

# ORIGINAL

0046.190.002  
WDT/srf  
03/17/93

ORDINANCE NO. 49

AN ORDINANCE OF THE CITY OF WOODINVILLE, WASHINGTON, ADOPTING STANDARDS FOR STREET FACILITIES AND CONSTRUCTION WITHIN THE CITY OF WOODINVILLE; DECLARING AN EMERGENCY; AND ESTABLISHING AN EFFECTIVE DATE.

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WHEREAS, the City Council of the City of Woodinville find it desirable to adopt standards for street facilities construction within Woodinville, and

WHEREAS, it is desired to adopt standards that are reasonably compatible with other standards used in the area, NOW, THEREFORE,

THE CITY COUNCIL OF THE CITY OF WOODINVILLE, WASHINGTON, DO ORDAIN AS FOLLOWS:

Section 1. Standards Adopted. Subject to the modifications specified herein, the City of Woodinville adopts by reference Appendix G, Construction Specifications and Design Standards for Street and Access, as contained in the City of Redmond Community Development Guide, a copy of which is attached hereto and incorporated herein by this reference.

Section 2. Modifications. Appendix G, adopted herein is hereby modified as follows:

- A. The City of Redmond shall mean the City of Woodinville.
- B. Redmond Fire Department and Fire Chief shall mean King County Fire District No. 36 and the Chief of the Fire District.

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- C. City Engineering Department, City Engineer and City Traffic Engineer shall mean the City of Woodinville City Manager or his/her designee.
- D. A Technical Review Committee shall be appointed by the City Manager.
- E. Section IV-K Street Illumination of Appendix G is hereby modified as follows:

(1)(b) Street Lighting Agreement. Prior to construction of improvements on the site, the developer shall sign an agreement with the Woodinville Water District to provide for payment of the street lighting changes.

(3) Existing Areas. The City will approve the installation of a street light in developed areas of Woodinville provided an agreement is entered into with the Woodinville Water District, for the installation and maintenance of a street light on a public street and for payment of the electrical changes.

Section 3. Severability. If any section, sentence, clause or phrase of this ordinance should be held to be invalid or unconstitutional by a court of competent jurisdiction, such invalidity or unconstitutionality shall not affect the validity or constitutionality of any other section, sentence, clause or phrase of this ordinance.

Section 4. Effective date. The City Council finds that the City of Woodinville will be incorporated on March 31, 1993. Failure to have the regulations contained in this ordinance in existence as of the date of incorporation will mean that the subject matter of this ordinance will be unregulated and thus will cause substantial detriment to the public health, safety and

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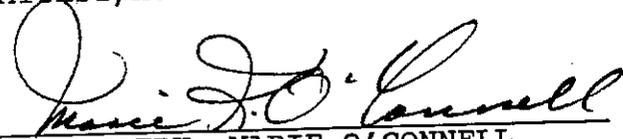
general welfare. The City Council therefore declares that an emergency exists necessitating that this ordinance be in full force in effect on March 31, 1993. This ordinance or a summary thereof consisting of the title shall be published in the City's official newspaper.

PASSED by a majority of not less than five members of the City Council of the City of Woodinville this 22<sup>nd</sup> day of March, 1993.

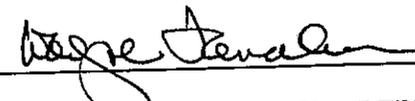
APPROVED:

  
MAYOR, LUCY DEYOUNG

ATTEST/AUTHENTICATED:

  
CITY CLERK, MARIE O'CONNELL

APPROVED AS TO FORM:  
OFFICE OF THE CITY ATTORNEY:

BY 

FILED WITH THE CITY CLERK: 3/18/93  
PASSED BY THE CITY COUNCIL: 3/22/93  
PUBLISHED: 3/29/93  
EFFECTIVE DATE: 3/31/93  
ORDINANCE NO. 49

APPENDIX G

CONSTRUCTION SPECIFICATION AND  
DESIGN STANDARDS FOR STREETS AND ACCESS

I. Driveways - Driveways as used in this appendix shall refer to vehicle entrances to individual lots and the intersection of access corridors with public streets.

A. Construction Specifications

1. Construction shall be in accordance with APWA Standard Specifications, Washington State Chapter.

2. Driveways shall be constructed per Drawing Numbers I-A, I-B, I-C, I-D or I-E as determined by the City Engineer.

2. Selection Guidelines

a. In general Drawing Numbers I-A, I-B and I-C are most appropriate for residential zones, business park zones and commercial areas.

b. In general Drawing Numbers I-A and I-D are most appropriate for industrial zones.

c. Where no curbing exists or is required along the roadway a flat approach per Drawing Number I-E may be considered.

d. Entrances serving five or more dwelling units shall be installed per Drawing Number I-A.

e. Where curbing exists or is required and a flat approach would be appropriate Drawing Number I-A (curb return) may be used. The decision to install Drawing Number I-A (curb return) shall be based upon a review of but not limited to the following factors:

- Functional classification of street.
- Projected driveway usage.
- Turn lane facilities on the public street.

- Vehicle storage area between the street and any turning or parking maneuvers within the development.
- Distance from intersections.
- Distance from other driveways.
- Traffic signalization.
- Pedestrian circulation.
- Emergency vehicle access needs.

B. Width of Driveway Entrance

1. The minimum and maximum width shall be measured from the outside of the travel lane excluding curb or thickened edge.

2. Each traffic lane of both residential, business park, industrial and commercial driveways shall be at least ten feet wide.

3. The minimum unobstructed business park, industrial and commercial driveway width shall be 20 feet and the maximum 30 feet. A wider driveway width may be approved by the Technical Committee where a substantial percentage of oversized vehicle traffic will exist. In this case the driveway should be sized to accommodate the largest vehicles.

4. Residential driveway dimensions shall adhere to the following chart.

No. of Dwelling Units	Minimum Unobstructed Width in Feet	Maximum Width in Feet
1	10**	20
2	10**	20
3-4	20	24
5 or more	20	***

\* In the case where medians are used in driveway entrances, greater width may be required.  
 \*\* If access corridor is over 50' see G II B 2 a.  
 \*\*\* To be determined by Technical Committee.

C. Location and Number of Driveways

1. Driveways shall be limited to one per parcel per street frontage, except that the following is permitted subject to the approval of the Technical Committee: one driveway for each 150 feet of street frontage, or three driveways for two lots having common parking 20C.20.150(10)(f).
2. The City shall not permit any driveway within 100 feet of the near-side face of the curb of the intersecting street or from any other such driveway. In the event it is either impossible or undesirable to separate by 100 feet, then driveways shall be located as far away from the near-side of curb of the intersecting street or any other such driveway. Separations less than 100 feet shall obtain approval from Technical Committee.
3. Whenever practical, abutting property owners shall make joint use of driveways.
4. Distances between driveways and/or intersections shall be measured from the nearest edge between the driveways and/or intersections.
5. Driveways directly giving access onto arterials may be denied if alternate access is available.
6. Driveways shall not be permitted where in the judgment of the Technical Committee, dangerous or confusing traffic patterns would result.
7. Driveways shall be aligned wherever possible with existing driveways on the opposite side of the street.

8. Offset driveways where left turns may conflict shall be separated by 100 feet unless approved otherwise by Technical Committee.

D. Conditions of Approval

1. All abandoned driveway areas on the street frontage to be improved shall be removed and the curbing and sidewalk shall be restored to City standards.
2. Maintenance of driveways shall be the responsibility of the owner whose property they serve.
3. Left turns to and from a driveway may be restricted if such maneuvers are found to be hazardous.
4. Driveways shall have space adequate to substantially eliminate traffic backup on public streets.

- II. Access Requirements for up to Four Dwelling Units or Four Lots. The application of these standards shall apply to four individual single family lots or a single lot with up to four dwelling units. Access requirements for the purposes of this section shall refer to access corridors and access from a driveway to the dwelling unit(s) on individual lots.

A. Construction Specifications and Guidelines

1. Construction shall be in accordance with APWA Standard Specifications; Washington State Chapter.
2. Access shall be constructed per Drawing Numbers II-A, II-B, II-C, II-D, II-E, II-F, or II-G.

3. Drawing II-A may not be used for access corridors serving more than two dwelling units.
4. Turnarounds may be required to be installed in accordance with Appendix G. III. Turnarounds.

B. Minimum Standards

1. Extent - In order to provide adequate emergency vehicle access, the driving surface on an individual lot must terminate within 50 feet of all dwelling unit(s).
2. Width
  - a) 1-2 Dwelling units or lots - The minimum unobstructed driving surface shall be 10 feet in width. If the length of the driving surface is over 50 feet then driving surface must be 12 feet in width and an unobstructed emergency vehicle operations area must be provided to within 50 feet of the dwelling. Such area must be constructed as a continuation of the driving surface with an overall dimension of 20 feet width and 50 feet length with Fire Department approval of layout. When the access is over 50' and any of the following apply, the minimum width shall be 14' within that portion of the access.
    - 1) Access grade exceeds 10%.
    - 2) Access is within 50' of adjacent buildings or otherwise deemed necessary for firefighting purposes.
    - 3) Access road includes curves sharper than 100' interior radius.

Final design shall be approved by the Fire Marshal and Engineering Division.

- b) 3-4 Dwelling units or lots - The minimum unobstructed driving

surface shall be 20 feet.

3. A 5-foot utility corridor may be required alongside the access corridor unless other utility access is available.

III. Emergency Vehicle Turnarounds

Turnarounds for the purposes of this section is to define the minimum dimensions and standards for emergency vehicle return on non-through access.

A. Design

1. Design shall be in accordance with Drawing Numbers III-A, III-B, III-C, III-D and III-E.

B. Construction Specifications and Guidelines

1. Construction shall be in accordance with APWA Standard Specifications; Washington State Chapter.
2. Access shall be constructed per Drawing Numbers II-A, II-B, II-C, II-D, II-E, II-F, or II-G in Appendix G.II.

C. When Required

1. Residential - When three or more dwelling units are served by an access longer than 150 feet measured from the closest intersection or when one or two dwelling units are served by an access longer than 300'.
2. Commercial - Any emergency access roadway longer than 150 feet measured from the closest intersection.
3. The selection of design drawing is subject to approval of the Technical Committee.
4. A minimum unobstructed driving surface of 20 feet shall be required.
5. Signage, striping or appropriate means approved by the Redmond Fire Department may be required.

6. Where requirements cannot be met, alternate fire protection as designated by the Fire Chief will be required per Community Development Guide 20E.80.100 RESTRICTED ACCESS BUILDING.

#### IV. Streets

##### A. Purpose

The purpose of this section is to establish street standards for both public and private roadways serving more than four (4) lots. This section is a supplement to Section 20C.20.240 (Streets and Access)

##### B. Roadway Types and Widths

1. City of Redmond roadways are defined as follows and as shown on Table No's IV A and IV B and Drawing No's IV A, IV B, IV C and IV D.

- a) Principle arterials - Street provides for traffic movement between major traffic generators (community centers) and may connect with freeway systems, and must be subject to necessary regulations for control of parking, turning movements and entrances. Their primary function is traffic service, access to adjacent residences or single commercial sites is not permitted when an acceptable alternative is available.
- b) Minor arterials - Street provides for traffic movement within developed areas and between principle arterial streets and collector arterial and local access streets. They serve traffic between neighborhoods. Their function is traffic service and secondarily provide access to adjacent residences.
- c) Collector Arterial - Streets collect and distribute traffic from higher type arterial streets to neighborhood collector streets.

They connect residential neighborhoods with commercial areas and secondarily provide access to adjacent residences.

- d) Neighborhood Collector - Streets provide for access to adjacent properties and connect two or more neighborhoods or areas together with the arterial system.
- e) Local Access - Streets provide for direct access to abutting property with connections to collector and arterial streets. Their function is land access service. They include public and private roadways in the following areas:
  - 1) Single Family Residential
  - 2) Multi-Family
  - 3) Commercial and Industrial

##### 2. Private Streets

- a) Criteria for Authorization - Private residential streets and roadways are allowed under the following conditions:
  - 1) Where due to topographic or other constraints the City Engineering Dept. determines that it would be creating an inequitable hardship on the City or because of practical difficulties the City could not assure maintenance.
  - 2) In residential developments private streets may be used where a reciprocal agreement, home owners or management association has been established to assure the continued maintenance of street improvements.
  - 3) Provision is made for the streets to be open at all

times for emergency and public service vehicles.

- 4) The private streets will not obstruct public street circulation.
- b) Construction Requirements - Private streets shall conform to Public Works construction standards, except where specifically exempted in this Section.
- c) Acceptance as Public Streets - The acceptance of private streets as public streets shall be per adopted procedures. The public street standards contained herein shall apply in consideration of such acceptance.

#### C. Intersection Design

1. Sight Clearance - The requirements of paragraph 20C.20.220 "Sight Clearance at Intersections" shall be complied with.
2. Horizontal Alignment - Street rights of way shall intersect at 80° - 90°, where possible. For residential streets "T" intersections are preferred over 4-way intersections.
  - a) Centerline Offsets of Adjacent Streets - Should be at least 125 feet with 150 feet or more preferred.
  - b) On sloping approaches, landings are not to exceed two feet difference in elevation for a distance of 30 feet approaching an arterial or 20 feet approaching a local access street, measured from the back of sidewalk or the back of curb if no sidewalk exists.

#### D. Street Layout

Street layout shall provide for the following:

1. Local access street shall be designed to discourage through traffic and high speeds through the use of cul-de-sacs, short streets and similar design features.
2. Provide access to adjoining undeveloped property, where necessary.
3. Right-of-way placement shall be planned to minimize grading and destruction of natural features.
4. Rights-of-way shall not be located in areas where geologic or soil conditions may cause a threat to public safety or pose a continuing excessive liability to the City.
5. Walkways and trails shall be provided to maximize the potential for pedestrian circulation within a development and to adjacent areas.
6. Where it is applicable, temporary turn around shall be provided on half streets and future street extensions. (Refer to Section IV-H).
7. All utilities shall be underground.
8. Required Access to Developments

Where more than 50 units are designed in a residential development, either single family, multi-family, retirement or similar, there shall be a minimum of two access points to the street system. Such access points shall be located so as to provide for circulation, alternate emergency vehicle access routes, through access and general area transportation design considerations. One of these access points may be for emergency vehicle use only where the number of units does not exceed 100. Such

\*emergency vehicle use only\* access shall be approved by the Fire Department.

The Technical Review Committee shall determine compliance with this sub-section and have the ability to approve alternate designs which meet the intent of this sub-section.

9. Divided Streets or Streets with Median Strips

Where due to topographic, engineering, or design considerations a divided local access street is used, the following criteria shall apply:

- a) The length of the divided local access street shall not exceed 150'.
- b) Each side of the divided street shall not be narrower than 14'. If one or both sides of the divided access are within 50' of an adjacent building or otherwise deemed necessary for fire fighting purposes, then the minimum unobstructed width per applicable side is 20'.
- c) Where a lane is within 100' of any structure and where the Fire Chief determines there is a possibility of fire lane obstruction, fire lanes shall be marked per Redmond Fire Department standards.
- d) Such divided local access streets shall not compromise turning radii of emergency vehicles especially at intersections.

The Technical Review Committee shall determine compliance with this

sub-section and have the ability to approve alternate designs which meet the intent of this sub-section.

E. Blocks

Blocks shall meet the following requirements:

1. Blocks shall be designed with consideration given to:
  - a) The provision of sites suitable to planned land use and development requirements;
  - b) The need for convenient access, circulation control and safety of street traffic;
  - c) The limitations of topography;
  - d) Pedestrian circulation within the subdivision and access to community facilities.
2. The width of blocks generally shall be sufficient to allow two tiers of lots, except where lot frontage would be on an arterial street.
3. Lengths may be as long as practicable, but generally not to exceed thirteen hundred twenty feet (1320).

F. Street Grades

1. Arterials shall generally not exceed 12% in grade.
2. All streets, alleys and service drives shall generally not exceed 15% in average grade. Refer to Table No. IV B where grades greater than 15% are permitted.
3. All local access streets both public or private which are designated by the Redmond Fire Department as emergency vehicle access roads shall not exceed 10% in grade unless approved mitigation measures are

implemented and such grades are approved by the Redmond Fire Department. Refer to Sec. 20E.80.060(20).

4. All changes in grade shall be connected by vertical curves meeting standards established by the City.

G. Minimum Curve Standards

1. Minimum curve radii

a) Arterials and Neighborhood Collector Streets - Refer to Table No. IV-A.

b) Local Access Streets - Refer to Table No. IV-B.

2. Minimum tangent distances between curves:

a) Arterials and Neighborhood Collector Streets - Shall have a minimum tangent distance between curves of two hundred feet (200).

b) Local Access Streets - shall have a minimum distance between curves of one hundred feet (100).

3. Intersections

a) At street, property line corners shall be rounded by an arc, the minimum radii of which shall be 25 feet. In business districts a chord may be substituted for such an arc. The minimum curb radius shall be 25 feet for local access streets and 30 feet for arterial and neighborhood collector streets.

b) At private roads, driveways, etc., the minimum curb radius shall be 20 feet. Where driveway widths are less than 28 feet, a 25 foot radius may be required. Refer to drawing No. I-A.

4. A minimum stopping sight distance with clear visibility for at least four hundred fifty (450) feet on arterials and neighborhood collector streets, and two hundred twenty-five (225) feet on local access streets all as measured along the centerline shall be provided.

5. All changes in grade shall be connected by vertical curves having such length and other properties that clear visibility shall not be less than the minimum stopping sight distance provided by this paragraph.

H. Cul-de-sac & Deadend Streets (Local Access Streets)

1. Except when required by topography or otherwise specified in this Section, streets designed to have one end permanently closed or in the form of a cul-de-sac should not be longer than six hundred (600) feet. In the event longer cul-de-sacs are unavoidable, turnarounds are required every 600 feet. See drawing No. IV E for cul-de-sac details.

2. Temporary dead-end streets planned for future continuation shall include the necessary dedication or easements for utilities and vehicle turnarounds. If the dead end is over 150 feet then a turnaround must meet the requirements of Appendix G III. A barricade designed to City of Redmond Standards shall be installed at the end of the dead end street.

I. Mailbox Stand(s) in Residential Areas

1. Mailboxes shall be clustered together in stands when practical and when reasonably convenient to the houses served.

2. Where appropriate, mailbox stand(s) shall be installed in the sidewalk in accordance with the City of Redmond standard detail.

3. The location of the mailbox stand(s) is determined by the United States Postal Service.
4. Mailbox stand locations should not be placed so vehicles using it would obstruct the required width of an emergency vehicle access road.

J. Traffic Control

1. Signing. All traffic control devices shall conform to the "Manual on Uniform Traffic Control Devices" (MUTCD), as adopted by the Washington State Dept. of Transportation. In new plats the City shall install all traffic control signs which shall include but not be limited to street name, stop, dead end, and pedestrian signing. The developer shall be responsible for paying the cost of the signs including the installation. Payment is required prior to plat acceptance. See Drawing No. IV F for street name sign details.
2. Pavement Marking. In residential or commercial/industrial developments, pavement markings including buttons, striping, and delineators may be required to provide roadway safety. Such markings shall be provided by the developer. All materials shall conform to "State of Washington Standard Specifications for Road and Bridge Construction", latest edition. All work shall be approved by the City prior to installation.
3. Fire lane marking. In new plats or commercial/industrial developments, areas designated by the Fire Department as fire lanes and where in the opinion of the Fire Chief marking is needed to prevent obstruction, fire lane marking shall be in accordance with Redmond Fire Department standards. Such markings shall be provided by the developer.

4. Construction Requirements.

- a) All construction activities within the public right-of-way shall have a detailed traffic control plan submitted at least 48 hours in advance of the work if required by the City. The plan shall conform to the current edition of the Manual on Uniform Traffic Control Devices and shall be approved by the City Traffic Engineer or his designated representative.
- b) Both public contracts and private developments shall have a traffic control plan attached to the approved drawings if required by the City. The plan shall show specific placement of cones, barricades, signs and other devices. All changes including field revisions must be approved by the City Traffic Engineer or his designated representative.

K. Street Illumination

1. Requirements for Public Streets

- a) Illumination Required - Street light illumination shall be provided in plats both residential and commercial/industrial.
- b) Street Lighting Agreement - Prior to construction improvements on the site, the developer shall sign the Subdivision Street Lighting Agreement which includes a condition that requires the developer to pay the monthly lighting costs until 75% occupancy of the total lots in the development has been reached.
- c) Location of Poles - The City shall approve the location of street light poles on plans prepared by Puget Sound Power and Light Company.

- d) Maintenance - The street illumination system is maintained by the utility company.
- e) Undergrounding - All street light wiring, conduit & service connections shall be located underground.
- f) Type of Luminaires - High pressure sodium vapor luminaires shall be used.
- g) Luminaire Heights - Luminaire mounting heights shall be 30'-40' for arterial streets, and 30' maximum for local access streets.
- h) Measurement of Luminance - Average luminance levels measured in horizontal foot candles (lumens per square foot) shall be a minimum of 1.5 for arterials, and .3 for local access streets.

2. Requirements for private streets

- a) Illumination Not Required - Street light illumination is not required for private streets.
- b) Responsibility for Installation - Should street lights be desired, the installation, maintenance and power costs shall be the responsibility of the developer or homeowners association, etc., not the City of Redmond.

3. Existing Residential Areas. The City will initiate the installation of a street light in existing residential areas provided the following conditions are met.

- a) A letter is received, signed by all occupants within 100 feet of the location of the street light, approving of the light on a public street.

- b) If the street light will not be located on an existing power pole, the cost of installation of a luminaire pole and associated underground wiring, etc., shall be borne by the petitioners.

L. Franchise Utilities

Non-City owned franchise utilities are required by City Code to relocate existing facilities at their own expense when a conflict results between their facilities and public street improvements. The improvement work must be required by the City in order for the relocation work to be the financial responsibility of the utility, otherwise all costs shall be the responsibility of the developer.

M. Rockeries

Install rockeries per rock wall detail. See Drawing No. IV-G.

N. Safety Railings

1. Installation - Where a sidewalk or other non-motorized transportation facility is to be constructed above a slope or adjacent to a rock wall or retaining wall where the lowest finished elevation of the slope, rock wall or retaining wall is to be 30 inches or more below the finished elevation of the sidewalk or other facility, a safety railing shall be required.
2. Design - Safety railings shall be constructed of 2" galvanized steel pipe with vertical supports 10 feet on center and 3 horizontal railings 14 inches on center, the lowest railing center being 14 inches above finished grade. All joints shall be welded and the entire safety railing painted to assure corrosion protection and a pleasing appearance.

Railings shall be erected and adjusted, if necessary, after initially set to assure a continuous line and grade. See Drawing No. IV H.

O. Guard Rails

For purposes of warrants, design, and location, all guard rails along roadways shall conform to the criteria of Section 3-36 of the "Washington State Dept. of Transportation Design Manual".

P. Other Minimum Design Standards

1. Ramps for the Handicapped - Ramps shall be included in all construction per Revised Code of Washington Section 35.68.075
2. Vertical Clearance above the paved roadway surface shall be a minimum of 16.5 feet. Vertical clearance of structures above the walkway surface shall be a minimum of 8.0 feet.
3. Lateral Clearance - The lateral clearance between curb face and the closest part of any fixed object (excluding traffic control signs and break away supports), shall be at least 3 feet.
4. Roadway Geometrics - Design(s) shall be based upon accepted engineering practices and the requirements listed herein.
5. Pedestrian Facilities - There shall be a minimum 5-foot clear surfaced walkway on each side of the street unless topography or other special conditions favor one walkway only.

Q. Surfacing Requirements

All surfacings shall be designed by a registered engineer in accordance with the Washington State Department of

Transportation Design Manual Section 326, using the following criteria:

1. Trip generation based on ITE "Trip Generation" Manual, Current Edition.
2. Maximum anticipated traffic loadings with the following minimums:

<u>Zoning</u>	<u>Min. Truck Traffic %</u>
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Residential (Single or Multifamily)	5
All Other	15

3. Design Life:
 

Public Streets/ Parking Lots	20 years
Private Streets/ Parking Lots	10 years

4. Minimum Pavement
 

Designs Public Streets 2" Class B Asphalt Concrete	
4" Asphalt Treated Base Subgrade Compacted to 95% Max. Density	

Private Streets/ Parking Lots	2" Class B Asphalt Concrete
	4" Crushed Rock Base Subgrade Compacted to 95% Max. Density

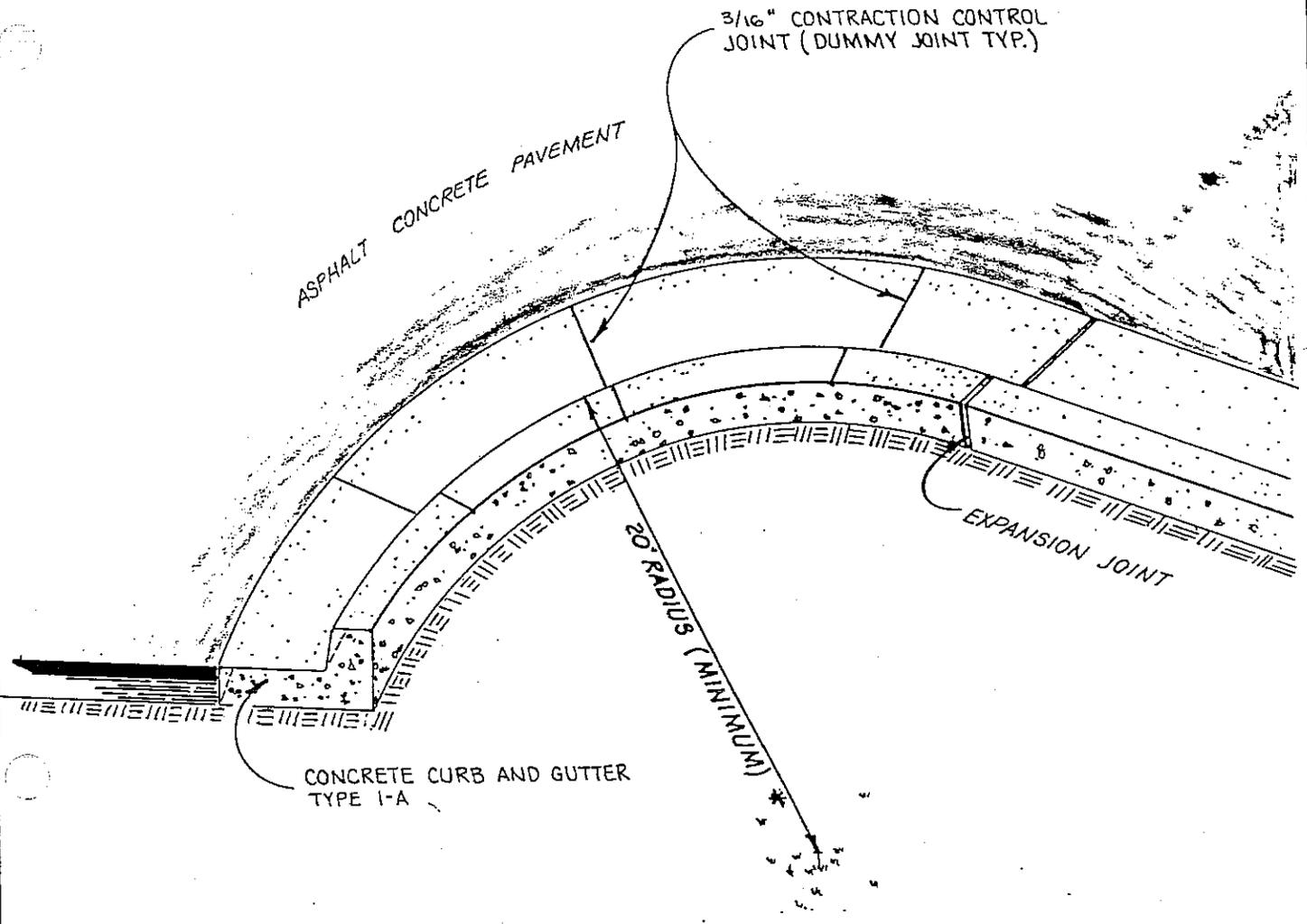
5. In lieu of using the above criteria for surfacing requirements of private streets and/or parking lots, the soils engineer employed by the developer shall verify and subsequently advise the City that the installation of the paving section(s) conforms to his design. The project will not

be accepted until the soils engineer provides the City with written documentation of this information.

R. Standard Specifications

Except where the City of Redmond standard specifications and details provide otherwise, design detail, workmanship and materials shall be in accordance with the current edition of the Washington State Dept. of Transportation (WSDOT)/American Public Works Association (APWA) Standard Specifications for Road, Bridge and Municipal Construction.





**CONSTRUCTION NOTES:**

JOINTS - AS SHOWN OR AS DIRECTED BY ENGINEER

MATERIALS - CONCRETE SHALL BE CLASS 5-3/4 1 1/4"

INSTALLATION - MAXIMUM DRIVEWAY GRADE IS 10.00%. MAXIMUM CREST OF ANY INTERSECTING DRIVEWAY GRADES SHALL NOT EXCEED 12" INCHES IN 18' FEET. SIDEWALKS AND WHEELCHAIR RAMPS WITHIN THE CURB RETURN SHALL BE INSTALLED PER STANDARD DETAIL DRAWING AS DIRECTED BY THE CITY ENGINEER.

\* WHERE DRIVEWAY WIDTH'S ARE LESS THAN 28 FEET, A 25 FOOT RADIUS MAYBE REQUIRED.

**STANDARD DETAILS  
DRAWING NO.1-A**

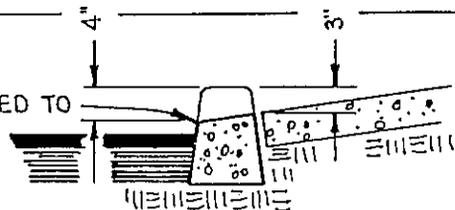


CITY OF REDMOND

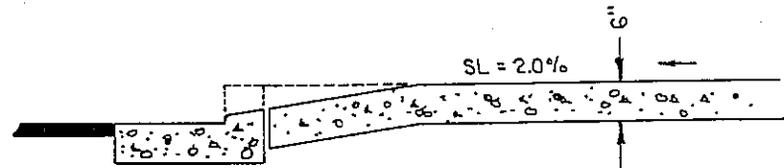
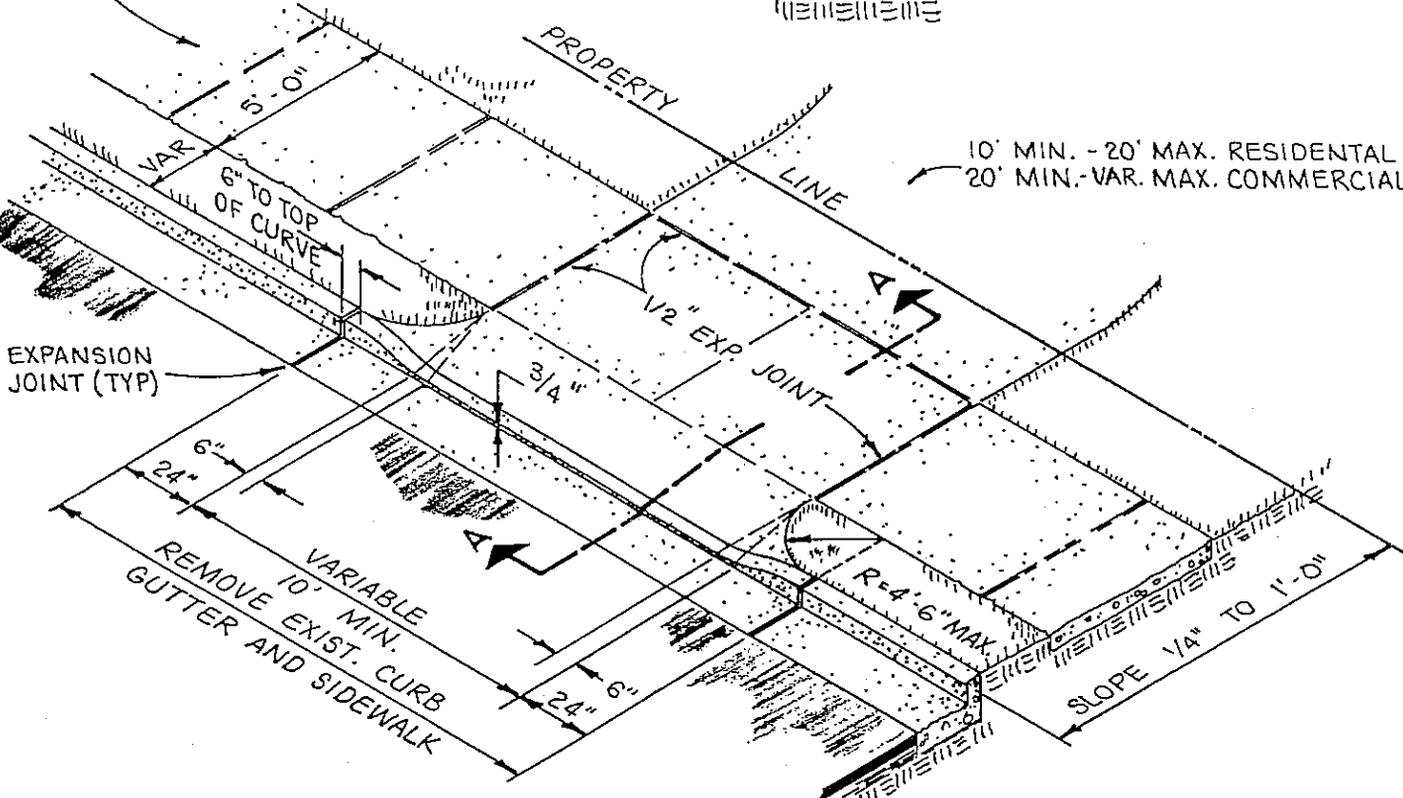
APPROVED: *[Signature]* DATE: 12/28/83

NEW CONST. = 5'-0" OR MATCH EXISTING SIDEWALK

LIP FINISHED TO 1" RADIUS



10' MIN. - 20' MAX. RESIDENTIAL  
20' MIN. - VAR. MAX. COMMERCIAL



**SECTION A-A**

**CONSTRUCTION NOTES:**

**JOINTS** - WHERE DRIVEWAY EXCEEDS 16' IN WIDTH, A DUMMY JOINT SHALL BE PLACED LONGITUDINALLY ALONG  $\phi$ . CLEAN AND EDGE ALL JOINTS. TRANSVERSE DRIVEWAY JOINTS, AS SHOWN OR DIRECTED BY ENGINEER.

**MATERIALS** - CONCRETE SHALL BE CLASS 5-3/4 (1 1/4")

**INSTALLATION** - MAXIMUM DRIVEWAY GRADE IS 10.00%. MAXIMUM CREST OF ANY INTERSECTING DRIVEWAY GRADES SHALL NOT EXCEED 12 INCHES IN 18 FEET.

**BRUSH FINISH** - THE CONCRETE PAVEMENT SHALL BE BRUSHED TRANSVERSELY WITH A FIBER OR WIRE BRUSH OF A TYPE APPROVED BY THE ENGINEER.

**STANDARD DETAILS  
DRAWING NO. I-B**



CITY OF REDMOND

APPROVED:

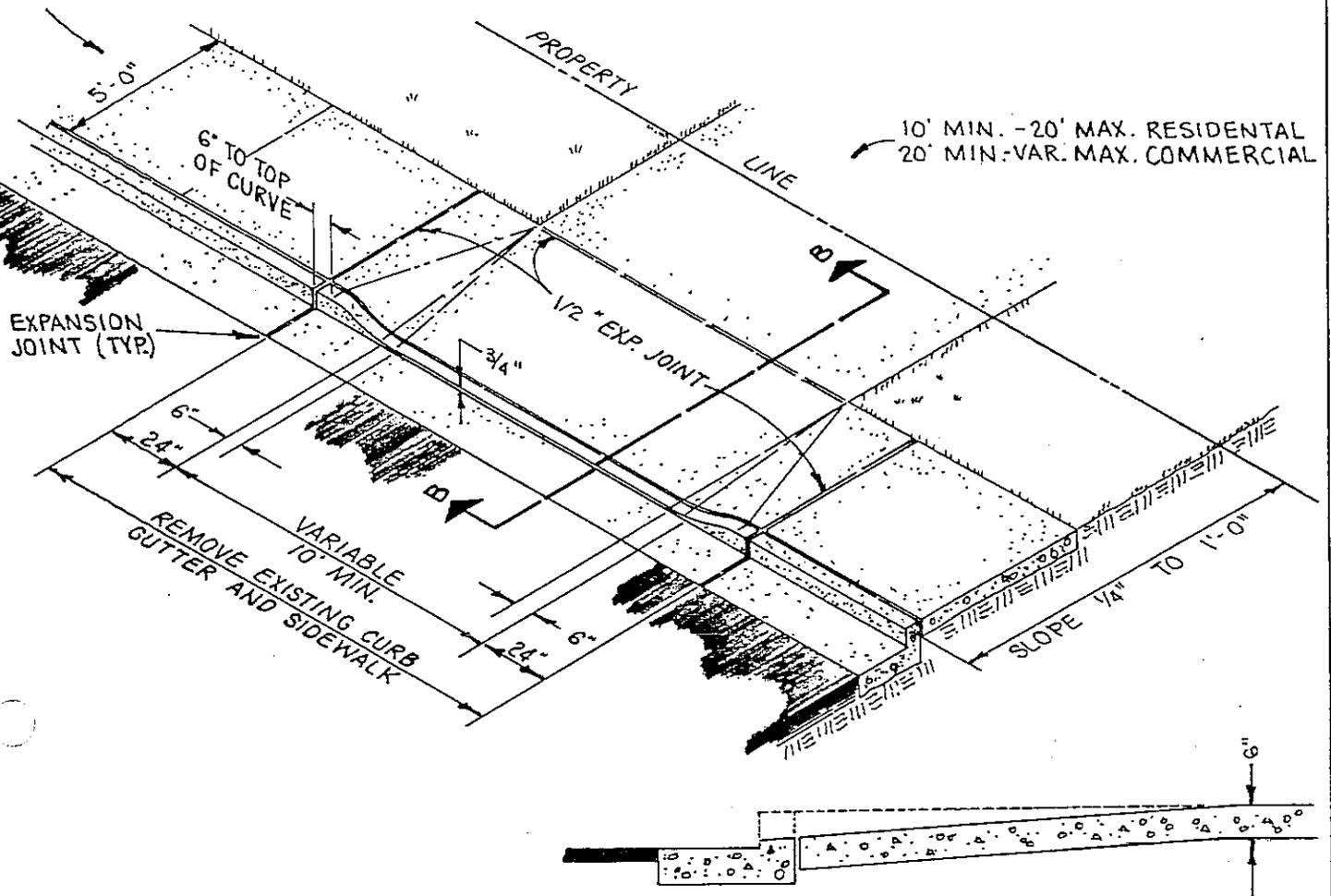
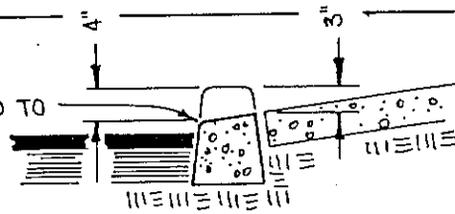
*M. Key*

DATE:

12/28/83

NEW CONST. = 5'-0" OR  
MATCH EXISTING  
SIDEWALK

LIP FINISHED TO  
1" RADIUS



**SECTION B-B**

**CONSTRUCTION NOTES :**

**JOINTS** - WHERE DRIVEWAY EXCEEDS 16' IN WIDTH, A DUMMY JOINT SHALL BE PLACED LONGITUDINALLY ALONG E. CLEAN AND EDGE ALL JOINTS. TRANSVERSE DRIVEWAY JOINTS, AS SHOWN OR DIRECTED BY ENGINEER.

**MATERIALS** - CONCRETE SHALL BE CLASS 5-3/4 (1 1/4")

**INSTALLATION** - MAXIMUM DRIVEWAY GRADE IS 10.00%. MAXIMUM CREST OF ANY INTERSECTING DRIVEWAY GRADES SHALL NOT EXCEED 12" INCHES IN 18' FEET.

**BRUSH FINISH** - THE CONCRETE PAVEMENT SHALL BE BRUSHED TRANSVERSELY WITH A FIBER OR WIRE BRUSH OF A TYPE APPROVED BY THE ENGINEER.

**STANDARD DETAILS  
DRAWING NO. I-C**



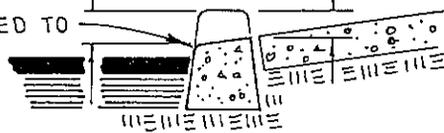
CITY OF REDMOND

APPROVED:

*M. Meyberg* DATE: 12/28/83

NOT TO SCALE

LIP FINISHED TO 1" RADIUS



PROPERTY LINE

6" TO TOP OF CURVE

20' MIN - VARIABLE MAX. COMMERCIAL

EXPANSION JOINT (TYP)

1/2" EXPANSION JOINT

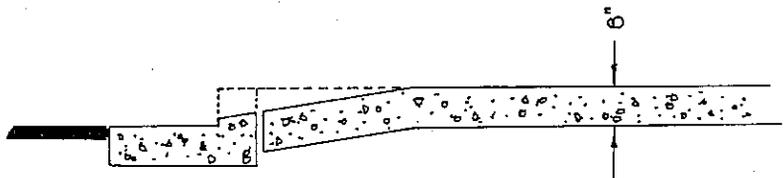
3/4"

19' MINIMUM  
29' MAXIMUM COMMERCIAL

REMOVE EXISTING CURB AND GUTTER

R=4'-6" MAXIMUM

SLOPE 1/4" TO 1'-0"



**SECTION A-A**

**CONSTRUCTION NOTES :**

**JOINTS** - A DUMMY JOINT SHALL BE PLACED LONGITUDINALLY ALONG E. CLEAN AND EDGE ALL JOINTS. TRANSVERSE DRIVEWAY JOINTS, AS SHOWN

**MATERIALS** - CONCRETE SHALL BE CLASS 5-3/4 1 1/4"

**INSTALLATION** - MAXIMUM DRIVEWAY GRADE IS 10.00%. MAXIMUM CREST OF ANY INTERSECTING DRIVEWAY GRADES SHALL NOT EXCEED 12" INCHES IN 18' FEET.

**BRUSH FINISH** - THE CONCRETE PAVEMENT SHALL BE BRUSHED TRANSVERSELY WITH A FIBER OR WIRE BRUSH OF A TYPE APPROVED BY THE ENGINEER.

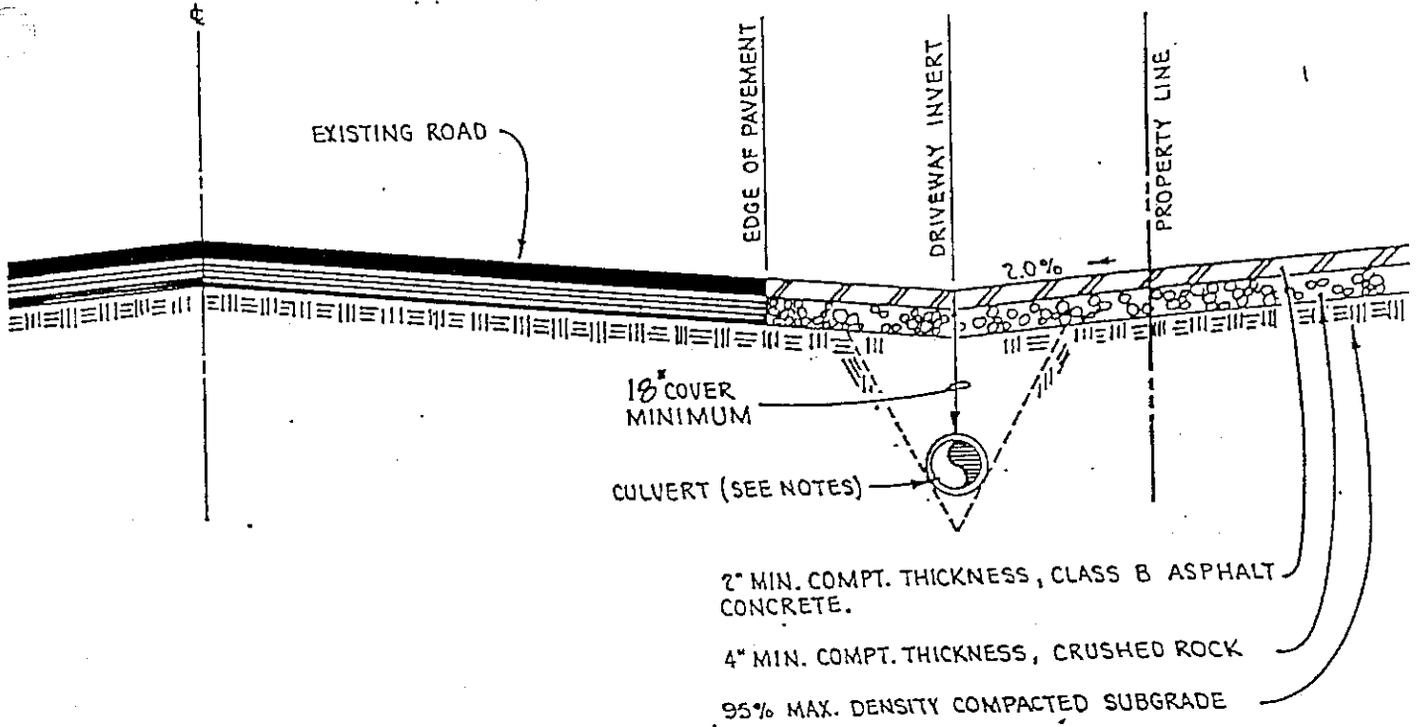
**STANDARD DETAILS  
DRAWING NO. I-D**



**CITY OF REDMOND**

APPROVED

DATE: 12-28-83



CONSTRUCTION NOTES:

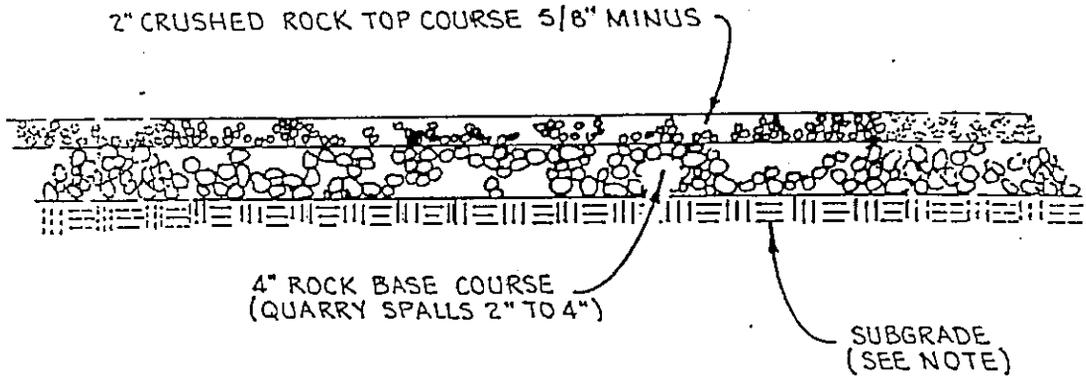
INSTALLATION - MINIMUM 21 LINEAR FEET OF 12" CONCRETE OR C.M.P. CULVERT PIPE. A LARGER DIAMETER PIPE MAY BE REQUIRED IF DRAINAGE WARRANTS. OTHER DOWNSTREAM DITCHING WORK MAY BE REQUIRED TO MAINTAIN POSITIVE FLOW.

FOR WORK TO BE DONE WITHIN CITY OF REDMOND RIGHT-OF-WAY A STREET USE PERMIT WILL NEED TO BE OBTAINED PRIOR TO CONSTRUCTION

STANDARD DETAILS DRAWING NO. I-E	
	
CITY OF REDMOND	
APPROVED: <i>Jerry J. Woods</i>	DATE: 4-4-91



# CRUSHED ROCK



CONSTRUCTION NOTES:

SUBGRADE: SUBGRADE SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY.

GENERAL NOTES:

"THIS DETAIL IS ACCEPTABLE ONLY FOR ACCESS TO:

- A) ONE DWELLING UNIT, SINGLE-FAMILY RESIDENTIAL, OR
- B) AS TEMPORARY ACCESS DURING CONSTRUCTION FOR RESIDENTIAL PROJECTS OF MORE THAN ONE DWELLING UNIT AND TEMPORARY ACCESS DURING CONSTRUCTION FOR COMMERCIAL PROJECTS."

STANDARD DETAILS  
DRAWING NO. II-A

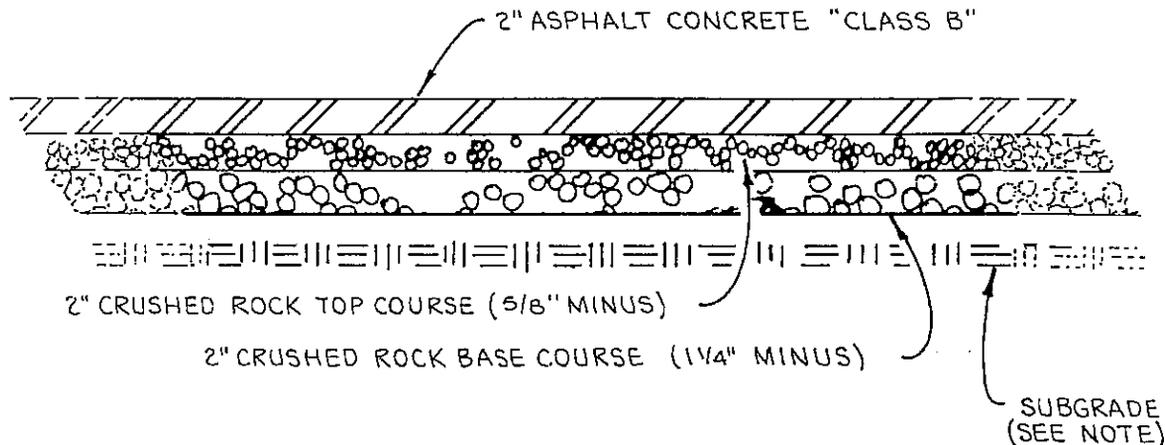


CITY OF REDMOND

APPROVED:

*Amy J. Woods* DATE: 4-4-91

# ASPHALT/CRUSHED ROCK



CONSTRUCTION NOTES:

SUBGRADE: SUBGRADE SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY.

SOILS: A SOILS REPORT PREPARED BY A REGISTERED SOILS ENGINEER SHALL CERTIFY THAT THE ABOVE SECTION IS ACCEPTABLE.

STANDARD DETAILS  
DRAWING NO. II-B



CITY OF REDMOND

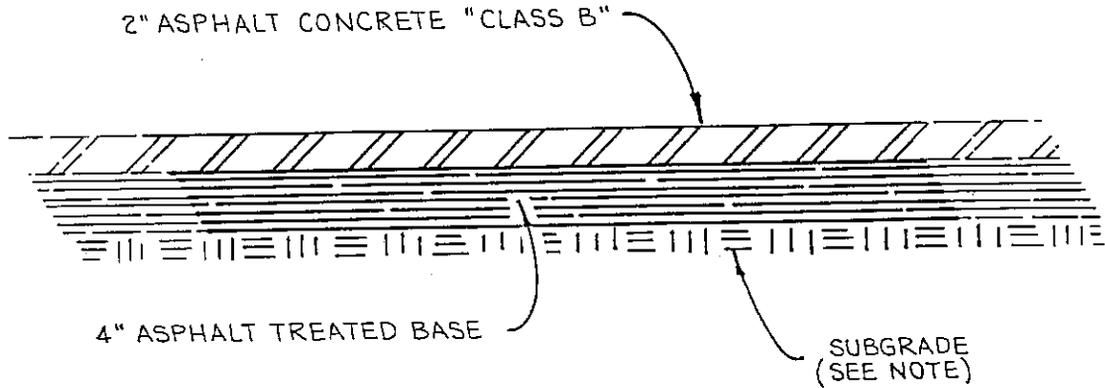
APPROVED:

*[Handwritten Signature]*

DATE:

4/9/84

# ASPHALT/ASPHALT TREATED BASE



CONSTRUCTION NOTES:

SUBGRADE: SUBGRADE SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY.

STANDARD DETAILS  
DRAWING NO. II-C

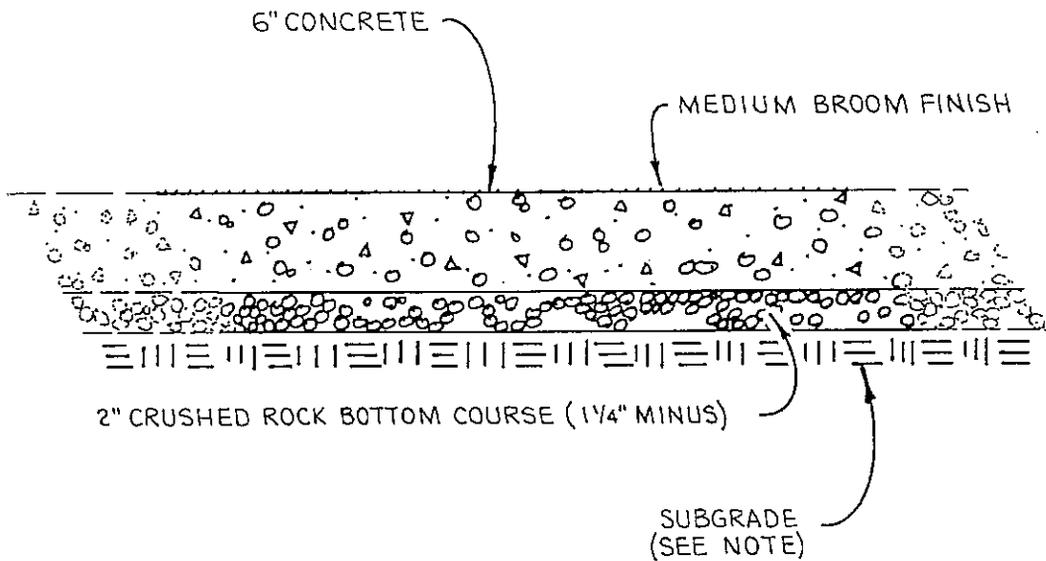


CITY OF REDMOND

APPROVED:

*M. K. Berg* DATE: 4/9/04

# CONCRETE



CONSTRUCTION NOTES:

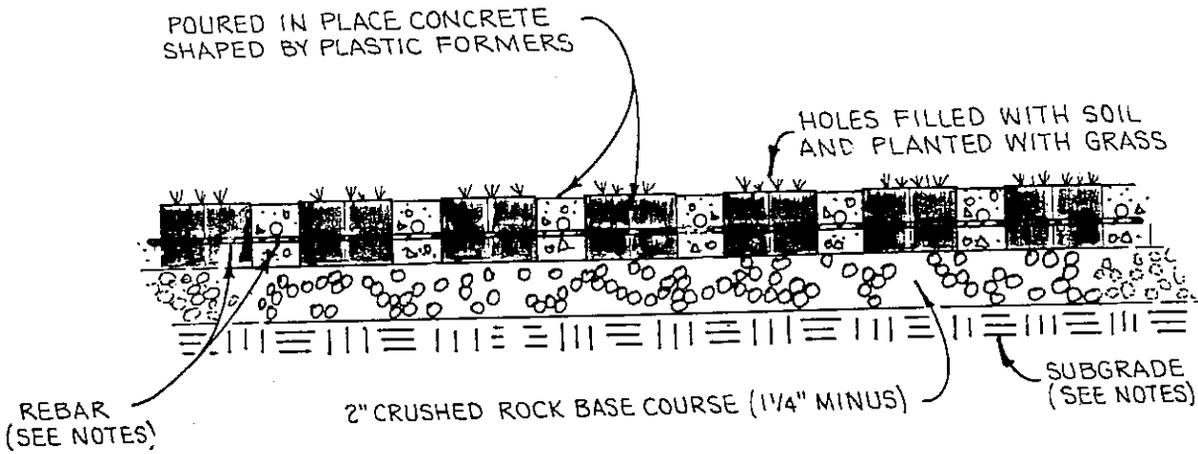
SUBGRADE - SUBGRADE SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY.

STANDARD DETAILS  
DRAWING NO. II-D

**R** CITY OF REDMOND

APPROVED: *M. Bergley* DATE: 4/9/84

# GRASSCRETE OR EQUAL



## CONSTRUCTION NOTES:

SUBGRADE - SUBGRADE SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY.

REBAR - REBAR #3 (3/8" DIAMETER) ON 8" CENTERS.

INSTALLATION - FURTHER DETAILS OF THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATION.

STANDARD DETAILS  
DRAWING NO. II-E

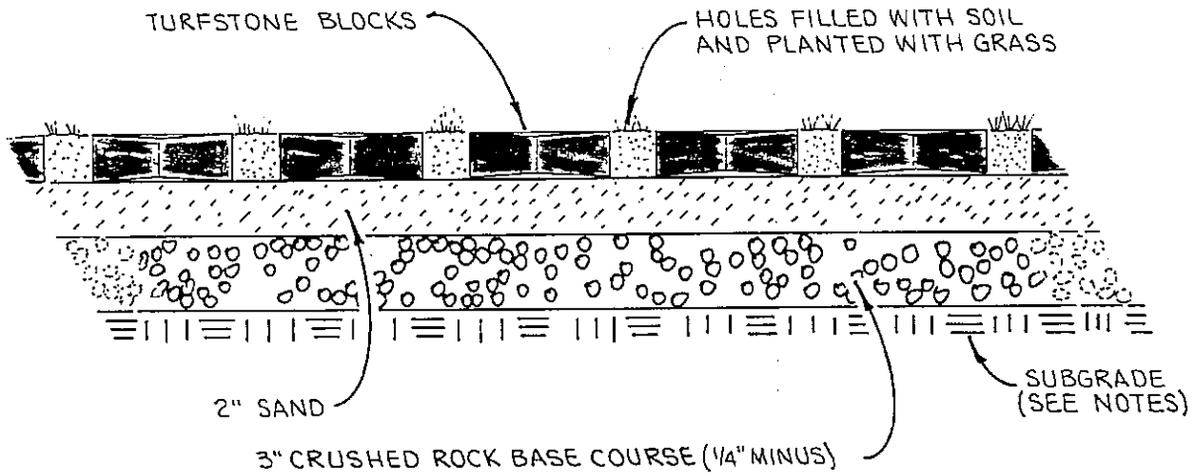


CITY OF REDMOND

APPROVED:

*Meyler* DATE: 4/9/84

# TURFSTONE OR EQUAL



**CONSTRUCTION NOTES:**

SUBGRADE - SUBGRADE SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY.

INSTALLATION - FURTHER DETAILS OF THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATION.

STANDARD DETAILS  
DRAWING NO. II-F

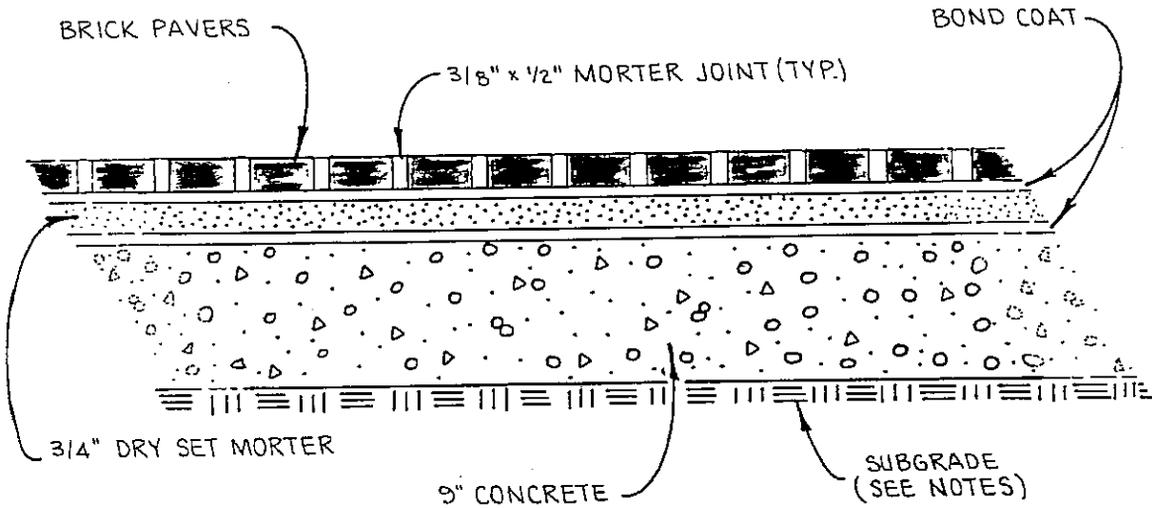


CITY OF REDMOND

APPROVED:

*[Signature]* DATE: 4/9/84

# BRICK



CONSTRUCTION NOTES:

SUBGRADE - SUBGRADE SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY.

INSTALLATION - FURTHER DETAILS OF THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE CITY OF REDMOND SPECIFICATIONS.

STANDARD DETAILS  
DRAWING NO. II-G



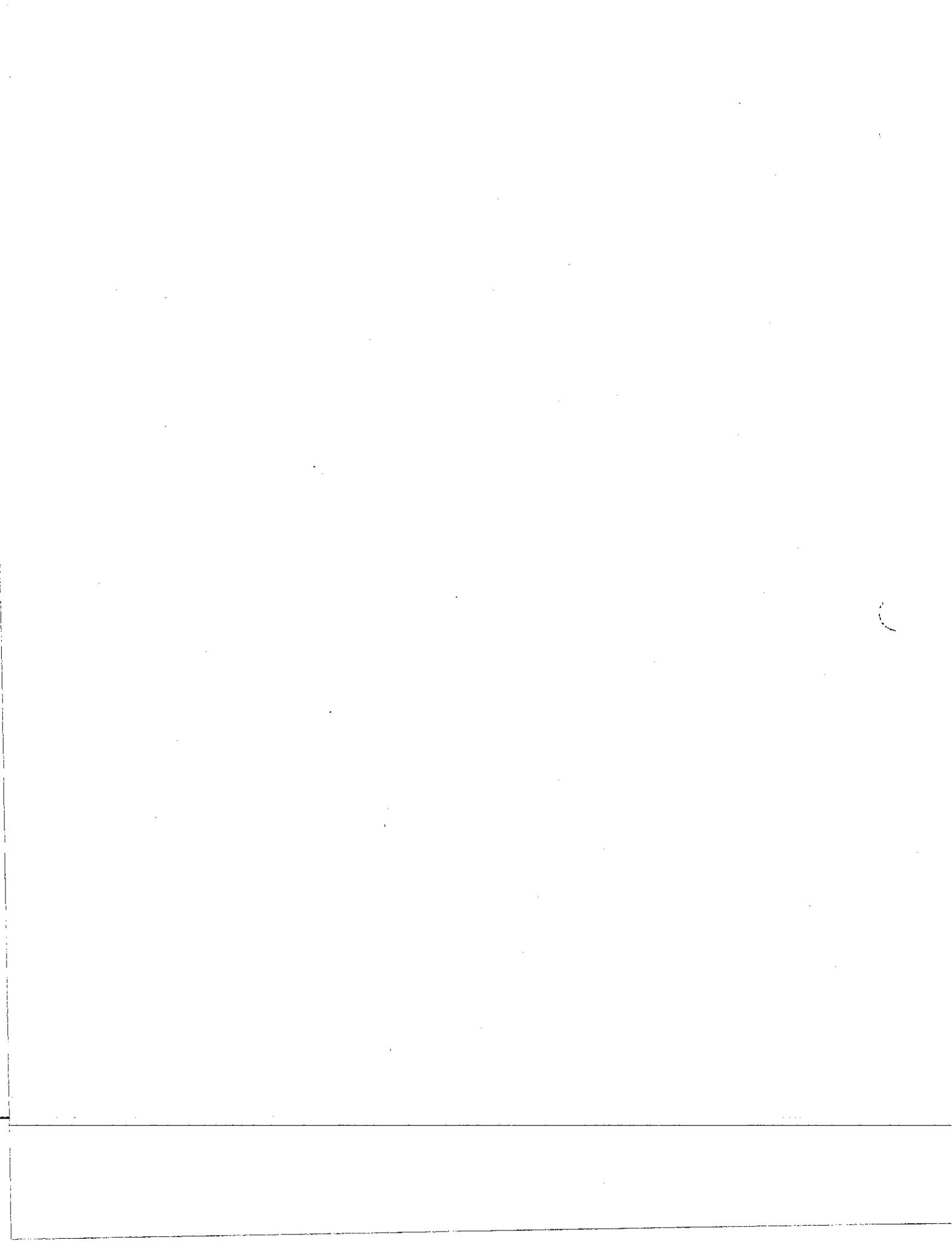
CITY OF REDMOND

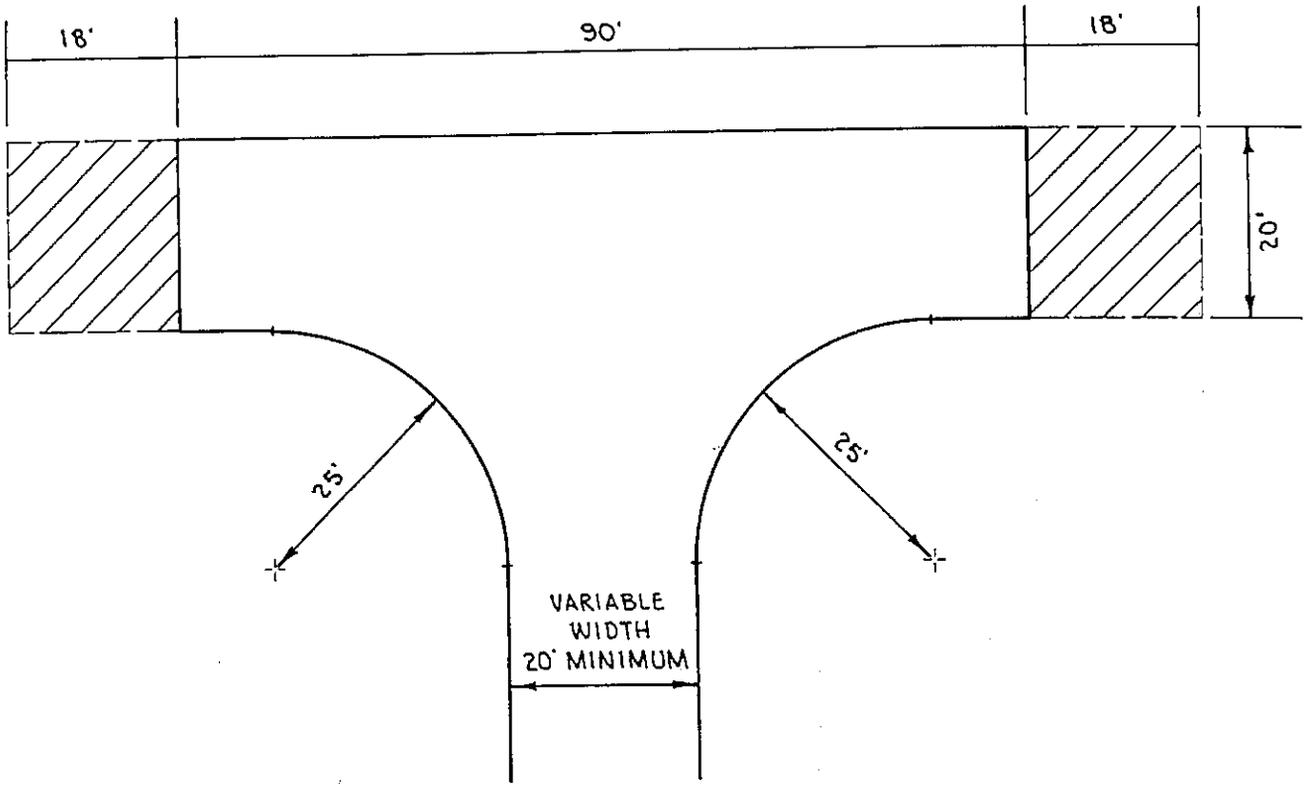
APPROVED:

*[Signature]*

DATE:

4/9/84





**NOTES:**

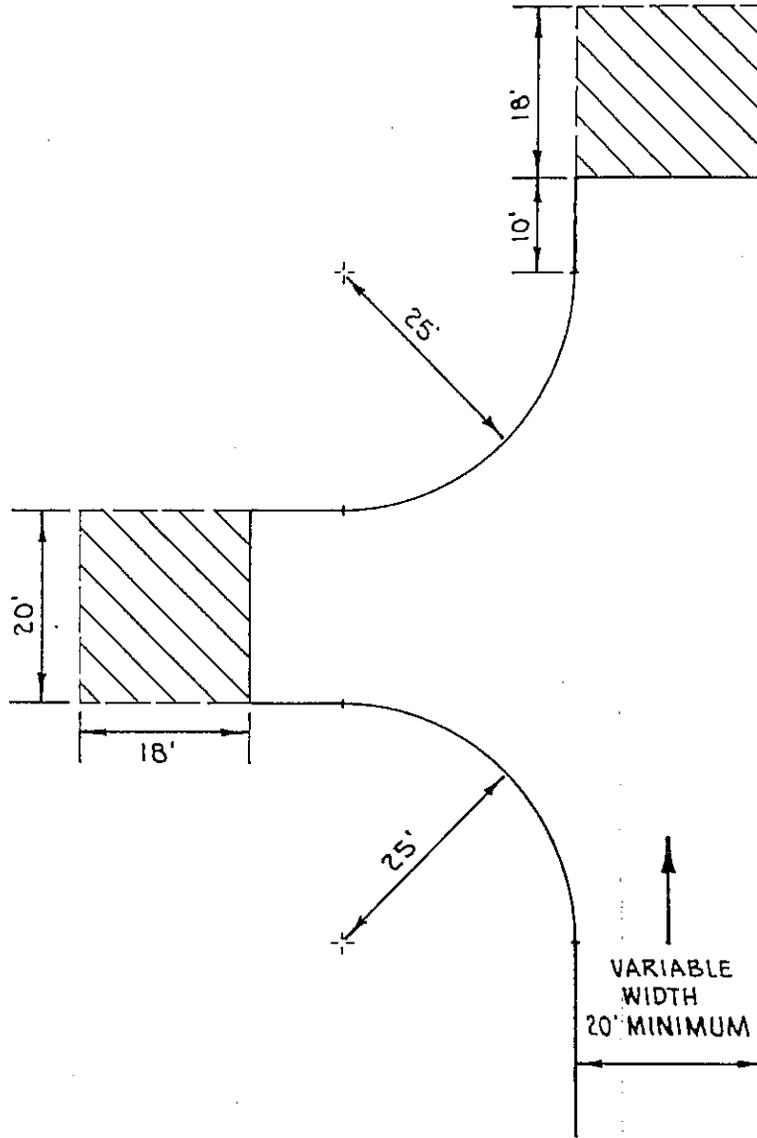


OVERHANG AREA - PAVING IN THIS AREA IS NOT REQUIRED. NO OBSTRUCTIONS GREATER THAN TWELVE (12) INCHES IN HEIGHT ARE ALLOWED.

STANDARD DETAILS  
DRAWING NO. III-A

**R** CITY OF REDMOND

APPROVED: *[Signature]* DATE: 5-15-84



**NOTES:**

DIRECTION - DESIGN MAY BE RIGHT OR LEFT DIRECTION. (LEFT DIRECTION IS SHOWN)



OVERHANG AREA - PAVING IN THIS AREA IS NOT REQUIRED. NO OBSTRUCTIONS GREATER THAN TWELVE (12) INCHES IN HEIGHT ARE ALLOWED.

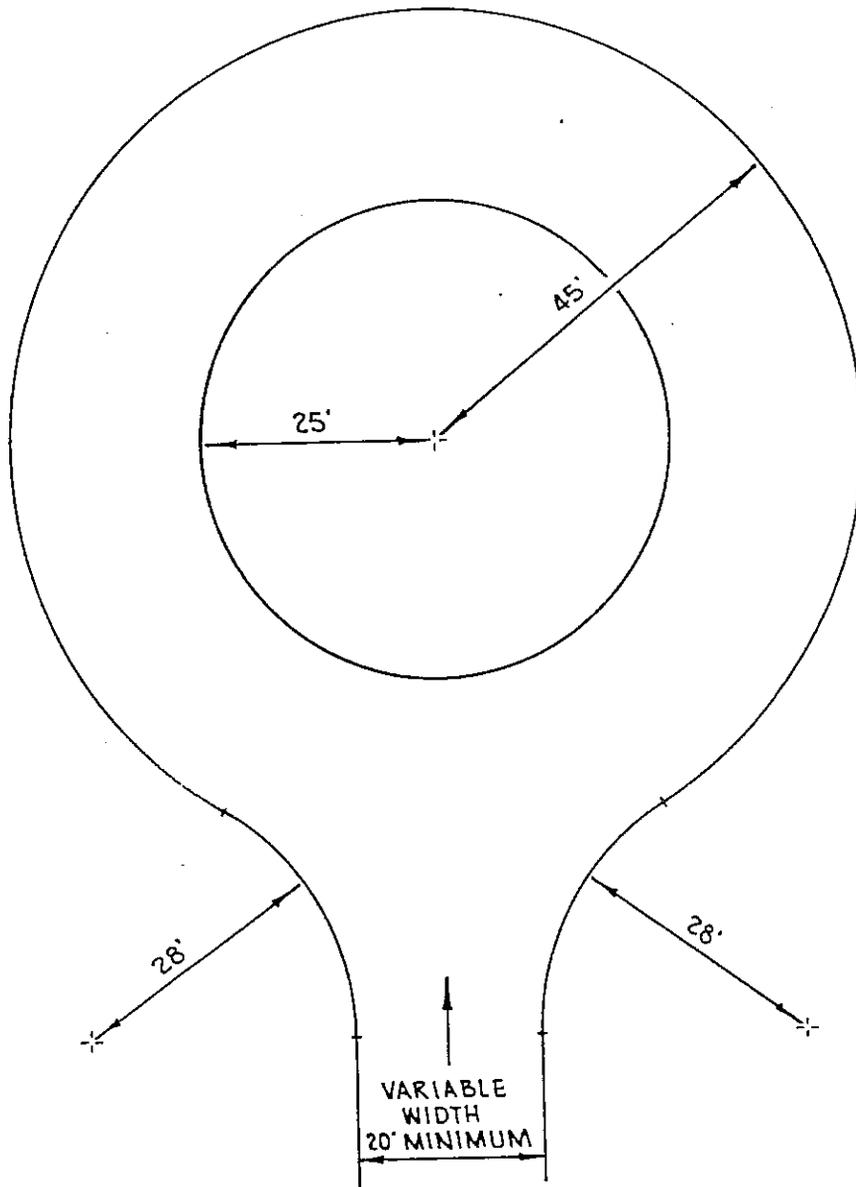
STANDARD DETAILS  
DRAWING NO. III-B



CITY OF REDMOND

APPROVED:

DATE: 5-15-84



STANDARD DETAILS  
DRAWING NO. III-C

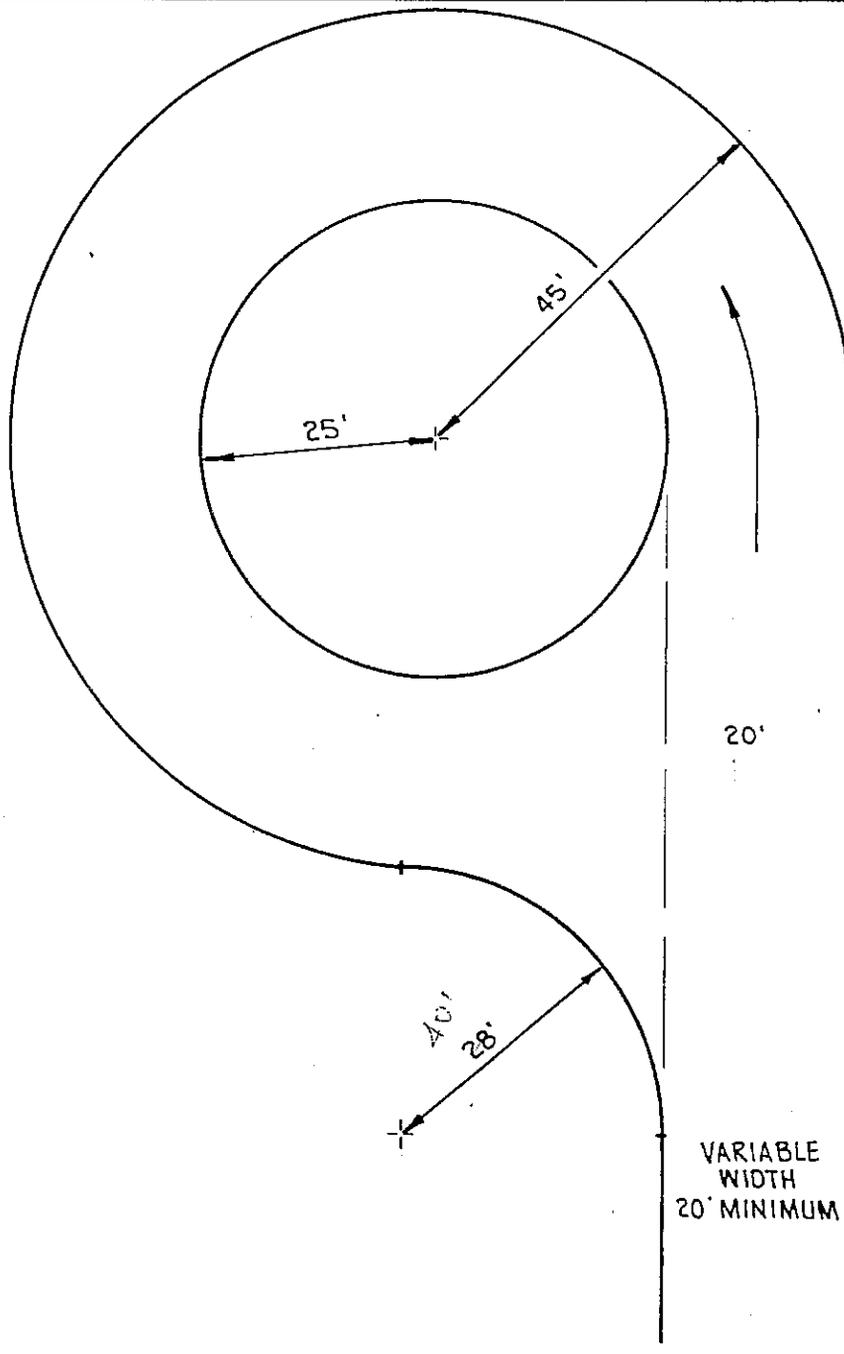


CITY OF BEDMOND

APPROVED:

*Weyberg*

DATE: 5-15-84



NOTES:

DIRECTION - DESIGN MAY BE RIGHT OR LEFT DIRECTION. (LEFT DIRECTION IS SHOWN)

STANDARD DETAILS  
DRAWING NO. III-D

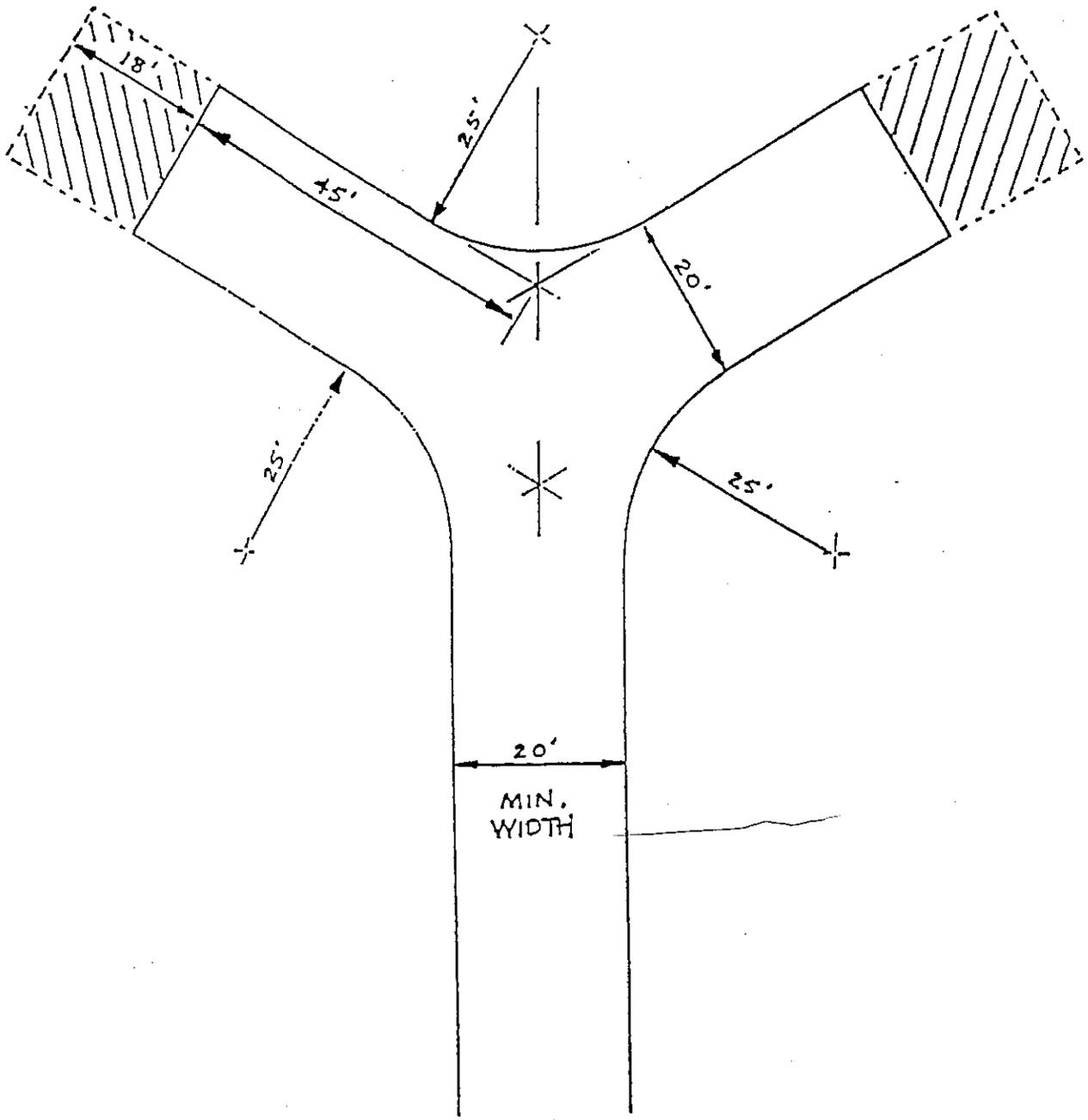


CITY OF REDMOND

APPROVED:

*M. Berg*

DATE: 5-15-84



NOTES:



OVERHANG AREA - PAVING IN THIS AREA IS NOT REQUIRED. NO OBSTRUCTIONS GREATER THAN TWELVE (12) INCHES IN HEIGHT ARE ALLOWED.

STANDARD DETAILS  
DRAWING NO. III-E



CITY OF REDMOND

APPROVED

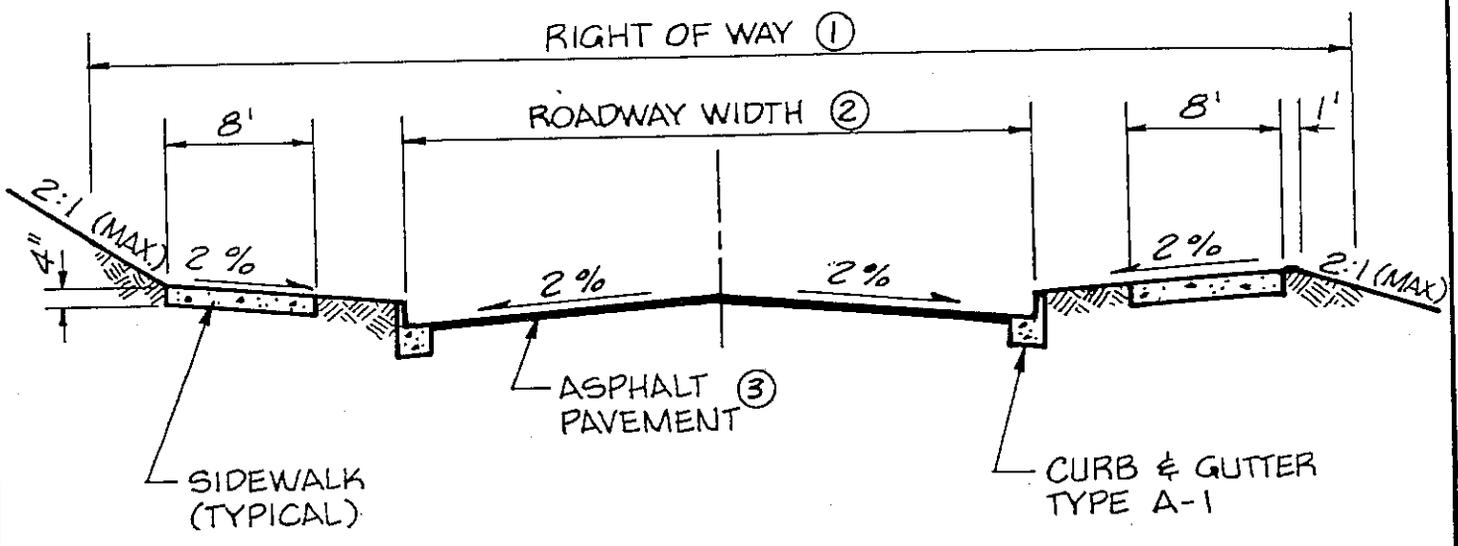
*[Signature]*

DATE: 8-16-88



# ARTERIAL STREET

NOT TO SCALE



## PRINCIPAL AND MINOR ARTERIALS

③ PAVEMENT CROSS-SECTION BASED ON SECTION IV-Q SURFACING REQUIREMENTS.

	①*	②
PRINCIPAL ARTERIAL	100'	48'-60'
MINOR ARTERIAL	84'	44'-56'

\* VARIATIONS MAYBE REQUIRED TO ACCOMMODATE UNUSUAL AND/OR TOPOGRAPHIC CONDITIONS.

DESIGNED BY \_\_\_\_\_

DATE \_\_\_\_\_



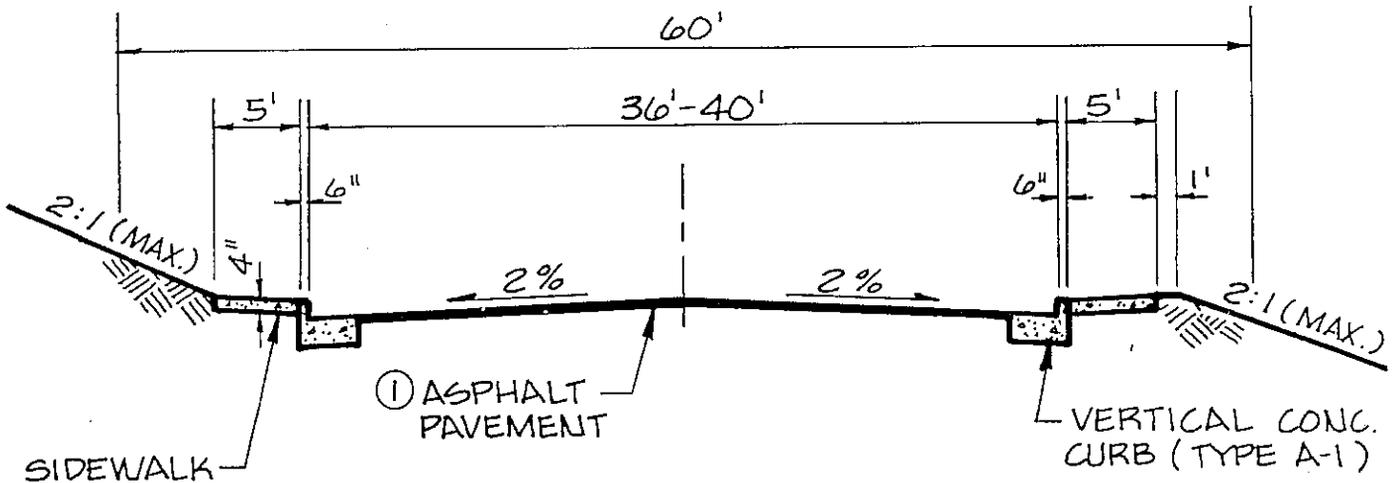
REV. 2

REV. 1

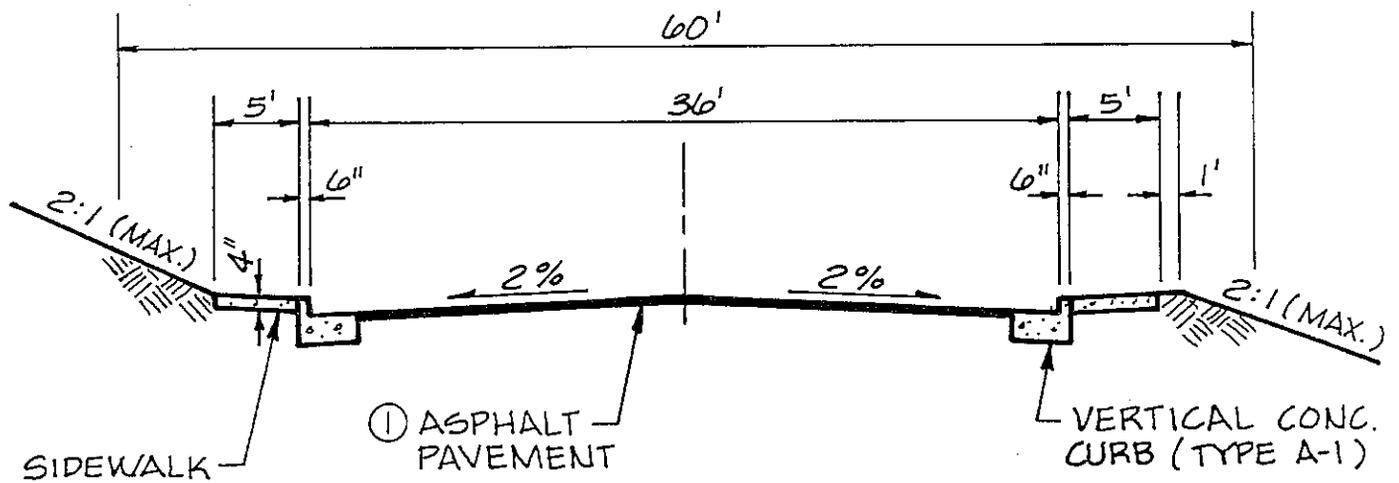
STANDARD DETAILS

DRAWING NO. IV-A

ARTERIAL STREET (COLLECTOR) NOT TO SCALE



ARTERIAL COLLECTOR



NEIGHBORHOOD COLLECTOR

① PAVEMENT CROSS-SECTION BASED ON SECTION IV-Q SURFACING REQUIREMENTS.

APPROVED

DATE

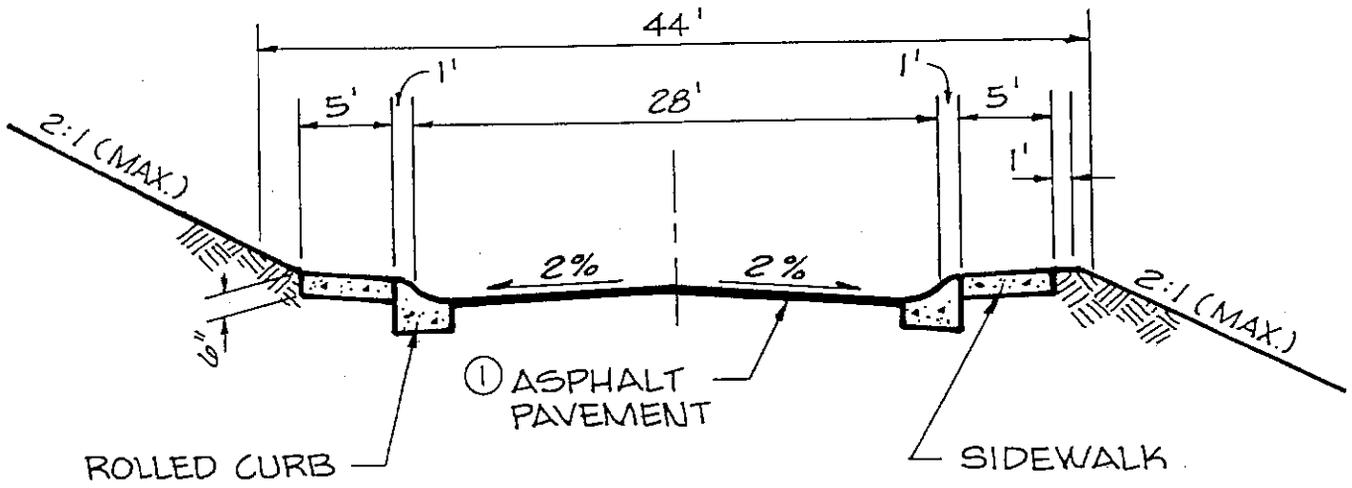


REV. 2  
REV. 1

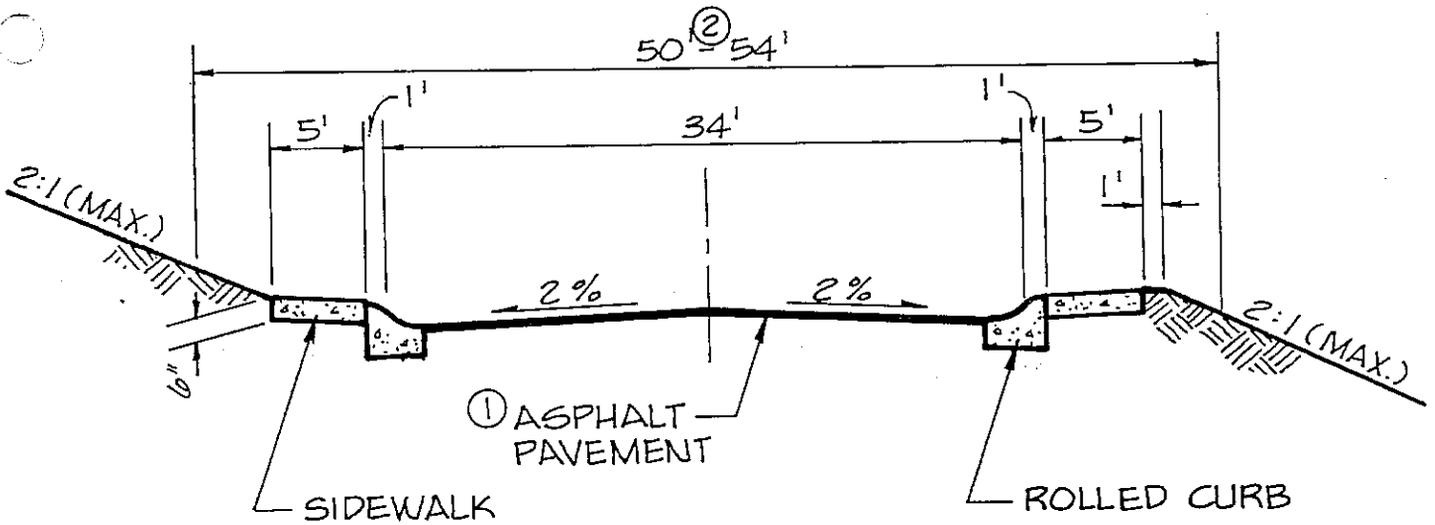
STANDARD DETAILS  
DRAWING NO. IV-B

# LOCAL ACCESS STREETS

NOT TO SCALE



PUBLIC (5-10 LOTS)  
PUBLIC (MULTI-FAMILY)



PUBLIC (GREATER THAN 10 LOTS)

- ① PAVEMENT DESIGN BASED ON SECTION IV R - SURFACING REQUIREMENTS.
- ② WIDTH OF RIGHT OF WAY LOCAL ACCESS STREET WITH CUL-DE-SAC

APPROVED \_\_\_\_\_

DATE \_\_\_\_\_

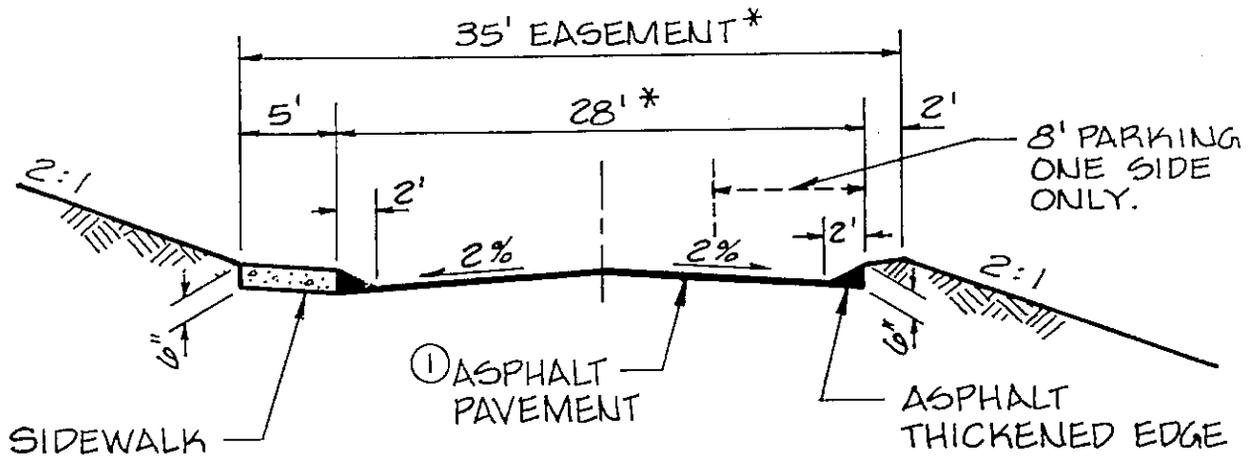


REV. 2  
REV. 1

STANDARD DETAILS  
DRAWING NO. IV-C

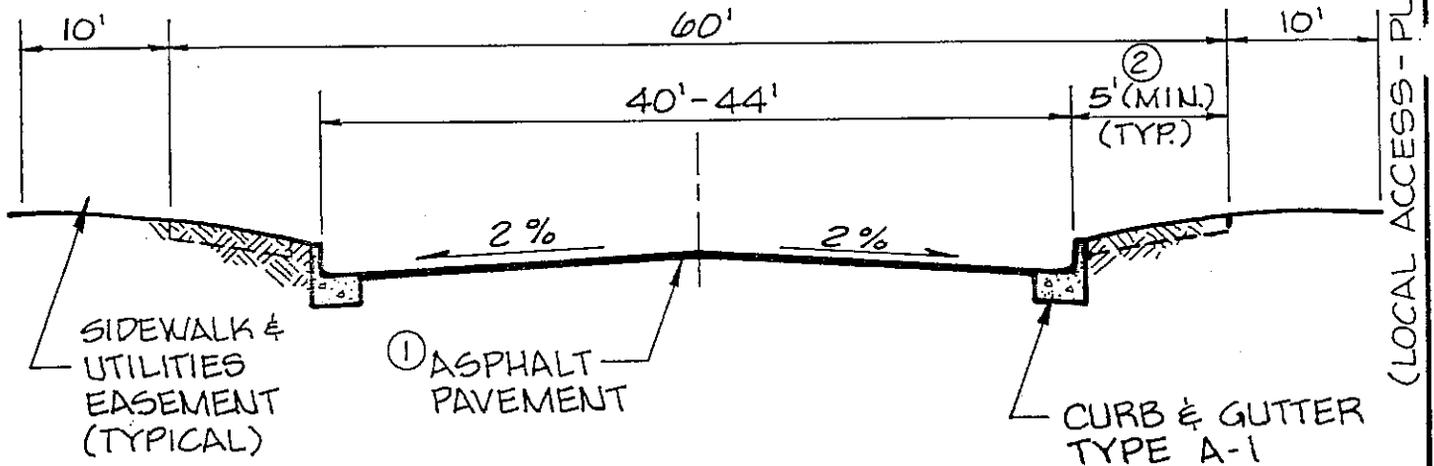
# LOCAL ACCESS STREETS

NOT TO SCALE



## PRIVATE (5-10 LOTS) PRIVATE (MULTI-FAMILY)

\* THE PAVEMENT WIDTH CAN BE REDUCED TO 20 FEET AND THE EASEMENT WIDTH REDUCED TO 30 FEET PROVIDED AN EQUAL AMOUNT OF ADDITIONAL PARKING CAN BE INSTALLED WITHIN THE SITE.



## COMMERCIAL / INDUSTRIAL

- ① PAVEMENT DESIGN BASED ON SECTION IV-Q - SURFACING REQUIREMENTS.
- ② COMMERCIAL STREETS WOULD REQUIRE SIDEWALKS TO A MINIMUM WIDTH OF 8 FEET AND MAY INCLUDE CITY CENTER LINKAGE SYSTEM IMPROVEMENTS (BRICK BANDING, TREE WELLS, ETC.) AS DETAILED IN APPENDIX H.

APPROVED \_\_\_\_\_

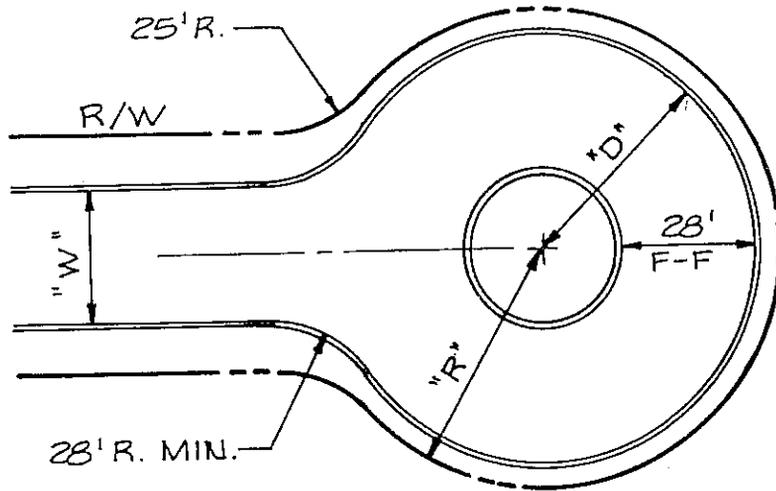
DATE \_\_\_\_\_



REV. 2  
REV. 1

STANDARD DETAILS

DRAWING NO. IV-D



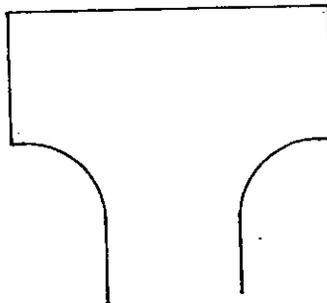
CUL-DE-SAC

ISLAND AT CENTER OF CUL-DE-SAC IS MANDATORY, SHALL HAVE VERTICAL (TYPE A-1) OR EXTRUDED CONCRETE CURB.

"R" = 50' MINIMUM RIGHT OF WAY RADIUS

"D" = 45' MINIMUM TO THE FACE OF CURB

"W" = 20' MINIMUM FOR SERVING 3 OR 4 LOTS.  
 = 28' MINIMUM FOR SERVING 5 TO 10 LOTS.  
 = 34' MINIMUM FOR SERVING GREATER THAN 10 LOTS.



HAMMER HEAD

\* FOR ADDITIONAL INFORMATION REGARDING EMERGENCY VEHICLE TURNAROUNDS SEE SECTION III OF APPENDIX G OF THE DEVELOPMENT GUIDE.

APPROVED \_\_\_\_\_

DATE \_\_\_\_\_



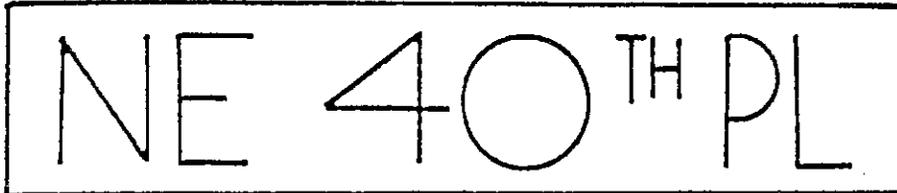
REV. 2  
REV. 1

STANDARD DETAILS  
DRAWING NO. IV-E

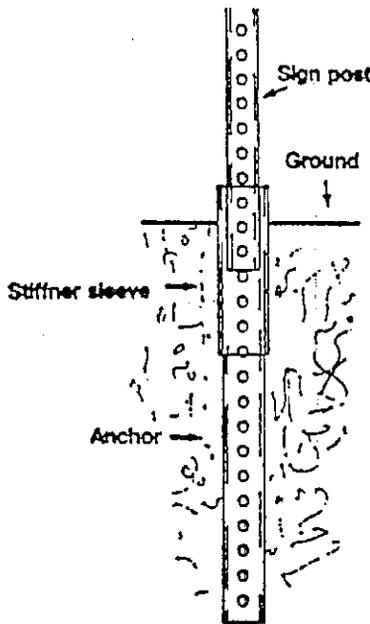
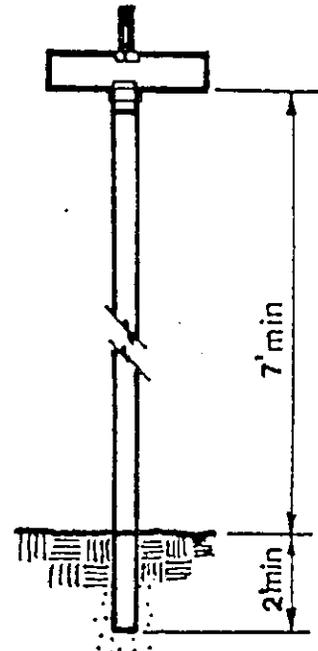
SIGN:  
 6"x 24", MINIMUM SIZE, 6"x 36" MAX.  
 SHEET ALUMINUM TREATED, .080 GAUGE.

BACKGROUND:  
 GREEN, REFLECTIVE 3M "SCOTCHLITE  
 SHEETING"

LETTERS:  
 4" UC D SERIES, EXCEPT SECONDARY  
 SUFFIX-2" UC C SERIES



TYPICAL INSTALLATION



BREAKAWAY POST  
 ANCHOR DETAIL

POST:  
 2"x 2" 12 GAUGE (105) STRIP STEEL  
 (STRUCTURAL QUALITY) ASTM. A570,  
 GRADE 33 WITH ANCHOR AND STIFFNER  
 SLEEVE. SEE DETAIL

COLOR:  
 PERMA - GREEN PER FEDERAL STD.  
 595-A COLOR NO. 14109  
 (DARK LIMIT V-)

APPROVED

DATE



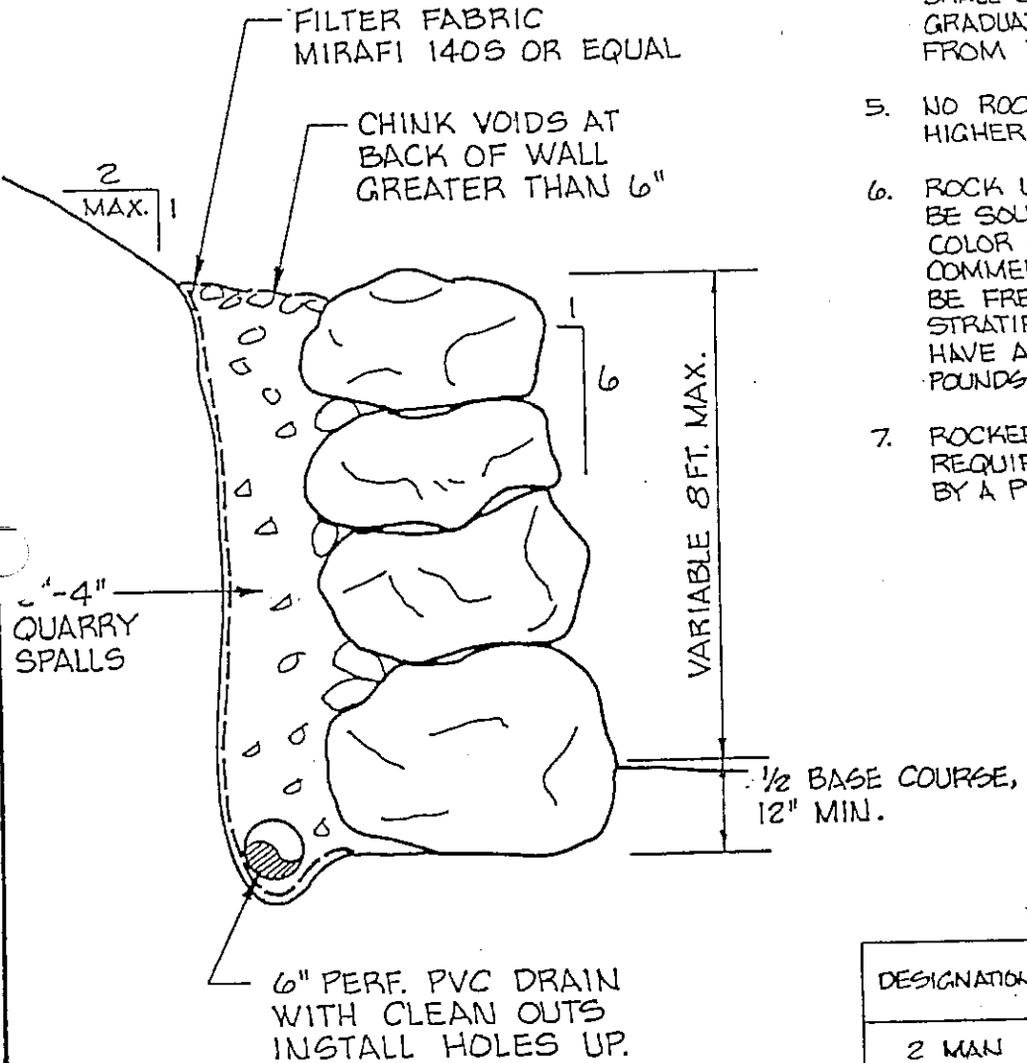
REV. 2  
 REV. 1

STANDARD DETAILS  
 DRAWING NO. IV-F

# ROCK WALL

## ROCK WALL NOTES :

1. LONG DIMENSIONS OF THE ROCKS SHALL EXTEND INTO EARTH TO PROVIDE MAXIMUM STABILITY.
2. ROCK SHALL BE PLACED SO AS TO LOCK INTO TWO ROCKS IN THE LOWER TIER.
3. ROCKERIES HIGHER THAN 5 FEET SHALL BE CONSTRUCTED OF ROCKS GRADUATED FROM 5 MAN TO 2 MAN FROM BOTTOM TO TOP.
4. ROCKERIES LOWER THAN 5 FEET SHALL BE CONSTRUCTED OF ROCKS GRADUATED FROM 3 MAN TO 2 MAN FROM BOTTOM TO TOP.
5. NO ROCKERY SHALL BE CONSTRUCTED HIGHER THAN 8 FT.
6. ROCK USED FOR ROCKERIES SHALL BE SOUND LEDGE ROCK OF A UNIFORM COLOR AND OBTAINED FROM A COMMERCIAL QUARRY. ROCK IS TO BE FREE FROM SEAMS OR LOOSE STRATIFICATION. THE ROCK SHALL HAVE A DENSITY OF AT LEAST 145 POUNDS PER CUBIC FOOT.
7. ROCKERIES OVER 8 FT. IN HEIGHT REQUIRE DESIGN AND CERTIFICATION BY A PROFESSIONAL ENGINEER.



### ROCK SIZES

DESIGNATION	WEIGHT		DIMENSION INCHES
	MIN.	MAX.	
2 MAN	300*	800*	13 - 18
3 MAN	800*	1500*	18 - 24
4 MAN	1500*	2100*	24 - 32
5 MAN	2100*	3000*	32 - 38

PROVED

DATE



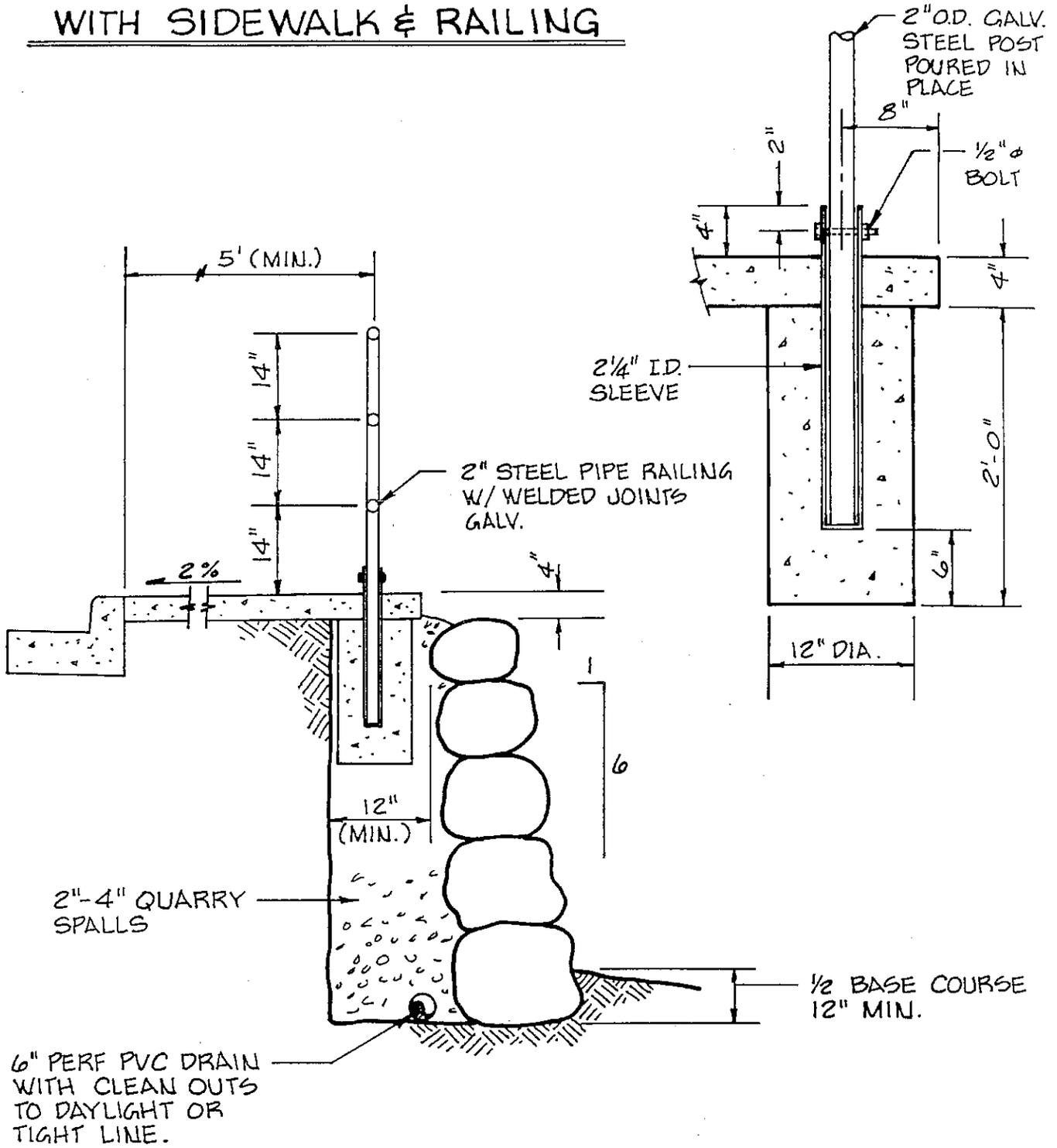
REV. 2

REV. 1

STANDARD DETAILS

DRAWING NO. IV-G

# ROCK WALL \* WITH SIDEWALK & RAILING



\* FOR FURTHER DETAIL REFER TO ROCK WALL DETAIL DRAWING NO. IV-G

APPROVED \_\_\_\_\_

DATE \_\_\_\_\_

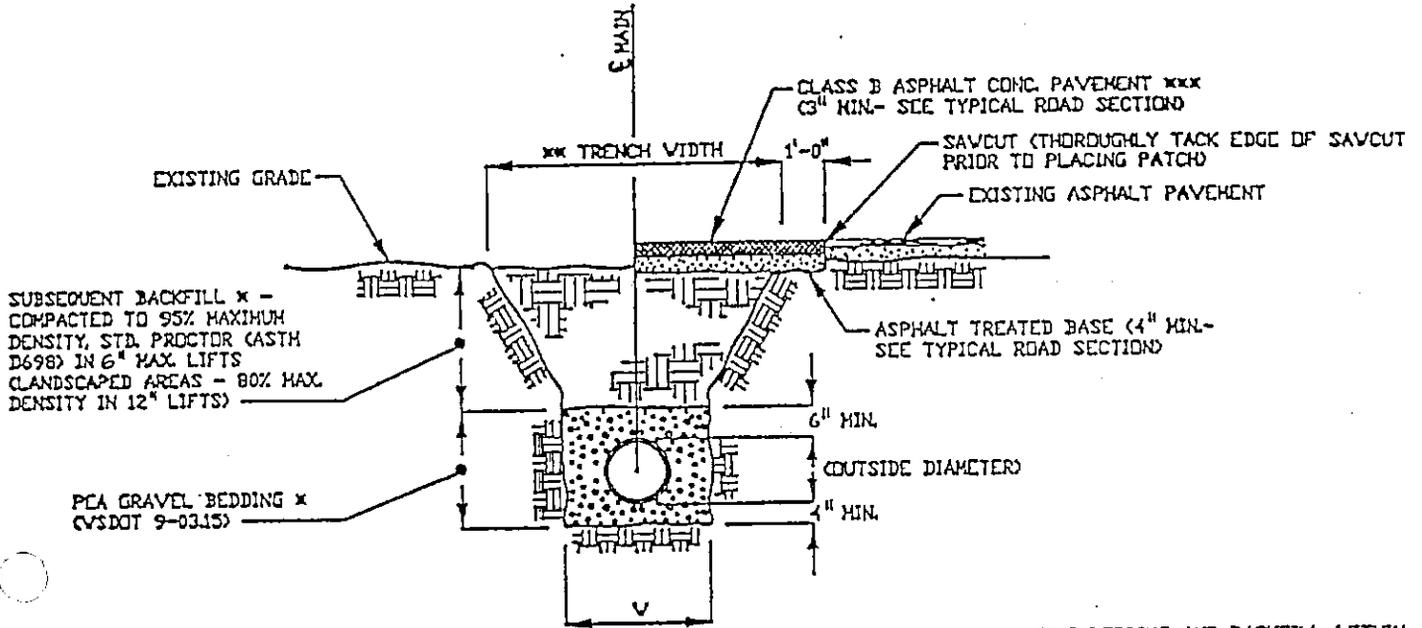


REV. 2  
REV. 1

STANDARD DETAILS  
DRAWING NO. IV-H

TYPICAL TRENCH  
W/O PATCH

TYPICAL TRENCH  
W/ PAVEMENT PATCH



V = 40 FOR 15 DIA. PIPE & SMALLER  
 V = 1-1/2 X PIPE DIA. + 18" FOR PIPE  
 LARGER THAN 15" DIA.

\* THE BEDDING AND BACKFILL WITHIN PAVED CITY STREETS AND UNDER CURB, GUTTER AND SIDEWALKS WILL CONSIST OF CONTROL DENSITY FILL (CDF). THE MIX DESIGN TO BE APPROVED BY THE CITY.

\*\* TRENCH WIDTH IN PAVED ROADWAYS ARE NOT TO EXCEED 6'-0". IF CONDITIONS REQUIRE A WIDER TRENCH, A SPECIAL DESIGN MUST BE SUBMITTED AND APPROVED BY CITY.

\*\*\* AN ASPHALT ROADWAY OVERLAY MAYBE REQUIRED AS DETERMINED BY THE PUBLIC WORKS DEPARTMENT.

TYPICAL TRENCH

NO SCALE

APPROVED *Public Works*  
 DATE September 25, 1991



REV. 2  
 REV. 1  
 STANDARD DETAILS  
 DRAWING NO. IV - I



ARTERIAL STREET

NEIGHBORHOOD COLLECTOR

COLLECTOR

MINOR

PRINCIPAL

CLASSIFICATION

Corridor Width (1) (Right-of-Way)	100'	84	60'	60'
Roadway Width (Curb to Curb)	48' 4 thru lanes with additional 12 ft. middle turn lane optional	44 4 thru lanes with additional 12 ft. middle middle turn lane optional	36' - 40' 2 thru lanes 3 thru lanes	36' 2 thru lanes
Maximum Grade (%) (2)	4	6	7	7
Rolling	6	7	10	10
Mountainous	8	9	12	12
Min. Radius (Ft.)	1145 715 410	955 560 410	715 410 275	715 410 275
Type of Curb (Concrete)	Vertical (Type A-1)	Vertical (Type A-1)	Vertical (Type A-1)	Vertical (Type A-1)
Sidewalk (Concrete)	8 ft. wide both sides	8 ft. wide both sides	5 ft. min. both sides	5 ft. min. both sides
Parking	Not Permitted	Not Permitted	None to both sides	None to both sides
Bicycle Lanes	(4)	(4)	(4)	(4)

(1) Variations may be required to accommodate unusual and/or topographic conditions

(2) Flat - Typical cross slopes from 0 - 8%  
Rolling - Typical cross slopes from 9 - 15%  
Mountainous - Typical cross slopes over 15%

(3) Max. grade may be exceeded for short distances provided no practical alternative exists and subject to approval by the City Engineer.

(4) If bike lanes are included on both sides of travel lanes, add 11 ft. to the asphalt pavement width. (The width of a bicycle lane in one direction lying adjacent to vertical curb is 5.5')

TABLE NO. IV-B

LOCAL ACCESS STREETS

Classification	Single Family Residential		Multi-Family Residential (1)		Commercial/Industrial Public
	Private	Public	Private	Public	
Dwelling Units	5-10	5-10	Greater than 10		
Corridor Width	35'	--	35'		10' - Adjacent to ROW 60'
Easement	--	44'	Varies-50'/cul-de-sac	44'	
Right of Way			54'/thru route		
Roadway Width	28'	28'	34'	28'	44' - thru route 36' - 40' - side streets
Max. Grade (%) (5)					
Flat (6)	8	8	8	8	8
Rolling	10	12(8)	10	12(8)	12(8)
Mountainous	10	15(3)(8)	10	15(3)(8)	15(3)(8)
Min. Radius Ft.					
Flat (6)	410(7)	410(7)	410(7)	410(7)	410(7)
Rolling	200	200	200	200	200
Mountainous	115	115	115	115	115
Type of Curb	Asphalt Thickened Edge	Concrete Rolled Curb	Asphalt Thickened Edge	Concrete Rolled Curb	Vertical (Type A-1)
Sidewalk (5') wide concrete)	One Side	Both Sides	Both Sides	Both Sides	Both Sides (4)
Parking	One Side	One Side	Both Sides	One Side Only (2)	None Permitted
Bicycle Lanes	None	None	None	None	None

(1) For Dwelling Units 5 to 10, follow the Single Family Residential guidelines

(2) Section 20C.20.150(15) Design requirements for parking would be used in conjunction with this guideline.

(3) Max. grade may be exceeded subject to approval by the City Engineer. Such approval shall be conditional upon the following:

(a) No practical alternative exists

(b) Any grade over 15% up to a maximum of 20% shall extend no further than 600 feet without being interrupted by an intersection or landing with a max. 8 ft. difference in elevation over a distance of 100 ft.

(4) Standards may be modified by the Technical Committee. Also, commercial streets would require sidewalks to a maximum width of 8 feet and may include City Center linkage system improvements (brick banding, tree wells, etc.) as detailed in Appendix H.

(5) On private streets the grade shall not exceed 10% unless authorized by the Redmond Fire Department.

(6) See Table IV-A for definition of terrain

(7) Use 100 feet on streets with permanent dead ends

(8) Where grade exceeds 10% on an emergency vehicle access road, mitigation may be required per Section 20E.80.060(20)