SEALED BID NO. 16-13-2

CONSTRUCTION PLANS FOR

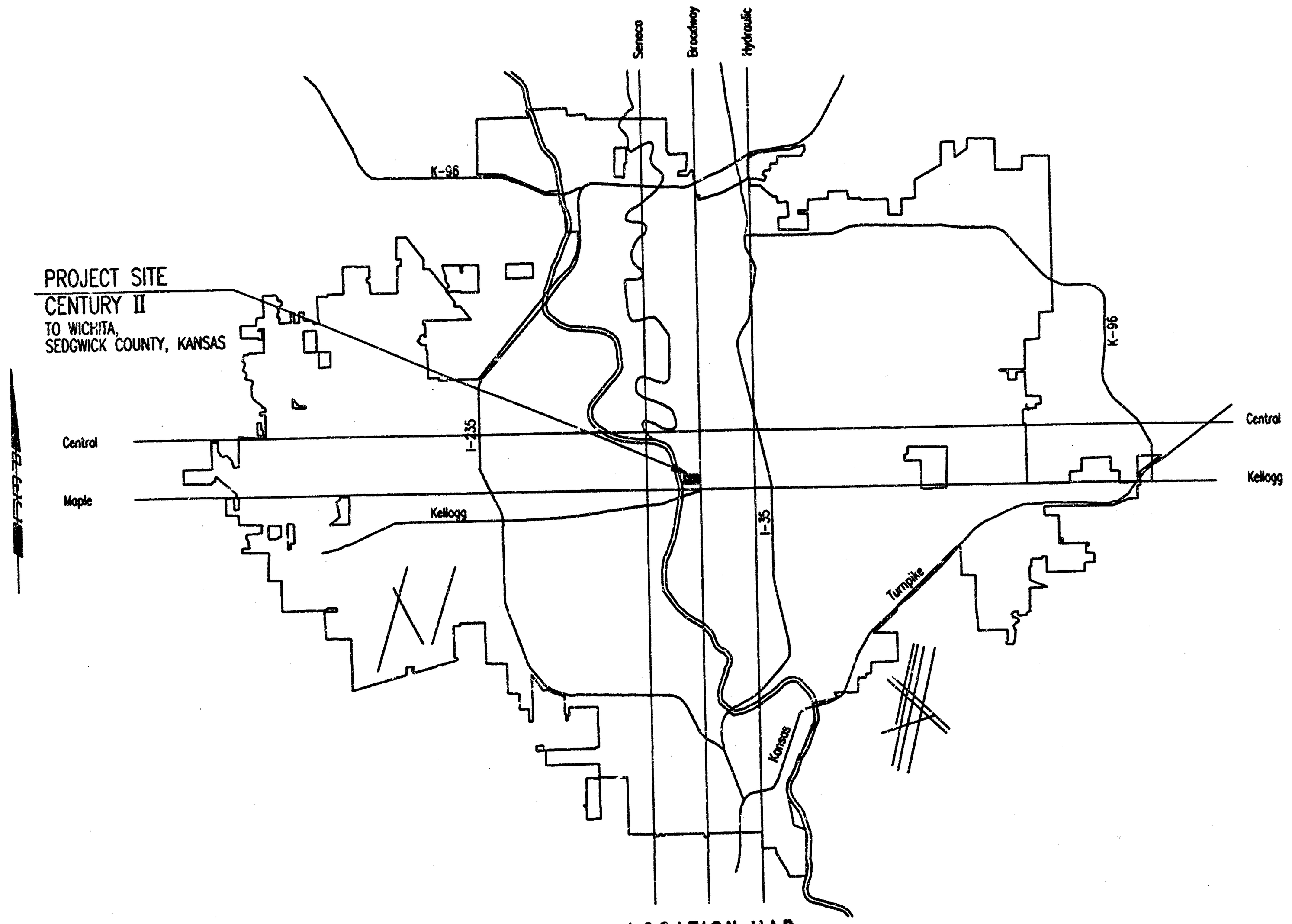
CENTURY II SANITARY SEWER AND PUMP STATION

IN

THE CITY OF WICHITA,

SEDGWICK COUNTY, KANSAS

MICHAEL E. LINDEBAK, P.E.- CITY ENGINEER



LOCATION MAP

INDEX OF SHEETS

OCA NO. 792307 468-83189

CITY OF WICHITA SEALED BID NO. 16-13-2

FEBRUARY 2000

PLANS PREPARED BY

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

ENGINEERS

WICHITA, KANSAS

AS BUILT

Date 9.15.00

MICHAEL D. HUGHES LICENSED 14917 KANSAS PROFESSIONAL ENGINEER

DSNR: MDS OPER: BB SCALE: 1=1.00

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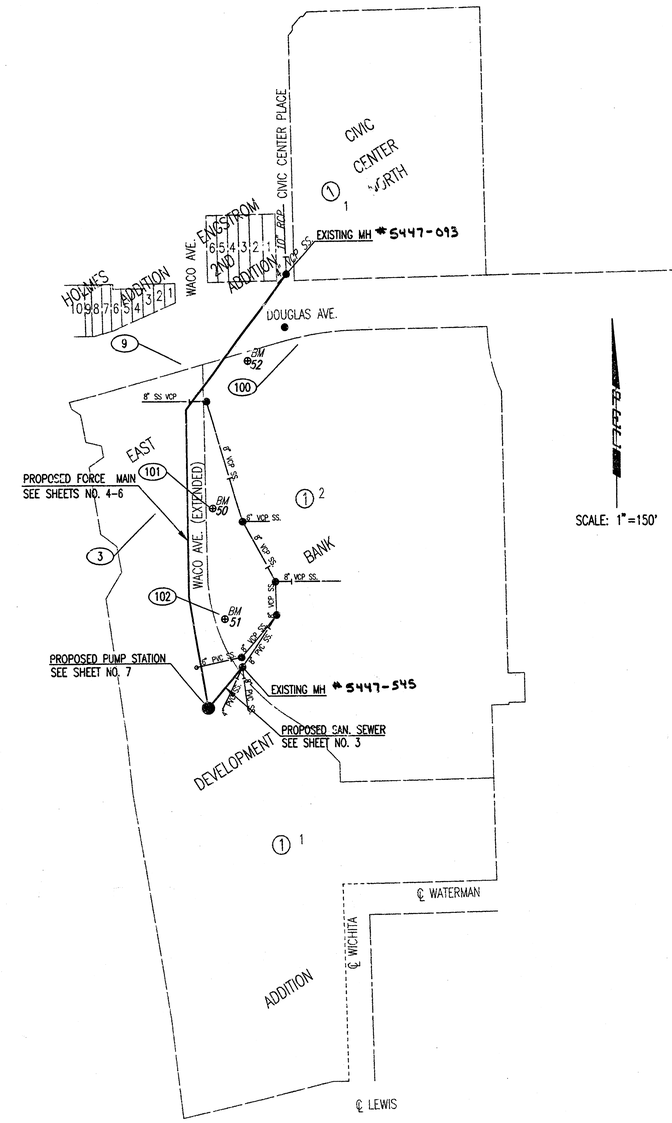


BENCH MARKS

BM 50 – CHISELED " ▫ " ON WEST SIDE LIGHT POLE BASE, WEST SIDE OF CENTURY II, SOUTH OF ℄ DOWNRAMP ENTRANCE TO CENTURY II BASEMENT, EAST SIDE OF WACO STREET EXTENDED.
ELEV. = 112.59

BM 51 – CHISELED " ▫ " ON EAST BACK OF CURB PARKING AREA, EAST SIDE SERVICE DRIVE, WEST OF NORTHWEST CORNER EXPOSITION HALL, NORTHEAST OF ENERGY CENTER NEAR CONTROL POINT 102.
ELEV. = 111.27

BM 52 – CHISELED " ▫ " ON WEST SIDE AREA INLET, AT SOUTHEAST CORNER DOUGLAS AND WACO.
ELEV. = 111.97

HORIZONTAL CONTROL

CP # 3 – 1/2" REBAR IN A. PRICE WOODARD PARK, NE OF AMPHITHEATER
N 1685117.320; E 1647330.579
1. CENTERLINE BEEHIVE INLET 45.1' WSW
2. NW CORNER PETAL BRASS SCULPTURE 61.9' SSE

CP # 9 – CHISELED "d" ON SIDEWALK @ SW CORNER, DOUGLAS AND WACO
N 1685449.869; E 1647393.267
1. FIRE HYDRANT 3.5' W
2. SOUTH B/O DOUGLAS 2.5' N
3. TRAFFIC SIGNAL POLE 15.0' E

CP #100 – CHISELED "+" ON CONCRETE AREA NW OF CENTURY II
N 1685490.758; E 1647663.683
1. SOUTH CURB OF DOUGLAS STREET 21.5' N
2. NORTH SIDE OF FOUNTAIN 4.5' S

CP #101 – CHISELED "+" IN CENTER OF WHEEL CHAIR RAMP, W. OF CENTURY II, NEAR BMK 50
N 1685132.116; E 1647455.551
1. CENTERLINE KGE MANHOLE IN SIDEWALK 34.4' W
2. PARKING METER 18.5' S
3. FIRE HYDRANT 14.4' E
4. CENTERLINE SERVICE DRIVE N-S (WACO ST. EXTENDED) 18' S

CP #102 – 1/2" REBAR IN GRASS AREA, E. SIDE SERVICE DRIVE, W. OF THE NW CORNER EXPO HALL, NE OF ENERGY CENTER
N 1684894.310; E 1647476.363
1. LIGHT POLE AT NORTH END MEDIAN 25.2' N
2. SOUTH TREE OF SYCAMORE TREE ROW 8.5' N

GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS TO COMPLY WITH CITY OF WICHITA SPECIFICATIONS AND STANDARDS AS WELL AS ANY SPECIAL PROVISIONS MADE TO THE SPECIFICATIONS AND/OR STANDARDS.
2. ALL ELEVATIONS SHOWN ARE BASED ON CITY OF WICHITA DATUM.
3. THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH TO REMAIN OPEN OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET.
4. AT LEAST 72 HOURS PRIOR TO BEGINNING EXCAVATION (EXCLUDING WEEKENDS AND HOLIDAYS), THE CONTRACTOR SHALL CONTACT THE KANSAS ONE-CALL SYSTEM, A UTILITY LOCATION SERVICE, AT (315) 687-2470 TO REQUEST THE LOCAL UTILITY COMPANIES MARK ANY EXISTING LINES WITHIN THE PROJECT AREA.
5. UNDERGROUND UTILITY SERVICE LINES AND OVERHEAD UTILITY POLE LINES ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR OR UNLESS THE PLANS SPECIFICALLY IDENTIFY A UTILITY TO BE ADJUSTED BY ITS OWNER DURING CONSTRUCTION. EXISTING UTILITIES AND THEIR LOCATIONS, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR THE DESIGN. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO THE LUMP SUM PRICE BID FOR "SITE RESTORATION".
7. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.
8. MANHOLES SHALL BE TYPE "P" MANHOLES. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS.
9. ALL LAWN/TURF AREAS DISTURBED BY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE RESTORED WITH THE SAME SOD AS EXISTING. ALL SODDING WORK SHALL BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD SPECIFICATIONS AND THE CITY OF WICHITA ADMINISTRATIVE REGULATION NO. AR78 WHICH GOVERNS CLEANUP AND RESTORATION OR REPLACEMENT FOLLOWING CONSTRUCTION. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO THE LUMP SUM PRICE BID FOR "SITE RESTORATION".
10. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES INCLUDING ANY TREES REMOVED, TREE TRIMMINGS, AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES PROVIDED BY THE CONTRACTOR. THESE SITES SHALL ALSO BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE, AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED. ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD PLAIN WILL REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL PUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS. OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS MAY REQUIRE ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED DISPOSAL LOCATION.
11. THE CONTRACTOR SHALL AVOID REMOVAL OR TRIMMING OF ANY TREES OR SHRUBS WHERE POSSIBLE. WHERE THE CONTRACTOR BELIEVES THE REMOVAL OR TRIMMING IS UNAVOIDABLE, HE SHALL COORDINATE SUCH WORK WITH THE ENGINEER. COSTS FOR TREE/SHRUB REMOVAL AND REPLACEMENT TRIMMING REGARDLESS OF SIZE SHALL BE CONSIDERED SUBSIDIARY TO THE LUMP SUM PRICE BID FOR "SITE CLEARING".
12. THE CONTRACTOR SHALL PREVENT ANY CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER DURING CONSTRUCTION.
13. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY ABUTTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION.
14. CONTRACTOR IS REQUIRED TO MAINTAIN CONTINUOUS FLOW OF SEWAGE IN EXISTING MAINS AT ALL TIMES.
15. THE CONTRACTOR SHALL CONTAIN HIS OPERATIONS TO PERMIT TRAFFIC THROUGH AND ACROSS CONSTRUCTION AT EXISTING ROADWAYS AT ALL TIMES. THE CONTRACTOR SHALL ERECT WARNING SIGNS, FLASHING LIGHTS, AND BARRICADES IN COMPLIANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES TO ENSURE SAFETY AS DIRECTED IN THE GENERAL CONDITIONS. THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH TO REMAIN OPEN OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET.
16. CONTRACTOR MUST MAINTAIN OPEN ROADWAYS FOR DOUGLAS (ALL LANES) AND WACO (MINIMUM ONE LANE).
17. CONTRACTOR STAGING AREA SHALL BE LIMITED TO THE ACCESS DRIVE ON THE WEST SIDE OF THE EXISTING ENERGY CENTER.
18. INSTALL SNOW FENCE ALONG CONSTRUCTION LIMITS TO CONTAIN OPERATIONS AND PROTECT THE PUBLIC.
19. CONTRACTOR SHALL PROVIDE DEWATERING AS REQUIRED. COSTS SHALL BE SUBSIDIARY TO THE PROJECT.
20. CONTRACTOR SHALL REPAIR AND REPLACE SPRINKLER SYSTEM IN KIND AND SHALL CERTIFY THAT THE SYSTEM IS OPERATIONAL.
21. ALL FORCE MAIN PIPING SHALL BE INSTALLED WITH METALLIC TAPE OR TRACER WIRE.
22. AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION (EXCLUDING WEEKENDS AND HOLIDAYS) THE CONTRACTOR SHALL CONTACT THE FOLLOWING:

PAUL DROUHARD
CITY OF WICHITA
(316) 268-4408

TIM MARTZ
LANDSCAPE AND FORESTRY
(316) 268-4222

AS BUILT
Date 9-18-00

DSNR: MDH OPER: BB SCALE: 1=150.00
Q:\1999\99609\Keymap 02-11-2000 08:16:52 am

No.	Revision	By	Date

LIFT STATION AND FORCE MAIN
TO SERVE
CENTURY II

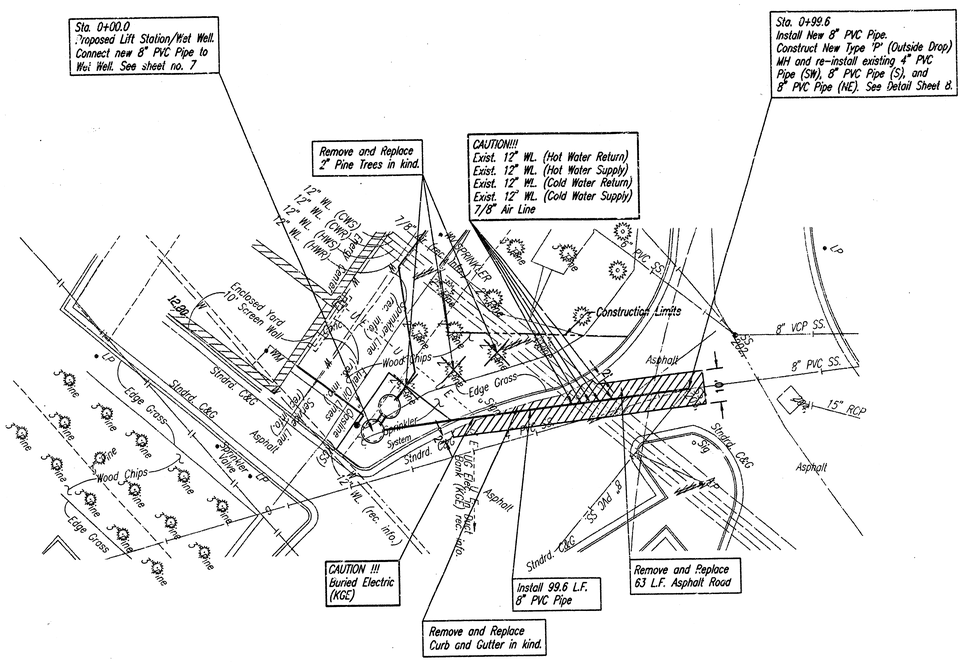
KEYMAP AND GENERAL NOTES

MICHAEL E. LINDEBAK, P.E. – CITY ENGINEER
CITY OF WICHITA SEALED BID NO. 16-13-2

Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-3003

Designed by	MDH	Job No.	34-99609-42
Drawn by	BB	Date	February 2000

Sht. 2 of 10



SCALE:

PLAN: LAT. & LONG. 0 20 40

PROFILE: HORIZ. SAME AS ABOVE.

VERT. 5 0

REMOVE AND REPLACE ASPHALT PAVEMENT

AS BUILT

Date 9-12-00

MICHAEL D. HUGHES LICENSED 14917 KANSAS PROFESSIONAL ENGINEER 9/1/00

Addendum 1

PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL DETERMINE THE BURY DEPTH OF ALL KNOWN UTILITY CROSSING LOCATIONS. UTILITY LOCATIONS SHALL BE REPORTED TO THE ENGINEER SO THAT ANY NECESSARY PLAN MODIFICATIONS CAN BE MADE. ANY ADJUSTMENTS REQUIRED TO THE VERTICAL ALIGNMENT SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.

PLAN | CHECKED | CHECKED | Br. | DATE

PROFILE | CHECKED | CHECKED | BY | DATE

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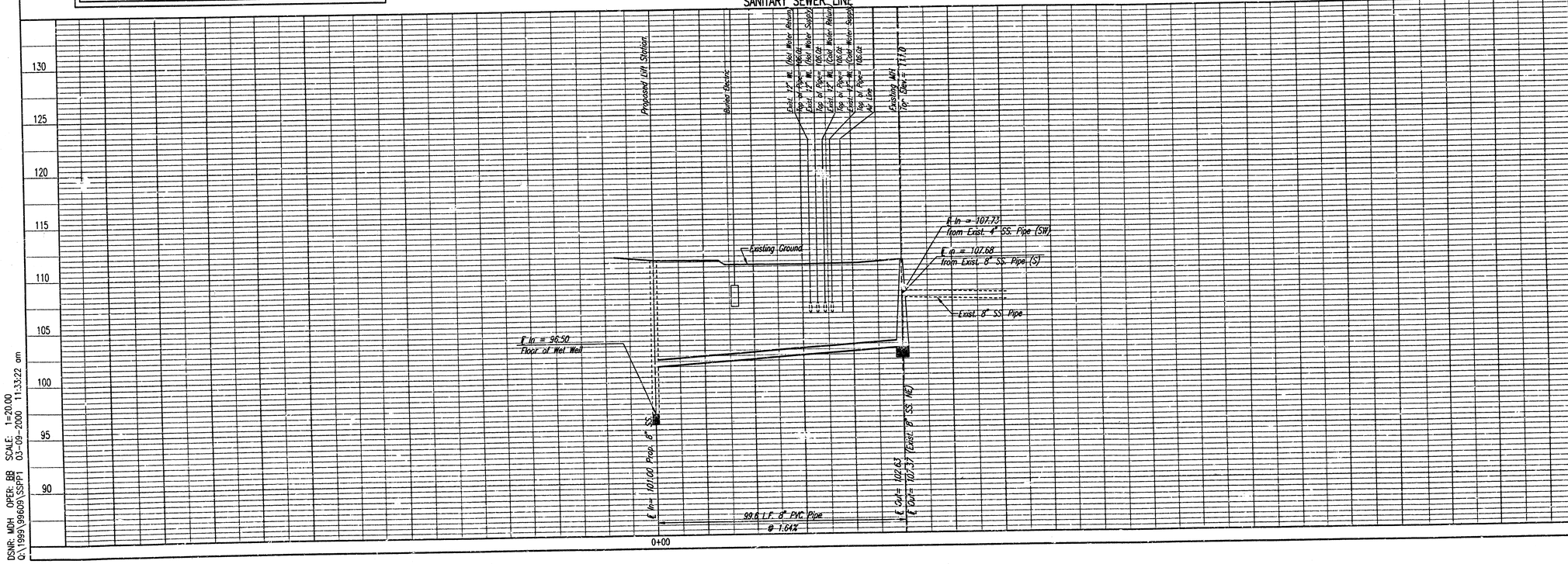
SANITARY SEWER LINE



CENTURY II SANITARY SEWER AND PUMP STATION

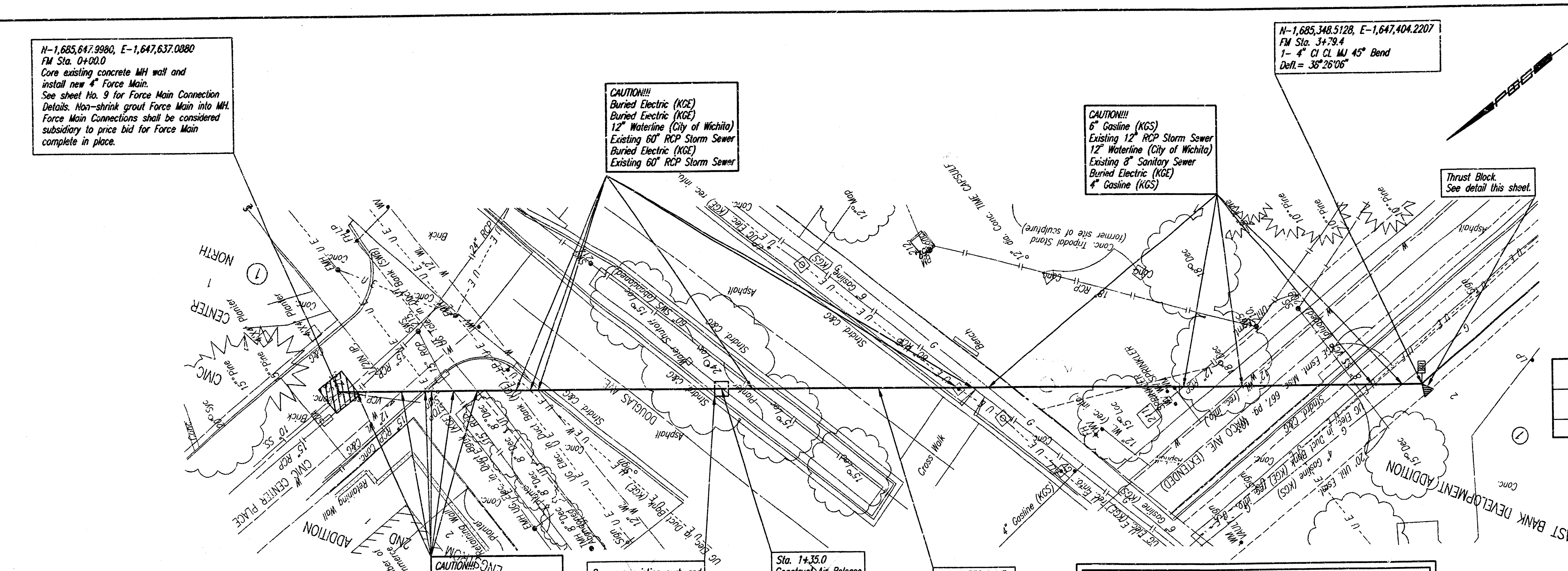
SANITARY SEWER LINE

MICHAEL C. LINDEBOK, P.E. – CITY ENGINEER
CITY OF WICHITA, SEALED BID NO. 16-13-2

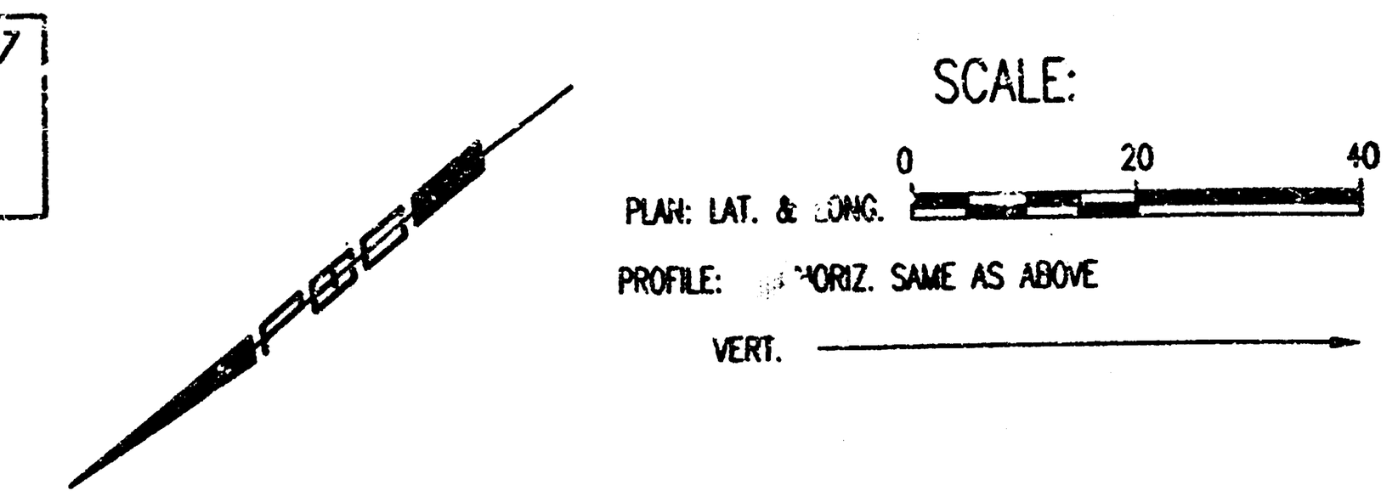
Professional Engineering Consultants, P.A.
333 S. TOPEKA • WICHITA, KANSAS 67202
316.262.2691 • FAX 316.262.3003

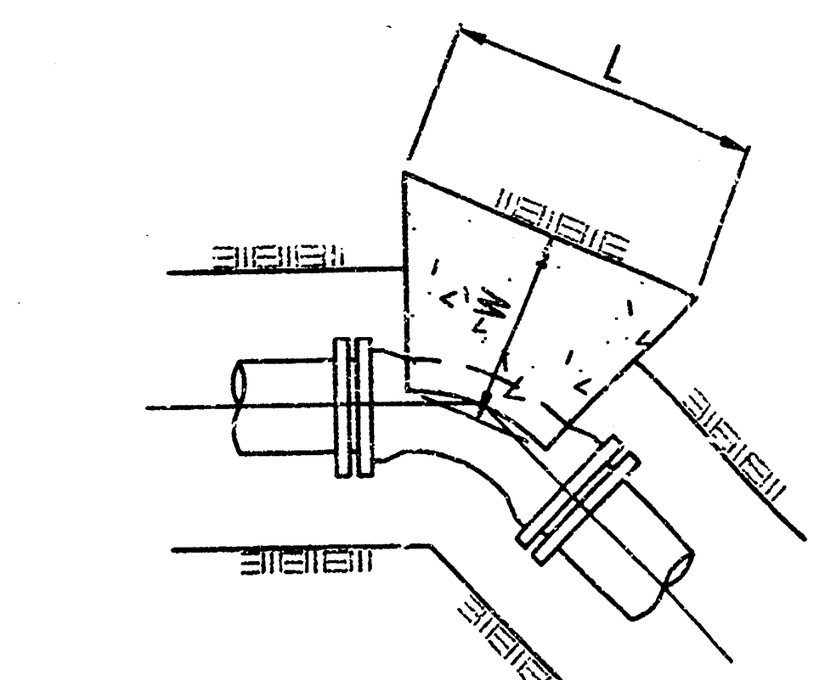
Designed By MDH | Job No. 34-99609-42 | Date February 2000

Sheet 3 of



N–1,685,647.9980, E–1,647,637.0880
FM Sta. 0+00.0
Core existing concrete MH wall and install new 4" Force Main.
See sheet No. 9 for Force Main Connection Details. Non-shrink grout Force Main into MH. Force Main Connections shall be considered subsidiary to price bid for Force Main complete in place.
CAUTION!!!
Buried Electric (KGE)
Buried Electric (KGE)
12" Waterline (City of Wichita)
Existing 60" RCP Storm Sewer
Buried Electric (KGE)
Existing 60" RCP Storm Sewer
CAUTION!!!
6" Gasline (KGS)
Existing 12" RCP Storm Sewer
12" Waterline (City of Wichita)
Existing 8" Sanitary Sewer
Buried Electric (KGE)
4" Gasline (KGS)
N–1,685,348.5128, E–1,647,404.2207
FM Sta. 3+79.4
1– 4" CI CL MJ 45° Bend
Defl.= 36°26'06"
Thrust Block.
See detail this sheet.
CAUTION!!!
Existing 15" RCP Storm Sewer
12" Waterline (City of Wichita)
Existing 15" RCP Storm Sewer
Buried Electric (KGE)
Existing 15" RCP Storm Sewer
Buried Telephone (SWB)
Preserve existing curb and gutter. Replace existing planter area in kind.
Sta. 1+35.0
Construct Air Release Valve Vault.
See sheet no. 8
Install 379.4 L.F.
4" Force Main
NORTH
CIVIC CENTER
CIVIC CENTER PLACE
ADDITION
DOUGLAS AVE.
EAST BANK DEVELOPMENT ADDITION
Asphalt
Cross Walk
4" Gasline (KGS)





45° PLAN
THRUST BLOCK DETAIL

THRUST BLOCK SCHEDULE

LINE SIZE	FITTINGS & ANGLE	DIM. L	DIM. W	DIM. H
4"	45°	1'-6"	1'-6"	1'-0"

AS BUILT
Date 9-18-00

FORCE MAIN STA. 0+00.0 TO 3+79.4 SHALL BE INSTALLED USING DIRECTIONAL DRILLING METHODS.

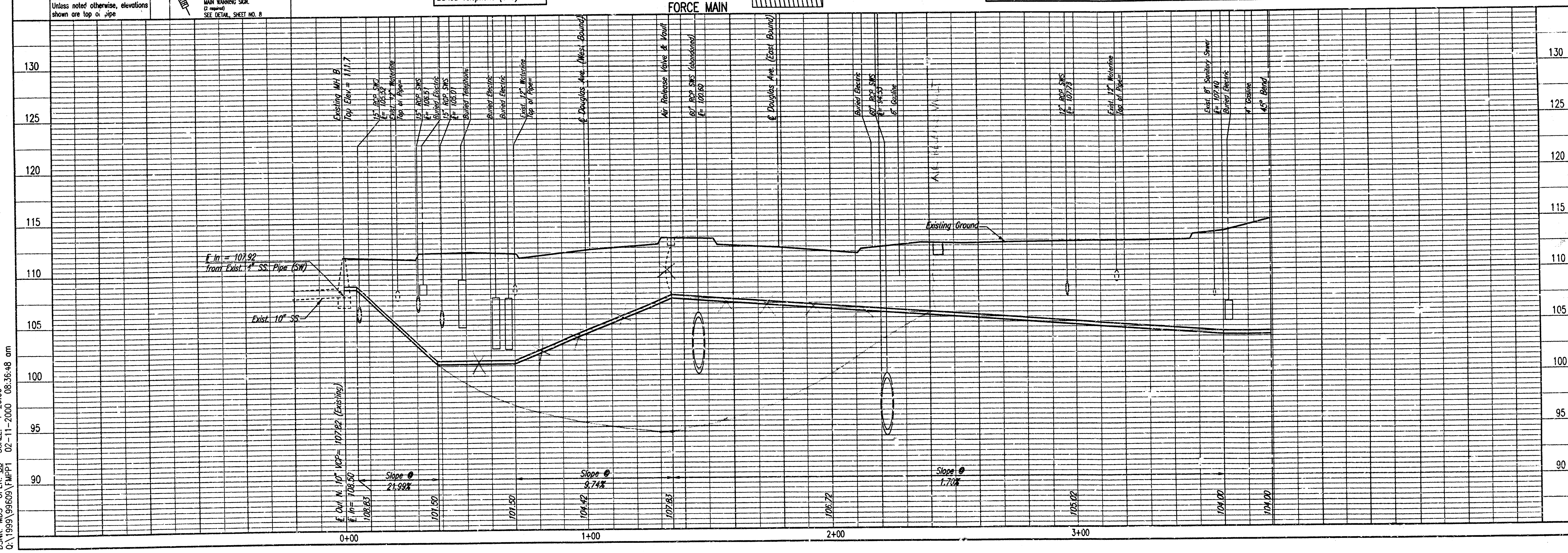
REMOVE AND REPLACE BRICK PAVEMENT

PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL DETERMINE THE BURY DEPTH OF ALL KNOWN UTILITY CROSSING LOCATIONS. UTILITY LOCATIONS SHALL BE REPORTED TO THE ENGINEER SO THAT ANY NECESSARY PLAN MODIFICATIONS CAN BE MADE. ANY ADJUSTMENTS REQUIRED TO THE VERTICAL ALIGNMENT SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.

Unless noted otherwise, elevations shown are top of pipe

DESIGNATES LOCATION FOR FORCE MAIN WARNING SIGN. SEE DETAIL, SHEET NO. 8

FORCE MAIN



130
125
120
115
110
105
100
95
90
Existing MH B
Top Elev.= 111.7
℄ In = 107.92
from Exist. 12" SS Pipe (SW)
Exist. 10" SS
℄ Douglas Ave. (West Bound)
Air Release Valve & Vault
℄ Douglas Ave. (East Bound)
Existing Ground
45° Bend
Slope @ 21.99%
Slope @ 9.74%
Slope @ 1.70%
℄ Out N. 10" VCP= 107.82 (Existing)
108.50
108.63
101.50
101.50
104.42
107.83
106.72
105.02
104.00
104.00
0+00
1+00
2+00
3+00

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DATE

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CENTURY II SANITARY SEWER AND PUMP STATION

FORCE MAIN

MICHAEL E. LINDEBAK, P.E. – CITY ENGINEER
CITY OF WICHITA SEALED BID NO. 16-13-2

Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-3003

Designed By MDH
Job No. 34-99603-42
Date February 2000

N-1,685,348.5128, E-1,647,404.2207
FM Sta. 3+79.4
45° Bend

N-1,684,933.0152, E-1,647,408.3390
FM Sta. 7+94.9
1- 4" CI CL MJ 11 1/4° Bend
Defl.= 09°02'58"

SCALE:
PLAN: LAT. & LONG. 0 20 40
PROFILE: HORIZ. SAME AS ABOVE
VERT.

Remove and reset Sprinkler as required.

CAUTION!!! Existing 12" RCP Storm Sewer

Remove and reset Sprinkler as required.

Remove and reset Sprinkler as required.

Remove and reset Sign as required.

DEVELOPMENT ADDITION

Save

Remove and reset Bench as required.

Remove and replace 46 L.F. Concrete Pavement in kind

Save

Install 415.5 L.F. 4" Force Main

Construction Limits

Save

Remove and replace 8 L.F. Concrete Sidewalk in kind. Removal shall be to the nearest joint.

CAUTION!!! Light Pole Light Pole to be removed and reset by Contractor. Removal & resetting costs to be subsidiary to site clearing and restoration.

Remove and replace 25 L.F. Concrete Sidewalk in kind. Removal shall be to the nearest joint.

Remove and replace 1" Jumper in kind

REMOVE AND REPLACE CONCRETE PAVEMENT

PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL DETERMINE THE BURY DEPTH OF ALL KNOWN UTILITY CROSSING LOCATIONS. UTILITY LOCATIONS SHALL BE REPORTED TO THE ENGINEER SO THAT ANY NECESSARY PLAN MODIFICATIONS CAN BE MADE. ANY ADJUSTMENTS REQUIRED TO THE VERTICAL ALIGNMENT SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.

AS BUILT
Date 9-18-20

MICHAEL D. HUGHES LICENSED 14917 PROFESSIONAL ENGINEER

PLAN | CHECKED | CHECKED | BY | DATE

PROFILE | CHECKED | CHECKED | BY | DATE

Unless noted otherwise, elevations shown are top of pipe

DESIGNATES LOCATION FOR FORCE MAIN WARNING SIGN. (2 required) SEE DETAIL, SHEET NO. 8

FORCE MAIN

45° Bend
12" CMP SDR 26 @ 1088.9
11 1/4° Bend
Existing Ground
Top of Proposed 4" Force Main
Slope @ 0.84%

106.53 100.50 107.24 109.18 109.02 109.85

130 125 120 115 110 105 100 95 90

4+00 5+00 6+00 7+00

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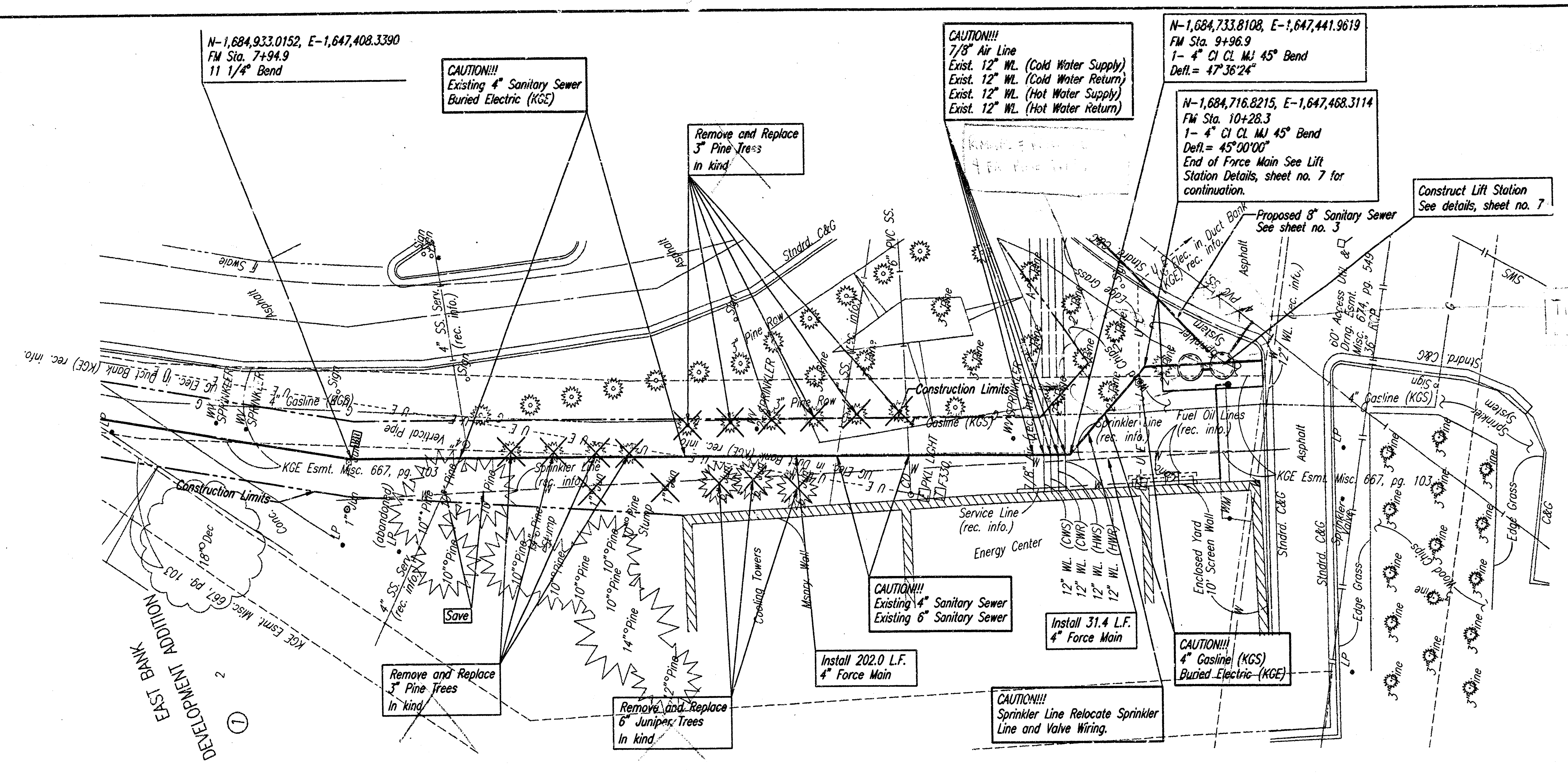
CENTURY II SANITARY SEWER AND PUMP STATION
FORCE MAIN
MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
CITY OF WICHITA SEALED BID No. 16-13-2

Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-8600

Designed By MDH | Job No. 34-99609-42 | Date February 2000

Sheet 5 of



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PLAN: LAT. & LONG. 0 20 40
PROFILE: HORIZ. SAME AS ABOVE
VERT. 0 5

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AS BUILT
Date 9-18-?

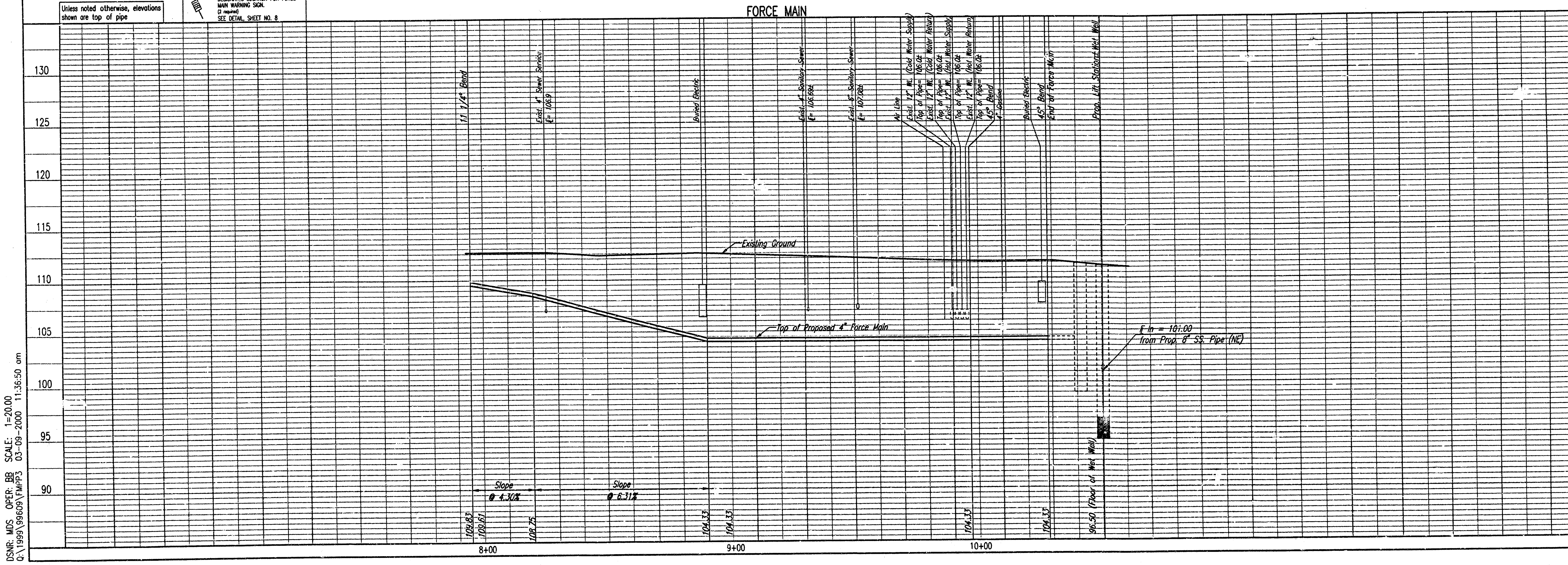
MICHAEL D. HUGHES LICENSED 14917 KANSAS PROFESSIONAL ENGINEER 3/9/00

Addendum 1

Unless noted otherwise, elevations shown are top of pipe

DESIGNATES LOCATION FOR FORCE MAIN WARNING SIGN. (2 required) SEE DETAIL, SHEET NO. 8

FORCE MAIN



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PROFILE — CHECKED / CHECKED — BY — DATE

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CENTURY II SANITARY SEWER AND PUMP STATION

FORCE MAIN

MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER
CITY OF WICHITA SEALED BID NO. 16-13-2

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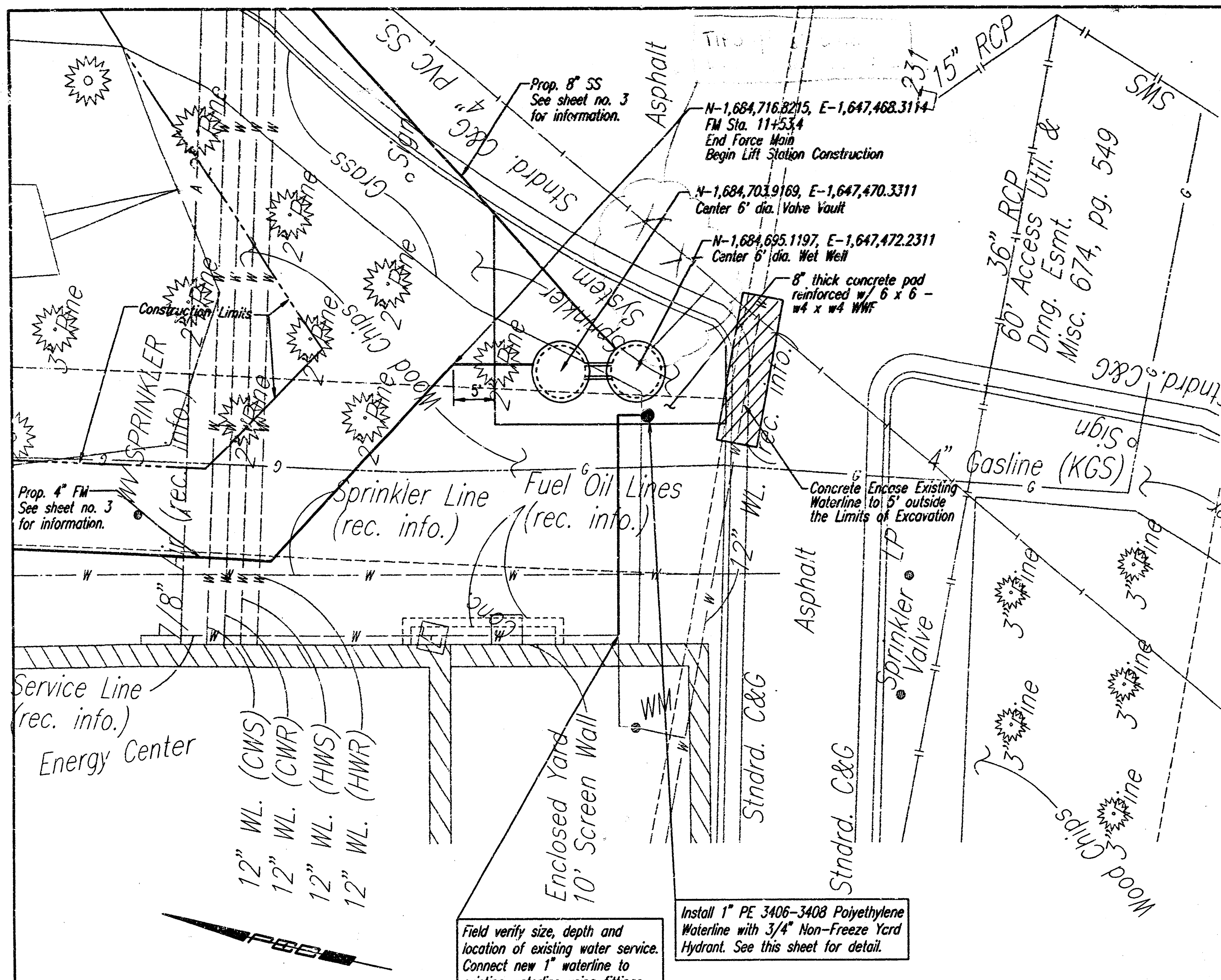
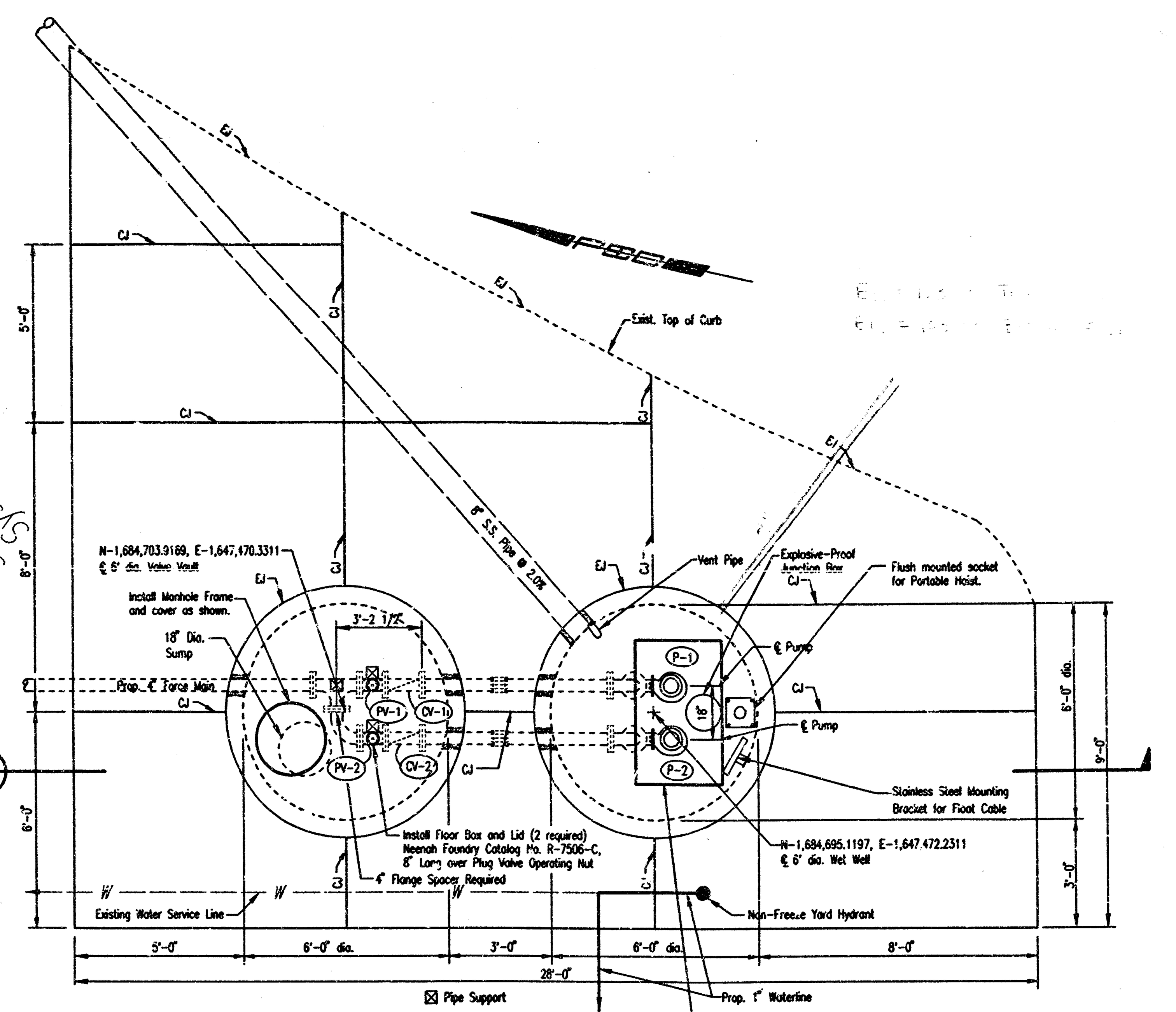
316-262-2691 • FAX 316-262-3003

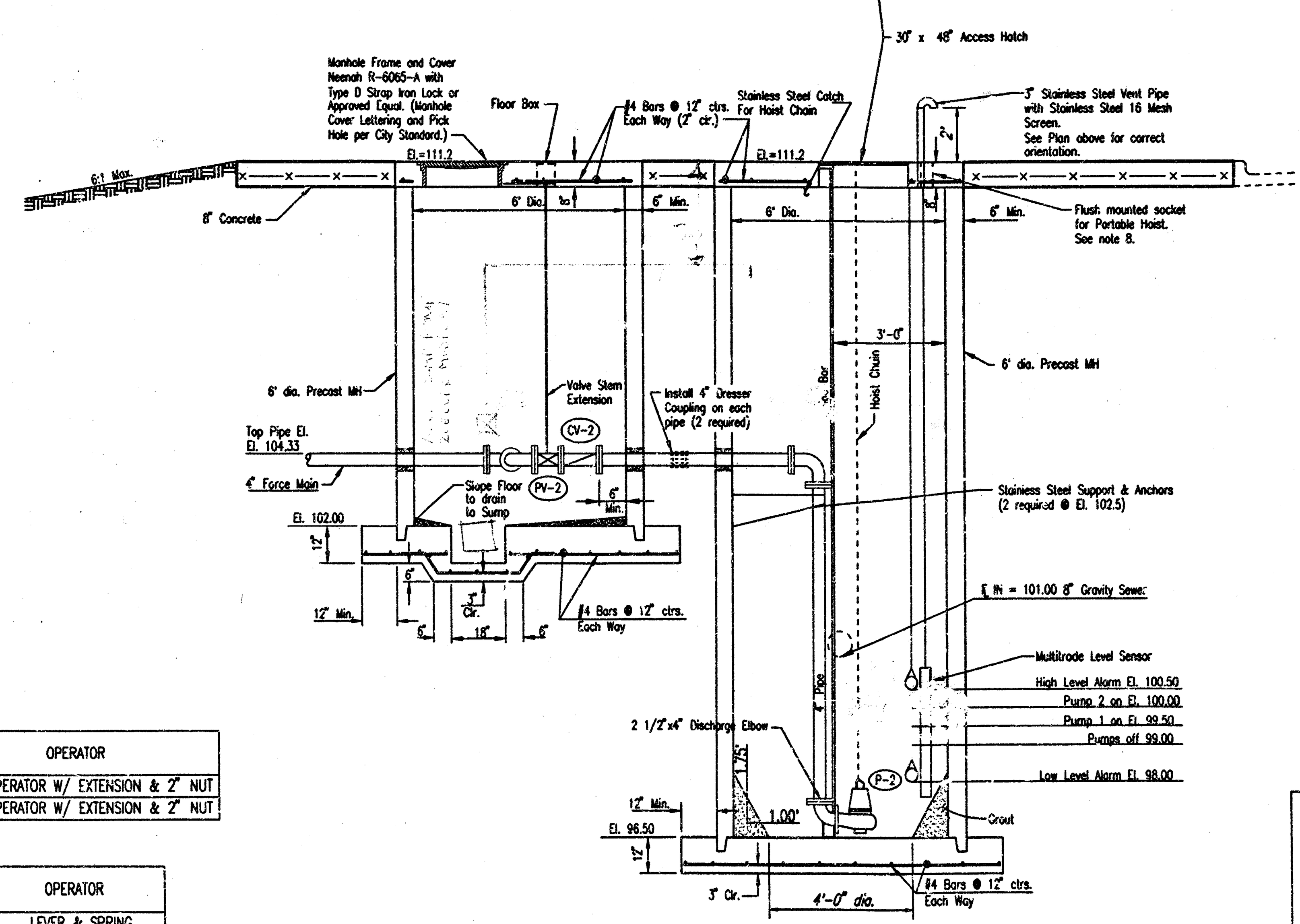
Designed By	MDH	Job No.	34-99609-42
Drawn By	BB	Date	February 2000

Sheet 6 of 10

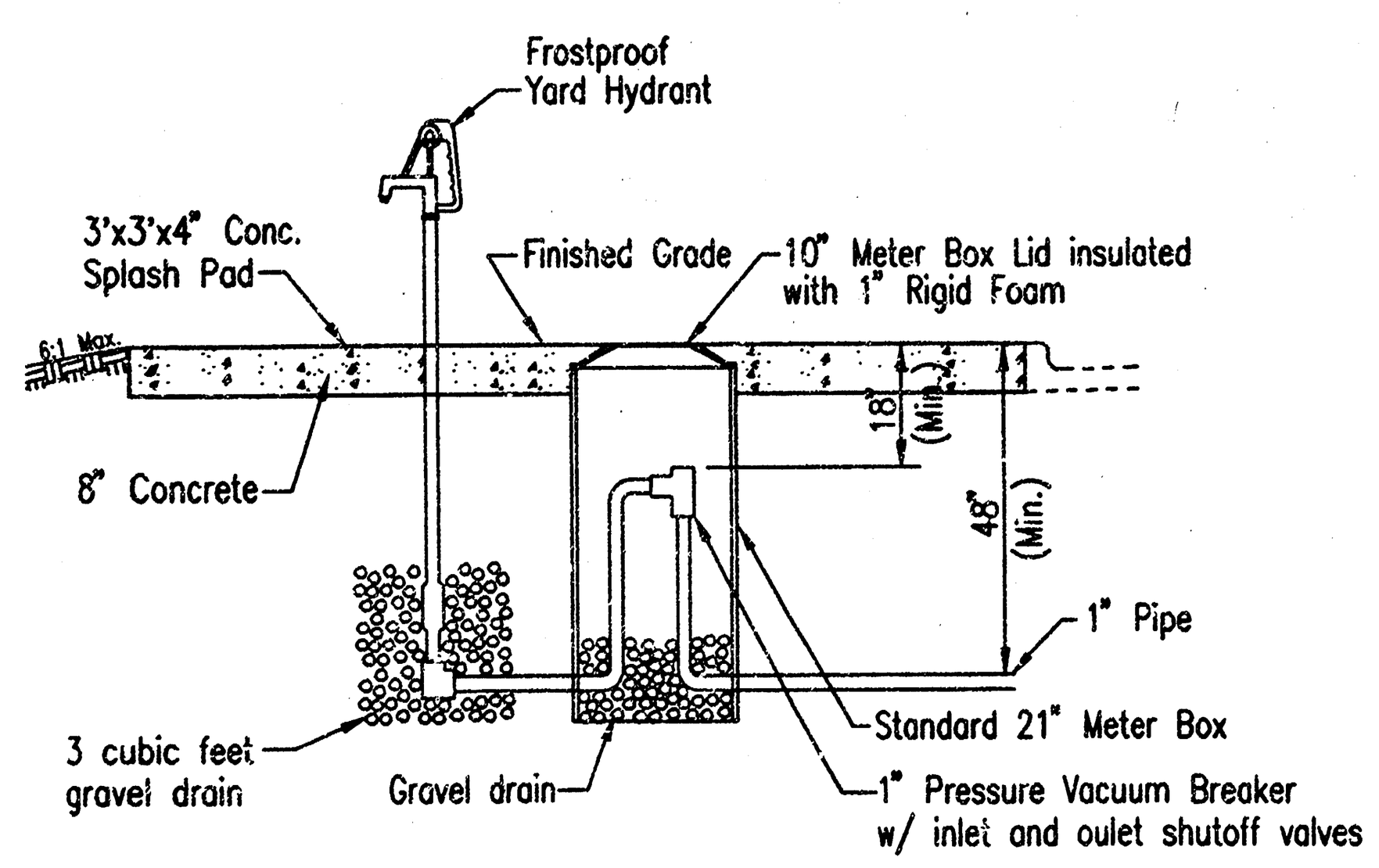


SITE PLAN
1"=10'





LIFT STATION
NO SCALE



YARD HYDRANT

PLUG VALVE SCHEDULE

MARK	LOCATION	STATUS	SIZE	FITTINGS	OPERATOR
PV-1	VALVE VAULT	NEW	4"	FLANGE	GEARED OPERATOR W/ EXTENSION & 2" NUT
PV-2	VALVE VAULT	NEW	4"	FLANGE	GEARED OPERATOR W/ EXTENSION & 2" NUT

CHECK VALVE SCHEDULE

MARK	LOCATION	STATUS	SIZE	FITTINGS	OPERATOR
CV-1	VALVE VAULT	NEW	4"	FLANGE	LEVER & SPRING
CV-2	VALVE VAULT	NEW	4"	FLANGE	LEVER & SPRING

PUMP SCHEDULE

MARK	TYPE	GPM	FT. HEAD	EFF. %	HP	RPM	ELECT.
P-1	SUBMERSIBLE GRINDER	150	30	35% MIN.	5	3450	480/60/3
P-2	SUBMERSIBLE GRINDER	150	30	35% MIN.	5	3450	480/60/3

LIFT STATION NOTES

1. THE PRICE BID FOR FURNISHING AND INSTALLING THE LIFT STATION INCLUDING THE WET WELL, VALVE VAULT, AND MISCELLANEOUS APPURTENANCES COMPLETE IN PLACE SHALL INCLUDE ALL COSTS FOR FURNISHING AND INSTALLING THE LIFT STATION AS INDICATED IN THE PLANS COMPLETE IN PLACE AND IN OPERATION. THIS PRICE SHALL INCLUDE THE COST OF CONSTRUCTING AND/OR INSTALLING COMPACTED SUBGRADE, CONCRETE PAVEMENT, ELECTRICAL CONDUIT, ELECTRICAL WIRING, DISCONNECT SWITCH, PUMP CONTROLS, ELECTRICAL POWER SUPPLY, FINISHED GRADING, LANDSCAPING, FENCING AND ANY OTHER INCIDENTALS NECESSARY TO COMPLETE THE WORK AND PLACE THE LIFT STATION INTO SATISFACTORY OPERATION. THE PRICE BID SHALL INCLUDE ALL SANITARY SEWER PIPE AND FORCE MAIN EXTENDED OUTSIDE THE SLAB AS SHOWN IN THE SITE PLAN AND DETAILS (THIS SHEET). WET WELL CONSTRUCTION SHALL MEET THE REQUIREMENTS AS SHOWN ON THE PRECAST MANHOLE DETAILS, SHEET NO. 9, UNLESS OTHERWISE SHOWN.
2. UNLESS OTHERWISE NOTED, ALL FORCE MAIN PIPING SHALL BE DUCTILE IRON (FLANGED) TO 5' OUTSIDE STRUCTURES. ALL INTERIOR PIPING SHALL BE CEMENT LINED AND EPOXY COATED DUCTILE IRON PIPE.
3. PIPE PENETRATIONS THRU THE WET WELL, VALVE VAULT AND CONCRETE PAD SHALL BE GROUTED WATERTIGHT WITH WATER STOP GASKETS AS REQUIRED. WET WELL CONSTRUCTION AND INTERIOR COATINGS SHALL BE IN ACCORDANCE WITH THE DETAILS FOR PRECAST MANHOLE CONSTRUCTION.
4. THE CONTRACTOR SHALL PERFORM AN EXFILTRATION TEST ON THE COMPLETED WET WELL. THE WET WELL SHALL BE TESTED INDIVIDUALLY BY SECURELY PLUGGING ALL INLET AND OUTLET PIPES. THE WET WELL SHALL BE FILLED TO ITS FULL DEPTH AND THEN OBSERVED FOR AT LEAST 6 HOURS. EXFILTRATION LOSS FROM THE 6-FOOT DIAMETER WET WELL SHALL NOT EXCEED THE RATE OF 1.70 GALLONS PER FOOT OF WET WELL DEPTH PER DAY. IF [illegible] EXCEEDS THE MAXIMUM LIMITS THE CONTRACTOR SHALL REPAIR LEAKS AND DEFECTS AND THEN RETEST.
5. CONTRACTOR SHALL SUPPORT ALL PIPING INSIDE THE WET WELL AND VALVE VAULT AS REQUIRED.
6. VALVE OPERATORS SHALL BE EXTENDED AND SUPPORTED TO WITHIN 6" BELOW THE FINISHED TOP ELEVATIONS.
7. ALL HARDWARE WITHIN THE WET WELL INCLUDING GUIDE BAR, HOIST CHAIN, HOIST CHAIN CATCH, ETC. SHALL BE STAINLESS STEEL.
8. THE CONTRACTOR SHALL PROVIDE A PORTABLE HOIST WITH 1,000 LB. CAPACITY. THE HOIST SHALL HAVE A REACH OF 24" (MIN.) TO 36" (MAX.) AND SHALL BE PROVIDED WITH A FLUSH MOUNTED SOCKED SET INTO THE LIFT STATION SLAB. THE PORTABLE HOIST SHALL BE MANUFACTURED BY U.S.F FABRICATION INC. OR APPROVED EQUAL. THE COST TO PROVIDE THE PORTABLE HOIST AND SOCKET COMPLETE IN PLACE AND IN SUCCESSFUL OPERATION SHALL BE CONSIDERED SUBSIDIARY TO THE LUMP SUM PRICE BID TO CONSTRUCT THE LIFT STATION.
9. A SAFETY NET SHALL BE PROVIDED ACROSS THE 30" X 48" ACCESS HATCH IN ACCORDANCE WITH THE CITY OF WICHITA REQUIREMENTS.
10. PUMP MANUFACTURER SHALL PROVIDE MOTOR LEADS OF SUFFICIENT LENGTH TO TERMINATE OUTSIDE THE WET WELL.
11. CONTRACTOR SHALL REPAIR ALL DISTURBED SPRINKLER SYSTEM PIPING, VALVES, WIRING, AND SPRINKLER HEADS AND RETURN THE SYSTEM TO SERVICE.

AS BUILT
Date 9-18-00

No.	Revision	By	Date
	Addendum 1		3-9-00

MICHAEL D. HUGHES LICENSED 14917 KANSAS PROFESSIONAL ENGINEER 3/9/00

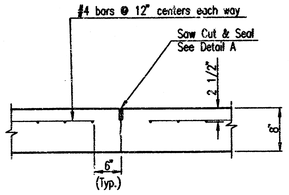
LIFT STATION AND FORCE MAIN
TO SERVE
CENTURY II

LIFT STATION DETAILS

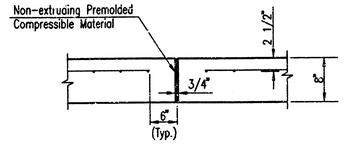
MICHAEL E. LINDEBAK, P.E. – CITY ENGINEER
CITY OF WICHITA SEALED BID NO. 16-13-2

Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-3003

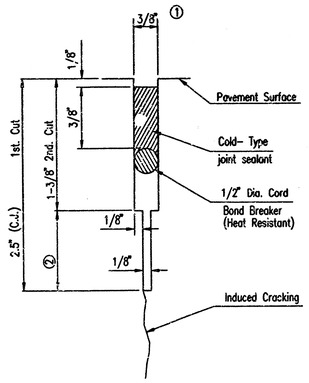
Designed by	MDH	Job No.	34-99609-42
Drawn by	BB	Date	February 2000



CONTRACTION JOINT DETAIL
REINFORCED PAVEMENT
(C.J.)



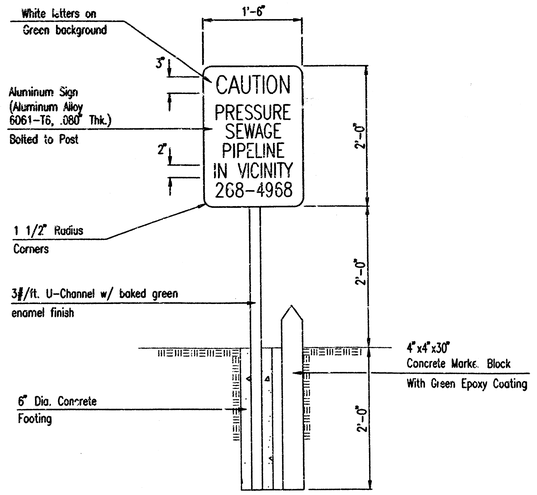
EXPANSION JOINT DETAIL
(E.J.)



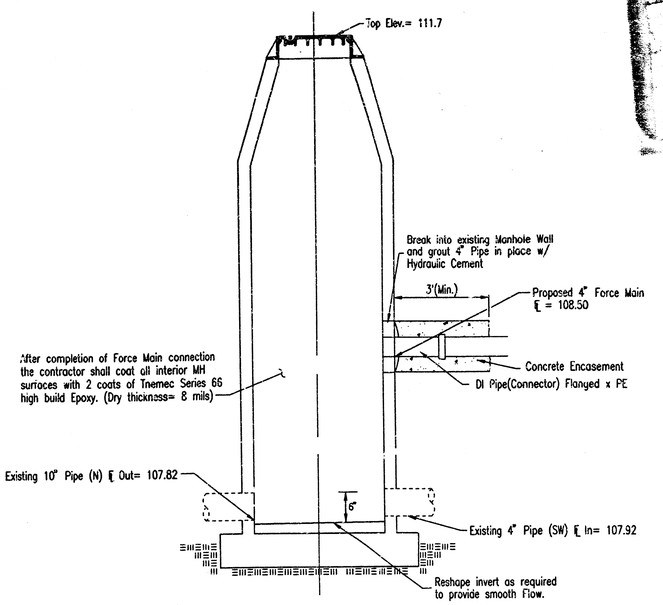
DETAIL A

① TO BE ACCOMPLISHED IN 2 CUTS FOR LONGITUDINAL JOINTS & CONTRACTION JOINTS. INITIAL CUT TO BE 1/8" WIDE.

② ELIMINATE BOTTOM OF CUT WHEN METAL KEYWAY IS USED AS PART OF LONGITUDINAL OR TRANSVERSE CONSTRUCTION JOINT.



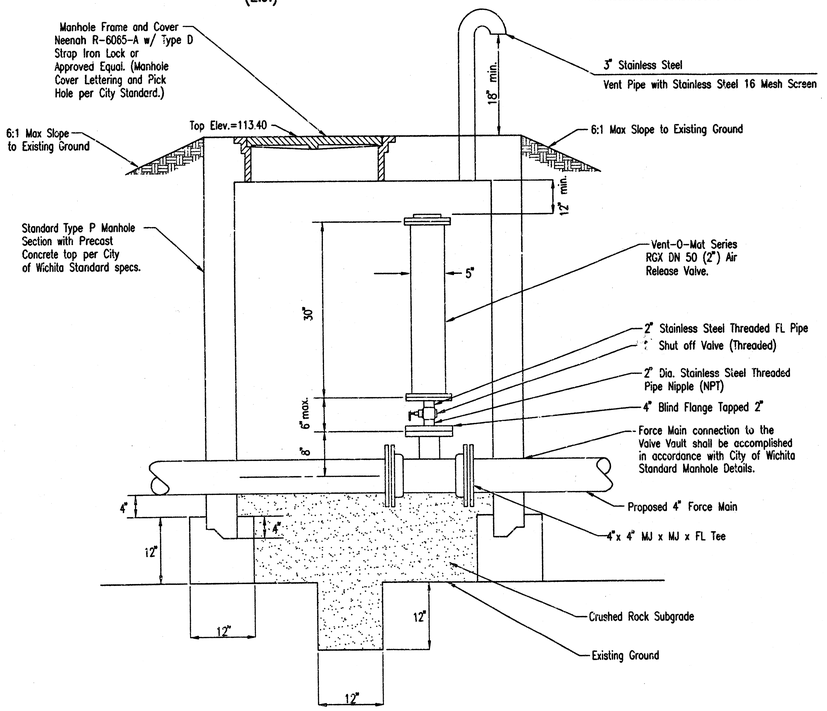
FORCE MAIN WARNING SIGN DETAIL
SCALE: 1"=1'-0"



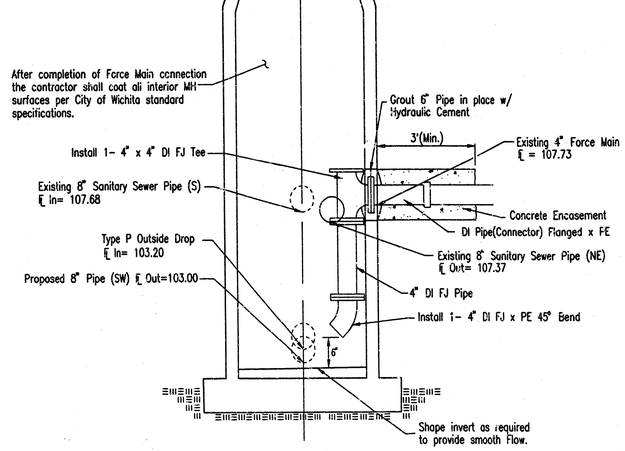
FORCE MAIN CONNECTION DETAIL MH 'B'
STA. 0+00.00

ALL INTERIOR FITTINGS SHALL BE FLANGED OR RESTRAINED JOINT. COST SUBSIDIARY TO 6" FORCE MAIN.

NOTE: All D.I. Pipe shall be coated according to the specifications.



AIR RELEASE VALVE AND VAULT



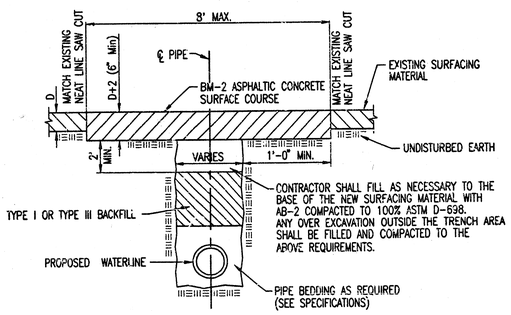
MH 'A' CONNECTION DETAIL
STA. 1+19.80

ALL INTERIOR FITTINGS SHALL BE FLANGED
COST SUBSIDIARY TO 8" SANITARY SEWER

NOTE: All D.I. Pipe shall be coated according to the specifications.

AS BUILT
Date 9.18.00

REMOVE TOP 2" OF LOOSE/ EXISTING BASE PRIOR TO PAVING



PAVEMENT REMOVAL AND REPLACEMENT DETAIL

DSN℄: MH1 OPER: BB SCALE: 1=1.00
Q:\1999\99609\MISC\MUL 02-11-2000 08:46:50 am

MICHAEL D. HUGHES LICENSED 14917 PROFESSIONAL ENGINEER 4/4/00

No.	Revision	By	Date

LIFT STATION AND FORCE MAIN
TO SERVE
CENTURY II

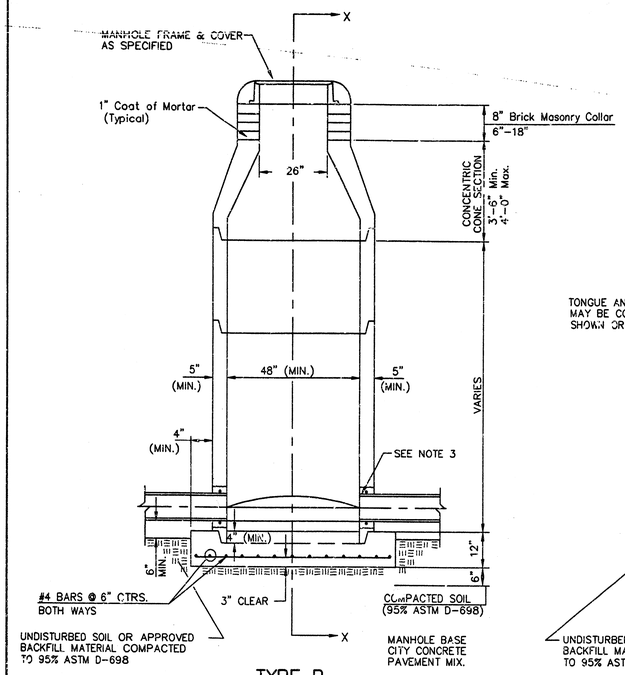
MISCELLANEOUS DETAILS

MICHAEL E. LINDEBAK, P.E. – CITY ENGINEER
CITY OF WICHITA SEALED BID NO. 16-13-2

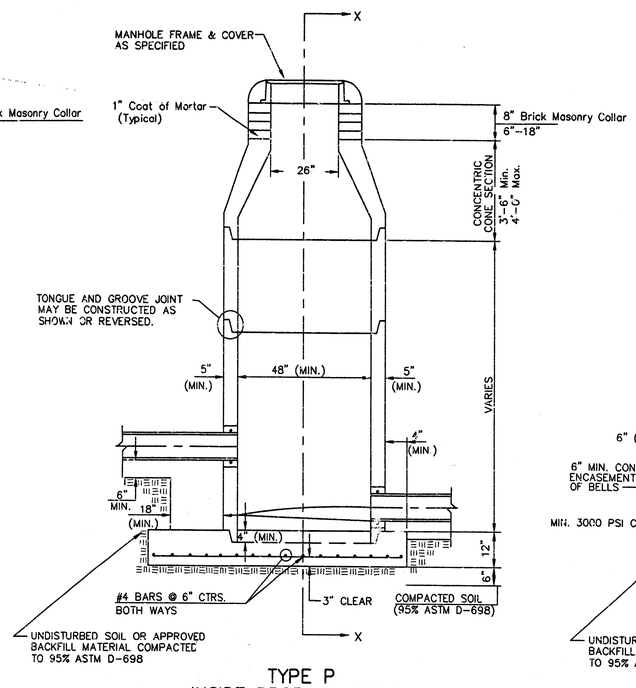
Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-3063

Designed by	MDH	Job No.	34-99609-42	Sht. 8 of 10
Drawn by		Date	February 2000	

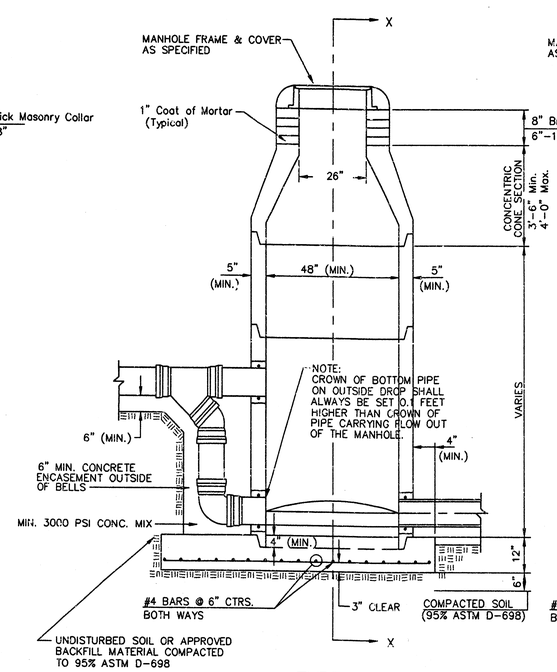
SEWER APPURTENANCES DETAILS



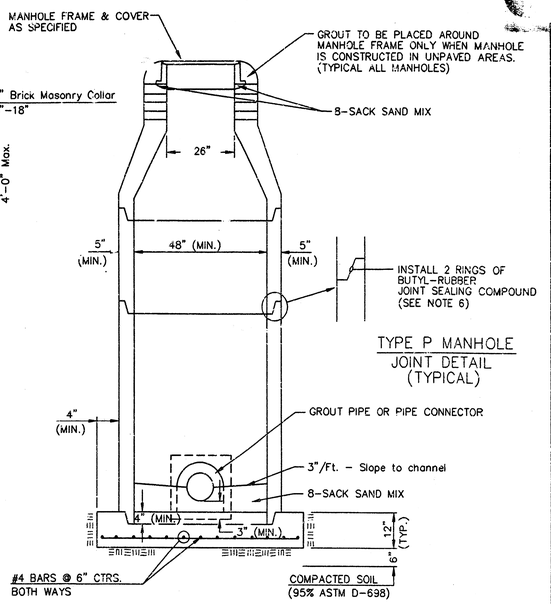
TYPE P
STANDARD MANHOLE



TYPE P
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE



TYPE P MANHOLE
JOINT DETAIL
(TYPICAL)

SECTION X
(TYPICAL)

GENERAL NOTES

PRECAST MANHOLE NOTES

1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
2. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
3. APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN A.B.S. COMPOSITE PIPE OR P.V.C. PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT. THE SEWER PIPE SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.
4. ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS TNEMEC SERIES 66 HI-BUILD EPOXOLINE, DRY THICKNESS OF 8 MILS (MIN.)
5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS COATING.
6. JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
7. PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
8. TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
9. LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
10. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4'. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE 24" OR LARGER SHALL HAVE AN INSIDE DIAMETER OF 5'. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.
11. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
12. OPENINGS SHALL BE CUT INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS CUT INTO EXISTING MANHOLES SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUTING THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. AND A.B.S. COMPOSITE PIPE. THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NONSHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. FLOOR OF MANHOLE SHALL BE MODIFIED TO FORM NEW FLOW CHANNEL FOR THE NEW CONNECTION AS INDICATED BY THE DRAWING. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR OUTSIDE DROP STACK CONSTRUCTED ON EXISTING MANHOLE.
13. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS EXCEPT FOR INSIDE DROP MANHOLES. FLOW CHANNELS FOR INSIDE DROP MANHOLES SHALL BE CONSTRUCTED AS INDICATED BY THE DRAWING. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
14. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MAHOLE. THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
15. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.
16. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 2' FOR INFLOWING PIPES SIZED 12" OR SMALLER AND 2' FOR INFLOWING PIPES LARGER THAN 12". THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
17. STANDARD MANHOLES AND STANDARD INSIDE DROP MANHOLES SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.
18. A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. THE COLLAR WILL HAVE 8" WALLS AND A VERTICAL HEIGHT OF 6" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR. THE USE OF PRE-CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.

AS BUILT
Date 9-18-00

DSNR: MDS OPER: BB SCALE: 1=1.00
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THE CITY OF WICHITA

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4501
(316) 268-4114 FAX

STANDARD
TYPE 'P'
MANHOLES

M. E. LINDEBAK P.E. - CITY ENGINEER

SEALED BID NUMBER	OCA No.
16-13-2	792307
DATE: MAR 96	SHEET 9 OF 10

DIVISION 16 – ELECTRICAL

A. General Instructions:

1. Codes, Permits and Inspections:
   a. Wiring shall be in accordance with latest edition National Electrical Code (NEC), NFPA, and/or applicable local, state, and Utility Company rules, laws, codes, and ordinances.
   b. Secure all permits and inspections required for the installation of the electrical work.
   c. All work shall comply with the latest edition of the Americans With Disabilities Act (ADA).
   d. Pay all fees associated with new utility services.

2. Verifications:
   a. Verify mounting heights and locations of electrical equipment before installation or rough-in.
   b. Verify exact location of electrical service entrance including point of service and system characteristics.

3. Wiring Methods:
   a. The Electrical Contractor shall cooperate with other Contractors and install equipment in proper sequence so as not to interfere with the progress of other Contractors.
   b. All materials shall be new and carry the Underwriter's Label or be "listed" by that group, and be fully equal to makes specified.
   c. Use only insulated copper conductors in conduit. Use flexible conduit for connections to motors and similar equipment.
   d. All wiring shall be concealed and all outlets shall be flush mounted in finished spaces except as noted otherwise.
   e. All systems wiring in return air plenums shall be in conduit or be plenum rated.

4. Tests:
   a. This Contractor shall be responsible for performing all tests necessary to prevent concealment of defective or improper work.
   b. Upon completion of work, test the installation thoroughly and render it free from shorts, grounds or improper connections.

5. Guarantee – This Contractor shall guarantee that all defective items of workmanship, material, labor or mechanical operation developing within one (1) year from the date of final acceptance of completed installation shall be replaced to the complete satisfaction of the Owner.

6. Workmanship – Electrical equipment shall be installed in a neat and workmanlike manner. Unsightly installations shall be removed or reworked at no additional expense to the Owner.

7. Identification of disconnecting means – Provide a permanent nameplate for each disconnect switch indicating its purpose. The marking shall be of sufficient durability to withstand the environment it is installed in as required by N.E.C. Section 110-22.

B. Electrical Equipment:

1. Conduits:
   a. All conduit installed in earth, concrete, below concrete on earth,or exposed to weather shall be rigid steel or intermediate metal conduit. Electrical metallic tubing for all dry interior runs. Fittings shall be fully approved in accordance with N.E.C.
   b. Provide a ground wire sized per N.E.C. Art. 250-122 in all conduits, both metallic and nonmetallic.
   c. Conduit shall be installed and sized according to code requirements and protected from damage during construction.
   d. Conduit may be re-routed where such action does not adversely affect the intended design or circuiting.
   e. Final connections to all kitchen and mechanical equipment shall be with U. L. approved liquidtite conduit. Liquidtite and fittings shall be U.L. listed for grounding.
   f. All conduit installed in the wet well shall be Robroy.

2. Conductors:
   a. Conductors shall be copper, generally with 600 volt rated insulation. Branch circuit wiring min. size #12 Type "THW" or "THWN/THHN" as required. Service entrance, feeder conductors Type "THWN/THHN" or "XHHW". Low voltage wire shall be Type "TF" or "TFF" minimum #18 gauge unless noted otherwise. All other types shall be as required by N.E.C.
   b. All conductors shall be color coded with type and size marking. Connections to service equipment, feeder panels shall be made with solderless lugs. All splices, taps, connections to service entrance conductors shall be made by bronze solderless lugs. All other splices, connections shall be pressure type connectors.
   c. Insulate joints, splices with Scotch #33 plastic tape or plastic moulded jackets.

3. Outlet Boxes and Plaster Rings:
   a. Outlet boxes shall be galvanized steel of type and size approved for particular installation requirements.
   b. Use 4" square box with suitable plaster ring installed flush with finish materials in stud or concrete walls.
   c. Use standard octagon boxes for ceiling light outlets.
   d. All boxes shall be securely mounted to building construction and flush with finish materials.

4. Wall Receptacles:
   a. Duplex receptacles shall be "Specification Grade", back or side wired, grounding type. Manufacturer shall be Hubbell or equal.
   b. Weatherproof receptacles (indicated WP) shall be GFCI duplex receptacles with stainless steel double lift weatherp. of cover plate.

5. Wall Switches:
   a. Wall switches shall be "Specification Grade", 15 or 20A. as required by N.E.C. for the load served.
   b. Provide mechanically operated single pole, double pole, three way, four way or other types as indicated on the drawings. Manufacturer shall be Hubbell or equal. Maximum load shall be less than 80% of rated capacitics.

6. Wall Plates and Covers
   a. Flush wiring devices shall be provided with high impact thermoplastic wall plates as made by the PS/Sierra Electrical and Mfg. Co. or equal.
   b. Flush junction boxes shall be equipped with blank plates.
   c. Surface wiring devices shall be provided with suitable heavy steel coverplates with rounded edges and corners.

7. Safety Switches:
   a. Furnish safety switches of size and type indicated on drawings.
   b. Normal duty switches shall be fusible unless indicated otherwise. Provide Class "R" fuse clips.
   c. All exterior switches shall be raintight.

8. Starters:
   a. Starters shall be NEMA rated with H-O-A switch in cover and a control power transformer for controls.
   b. Provide Class 20 melting alloy relays or bimetallic overload relays (as required for load served). Size and install overload relay in field based on motor nameplate current.

9. Fuses:
   a. Furnish and install Class RK-5 time delay fuses for each active fuseholder, sized as scheduled or required.
   b. Provide fuses mod. by Bussmann or equal.

10. Lighting Fixtures and Lamps:
    a. Install lighting fixtures. Provide lamps as indicated on the drawings.
    b. No substitutions on lighting fixtures except as approved by Engineer prior to bidding.
    c. Verify exact locations of fixture outlets so as to cause no interference with piping, equipment and architectural treatment.
    d. Ballasts – by "Advance" or equal, internally or externally fused, high power factor, VLH, fully compatible with lamps and shall carry UL label, ETL and CBM certifications of compliance, even though indicated fixture number may indicate otherwise.
    e. Furnish all fixtures with lamps as scheduled and/or required by final fixture selection. Lamps equal to G.E.

11. Wiring for Mechanical Equipment:
    a. Electrical Contractor to provide all wiring remote from panel to panel. Electrical Contractor to provide all wires for mechanical equipment and controls. All WIRING TO BE IN CONDUIT. ELECTRICAL CONTRACTOR TO MAKE FINAL CONNECTIONS. Electrical Contractor shall provide disconnect switch and all power wiring.
    b. Provide disconnect switches, starters, and all wiring for mechanical equipment unless otherwise noted on plans. Coordinate requirements with equipment suppliers.

12. Grounding:
    a. Provide system ground as required by N.E.C. and utility company if not already existing.
    b. Bond mechanical equipment frames.
    c. Bond all service entrance equipment and conduit system.
    d. An equipment grounding conductor sized per N.E.C. Art. 250-66 shall be provided in all conduits. The ground wire is required for both metallic and nonmetallic conduit installations.

13. Branch Circuit Panels
    a. Branch circuit lighting panels equal to Square D, G.E., ITE, or Cutler Hammer, with thermal magnetic breakers and ground buses. Load center construction is not permitted. Electrical Contractor shall obtain available short circuit current from local Utility co. Panelboards shall be U.L. listed for available fault current. Breakers and panels shall be fully rated or U.L. series rated with specified fuses (22,000 AIC minimum).
    b. Breakers shall have individual plastic cases sized as scheduled. Two pole breakers shall be common trip (single pole units with tie bars are not acceptable).
    c. Panel shall be mounted as noted on the drawings. Provide with a hinged door and a neatly typed circuit directory card.
    d. Re-assign circuits to properly balance the loads on the phases if final connections and tests show it to be advisable.

14. Equipment Supplied By Others Contactors And/Or The Owner
    a. The Electrical Contractor shall furnish, install and connect all wiring, conduit, boxes, toggle switches, thermal switches, disconnect switches, remote pushbutton stations, etc., for all equipment requiring electrical power that is either furnished or specified by other contractors and/or the Owner, shown on drawings or listed below. The E.C. shall receive, install and connect all magnetic starters and controllers, capacitors, power factor correction devices, transformers, alarms, bells, horns, relays, remote switches for equipment supplied by others (i.e. starters or capacitors or power factor correction devices for Mechanical Equip., etc.). In general, all major equipment will be specified to be factory prewired with only service and interconnecting required at the site by the Electrical Contractor; however,the E.C. shall check all Divisions of the specification to verify whether the equipment is specified to be factory prewired. If not, then it shall be the responsibility of the Electrical Contractor to provide the complete wiring of the equipment in accordance with wiring diagrams provided by other Contractors and/or Owner to the Electrical Contractor. All interconnecting of equipment shall be by the Electrical Contractor.
    b. All line and low voltage wiring and connections required to control the equipment are a part of this section. All wiring shall be in conduit.
    c. It shall be assumed the Contractor is familiar with the equipment to be furnished by the other Contractors and/or the Owner in connection with this work and that provisions for such connections and work have been included in the Contractor's price. In no case will extra remuneration be allowed for such work.
    d. Connections to all equipment have been designed from units as specified on the drawings or in the specifications. In the event equipment or control differs on approved mechanical shop drawings it shall be the responsibility of the supplying contractor to coordinate the electrical connections to the units and reimburse electrical contractor for any changes in the electrical system design. These changes shall not involve additional cost to the Owner.

GENERAL NOTES

1. ALL ELECTRICAL WORK SHALL COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) & THE AMERICANS WITH DISABILITY ACT (ADA).
2. REFER TO RELATED ARCHITECTURAL, MECHANICAL, AND STRUCTURAL DRAWINGS FOR RELATED INFORMATION.
3. REFER TO THE SPECIFICATIONS FOR DATA NO ON THE DRAWINGS.
4. E.C. SHALL REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS FOR THE REQUIREMENTS ASSOCIATED WITH WIRING AND CONNECTION OF INTERLOCKING AND CONTROLS OF MECHANICAL UNITS AND THERMOSTAT LOCATIONS.
5. COORDINATE OUTLET BOX LOCATIONS WITH MASONRY TO MINIMIZE CUTTING OF BRICK OR BLOCK.
6. ALL MOUNTING HEIGHTS TO CENTERLINE OF ITEM UNLESS OTHERWISE NOTED. VERIFY ALL OUTLET LOCATIONS ON THE JOB PRIOR TO ROUGH-IN.
7. CONDUIT RUN W/CONDUCTORS AS INDICATED & GROUND WIRE SIZED PER N.E.C. 250-122 (1999). CONDUIT SIZE AS REQUIRED.
8. WHEN INCREASED CONDUCTOR SIZES ARE SHOWN ON THE PLANS, THE LARGER CONDUCTOR SIZE SHALL BE USED THROUGHOUT THE LENGTH OF THE CIRCUIT, INCLUDING NEUTRAL AND GROUND.
9. ALL LINE AND LOW VOLTAGE WIRING AND CONNECTIONS REQUIRED TO CONTROL THE EQUIPMENT ARE TO BE INSTALLED BY THE E.C. ALL WIRING SHALL BE IN CONDUIT. WHEN MECHANICAL CONTROLS ARE TO BE PROVIDED BY THE TEMPERATURE CONTROLS CONTRACTOR (TCC), LOW VOLTAGE CONTROL WIRING FOR THE CONTROL SYSTEM SHALL BE PROVIDED BY THE TCC AND INSTALLED BY THE E.C. TERMINATIONS WILL BE MADE BY THE TCC.
10. THE E.C. SHALL CHECK WITH ALL OTHER CONTRACTORS TO VERIFY IF THE EQUIPMENT IS FACTORY PREWIRED AND IF NOT, IT SHALL BE THE RESPONSIBILITY OF THE E.C. TO PROVIDE THE COMPLETE WIRING OF THE EQUIPMENT IN ACCORDANCE WITH WIRING DIAGRAMS PROVIDED BY OTHER CONTRACTORS TO THE E.C. ALL INTERCONNECTING OF EQUIPMENT SHALL BE BY THE E.C.

SYMBOL LIST

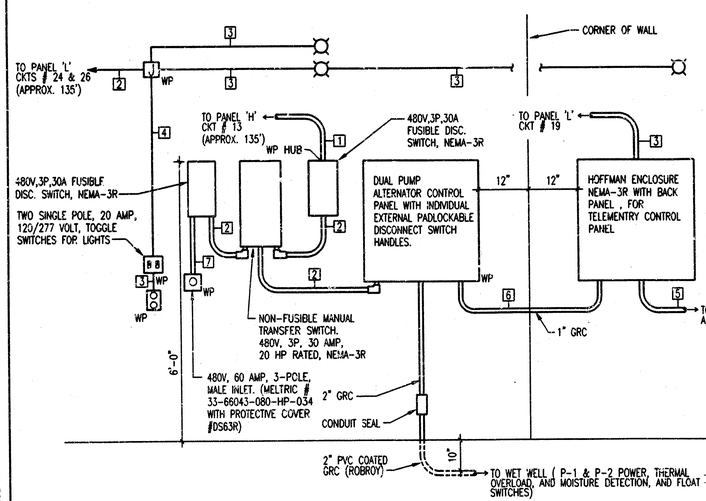
SYMBOL	DESCRIPTION	MOUNTING
A	LIGHT FIXTURE & FIXTURE LETTER	WALL
$ $2 $3 $4	SWITCHES (1-POLE,2-POLE,3-WAY,4-WAY)	46"AFF
WP	WEATHERPROOF	
AFF	ABOVE FINISHED FLOOR	
UON	UNLESS OTHERWISE NOTED	
	GROUND FAULT DUPLEX RECEPTACLE	36"AFF
1	FEEDER DESIGNATION	
	EMERGENCY CIRCUIT	CEIL./WALL
	CONDUIT RUN 2#10 & 1#10 GRD.-1/2"C.	CEIL./WALL
	CONDUIT RUN 2#10 & 1#10 GRD.-3/4"C.	EARTH/FLOOR
	MASTER/SLAVE FIXTURE WHIP	CEILING
	CONDUIT RUN 2 CIRCUITS, 3#10 & 1#10 GRD.-3/4"C.	EARTH/FLOOR
	CONDUIT RUN PARTIAL CIRCUIT	
#10	SEE GENERAL NOTE 7	
	CONDUIT RUN TWO (2) CIRCUITS -PHASE CONDUCTORS (#10 UON) -NEUTRAL CONDUCTOR (#10 UON) -SWITCH LEGS (#10 UON) -GROUND CONDUCTOR (#10 UON) -ISOLATED GROUND CONDUCTOR (#10 UON)	CEIL./WALL

FEEDER SCHEDULE

DESIG.	EQUIPMENT SERVED	CONDUCTORS SETS	NO.	SIZE	GROUND SIZE PER SET	ISOLATED GROUND SIZE	CONDUIT SIZE PER SET
1	PRIMARY DISCONNECT	1	3	#10 AWG	#10 AWG	---	3/4"
2	CONTROL PANEL	1	3	#10 AWG	#10	---	1/2"
3	LTS & TELEMENTRY PANEL	1	2	#10 AWG	#10	---	1/2"
4	SWITCH & RECEPT.	1	5	#10	#10	---	3/4"
5	RTU	–	–	COAX CABLE	–	---	1"
6	---------	1	24	#14 CONTROL CABLE	#12	---	1"
7	GENERATOR INLET	1	3	#4 AWG	#8	---	1"

PLAN NOTES:

1. BRANCH CIRCUITS ARE INDICATED AS ONE CIRCUIT HOME RUNS FOR CLARITY ONLY. CONTRACTOR MAY GROUP SINGLE POLE BRANCH CIRCUITS IN MULTIPLE CIRCUIT HOME RUNS. (3 CIRCUITS MAXIMUM). A GROUND CONDUCTOR SIZED PER N.E.C. ARTICLE 250 IS REQUIRED IN ALL CONDUITS.
2. FOR CONNECTION REQUIREMENTS TO MECHANICAL UNITS, SEE MECHANICAL EQUIPMENT CONNECTION SCHEDULE.
3. ALL PENETRATIONS IN THE RATED WALLS AND CEILINGS SHALL BE SEALED WITH A MATERIAL CAPABLE OF PREVENTING THE PASSAGE OF FLAMES AND HOT GASSES. THE SEALANT SHALL HAVE A T-RATING OF ONE HOUR.
4. PROVIDE AND INSTALL A 30A, 3P, 480V CIRCUIT BREAKER IN PANEL 'H' TO FEED THIS LIFT STATION.
5. UTILIZE EXISTING CIRCUIT BREAKERS IN PANEL "L" TO FEED LIGHTS, RECEPTACLE, AND TELEMETRY CONTROL PANEL.
6. E.C. SHALL SIZE AND PROVIDE NEMA-3R HOFFMAN ENCLOSURE WITH BACK PANEL TO HOUSE THE TELEMETRY CONTROL PANEL.
7. PROVIDE AND INSTALL A 3/4" X 20' GROUND ROD NEAR THE BASE OF THE ANTENNA AND BOND TO THE ANTENNA MAST AND THE CONTROL PANEL WITH #2 AWG BARE COPPER CABLE (MIN).



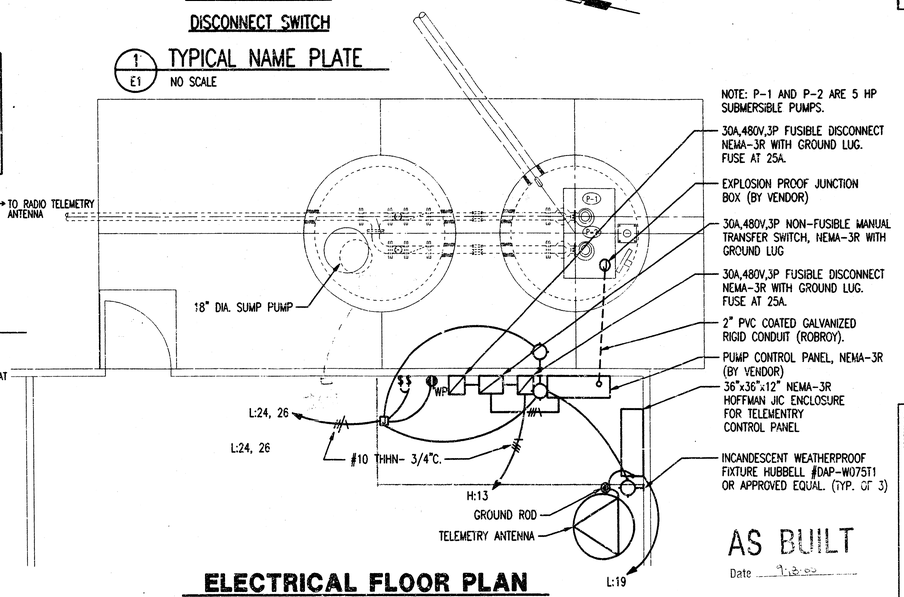
NOTE: NO FITTINGS BETWEEN CONDUIT SEAL AND WET WELL.

ELECTRICAL RISER DIAGRAM
NO SCALE

1/8" SERVES
1/4" LIFT STATION
1/4" FRS 30 AMP

DISCONNECT SWITCH

1 / E1 TYPICAL NAME PLATE
NO SCALE



ELECTRICAL FLOOR PLAN
SCALE: 1" = 3'-0"

AS BUILT
Date 7-18-00

RONALD J. JULIAN — 9270 — 04/11/00 — KANSAS — PROFESSIONAL ENGINEER

No.	Revision	By	Date

LIFT STATION AND FORCE MAIN
TO SERVE
CENTURY II

ELECTRICAL PLANS AND SCHEDULES

MICHAEL E. LINDBACK, P.E.– CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-76-245- -000-000-001

Professional Engineering Consultants, P.A.
303 S. TOPEKA • WICHITA, KANSAS 67202
316-262-2691 • FAX 316-262-3003

Designed by RJJ | Job No. 99609
Drawn by WDB | Date FEB. 2000
Sht. E1 of

DSNR: RJJ OPER: RJJ SCALE: 1=120.00
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