

STORM DRAIN SECTION

All Storm Drains shall be constructed in accordance with the City of Morgan Hill Standard Details and designed in accordance with the City of Morgan Hill Design Standards, the Standard Specifications, State of California, Department of Transportation, Caltrans (CSS), and the Santa Clara Valley Water District (SCVWD). Materials shall conform to the American Society for Testing and Materials (ASTM), and the American National Standards Institute (ANSI), except as modified herein.

Main line storm drains shall be a minimum Class 3 R.C.P., or C.M.P. (upon approval of the City Engineer), and have no less than 30" cover from finished grade. Laterals shall be Class 3 R.C.P. (15" min.), and have no less than 24" cover from finished grade.

All R.C.P. shall be Class 3, bell and spigot, rubber gasketed, push on pipe. Tongue and groove, mortared joint pipe will not be allowed. Class 4 or Class 5 R.C.P. may be required when loading conditions vary.

After all backfill, testing and pavement restoration has been completed, the contractor shall clean and flush all storm drain mains, laterals, inlets and man holes, prior to acceptance.

TESTING (If required by the City Engineer)

If the City suspects any damage or breaks in the line, the storm drain may be subject to television inspection and/or required to pass a leakage test. The contractor shall furnish all labor, equipment, and materials needed to perform the test. A televised inspection may be required within the one year warranty period at the contractor's expense. All defects discovered in this inspection shall be corrected by the contractor at his expense.

If the City requires a leakage test on said line, the test shall be a hydrostatic water test in accordance with CSS Section 65-1.08.

TYPES OF STORM DRAIN MAIN

REINFORCED CONCRETE PIPE (R.C.P.)

Reinforced Concrete Pipe (15" Min.), shall be in conformance with ASTM C 76 Class 3 and CSS Section 65, bell and spigot ends with rubber gasket joints.

CORRUGATED METAL PIPE (C.M.P.)

Corrugated Metal Pipe shall be in accordance with CSS Section 66 and used only upon City Engineer approval.

CAST-IN-PLACE-PIPE (C.I.P.P.)

Cast-In-Place-Pipe (concrete) shall be in accordance with CSS Section 63 and used only upon City Engineer approval.



City of Morgan Hill
Public Works Department

Jim Oshroff
CITY ENGINEER

4/1/96
DATE

REVISED

GENERAL NOTES

DRAWING
NO.

SD-I

MANHOLES

Manhole bases shall be cast in place. Precast bases may be used if approved by the City Engineer. Manholes shall be waterproofed colored by grouting and/or painting the interior with colored sodium colored silicate or other approved waterproofing.

INLETS

Unreinforced inlets shall be cast in place with class "A" concrete. Pre-cast inlet structures may be used subject to approval of the City Engineer. All fabricated steel shall be hot dipped galvanized after fabrication.

WORK IN DRAINAGE DISTRICT RIGHT OF WAY

All rip-rap structures, cut off walls, out fall structures, inlet structures, etc., shall be done in accordance with all applicable standards of the Santa Clara Valley Water District (SCVWD). An encroachment permit must be obtained from SCVWD prior to commencement of any work.

Contractor must provide a Letter of Acceptance, or a copy of a signed-off encroachment permit from SCVWD prior to the acceptance of the entire project.

Permits from other state and local agencies may be required.

STORMWATER POLLUTION PREVENTION MANUAL TEMPLATE

Stormwater Pollution Prevention Plan (SWPPP) Manual shall match the format of the California Stormwater Quality Association (CASQA) SWPPP template, as published by CASQA at <http://www.casqa.org/resources/bmp-handbooks>

NPDES

Projects shall comply with the California Regional Water Quality Control Board Central Coast Regional Resolution No. R3-2013-0032, and subsequent amendments and/or revisions as documented by the Stormwater Management Guidance Manual for Low Impact Development and Post-Construction Requirements (developed from Resolution No. R3-2013-0032)

Attachment 1 and 2 at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/lid/lid_hydromod_charette_index.shtml A copy of the guidance manual can be obtained through the Dept. of Public Works website at <http://www.morgan-hill.ca.gov/Document/Center/View/12671>

Projects shall meet the applicable requirements of the Stormwater Management Guidance Manual.

1. Performance Requirement 1: Site Design and Runoff Reduction
2. Performance Requirement 2: Water Quality Treatment
3. Performance Requirement 3: Runoff Retention
4. Performance Requirement 4: Peak Management



City of Morgan Hill
Public Works Department

Jim Oakcraft
CITY ENGINEER

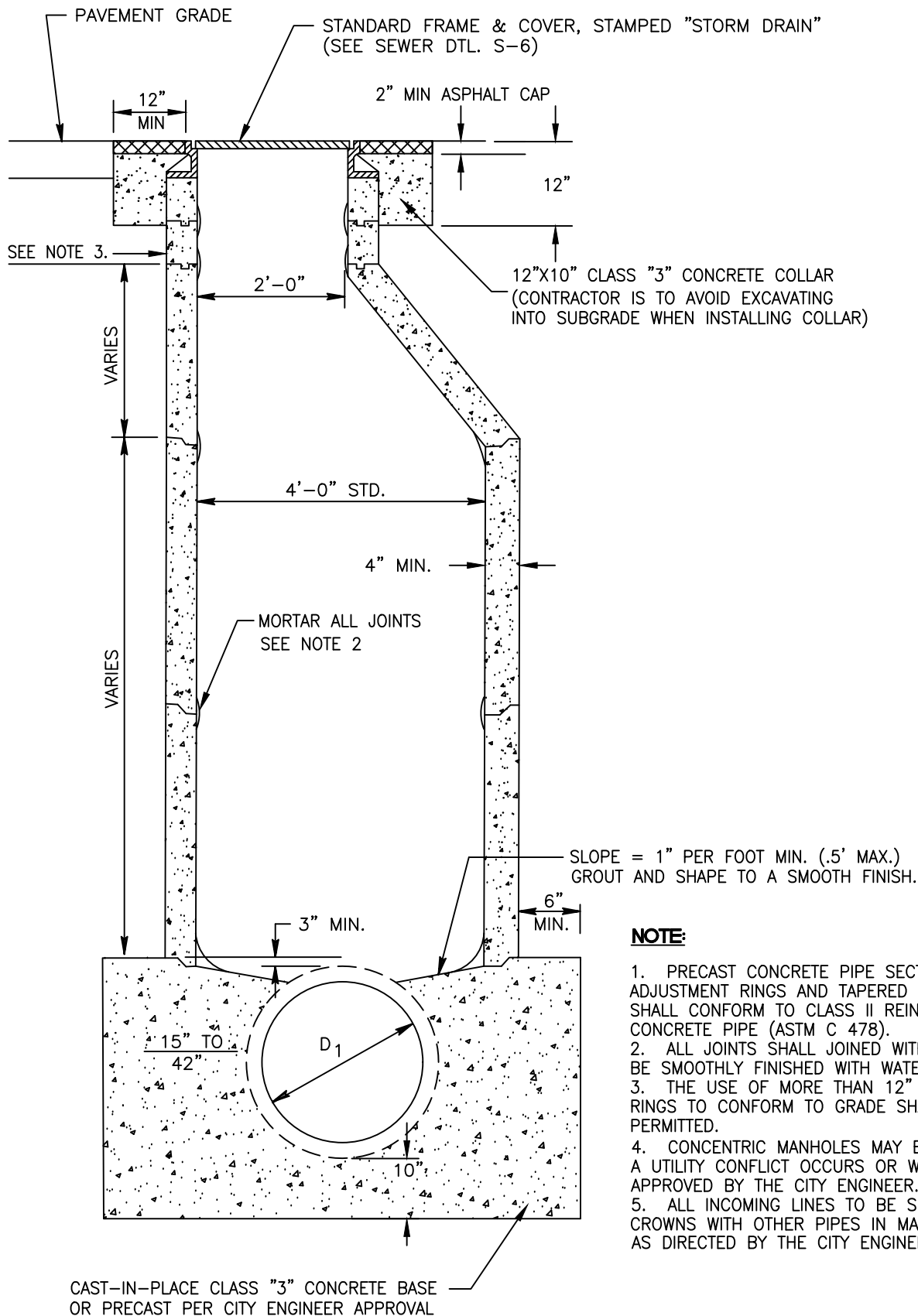
4/1/96
DATE

11/11/19
REVISED

GENERAL NOTES

DRAWING
NO.

SD-II



NOTE:

1. PRECAST CONCRETE PIPE SECTIONS, ADJUSTMENT RINGS AND TAPERED SECTIONS SHALL CONFORM TO CLASS II REINFORCED CONCRETE PIPE (ASTM C 478).
2. ALL JOINTS SHALL JOINED WITH "RAMECK" AND BE SMOOTHLY FINISHED WITH WATER PROOF MORTAR.
3. THE USE OF MORE THAN 12" OF ADJUSTING RINGS TO CONFORM TO GRADE SHALL NOT BE PERMITTED.
4. CONCENTRIC MANHOLES MAY BE USED WHEN A UTILITY CONFLICT OCCURS OR WHEN APPROVED BY THE CITY ENGINEER.
5. ALL INCOMING LINES TO BE SET TO MATCH CROWNS WITH OTHER PIPES IN MANHOLE, OR AS DIRECTED BY THE CITY ENGINEER.



City of Morgan Hill
Public Works Department

Jim Oakcraft
CITY ENGINEER

4/1/96
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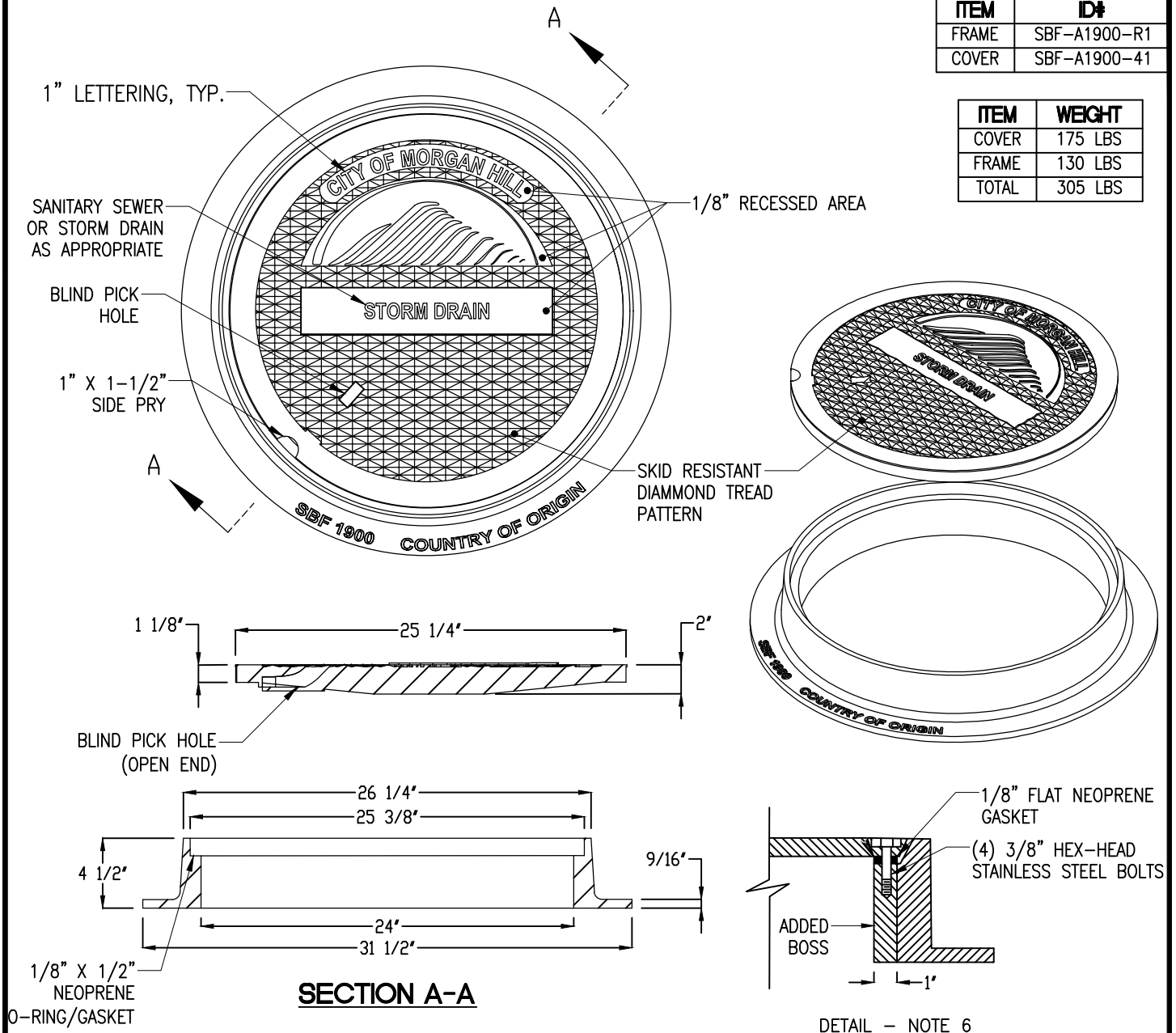
**STORM DRAIN MANHOLE
PIPE SIZES 15" TO 36"**

DRAWING
NO.

SD-1

ITEM	ID#
FRAME	SBF-A1900-R1
COVER	SBF-A1900-41

ITEM	WEIGHT
COVER	175 LBS
FRAME	130 LBS
TOTAL	305 LBS

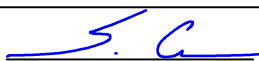


NOTES

1. MANHOLE FRAME SHALL BE SOUTH BAY FOUNDRY SBF-A1900-R1, OR APPROVED EQUAL THAT MEETS MINIMUM SET WEIGHT.
2. MANHOLE COVER SHALL BE SOUTH BAY FOUNDRY SBF-A1900-41, OR APPROVED EQUAL THAT MEETS MINIMUM SET WEIGHT.
3. MINIMUM WEIGHT OF SET SHALL BE 305 LBS.
4. CASTING SHALL BE DIPPED IN BLACK BITUMINOUS PAINT.
5. CAST IRON SHALL CONFORM TO ASTM A 48 CLASS 35B.
6. WHERE BOLT-DOWN COVERS ARE CALLED FOR ON THE PLANS, ADD BOSSES TO FRAME (4 EA. @ 90°), SEE DETAIL.
7. MANUFACTURER SHALL CERTIFY MATERIAL, WEIGHT, AND DIMENSIONS.
8. MANUFACTURER TO CERTIFY THAT FRAME AND COVER MEET ALL LOAD REQUIREMENTS FOR H-20 HIGHWAY LOADING.

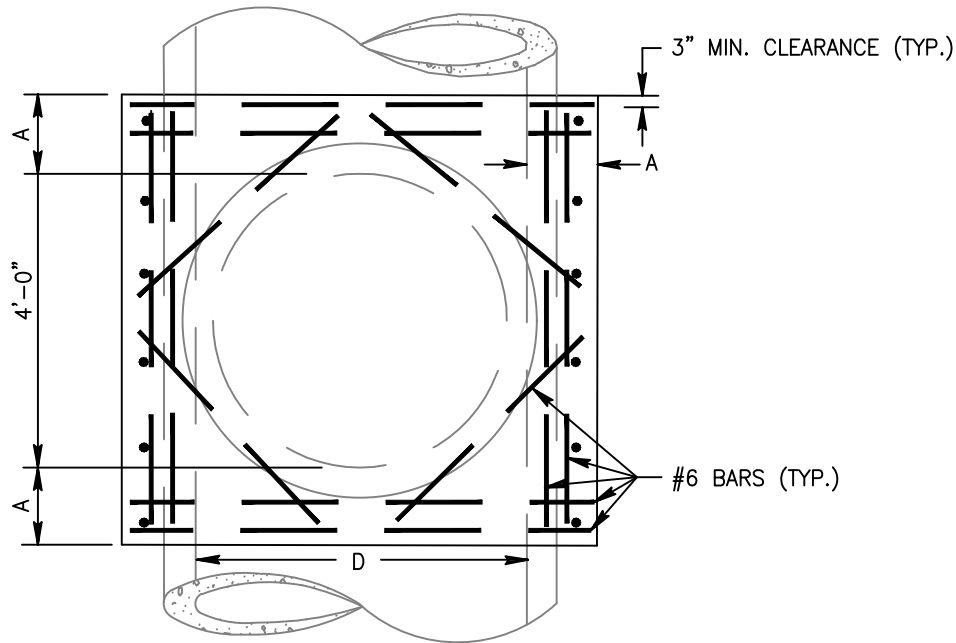


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Public Works Department


CITY ENGINEER 9/30/2024 DATE REVISED

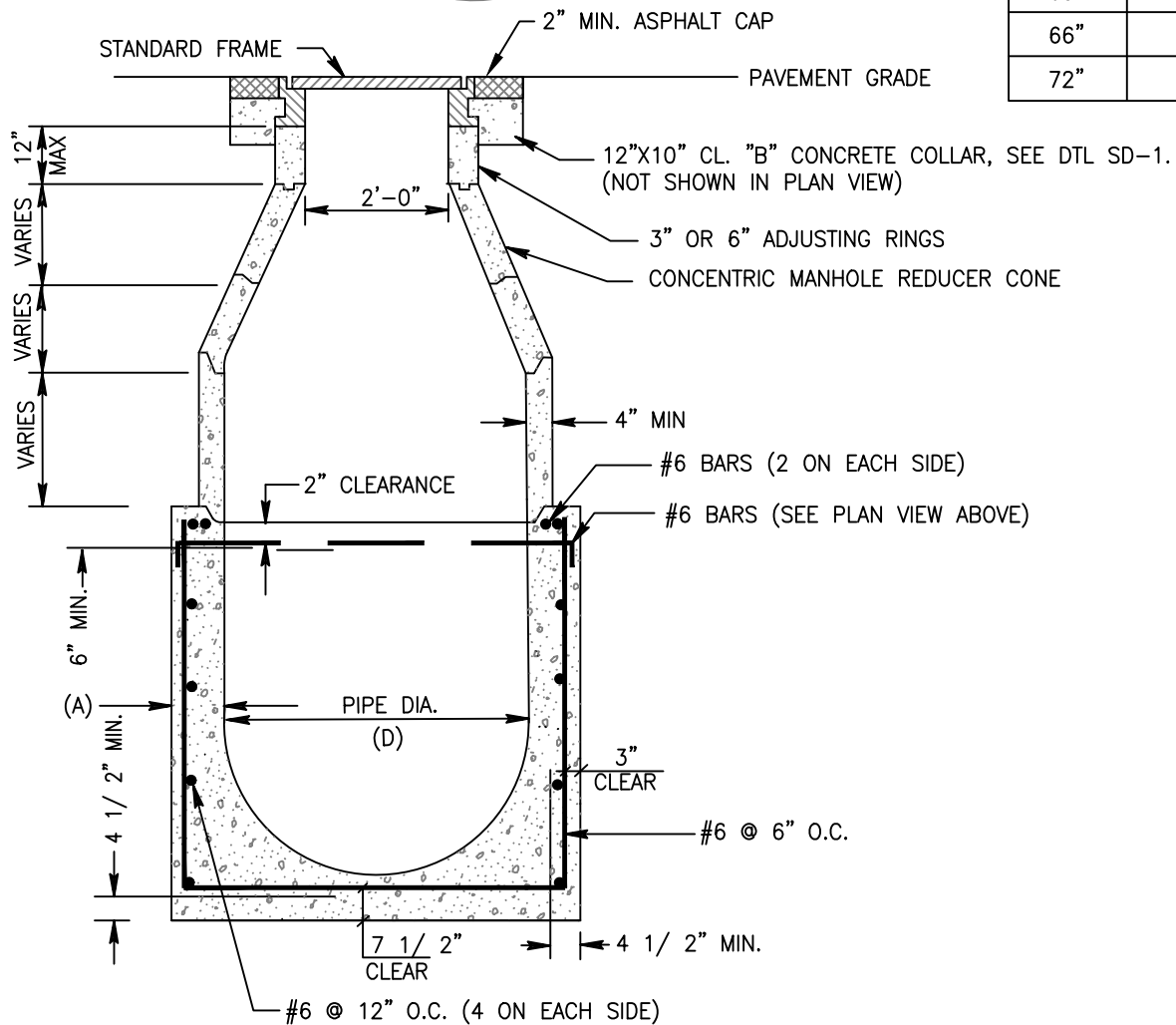
STANDARD MANHOLE FRAME & COVER

DRAWING
NO.
SD-2



REDUCER DIMENSIONS	
PIPE DIA.	REDUCER DIA.
48"	48" x 48"
54"	60" x 48"
60"	60" x 48"
66"	72" x 48"
72"	72" x 48"

WALL THICKNESS (A)	
PIPE DIA. (D)	MIN (A)
42"	10"
48"	10"
54"	10"
60"	10"
66"	11"
72"	11"



City of Morgan Hill
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4/1/96
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10/10/24
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STORM DRAIN MANHOLE PIPE SIZES >42" TO 72"

DRAWING
NO.

SD-3

CONSTRUCT 12"x24" OPENING TO ALLOW DRAINAGE FROM DITCH. INSTALL SAFETY REBAR AT OPENING, 2-#4 O.C.

CONCRETE V-DITCH
(OR GRADED SWALE, IF APPROVED)

EDGE OF PAVEMENT

1/4" GALVANIZED STEEL PLATE

LIFT HOLE

EDGE OF PAVEMENT

SECTION A-A

NOTES:

1. COAT INSIDE OF STRUCTURE WITH MORTAR
2. INVERT OF PIPE SHALL BE 2" ABOVE BOTTOM OF INLET TO ACT AS A SEDIMENT COLLECTION BASIN.



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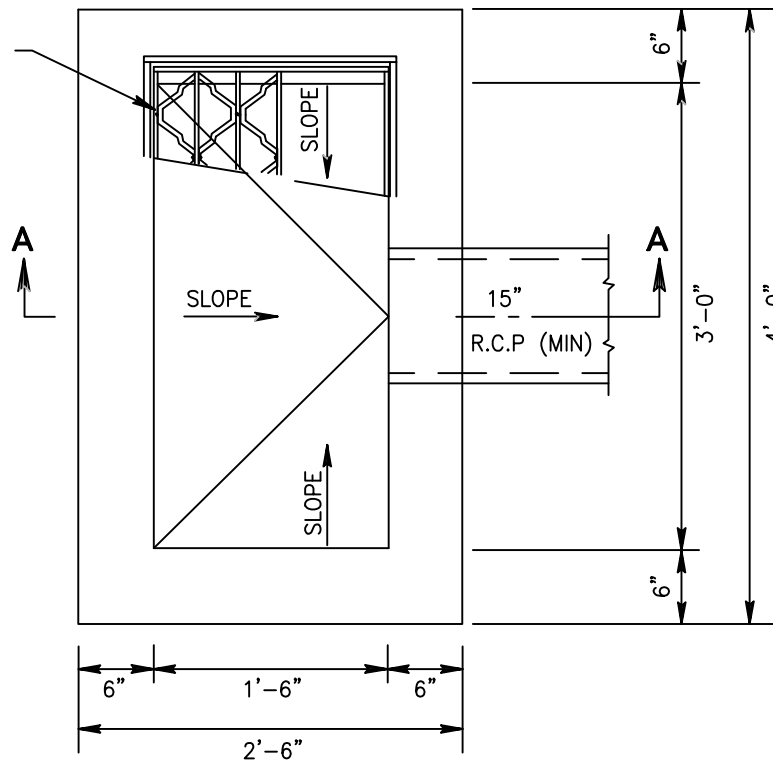
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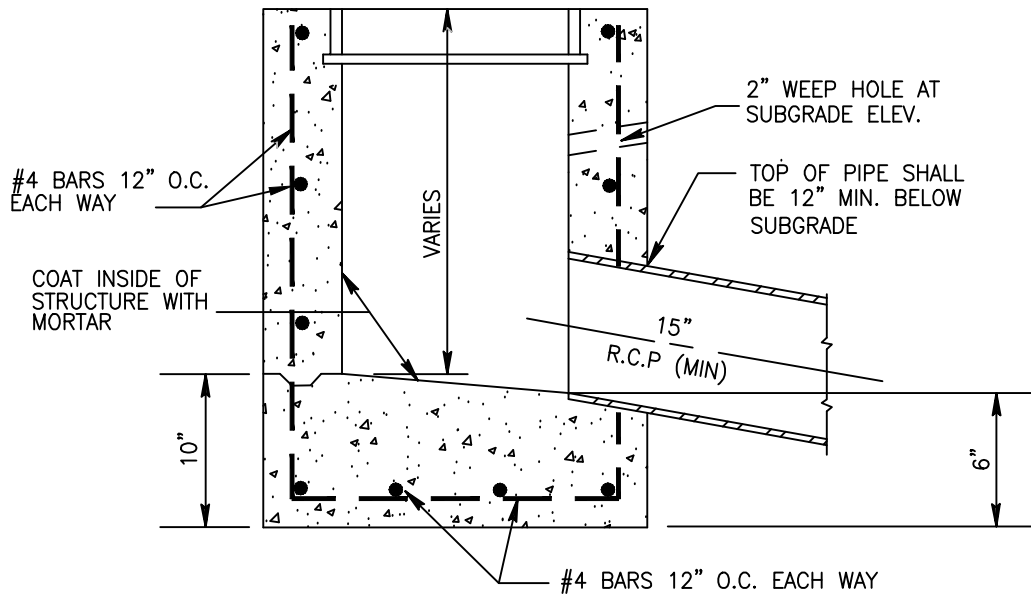
DITCH INLET

DRAWING
NO.
SD-4

STANDARD FRAME AND
GRATE(SEE DETAIL SD-6)



PLAN



SECTION A-A

NOTES:

1. LARGER SIZE INLETS MAY BE REQUIRED AS INDIVIDUAL PROJECT DESIGN DICTATES.
2. DIMENSIONS SHALL BE SAME AS CURB INLET (SD-5), IF DROP INLET IS TO BE USED AS A FUTURE CURB INLET.



City of Morgan Hill
Public Works Department

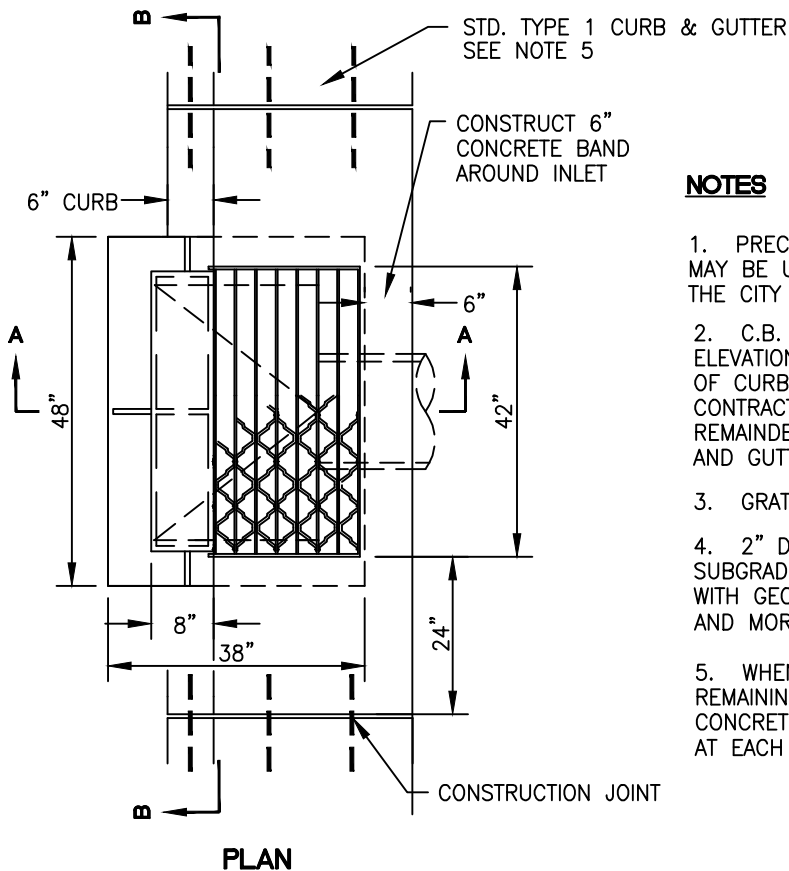
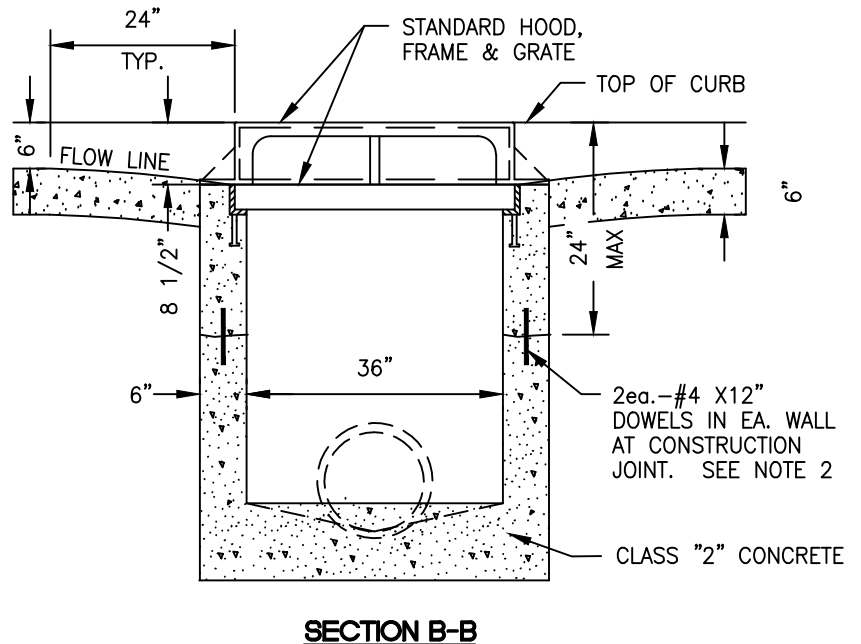
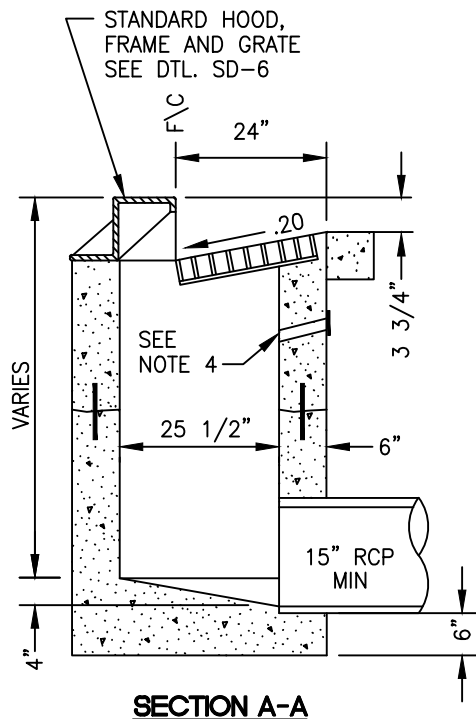
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4/1/96
DATE

10/10/24
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DROP INLET

DRAWING
NO.
SD-5



NOTES

1. PRECAST CONCRETE CATCH BASINS MAY BE USED UPON APPROVAL OF THE CITY ENGINEER.
2. C.B. WALLS WILL BE POURED TO AN ELEVATION NOT LESS THAN 24" BELOW TOP OF CURB. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FRAME IN AND POUR THE REMAINDER MONOLITHICALLY WITH THE CURB AND GUTTER.
3. GRATE TO BE PLACED AFTER CONCRETE CURES.
4. 2" DIAMETER WEEPHOLES CONSTRUCTED AT SUBGRADE LEVEL IN EACH WALL. COVER WEEP HOLE WITH GEOTEXTILE FABRIC DURING SUB-GRADE PREPARATION, AND MORTAR AFTER FINISH PAVING.
5. WHEN CURB & GUTTER IS POURED SEPARATELY FROM REMAINING INLET (MANUALLY OR BY MACHINE), THE CONCRETE CONTRACTOR SHALL INSERT 3ea #4X12" REBAR AT EACH CONSTRUCTION JOINT AS SHOWN.



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Public Works Department

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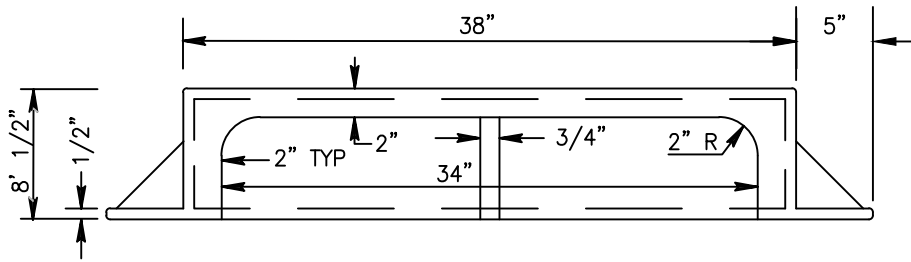
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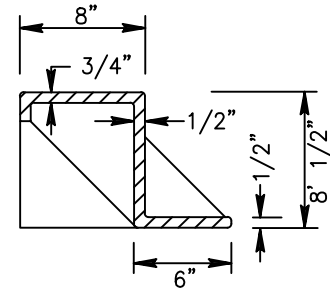
CURB INLET

DRAWING
NO.

SD-6



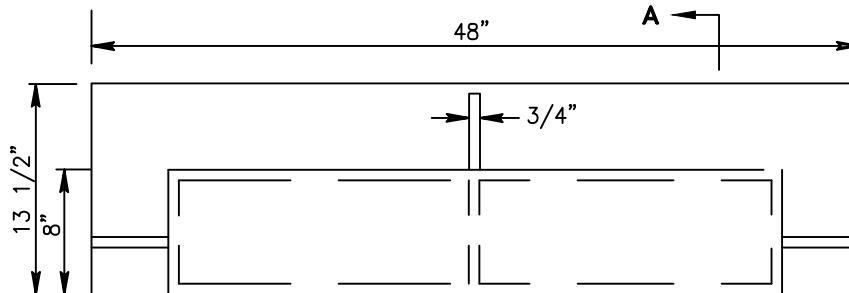
HOOD- FRONT VIEW



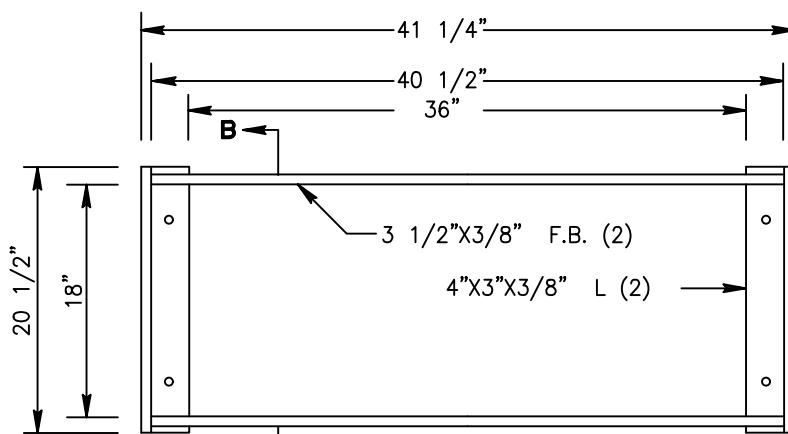
SECTION A-A

NOTES:

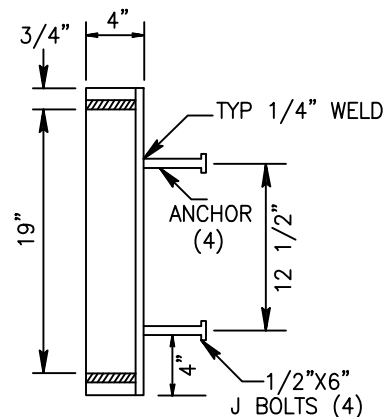
1. HOOD SHALL BE CAST IRON AND BE EQUAL TO PHOENIX IRON WORKS P-6002 OR SAN JOSE FOUNDRY'S "LARGE".
2. WEIGHT OF HOOD = 185 LBS (MIN).
3. CASTING SHALL BE GIVEN A HOT ASPHALT DIP.



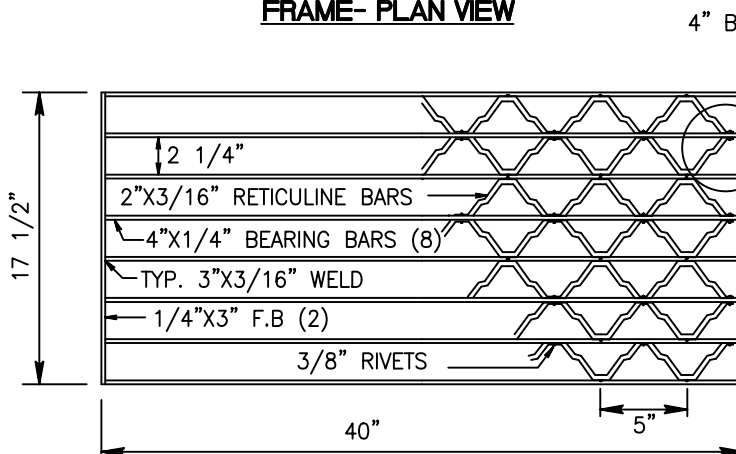
HOOD- PLAN VIEW



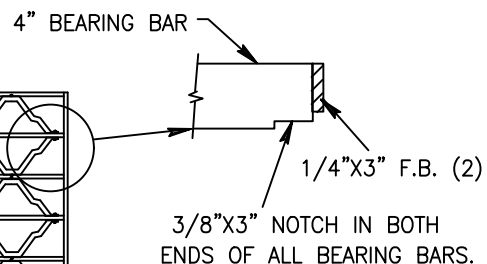
FRAME- PLAN VIEW



SECTION B-B



GRATE- PLAN VIEW



NOTES:

1. FRAME AND GRATE SHALL BE EQUAL TO PHOENIX IRON WORKS P-6301 OR METALFAB M-1001.
2. MATERIAL TO BE HOT DIP GALVANIZED AFTER FABRICATION.



City of Morgan Hill
Public Works Department

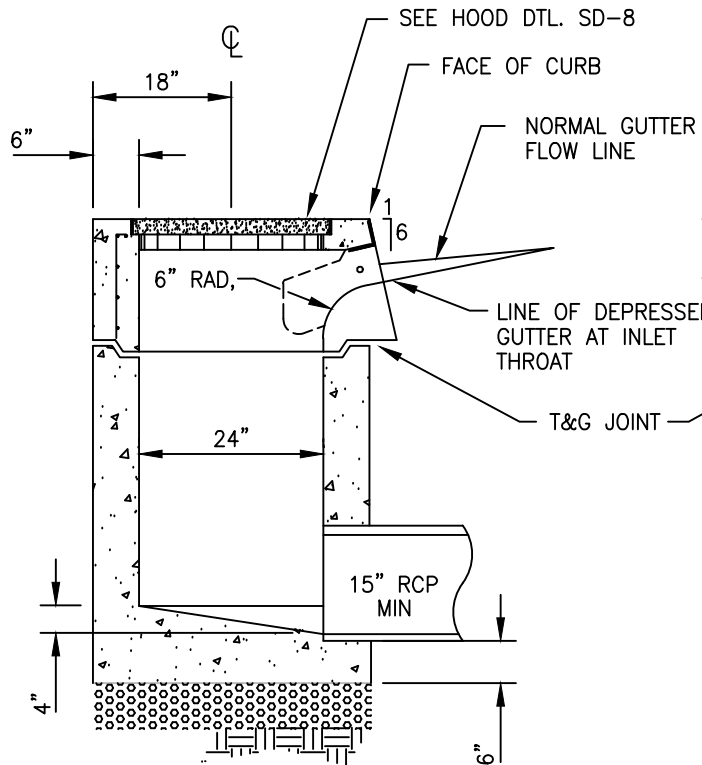
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CITY ENGINEER

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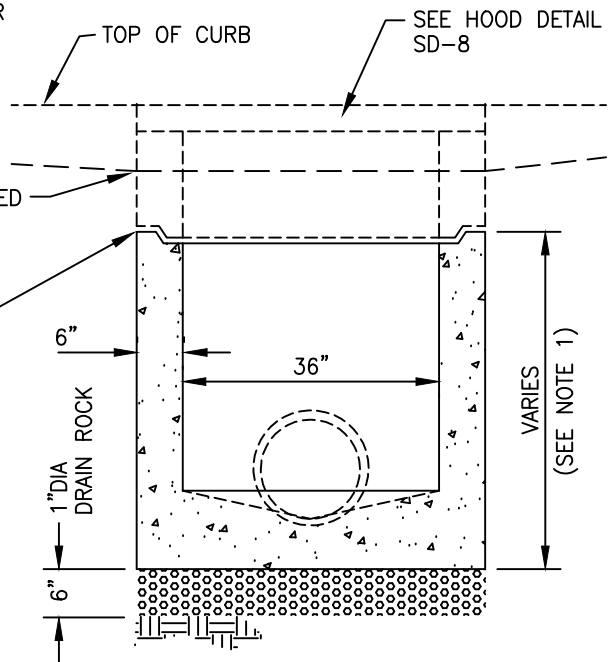
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HOOD, FRAME, AND GRATE

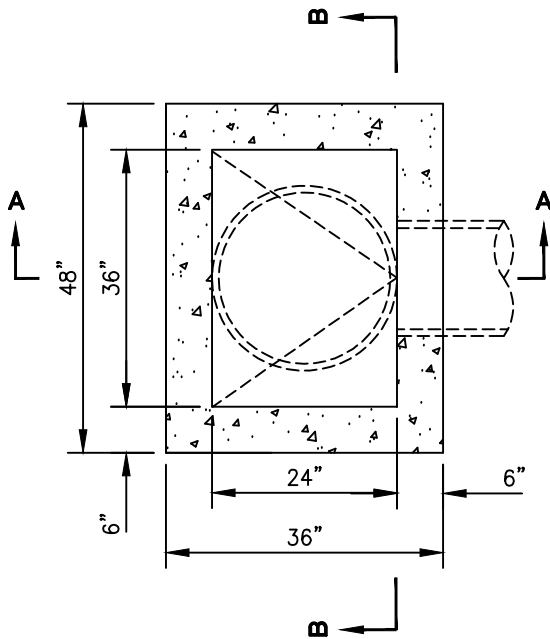
DRAWING
NO.
SD-7



SECTION A-A



SECTION B-B



PLAN

NOTES:

1. FOR PRE-CAST BASE HEIGHT, ORDER AS REQUIRED PER PLANS, EXCLUDING HOOD DIMENSION.
2. PRE-CAST BASE SHOWN IS FOR USE WITH SPECIAL HOOD AND GALLERY. PRE-CAST BASES USED WITH SD-5 CURB INLET ARE NOT ALLOWED.
3. BASE SHALL BE CENTRAL PRECAST PRODUCTS 1L, OR APPROVED EQUAL.
4. APPLICATION: COMBINATION PRE-CAST HOOD (SD-8), PRE-CAST BASE, AND FIBERGLASS GALLERY (SD-9), SHALL ONLY BE USED UPON CITY ENGINEER APPROVAL.



City of Morgan Hill
Public Works Department

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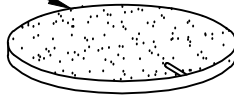
4/1/96
DATE

10/10/24
REVISED

**PRE-CAST BASE
GALLERY SYSTEM
CURB INLET**

DRAWING
NO.
SD-8

PRE-CAST CONCRETE ACCESS
COVER 26 3/4" DIA. X 2" THICK
WITH 10 GA. GALV. STEEL
LID RING

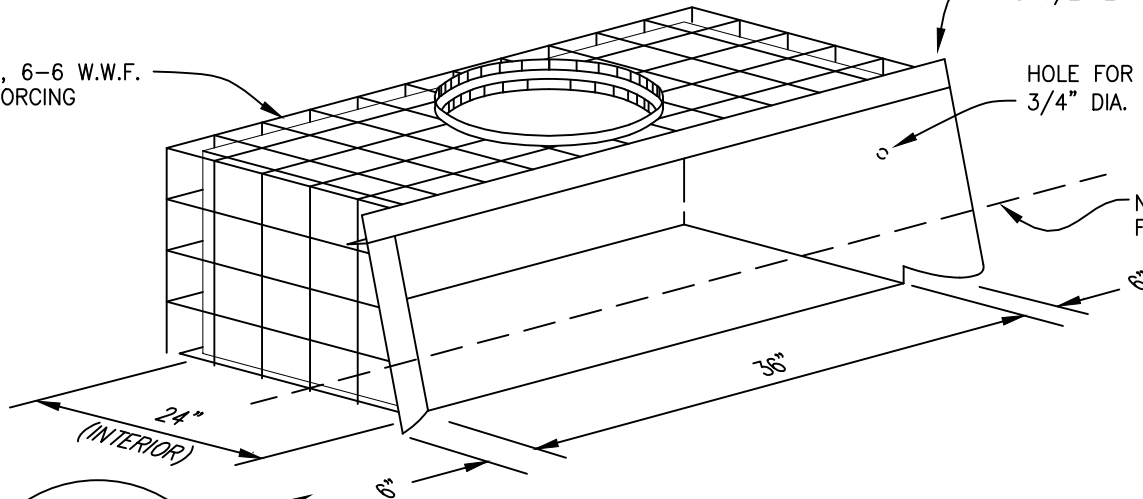


4"X4", 6-6 W.W.F.
REINFORCING

NOSING ANGLE
3 1/2"X2 1/2"X1/4"

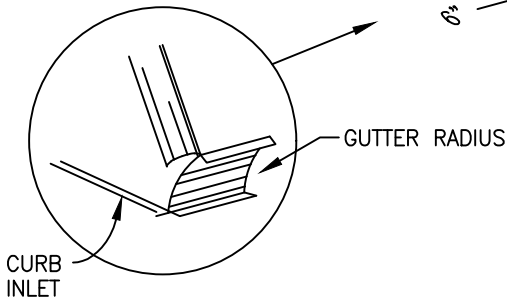
HOLE FOR OPTIONAL
3/4" DIA. GUARD ROD

NORMAL GUTTER
FLOW LINE



ISOMETRIC

NOSING ANGLE

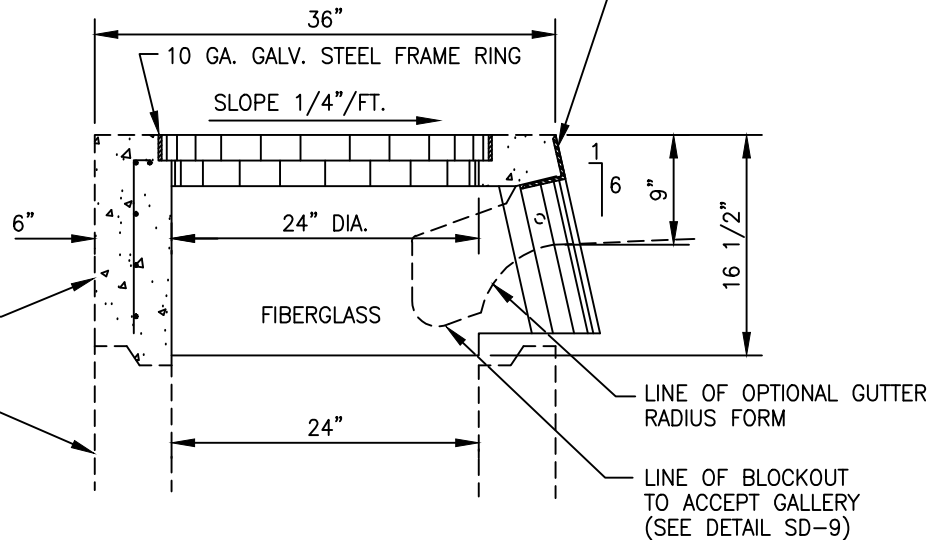


DETAIL

OPTIONAL FIBERGLASS
GUTTER RADIUS FORM

FIELD POUR CONCRETE

PRECAST OR CAST IN
PLACE BASE
(SEE DETAIL SD-7)



TYPICAL SECTION

- NOTES:**
1. HOOD SHOWN IS FOR USE WITH 7' OR 12' GALLERY AND SPECIAL BASE ONLY. HOOD WITHOUT GALLERY OR BASE WILL NOT BE ALLOWED.
 2. HOOD SHALL BE CENTRAL PRECAST PRODUCTS, OR APPROVED EQUAL.
 3. APPLICATION: COMBINATION PRE-CAST HOOD, FIBERGLASS GALLERY (SD-9), AND PRE-CAST BASE (SD-7), SHALL ONLY BE USED UPON CITY ENGINEER APPROVAL.



City of Morgan Hill
Public Works Department

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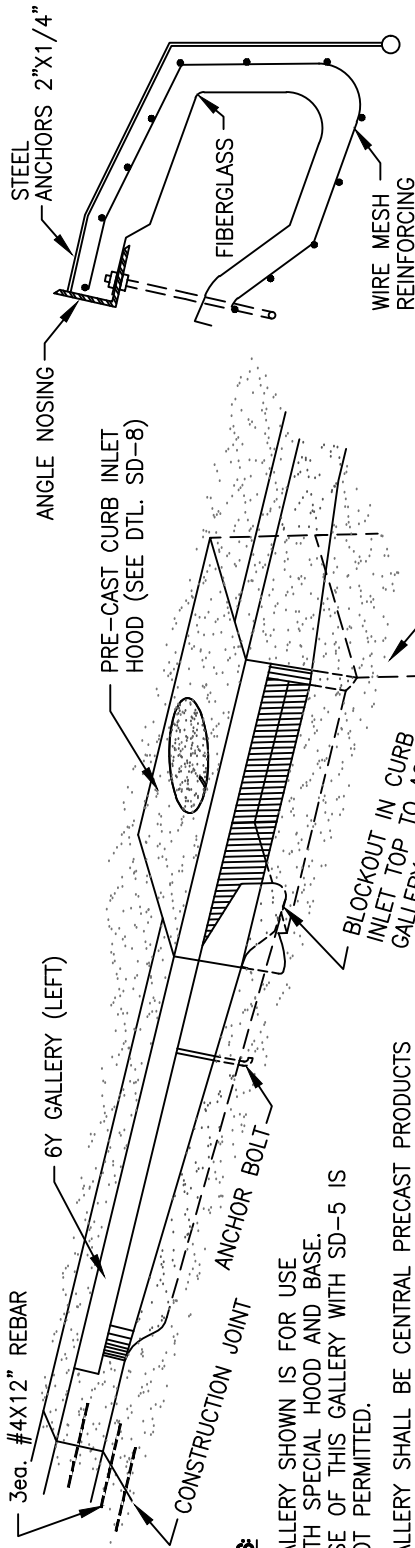
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DATE

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HOOD GALLERY SYSTEM CURB INLET

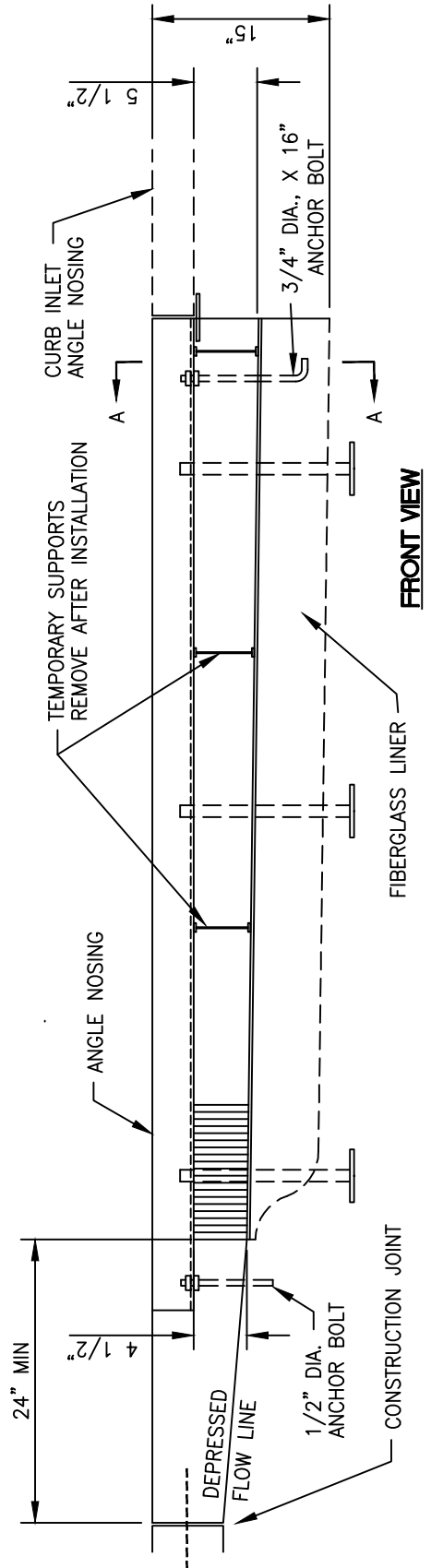
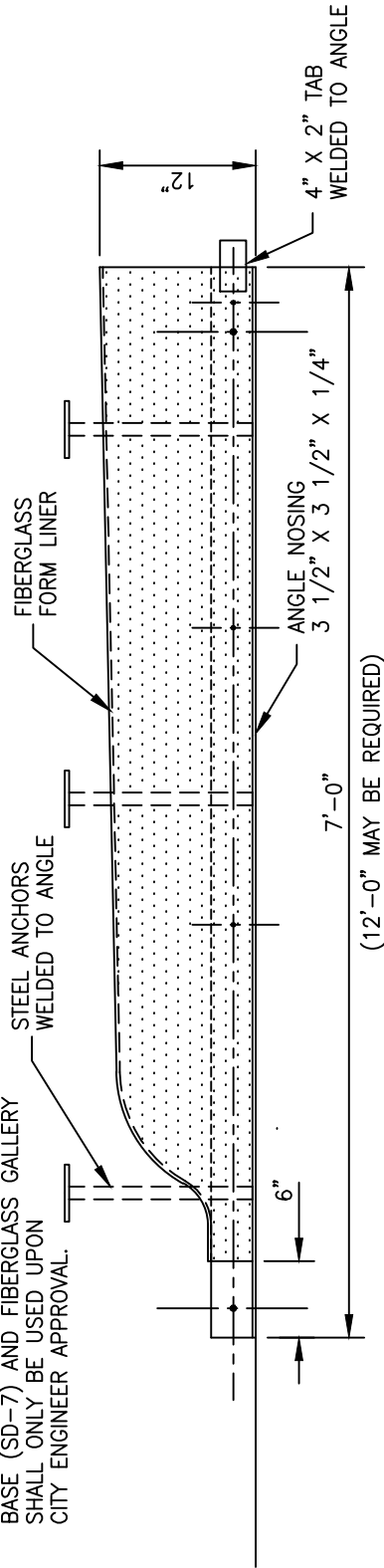
DRAWING
NO.

SD-09



NOTES:

1. GALLERY SHOWN IS FOR USE WITH SPECIAL HOOD AND BASE. USE OF THIS GALLERY WITH SD-5 IS NOT PERMITTED.
2. GALLERY SHALL BE CENTRAL PRECAST PRODUCTS 6Y OR 12Y (IF REQUIRED), OR APPROVED EQUAL.
3. COMBINATION PRE-CAST HOOD (SD-8), BASE (SD-7) AND FIBERGLASS GALLERY SHALL ONLY BE USED UPON CITY ENGINEER APPROVAL.



City of Morgan Hill
Public Works Department

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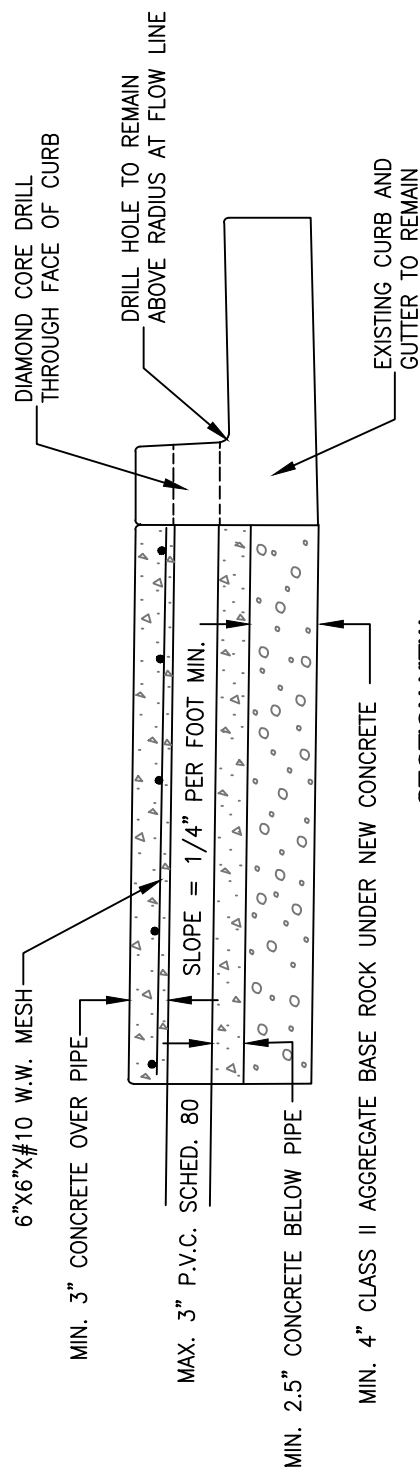
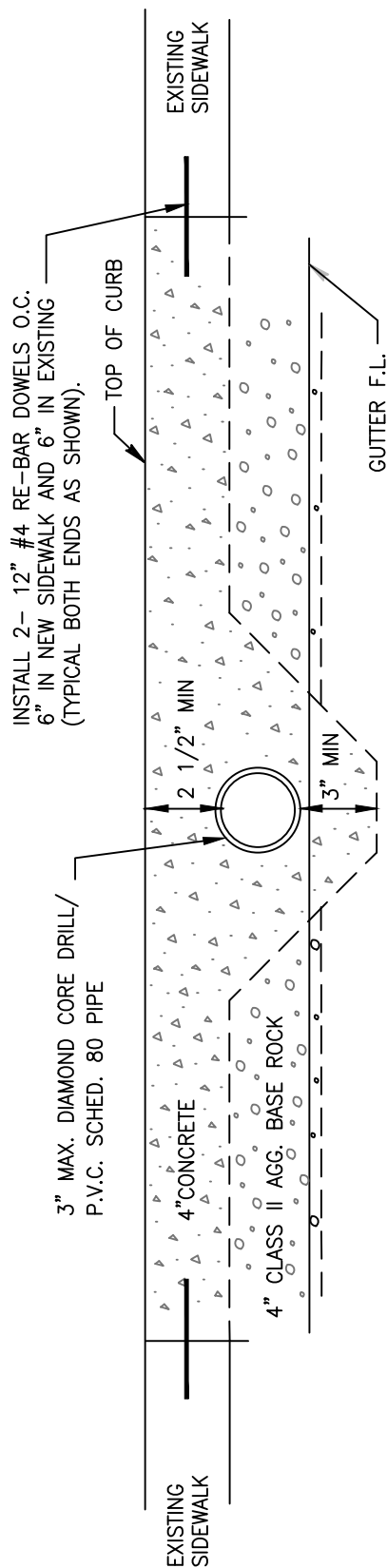
4/1/96
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**FIBERGLASS GALLERY
GALLERY SYSTEM CURB INLET**

DRAWING
NO.

SD-10



NOTES

1. IT SHALL BE THE PROPERTY OWNER'S RESPONSIBILITY TO MAINTAIN THIS DRAINAGE STRUCTURE.
2. MULTIPLE DRAINLINES MAY BE INSTALLED PROVIDED THAT THERE IS A MINIMUM OF 6" BETWEEN ANY DRAIN LINES, AND DRAIN LINES SHALL NOT BE INSTALLED WITHIN 6" OF ANY EXPANSION AND/OR CONTROL JOINTS.
3. THIS DRAINAGE STRUCTURE SHALL ONLY BE INSTALLED WITHIN THE PROPERTY FRONTAGE OF THE SUBJECT PROPERTY ONLY.
4. IN CASES WHERE SIDEWALK DOES NOT EXIST, CONCRETE SHALL BE PLACED OVER PIPE(S) AT A MINIMUM THICKNESS OF 2 1/2" (AS SHOWN).
5. PROPERTY OWNER SHALL OBTAIN AN ENCROACHMENT PERMIT TO INSTALL THIS DRAINAGE STRUCTURE. ALSO THE USE OF THIS DETAIL SHALL REQUIRE THE APPROVAL OF CITY ENGINEER OR DESIGNATED INDIVIDUAL.




CITY ENGINEER

4/1/96
DATE

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"THROUGH THE CURB" DRAIN

DRAWING
NO.

SD-11