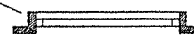
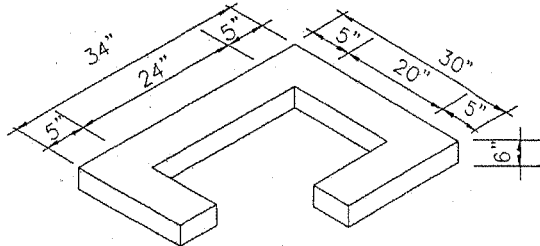


STANDARD METAL
FRAME & GRATE

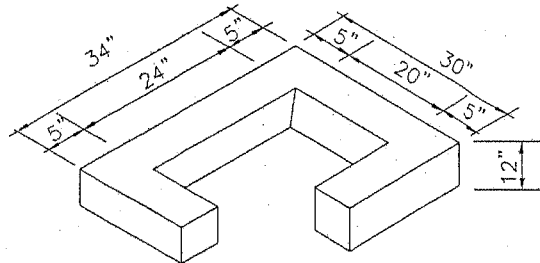


6" RISER SECTION

USED FOR SHORT ADJUSTMENT.
2x4x8" SOLID BRICK MAY BE
USED FOR FINAL ADJUSTMENT
TO A MAXIMUM LIFT OF 6".

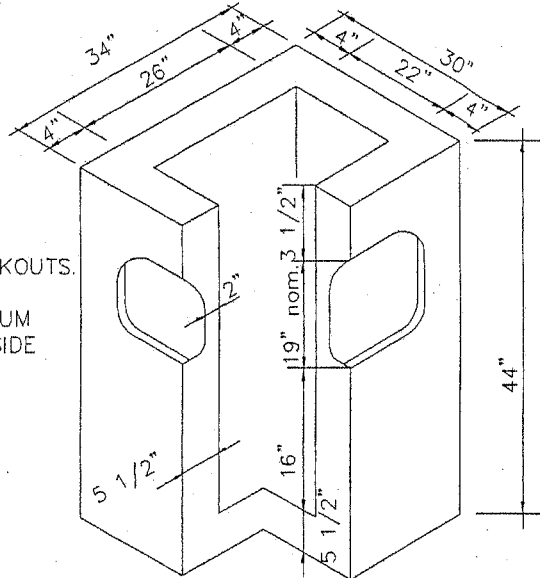


12" RISER SECTION



PRECAST BASE SECTION

4-WAY 18" THRU 20" (NOMINAL) KNOCKOUTS.
PIPE SIZE AND PIPE ENTRANCE ANGLE
TO BE LIMITED BY KNOCKOUTS. MAXIMUM
PIPE SIZE - 15" DIAMETER ON WIDE SIDE
AND 12" DIAMETER ON NARROW SIDE.



NOTES:

- 1) CAST IN PLACE OR MASONRY CONSTRUCTION UNITS MAY BE SUBSTITUTED AS PER A.P.W.A. STANDARDS OR STATE STANDARDS. (B-1)
- 2) FOR DETAILS OF REINFORCEMENTS AND INSTALLATION, SEE A.P.W.A. STANDARDS OR STATE STANDARDS.

NOT TO SCALE

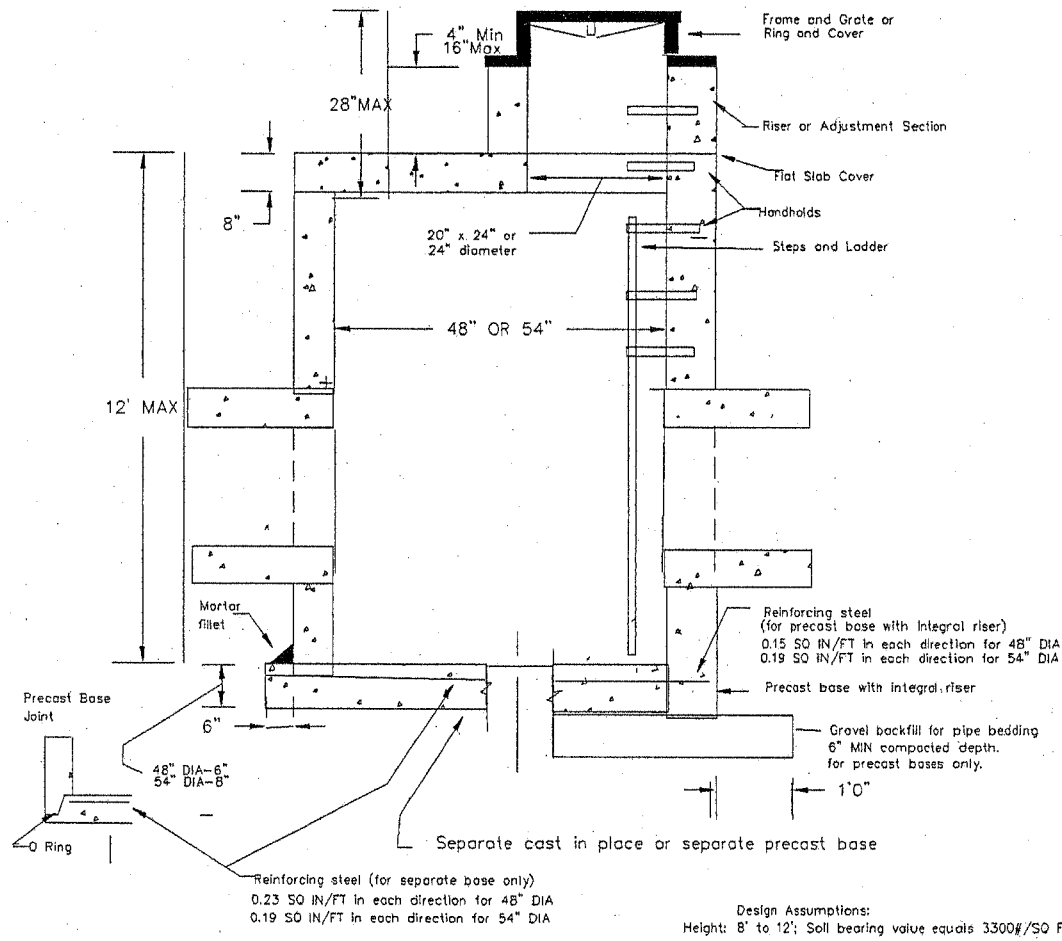
APPROVED

John F. Edley
Public Works Director Date

CITY OF FERNDALE
CATCH BASIN TYPE I

DRAWING
ST-1

JUNE 1995



Notes

Catch basins to be constructed in accordance with ASTM C 478 (AASHTO M 199) C 890 unless otherwise shown on plans or noted in the standard specifications.

Handholds in riser or adjustment section shall have 3" minimum clearance. Steps in catch basin shall have 6" minimum clearance. No steps are required when height is 4' or less.

All reinforced cast in place concrete shall be Class A. Non-reinforced concrete in channel and shelf shall be Class C. All precast concrete shall obtain 4000 PSI @ 28 days.

Precast bases shall be furnished with cutout or knockouts. Knockouts shall have a wall thickness of 2" minimum. Knockout or cutout hole size is equal to pipe outer diameter plus catch basin size wall thickness. Maximum hole size is 36" for 48" catch basin; 42" for 54" catch basin. Minimum distance between holes is 8".

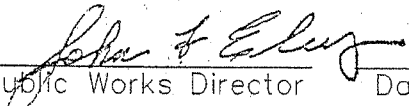
Frame and grate or ring and cover shall be in accordance with standard specifications and meet the strength requirements of Federal Specification RR-F-621D. Mating surfaces shall be finished to assure a non-rocking fit.

All base reinforcing steel shall have a minimum yield strength of 60,000 PSI and be placed in the upper half of the base with 1" minimum clearance.

The bottom of the precast Catch Basin may be rounded.

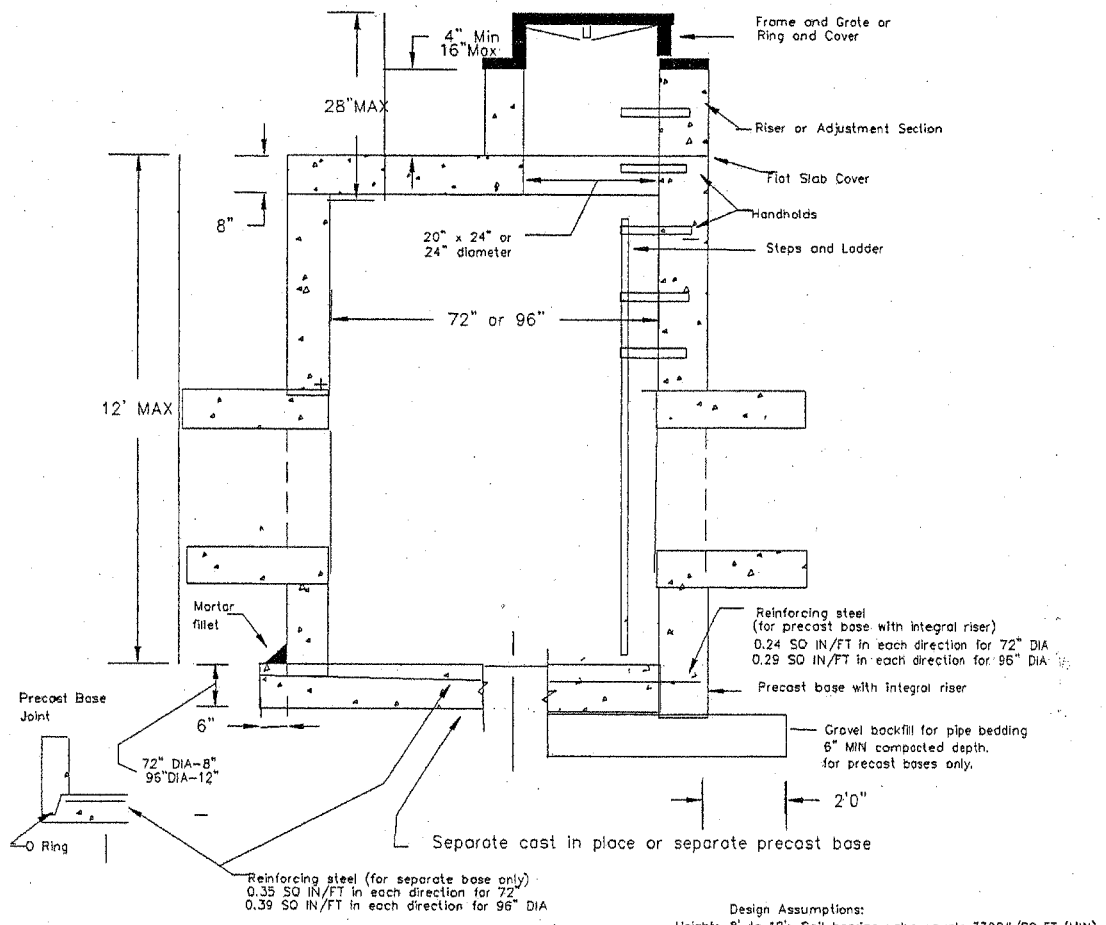
Frame and grate may be installed with flange down or cast into riser.

NOT TO SCALE

APPROVED:

 Public Works Director Date

CITY OF FERNDALE
 TYPE 2 CATCH BASIN
 48" & 54"

DRAWING
 ST-2



Notes

Catch basins to be constructed in accordance with ASTM C 478 (AASHTO M 199) C 890 unless otherwise shown on plans or noted in the standard specifications.

Handholds in riser or adjustment section shall have 3" minimum clearance. Steps in catch basin shall have 6" minimum clearance. No steps are required when height is 4' or less.

All reinforced cast in place concrete shall be Class A. Non-reinforced concrete in channel and shelf shall be Class C. All precast concrete shall obtain 4000 PSI @ 28 days.

Precast bases shall be furnished with cutout or knockouts. Knockouts shall have a wall thickness of 2" minimum. Knockout or cutout hole size is equal to pipe outer diameter plus catch basin wall thickness. Maximum hole size is 60" for 72" catch basin; 84" for 96" catch basin. Minimum distance between holes is 12".

Frame and grate or ring and cover shall be in accordance with standard specifications and meet the strength requirements of Federal Specification RR-F-621D. Mating surfaces shall be finished to assure a non-rocking fit.

All base reinforcing steel shall have a minimum yield strength of 60,000 PSI and be placed in the upper half of the base with 1" minimum clearance.

The bottom of the precast Catch Basin may be rounded.

Frame and grate may be installed with flange down or cast into riser.

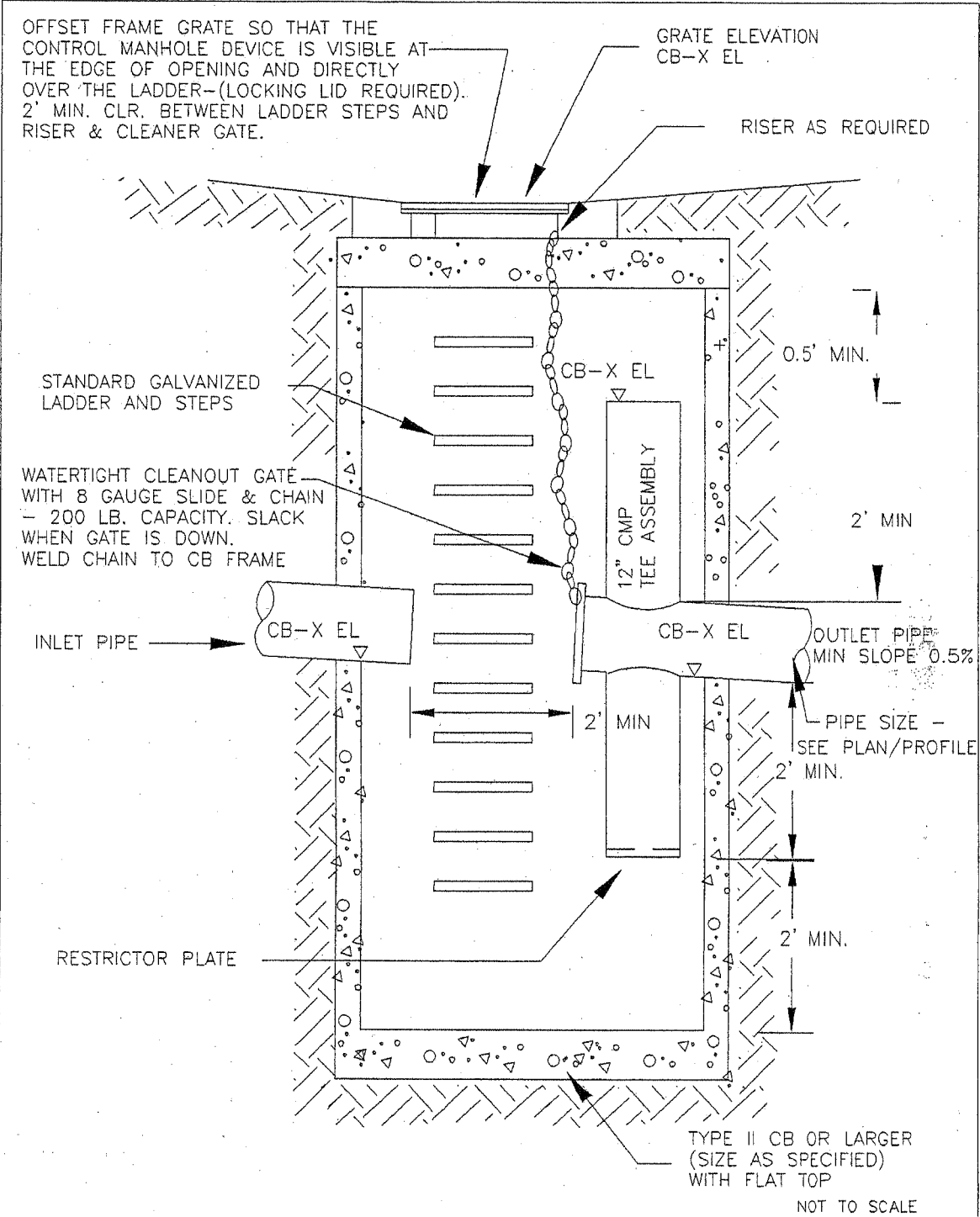
NOT TO SCALE

APPROVED

John F. Eberly
Public Works Director Date

CITY OF FERNDALE
TYPE 2 CATCH BASIN
72" & 96"

DRAWING
ST-3



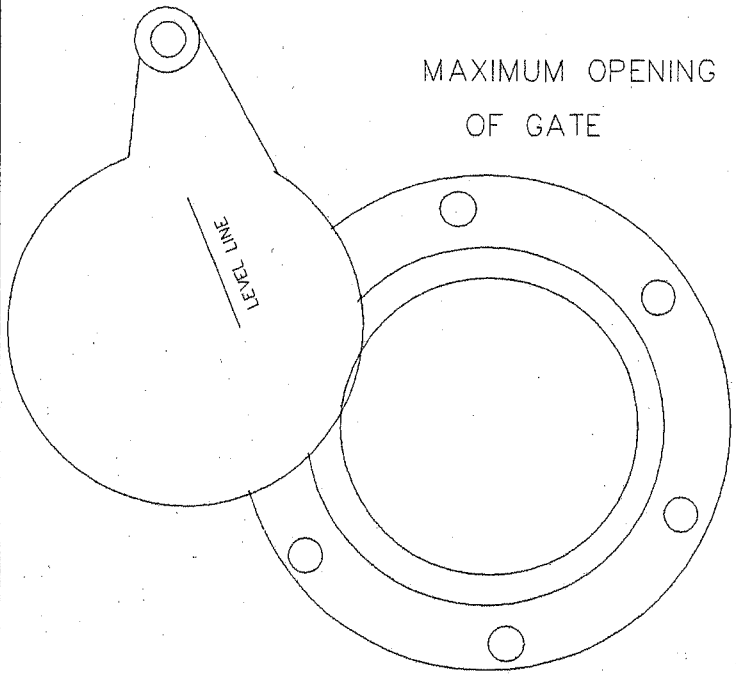
APPROVED
John F. Ecker
 Public Works Director Date

CITY OF FERNDALE
 RESTRICTOR MANHOLE

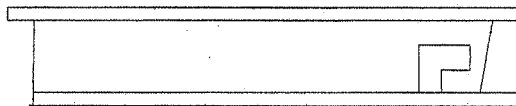
DRAWING
 ST-4

JUNE 1995

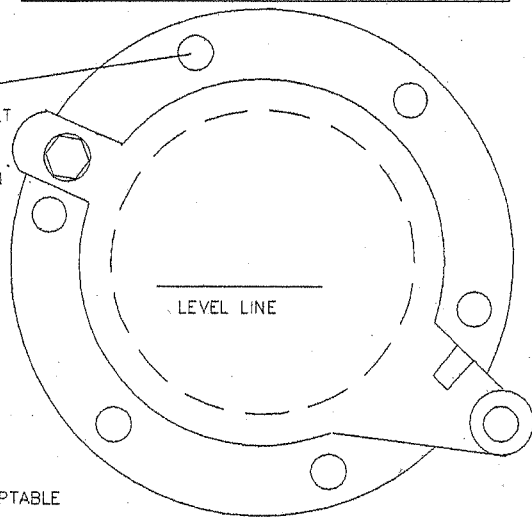
MAXIMUM OPENING
OF GATE



SIDE

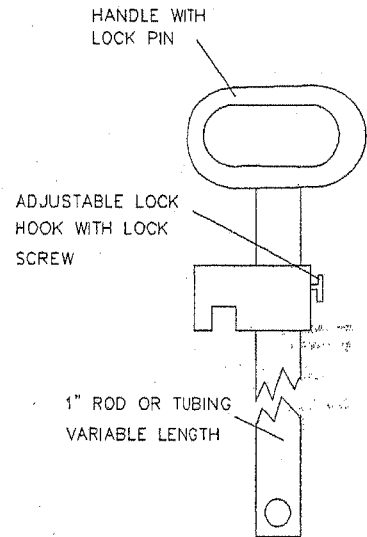


SIX EVENLY SPACED
HOLES ON 10 3/8" BOLT
CIRCLE FOR BOLTING
TO FLANGE CONNECTION



ALTERNATES ARE ACCEPTABLE
PROVIDED MATERIAL SPECIFICATIONS
ARE MET AND FLANGE BOLT
PATTERN MATCHES

LIFT HANDLE



FRONT

LIFT HANDLE SHALL BE
ATTACHED PER MANUFACTURER'S
RECOMMENDATIONS



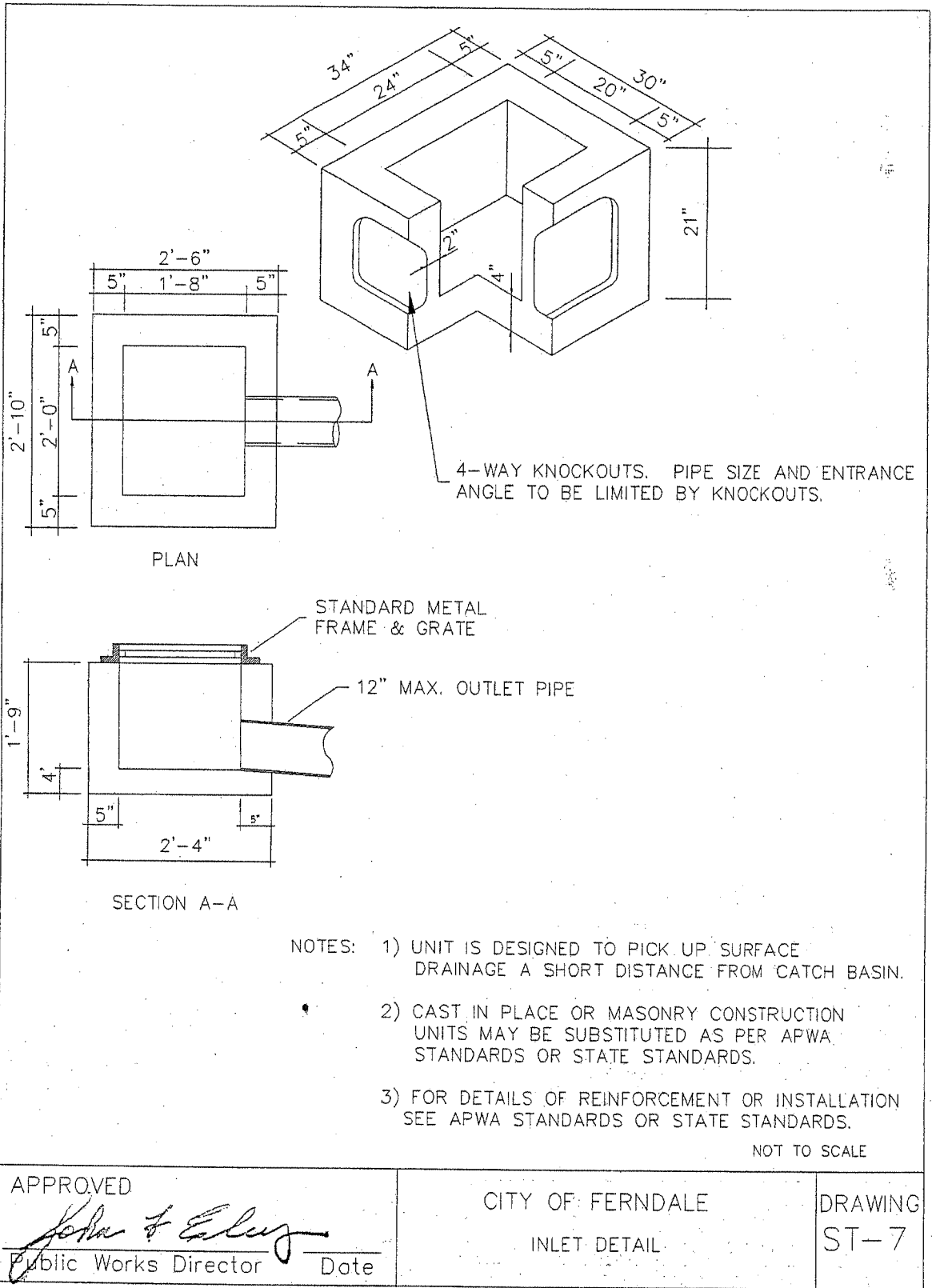
NOT TO SCALE

APPROVED
John T. Kelly

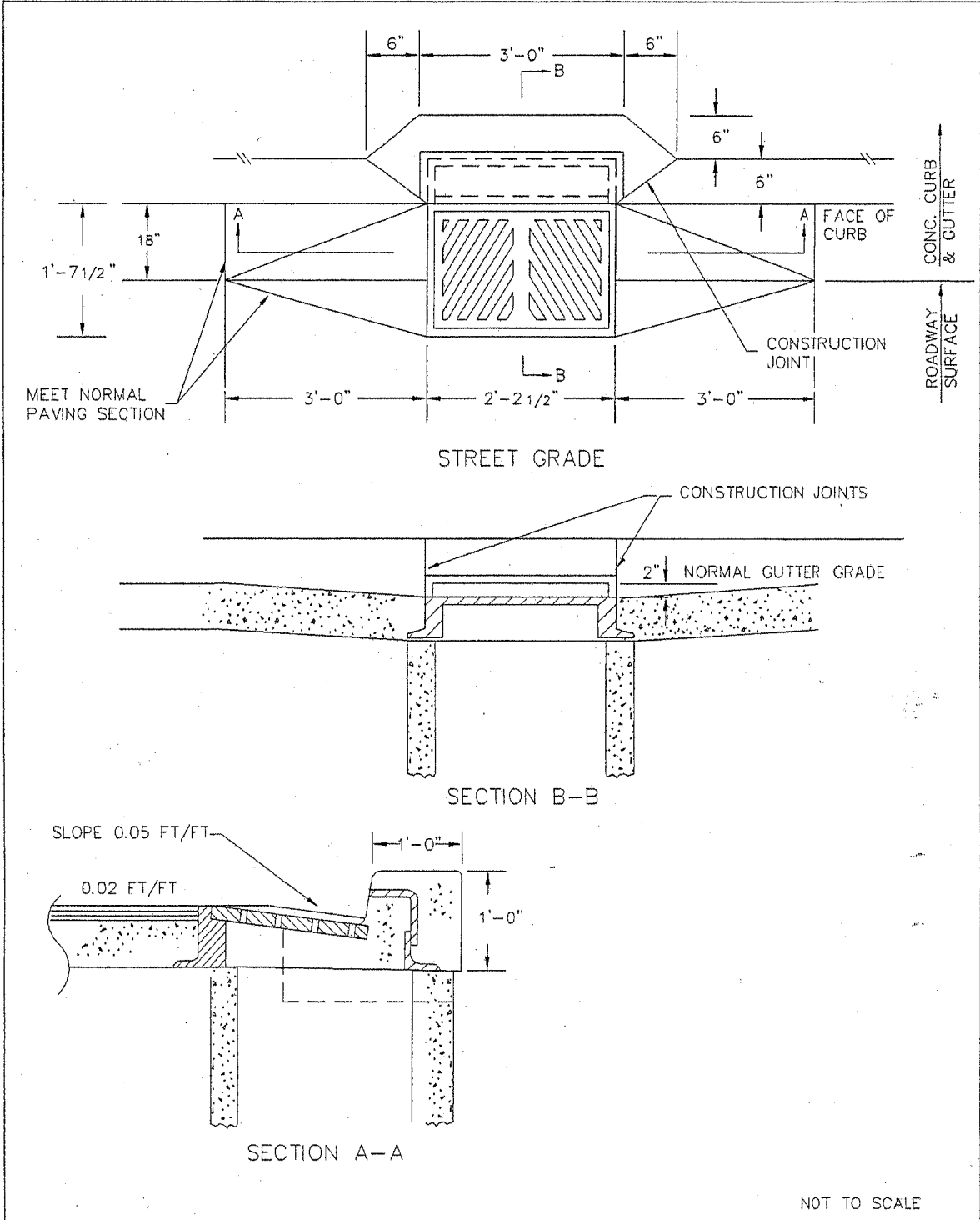
Public Works Director Date

CITY OF FERNDAL
CLEANOUT/SHEAR GATE

DRAWING
ST-6

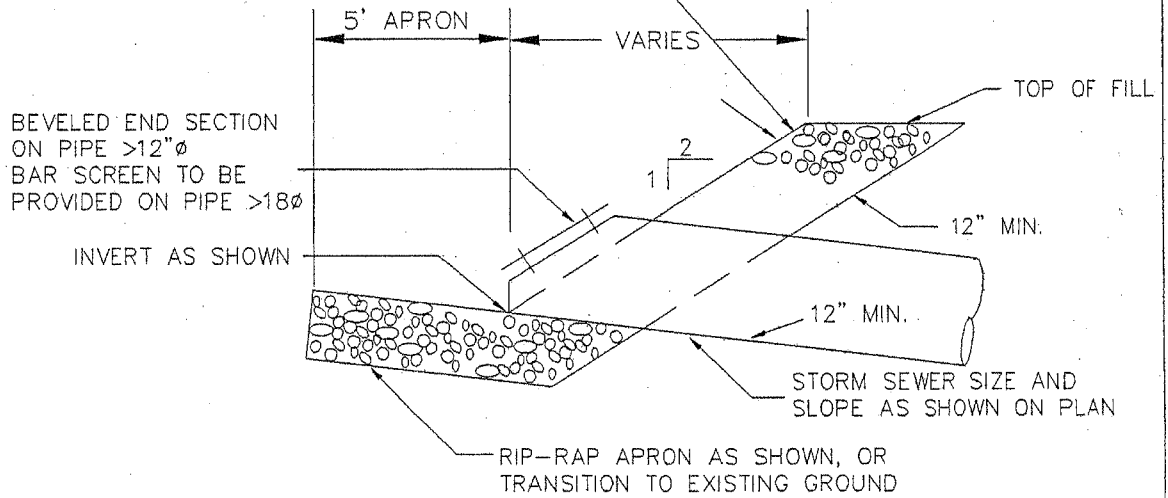


JUNE 1995



NOT TO SCALE	
APPROVED <i>John F. Ealey</i> Public Works Director Date:	CITY OF FERNDALE THRU-CURB INLET FRAME & GRATE WITH VERTICAL CURB INSTALLATION
DRAWING ST-8	

RIP RAP AS SPECIFIED.
 EXTEND TO TOP OF FILL
 AND 5' EACH WAY FROM
 PIPE OR AS SHOWN ON PLAN



NOT TO SCALE

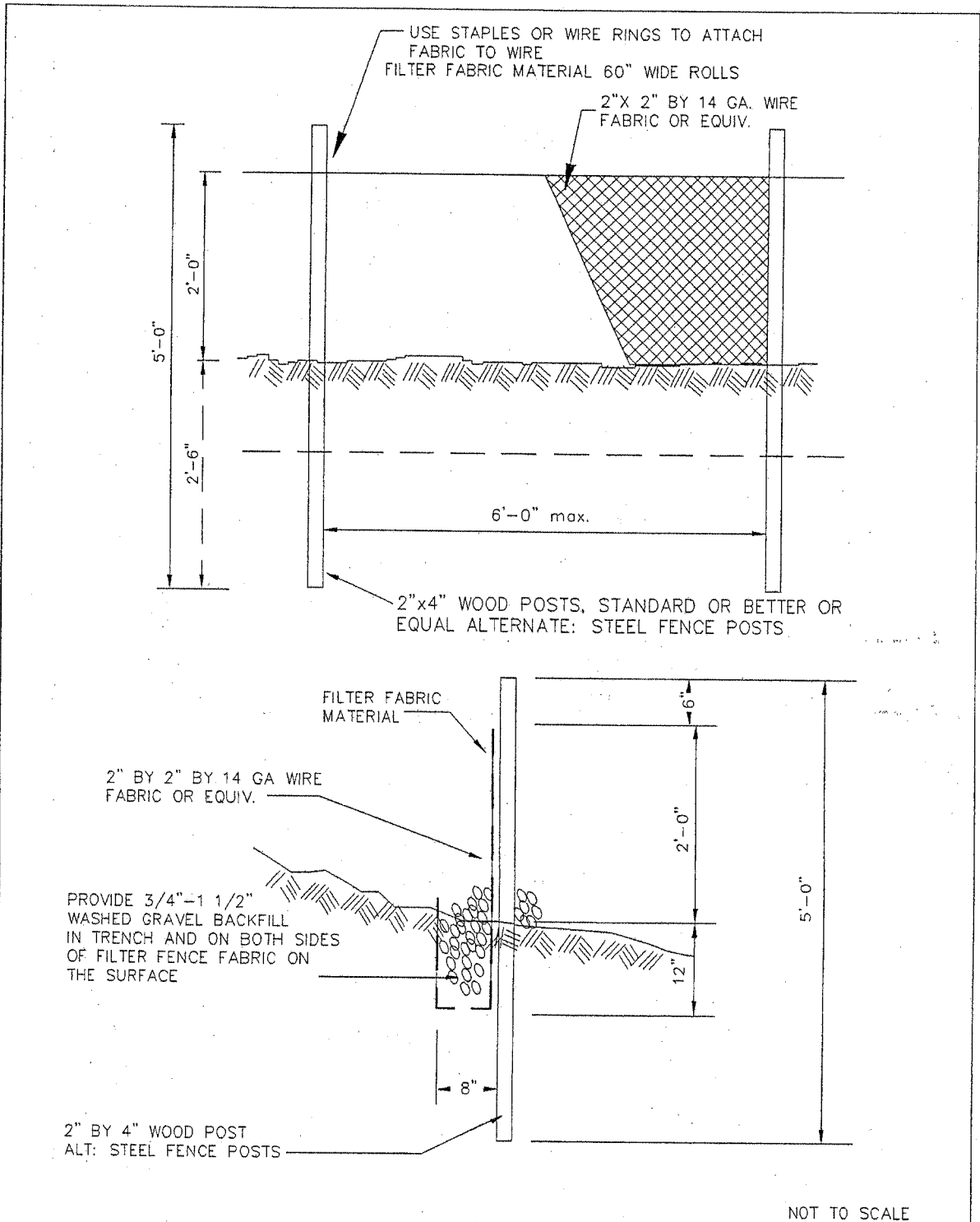
APPROVED

John F. Ely
 Public Works Director Date

CITY OF FERNDALE
 CULVERT INLET/OUTLET DETAIL

DRAWING
 ST-9

JUNE 1995



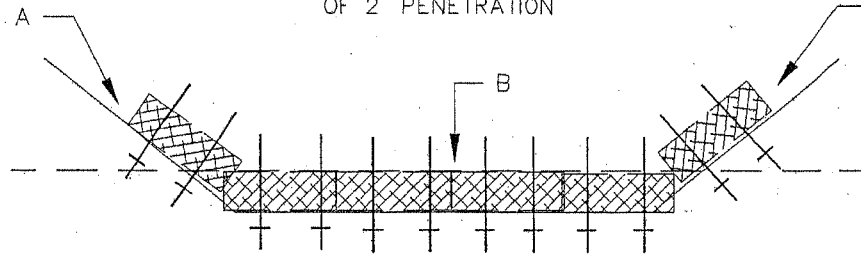
APPROVED
John A. [Signature]
 Public Works Director Date

CITY OF FERNDALE
 SILT FENCE DETAIL

DRAWING
 ST-10

PROPER PLACEMENT OF A STRAW BALE BARRIER IN A DRAINAGE WAY

INSTALL STRAW BALE DAM
AND ANCHOR WITH STEEL
FENCE POSTS WITH MINIMUM
OF 2' PENETRATION



POINTS A SHOULD BE HIGHER THAN POINT B.

PROPER INSTALLATION OF A STRAW BALE BARRIER

1. EXCAVATE A TRENCH PERPENDICULAR TO THE DIRECTION OF DRAINAGE. THE TRENCH SHOULD BE EXCAVATED THE WIDTH OF A STRAW BALE AND A MINIMUM OF 4" DEEP.
2. PLACE AND STAKE STRAW BALES IN THE TRENCH.
3. WEDGE LOOSE STRAW BETWEEN THE BALES.
4. BACKFILL AND COMPACT THE EXCAVATED SOIL AGAINST THE STRAW BALE BARRIER.

NOT TO SCALE

APPROVED
John F. Ealey
Public Works Director Date

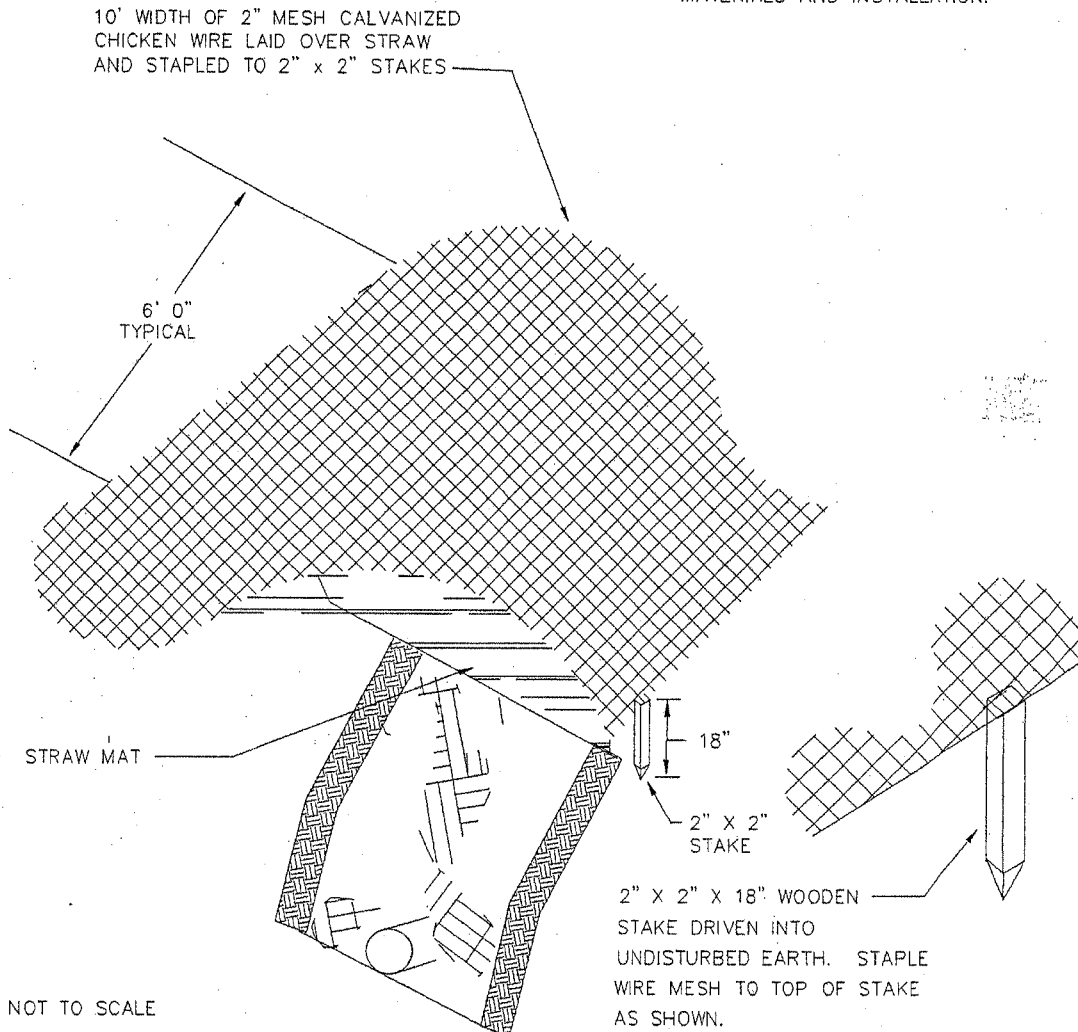
CITY OF FERNDALE
STRAW BALE DAM DETAIL

DRAWING
ST-11

JUNE 1995

NOTE:

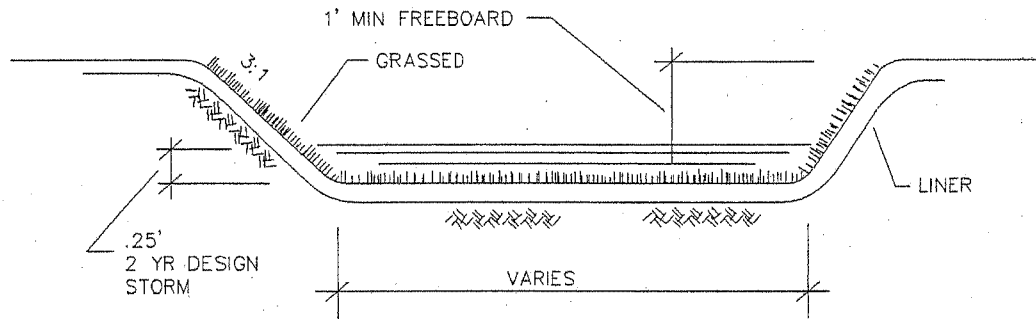
AFTER TRENCH HAS BEEN COMPLETELY BACKFILLED AND COMPACTED, PLACE A 3" THICK MAT OF LOOSELY SPREAD STRAW OVER ENTIRE WIDTH OF BACKFILLED AREA FOLLOWED BY 2" WIRE MESH. SLOPE PROTECTION SHALL BE USED WHEN SO DIRECTED BY THE CITY ENGINEER AND/OR SLOPE EXCEEDS 2:1. THIS SLOPE PROTECTION DETAIL REPRESENTS MIN. REQUIREMENTS FOR MATERIALS AND INSTALLATION.



APPROVED
John F. Elery
Public Works Director Date

CITY OF FERNDALE
SLOPE PROTECTION DETAIL

DRAWING
ST-12



NOT TO SCALE

APPROVED

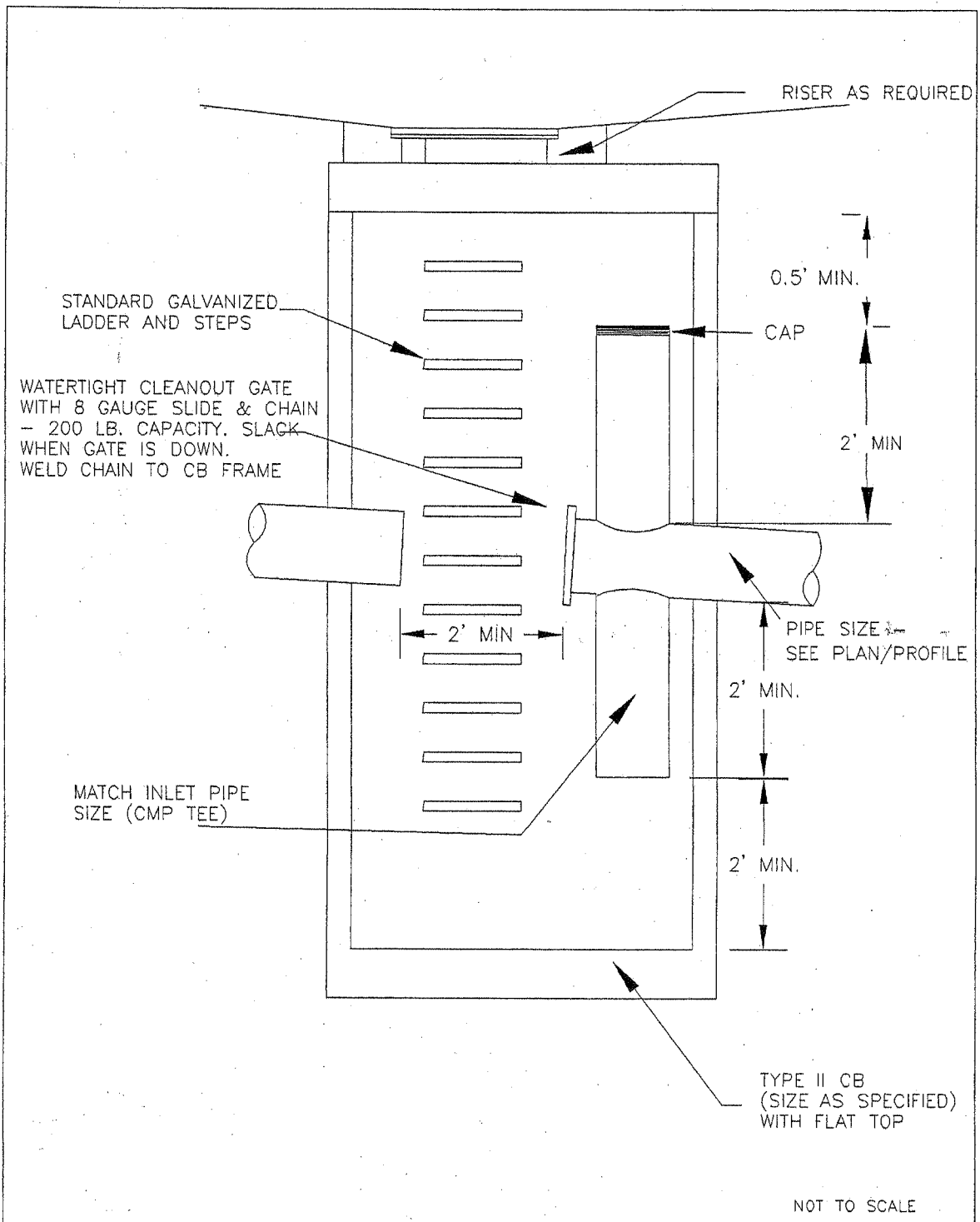
John F. Ealey
Public Works Director

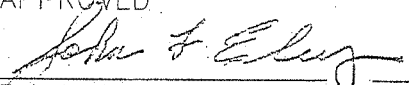
Date

CITY OF FERNDALE
BIOFILTRATION SWALE DETAIL

DRAWING
ST-13

JUNE 1995



APPROVED:  Public Works Director Date	CITY OF FERNDALE OIL SEPARATOR MANHOLE	DRAWING ST-14
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JUNE 1995