

CITY OF SHERWOOD, OREGON

Amended by
Ord 73-637

ORDINANCE NO. 600

AN ORDINANCE ADOPTING STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF STREETS; PROVIDING FOR THE INSPECTION OF PUBLIC STREET CONSTRUCTION; PROVIDING FOR THE PAYMENT OF INSPECTION FEES; ESTABLISHING REQUIREMENTS FOR ACCEPTANCE OF STREETS FOR CITY MAINTENANCE; REQUIRING BOND AGAINST DEFECTIVE CONSTRUCTION AND DECLARING AN EMERGENCY

WHEREAS, heretofore the City of Sherwood has not had any standardized specifications for the construction of streets, whether the construction be pursuant to public contract or to private development, and it is in the interest of public health, safety and welfare to adopt standardized construction specifications, now, therefore,

THE CITY OF SHERWOOD DOES ORDAIN AS FOLLOWS:

Section 1: Definitions: Whenever reference is hereinafter made to:

(a) "Standard specifications" it shall mean the standard specifications, both technical and general for the construction, grading, paving and drainage of streets and roads for public use adopted by this ordinance or hereinafter adopted by amendment.

(b) "Street" it shall mean the entire width between the boundary lines of every way which provides for public use for the purpose of vehicular and pedestrian traffic, and the placement of utilities and including the terms "road", "highway", "lane", "place", "avenue" "alley" or other similar designations.

(c) "Engineer" it shall mean the engineer or engineering firm designated by the City Council to perform engineering services for the City.

(d) "Contractor" it shall mean the person engaged in the construction of the street pursuant to a public works contract and it shall also mean the private person developer or subdivider causing a street to be constructed for public use.

(e) "Person" it shall mean an individual, partnership, association or corporation.

Section 2: The standard specifications hereinafter adopted shall, from time to time be revised or updated, as may be necessary, by ordinance.

Section 3: The City Recorder shall maintain on file and keep available for public inspection not less than three copies of this ordinance and the standard specifications hereinafter adopted.

Section 4: All public street construction, whether involving new streets or the reconstruction, repairing, repaving, or widening of old streets shall be performed in conformity with the standard specifications hereinafter set forth unless written specifications

for the construction of a particular street not in conformity with the standard specifications have first been approved in writing by the City Engineer and resolution of the Council. Except to the extent that written conflicting specifications are so approved, the standard specifications shall control and be binding whether or not the standard specifications have been set forth in a particular contract or set of plans.

Section 5: No plot plan, subdivision, or other project involving the construction of streets shall be approved by the Planning Commission unless the plans contain a statement that the contractor will construct said streets as shown on the plans in conformity with the standard specifications.

Section 6: No street constructed by any person pursuant to the development or subdivision of private property shall be accepted by the City of Sherwood for maintenance unless:

(a) It shall have first been inspected by the City Engineer at such times as may be necessary to determine whether it is being or has been constructed in conformity with the Standard specifications; and

(b) The City Engineer shall have filed with the City Recorder his certificate:

1. That he has inspected the construction of the street, showing the date or dates of such inspection, (2) that the street has been constructed in substantial conformity with the standard specifications or such other specifications as may have been approved pursuant to Section 4 of this ordinance, (3) that the engineer's inspection fees have been paid in full by the person requesting acceptance of the street and showing the amount of said payments; and

(c) The person requesting acceptance of the street by the City has posted with the City an undertaking in an amount sufficient to assure correction of any defects in the construction of the street by reason of defective materials or workmanship or failure to follow the standard specifications for a period of one year from the date the Council resolves to accept the street for maintenance.

(d) The right-of-way for said street has been formally dedicated to the City of Sherwood and the conveyance duly recorded in the real property records by the County Recorder.

Section 7: Nothing contained in this ordinance shall repeal any of the general design standards set for streets in Section 24 of Ordinance No. 518.

Section 8: The "standard specifications for streets and concrete structures" consisting of a table of contents and nineteen pages of text and standard plans, attached hereto and by this reference made a part hereof to the same legal force and effect as if set forth in full in this section, are hereby adopted as the standard street specifications for the City of Sherwood.

Section 9: Inasmuch as it is necessary for the health and safety of the people of Sherwood that standard specifications for the construction of streets within the City be established without

delay, an emergency is hereby declared to exist and this Ordinance is to take effect on the first day of the calendar month next following its passage by the Council and approval by the Mayor.

PASSED: By the Council, by unanimous vote of all Council members present, after being read by caption three times, and in body once, this 29th day of June, 1970.

Marjorie Stewart
Recorder - City of Sherwood

APPROVED: By the Mayor, this 29 day of June, 1970.

[Signature]
Mayor - City of Sherwood

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STANDARD SPECIFICATIONS

FOR

GRADING, PAVING AND
DRAINAGE STRUCTURES

1. CLEARING AND GRUBBING

Clearing and grubbing must be completed a sufficient distance ahead of other operations to insure free movement of earth moving equipment.

Material may be burned only after securing a proper burning permit.

A. Clearing The area shall be cleared of all trees, rotten wood, rubbish and other objectionable material, buildings, fences and other obstructions interfering with the proposed work.

B. Grubbing The area shall be grubbed within the limits of required excavation or within the limits of required embankment of all stumps, roots and other vegetable matter embedded in the ground, to a depth not less than 1 foot below the subgrade or slope surface to which the embankment is to be constructed.

Holes resulting from the removal of stumps, roots and other vegetable matter shall be filled with approved material and shall be placed in layers of thickness not greater than six (6) inches and each layer being thoroughly compacted as it is placed.

2. REMOVAL OF CONCRETE AND MASONRY STRUCTURES

In removing pavement, curbs, gutters, sidewalks, driveways, floors, and similar structures, all cuts required shall be clean, straight and vertical. Unless otherwise specified a mechanical cutting device shall be utilized.

Foundations, walls, headwalls, catch basins, inlets, manholes and similar structures to be removed, which are within the project limits, shall be broken down to at least one (1) foot below the subgrade.

In removing catch basins, inlets and manholes, any live sewer or pipe lines which are connected with them shall be properly reconnected without interruption of service and any abandoned sewers shall be suitably capped or plugged in a water-tight manner. Metal grates, frames, rings and covers shall be salvaged and may be used on new structures if of suitable size and condition.

The contractor shall replace all concrete or masonry structures, damaged during construction, and restore said structures to their original condition unless otherwise specified.

3. SUBGRADE PREPARATION

All grass and sod within the limits of the slope stakes shall be stripped to a minimum depth of six (6) inches.

All embankment material shall be free from all stumps, roots, sod, muck and debris. Only material taken from designated borrow areas may be used. The soil shall be treated and worked to insure a uniform moisture content that will permit the maximum amount of compaction. The embankment material is to be placed in horizontal layers not to exceed eight (8) inches in depth. The top three (3) feet of embankment shall have a density of not less than 95% of relative maximum density by Proctor scale. The remainder of embankments shall have a density of not less than 90% of relative maximum density by Proctor scale. Should the embankment fail to meet the density requirements, the embankment shall be taken out and replaced.

Soft areas in subgrade shall be reinforced with crushed rock or gravel. If the soft area is extensive the unsuitable material shall be removed and the area filled with crushed rock or gravel. The presence of water in the soft areas may require the installation of drains.

4. FINE GRADING OF SUBGRADE

Rough subgrade shall be cleaned of all loose or foreign materials and reshaped if rutted. Shaping and compacting shall be done with blade graders and a three-wheel power roller weighing eight (8) to ten (10) tons to produce a finished surface smooth and even and not varying more than 3/8 inch in ten (10) feet from true profile and cross section nor more than 1/2 inch from true elevation.

The graded area shall be sprinkled with water as necessary to settle and control the drift of dust from construction operations.

5. CRUSHED ROCK MATERIALS

Crushed gravel or crushed stone base course materials shall consist of hard, durable particles or fragments of stone or gravel crushed to required size and a filler of sand or other finely divided mineral matter. The portion of the material retained on a No. 4 sieve shall be known as coarse aggregate and that portion passing a No. 4 sieve shall be known as filler. When produced from gravel, not less than 50 per cent by weight of the coarse aggregate particles shall be particles having at least one fractured face, and if necessary to meet this requirement or to eliminate an excess of filler, the gravel shall be screened before crushing. The composite crushed rock material shall be free from vegetable matter and lumps or balls of clay.

If filler in addition to that naturally present in the material is necessary for meeting the grading requirements or for satisfactory bonding of the material, it shall be a mineral filler uniformly blended with the crushed rock material at the screening and crushing plant. The material for such purpose shall be obtained from sources approved by the Engineer, shall be free from hard lumps and shall not contain more than 15 per cent of material retained on a No. 4 sieve.

REQUIREMENTS FOR GRADING OF AGGREGATE
COARSE AGGREGATE

Percentage by Weight Passing Square Mesh Sieves

<u>Sieve Designation</u>	<u>Percentage</u>
Passing 2½" - Retained on 2" Sieve	0-5
Passing 2" - Retained on 1" Sieve	20-40
Passing ½" Sieve	30-45

REQUIREMENTS FOR GRADING OF AGGREGATE
FINE AGGREGATE

Percentage by Weight Passing Square Mesh Sieves

<u>Sieve Designation</u>	<u>Percentage</u>
¾"	100
½"	(Not more than 60)
	(Not less than 40)

The percentages of fine material passing through the 1/4" square screen shall be varied between the above maximum and minimum limits as directed by the Engineer and as deemed necessary to provide sufficient "fines" for the proper setting-up and compacting of the material being furnished.

All aggregate used must come from a source approved by the Oregon State Highway Department. However, acceptance by the State does not necessarily constitute a blanket acceptance by the City of Sherwood.

6. CRUSHED ROCK BASE

The subgrade shall be inspected and approved by the Engineer before placing ballast.

The crushed rock shall be of the thickness as shown on the cross section and shall consist of 2"-0" aggregate and 3/4"-0" leveling course aggregate.

The base course shall be so constructed in such a manner that will require the least amount of trucking over the previously placed materials. The rock shall be keyed as soon as practicable in order to avoid the damaging effect of traffic over the unkeyed rock.

A. Coarse Aggregate Coarse aggregate shall be uniformly spread upon the prepared subgrade to the depth, width and cross section shown on the plans. The maximum depth of any course shall not exceed six (6) inches.

The surface of each course shall be bladed and rolled until thoroughly compacted. When the aggregate does not afford sufficient stability and/or natural cementing properties to readily compact, keystone and water shall be

added. In no case shall succeeding courses be placed until the base course has been thoroughly keyed and compacted and does not creep or move under the roller.

The compacted base course shall be inspected and approved by the Engineer prior to placing of the leveling course.

B. Leveling Course Aggregate Leveling course aggregate for the top course shall be uniformly spread upon the preceding course, to the depth line and cross section shown on the plans. The surface shall then be bladed and rolled. During the operation of blading and rolling, water shall be applied as directed by the Engineer. Blading and rolling shall continue until a compacted even surface, true to line, grade and cross section, has been obtained.

If any portions are found to lack smoothness or to fail in accuracy of grade or crown, such portions shall be scarified, reshaped, recompactd and otherwise manipulated as the Engineer may direct until the desired smoothness and accuracy is obtained.

The leveling course must be inspected and approved by the Engineer before paving.

7. ASPHALTIC CONCRETE PAVEMENT

The Oregon State Highway Specification for "Asphaltic Concrete Paving, (Division 2, Section 18, Standard Specifications for Highway Construction, Issue of May 1, 1954) shall apply in its entirety as fully and completely as if they were contained herein.

All revisions and changes of the State Specifications shall be incorporated in these Standards.

All concrete, metal and vertical surfaces shall be thoroughly cleaned and primed with a suitable asphaltic emulsion before pavement may be placed against them. A "tack coat" of asphaltic paint binder shall be applied to existing pavement and surfaces before paving.

Where edges of asphaltic paving occur at 90° to the centerline, the Contractor shall pave against a 2" x 6" screed set with the top at finish grade. The area back of the screed shall be feathered out with 3/4" -0" aggregate.

Where new paving is to be placed against an existing asphalt edge, the edge must be cut to a true vertical line.

8. CONCRETE CURBS

The finished curb shall be within 1/8 inch, plus or minus, of finish grade and alignment. The exposed surfaces shall be brush finished and shall be free of spalls, holes, rock pockets or honeycomb and shall present a smooth and neat appearance.

Transverse expansion joints shall be accurately set at right angles to the curb and shall provide complete separation of the concrete. The expansion material shall be preformed non-extruding filler material with a minimum thickness of 1/2 inch.

Transverse contraction joints of the weakened plane or dummy type shall be formed as required to confine the contraction joint spacing to a maximum of ten (10) feet. The joints shall be formed by grooving, by insertion and removal of plates or other devices, by the insertion and leaving in place of preformed bituminous filler, or by other means approved by the Engineer. The top width of the joint shall be not less than 1/8 inch nor greater than 1/4 inch, and the depth of the joint shall be such that at least one-fourth of the cross-sectional area of the structure at the joint shall be severed. The edges of joints shall be tooled, unfilled grooves shall be clean and neat, and joint filler shall be even and flush with the surface of the concrete.

The concrete forms, if of wood, shall be Hunt Process sprayed or oiled before use in order to prevent the loss of moisture from the concrete. After the forms have been removed, the concrete shall be Hunt Process sprayed or kept continuously wet for five (5) days.

The area between the back of curb and sidewalk shall be excavated or filled to make a smooth straight grade with approved material free of large clods, hard lumps, rocks, roots, litter or other foreign material.

The backfill materials shall be carefully tamped or water settled to the full height of the curb, and the curb maintained in alignment at all times. Any curb damaged shall be repaired or replaced. No rock subgrade shall be placed until the concrete has cured at least five (5) days.

After completion of the road surfacing all chips and gouges in the exposed portion of the curb shall be repaired. Epoxy resins shall be used in patching.

Monolithic Curb and Gutter Transverse expansion joints shall be provided at each point of tangency of the curb and at other locations as required to limit the expansion joint spacing to a maximum of forty (40) feet.

Type "A" Curb Transverse expansion joints shall be provided at each point of tangency of the curb and at other locations as required to limit the expansion joint spacing to a maximum of twenty (20) feet.

9. CATCH BASINS

Street inlets and catch basins shall be as shown on the Standard Plan of the City of Sherwood. The depths shall be sufficient for 18" of cover over effluent pipe.

Frames and gratings shall be wrought steel.

Pipe connections shall be installed in proper positions and at proper grades. The pipes shall extend through the entire thickness of the wall and shall be flush with the inner wall surface.

The top of the grating shall be one (1) inch lower than normal curb exposure.

10. SIDEWALKS

The sidewalks shall be a minimum of four (4) inches in thickness. Driveway entrances shall be six (6) inches in thickness unless otherwise specified. The surface shall be sloped one quarter (1/4) inch per foot toward the curb. The edge toward the curb shall be 1/4" above curb for every foot distant from curb. The property line edge of the sidewalk shall be parallel to and one foot from property line.

The subgrade shall be constructed to proper line and grade and shall be compacted by sprinkling and rolling or tamping. The subgrade shall be thoroughly saturated with water without creating a condition of mud before the concrete is placed.

The surface of the sidewalk shall be kept continuously wet for five (5) days or shall be completely covered by spraying with Hunt Process or other approved liquid membrane forming compound. All curing procedure shall meet with the approval of the City Engineer.

The expansion joint filler to be used shall be one-half (1/2) inch thick and shall be of the preformed type. It shall be so held in position while the concrete is being placed and finished against it, that the finished joint is straight and truly at right angles to the surface of walk. The spacing of the joints shall coincide with the joints in the curb. All joints shall be placed at right angles to the edge of the walk.

The area between the back of sidewalk and property line shall be excavated or filled to make a smooth straight grade with approved material free of large clods, hard lumps, rocks, roots, litter and other foreign material.

11. CONCRETE

All concrete shall be furnished by a ready mix plant regularly engaged in the manufacture of concrete. The mixing and delivery will be governed by ASTM C-94. The design, handling and placing shall conform to the latest edition of the publication "Design and Control of Concrete Mixtures", by the Portland Cement Association.

A. Materials

1. Cement - Portland Cement shall conform to ASTM C-150 Type II.
2. Aggregate - All aggregate shall conform to ASTM C-33.

The maximum size aggregate shall be 1 1/2 inch, except that for six (6) inch walls, the maximum size shall be 1 1/4 inch. The remainder of the course aggregate shall be graded within the following limits and be free from deleterious substances:

<u>Size</u>	<u>% Passing</u>
1 1/2" or 1 1/4"	100
3/4"	37-70
3/8"	10-30
No. 4	0-5

The fines shall be graded within the following limits:

<u>Size of Sieves</u>	<u>% Passing</u>
3/8"	100
No. 4	95-100
No. 16	45-80
No. 50	5-30

3. Water - All water shall be clean and free from acids, alkalies or organic materials.

B. Strengths and Proportioning All concrete shall be designated by strength. Said strength shall be the minimum compressive strength at 28 days. The cement, aggregate, water and air-entraining agents, (when specified) shall be proportioned to produce a concrete of suitable workability and of such strength as specified. The Engineer shall have control over all proportions, and water content shall not exceed six (6) gallons per 95 lb. sack of cement.

The strength of the concrete for different portions of the structures shall be as follows:

Strength

3,000 psi	Structural concrete, such as retaining walls, box culverts, etc.
2,800 psi	Footings, direct bearing slabs, sidewalks, curbs, driveways.

C. Consistency The consistency of the concrete shall generally follow the listed slumps for the type of pour stated, however, the ability of the equipment and labor to place the concrete will be a factor.

Slump in Inches

Type of Pour

5	6 and 8 inch walls
4	Beams, structural slabs, walls 10 inches and over, columns, curbs

Slump in Inches

3

Type of Pour

Footings, direct bearing slabs,
sidewalks and driveways.

Overwet mixes increases shrinkage and produces concrete that is less durable.

D. Testing The Owner shall secure and take test cylinders from each job as is necessary. Payment for testing shall be by the Owner. If any test cylinder shows a strength less than that specified, the concrete represented by such a cylinder shall be further tested by coring as directed by the Engineer. If such further tests show a compressive strength less than specified, the concrete shall be replaced.

12. PRESERVATION OF EXISTING SURFACING

Unless otherwise stated in the Special Provisions or unless otherwise called for by the Plans, existing roadbed surfacings of all types and kinds shall be preserved from being damaged or from becoming fouled with undesirable material by reason of the Contractor's operations. Damaged pavements and bituminous surfaces shall be repaired or replaced. Rock or gravel surfacings which become fouled shall be replaced.

13. EXISTING UTILITIES

The Contractor shall anticipate the encountering of sewers, pipes, poles, cables, etc., and shall exercise care to protect them from damage. The encountering of existing utility facilities whether they are shown or not shown on the plans, and the subsequent expense due to that encounter, such as broken or leaking water lines, shall not be considered as claim for additional compensation.

14. MAIL BOXES

If mail boxes are so situated on the work site that they must be moved or that they become inaccessible for mail delivery, the Contractor shall remove and place them in groups at a near intersection designated by the Engineer in such a manner that mail can be placed in them from a car. Upon completion of the project, the Contractor shall replace them in their prior condition at such location and elevation adjacent to the curb as is recommended by the postal authorities.

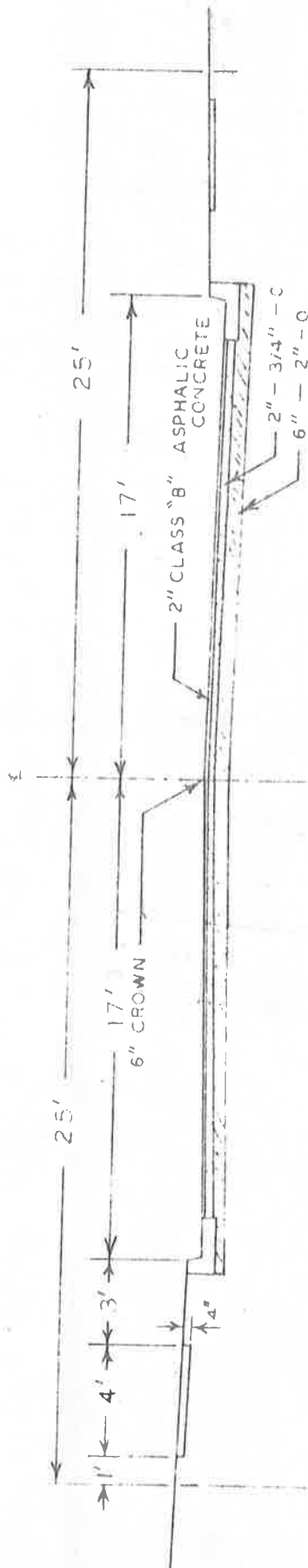
15. STREET AND ROAD SIGNS

Signs which conflict with the operation of the Contractor shall be removed and protected by the Contractor and shall be replaced when and as directed by the Engineer.

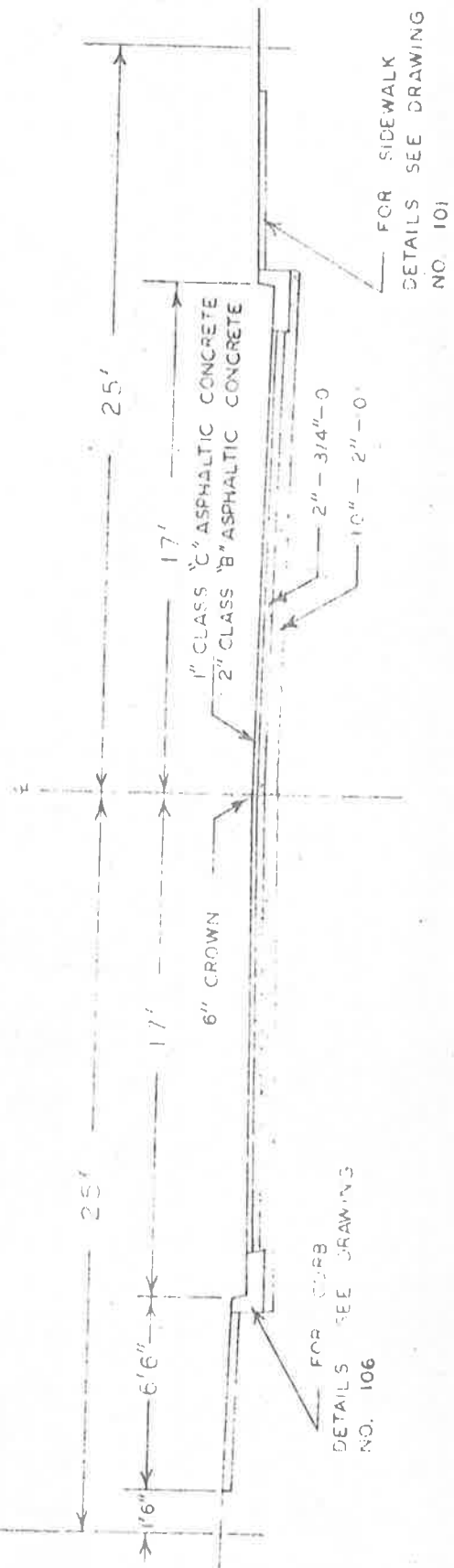
16. FINISHING AND CLEANUP

All roadbeds, ditches and other excavations and embankments shall be trimmed accurately to the lines, grades and cross-sections established by the Engineer and shall be finished in a thoroughly workman-like manner. They shall be in neat and well finished condition at the time the project is completed.

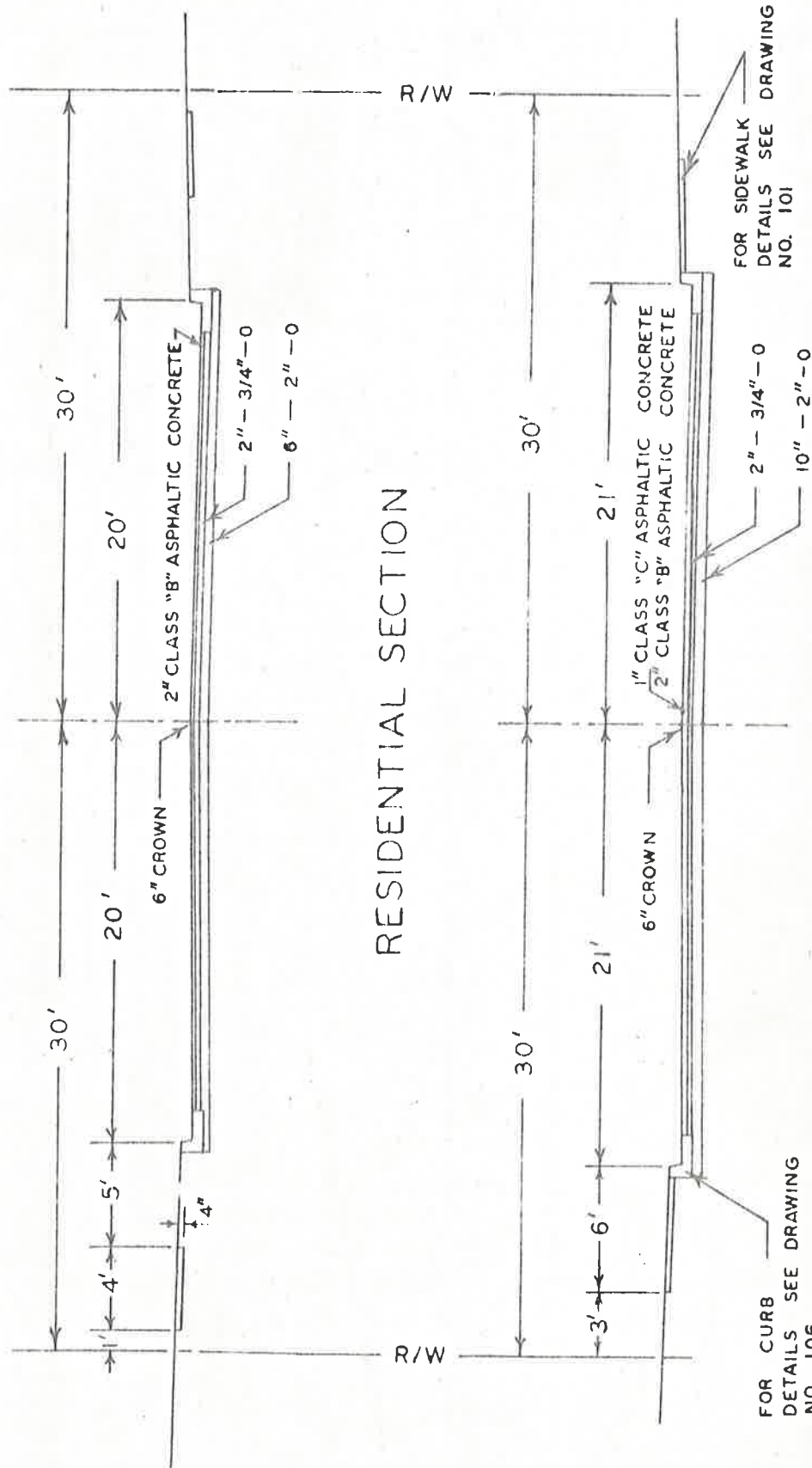
Immediately prior to the completion of the project, the entire right-of-way area shall be cleaned up and made free of debris and foreign matter of all kinds. Accumulations of dirt and/or other materials shall be disposed of in a manner satisfactory to the Engineer.



RESIDENTIAL SECTION



STANDARD STREET CROSS-SECTION (50' R W)



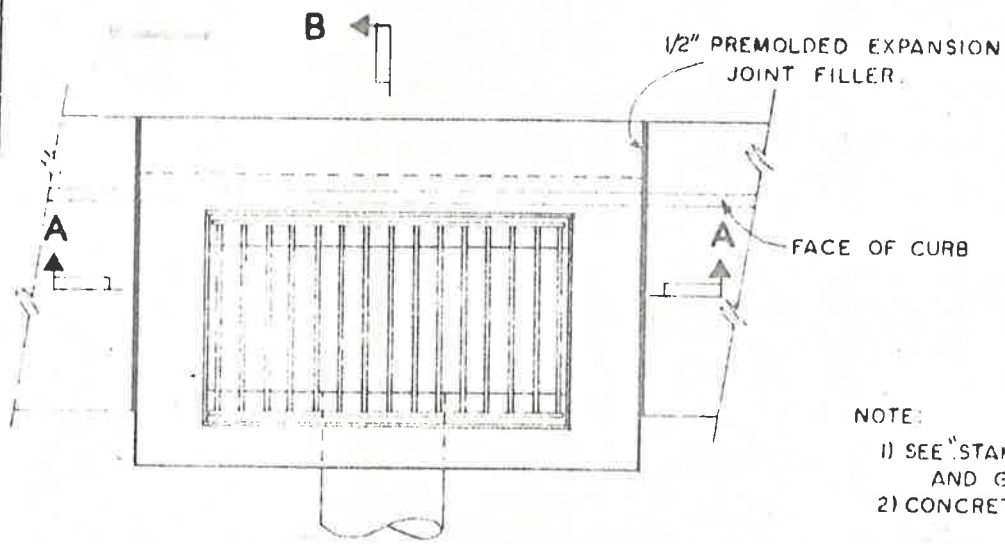
RESIDENTIAL SECTION

COMMERCIAL SECTION

STANDARD STREET CROSS-SECTION (60' R W)

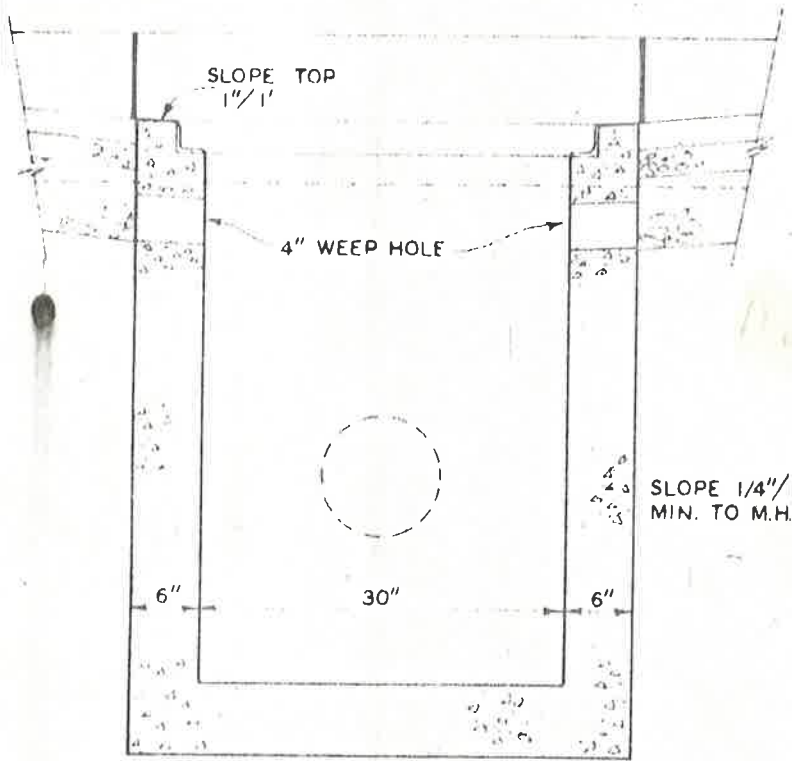
CITY OF SHERWOOD

Standard Plan

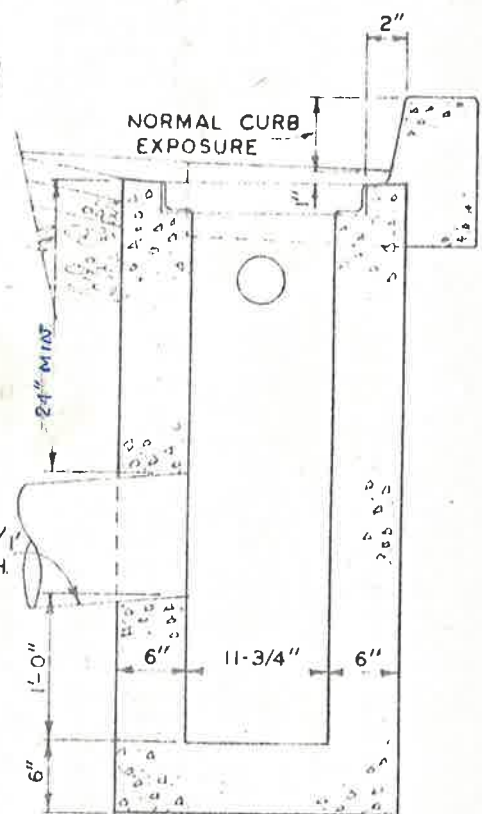


NOTE:
 1) SEE "STANDARD CATCH BASIN FRAME AND GRATE" DWG. NO. 108.
 2) CONCRETE TO BE 3000 P.S.I.

PLAN

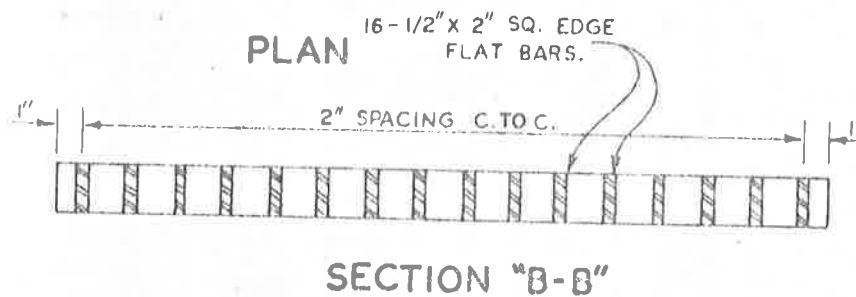
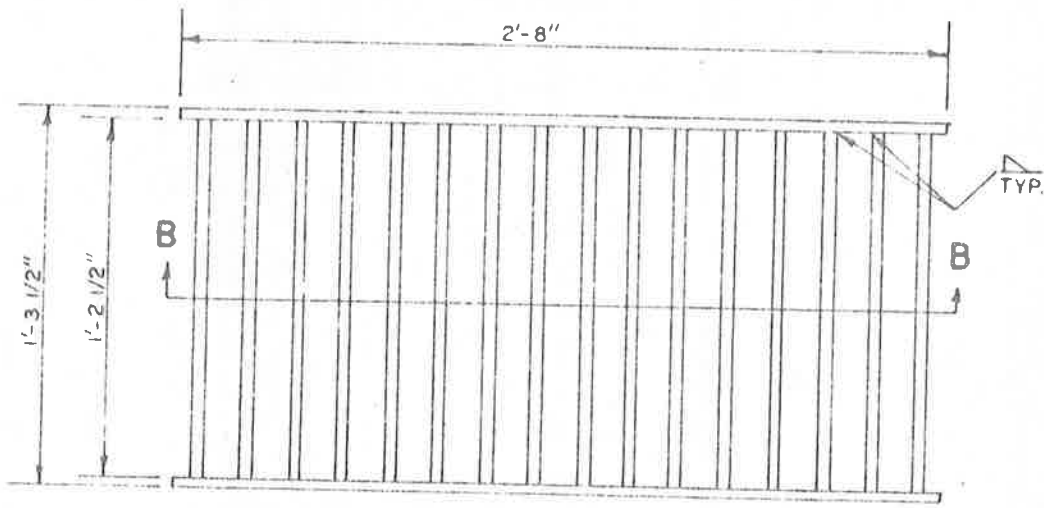
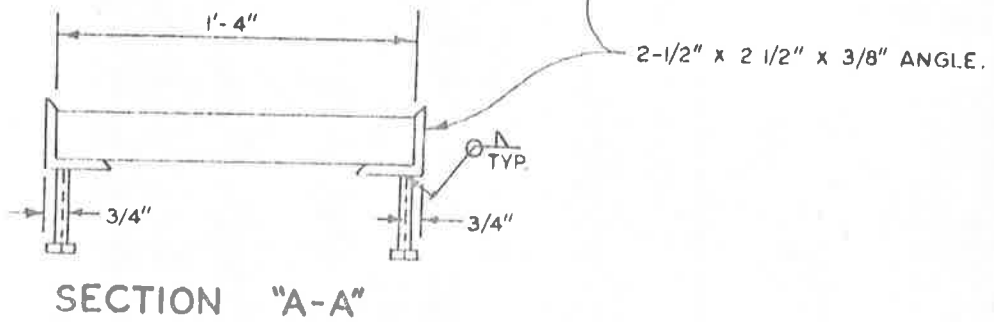
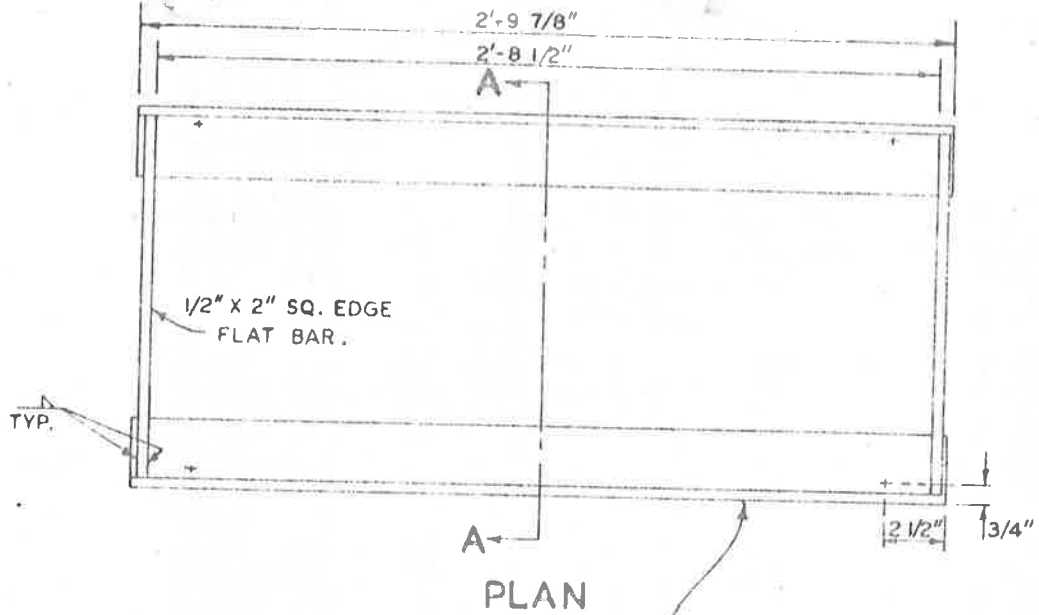


SECTION "A-A"



SECTION "B-B"

STANDARD CATCH BASIN



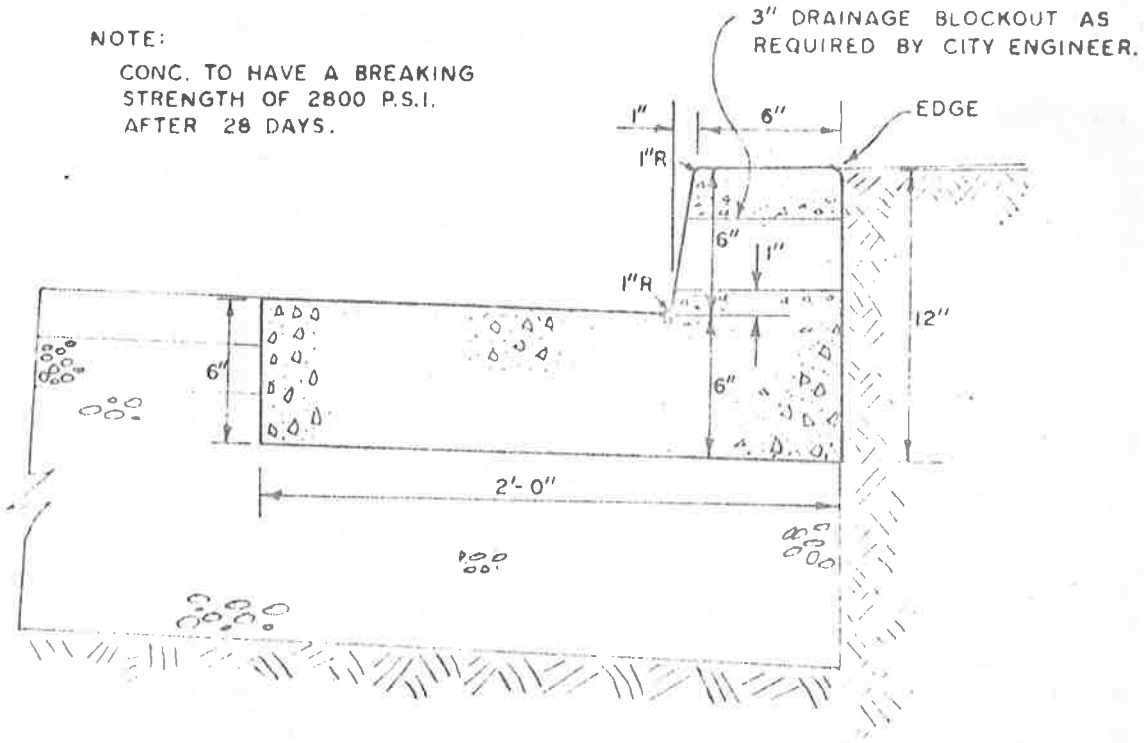
STANDARD CATCH BASIN FRAME & COVER

CITY OF SHERWOOD

Standard Plan

NOTE:

CONC. TO HAVE A BREAKING
STRENGTH OF 2800 P.S.I.
AFTER 28 DAYS.



TRANSVERSE EXPANSION JOINTS

1) TO BE PROVIDED AT EACH POINT OF TANGENCY OF THE CURB AND
AT OTHER LOCATIONS AS REQUIRED TO LIMIT THE SPACING TO A
MAXIMUM OF 40'.

2) MATERIAL TO BE PRE-MOLDED NON-EXTRUDED MATERIAL WITH A
MINIMUM THICKNESS OF 1/2\".

TRANSVERSE CONTRACTION JOINTS

1) SPACING TO BE NOT MORE THAN 10' AND THE DEPTH OF THE JOINT
SHALL BE AT LEAST ONE FOURTH OF THE CROSS SECTIONAL AREA.

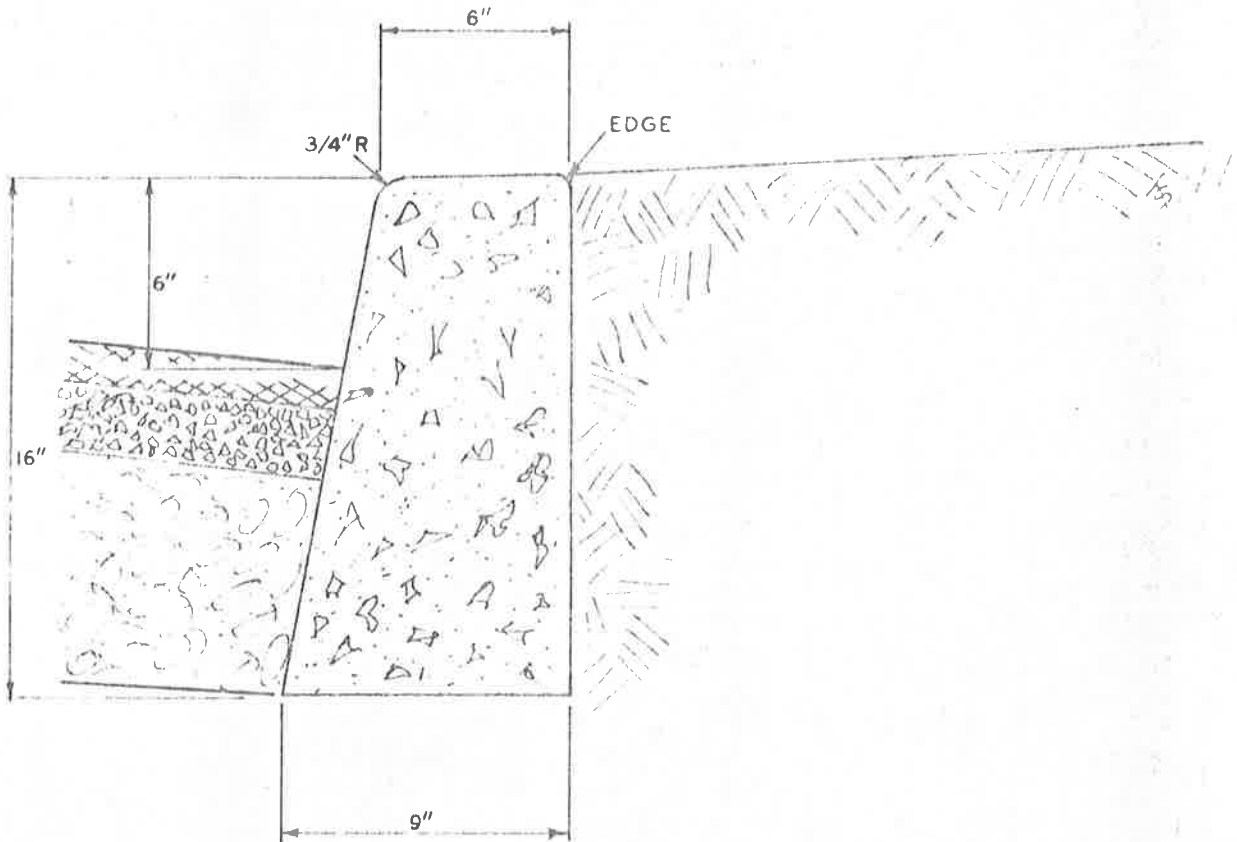
STANDARD MONOLITHIC CURB & GUTTER

CITY OF SHERWOOD

Standard Plan

NOTE:

- 1) CONC. TO HAVE A BREAKING STRENGTH OF 2800 P.S.I. AFTER 28 DAYS.
- 2) TO BE USED ONLY WITH CITY ENGINEER APPROVAL.



TRANSVERSE EXPANSION JOINTS

- 1) TO BE PROVIDED AT EACH POINT OF TANGENCY OF THE CURB AND AT OTHER LOCATIONS AS REQUIRED TO LIMIT THE SPACING TO A MAXIMUM OF 20'.
- 2) MATERIAL TO BE PRE-MOLDED NON-EXTRUDED MATERIAL WITH A MINIMUM THICKNESS OF 1/2".

TRANSVERSE CONTRACTION JOINTS

- 1) SPACING TO BE NOT MORE THAN 10'.

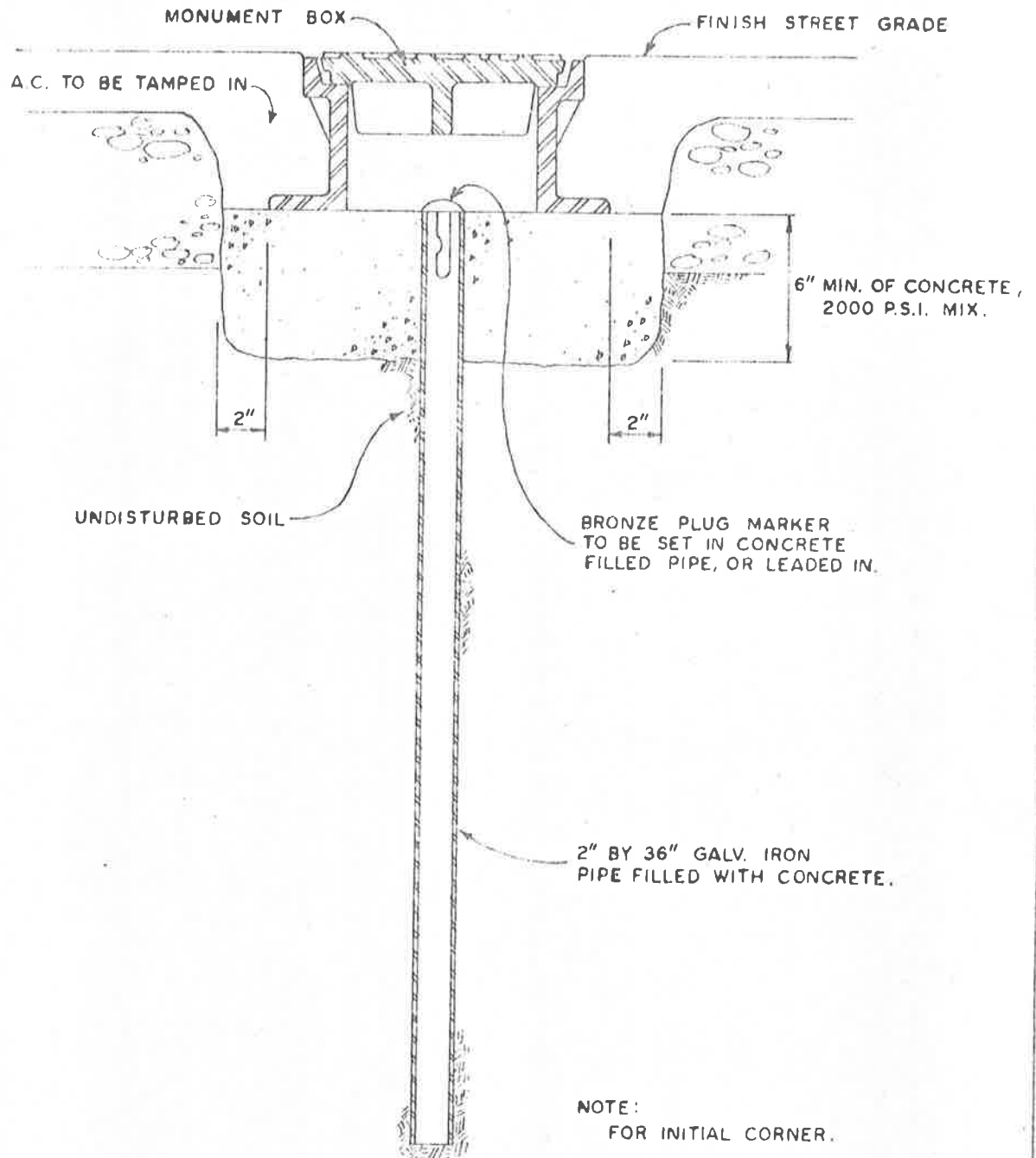
STANDARD CURB (TYPE "A")

CITY OF SHERWOOD

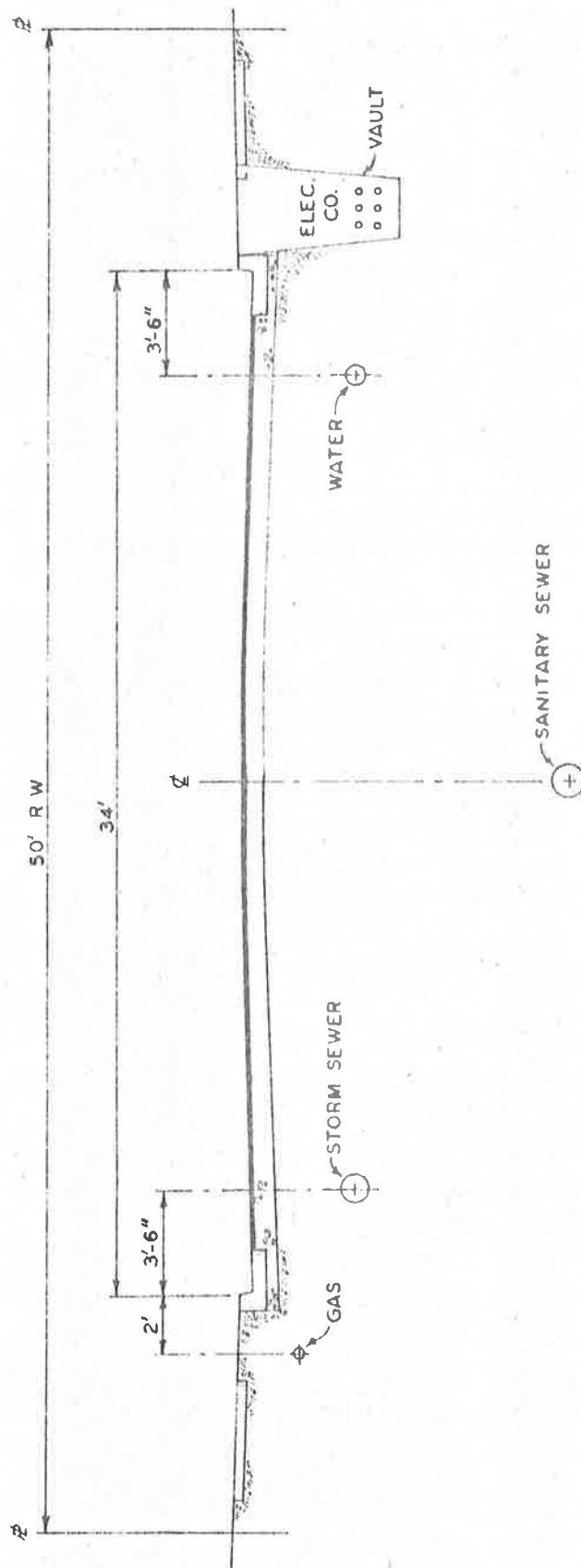
Standard Plan

#1

SCALE: 2" = 1'-0"



STANDARD MONUMENT (TYPE "B")

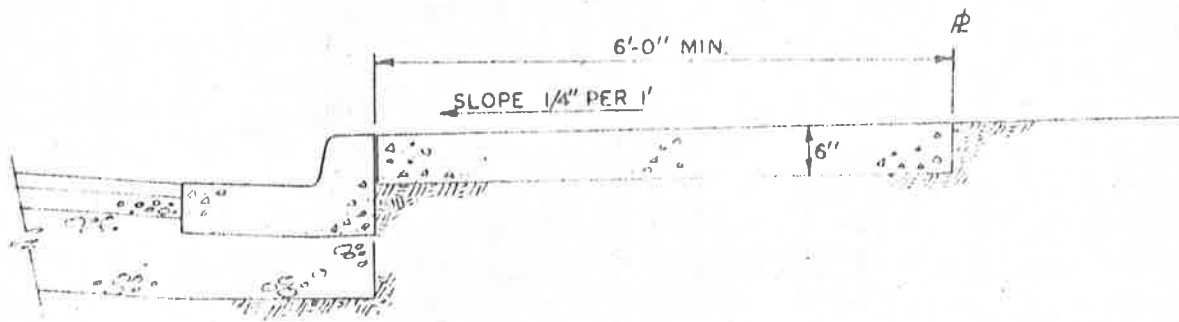


STANDARD UTILITY LOCATION

Standard Plan

#1

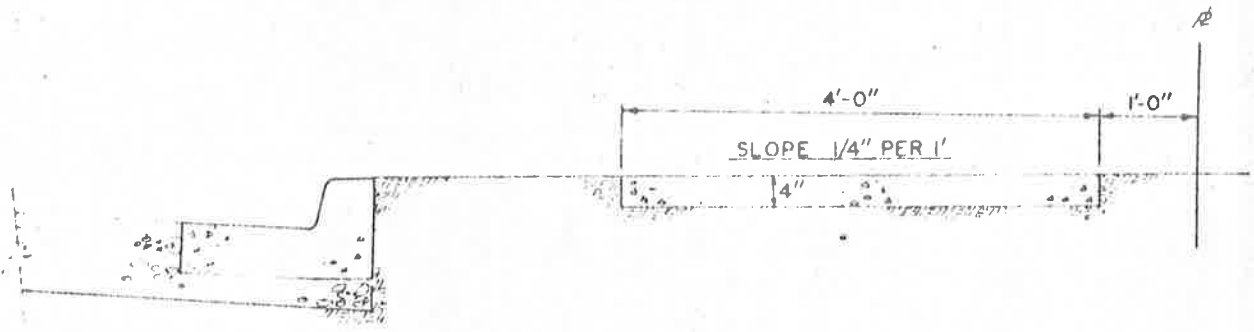
SCALE: NONE



NOTE:

- 1) SLOPE SIDEWALK BEGINNING AT CURB TO BACK OF SIDEWALK.
- 2) SIDEWALK DEPTH — 6".
- 3) DRIVEWAY SECTION — 7".
- 4) EXPANSION JOINTS, MAX. SPACING — 20', OR AT ALL CHANGES IN SECTION.
- 5) SUBGRADE — SIDEWALK TO BE PLACED ON EITHER UNDISTURBED MATERIAL OR APPROVED MATERIAL COMPACTED TO NOT LESS THAN 95% OF MAXIMUM DENSITY.

STANDARD COMMERCIAL SIDEWALK



NOTE:

- 1) SLOPE SIDEWALK BEGINNING AT CURB TO BACK OF SIDEWALK.
- 2) SIDEWALK DEPTH - 4"
- 3) DRIVEWAY SECTION - 6"
- 4) EXPANSION JOINTS, MAX. SPACING - 20', OR AT ALL CHANGES IN SECTION.
- 5) SUBGRADE - SIDEWALK TO BE PLACED ON EITHER UNDISTURBED MATERIAL OR APPROVED MATERIAL COMPACTED TO NOT LESS THAN 95% OF MAXIMUM DENSITY.

STANDARD RESIDENTIAL SIDEWALK