

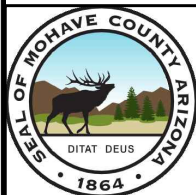
# Mohave County Low Impact Development Guide for Flood Protection and Water Sustainability

## Appendix C Typical Details

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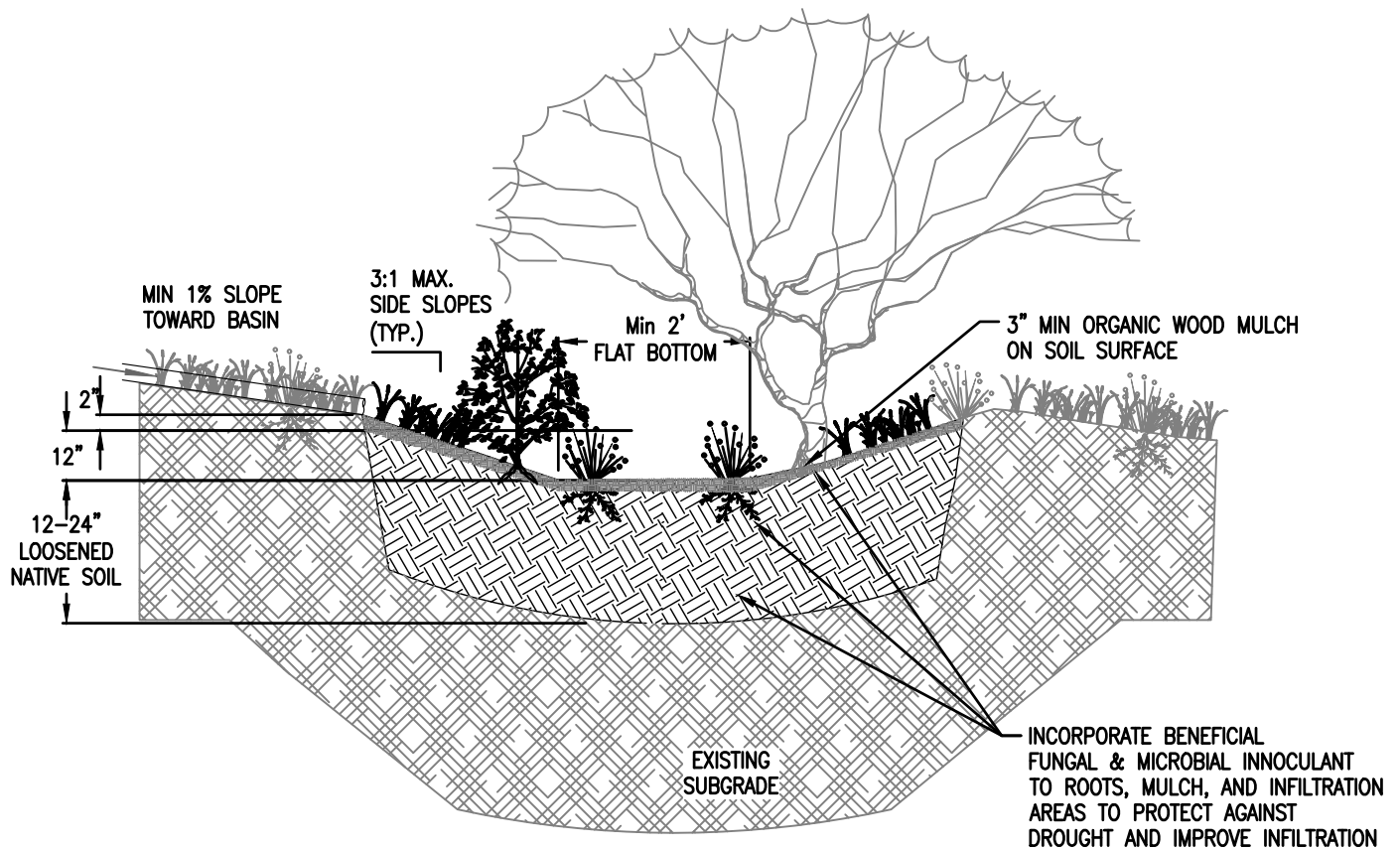
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LOW IMPACT DEVELOPMENT TYPICAL DETAILS

NUMBER  
TOC  
12-1-19



## NOTES:

1. PROVIDE PROTECTION FROM ALL VEHICLE TRAFFIC, EQUIPMENT STAGING, AND FOOT TRAFFIC IN PROPOSED INFILTRATION AREAS PRIOR TO, DURING, AND AFTER CONSTRUCTION.
2. LOOSEN SOILS IN INFILTRATION AREAS 12-24" TO BREAK UP ANY COMPACTION.
3. SURFACE WATER MUST DRAIN WITHIN 36 HOURS.
4. 8-12" PONDING DEPTH FOR WELL DRAINING SOILS SUGGESTED, 4-6" DEPTH CAN BE USED IN POOR DRAINING SOILS OR WHERE MAXIMIZING IRRIGATION OF NATIVE VEGETATION IS A PRIORITY.
4. RAIN GARDEN MUST BE 10' AWAY FROM FOUNDATIONS AND 5' AWAY FROM PROPERTY LINES. IT IS RECOMMENDED TO AVOID INSTALLATION OVER UNDERGROUND OR BELOW ABOVE GROUND UTILITIES. ENSURE POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES.
5. DESIGN AN OVERFLOW ROUTE THAT ALLOWS STORMWATER TO SAFELY ESCAPE THE RAIN GARDEN AWAY FROM BUILDING FOUNDATIONS AND ADJACENT PROPERTIES IN HIGH FLOWS. ESCAPE ROUTE SOILS SHOULD BE STABILIZED WITH VEGETATION OR ROCK TO PREVENT EROSION.
6. THE USE OF SAND IN PLANTING OR INFILTRATION SOIL MEDIA CAN CAUSE PLANT DEATH IN DRY PERIODS. USE COMPOST IN INFILTRATION AREAS TO INCREASE INFILTRATION. PLANTING AREAS SHOULD MAINTAIN NATIVE SOIL CHARACTERISTICS FOR OPTIMAL ESTABLISHMENT PERIOD AND LONG-TERM PLANT HEALTH.
7. PROVIDE A TOP COVER OF AT LEAST 3" OF WOOD MULCH IN RETENTION AREAS OUTSIDE OF FLOW PATHWAYS WHERE MULCH CAN FLOAT AWAY.
8. MULCH, PLANT ROOTS, AND INFILTRATION AREAS SHOULD BE INOCULATED WITH BENEFICIAL FUNGAL AND MICROBIAL COMMUNITIES TO IMPROVE RAIN GARDEN AND VEGETATION PERFORMANCE
9. NATIVE BUNCH GRASSES SHOULD BE ESTABLISHED INITIALLY BY SEED AND IN SMALLEST COMMERCIALY AVAILABLE CONTAINERS TO QUICKLY PROVIDE GROUND COVER TO SUPPORT INFILTRATION AND MULCH IN STABILIZING SOILS AFTER PLANTING WITH MINIMAL WATER NEEDS. GRASSES THAT RESEED CAN BE HELPFUL IN ENHANCING GROUND COVER AND LONG-TERM SOIL HEALTH AND INFILTRATION RATES.
10. PROVIDE A DIVERSITY OF PLANT MATERIAL SPECIES, SIZES, SHAPES AND LOCATIONS FOR HABITAT.
11. USE TALL POT NATIVE TREES WHERE POSSIBLE TO ENSURE HEALTHY ROOT SYSTEMS FOR ENHANCED INFILTRATION AND STABILITY DURING STORMS.
12. USE ROCK OR CONCRETE AT INLET PER LID-04 TO DISPERSE FLOWS, CAPTURE SEDIMENT AND PREVENT EROSION.
13. FOR LID DESIGN AND MAINTENANCE BEST PRACTICES SEE THE MOHAVE COUNTY LID GUIDE.

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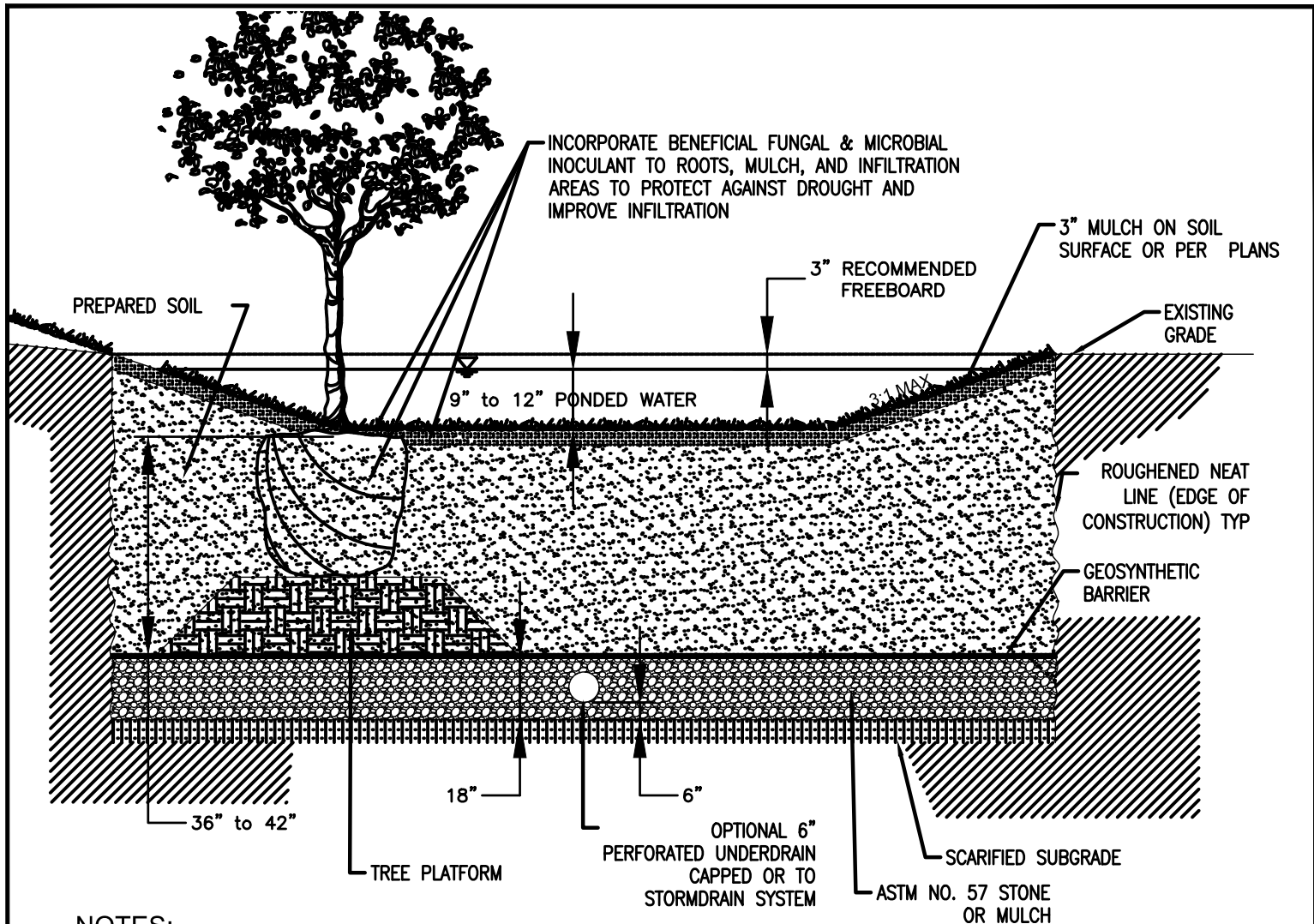


## RAIN GARDEN

LOW IMPACT DEVELOPMENT TYPICAL DETAILS

NUMBER  
LID-01

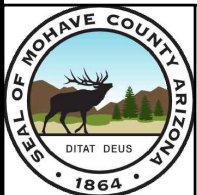
12-1-19



#### NOTES:

1. PROVIDE PROTECTION FROM ALL VEHICLE TRAFFIC, EQUIPMENT STAGING, AND FOOT TRAFFIC IN PROPOSED INFILTRATION AREAS PRIOR TO, DURING, AND AFTER CONSTRUCTION.
2. SURFACE PONDED WATER MUST PERCOLATE WITHIN 36-HOURS.
3. MINIMUM DEPTH OF 36 TO 42 INCHES TO ACCOMMODATE 48-INCH BOX TREE PLANTING.
4. BASIN MUST BE 10' AWAY FROM FOUNDATIONS AND 5' AWAY FROM PROPERTY LINES. IT IS RECOMMENDED TO AVOID INSTALLATION OVER UNDERGROUND OR BELOW ABOVE GROUND UTILITIES. ENSURE POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES.
5. AN OVERFLOW ROUTE THAT ALLOWS STORMWATER TO SAFELY ESCAPE THE BASIN AWAY FROM BUILDING FOUNDATIONS AND ADJACENT PROPERTIES IN HIGH FLOWS. ESCAPE ROUTE SOILS SHOULD BE STABILIZED WITH VEGETATION OR ROCK TO PREVENT EROSION.
6. TREE PLATFORM SHALL CONSIST OF COMPACTED ON-SITE SOIL. PLATFORM SHALL BE 1.5X THE WIDTH OF THE ROOTBALL AND INCLUDE 45-DEGREE SIDE SLOPES (MAX.).
7. INSTALL FILTER FABRIC BETWEEN TREE PLATFORM AND NO.57 STONE/MULCH.
8. PREPARED SOIL SHOULD NOT EXCEED 40 PERCENT SAND CONTENT AND UNCOMPACTED NATIVE SOILS SHOULD BE MAINTAINED IN PLANTED AREAS FOR PLANTS TO SURVIVE DRY PERIODS. ENSURE SUFFICIENT SOIL ORGANIC MATTER CONTENT BY UTILIZING ORGANIC WOOD MULCH ON THE SURFACE AND COMPOST MIXED INTO THE PREPARED SOIL AS RECOMMENDED BY LID PROFESSIONAL.
9. NATIVE BUNCH GRASSES SHOULD BE ESTABLISHED INITIALLY IN 1 GALLON CONTAINERS TO QUICKLY PROVIDE GROUND COVER TO SUPPORT INFILTRATION AND AID MULCH IN STABILIZING SOILS AFTER PLANTING. GRASSES THAT RESEED CAN BE HELPFUL IN ENHANCING GROUND COVER AND LONG-TERM SOIL HEALTH AND INFILTRATION RATES.
10. MULCH, PLANT ROOTS, AND INFILTRATION AREAS SHOULD BE INOCULATED WITH BENEFICIAL FUNGAL AND MICROBIAL COMMUNITIES TO IMPROVE WATER QUALITY AND VEGETATION PERFORMANCE.
11. PROVIDE A DIVERSITY OF PLANT MATERIAL SPECIES, SIZES, SHAPES AND LOCATIONS FOR HABITAT.
12. USE TALL POT NATIVE TREES WHERE POSSIBLE TO ENSURE HEALTHY ROOTS FOR IMPROVED INFILTRATION AND STABILITY DURING STORMS.
13. USE ROCK OR CONCRETE AT INLET PER LID-04 TO DISPERSE FLOWS, CAPTURE SEDIMENT AND PREVENT EROSION.
14. FOR LID DESIGN AND MAINTENANCE BEST PRACTICES SEE THE MOHAVE COUNTY LID GUIDE.

- DRAWING NOT TO SCALE -

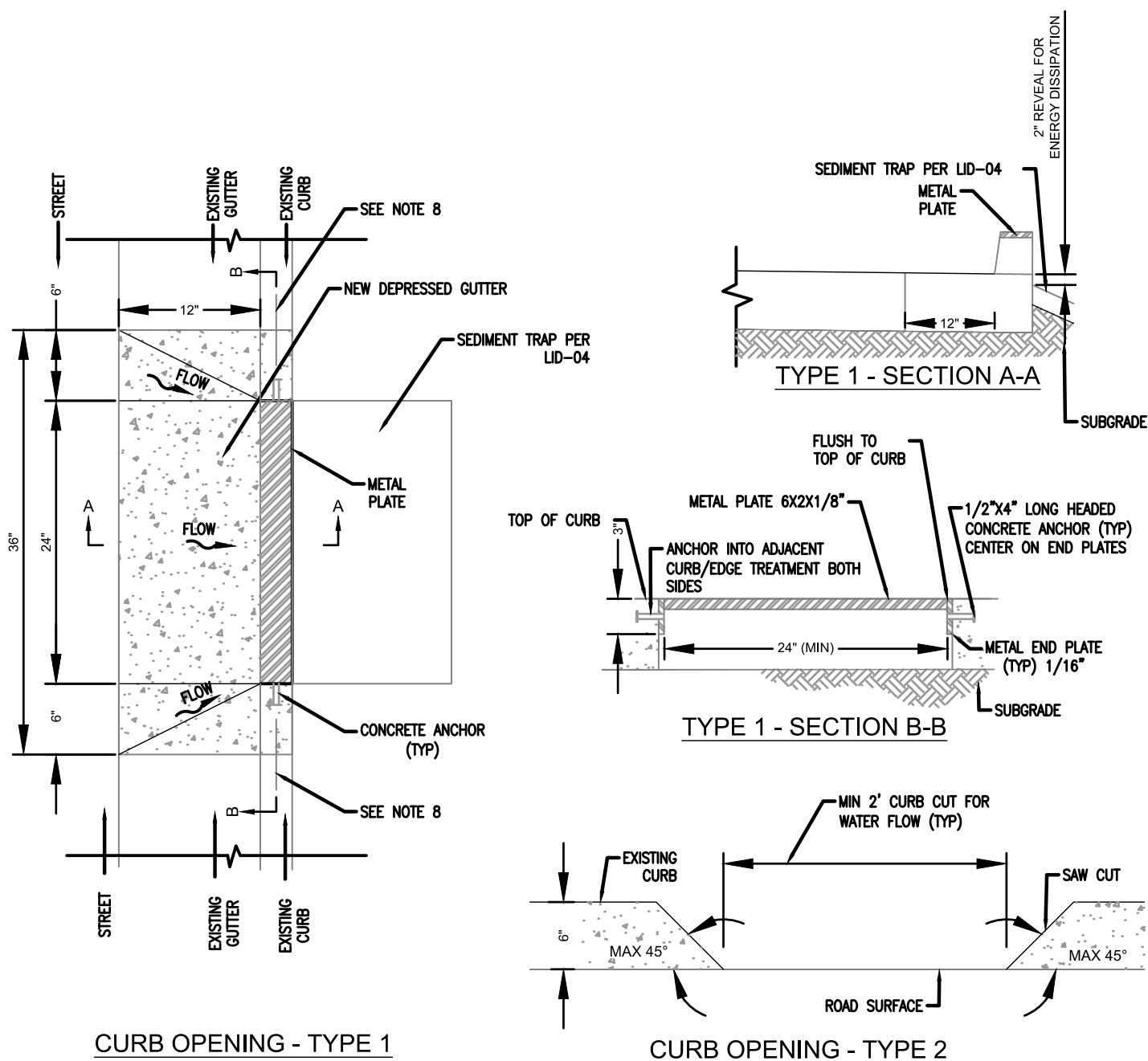


## BIORETENTION

LOW IMPACT DEVELOPMENT TYPICAL DETAILS

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LID-02

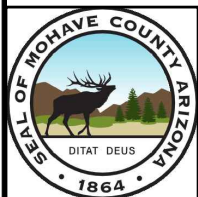
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### NOTES:

1. HEADED CONCRETE ANCHORS SHALL MEET THE REQUIREMENTS OF ASTM A-108.
2. METAL PLATE 6X2X1/8 CHANNEL SHALL MEET THE REQUIREMENTS OF ASTM A-500 GRADE B.
3. END PLATES SHALL MEET THE REQUIREMENTS OF ASTM A-36.
4. ENTIRE ASSEMBLY SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A-123.
5. DESIGN VERTICAL WHEEL LOAD IS 8.5 KIPS.
6. SEE MAG SPECIFICATION 341 FOR MATERIAL AND CONSTRUCTION INFORMATION.
7. REFER TO AASHTO ROADWAY DESIGN GUIDE FOR CLEAR ZONE REQUIREMENTS FOR SPEED DESIGNS.
8. ALL CURB OPENINGS SHALL BE MADE BY SAW CUT METHOD.
9. GRIND EXPOSED METAL AND SEAL TO PROTECT FROM CORROSION.
10. FOR LID DESIGN AND MAINTENANCE BEST PRACTICES SEE THE MOHAVE COUNTY LID GUIDE.

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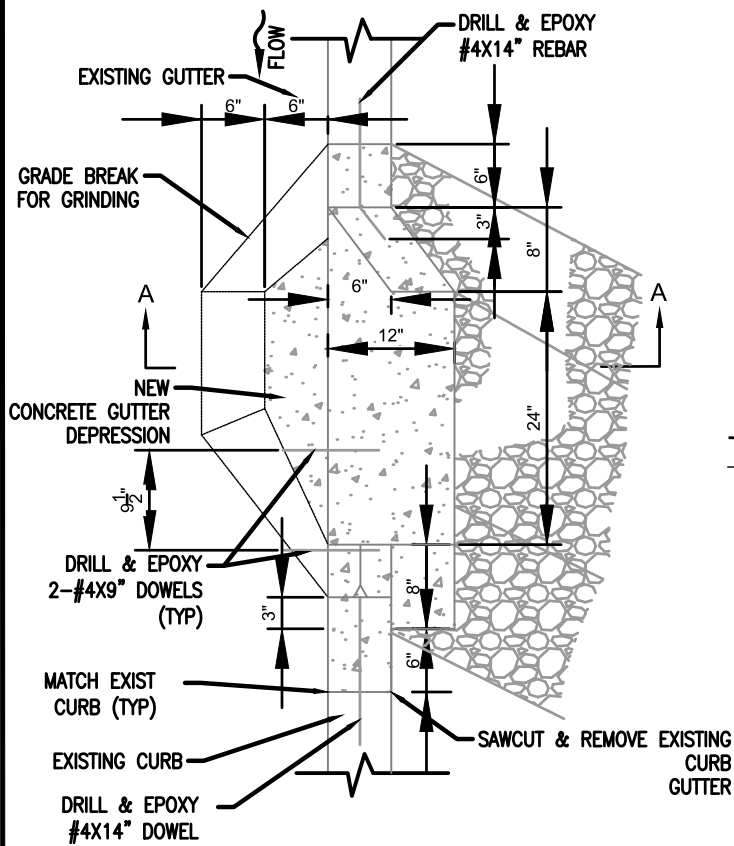


## CURB CUTS TYPE 1 & 2

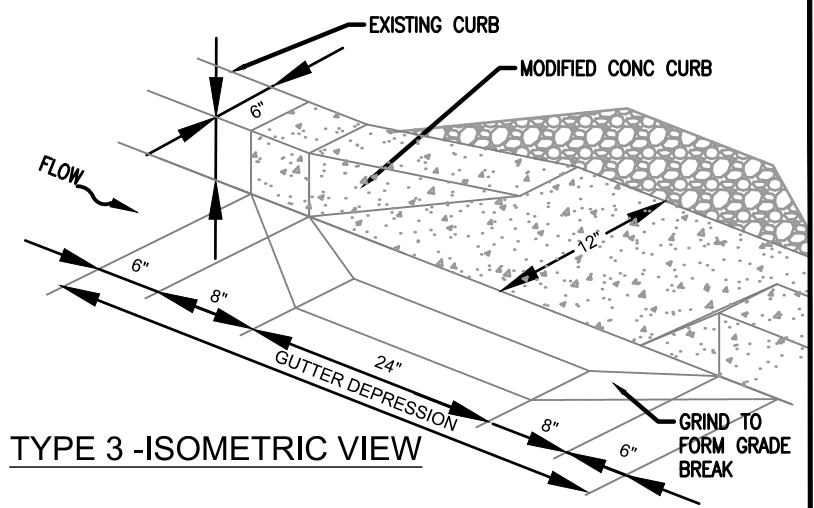
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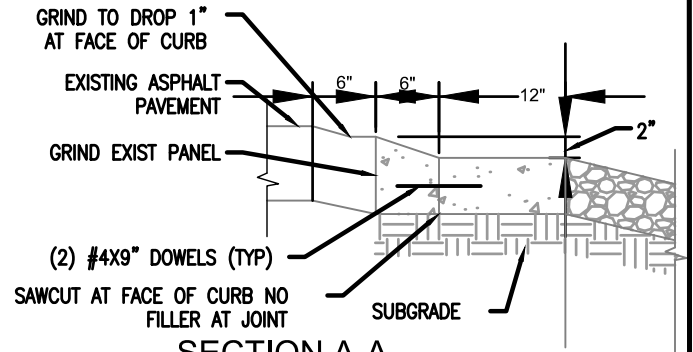
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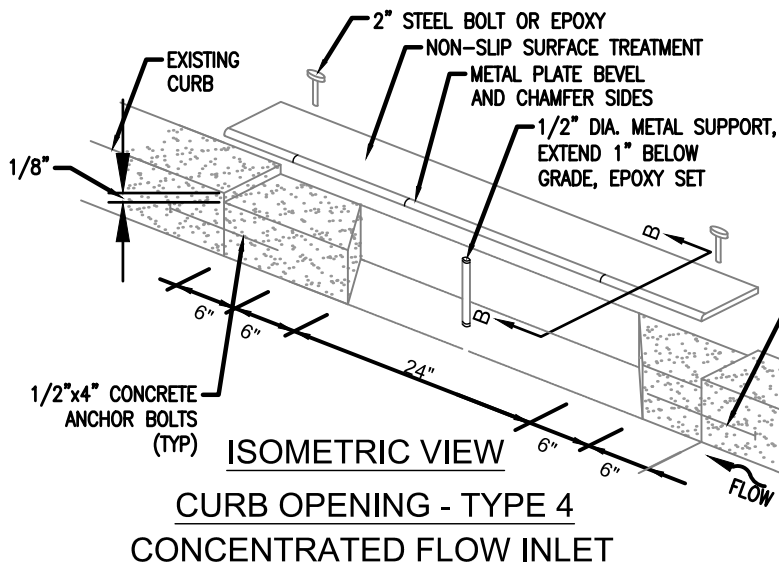
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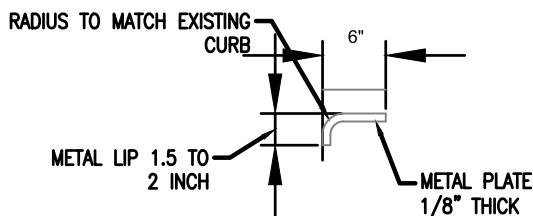
TYPE 3 - ISOMETRIC VIEW



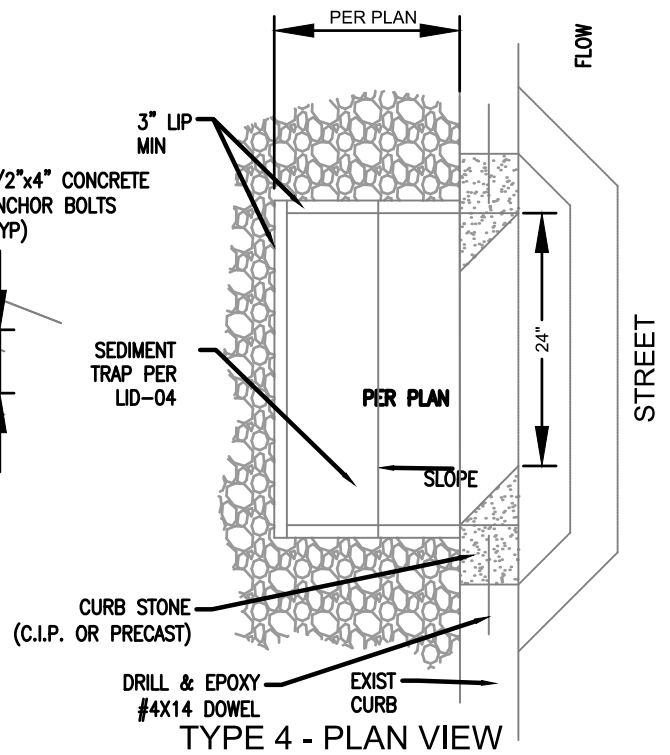
SECTION A-A  
CURB OPENING - TYPE 3  
CONCENTRATED FLOW INLET



CURB OPENING - TYPE 4  
CONCENTRATED FLOW INLET



TYPE 4 - SECTION B-B

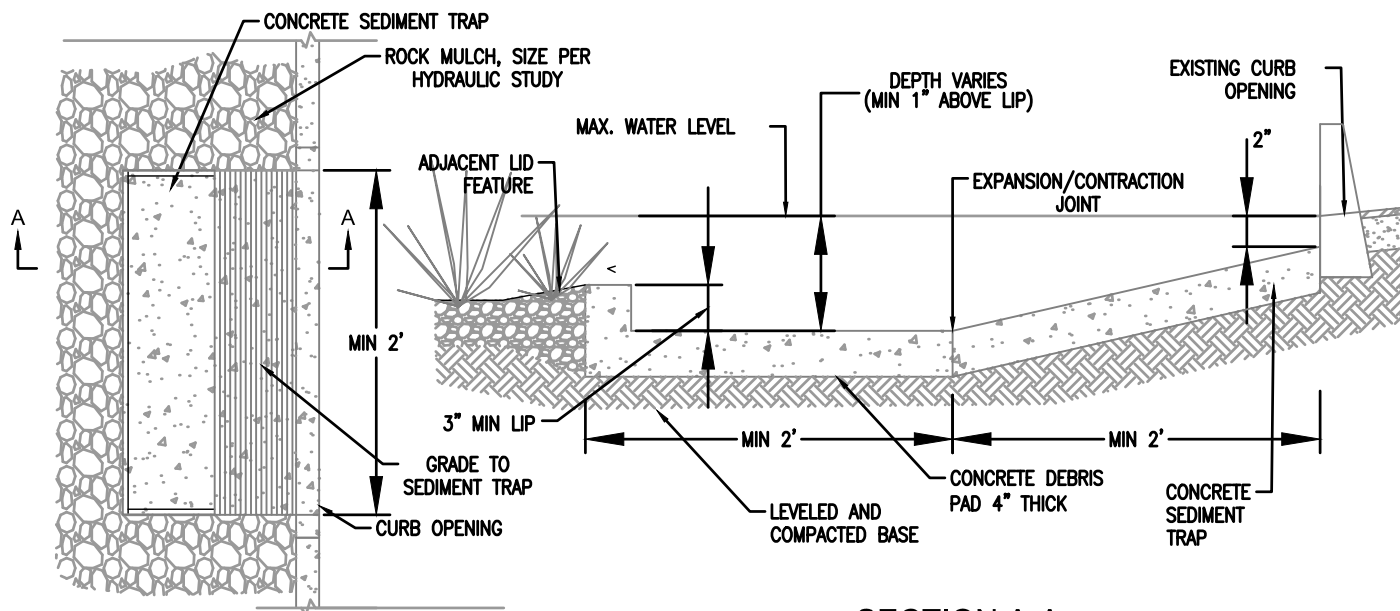


TYPE 4 - PLAN VIEW

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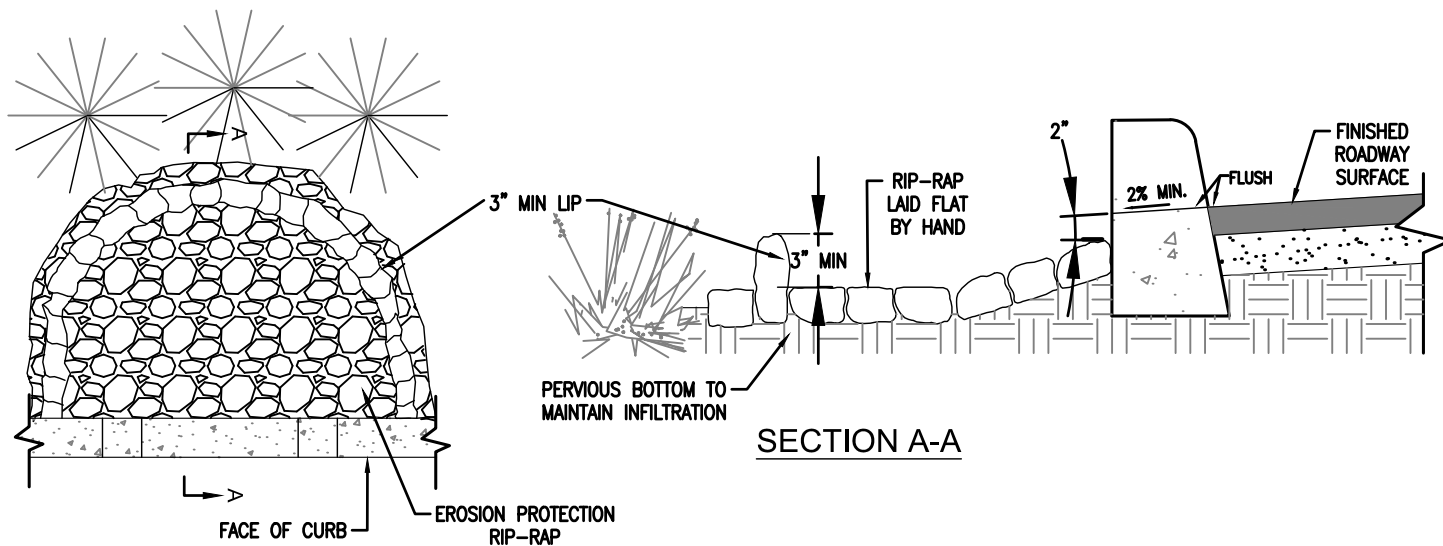




PLAN VIEW

SECTION A-A

## CONCRETE SEDIMENT TRAP



PLAN VIEW

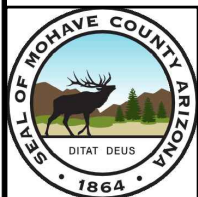
SECTION A-A

## ROCK SEDIMENT TRAP

### NOTES:

1. DIMENSIONS OF SEDIMENT TRAP SHOULD BE ADJUSTED BASED ON CONTRIBUTING WATERSHED SIZE AND SEDIMENT LOAD.
2. RIP-RAP SIZE BASED ON DESIGN REPORT.
3. FOR LID DESIGN AND MAINTENANCE BEST PRACTICES SEE THE MOHAVE COUNTY LID GUIDE.

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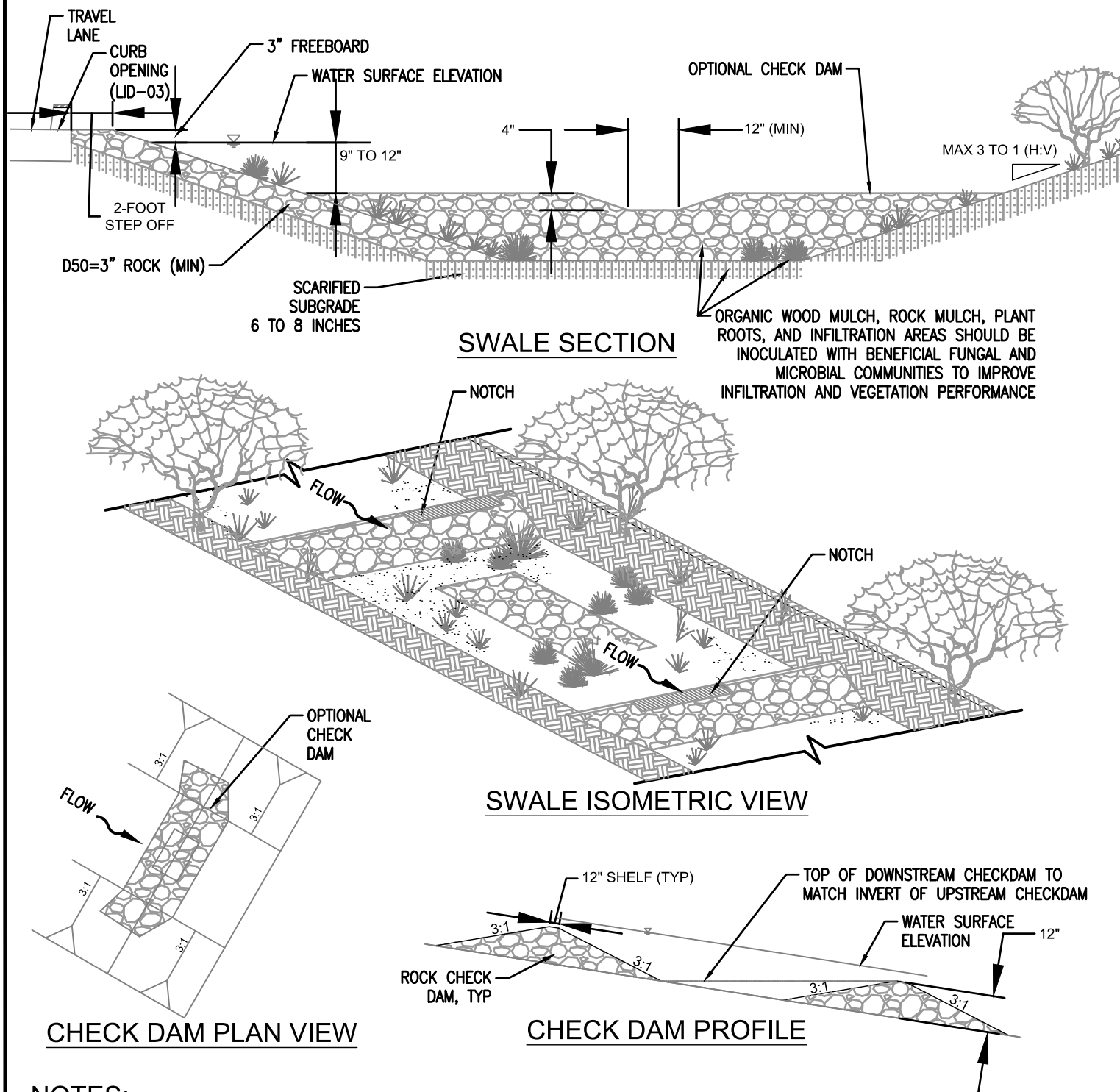
SEDIMENT TRAP

LOW IMPACT DEVELOPMENT TYPICAL DETAILS

NUMBER  
LID-04

12-1-19

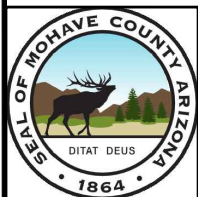




## NOTES:

1. USE NATIVE GRASSES TO STABILIZE SOIL IN SWALE BOTTOM.
2. ENSURE ONE ROCK DAMS ARE SUFFICIENTLY ANCHORED INTO THE BOTTOM AND EDGES OF SWALE TO PREVENT EROSION AND SCOURING.
3. D50 SIZE DETERMINED BY THE DESIGN REPORT.
4. NOTCHES SHALL BE OFFSET FROM ONE ANOTHER.
5. OPTIONAL ROCK CHECK DAM TO BE LOCATED TO REDUCE VELOCITIES PER DESIGN REPORT.
6. RIPRAP AND ROCK MULCH REQUIRED WHEN VELOCITIES EXCEED TABLE 6.2 OF THE FLOOD CONTROL DISTRICT OF MARICOPA COUNTY HYDRAULICS MANUAL.
7. FOR LID DESIGN AND MAINTENANCE BEST PRACTICES SEE THE MOHAVE COUNTY LID GUIDE.

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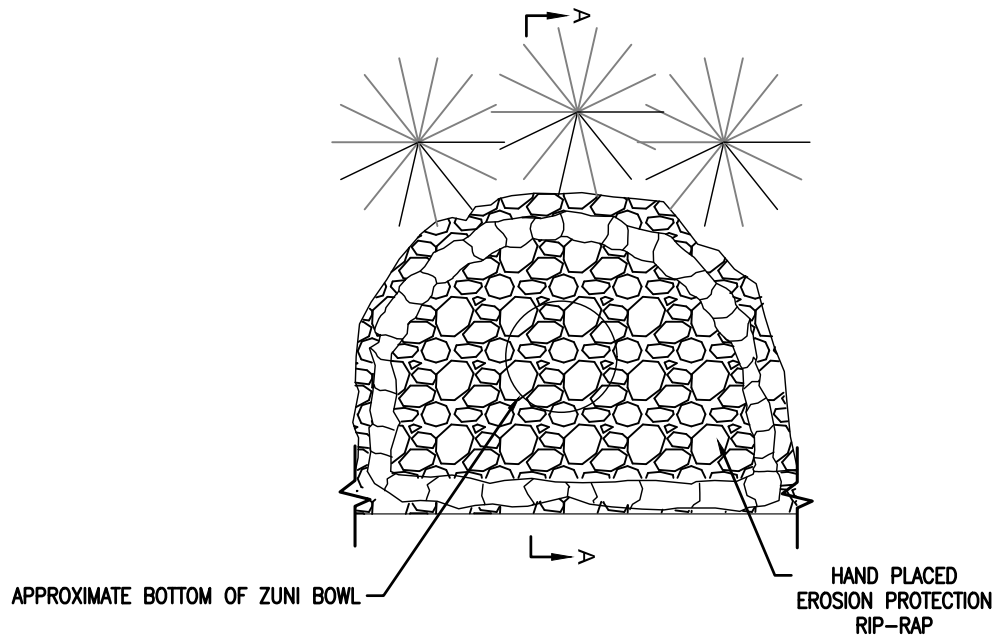
## SWALE

LOW IMPACT DEVELOPMENT TYPICAL DETAILS

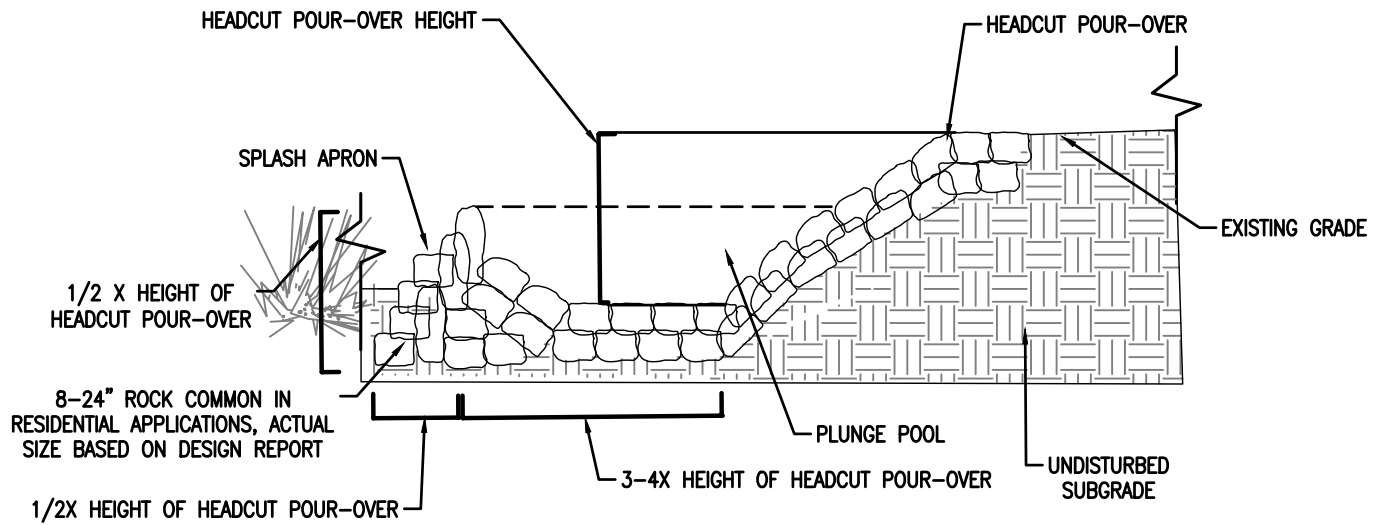
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LID-06

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PLAN VIEW

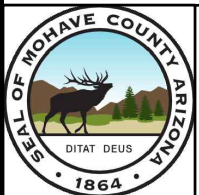


SECTION A-A

NOTES:

1. D50 SIZE DETERMINED BY THE DESIGN REPORT.
2. FOR LID DESIGN AND MAINTENANCE BEST PRACTICES SEE THE MOHAVE COUNTY LID GUIDE.

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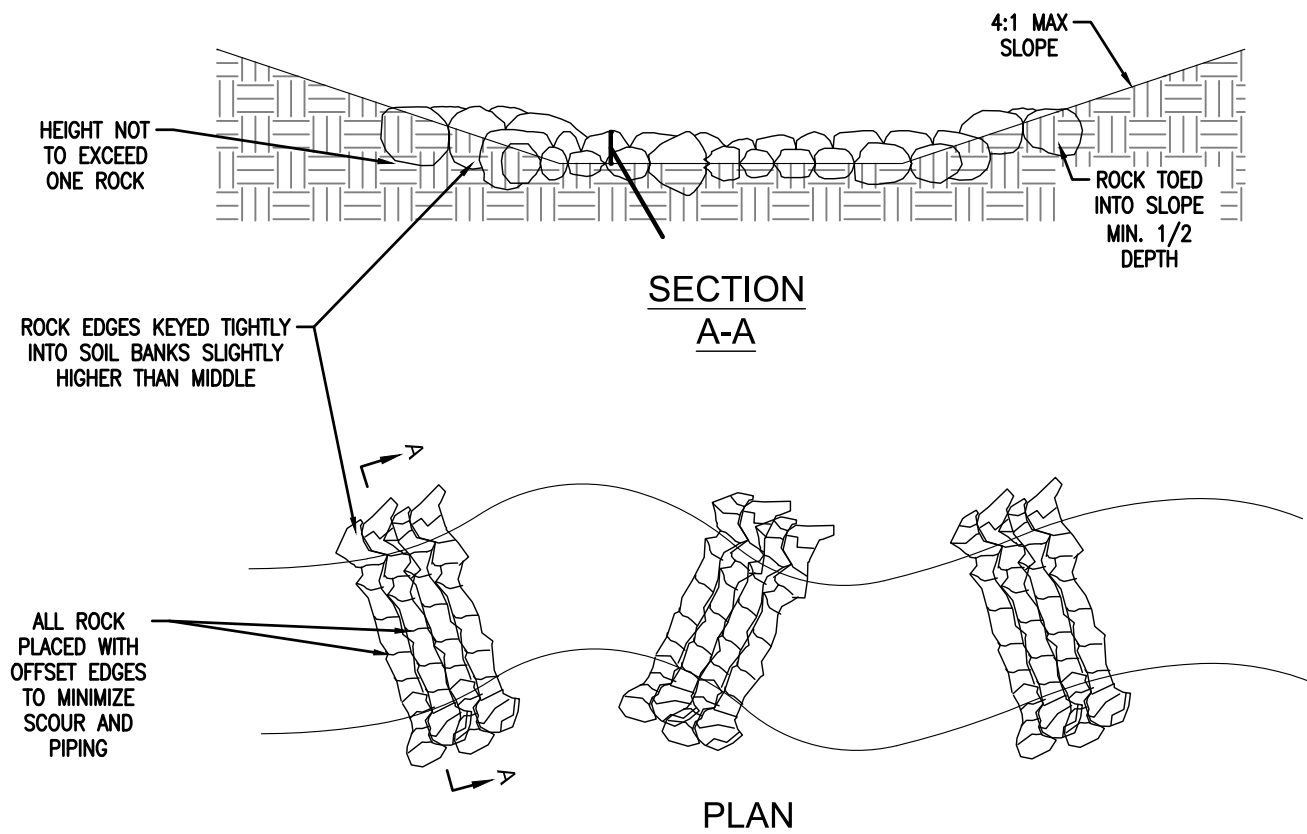


ZUNI BOWL

LOW IMPACT DEVELOPMENT TYPICAL DETAILS

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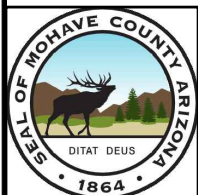
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### NOTES:

1. D50 SIZE DETERMINED BY THE DESIGN REPORT.
2. ALL ROCK IS HAND PLACED AND KEYED IN PLACE TO USE THE FORCE OF FLOWS TO BUILD STRENGTH IN THE FEATURES.
3. FOR LID DESIGN AND MAINTENANCE BEST PRACTICES SEE THE MOHAVE COUNTY LID GUIDE.

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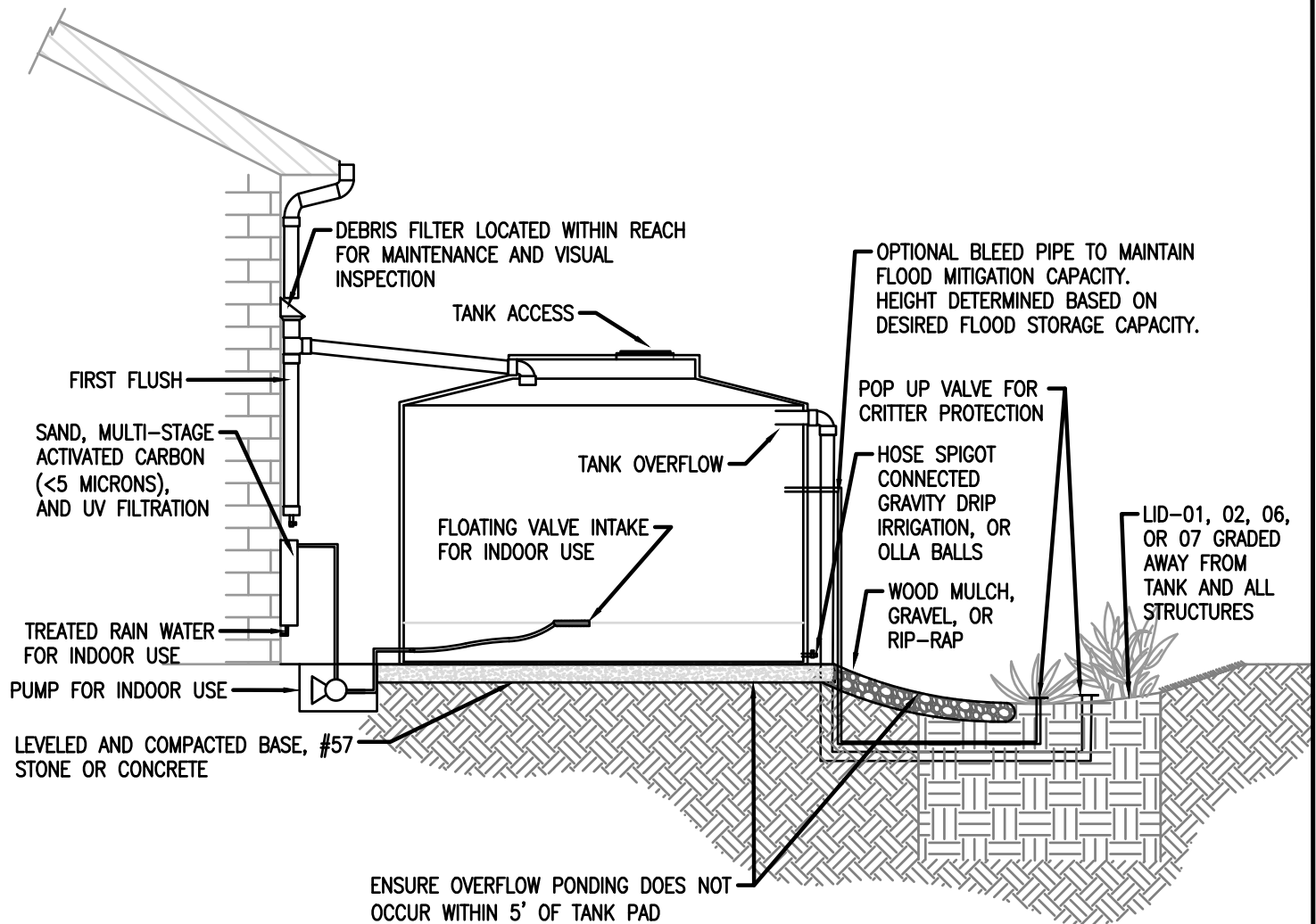


## ONE ROCK DAM

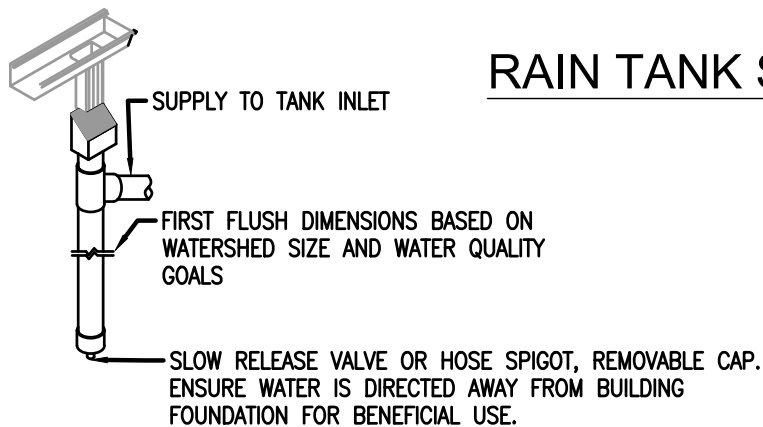
LOW IMPACT DEVELOPMENT TYPICAL DETAILS

NUMBER  
LID-08

12-1-19

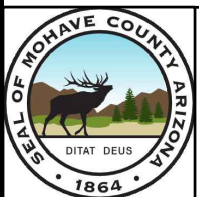


## RAIN TANK SECTION



## FIRST FLUSH DETAIL

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RAIN TANK

LOW IMPACT DEVELOPMENT TYPICAL DETAILS

NUMBER  
LID-09

12-1-19