

GENERAL NOTES:

1. Contractor will be required to provide notice to utility companies a minimum of twenty-four (24) hours prior to any excavation, as follows:

Kansas One-Call (316)687-2470

The Contractor must notify the following in case of an emergency:

Cox Communications or (316)262-4270
(316)263-2061

Westar Energy/
Kansas Gas & Electric Company (800)482-4950
AT&T 1-555-1212
City of Wichita Water Department (316)268-4908
City of Wichita Sewer Department (316)268-4071
Aquila Natural Gas (316)941-1608
or (800)303-0357

2. Exist. utilities and their locations, as shown on the plans, represent the best information attainable for design. Location information has been obtained from the various utility companies and is either from company record drawings or company-provided field locations. The Contractor will be required to work around existing utilities which do not conflict with proposed constructions.

3. The Contractor to verify utility locations prior to construction of this project.

4. Utility service and installation shall be coordinated with the respective utility owner. Contacts are:

| | | |
|-----------------------|---------------|---------------|
| Kansas Gas Service | Jim Coe | (316)832-3126 |
| Westar Energy | Miles Capps | (316)261-6251 |
| Aquila Networks | Calvin Briggs | (316)942-8811 |
| Wichita Water & Sewer | Kerry Gibson | (316)268-4555 |
| AT&T | Jim Toben | (316)268-2759 |
| Cox Communications | Mark Anaya | (316)262-4270 |

5. All lawn/turf areas disturbed by construction of proposed improvements shall be restored with the same grass as existing. Restoration of disturbed areas shall include, but not limited to, soil preparation, fertilizing, seeding, mulching (all seeded areas, outside the limits of erosion mat placement), and/or reseeding, and installation of erosion control mat. All seeding work shall be in accordance with the City of Wichita Standard Specifications and the City of Wichita Administrative Regulations No. AR 6.5 which governs cleanup and respiration or replacement following construction. All cost for the soil preparation, seeding and mulching (all seeded areas, outside the limits of erosion mat placement) shall be paid for through the lump sum bid item for "Seeding." All seeded areas within eight feet of the back of new curb shall be covered with an approved erosion mat, which shall be paid for by the measured quantity bid item "Back of Curb Protection (8' wide)."

6. Traffic affected by the construction of this project shall be handled in accordance with the latest edition of the Manual on Uniform Traffic Control Devices.

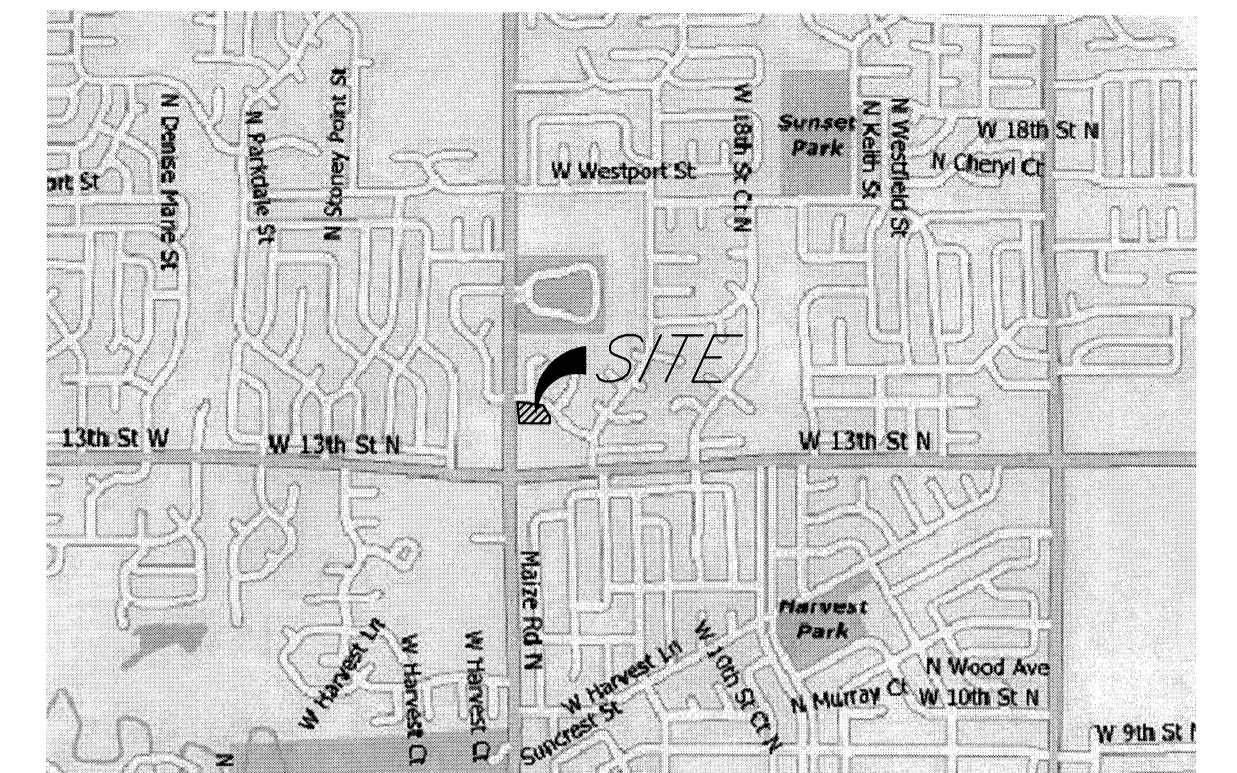
7. It is the contractor's responsibility to visit this site to better understand the extent of site clearing and restoration to be performed. Site Clearing and Restoration shall include all costs for removal of items which a pay item is not provided.

8. 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 the construction operations. Such irons shall be re-established by a licensed land surveyor in accordance with state laws.

9. Properties within the project limits may have underground sprinkler systems in public right-of-way which conflict with new construction. Contractor will be required to remove such improvements should they not be removed by their owner at the time of construction of the project. The contractor will be required to salvage all sprinkler heads and/or valves and give such material to owner. Portions of underground sprinkler systems not in conflict with new construction shall be protected from damage and shall remain in place. All work in connection with underground sprinkler systems shall be considered as subsidiary to the contract pay items for work.

10. Cuts made in paved surfaces on public property will be repaired by the City's Contractor and charged against the contractor. Unit Repair prices are available from the city at 268-4418. A surcharge may be applicable. Call 268-4418 for details. Repair costs to be paid prior to release of utility service if utilities are effected.

SEWER TO SERVE JOHNSON SHOPPING CENTER 1444 N Maize Road 1866 PPS (607861) CITY OF WICHITA, KANSAS Jim Armour, P.E., City Engineer



LOCATION MAP

INDEX OF SHEETS:

1. Cover Sheet
2. Control Map
3. Plan
5. Inlet Details
6. Manhole Details

Baseline:

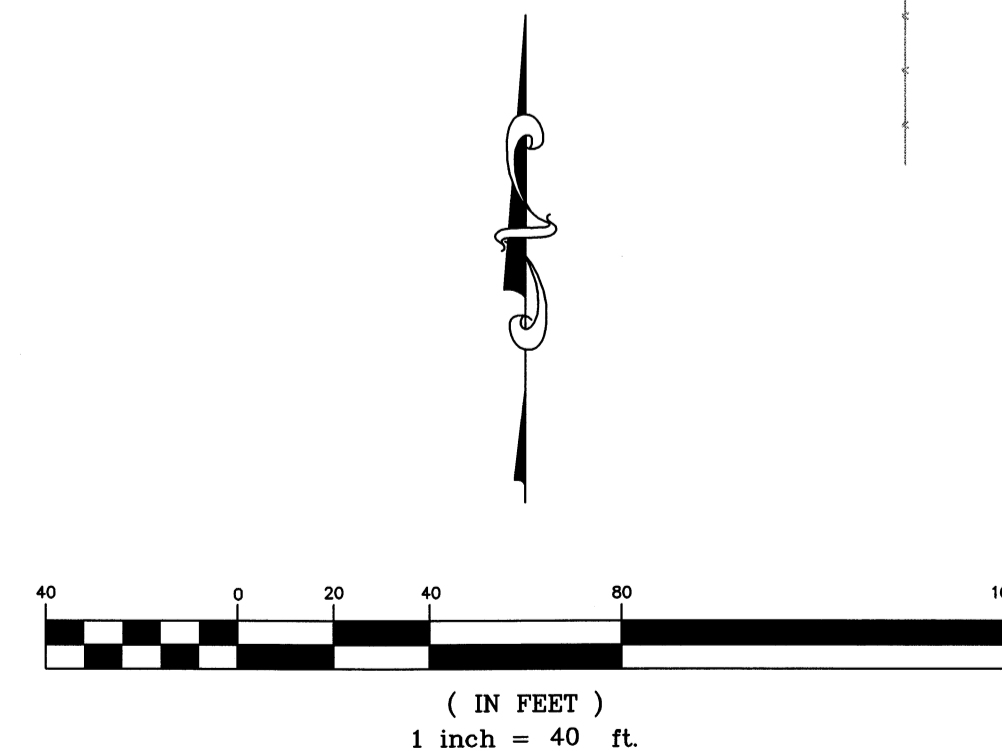
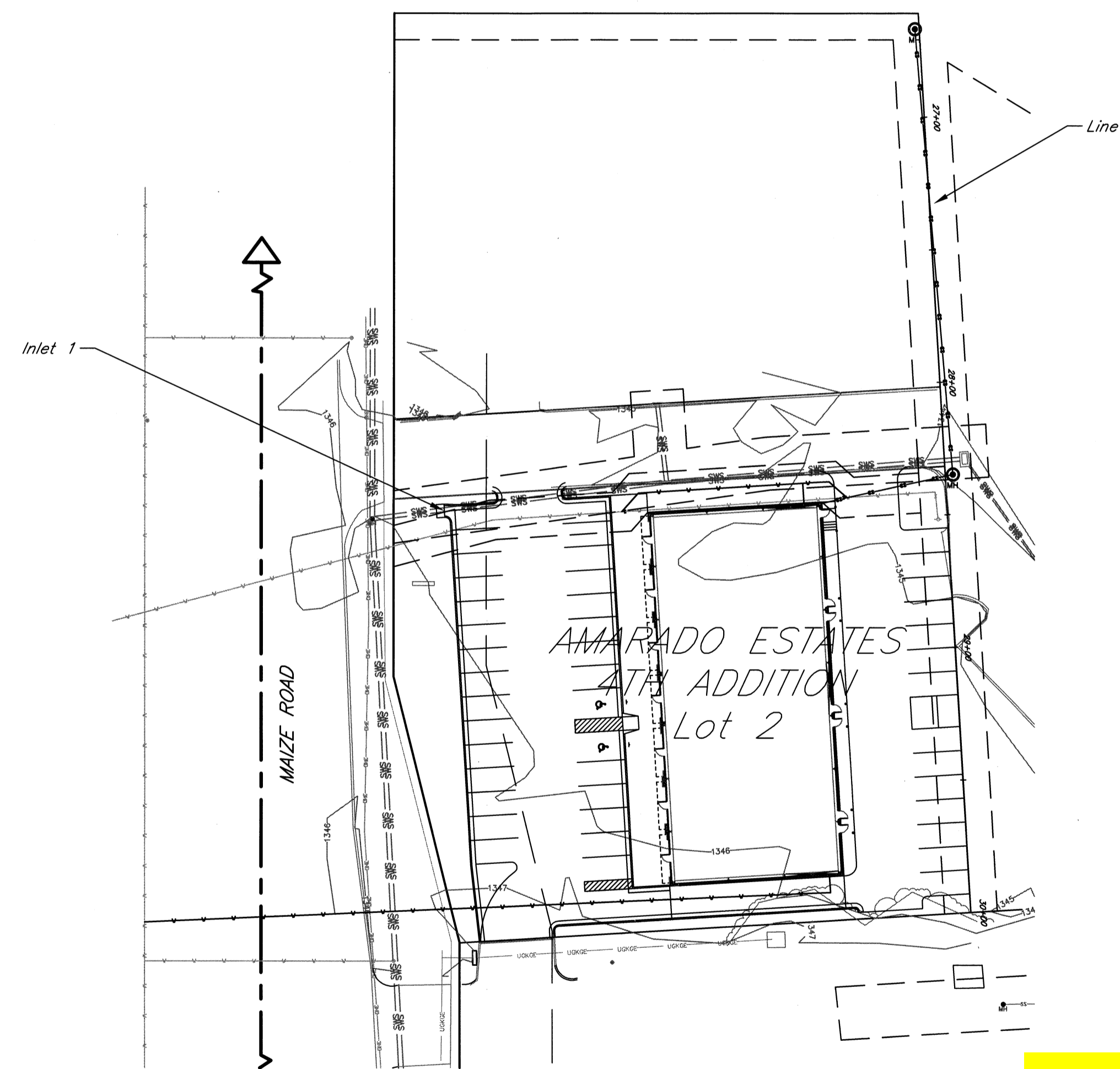
Sta. 10+00 at Northwest Property Corner.
Follows Property Line Eastward.

Sta. 30+00 at Southeast Property Corner.
Follows Property Line Northward.

Benchmark:

Maize Rd and 13th Street North, NW Corner
of Intersection.
109.50 ft North of Centerline.
71.00 ft West of Centerline.
2.00 ft East of East Face of Walk.

Elev. = 1347.42



April 2008

T. Mason - City of Wichita, Inspector
Date Released: January 7, 2009
APR 01/13/09



AS BUILTS:

CONTRACTOR: Mike Love Construction
INSPECTOR: Pat Hayes, CED
COMPANY: Certified Engineering Design
DATE: 9-05-08

APPROVED AS NOTED

City Engineers
Office: *Julianne Killman 4-18-08*

NOTE TO CONTRACTORS

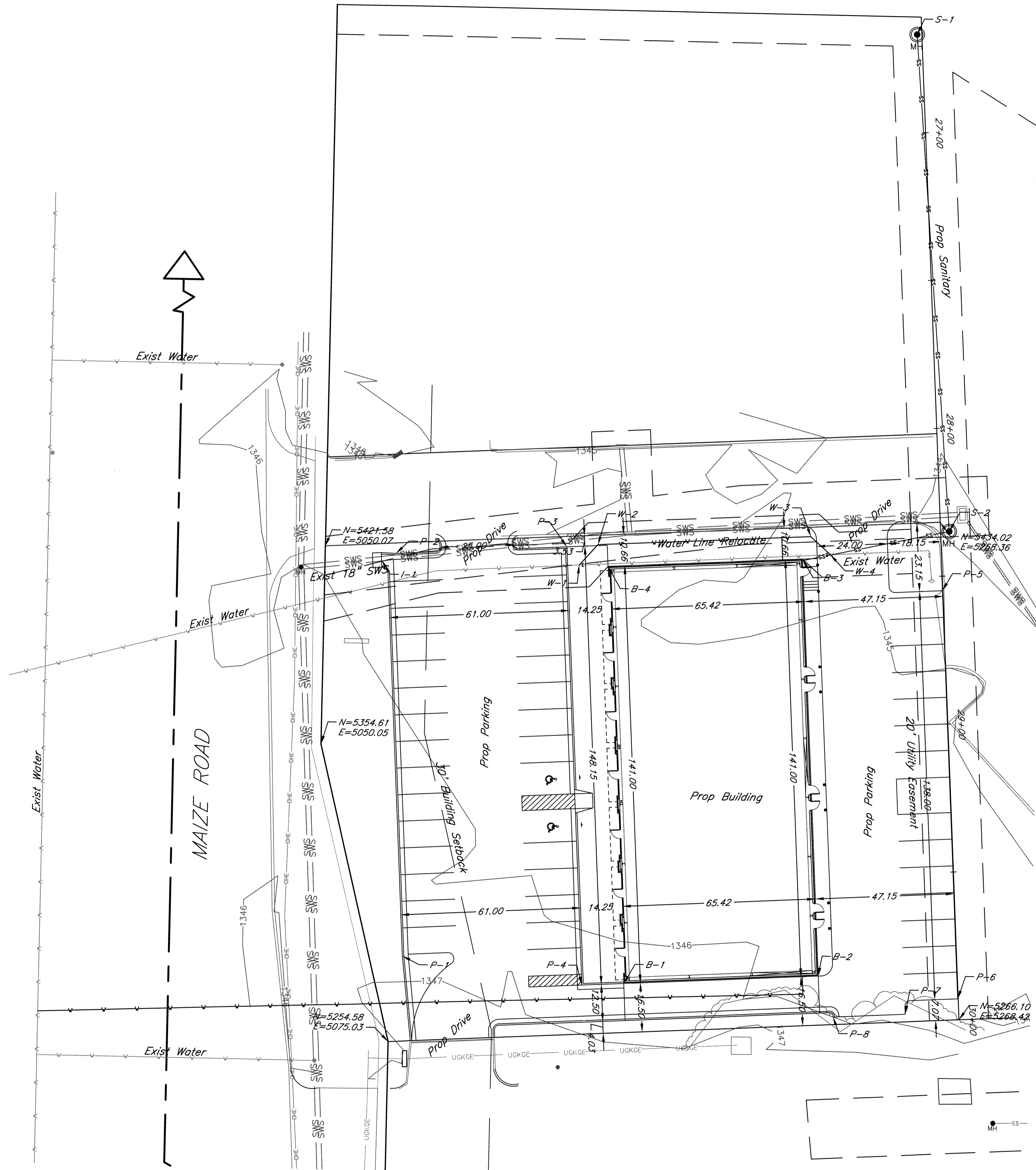
Installation, inspection and testing for this project is to be provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said Inspection to be in accordance with the City of Wichita standard construction engineering practices and certified by a Licensed Professional Engineer. No work shall be performed in dedicated easements or public right-of-way by the Contractor without such inspection nor shall any work be commenced without written authorization by the City Engineer. All Construction and Materials shall comply with the City of Wichita Specifications and Standards (on file and available in the City Engineer's Office).



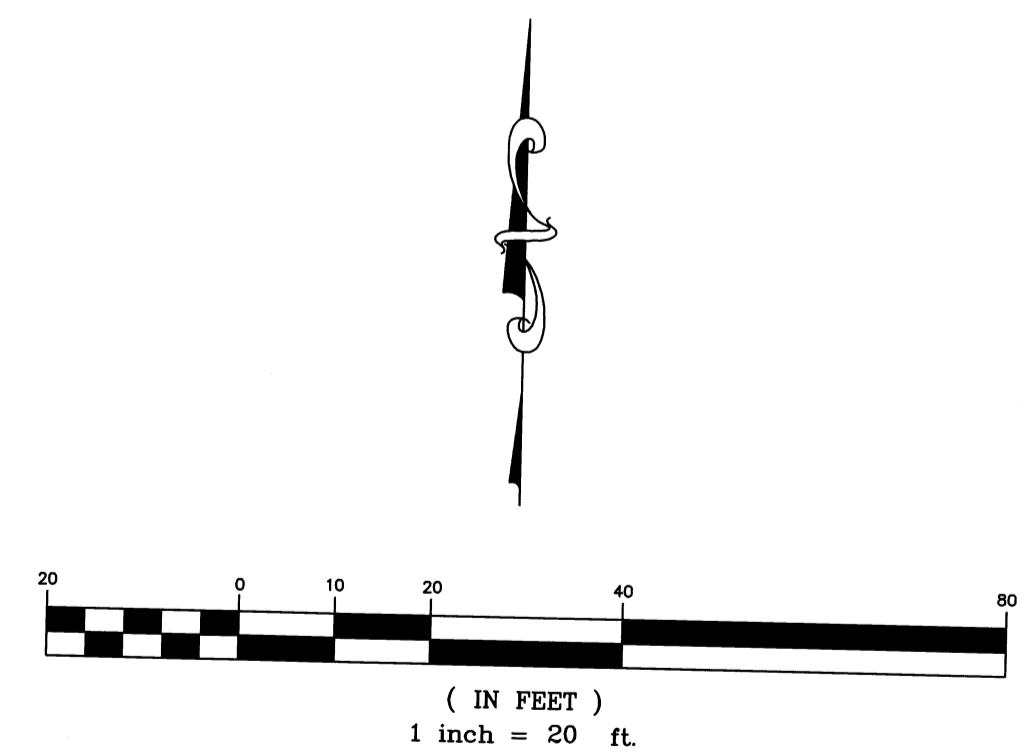
516 S. Market,
Wichita, KS 67202

316/264-0242

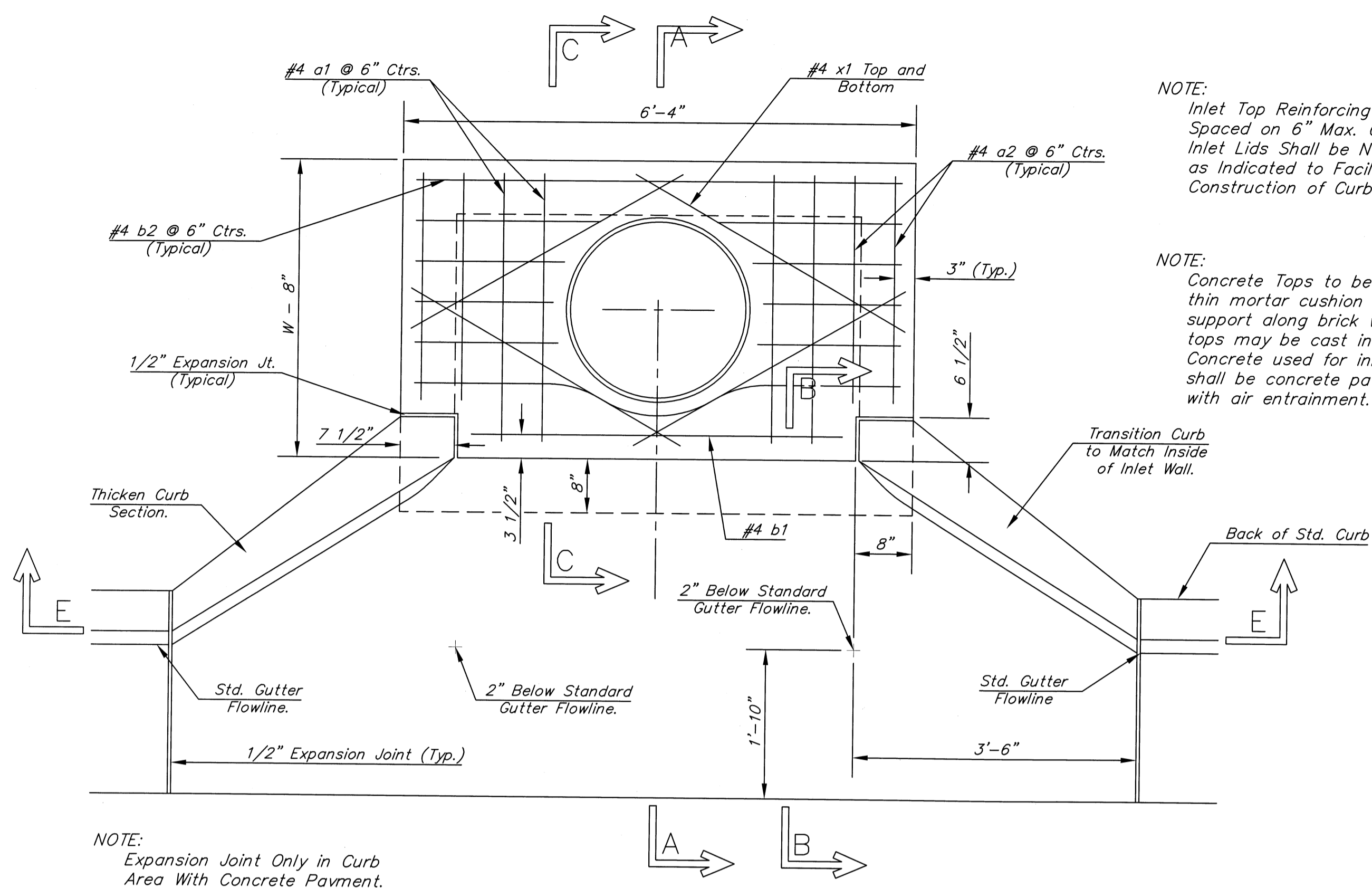
AMARADO ESTATES 4TH ADDITION Lot 2



| Pnt. | Northing | Easting | Description |
|------|-----------|-----------|-----------------|
| P-1 | N 5283.54 | E 5079.22 | Parking Lot |
| P-2 | N 5419.47 | E 5074.08 | Parking Lot |
| P-3 | N 5422.94 | E 5131.98 | Parking Lot |
| P-4 | N 5275.03 | E 5140.33 | Parking Lot |
| P-5 | N 5410.90 | E 5259.59 | Parking Lot |
| P-6 | N 5273.15 | E 5267.84 | Parking Lot |
| P-7 | N 5267.58 | E 5250.14 | Parking Lot |
| P-8 | N 5266.12 | E 5225.69 | Parking Lot |
| I-1 | N 5417.18 | E 5069.21 | Type 1A Inlet |
| B-1 | N 5275.88 | E 5154.48 | Building Corner |
| B-2 | N 5279.82 | E 5220.36 | Building Corner |
| B-3 | N 5420.57 | E 5211.93 | Building Corner |
| B-4 | N 5416.63 | E 5146.05 | Building Corner |
| W-1 | N 5416.88 | E 5136.27 | Water Line |
| W-2 | N 5423.93 | E 5142.48 | Water Line |
| W-3 | N 5428.24 | E 5214.57 | Water Line |
| W-4 | N 5422.25 | E 5221.37 | Water Line |
| S-1 | N 5598.71 | E 5246.93 | Sanitary Sewer |
| S-2 | N 5430.98 | E 5261.48 | Sanitary Sewer |

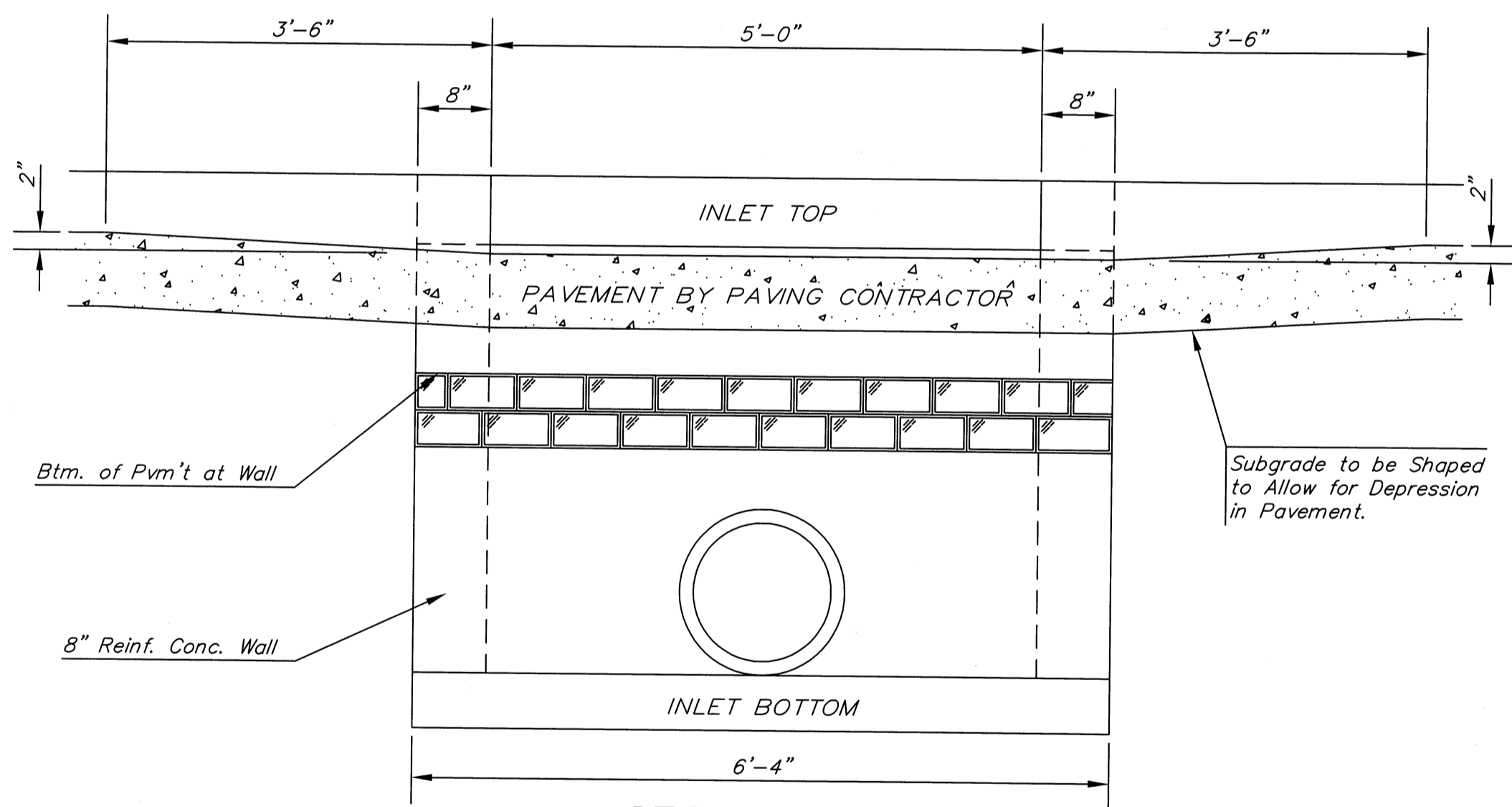


| | | | |
|--|------------------|-------------|-------------------------------------|
| Johnson Shopping Center CONTROL MAP Wichita, Kansas | | | |
| PROJECT NUMBER | | | |
| kemiller <i>engineering</i> | KEM NO. 08017 | FILE dps | DATE 4/2008 |
| | DESIGN KM | DRAWN NS | REVISED |
| 516 S. Market, Wichita, KS 67202 | | | 316/264-0242 |
| | | | SHEET 2 OF 4 |

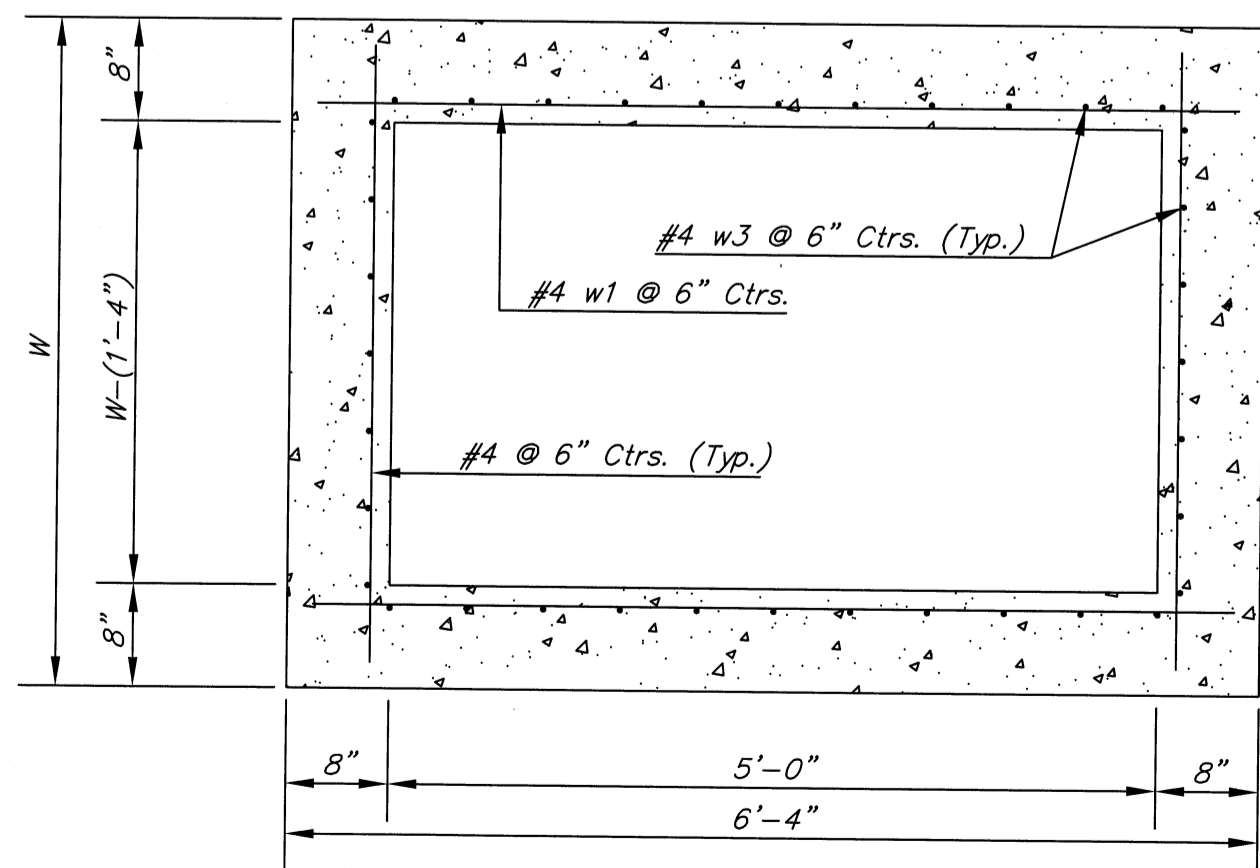


NOTE: Expansion Joint Only in Curb Area With Concrete Pavement.

PLAN



SECTION E-E



SECTION D-D

NOTE: Contractor shall have the option of constructing 8" brick masonry walls between the concrete inlet base and top on this inlet when W=6'-4" and H=7'-0" or less.

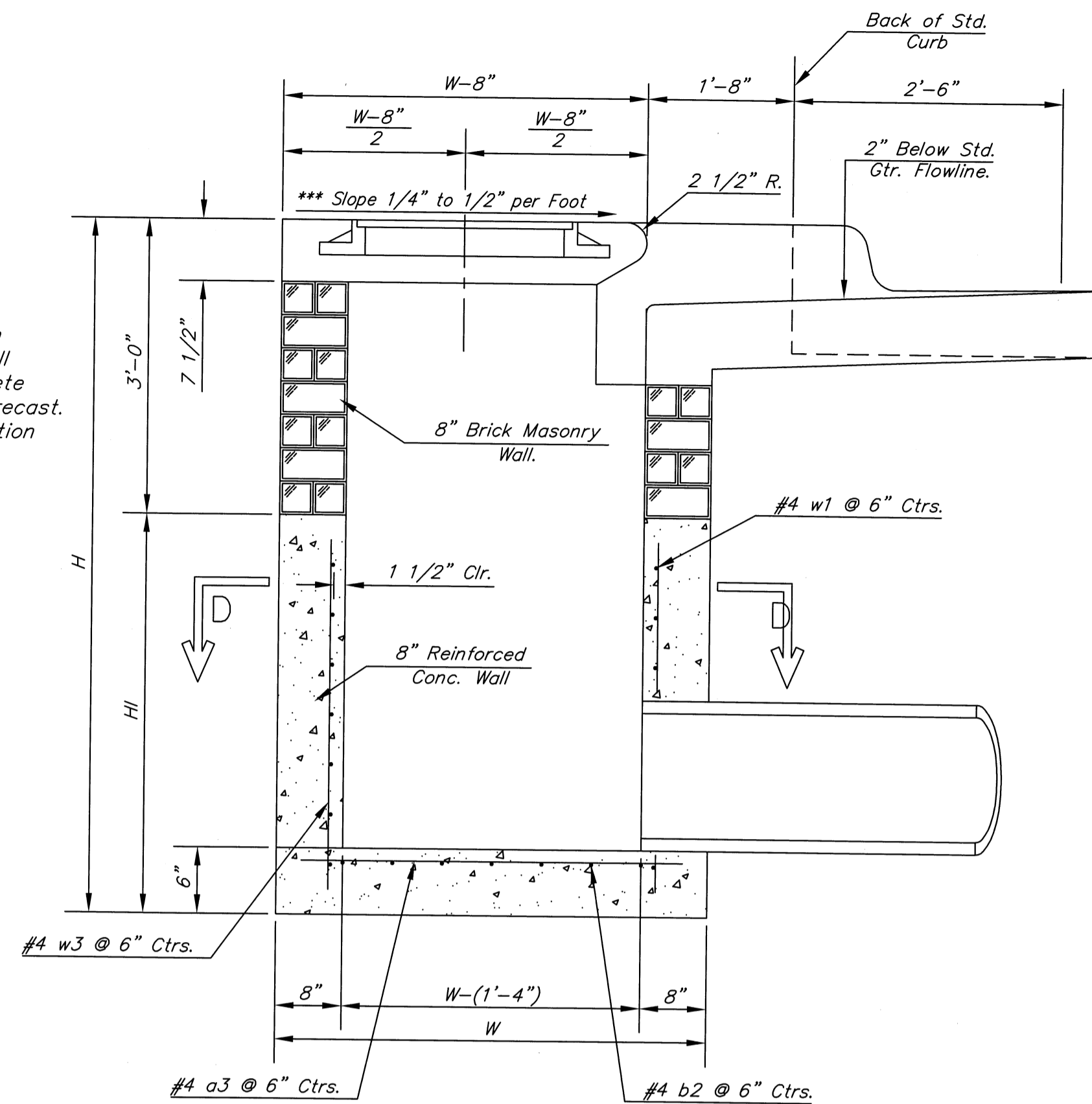
Additional curb and gutter construction necessary to connect set-back inlet to pavement will be paid for at the unit price bid for each inlet hookup.

Inlet invert shall be shaped with 8 sack sand mix concrete to create flow channels and to increase hydraulic efficiency such that the inlet will be self-cleaning between all inlet and/or outlet pipes.

The ends of all pipes installed in inlets shall be cut off flush with the inside face of the inlet wall

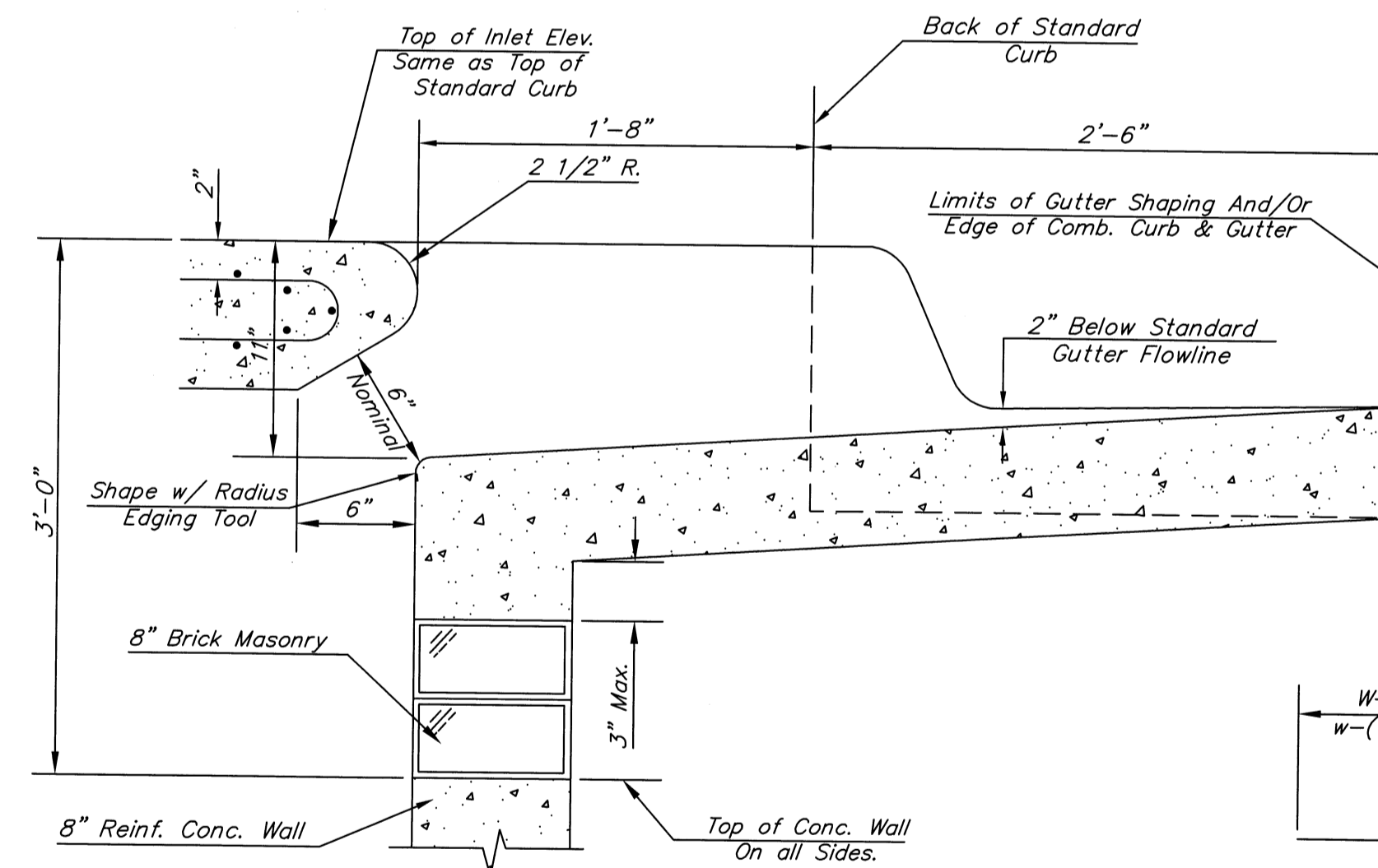
NOTE: Inlet Top Reinforcing shall be Spaced on 6" Max. Centers. Inlet Lids Shall be Notched Out as Indicated to Facilitate Construction of Curb.

NOTE: Concrete Tops to be installed on thin mortar cushion to insure full support along brick walls. Concrete tops may be cast in place or precast. Concrete used for inlet construction shall be concrete pavement mix with air entrainment.

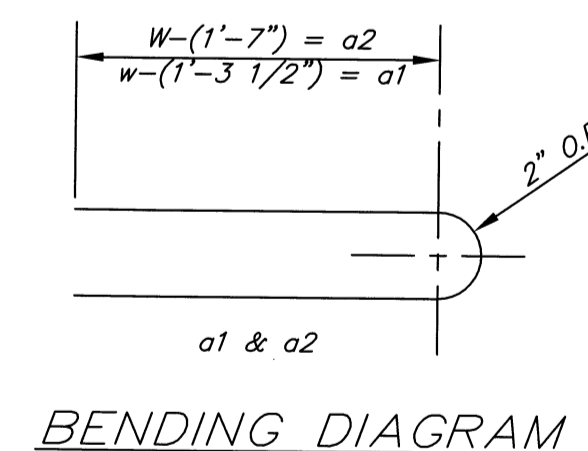


SECTION A-A

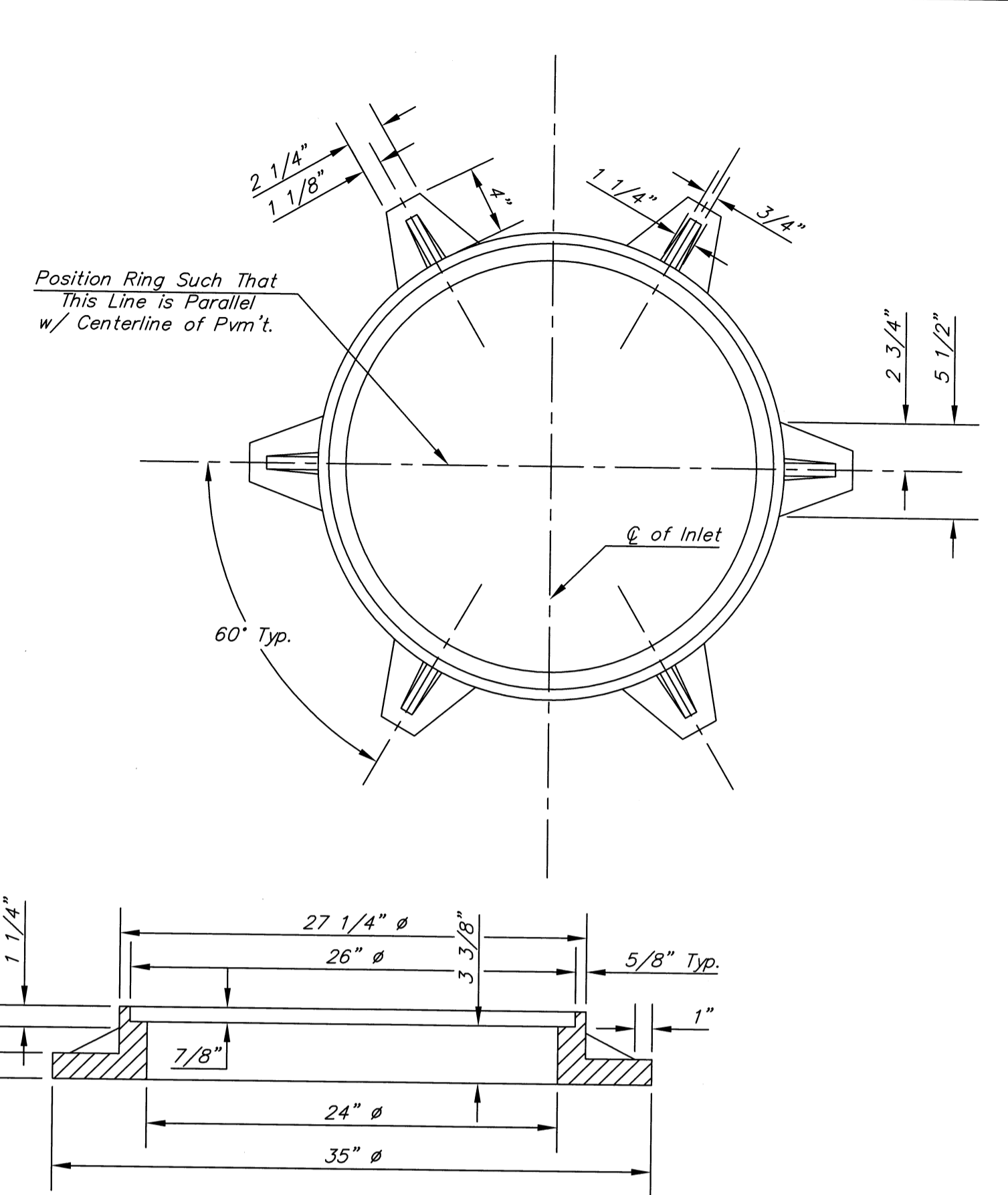
***NOTE: Slope of Inlet tops to Match Sidewalk or Parking Slopes within Limits Indicated.



SECTION B-B



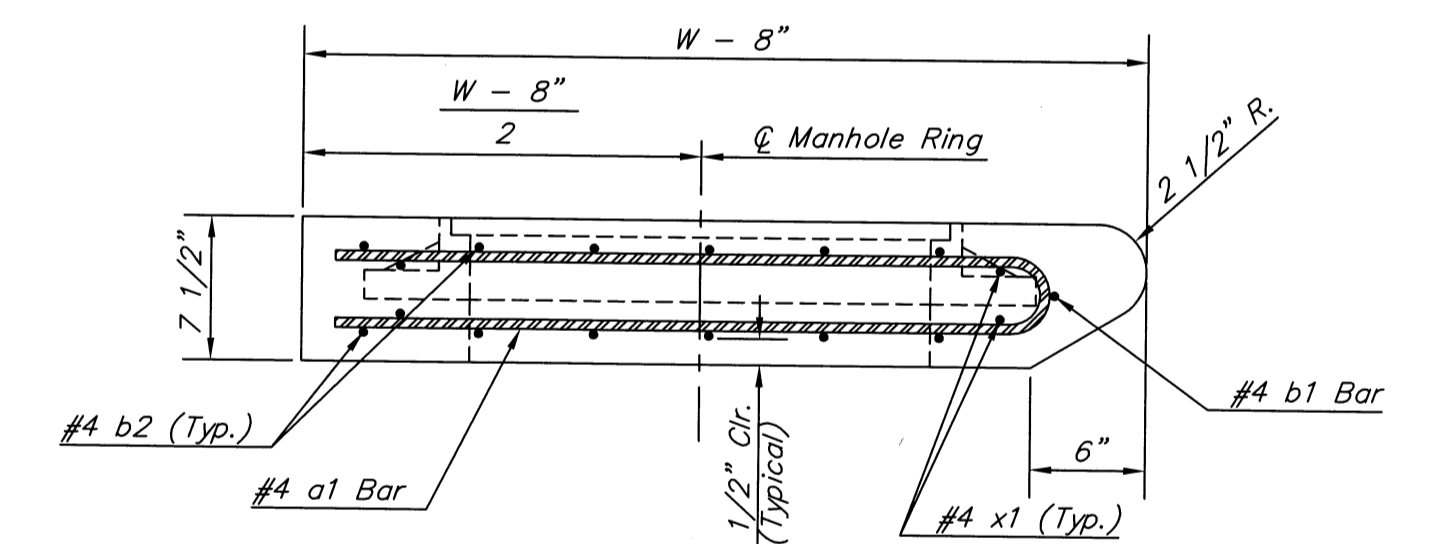
BENDING DIAGRAM



MANHOLE RING AND COVER

Weight = 180 Lbs.

*See City of Wichita Standard Manhole Ring and Cover Detail Sheet for Cover Details to Be Used With Inlet Frame.



SECTION A-A

STANDARD CURB INLET PRECAST TOPS

| W | PRE-CAST TOP SIZE | PIPE SIZE | CU. YD. CONC. |
|-------|------------------------|---------------|---------------|
| 4'-4" | 3'-8" x 6'-4" x 7 1/2" | 21" & SMALLER | 0.38± |
| 5'-4" | 4'-8" x 6'-4" x 7 1/2" | 24" & 30" | 0.51± |
| 6'-4" | 5'-8" x 6'-4" x 7 1/2" | 36" & 42" | 0.64± |
| 7'-4" | 6'-8" x 6'-4" x 7 1/2" | 48" & 54" | 0.77± |
| 8'-4" | 7'-8" x 6'-4" x 7 1/2" | 60" & 66" | 0.90± |

| PRECAST SLAB AND FLOOR REINFORCING | | | | | | | | | | | |
|------------------------------------|------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|
| MARK | SIZE | W = 4'-4" | | W = 5'-4" | | W = 6'-4" | | W = 7'-4" | | W = 8'-4" | |
| | | NO. | LENGTH | NO. | LENGTH | NO. | LENGTH | NO. | LENGTH | NO. | LENGTH |
| * a1 | #4 | 6 | 6'-7" | 6 | 8'-7" | 6 | 10'-7" | 6 | 12'-7" | 6 | 14'-7" |
| a2 | #4 | 4 | 6'-0" | 4 | 8'-0" | 4 | 10'-0" | 4 | 12'-0" | 4 | 14'-0" |
| a3 | #4 | 13 | 4'-1" | 13 | 5'-1" | 13 | 6'-1" | 13 | 7'-1" | 13 | 8'-1" |
| b1 | #4 | 1 | 4'-9" | 1 | 4'-9" | 1 | 4'-9" | 1 | 4'-9" | 1 | 4'-9" |
| * b2 | #4 | 23 | 6'-1" | 29 | 6'-1" | 35 | 6'-1" | 41 | 6'-1" | 47 | 6'-1" |
| x1 | #4 | 8 | 3'-10" | 8 | 4'-2" | 8 | 4'-6" | 8 | 4'-10" | 8 | 5'-2" |

| WALL REINFORCING | | | | | | | | | | | |
|------------------|------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|
| MARK | SIZE | W = 4'-4" | | W = 5'-4" | | W = 6'-4" | | W = 7'-4" | | W = 8'-4" | |
| | | NO. | LENGTH | NO. | LENGTH | NO. | LENGTH | NO. | LENGTH | NO. | LENGTH |
| w1 | #4 | ① | 6'-1" | ① | 6'-1" | ① | 6'-1" | ① | 6'-1" | ① | 6'-1" |
| w2 | #4 | ① | 4'-1" | ① | 5'-1" | ① | 6'-1" | ① | 7'-1" | ① | 8'-1" |
| w3 | #4 | 32 | ② | 36 | ② | 40 | ② | 44 | ② | 48 | ② |

* Field Bend or Cut Reinforcing as Required for Clearance.
 ① 4 (H1 - 12") (H1 - 21") Rounded down to nearest 0.5'
 ② H1 - 3"

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

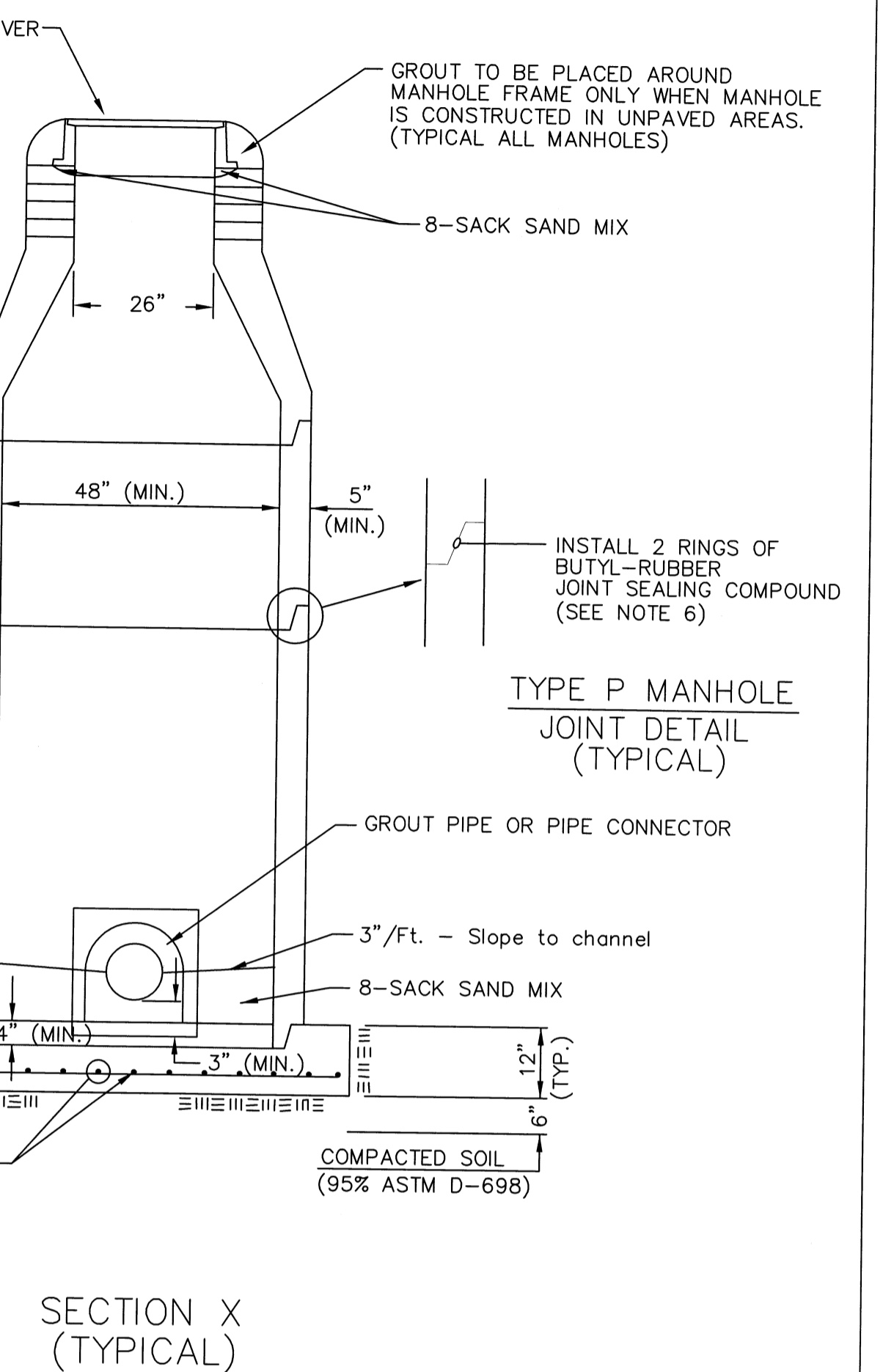
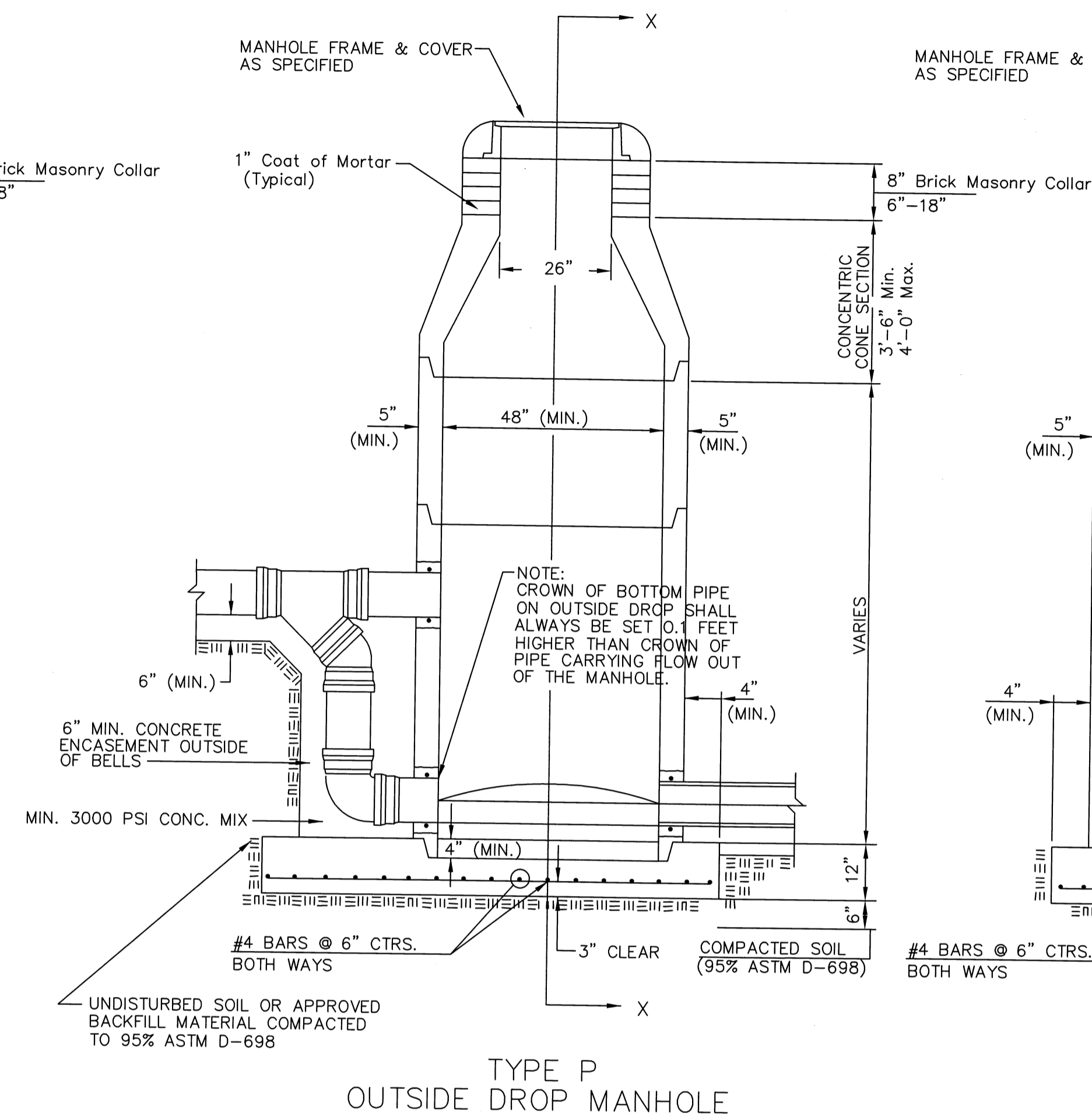
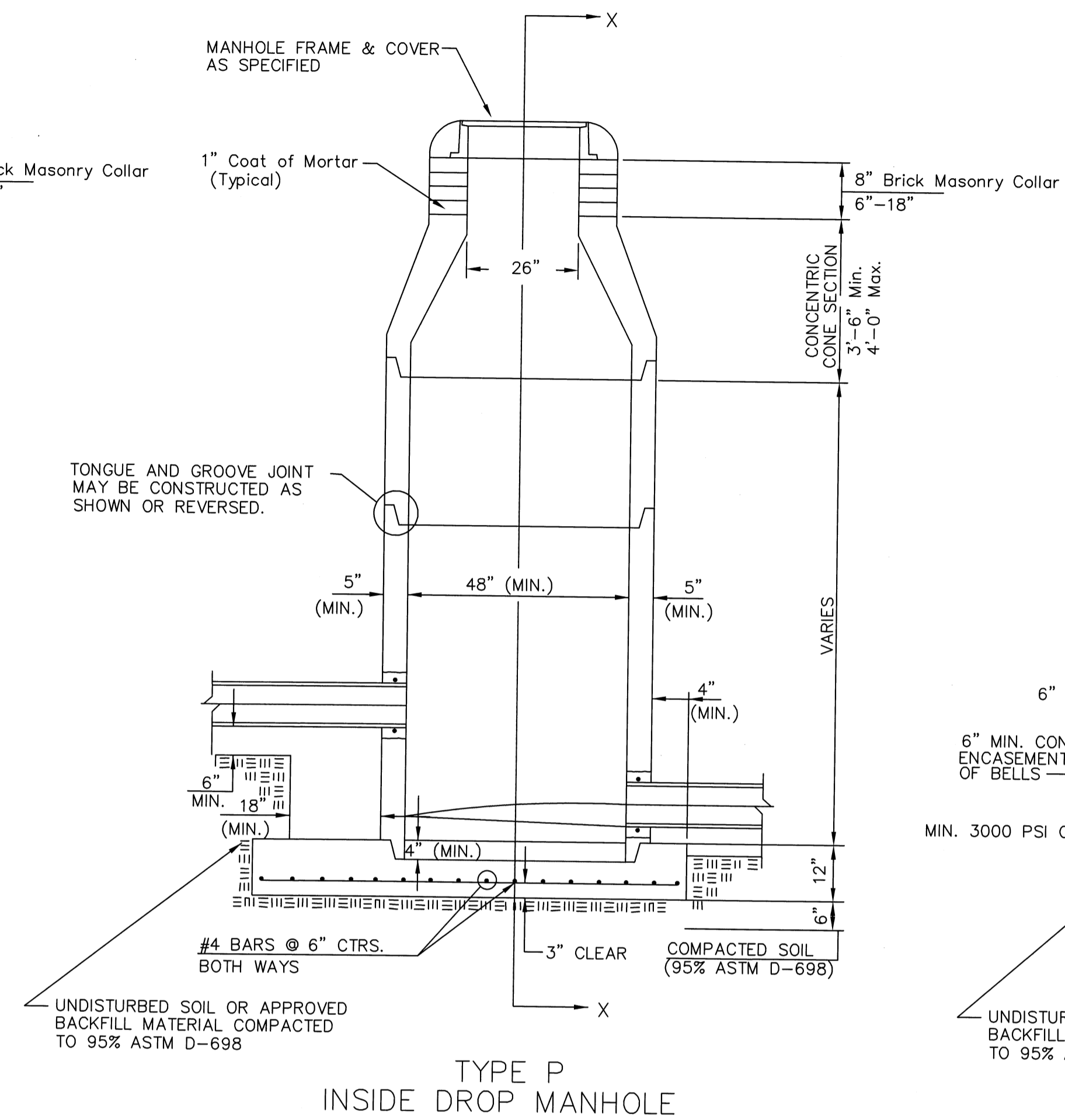
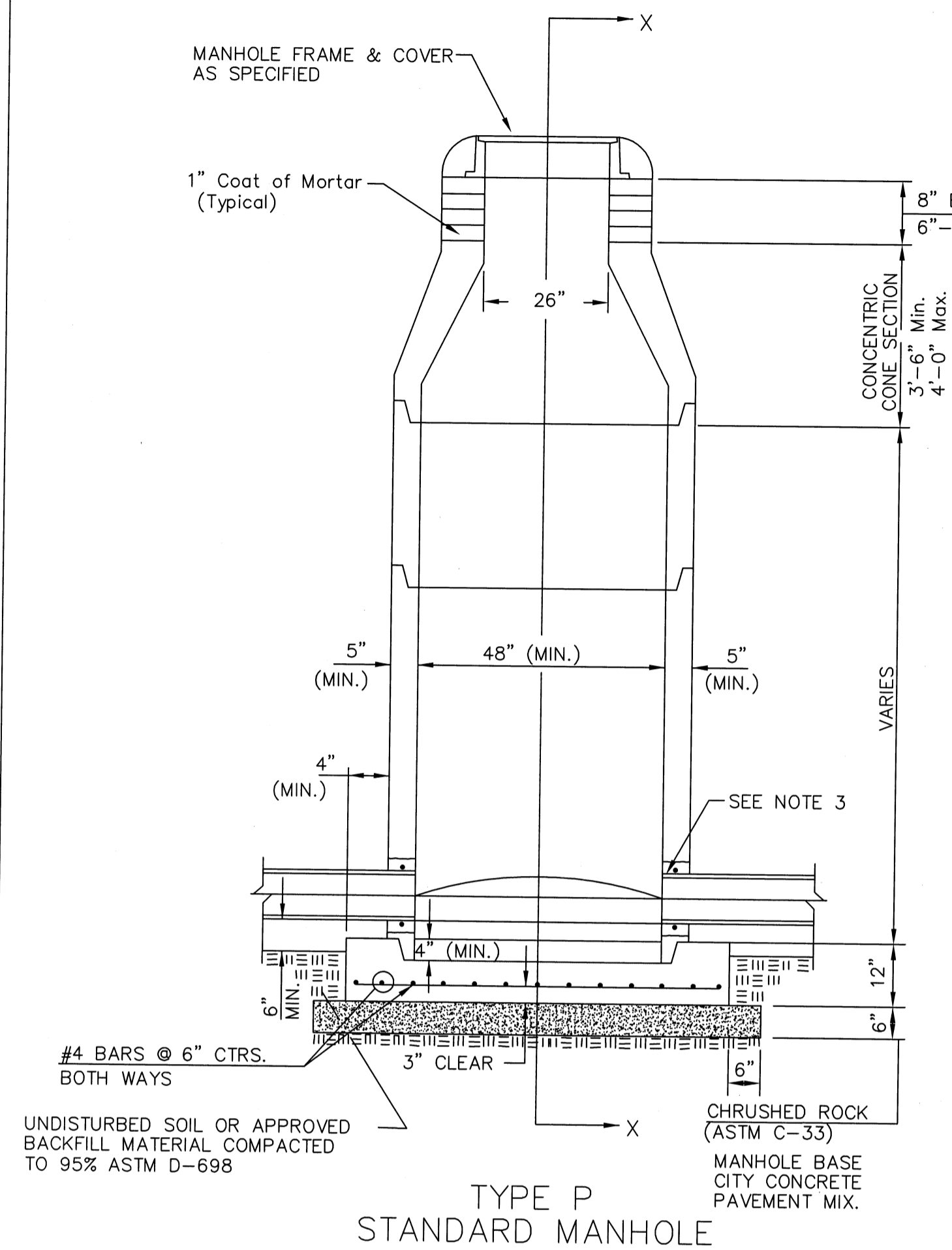
STANDARD TYPE 1-A
 CURB INLET
 OPENING = 6" x 5'-0"

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

PROJECT NUMBER _____ INDEX CODE _____

DATE 4/2008 SHEET 4 OF 5

SEWER APPURTENANCES DETAILS



GENERAL NOTES

PRECAST MANHOLE NOTES

- ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
- NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
- 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 PIPE 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.
- ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS TNEC SERIES 66 HI-BUILD EPOXOLINE, DRY THICKNESS OF 8 MILS (MIN.).
- EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS COATING.
- JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
- PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
- 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.
- LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
- 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.

- 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.
- 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.
- 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.
- 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 MANHOLE. 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.

- 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.
- 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.
- 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.
- 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.
- CHRUshed ROCK CONFORMING TO ASTM C-33 WITH A GRADATION OF NO. 67 SHALL BE INSTALLED AT THE BASE OF THE MANHOLE TO A DEPTH OF NO LESS THAN 6", AND SHALL EXTEND NO LESS THAN 6" OUTSIDE THE DIAMETER OF THE CONCRETE FLOOR OF THE MANHOLE.

| | | | |
|--|---|------------|--------|
| <p>CITY OF WICHITA PUBLIC WORKS ENGINEERING</p> | STANDARD TYPE 'P' MANHOLES | | |
| | CITY ENGINEER JAMES L. ARMOUR, P.E., L.S. | | |
| | PROJECT NUMBER | OCA NUMBER | DATE |
| | | | 4/2008 |
| CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501 (316) 268-4114 FAX | | DESIGN | DRAWN |
| | | KM | NS |
| | | SHEET | |
| | | 5 OF 5 | |