

**STANDARD
SPECIFICATIONS
AND
STANDARD
DETAILS**



Prepared by:
Inyo County Public Works Department
May 2020

FOREWORD

Unless otherwise noted herein, the Inyo County Standard Specifications shall be the most recent edition of Caltrans Standard Specifications (Caltrans Standard Specification) along with the most recent Caltrans' Revised Standard Specifications as updated by Caltrans.

When work in County right-of-way is prepared by other than County, or County is not the contracting agency, obtain Encroachment Permit for the work. For work performed under Encroachment Permit where County is not financially liable for any portion of work, Section 2, 3, 4 and 9 do not apply.

Obtain the latest Caltrans Standard Specifications and Revised Standard Specifications from:

<https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications>

For work contemplated beyond the provision of these County Standard Specification and Caltrans Standard Specifications, refer to the latest edition of the "Greenbook" Standard Specifications for Public Works Construction.

STANDARD SPECIFICATIONS

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1 GENERAL

Comply with Section 1 of the Caltrans Standard Specifications and Revised Standard Specifications, except:

Replace or Add to

1-1.07 DEFINITIONS:

contractor: Person or business or its legal representative entering into a Contract with the Department for performance of the work, or performing work under an Encroachment Permit.

County: The County of Inyo; or respective authorized representatives.

Department: Department of Transportation as defined in St & Hwy Code § 20 and authorized in St & Hwy Code § 90; Inyo County; or respective authorized representatives.

Director: Inyo County Director of Public Works

Engineer: Inyo County Director of Public Works or Road Commissioner acting directly or through properly authorized agents acting within the scope of their particular duties.

holiday: Holiday shown in the following table:

Holidays
Sunday
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Veterans
Thanksgiving Day
Day after Thanksgiving Day
Christmas Day

mobilization: Preparatory work that must be performed, including obtaining all PLACs, and/or costs incurred before starting work on the various items on the job site (Pub Cont Code § 10104).

permittee: The agency or individual securing an encroachment permit to do work on or improve a portion of County right-of-way.

PLAC: permit, license, agreement, certification, or any combination of these.

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2 BIDDING

This section shall not apply to Encroachment Permit work.

Comply with Section 2 of the Caltrans Standard Specifications and Revised Standard Specifications.

The Board of Supervisors reserves the right to waive technical errors and discrepancies if it determines it is in the public interest to do so.

If the project has additive bid items or additive groups, the lowest responsible bidder will be determined in accordance with Public Contract Code Division II, Part 3, Chapter 1, Section 20103.8, Subdivision (c) and as follows:

1. The project funding amount will be disclosed before the first bid is opened.
2. The lowest responsible bidder will be determined on the basis of the Total Base Bid plus Total Additive Items or Total Base Bid plus Total Additive Groups, if any.
3. In the event that all bids including Total Base Bid plus Total Additive Items or Total Base Bid plus Total Additive Groups exceeds the project funding amount, the lowest bid will be determined on the basis of the Total Base Bid plus those additive items or Total Base Bid plus those additive groups that, when taken in numerical order from the additive list, and added to the Total Base Bid are less than or equal to the funds available.

Replace

2-1.06B Supplemental Project Information

2-1.06B Supplemental Project Information

The Department makes supplemental information available as specified in the special provisions.

Replace

2-1.33A General

2-1.33A General

Complete forms in the *Bid* book. Submit the forms with your bid.

Failure to submit the forms and information as specified may result in a nonresponsive bid.

On the Subcontractor List you may either submit the percentage of each bid item subcontracted with your bid or fax the percentage to (760) 878-2001 or deliver to 168 N. Edwards Street, Independence, CA 93526, within 24 hours after bid opening.

Except for the percentage of each bid item subcontracted, do not fax submittals.

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**Replace
2-1.33B(2)(b)(ii) Non-Informal-Bid Contract**

2-1.33B(2)(b)(ii) Non-Informal-Bid Contract

For a non-informal-bid contract, submit the bid forms according to the schedule shown in the following table:

**Bid Form Submittal Schedule for a
Non-Informal Bid Federal-Aid Contract with a DBE Goal**

Form	Submittal deadline
Bid to the Department of Public Works	Time of bid except for the public works contractor registration number
Copy of the Bid to the Department of Public Works as submitted at the time of bid with the public works contractor registration number	10 days after bid opening
Subcontractor List	Time of bid except for the public works contractor registration number
Copy of the Subcontractor List as submitted at the time of bid with the public works contractor registration number	10 days after bid opening
Small Business Status	Time of bid
Opt Out of Payment Adjustments for Price Index Fluctuations ^a	Time of bid
DBE Commitment	No later than 4 p.m. on the 5th day after bid opening ^b
DBE Confirmation	No later than 4 p.m. on the 5th day after bid opening ^b
DBE Good Faith Efforts Documentation	No later than 4 p.m. on the 5th day after bid opening ^b

^aSubmit only if you choose the option.

^bIf the last day for submitting the bid form falls on a Saturday or holiday, it may be submitted on the next business day with the same effect as if it had been submitted on the day specified.

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**Replace
2-1.33B(2)(b)(iii) Non-Informal-Bid Contract**

2-1.33B(2)(b)(iii) Informal-Bid Contract

For an informal-bid contract, submit the bid forms according to the schedule shown in the following table:

**Bid Form Submittal Schedule for an
Informal-Bid Federal-Aid Contract with a DBE Goal**

Form	Submittal deadline
Bid to the Department of Public Works	Time of bid
Subcontractor List	Time of bid
Small Business Status	Time of bid
Opt Out of Payment Adjustments for Price Index Fluctuations ^a	Time of bid
DBE Commitment	No later than 4 p.m. on the 5th day after bid opening ^b
DBE Confirmation	No later than 4 p.m. on the 5th day after bid opening ^b
DBE Good Faith Efforts Documentation	No later than 4 p.m. on the 5th day after bid opening ^b

^aSubmit only if you choose the option.

^bIf the last day for submitting the bid form falls on a Saturday or holiday, it may be submitted on the next business day with the same effect as if it had been submitted on the day specified.

**Replace
2-1.33B(2)(c)(ii) Non-Informal-Bid Contract**

2-1.33B(2)(c)(ii) Non-Informal-Bid Contract

For a non-informal-bid contract, submit the bid forms according to the schedule shown in the following table:

**Bid Form Submittal Schedule for a
Non-Informal-Bid Federal-Aid Contract without a DBE
Goal**

Form	Submittal deadline
Bid to the Department of Public Works	Time of bid except for the public works contractor registration number
Copy of the Bid to the Department of Public Works as submitted at the time of bid with the public works contractor registration number	10 days after bid opening
Subcontractor List	Time of bid except for the public works contractor registration number
Copy of the Subcontractor List as submitted at the time of bid with the public works contractor registration numbers	10 days after bid opening
Small Business Status	Time of bid
Opt Out of Payment Adjustments for Price Index Fluctuations ^a	Time of bid

^aSubmit only if you choose the option.

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**Replace
2-1.33B(2)(c)(iii) Non-Informal-Bid Contract**

2-1.33B(2)(c)(iii) Non-Informal-Bid Contract

For an informal-bid contract, submit the bid forms according to the schedule shown in the following table:

**Bid Form Submittal Schedule for an
Informal-Bid Federal-Aid Contract without a DBE Goal**

Form	Submittal deadline
Bid to the Department of Public Works	Time of bid
Subcontractor List	Time of bid
Small Business Status	Time of bid
Opt Out of Payment Adjustments for Price Index Fluctuations ^a	Time of bid

^aSubmit only if you choose the option.

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**Replace
2-1.33B(3)(b)(ii) Non-Informal-Bid Contract**

2-1.33B(3)(b)(ii) Non-Informal-Bid Contract

For a non-informal-bid contract, submit the bid forms according to the schedule shown in the following table:

**Bid Form Submittal Schedule for a
Non-Informal-Bid Non-Federal-Aid Contract with a DVBE Goal**

Form	Submittal deadline
Bid to the Department of Public Works	Time of bid except for the public works contractor registration number for a joint-venture contract
For a joint-venture contract, copy of the Bid to the Department of Public Works as submitted at the time of bid with the public works contractor registration number	10 days after bid opening
Subcontractor List	Time of bid
Opt Out of Payment Adjustments for Price Index Fluctuations ^a	Time of bid
Certified DVBE Summary	No later than 4 p.m. on the 4th business day after bid opening
California Company Preference	Time of bid
Request for Small Business Preference or Non-Small Business Preference ^a	Time of bid
Certified Small Business Listing for the Non-Small Business Preference ^a	No later than 4 p.m. on the 2nd business day after bid opening

^aSubmit only if you choose the option or preference.

**Replace
2-1.33B(3)(b)(iii) Informal-Bid Contract**

2-1.33B(3)(b)(iii) Informal-Bid Contract

For an informal-bid contract, submit the bid forms according to the schedule shown in the following table:

**Bid Form Submittal Schedule for an
Informal-Bid Non-Federal-Aid Contract with a DVBE Goal**

Form	Submittal deadline
Bid to the Department of Public Works	Time of bid
Subcontractor List	Time of bid
Opt Out of Payment Adjustments for Price Index Fluctuations ^a	Time of bid
Certified DVBE Summary	Time of bid
California Company Preference	Time of bid
Request for Small Business Preference or Non-Small Business Preference ^a	Time of bid
Certified Small Business Listing for the Non-Small Business Preference ^a	Time of bid

^aSubmit only if you choose the option or preference.

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**Replace
2-1.33B(3)(c)(ii) Informal-Bid Contract**

2-1.33B(3)(c)(ii) Informal-Bid Contract

For a non-informal-bid contract, submit the bid forms according to the schedule shown in the following table:

**Bid Form Submittal Schedule for a
Non-Informal-Bid Non-Federal-Aid Contract without a DVBE Goal**

Form	Submittal deadline
Bid to the Department of Public Works	Time of bid except for the public works contractor registration number for a joint-venture contract
For a joint-venture contract, copy of the Bid to the Department of Public Works as submitted at the time of bid with the public works contractor registration number	10 days after bid opening
Subcontractor List	Time of bid
Opt Out of Payment Adjustments for Price Index Fluctuations ^a	Time of bid
California Company Preference	Time of bid
Certified DVBE Summary ^b	No later than 4 p.m. on the 4th business day after bid opening
Request for Small Business Preference or Non-Small Business Preference ^a	Time of bid
Certified Small Business Listing for the Non-Small Business Preference ^a	No later than 4 p.m. on the 2nd business day after bid opening

^aSubmit only if you choose the option or preference.

^bSubmit only if you obtain DVBE participation or you are the apparent low bidder, 2nd low bidder, or 3rd low bidder and you choose to receive the specified incentive.

**Replace
2-1.33B(3)(c)(iii) Informal-Bid Contract**

2-1.33B(3)(c)(iii) Informal-Bid Contract

For an informal-bid contract, submit the bid forms according to the schedule shown in the following table:

**Bid Form Submittal Schedule for an
Informal-Bid Non-Federal-Aid Contract without a DVBE Goal**

Form	Submittal deadline
Bid to the Department of Public Works	Time of bid
Subcontractor List	Time of bid
Opt Out of Payment Adjustments for Price Index Fluctuations ^a	Time of bid
Certified DVBE Summary ^b	Time of bid
Request for Small Business Preference or Non-Small Business Preference ^a	Time of bid
Certified Small Business Listing for the Non-Small Business Preference ^a	Time of bid

^aSubmit only if you choose the option or preference.

^bSubmit only if you obtain DVBE participation or you are the apparent low bidder, 2nd low bidder, or 3rd low bidder and you choose to receive the specified incentive.

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3 CONTRACT AWARD AND EXECUTION

This section shall not apply to Encroachment Permit work.

Comply with Section 3 of the Caltrans Standard Specifications and Revised Standard Specifications, except:

Replace
3-1.05 CONTRACT BONDS

3-1.05 CONTRACT BONDS (PUB CONT CODE §§ 10221 AND 10222)

The successful bidder must furnish 2 bonds:

1. Payment bond to secure the claim payments of laborers, workers, mechanics, or materialmen providing goods, labor, or services under the Contract. This bond must be equal to at least 100 percent of the Contract amount.
2. Performance bond to guarantee the faithful performance of the Contract. This bond must be equal to at least 100 percent of the Contract amount.

The Department furnishes the successful bidder with bond forms.

Delete
3-1.08 SMALL BUSINESS PARTICIPATION REPORT

Delete
3-1.11 PAYEE DATA RECORD

Replace
3-1.18 CONTRACT EXECUTION

3-1.18 CONTRACT EXECUTION

The successful bidder must sign the Contract form.

Deliver two (2) fully executed (except for the County's signature) to the Office Engineer:

1. Signed Contract form
2. Contract bonds
3. Documents identified in section 3-1.07
4. Payee Data Record
5. Inyo County Small Business (SB) Participation Report form (when called for in special provisions)
6. For a federal-aid contract, Caltrans Bidder - DBE Information form

For an informal-bid contract, the Office Engineer must receive these documents before the 5th business day after the bidder receives the contract.

For all other contracts, the Office Engineer must receive these documents before the 10th business day after the bidder receives the contract.

The bidder's security may be forfeited for failure to execute the contract within the time specified (Pub Cont Code §§ 10181, 10182, and 10183).

A copy of the Contract form is included in your bid book.

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5 CONTROL OF WORK

Comply with Section 5 of the Caltrans Standard Specifications and Revised Standard Specifications, except:

Replace 5-1.01 GENERAL

5-1.01 GENERAL

Section 5 includes specifications regarding the Contract parties' relations and Contract acceptance.

Furnish the resources except Department-furnished materials required to complete the work as described in the Contract.

Provide Quality Control (QC).

Work is subject to the Department's inspection, sampling, and testing. The Department's inspection, sampling, and testing do not relieve you of your responsibility to provide QC.

Ensure the Department's safe and unrestricted access to the work. Furnish facilities necessary for the Department's inspection.

Where the means and methods to complete the work are not described in the Contract, choose the means and methods to complete the work.

Where the Contract describes more than 1 construction method or more than 1 type of material or equipment, the Department does not assure that each construction method or type of material or equipment can be used successfully throughout all or any part of the project. You are responsible to use the alternative or alternatives that will accomplish the work under the conditions encountered.

Failure to comply with any Contract part is a waiver of your right to an adjustment of time and payment related to that part.

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Add to
5-1.46 FINAL INSPECTION AND CONTRACT ACCEPTANCE

When you request final inspection, submit:

1. Record Drawings
2. Equipment test records
3. All required Certificates of Compliance as applicable including:
 - a. Permit, license, agreement, certification (PLAC) requirements
 - b. Contractor-owner agreement
4. All Certifications of Inspection as applicable including:
 - a. Building inspection
 - b. Fire Marshall inspection
 - c. Health department inspection
 - d. Certificate of Occupancy
5. All ownership documents as applicable including:
 - a. Warranty
 - b. User manuals
 - c. Maintenance and operation manual
 - d. Computer software license, user guide, etc.

During final inspection, you must demonstrate all equipment and systems are operational as specified.

If the Engineer determines that all work is complete and no corrections are needed for incomplete or deficient work, the engineer will issue a written notice of inspection.

If the Engineer causes re-inspection to be made to remedy defective work, the cost for all re-inspections will be deducted from Final Payment.

Written notice of inspection shall not be deemed as Contract Acceptance.

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7 LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

Comply with Section 7 of the Caltrans Standard Specifications and Revised Standard Specifications, except:

Add to:

7-1.01 GENERAL

Coordinate with other entities under Section 5-1.20. Obtain Encroachment Permit from the County and/or any other Public Agency affected by your work within public rights-of-way.

Add to:

7-1.02K Labor Code

Except where allowed under Public Contract Code Section 20103.5, or Business and Professions Code Section 7029.1, before submitting your bid, you and your subcontractors must be currently registered and qualified to perform public work pursuant to Section 1725.5 of the Labor Code.

Replace

7-1.02K(5) Working Hours

7-1.02K(5) Working Hours

Eight hours is a legal day's work (Labor Code § 1810).

Obtain written approval from the Engineer to perform work between the hours of 9:00 P.M. and 6:00 A.M.

If work is to be performed on Saturday, Sunday, Holiday or on overtime, notify the Engineer at least 48 hours in advance.

The time of service of any worker employed on public work is limited and restricted to 8 hours in 1 day and 40 hours in 1 calendar week, except as provided by Labor Code § 1815 (Labor Code § 1811).

A Contractor's employee may work more than 8 hours per day and 40 hours per week if the Contractor pays the employee 1-1/2 times the basic pay rate for the hours worked in excess of 8 hours per day and 40 hours per week (Labor Code § 1815).

For each worker employed in the work for each day the worker works more than 8 hours in 1 day and 40 hours in 1 calendar week without overtime pay, the Department deducts \$25 as a penalty for violating Labor Code § 1815 (Labor Code § 1813).

Add to

7-1.03 PUBLIC CONVENIENCE

Upon written notification to you, the Engineer may order completed portions of Work to be placed in service. If portions of Work is placed in service, you are relieved of maintenance responsibilities of the portion so placed into service. This does not relieve you from any other contractual responsibility. You will not be compensated for any delay to your construction activity caused by use and operation of completed portions.

The Engineer may order or consent to your request to open a completed section of project for public use. You will not be compensated for any delay to your construction activities caused by the public. This does not relieve you from any other contractual responsibility.

STANDARD DETAILS

STANDARD DETAILS

TABLE OF CONTENTS

**DRAWING
NUMBER**

DESCRIPTION

**STREETS, ROADS, INTERSECTION, TRANSITIONS,
IMPROVEMENTS, & WORK WITHIN RIGHT OF WAY**

A-100..... TYPICAL STREET CROSS SECTION

A-101..... GRADED ROAD

A-102.....PAVED ROAD (RURAL AREAS)

A-103.....CUL-DE-SAC

A-104..... ALLEY

A-105.....INTERSECTION DESIGN – SIDEWALK ABUTTING CURB

A-106..... 6” CURB & GUTTER

A-107..... 8” CURB & GUTTER

A-108..... ASPHALT CONCRETE DIKE (6”)

A-109..... ASPHALT CONCRETE DIKE (8”)

A-110..... CURB & GUTTER TRANSITION DETAIL

A-111..... SIDEWALK SEPARATED FROM CURB

A-112..... SIDEWALK ABUTTING CURB

A-113..... RESIDENTIAL DRIVEWAY WITH CURB

A-114..... RESIDENTIAL DRIVEWAY TEMPORARY SINGLE

A-115..... RESIDENTIAL DRIVEWAY TEMPORARY MULTIPLE

A-116..... COMMERCIAL DRIVEWAY

A-117..... CATTLE GUARD

A-118..... CATTLE GUARD DETAILS & NOTES

A-119..... STANDARD UTILITY BURIAL

A-120..... [RESERVED]

A-121.....CURB RAMP – TWO RAMP CORNER INSTALLATION

A-122.....CURB RAMP – ONE RAMP INSTALLATION –
SIDEWALK SEPARATED FROM CURB

STANDARD DETAILS

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**DRAWING
NUMBER**

DESCRIPTION

**STREETS, ROADS, INTERSECTION, TRANSITIONS,
IMPROVEMENTS, & WORK WITHIN RIGHT OF WAY (CONTINUED)**

A-123.....CURB RAMP – ONE RAMP INSTALLATION –
SIDEWALK ADJACENT TO CURB

A-124..... CURB RAMP CASE A

A-125..... CURB RAMP CASE B

A-126..... CURB RAMP CASE C

A-127..... CURB RAMP CASE D

A-128..... CURB RAMP CASE E

A-129..... CURB RAMP CASE F

A-130.....CURB RAMP CASE G

A-131.....DETECTABLE SURFACE DETAIL

DRAINAGE IMPROVEMENTS

D-100..... CUTOFF WALL FOR DRAINAGE CHANNEL

D-101..... GRAVITY HEADWALL

D-102..... CATCH BASIN – MOUNTAIN ROADS

D-103..... CATCH BASIN – MOUNTAIN ROADS DETAILS

D-104..... LOCAL DEPRESSION IN A.C. PAVING

D-105..... 24” MANHOLE FRAME & COVER – PARKWAY

D-106..... 24” MANHOLE FRAME & COVER – ROADWAY

D-107..... HEADWALL – WING TYPE

D-108..... HEADWALL – “U” TYPE

D-109..... CATCH BASIN - TYPE “A”

D-109A CATCH BASIN NOTES

D-109BCATCH BASIN - PLATE DETAIL

D-110..... STORM DRAIN CLEANOUT

D-111.....CULVERT BURIAL – LESS THAN 1’ COVER

STANDARD DETAILS

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**DRAWING
NUMBER**

DESCRIPTION

ROAD SIGNS AND MARKERS

RS-100 STREET NAME SIGN DETAILS & SPECIFICATIONS

RS-101STREET NAME SIGN PLACEMENT

RS-102 TIMBER BARRICADE

RS-103 OBJECT MARKERS

LIGHTING AND ELECTRICAL SYSTEMS

ES-100 STREET LIGHTING – PLACEMENT LOCATIONS

ES-101 STREET LIGHTING – POLES & DESIGN CRITERIA

ES-102 STREET LIGHTING-BASE DETAIL

WATER SYSTEMS

W-100..... 1 INCH SERVICE INSTALLATION

W-101..... 1.5 INCH SERVICE INSTALLATION

W-102..... 2 INCH SERVICE INSTALLATION

W-103..... 4" DOMESTIC METER SERVICE

W-104..... [RESERVED]

W-105..... 6" DOMESTIC METER SERVICE

W-106..... [RESERVED]

W-107..... 4" FIRE SERVICE METER

W-108..... [RESERVED]

W-109..... 6" FIRE SERVICE METER

W-110..... [RESERVED]

W-111..... YARD HYDRANT DETAIL

W-112..... REDUCER THRUST BLOCK DETAIL

W-113..... CONCRETE THRUST BLOCK DETAIL

W-114..... TRENCH DETAIL

STANDARD DETAILS

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**DRAWING
NUMBER**

DESCRIPTION

WATER SYSTEMS (CONTINUE)

W-115.....	TEMPORARY BLOW OFF DETAILS
W-116.....	GATE VALVE INSTALLATION DETAILS
W-117.....	LOCATOR WIRE DETAIL
W-118.....	TYPICAL SUBSTRUCTURE CROSSING DETAIL
W-119.....	WATER, RECYCLED WATER, AND SEWER MAIN PERPENDICULAR SEPARATIONS
W-120.....	WATER, RECYCLED WATER, AND SEWER MAIN PARALLEL SEPARATIONS
W-121.....	WATER, RECYCLED WATER, AND SEWER MAIN PARALLEL AND PERPENDICULAR SEPARATION NOTES
W-122.....	[RESERVED]
W-123.....	PVC CASING SKID DETAILS
W-124.....	NEW FIRE HYDRANT INSTALLATION DETAILS
W-125.....	FIRE HYDRANT REPLACEMENT ON OVERSIZED LATERAL PIPE WITH CONCRETE
W-126.....	[RESERVED]
W-127.....	4-POST FIRE HYDRANT GUARD
W-128.....	ALLOWABLE LEAKAGE CHART FOR TESTING OF PIPES WITH RUBBER JOINTS

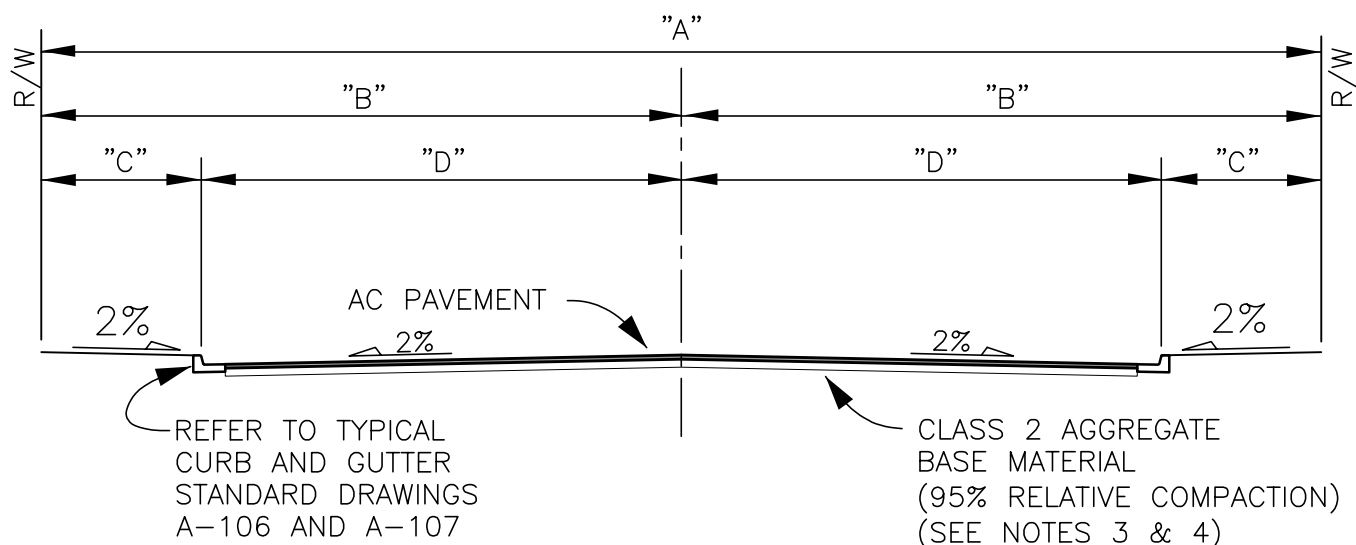
SEWER SYSTEMS

S-100.....	48" DIAMETER PRECAST MANHOLE INSTALLATION
S-101.....	SEWER MANHOLE BASE
S-102.....	MANHOLE PIPE CONNECTIONS
S-103.....	MANHOLE MISCELLANEOUS DETAILS
S-104.....	EXISTING MANHOLE ABANDONMENT

SECTION A

GENERAL ROAD WORK

TYPICAL SECTION



	A	B	C	D
SECONDARY HIGHWAY	80	40	10	30
COLLECTOR STREET	66	33	11	22
LOCAL STREET	60	30	10	20

NOTES:

1. WHEN AN OFFSET CROWN IS USED, THE ENGINEER SHALL ESTABLISH GRADES OF NOT LESS THAN 2% AND NO GREATER THAN 5%.
2. WHERE THERE IS NO CONCRETE CURB AND GUTTER AT THE EDGE OF THE PAVEMENT A SIX (6) INCH CHOKER WILL BE REQUIRED.
3. FINAL A.C. PAVEMENT THICKNESS SHALL BE A MINIMUM OF 3", CLASS 2 AGGREGATE BASE THICKNESS SHALL BE A MINIMUM OF 6". THINNER A.C. AND BASE MAY BE USED IF SUPPORTED BY SOIL TESTING DATA.
4. SUBGRADE UNDER STREET AND CURB AND GUTTER AREAS SHALL BE OVEREXCAVATED 12" AND RECOMPACTED TO 95% RELATIVE COMPACTION.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

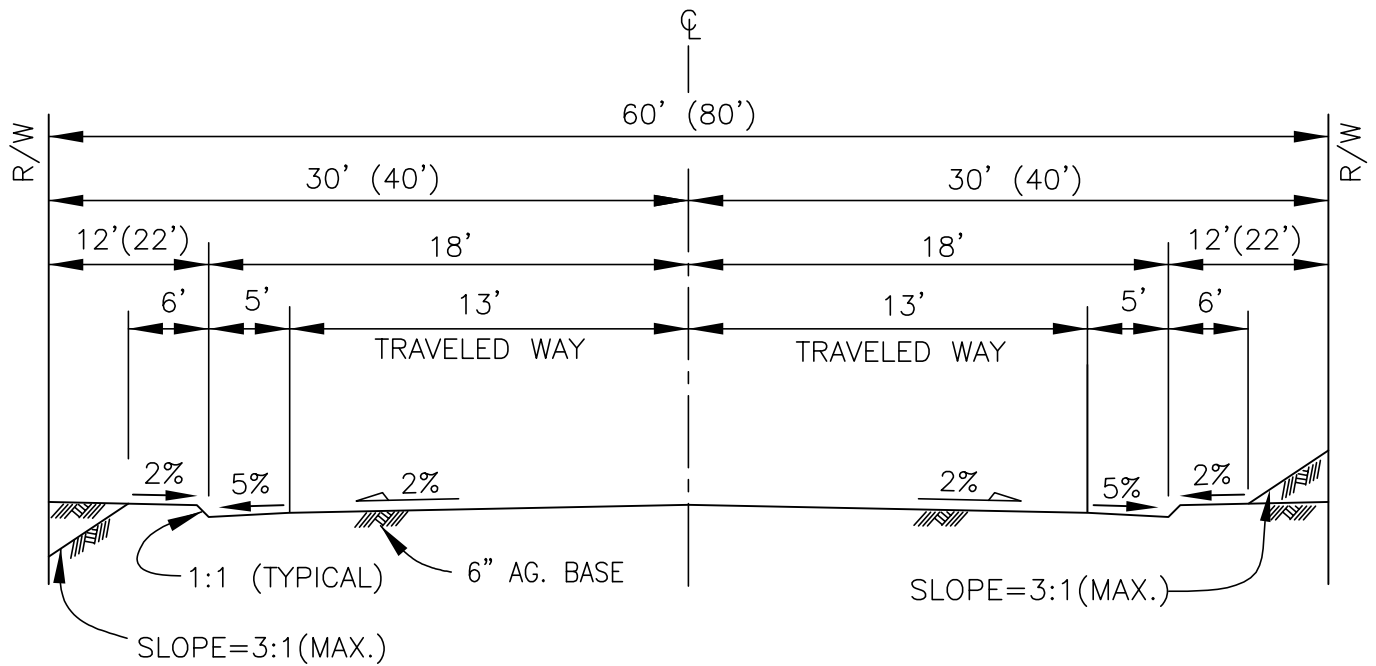
DRAWN BY: TD

APPROVED BY: JA

Clint Quilter
CLINT QUILTER - Director

TYPICAL STREET CROSS SECTION

A-100



TYPICAL SECTION

NOTES:

1. APPROVED IMPORTED MATERIAL TO BE PLACED WHERE NECESSARY TO PROVIDE FOR STABILITY OF ROADS AS SHOWN ON PLANS.
2. DRAINAGE IMPROVEMENTS TO BE PLACED AS SHOWN ON PLANS.
3. EMBANKMENTS SHALL HAVE RELATIVE DENSITY AT LEAST EQUAL TO ADJACENT NATIVE SOIL AND PROVIDE ACCEPTABLE ROADWAY STABILITY.
4. CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENTS FROM AFFECTED PROPERTY OWNERS.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

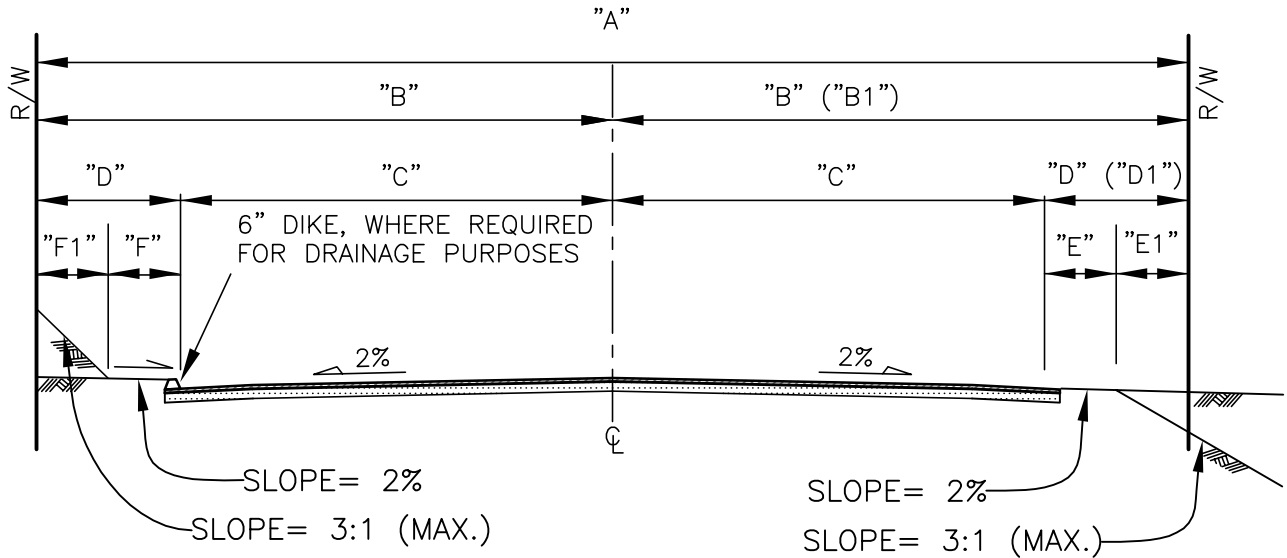
DRAWN BY: TD

APPROVED BY: JA


 CLINT QUILTER - Director

GRADED ROAD

A-101



TYPICAL SECTION

NOTES:

1. STRUCTURAL SECTION OF ROADWAY SHALL BE DETERMINED FROM SOILS TESTS AND SO INDICATED ON CONSTRUCTION PLANS.
2. CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENTS.
3. SLOPE REQUIREMENT MAY BE VARIED BY SUBMISSION OF SOILS REPORT.
4. DIKES MAY BE REQUIRED ON ONE OR BOTH ROADWAY EDGED, DEPENDING ON LOCAL CONDITIONS.
5. REQUIRED PAVING WIDTH MAY VARY DEPENDING ON LOCATION

"A"	"B"	"B1"	"C"	"D"	"D1"	"E"	"E1"	"F"	"F1"
60'	30'		18'(20')	12'(10')		6'(5')	6'(5')	4'	8'(6')
40'	18'	22'	13'	5'	9'	6'	3'	4'	1'

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

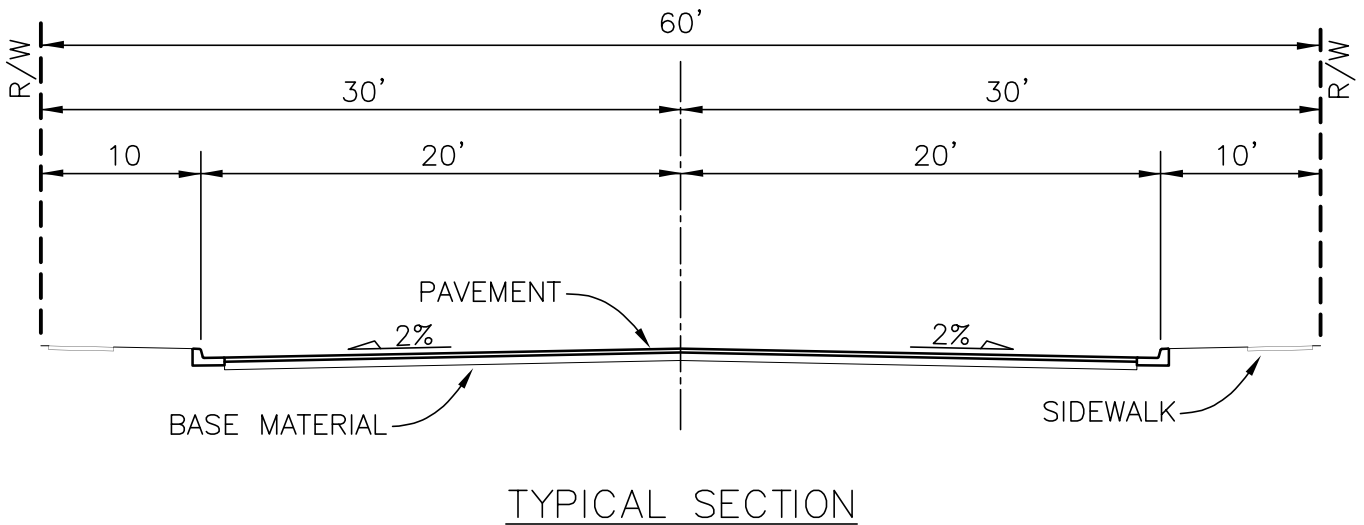
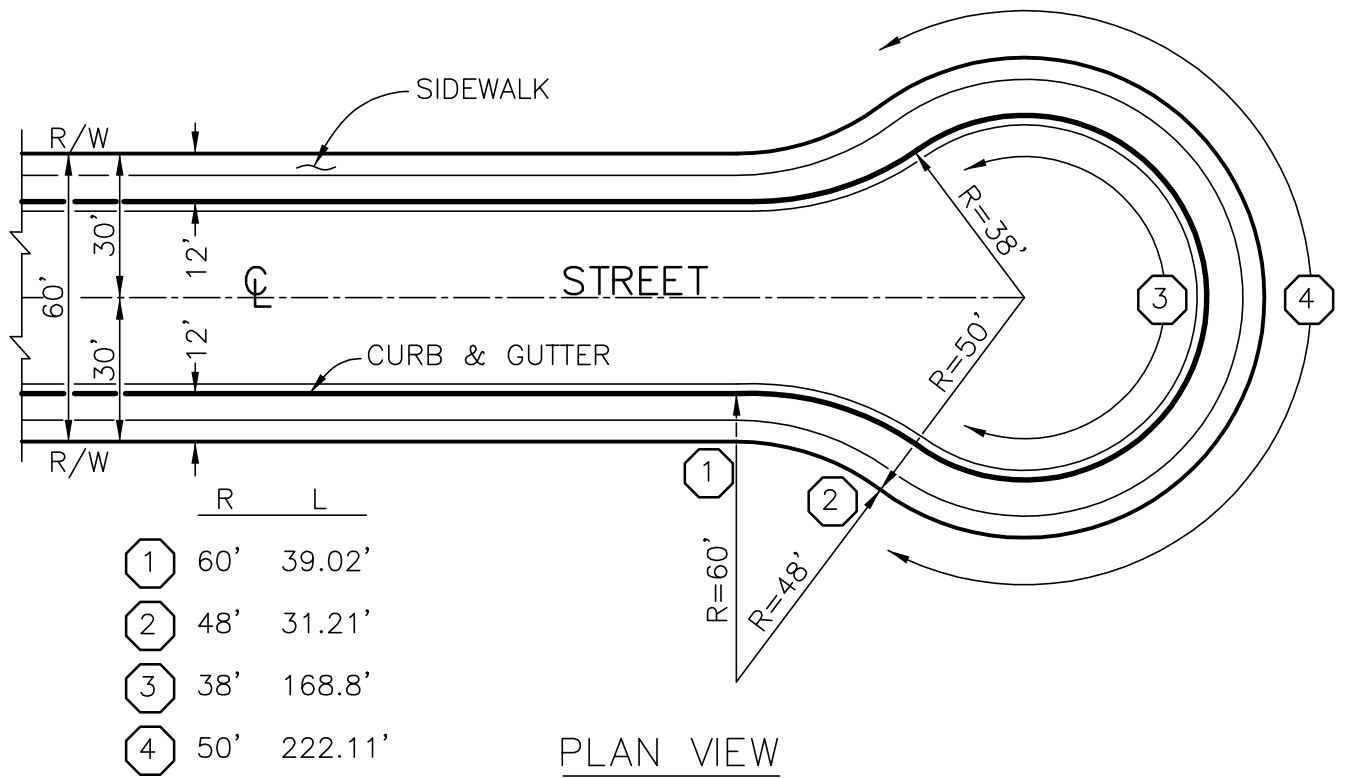
DRAWN BY: TD

APPROVED BY: JA

Clint Quilter
CLINT QUILTER - Director

PAVED ROAD
(RURAL AREAS)

A-102



NOTES:

1. STRUCTURAL SECTION OF ROADWAY SHALL BE DETERMINED FROM SOIL TESTS AND SO INDICATED ON CONSTRUCTION PLANS.
2. CONSTRUCTION OUTSIDE R/W LINE SHALL REQUIRE SLOPE EASEMENTS.
3. SECTION SHALL CONFORM TO STD. A-102.
4. 0.6% GRADE MINIMUM ON GUTTER OF BULB.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

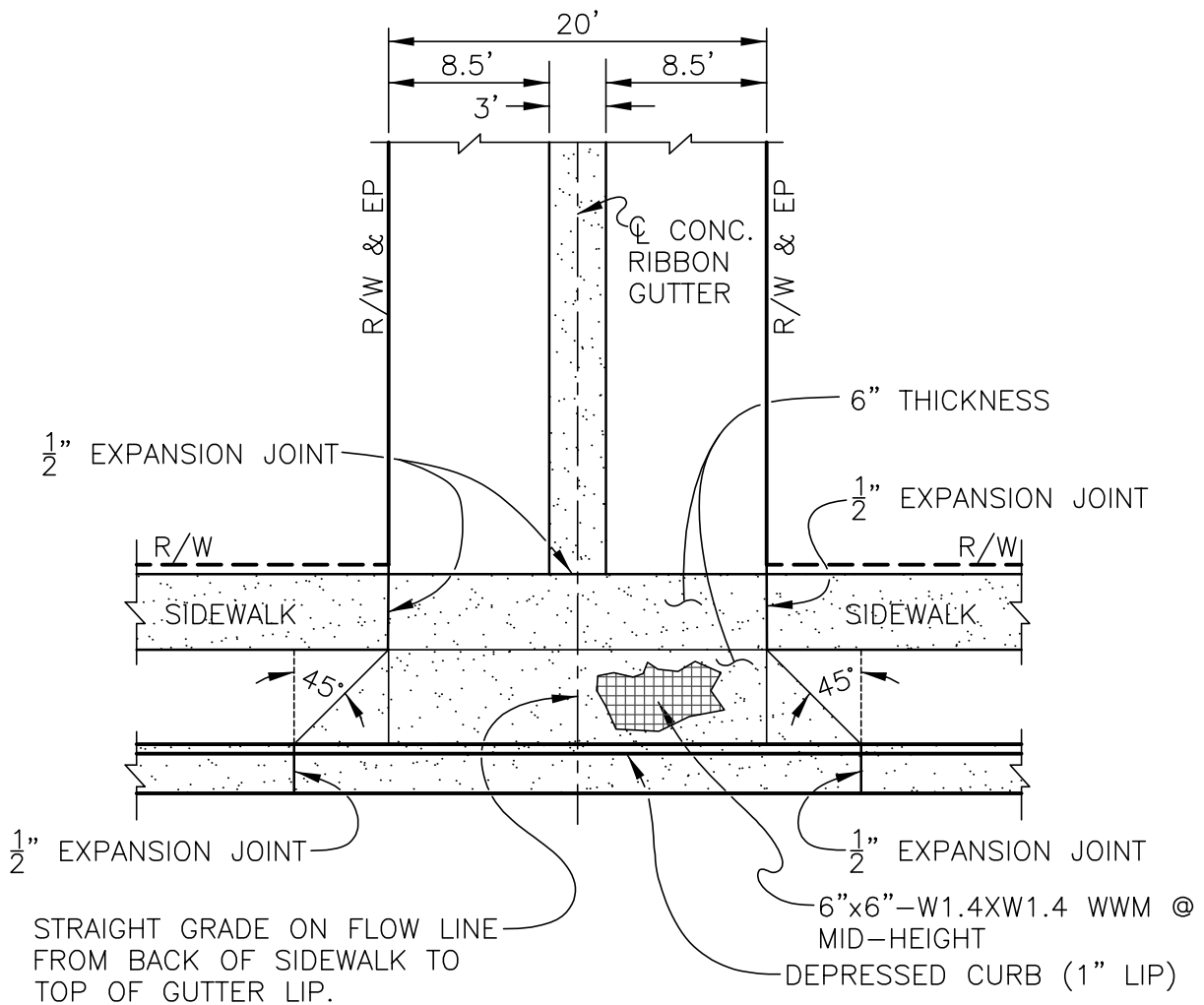
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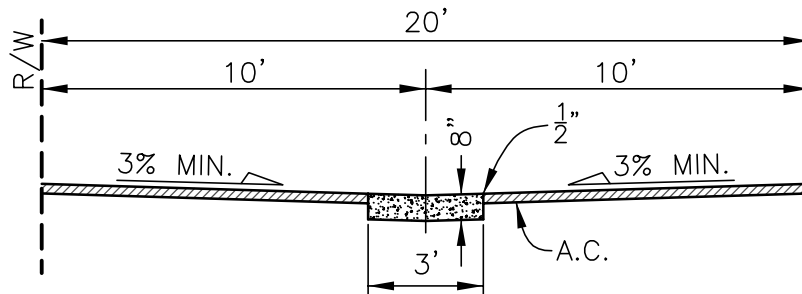
Clint Quilter
CLINT QUILTER - Director

CUL-DE-SAC

A-103



PLAN VIEW



TYPICAL SECTION

SCALE=NONE

NOTES:

1. CONCRETE RIBBON GUTTER SHALL BE CONSTRUCTED OF CLASS "B" CONCRETE.
2. ASPHALT CONCRETE SHALL HAVE A MINIMUM FINISHED THICKNESS OF TWO (2) INCHES.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

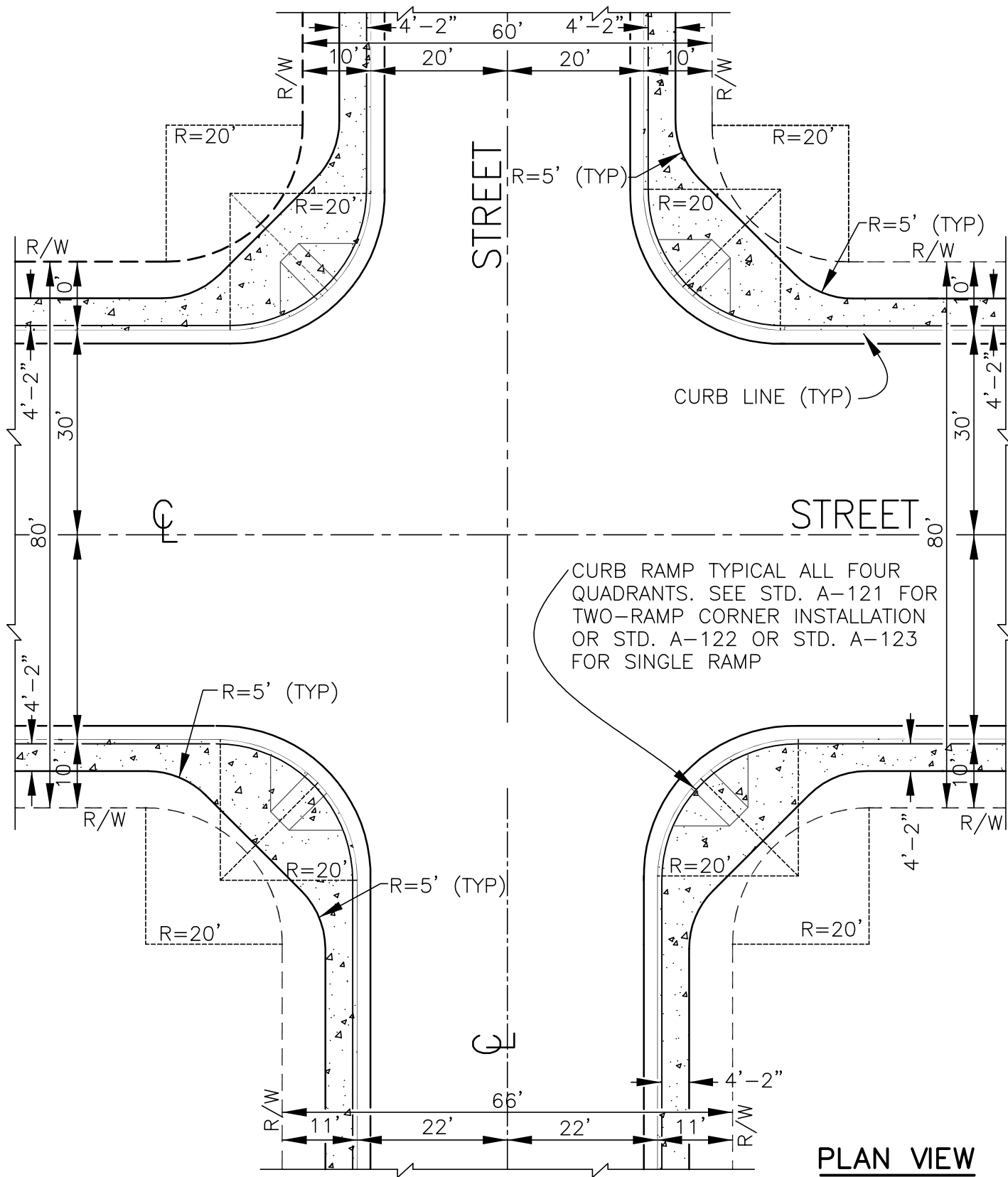
DRAWN BY: TD

APPROVED BY: JA

Clint Quilter
CLINT QUILTER - Director

ALLEY

A-104



PLAN VIEW

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

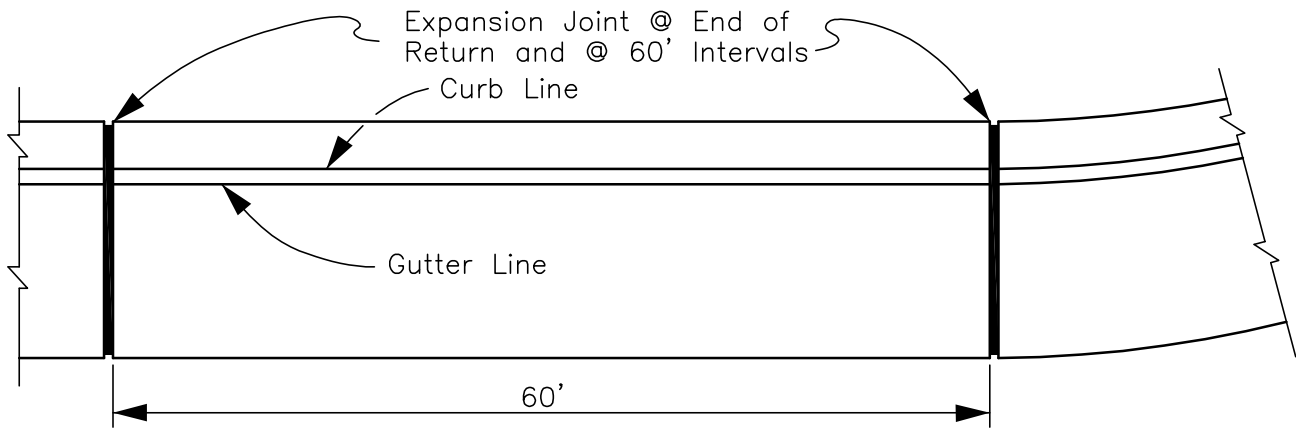
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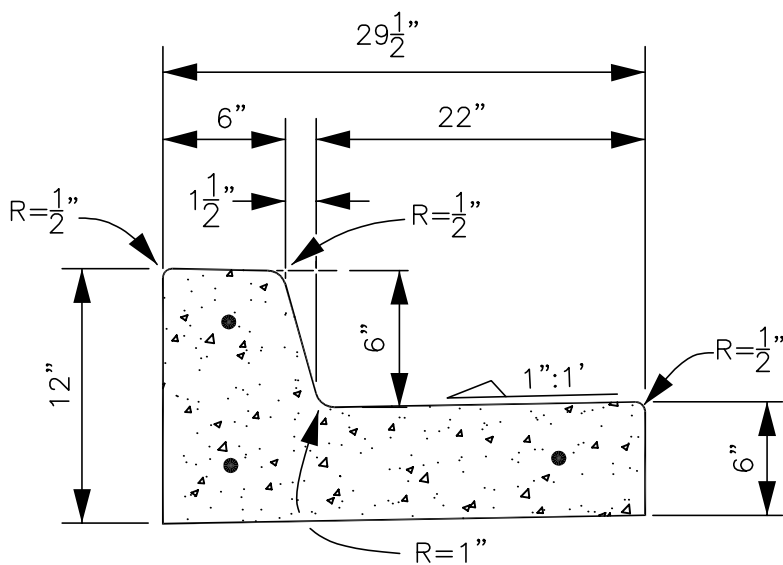
Clint Quilter
 CLINT QUILTER - Director

INTERSECTION DESIGN
 SIDEWALK ABUTTING CURB

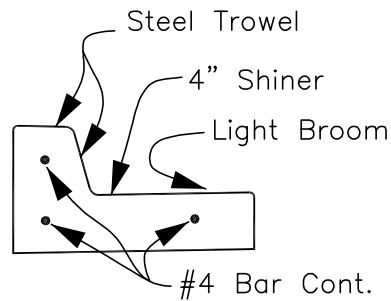
A-105



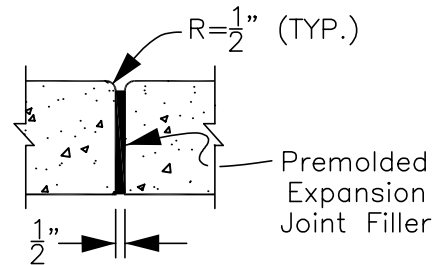
PLAN VIEW



SECTION



DETAILS



EXPANSION JOINT

NOTES:

1. CURB AND GUTTER SHALL BE CONSTRUCTED MONOLITHICALLY OF CLASS "B" CONCRETE.
2. CURB AND GUTTER REBAR MAY BE DELETED FOR 6 SACK CONCRETE OR FIBERGLASS REINFORCEMENT AND 5 SACK MIX.
3. WIDTHS OF STANDARD STREET SECTIONS SHOWN ON PLANS ARE TO CURB LINE, UNLESS OTHERWISE INDICATED.
4. TESTS GUARANTEEING 95% RELATIVE COMPACTION MAY BE REQUIRED AT THE EXPENSE OF THE CONTRACTOR, UNDER ANY CURB OR GUTTER PLACED IN THE COUNTY OF INYO.
5. ANY CONCRETE POURED IN TEMPERATURES OVER 90°F WILL BE SPRAYED WITH WHITE OR CLEAR CURING COMPOUND. IN FRESH CONCRETE, ANY GRAFFITI OFFENSIVE TO THE PUBLIC MORAL WILL BE REMOVED, NOT REPAIRED, BY THE CONTRACTOR.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

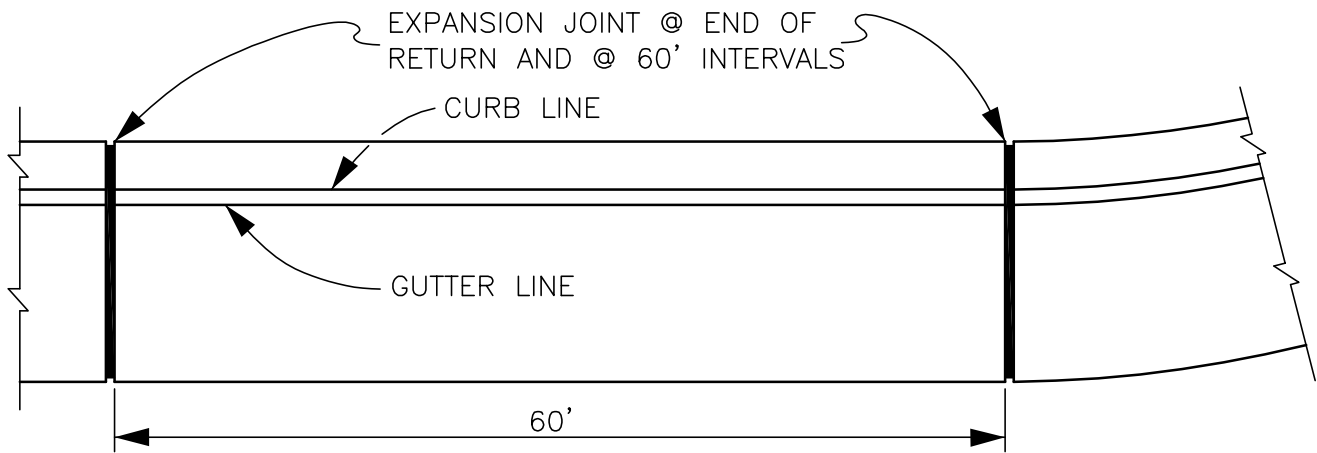
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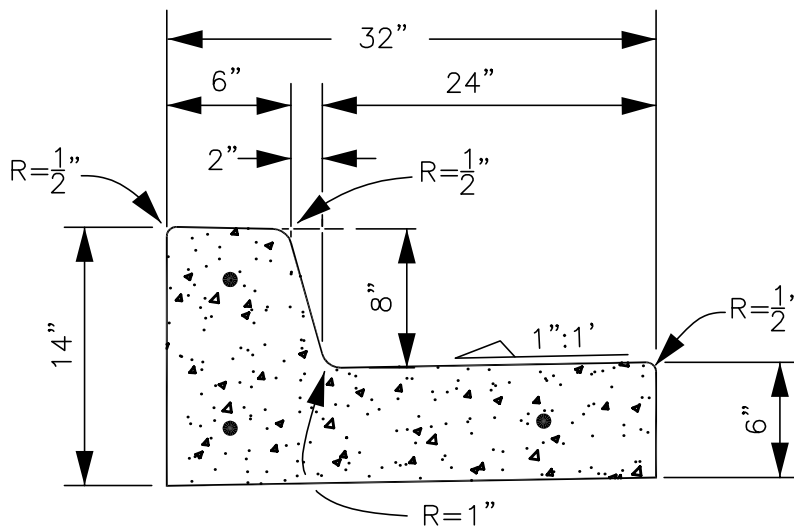
Clint Quilter
CLINT QUILTER - Director

6" CURB & GUTTER

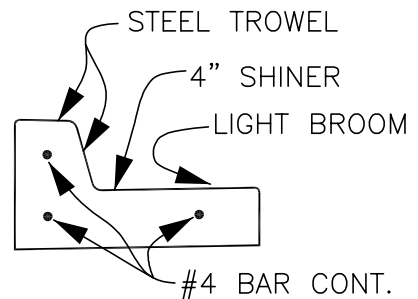
A-106



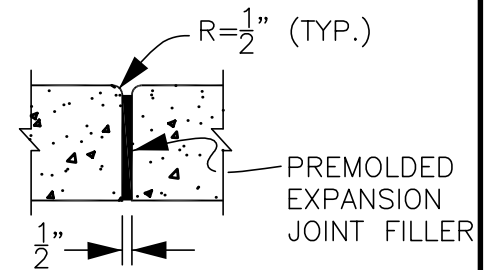
PLAN VIEW



SECTION



DETAILS



EXPANSION JOINT

NOTES:

1. CURB AND GUTTER SHALL BE CONSTRUCTED MONOLITHICALLY OF CLASS "B" CONCRETE.
2. CURB AND GUTTER REBAR MAY BE DELETED FOR 6 SACK CONCRETE OR FIBERGLASS REINFORCEMENT AND 5 SACK MIX.
3. WIDTHS OF STANDARD STREET SECTIONS SHOWN ON PLANS ARE TO CURB LINE, UNLESS OTHERWISE INDICATED.
4. TESTS GUARANTEEING 95% RELATIVE COMPACTION MAY BE REQUIRED AT THE EXPENSE OF THE CONTRACTOR, UNDER ANY CURB OR GUTTER PLACED IN THE COUNTY OF INYO.
5. ANY CONCRETE POURED IN TEMPERATURES OVER 90° F. WILL BE SPRAYED WITH WHITE OR CLEAR CURING COMPOUND. IN FRESH CONCRETE, ANY GRAFFITI OFFENSIVE TO THE PUBLIC MORAL WILL BE REMOVED, NOT REPAIRED, BY THE CONTRACTOR.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

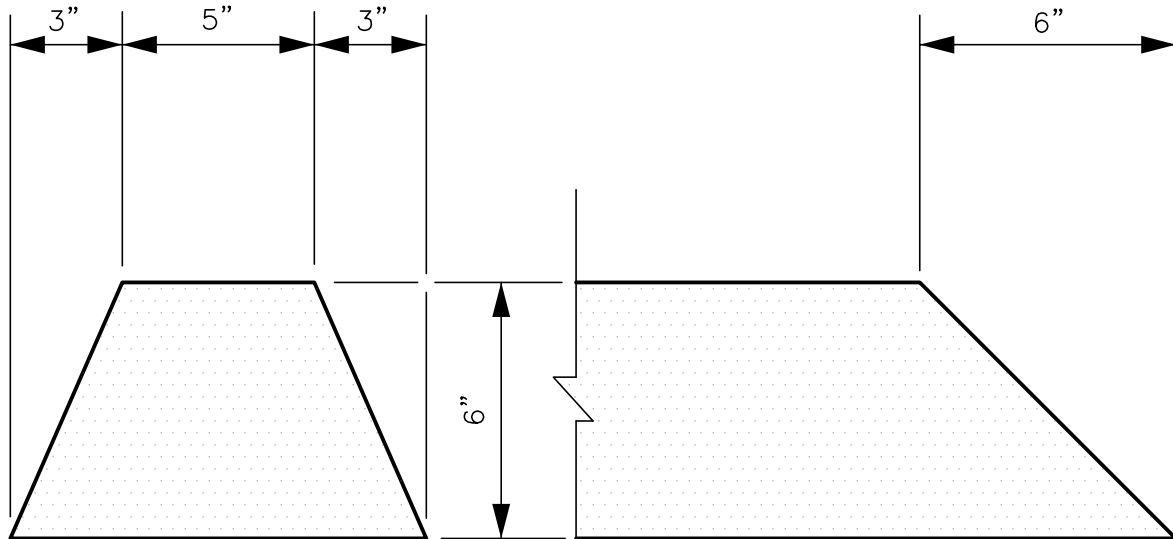
DRAWN BY: TD

APPROVED BY: JA

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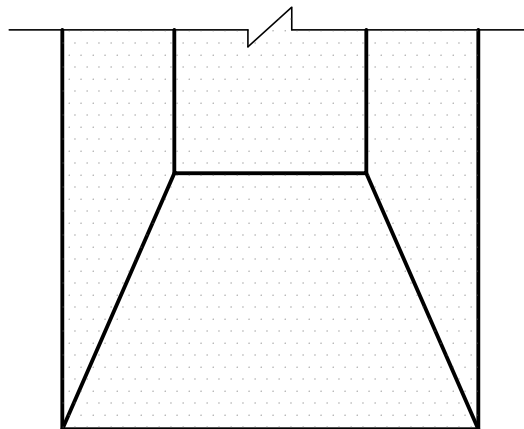
8" CURB & GUTTER

A-107



TYPICAL SECTION

END PROFILE



PLAN VIEW OF END

6" DIKE

NOTES:

1. DIKE SHALL BE CONSTRUCTED OF TYPE "B" ASPHALT CONCRETE.
2. PAINT BINDER SHALL BE PLACED ON EXISTING ASPHALT CONCRETE PAVEMENT PRIOR TO THE INSTALLATION OF THE DIKE.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

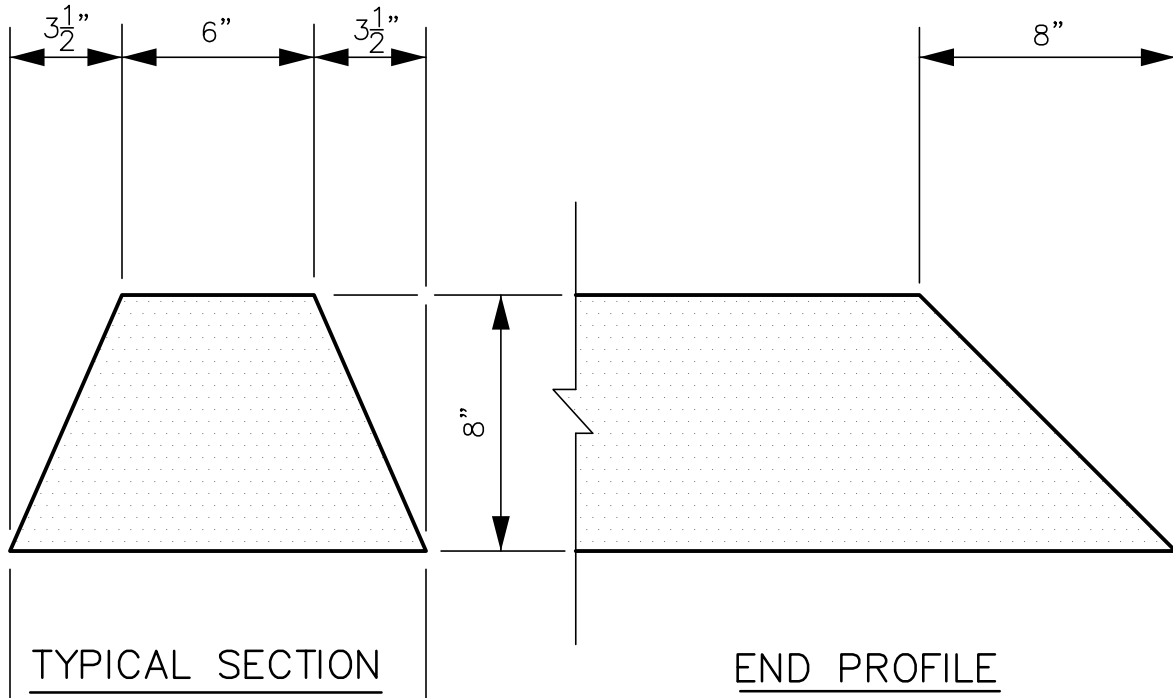
DRAWN BY: TD

APPROVED BY: JA

Clint Quilter
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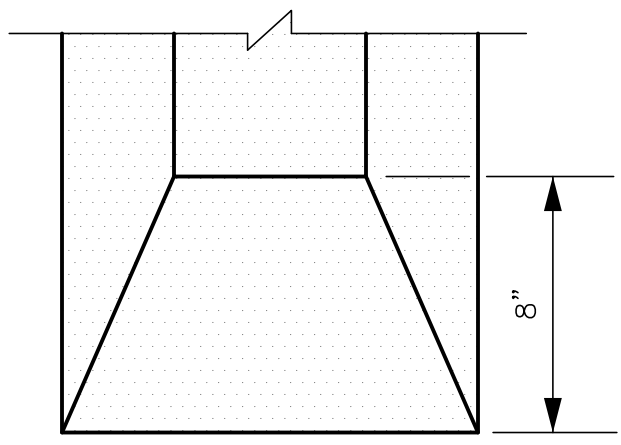
ASPHALT CONCRETE DIKE (6")

A-108



TYPICAL SECTION

END PROFILE



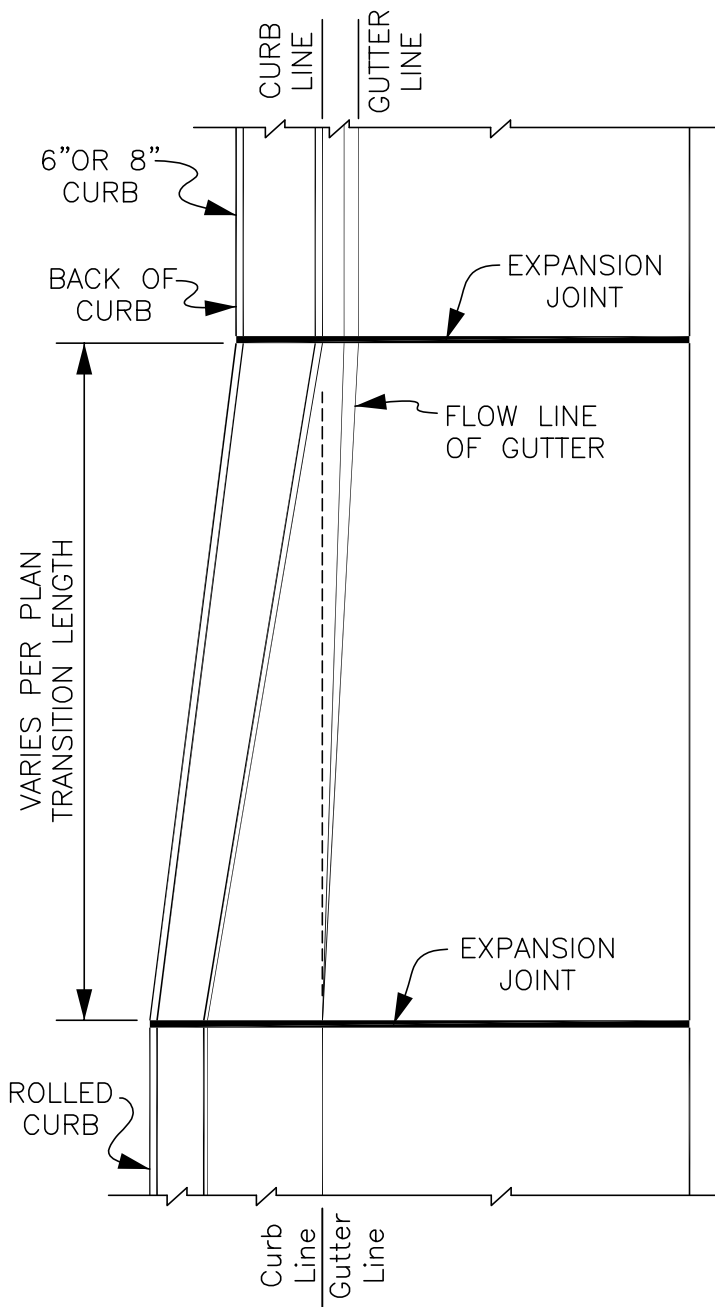
PLAN VIEW OF END

8" DIKE

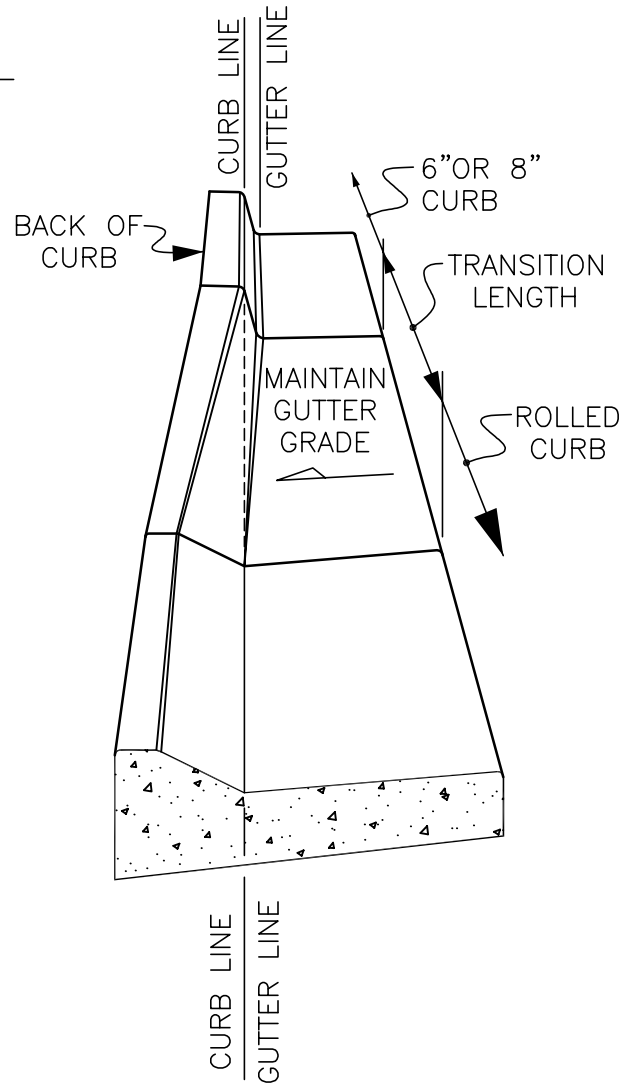
NOTES:

1. DIKE SHALL BE CONSTRUCTED OF TYPE "B" ASPHALT CONCRETE.
2. PAINT BINDER SHALL BE PLACED ON EXISTING ASPHALT CONCRETE PAVEMENT PRIOR TO THE INSTALLATION OF THE DIKE.

INYO COUNTY PUBLIC WORKS DEPT.		ASPHALT CONCRETE DIKE (8")	A-109
DATE: SEPT 2015 DRAWN BY: TD APPROVED BY: JA	 CLINT QUILTER - Director		



PLAN VIEW



PERSPECTIVE VIEW

NOTES:

1. HOLD CURB LINE THROUGH TRANSITION.
2. FOR CONSTRUCTION DETAILS, SEE STD. A-106 AND STD. A-107.
3. TRANSITION LENGTH IS SPECIFIED ON THE PLAN REFERENCING THIS DETAIL.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

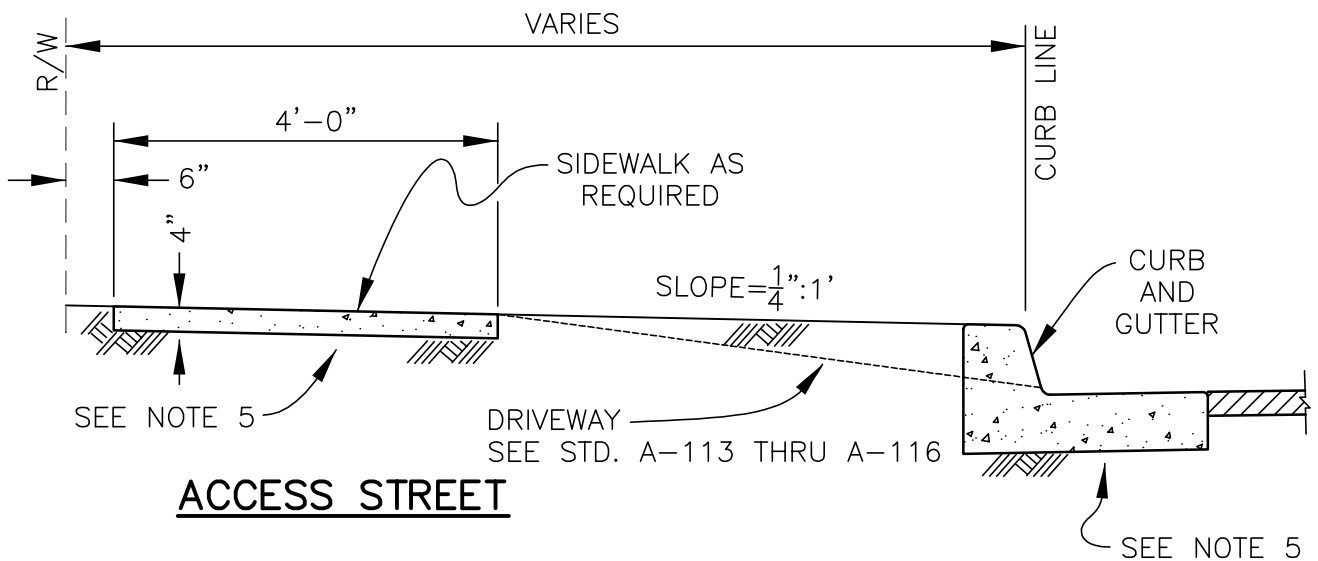
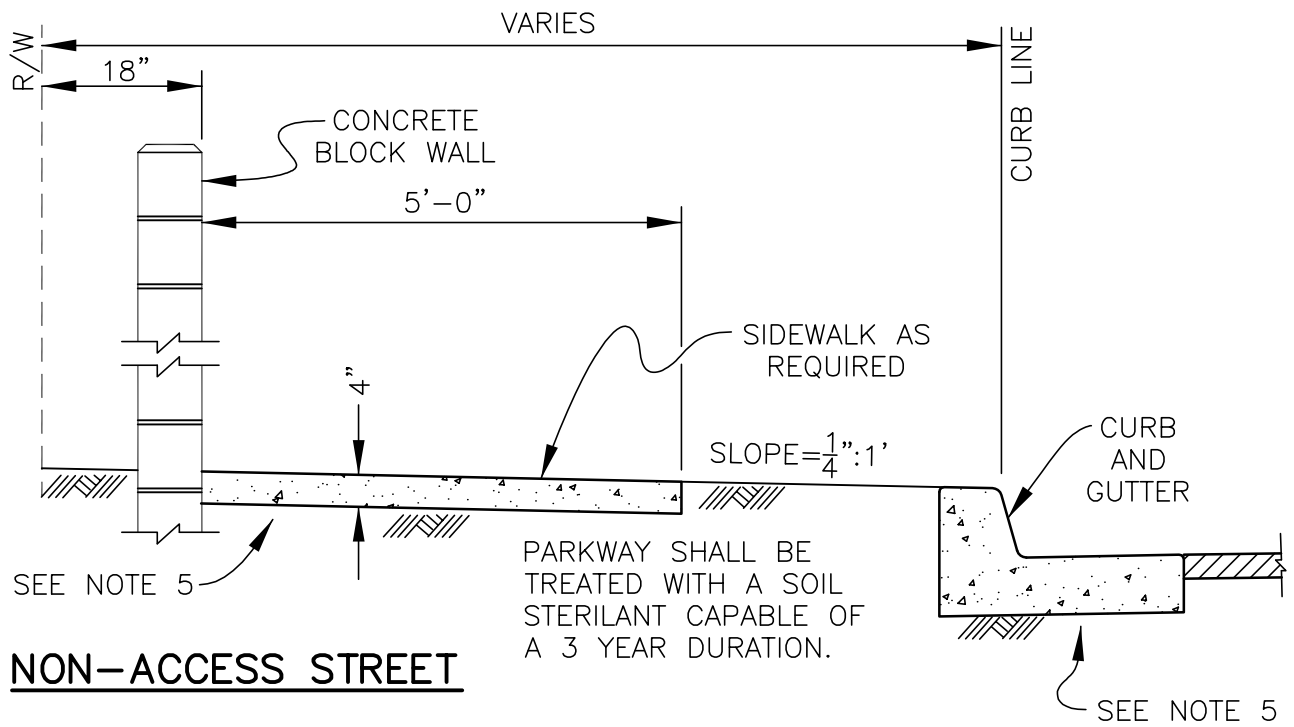
DRAWN BY: TD

APPROVED BY: JA

Clint Quilter
 CLINT QUILTER - Director

CURB & GUTTER TRANSITION DETAIL

A-110



NOTES:

1. SIDEWALK SHALL BE CONSTRUCTED OF CLASS "B" CONCRETE.
2. SIDEWALK SHALL BE CONSTRUCTED FROM R/W LINE TO CURB IN COMMERCIAL ZONES AND ADJACENT TO SCHOOL PROPERTY.
3. CONCRETE BLOCK WALL SHALL CONTINUE AT FULL HEIGHT AROUND RETURNS AT STREET INTERSECTIONS.
4. SEE STD. A-105 FOR SIDEWALK PLAN VIEWS.
5. SHOULD "R" VALUE OF PARKWAY BE LESS THAN 30, 4" OF THE BASE MATERIAL USED IN THE DESIGN OF ROADWAY SHALL BE INSTALLED UNDER SIDEWALK AND CURB AND GUTTER.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

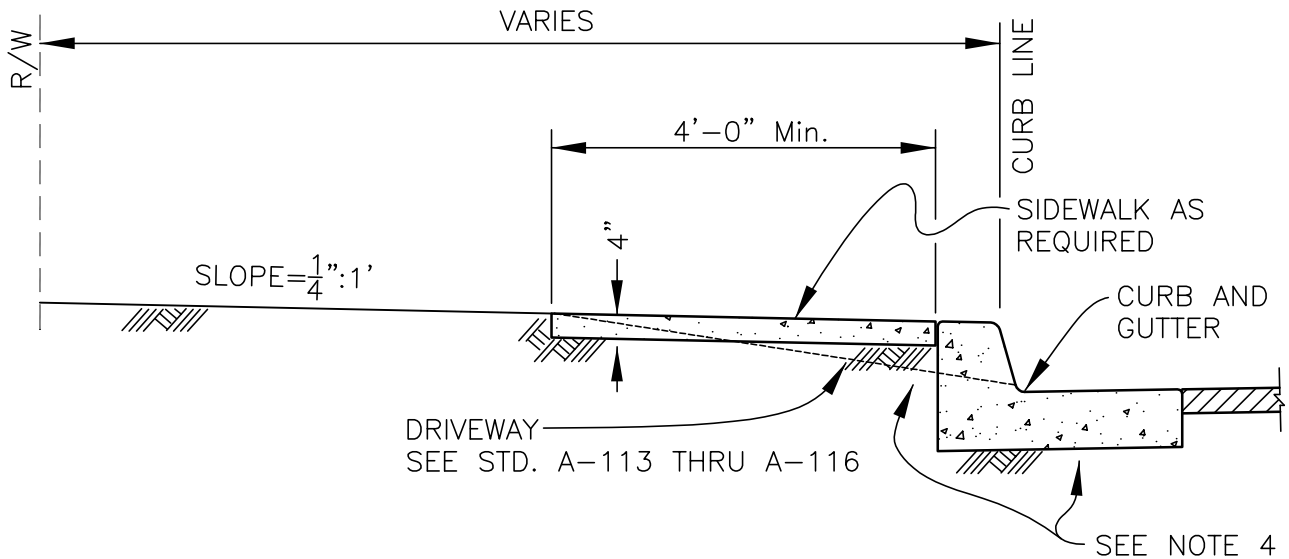
DRAWN BY: TD

APPROVED BY: JA

Clint Quilter
CLINT QUILTER - Director

SIDEWALK SEPARATED FROM CURB

A-111



NOTES:

1. SIDEWALK SHALL BE CONSTRUCTED OF CLASS "B" (5 1/2 SACK) CONCRETE.
2. SIDEWALK SHALL BE CONSTRUCTED FROM R/W LINE TO CURB IN COMMERCIAL ZONES AND WHEN ADJACENT TO SCHOOL PROPERTY.
3. SEE STD. A-105 FOR SIDEWALK PLAN VIEW.
4. SHOULD "R" VALUE OF PARKWAY BE LESS THAN 30, 4" OF THE BASE MATERIAL USED IN THE DESIGN OF ROADWAY SHALL BE INSTALLED UNDER SIDEWALK AND CURB AND GUTTER.
5. ALL EXPOSED SIDEWALK SURFACES SHALL HAVE A LIGHT BROOM FINISH, WITH THE DIRECTION OF BROOMING TRANSVERSE TO THE DIRECTION OF TRAVEL.
6. DEEP TOOL JOINT OR SAW CUT AT 10 FOOT INTERVALS, EXPANSION JOINTS SHALL BE INSTALLED AT 60 FOOT INTERVALS.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

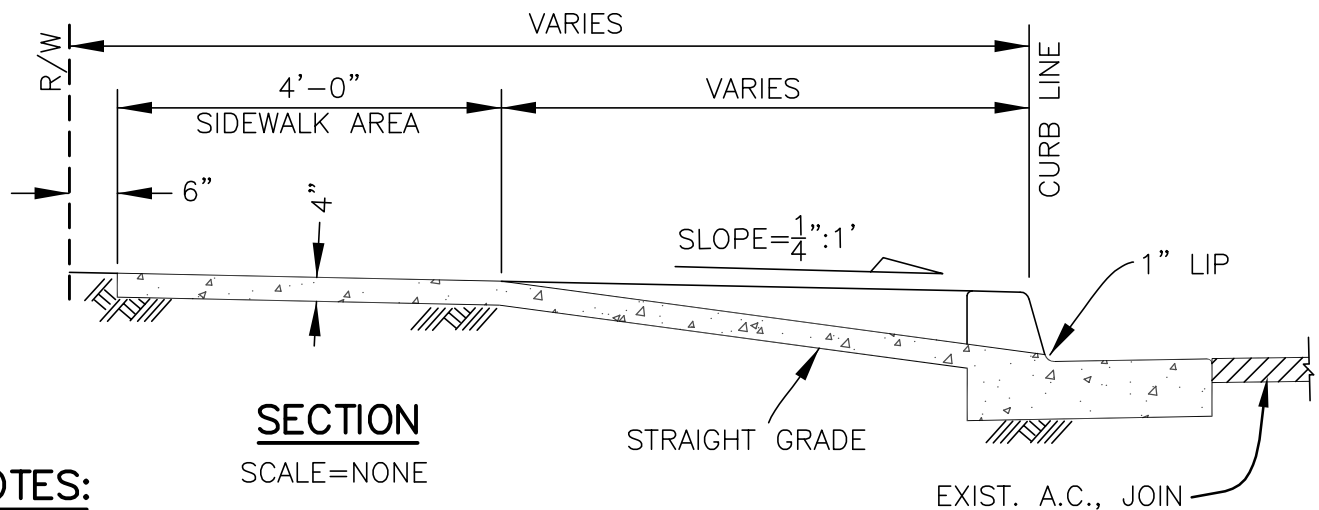
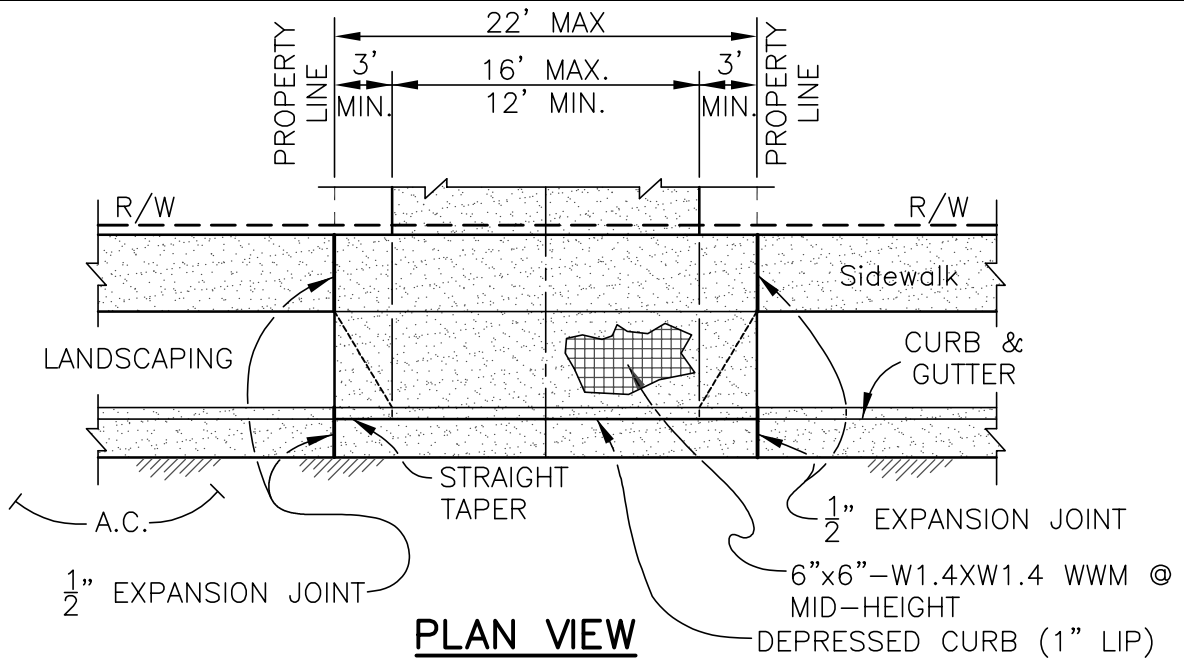
DRAWN BY: TD

APPROVED BY: JA

Clint Quilter
CLINT QUILTER - Director

SIDEWALK ABUTTING CURB

A-112



NOTES:

1. DRIVEWAY APPROACH GRADES SHALL NOT EXCEED 12%.
2. DRIVEWAY APPROACHES SHALL BE CONSTRUCTED OF CLASS "B" CONCRETE (3000 PSI).
3. THE AREA INCLUDED WITHIN THE SLOPES SHALL BE FINISHED WITH A WOOD FLOAT. CURB SHALL BE CUT AT RIGHT ANGLE TO THE TOP OF THE CURB AT THE FIRST SCORING LINE BEYOND THE 3' DISTANCE. CURB MAY BE SAWED OFF AT THE 3'; LINE AND A COLD JOINT MADE IF DESIRED.
4. JOINT DRIVEWAY APPROACHES PERMITTED IN CUL-DE-SAC AREAS AND BETWEEN EXISTING DRIVES WHERE NECESSARY.
5. A BREAK IN THE APPROACH GRADE AT THE LEADING EDGE OF THE SIDEWALK LINE MAY BE PERMITTED WHERE THE LOT ELEVATION IS OVER 1.0' BELOW THE FLOWLINE OF THE CURB.
6. SHOULD "R" VALUE OF PARKWAY BE LESS THAN 30, 4" OF THE BASE MATERIAL USED IN ROADWAY DESIGN SHALL BE INSTALLED UNDER DRIVEWAY.

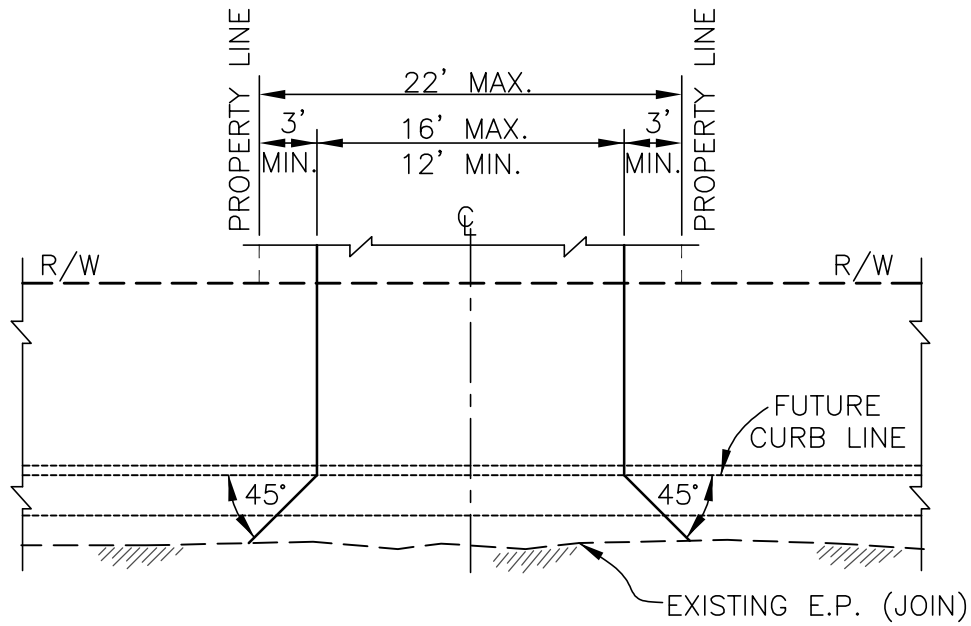
INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015
 DRAWN BY: TD
 APPROVED BY: JA

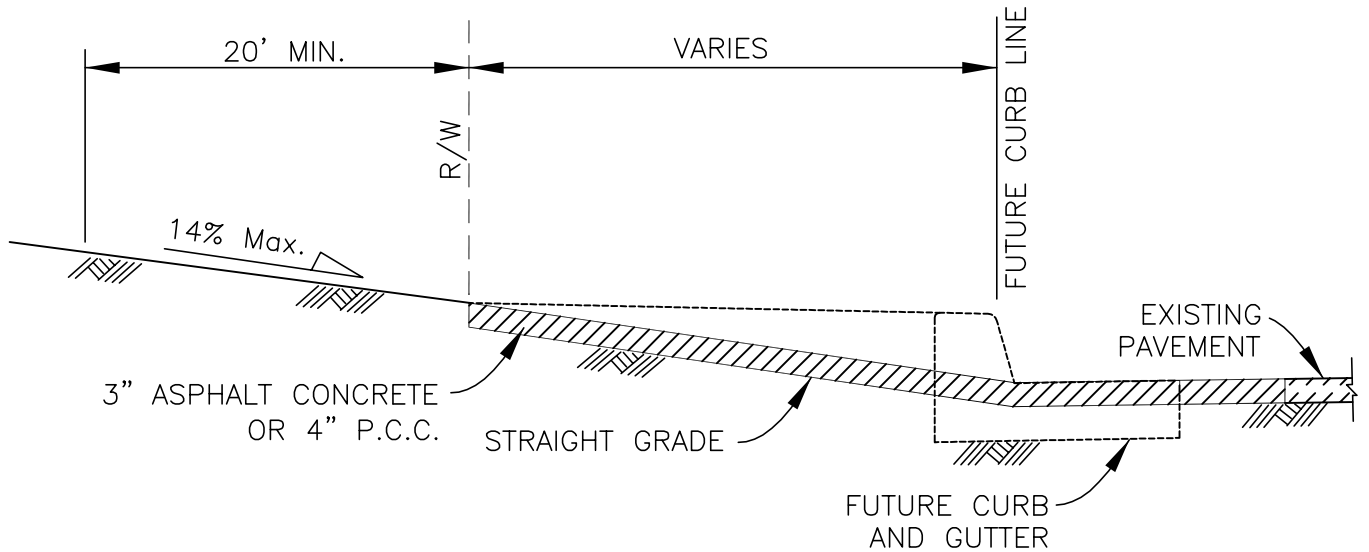
Clint Quilter
 CLINT QUILTER - Director

RESIDENTIAL DRIVEWAY WITH CURB

A-113



PLAN VIEW



SECTION

SCALE=NONE

NOTES:

1. DRIVEWAY APPROACH GRADES SHALL NOT EXCEED 14%.
2. DRIVEWAY APPROACHES SHALL BE CONSTRUCTED OF AC OR CLASS "B" P.C.C.
3. TESTS GUARANTEEING 90% RELATIVE COMPACTION MAY BE REQUIRED AT THE EXPENSE OF THE CONTRACTOR, UNDER ANY APPROACH PLACED IN THE COUNTY OF INYO.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

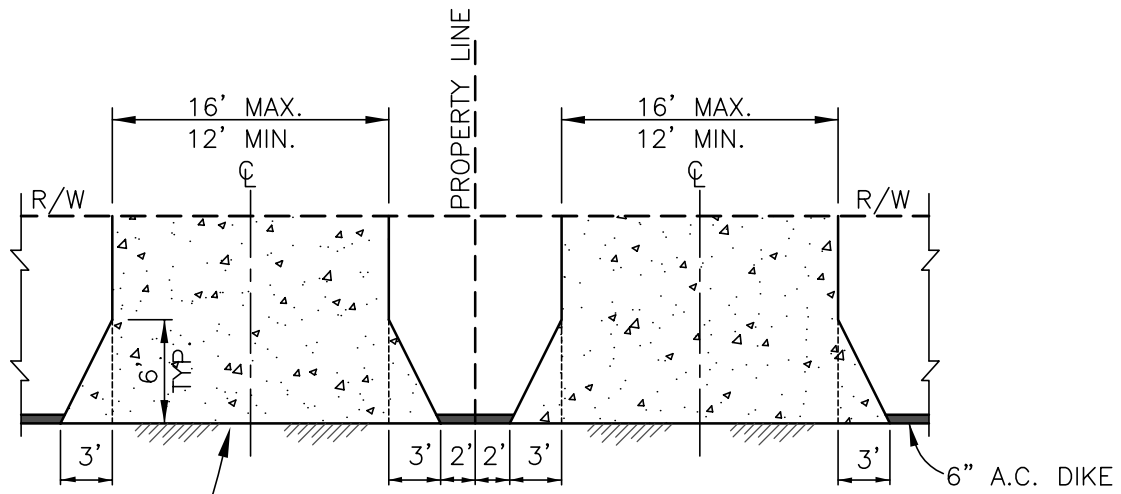
DRAWN BY: TD

APPROVED BY: JA

Clint Quilter
CLINT QUILTER - Director

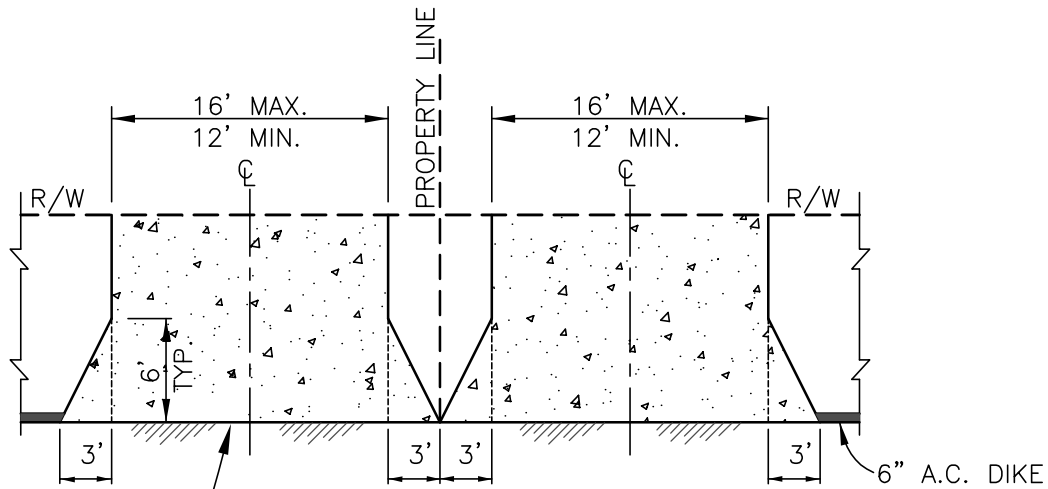
RESIDENTIAL DRIVEWAY
TEMPORARY SINGLE

A-114



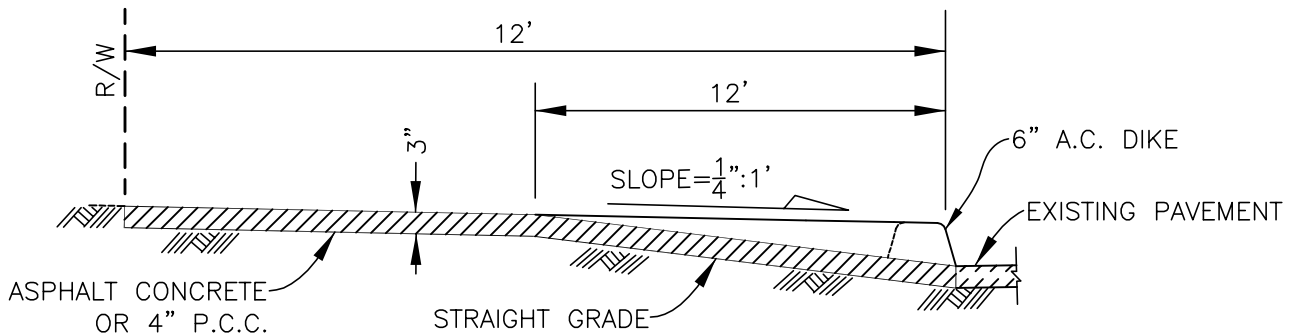
EXISTING E.P. (JOIN)

ADJOINING SINGLE DRIVEWAYS



EXISTING E.P. (JOIN)

DOUBLE DRIVEWAY



SECTION

SCALE=NONE

NOTES:

1. DRIVEWAY APPROACH GRADES SHALL NOT EXCEED 14%.
2. DRIVEWAY APPROACHES SHALL BE CONSTRUCTED OF A.C. OR CLASS "B" P.C.C.
3. DRIVEWAY TO BE USED IN CONJUNCTION WITH 8" DIKE.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

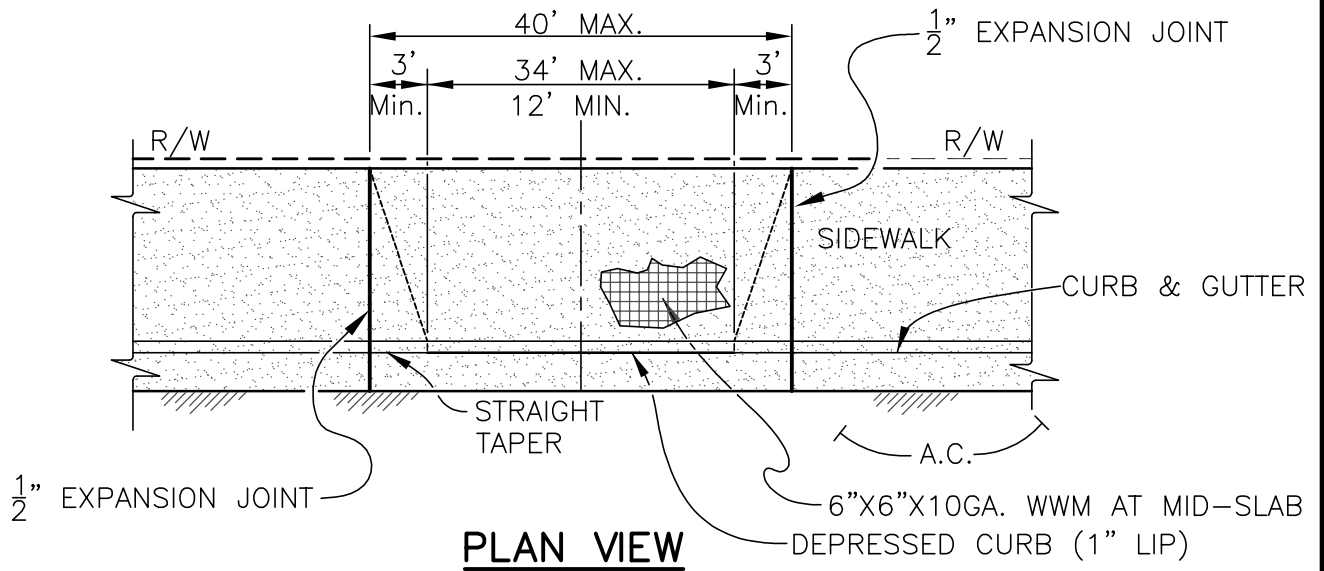
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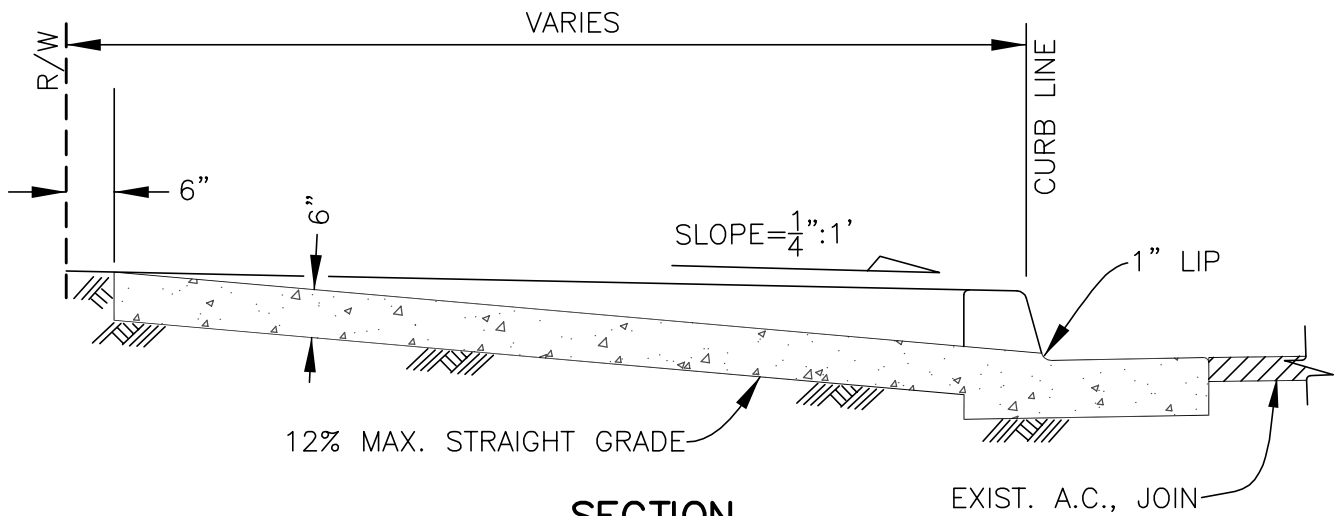
Clint Quilter
CLINT QUILTER - Director

RESIDENTIAL DRIVEWAY
TEMPORARY MULTIPLE

A-115



PLAN VIEW



SECTION

SCALE=NONE

NOTES:

1. SHOULD "R" VALUE OF PARKWAY BE LESS THAN 30, 4" OF THE BASE MATERIAL USED IN ROADWAY DESIGN SHALL BE INSTALLED UNDER DRIVEWAY.
2. DRIVEWAY APPROACHES SHALL BE CONSTRUCTED OF CLASS "B" CONCRETE.
3. THE NUMBER OF APPROACHES IS LIMITED TO 2 PER STREET FRONTAGE UNLESS OTHERWISE AUTHORIZED BY THE INYO COUNTY ROAD DEPARTMENT.
4. ALL PAVEMENT OTHER THAN DRIVEWAY INSTALLED BETWEEN RIGHT OF WAY AND CURB SHALL BE CLASS "B" P.C.C., 4" THICK.
5. THE DISTANCE BETWEEN DRIVEWAY APPROACHES SHALL BE 10' MINIMUM.
6. THE DISTANCE BETWEEN A CURB RETURN POINT AND APPROACH SHALL BE 5' MINIMUM.
7. APPLY BROOM FINISH ON ALL APPROACH SURFACES.

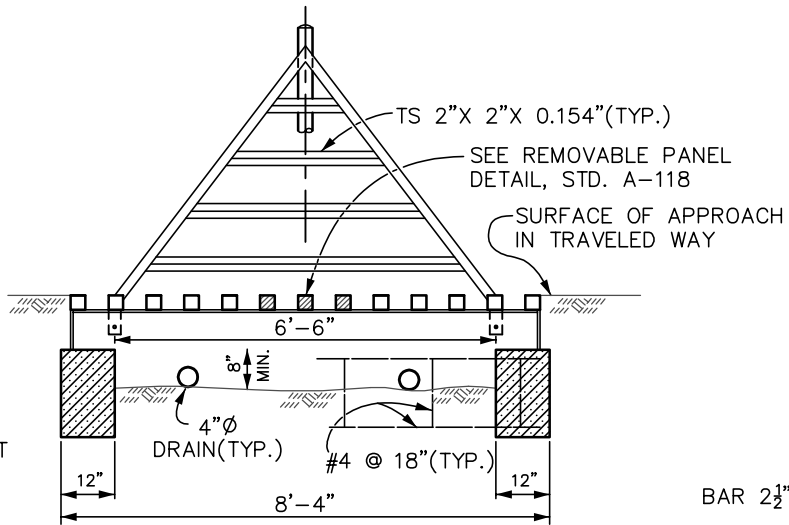
INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015
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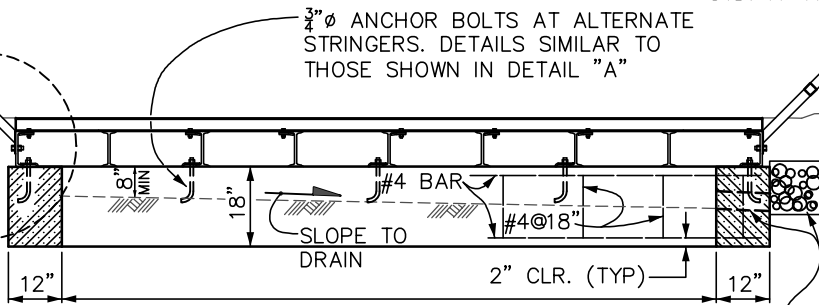
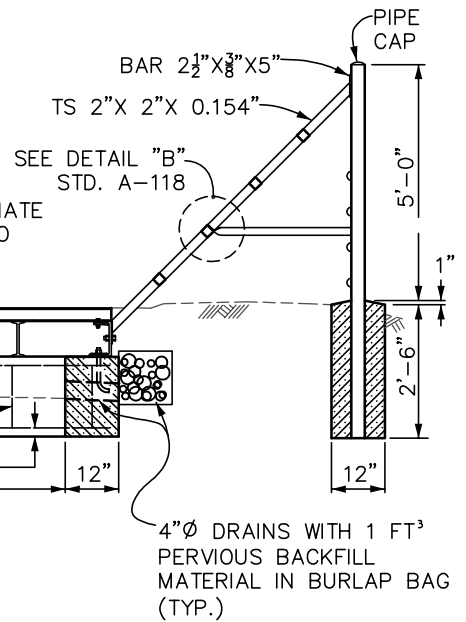
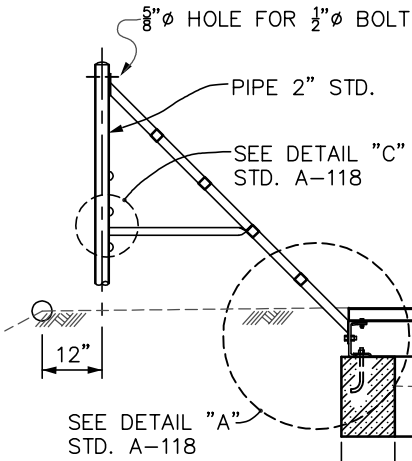
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 CLINT QUILTER - Director

COMMERCIAL DRIVEWAY

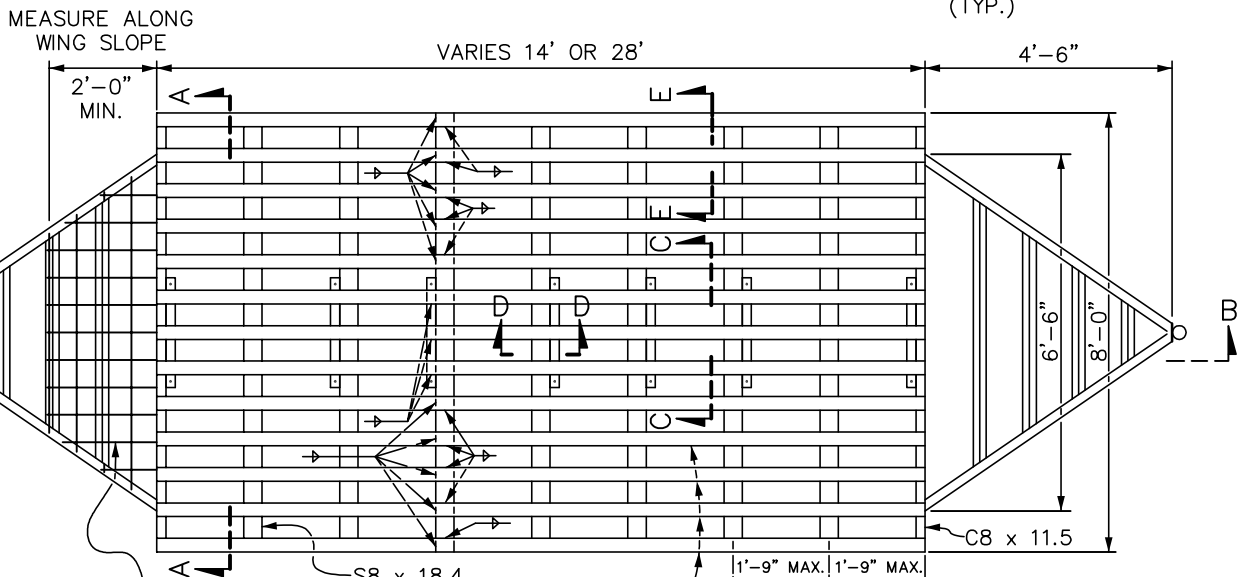
A-116



SECTION A-A



SECTION B-B



PLAN VIEW
SHOWN FOR 8'x14'

8 1/2" MAX. X 2" MIN. X 12 GA.
MIN. EA. WAY METAL MESH
(TYP. BOTH WINGS)

FOR SPACING,
SEE TABLE
(STD. A-118)

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

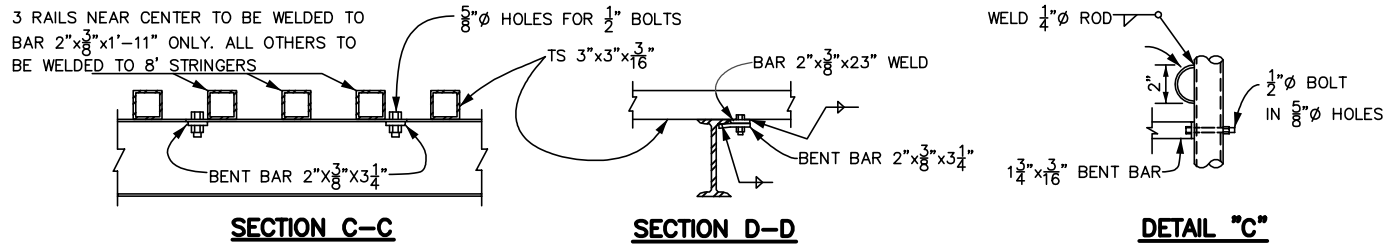
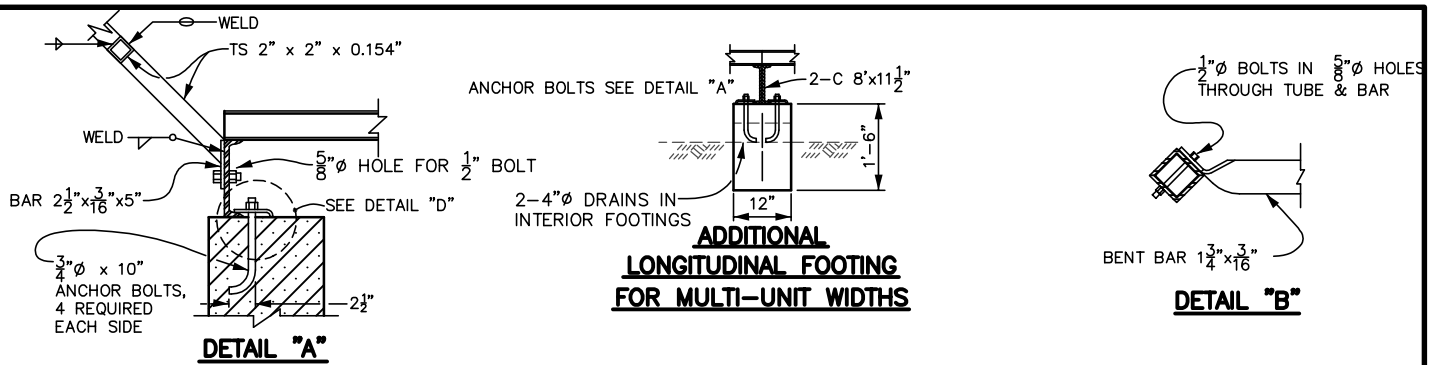
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APPROVED BY: JA

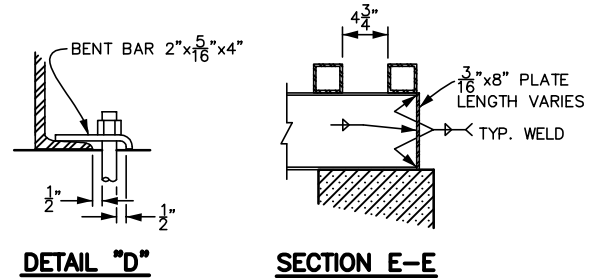
Clint Quilter
CLINT QUILTER - Director

CATTLE GUARD

A-117



FRAME SIZE		LONGITUDINAL STRINGERS		
LENGTH	WIDTH	NO.	SIZE	SPACING
8'-0"	8'-0"	4	S 8x18.4	19.25"
8'-0"	10'-0"	5	S 8x18.4	20"
8'-0"	12'-0"	6	S 8x18.4	20.5"
8'-0"	14'-0"	7	S 8x18.4	21"



GENERAL NOTES

- DESIGN: AASHTO DATED 1973 WITH REVISIONS AND AS SUPPLEMENTED BY BRIDGE PLANNING AND DESIGN MANUAL.
- LIVE LOADING: H20
- REINFORCED CONCRETE: $F_s = 20,000$ P.S.I. $N = 10$, $F_c = 2,000$ P.S.I.
- STRUCTURAL STEEL: $F_s = 20,000$ P.S.I.
- FOOTING PRESSURE: DESIGN, 1.5 TONS P.S.F.
- ALTERNATIVE DESIGN MAY BE SUBSTITUTED BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER. ALL CONCRETE TO BE CLASS B.
- FOR FINISH SEE SPECIAL PROVISIONS.
- WARP CROWNED APPROACHES TO MEET PLANE OF SINGLE FRAME WIDTH.
- DOUBLE FRAME WIDTHS SHALL BE SET TO THE CROSS SLOPES OF THE APPROACH TRAVELED WAY.
- GRADES TO BE ESTABLISHED BY THE ENGINEER.
- ALL BOLTS SHALL HAVE ONE NUT AND ONE LOCKNUT.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015
 DRAWN BY: TD
 APPROVED BY: JA

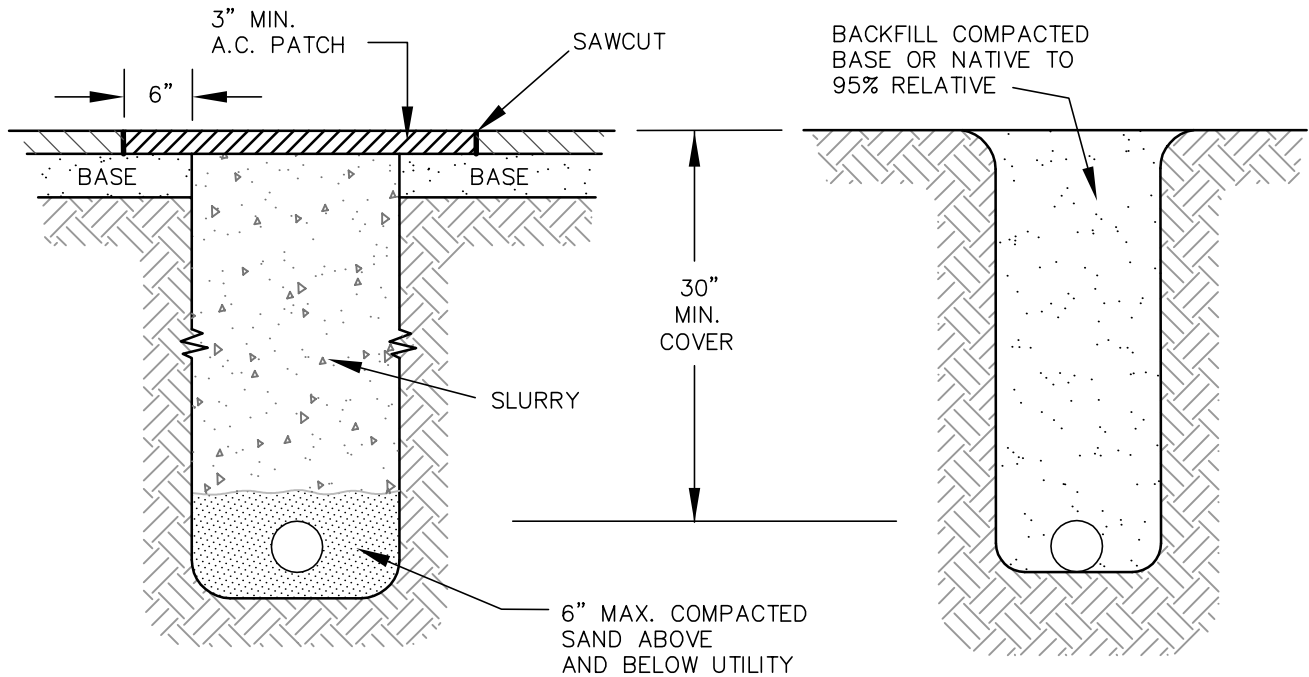
Clint Quilter
 CLINT QUILTER - Director

CATTLE GUARD
 DETAILS & NOTES

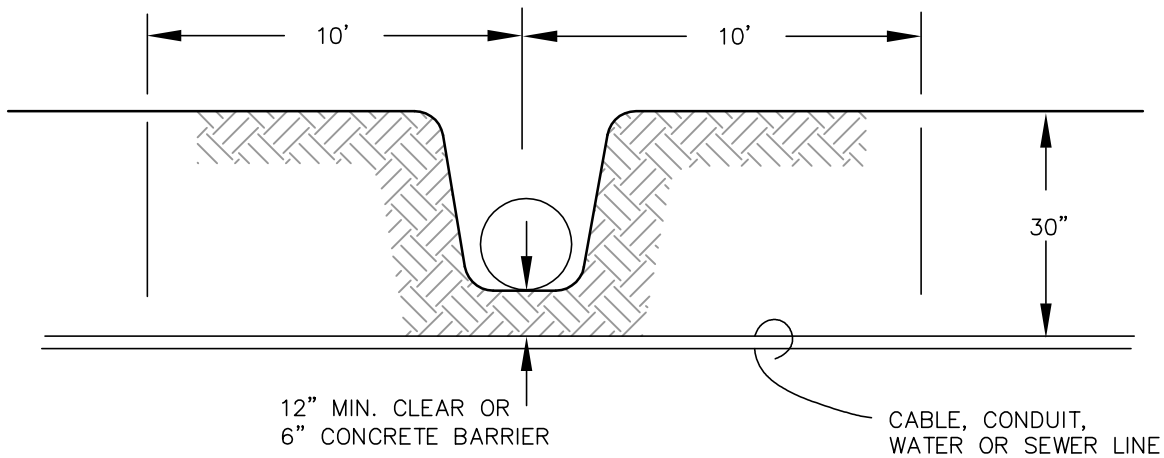
A-118

UNDER PAVED ROADS

IN SHOULDERS



UNDER A DITCH OR CULVERT



NOTES:

1. SLURRY MAY BE $1\frac{1}{2}$ SACK SLURRY BACKFILL OR LIGHTWEIGHT SLURRY BACKFILL. LIGHTWEIGHT SLURRY BACKFILL MIX DESIGN: 2600 LBS. $\frac{3}{8}$ " OR $\frac{1}{2}$ " CHIPS, 800 LBS WASHED SAND, 94 LBS CEMENT, 11 GAL. WATER.
2. TRENCHES IN PAVED AREAS SHALL BE BACKFILLED WITH SLURRY BACKFILL.
3. BACKFILL IN SHOULDER AREAS WILL BE COMPACTED TO 90% RELATIVE COMPACTION, AND THE TOP 0.5' WILL BE COMPACTED TO 95%. THE TOP 2.5' OF ANY AREA WITHIN 3' OF THE EDGE OF PAVEMENT WILL BE COMPACTED TO 95% RELATIVE.
4. COMPACTION TESTING SHALL BE REQUIRED, AT THE EXPENSE OF THE CONTRACTOR.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

DRAWN BY: TD

APPROVED BY: JA

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CLINT QUILTER - Director

STANDARD UTILITY BURIAL

A 119

**INTENTIONALLY
LEFT
BLANK**

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

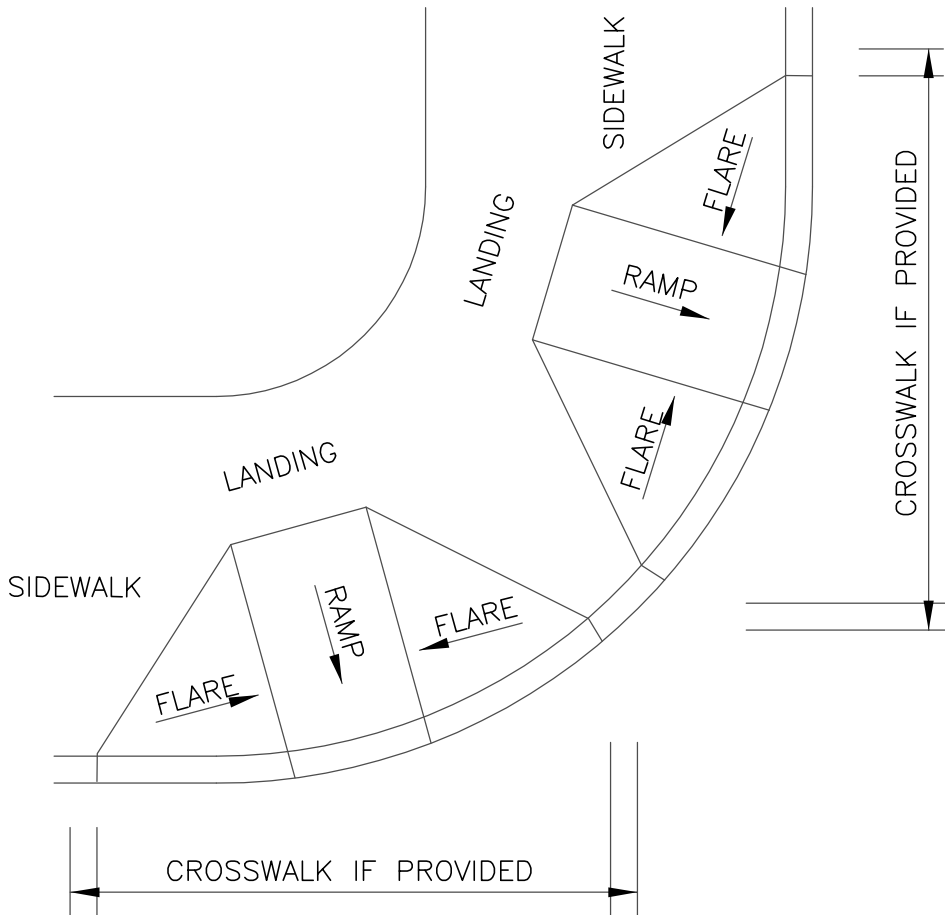
DRAWN BY: TD

APPROVED BY: JA

CLINT QUILTER – Director

[RESERVED]

A-120



PLAN VIEW
NO SCALE

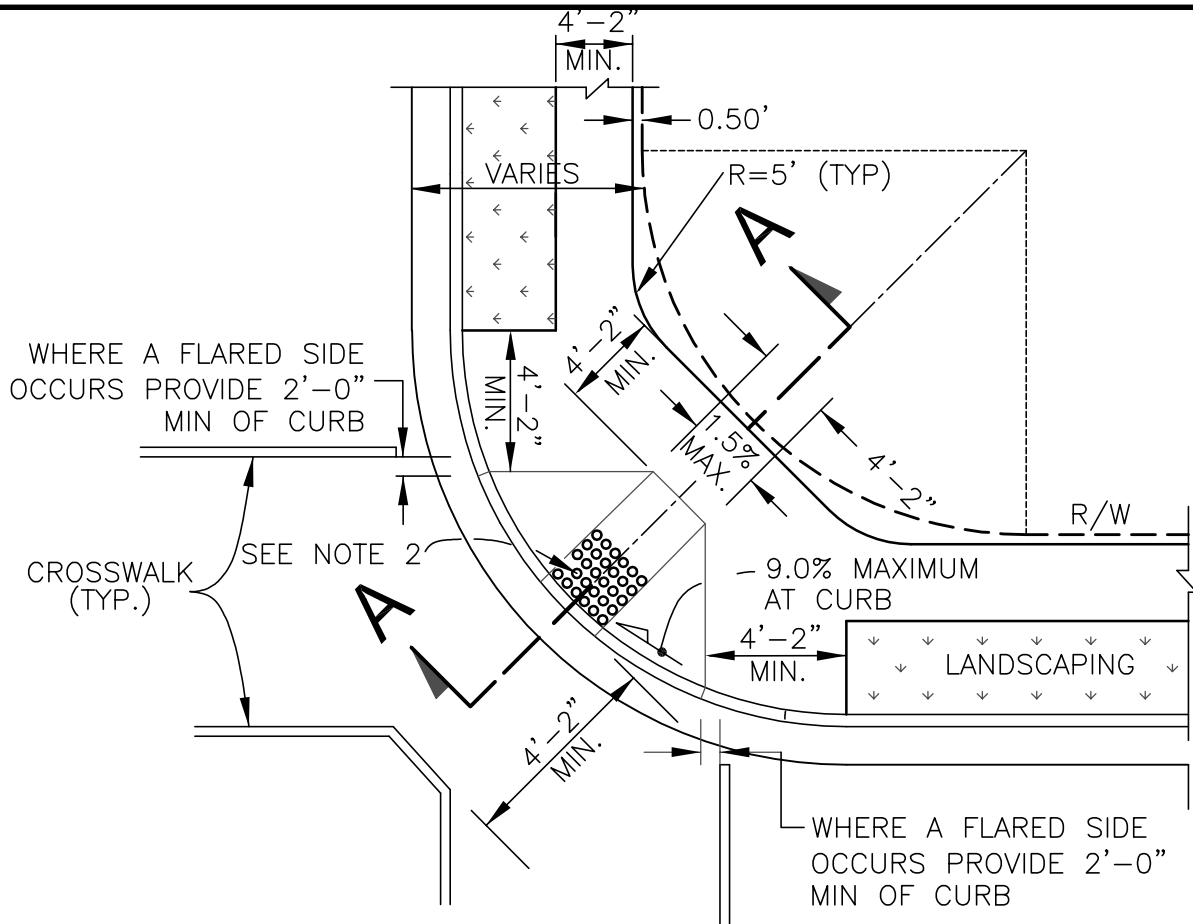
NOTE:

AS SITE CONDITIONS DICTATE, CASE A THROUGH CASE G (A-124 TO A-130) CURB RAMPS MAY BE USED. THE CASE OF CURB RAMPS USED DO NOT HAVE TO BE THE SAME.

INYO COUNTY PUBLIC WORKS DEPT.	
DATE: SEPT 2015	 CLINT QUILTER - Director
DRAWN BY: TD	
APPROVED BY: JA	

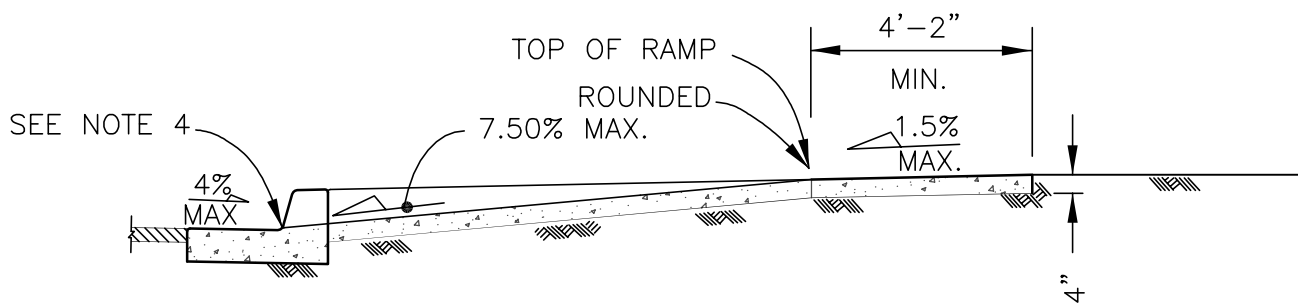
CURB RAMP
TWO RAMP CORNER INSTALLATION

A 121



PLAN VIEW

NO SCALE



SECTION A-A

NO SCALE

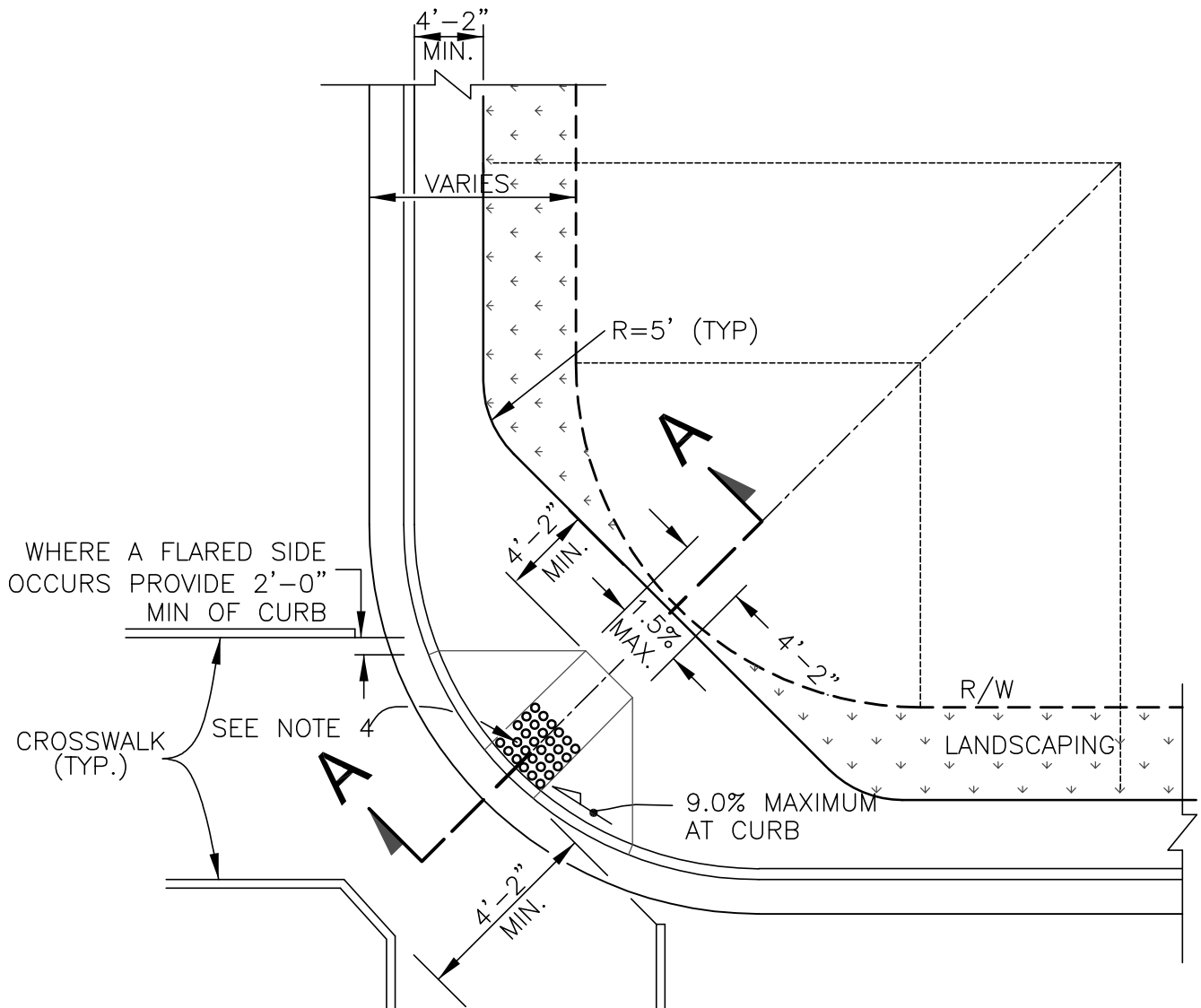
NOTES:

1. RAMP SHALL HAVE A BROOM FINISH WHICH RUNS PERPENDICULAR TO WHEELCHAIR TRAFFIC.
2. SEE STD. A-131 FOR DETECTABLE WARNING SURFACE DETAIL AND APPLICATION.
3. AS SITE CONDITIONS DICTATE, CASE A THROUGH CASE G CURB RAMPS MAY BE USED.
4. GUTTER FLOWLINE ELEVATION TO MATCH BOTTOM OF RAMP ELEVATION.

INYO COUNTY PUBLIC WORKS DEPT.
 DATE: SEPT 2015
 DRAWN BY: TD
 APPROVED BY: JA
 CLINT QUILTER - Director

CURB RAMP
 ONE RAMP INSTALLATION
 SIDEWALK SEPARATED FROM CURB

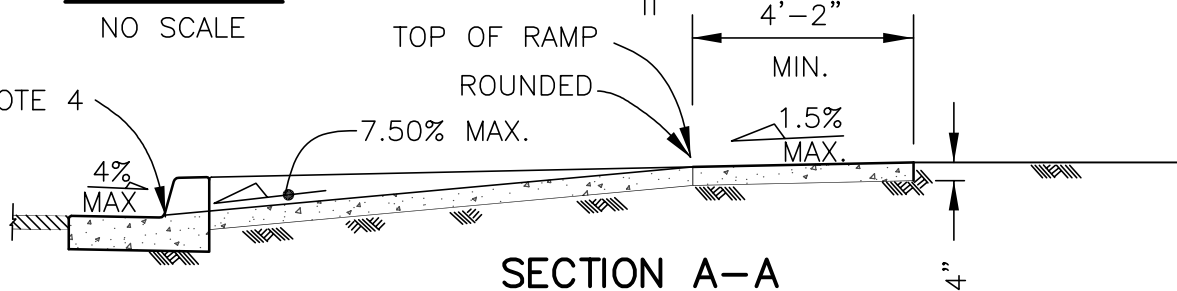
A-122



PLAN VIEW

NO SCALE

SEE NOTE 4



SECTION A-A

NO SCALE

NOTES:

1. EDGES OF RAMP SHALL BE FINISHED WITH A SCORING TOOL WHICH LEAVES EDGES ROUND.
2. RAMP SHALL HAVE A BROOM FINISH WHICH RUNS PERPENDICULAR TO WHEELCHAIR TRAFFIC.
3. SEE STD. A-131 FOR DETECTABLE WARNING SURFACE DETAIL AND SPECIFICATIONS.
4. GUTTER FLOWLINE ELEVATION TO MATCH BOTTOM OF RAMP ELEVATION.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

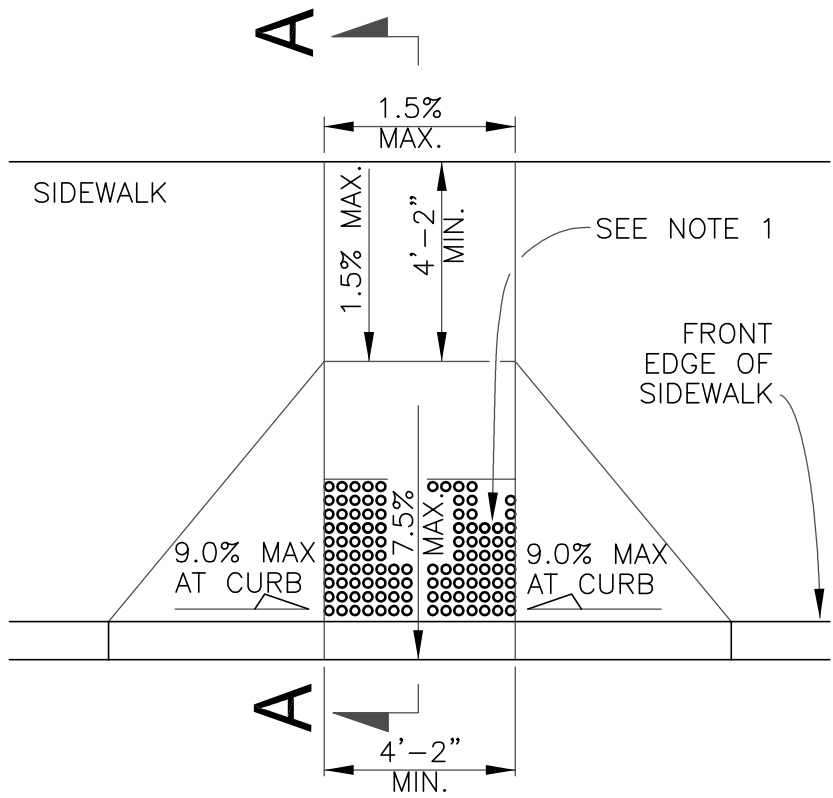
DRAWN BY: TD

APPROVED BY: JA

Clint Quilter
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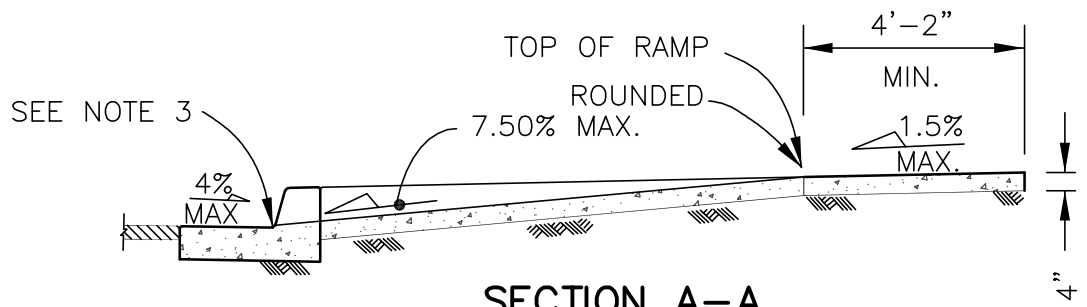
**CURB RAMP
 ONE RAMP INSTALLATION
 SIDEWALK ADJACENT TO CURB**

A-123



CASE A – PLAN VIEW

NO SCALE



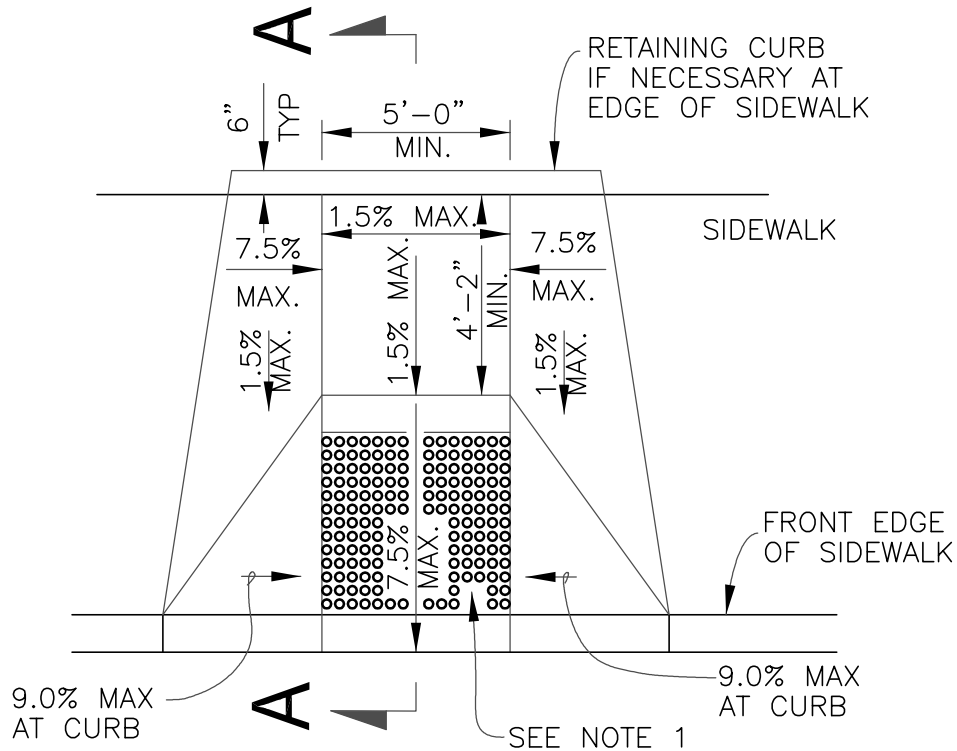
SECTION A-A

NO SCALE

NOTES:

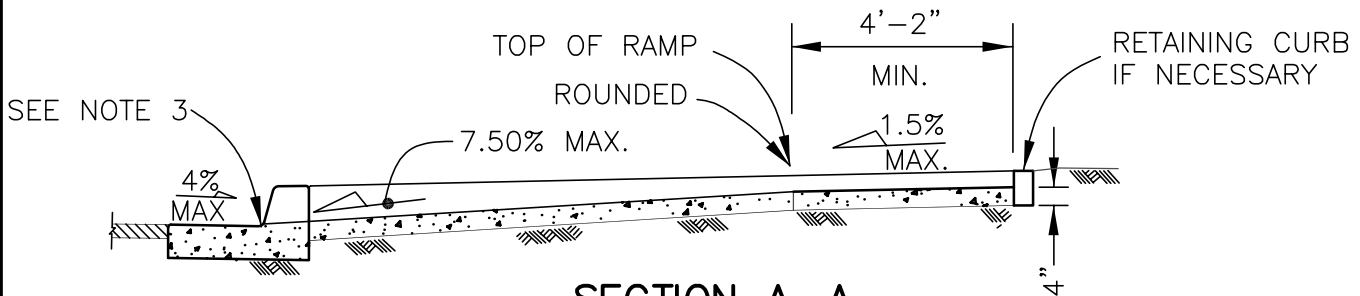
1. SEE STD. A-131 FOR DETECTABLE WARNING SURFACE DETAIL AND APPLICATION.
2. RAMP SHALL HAVE A BROOM FINISH WHICH RUNS PERPENDICULAR TO THE WHEELCHAIR TRAFFIC.
3. GUTTER FLOWLINE ELEVATION TO MATCH BOTTOM OF RAMP ELEVATION.

INYO COUNTY PUBLIC WORKS DEPT.		CURB RAMP - CASE A	A-124
DATE: SEPT 2015 DRAWN BY: TD APPROVED BY: JA	 CLINT QUILTER - Director		



CASE B – PLAN VIEW

NO SCALE



SECTION A-A

NO SCALE

DEPRESS ENTIRE SIDEWALK AS REQUIRED

NOTES:

1. SEE STD. A-131 FOR DETECTABLE WARNING SURFACE DETAIL AND APPLICATION.
2. RAMP SHALL HAVE A BROOM FINISH WHICH RUNS PERPENDICULAR TO THE WHEELCHAIR TRAFFIC.
3. GUTTER FLOWLINE ELEVATION TO MATCH BOTTOM OF RAMP ELEVATION.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

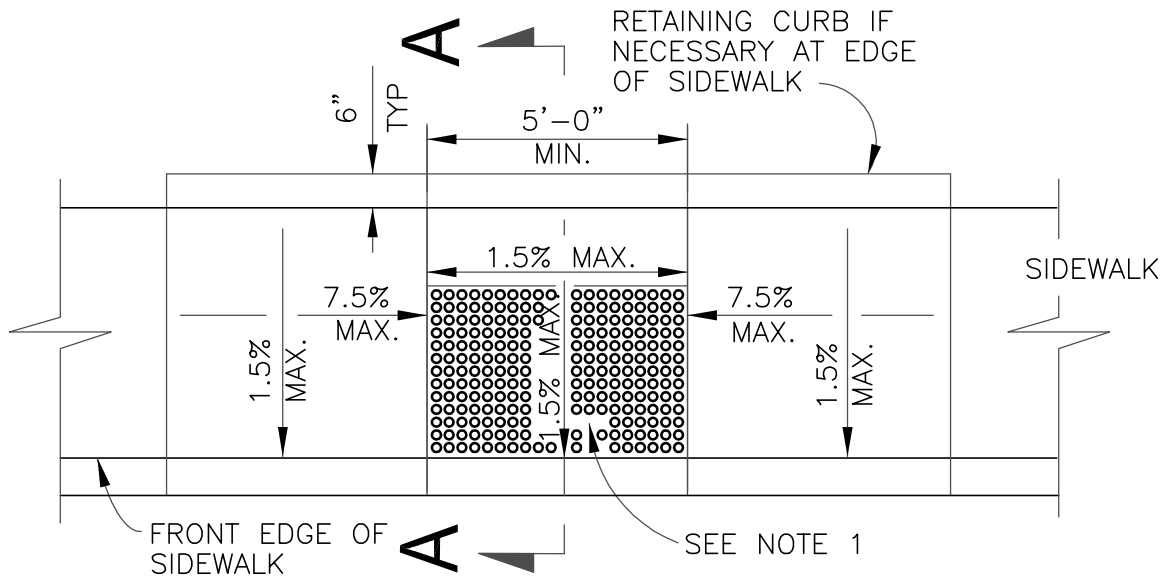
DRAWN BY: TD

APPROVED BY: JA

Clint Quilter
CLINT QUILTER – Director

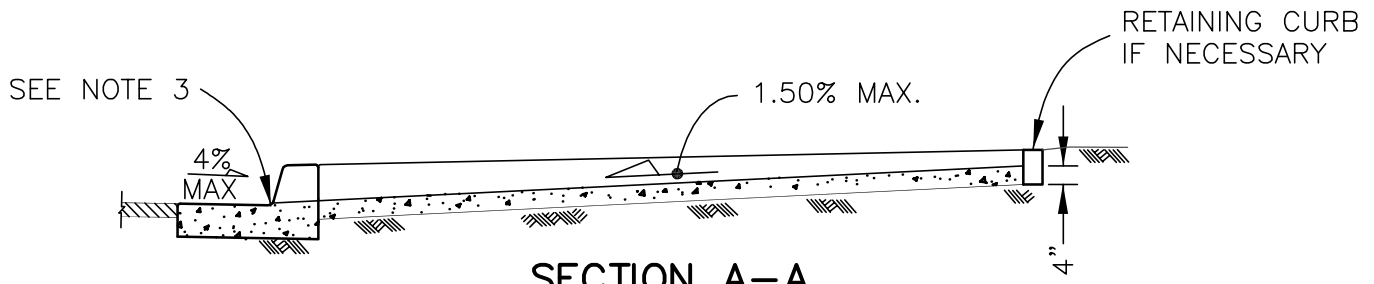
CURB RAMP - CASE B

A-125



CASE C – PLAN VIEW

NO SCALE



SECTION A-A

NO SCALE

NOTES:

1. SEE STD. A-131 FOR DETECTABLE WARNING SURFACE DETAIL AND APPLICATION.
2. RAMP SHALL HAVE A BROOM FINISH WHICH RUNS PERPENDICULAR TO THE WHEELCHAIR TRAFFIC.
3. GUTTER FLOWLINE ELEVATION TO MATCH BOTTOM OF RAMP ELEVATION.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

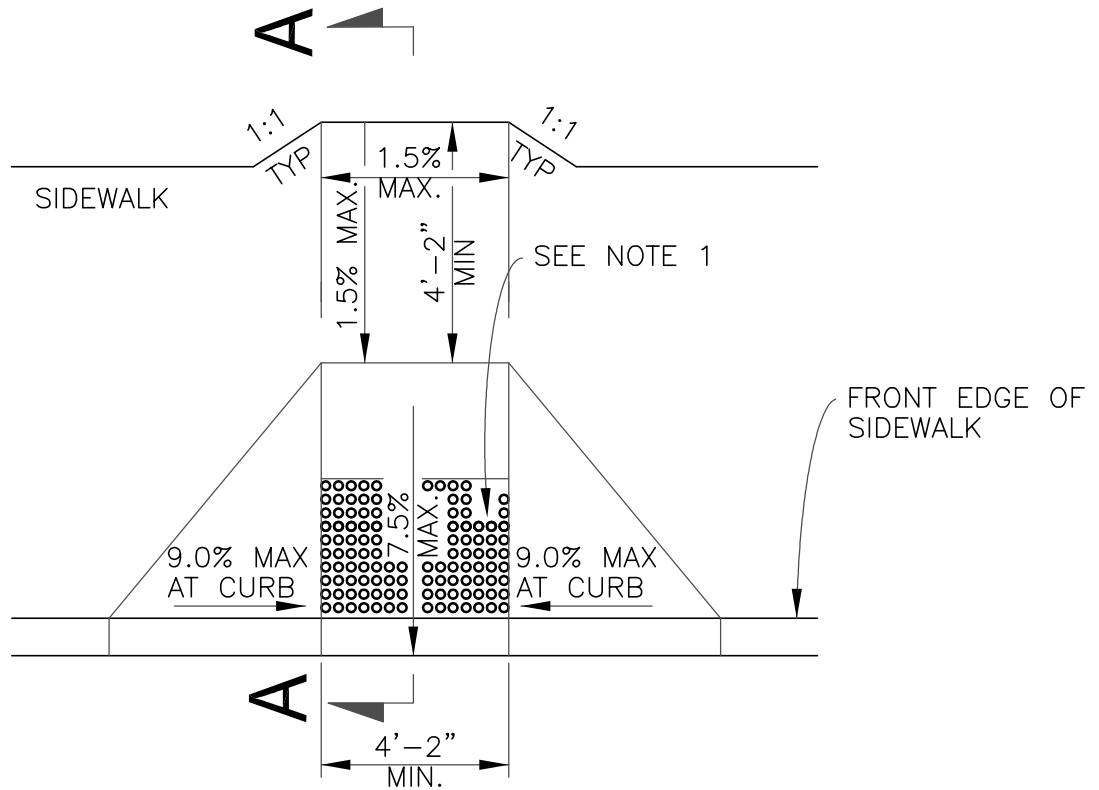
DRAWN BY: TD

APPROVED BY: JA

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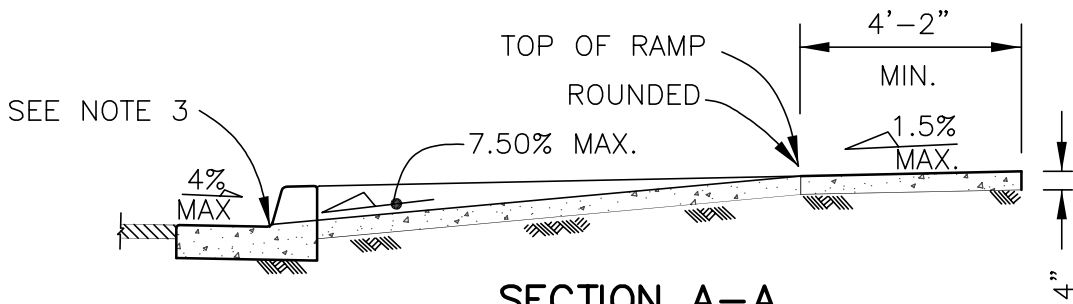
CURB RAMP - CASE C

A-126



CASE D – PLAN VIEW

NO SCALE



SECTION A-A

NO SCALE

NOTES:

1. SEE STD. A-131 FOR DETECTABLE WARNING SURFACE DETAIL AND APPLICATION.
2. RAMP SHALL HAVE A BROOM FINISH WHICH RUNS PERPENDICULAR TO THE WHEELCHAIR TRAFFIC.
3. GUTTER FLOWLINE ELEVATION TO MATCH BOTTOM OF RAMP ELEVATION.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

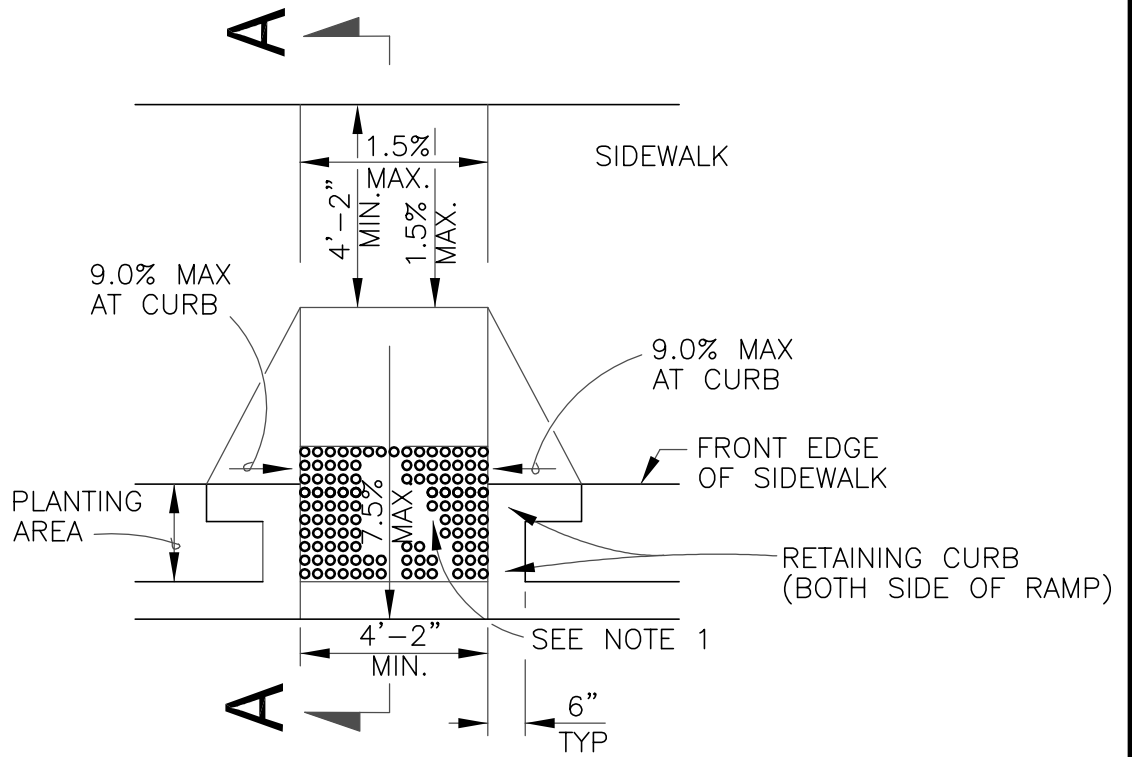
DRAWN BY: TD

APPROVED BY: JA

Clint Quilter
 CLINT QUILTER – Director

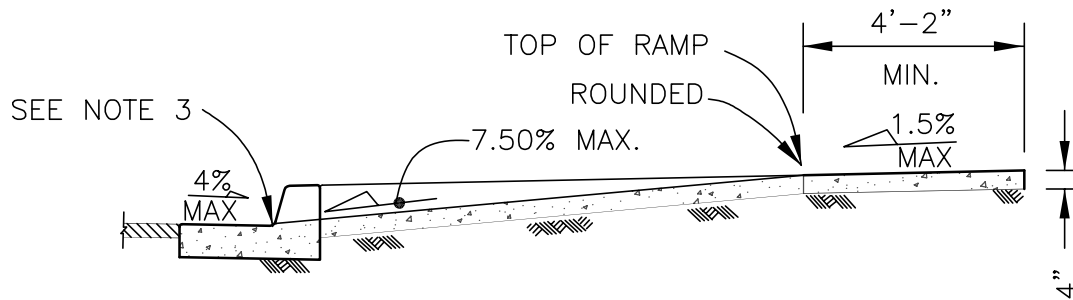
CURB RAMP - CASE D

A-127



CASE E – PLAN VIEW

NO SCALE



SECTION A-A

NO SCALE

NOTES:

1. SEE STD. A-131 FOR DETECTABLE WARNING SURFACE DETAIL AND APPLICATION.
2. RAMP SHALL HAVE A BROOM FINISH WHICH RUNS PERPENDICULAR TO THE WHEELCHAIR TRAFFIC.
3. GUTTER FLOWLINE ELEVATION TO MATCH BOTTOM OF RAMP ELEVATION.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

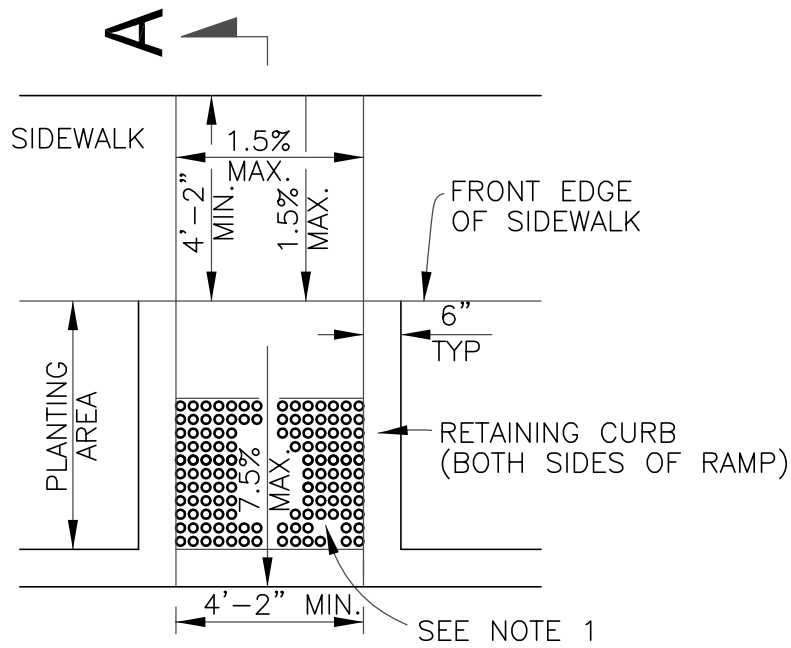
DRAWN BY: TD

APPROVED BY: JA

Clint Quilter
CLINT QUILTER – Director

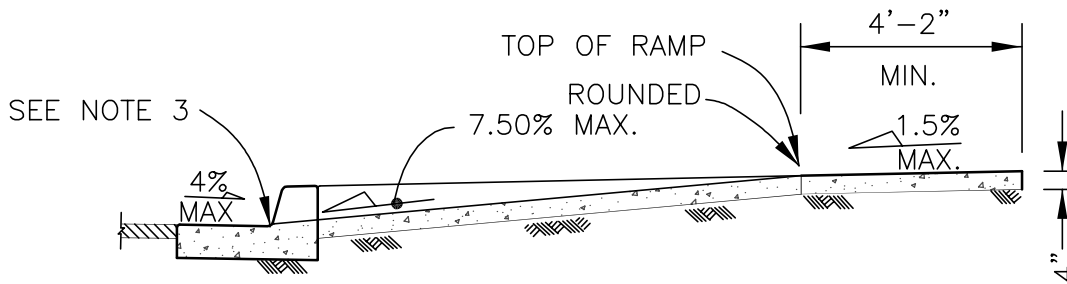
CURB RAMP - CASE E

A-128



CASE F – PLAN VIEW

NO SCALE



SECTION A-A

NO SCALE

NOTES:

1. SEE STD. A-131 FOR DETECTABLE WARNING SURFACE DETAIL AND APPLICATION.
2. RAMP SHALL HAVE A BROOM FINISH WHICH RUNS PERPENDICULAR TO THE WHEELCHAIR TRAFFIC.
3. GUTTER FLOWLINE ELEVATION TO MATCH BOTTOM OF RAMP ELEVATION.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

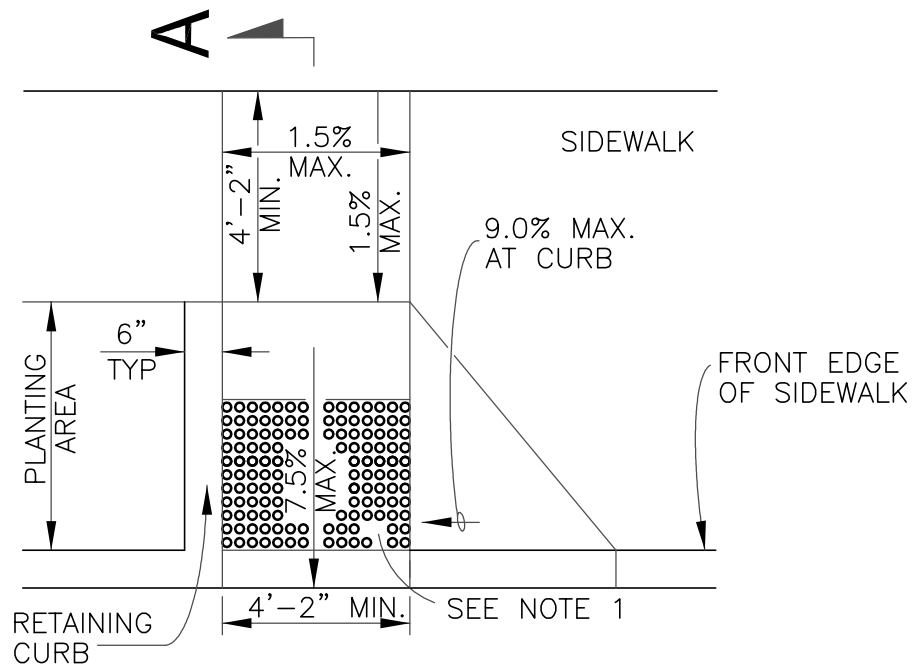
DRAWN BY: TD

APPROVED BY: JA

Clint Quilter
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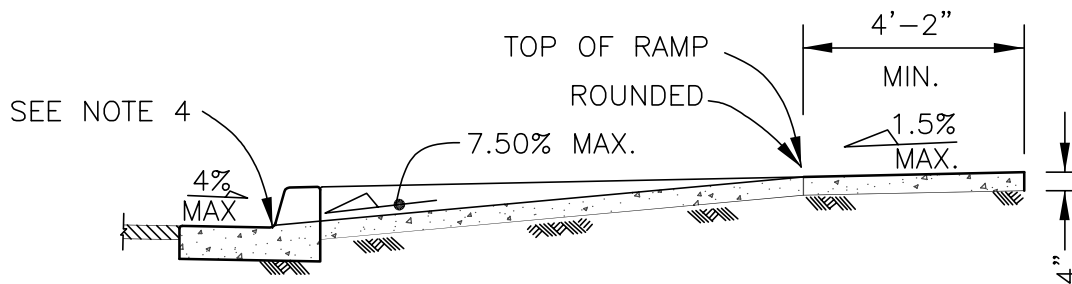
CURB RAMP - CASE F

A-129



CASE G – PLAN VIEW

NO SCALE
SEE NOTE 3



SECTION A-A

NO SCALE

NOTES:

1. SEE STD. A-131 FOR DETECTABLE WARNING SURFACE DETAIL AND APPLICATION.
2. RAMP SHALL HAVE A BROOM FINISH WHICH RUNS PERPENDICULAR TO THE WHEELCHAIR TRAFFIC.
3. AS SITE CONDITIONS DICTATE, THE RETAINING CURB SIDE AND THE FLARED SIDE OF THE CASE G RAMP SHALL BE CONSTRUCTED IN REVERSED POSITION.
4. GUTTER FLOWLINE ELEVATION TO MATCH BOTTOM OF RAMP ELEVATION.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

DRAWN BY: TD

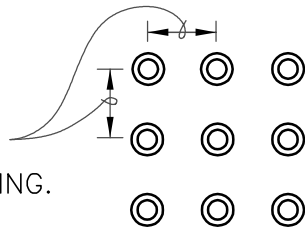
APPROVED BY: JA

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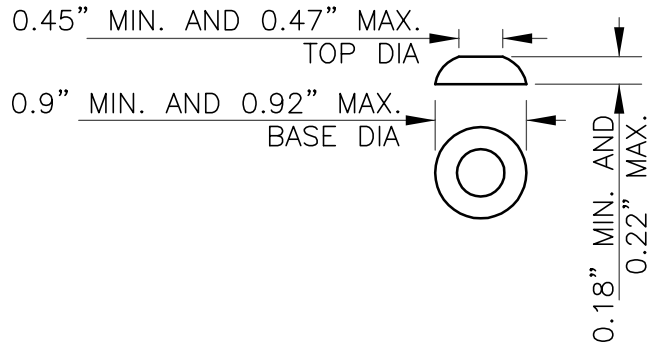
CURB RAMP - CASE G

A-130

2.3" MIN. AND 2.4" MAX.
CENTER TO CENTER SPACING.



RAISED TRUNCATED DOME PATTERN (IN-LINE)
DETECTABLE WARNING SURFACE



RAISED TRUNCATED DOME

NOTES:

1. CURB RAMPS SHALL HAVE A DETECTABLE WARNING SURFACE THAT EXTENDS THE FULL WIDTH AND 3'-0" DEPTH OF THE RAMP. A 4'-0" WIDE DETECTABLE WARNING SURFACE MAY BE USED ON A 4'-2" WIDE CURB RAMP. DETECTABLE WARNING SURFACES SHALL CONFORM TO THE REQUIREMENTS IN THE STANDARD SPECIFICATIONS.
2. THE EDGE OF THE DETECTABLE WARNING SURFACE NEAREST THE STREET SHALL BE BETWEEN 6" AND 8" FROM THE GUTTER FLOWLINE.
3. DETECTABLE WARNING SURFACE MAY HAVE TO BE CUT TO ALLOW REMOVAL OF UTILITY COVERS WHILE MAINTAINING FULL DETECTABLE WIDTH AND DEPTH.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

DRAWN BY: TD

APPROVED BY: JA

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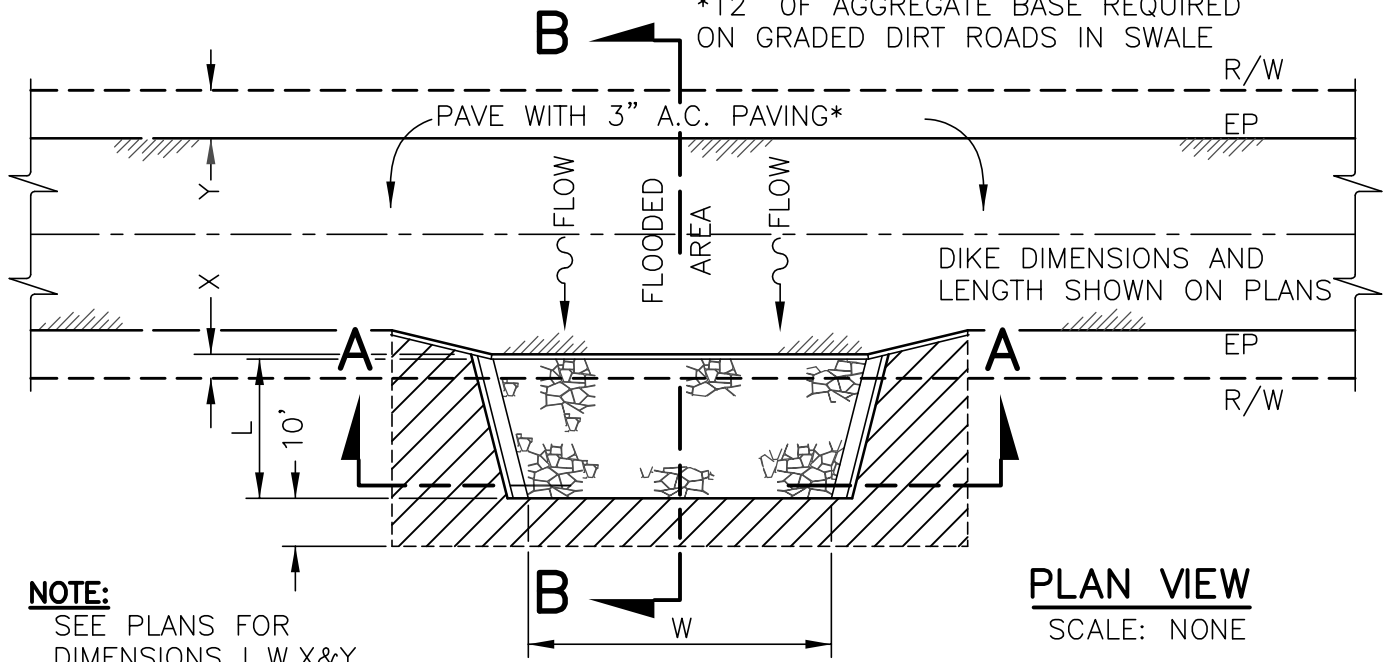
DETECTABLE SURFACE DETAIL

A-131

SECTION D

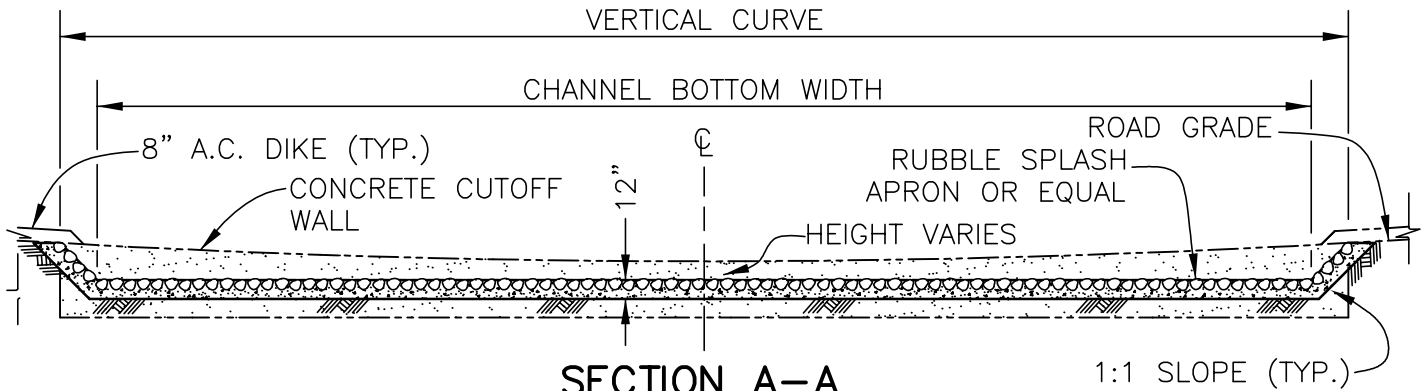
DRAINAGE IMPROVEMENTS

*12" OF AGGREGATE BASE REQUIRED ON GRADED DIRT ROADS IN SWALE



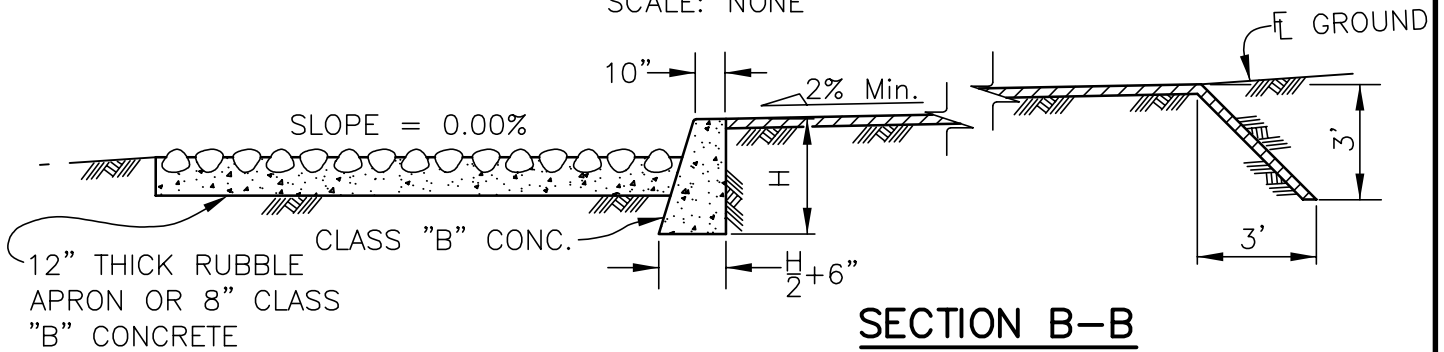
NOTE:
SEE PLANS FOR
DIMENSIONS L,W,X&Y

PLAN VIEW
SCALE: NONE



SECTION A-A
SCALE: NONE

1:1 SLOPE (TYP.)



SECTION B-B
SCALE: NONE

NOTES:

1. ALL CONCRETE TO BE CLASS "B".
2. L = SHOWN ON PLANS; H = 3' MIN., 6' MAX.
3. DRAINAGE EASEMENT REQUIRED.
4. AREA SHOWN THUS SHALL BE COMPACTED TO 90% RELATIVE DENSITY.
5. REINFORCED BLOCK WALL AND FOOTING PERMITTED.

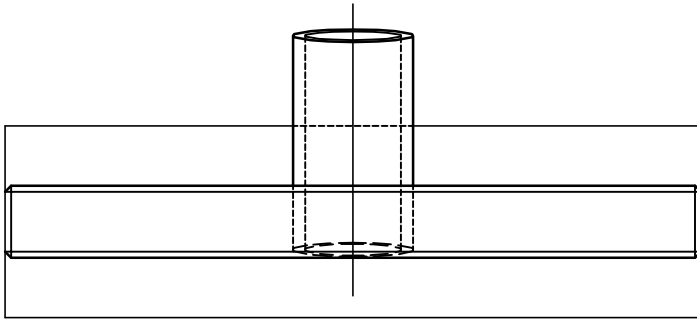
INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015
DRAWN BY: TD
APPROVED BY: JA

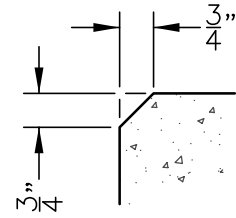
CLINT QUILTER - Director

CUTOFF WALL
FOR DRAINAGE CHANNEL

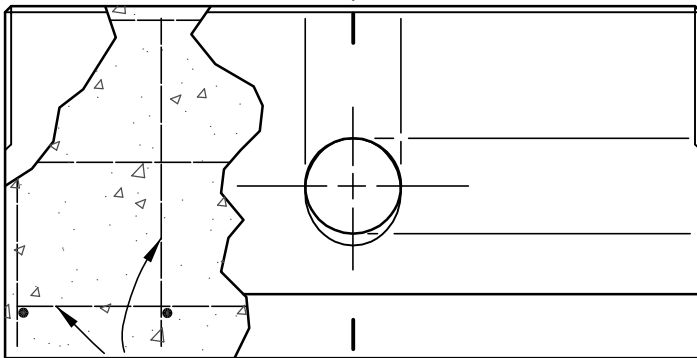
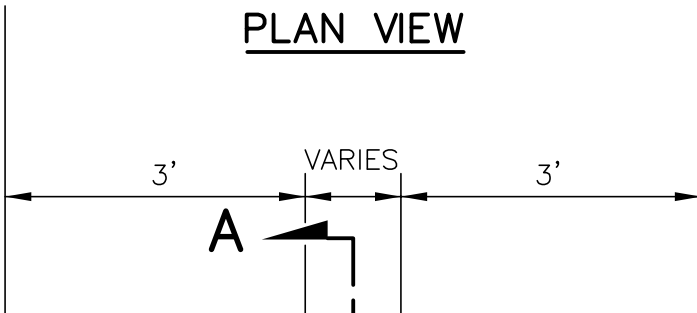
D-100



PLAN VIEW

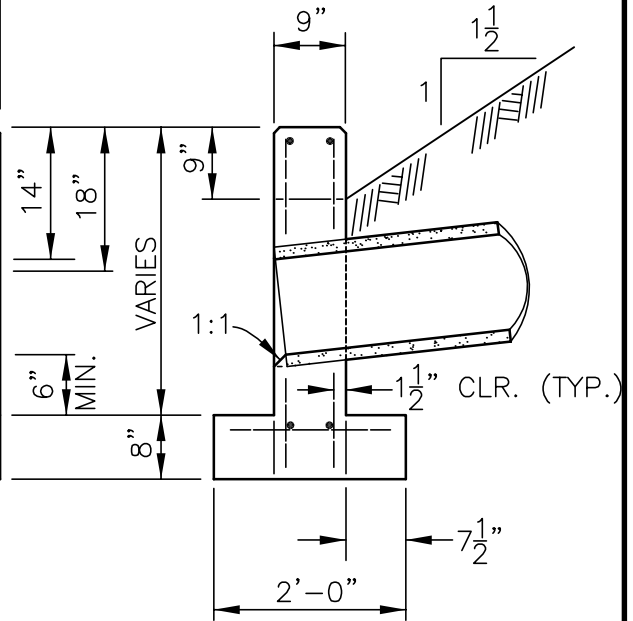


CHAMFER DETAIL



#4 @ 18" MAX.
EACH WAY

ELEVATION



SECTION A-A

NOTES:

1. ALL CONCRETE SHALL BE CLASS B.
2. EXPOSED CORNERS SHALL BE CHAMFERED $\frac{3}{4}$ " TO THE LIMITS SHOWN.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

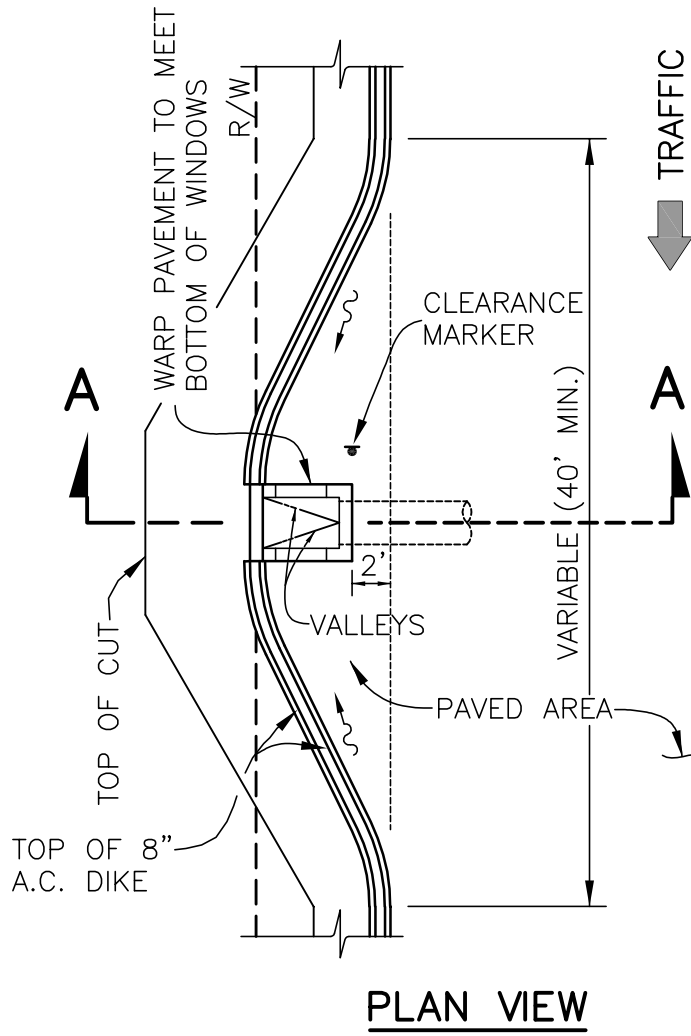
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APPROVED BY: JA

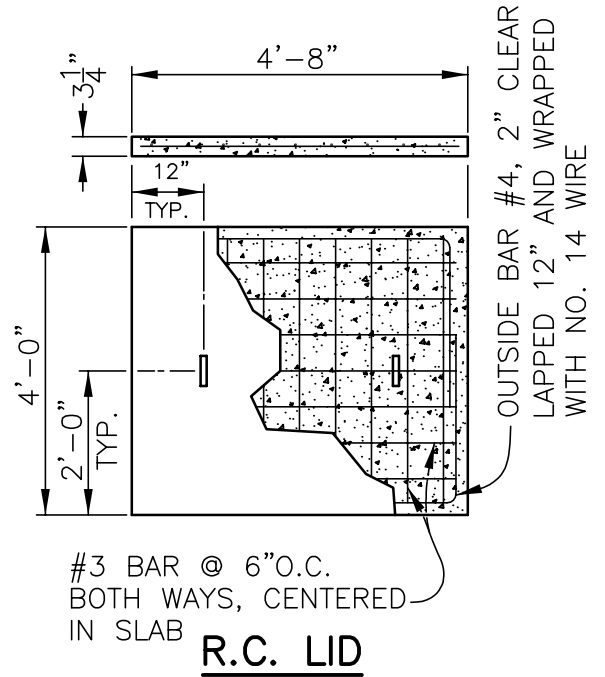
Clint Quilter
CLINT QUILTER - Director

GRAVITY HEADWALL

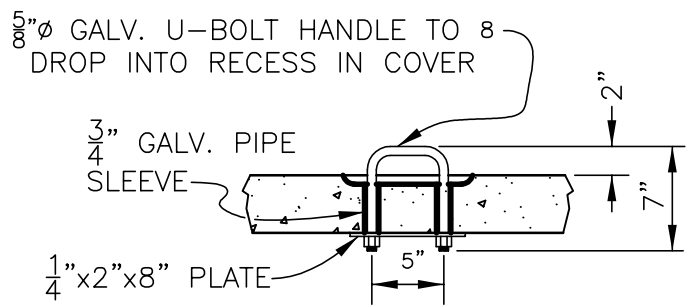
D-101



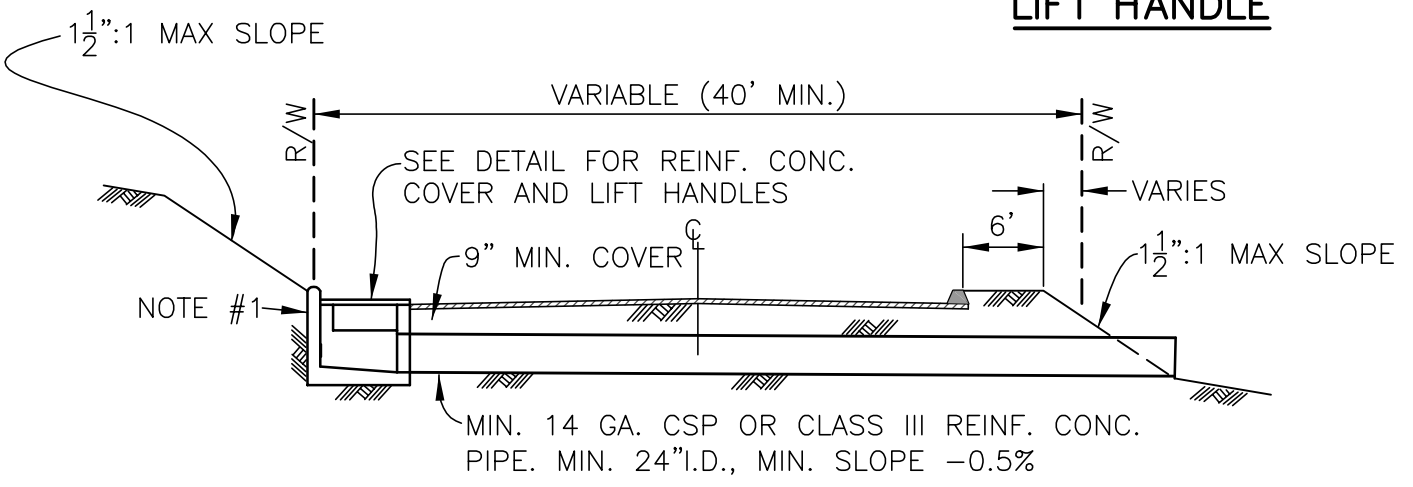
PLAN VIEW



R.C. LID



LIFT HANDLE



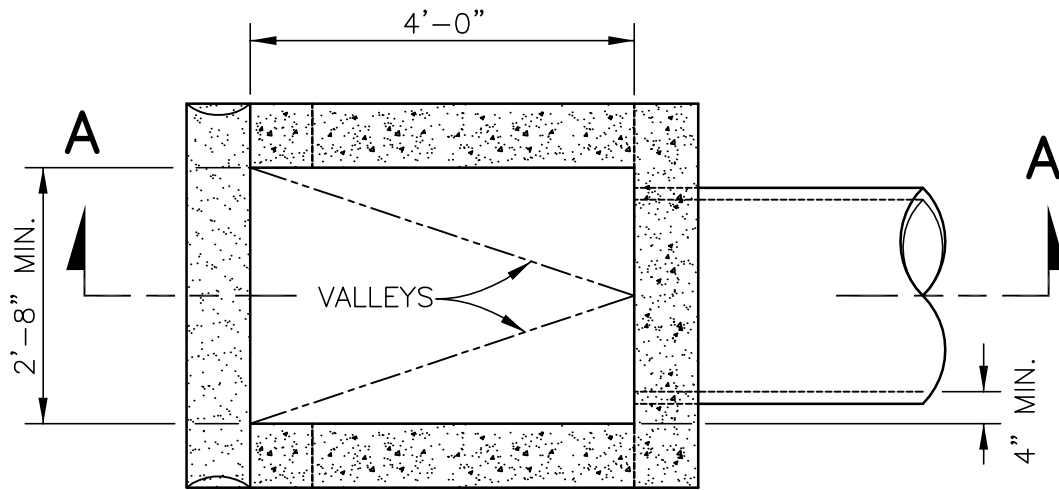
TYPICAL SECTION

NO SCALE

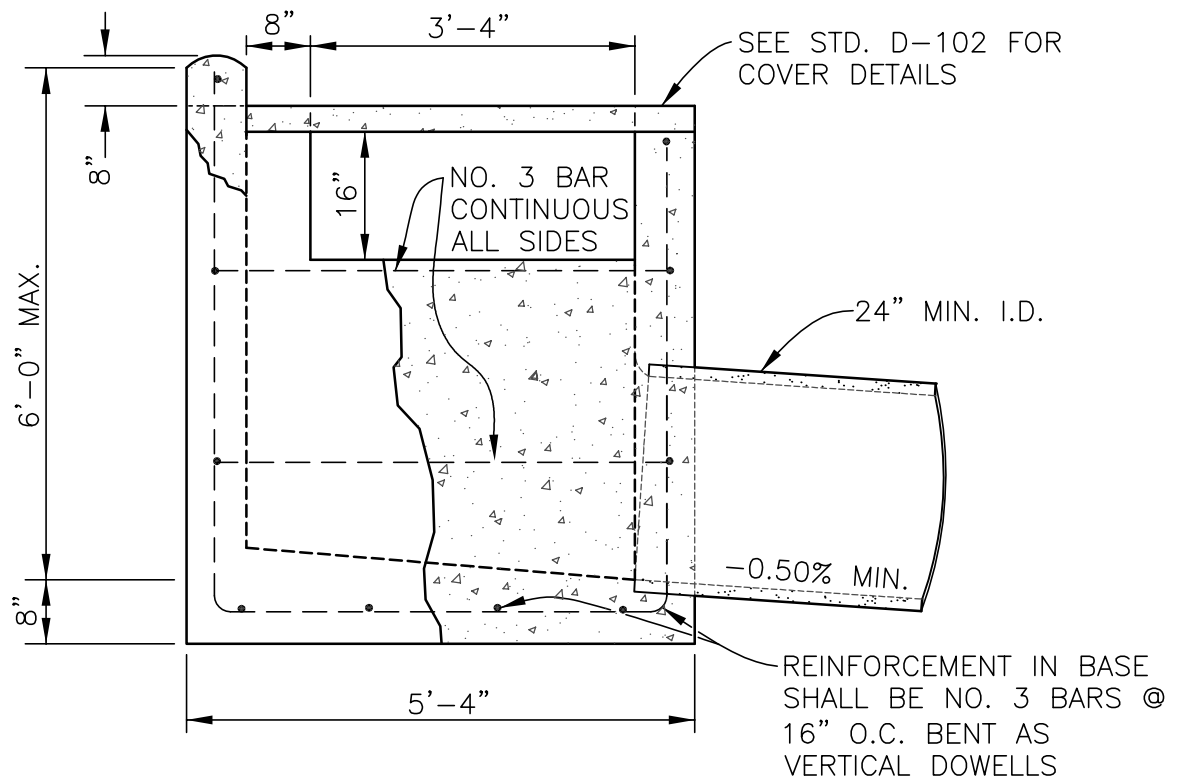
NOTES:

1. FOR CONSTRUCTION DETAILS OF CATCH BASIN SEE STD. D-103.
2. CLEAR R/W OF ALL TREES, STUMPS, BRUSH ETC. CLEAR SLOPES AND DEDICATE SLOPE EASEMENTS. NO ORGANIC MATERIAL TO BE USED IN FILL.

INYO COUNTY PUBLIC WORKS DEPT.		CATCH BASIN - MOUNTAIN ROADS	D-102
DATE: SEPT 2015			
DRAWN BY: TD			
APPROVED BY: JA			



PLAN VIEW
(LID REMOVED FOR CLARITY)



TYPICAL SECTION
NO SCALE

NOTES:

1. TYPICAL OF MONOLITHIC PRE-CAST CATCH BASIN.
2. BASE OF CATCH BASIN SHALL BE CONSTRUCTED WITH CLASS "B" CONCRETE.

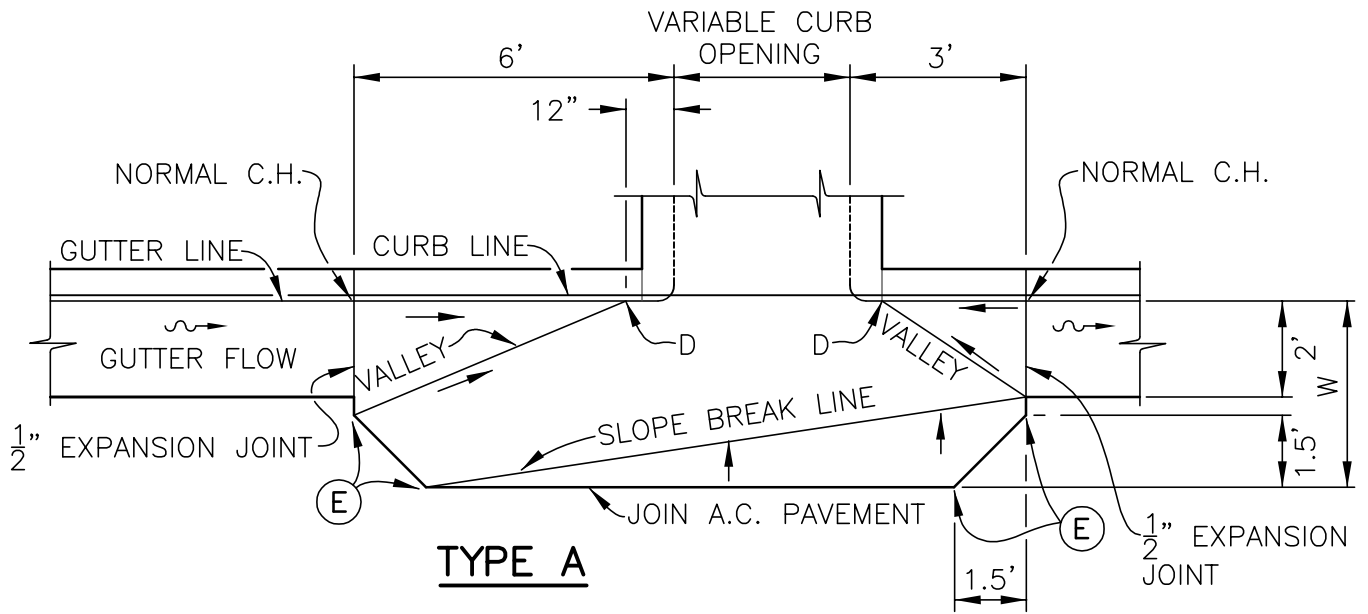
INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015
DRAWN BY: TD
APPROVED BY: JA

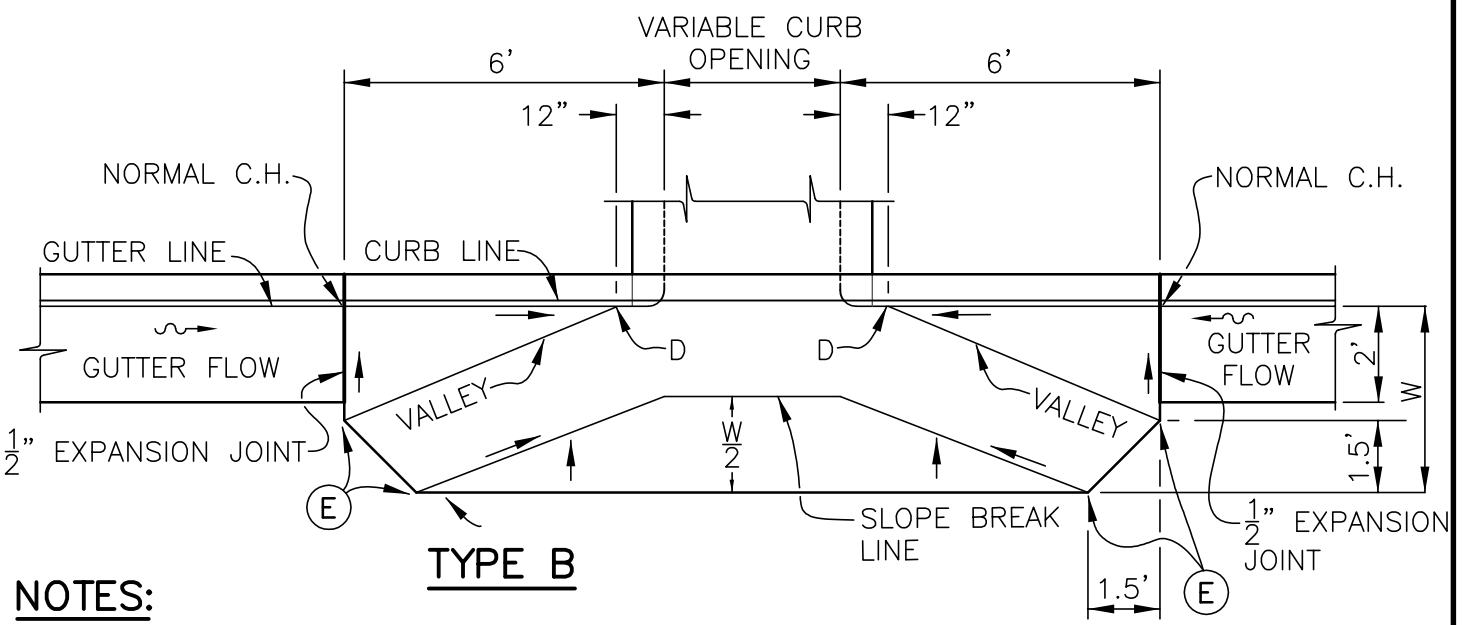
Clint Quilter
CLINT QUILTER - Director

CATCH BASIN - MOUNTAIN ROADS
DETAILS

D-103



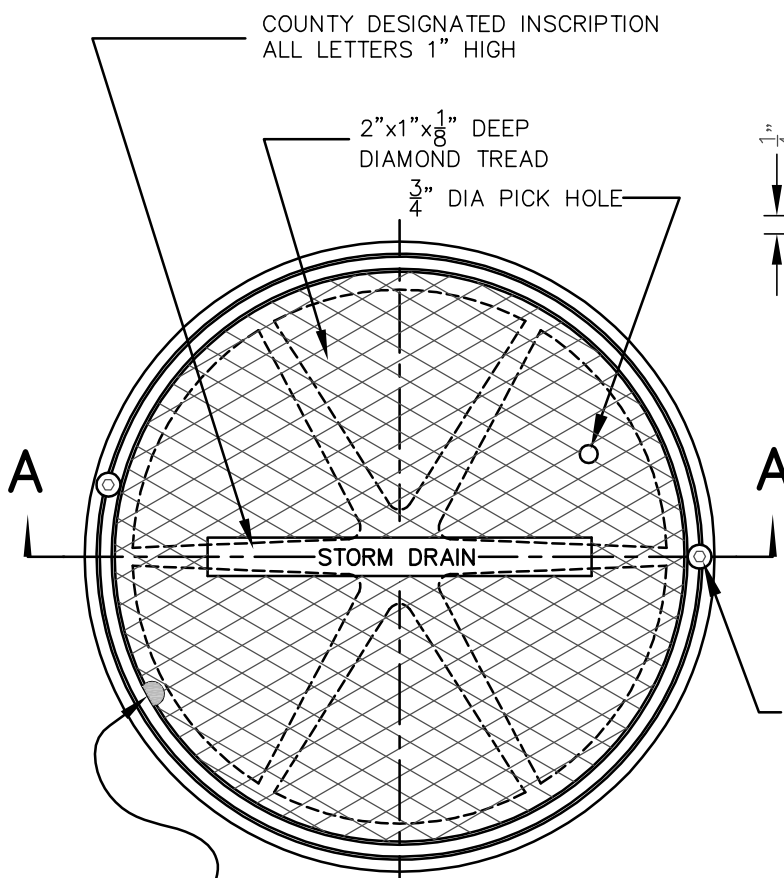
TYPE A



TYPE B

NOTES:

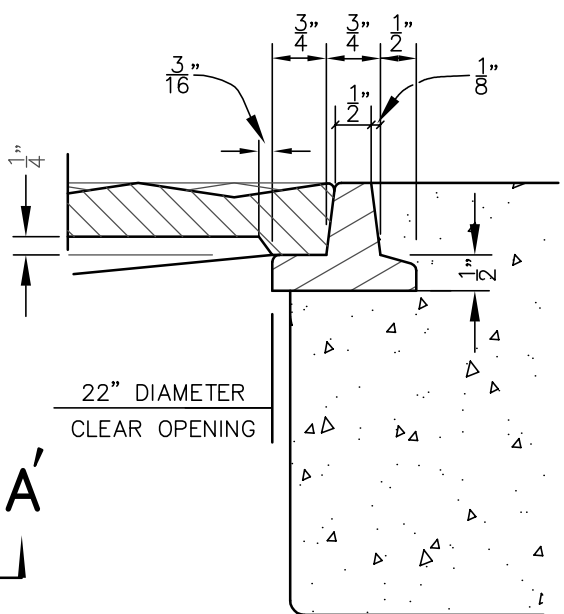
1. D=GUTTER DEPRESSION. THE GUTTER DEPRESSION SHALL BE $1\frac{1}{4}$ " FOR SHOULDER AND $1\frac{1}{4}$ " TO 3" IN CITY STREET GUTTER OR LOCATIONS OUTSIDE OF SHOULDER UNLESS OTHERWISE SHOWN.
 2. W=WIDTH OF DEPRESSED APRON. DEPRESSED APRONS SHALL BE 4' ON SHOULDER AND 4' TO 6' IN CITY STREET GUTTERS UNLESS OTHERWISE SHOWN.
 3. LOCAL DEPRESSION SHALL BE CONSTRUCTED OF CLASS "B" CONCRETE, 8" THICK.
 4. SPECIAL DETAILS GOVERNING CONSTRUCTION ON A VERTICAL CURVE SHALL BE SHOWN ON CONSTRUCTION PLANS.
- Ⓔ ELEVATIONS SHALL BE SHOWN ON CONSTRUCTION PLANS. THE OUTER EDGE OF THE LOCAL DEPRESSION SHALL CONFORM TO FINISHED STREET SURFACE.
- = STRAIGHT SLOPE, DOWNWARD GRADE.
- ~ = GUTTER OR SHOULDER DIRECTION OF FLOW.



COUNTY DESIGNATED INSCRIPTION
ALL LETTERS 1" HIGH

2"x1"x¹/₈" DEEP
DIAMOND TREAD
³/₄" DIA PICK HOLE

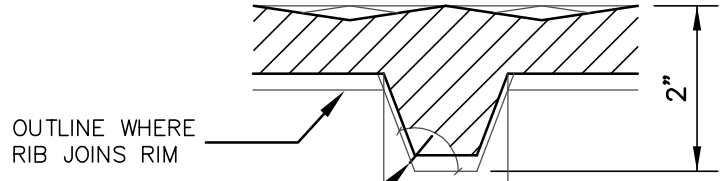
STORM DRAIN



RIM DETAIL

2 3/4"x1" SOCKET HEAD
SET SCREWS

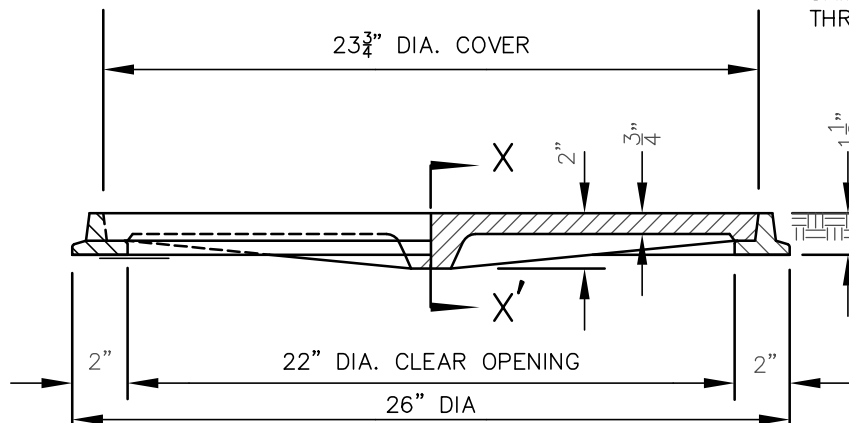
1/8" R. GAP IN RIM
OF COVER
OPPOSITE PICK HOLE



SAME ANGLE
THROUGHOUT

SECTION X-X'

MATCH EXISTING
GROUND

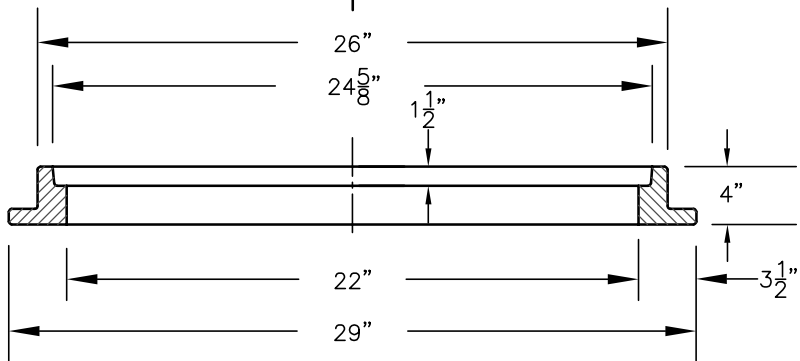
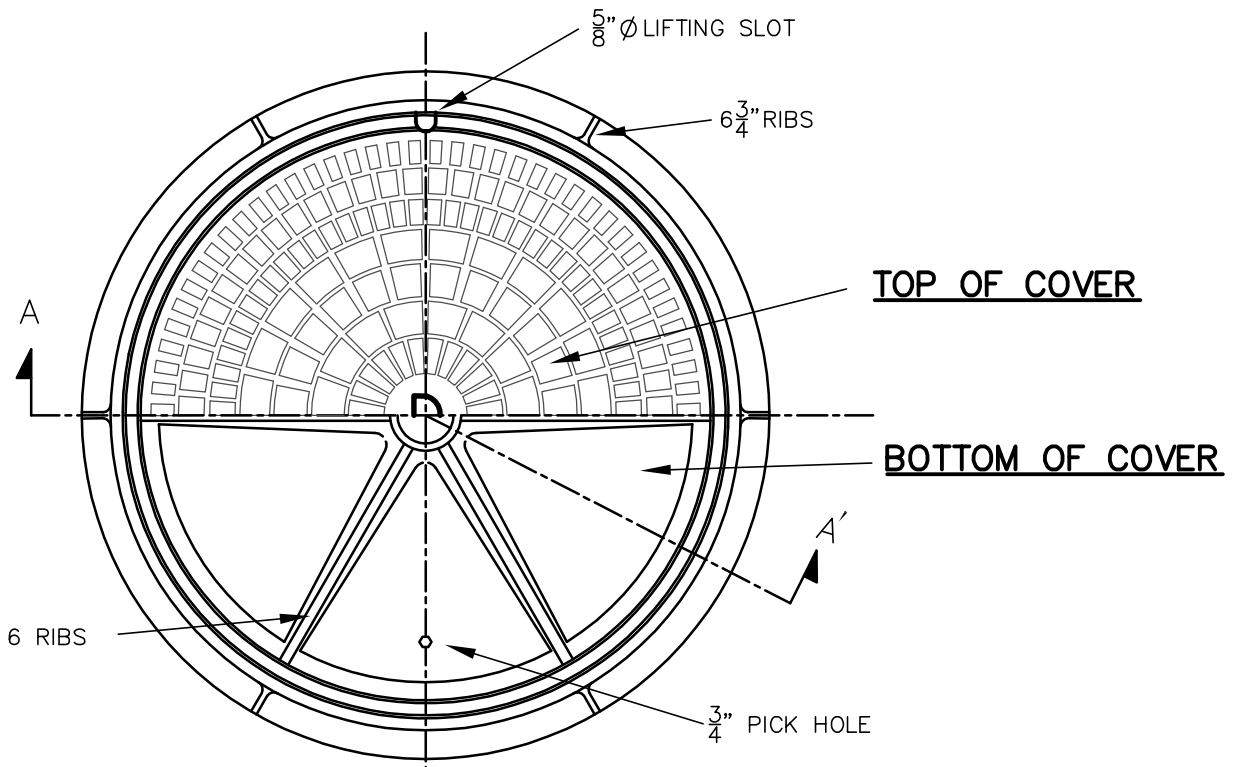


SECTION A-A'
NO SCALE

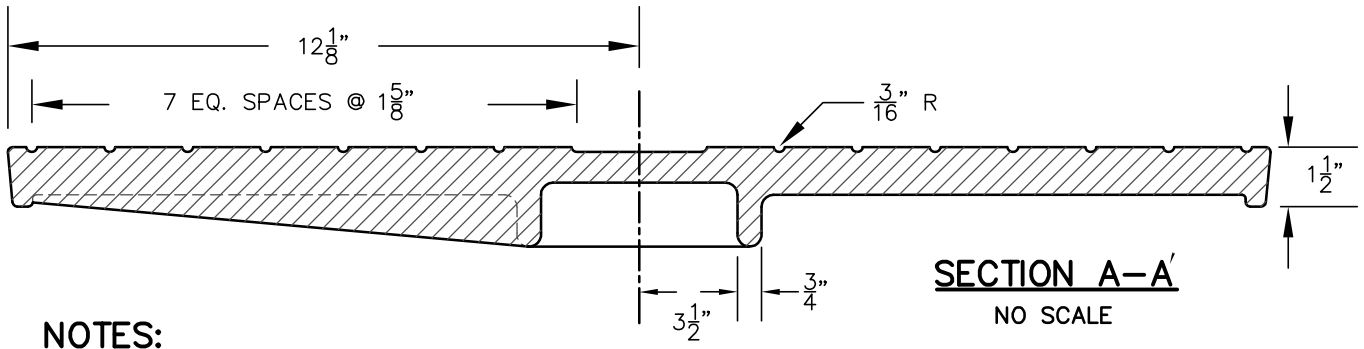
NOTES:

1. SEATS OF FRAME AND COVER SHALL BE MACHINED TO PREVENT NOISE.
2. THE TOTAL WEIGHT OF CAST IRON FRAME AND COVER SHALL BE 130 LB. MIN.
3. ALHAMBRA FOUNDRY SOLID COVER AND FRAME, P.N. A-1530 OR EQUIVALENT SHALL BE USED.
4. TYPICAL OF 24" MANHOLE, SIZE MAY VARY AS SPECIFIED IN PLANS.

INYO COUNTY PUBLIC WORKS DEPT.		24" MANHOLE FRAME & COVER PARKWAY	D-105
DATE: SEPT 2015 DRAWN BY: TD APPROVED BY: JA	 CLINT QUILTER - Director		



SECTION THRU RIM
NO SCALE



SECTION A-A'
NO SCALE

NOTES:

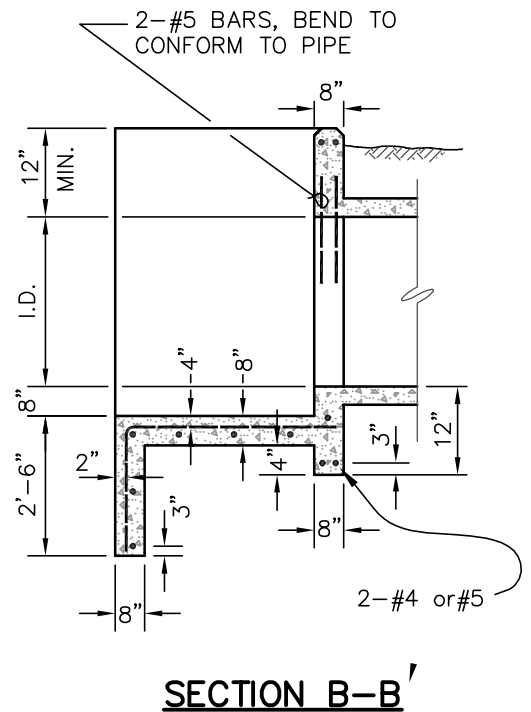
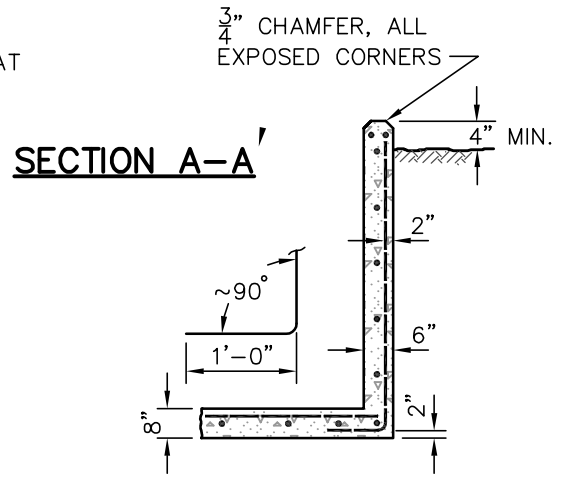
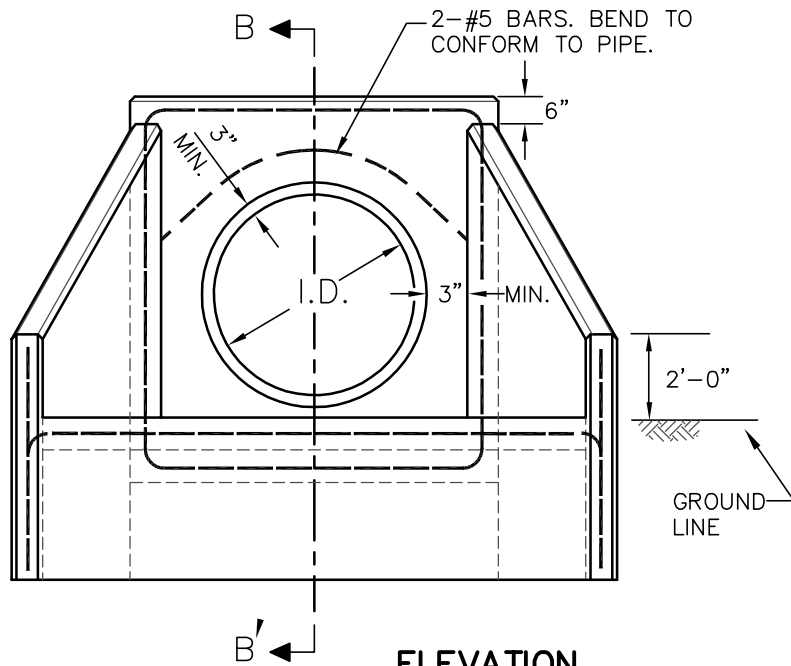
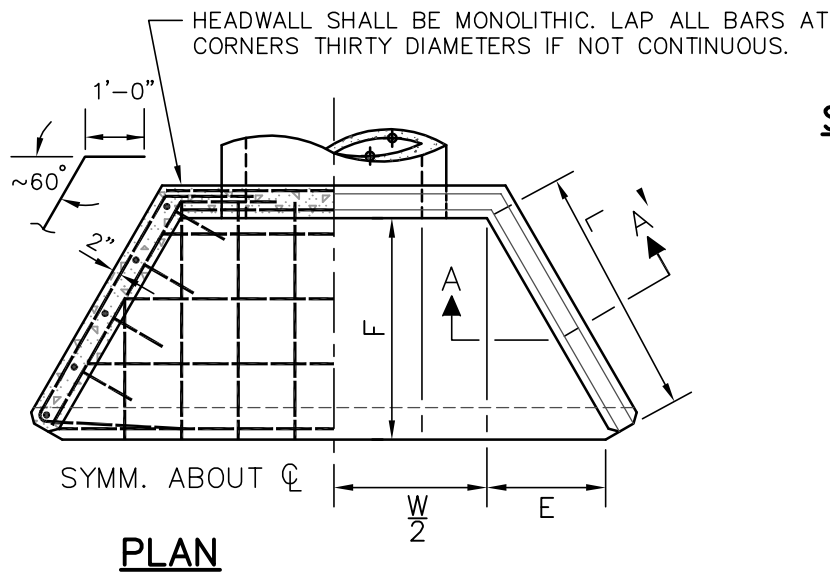
1. SEATS OF FRAME AND COVER SHALL BE MACHINED TO PREVENT NOISE.
2. THE TOTAL WEIGHT OF CAST IRON FRAME AND COVER SHALL BE 325 LB. MIN.
3. ALHAMBRA FOUNDRY SOLID COVER AND FRAME, P.N. A-1311 OR EQUIVALENT SHALL BE USED.
4. TYPICAL OF 24" MANHOLE, SIZE MAY VARY AS SPECIFIED IN PLANS.
5. COVERS SHALL BE CAST WITH THE LETTER "S" FOR SEWER AND "D" FOR STORM DRAIN. LETTERS WILL BE APPROX. 2 1/2" HIGH.

INYO COUNTY PUBLIC WORKS DEPT.
 DATE: SEPT 2015
 DRAWN BY: TD
 APPROVED BY: JA

Clint Quilter
 CLINT QUILTER - Director

24" MANHOLE FRAME & COVER
 ROADWAY

D-106



NOTES:

1. ALL CONCRETE SHALL BE CLASS A.
2. BAR SPACING APPROXIMATELY 1'-0" O.C. UNLESS OTHERWISE NOTED.
3. ALL REINFORCING BARS SHALL BE #4 FOR "W" UP TO 60", EXCEPT AS NOTED. ABOVE 60" # 5 BARS SHALL BE USED. 2" MIN. CLEARANCE, LAP 30 DIA, ALL STEEL.
4. ADJACENT SLOPES SHALL BE $1\frac{1}{2}$ " TO 1 OR FLATTER.
5. MULTIPLE PIPES TO BE SET WITH LONGITUDINAL CENTERS $1\frac{2}{3}$ " DIAMETERS APART.
6. ALL EXPOSED CORNERS SHALL BE CHAMFERED $\frac{3}{4}$ ".
7. "W" SHALL BE INCREASED WHEN MULTIPLE PIPES OR PIPES ON SKEW ARE USED.

PIPE I.D.	DIMENSIONS			
	L	E	F APPROX.	W
12"	3'-6"	2'-0"	3'-0"	1'-6"
18"	4'-2"	2'-4"	3'-6"	2'-0"
24"	4'-9"	2'-8"	4'-0"	2'-6"
30"	5'-5"	3'-0"	4'-6"	3'-0"
36"	6'-0"	3'-4"	5'-0"	3'-8"
42"	6'-7"	3'-8"	5'-6"	4'-2"
48"	7'-3"	4'-0"	6'-0"	4'-10"
54"	8'-2"	4'-6"	6'-9"	5'-4"
60"	8'-6"	5'-0"	7'-6"	6'-0"

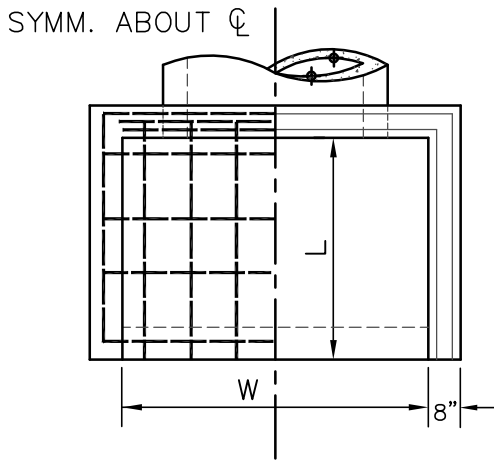
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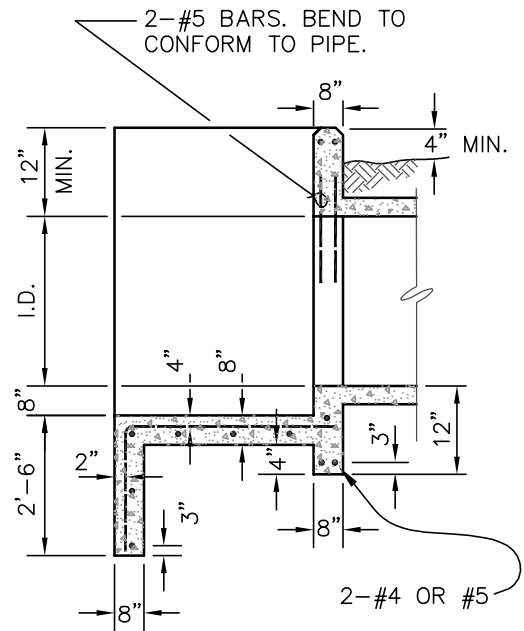
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HEADWALL - WING TYPE

D-107

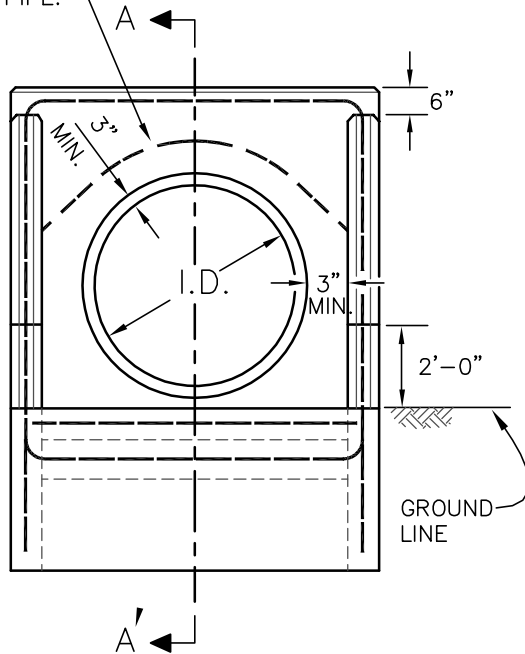


PLAN



SECTION A-A'

2-#5 BARS. BEND TO CONFORM TO PIPE.



ELEVATION

PIPE I.D.	DIMENSIONS	
	L	W
12"	3'-0"	1'-6"
18"	3'-6"	2'-0"
24"	4'-0"	2'-6"
30"	4'-6"	3'-0"
36"	5'-0"	3'-8"
42"	5'-6"	4'-2"
48"	6'-0"	4'-10"
54"	6'-9"	5'-4"

NOTES:

1. ALL CONCRETE SHALL BE CLASS A.
2. BAR SPACING APPROXIMATELY 1'-0" O.C. UNLESS OTHERWISE NOTED.
3. ALL REINFORCING BARS SHALL BE #4 FOR "W" UP TO 60", EXCEPT AS NOTED. ABOVE 60" #5 BARS SHALL BE USED. 2" MIN. CLEARANCE, LAP 30 DIA, ALL STEEL.
4. ADJACENT SLOPES SHALL BE 1.5:1 OR FLATTER.
5. MULTIPLE PIPES TO BE SET WITH LONGITUDINAL CENTERS $1\frac{2}{3}$ DIAMETERS APART.
6. ALL EXPOSED CORNERS SHALL BE CHAMFERED $\frac{3}{4}$ ".
7. "W" SHALL BE INCREASED WHEN MULTIPLE PIPES OR PIPES ON SKEW ARE USED.

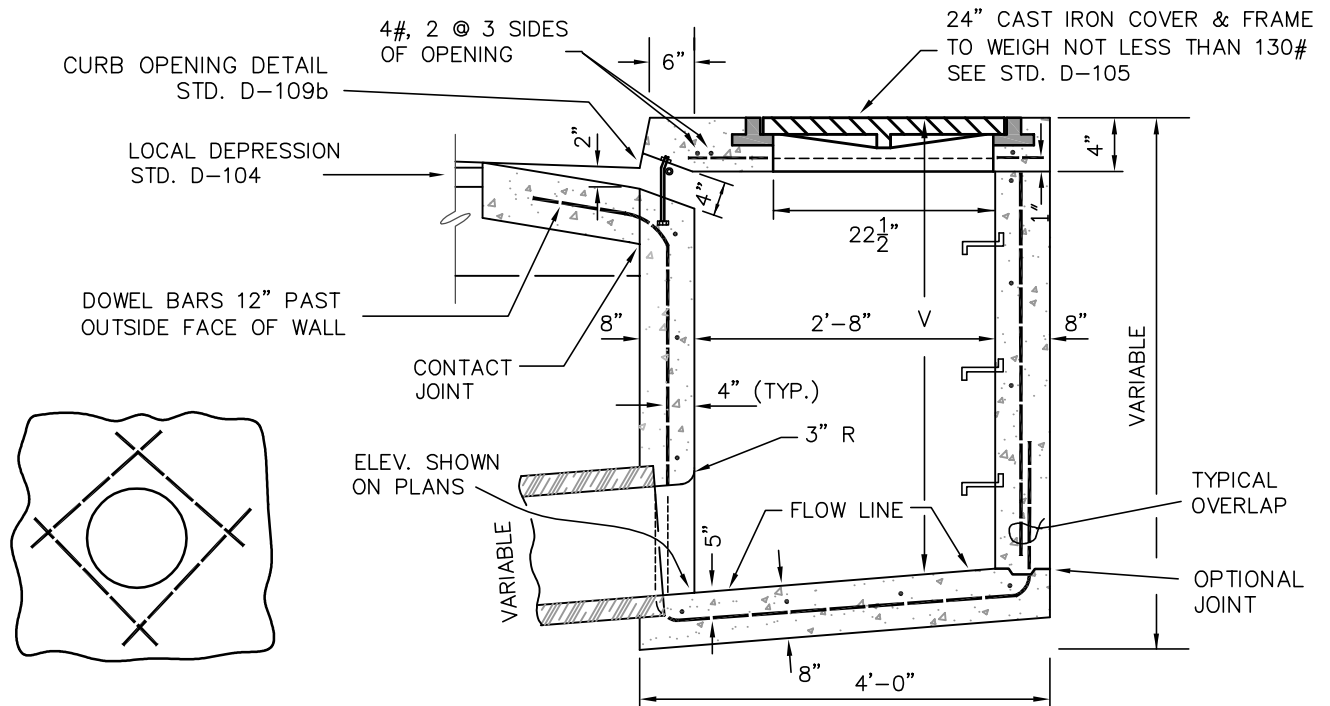
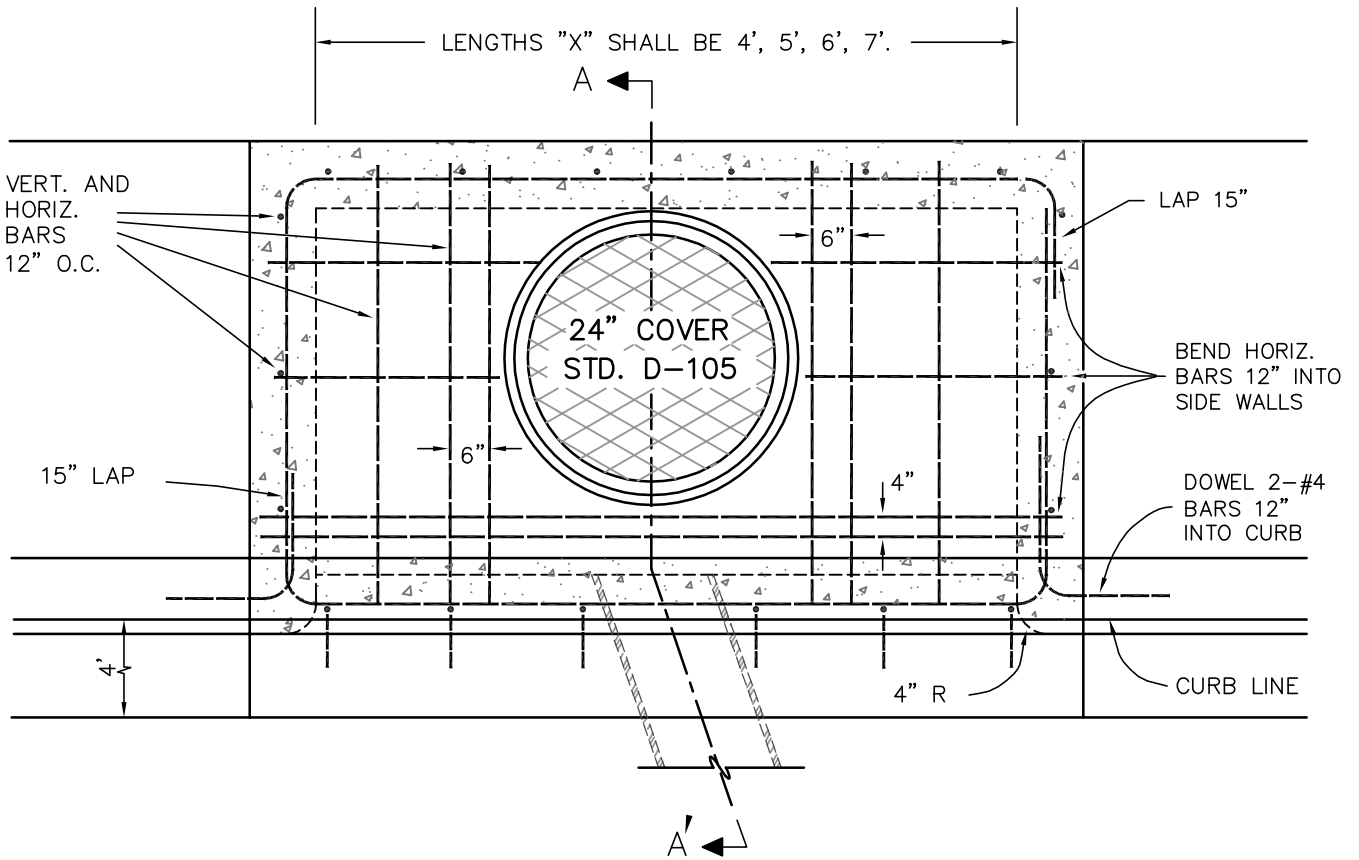
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HEADWALL - "U" TYPE

D-108



DETAIL OF REINFORCEMENT AROUND PIPE

SECTION "A-A"

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

DRAWN BY: TD

APPROVED BY: JA

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CATCH BASIN - TYPE "A"

D-109

CATCH BASIN NOTES:

1. CONCRETE CATCH BASIN SHALL BE CONSTRUCTED OF CLASS A CONCRETE.
2. REINFORCING STEEL BARS SHALL BE #4 DEFORMED BARS. ALL TRANSVERSE STEEL IN THE TOP OF THE SLAB SHALL BE 1" CLEAR OF THE BOTTOM OF THE CONCRETE, WITH HOOK AS SHOWN ON THE CURB SIDE AND BENT DOWN INTO BACK WALL OF CATCH BASIN. WHEN "V" AND "X" EXCEEDS 7', SEE CONSTRUCTION PLANS FOR BAR SIZES AND PLACEMENT.
3. PLACE MANHOLE OVER PIPE OUTLET AREA.
4. WHEN "V" IS 6'-6" OR LESS, "X" IS UNLIMITED. FOR "V" GREATER THAN 5'-6" STRUCTURAL DESIGN SHALL BE SUBMITTED BY ENGINEER.
5. IF "V" EXCEEDS 4', CAST $\frac{5}{8}$ " ROUND GALVANIZED STEPS IN THE WALL 15" APART AS SHOWN.
6. WHEN LENGTH OF OPENING EXCEEDS 7', SUPPORT BOLTS SHALL BE INSTALLED AND SHALL BE SPACED AT NOT MORE THAN 7' O.C. AND NOT LESS THEN 4' O.C.

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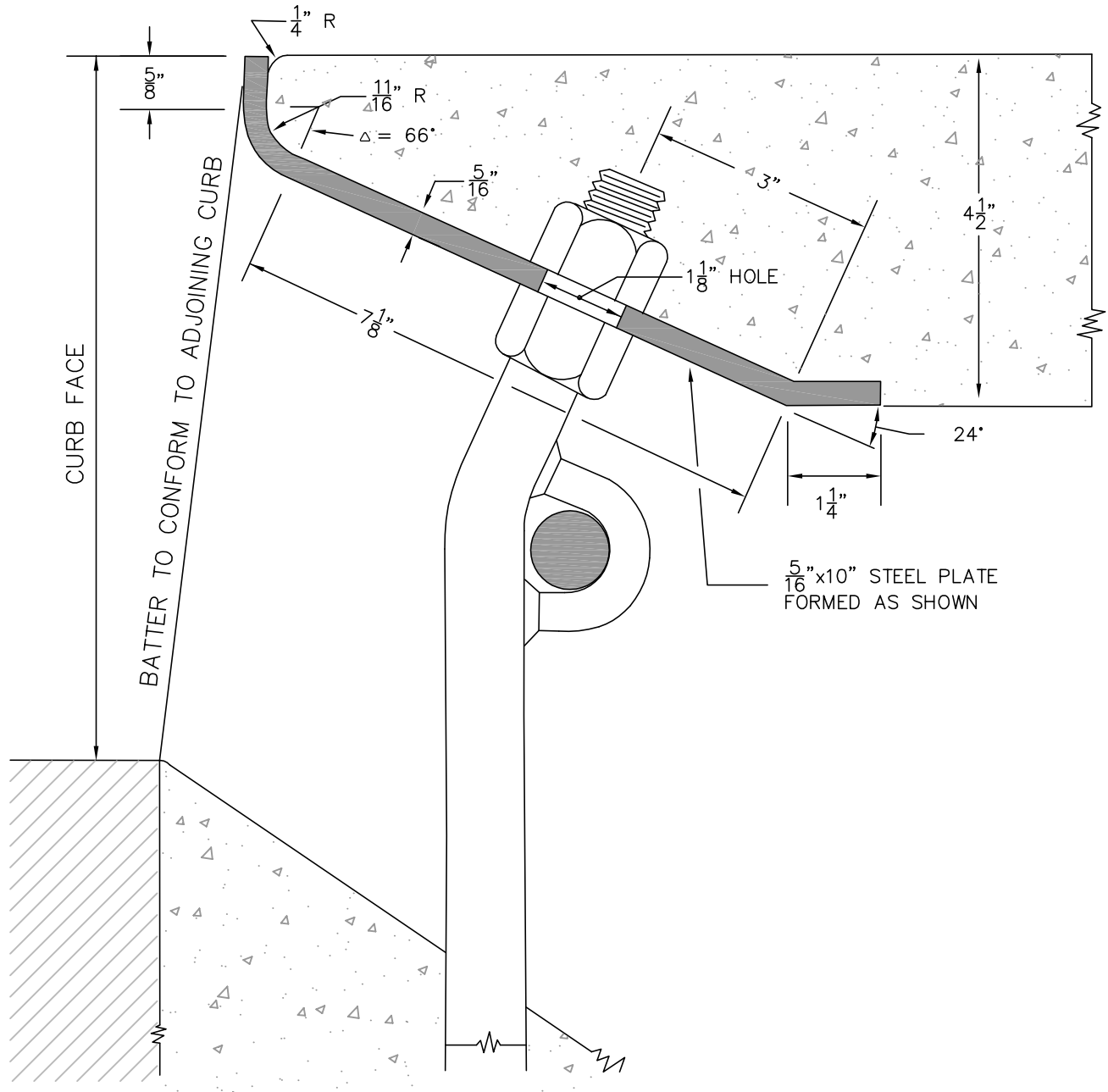
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CLINT QUILTER - Director

CATCH BASIN - NOTES

D-109A



NOTES:

1. FABRICATION DETAIL FOR CATCH BASIN INLETS. PLATE SHALL BE CONSTRUCTED FROM $\frac{5}{16}$ "x10" UNIVERSAL MILL PLATE.
2. FOR ANCHORAGE AND OTHER DETAILS, SEE STD. D-109.

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DATE: SEPT 2015

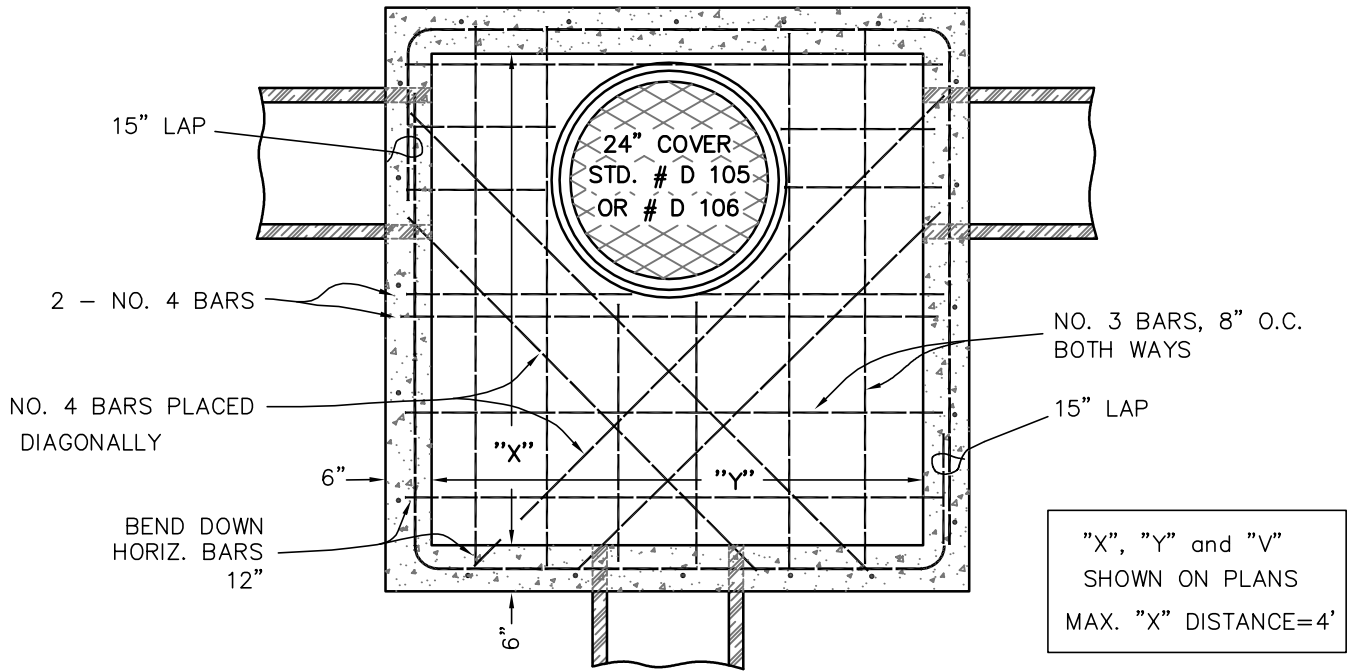
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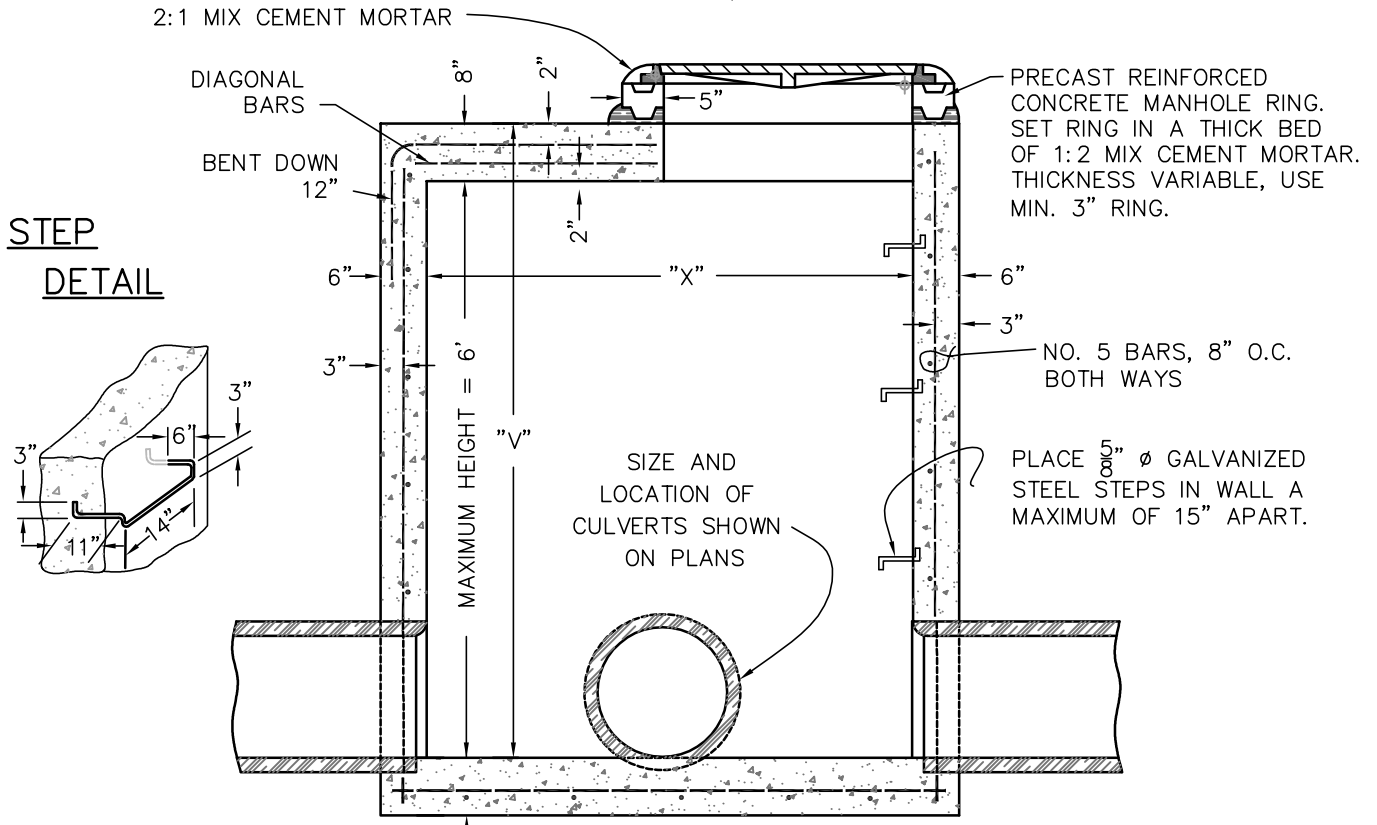
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CATCH BASIN - PLATE DETAIL

D-109B



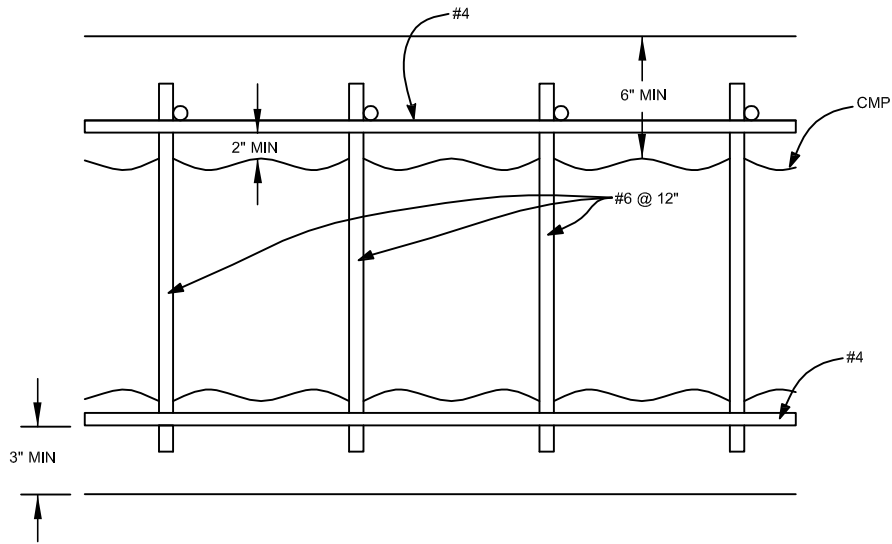
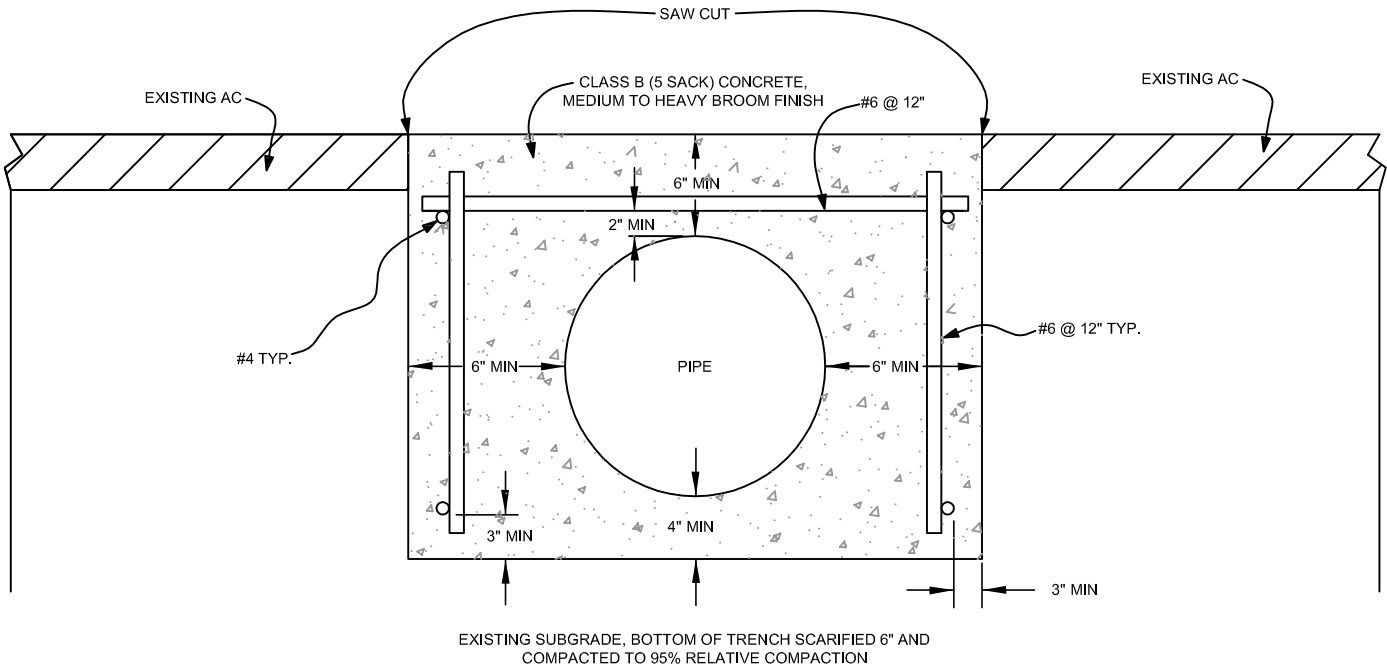
"X", "Y" and "V"
SHOWN ON PLANS
MAX. "X" DISTANCE=4'



NOTES:

1. STORM DRAIN CLEANOUT SHALL BE CONSTRUCTED OF CLASS "A" CONCRETE.
2. CLEARANCE FROM I.D. OF PIPE TO CLEANOUT WALL SHALL BE 4" MIN.
3. APPROVED PRECAST MANHOLE SHAFT RINGS WILL BE ACCEPTED IN LIEU OF CAST IN PLACE SHAFT.

CMP INSTALLATION WHERE COVER IS LESS THAN 1 FOOT BUT AT
 LEAST 6 INCHES. CMPs SHALL NOT BE INSTALLED WHEN AT LEAST 6
 INCHES OF COVER CAN NOT BE ACHIEVED



NO SCALE

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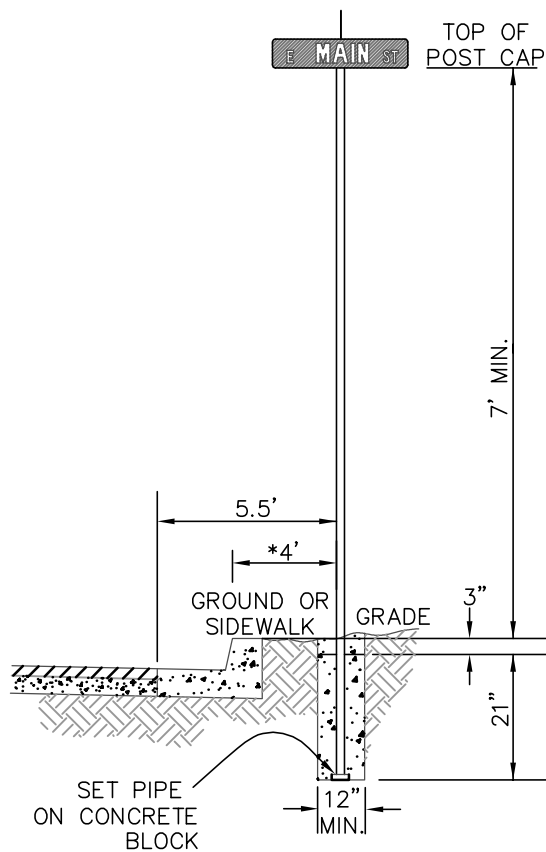
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CULVERT BURIAL
 LESS THAN 1' COVER

D-111

SECTION RS

ROAD SIGN AND MARKERS



4" LEGEND WITH 2" OR 2¹/₂" ABBREVIATIONS. WHITE REFLECTORIZED LETTERING ON GREEN REFLECTORIZED BACKGROUND.

NOTES:

- DESIGN: EACH FOUR-WAY UNIT SHALL CONSIST OF TWO DOUBLE FACED SIGNS WITH STREET NAMES MOUNTED AT RIGHT ANGLES.
- BRACKET ASSEMBLY: THE POST CAP, SHALL BE MADE TO MOUNT TO A 2³/₈" O.D. THIN WALL GALVANIZED PIPE. A HAWKINS CO. V14-PL107 POST CAP AND HAWKINS CO. V14F(S)-PL105-90 CROSS PIECE OR APPROVED EQUIVALENT SHALL BE USED.
- MATERIALS: SIGNS SHALL BE 6" BY VARY LENGTH, 0.125 GA. ALUMINUM PLATE WITH GREEN ENGINEER GRADE REFLECTIVE SHEETING APPLIED TO BOTH SIDES.
- FINISH: SIGN FACES SHALL BE SCOTCHLITE REFLECTIVE SHEETING OR APPROVED EQUIVALENT. THE TRANSPARENT SCREEN PROCESS COLOR SHALL BE APPLIED AS RECOMMENDED BY THE MANUFACTURER.
- LETTERING: STREET NAME LEGEND LETTERING SHALL BE 4" HIGH AND ABBREVIATIONS 2" OR 2¹/₂" HIGH. EACH NAME SHALL BE INDIVIDUALLY LAID OUT TO FIT EITHER A 24" OR 30" SPACE. THE LETTERING SHALL BE OF THE ROUNDED TYPE STYLE CONFORMING WITH THE STANDARD ALPHABET FOR HIGHWAY SIGNS DESIGNED BY THE U.S. PUBLIC ROADS ADMINISTRATION.
- OTHER: LAMP POLE MOUNTED BRACKETS MAY BE USED AS APPROVED IN PLANS. USE HAWKINS CO. V14-PL-WB OR APPROVED EQUIVALENT. USE STAINLESS STEEL STRAPPING CLAMPS TO ATTACH BRACKET TO LAMP POLE.

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DATE: SEPT 2015

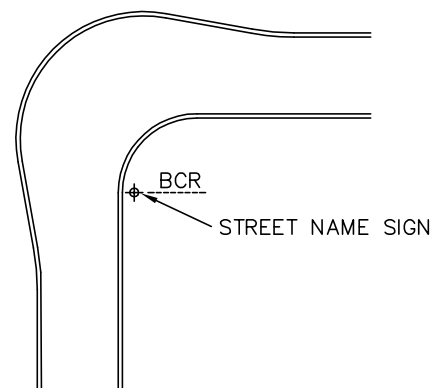
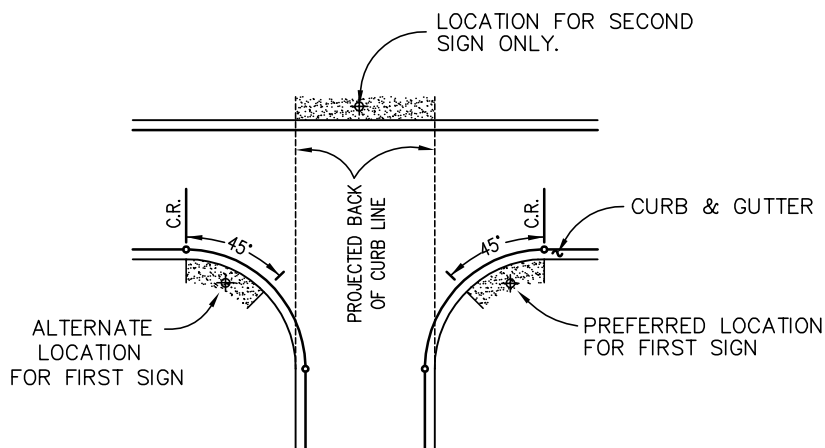
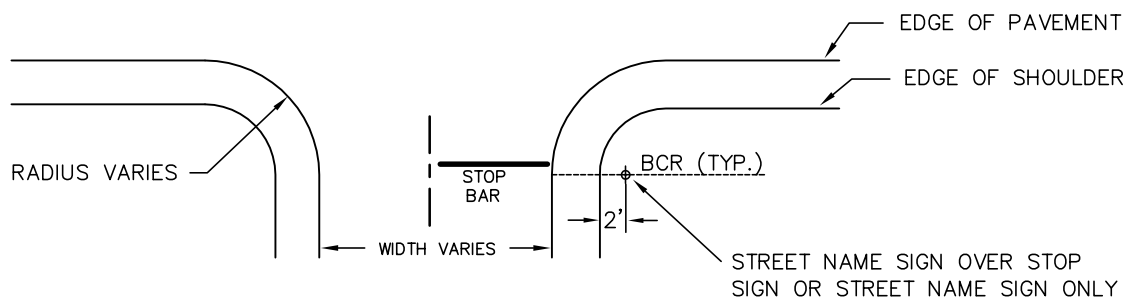
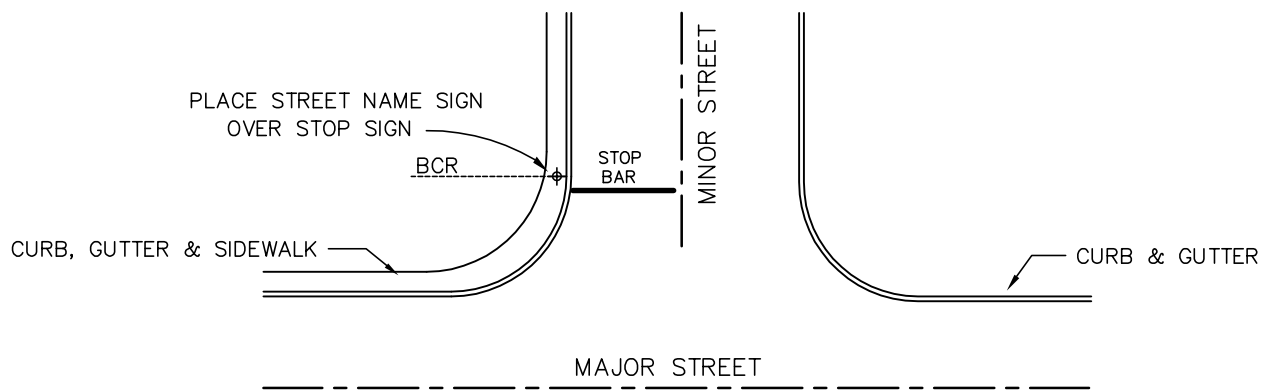
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STREET NAME SIGN
DETAILS & SPECIFICATIONS

RS-100



"T" INTERSECTION

"L" INTERSECTION

NOTES:

1. WHERE CURB AND GUTTER EXIST, LOCATE STREET NAME SIGN APPROXIMATELY 1 FT. INSIDE CURB AT THE END OF THE CURB RETURN. WHERE CURB AND GUTTER ARE NOT PRESENT, LOCATE STREET NAME SIGNS APPROXIMATELY 2 FT. INSIDE THE EDGE OF SHOULDER.
2. STREET NAME SIGNS SHALL BE SET WITHIN THE COUNTY RIGHT OF WAY.
3. STREET NAME SIGNS ARE TO BE VISIBLE FROM A DISTANCE OF 150 FEET.
4. IF EITHER ROAD IS DIVIDED INTO 4 OR MORE LANES, ADDITIONAL STREET NAME SIGNS WILL BE REQUIRED.
5. LOCATIONS SHOWN ARE APPROXIMATE. LOCAL CONDITIONS MAY CHANGE ACTUAL PLACEMENT LOCATIONS.

INYO COUNTY PUBLIC WORKS DEPT.

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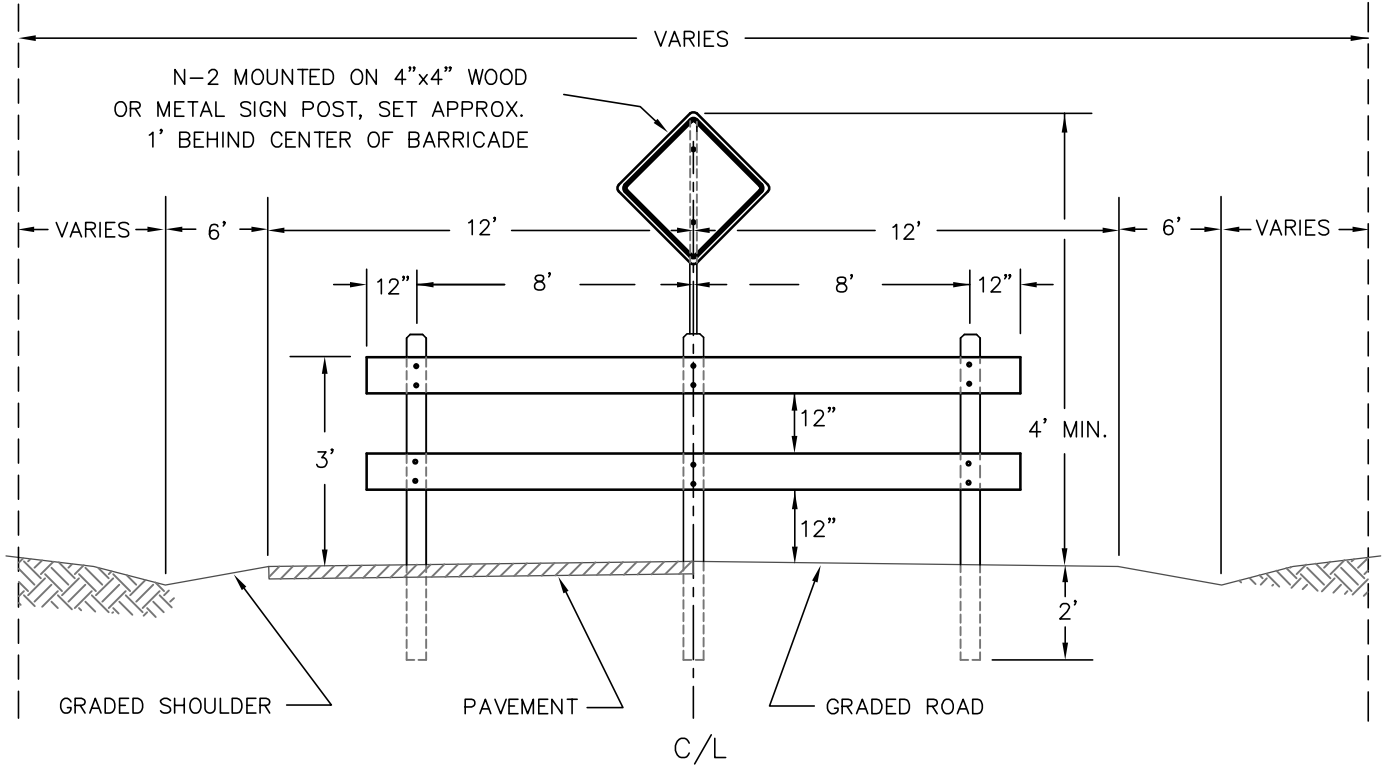
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STREET NAME SIGN PLACEMENT

RS-101

R/W

R/W



WIDTH OF TRAVELED WAY	NUMBER OF EIGHT FOOT SECTIONS	TOTAL LENGTH OF PANELS
20' ALLEY; 24'	2	18'-0"
36'	4	34'-0"
44'	5	42'-0"
64'	7	58'-0"
DESERT ROAD	VARIES	VARIES

NOTES:

1. USE CHAMFERED 6"x6" S4S POSTS. ALL LUMBER BELOW GROUND LEVEL SHALL BE PRESSURE TREATED FIR OR HEART REDWOOD. TWO CROSS PLANKS SHALL BE 2"x6" CONSTRUCTION GRADE FIR.
2. BARRICADE MATERIALS AND N-2 REFLECTOR SHALL CONFORM TO CALTRANS STANDARD SPECIFICATIONS 57-2 AND CA MUTCD 2014.
3. ALL EXPOSED WOOD SURFACES SHALL BE GIVEN 3 BRUSH COATS OF EXTERIOR WHITE PAINT, CONSISTING OF ONE APPLICATION OF PRIMER AND 2 FINISH COATS. PAINTING WILL CONFORM WITH CALTRANS STANDARD SPECIFICATIONS 59-4 AND 91-3.
4. USE $\frac{3}{8}$ " CARRIAGE BOLTS, CUT WASHERS AND NUTS TO ATTACH CROSS PLANKS TO POSTS.

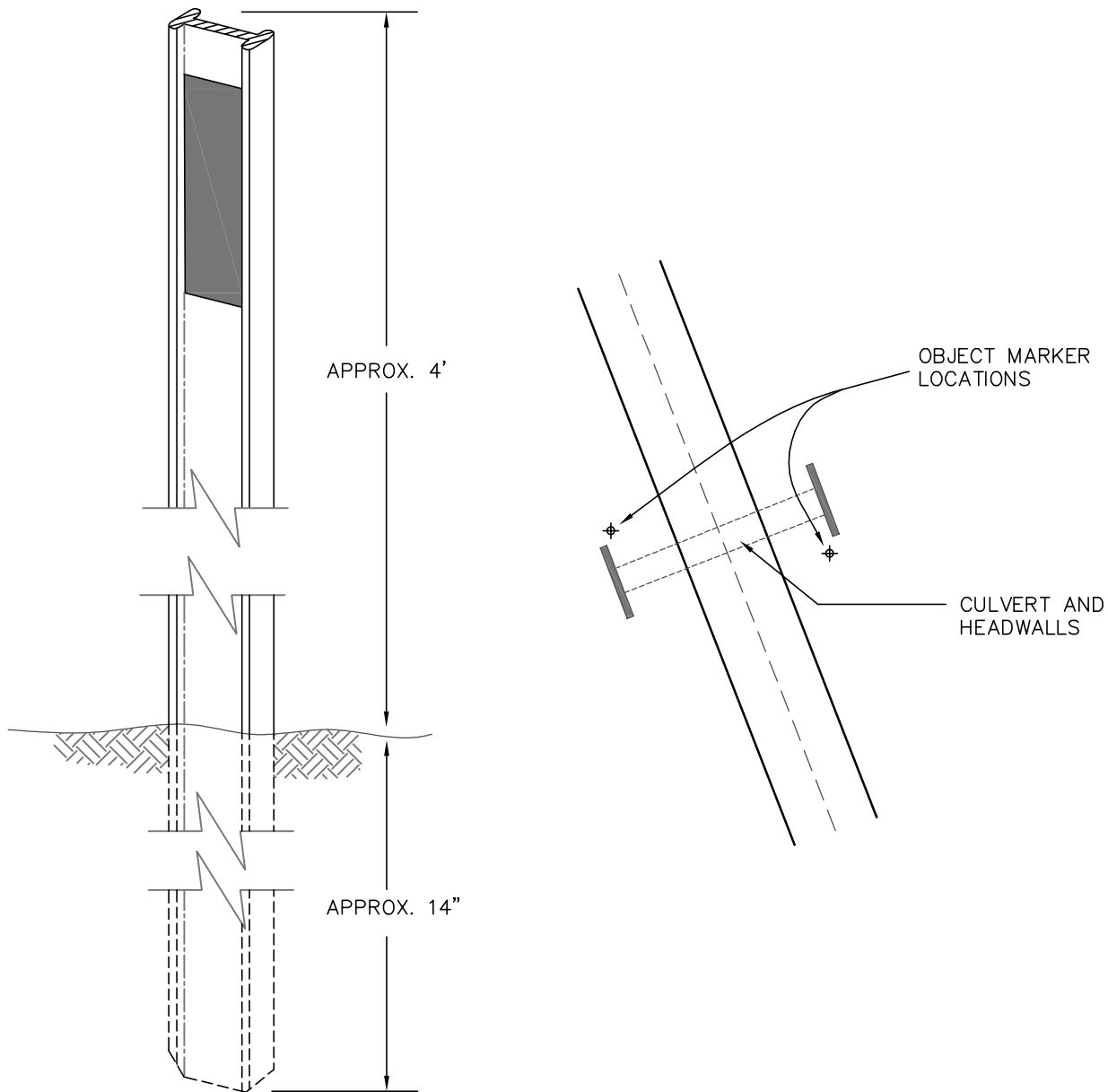
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DATE: SEPT 2015
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TIMBER BARRICADE

RS-102



NOTES:

1. WHITE 3.3"x62" COMPOSITE CARSONITE MARKERS SHALL BE USED TO MARK OBJECTS. MARKERS ARE TO BE DRIVEN APPROX. 14" INTO GROUND. AN APPROX. 2.5"x12" STRIP OF ORANGE TYPE 2 REFLECTIVE TAPE, CONFORMING TO CALTRANS SPECIFICATION, SHALL BE APPLIED TO BOTH SIDES OF THE MARKER, NEAR THE TOP OF THE MARKER.
2. MARKERS ARE TO BE PLACED IN PROXIMITY TO THE OBJECT, SUCH AS A CULVERT OR CURB, AND LOCATED ON THE ROADWAY SIDE OF THE OBJECT, PERPENDICULAR TO THE ROADWAY AND LOCATED IN ACCORDANCE WITH CALTRANS STANDARD SPECIFICATIONS.
3. METAL MARKERS THAT CONFORM WITH CALTRANS STANDARD SPECIFICATIONS MAY BE USED.

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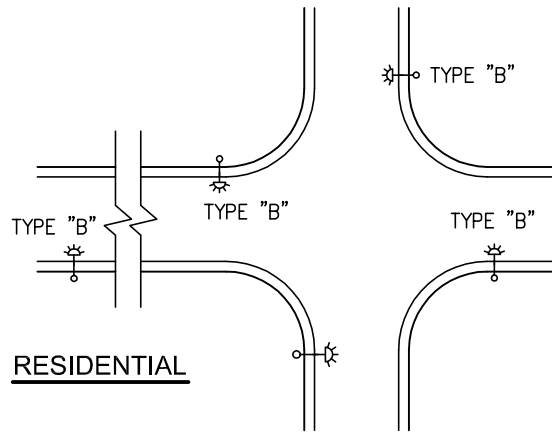
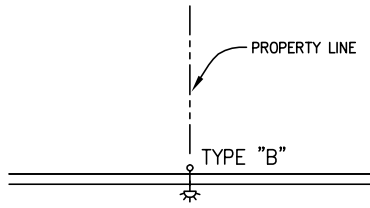
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OBJECT MARKERS

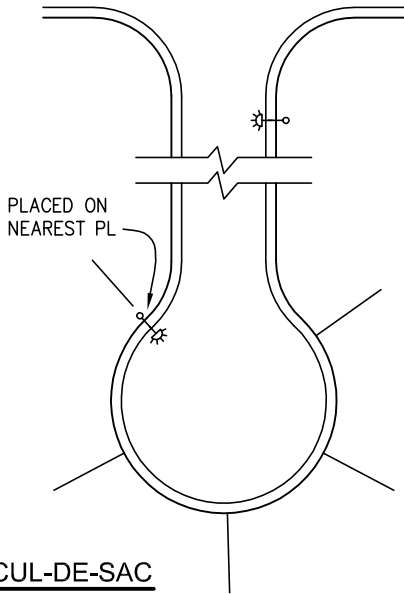
RS-103

SECTION ES

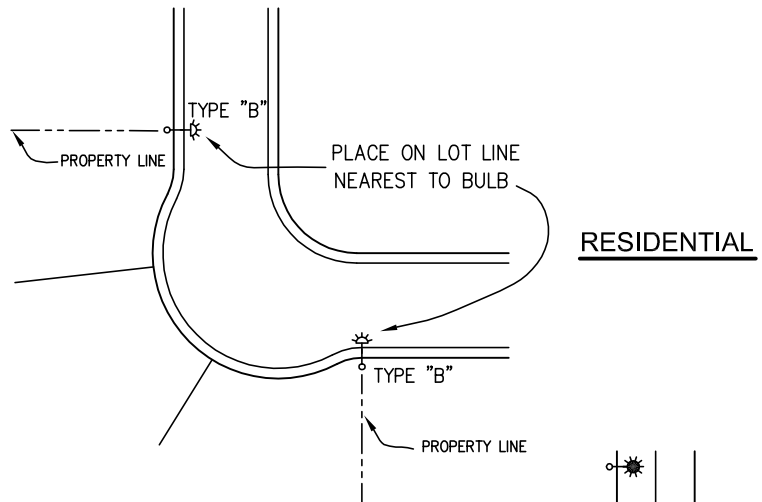
LIGHTNING AND ELECTRICAL SYSTEMS



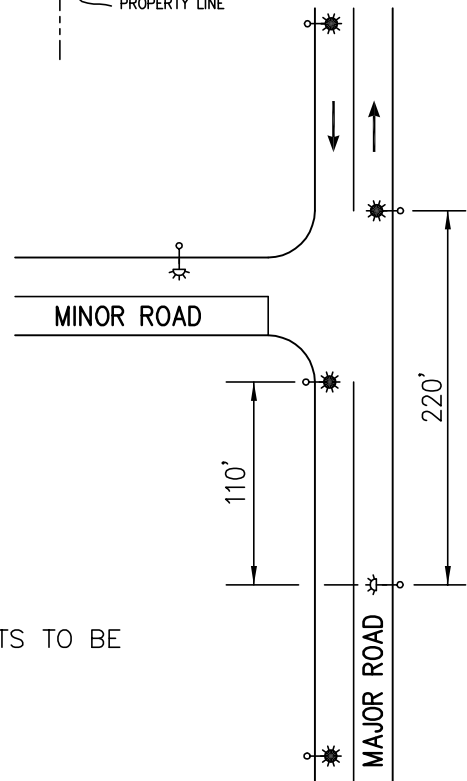
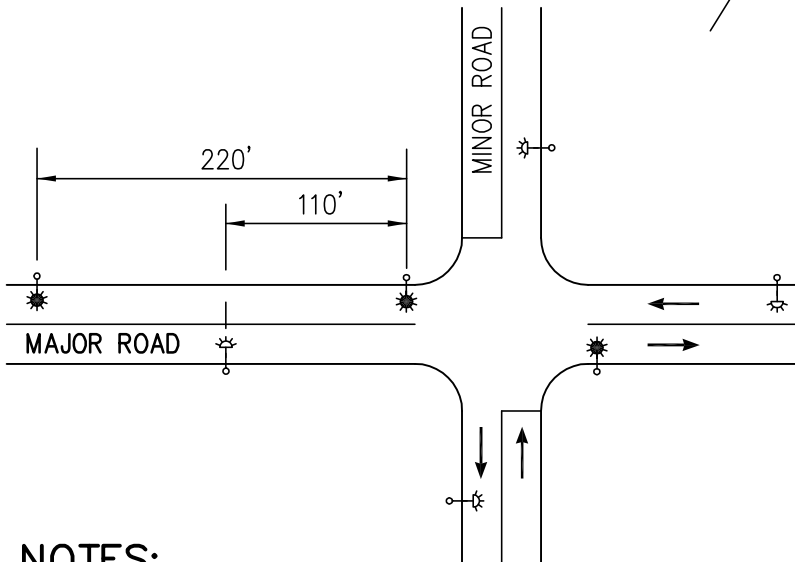
RESIDENTIAL



CUL-DE-SAC



RESIDENTIAL



NOTES:

1. LIGHTING UNITS TO BE LOCATED ON THE TANGENT, APPROXIMATELY 3' FROM THE CURB RETURN. OTHER UNITS TO BE SPACED AS SPECIFIED IN STD. ES-101.

☼ UNIT REQUIRED FOR PARTIAL LIGHTING

☼ ADDITIONAL UNITS FOR CONTINUOUS LIGHTING

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DATE: SEPT 2015

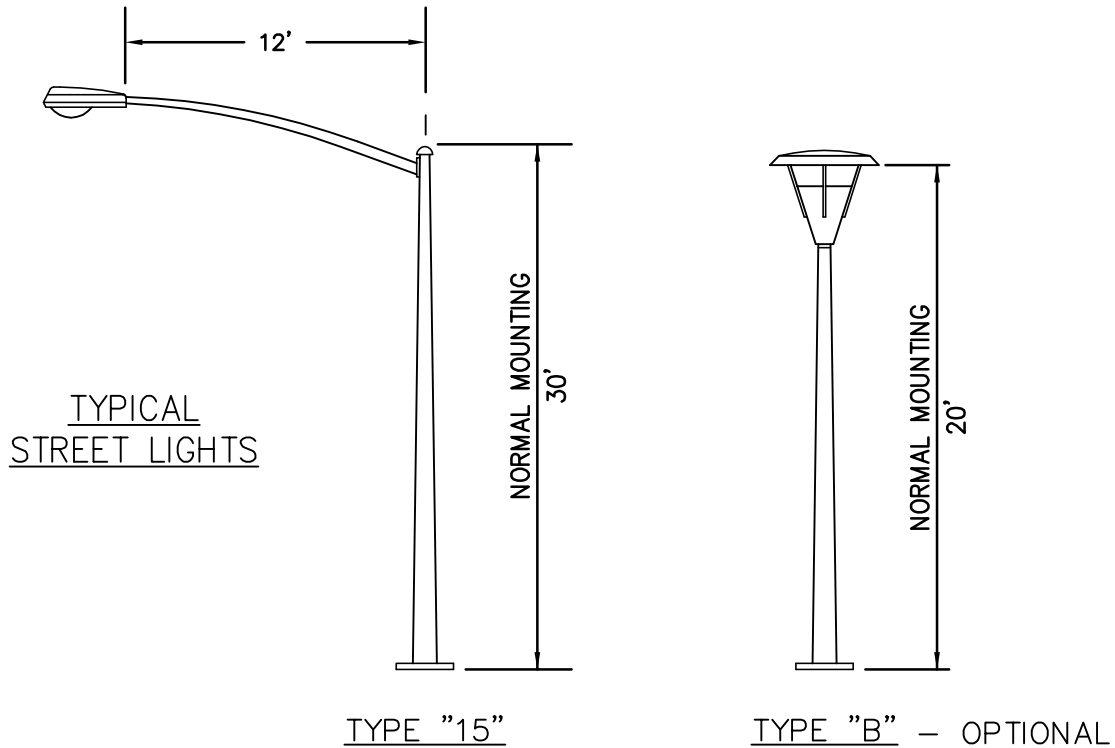
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STREET LIGHTING
PLACEMENT LOCATIONS

ES-100



STREET CLASSIFICATION	ST. TYPE & R/W WIDTH	TYPE STREET LIGHT	NORMAL MOUNTING HEIGHT	HIGH PRESSURE SODIUM LAMP WATTAGE	AVERAGE MAINTAINED FOOT-CANDLE	FRONT ON LOT	FRONT LOT OFF
						SPACING (ONE SIDE ONLY)	
ARTERIAL	80'	15	30'	150W	.40	220'	250'
						SPACING (BOTH SIDES)	
COLLECTOR	66'	15	30'	150W	.29	180'	
INDUSTRIAL COMMERCIAL	60'	15	30'	150W	.26	220'	
LOCAL STREET	50'	15, B	30', 20'	150W, 100W	.14	220', 200'	
CUL-DE-SAC	60'	15, B	30', 20'	150W, 100W	.12	240'	

NOTES:

1. LAMP WATTAGE SHOWN IS FOR HIGH PRESSURE SODIUM LAMP ONLY. DESIGN CRITERIA MUST BE SUBMITTED FOR ALL OTHER LAMPS.
2. SPACING MAY BE ADJUSTED ±10% TO ALLOW FOR DRIVEWAYS.
3. POLE HUNG LIGHT STANDARDS MAY BE USED AS APPROVED IN PLANS.
4. THERE SHALL BE PROVIDED AND MAINTAINED AT LEAST 0.2 FOOT-CANDLES OF ILLUMINATION ON THE AREA NORMALLY BOUNDED BY THE CROSSWALKS AT INTERSECTIONS.

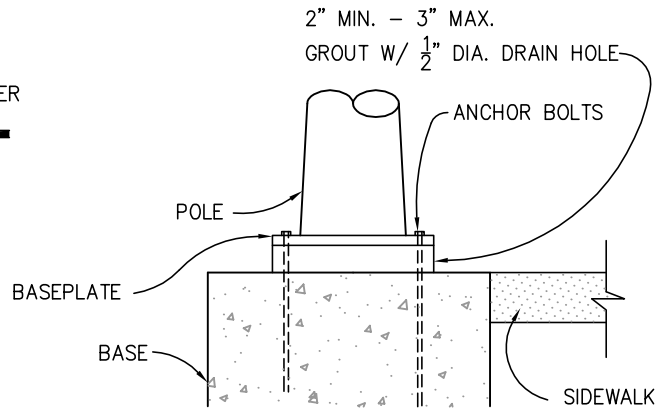
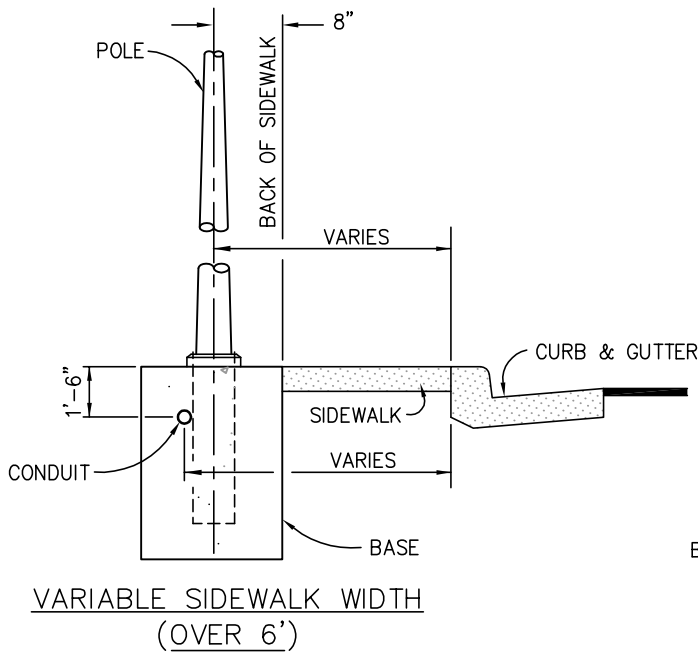
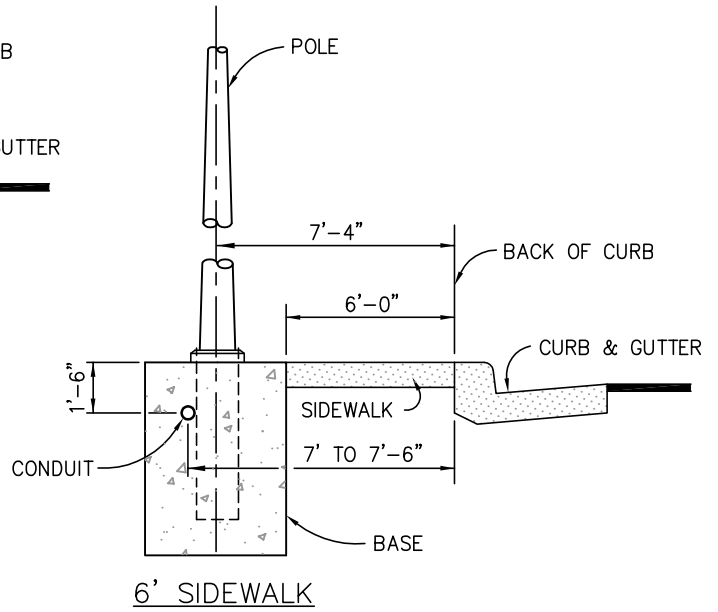
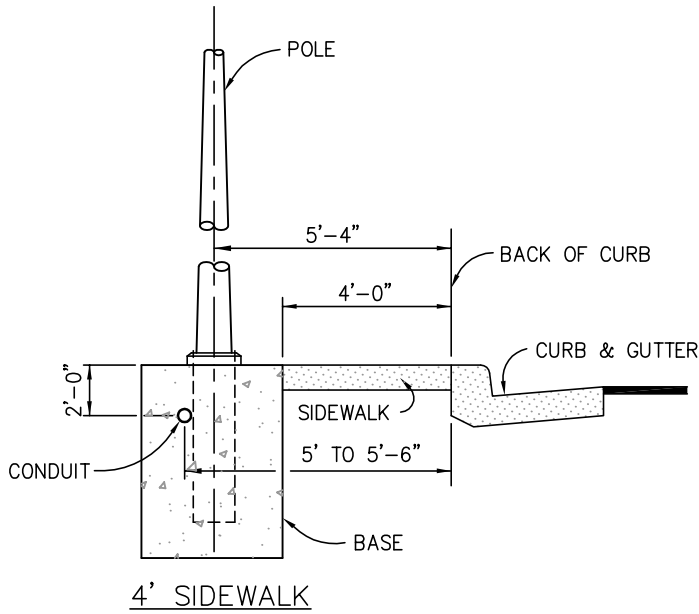
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**STREET LIGHTING
 POLES & DESIGN CRITERIA**

ES-101



NOTES:

1. STREET LIGHTING ELECTRICAL WIRING AND CONDUIT SHALL CONFORM TO NEC AND UBC STANDARDS.
2. MINIMUM CONDUIT COVER SHALL BE 18" IN PARKING LOTS AND 30" IN STREETS, BEGINNING AT THE GUTTER FLOW LINE.
3. POLE FOOTING SHALL CONFORM WITH THE MOST CURRENT CALTRANS STANDARD SPECIFICATIONS AND THE POLE MANUFACTURER'S RECOMMENDATIONS.

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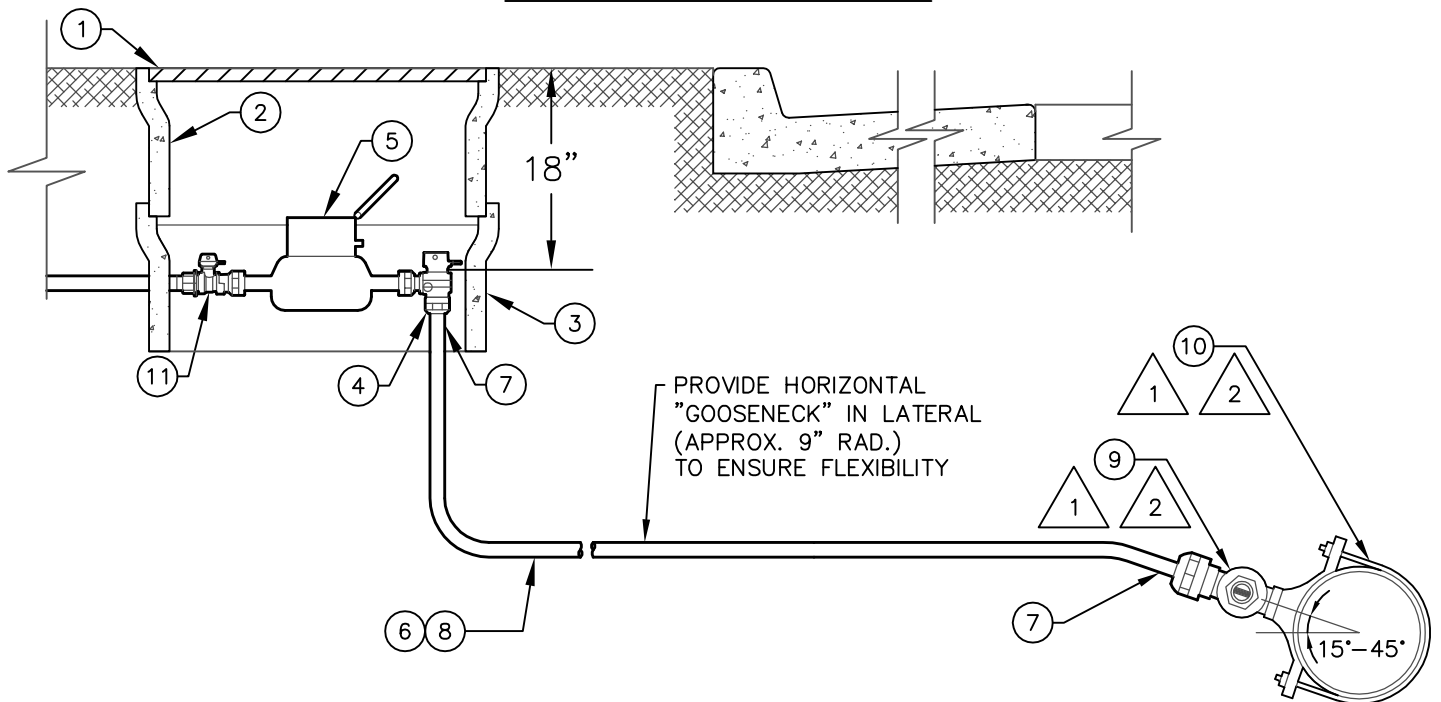
STREET LIGHTING
BASE DETAIL

ES-102

SECTION W

WATER SYSTEMS

1 INCH SERVICE



NOTES:



IF MAIN MATERIAL IS D.I., PVC, OR A.C., USE MUELLER BR2B SERIES SERVICE SADDLE AND B25028-1" CORP

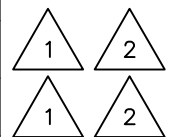


IF MAIN MATERIAL IS STEEL, USE MUELLER DR2A SERIES SERVICE SADDLE AND N35028-1" CORP.

3 FLUSH LINE TO REMOVE DIRT AND DEBRIS PRIOR TO PUTTING LINE INTO SERVICE.

MATERIAL LIST

ITEM	QTY.	DESCRIPTION	MFR	PART#
①	1	METER BOX LID, 0.25" DIAMOND PLATE, 14.25" x 24.75" SOLID ON TOP	EISEL	W500DP
②	1	METER BOX 12" x 22" I.D., WITH 0.25" WIRE REINFORCED RIM	EISEL	W500MB
③	1	BOX EXTENSION	EISEL	W500MB
④	1	1" ANGLE METER BALLVALVE, BRONZE W/ LOCKWING, 360°, W/SWIVLE N	MUELLER	B-24276N-3
⑤	1	0.75"x1" METER, LO-LEAD BRONZE, 100 FT ³ , TATTLE TALE DIAL, NSF-61	NEPTUNE	T10
⑥	VAR.	1" TUBING, TYPE K COPPER OR CTS POLYETHELYNE, CLASS 200 AWWA/NSF	--	--
⑦	2	LINER INSERTS FOR CTS POLY TUBE	MUELLER	504385
⑧	VAR.	PLASTIC SLEEVE FOR COPPER SERVICE TUBE AND BRONZE PARTS	--	--
⑨	1	1" BALL CORP, BRONZE, MIPT x COMPRESSION CONNECTION FOR CTS TUBE	MUELLER	--
⑩	1	SERVICE SADDLE, DOUBLE STRAP, BRONZE, IPS THREAD	MUELLER	--
⑪	1	1" BALL STRAIGHT METERVALVE, BRONZE, LOCKWING, 360°, FIPxMTRFLG	MUELLER	B-24337N-3



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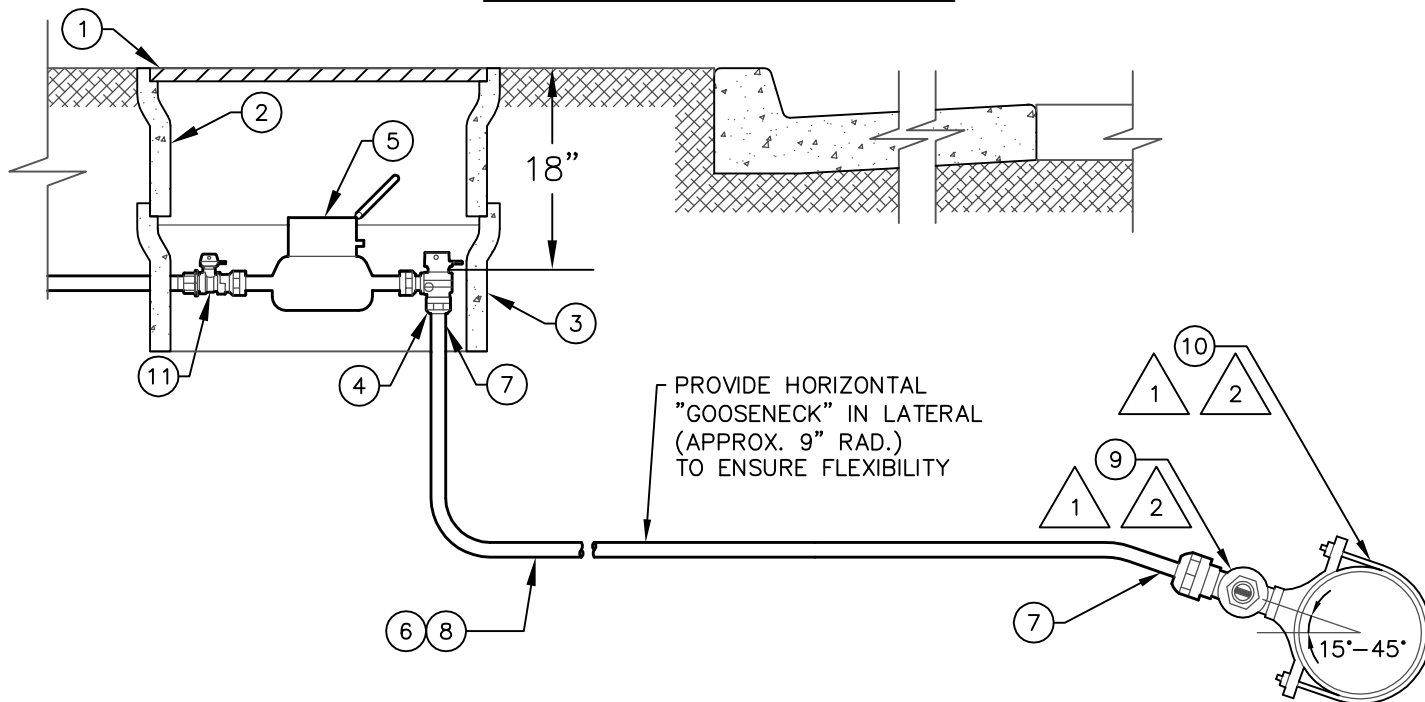
APPROVED BY: JA

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CLINT QUILTER - Director

1 INCH SERVICE INSTALLATION

W-100

1.5 INCH SERVICE

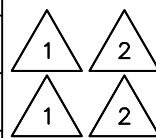


NOTES:

- 1 IF MAIN MATERIAL IS D.I., PVC, OR A.C., USE MUELLER BR2B SERIES SERVICE SADDLE AND B25028-1.5" CORP
- 2 IF MAIN MATERIAL IS STEEL, USE MUELLER DR2A SERIES SERVICE SADDLE AND N35028-1.5" CORP.
- 3 FLUSH LINE TO REMOVE DIRT AND DEBRIS PRIOR TO PUTTING LINE INTO SERVICE.

MATERIAL LIST

ITEM	QTY.	DESCRIPTION	MFR	PART#
1	1	METER BOX LID, 0.25" DIAMOND PLATE, 16.25" x 27"	EISEL	W50TDP
2	1	METER BOX 14.25" x 25" I.D., WITH 0.25" WIRE REINFORCED RIM	EISEL	W50TMB
3	1	BOX EXTENSION	EISEL	W50TEX
4	1	1.5" ANGLE METER BALLVALVE, BRONZE W/ LOCKWING, 360°, W/SWIVLE N	MUELLER	B-24276N-3
5	1	1.5" METER, LO-LEAD BRONZE, 100 FT ³ , TATTLE TALE DIAL, NSF-61	NEPTUNE	T10
6	VAR.	1.5" TUBING, TYPE K COPPER OR CTS POLYETHELYNE, CLASS 200 AWWA/NSF	--	--
7	2	LINER INSERTS FOR CTS POLY TUBE	MUELLER	506139
8	VAR.	PLASTIC SLEEVE FOR COPPER SERVICE TUBE AND BRONZE PARTS	--	--
9	1	1.5" BALL CORP, BRONZE, MIPT x COMPRESSION CONNECTION FOR CTS TUBE	MUELLER	--
10	1	SERVICE SADDLE, DOUBLE STRAP, BRONZE, IPS THREAD	MUELLER	--
11	1	1.5" BALL STRAIGHT METERVEALVE, BRONZE, LOCKWING, 360°, FIPxMTRFLG	MUELLER	B-24337N-3



INYO COUNTY PUBLIC WORKS DEPT.

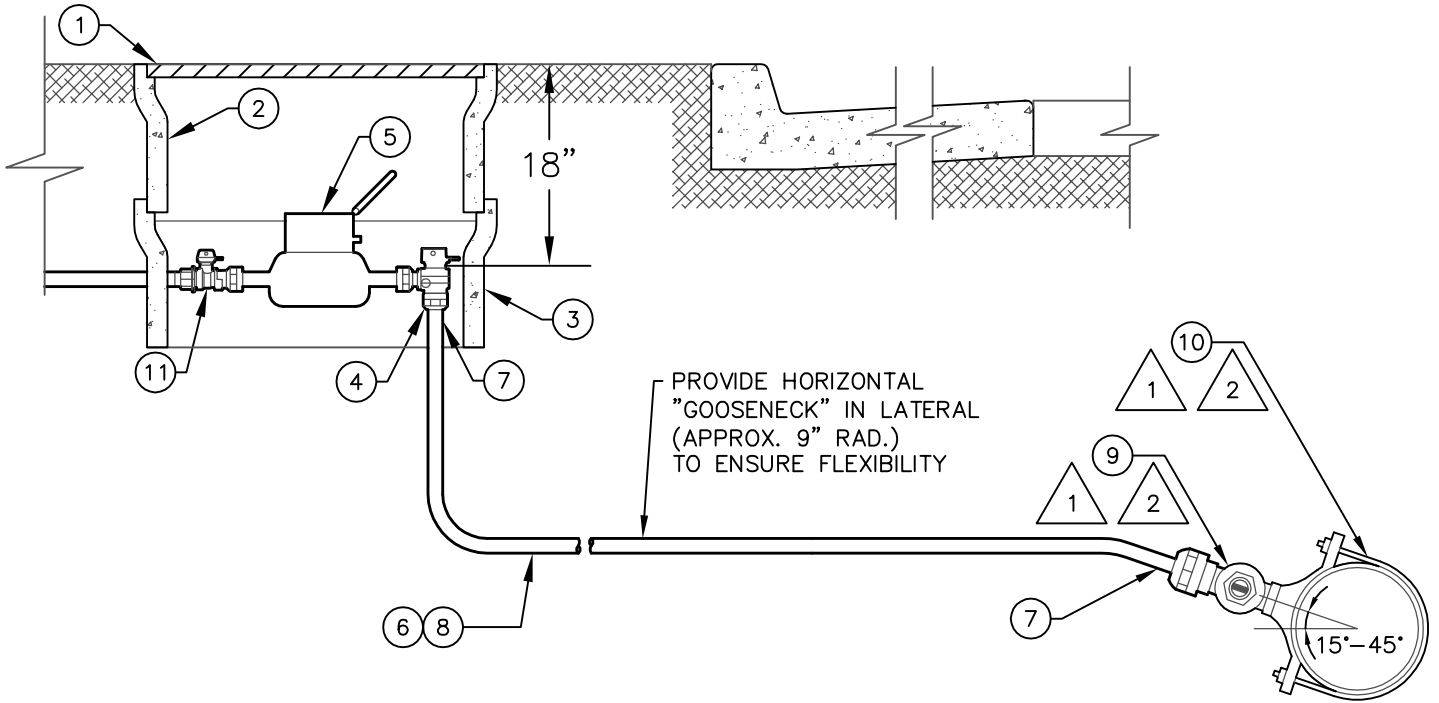
DATE: SEPT 2015
 DRAWN BY: TD
 APPROVED BY: JA

Clint Quilter
 CLINT QUILTER - Director

1.5 INCH SERVICE INSTALLATION

W-101

2 INCH SERVICE

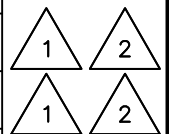


NOTES:

- ① IF MAIN MATERIAL IS D.I., PVC, OR A.C., USE MUELLER BR2B SERIES SERVICE SADDLE AND B25028-2" CORP
- ② IF MAIN MATERIAL IS STEEL, USE MUELLER DR2A SERIES SERVICE SADDLE AND N35028-2" CORP.
- 3 FLUSH LINE TO REMOVE DIRT AND DEBRIS PRIOR TO PUTTING LINE INTO SERVICE.

MATERIAL LIST

ITEM	QTY.	DESCRIPTION	MFR	PART#
①	1	METER BOX LID, 0.25" DIAMOND PLATE, 20.25" x 33.25"	EISEL	W60TDP
②	1	METER BOX 18.5" x 31" I.D., WITH $\frac{3}{8}$ " REBAR REINFORCED RIM, GALV FRAM	EISEL	W60TMB
③	1	BOX EXTENSION	EISEL	W60TEX
④	1	2" ANGLE METER BALLVALVE, BRONZE W/ LOCKWING, 360°, W/SWIVLE N	MUELLER	B-24276N-3
⑤	1	2" METER, LO-LEAD BRONZE, 100 FT ³ , TATTLE TALE DIAL, 0.75"x1", NSF-61	NEPTUNE	T10
⑥	VAR.	2" TUBING, TYPE K COPPER OR CTS POLYETHELYNE, CLASS 200 AWWA/NSF	--	--
⑦	2	LINER INSERTS FOR CTS POLY TUBE	MUELLER	506141
⑧	VAR.	PLASTIC SLEEVE FOR COPPER SERVICE TUBE AND BRONZE PARTS	--	--
⑨	1	2" BALL CORP, BRONZE, MIPT x COMPRESSION CONNECTION FOR CTS TUBE	MUELLER	--
⑩	1	SERVICE SADDLE, DOUBLE STRAP, BRONZE, IPS THREAD	MUELLER	--
⑪	1	2" BALL STRAIGHT METERVALVE, BRONZE, LOCKWING, 360°, FIPxMTRFLG	MUELLER	B-24337N-3



INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

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APPROVED BY: JA

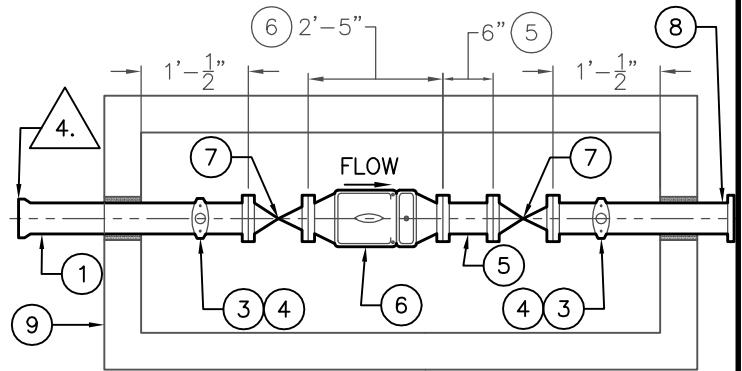
Clint Quilter
CLINT QUILTER - Director

2 INCH SERVICE INSTALLATION

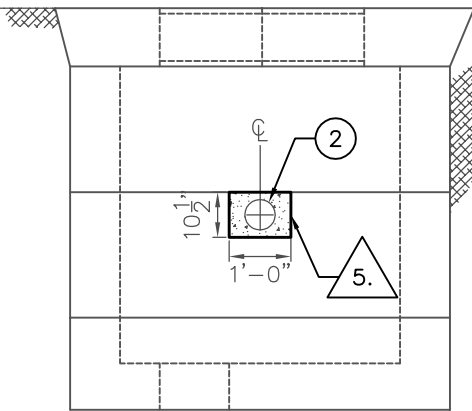
W-102

NOTES:

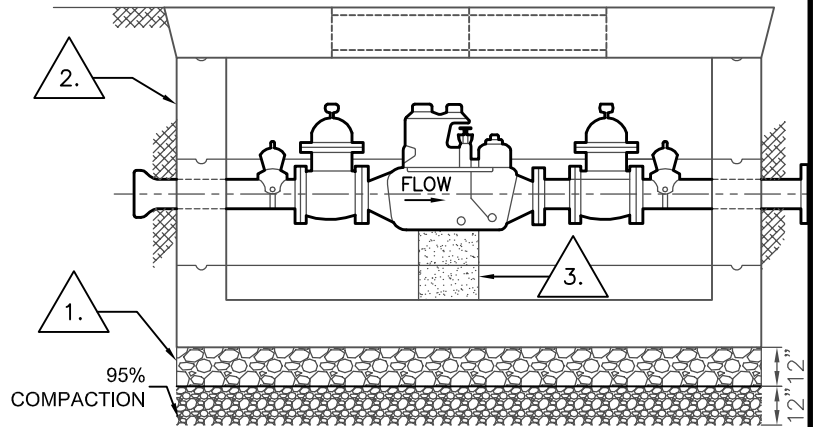
- 1. CRUSHED AGGREGATE BASE MATERIAL SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" LATEST EDITION, SUBSECTION 200-2.
- 2. VAULT AND ACCESSORIES
- 3. FILL BLOCKS AND GAP WITH CONCRETE GROUT FOR PROPER BEARING.
- 4. USE LOCKING GASKET WITH THE FLANGE/BELL ADAPTOR.
- 5. WRAP PIPE WITH $\frac{1}{2}$ " FELT EXPANSION JOINT MATERIAL AND FILL VOIDS WITH CEMENT GROUT.
- 6. THIS DRAWING IS NOT TO SCALE.



PLAN



INLET VIEW



ELEVATION

MATERIAL LIST

ITEM	QTY.	DESCRIPTION	MFR	CODE
①	1	4" D.I. SPOOL, MORTAR LINED, LENGTH & INLET FITTING AS REQ'D W/ FL x RESTRAINED MJ ADAPTER, ANSI/NSF-61, ULFM	USPIPE, TYLER	---
②	-	0.5" FELT EXPANSION JOINT MATERIAL	REFLECTIX	EXP04050
③	2	4" SERVICE SADDLE, DOUBLE STRAP, BRONZE, IPS THREAD	MUELLER	BR2B0474IP200
④	2	2" BALL CORP, BRONZE, MIPT x MIPT CONNECTION, W/ BRONZE CAP	MUELLER	B-2969
⑤	1	4" D.I. SPOOL, MORTAR LINED, LENGTH AS REQ'D, FL x FL, ANSI/NSF-61, ULFM	USPIPE, TYLER	---
⑥	1	4" COMP. METER AND STRAINER	---	---
⑦	2	4" HANDWHEEL GV, FL x FL, RESILIENT WEDGE, ULFM, 200 PSIG, ANSI/NSF-61, ANSI/AWWA C509	MUELLER	A-2360-6
⑧	1	4" D.I. SPOOL, MORTAR LINED, LENGTH & OUTLET FITTING AS REQ'D W/ FL x RESTRAINED MJ ADAPTER, ANSI/NSF-61, ULFM	USPIPE, TYLER	---
⑨	1	4'-0" X 6'-6" PRECAST CONCRETE VAULT, CONTACT COUNTY FOR DETAILS	---	---

②.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

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APPROVED BY: JA

Clint Quilter
CLINT QUILTER - Director

4" DOMESTIC METER SERVICE

W-103

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DATE: SEPT 2015

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APPROVED BY: JA

CLINT QUILTER – Director

[RESERVED]

W-104

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DATE: SEPT 2015

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APPROVED BY: JA

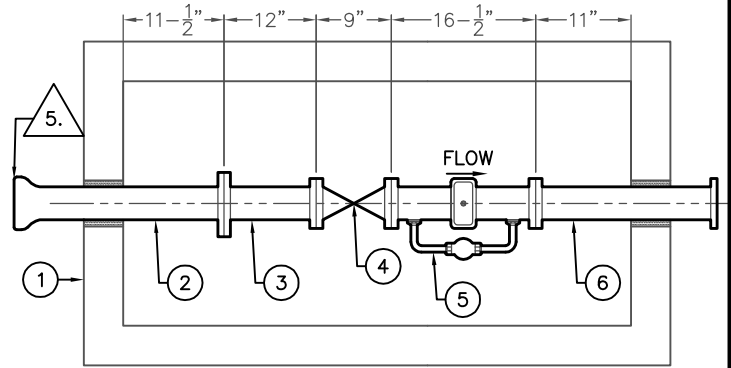
CLINT QUILTER – Director

[RESERVED]

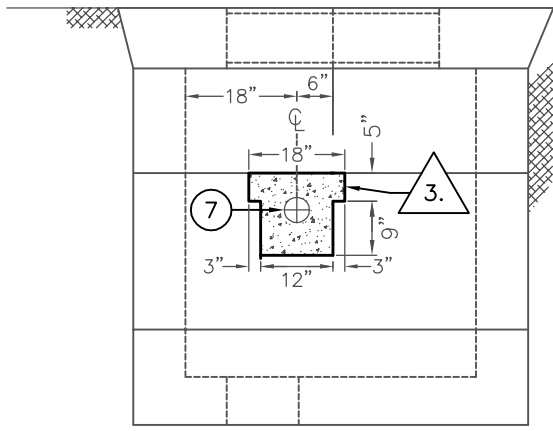
W-106

NOTES:

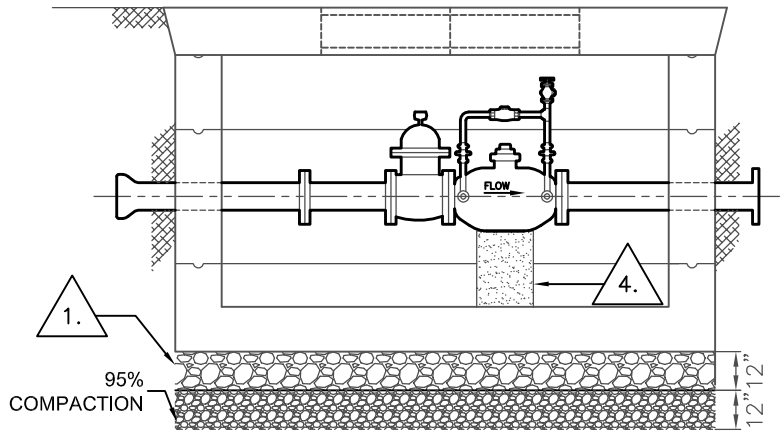
- 1. CRUSHED AGGREGATE BASE MATERIAL SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" LATEST EDITION, SUBSECTION 200-2.
- 2. VAULT AND ACCESSORIES
- 3. WRAP PIPE WITH $\frac{1}{2}$ " FELT EXPANSION JOINT MATERIAL AND FILL VOIDS WITH CEMENT GROUT.
- 4. FILL BLOCKS AND GAP WITH CONCRETE GROUT FOR PROPER BEARING.
- 5. USE LOCKING GASKET
- 6. THIS DRAWING IS NOT TO SCALE.



PLAN



INLET VIEW



ELEVATION

MATERIAL LIST

ITEM	QTY.	DESCRIPTION	MFR	CODE
①	1	4'-0" x 5'-0" PRECAST CONCRETE VAULT, CONTACT COUNTY FOR DETAILS	---	---
②	1	4" D.I. SPOOL, MORTAR LINED, LENGTH & INLET FITTING AS REQ'D W/ FL x RESTRAINED MJ ADAPTER, ANSI/NSF-61, ULFM	USPIPE, TYLER	---
③	1	4" D.I. SPOOL, MORTAR LINED, LENGTH AS REQ'D, FL x FL, ANSI/NSF-61, ULFM		
④	1	4" HANDWHEEL GV, FL x FL, RESILIENT WEDGE, ULFM, 200 PSIG, ANSI/NSF-61, ANSI/AWWA C509	MUELLER	A-2360-6
⑤	1	DETECTOR CHECK METER	---	---
⑥	1	4" D.I. SPOOL, MORTAR LINED, LENGTH & OUTLET FITTING AS REQ'D W/ FL x RESTRAINED MJ ADAPTER, ANSI/NSF-61, ULFM	USPIPE, TYLER	---
⑦	VAR.	0.5" FELT EXPANSION JOINT MATERIAL	REFLECTIX	EXP04050

②.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

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APPROVED BY: JA

Clint Quilter
CLINT QUILTER - Director

4" FIRE SERVICE METER

W-107

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DATE: SEPT 2015

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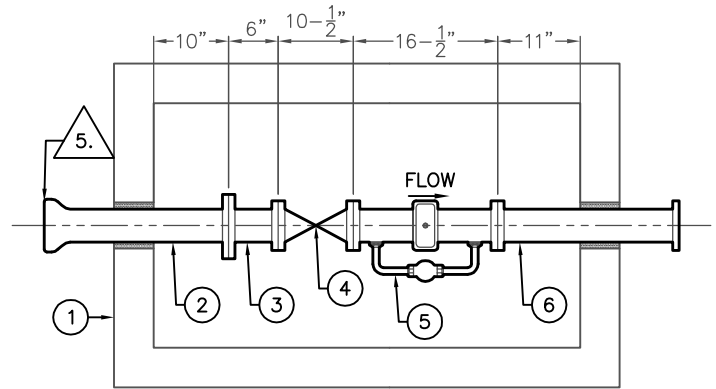
CLINT QUILTER – Director

[RESERVED]

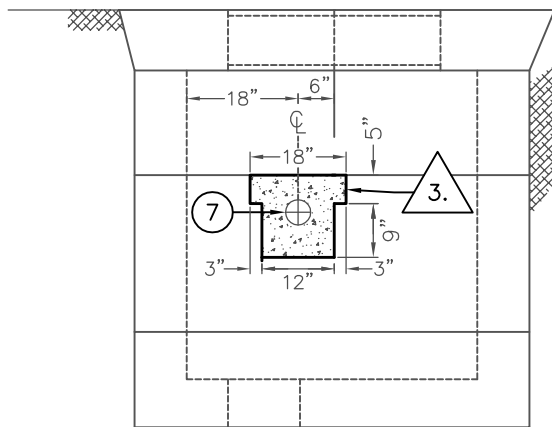
W-108

NOTES:

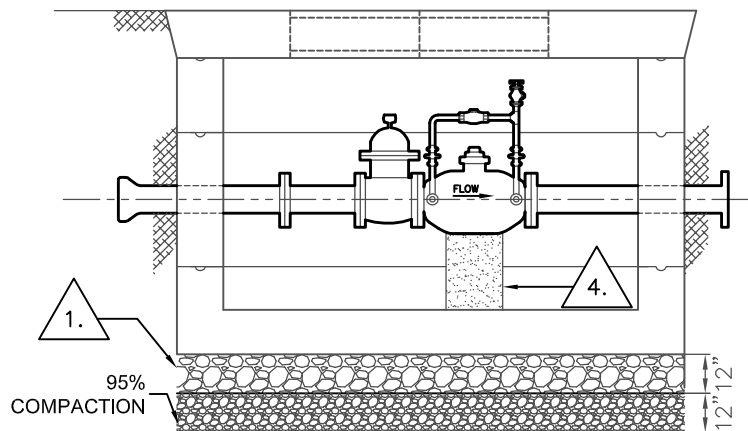
- 1. CRUSHED AGGREGATE BASE MATERIAL SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" LATEST EDITION, SUBSECTION 200-2.
- 2. VAULT AND ACCESSORIES
- 3. WRAP PIPE WITH $\frac{1}{2}$ " FELT EXPANSION JOINT MATERIAL AND FILL VOIDS WITH CEMENT GROUT.
- 4. FILL BLOCKS AND GAP WITH CONCRETE GROUT FOR PROPER BEARING.
- 5. USE LOCKING GASKET
- 6. THIS DRAWING IS NOT TO SCALE.



PLAN



INLET VIEW



ELEVATION

MATERIAL LIST

ITEM	QTY.	DESCRIPTION	MFR	CODE
①	1	4'-0" x 5'-0" PRECAST CONCRETE VAULT, CONTACT COUNTY FOR DETAILS	---	---
②	1	6" D.I. SPOOL, MORTAR LINED, LENGTH & INLET FITTING AS REQ'D W/ FL x RESTRAINED MJ ADAPTER, ANSI/NSF-61, ULFM	USPIPE, TYLER	---
③	1	6" D.I. SPOOL, MORTAR LINED, LENGTH AS REQ'D, FL x FL, ANSI/NSF-61, ULFM	ULFM	ANSI/NSF-61
④	1	6" HANDWHEEL GV, FL x FL, RESILIENT WEDGE, ULFM, 200 PSIG, ANSI/NSF-61, ANSI/AWWA C509	MUELLER	A-2360-6
⑤	1	DETECTOR CHECK METER	---	---
⑥	1	6" D.I. SPOOL, MORTAR LINED, LENGTH & OUTLET FITTING AS REQ'D W/ FL x RESTRAINED MJ ADAPTER, ANSI/NSF-61, ULFM	---	---
⑦	VAR.	0.5" FELT EXPANSION JOINT MATERIAL	RFLECTIX	EXP04050



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DATE: SEPT 2015

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APPROVED BY: JA

Chris A. Quilter
CLINT QUILTER - Director

6" FIRE SERVICE METER

W-109

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INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

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APPROVED BY: JA

CLINT QUILTER – Director

[RESERVED]

W-110

YARD HYDRANT

WOODFORD IOWA HYDRANT OR EQUAL

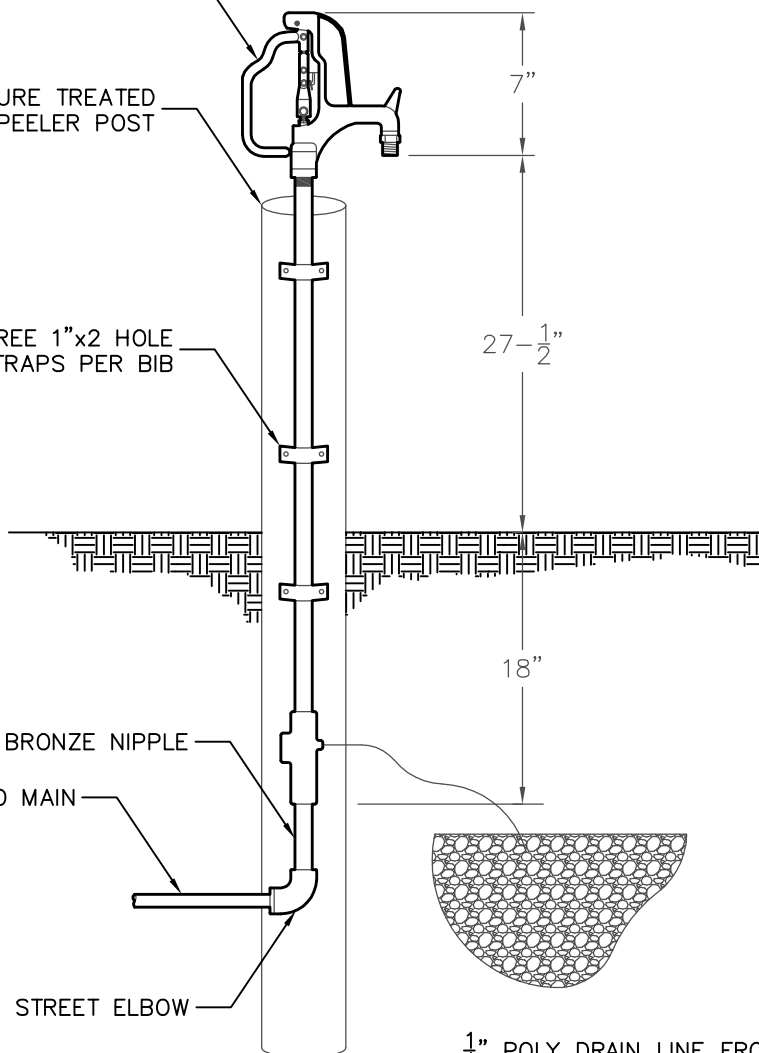
6" X 54" PRESSURE TREATED PEELER POST

MIN. OF THREE 1"x2 HOLE HEAVY STRAPS PER BIB

$\frac{3}{4}$ " BRONZE NIPPLE

1" COPPER TO MAIN

1" BRONZE STREET ELBOW



$\frac{1}{4}$ " POLY DRAIN LINE FROM HYDRANT, EXTENDING INTO ROCK FILLED AREA WITH 2 FT OF $\frac{3}{4}$ " TO $\frac{1}{2}$ " CLEAN ROCK. COVER WITH 10 MIL. POLY SHEETING.

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DATE: SEPT 2015

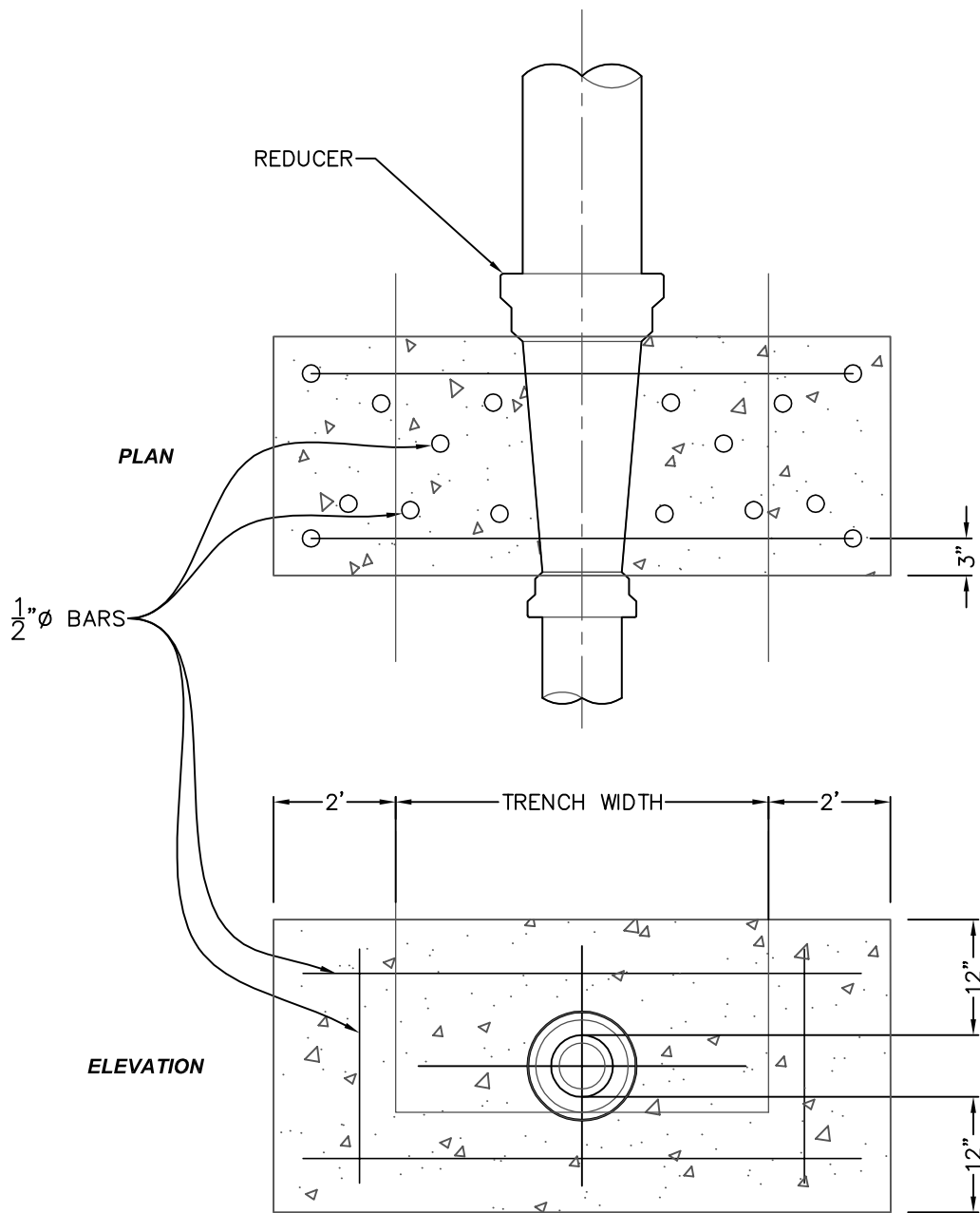
DRAWN BY: TD

APPROVED BY: JA

CLINT QUILTER - Director

YARD HYDRANT DETAIL

W-111



NOTES:

1. CONCRETE SHALL BE 3000 PSI CONCRETE BEARING AGAINST UNDISTURBED SOIL.
2. ENSURE ALL NUTS AND BOLTS CLEAR OF CONCRETE AND OPERABLE.

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DATE: SEPT 2015

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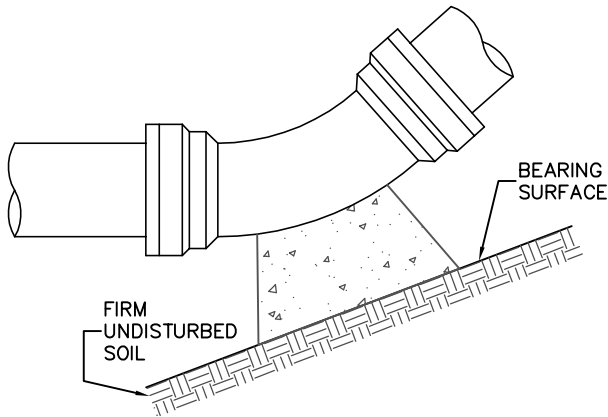
APPROVED BY: JA

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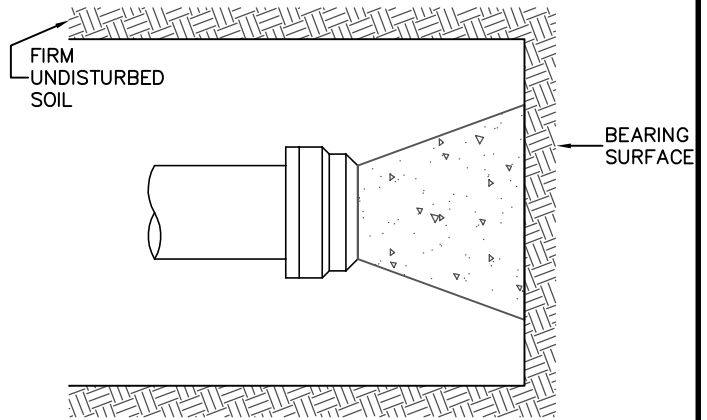
REDUCER THRUST BLOCK DETAIL

W-112

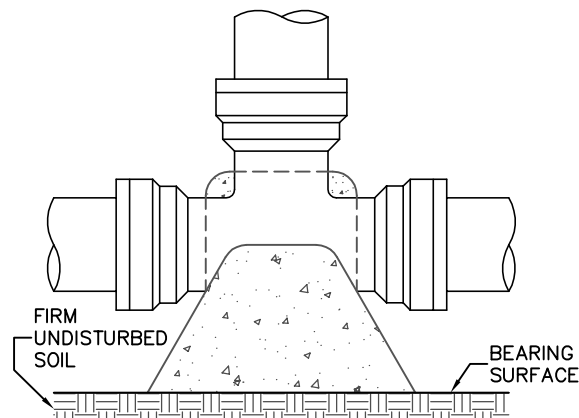
CONCRETE THRUST BLOCK



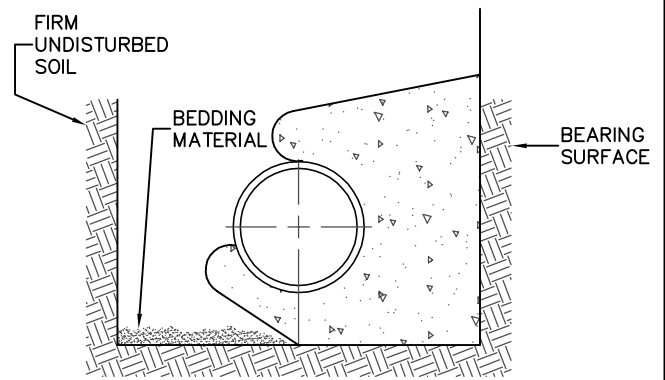
BEND



DEAD END



TEE/CLAMP/WELD/NIPPLE



TYPICAL CROSS SECTION

Table I

MINIMUM BEARING SURFACE AREA (FT. ²)						
SIZE OF PIPE	BENDS				TEE, CLAMP, WELD NIPPLE OR DEAD END	GATE VALVES
	11.25°	22.5°	45°	90°		
4"	1	1	1	2	2	
6"	1	2	3	4	3	
8"	1	2	4	8	5	
12"	3	5	9	16	12	
16"	4	8	16	29	21	
20"	7	13	25	45	32	

Table II

*** SOIL TYPE	**** MAX. ALLOWABLE SOIL BEARING VALUES	FACTORS FOR INCREASING AREAS IN TABLE I
LOOSE SAND	500 PSF	4
SOFT SANDY CLAY	1000 PSF	2
ADOBE	1000 PSF	2
COMPACT FINE SAND	2000 PSF	1
COMPACT COARSE SAND	2000 PSF	1
MEDIUM STIFF CLAY	2000 PSF	1

*** THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE SAFE SOIL BEARING VALUES AND THE POSITION AND SIZE OF BEARING AREAS.

**** BASED ON 2 FEET MINIMUM DEPTH OF COVER OVER THE PIPE.

NOTES:

1. ALL FITTINGS SUBJECTED TO AN UNBALANCED HYDROSTATIC FORCE SHALL BE RESTRAINED WITH 3000 PSI CONCRETE THRUST BLOCKS BEARING AGAINST FIRM UNDISTURBED SOIL.
2. BEARING VALUES SHOWN IN TABLE II ARE BASED ON 200 PSI INTERNAL PIPE PRESSURE AND DO NOT CONSIDER THE EFFECT OF RESTRAINED OR HARNESSED JOINTS.
3. ENSURE ALL NUTS AND BOLTS ARE CLEAR OF CONCRETE AND OPERABLE.

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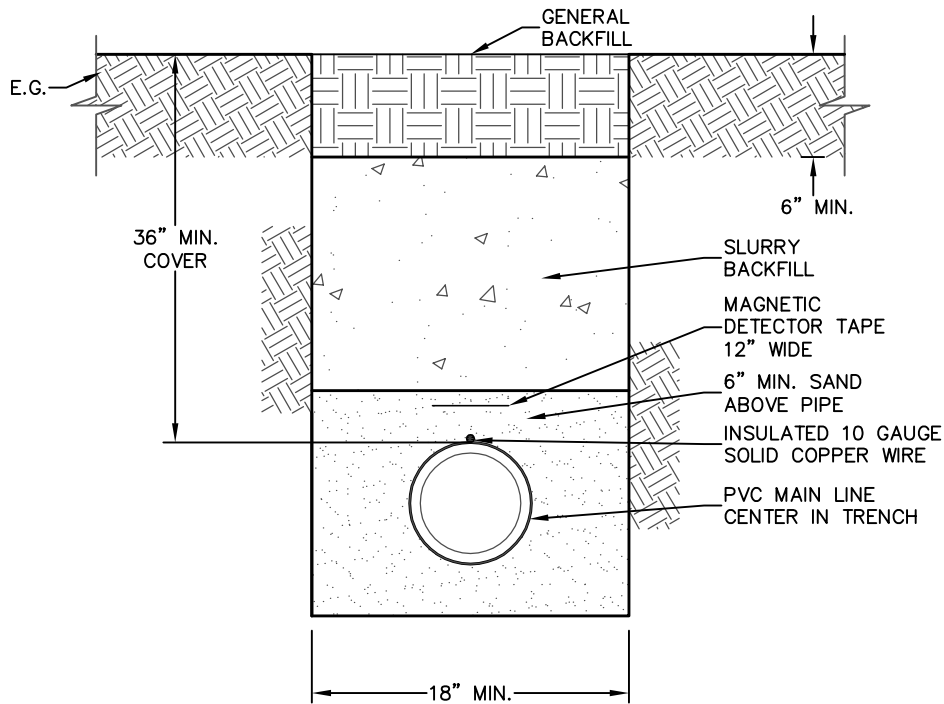
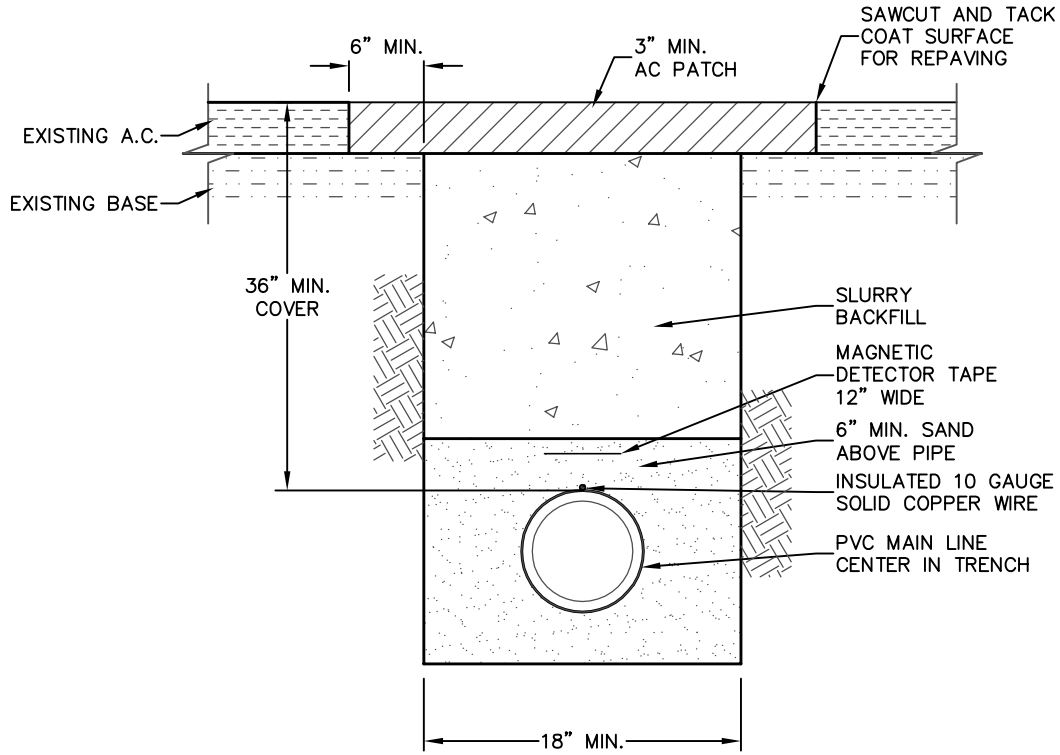
APPROVED BY: JA

Clint Quilter
CLINT QUILTER - Director

CONCRETE THRUST BLOCK DETAIL

W-113

TRENCH



NOTES:

1. AFFIX SOLID COPPER WIRE WITH TYE-WRAPPS EVERY 60FT ON ALL UNDERGROUND PIPING, SERVICE LATERALS, ETC. TEST ALL WIRE JUNCTIONS FOR CONTINUITY PER STD. W-117.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

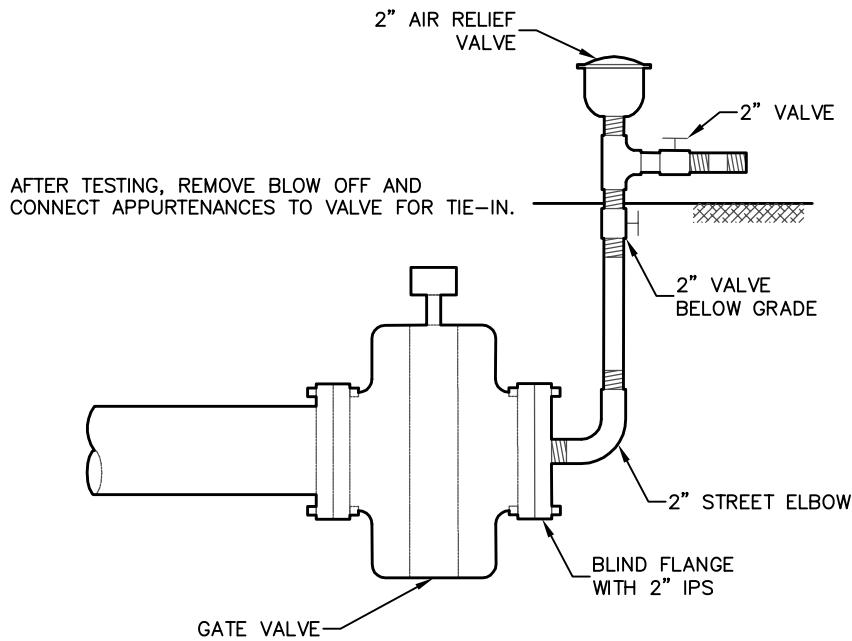
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APPROVED BY: JA

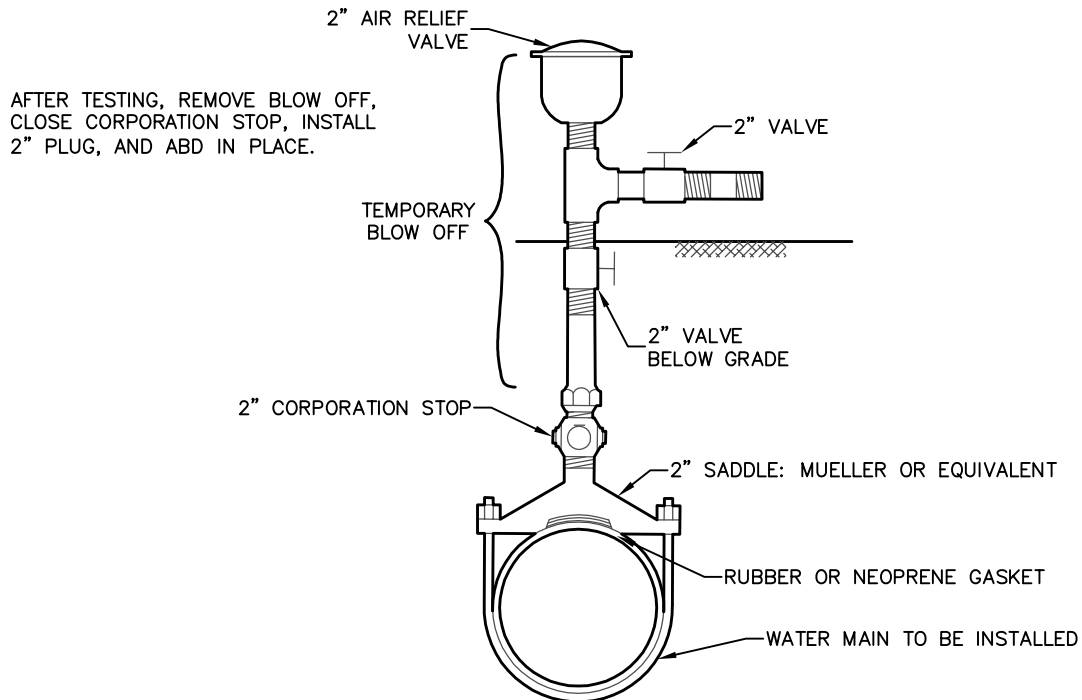
Clint Quilter
CLINT QUILTER - Director

TRENCH DETAIL

W-114



TEMPORARY BLOW OFF "A" DETAILS



TEMPORARY BLOW OFF "B" DETAILS

NOTES:

1. AFFIX SOLID COPPER WIRE WITH TYE-WRAPS EVERY 60FT ON ALL UNDERGROUND PIPING, SVC LATS, ETC. TEST ALL WIRE JUNCTIONS FOR CONTINUITY.

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DATE: SEPT 2015

DRAWN BY: TD

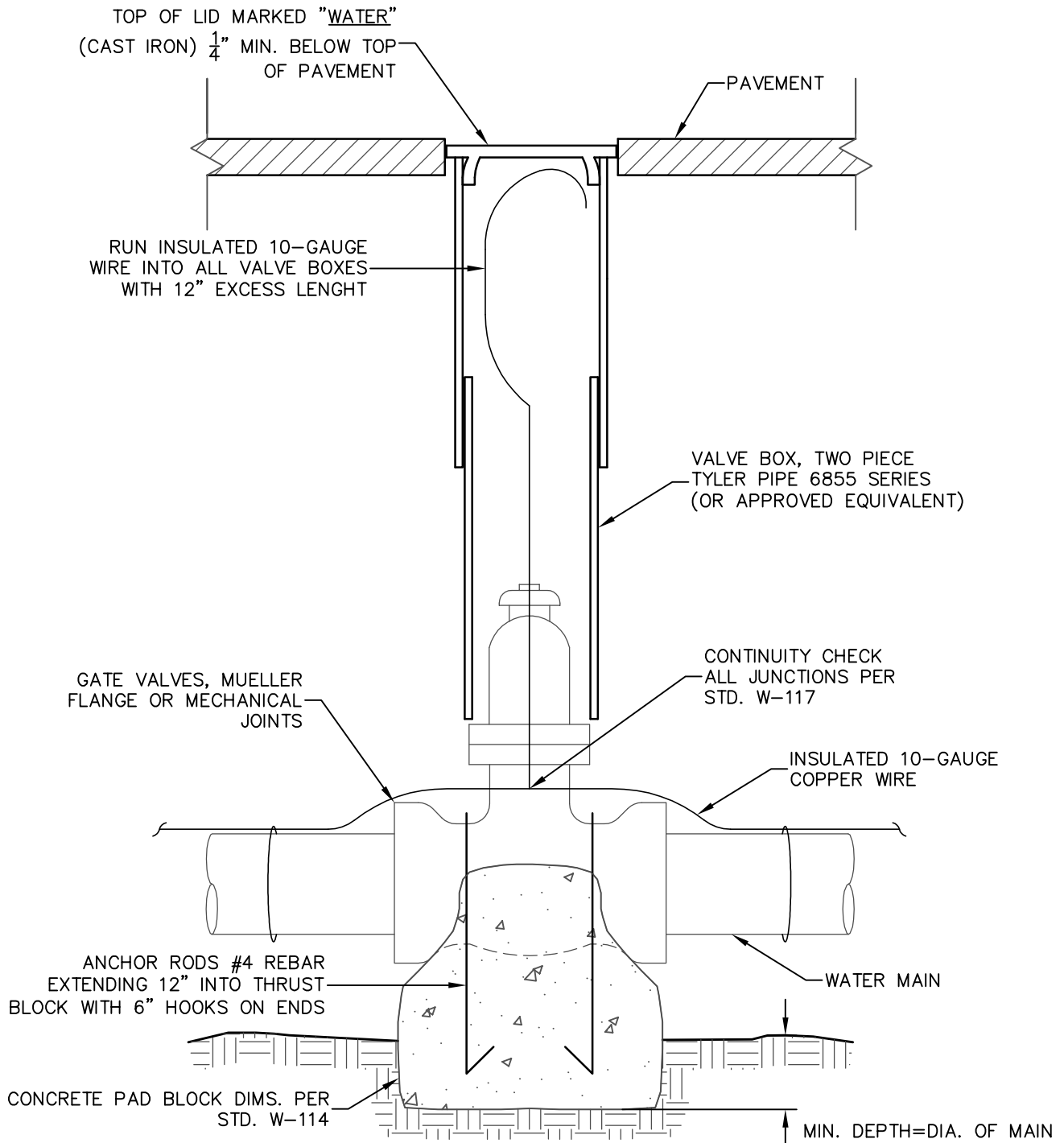
APPROVED BY: JA

Clint Quilter
CLINT QUILTER - Director

TEMPORARY BLOW OFF DETAILS

W-115

GATE VALVE INSTALLATION



NOTES:

1. AFFIX SOLID COPPER WIRE WITH TYE-WRAPS EVERY 60FT ON ALL UNDERGROUND PIPING, SVC LATS, ETC. TEST ALL WIRE JUNCTIONS FOR CONTINUITY.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

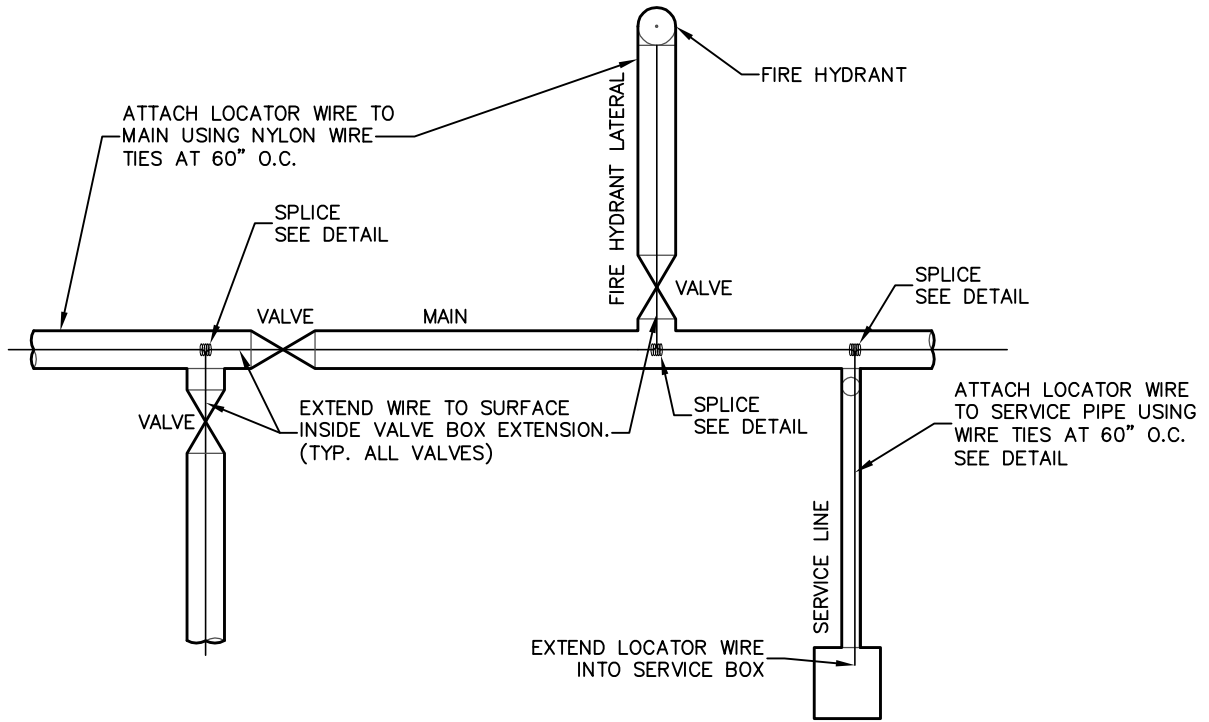
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APPROVED BY: JA

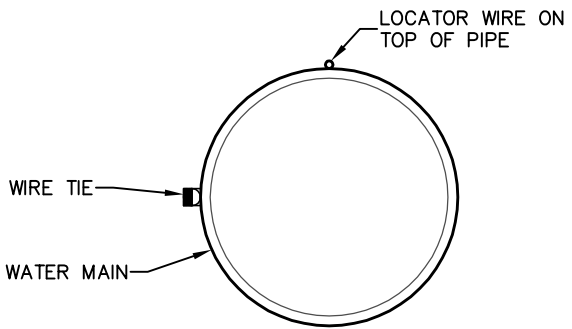
Clint Quilter
 CLINT QUILTER - Director

GATE VALVE INSTALLATION DETAILS

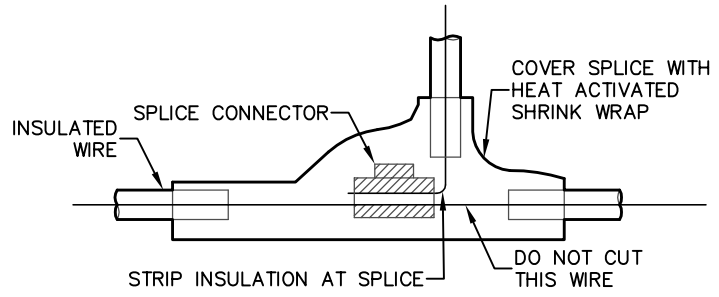
W-116



SCHEMATIC PLAN

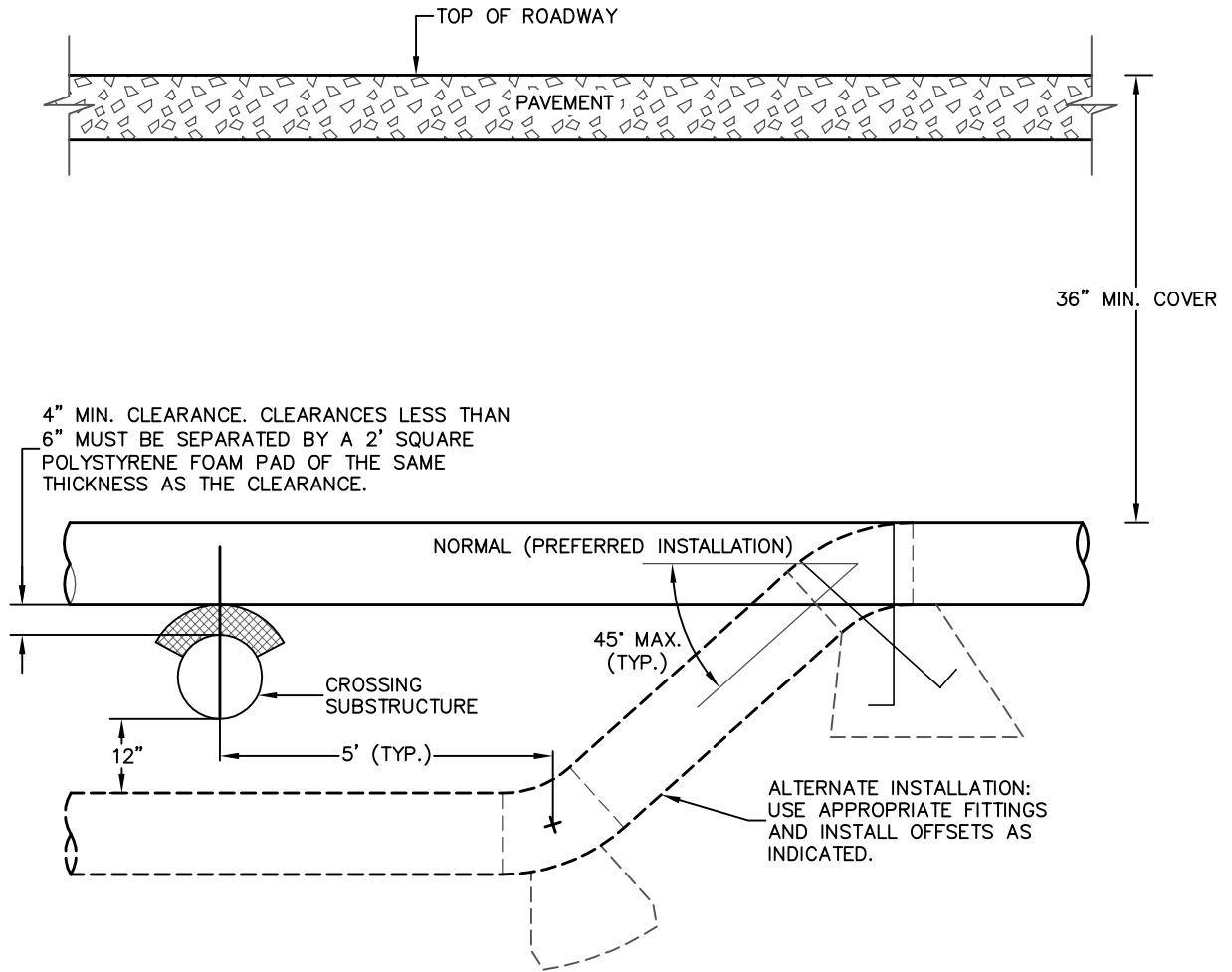


DETAIL OF WIRE ATTACHMENT



SPLICE DETAIL

TYPICAL SUBSTRUCTURE CROSSING



INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

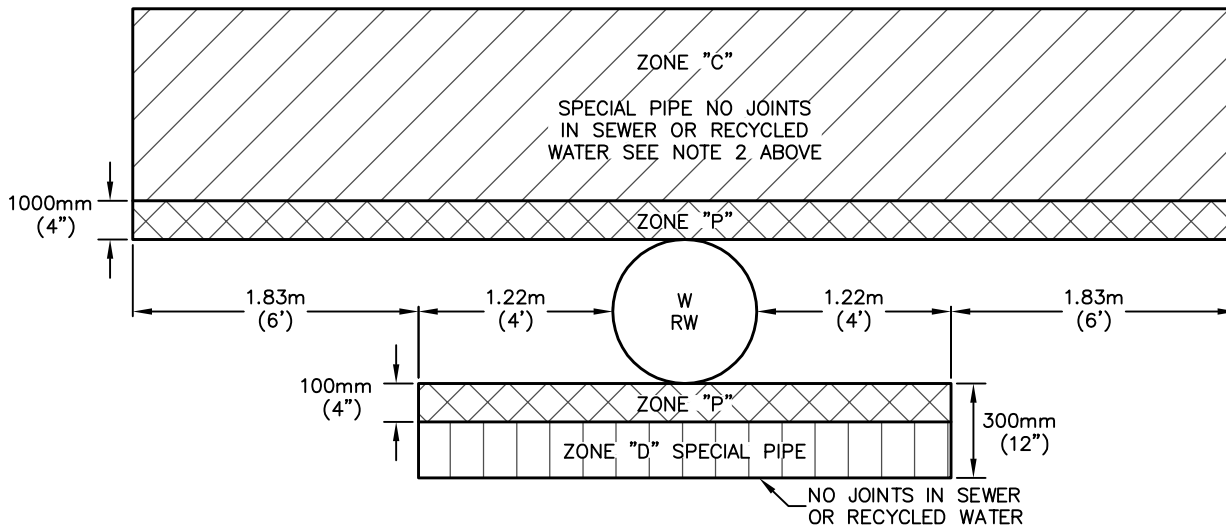
DRAWN BY: TD

APPROVED BY: JA

Clint Quilter
CLINT QUILTER - Director

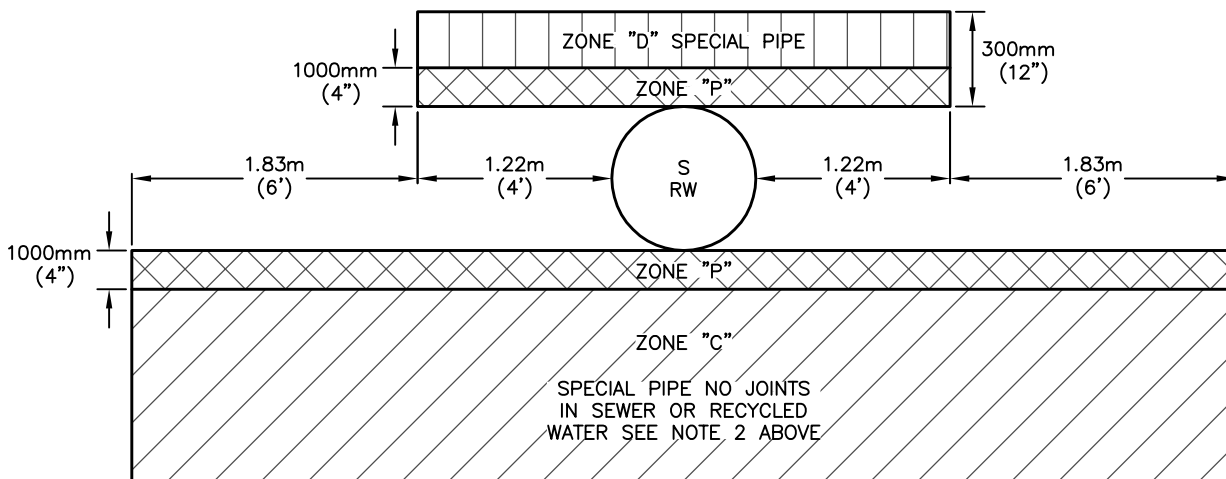
TYPICAL SUBSTRUCTURE
CROSSING DETAIL

W-118



CASE 1

NEW POTABLE WATER OR NEW RECYCLED WATER



CASE 2

NEW POTABLE WATER OR NEW RECYCLED WATER

NOTES:

1. REQUIREMENTS OF THE STATE OF CALIFORNIA, HEALTH AND WELFARE AGENCY, DEPARTMENT OF PUBLIC HEALTH SERVICES.
2. SEE W-121 FOR NOTES ON WATER, RECYCLED WATER, AND SEWER MAIN PARALLEL AND PERPENDICULAR SEPARATIONS.
3. MAINS SHALL CROSS OTHER UTILITIES AT A PERPENDICULAR ANGLE, UNLESS OTHERWISE APPROVED. IN ANY CASE, UTILITIES CROSSING AT A SKEW OF 75° OR LESS SHALL BE AVOIDED.

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DATE: SEPT 2015

DRAWN BY: TD

APPROVED BY: JA

Clint Quilter
CLINT QUILTER - Director

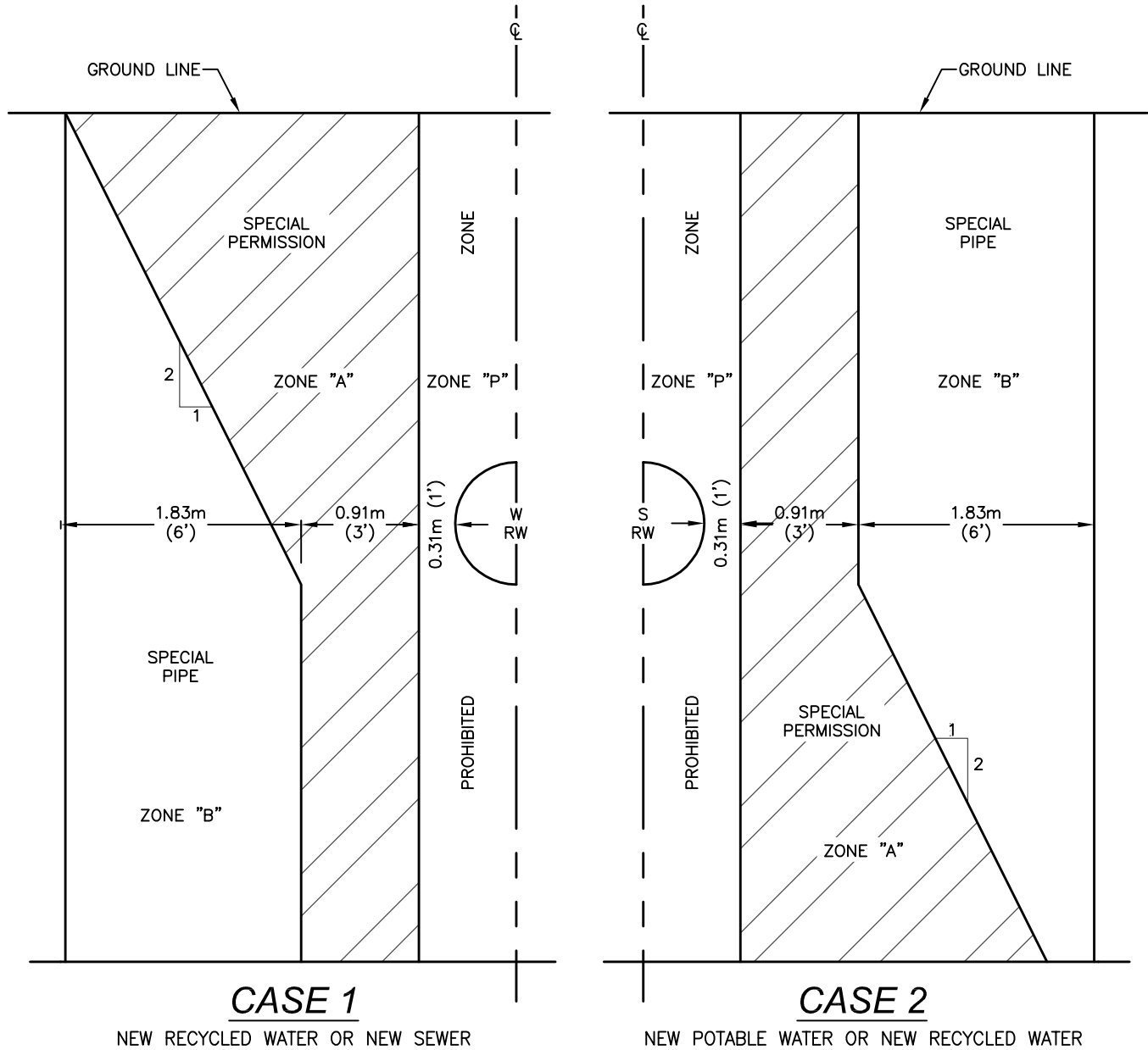
WATER, RECYCLED WATER, AND SEWER
MAIN PERPENDICULAR SEPARATIONS

W-119

WATER, RECYCLED WATER, AND SEWER MAIN PARALLEL SEPARATIONS

NOTES:

1. ZONES IDENTICAL ON EITHER SIDE OF CENTERLINE AS SHOWN BELOW.
2. REQUIREMENTS OF THE STATE OF CALIFORNIA, HEALTH AND WELFARE AGENCY, DEPARTMENT OF HEALTH SERVICES.
3. SEE W-121 FOR NOTES ON WATER, RECYCLED WATER, AND SEWER MAIN PARALLEL AND PERPENDICULAR SEPARATIONS.



INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

DRAWN BY: TD

APPROVED BY: JA

Clint Quilter
CLINT QUILTER - Director

WATER, RECYCLED WATER, AND
SEWER MAIN PARALLEL SEPARATIONS

W-120

WATER, RECYCLED WATER, AND SEWER MAIN PARALLEL AND PERPENDICULAR SEPARATION

CONSTRUCTION REQUIREMENTS FOR WATER, RECYCLED WATER, AND SEWER MAINS

CASE 1: NEW RECYCLED WATER OR SEWER MAINS

ZONE:

- A. SPECIAL PERMISSION REQUIRED. DO NOT LOCATE ANY PARALLEL SEWER OR RECYCLED WATER MAINS IN THIS AREA WITHOUT COUNTY AND STATE HEALTH DEPARTMENT APPROVAL.
- B. PVC SEWER PIPE WITH PUSH-ON TYPE RUBBER RING JOINTS FOR SEWER MAINS C-900, CL305, OR C-905, CL235 PVC PIPE WITH PUSH ON TYPE RUBBER RING JOINTS FOR RECYCLED WATER MAINS.
- P. PROHIBITED ZONE; NO SEWER, WATER, OR RECYCLED WATER MAINS; SECTION 64630 (e)
(2) CALIFORNIA ADMINISTRATIVE CODE, TITLE 22.

CASE 2: NEW RECYCLED WATER OR RECYCLED WATER MAINS

ZONE:

- A. SPECIAL PERMISSION REQUIRED. DO NOT LOCATE ANY PARALLEL SEWER OR RECYCLED WATER MAINS IN THIS AREA WITHOUT COUNTY AND STATE HEALTH DEPARTMENT APPROVAL.
- B. C-900,CL305 OR C-905,CL235 PVC PIPE WITH PUSH ON TYPE RUBBER RING JOINTS FOR WATER MAINS
C-900,CL305 OR C-905,CL235 PVC PIPE WITH PUSH ON TYPE RUBBER RING JOINTS FOR RECYCLED
WATER MAINS.
- P. PROHIBITED ZONE; NO SEWER, WATER, OR RECYCLED WATER MAINS; SECTION 64630 (e)
(2) CALIFORNIA ADMINISTRATIVE CODE, TITLE 22.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

DRAWN BY: TD

APPROVED BY: JA


CLINT QUILTER - Director

WATER, RECYCLED WATER, AND
SEWER MAIN PARALLEL AND
PERPENDICULAR SEPARATION NOTES

W-121

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INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

DRAWN BY: TD

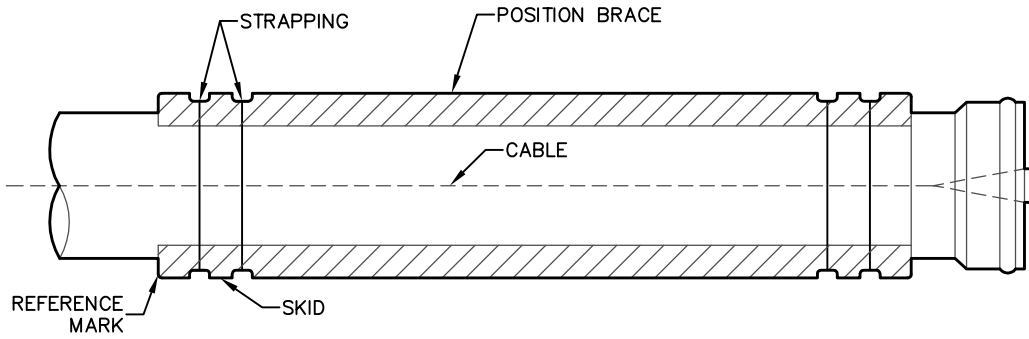
APPROVED BY: JA

CLINT QUILTER – Director

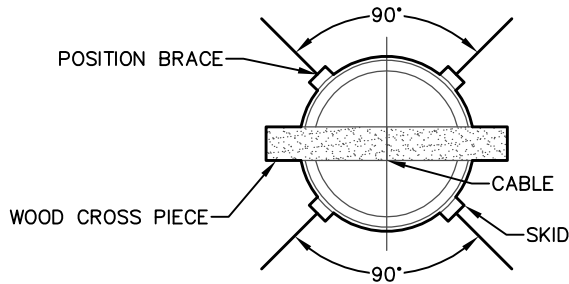
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W-122

PVC CASING SKID



PLAN



SECTION

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

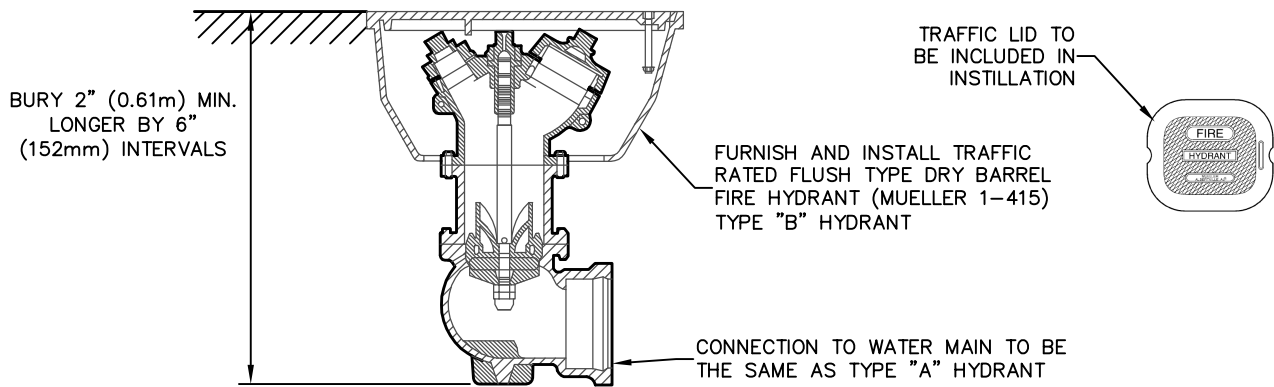
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CLINT QUILTER - Director

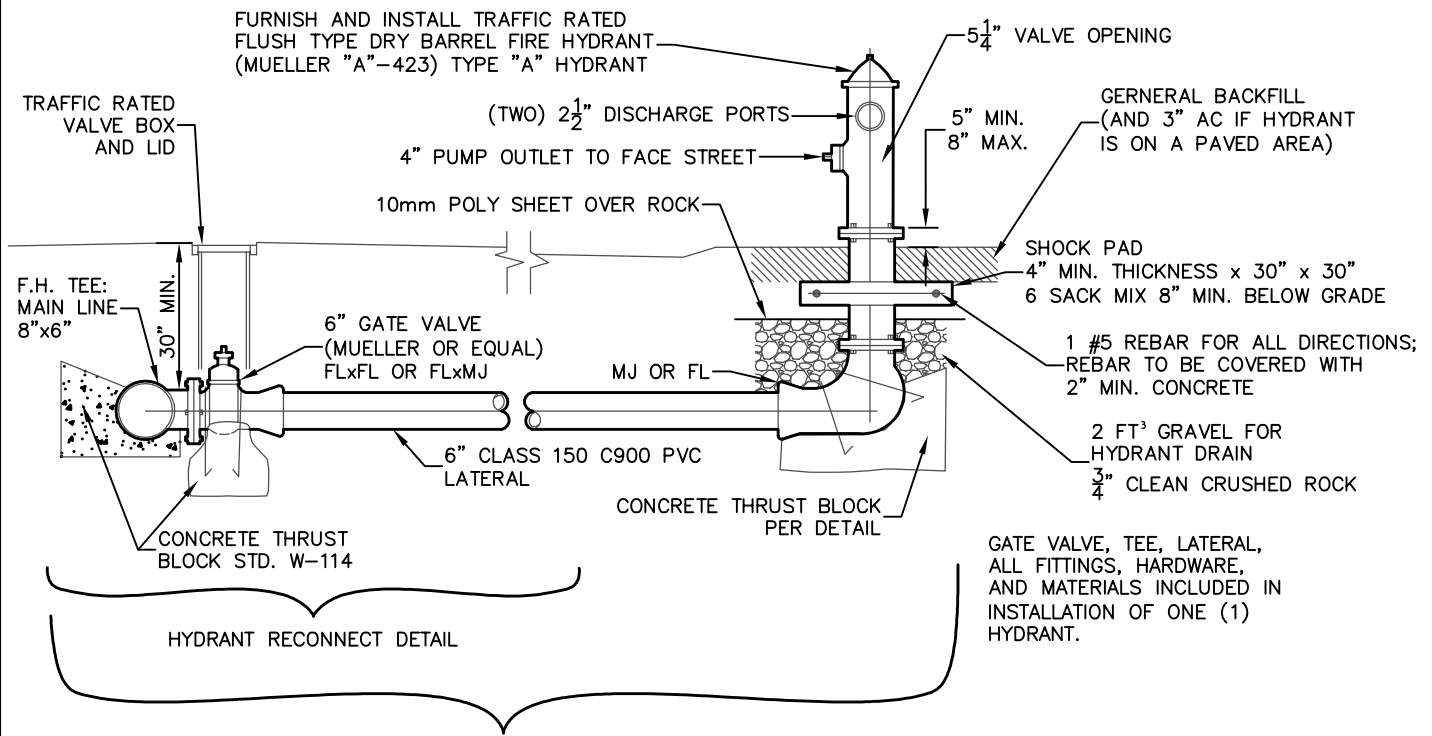
PVC CASING SKID DETAILS

W-123



FLUSH MOUNT HYDRANT

ELEVATION VIEW



HYDRANT RECONNECT DETAIL

NEW HYDRANT INSTALL DETAIL

6"x4"x2.5" STANDARD FIRE HYDRANT

ELEVATION VIEW

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

DRAWN BY: TD

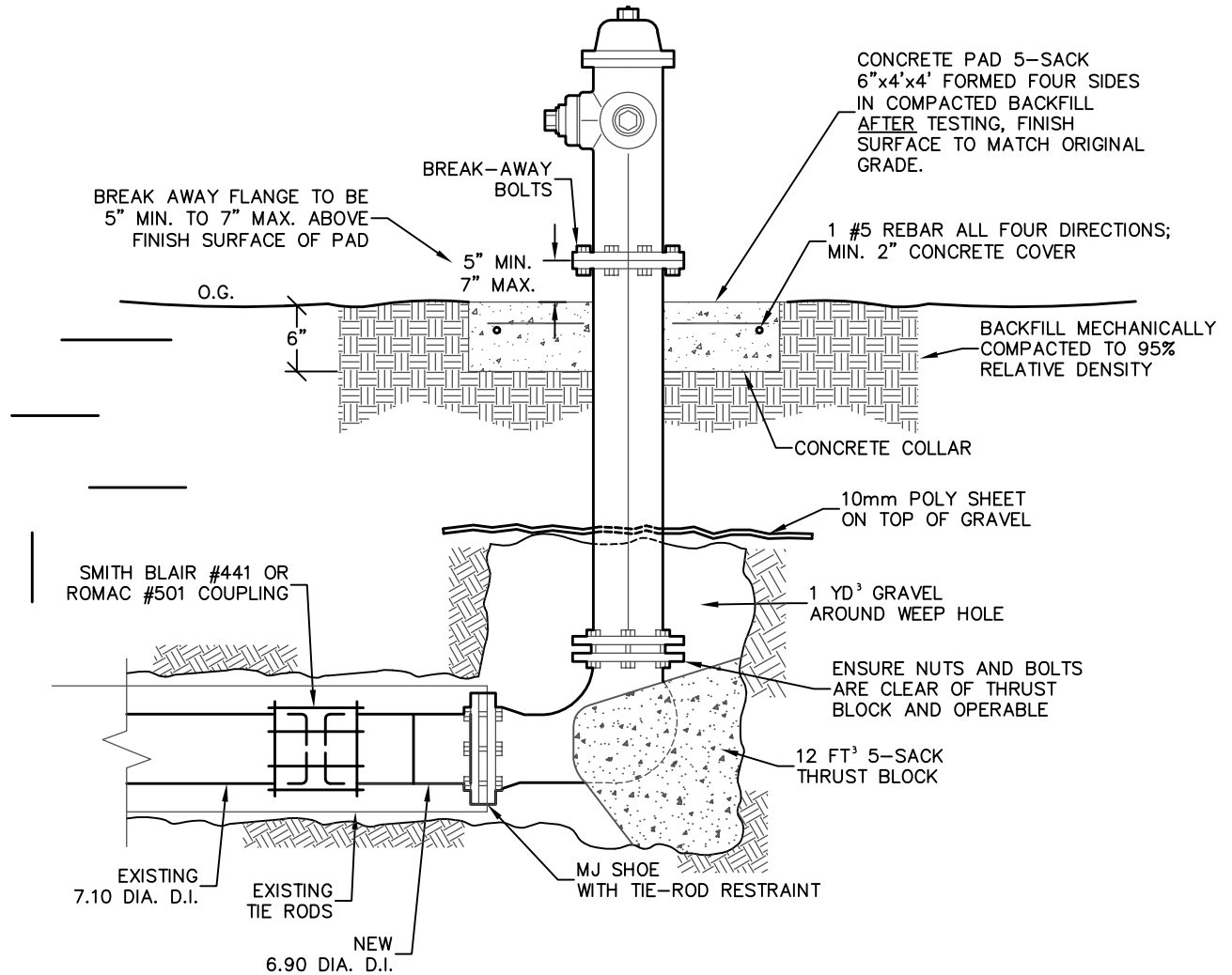
APPROVED BY: JA

Clint Quilter
CLINT QUILTER - Director

NEW FIRE HYDRANT
INSTALLATION DETAILS

W-124

FIRE HYDRANT REPLACEMENT WITH CONCRETE



FIRE HYDRANT REPLACEMENT

ELEVATION VIEW

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

DRAWN BY: TD

APPROVED BY: JA

Clint Quilter
CLINT QUILTER - Director

FIRE HYDRANT REPLACEMENT
ON OVERSIZED LATERAL PIPE
WITH CONCRETE

W-125

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INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

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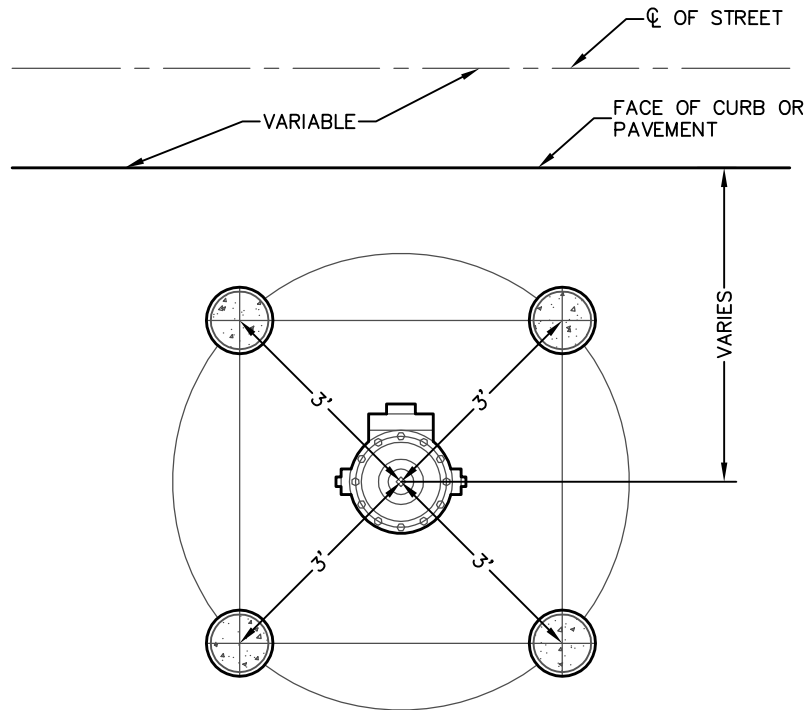
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CLINT QUILTER – Director

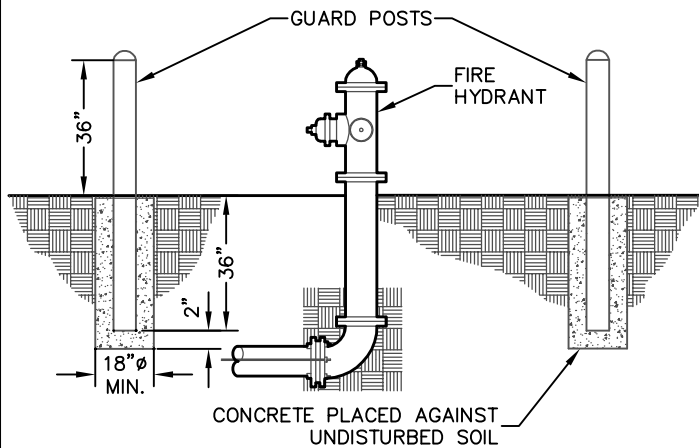
[RESERVED]

W-126

4-POST FIRE HYDRANT GUARD



PLAN
N.T.S



POST INSTALLATION
N.T.S

NOTES:

1. PIPE SHALL CONFORM TO ASTM A 53, TYPE E, GRADE E, BLACK, SCHEDULE 40, PLAIN END.
2. APPLY A MINIMUM OF TWO COATS EACH OF PRIMER AND SAFETY YELLOW ENAMEL PAINT
3. CONCRETE SHALL BE CLASS 500-C-2500 IN ACCORDANCE WITH "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" LATEST EDITION, SUBSECTION 201-1.1.2.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

DRAWN BY: TD

APPROVED BY: JA

Clint Quilter
CLINT QUILTER - Director

4-POST FIRE HYDRANT GUARD

W-127

ALLOWABLE LEAKAGE CHART FOR TESTING OF PVC, STEEL, AND DI PIPE WITH RUBBER JOINTS

PIPE SIZE mm(in)	LENGTH IN METERS (FEET) CALCULATED AS DESCRIBED IN NOTE 4 BELOW																		
	15.24 (50)	30.48 (100)	60.96 (200)	91.44 (300)	121.92 (400)	152.40 (500)	182.88 (600)	213.36 (700)	243.84 (800)	274.32 (900)	304.8 (1000)	457.20 (1500)	609.60 (2000)	762.00 (2500)	914.40 (3000)	1066.8 (3500)	1219.2 (4000)	1371.6 (4500)	1524 (5000)
150mm (6")	0.044 0.012	0.088 0.024	0.176 0.047	0.264 0.071	0.352 0.095	0.441 0.118	0.529 0.142	0.617 0.166	0.705 0.189	0.793 0.213	0.881 0.237	1.322 0.355	1.762 0.473	2.203 0.592	2.643 0.710	3.084 0.829	3.524 0.947	3.965 1.065	4.405 1.184
200mm (8")	0.059 0.016	0.117 0.032	0.235 0.063	0.352 0.095	0.470 0.126	0.587 0.158	0.705 0.189	0.822 0.221	0.940 0.253	1.057 0.284	1.175 0.316	1.762 0.473	2.350 0.631	2.937 0.789	3.524 0.947	4.112 1.105	4.699 1.263	5.286 1.420	5.874 1.578
250mm (10")	0.073 0.020	0.147 0.039	0.294 0.079	0.441 0.118	0.587 0.158	0.734 0.197	0.881 0.237	1.028 0.276	1.175 0.316	1.322 0.355	1.468 0.395	2.203 0.592	2.937 0.789	3.761 0.986	4.405 1.184	5.140 1.381	5.874 1.578	6.608 1.776	7.342 1.973
300mm (12")	0.044 0.012	0.176 0.047	0.352 0.095	0.529 0.142	0.705 0.189	0.881 0.237	1.057 0.284	1.233 0.331	1.410 0.379	1.586 0.426	1.762 0.473	2.643 0.710	3.524 0.947	4.405 1.184	5.286 1.420	6.167 1.657	7.049 1.894	7.930 2.131	8.811 2.367
400mm (16")	0.044 0.012	0.235 0.063	0.470 0.126	0.705 0.189	0.940 0.253	1.175 0.316	1.410 0.379	1.645 0.442	1.880 0.505	2.115 0.568	2.350 0.631	3.524 0.947	4.669 1.263	5.874 1.578	7.049 1.894	8.223 2.210	9.398 2.525	10.573 2.841	11.748 3.157
450mm (18")	0.044 0.012	0.264 0.071	0.529 0.142	0.793 0.213	1.057 0.284	1.322 0.355	1.586 0.426	1.850 0.497	2.115 0.568	2.379 0.639	2.643 0.710	3.695 1.065	5.286 1.420	6.608 1.776	7.930 2.131	9.250 2.486	10.573 2.841	11.894 3.196	13.216 3.551
500mm (20")	0.044 0.012	0.294 0.079	0.587 0.158	0.881 0.237	1.175 0.316	1.468 0.395	1.762 0.473	2.056 0.552	2.350 0.631	2.643 0.710	2.937 0.789	4.405 1.184	5.874 1.578	7.342 1.973	8.811 2.367	10.279 2.762	11.748 3.157	13.216 3.551	14.684 3.946
600mm (24")	0.044 0.012	0.352 0.095	0.705 0.189	1.057 0.284	1.410 0.379	1.762 0.473	2.115 0.568	2.467 0.663	2.819 0.758	3.172 0.852	3.524 0.947	5.286 1.420	7.049 1.894	8.811 2.367	10.573 2.841	12.335 3.314	14.097 3.788	15.859 4.261	17.621 4.735

ALLOWABLE LEAKAGE RESULTS IN CHART ARE GIVEN IN LITERS AND GALLONS =



NOTES:

- REFER TO SECTION 15044 OF THE SPECIFICATIONS.
- HYDROSTATIC TEST PRESSURE SHALL BE AS INDICATED IN SECTION 15044..
- ALLOWABLE LEAKAGE FOR STEEL (FLANGED OR WELDED) AND DUCTILE IRON (FLANGED) PIPE SHALL BE ZERO.
- THE FOLLOWING FORMULA SHALL BE USED TO CALCULATE THE ALLOWED LOSS:

$$\frac{0.4625 \text{ LITERS} \times \text{NOMINAL DIAMETER OF PIPE (mm)} \times \text{LENGTH OF PIPE (m)}}{24 \text{ (HOURS)} \times 1000 \text{ (m)}}$$

$$\frac{5 \text{ GALLONS} \times \text{NOMINAL DIAMETER OF PIPE (INCH)} \times \text{LENGTH OF PIPE (FT)}}{24 \text{ (HOURS)} \times 5,280 \text{ (FT)}}$$

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

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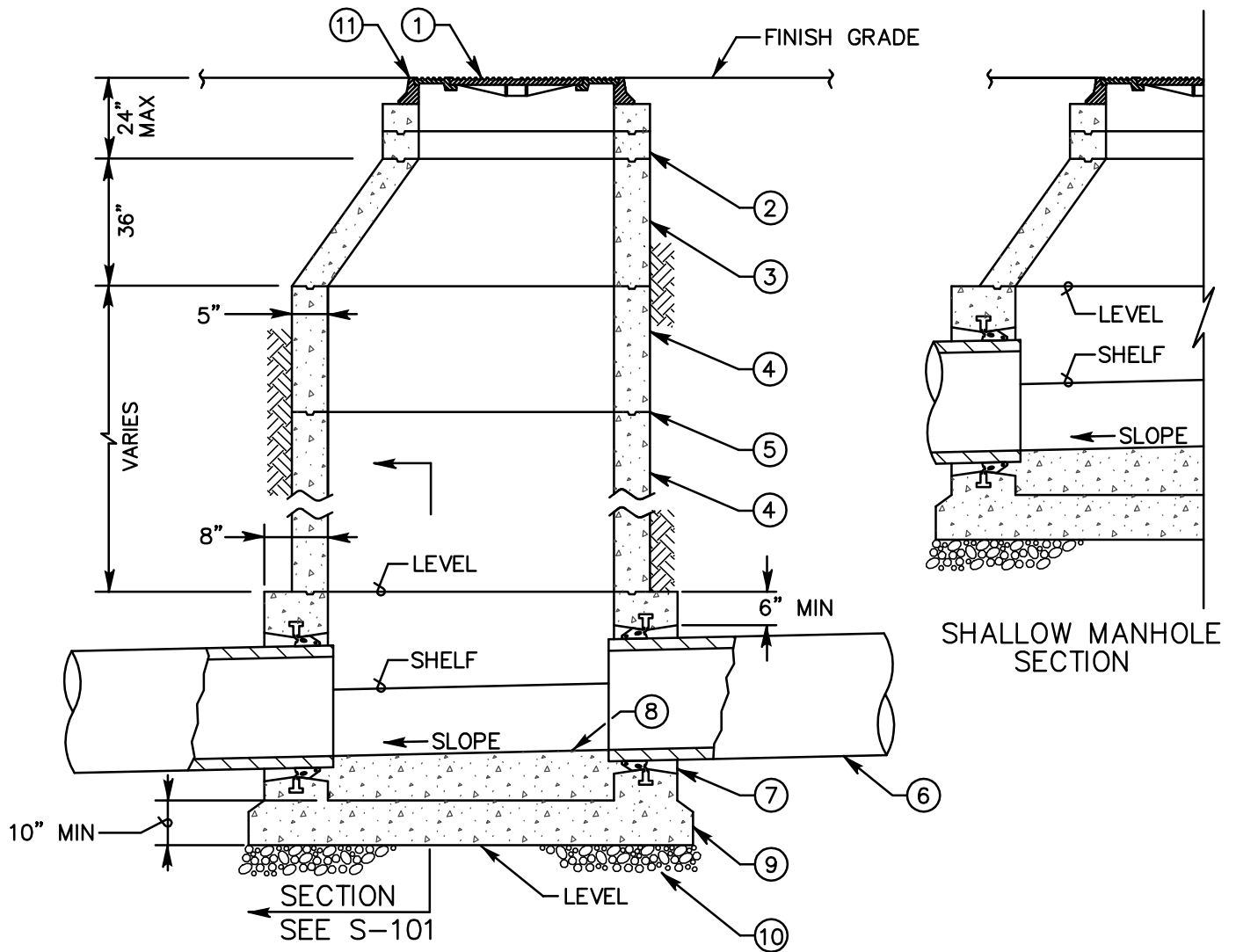
Clint Quilter
CLINT QUILTER - Director

ALLOWABLE LEAKAGE CHART FOR
TESTING OF PIPES WITH RUBBER JOINTS

W-128

SECTION S

SEWER SYSTEMS



NOTES:

1. REFER TO AGENCY SPECIFICATIONS WHERE APPLICABLE
2. VERTICAL WALL OF CONE TO BE ON THE UPSTREAM SIDE OF MANHOLE SEE S-103 FOR ACCESS LOCATIONS
3. FOR MANHOLE BASES SEE STD. S-101

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
①	24" MANHOLE FRAME AND TWO CONCENTRIC COVERS	⑦	MANHOLE PIPE CONNECTOR SEE STD. S-102
②	24" DIA GRADE RING(S) 6" TO 18" HIGH	⑧	FIELD INSTALLED INVERT SEE STD. S-102
③	ECCENTRIC CONE SEE NOTE 2	⑨	CONCRETE BASE, PRECAST OR CAST IN PLACE
④	48" DIA RING(S) VARIABLE HEIGHT	⑩	6" OF $\frac{3}{4}$ " CRUSHED ROCK
⑤	WATER TIGHT JOINTS SEE STD. S-103	⑪	MANHOLE DETAIL SEE STD. S-103
⑥	SEWER MAIN		

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DATE: SEPT 2015

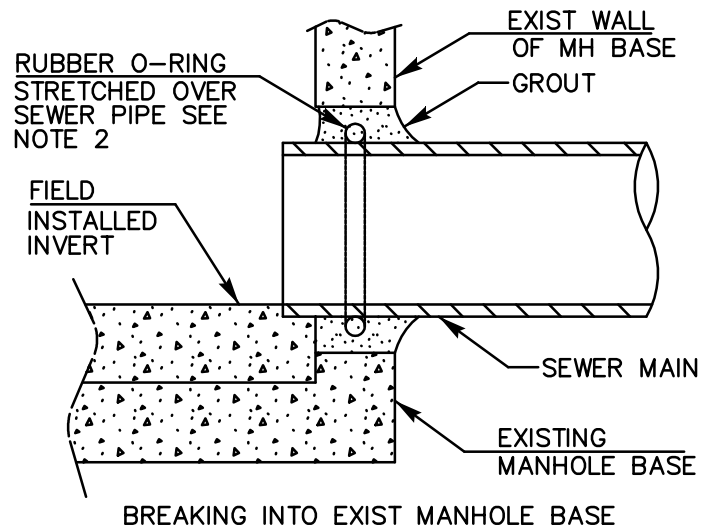
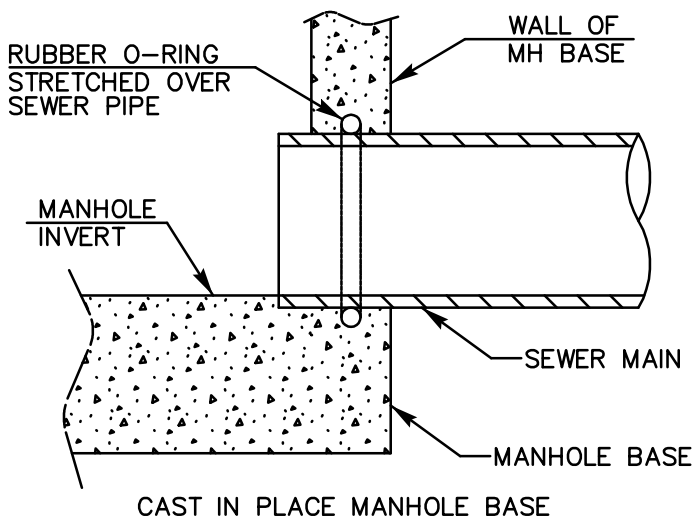
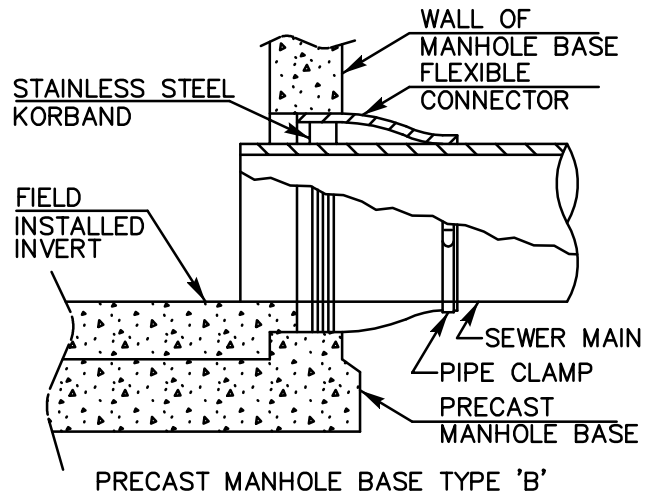
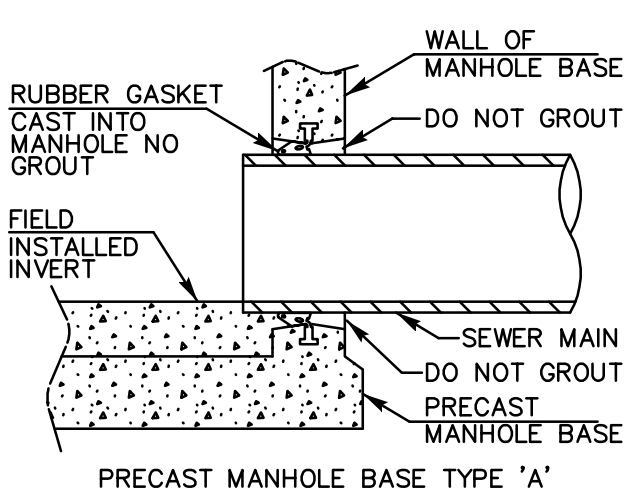
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Clint Quilter
 CLINT QUILTER - Director

**48" DIAMETER PRECAST MANHOLE
 INSTALLATION**

S-100



NOTES:

1. REFER TO AGENCY SPECIFICATIONS WHERE APPLICABLE.
2. A RUBBER O-RING OR A FLEXIBLE CONNECTOR (AS SHOWN IN PRECAST MANHOLE BASE TYPE 'B') CAN BE USED WHEN BREAKING INTO EXISTING MANHOLE.
3. MATERIALS SHALL BE SELECTED FROM THE AGENCY'S APPROVED MATERIALS LIST.

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DATE: SEPT 2015

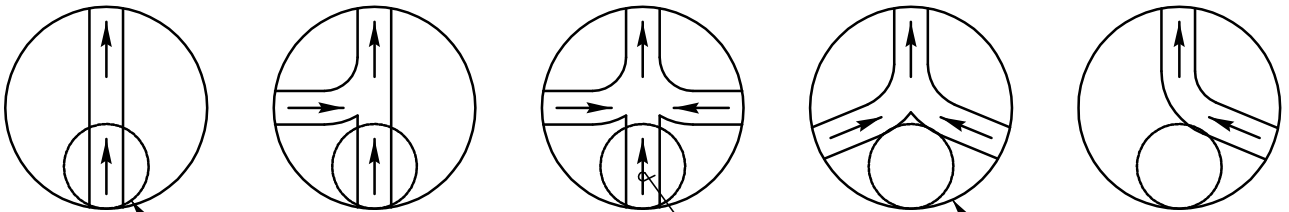
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CLINT QUILTER - Director

MANHOLE PIPE CONNECTIONS

S-102

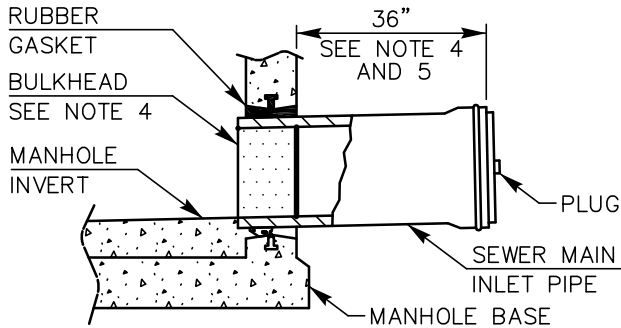


MANHOLE SHAFT
OPENING (TYP)
SEE NOTE 2

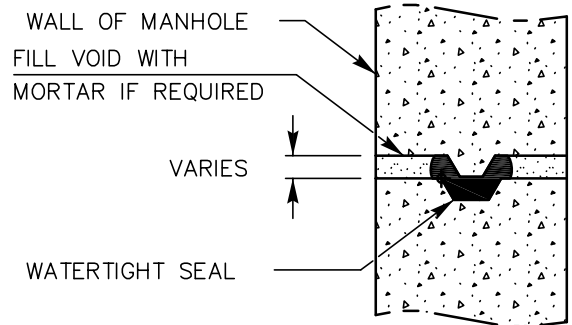
DIRECTION OF
FLOW (TYP)

MANHOLE (TYP)

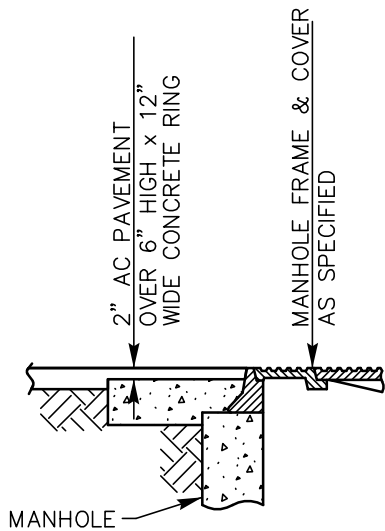
MANHOLE ACCESS LOCATION PLAN VIEW



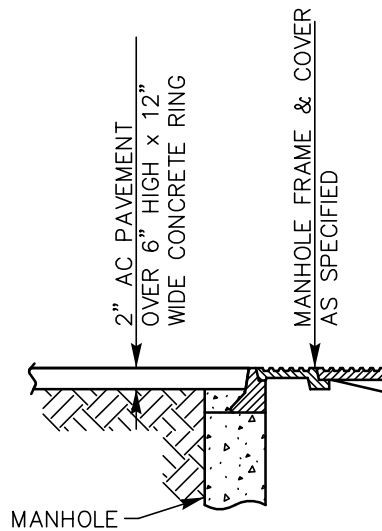
MANHOLE STUB OUT FOR FUTURE CONNECTION



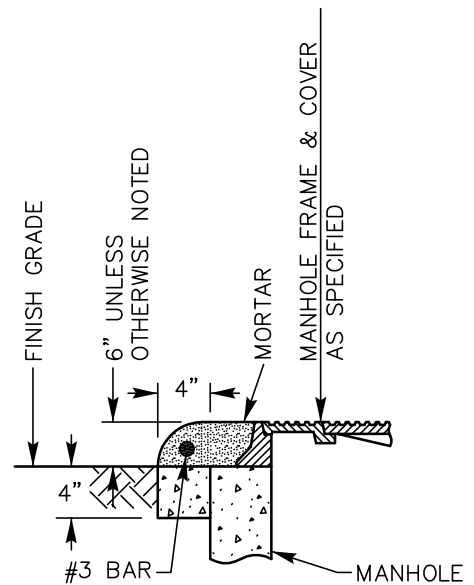
WATERTIGHT MANHOLE JOINT



TYPE A
PAVED AND TRAVELED AREAS



TYPE B
PAVED AND TRAVELED AREAS



TYPE C
UNPAVED, UNTRAVELED, SHOULDER
AREAS, AREAS IN EASMENTS

NOTES:

1. REFER TO AGENCY SPECIFICATIONS WHERE APPLICABLE.
2. VERTICAL WALL OF CONE TO BE ON THE UP STREAM SIDE OF MANHOLE.
3. STUBS SHALL BE BULKHEADED AT THE MANHOLE END.
4. SEWER MAIN TO BE LAID WITH BELLS UP-GRADE.
5. MATERIALS SHALL BE SELECTED FROM THE AGENCY'S APPROVED MATERIALS LIST.

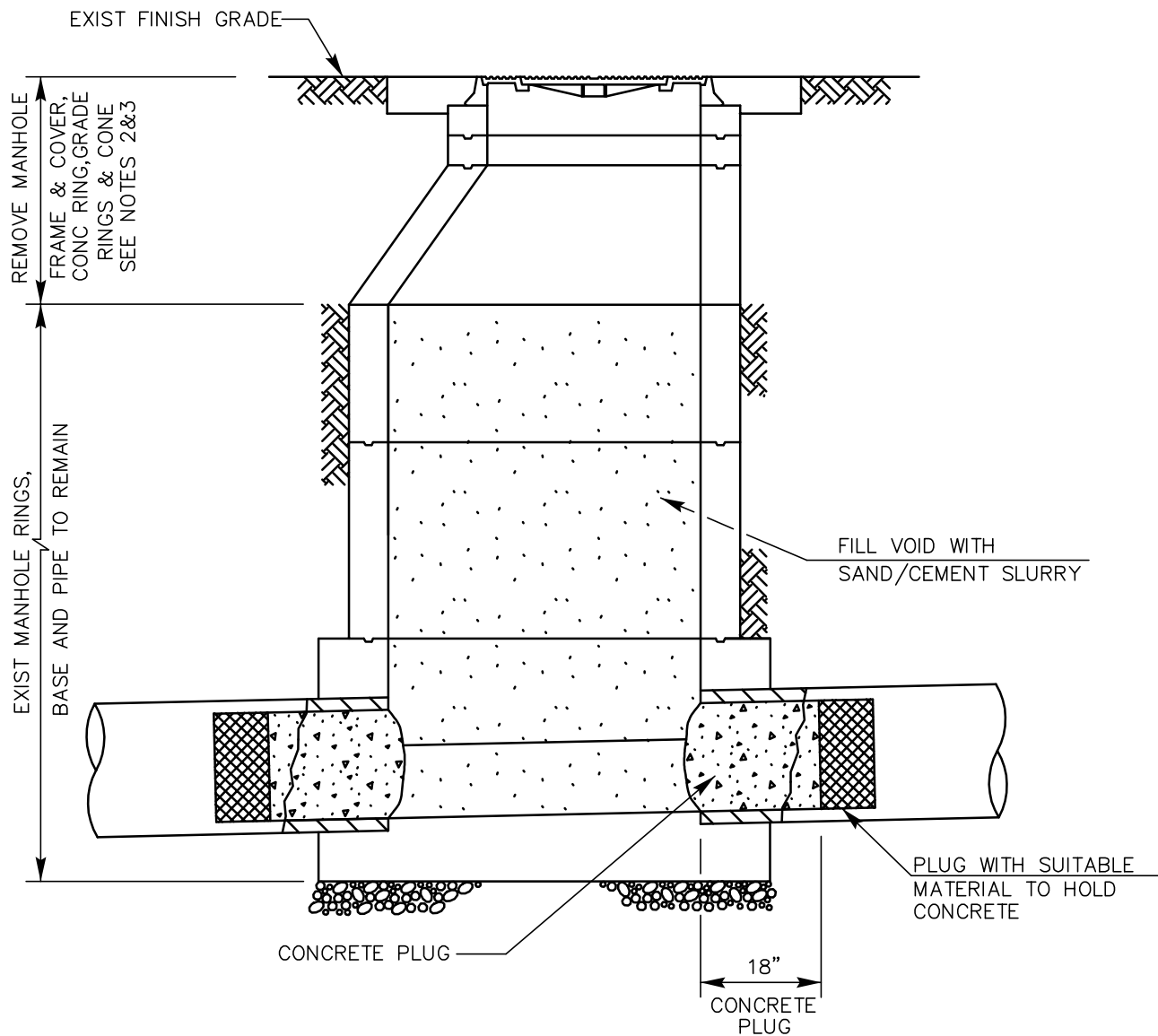
INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015
DRAWN BY: TD
APPROVED BY: JA

Clint Quilter
CLINT QUILTER - Director

MANHOLE MISCELLANEOUS DETAILS

S-103



NOTES:

1. REFER TO AGENCY SPECIFICATIONS WHERE APPLICABLE.
2. ALL SALVAGED MATERIAL BECOMES PROPERTY OF AGENCY OF JURISDICTION.
3. BACKFILL PER AGENCY'S REQUIREMENT.

INYO COUNTY PUBLIC WORKS DEPT.

DATE: SEPT 2015

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Clint Quilter
 CLINT QUILTER - Director

EXISTING MANHOLE ABANDONMENT

S-104

APPENDIX A

INYO COUNTY ENCROACHMENT PERMIT

INYO COUNTY PUBLIC WORKS DEPARTMENT



P.O. DRAWER Q
INDEPENDENCE, CA 93526
(760) 878-0201 Independence
(760) 873-8481 Bishop
(760) 878-2001 Fax

Permit No. _____

APPLICATION FOR ENCROACHMENT PERMITS

TO PERFORM WORK IN THE RIGHT-OF-WAY OF INYO COUNTY ROADS

Minimum Permit Fee of \$50.00 is required with all applications. Additional Fees will be calculated for each permit, and payable before permit is issued.

Please answer all questions below. Attach additional sheets if necessary.

Applicant: _____ Date: _____

Address: _____

Contact Person: _____ Phone: _____

Fax: _____

Describe Work: _____

Location of Work: _____

Assessor Parcel Number
of adjacent property: _____ Dates when work is anticipated: _____

Attach Plans or Drawings of proposed encroachment work (see checklist)
Applicant agrees to do the work in accordance with Inyo County rules and regulations, standard specifications, and subject to County inspection and approval.

INDEMNIFICATION REQUIREMENTS:

Permit No. _____

Permittee shall defend, indemnify, and hold harmless County, its agents, officers, and employees from and against all claims, damages, losses, judgments, liabilities, expenses, and other costs, including litigation costs and attorney's fees, arising out of, resulting from, or in connection with, the performance of this Agreement by Permittee, or Permittee's agents, officers, or employees, or the failure of Permittee, or Permittee's agents, officers, or employees to comply with any of its obligations contained in this Agreement, and that arise out of, or pertain to, or relate to the negligence, recklessness, or willful misconduct of Permittee or its employees or agents in the performance of services under this contract. Permittee's obligation to defend, indemnify, and hold the County, its agents, officers, and employees harmless applies to any actual or alleged personal injury, death, or damage or destruction to tangible or intangible property, including the loss of use. Permittee's obligation under this paragraph extends to any claim, damage, loss, liability, expense, or other cost which is caused in whole or in part by any negligence, recklessness or willful misconduct of the Permittee, its agents, employees, suppliers, or of any one directly or indirectly employed by any of them, or anyone for whose negligence, recklessness or willful misconduct any of them may be liable.

Permittee's obligation to defend, indemnify, and hold the County, its agents, officers, and employees harmless under the provisions of this paragraph is not limited to, or restricted by, any requirement in this Agreement for Permittee to procure and maintain a policy of insurance.

To the extent permitted by law, County shall defend, indemnify, and hold harmless Permittee, its agents, officers, and employees from and against all claims, damages, losses, judgments, liabilities, expenses, and other costs, including litigation costs and attorney's fees, arising out of, or resulting from, the active negligence, or wrongful acts of County, its officers, or employees.

SPECIAL CONDITIONS: _____

INYO COUNTY PUBLIC WORKS DEPARTMENT

PERMITTEE SIGNATURE: _____ Date: _____

PRINTED NAME: _____

APPROVED BY: _____ Date: _____

PRINTED NAME: _____

APPENDIX B

INYO COUNTY IMPROVEMENT PLAN CHECKLIST

INYO COUNTY PUBLIC WORKS DEPARTMENT

IMPROVEMENT PLAN CHECKLIST

Work Order # _____ Checked by: _____

Schedule: _____ Date: _____

A. PREPARATION OF SHEETS

- ___ 1. Plan and profile cloth 24" x 36"
- ___ 2. Drawings shall be in ink and all work must be clearly reproducible
- ___ 3. Submit eight (8) sets of prints for F.A.S. Projects, and two (2) sets for all other work
- ___ 4. Submit original for final approval

B. INDEX AND VICINITY MAP

- ___ 1. Shown on first sheet
- ___ 2. Street names shown thereon
- ___ 3. Flow diagram with drainage arrows
- ___ 4. Show tie to nearby County Maintained Road System
- ___ 5. Show location of drainage structures (existing and proposed)
- ___ 6. Show "Q" for all drainage facilities on work sheet for County review

C. TITLE BLOCK

- ___ 1. Use County Road Department Title Block
- ___ 2. Show all sheet numbers
- ___ 3. Tract Number, Work Order Number or File Number
- ___ 4. Registered Engineer's signature and number
- ___ 5. Date

D. PLAN VIEW

- ___ 1. North Arrow (pointing up or to the right)
- ___ 2. Stationing shall be from south to north or west to east
- ___ 3. Centerline stationing shown on plan view
- ___ 4. Stationing at all intersection with equations if applicable
- ___ 5. Stationing of all BCR's and ECR's
- ___ 6. Stationing of all BC's and EC's
- ___ 7. Stationing of end improvements
- ___ 8. Stationing of end curb and gutter
- ___ 9. Scale (1" = 40')

- ___ 10. Show names of all streets
- ___ 11. Curb return data (delta, tangent, radius and length)
- ___ 12. Show flow line elevations at all BCR's and ECR's
- ___ 13. Show flow line elevations on cross gutter at intersections
- ___ 14. Centerline curve data
- ___ 15. Right-of-Way lines and easement lines
- ___ 16. Lot numbers
- ___ 17. Show connections to existing improvements with elevations and stationing
- ___ 18. Stopping sight distance adequate for design speed. See design designation
- ___ 19. Lengths and stationing of transitions or superelevations (if required); also of transitional paved sections for drainage control. Show improvements to be constructed with solid lines, existing improvements shown with dashed lines.
- ___ 20. Limits of different types of curb and gutter, if applicable
- ___ 21. Show detail of all proposed streets if necessary
- ___ 22. Show typical sections for all streets per County Standards:
 - ___ a. Dimensions of right-of-way, pavement and parkway
 - ___ b. Base material thickness
 - ___ c. Asphalt concrete thickness
 - ___ d. Curb sections
 - ___ e. Base material under curb section if required
 - ___ f. Slopes to adjacent property lines
 - ___ g. Supplemental cross sections required for different design widths, structural sections, half width streets, etc.
 - ___ h. Note if in Select System
- ___ 23. Note size, length and gauge of CMP
- ___ 24. Note size, length and "D" strength of RCP
- ___ 25. Show construction notes wherever necessary to clarify construction details
- ___ 26. Show existing pipe lines, weir boxes, irrigation systems, utility poles, traffic control devices, etc., in or adjacent to right-of-way and include note as to their disposition.
- ___ 27. Refer to Public Works Standard Detail where applicable
- ___ 28. Specifications note, if different from County Standards
- ___ 29. Improved drainage easements shall provide either pipe or concrete lined ditch sections. Lined ditches shall have the soil sterilized prior to placement of lining.
- ___ 30. Slope easements, delineated

Identify pavement transition dimensions (2' minimum) Feather over a minimum of two feet when meeting existing pavement

- ___ 32. Details of drainage facilities
- ___ 33. Check benchmark location, elevation and survey control data

E. PROFILE VIEW

- ___ 1. Scale (1"=4' or 1"=8' on prior approval)
- ___ 2. Existing and future centerline
- ___ 3. Existing ground at right-of-way line both right and left of centerline
- ___ 4. Edge of existing pavement both right and left
- ___ 5. Existing and future top of curb both right and left of centerline with BCR; MOCR; ECR notations, and ¼ points on curb return
- ___ 6. Show datum elevations on each end of sheet at the centerline ground line and at the right-of-way ground lines
- ___ 7. If curbs are variable height, show with elevations and station at break points
- ___ 8. Label all grade lines and profiles; show percent of grade on each
- ___ 9. Stationing and elevations at beginning and end of improvement
- ___ 10. Stationing and elevations
- ___ 11. Stationing and elevations at P.I.
- ___ 12. Elevations every twenty-five feet (25') on vertical curves
- ___ 13. Elevations and stationing at all grade breaks
- ___ 14. Extend profiles beyond end of improvement for 300 feet; if new road intersects existing street, show profile on existing street for 100 feet each way
- ___ 15. At drainage easements, show profile for grading and daylight to natural ground
- ___ 16. Indicate length of curb returns
- ___ 17. Stationing at bottom of profile sheet
- ___ 18. Names and stationing at intersection street points
- ___ 19. Structure to scale, note critical flow line elevations (capacity of structure)
- ___ 20. Use straight grades for cross gutters without flattening; grade of cross gutters shall be in relation to street centerline grade
- ___ 21. Use vertical curves for all grade break differentials more than 1%
- ___ 22. The minimum fall from BCR to cross gutter shall be 0.30 feet
- ___ 23. Profile to be shown of graded or improved drainage facilities

APPENDIX C

INYO COUNTY PERMIT FEE SCHEDULE

INYO COUNTY PUBLIC WORKS DEPARTMENT

PERMIT FEES

TRENCHING

Trenching across street:

0-50 feet	\$50.00
51-100 feet	\$1.00 per foot
Over 100 feet	\$100.00 plus \$0.30 per foot of length greater than 100 feet

Trenching parallel to centerline of street and boring

0-100 feet	\$50.00
101-1500 feet	\$50.00 plus \$0.30 per foot of length greater than 100 feet
Over 1500 feet	\$200.00 plus \$0.10 per foot of length greater than 1500 feet

SPLIT TRENCHING WITH CABLE PLACEMENT

All distances	\$50.00 plus \$0.05 per foot
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TRANSPORTATION PERMITS: \$16.00

TREE REMOVAL ON COUNTY RIGHT-OF-WAY

By licensed contractor only	\$5.00
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