROWEL FINISH FOR SLABS AT PITS AND A BROOM FINISH FOR EXPOSED SLABS.
- AT OPENINGS IN FOUNDATION WALLS LESS THAN 12 INCHES SQUARE, PROVIDE 2-#6S AT EACH EDGE OF OPENING.
- PORTLAND CEMENT TYPE II SHALL BE USED FOR ALL CONCRETE AND MAXIMUM W/C (WATER CEMENT RATIO) SHALL BE 0.45 AND A MAXIMUM WATER SOLUBLE CL-CONCENTRATION IN HARDENED CONCRETE OF 0.15% BY WEIGHT OF CEMENT.
- AT ALL CONSTRUCTION JOINTS EPOXY NEW CONCRETE TO HARDENED CONCRETE WITH SIKADUR 32, HI-MOD MANUFACTURED BY SIKACORP. OR ENGINEER APPROVED EQUIVALENT APPLY PER MANUFACTURER RECOMMENDATION.
- ELASTOMERIC SEALANT SHALL BE 'SIKA FLEX 1A' AS MANUFACTURED BY SIKACORP. OR ENGINEER APPROVED EQUIVALENT.
- ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" CHAMFER (TYP.)
- WHERE CONSTRUCTION JOINTS ARE NOT SHOWN, OR WHEN ALTERNATE LOCATIONS ARE PROPOSED, DRAWINGS SHOWING LOCATION OF CONSTRUCTION AND CONTROL JOINTS AND CONCRETE PLACING SEQUENCE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO PREPARATION OF THE REINFORCEMENT SHOP DRAWINGS.
- PROCESS AND ELECTRICAL DRAWINGS IDENTIFY AND LOCATE ALL EMBEDDED ITEMS (PIPES, SLEEVES, EQUIPMENT BOLTS, RAILINGS, LIFTING RINGS, FRAMES, ETC.) AND ARE TO BE USED IN CONJUNCTION WITH STRUCTURAL DRAWINGS DURING CONSTRUCTION.
- ALL EQUIPMENT ANCHOR BOLTS FURNISHED BY EQUIPMENT MANUFACTURER TO BE INSTALLED BY GENERAL CONTRACTOR, AND SHALL BE STAINLESS STEEL.

REINFORCING STEEL

- REINFORCING STEEL SHALL BE GRADE 60 NEW BILLET STEEL, CONFORMING TO ASTM A615. WELDED WIRE FABRIC SHALL BE ASTM A185.
- DETAILING, FABRICATION AND ERECTION OF REINFORCEMENT SHALL CONFORM TO LATEST EDITIONS OF "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318) AND "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI 315).
- MINIMUM LAP OF REINFORCING BARS SHALL BE 40 DIAMETERS, UNLESS SHOWN OTHERWISE.
- REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS.
- INSTALLATION OF REINFORCEMENT SHALL BE COMPLETED AT LEAST 24 HOURS PRIOR TO SCHEDULED CONCRETE PLACEMENT, UNLESS OTHERWISE APPROVED BY ENGINEER.
- MINIMUM CONCRETE COVER FOR REINFORCEMENT, UNLESS NOTED OTHERWISE, SHALL BE AS FOLLOWS:
A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH = 3.0"
B. CONCRETE EXPOSED TO EARTH OR WEATHER #6 THROUGH #18 BARS = 2.0"
#5 BAR W31 OR D31 WIRE, AND SMALLER = 1.5"
C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND #14 AND #18 BARS, SLABS, WALLS, JOISTS = 1.5"
#11 BAR AND SMALLER = 1.0"
D. BEAMS, COLUMNS: PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS = 2.0"
E. OTHER = 1.5"
- PROVIDE AND SCHEDULE ON SHOP DRAWINGS THE NECESSARY ACCESSORIES TO HOLD REINFORCEMENT SECURELY IN POSITION. MINIMUM REQUIREMENTS SHALL BE HIGH CHAIRS, 4'-0" O.C. WITH CONTINUOUS #5 SUPPORT BAR, SLAB BOLSTERS, CONTINUOUS AND 3'-6" O.C. BEAM BOLSTERS, 5'-0" O.C. ALL CHAIRS SHALL BE GALVANIZED AND SHALL BE USED AGAINST ALL FORMS (SLABS, WALLS, PILASTERS, ETC.)
- WHERE CONTINUOUS REINFORCEMENT IS CALLED FOR IT SHALL BE EXTENDED CONTINUOUS AROUND CORNERS AND LAPPED AT NECESSARY SPLICES OR HOOKED AT DISCONTINUOUS ENDS. LAPS SHALL BE CLASS B TENSION LAP SPLICES UNLESS NOTED OTHERWISE.
- WHERE REINFORCEMENT IS REQUIRED IN SECTION, REINFORCEMENT IS CONSIDERED TYPICAL WHEREVER THE SECTION APPLIES.
- WELDED WIRE FABRIC SHALL LAP 6" OR ONE SPACE, WHICHEVER IS LARGER, AND SHALL BE WIRED TOGETHER.
- REINFORCEMENT SHALL NOT BE TACK WELDED.

STRUCTURAL NOTES, CONT.

STEEL

- STRUCTURAL STEEL IS DESIGNED IN ACCORDANCE WITH AND WORK SHALL CONFORM TO THE LATEST EDITIONS OF "SPECIFICATIONS FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" (AISC), "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" (AISC) AND "STRUCTURAL WELDING CODE- STEEL (AWS.)" STRUCTURAL STEEL SHALL BE NEW STEEL CONFORMING TO ASTM A36, F_y = 36 KSI, UNLESS OTHERWISE NOTED.
- TUBE STEEL SECTIONS SHALL BE ASTM A500 GRADE B, F_y = 46 KSI.
- CONNECTIONS:
A. BEAM CONNECTIONS SHALL BE TYPE-3 "SEMI-RIGID FRAMING" (PARTIAL RESTRAINED), UNLESS NOTED OTHERWISE. REFER TO AISC SPECIFICATIONS AND PROVIDE DETAILS FOR REVIEW AND APPROVAL.
B. CONNECTIONS SHALL BE BOLTED OR WELDED OR BOTH, AND FABRICATOR SHALL SUBMIT PROPOSED CONNECTION DETAILS FOR APPROVAL PRIOR TO FABRICATION.
C. BOLTED CONNECTIONS SHALL BE MADE WITH 3/4" DIAMETER 316 STAINLESS STEEL OR A325 HOT DIP GALVANIZED AS NOTED IN DETAIL.
D. WELDED CONNECTIONS SHALL BE MADE BY A CERTIFIED WELDER IN ACCORDANCE WITH AWS D.1.1, USING CLASS E70 SERIES ELECTRODES. WELDS SHALL DEVELOP THE FULL STRENGTH OF THE MATERIALS BEING WELDED.
E. COLUMN ANCHOR BOLTS SHALL BE STAINLESS STEEL TYPE 316.
- ALL STEEL COMPONENTS AND FITTINGS EXPOSED TO WEATHER IN THEIR FINAL STATE SHALL BE HOT DIPPED GALVANIZED. ANCHOR BOLTS AND BEARING PLATES SHALL BE LOCATED BY TEMPLATES OR SIMILAR METHOD. PLATES SHALL BE SET IN FULL BEDS OF NON-SHRINK GROUT. BOTTOM OF BASE PLATES SHALL BE SET APPROXIMATELY 3/4" ABOVE TOP OF BEARING. RESULTING SPACE SHALL BE FILLED WITH DRY PACKED NON-SHRINK GROUT.
- STEEL FRAMING SHALL BE TRUED AND PLUMB BEFORE CONNECTIONS ARE PERMANENTLY BOLTED OR WELDED.
- TEMPORARY ERECTION BRACING AND SUPPORTS SHALL BE PROVIDED TO HOLD STRUCTURAL STEEL FRAMING SECURELY IN POSITION. SUCH TEMPORARY BRACING AND SUPPORTS SHALL NOT BE REMOVED UNTIL PERMANENT BRACING HAS BEEN INSTALLED AND FLOOR SLABS HAVE ATTAINED 75% OF SPECIFIED CONCRETE STRENGTH.
- MILLED STIFFENERS SHALL BE PROVIDED UNDER ALL LOAD CONCENTRATIONS ON SUPPORTING MEMBERS OVER ALL COLUMNS AND WHERE SHOWN ON THE DRAWINGS.
- *** WELDING SHALL BE INSPECTED IN THE FIELD BY QUALIFIED WELDING INSPECTORS UNDER THE SUPERVISION OF AN APPROVED TESTING AGENCY.
- FIELD CUTTING OR ANY OTHER FIELD MODIFICATIONS OF STRUCTURAL STEEL SHALL NOT BE MADE WITHOUT APPROVAL FROM ENGINEER FOR EACH SPECIFIC CASE.
- ALL EXPOSED STRUCTURAL STEEL SHALL BE HOT DIPPED GALVANIZED (2 OZ./SQ. FT.) AFTER FABRICATION IN COMPLIANCE WITH ASTM-123, A153 OR A386 AS APPLICABLE. GALVANIZER SHALL FURNISH TO ENGINEER A NOTARIZED CERTIFICATE OF COMPLIANCE WITH THESE SPECIFICATIONS.

NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION
REVISIONS				

DRAWN BY	RAC
DEPT. CHECK	RSW
PROJ. CHECK	JF

BETA ENGINEERING, INC.
Engineers/Planners

SCALE: NONE

LIFT STATION NO. 5,6,&7
SUPERIOR, WISCONSIN
GENERAL NOTES
STRUCTURAL

JOB: 632
DATE: JUNE 26, 1996
FILE: 632ST8.DWG
SHEET: ST-8

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

CITY OF SUPERIOR
DEPARTMENT OF PUBLIC WORKS

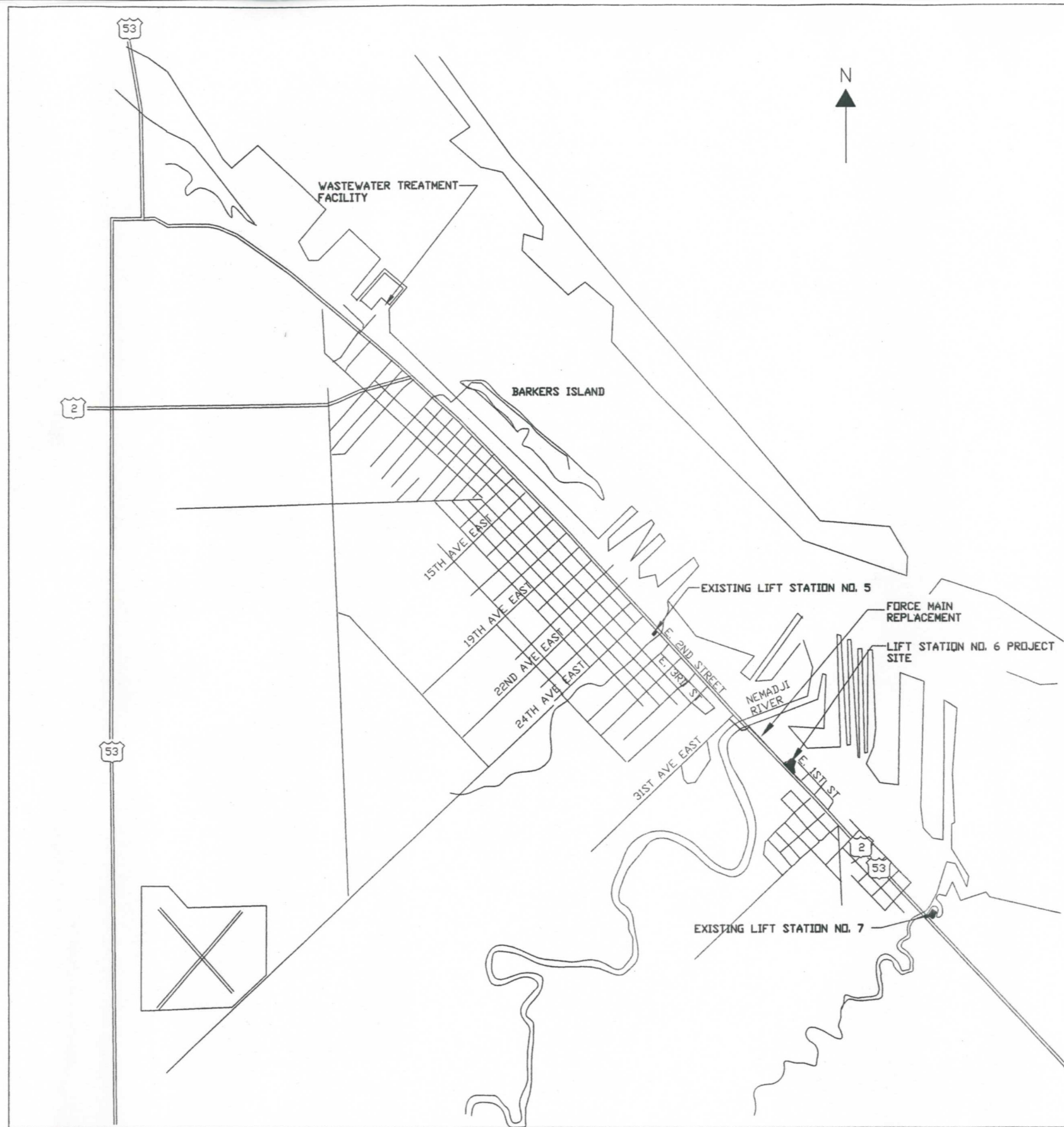
JEFF VITO, DIRECTOR, PUBLIC WORKS
DAN ROMANS, ADMINISTRATOR, WASTEWATER DIVISION
STEVE ROBERTS, TECHNICAL COORDINATOR, WASTEWATER DIVISION

LIFT STATION NO. 6, COLLECTION SYSTEM AND
STORAGE IMPROVEMENTS

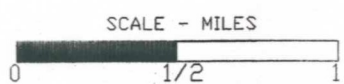
FEBRUARY 2004

PREPARED BY:
RMA ENGINEERING COMPANY
DULUTH, MN

Half Size



LOCATION MAP



LIST OF CONTRACT DRAWINGS

<u>SHEET NO.</u>	<u>TITLE</u>
	COVER SHEET
G-1	LOCATION MAP AND DRAWING INDEX
G-2	HYDRAULIC PROFILE
G-3	PIPE AND EQUIPMENT SCHEDULES
G-4	REAL ESTATE PLAN
C-1	SITE PLAN
C-2	EARTHWORK PLAN AND CROSS SECTIONS
C-3	UNDERDRAIN PLAN AND SECTIONS
C-4	SEWER LINE MODIFICATIONS, PLAN AND PROFILE
C-5	MISCELLANEOUS DETAILS
S-1	STRUCTURAL PLAN
S-2	SETTLING BASIN SECTIONS
S-3	LIFT STATION SECTIONS
S-4	STORAGE POND RETAINING WALL SECTIONS
S-5	ACCESS LOT RETAINING WALL
S-6	STRUCTURAL DETAILS-1
S-7	STRUCTURAL DETAILS-2
S-8	STRUCTURAL NOTES
M-1	LIFT STATION PLANS
M-2	LIFT STATION SECTION
M-3	DIVERSION BOX AND GATES
M-4	LIFT STATION #6 DRAIN SUMP AND LIFT STATIONS #5 AND #7 MECHANICAL IMPROVEMENTS
E-1	ELECTRICAL PLAN
E-2	ELECTRICAL DETAILS

Half Size

REVISIONS				
NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN

Rideal Anthony

REG. NO. 25488 DATE: AUGUST 4, 2003

DRAWN BY: RMA & JDC
 CHECKED BY: RMA
 DEPT. CHECK: _____

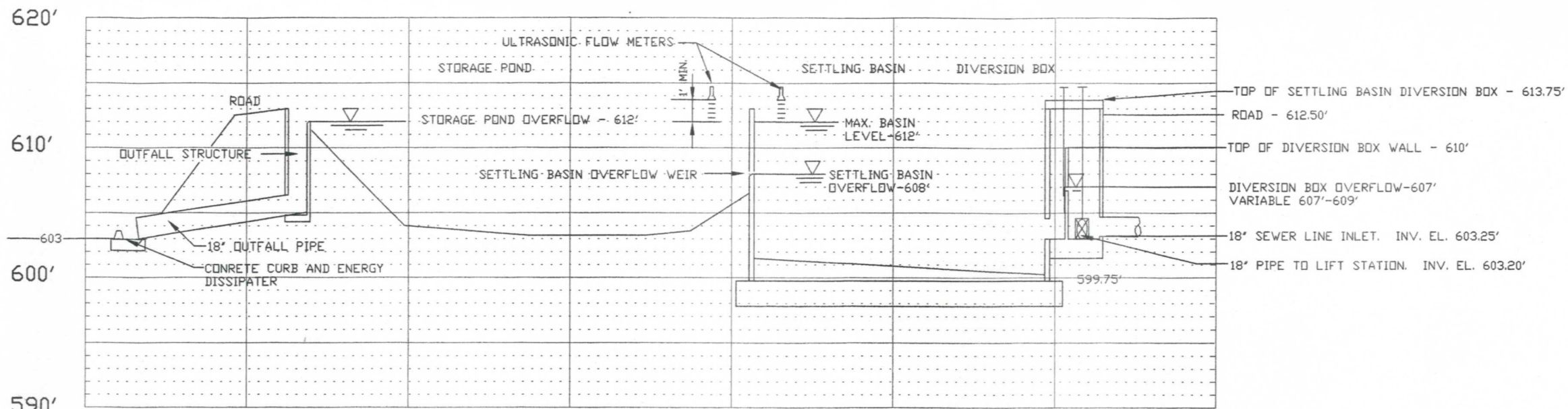
SCALE: _____

RMA ENGINEERING COMPANY
 CONSULTING ENGINEERS

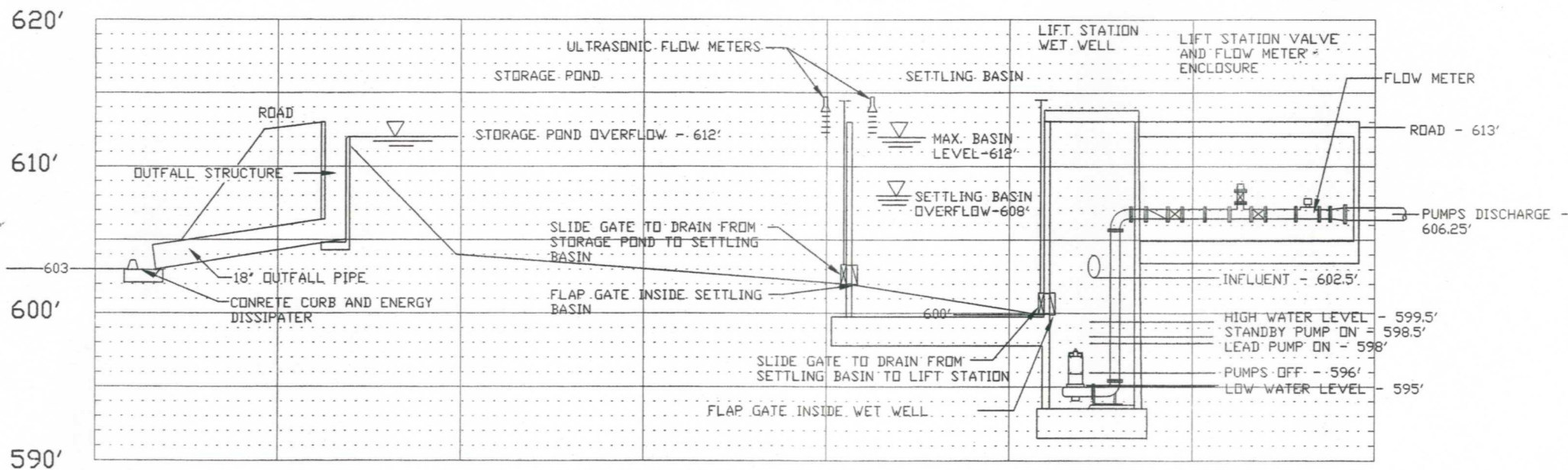
CITY OF SUPERIOR,
 DEPARTMENT OF PUBLIC
 WORKS

LIFT STATION #6, COLLECTION SYSTEM
 AND STORAGE IMPROVEMENTS
 LOCATION MAP AND DRAWING INDEX

PROJ. JOB NO. _____
 SHEET NO. G-1



SECTION 1 - FLOW INTO SETTLING BASIN AND STORAGE POND



SECTION 2 - DRAIN FROM STORAGE POND THROUGH SETTLING BASIN TO LIFT STATION

STORAGE VOLUMES CUBIC FEET

ELEVATION	SETTLING BASIN	STORAGE POND	TOTAL
608'	25,200	103,500	128,700
612'	39,600	223,300	262,900

LIFT STATION NO. 6 HYDRAULIC PROFILE

NO HORIZONTAL SCALE
VERTICAL SCALE 1" = 5'

Half Size

REVISIONS				
NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION
1	02/18/04	RMA		SUPERIOR REVIEW REVISIONS
2	12/08/04	RMA		ADDENDUM NO. 1

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN
Richard Anthony
REG. NO. 25488 DATE: AUGUST 4, 2003

DRAWN BY: RMA & JDC
CHECKED BY: RMA
DEPT. CHECK: _____

SCALE: AS SHOWN

RMA ENGINEERING COMPANY
CONSULTING ENGINEERS

CITY OF SUPERIOR,
DEPARTMENT OF PUBLIC
WORKS

LIFT STATION #6 AND STORAGE
IMPROVEMENTS
HYDRAULIC PROFILE

PROJ. JOB NO. _____

SHEET NO. G-2

UNDERGROUND PIPE SCHEDULE

FUNCTION	MATERIAL	DIAMETER ID, INCHES	LENGTH FEET	SHEET NO.
GRAVITY SEWER PIPE	PVC, SDR 35	18	606	C-4
GRAVITY SEWER PIPE	RCP, CLASS 3	18	35	C-4
GRAVITY SEWER PIPE	D.I., CLASS 50	8	20	C-5
SEWER FORCE MAIN	D.I., CLASS 50	6	38	M-1, M-2
SEWER FORCE MAIN	D.I., CLASS 50	8	145	C-4
SEWER FORCE MAIN	HDPE, SDR 11	8	2,033	C-4
CASING PIPE	STEEL	30	190	C-4
GRAVITY STORM WATER PIPE	RCP, CLASS 3	24	165	C-1
GRAVITY STORM WATER PIPE	RCP, CLASS 3	12	60	C-1
PERFORATED UNDERDRAIN PIPE	PERFORATED PVC, SDR-35	4	2,110	C-3
UNDERDRAIN PIPE	PVC, SDR 35	4	60	C-3
PERFORATED DRAIN PIPE WRAPPED WITH GEOTEXTILE FABRIC	PERFORATED PVC, SDR 35	4	950	C-3
PERFORATED UNDERDRAIN PIPE	PERFORATED PVC, SDR 35	10	265	C-3
DRAIN WATER FORCE MAIN	DI, CLASS 50	3	142	C-3
STORAGE POND OVERFLOW PIPE	RCP, CLASS 3	18	69	C-1
WET WELL VENT	SCH. 40 STEEL	6	30	M-1, M-2, M-4
VALVE PIT DRAIN	SCH. 40 STEEL	3	13	M-1, M-2

MANHOLE SCHEDULE

STRUCTURE NO.	TYPE	DIAMETER FEET	TOP OF COVER ELEVATION	INVERT ELEVATION FT	INLET PIPE	OUTLET PIPE	SHEET NO.
MHO70087	SANITARY SEWER	4	626.0		20" RCP	8" DI	C-5
MHO70002	SANITARY SEWER	4	626.1	607.75	18" PVC	18" PVC	C-4, C-5
MHO70001	SANITARY SEWER	4	625.0	607.41	18" PVC	30" STEEL CASING 18" PVC CARRIER	C-4
MHO70001A	SANITARY SEWER	4	617.1	606.30	30" STEEL CASING 18" PVC CARRIER	18" PVC	C-4
MHO70001B	SANITARY SEWER	4	612.5	603.4	18" PVC	18" RCP	C-4
MHO70001C	SANITARY SEWER	4	612.5	602.7	18" RCP	18" RCP	C-4
	STORM WATER	4	613.5	603.5	24" RCP	24" RCP	C-1
	DRAIN PUMP WET WELL	5	612.5	592.0	4" PVC	3" DI	C-3, M-4
	DRAIN PUMP VALVE MH	4	612.5	604.0	3" DI	3" DI	C-3, M-4

VALVE SCHEDULE

LOCATION/FUNCTION	TYPE	NO.	SIZE IN.	MATERIAL	SHEET NO.
PUMP FORCE MAIN	PLUG	3	6	CAST IRON	M-1, M-2
QUICK DISCONNECT	PLUG	1	4	CAST IRON	M-2
PUMP FORCE MAIN	CHECK	2	6	CAST IRON	M-1, M-2
VALVE PIT DRAIN	BACKWATER PREVENTER	1	3	PVC	M-1, M-2
DRAIN PUMP FORCEMAIN	CHECK	1	3	CAST IRON	M-4
POND DRAIN PIPE	PRESSURE RELIEF	3	4	CAST IRON	C-3

DAVIT CRANE

EQUIP. NO.	NUMBER	MODEL	MANUFACTURER	REMARKS
	1	571	THERN	TAKE-UP MODEL: M431 IP B-A PEDESTAL BASE

PUMP SCHEDULE

EQUIPMENT NO.	NUMBER OF UNITS	NAME	LOCATION	TYPE	RATING POINT				MIN. SUCTION/DISCHARGE SIZE (IN.)	PUMP RPM MAX.	SEAL TYPE	MOTOR DATA			DRIVE TYPE	REMARKS
					CAPACITY (GPM)	HEAD (FEET)	MIN. EFF. %	SHUTOFF HEAD (FT.)				HP	RPM (MAX.)	ENCL. TYPE		
	2	WASTEWATER PUMPS	LS#6 WET WELL	WET-PIT SUBMERSIBLE	800	64	60	98	6	1750	MECH SEAL	25	1750	SUBMERSIBLE EXPL. PROOF	CLOSE COUPLED	FLYGT MODEL CP-3152, IMPELLER 454 (ONE PUMP SHALL HAVE THE FLYGT MIX VALVE INSTALLED)
	2	DRAIN PUMP	DRAIN SUMP	WET-PIT SUBMERSIBLE	140	40	50	58	2	1840	MECH SEAL	4	1840	SUBMERSIBLE	CLOSE COUPLED	FLYGT MODEL CP-3068, IMPELLER 255. ONE PUMP IS INSTALLED, THE SECOND PUMP IS A SPARE.

GATE SCHEDULE

EQUIPMENT NO.	NUMBER OF UNITS	LOCATION	GATE TYPE	GATE SIZE W(IN.) X H(IN.)	REMARKS	SHEET NO.
WG-300	1	DIVERSION BOX	WEIR	72 X 24	FONTAINE: MODEL 422-72X42-L-CW	M-3
SG-300	1	DIVERSION BOX	SLIDE	20 X 20	FONTAINE: MODEL 222-24X24-L-CW	M-3
SG-301	1	WET WELL	SLIDE	24 X 24	FONTAINE: MODEL 223-24X24-L-CW	M-2
SG-302	1	SETTLING BASIN	SLIDE	24 X 24	FONTAINE: MODEL 223-24X24-L-CW	M-3
FG-301	1	WET WELL	FLAP	24 X 24	FONTAINE	M-2
FG-300	1	SETTLING BASIN	FLAP	24 X 24	FONTAINE	M-3

ALUMINUM ACCESS DOORS

LOCATION	HATCH SIZE INCHES	LOADING CAPACITY	REMARKS	SHEET NO.
WET WELL	36 X 24 36 X 48 36 X 36	300 P.S.F LIVE LOAD		M-1
VALVE PIT	24 X 36	H-20 WHEEL LOADING		M-1
VALVE PIT	24 X 24	H-20 WHEEL LOADING		M-1
DIVERSION BOX	24 X 24	300 P.S.F. LIVE LOAD		M-3
DIVERSION BOX	24 X 24	300 P.S.F. LIVE LOAD		M-3

NOTES

- UNDERGROUND PIPE SCHEDULES DO NOT INCLUDE PIPE FITTINGS, BENDS OR MISCELLANEOUS CONNECTORS TO BE PROVIDED AS SHOWN ON THE PLANS.

Half Size

NO.	DATE	MADE BY	CHECKED BY	DESCRIPTION
1	12/8/03	RMA		SCHEDULE REVISIONS
2	02/18/04	RMA		SUPERIOR REVIEW REVISIONS
3	10/27/04	RMA		REVIEW REVISIONS
4	12/08/04	RMA		ADDENDUM NO. 1

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN
Richard Anthony
 REG. NO. 25488 DATE: AUGUST 4, 2003

DRAWN BY: RMA & JDC
 CHECKED BY: RMA
 DEPT. CHECK: _____

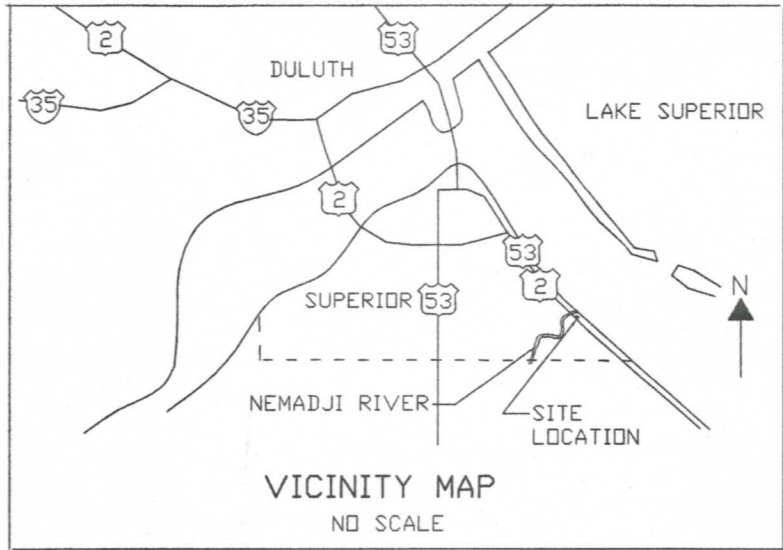
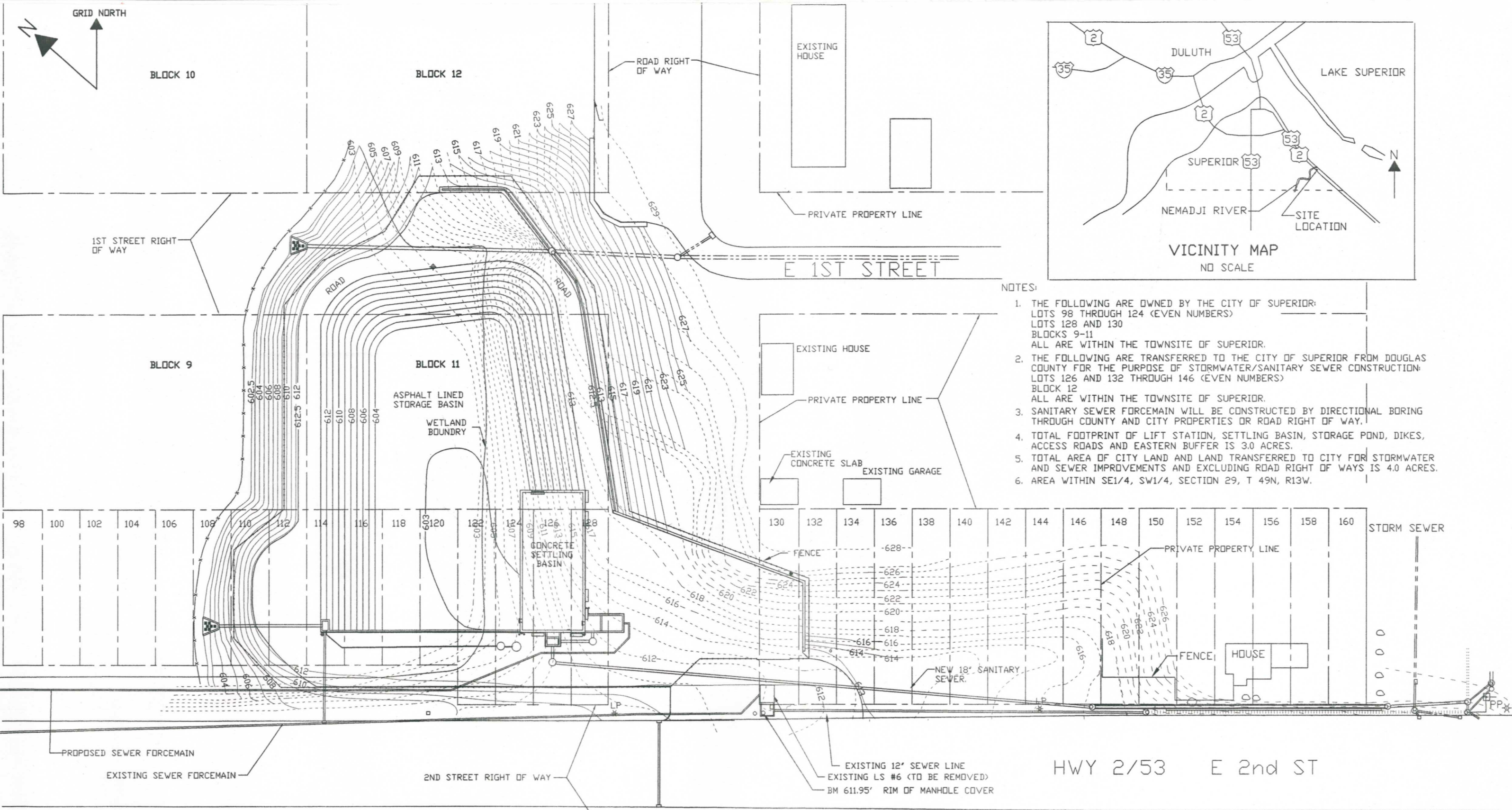
SCALE: _____

**RMA ENGINEERING COMPANY
CONSULTING ENGINEERS**

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

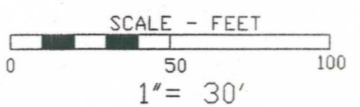
**LIFT STATION #6, COLLECTION SYSTEM
AND STORAGE IMPROVEMENTS
PIPE AND EQUIPMENT SCHEDULES**

PROJ. JOB NO. _____
 SHEET NO. **G-3**



- NOTES:
- THE FOLLOWING ARE OWNED BY THE CITY OF SUPERIOR:
LOTS 98 THROUGH 124 (EVEN NUMBERS)
LOTS 128 AND 130
BLOCKS 9-11
ALL ARE WITHIN THE TOWNSHIP OF SUPERIOR.
 - THE FOLLOWING ARE TRANSFERRED TO THE CITY OF SUPERIOR FROM DOUGLAS COUNTY FOR THE PURPOSE OF STORMWATER/SANITARY SEWER CONSTRUCTION:
LOTS 126 AND 132 THROUGH 146 (EVEN NUMBERS)
BLOCK 12
ALL ARE WITHIN THE TOWNSHIP OF SUPERIOR.
 - SANITARY SEWER FORCEMAIN WILL BE CONSTRUCTED BY DIRECTIONAL BORING THROUGH COUNTY AND CITY PROPERTIES OR ROAD RIGHT OF WAY.
 - TOTAL FOOTPRINT OF LIFT STATION, SETTLING BASIN, STORAGE POND, DIKES, ACCESS ROADS AND EASTERN BUFFER IS 3.0 ACRES.
 - TOTAL AREA OF CITY LAND AND LAND TRANSFERRED TO CITY FOR STORMWATER AND SEWER IMPROVEMENTS AND EXCLUDING ROAD RIGHT OF WAYS IS 4.0 ACRES.
 - AREA WITHIN SE1/4, SW1/4, SECTION 29, T 49N, R13W.

SITE PLAN



Half Size

REVISIONS				
NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN

Richard Anthony

REG. NO. 25488 DATE: AUGUST 4, 2003

DRAWN BY: RMA & JDC
CHECKED BY: RMA
DEPT. CHECK: _____

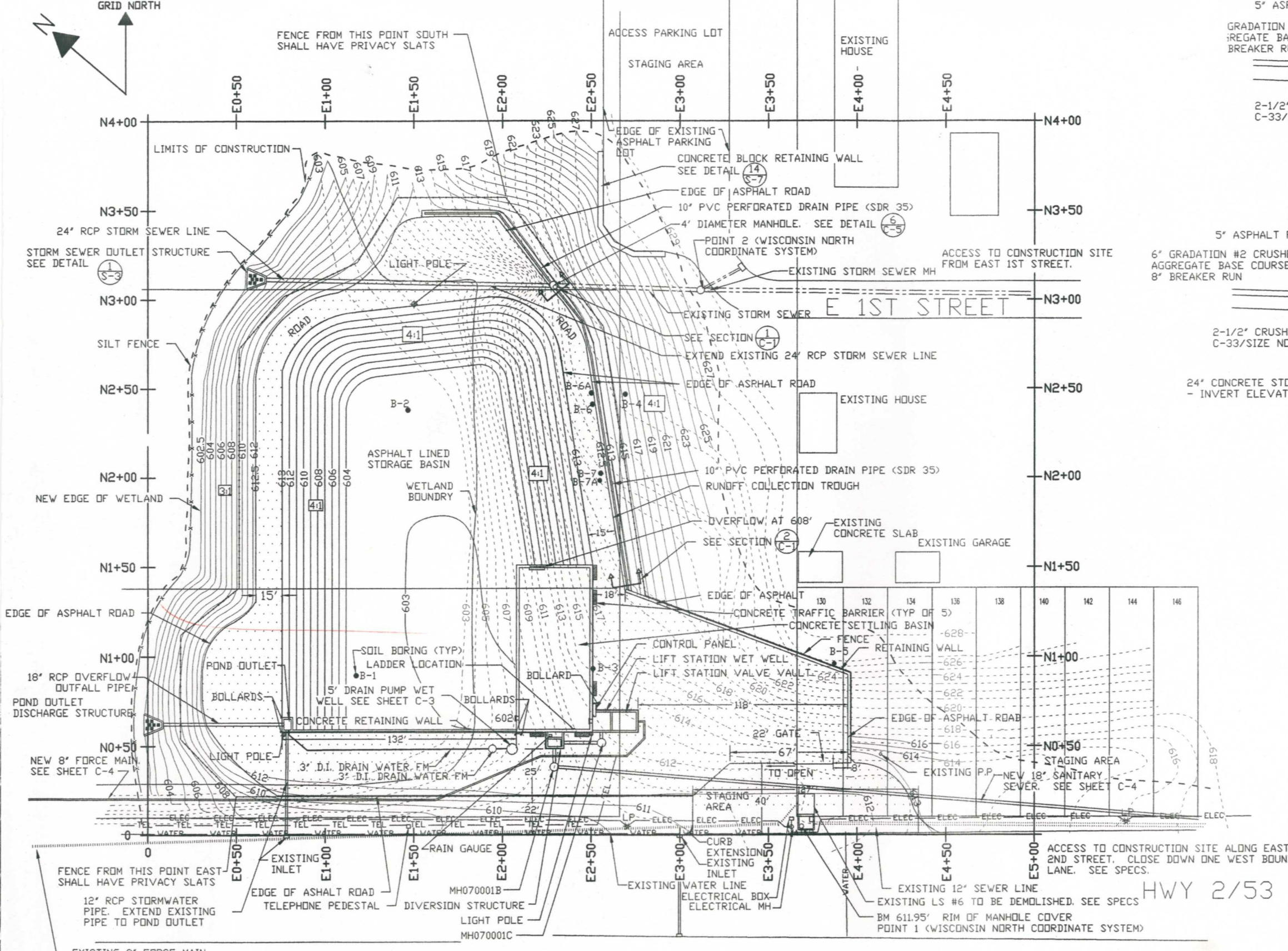
SCALE: AS SHOWN

RMA ENGINEERING COMPANY
CONSULTING ENGINEERS

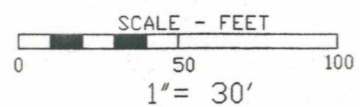
CITY OF SUPERIOR,
DEPARTMENT OF PUBLIC WORKS

LIFT STATION #6, COLLECTION SYSTEM AND STORAGE IMPROVEMENTS
REAL ESTATE PLAN

PROJ. JOB NO. _____
SHEET NO. G-4

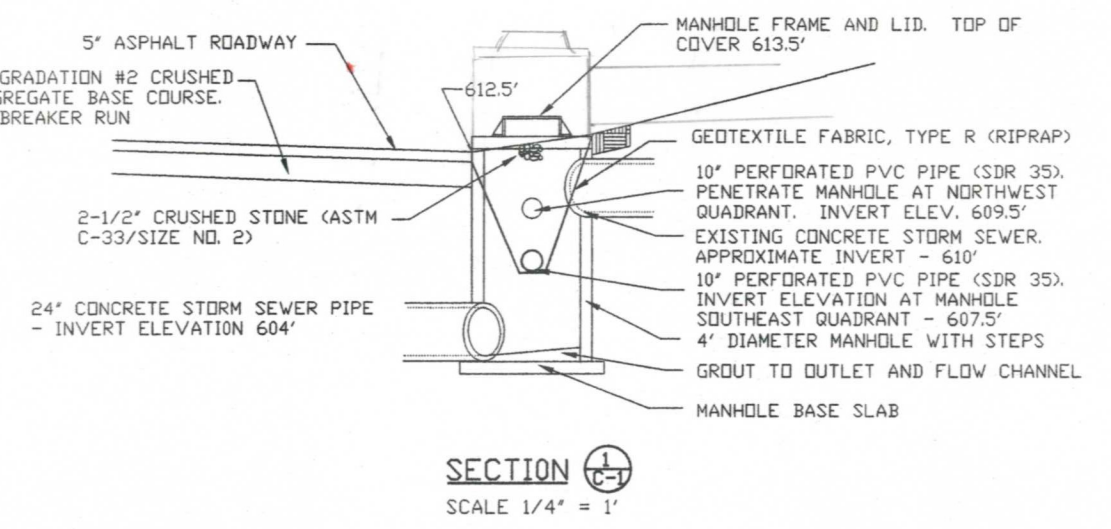
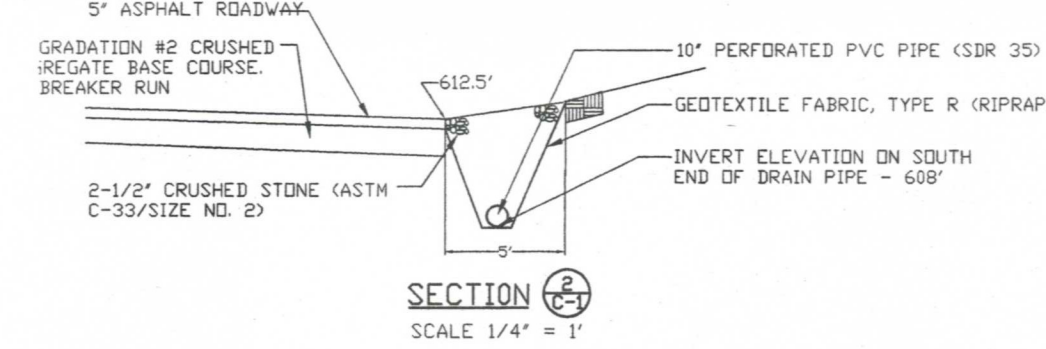


SITE PLAN



EXISTING UTILITIES LEGEND

---	WATER
---	TEL
---	ELEC
---	GAS



EROSION CONTROL NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL ON THIS PROJECT. CONTRACTOR SHALL CONSTRUCT OR INSTALL EROSION CONTROL AND SEDIMENT CONTAINMENT DEVICES TO PREVENT THE RUNOFF, TRACKING OR LOSS OF SEDIMENT FROM DISTURBED AREAS ON THE PROJECT SITE. EXPOSED AREAS SHALL DRAIN TO PROTECTED BASINS OR SILT FENCE.
2. SEDIMENT AND EROSION CONTROL DEVICES SHALL BE IN PLACE BEFORE SITE IS DISTURBED.
3. IF ANY STOCKPILING IS TO REMAIN IN PLACE FOR MORE THAN 3 DAYS, EROSION CONTROL AND SEDIMENT CONTAINMENT DEVICES SHALL BE INSTALLED AND SHALL BE INCIDENTAL.
4. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT SOIL TRACKING ONTO ROADWAYS. ALL DEBRIS TRACKED ONTO PAVED SURFACES SHALL BE REMOVED PRIOR TO THE END OF THE WORKING DAY.
5. STABILIZED CONSTRUCTION ENTRANCES SHALL BE REMOVED AND AREA RESTORED AFTER GRADING IS COMPLETE.
6. THE CONTRACTOR SHALL MAINTAIN THE SEDIMENT AND EROSION CONTROL DEVICES UNTIL THE SITE IS STABILIZED.
7. THE CONTRACTOR SHALL REMOVE SEDIMENT DEPOSITS AFTER COMPLETION OF CONSTRUCTION.

WISCONSIN NORTH COORDINATE SYSTEM

POINT NO.	NORTHING	EASTING
1	563152.65	1459131.8
2	563388.25	1459326.51

GENERAL NOTES

1. TRAFFIC BARRIERS - FINISH CONCRETE SMOOTH AND PAINT YELLOW.
2. BOLLARDS - FINISH CONCRETE SMOOTH AND PAINT YELLOW.
3. CONCRETE LIGHT PEDESTALS - FINISH CONCRETE SMOOTH AND PAINT YELLOW.

Half Size

REVISIONS

NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION
1	12/8/03	RMA		GENERAL REVISIONS
2	02/18/04	RMA		SUPERIOR REVIEW REVISIONS
3	11/01/04	RMA		SUPERIOR REVIEW REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN

Richard Anthony

REG. NO. 25488 DATE: AUGUST 4, 2003

DRAWN BY: RMA & JDC
CHECKED BY: RMA
DEPT. CHECK: _____

SCALE: AS SHOWN

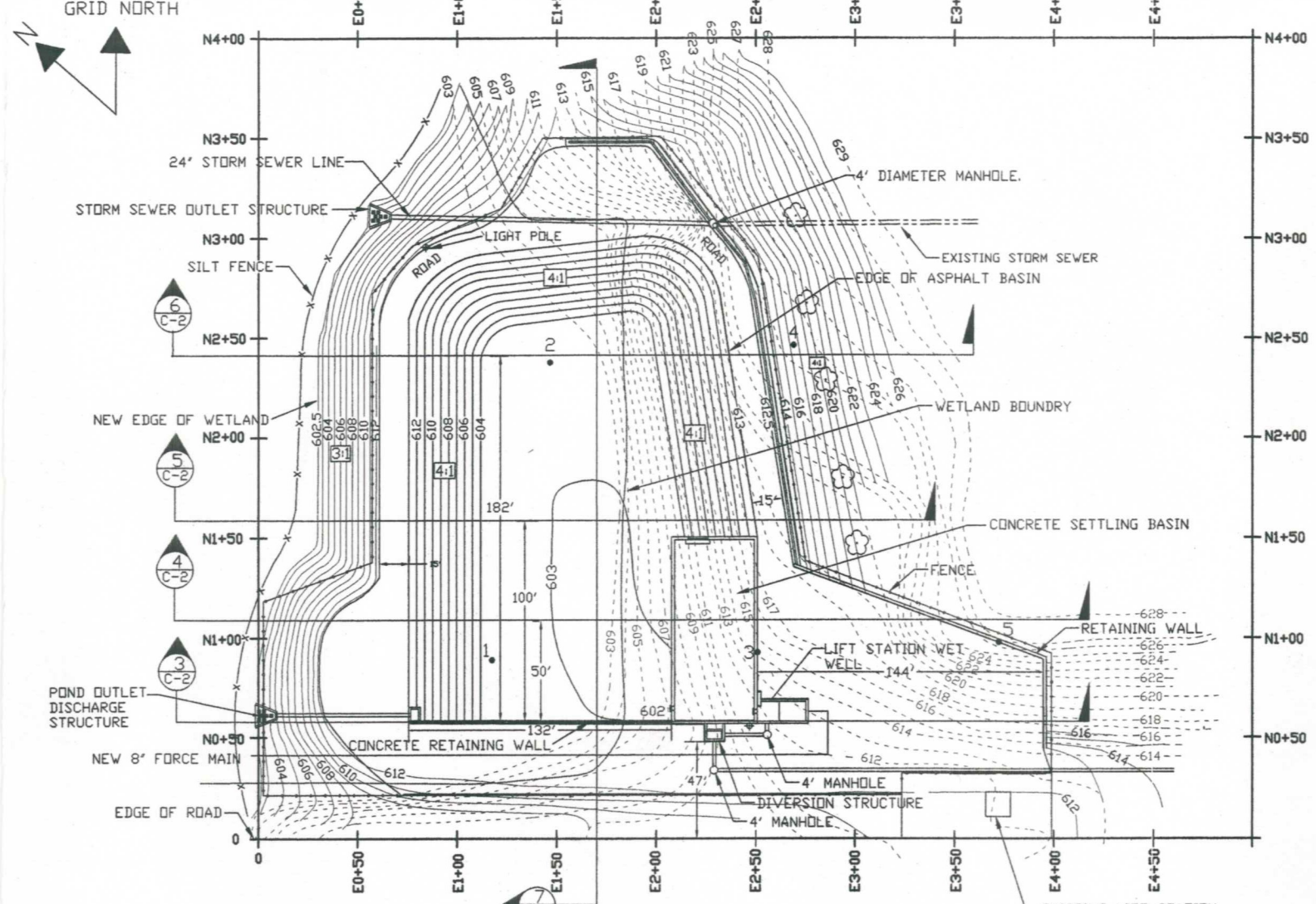
RMA ENGINEERING COMPANY
CONSULTING ENGINEERS

CITY OF SUPERIOR,
DEPARTMENT OF PUBLIC WORKS

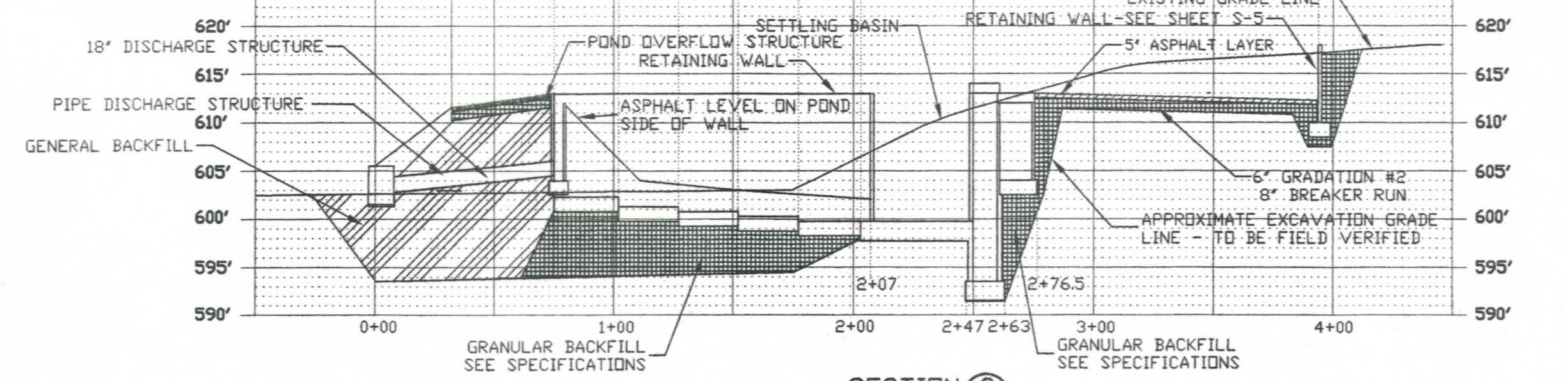
LIFT STATION #6, COLLECTION SYSTEM AND STORAGE IMPROVEMENTS

SITE PLAN

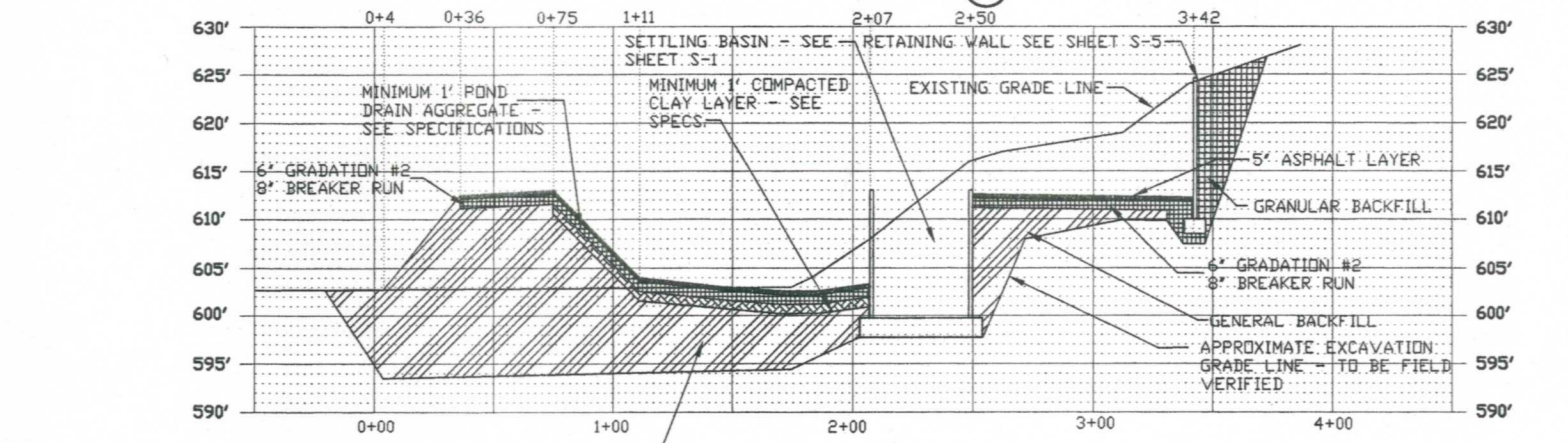
PROJ. JOB NO. _____
SHEET NO. **C-1**



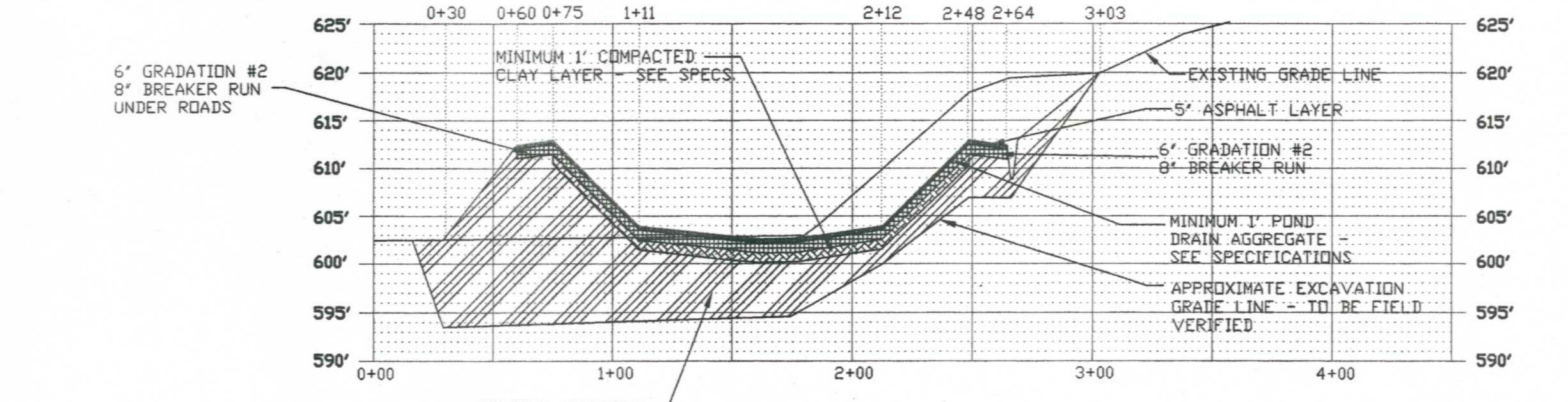
SCHMATIC PLAN
SCALE 1"=40'



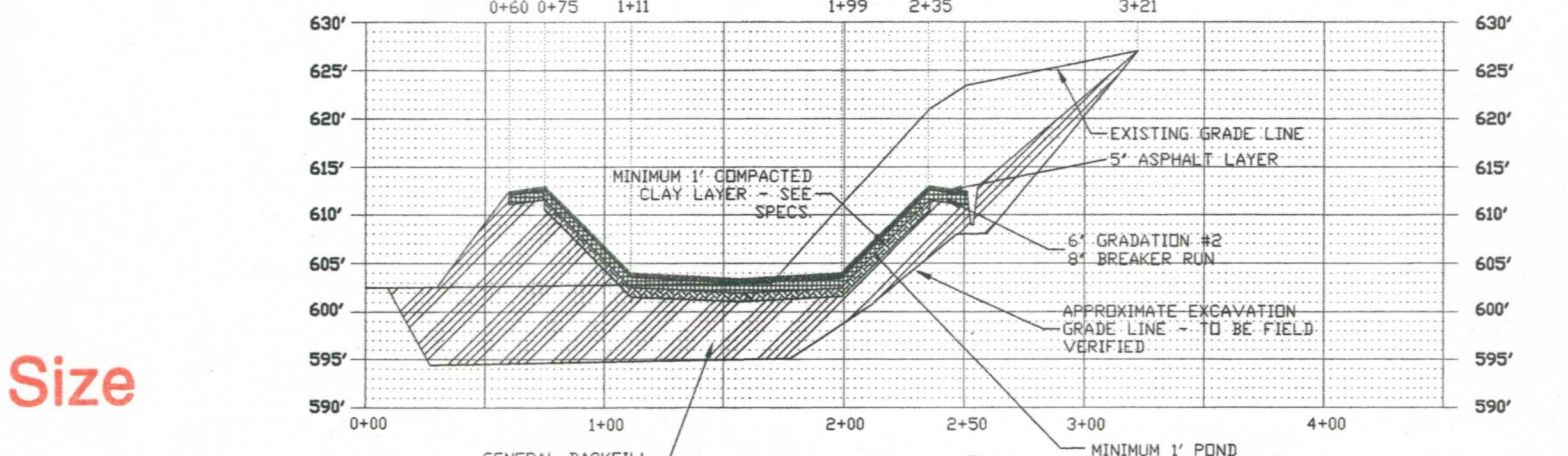
SECTION 3
C-2



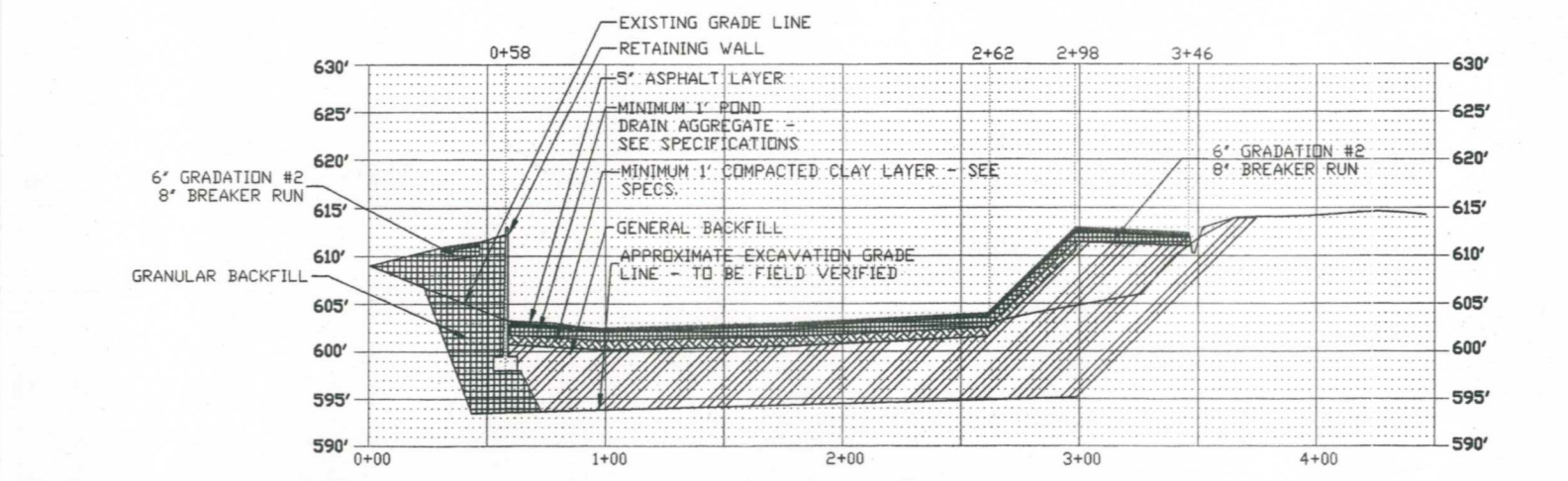
SECTION 4
C-2



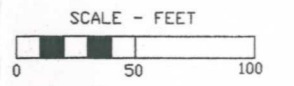
SECTION 5
C-2



SECTION 6
C-2



SECTION 7
C-2



HORIZONTAL SCALE ON CROSS SECTIONS 1" = 40'
VERTICAL SCALE ON CROSS SECTIONS 1" = 10'

NOTE: MATERIAL NOTED AS GENERAL BACKFILL WILL BE USED AS FILL MATERIAL FOR UNSUITABLE SOILS REMOVED FROM THE SITE. THE INITIAL TWO FEET OF THE FILL SHALL BE GRANULAR MATERIAL TO PROVIDE A GOOD BASE AND TO PROVIDE DRAINAGE TO FACILITATE DEWATERING. GRANULAR MATERIAL SHALL CONFORM TO GRANULAR BACKFILL LISTED IN THE SPECIFICATIONS. SUITABLE BACKFILL CAN BE USED FOR THE REMAINDER OF THE FILL. PROVIDE COMPACTION IN ACCORDANCE WITH THE SPECIFICATIONS.

Half Size

REVISIONS				
NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION
1	12/8/03	RMA		GENERAL REVISIONS
2	02/18/04	RMA		SUPERIOR REVIEW REVISIONS
3	11/01/04	RMA		GENERAL REVIEW REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN.
Richard Anthony
REG. NO. 25488 DATE: AUGUST 4, 2003

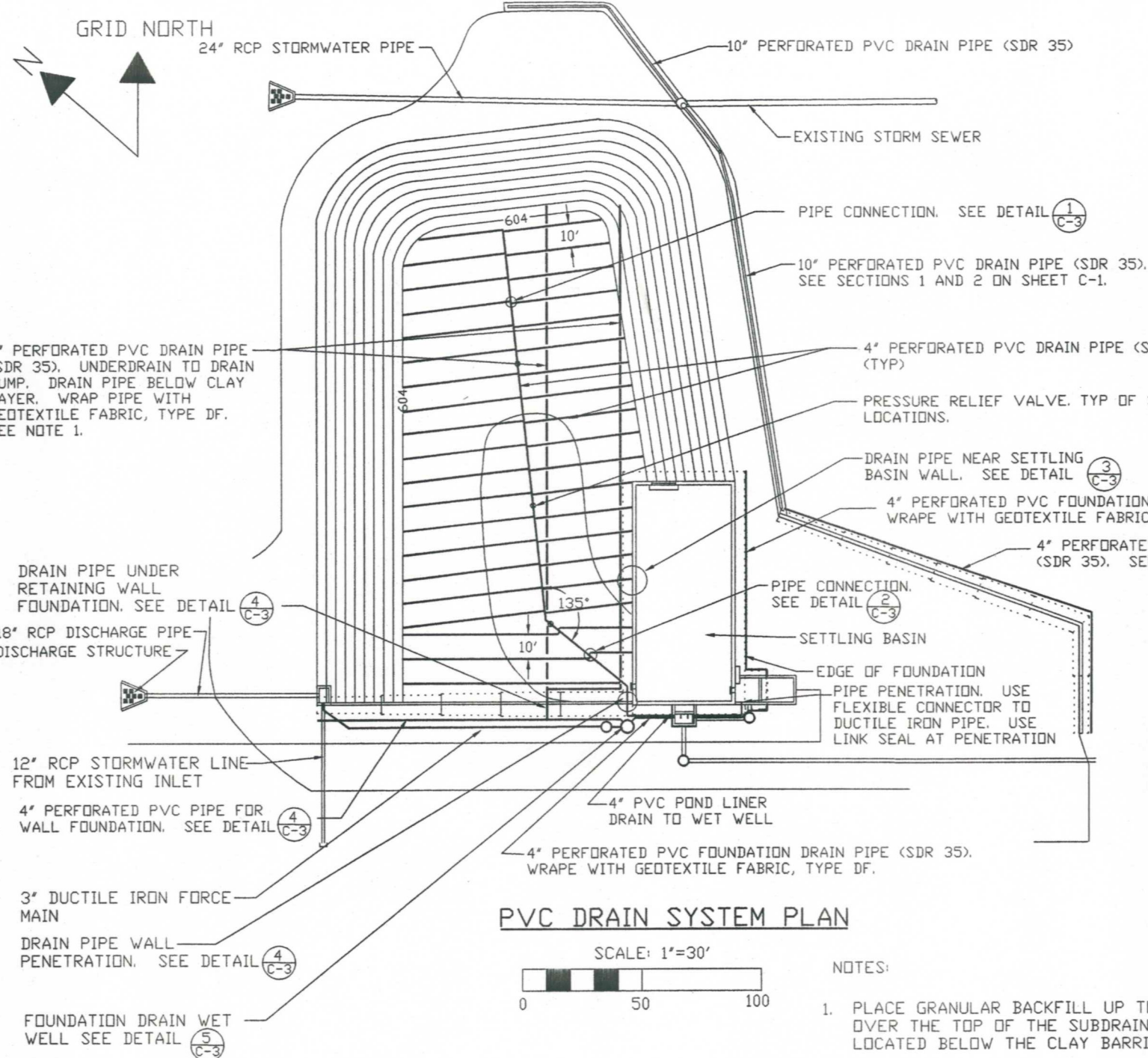
DRAWN BY: RMA & JDC
CHECKED BY: RMA
DEPT. CHECK: _____
SCALE: AS SHOWN

RMA ENGINEERING COMPANY
CONSULTING ENGINEERS

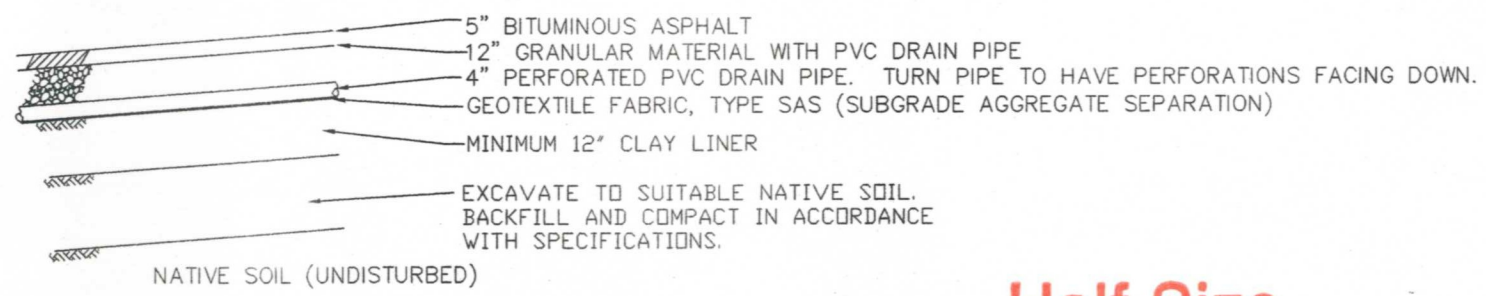
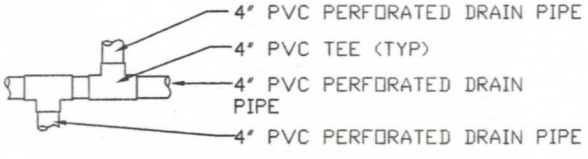
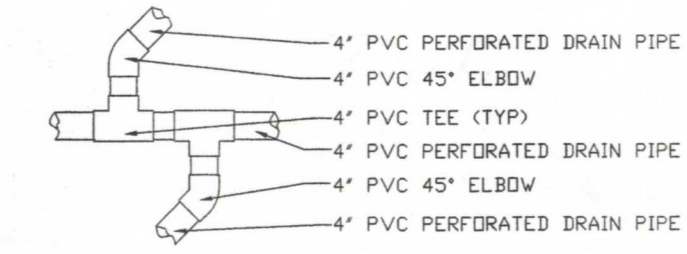
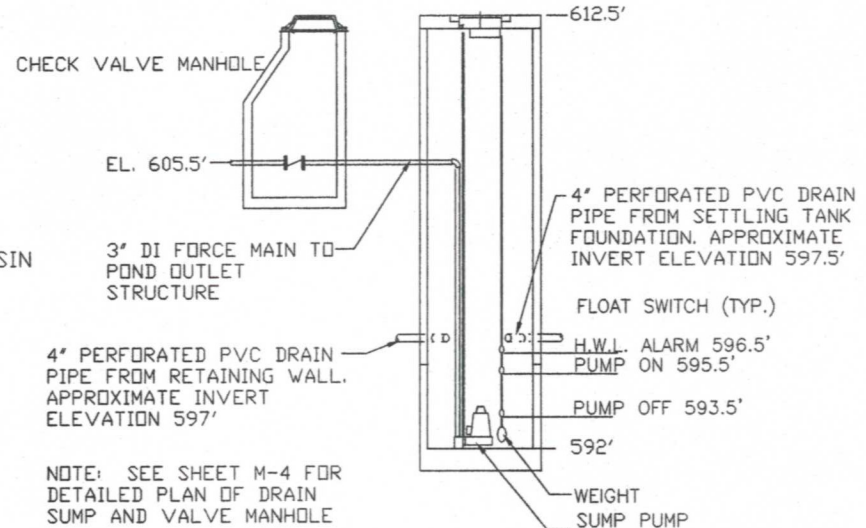
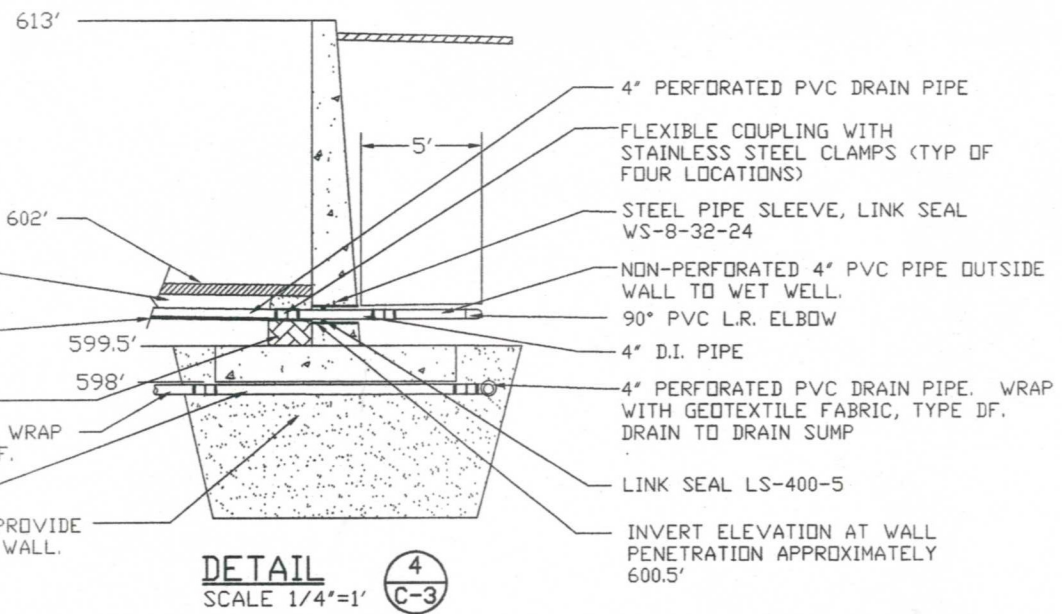
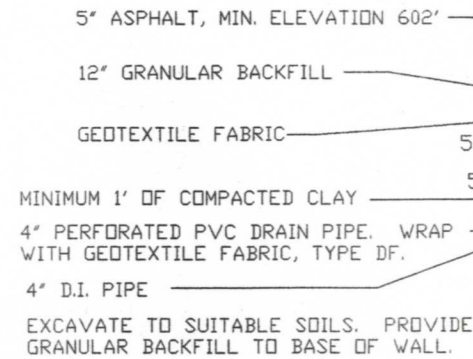
CITY OF SUPERIOR,
DEPARTMENT OF PUBLIC WORKS

LIFT STATION #6, COLLECTION SYSTEM AND STORAGE IMPROVEMENTS
EARTHWORK PLAN AND CROSS SECTIONS

PROJ. JOB NO. _____
SHEET NO. C-2



FOR THE POND SEAL DRAIN SYSTEM THE PIPE LOCATED OUTSIDE THE RETAINING WALL SHALL NOT BE PERFORATED. THE PIPE LOCATED BETWEEN THE CLAY LINER AND THE ASPHALT CAP SHALL BE PERFORATED.



Half Size

NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION
1	12/8/03	RMA		DNR REVIEW REVISIONS
2	02/18/04	RMA		SUPERIOR REVIEW REVISIONS
3	12/08/04	RMA		ADDENDUM NO. 1

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN
Richard Anthony
REG. NO. 25488 DATE: AUGUST 4, 2003

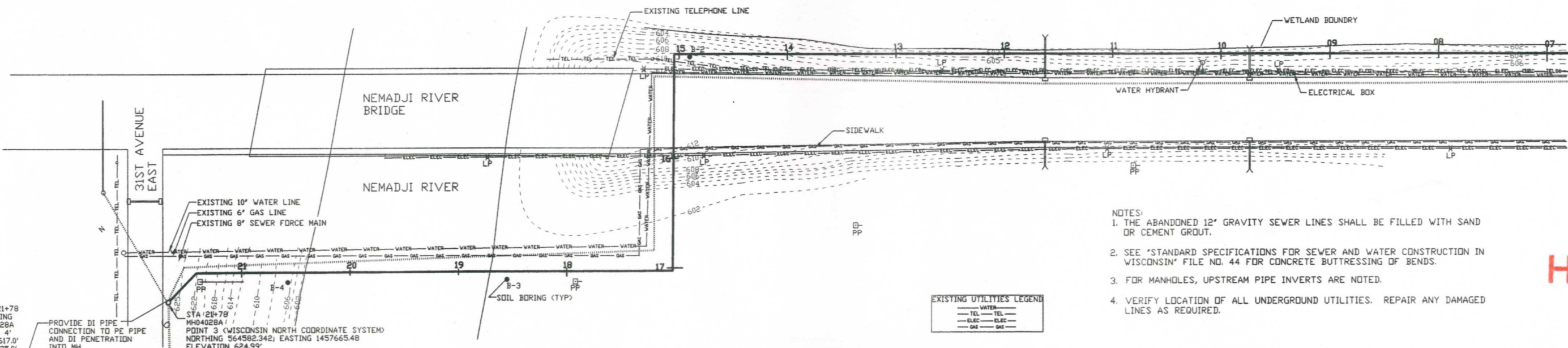
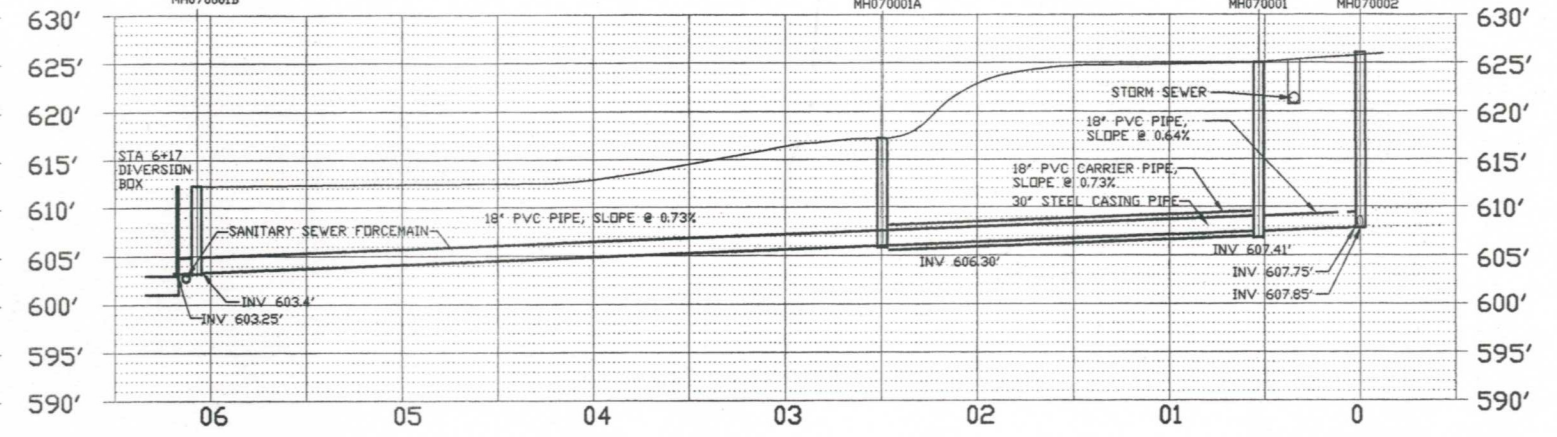
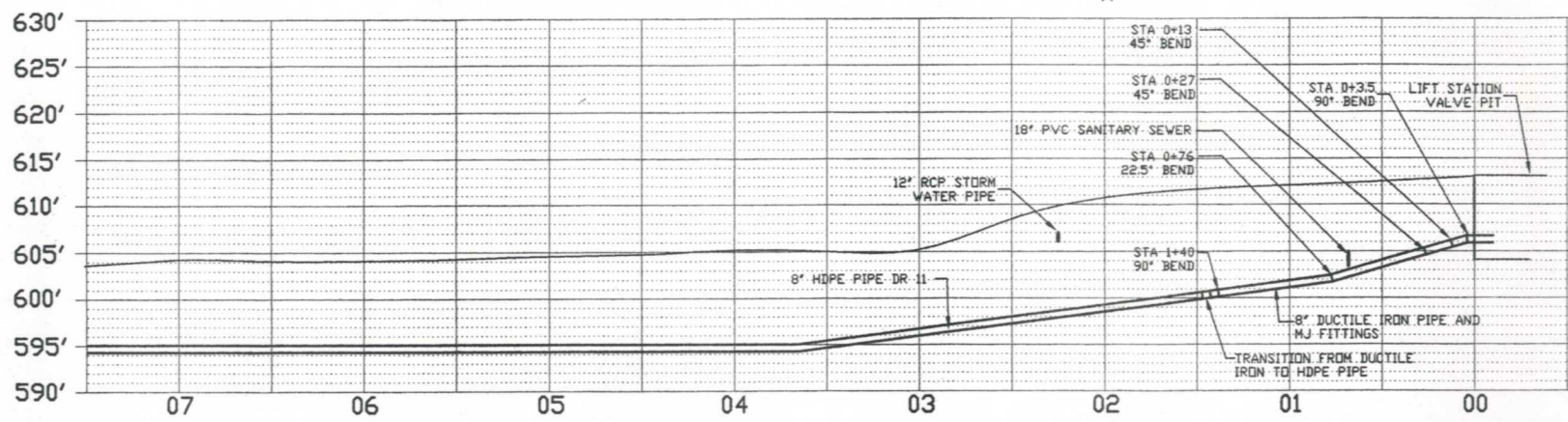
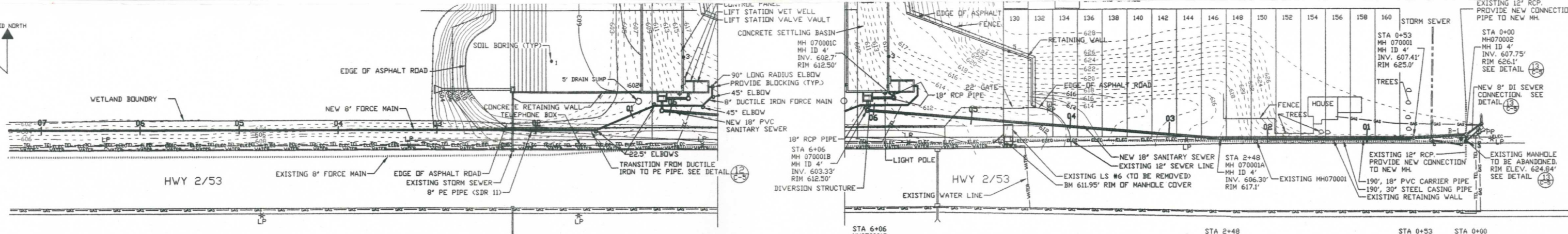
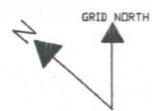
DRAWN BY: RMA & JDC
CHECKED BY: RMA
DEPT. CHECK: _____
SCALE: AS SHOWN

RMA ENGINEERING COMPANY
CONSULTING ENGINEERS

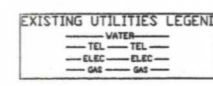
CITY OF SUPERIOR,
DEPARTMENT OF PUBLIC WORKS

LIFT STATION #6, COLLECTION SYSTEM AND STORAGE IMPROVEMENTS
UNDERDRAIN PLAN AND SECTIONS

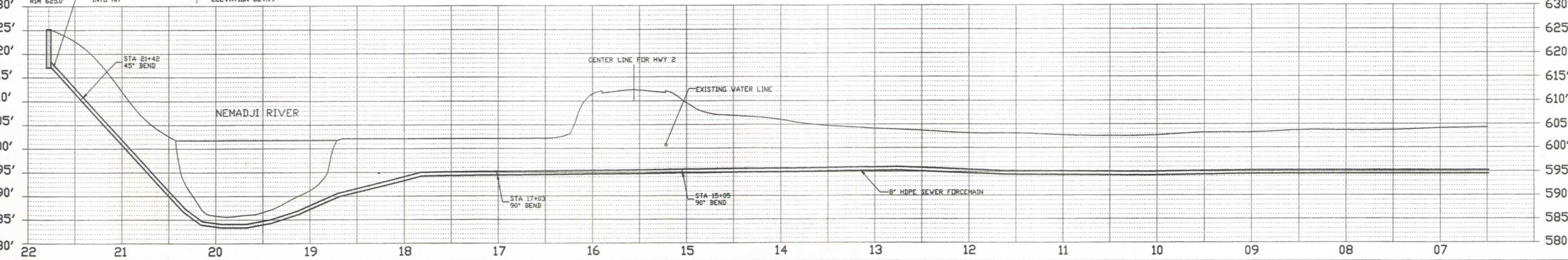
PROJ. JOB NO. _____
SHEET NO. C-3



- NOTES:
1. THE ABANDONED 12" GRAVITY SEWER LINES SHALL BE FILLED WITH SAND OR CEMENT GROUT.
 2. SEE "STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN" FILE NO. 44 FOR CONCRETE BUTTRESSING OF BENDS.
 3. FOR MANHOLES, UPSTREAM PIPE INVERTS ARE NOTED.
 4. VERIFY LOCATION OF ALL UNDERGROUND UTILITIES. REPAIR ANY DAMAGED LINES AS REQUIRED.



Half Size



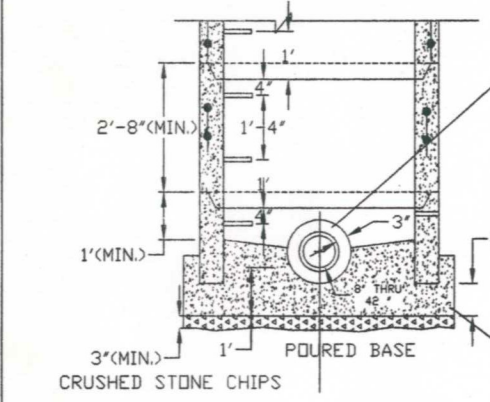
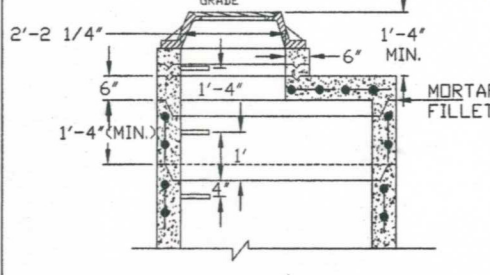
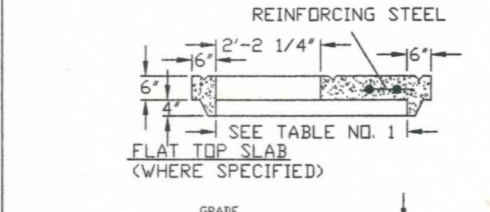
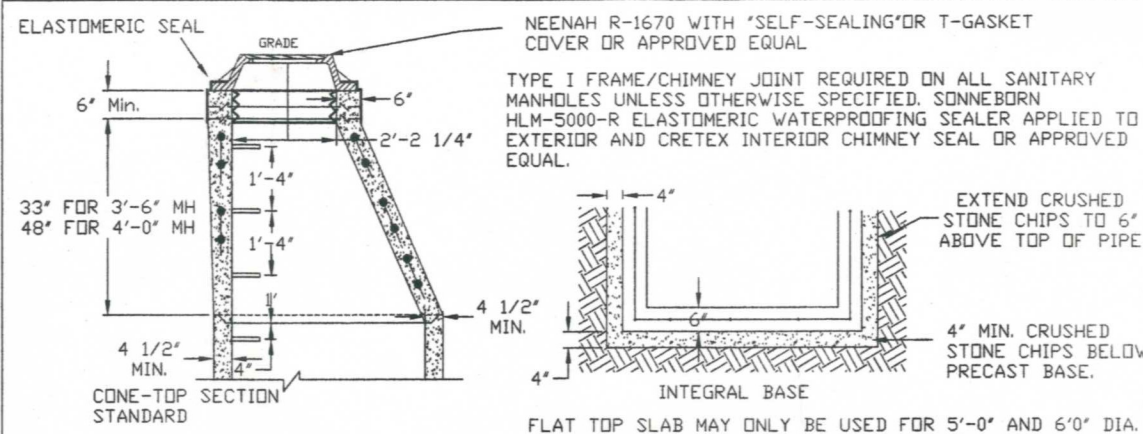


TABLE NO. 1

PIPE DIA	MANHOLE DIA	WALL THICKNESS
8" THRU 30"	4'-0"	5"
36"	5'-0"	6"
42"	6'-0"	7"

TYPE I FRAME/CHIMNEY JOINT REQUIRED ON ALL SANITARY MANHOLES UNLESS OTHERWISE SPECIFIED. SONNEBORN HLM-5000-R ELASTOMERIC WATERPROOFING SEALER APPLIED TO EXTERIOR AND CRETEX INTERIOR CHIMNEY SEAL OR APPROVED EQUAL.

FLAT TOP SLAB MAY ONLY BE USED FOR 5'-0" AND 6'-0" DIA. MANHOLES AND WITH PERMISSION OF PROJECT ENGINEER OR WHERE SHOWN ON THE PLANS.

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. THE CHIMNEY SHALL BE CONSTRUCTED SO THAT AS FEW ADJUSTING RINGS AS POSSIBLE SHALL BE USED TO BRING MANHOLE TO GRADE.

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

JOINTS SHALL BE WATERTIGHT AND SHALL BE MADE USING BUTYL RUBBER GASKETS. ALL JOINTS SHALL CONFORM TO ASTM-C443 VARIATIONS IN DIAMETER. DEFECTIVE OR DEFECTIVE OR DAMAGED ENDS, OR OTHER CONDITIONS WHICH, IN THE OPINION OF THE PROJECT ENGINEER, PREVENT MAKING A SATISFACTORY JOINT SHALL BE CONSIDERED CAUSE FOR REJECTION.

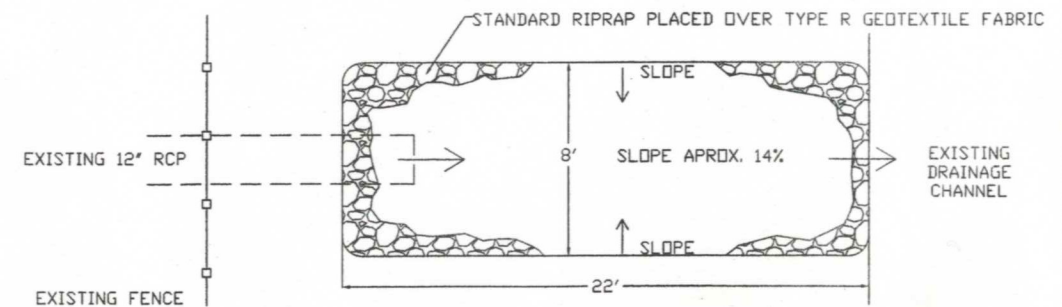
AREA OF CIRCUMFERENTIAL STEEL = 0.12 SQ INCH PER LINEAL FOOT.

SPACE BETWEEN PIPE AND PRECAST MANHOLE WALL TO BE FILLED WITH BRICK MORTARED IN PLACE EXCEPT THAT AN APPROVED FLEXIBLE WATERTIGHT PIPE TO MANHOLE SEAL AS 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 SPRINGLINE.

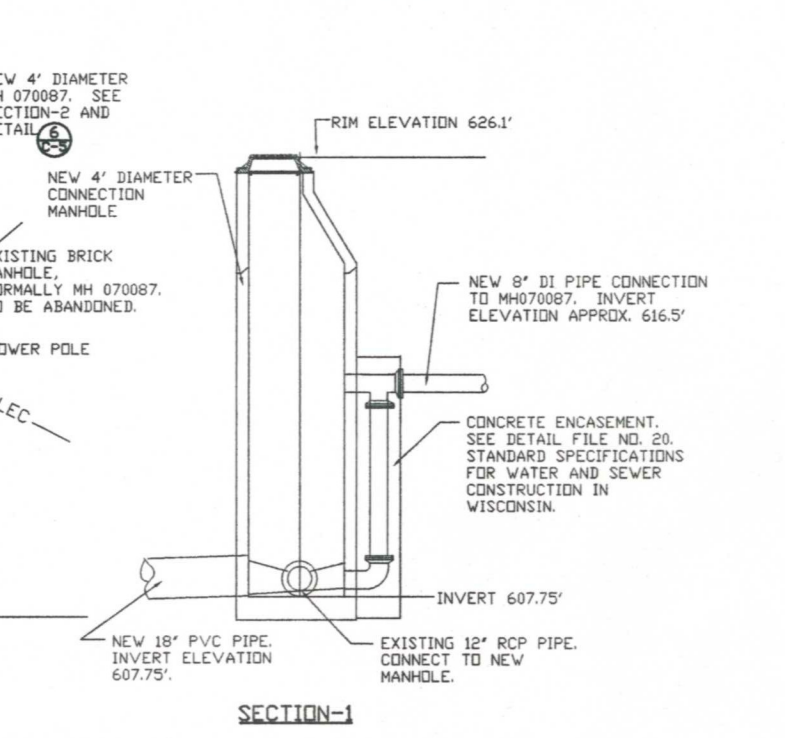
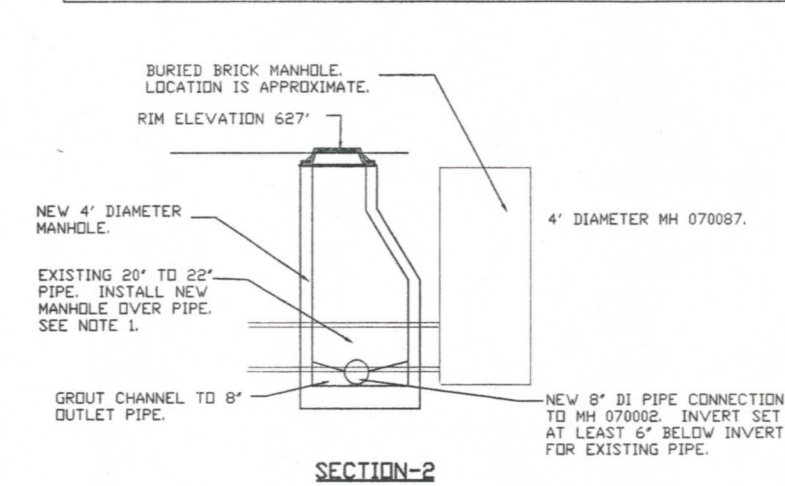
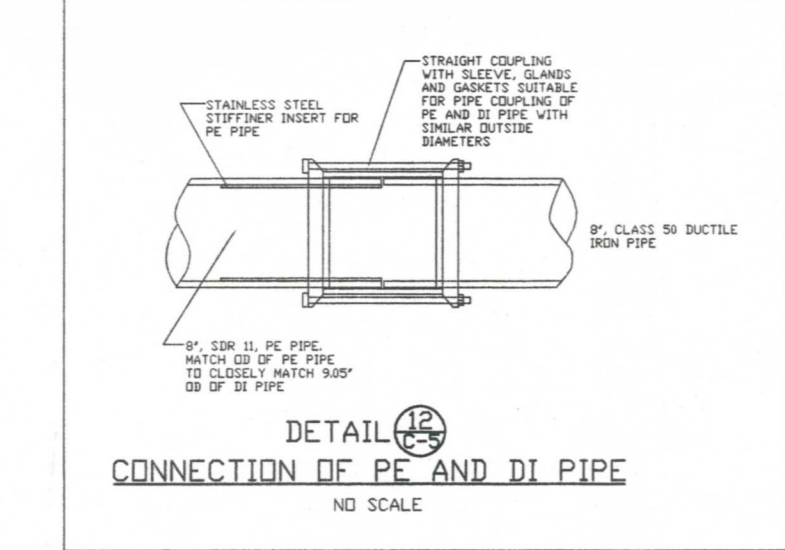
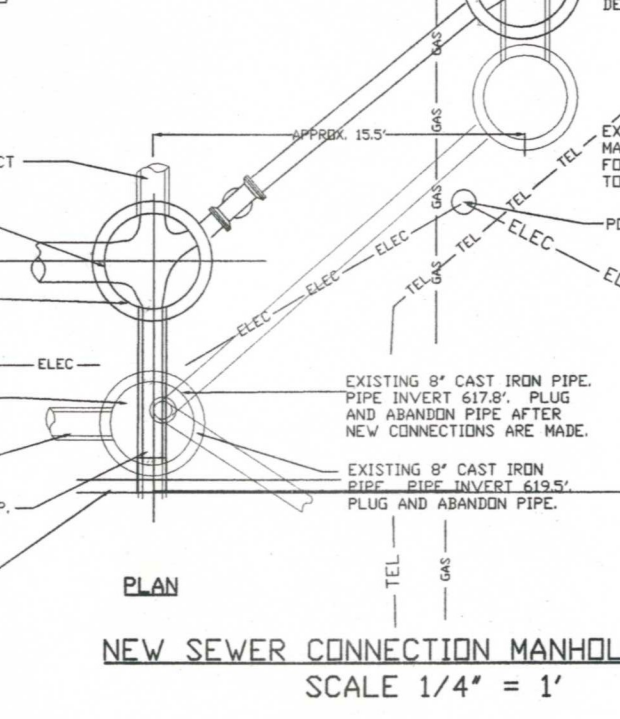
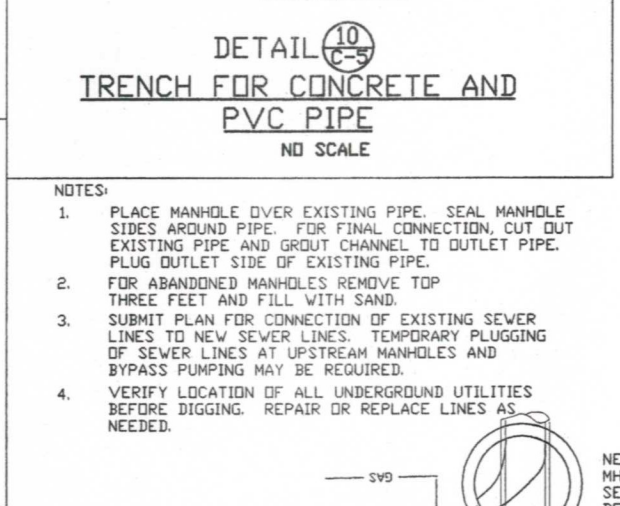
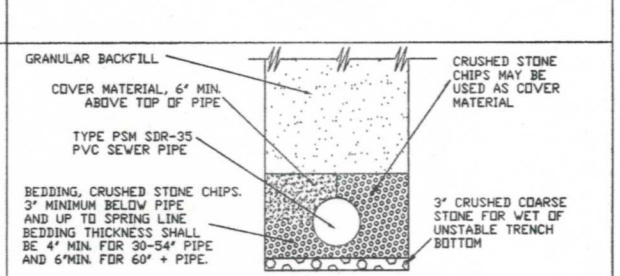
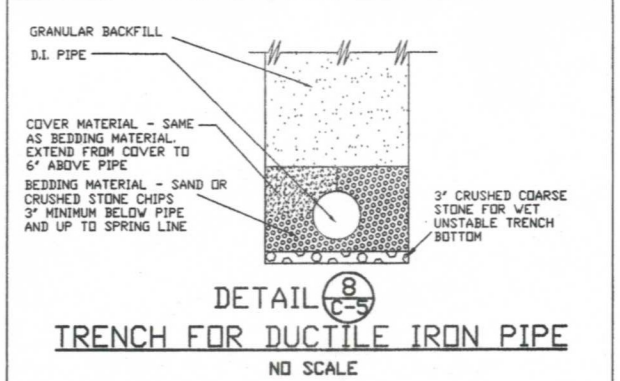
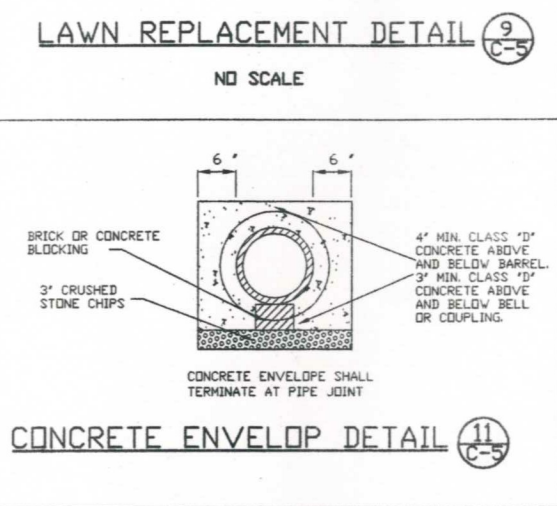
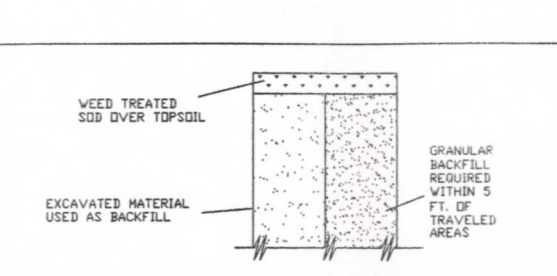
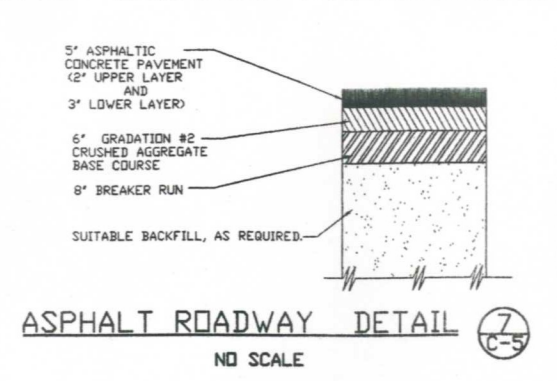
3" MIN. CRUSHED STONE CHIPS UNDER CONCRETE BASE. PRECAST BASE RISER SECTION WITH A SEPERATE PRECAST BASE SLAB SHALL NOT BE CONSIDERED GENERALLY ACCEPTABLE UNDER THIS SPECIFICATION.

BENCH SLOPE { STORM MANHOLE 1" PER FOOT
SANITARY MANHOLE 2" PER FOOT
CLASS 'D' CONCRETE, 12" MIN. BELOW BOTTOM OF PIPE.

PRECAST MANHOLE DETAIL (6) C-5
SCALE 1" = 2'



LIFT STATION #5 DISCHARGE EROSION CONTROL
SCALE 1/4" = 1'



NEW SEWER CONNECTION MANHOLE DETAIL (13) C-5
SCALE 1/4" = 1'

REVISIONS

NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION
1	12/8/03	RMA		DNR REVIEW REVISIONS
2	01/13/04	RMA		GENERAL REVISIONS
3	02/18/04	RMA		SUPERIOR REVIEW COMMENTS
4	10/26/04	RMA		REVIEW COMMENTS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN
Richard A. ...
REG. NO. 25488 DATE: AUGUST 4, 2003

DRAWN BY: RMA & JDC
CHECKED BY: RMA
DEPT. CHECK: _____
SCALE: AS SHOWN

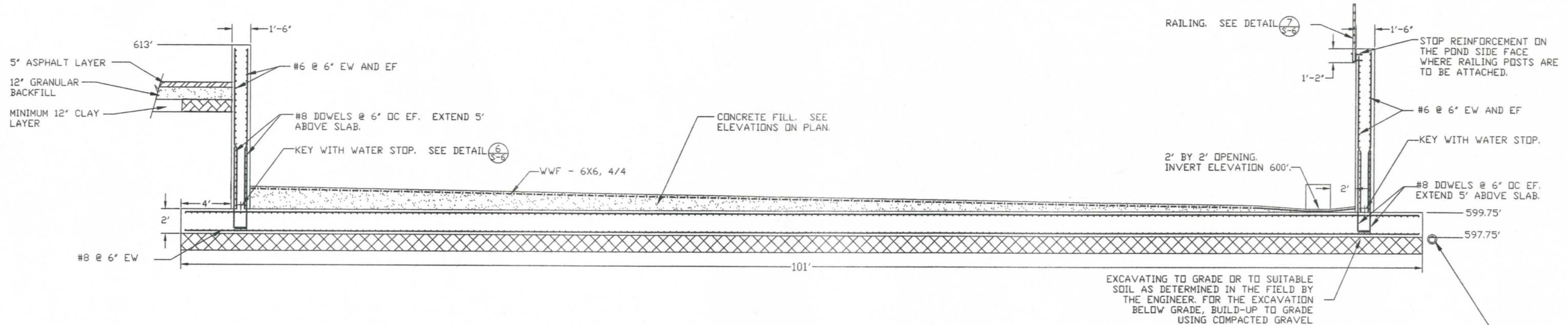
RMA ENGINEERING COMPANY
CONSULTING ENGINEERS

CITY OF SUPERIOR,
DEPARTMENT OF PUBLIC WORKS

LIFT STATION #6, COLLECTION SYSTEM AND STORAGE IMPROVEMENTS
MISCELLANEOUS DETAILS

PROJ. JOB NO. _____
SHEET NO. C-5

Half Size



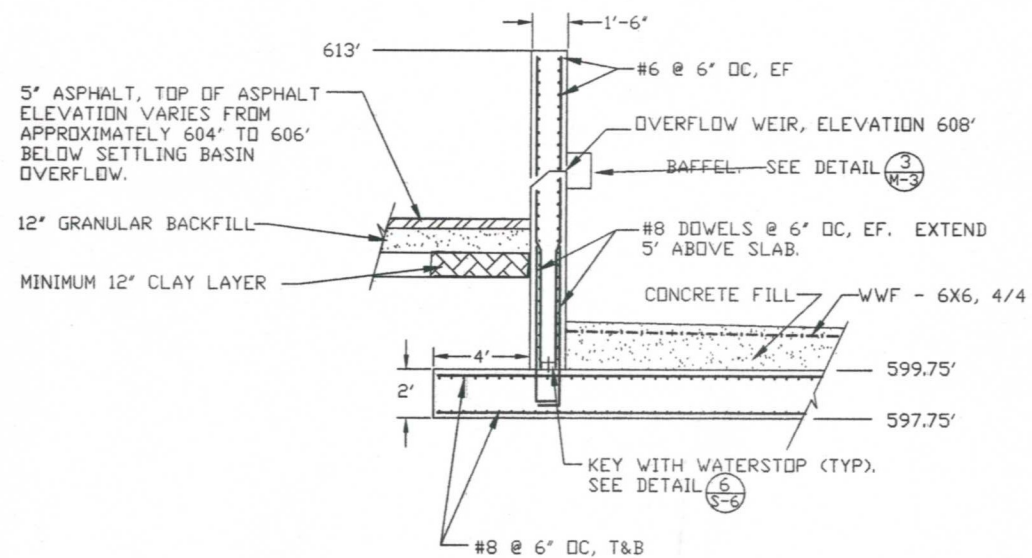
SECTION 1
S-2
SCALE 1/4"=1'

PRECAST SLAB CAN BE USED ON TOP OF THE DIVERSION BOX. LOCATION OF OPENINGS ARE SHOWN ON SHEET M-3. STRUCTURAL LOADINGS ON SLAB SHALL BE:

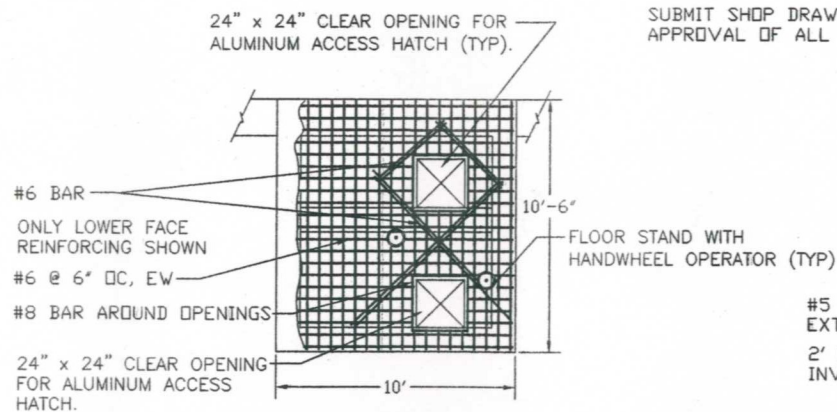
LIVE LOAD: 300 PSF

LOADINGS ALSO INCLUDE WEIGHT OF CONCRETE, ATTACHMENTS AND SNOW LOAD.

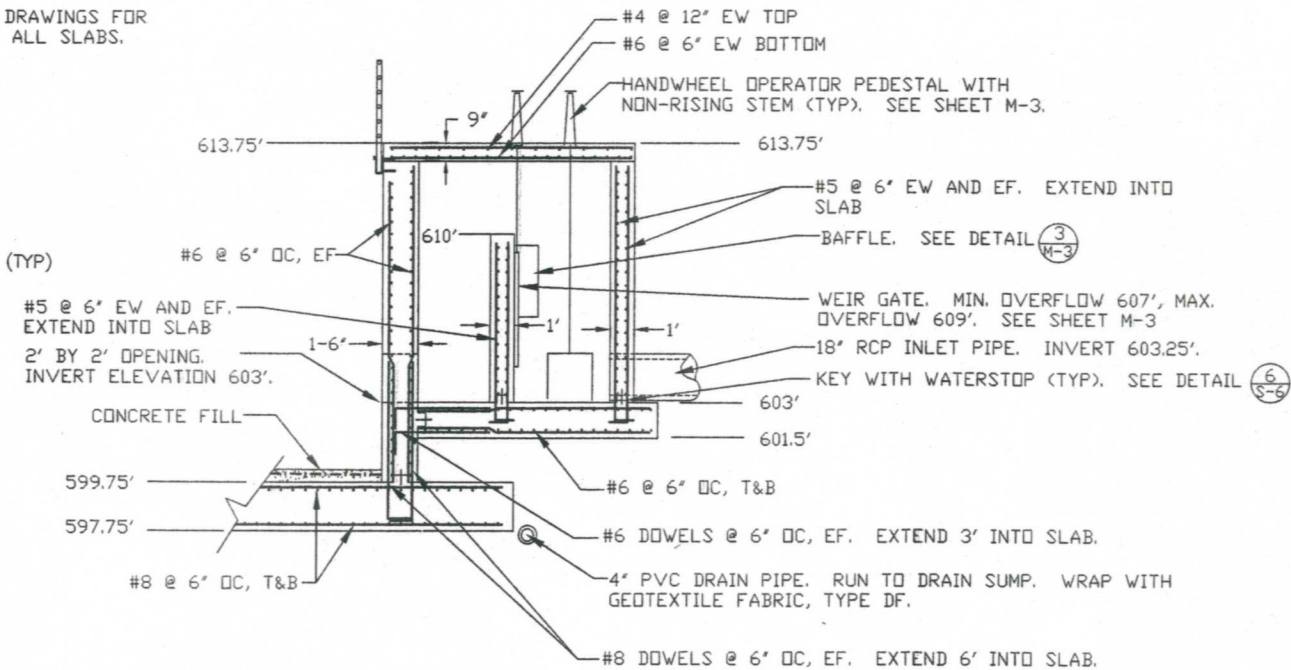
SUBMIT SHOP DRAWINGS FOR APPROVAL OF ALL SLABS.



SECTION 2
S-2
SCALE 1/4"=1'



DIVERSION BOX COVER PLAN
SCALE 1/4"=1'



SECTION 3
S-2
SCALE 1/4"=1'

Half Size

REVISIONS			
NUMBER	DATE	MADE BY	CHECKED BY
1	12/8/03	RMA	
2	10/26/04	RMA	
3	12/08/04	RMA	

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN
Richard Anthony
 REG. NO. 25488 DATE: AUGUST 4, 2003

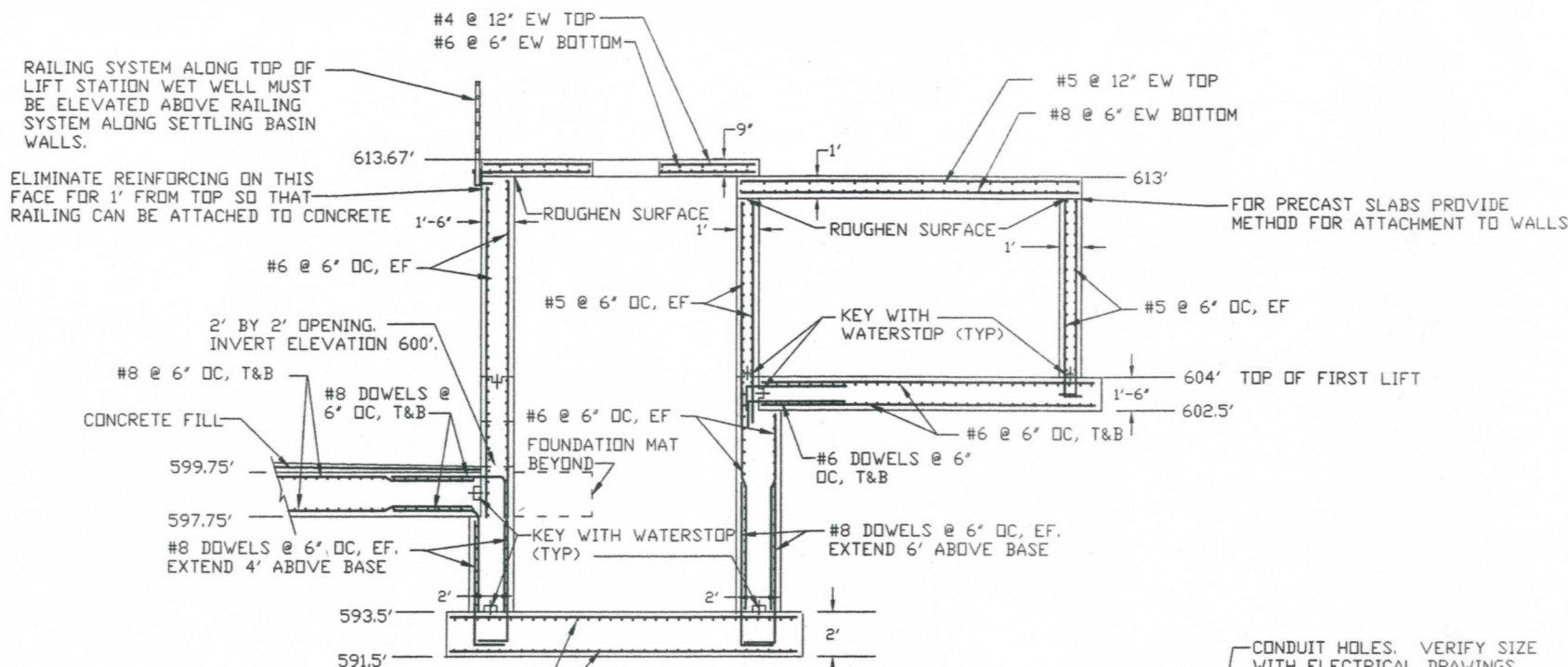
DRAWN BY: RMA & JDC
 CHECKED BY: RMA
 DEPT. CHECK: _____
 SCALE: 1/4"=1'

RMA ENGINEERING COMPANY
 CONSULTING ENGINEERS

CITY OF SUPERIOR,
 DEPARTMENT OF PUBLIC
 WORKS

LIFT STATION #6, COLLECTION SYSTEM
 AND STORAGE IMPROVEMENTS
 SETTLING BASIN SECTIONS

PROJ. JOB NO. _____
 SHEET NO. S-2



RAILING SYSTEM ALONG TOP OF LIFT STATION WET WELL MUST BE ELEVATED ABOVE RAILING SYSTEM ALONG SETTLING BASIN WALLS.

ELIMINATE REINFORCING ON THIS FACE FOR 1' FROM TOP SO THAT RAILING CAN BE ATTACHED TO CONCRETE

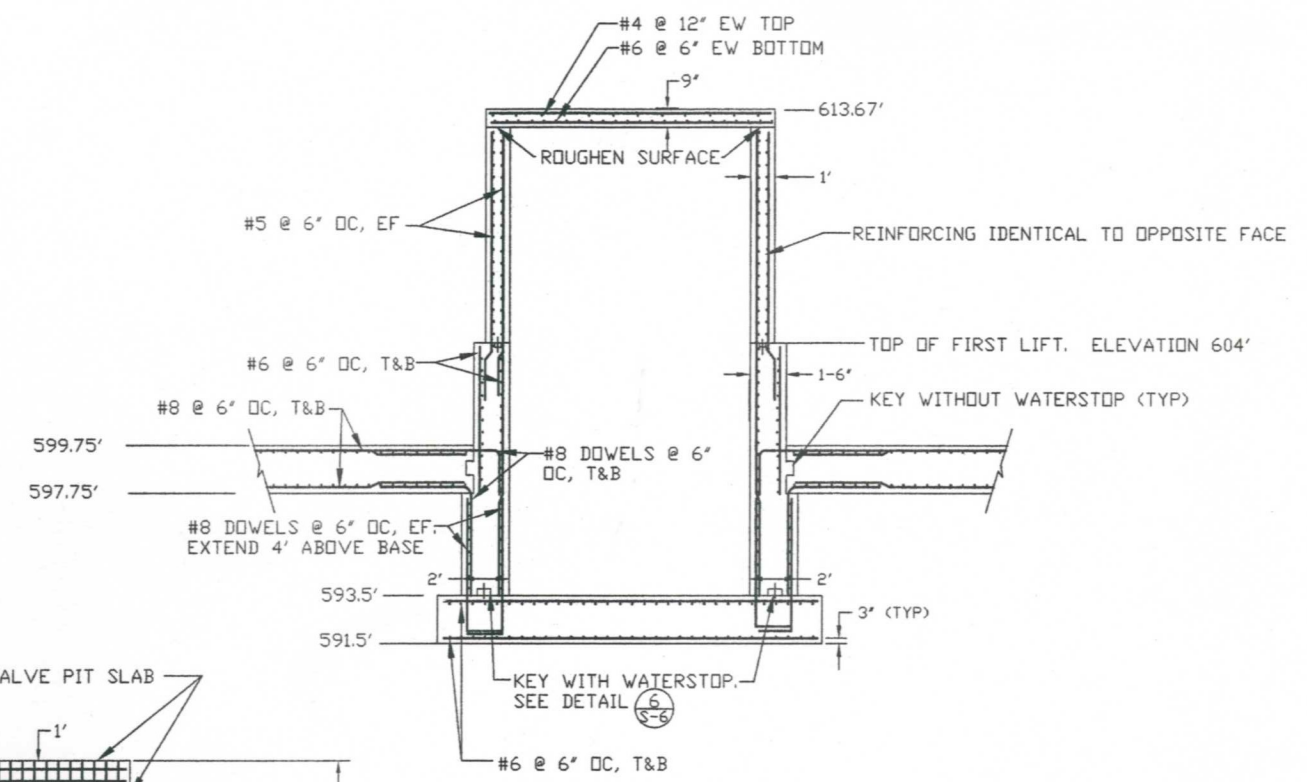
FOR PRECAST SLABS PROVIDE METHOD FOR ATTACHMENT TO WALLS

SECTION 4
SCALE 1/4"=1'

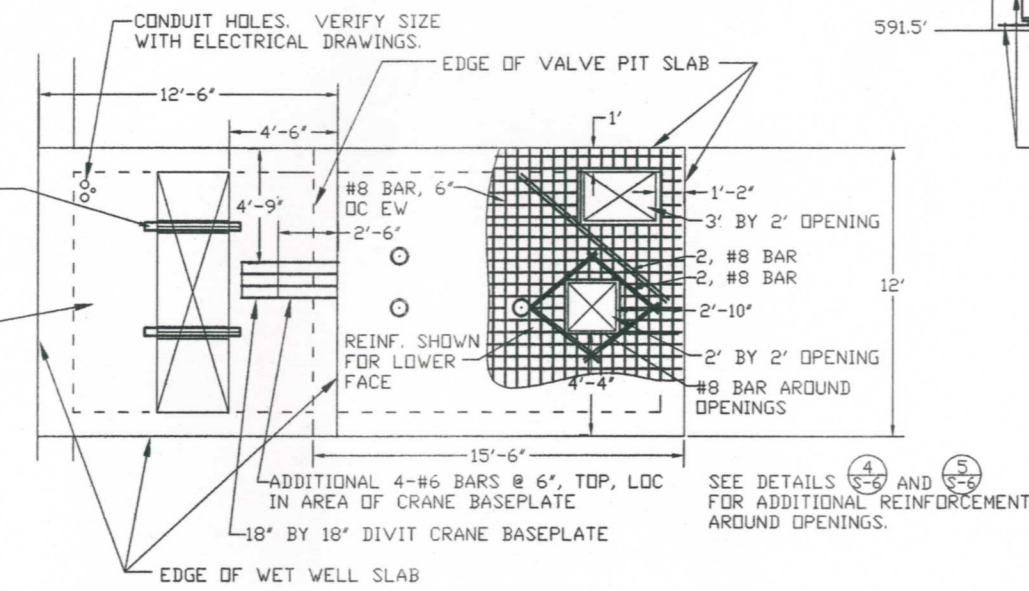
PRECAST SLABS CAN BE USED ON TOP OF THE WET WELL AND VALVE PIT. STRUCTURAL LOADINGS ON SLABS SHALL BE:
 WET WELL:
 LIVE LOAD: 300 PSF
 LOAD AT DAVIT CRANE: 2,000 LBS
 VALVE PIT:
 WHEEL/AXLE LOAD: H-20
 LOADINGS ALSO INCLUDE WEIGHT OF CONCRETE, ATTACHMENTS AND SNOW LOAD.
 SUBMIT SHOP DRAWINGS FOR APPROVAL FOR ALL SLABS.

PROVIDE HOT DIPPED GALVANIZED W8 BEAMS CAST INTO CONCRETE TO SUPPORT HATCHES IF INTERNAL FRAME OVER ALL THREE HATCHES IS NOT PROVIDED

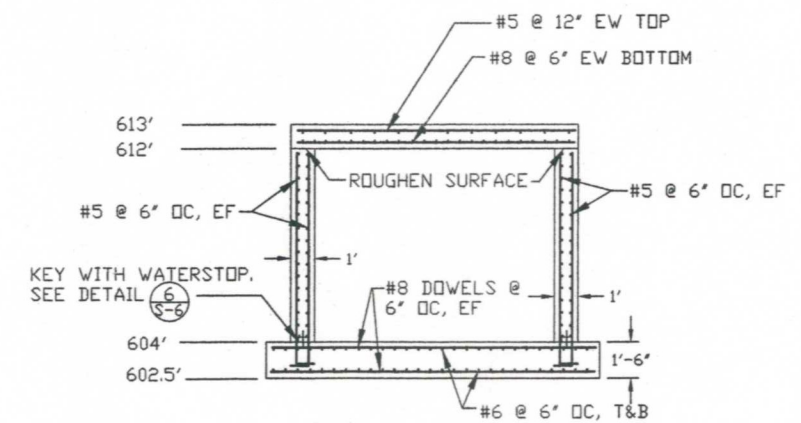
3' BY 10' OPENING
 SEE SECTIONS FOR REINFORCEMENT



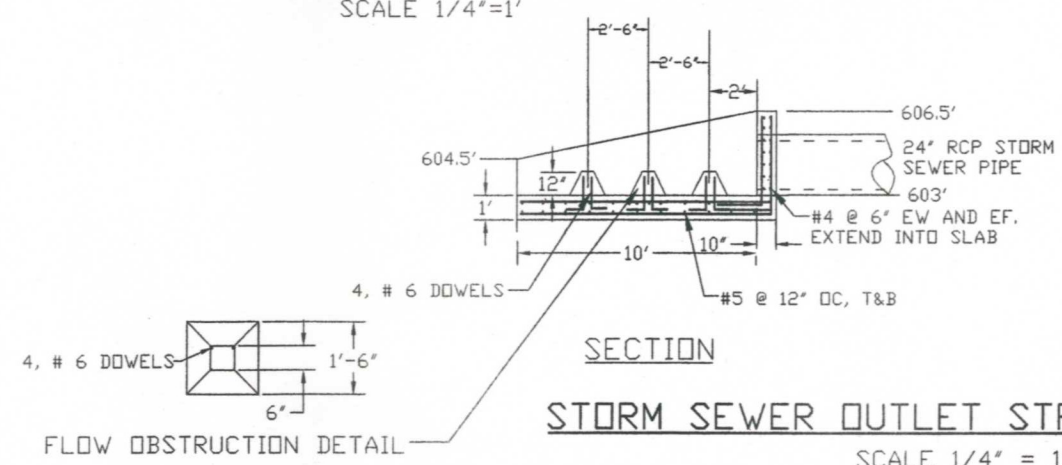
SECTION 5
SCALE 1/4"=1'



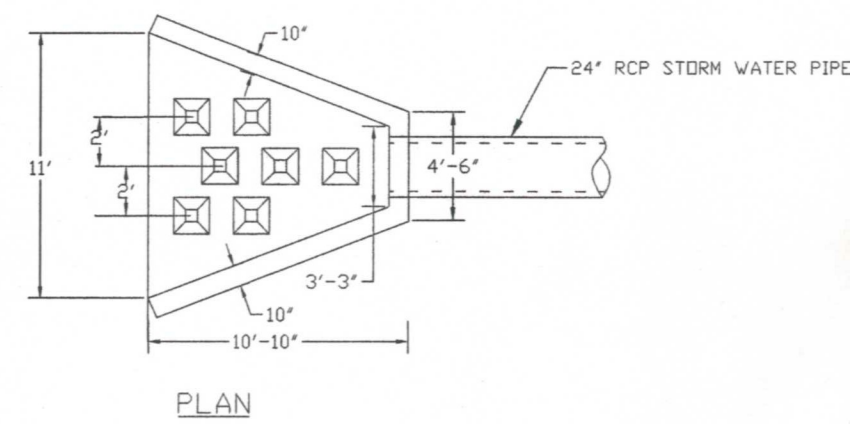
TOP SLAB PLAN
SCALE 1/4"=1'



SECTION 6
SCALE 1/4"=1'



SECTION
STORM SEWER OUTLET STRUCTURE DETAIL
SCALE 1/4" = 1'



PLAN
1
SCALE 1/4" = 1'

Half Size

REVISIONS				
NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION
1	12/8/03	RMA		GENERAL REVISIONS
2	02/18/04	RMA		SUPERIOR REVIEW REVISIONS
3	10/26/04	RMA		REVIEW REVISIONS
4	12/08/04	RMA		ADDENDUM NO. 1

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN
Richard Anthony
 REG. NO. 25488 DATE: AUGUST 4, 2003

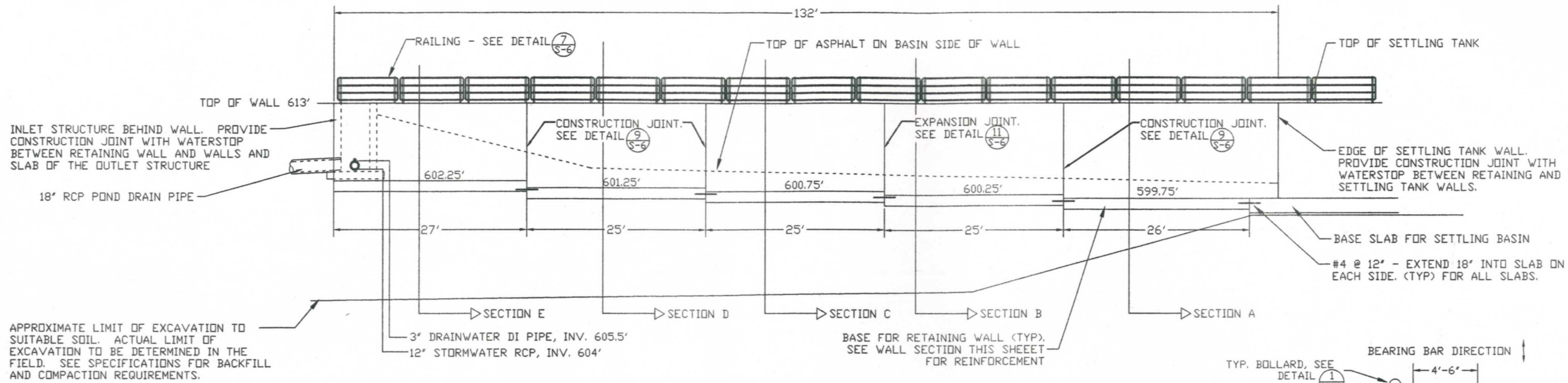
DRAWN BY: RMA & JDC
 CHECKED BY: RMA
 DEPT. CHECK: _____
 SCALE: 1/4"=1'

RMA ENGINEERING COMPANY
 CONSULTING ENGINEERS

CITY OF SUPERIOR,
 DEPARTMENT OF PUBLIC WORKS

LIFT STATION #6, COLLECTION SYSTEM AND STORAGE IMPROVEMENTS
LIFT STATION SECTIONS

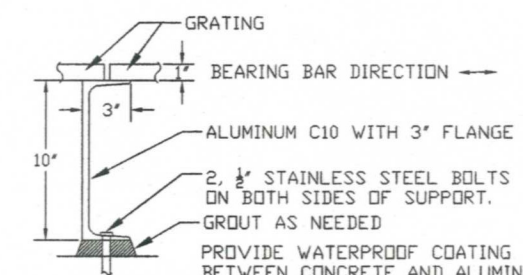
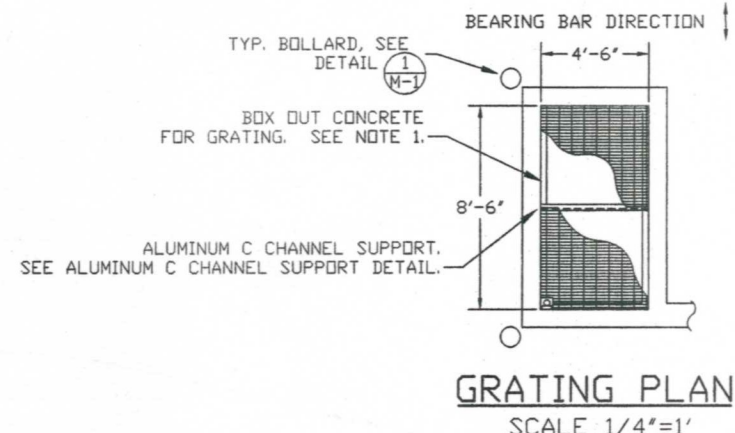
PROJ. JOB NO. _____
 SHEET NO. **S-3**



APPROXIMATE LIMIT OF EXCAVATION TO SUITABLE SOIL. ACTUAL LIMIT OF EXCAVATION TO BE DETERMINED IN THE FIELD. SEE SPECIFICATIONS FOR BACKFILL AND COMPACTION REQUIREMENTS.

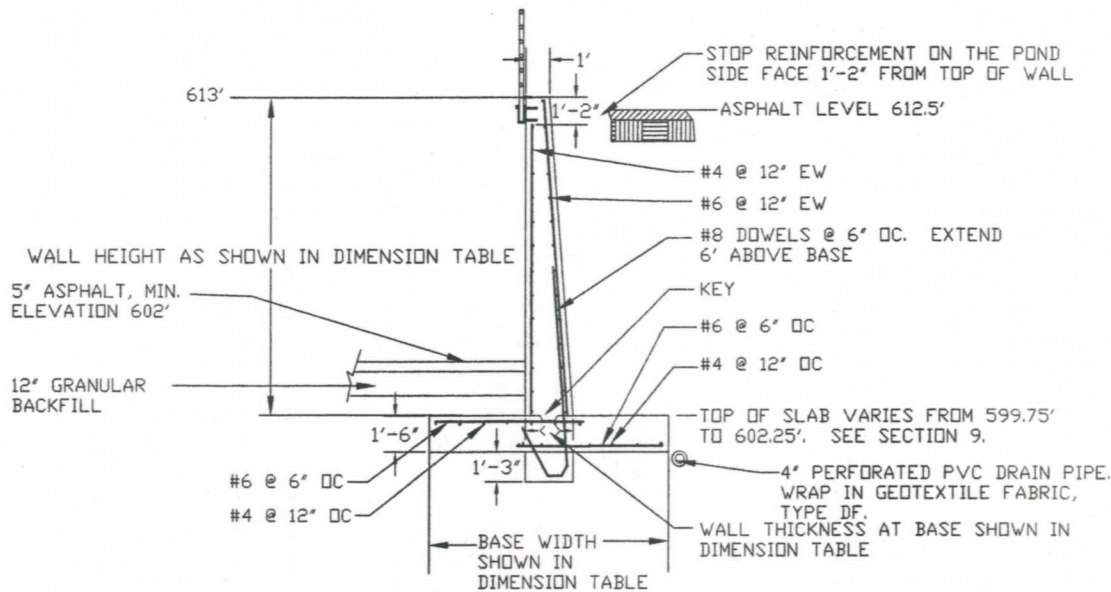
SECTION 8
S-4
SCALE 1/8"=1'

RETAINING WALL DIMENSION TABLE			
SECTION	BASE WIDTH	WALL THICKNESS	WALL HEIGHT
A	10 FEET	2' - 0"	13.25 FEET
B	10 FEET	1' - 11.5"	12.75 FEET
C	9 FEET	1' - 11"	12.25 FEET
D	9 FEET	1' - 10.5"	11.75 FEET
E	8 FEET	1' - 9.5"	10.75 FEET



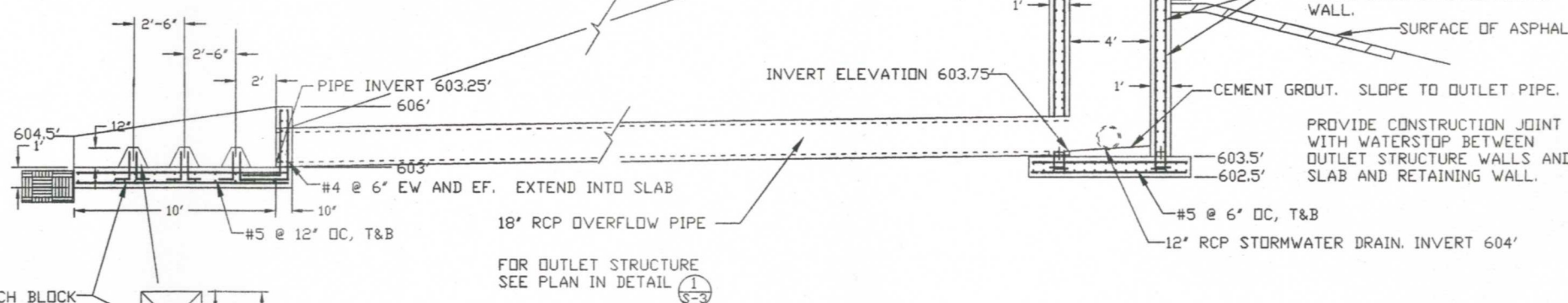
ALUMINUM C CHANNEL SUPPORT DETAIL
NO SCALE

NOTE: ALL ALUMINUM EMBEDDED IN CONCRETE WILL BE COATED WITH A MASTIC COATING.



TYPICAL RETAINING WALL SECTION
SCALE 1/4"=1'

Half Size



FLOW OBSTRUCTION DETAIL

SECTION 7
S-4
SCALE 1/4"=1'

NOTES:
1. PROVIDE ALUMINUM GRATING WITH MIN. 1" BEARING BARS. GRATING AREA 4'-6" BY 8'-6". PROVIDE GRATING IN TWO SECTIONS. WHEN FORMING FOR CONCRETE, BOX OUT CONCRETE SO THAT TOP OF GRATING IS FLUSH WITH TOP WALLS. ALLOWABLE LOADING ON THE GRATING IS 300 P.S.F. CUT OUT AREA IN GRATING FOR RAILING POST.

REVISIONS			
NUMBER	DATE	MADE BY	CHECKED BY
1	12/8/03	RMA	
GENERAL REVISIONS			

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN
Richard Anthony
REG. NO. 25488 DATE: AUGUST 4, 2003

DRAWN BY: RMA & JDC
CHECKED BY: RMA
DEPT. CHECK: _____

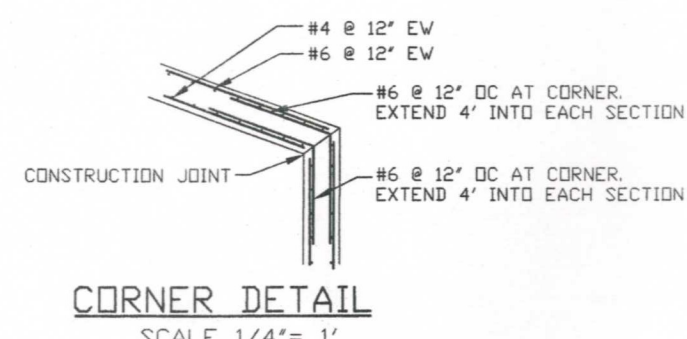
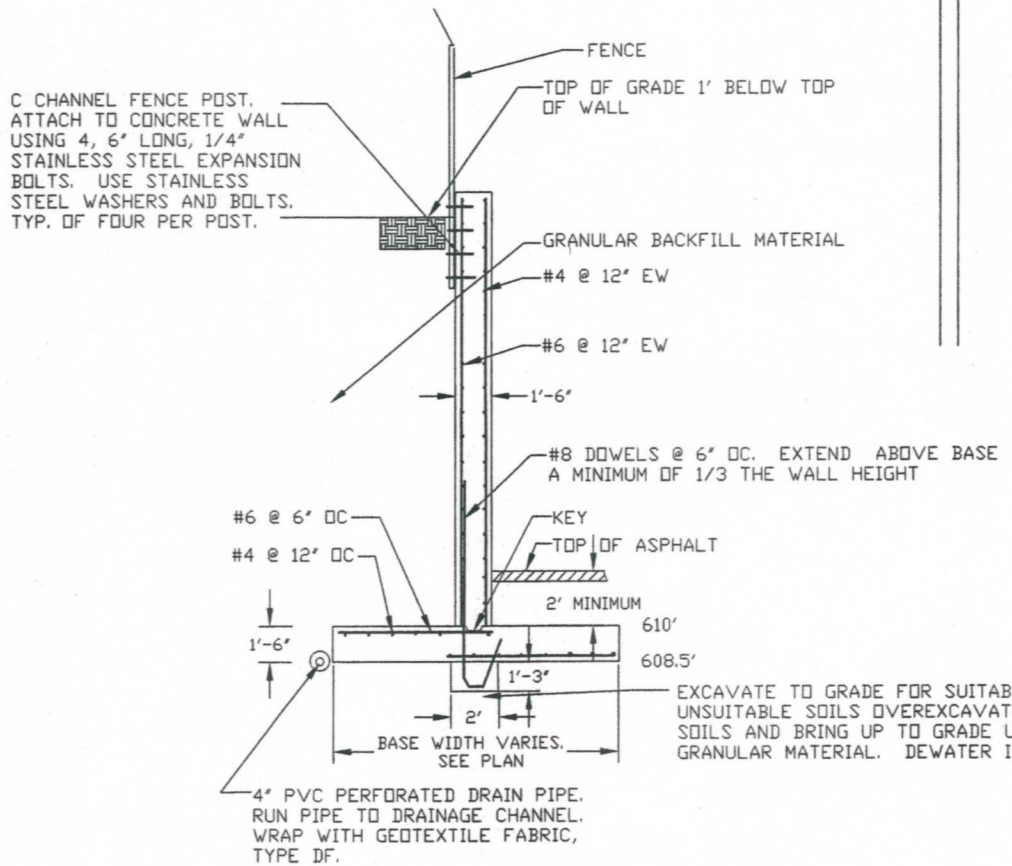
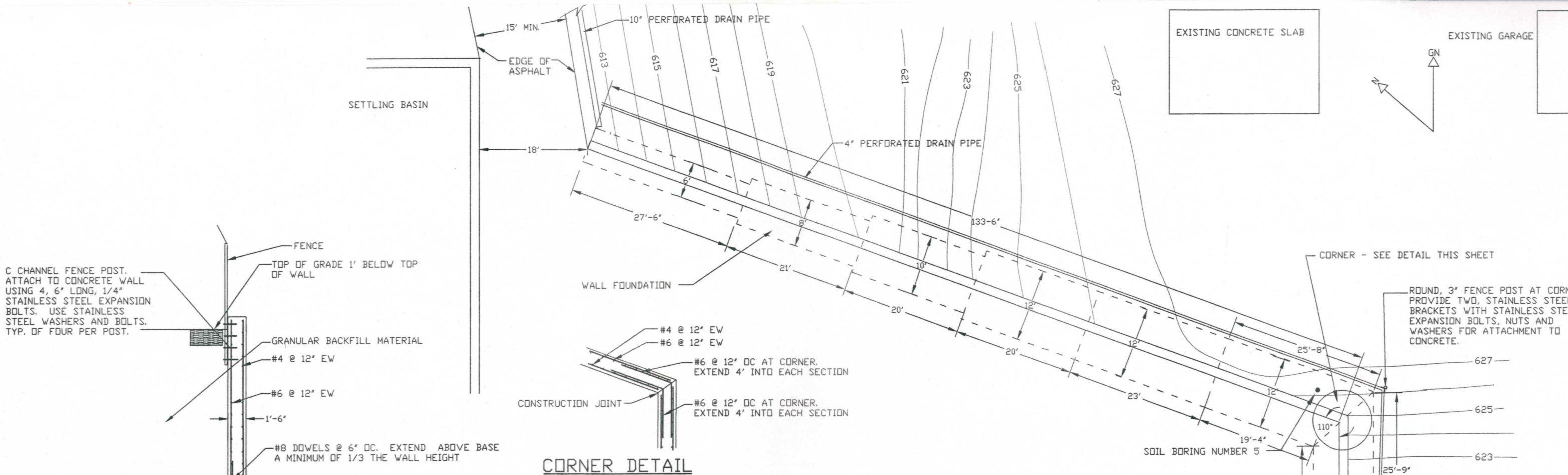
SCALE: AS SHOWN

RMA ENGINEERING COMPANY
CONSULTING ENGINEERS

CITY OF SUPERIOR,
DEPARTMENT OF PUBLIC
WORKS

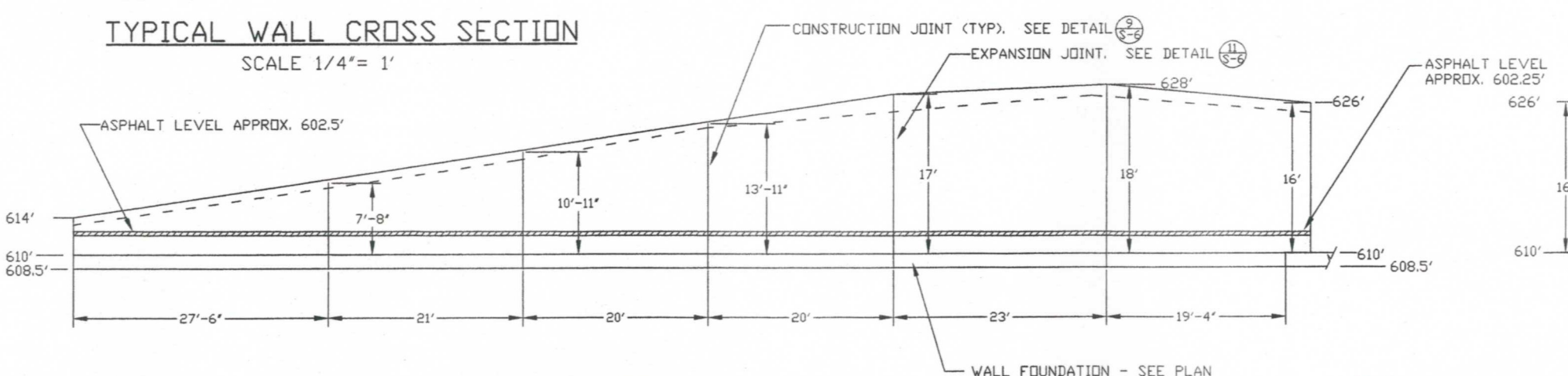
LIFT STATION #6, COLLECTION SYSTEM
AND STORAGE IMPROVEMENTS
STORAGE POND RETAINING WALL
SECTIONS

PROJ. JOB NO. _____
SHEET NO. S-4

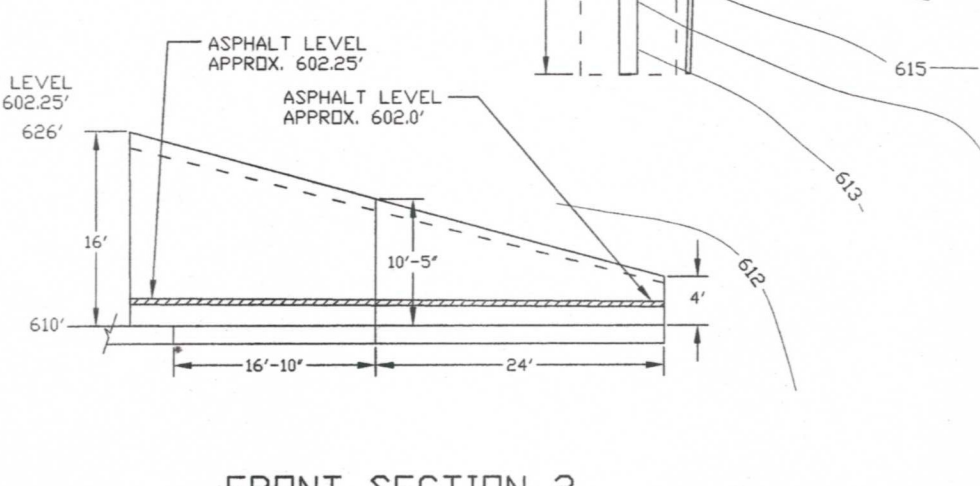


RETAINING WALL PLAN
SCALE 1/8" = 1'

TYPICAL WALL CROSS SECTION
SCALE 1/4" = 1'



FRONT SECTION 1
SCALE 1/8" = 1'



FRONT SECTION 2
SCALE 1/8" = 1'

Half Size

REVISIONS				
NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION
1	12/8/03	RMA		GENERAL REVISIONS
2	02/18/04	RMA		SUPERIOR REVIEW REVISIONS
3	10/26/04	RMA		SUPERIOR REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN

Richard Coakley

REG. NO. 25488 DATE: AUGUST 4, 2003

DRAWN BY: RMA & JDC
CHECKED BY: RMA
DEPT. CHECK: _____

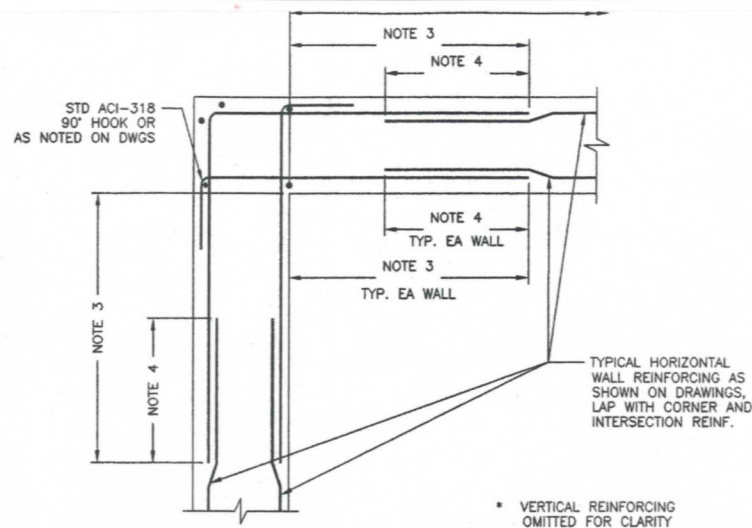
SCALE: AS SHOWN

RMA ENGINEERING COMPANY
CONSULTING ENGINEERS

CITY OF SUPERIOR,
DEPARTMENT OF PUBLIC WORKS

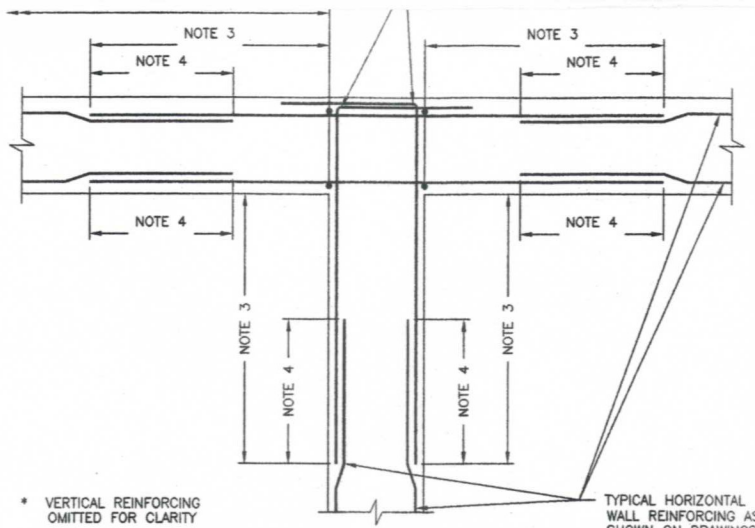
LIFT STATION #6, COLLECTION SYSTEM AND STORAGE IMPROVEMENTS
ACCESS LOT RETAINING WALL

PROJ. JOB NO. _____
SHEET NO. **S-5**



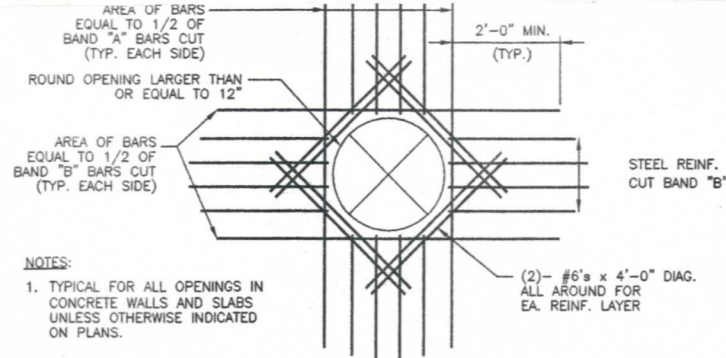
- NOTES:
1. TYPICAL HORIZONTAL WALL CORNER REINFORCING LAYOUT IS SHOWN TO AVOID CONGESTION AND PERMIT PROPER PLACEMENT. FOR SIZE AND SPACING, SEE PLANS. ALL HORIZONTAL REINFORCING AT CORNERS AND INTERSECTIONS SHALL BE FABRICATED AND INSTALLED WITH SPLICES LOCATED WHERE SHOWN REGARDLESS OF BAR SIZE AND SPACING.
 2. D = LENGTH OF WALL PARALLEL TO BAR LENGTH IN QUESTION.
 3. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 3" SHALL BE THE LESSER OF D/4, 10 FEET, OR 1.0 TIMES THE HEIGHT OF THE WALL, EXCEPT THAT IN NO CASE SHALL IT BE LESS THAN 2.0 FEET.
 4. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 4" SHALL BE 40 BAR DIAMETERS MINIMUM. USE THE LAP LENGTH AS REQUIRED FOR THE SMALLER OF THE TWO REINFORCING BARS BEING SPLICED.

DETAIL 2
NOT TO SCALE
S-6

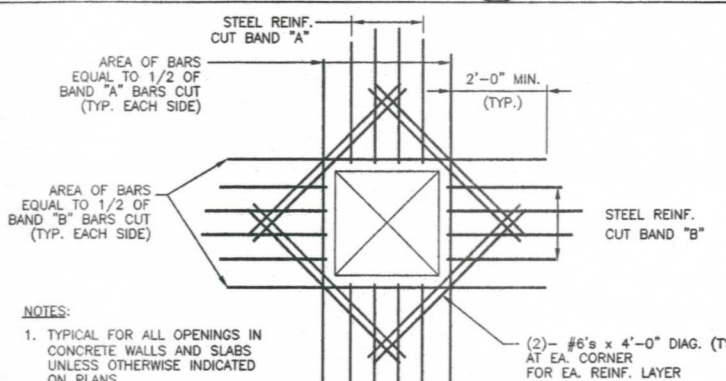


- NOTES:
1. TYPICAL HORIZONTAL WALL INTERSECTION REINFORCING LAYOUT IS SHOWN TO AVOID CONGESTION AND PERMIT PROPER PLACEMENT. FOR SIZE AND SPACING, SEE PLANS. ALL HORIZONTAL REINFORCING AT CORNERS AND INTERSECTIONS SHALL BE FABRICATED AND INSTALLED WITH SPLICES LOCATED WHERE SHOWN REGARDLESS OF BAR SIZE AND SPACING.
 2. D = LENGTH OF WALL PARALLEL TO BAR LENGTH IN QUESTION.
 3. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 3" SHALL BE THE LESSER OF D/4, 10 FEET, OR 1.0 TIMES THE HEIGHT OF THE WALL, EXCEPT THAT IN NO CASE SHALL IT BE LESS THAN 2.0 FEET.
 4. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 4" SHALL BE 40 BAR DIAMETERS MINIMUM. USE THE LAP LENGTH AS REQUIRED FOR THE SMALLER OF THE TWO REINFORCING BARS BEING SPLICED.

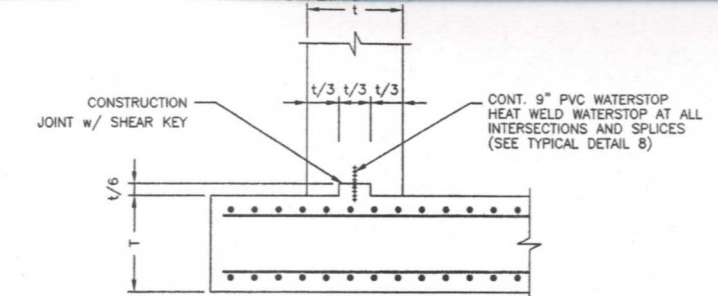
DETAIL 3
NOT TO SCALE
S-6



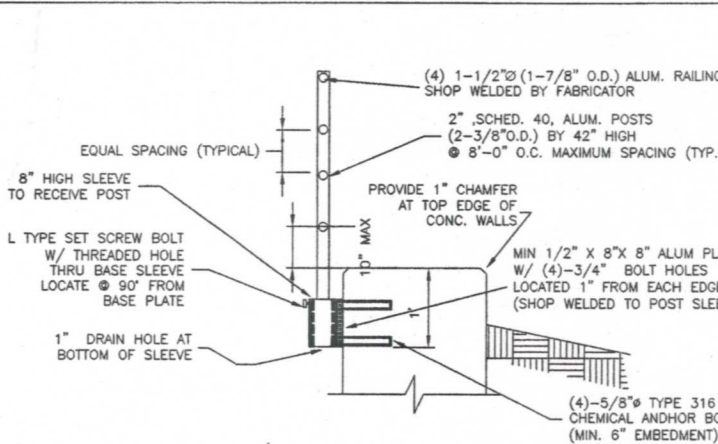
DETAIL 4
SCALE: 1/2" = 1'-0"
S-6



DETAIL 5
SCALE: 1/2" = 1'-0"
S-6

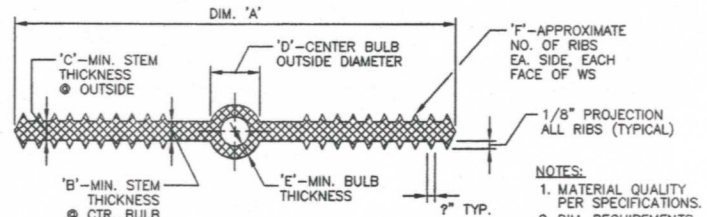


DETAIL 6
NOT TO SCALE
S-6



RAIL SECTION SCHEMATIC
NOT TO SCALE

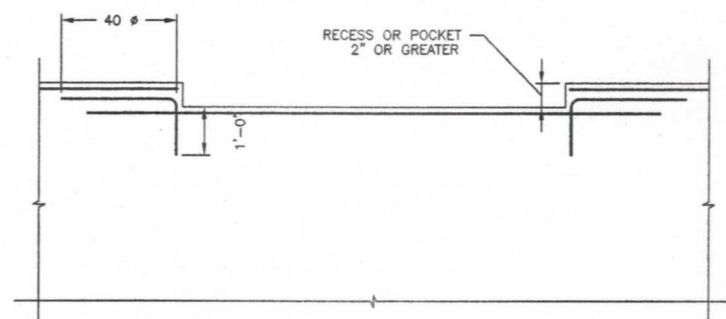
RAILING POSTS ALONG WET WELL ALL BOLTS, NUTS AND WASHERS ARE TO BE 8" HIGHER TO ALLOW FOR HIGHER SLAB. USED FOR THE RAILING SYSTEM SHALL BE STAINLESS STEEL



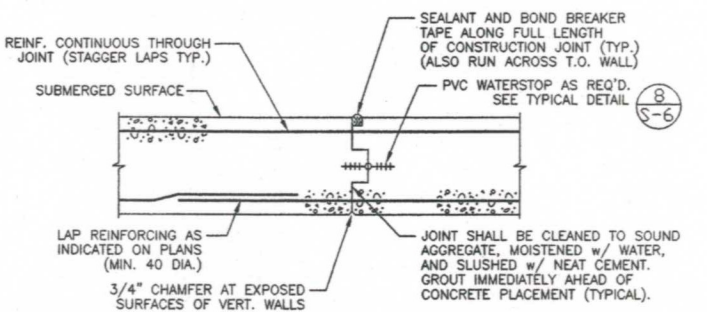
SIZE	A	B	C	D	E	F
4" x 3/16"	4"	3/16"	3/16"	3/4"	1/4"	4
6" x 3/8"	6"	3/8"	3/8"	7/8"	1/4"	6
9" x 3/8"	9"	3/8"	3/8"	1"	1/4"	8

- NOTES:
1. MATERIAL QUALITY PER SPECIFICATIONS.
 2. DIM. REQUIREMENTS INDICATED SHOULD BE GIVEN TO THE SUPPLIERS PRIOR TO PLACING ORDERS.
 3. NON-ROUND CENTER BULBS SHALL HAVE A MINIMUM OUTSIDE DIMENSION OF "D".

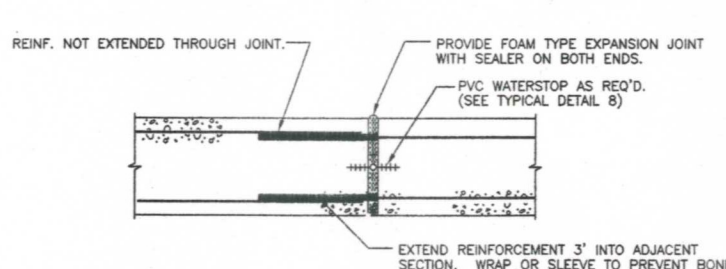
PVC WATERSTOP DETAIL 8
NOT TO SCALE
S-6



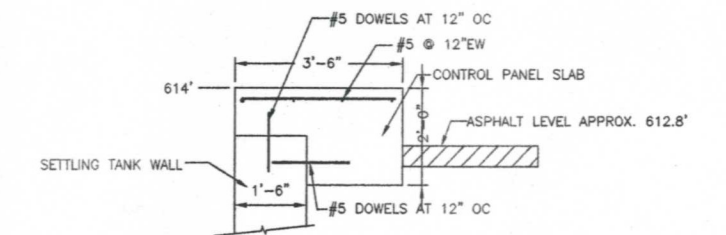
RECESSED WALL DETAIL 10
NOT TO SCALE
S-6



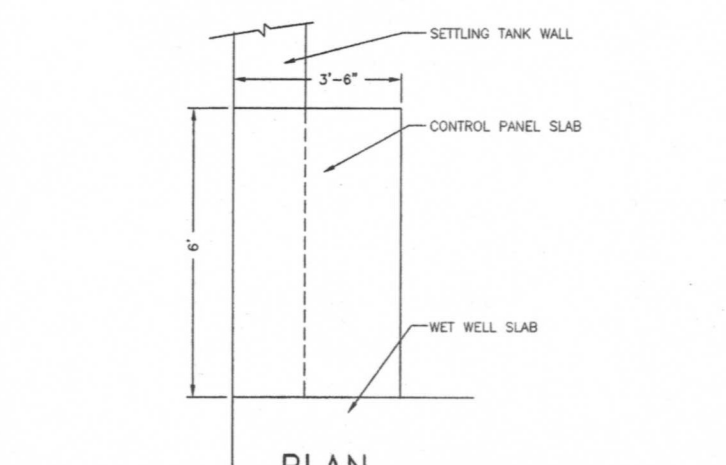
CONSTRUCTION JOINT DETAIL 9
NOT TO SCALE
S-6



EXPANSION JOINT DETAIL 11
NOT TO SCALE
S-6

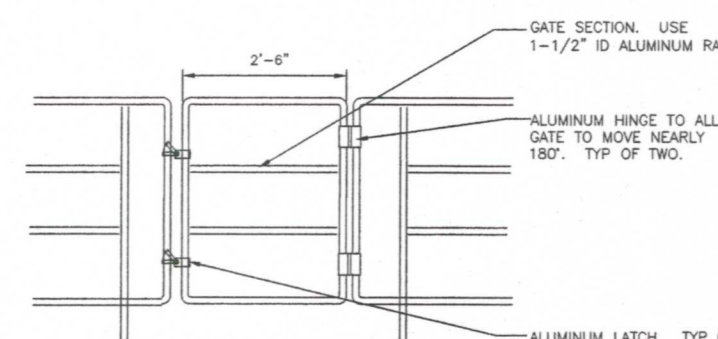


SECTION



PLAN

CONTROL PANEL SLAB DETAIL 12
SCALE: 1/2" = 1'
S-6



GATE DETAIL
NOT TO SCALE

DETAIL 7
NOT TO SCALE
S-6

Half Size

NO.	DATE	MADE BY	CHECKED BY	DESCRIPTION

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN
Richard Anthony

DRAWN BY: RMA & JDC
CHECKED BY: RMA
DEPT. CHECK: _____

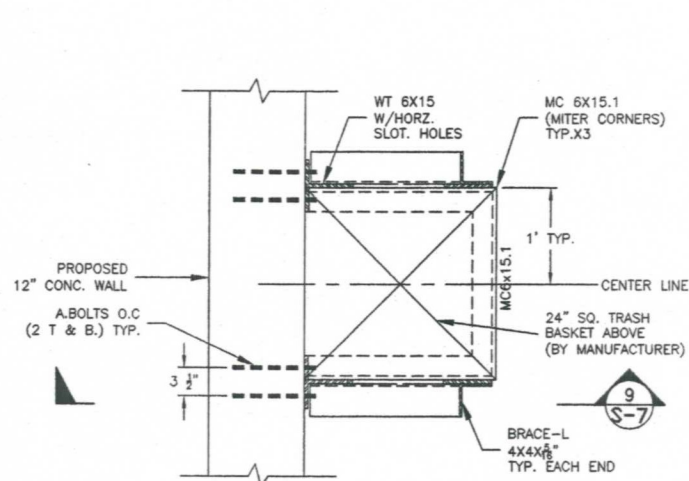
SCALE: AS SHOWN

RMA ENGINEERING COMPANY
CONSULTING ENGINEERS

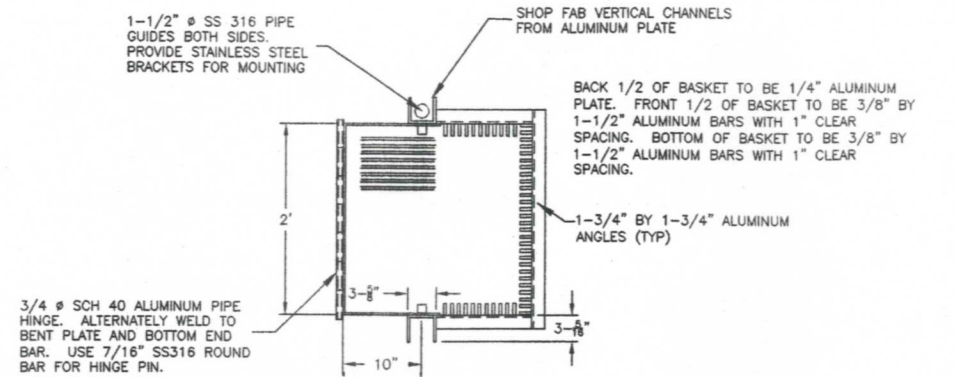
CITY OF SUPERIOR,
DEPARTMENT OF PUBLIC
WORKS

LIFT STATION #6, COLLECTION SYSTEM
AND STORAGE IMPROVEMENTS
STRUCTURAL DETAILS-1

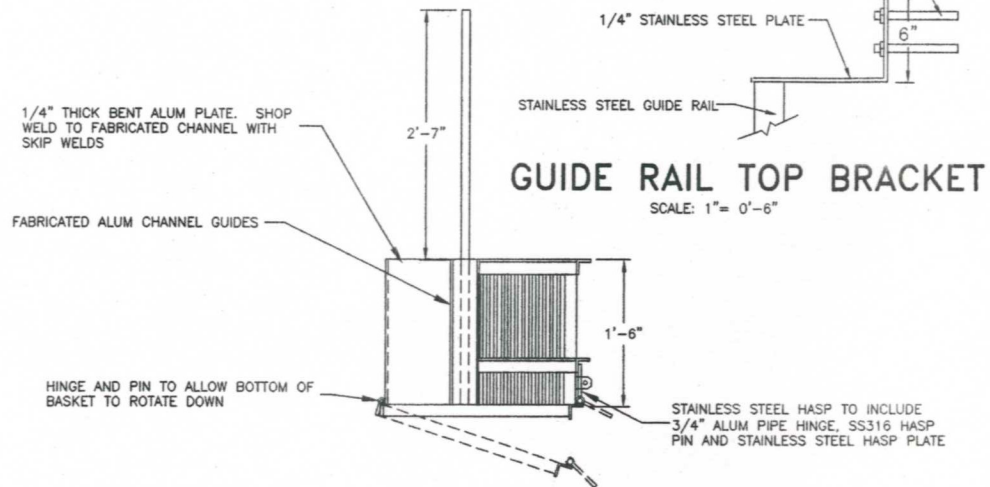
PROJ. JOB NO. _____



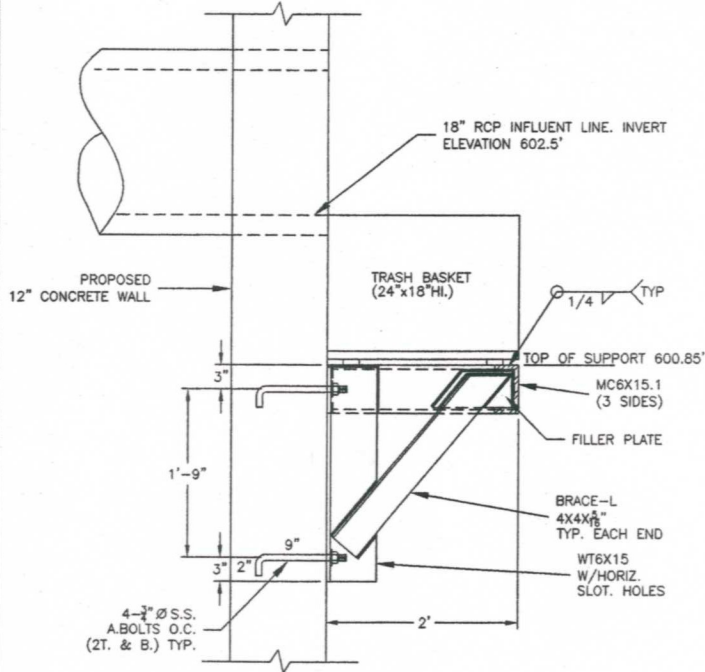
TRASH SUPPORT PLAN
SCALE: 1" = 1'-0"



TRASH BASKET PLAN VIEW
SCALE: 1" = 1'-0"

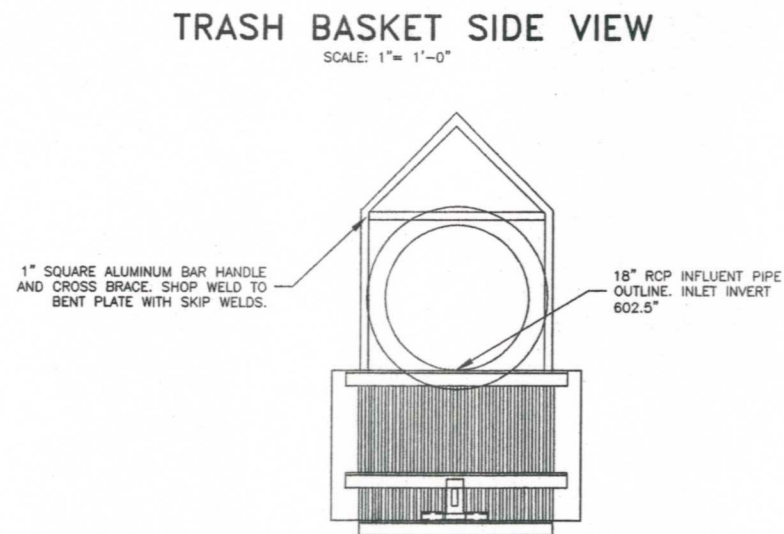


GUIDE RAIL TOP BRACKET
SCALE: 1" = 0'-6"



SECTION 9
SCALE: 1" = 1'-0"

SEE MECH. DRAWING M-1

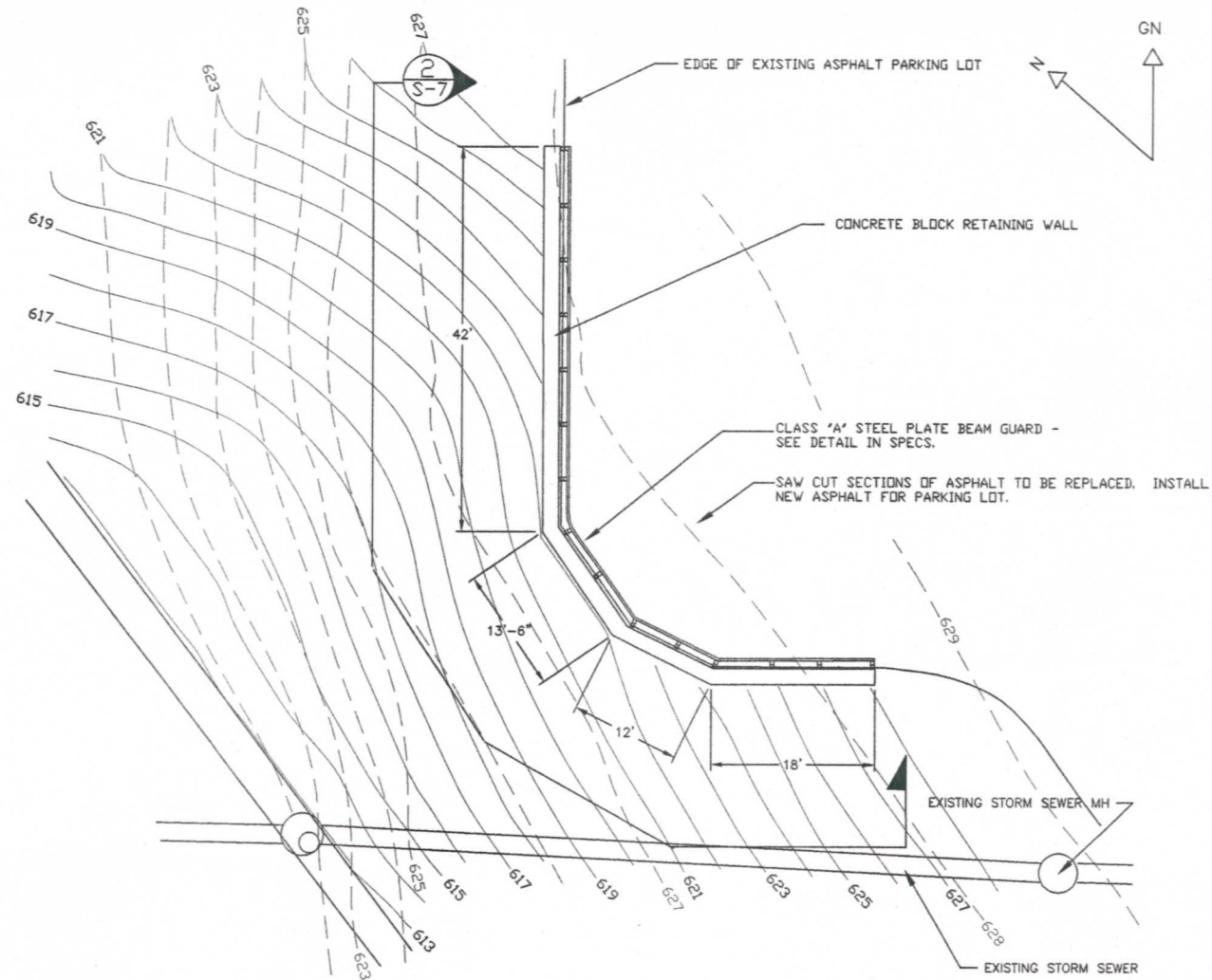


TRASH BASKET SIDE VIEW
SCALE: 1" = 1'-0"

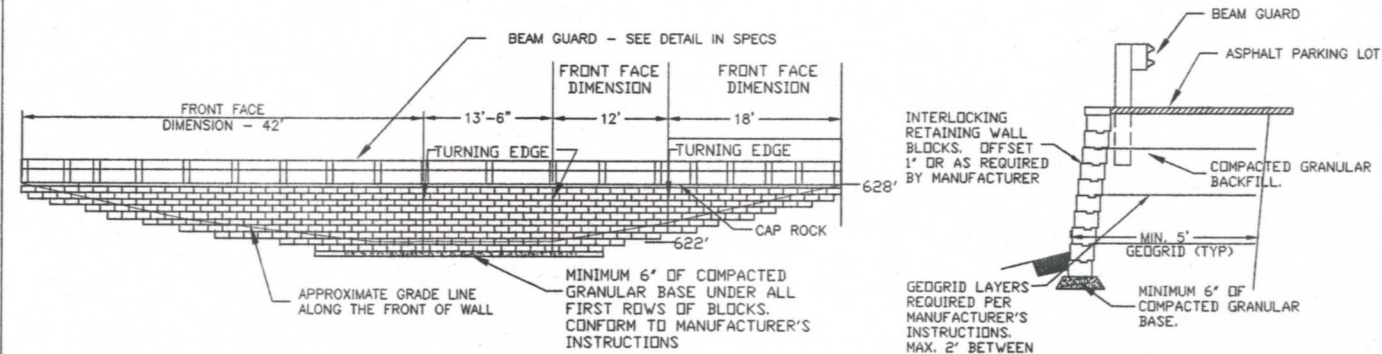
TRASH BASKET FRONT VIEW
SCALE: 1" = 1'-0"

TRASH BASKET DETAIL 13
SCALE: 1" = 1'-0"

Half Size



PLAN RETAINING WALL BLOCKS
SCALE 1" = 10'



SECTION 14
RETAINING WALL BLOCKS
SCALE 1" = 10'

TYPICAL WALL SECTION
SCALE 1/4" = 1'

RETAINING WALL BLOCKS DETAIL 14
SCALE AS SHOWN

NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION
1	12/10/03	RMA		GENERAL REVISIONS
2	10/26/04	RMA		GENERAL REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN

Richard Anthony

REG. NO. 25488 DATE: AUGUST 4, 2003

DRAWN BY: RMA

CHECKED BY: RMA

DEPT. CHECK: _____

SCALE: _____

RMA ENGINEERING COMPANY
CONSULTING ENGINEERS

CITY OF SUPERIOR,
DEPARTMENT OF PUBLIC
WORKS

LIFT STATION #6, COLLECTION SYSTEM
AND STORAGE IMPROVEMENTS

STRUCTURAL DETAILS-2



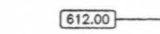
PROJ. JOB NO. _____

SHEET NO. S-7

STRUCTURAL ABBREVIATIONS

AL	ALUMINUM	HORZ	HORIZONTAL
ALT	ALTERNATE	IF	INSIDE FACE
BOT	BOTTOM	LONG.	LONGITUDINAL
BOF	BOTTOM OF FOOTING	MAX	MAXIMUM
BM	BEAM	MIN	MINIMUM
BRO	BEARING	NTS	NOT TO SCALE
CJ	CONSTRUCTION JOINT	OC	ON CENTER
CL	CENTER LINE	OF	OUTSIDE FACE
CLR	CLEARANCE	RC	REINFORCED CONCRETE
COL	COLUMN	SIM	SIMILAR
CONC	CONCRETE	SPECS	SPECIFICATIONS
CONN	CONNECTION	SO	SQUARE
DIA	DIAMETER	T&B	TOP AND BOTTOM
EA	EACH	TOC	TOP OF CONCRETE
EF	EACH FACE	TRANSV	TRANSVERSE
EL	ELEVATION	TOS	TOP OF STEEL
EW	EACH WAY	TOW	TOP OF WALL
EXP JT	EXPANSION JOINT	TYP	TYPICAL
FDN	FOUNDATION	VERT	VERTICAL
FTG	FOOTING	WS	WATERSTOP
GALV	GALVANIZE (HOT DIPPED)	WWF	WELDED WIRE FABRIC

STRUCTURAL LEGEND

-  INDICATES CENTER LINE
-  INDICATES BOTTOM OF FOOTING ELEVATION
-  INDICATES TOP OF WALL ELEVATION

NOTE:
 CONTRACTOR SHALL PROTECT ALL STRUCTURES FROM BOUANCY DURING CONSTRUCTION UNTIL ENTIRE STRUCTURE IS COMPLETED AND BACKFILLED AS DIRECTED.
 SPECIAL BOUANCY COMPENSATION IS REQUIRED DURING CONSTRUCTION AND FUTURE MODIFICATIONS SEE GENERAL NOTES.

**GEOTECHNICAL DESIGN CRITERIA
 EARTH AND HYDROSTATIC PRESSURES**

- AT REST ABOVE GROUNDWATER TABLE (GWT) EQUIVALENT FLUID PRESSURE (EFP) = 55 PCF
- AT REST BELOW GWT; EFP = 100 PCF
- SOIL WEIGHT = 115 PCF
- SOIL BEARING PRESSURE = 1500 PSF
- K_u = 0.35
- DESIGN 100 YEAR FLOOD ELEVATION = 604'

STRUCTURAL NOTES

- GENERAL
- DESIGN IS IN ACCORDANCE WITH, AND CONSTRUCTION SHALL CONFORM TO REQUIREMENTS OF THE WISCONSIN ADMINISTRATIVE CODE.
 - INFORMATION REGARDING EXISTING CONSTRUCTION AND CONDITIONS IS BASED ON FIELD INSPECTION, AND IS INCLUDED TO ASSIST THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY OR COMPLETENESS.
 - THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHEN UNANTICIPATED OR APPARENTLY DANGEROUS CONDITIONS ARE UNCOVERED DURING CONSTRUCTION OR DEMOLITION.
 - THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE PORTION OF THE WORK.
 - OPENINGS LESS THAN 12" MAXIMUM DIMENSION IN SLABS AND WALLS ARE GENERALLY NOT SHOWN ON STRUCTURAL DRAWINGS. SEE MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS (IF ANY) FOR LOCATIONS AND DIMENSIONS OF CHASES, INSERTS, SLEEVES, OPENINGS AND OTHER PROJECT REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS.
 - DETAILS NOT SPECIFICALLY SHOWN SHALL BE SIMILAR TO THOSE FOR MOST NEARLY SIMILAR CONDITION AS DETERMINED BY THE ENGINEER.
 - THE CONTRACTOR SHALL SHORE, BRACE, SHEETPILE OR OTHERWISE SUPPORT THE STRUCTURE AS REQUIRED TO MAINTAIN STRUCTURAL INTEGRITY AT ALL TIMES.
 - HEADERS SHALL BE PLACED ACROSS TOP OF SHORING POSTS AND SHALL BE TIGHT AGAINST UNDERSIDE OF STRUCTURE ABOVE.
 - SHORING SHALL BEAR ON SLEEPERS TO PREVENT DAMAGE TO STRUCTURE BELOW.
 - TEMPORARY SHORES SHALL BE DESIGNED, ERECTED, SUPPORTED, BRACED AND MAINTAINED BY THE CONTRACTOR TO SUPPORT SAFELY ALL DEAD LOADS PRESENTLY CARRIED BY THE STRUCTURAL WORK BEING SHORED, AND ANY CONSTRUCTION LIVE LOADS.
 - NEW STRUCTURAL SYSTEMS SHALL BE COMPLETELY INSTALLED AND CAPABLE OF SUPPORTING DESIGN LOADS BEFORE SHORES ARE REMOVED. SHORES SHALL BE RELEASED GRADUALLY.

DESIGN LOADS (EXCEPT AS NOTED):

- SNOW - (ZONE 1):
 LIVE LOAD 40 PSF
 - STRUCTURAL SLAB - WET WELL
 LIVE LOAD 300 PSF
 - DAVIT CRANE 2,000 LBS
 - STRUCTURAL SLAB - VALVE PIT
 WHEEL/ AXLE LOAD H-20
 - STRUCTURAL SLAB - DIVERSION BOX
 LIVE LOAD 300 PSF
- SLAB LOADINGS ALSO INCLUDE THE WEIGHT OF CONCRETE AND ATTACHMENTS.

FOUNDATIONS

- BASE SLABS HAVE BEEN DESIGNED BASED UPON A PRESUMPTIVE BEARING CAPACITY OF: 1500 PSF
 THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF UNSUITABLE BEARING MATERIALS EXIST.
- THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE VALIDITY OF SUBSURFACE CONDITIONS WHERE DESCRIBED ON DRAWINGS, SPECIFICATIONS, TEST BORINGS OR TEST PITS. THESE DATA ARE INCLUDED ONLY TO ASSIST THE CONTRACTOR DURING CONSTRUCTION, AND REPRESENT CONDITIONS ONLY AT THESE SPECIFIC LOCATIONS AT THE PARTICULAR TIME THEY WERE PERFORMED.
- THE FOUNDATION DESIGN IS BASED ON INFORMATION PROVIDED IN GEOTECHNICAL REPORT, "SUBSURFACE EXPLORATION FOR THE PROPOSED WASTEWATER OVERFLOW STORAGE BASIN IN SUPERIOR, WISCONSIN, DATED 6/22/01, PREPARED BY GME CONSULTANTS, INC., DULUTH, MN.
- UNSUITABLE BEARING MATERIALS, SUCH AS MISCELLANEOUS FILL AND ORGANIC SOILS MAY EXIST IN AREAS OF NEW FOUNDATIONS. EXISTING UNSUITABLE MATERIALS SHALL BE EXCAVATED TO 1'-0" MIN. AS DIRECTED OR AS INDICATED ON THE DRAWINGS AND SHALL BE FOLLOWED BY PLACEMENT OF COMPACTED GRAVEL FILL OR CRUSHED STONE AS SPECIFIED.
- WHERE ROCK IS ENCOUNTERED, IT SHALL BE EXCAVATED TO 1'-0" BELOW BOTTOMS OF FOOTINGS AND SLABS AND REPLACED WITH A 1'-0" LAYER OF COMPACTED GRAVEL OR SAND.
- NO FOUNDATION CONCRETE SHALL BE PLACED IN WATER OR ON FROZEN SOIL.
- BACKFILL UNDER ANY PORTION OF THE STRUCTURE SHALL BE COMPACTED IN 6" LIFTS.
- COMPACT SOIL TO 95% OF MAX. DRY DENSITY UNDER FOOTINGS AND SLABS ACCORDING TO ASTM D-1557.
- PLACE CONSTRUCTION JOINTS AND P.V.C. WATERSTOPS IN SLABS AND FOUNDATION WALLS IN ACCORDANCE WITH DETAILS AND AT LOCATIONS INDICATED ON DRAWINGS.
- FOUNDATION WALLS ENCLOSING BELOW GRADE AREAS SHALL BE BRACED OR HAVE ROOF SLABS OR FRAMING SECURELY IN PLACE PRIOR TO BACKFILLING. CONCRETE SHALL REACH 75% OF THE DESIGN STRENGTH PRIOR TO BACKFILLING.
- BACKFILL SHALL BE PLACED AND COMPACTED SIMULTANEOUSLY ON BOTH SIDES OF FOUNDATION WALLS WHEREVER POSSIBLE.
- CONTRACTOR SHALL MAINTAIN CONTINUOUS CONTROL OF SURFACE AND SUBSURFACE WATER DURING CONSTRUCTION SO THAT WORK IS DONE UNDER DRY CONDITIONS ON UNDISTURBED SUBGRADE MATERIAL OR COMPACTED FILL, AS APPLICABLE. IT IS ANTICIPATED THAT SHEETING & DEWATERING WILL BE REQUIRED.
- ALL EMBANKMENTS AND BACKFILL AROUND STRUCTURES SHALL BE COMPACTED TO 90% MODIFIED PROCTOR DENSITY.
- ALL BELOW GRADE CONCRETE WALLS SHALL BE COATED WITH A BITUMINOUS BASED DAMPPROOFING MATERIAL.
- STRUCTURES ARE DESIGNED FOR GROUNDWATER ELEVATIONS UP TO 604' MSL.
- ALL EXCAVATIONS MUST COMPLY WITH THE REQUIREMENTS OF OSHA 29 CFR, PART 1926, SUBPART P, "EXCAVATIONS AND TRENCHES."

STRUCTURAL NOTES, CONT.

CONCRETE

- CONCRETE WORK SHALL CONFORM TO LATEST EDITIONS OF "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318) AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301), AND ACI 350 "ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES".
- CONCRETE SHALL BE PROPORTIONED, MIXED AND PLACED UNDER THE SUPERVISION OF THE APPROVED TESTING AGENCY.
- CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI, UNLESS OTHERWISE NOTED.
- ALL CONCRETE SHALL BE AIR-ENTRAINED.
- CONCRETE SHALL BE CURED FOR A MINIMUM OF (7) SEVEN DAYS BEFORE ANY LOADS ARE APPLIED THERETO.
- CONSTRUCTION JOINTS SHALL BE PLACED AS SHOWN ON THE DRAWINGS. CHANGES SHALL NOT BE MADE WITHOUT APPROVAL OF THE ENGINEER.
- CONCRETE SHALL BE PLACED SO THAT SLAB THICKNESS IS AT NO POINT LESS THAN THAT INDICATED ON DRAWINGS.
- CONCRETE SLABS AND WALLS SHALL BE CAST ALTERNATELY OR IN A CHECKERBOARD PATTERN SO THAT SECTIONS ARE PLACED NO SOONER THAN 3 DAYS APART.
- PROVIDE A SMOOTH RUBBED SURFACE, FREE FROM BURRS, TIE HOLES, HONEYCOMBING, ETC. ON EXPOSED CONCRETE WALLS.
- PROVIDE A STEEL TROWELED FINISH FOR SLABS AT PITS AND A BROOM FINISH FOR EXPOSED SLABS.
- AT OPENINGS IN FOUNDATION WALLS LESS THAN 12 INCHES SQUARE, PROVIDE 2-#6 BARS AT EACH EDGE OF OPENING.
- PORTLAND CEMENT TYPE II SHALL BE USED FOR ALL CONCRETE AND MAXIMUM W/C (WATER CEMENT RATIO) SHALL BE 0.45 AND A MAXIMUM WATER SOLUBLE CHLORIDE-CONCENTRATION IN HARDENED CONCRETE OF 0.15% BY WEIGHT OF CEMENT.
- AT ALL CONSTRUCTION JOINTS EPOXY NEW CONCRETE TO HARDENED CONCRETE WITH SIKADUR 32, HI-MOD MANUFACTURED BY SIKA CORP. OR ENGINEER APPROVED EQUIVALENT APPLY PER MANUFACTURED RECOMMENDATION.
- ELASTOMERIC SEALANT SHALL BE "SIKA FLEX 1A" AS MANUFACTURED BY SIKA CORP. OR ENGINEER APPROVED EQUIVALENT.
- SUNNEBORNE HLM-5000R FOR ELASTOMERIC CHIMNEY SEALER.
- ALL EXPOSED CONCRETE EDGES SHALL HAVE A 3/4" CHAMFER (TYP.)
- ALL CONCRETE SHALL BE PLACED IN THE DRY CONDITION. WHERE CONSTRUCTION JOINTS ARE NOT SHOWN, OR WHEN ALTERNATE LOCATIONS ARE PROPOSED, DRAWINGS SHOWING LOCATION OF CONSTRUCTION AND CONTROL JOINTS AND CONCRETE PLACING SEQUENCE SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO PREPARATION OF THE REINFORCEMENT SHOP DRAWINGS.
- PROCESS AND ELECTRICAL DRAWINGS IDENTIFY AND LOCATE ALL EMBEDDED ITEMS (PIPES, SLEEVES, EQUIPMENT BOLTS, RAILINGS, LIFTING RINGS, FRAMES, ETC.) AND ARE TO BE USED IN CONJUNCTION WITH STRUCTURAL DRAWINGS DURING CONSTRUCTION.
- ALL EQUIPMENT ANCHOR BOLTS FURNISHED BY EQUIPMENT MANUFACTURER TO BE INSTALLED BY GENERAL CONTRACTOR, AND SHALL BE STAINLESS STEEL.

REINFORCING STEEL

- REINFORCING STEEL SHALL BE GRADE 60 NEW BILLET STEEL, CONFORMING TO ASTM A615. WELDED WIRE FABRIC SHALL BE ASTM A185.
- DETAILING, FABRICATION AND ERECTION OF REINFORCEMENT SHALL CONFORM TO LATEST EDITIONS OF "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318) AND "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI 315).
- MINIMUM LAP OF REINFORCING BARS SHALL BE 40 DIAMETERS, UNLESS SHOWN OTHERWISE.
- REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS.
- INSTALLATION OF REINFORCEMENT SHALL BE COMPLETED AT LEAST 24 HOURS PRIOR TO SCHEDULED CONCRETE PLACEMENT, UNLESS OTHERWISE APPROVED BY ENGINEER.
- MINIMUM CONCRETE COVER FOR REINFORCEMENT, UNLESS NOTED OTHERWISE, SHALL BE AS FOLLOWS:
 A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3.0"
 B. CONCRETE EXPOSED TO EARTH OR WEATHER #6 THROUGH #18 BARS 2.0"
 #5 BAR W31 OR D31 WIRE, AND SMALLER 1.5"
 C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND #14 AND #18 BARS, SLABS, WALLS, JOISTS 1.5"
 #11 BAR AND SMALLER 1.0"
 D. BEAMS, COLUMNS: PRIMARY REINFORCEMENT, TIES, STIRRUPS, SPIRALS 2.0"
- PROVIDE AND SCHEDULE ON SHOP DRAWINGS THE NECESSARY ACCESSORIES TO HOLD REINFORCEMENT SECURELY IN POSITION. MINIMUM REQUIREMENTS SHALL BE HIGH CHAIRS, 4'-0" O.C. WITH CONTINUOUS #6 SUPPORT BAR, SLAB BOLSTERS, CONTINUOUS AND 3'-6" O.C.; BEAM BOLSTERS, 5'-0" O.C. ALL CHAIRS SHALL BE GALVANIZED AND SHALL BE USED AGAINST ALL FORMS (SLABS, WALLS, PILASTERS, ETC.)
- WHERE CONTINUOUS REINFORCEMENT IS CALLED FOR IT SHALL BE EXTENDED CONTINUOUS AROUND CORNERS AND LAPPED AT NECESSARY SPLICES OR HOOKED AT DISCONTINUOUS ENDS. LAPS SHALL BE CLASS B TENSION LAP SPLICES UNLESS NOTED OTHERWISE.
- WHERE REINFORCEMENT IS REQUIRED IN SECTION, REINFORCEMENT IS CONSIDERED TYPICAL WHEREVER THE SECTION APPLIES.
- WELDED WIRE FABRIC SHALL LAP 6" OR ONE SPACE, WHICHEVER IS LARGER, AND SHALL BE WIRE TOGETHER.
- REINFORCEMENT SHALL NOT BE TACK WELDED.

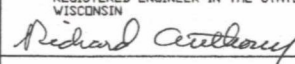
STRUCTURAL NOTES, CONT.

STEEL

- STRUCTURAL STEEL IS DESIGNED IN ACCORDANCE WITH AND WORK SHALL CONFORM TO THE LATEST EDITIONS OF "SPECIFICATIONS FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" (AISC), "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" (AISC) AND "STRUCTURAL WELDING CODE-STEEL" (AWS). STRUCTURAL STEEL SHALL BE NEW STEEL CONFORMING TO ASTM A36, FY = 36 KSI, UNLESS OTHERWISE NOTED.
- TUBE STEEL SECTIONS SHALL BE ASTM A500 GRADE B, FY = 48 KSI.
- CONNECTIONS:
 A. BEAM CONNECTIONS SHALL BE TYPE-3 "SEMI-RIGID FRAMING" (PARTIAL RESTRAINED), UNLESS NOTED OTHERWISE. REFER TO AISC SPECIFICATIONS AND PROVIDE DETAILS FOR REVIEW AND APPROVAL.
 B. CONNECTIONS SHALL BE BOLTED OR WELDED OR BOTH, AND FABRICATOR SHALL SUBMIT PROPOSED CONNECTION DETAILS FOR APPROVAL PRIOR TO FABRICATION.
 C. BOLTED CONNECTIONS SHALL BE MADE WITH 3/4" DIAMETER 316 STAINLESS STEEL OR A325 HOT DIP GALVANIZED AS NOTED IN DETAIL.
 D. WELDED CONNECTIONS SHALL BE MADE BY A CERTIFIED WELDER IN ACCORDANCE WITH AWS D.1.1. USING CLASS E70 SERIES ELECTRODES. WELDS SHALL DEVELOP THE FULL STRENGTH OF THE MATERIALS BEING WELDED.
 E. COLUMN ANCHOR BOLTS SHALL BE STAINLESS STEEL TYPE 316.
- ALL STEEL COMPONENTS AND FITTINGS EXPOSED TO WEATHER IN THEIR FINAL STATE SHALL BE HOT DIPPED GALVANIZED.
- ANCHOR BOLTS AND BEARING PLATES SHALL BE LOCATED BY TEMPLATES OR SIMILAR METHOD. PLATES SHALL BE SET IN FULL BEDS OF NON-SHRINK GROUT. BOTTOM OF BASE PLATES SHALL BE SET APPROXIMATELY 3/4" ABOVE TOP OF BEARING. RESULTING SPACE SHALL BE FILLED WITH DRY PACKED NON-SHRINK GROUT.
- STEEL FRAMING SHALL BE TRUED AND PLUMB BEFORE CONNECTIONS ARE PERMANENTLY BOLTED OR WELDED.
- TEMPORARY ERECTION BRACING AND SUPPORTS SHALL BE PROVIDED TO HOLD STRUCTURAL STEEL FRAMING SECURELY IN POSITION. SUCH TEMPORARY BRACING AND SUPPORTS SHALL NOT BE REMOVED UNTIL PERMANENT BRACING HAS BEEN INSTALLED AND FLOOR SLABS HAVE ATTAINED 75% OF SPECIFIED CONCRETE STRENGTH.
- MILLED STIFFENERS SHALL BE PROVIDED UNDER ALL LOAD CONCENTRATIONS ON SUPPORTING MEMBERS OVER ALL COLUMNS AND WHERE SHOWN ON THE DRAWINGS.
- AT THE DISCRETION OF THE ENGINEER WELDING SHALL BE INSPECTED IN THE FIELD BY QUALIFIED WELDING INSPECTORS UNDER THE SUPERVISION OF AN APPROVED TESTING AGENCY.
- FIELD CUTTING OR ANY OTHER FIELD MODIFICATIONS OF STRUCTURAL STEEL SHALL NOT BE MADE WITHOUT APPROVAL FROM ENGINEER FOR EACH SPECIFIC CASE.
- ALL EXPOSED STRUCTURAL STEEL SHALL BE HOT DIPPED GALVANIZED (2 OZ./SQ. FT.) AFTER FABRICATION IN COMPLIANCE WITH ASTM-123, A153 OR A386 AS APPLICABLE. GALVANIZER SHALL FURNISH, TO ENGINEER A NOTARIZED CERTIFICATE OF COMPLIANCE WITH THESE SPECIFICATIONS.

Half Size

REVISIONS				
NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION
1	2/19/04	RMA		SUPERIOR REVIEW REVISIONS
2	10/27/04	RMA		REVIEW REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN

 REG. NO. 25488 DATE: AUGUST 4, 2003

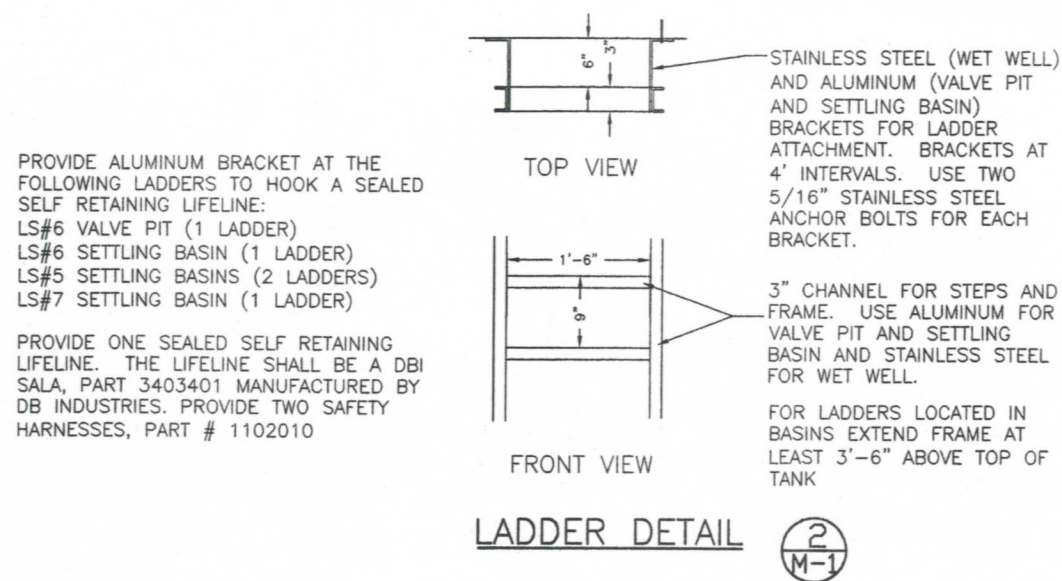
DRAWN BY: RMA & JDC
 CHECKED BY: RMA
 DEPT. CHECK: _____
 SCALE: NO SCALE

RMA ENGINEERING COMPANY
 CONSULTING ENGINEERS

CITY OF SUPERIOR,
 DEPARTMENT OF PUBLIC
 WORKS

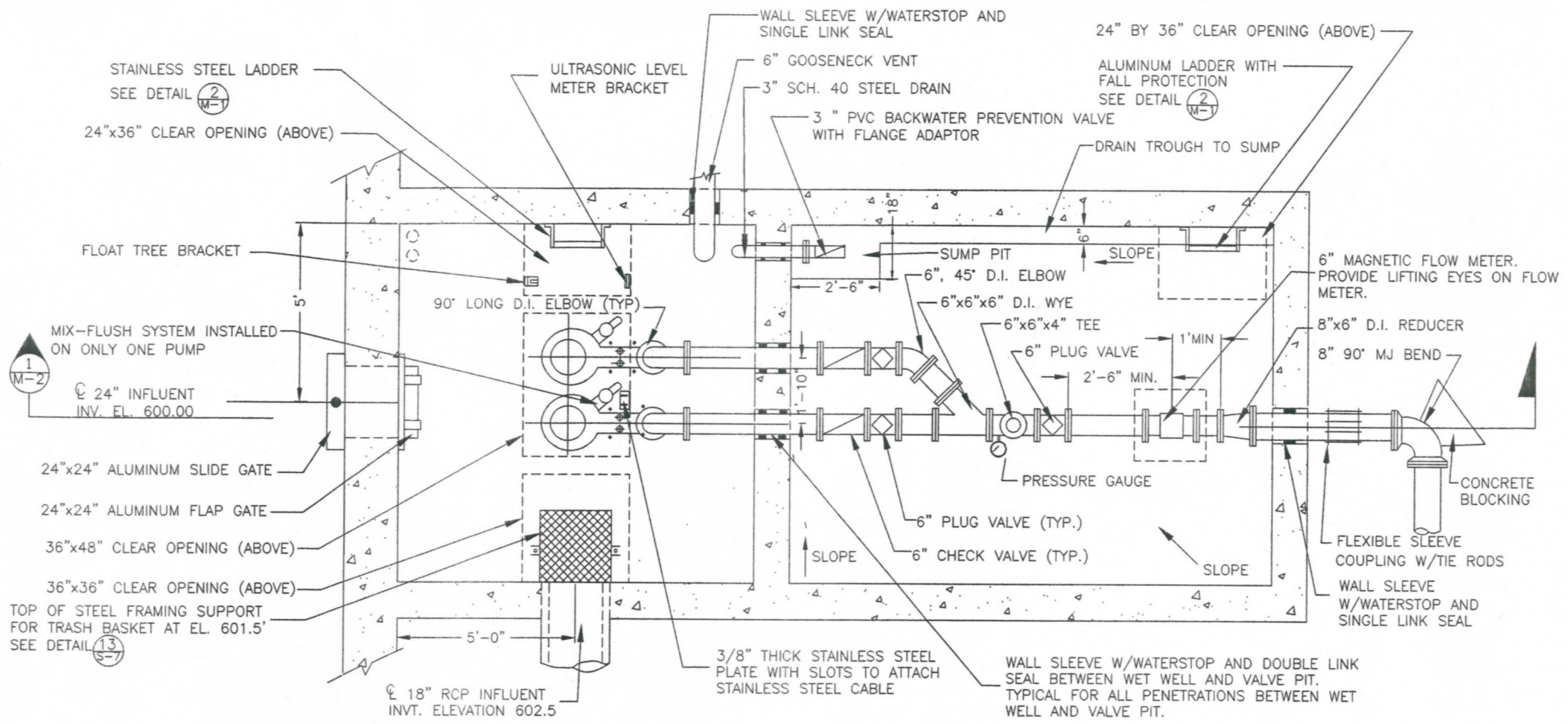
LIFT STATION #6, COLLECTION SYSTEM
 AND STORAGE IMPROVEMENTS

STRUCTURAL NOTES

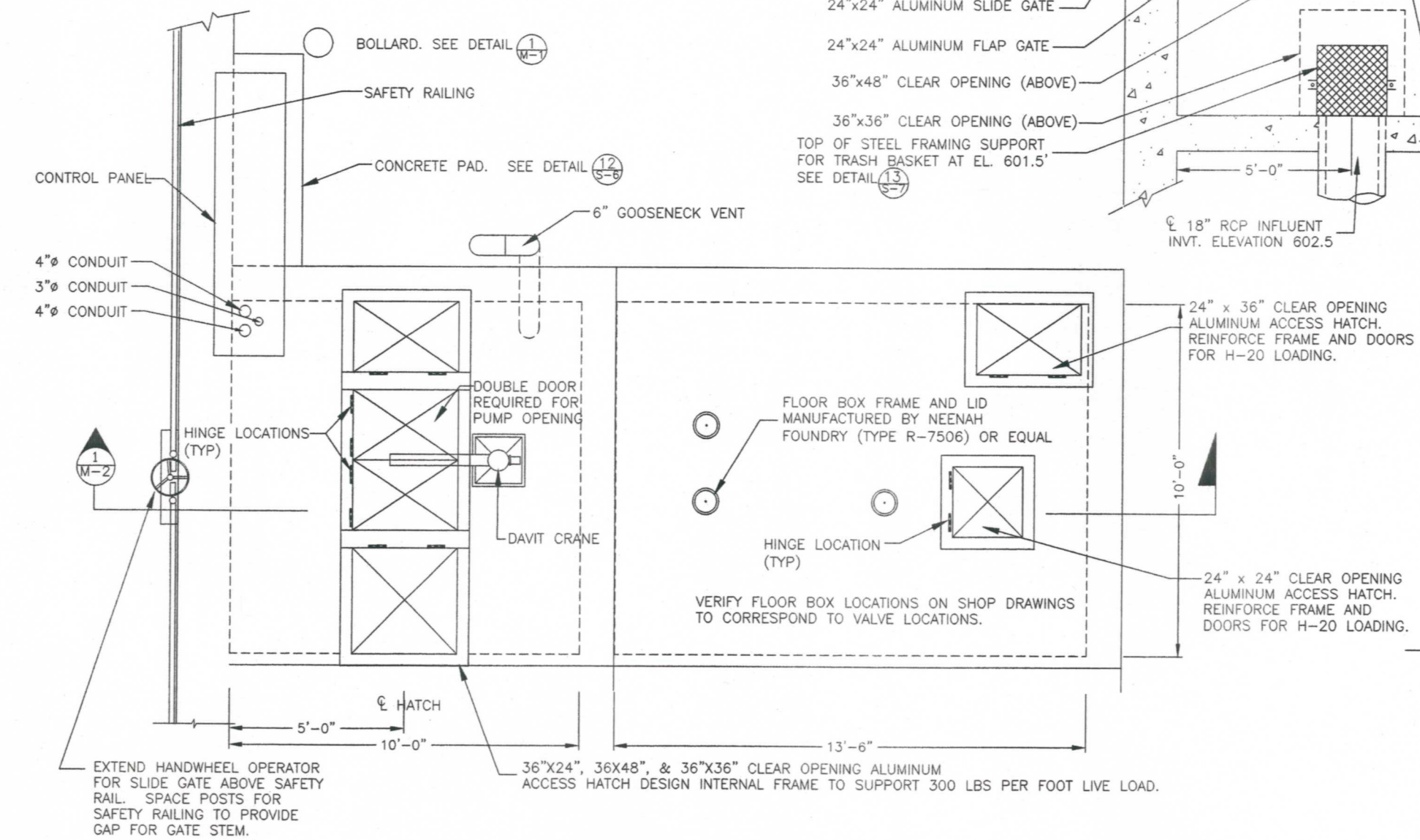


PROVIDE ALUMINUM BRACKET AT THE FOLLOWING LADDERS TO HOOK A SEALED SELF RETAINING LIFELINE:
 LS#6 VALVE PIT (1 LADDER)
 LS#6 SETTLING BASIN (1 LADDER)
 LS#5 SETTLING BASINS (2 LADDERS)
 LS#7 SETTLING BASIN (1 LADDER)

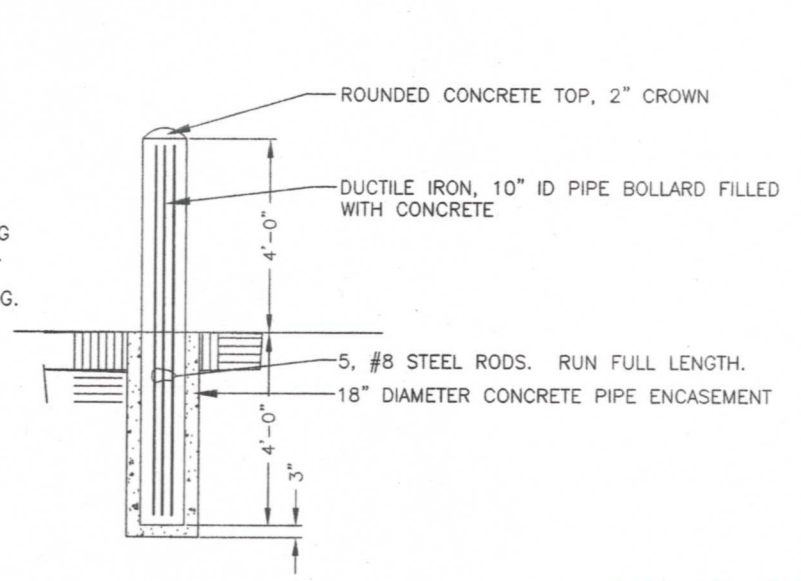
PROVIDE ONE SEALED SELF RETAINING LIFELINE. THE LIFELINE SHALL BE A DBI SALA, PART 3403401 MANUFACTURED BY DB INDUSTRIES. PROVIDE TWO SAFETY HARNESSSES, PART # 1102010



LIFT STATION NO. 6 LOWER PLAN
 SCALE: 1/2"=1'-0"



LIFT STATION NO. 6 UPPER PLAN
 SCALE: 1/2"=1'-0"



BOLLARD DETAIL (1) (M-1)

GRID NORTH

- NOTES:
1. PAINT ALL BOLLARDS AND VENT PIPING YELLOW.
 2. PROVIDE CONCRETE RESTRAINTS AS SHOWN IN ACCORDANCE WITH "STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, FILE NO. 44"

Half Size

REVISIONS				
NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION
1	12/10/03	RMA		DNR REVIEW REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN

Richard A. ...

REG. NO. 25488 DATE: AUGUST 4, 2003

DRAWN BY: RMA & JDC

CHECKED BY: RMA

DEPT. CHECK: _____

SCALE: AS SHOWN

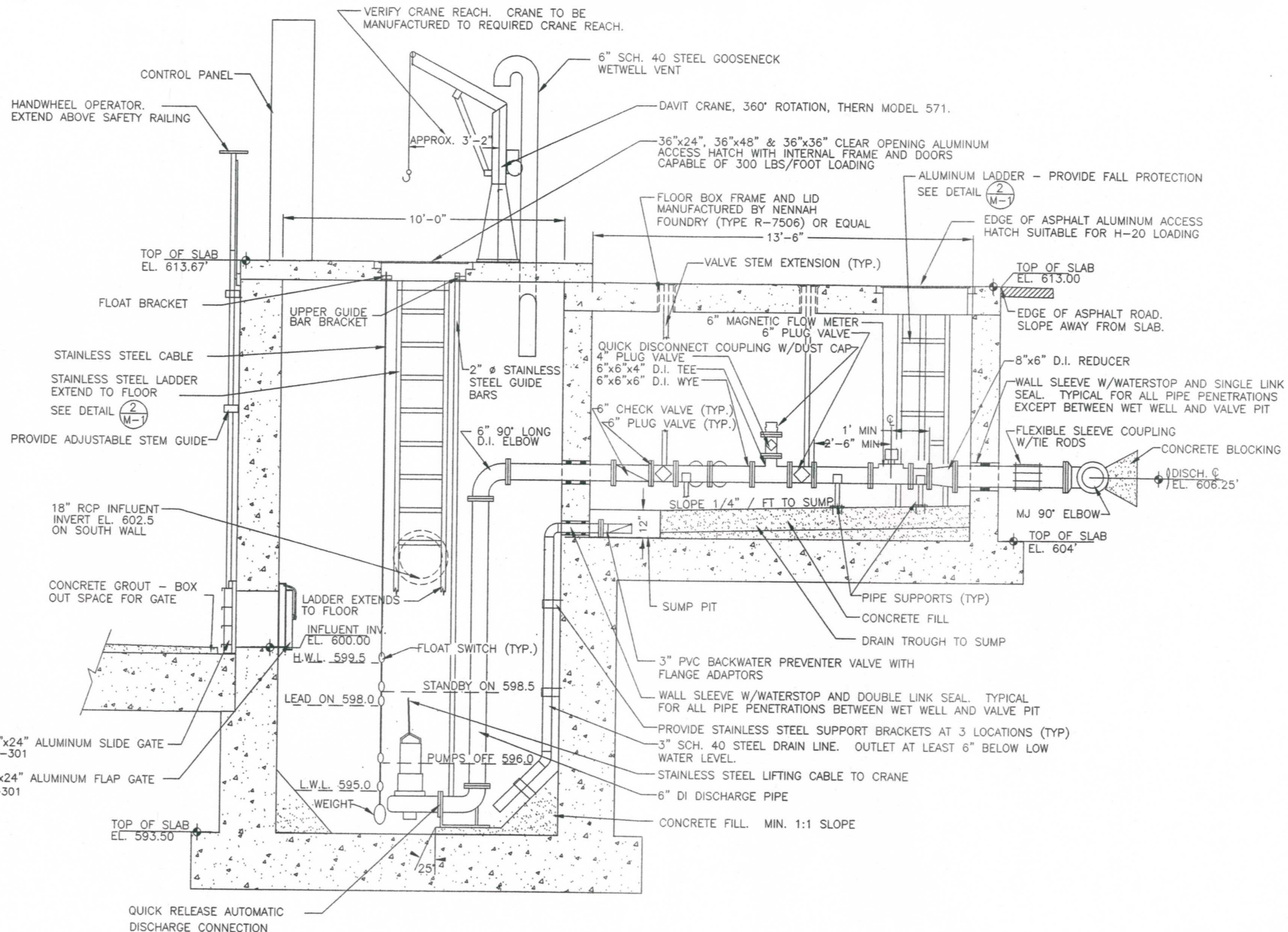
RMA ENGINEERING COMPANY
 CONSULTING ENGINEERS

CITY OF SUPERIOR,
 DEPARTMENT OF PUBLIC WORKS

LIFT STATION #6, COLLECTION SYSTEM AND STORAGE IMPROVEMENTS
 LIFT STATION PLANS

PROJ. JOB NO. _____

SHEET NO. **M-1**



SECTION 1
M-2
 SCALE: 1/2" = 1'-0"

Half Size

ALIGN FORCE MAIN DOWNSTREAM OF 90° ELBOW TO MAINTAIN A MINIMUM OF 7' OF COVER ABOVE CROWN.

GENERAL NOTES:

1. DIMENSIONS TO SUIT EQUIPMENT MANUFACTURER'S AND ENGINEER'S RECOMMENDATIONS.
2. CONTRACTOR TO PROVIDE PROPER SUPPORT FOR PIPING BOTH DURING AND AFTER CONSTRUCTION.
3. VALVE PIT LADDER TO BE ALUMINUM.
4. WET WELL LADDER SHALL BE 316 GRADE L STAINLESS STEEL. FALL PROTECTION IS NOT TO BE PROVIDED.
5. WET WELL NOT DESIGNED TO HANDLE VEHICULAR TRAFFIC.
6. PROVIDE 6" DISCHARGE CONNECTIONS SUITABLE FOR SPECIFIED WASTEWATER PUMPS. PUMP DISCONNECTS TO BE SUPPLIED BY PUMP MANUFACTURER.
7. STAINLESS STEEL LIFTING CABLE TO BE LOAD RATED FOR ONE TON AND SUFFICIENTLY LONG FOR ATTACHMENT TO CABLE HOIST OF DAVIT CRANE AND TO TRUCK MOUNTED CRANE. CABLE LENGTH SHALL BE SUBJECT TO APPROVAL BY THE CITY. PROVIDE UPPER STAINLESS STEEL BRACKET TO HOLD CABLE IN PLACE. THE DAVIT CRANE IS TO BE FITTED WITH A SQUARE NUT TO ALLOW FOR ADDITIONAL USE OF THE MILWAUKEE POWER DRILL FOR LIFTING PUMPS. THE DRIVE IS 2-1/16" BY 2-1/16".
8. GUIDE RAIL FOR PUMP AND TRASH BASKETS TO BE 316 GRADE L STAINLESS STEEL.
9. WET WELL IS A CLASS 1, DIVISION 2 AREA.
10. ONE SPARE T-HANDLE TO BE PROVIDED AND STORED IN THE VALVE PIT.
11. DAVIT CRANE TO BE MANUFACTURED TO HAVE THE REQUIRED REACH. MOUNT CRANE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
12. MAGNETIC FLOW METER SHALL INCLUDE:
 - LIFTING EYES
 - FLANGED DI SPOOL PIECE
 - TEFLON GASKETS BETWEEN PIPE AND FLOW METER FLANGES
13. ALL CABLES SHALL BE TIED OFF SO THEY DO NOT LOOP INTO WASTEWATER.
14. CONCRETE BLOCKING/RESTRAINTS SHALL CONFORM TO "STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, FILE NO. 44"

REVISIONS				
NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION
1	12/11/03	RMA		DNR REVIEW REVISIONS
2	02/19/04	RMA		SUPERIOR REVIEW REVISIONS
3	10/27/04	RMA		SUPERIOR REVIEW REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN

Richard Anthony

REG. NO. 25488 DATE: AUGUST 4, 2003

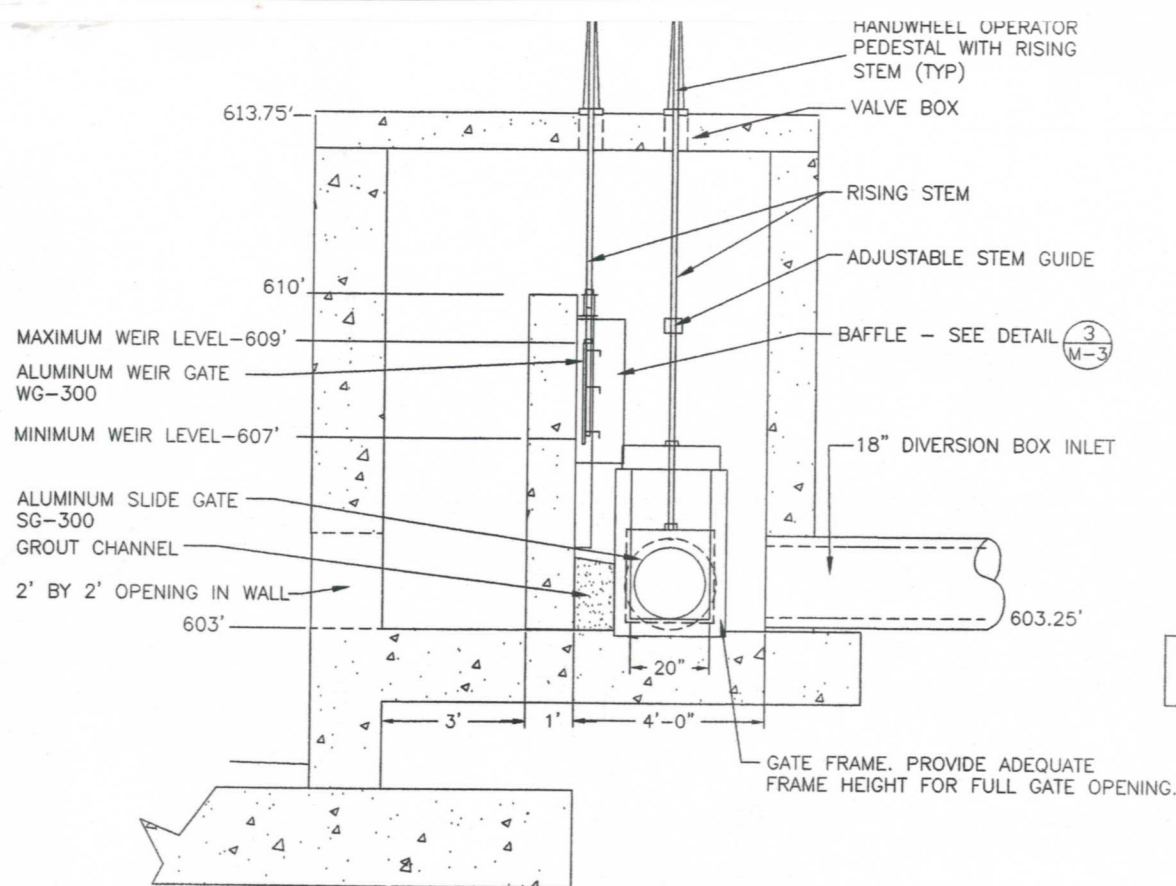
DRAWN BY: RMA & JDC
 CHECKED BY: RMA
 DEPT. CHECK: _____

SCALE: AS SHOWN
RMA ENGINEERING COMPANY
 CONSULTING ENGINEERS

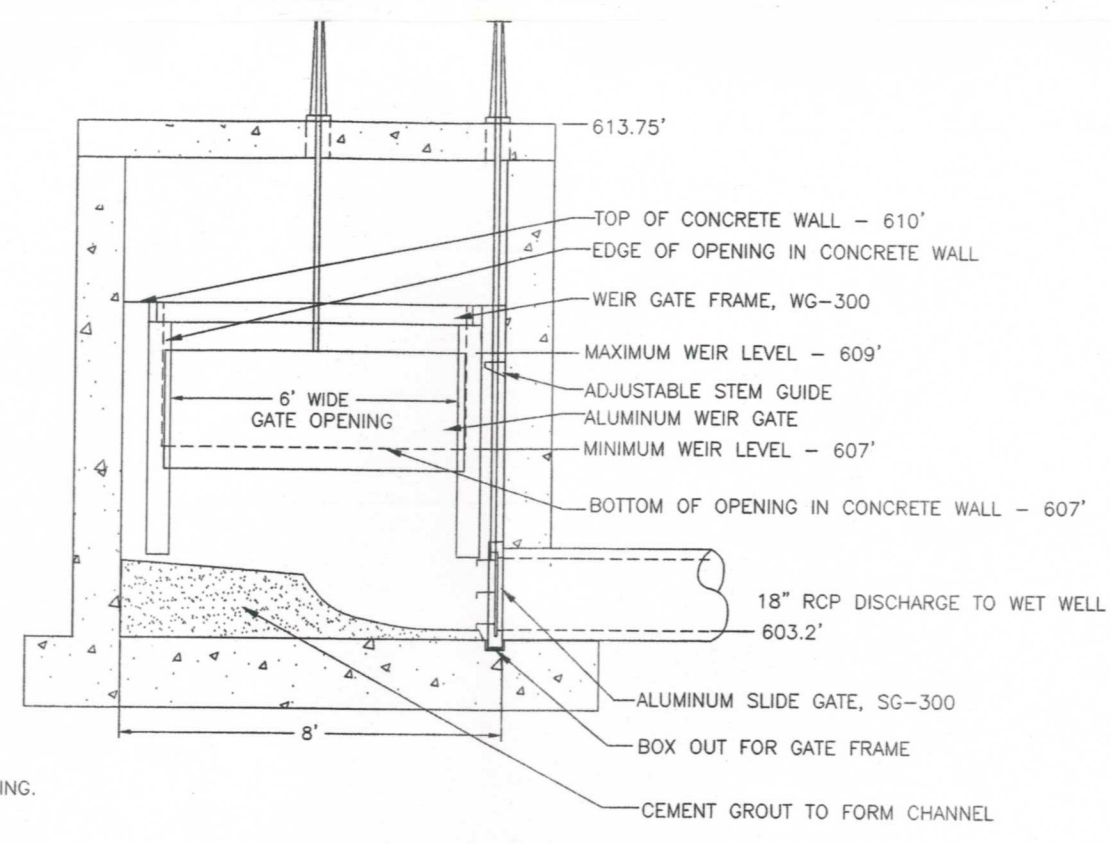
**CITY OF SUPERIOR,
 DEPARTMENT OF PUBLIC
 WORKS**

**LIFT STATION #6 AND STORAGE
 IMPROVEMENTS
 LIFT STATION SECTION**

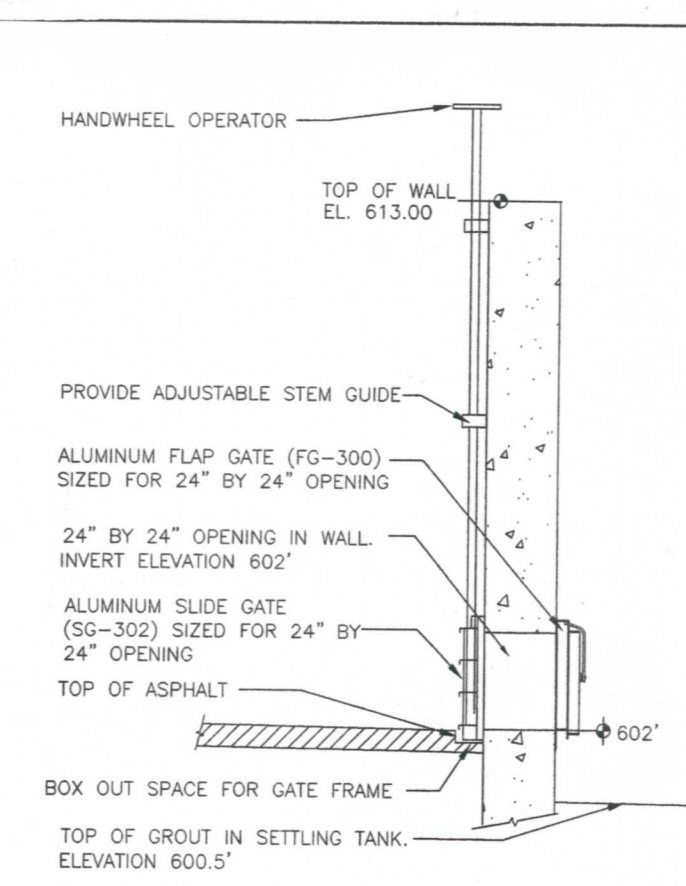
PROJ. JOB NO. _____
 SHEET NO. **M-2**



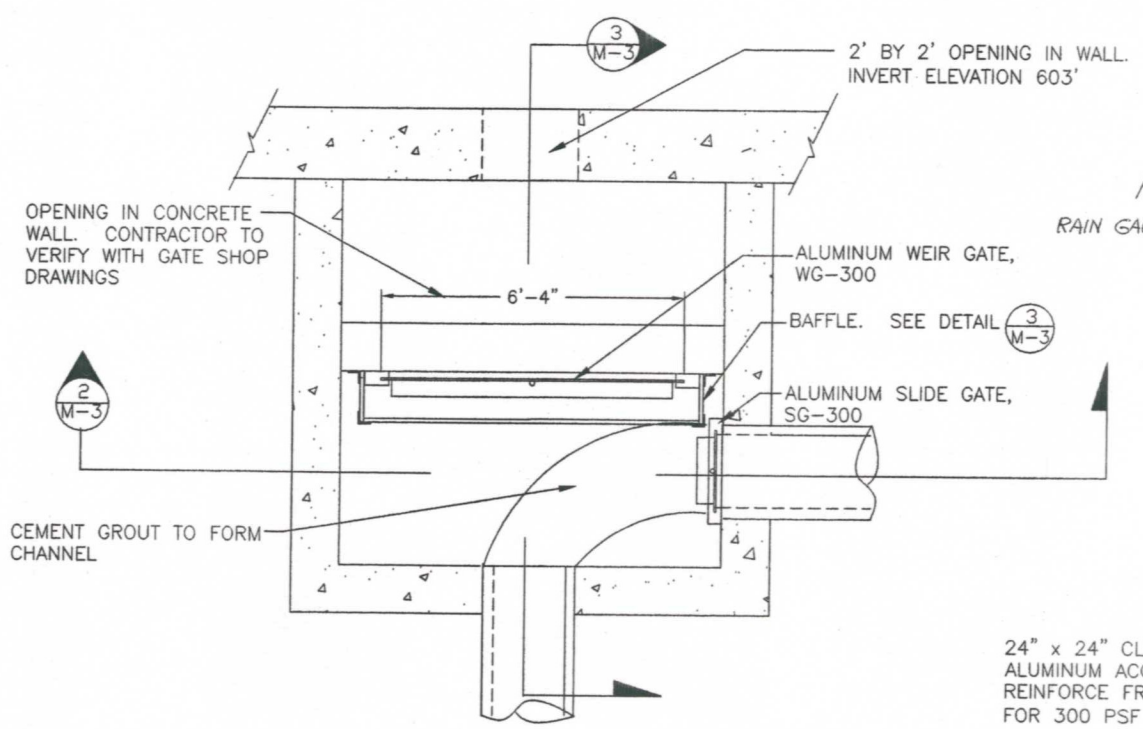
SECTION 3
M-3
SCALE: 1/2"=1'



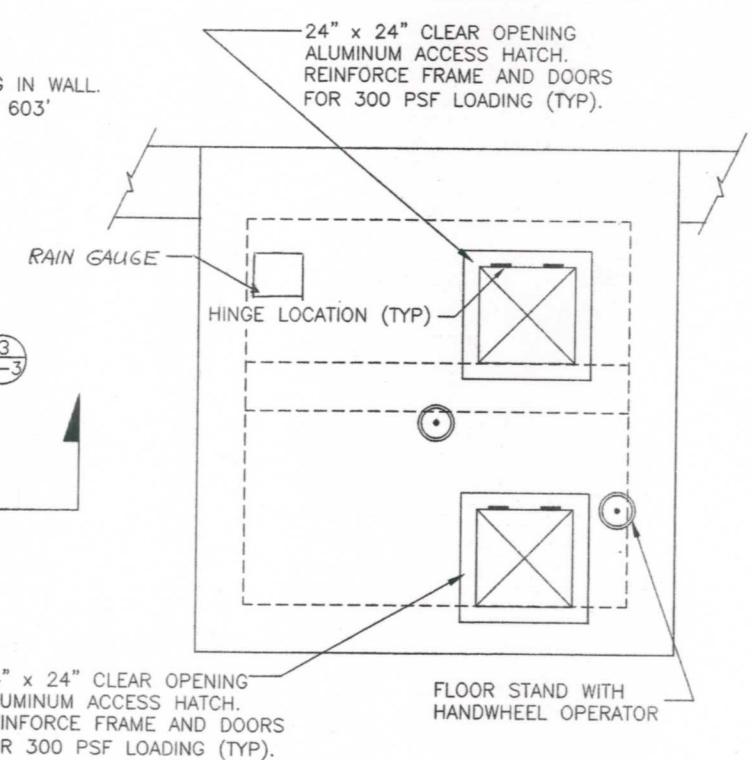
SECTION 2
M-3
SCALE: 1/2"=1'



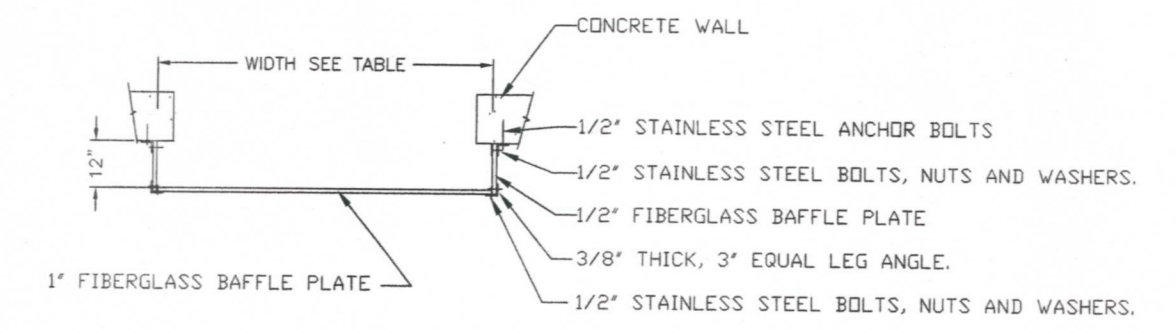
SECTION AT SW CORNER OF
SETTLING TANK
M-3



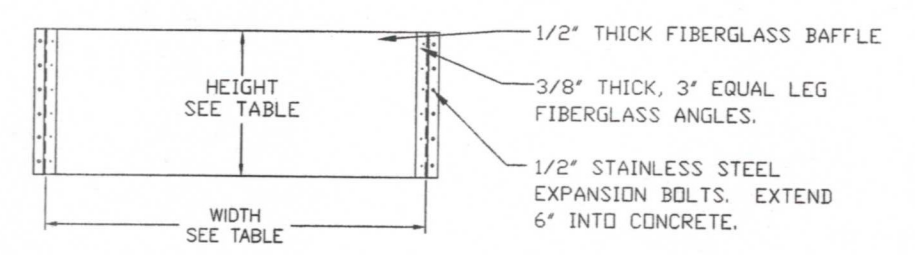
DIVERSION BOX LOWER PLAN
SCALE: 1/2"=1'



DIVERSION BOX UPPER PLAN
SCALE: 1/2"=1'



TOP VIEW



FRONT VIEW

BAFFLE DETAIL 3
M-3

BAFFLE DIMENSIONS			
LOCATION	SHEET REFERENCE	WIDTH	HEIGHT
DIVERSION BOX	S-1, S-2, M-2	7'	3'
SETTLING BASIN OVERFLOW	S-1, S-2	9'	1'
POND OUTLET STRUCTURE	S-1, S-3	9'	1'

Half Size

REVISIONS			
NUMBER	DATE	MADE BY	DESCRIPTION
1	10/27/04	RMA	SUPERIOR REVIEW COMMENTS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN
Richard C. ...
 REG. NO. 25488 DATE: AUGUST 4, 2003

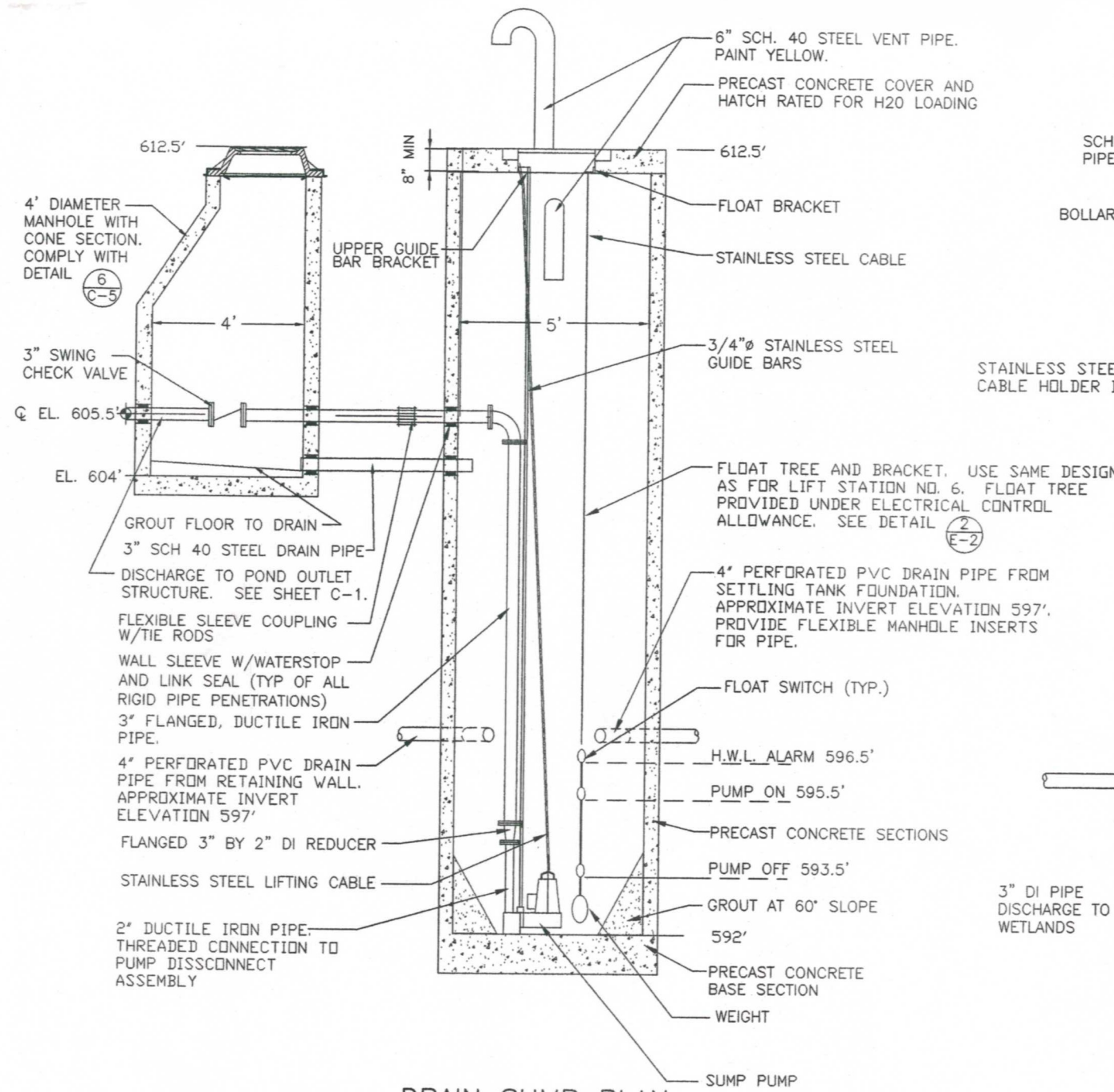
DRAWN BY: RMA & JDC
 CHECKED BY: RMA
 DEPT. CHECK: _____
 SCALE: 1/2"=1'

RMA ENGINEERING COMPANY
 CONSULTING ENGINEERS

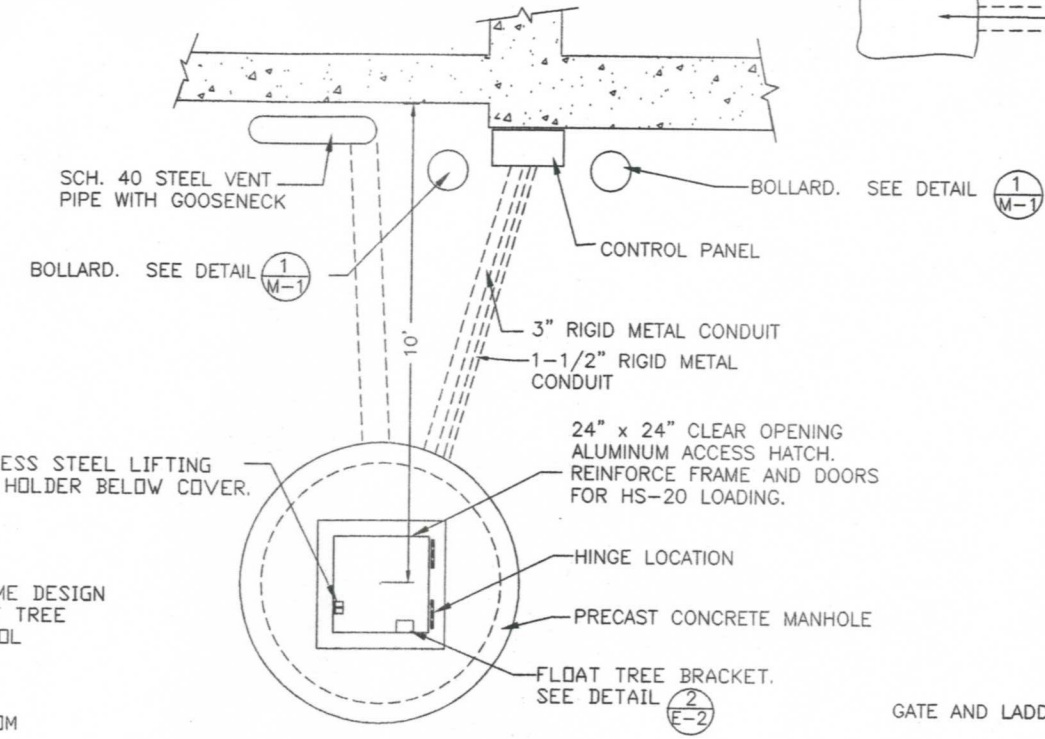
CITY OF SUPERIOR,
 DEPARTMENT OF PUBLIC
 WORKS

LIFT STATION #6, COLLECTION SYSTEM
 AND STORAGE IMPROVEMENTS
 DIVERSION BOX AND GATES

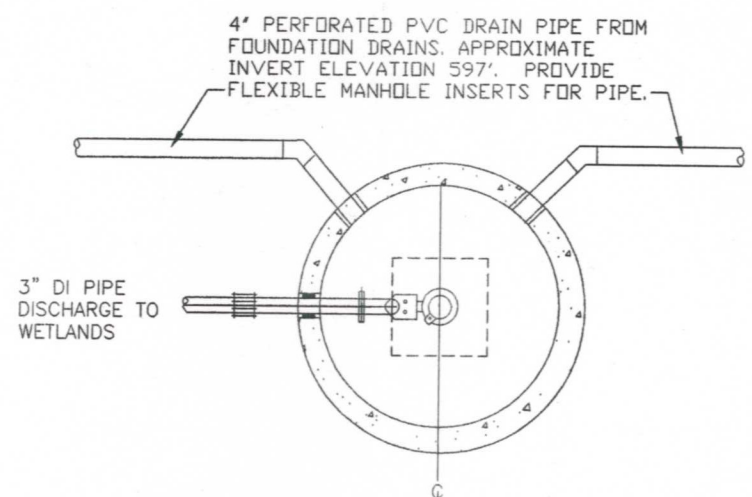
PROJ. JOB NO. _____
 SHEET NO. M-3



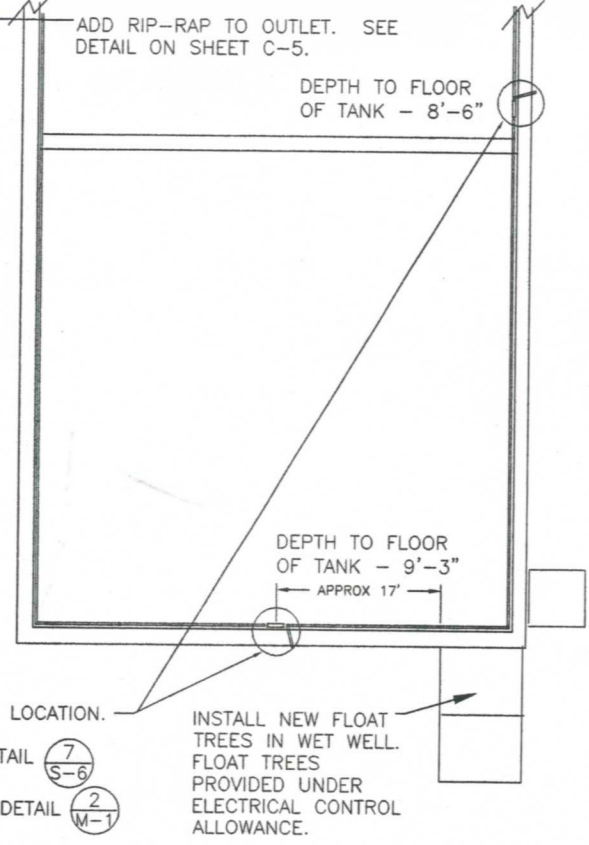
DRAIN SUMP PLAN
SCALE: 1/2"=1'



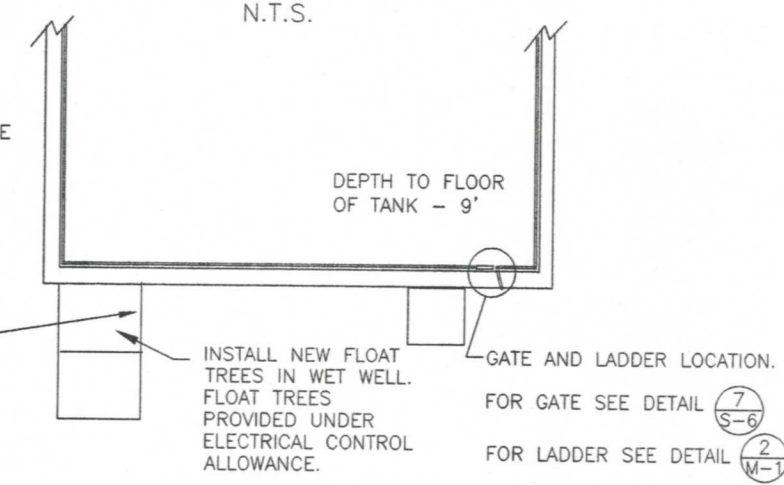
DRAIN SUMP UPPER SECTION
SCALE: 1/2"=1'



DRAIN SUMP LOWER SECTION
SCALE: 1/2"=1'



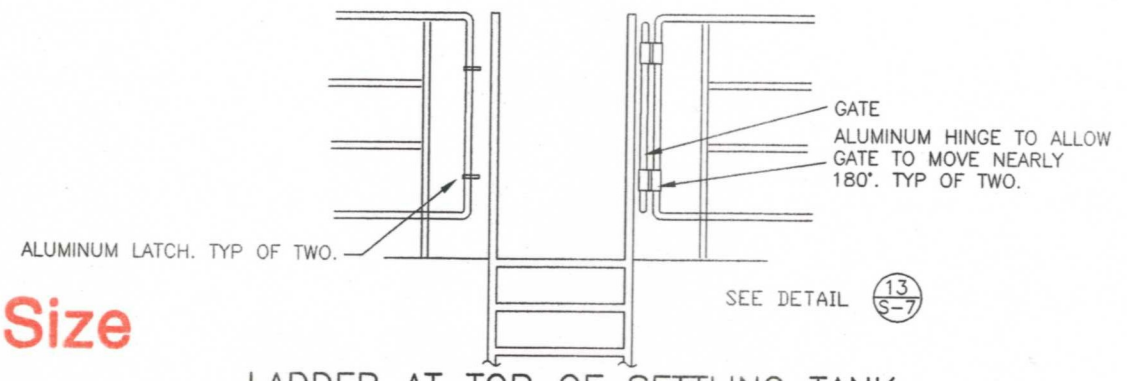
LIFT STATION NO. 5 LADDER PLAN
N.T.S.



LIFT STATION NO. 7 LADDER PLAN
N.T.S.

- GENERAL NOTES:**
- DIMENSIONS TO SUIT EQUIPMENT MANUFACTURER'S AND ENGINEER'S RECOMMENDATIONS.
 - CONTRACTOR TO PROVIDE PROPER SUPPORT FOR PIPING BOTH DURING AND AFTER CONSTRUCTION.
 - DISCONNECT ASSEMBLY SHALL BE COMPATIBLE WITH SUMP PUMP AND BE PROVIDED BY SUMP PUMP SUPPLIER
 - STAINLESS STEEL LIFTING CABLE TO BE LOAD RATED FOR ONE TON AND SUFFICIENTLY LONG FOR ATTACHMENT TO HOIST ON SERVICE TRUCK. CABLE LENGTH SHALL BE SUBJECT TO APPROVAL BY THE CITY. PROVIDE UPPER STAINLESS STEEL BRACKET TO HOLD CABLE IN PLACE.
 - GUIDE RAIL FOR PUMP TO BE 316 GRADE L STAINLESS STEEL.

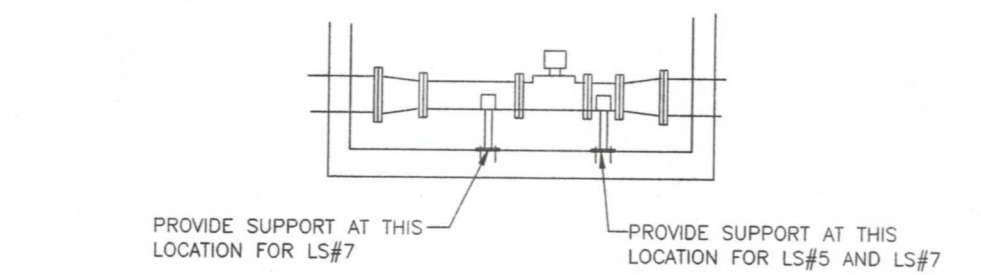
Half Size



LADDER AT TOP OF SETTLING TANK
NO SCALE

MODIFY SAFETY RAIL SECTIONS TO ACCOMMODATE GATES AT LIFT STATIONS #5 AND #7.

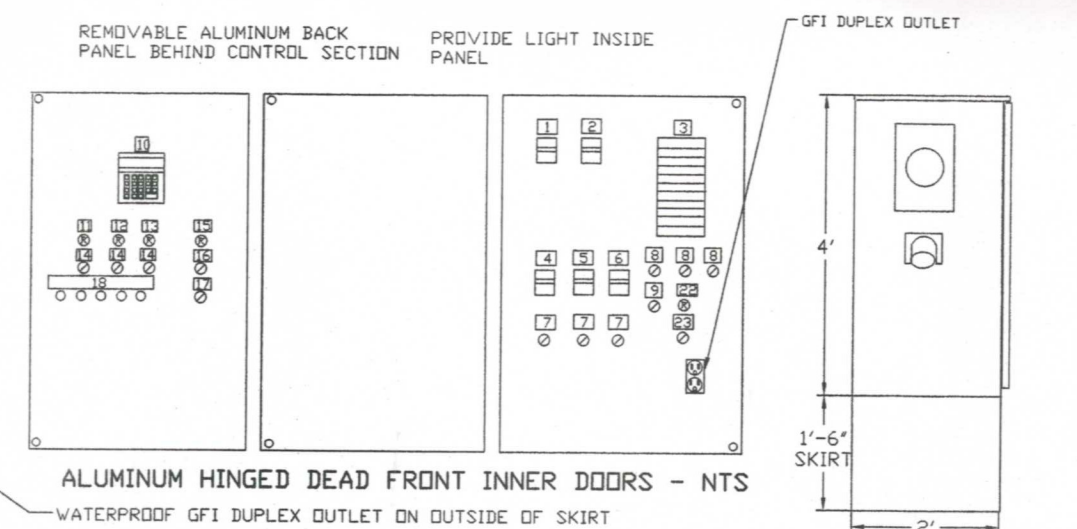
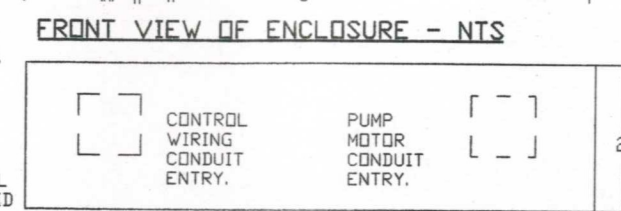
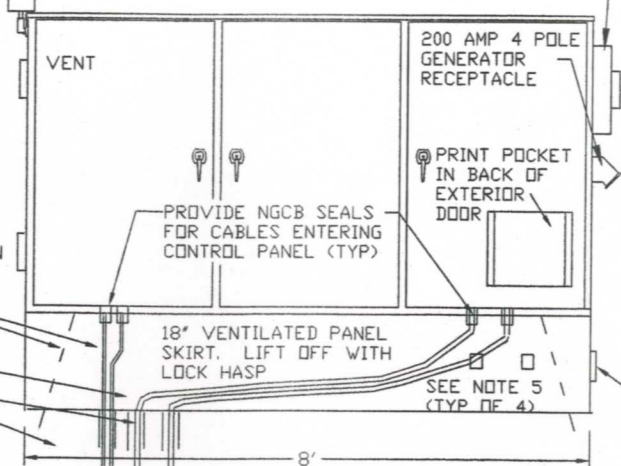
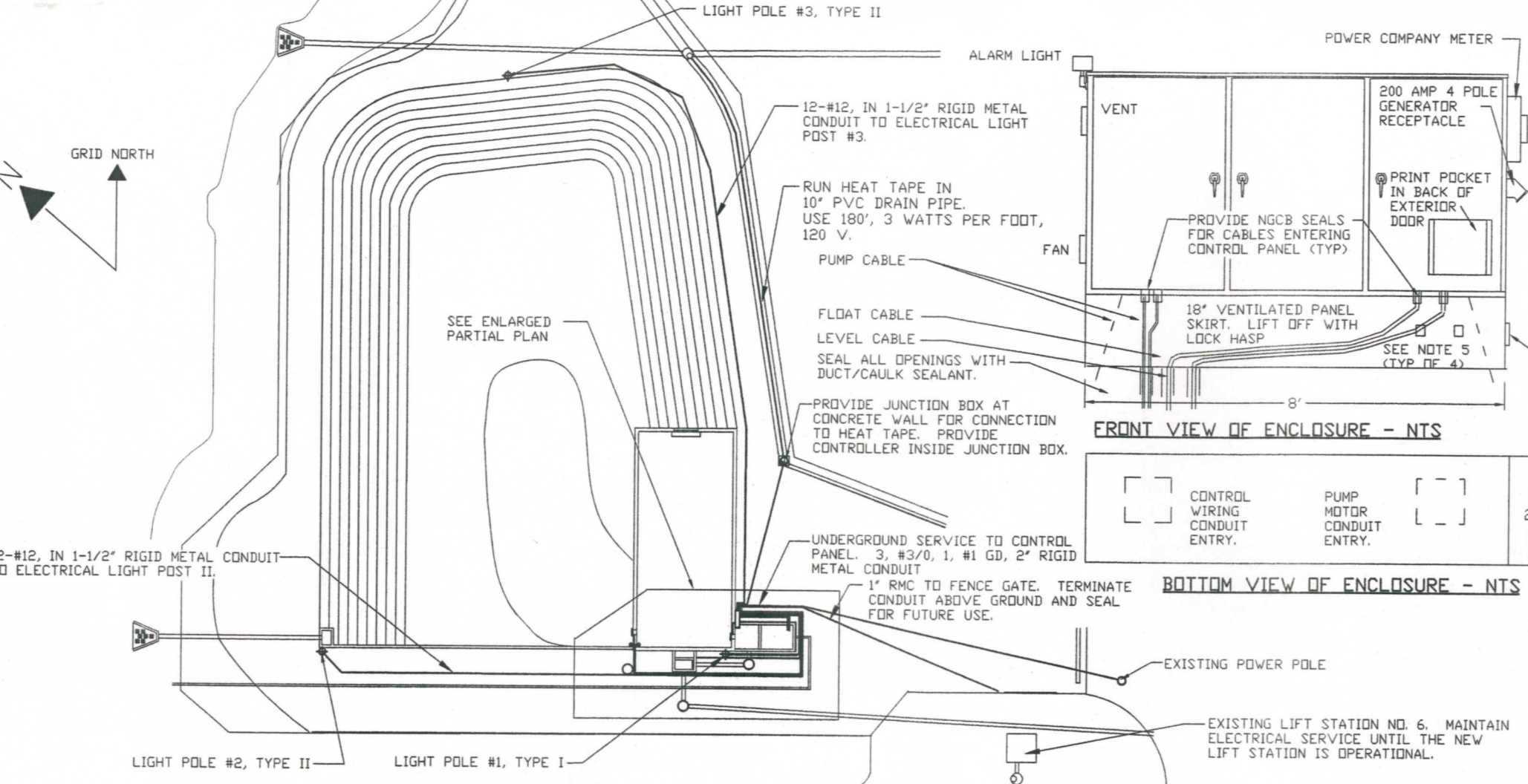
INSTALL STAINLESS STEEL RAIL BRACKET. SEE DETAIL (13/S-7)



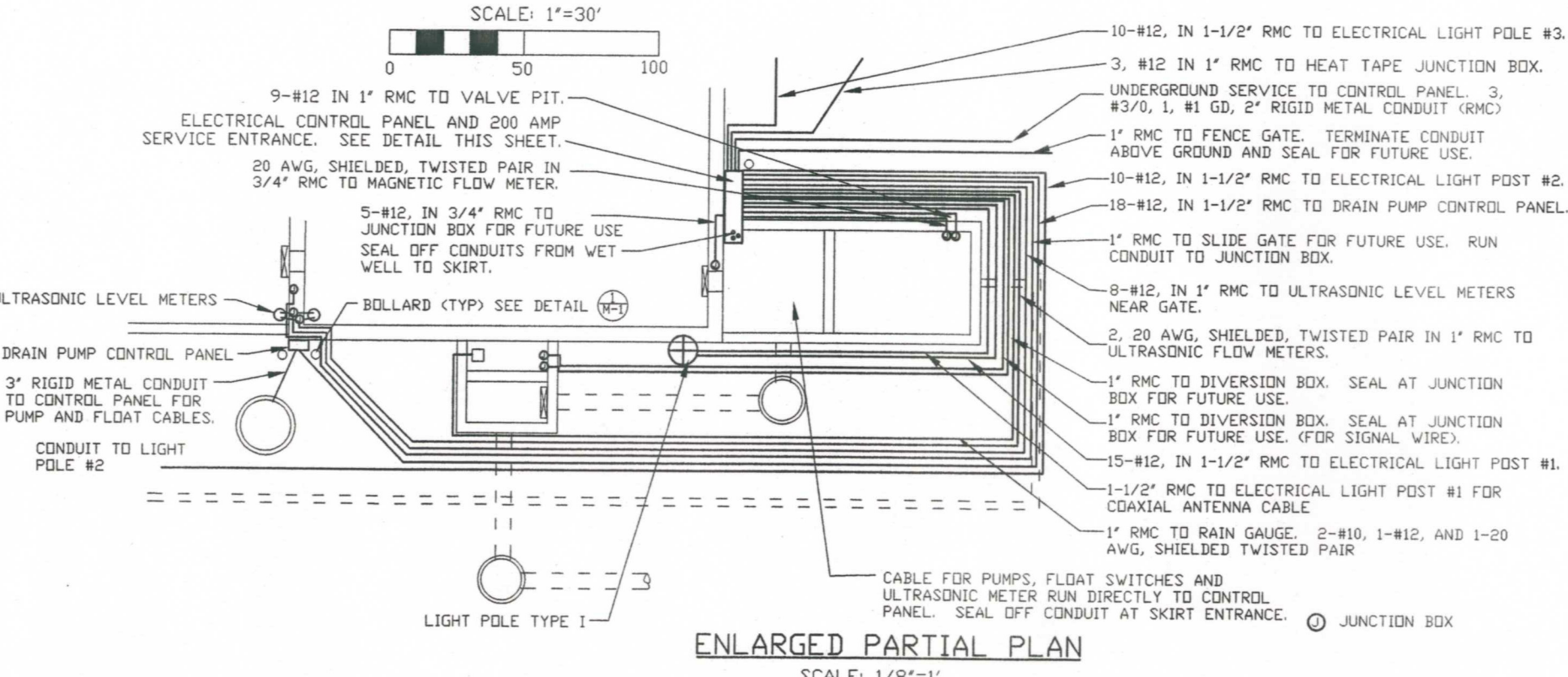
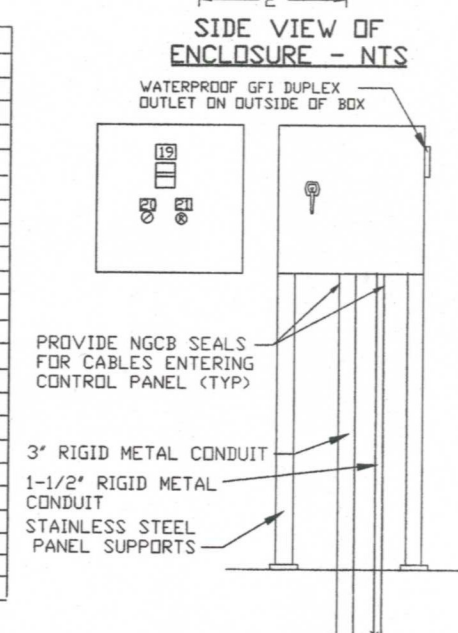
EXISTING FLOW METER SUPPORT (LS#5 AND LS#7)
N.T.S.

REVISIONS				DESCRIPTION	DRAWN BY: _____	CHECKED BY: _____	DEPT. CHECK: _____	SCALE: 1/2"=1'	RMA ENGINEERING COMPANY CONSULTING ENGINEERS	CITY OF SUPERIOR, DEPARTMENT OF PUBLIC WORKS	LIFT STATION #6, COLLECTION SYSTEM AND STORAGE IMPROVEMENTS LIFT STATION #6 DRAIN SUMP AND LIFT STATIONS #5 AND #7 MECHANICAL	PROJ. JOB NO. _____	SHEET NO. M-4
NUMBER	DATE	MADE BY:	CHECKED BY:										
1	12/11/03	RMA		DNR REVIEW REVISIONS									
2	2/19/04	RMA		SUPERIOR REVIEW REVISIONS									
3	10/27/04	RMA		SUPERIOR REVIEW REVISIONS									

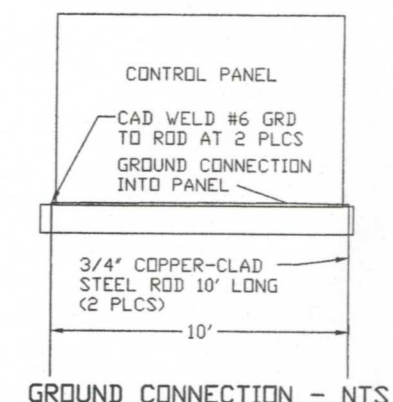
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN
Richard C. ...
REG. NO. 25488 DATE: AUGUST 4, 2003



NAMEPLATE SCHEDULE	1ST LINE/2ND LINE//3RD LINE
1	MAIN DISCONNECT CB
2	GENERATOR CB
3	LIGHTING PANEL
4	PUMP NO. 1/ CB
5	PUMP NO. 2/ CB
6	DRAIN PUMP/ CB
7	OVERLOAD RESET
8	ON-OFF-AUTO LIGHT SWITCH FOR LIGHT POLE #1, #2 #3
9	ON-OFF LIGHT SWITCH FOR LIGHT POLE #1
10	OPERATOR INTERFACE
11	PUMP NO. 1/ RUNNING
12	PUMP NO. 2/ RUNNING
13	DRAIN PUMP/ RUNNING
14	HAND OFF(RESET) AUTO
15	FLOAT BACKUP SYSTEM / IN OPERATION
16	FLOAT BACKUP SYSTEM / AUTO OFF(RESET)
17	FLOAT BACKUP SYSTEM / PUMP SEQUENCE // 1-2 2-1
18	FLOAT TEST / LLA - HLA - OFF FLOAT - STAGE 1 - STAGE 2
19	DRAIN PUMP DISCONNECT
20	DRAIN PUMP LOCAL-OFF-REMOTE SWITCH
21	DRAIN PUMP RUNNING
22	HEAT TAPE ON
23	ON-OFF HEAT TAPE SWITCH



- NOTES:**
- ENCLOSURE IS NEMA 3R, 304 BRUSHED STAINLESS STEEL WITH TAMPERPROOF HARDWARE. STAINLESS STEEL PIANO TYPE HINGES, HANDLE PADLOCK ATTACHMENTS ON MAIN CIRCUIT BREAKER.
 - MAIN BREAKER IS 200 AMP 120/240V, 3 PHASE, 4 WIRE SERVICE ENTRANCE RATED, 10KACI SHORT CIRCUIT RATING.
 - ENCLOSURE IS UL LISTED AND SERVICE ENTRANCE RATED.
 - METER SOCKET FURNISHED AND WIRED BY CONTRACTOR.
 - (REAR) SKIRT IS VENTILATED AND HAS 4 TIE OFF HOOKS FOR PUMP AND FLOAT CABLES.
 - MAIN CONTROL PANEL ALSO INCLUDES MOTOR STARTERS, PLC/INTERFACE, CONTACTORS, PANEL HEATER, PANEL FAN, THERMOSTATS, SURGE CAPACITOR, AND SURGE ARRESTOR.
 - UL 508.
 - PROVIDE PUMP CONTROL MODULES FOR OPERATION OF PUMPS FROM FLOAT SWITCHES FOR BOTH DRAIN AND WASTEWATER PUMPS.
 - PROVIDE GROUNDING CONNECTION FOR CONTROL PANEL. SEE DETAIL THIS SHEET.
 - PUMP CABLE LENGTH HAS TO BE APPROVED BY THE CITY.
 - INCLUDE LIGHTS INSIDE MAIN CONTROL PANEL AND DRAIN PANEL.
 - SEE SPECIFICATIONS FOR ITEMS TO BE FURNISHED UNDER THE ELECTRICAL CONTROL ALLOWANCE.



Half Size

NO.	DATE	MADE BY	CHECKED BY	DESCRIPTION
1	12/11/03	RMA		DNR REVIEW REVISIONS
2	02/19/04	RMA		SUPERIOR REVIEW REVISIONS
3	11/01/04	RMA		SUPERIOR REVIEW REVISIONS
4	12/08/04	RMA		ADDENDUM NO. 1

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN

Richard A. Johnson

REG. NO. 25488 DATE: AUGUST 4, 2003

DRAWN BY: RMA & JDC

CHECKED BY: RMA

DEPT. CHECK: _____

SCALE: AS SHOWN

RMA ENGINEERING COMPANY
CONSULTING ENGINEERS

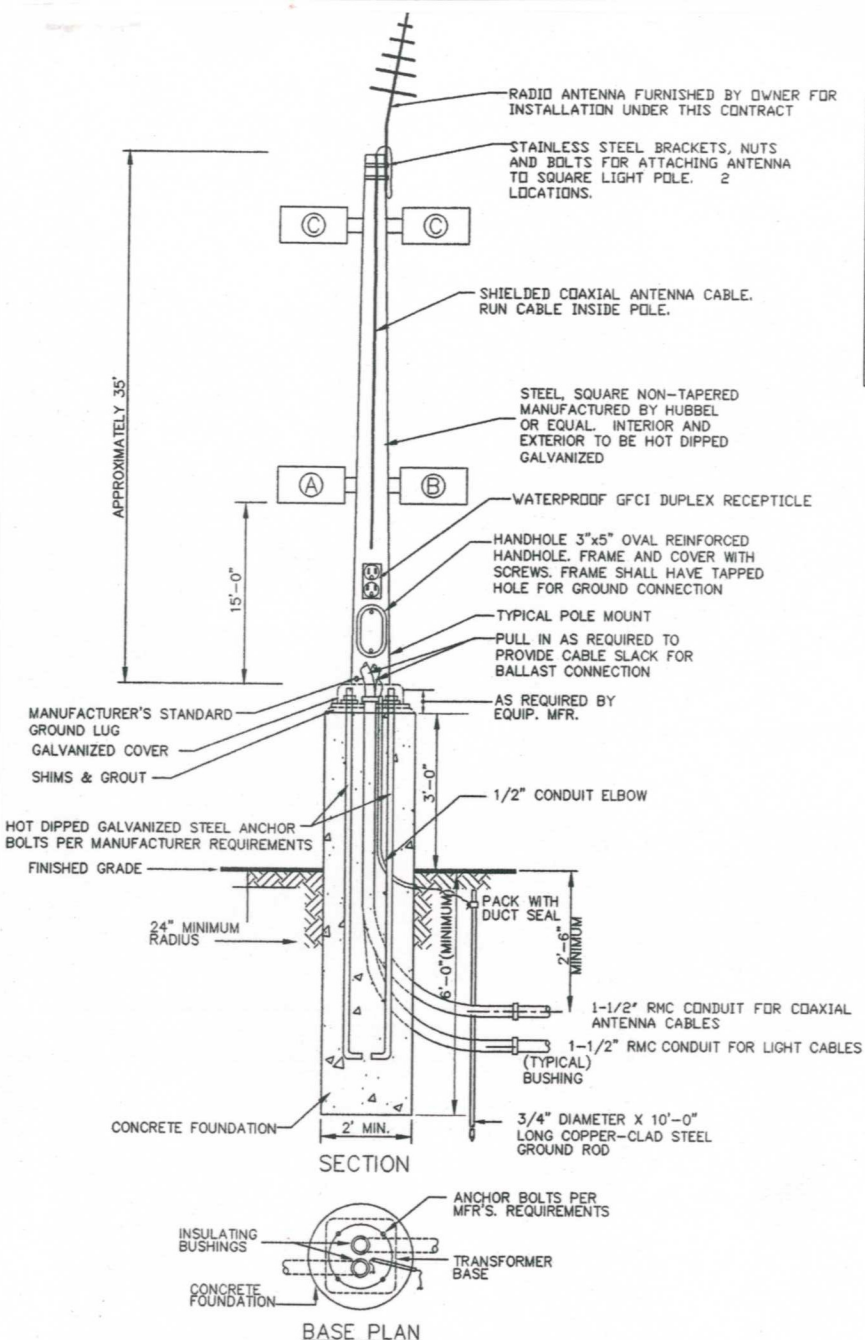
CITY OF SUPERIOR,
DEPARTMENT OF PUBLIC
WORKS

LIFT STATION #6 AND STORAGE
IMPROVEMENTS

ELECTRICAL PLAN

PROJ. JOB NO. _____

SHEET NO. **E-1**



TYPICAL POLE FOUNDATION DETAIL 1
NO SCALE

LIGHTING POLE TYPE	EQUIPMENT REQUIREMENTS		
	FIXTURE TYPE	QUANTITY	CONTROL
I	(A)	1	PHOTO CONTROL
	(B)	1	CONTROL PANEL INTERIOR SWITCH
	(C)	3	CONTROL PANEL INTERIOR SWITCH
II	(C)	2	CONTROL PANEL INTERIOR SWITCH

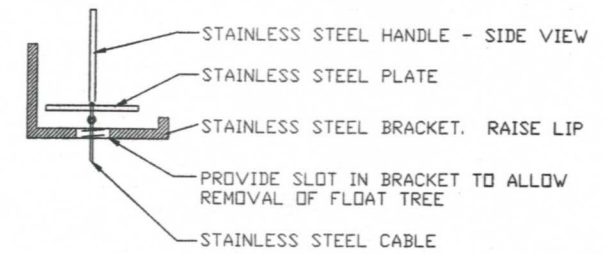
- (A) 150 WATT HIGH PRESSURE SODIUM WITH PHOTO CONTROL, AS MANUFACTURED BY HUBBELL MODEL NO. MHS-0150S-268, OR APPROVED EQUAL.
- (B) 400 WATT METAL HALIDE SWITCHED, WITH TYPE IV REFLECTOR AS MANUFACTURED BY HUBBELL MODEL NO. MSQ-A400H-HT8 OR APPROVED EQUAL.
- (C) 400 WATT HIGH PRESSURE SODIUM SWITCHED, WITH TYPE III REFLECTOR AS MANUFACTURED BY HUBBELL MODEL NO. MSQ-A400S-HP8/, OR EQUAL.
- NUMBER OF FIXTURES REQUIRED AS DESCRIBED IN LIGHTING FIXTURE TYPE SCHEDULE.
- PROVIDE NECESSARY MOUNTING BRACKETS AND ARMS.
- COLOR TO BE DETERMINED BY OWNER.
- POLE - 35 FEET SQUARE STEEL NON-TAPERED AS MANUFACTURED BY HUBBELL MODEL NO. SSP SERIES. POLES SHALL BE HOT DIPPED GALVANIZED.
- THE VOLTAGE FOR ALL FIXTURES SHALL BE 240 VOLT.
 - SWITCHES MOUNTED IN CONTROL PANEL SHALL BE 20 AMP.
 - MINIMUM WIRE SIZE SHALL BE #12 AWG, THHN. CALCULATE VOLTAGE DROP AND RESIZE WIRE AS NECESSARY.
 - INCLUDE ALL WIRE, CONDUIT, MOUNTING EQUIPMENT AND ALL APPURTENANCES NECESSARY FOR A COMPLETE INSTALLATION.
 - PRIOR TO ORDERING CONSULT WITH OWNER ON DIRECTION AND ANGLE OF FIXTURE MOUNTS.
 - ALL POLES MUST BE FACTORY DRILLED FOR THE FIXTURES SPECIFIED.
 - VERIFY MODEL NUMBERS WITH MANUFACTURER PRIOR TO BIDDING. REMARKS
 - PROVIDE SMOOTH CONCRETE FINISH TO LIGHT POLE PEDESTAL. PAINT YELLOW

FEEDER/BRANCH CIRCUIT SCHEDULE

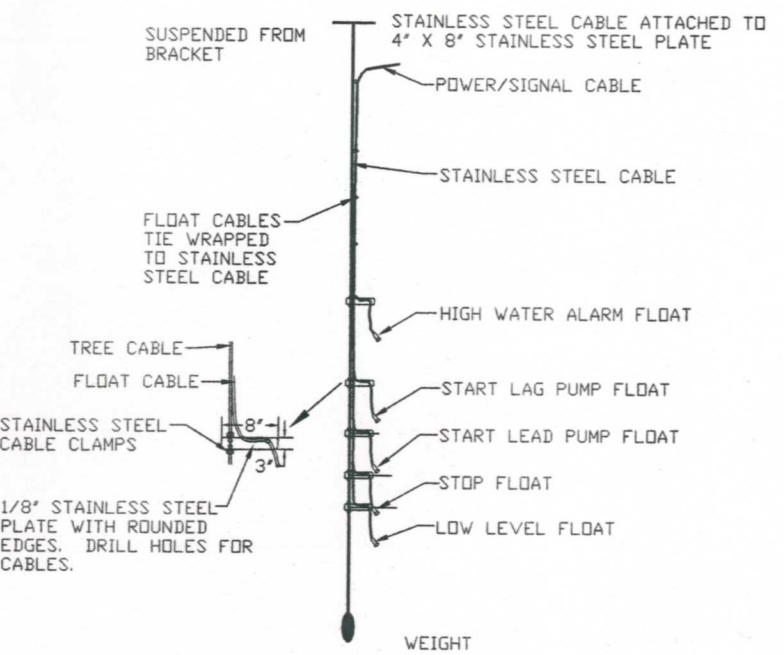
ITEM	VOLTAGE	PH	MOTOR HP	AMPERE	WIRE SIZE	CONDUIT SIZE, IN.	REMARKS
SERVICE ENTRANCE	240/120	3		200	3/0	2	LOCATION AS REQUIRED
CONTROL PANEL	240	3		200	3/0	2	
PUMP MOTOR NO. 1	240	3	23	58			CABLE FURNISHED BY PUMP SUPPLIER
PUMP MOTOR NO. 2	240	3	23	58			CABLE FURNISHED BY PUMP SUPPLIER
DRAIN PUMP CONTROL PANEL	240	3	2	6	12	1	
DRAIN PUMP	240	3	2	6			CABLE FURNISHED BY PUMP SUPPLIER
LIGHT PANEL	240/120	1		100	3	1	18 CIRCUIT LIGHTING PANEL, SEE SCHEDULE

LIGHT SWITCH SCHEDULE

LIGHT POLE	LIGHT SWITCH	VOLTAGE	PH	LIGHT TYPE	NO. OF LIGHTS	REMARKS
LIGHT POLE #1	ON-OFF-AUTO	240	1	(C)	3	PHOTO CONTROL ON AUTO
	ON-OFF	240	1	(B)	1	
			1	(A)	1	PHOTO CONTROL, NO SWITCH
LIGHT POLE #2	ON-OFF-AUTO	240	1	(C)	2	PHOTO CONTROL ON AUTO
LIGHT POLE #3	ON-OFF-AUTO	240	1	(C)	2	PHOTO CONTROL ON AUTO



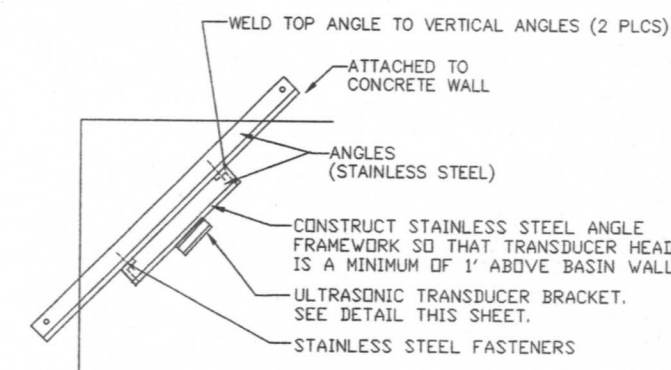
FLOAT TREE PLATE AND BRACKET



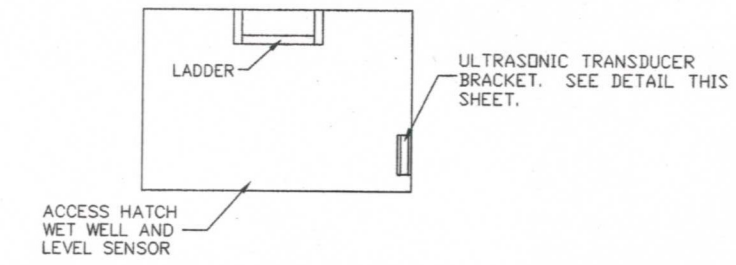
WETWELL FLOAT SUPPORT

FLOAT TREE AND BRACKET DETAIL 2
NO SCALE

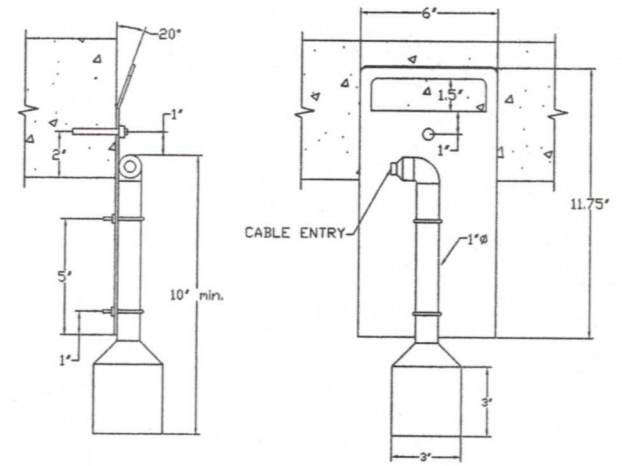
ULTRASONIC LEVEL METER



EXTERIOR BRACKET (SETTLING AND STORAGE BASINS)



INTERIOR BRACKET (WET WELL)



- NOTE: 1. DIMENSIONS NOT SHOWN MAY VARY.
 2. MOUNTING PLATE IS STAINLESS STEEL 1/8" THICK.
 3. ALL U-BOLTS, NUTS, WASHERS, AND ANCHORS SHALL BE STAINLESS STEEL.
 4. U-BOLTS ARE TO BE 1/2" AND THE ANCHOR BOLTS ARE TO BE 3/8".
 5. ROUND OFF THE CORNERS OF THE BRACKET HANDLE.

BRACKET- ULTRASONIC LEVEL TRANSDUCER

TRANSDUCER LEVEL MOUNTING DETAIL 3
NO SCALE

Half Size

120/240 V LIGHTING PANEL

ITEM	VOLTAGE	PH	AMPERE	REMARKS
MAIN	240/120	1	100	
LIGHT POLE, TYPE I	240	1	20	
LIGHT POLE, TYPE II	240	1	20	
LIGHT POLE, TYPE II	240	1	20	
INSIDE CFI OUTLET, MAIN PANEL	120	1	20	
GFI OUTLET, MAIN PANEL	120	1	20	
GFI OUTLET AND HEATER, DRAIN PANEL	120	1	20	
GFI OUTLET, LIGHT POLE #1	120	1	20	
GFI OUTLET, LIGHT POLE #2	120	1	20	
GFI OUTLET, LIGHT POLE #3	120	1	20	
MAGNETIC FLOW METER POWER	120	1	20	
PLC CONTROL POWER	120	1	20	
MAIN PANEL HEATER	120	1	20	
HEAT TAPE FOR DRAIN LINE	120	1	20	

NO.	DATE	MADE BY	CHECKED BY	DESCRIPTION
12/11/03	RMA			GENERAL REVISIONS
02/18/04	RMA			SUPERIOR REVIEW REVISIONS
10/27/04	RMA			SUPERIOR REVIEW REVISIONS

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME AND THAT I AM A DULY REGISTERED ENGINEER IN THE STATE OF WISCONSIN

Richard Anthony

REG. NO. 25488 DATE: AUGUST 4, 2003

DRAWN BY: RMA & JDC
 CHECKED BY: RMA
 DEPT. CHECK: _____

SCALE: NO SCALE
 RMA ENGINEERING COMPANY
 CONSULTING ENGINEERS

CITY OF SUPERIOR,
 DEPARTMENT OF PUBLIC
 WORKS

LIFT STATION #6, COLLECTION SYSTEM
 AND STORAGE IMPROVEMENTS
 ELECTRICAL DETAILS