

NOTES:

1. SEE PLANS FOR PIPE SIZE, LOCATION, AND INVERTS. PIPE SHALL BE FLUSH WITH INSIDE WALL.
2. CONCRETE SHALL BE 3,300 PSI AT 28 DAY STRENGTH.
3. SUBGRADE DRAINS SHALL BE 4" SCHEDULE 40 PVC PERFORATED WITH 6 EACH - 3/8" DIAMETER HOLES DRILLED IN LOWER SIDE. CAP SHALL HAVE 4 EACH - 3/8" DIAMETER HOLES. LOCATE JUST ABOVE SUBGRADE AS SHOWN. TWO DRAINS REQUIRED WHEN LOCATED IN A SAG VERTICAL CURVE.
4. WHEN PRECAST CATCH BASINS ARE USED AS AN ALTERNATE TO CAST-IN-PLACE, PRECAST UNITS SHALL HAVE 5" MIN THICK WALLS AND CONFORM TO ASTM C-913.



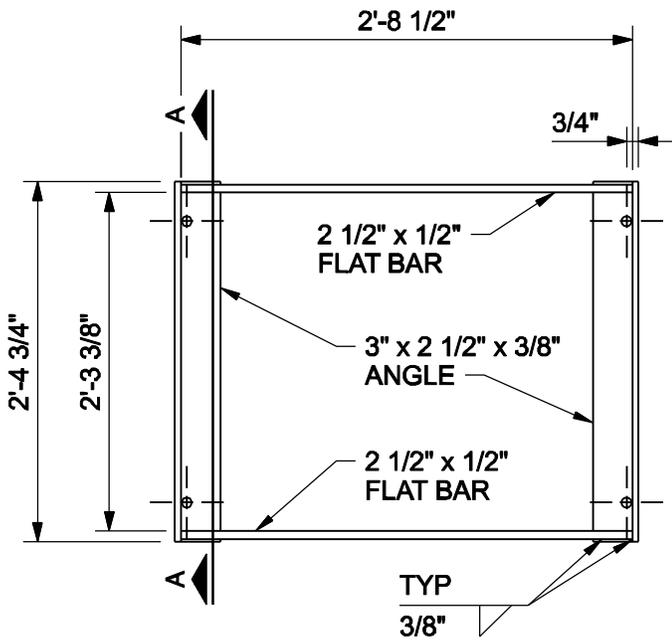
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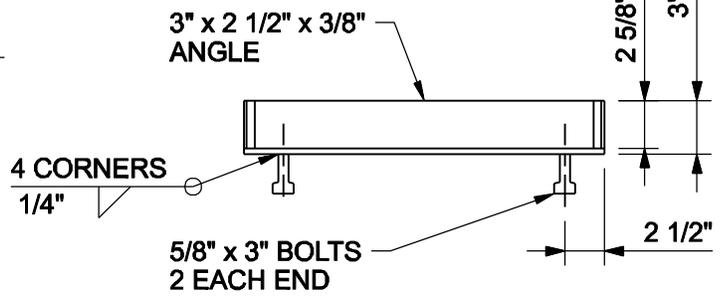
STANDARD DRAWING TITLE

SIDE-INLET CATCH BASIN
(TYPE CG-2)

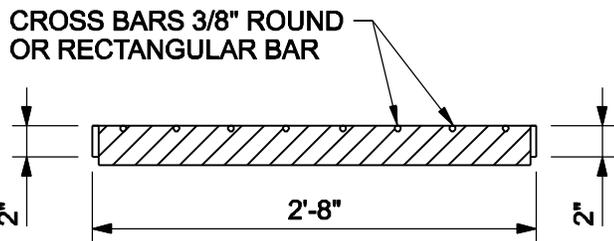
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| NO SCALE |
| DIVISION |
| STORM |
| DRAWING NO. |
| 602 |



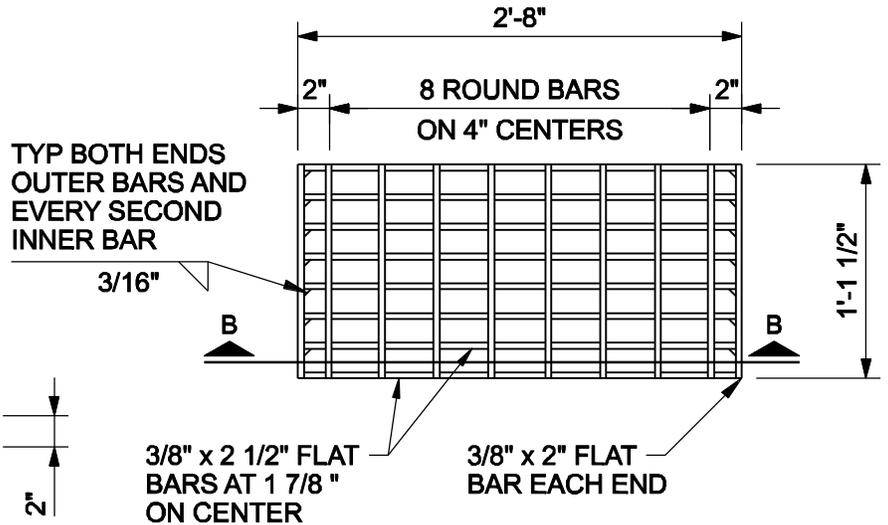
FRAME PLAN



FRAME SECTION A-A



GRATE SECTION B-B



GRATE PLAN

NOTES:

1. A TOTAL OF 2 GRATES ARE REQUIRED FOR EACH SIDE-INLET CATCH BASIN.
2. ALL FRAME AND GRATE MATERIAL SHALL BE NEW ASTM A-36 STRUCTURAL STEEL.
3. GRATES SHALL REST FIRMLY ON FRAME. USE VERTICAL BEADS IN CORNERS AND FILLET WELD JOINTS ON BOTTOM OF FRAME.



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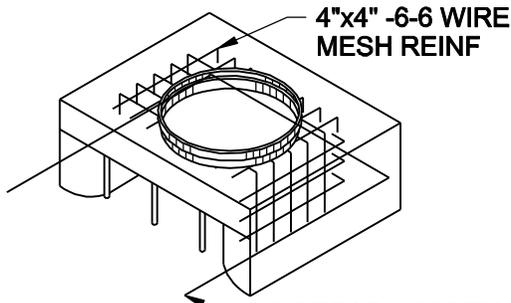
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STANDARD DRAWING TITLE
**SIDE-INLET
CATCH BASIN
FRAME AND GRATE**

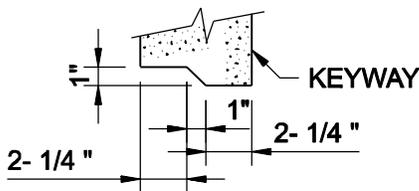
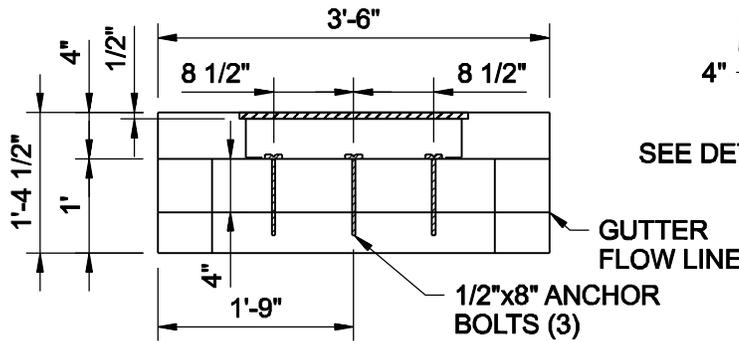
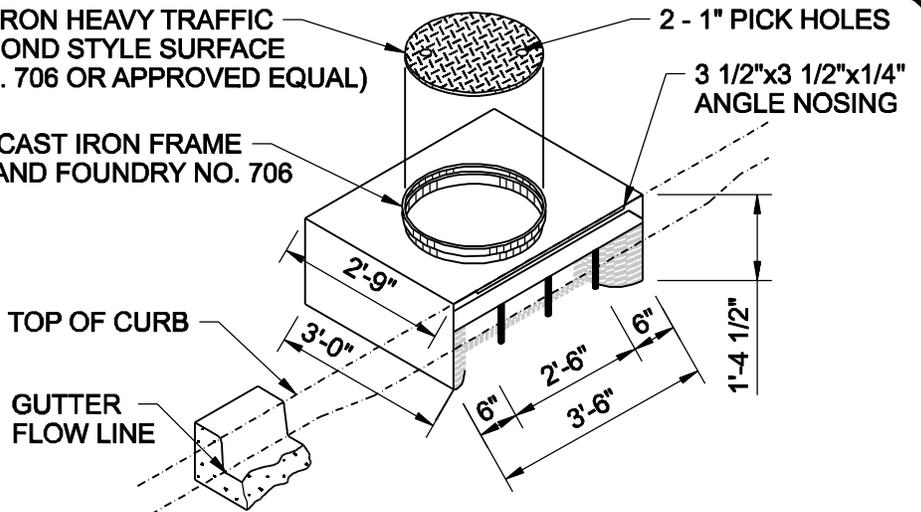
NO SCALE
DIVISION
STORM
DRAWING NO.
604

24-3/4" CLASS 30 CAST IRON HEAVY TRAFFIC LOADING COVER. DIAMOND STYLE SURFACE (INLAND FOUNDRY NO. 706 OR APPROVED EQUAL)

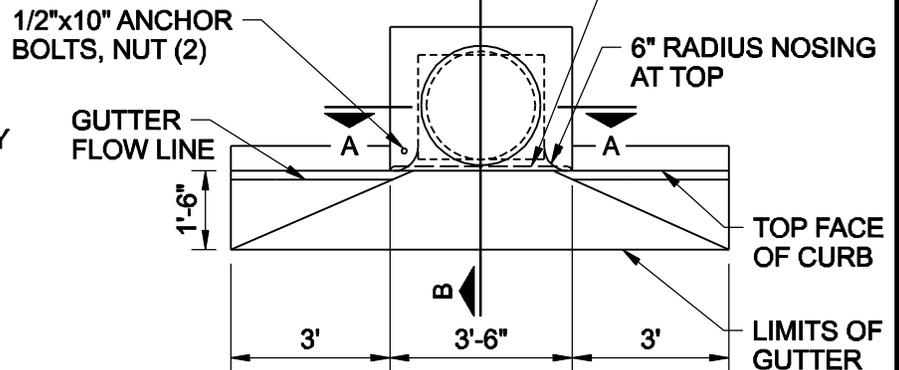
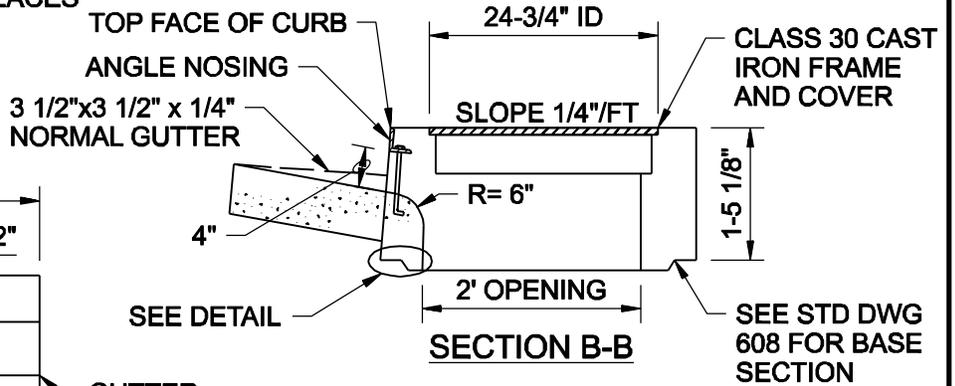
CLASS 30, 4 1/4"x 23-1/4" FLANGE UP CAST IRON FRAME RING HEAVY TRAFFIC LOADING. (INLAND FOUNDRY NO. 706 OR APPROVED EQUAL)



REINFORCING STEEL DETAIL



DETAIL



NOTES:

1. CONCRETE SHALL BE 3300 PSI IN 20 DAYS.
2. TOP SHALL BE REINFORCED WITH 4"x4"-6-6 WIRE MESH.
3. ALL METAL PARTS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
4. COVER SHALL BE ASTM A-48 CLASS 30 CAST IRON.
5. ACCEPTABLE ALTERNATIVE PRECAST REINFORCED CONCRETE TOP SECTION SHALL BE AS MANUFACTURED BY UTILITY VAULT MODEL CI-30-23FC OR APPROVED EQUAL.



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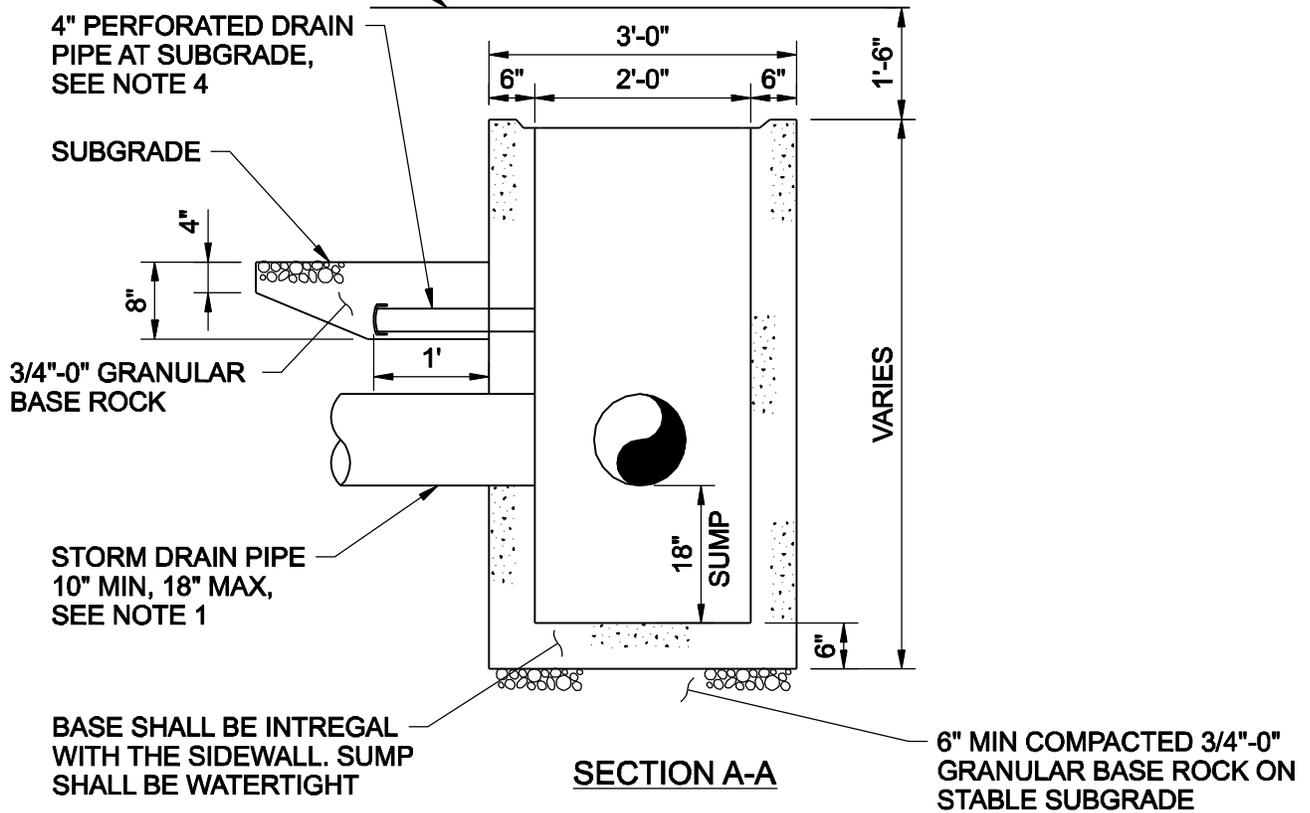
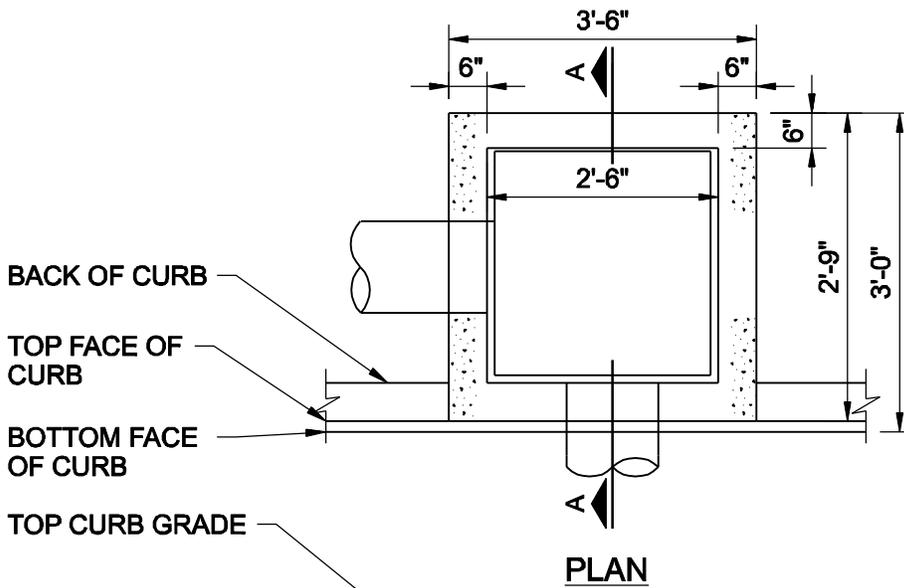
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STANDARD DRAWING TITLE

CURB INLET TOP SECTION
(TYPE CG-3)

NO SCALE
DIVISION
STORM
DRAWING NO.

606



NOTES:

1. SEE PLANS FOR PIPE SIZE, LOCATION , AND INVERTS. PIPE SHALL BE FLUSH WITH INSIDE WALL.
2. CONCRETE COMPRESSIVE STRENGTH SHALL BE 3,300 PSI.
3. SEE STANDARD DRAWING 606 FOR CURB INLET TOP.
4. DRAIN SHALL BE SCH 40 PVC WITH CAP. DRAIN PIPE SHALL HAVE 6 EA-3/8" DIAMETER DRILL HOLES IN LOWER SIDE. CAP SHALL HAVE 4 EA 3/8" DIAMETER DRILL HOLES. TWO DRAINS REQUIRED WHEN CURB INLET LOCATED AT SAG VERTICAL CURVE.

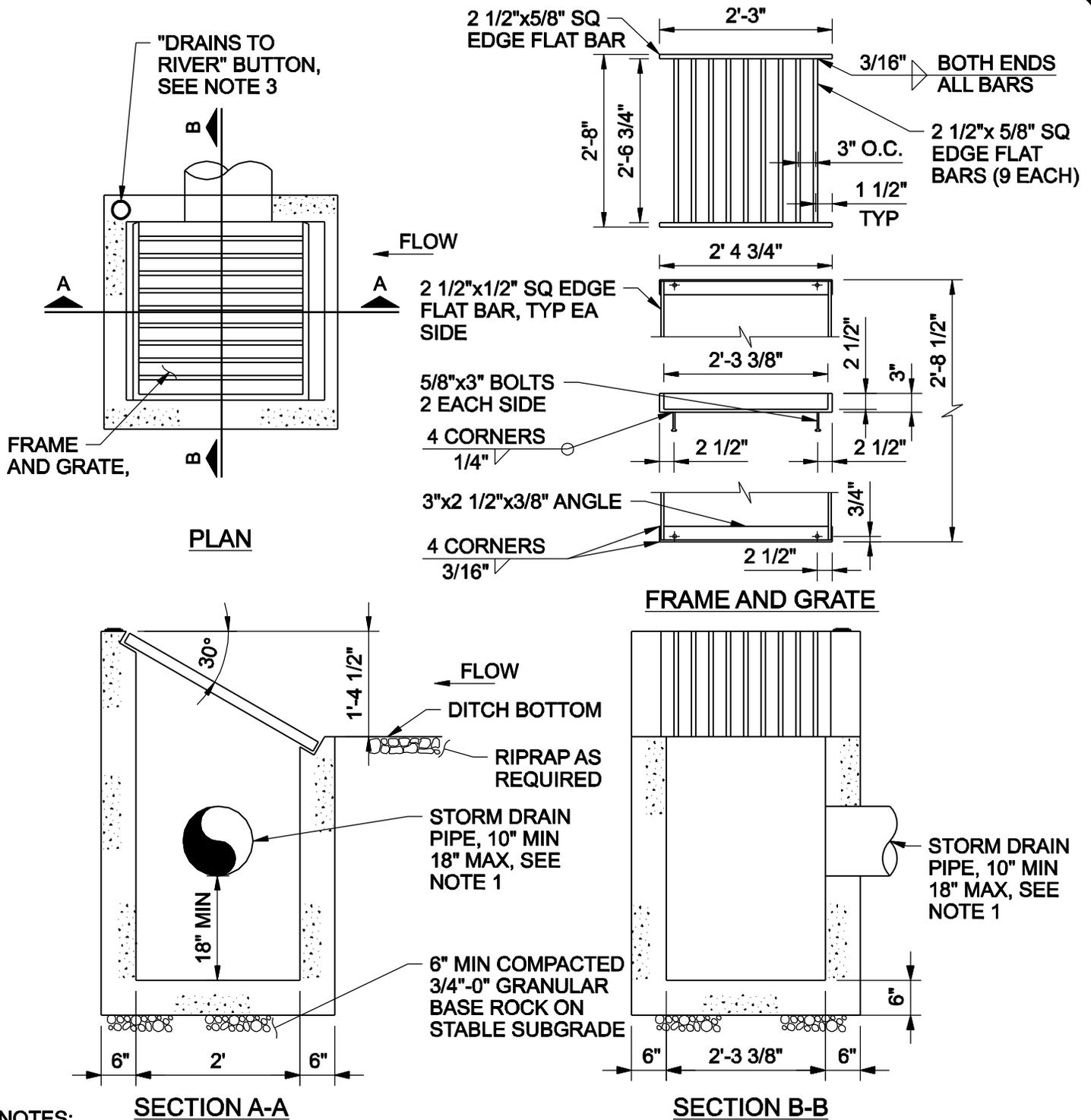


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| STANDARD DRAWING TITLE |
| CURB INLET BASE SECTION (TYPE CG-3) |

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|-------------|
| NO SCALE |
| DIVISION |
| STORM |
| DRAWING NO. |
| 608 |



NOTES:

1. SEE PLANS FOR PIPE SIZE, LOCATION AND INVERTS. PIPE SHALL BE FLUSH WITH INSIDE OF WALL.
2. CONCRETE SHALL BE 3,300 PSI AT 28 DAY STRENGTH.
3. SET "DRAINS TO RIVER" BUTTON INTO CURB BEFORE CONCRETE HAS CURED. CONTACT THE CITY ENGINEER FOR BUTTON SPECIFICATIONS (TYPICAL).
4. ACCEPTABLE ALTERNATIVE PRECAST DITCH INLETS SHALL BE 2728 DITCH INLET AS MANUFACTURED BY UTILITY VAULT OR APPROVED EQUAL.



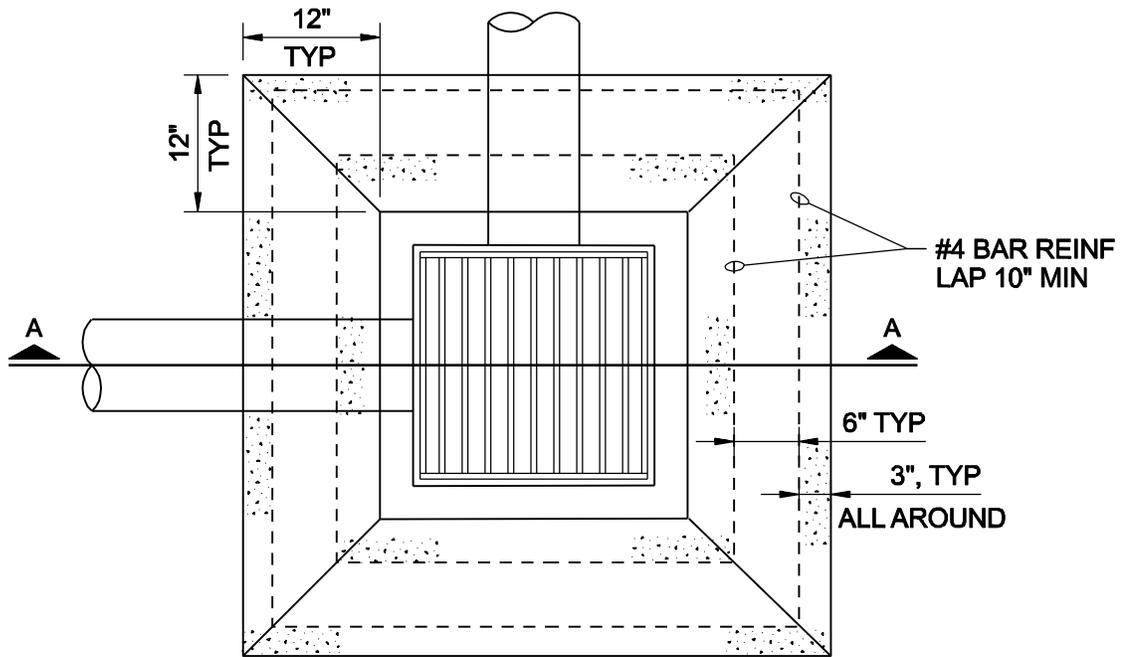
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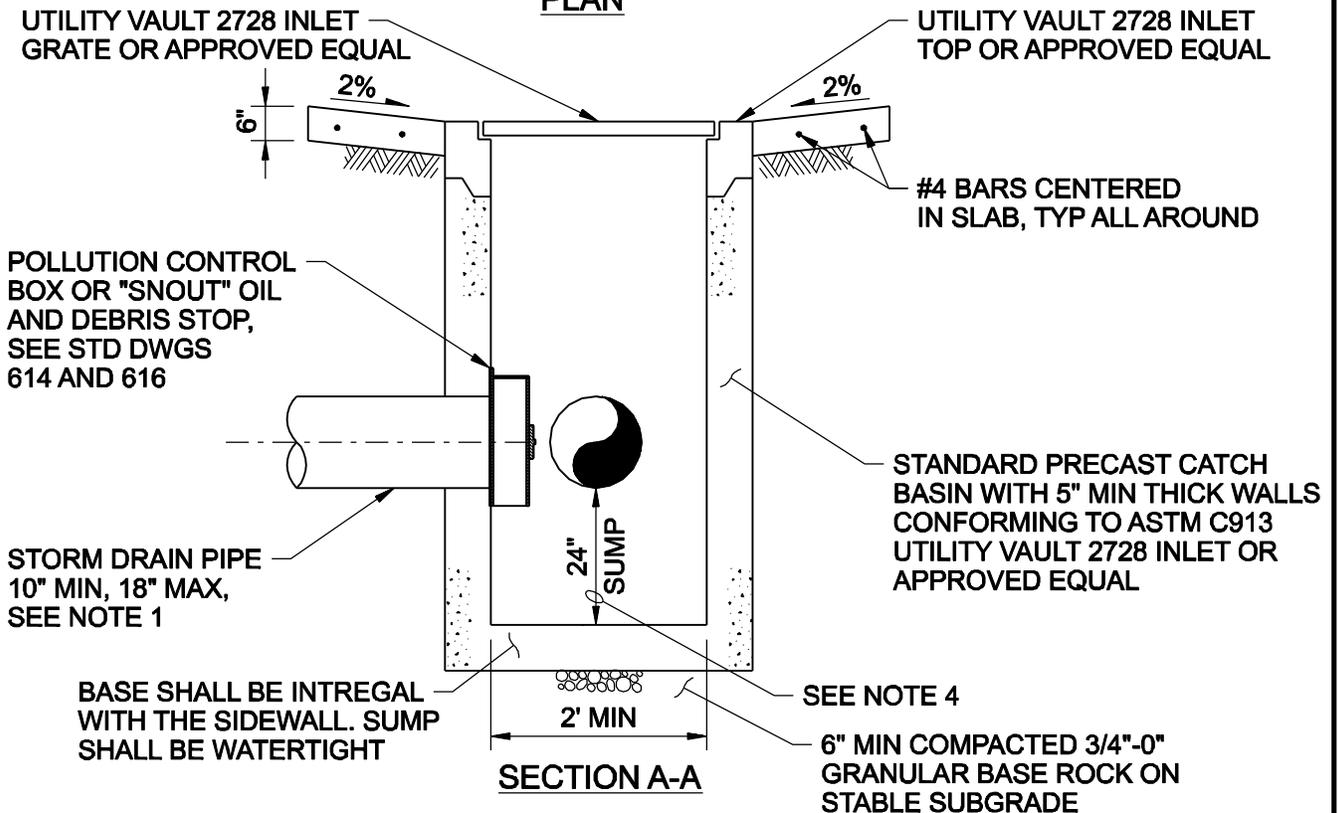
STANDARD DRAWING TITLE

DITCH INLET
(TYPE D)

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| NO SCALE |
| DIVISION |
| STORM |
| DRAWING NO. |
| 610 |



PLAN



SECTION A-A

NOTES:

1. NOT FOR USE IN VEHICULAR TRAFFIC AREAS.
2. FRAME AND GRATES, WHEN CONSTRUCTED, SHALL BE FOR BICYCLE SAFETY AND SHALL BE H-20 RATED.
3. ALL REINFORCEMENT SHALL BE 3" MIN CLEAR OF NEAREST FACE OF CONCRETE.
4. ADDITIONAL SUMP DEPTH MAY BE REQUIRED BY CITY ENGINEER OR REQUIRED PER POLLUTION CONTROL BOX OR "SNOUT" OIL AND DEBRIS STOP MANUFACTURER.



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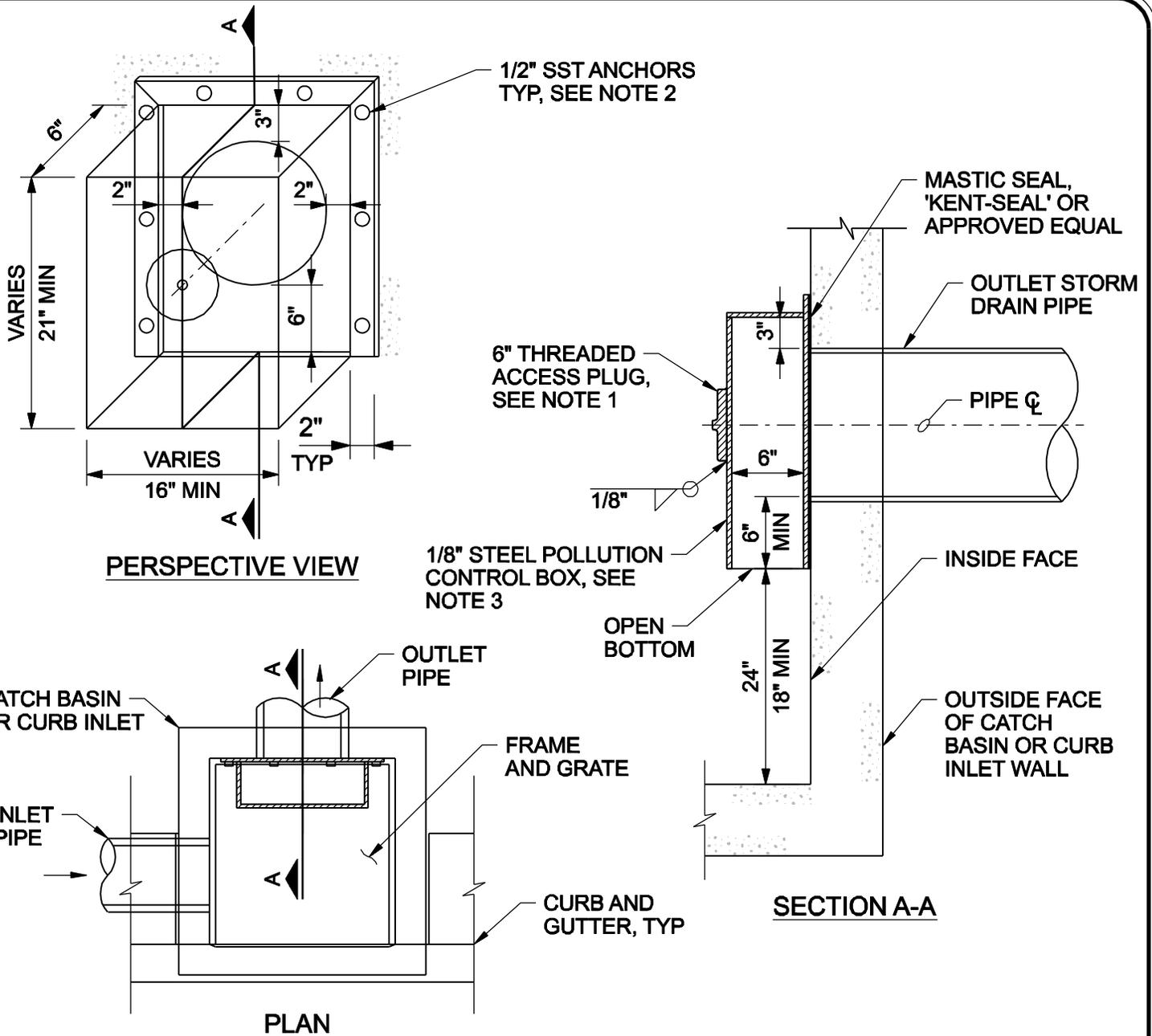
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STANDARD DRAWING TITLE

**AREA DRAINAGE
BASIN OR FIELD INLET**

NO SCALE
DIVISION
STORM
DRAWING NO.

612



NOTES:

1. MANUFACTURED ALTERNATIVES TO THIS POLLUTION CONTROL BOX MAY BE ALLOWED WHERE SPECIFICALLY APPROVED BY THE CITY ENGINEER.
2. 6" THREADED PLUG SHALL BE HEAVY DUTY CAST METAL.
3. ALL ANCHORS AND FASTENERS SHALL BE STAINLESS STEEL, EPOXY TYPE RED HEAD, OR APPROVED EQUAL.
4. AFTER FABRICATION, CONTROL BOX SHALL BE COATED WITH CORROSION-RESISTANT EPOXY COATING TNE MEC SERIES 46H-413, OR APPROVED EQUAL SUITABLE FOR SUBMERGED APPLICATIONS. APPLY COATING PER MANUFACTURER'S RECOMMENDATION.
5. CONTROL BOX SHOULD BE CENTERED HORIZONTALLY OVER OUTLET PIPE AND SHALL BE LOCATED 6" MIN BELOW OUTLET PIPE INVERT, AS SHOWN. ADJUST CONTROL BOX LENGTH AND WIDTH ACCORDINGLY TO MAINTAIN DIMENSIONS SHOWN FOR PIPES LARGER THAN 12".

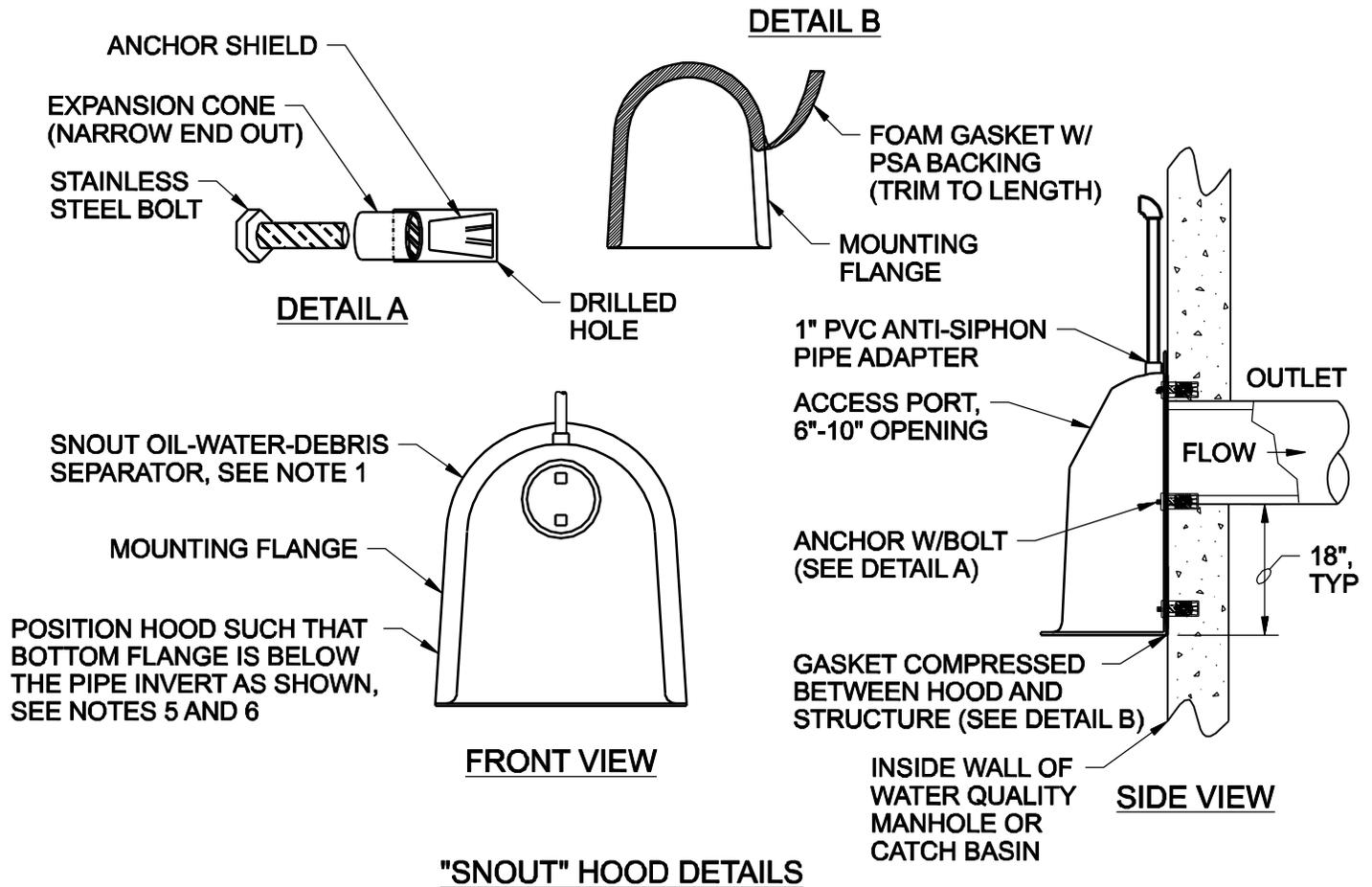


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| STANDARD DRAWING TITLE |
| POLLUTION CONTROL BOX |

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| NO SCALE |
| DIVISION |
| STORM |
| DRAWING NO. |
| 614 |



NOTES:

1. ALL HOODS AND TRAPS FOR WATER QUALITY MANHOLES AND CATCH BASINS SHALL BE AS MANUFACTURED BY BMP, INC. (SEE WWW.BMPINC.COM), OR APPROVED EQUAL, AND SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.
2. ALL HOODS SHALL BE EQUIPPED WITH A WATERTIGHT ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT AS SHOWN.
3. THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION.
4. THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A DISTANCE OF 18" FROM THE OUTLET PIPE INVERT AS SHOWN.
5. THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY A MINIMUM OF 6" AND A MAXIMUM OF 24" ACCORDING TO STRUCTURE CONFIGURATION.
6. THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL.
7. THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH 3/8" STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKET AS SUPPLIED BY MANUFACTURER.
8. INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT. THE INSTALLATION KIT SHALL AT MINIMUM INCLUDE; 1) INSTALLATION INSTRUCTIONS, 2) PVC ANTI-SIPHON VENT PIPE AND ADAPTER, 3) OIL-RESISTANT CRUSHED CELL FOAM GASKET WITH PSA BACKING, 4) 3/8" STAINLESS STEEL BOLTS, 5) ANCHOR SHIELDS, 6) OTHER ITEMS AS REQUIRED BY MANUFACTURER.



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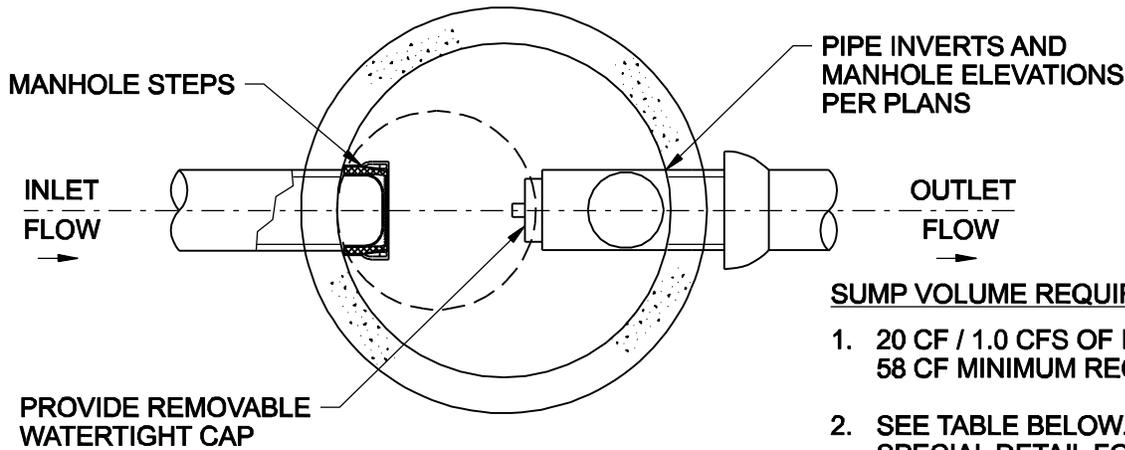
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STANDARD DRAWING TITLE

**"SNOUT" OIL AND
DEBRIS STOP**

NO SCALE
DIVISION
STORM
DRAWING NO.

616

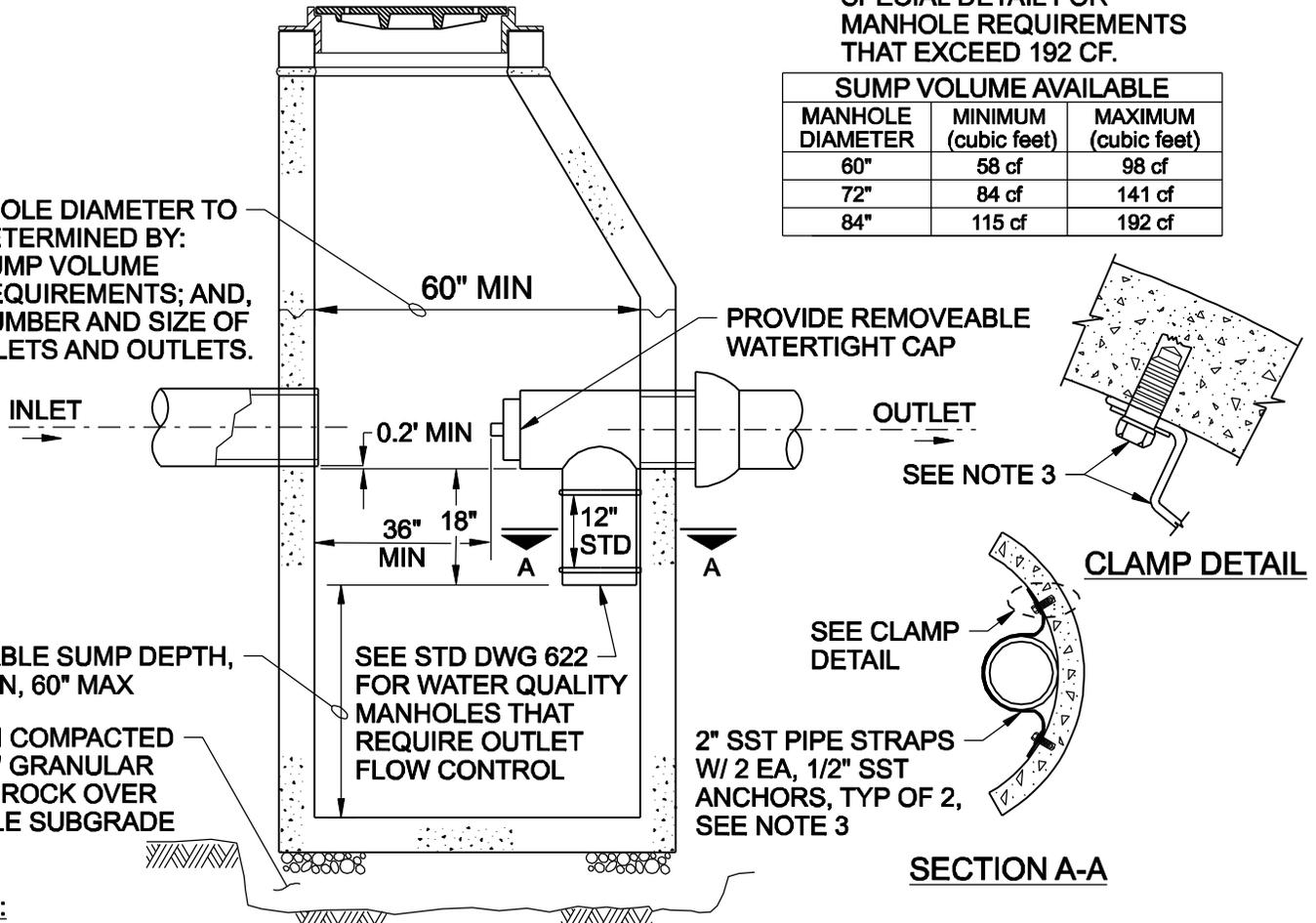


SUMP VOLUME REQUIREMENTS

1. 20 CF / 1.0 CFS OF INFLOW, 58 CF MINIMUM REQUIRED.
2. SEE TABLE BELOW. PROVIDE SPECIAL DETAIL FOR MANHOLE REQUIREMENTS THAT EXCEED 192 CF.

| SUMP VOLUME AVAILABLE | | |
|-----------------------|----------------------|----------------------|
| MANHOLE DIAMETER | MINIMUM (cubic feet) | MAXIMUM (cubic feet) |
| 60" | 58 cf | 98 cf |
| 72" | 84 cf | 141 cf |
| 84" | 115 cf | 192 cf |

- MANHOLE DIAMETER TO BE DETERMINED BY:
1. SUMP VOLUME REQUIREMENTS; AND,
 2. NUMBER AND SIZE OF INLETS AND OUTLETS.



NOTES:

1. A WATER QUALITY MANHOLE SHALL BE LOCATED UPSTREAM OF VEGETATED STORMWATER FACILITIES AND AS DIRECTED BY THE CITY ENGINEER. MANHOLES SHALL CONFORM TO REQUIREMENTS OF ASTM C-478. SEE STANDARD DRAWING 502 FOR STANDARD MANHOLE DETAILS. ALL OPENINGS SHALL BE CORE DRILLED. PROVIDE FLEXIBLE MANHOLE TO PIPE CONNECTION, KOR-N-SEAL OR APPROVED EQUAL.
2. MAXIMUM INLET AND OUTLET PIPE SHALL BE 18" DIAMETER. PROVIDE SPECIAL DETAIL FOR ALL PIPES EXCEEDING 18" DIAMETER. ALL RIGID CONNECTING PIPES SHALL HAVE FLEXIBLE, GASKETED, AND UNRESTRAINED JOINT WITHIN 18" OF MANHOLE.
3. PIPES SHALL BE ANCHORED TO WALL WITH SST RISER CLAMPS OR 2" SST BANDS AS SHOWN. 1/2" SELF TAPPING CONCRETE ANCHOR, PHILLIPS 5-12 OR APPROVED EQUAL. PROVIDE 1/2" x 1-1/2" SST BOLT.



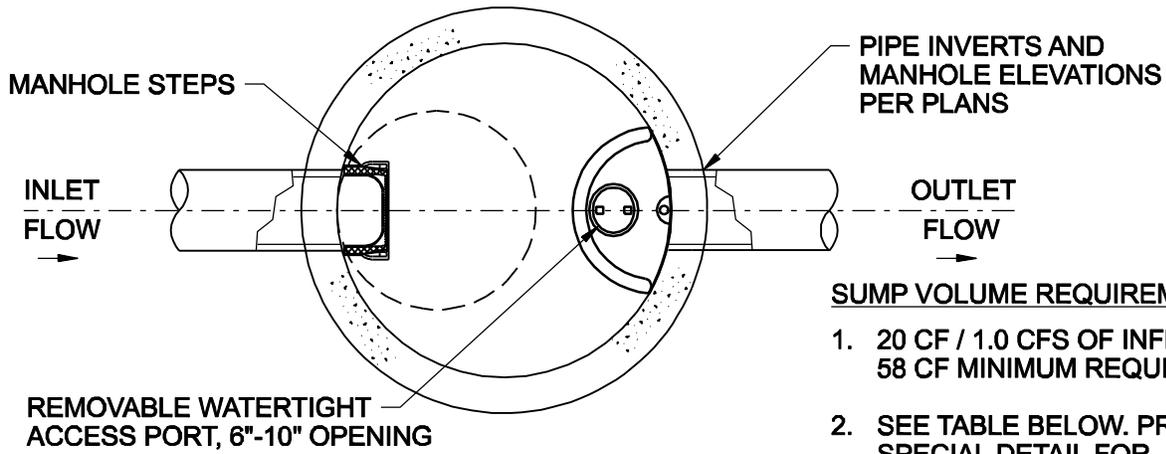
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STANDARD DRAWING TITLE

**STORM DRAIN
 WATER QUALITY
 MANHOLE (TYPE 1)**

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| NO SCALE |
| DIVISION |
| STORM |
| DRAWING NO. |
| 618 |

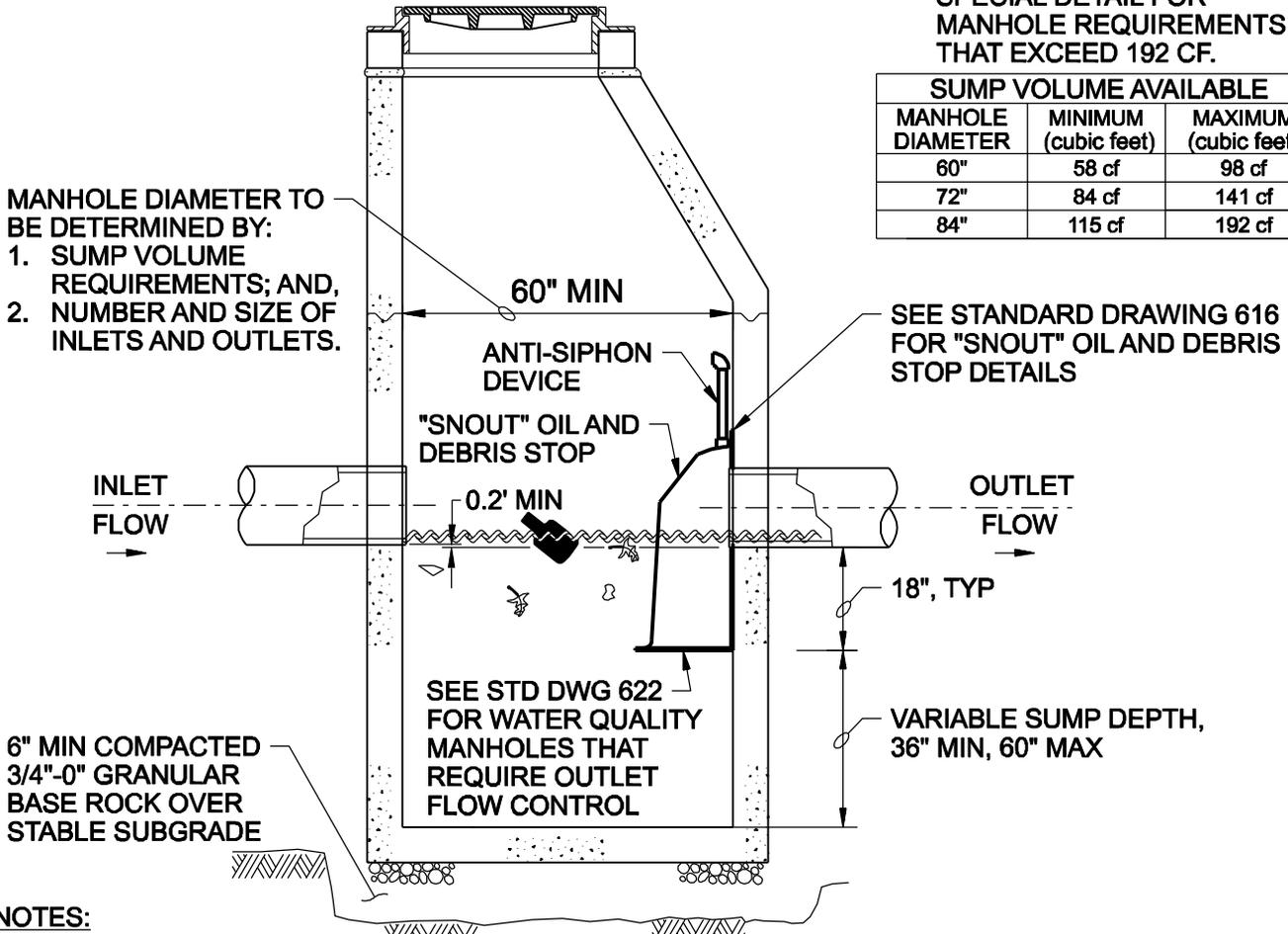


SUMP VOLUME REQUIREMENTS

1. 20 CF / 1.0 CFS OF INFLOW, 58 CF MINIMUM REQUIRED.
2. SEE TABLE BELOW. PROVIDE SPECIAL DETAIL FOR MANHOLE REQUIREMENTS THAT EXCEED 192 CF.

| SUMP VOLUME AVAILABLE | | |
|-----------------------|----------------------|----------------------|
| MANHOLE DIAMETER | MINIMUM (cubic feet) | MAXIMUM (cubic feet) |
| 60" | 58 cf | 98 cf |
| 72" | 84 cf | 141 cf |
| 84" | 115 cf | 192 cf |

MANHOLE DIAMETER TO BE DETERMINED BY:
 1. SUMP VOLUME REQUIREMENTS; AND,
 2. NUMBER AND SIZE OF INLETS AND OUTLETS.



SEE STANDARD DRAWING 616 FOR "SNOUT" OIL AND DEBRIS STOP DETAILS

6" MIN COMPACTED 3/4"-0" GRANULAR BASE ROCK OVER STABLE SUBGRADE

SEE STD DWG 622 FOR WATER QUALITY MANHOLES THAT REQUIRE OUTLET FLOW CONTROL

VARIABLE SUMP DEPTH, 36" MIN, 60" MAX

NOTES:

1. A WATER QUALITY MANHOLE SHALL BE LOCATED UPSTREAM OF VEGETATED STORMWATER FACILITIES AND AS DIRECTED BY THE CITY ENGINEER. MANHOLE SHALL CONFORM TO REQUIREMENTS OF ASTM C-478. SEE STANDARD DRAWING 502 FOR STANDARD MANHOLE DETAILS. ALL OPENINGS SHALL BE CORE DRILLED. PROVIDE FLEXIBLE MANHOLE TO PIPE CONNECTION, KOR-N-SEAL OR APPROVED EQUAL.
2. MAXIMUM INLET AND OUTLET PIPE SHALL BE 18" DIAMETER. PROVIDE SPECIAL DETAIL FOR ALL PIPES EXCEEDING 18" DIAMETER. ALL RIGID CONNECTING PIPES SHALL HAVE FLEXIBLE, GASKETED, AND UNRESTRAINED JOINT WITHIN 18" OF MANHOLE.
3. WATER QUALITY HOODS AND TRAPS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. SEE STANDARD DRAWING 616 FOR "SNOUT" OIL AND DEBRIS STOP DETAILS.

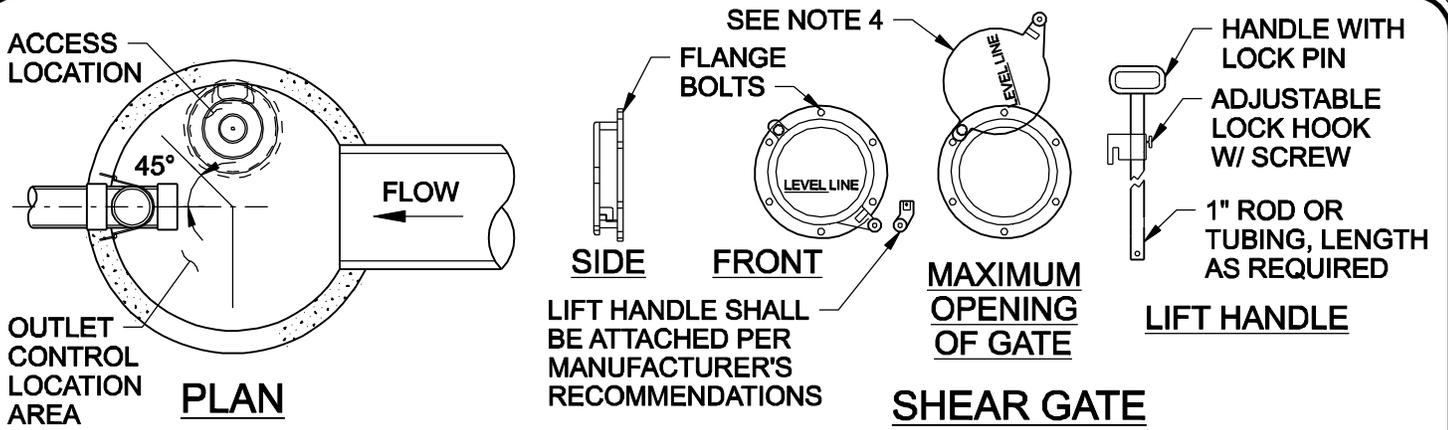


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STANDARD DRAWING TITLE
**STORM DRAIN
 WATER QUALITY
 MANHOLE (TYPE 2)**

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| NO SCALE |
| DIVISION |
| STORM |
| DRAWING NO. |
| 620 |



STANDARD MANHOLE FRAME AND COVER OR TAMPERPROOF, SEE STD DWGS 516 AND 518

FRAME AND RISER RINGS SHALL BE SEALED WITH NON-SHRINK GROUT

FINISH GRADE

STANDARD MANHOLE FLAT TOP SLAB, 72" DIA. MINIMUM

STANDARD PRECAST MANHOLE RISERS AS REQUIRED. VARIABLE LENGTH

ALL INSIDE JOINTS AND WALL PENETRATIONS SHALL BE GROUTED WITH NON-SHRINK GROUT FOLLOWING MH ASSEMBLY, TYP

2" SST PIPE STRAPS W/ 2 EA, 1/2" SST ANCHORS, TYP OF 3

12" MIN MAX WSE, SEE STD DWG 624

6" MIN FREEBOARD

12" THRU 18" ASTM D 3034 SDR 35 PVC CROSS, 18" MAX DIAMETER FOR 72" DIAMETER MANHOLE

NORMAL WSE

FLOW

INLET PIPE, TYP. SEE STD DWG 624 FOR DETENTION PIPE INLET DETAILS

ALL OPENINGS SHALL BE CORE DRILLED, SEE NOTE 1

PIPE STUB, 8" MIN

12" MIN DIAMETER SHEAR GATE WITH LIFT HOOK, ATTACH TO CROSS AND EXTEND HOOK TO TOP STEP, SEE NOTE 4

PVC CAP WITH ORIFICE. DIAMETER PER PLANS, 1-1/2" MIN

24" MIN

6" MIN THICK COMPACTED 3/4" GRANULAR BASE ROCK OVER STABLE SUBGRADE

NOTES:

1. MANHOLE SHALL CONFORM TO REQUIREMENTS OF ASTM C-478. SEE STANDARD DRAWING 502 FOR STANDARD MANHOLES DETAILS. ALL OPENINGS SHALL BE CORE DRILLED. PROVIDE FLEXIBLE MANHOLE TO PIPE CONNECTION, KOR-N-SEAL OR APPROVED EQUAL.
2. PRECAST FLAT TOP MANHOLE SHALL BE MINIMUM 72" DIAMETER. MAXIMUM OUTLET PIPE SHALL BE 18" DIAMETER FOR A 72" DIAMETER MANHOLE.
3. ALL RIGID CONNECTING PIPES SHALL HAVE FLEXIBLE, GASKETED, AND UNRESTRAINED JOINT WITHIN 18".
4. SHEAR GATE AND LIFT HANDLE SHALL BE ALUMINUM ALLOY PER ASTM B-26 AND ASTM B-275, DESIGNATION ZG32A. LIFT HANDLE SHALL BE EITHER SOLID OR TUBING WITH ADJUSTABLE HOOK. A NEOPRENE RUBBER GASKET IS REQUIRED BETWEEN THE RISER MOUNTING FLANGE AND GATE FLANGE. MATING SURFACES OF LID AND BODY TO BE MACHINED FOR PROPER FIT. FLANGE MOUNTING BOLTS SHALL BE STAINLESS STEEL. ALTERNATE SHEAR GATES TO THE DESIGN SHOWN ARE ACCEPTABLE, PROVIDED THEY MEET THE MATERIAL SPECIFICATIONS. SHEAR GATE SHALL NOT OPEN BEYOND THE CLEAR OPENING BY LIMITING THE HINGE MOVEMENT, STOP TAB, OR SOME OTHER APPROVED DEVICE.



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STANDARD DRAWING TITLE

STORM DRAIN
FLOW CONTROL
MANHOLE

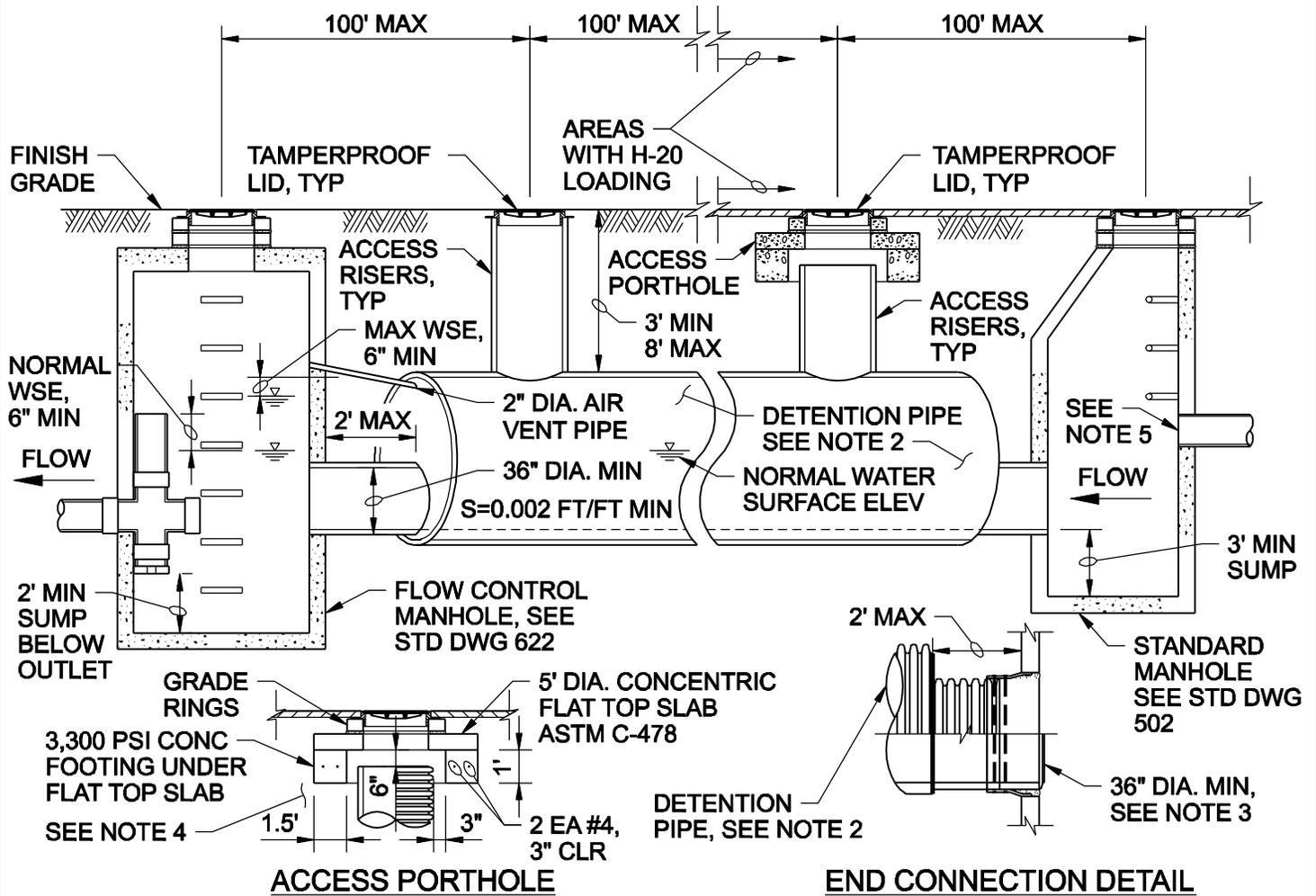
NO SCALE

DIVISION

STORM

DRAWING NO.

622



NOTES:

1. THIS STANDARD DRAWING REPRESENTS A TYPICAL DETENTION PIPE DESIGN. FINAL DESIGN MAY VARY DEPENDING ON ACTUAL SITE CONDITIONS AND SHALL BE AS APPROVED BY THE CITY ENGINEER. VARIABLE LOADING CALCULATIONS SHALL BE MADE AVAILABLE TO THE CITY ENGINEER FOR REVIEW IN AREAS THAT ARE SUBJECT TO VEHICLE LOADING.
2. DETENTION PIPES LOCATED WITHIN PUBLIC RIGHT-OF-WAY OR EASEMENTS SHALL BE MINIMUM 48" DIAMETER AND SHALL BE CLASS IV REINFORCED CONCRETE OR SOLID WALL HDPE (DR 18) PIPE. SEE STORMWATER DESIGN STANDARDS FOR ALLOWED ALTERNATIVES FOR PRIVATE STORMWATER DETENTION PIPES. ALL DETENTION PIPES SHALL BE WATERTIGHT.
3. END CONNECTIONS SHALL BE MINIMUM 36" DIAMETER, NO LONGER THAN 2' IN LENGTH, AND SHALL BE MANUFACTURED OF THE SAME MATERIAL AS THE DETENTION PIPE. END CONNECTIONS SHALL BE PER MANUFACTURER'S RECOMMENDATIONS AS APPROVED BY CITY ENGINEER.
4. ACCESS RISERS SHALL BE 30" DIAMETER, SHALL BE OF THE SAME MATERIAL AS THE DETENTION PIPE, AND SHALL BE CONNECTED TO DETENTION PIPE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. ACCESS RISERS SUBJECT TO TRAFFIC LOADING SHALL HAVE AN ACCESS RISER PORTHOLE SUPPORTED BY 3/4" GRANULAR BASE ROCK COMPACTED TO 95 PERCENT PER AASHTO T-180, CDF BACKFILL, OR CONCRETE, PER DETENTION PIPE MANUFACTURER'S RECOMMENDATIONS.
5. LATERAL CONNECTIONS SHALL BE MADE ABOVE THE NORMAL WATER SURFACE ELEVATION. DIRECT CONNECTIONS TO DETENTION PIPE SHALL BE WITH MANUFACTURED FITTINGS AND SHALL BE COMPATIBLE WITH TYPE OF DETENTION PIPE AND STORM DRAIN PIPE BEING USED. ALL CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

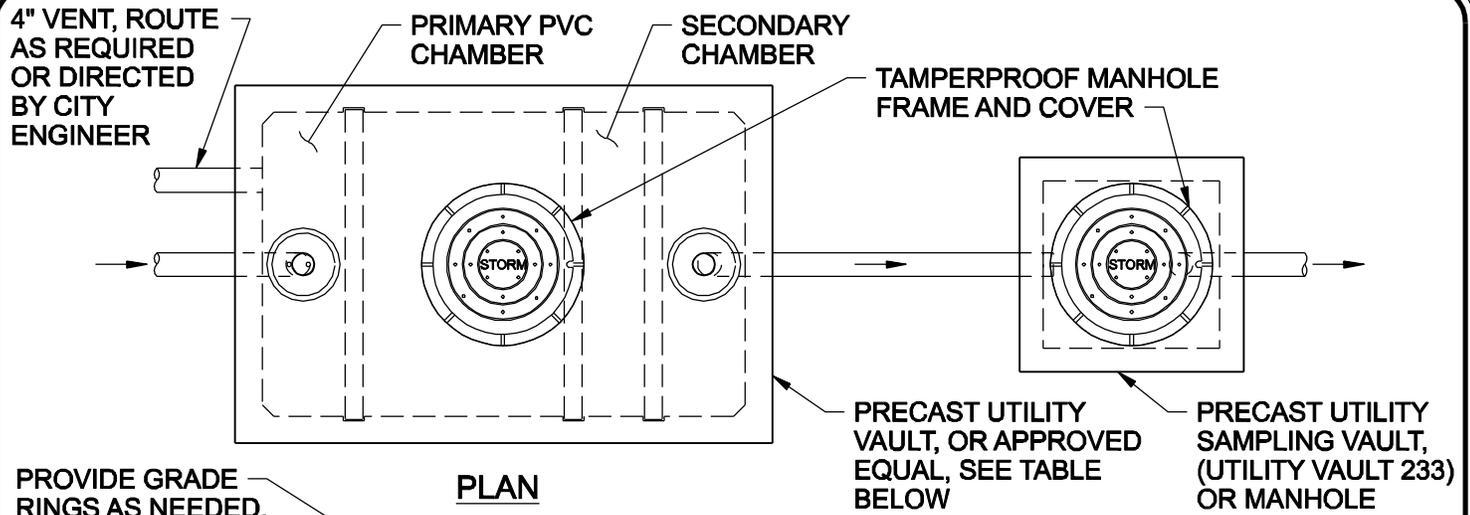


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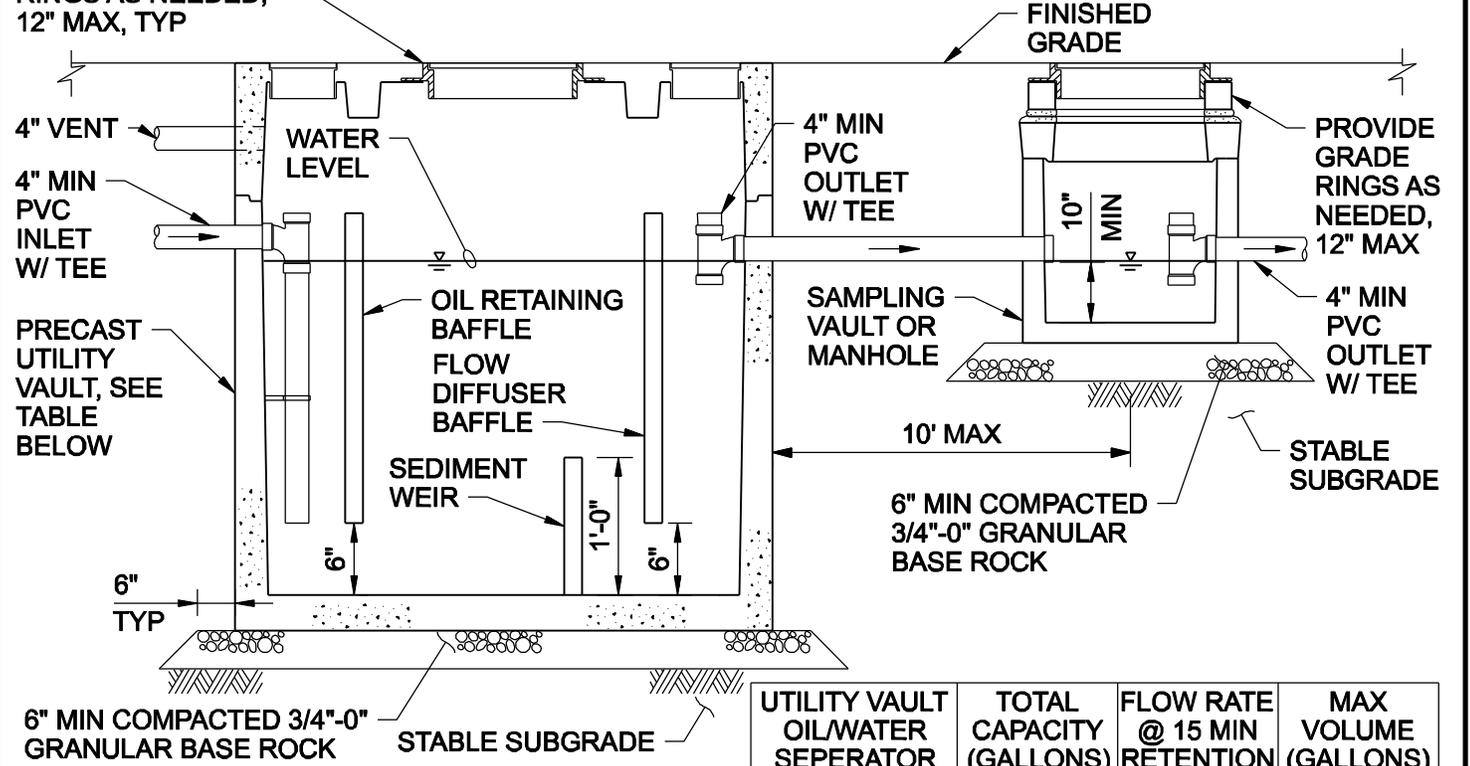
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STANDARD DRAWING TITLE
TYPICAL UNDERGROUND DETENTION PIPE

| |
|-------------|
| NO SCALE |
| DIVISION |
| STORM |
| DRAWING NO. |
| 624 |



PROVIDE GRADE RINGS AS NEEDED, 12" MAX, TYP



NOTES:

1. SEPARATOR AND BAFFLE DIVIDER WALL SHALL BE PRECAST CONCRETE, AS MANUFACTURED BY UTILITY VAULT OR APPROVED EQUAL. OIL/WATER SEPARATORS 5,000 GALLONS OR LARGER SHALL BE SUPPLIED WITH 6" PVC PIPING.
2. SEPARATOR, INSTALLATION, AND MAINTENANCE SHALL COMPLY WITH THE OREGON PLUMBING SPECIALTY CODE AND APPLICABLE PROVISIONS OF THE STAYTON MUNICIPAL CODE. TOTAL CAPACITY OF SEPARATOR SHALL NOT BE LESS THAN 550 GALLONS.
3. SEPARATOR SHALL BE WATERTIGHT AND MUST BE VENTED AT ALL TIMES. SEPARATOR SHALL BE CAPABLE OF SUPPORTING H-20 TRAFFIC LOADING.
4. SEPARATOR SHALL BE FILLED WITH CLEAN WATER AFTER INSTALLATION AND PRIOR TO USE.

| UTILITY VAULT OIL/WATER SEPERATOR | TOTAL CAPACITY (GALLONS) | FLOW RATE @ 15 MIN RETENTION (GPM) | MAX VOLUME (GALLONS) |
|-----------------------------------|--------------------------|------------------------------------|----------------------|
| 660-SA | 550 | 37 | 275 |
| 576-SA | 1,000 | 67 | 500 |
| 5106-2-SA | 2,100 | 140 | 1,050 |
| 612-2-SA | 3,100 | 207 | 1,550 |
| 816-SA | 5,000 | 333 | 2,500 |

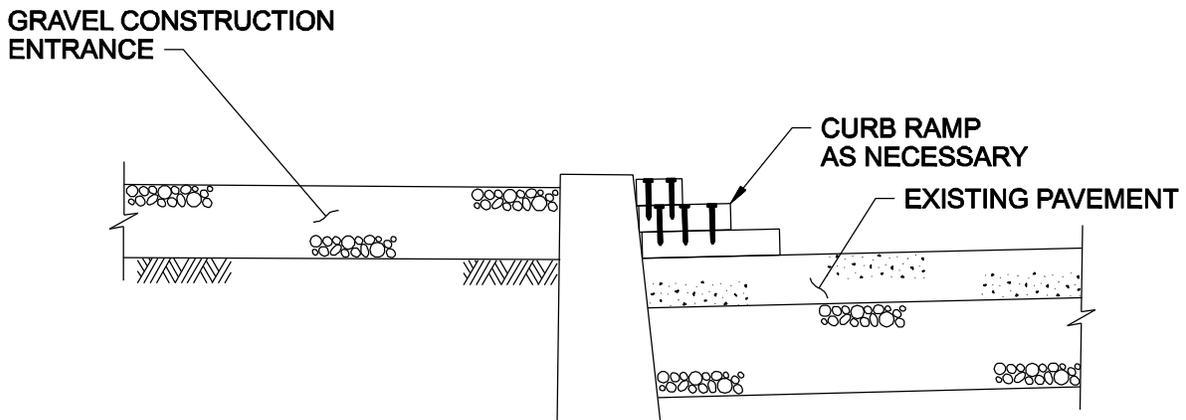
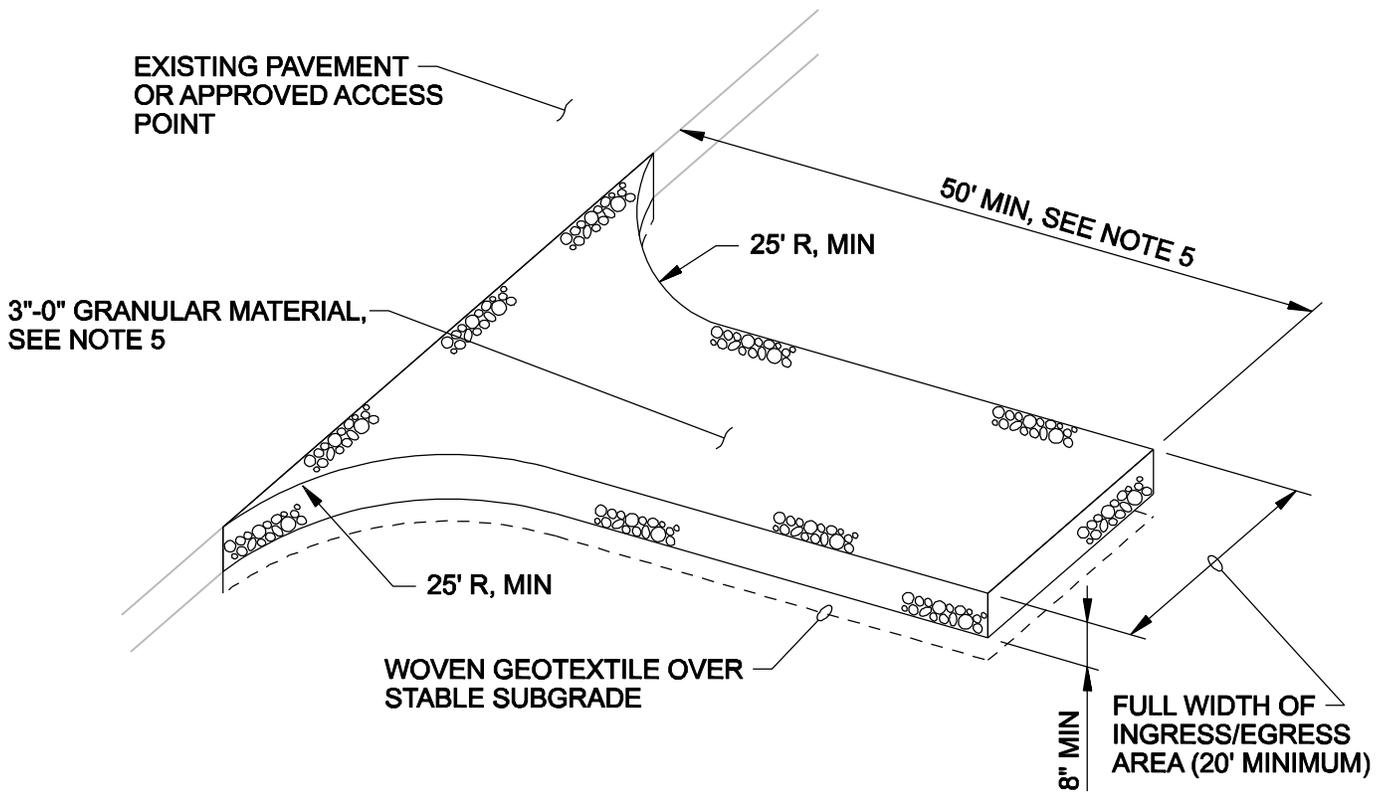


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STANDARD DRAWING TITLE
SAND AND OIL/WATER SEPARATOR

| |
|-------------|
| NO SCALE |
| DIVISION |
| STORM |
| DRAWING NO. |
| 626 |



NOTES:

1. THE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE IN AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.
4. WHERE RUNOFF CONTAINING SEDIMENT LADEN WATER IS LEAVING THE SITE VIA THE CONSTRUCTION ENTRANCE, OTHER MEASURES SHALL BE IMPLEMENTED TO DIVERT RUNOFF THROUGH AN APPROVED FILTERING SYSTEM.
5. FOR SINGLE FAMILY RESIDENCES, PROVIDE 20' LONG CONSTRUCTION ENTRANCE WITH 8" MIN DEEP OF 1"-0" CLEAN ROCK.



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STANDARD DRAWING TITLE

**GRAVEL
CONSTRUCTION
ENTRANCE**

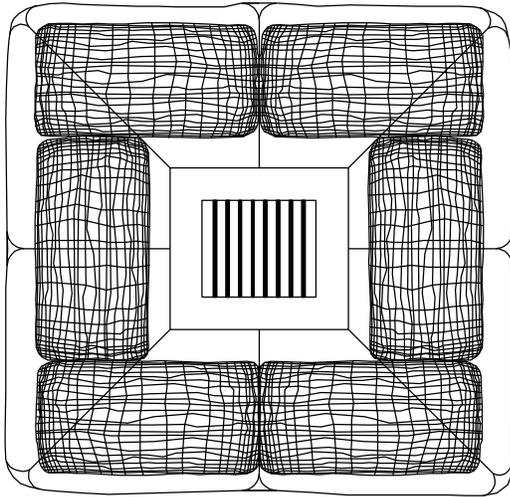
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DIVISION

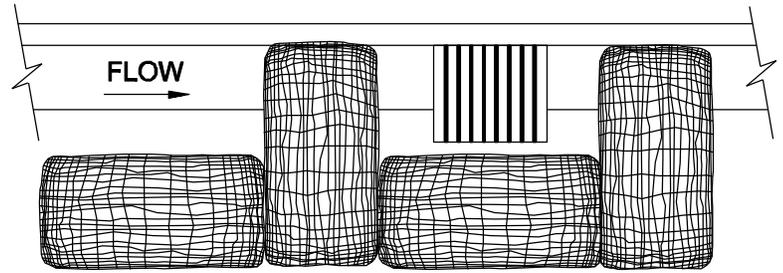
STORM

DRAWING NO.

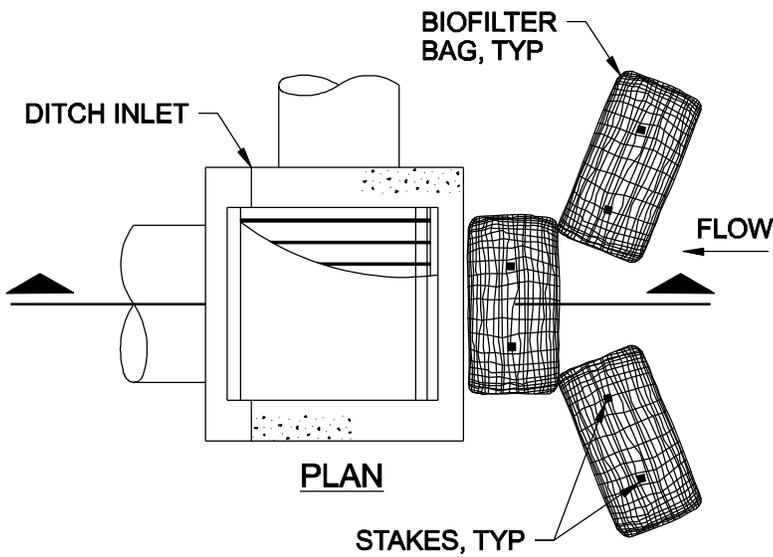
650



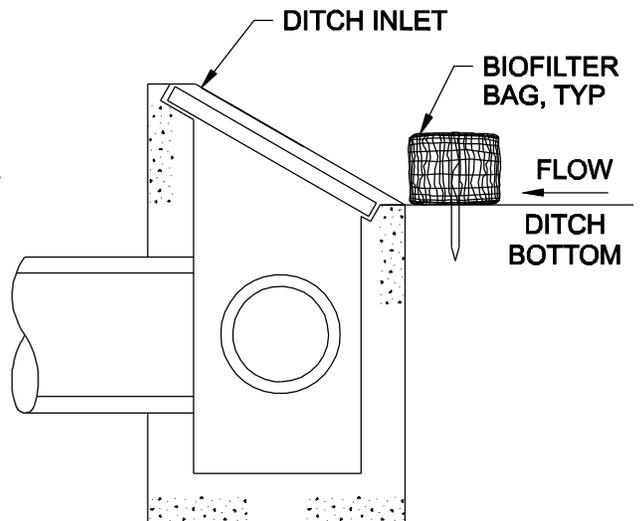
**AREA DRAIN
OR FIELD INLET**



SIDE-INLET CATCH BASIN



PLAN



SECTION

DITCH INLET

NOTES:

1. USE 2 STAKES PER BAG. STAKES MAY BE OMITTED IF BAGS ARE PLACED ON PAVEMENT OR GRAVEL SURFACE.
2. OVERLAP ALL BAG JOINTS 6".
3. REPLACE BIOFLITER BAGS WITH FILTER FABRIC INLET BARRIER AFTER FIRST LIFT OF ASPHALT.



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**BIOFILTER BAG
INLET PROTECTION**

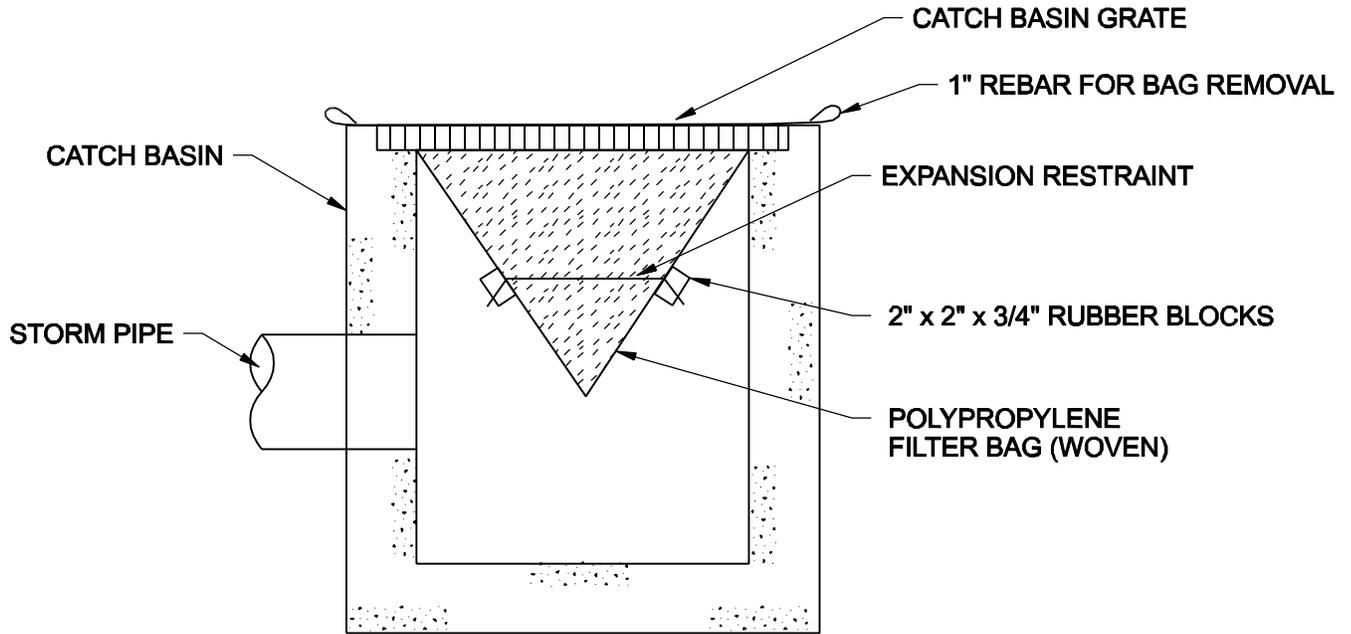
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DIVISION

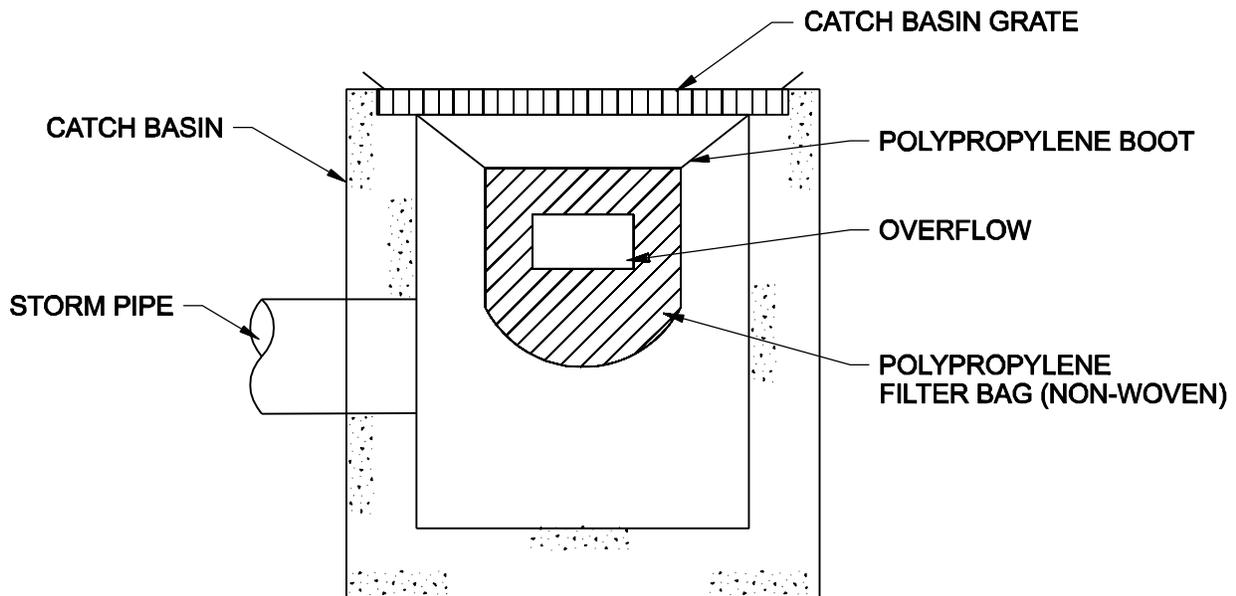
STORM

DRAWING NO.

652



WOVEN POLYPROPYLENE BAG



NON-WOVEN POLYPROPYLENE BAG

NOTES:

1. RECESSED CURB AND SIDE-INLETS MUST BE BLOCKED WHEN USING POLYPROPYLENE INLET BAGS.
2. SIZE OF POLYPROPYLENE FILTER BAGS TO BE DETERMINED BY MANUFACTURER.



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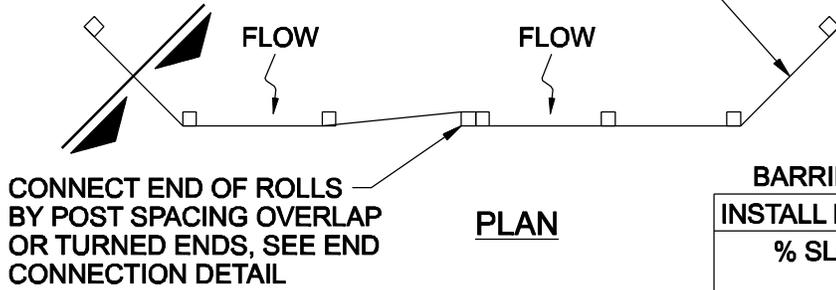
STANDARD DRAWING TITLE

**POLYPROPYLENE BAG
 INLET PROTECTION**

NO SCALE
 DIVISION
 STORM
 DRAWING NO.

654

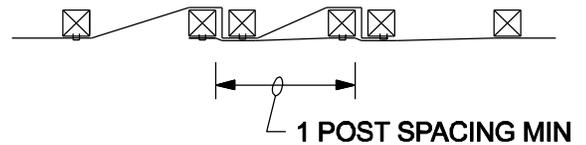
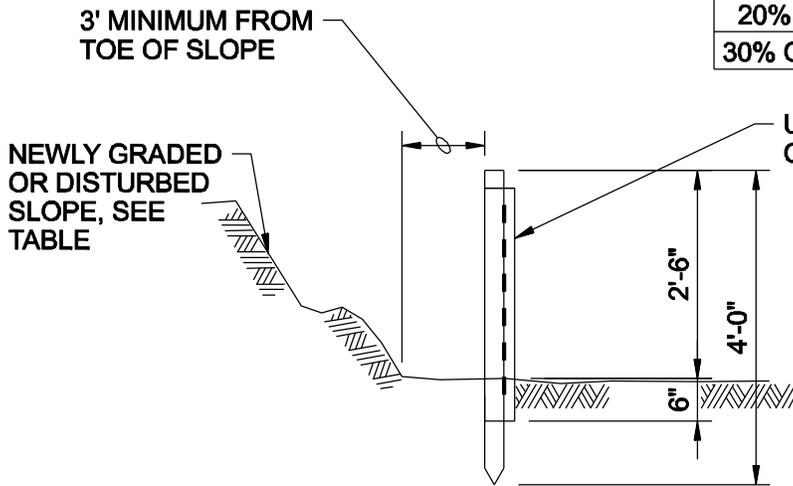
ANGLE BOTH ENDS OF FILTER FABRIC FENCE TO ASSURE SOIL IS TRAPPED



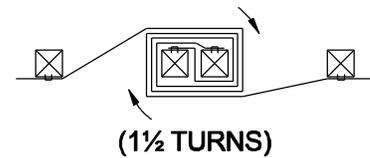
BARRIER SPACING FOR GENERAL APPLICATION

INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS

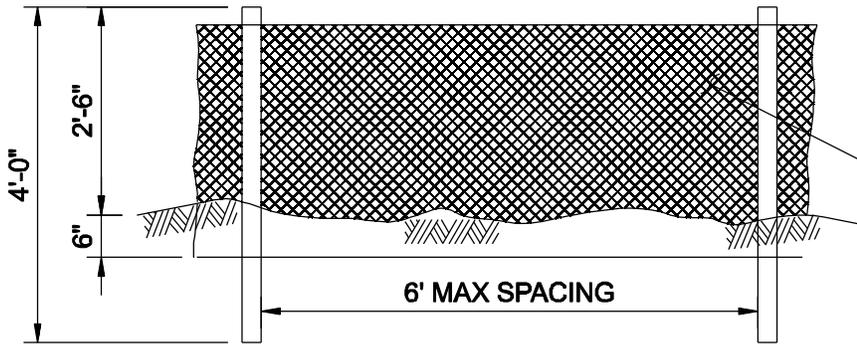
| % SLOPE | SLOPE (V:H) | MAX SPACING ON SLOPE |
|-------------|-----------------|----------------------|
| 10% FLATTER | 1:10 OR FLATTER | 300' |
| 10% TO 15% | 1:10 TO 1:7.5 | 150' |
| 15% TO 20% | 1:7.5 TO 1:5 | 100' |
| 20% TO 30% | 1:5 TO 1:3 | 50' |
| 30% OR MORE | 1:3 OR STEEPER | 25' |



POST SPACING OVERLAP



END CONNECTIONS



FILTER FABRIC MATERIAL
36" WIDE ROLLS

NOTES:

1. BOTTOM OF FILTER FABRIC SHALL BE BURIED 6" VERTICALLY BELOW FINISHED GRADE AND BACKFILLED WITH NATIVE BACKFILL MATERIAL.
2. POSTS SHALL BE 2" x 2" FIR, PINE, OR STEEL FENCE POSTS.
3. POSTS AND STICHED LOOPS SHALL BE INSTALLED ON THE UPHILL SIDE OF THE SLOPE AS SHOWN.
4. AREAS OF FILTER FABRIC TRENCH SHALL BE COMPACTED.



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SEDIMENT FENCE

NO SCALE

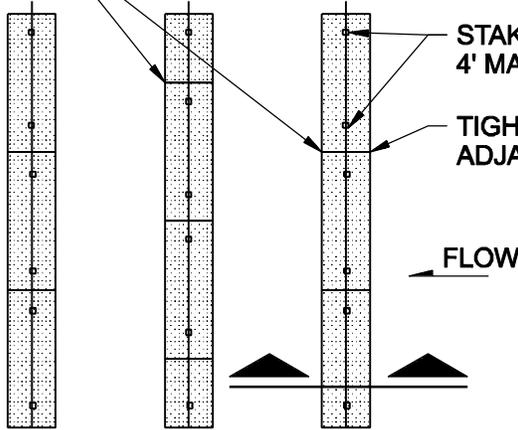
DIVISION

STORM

DRAWING NO.

656

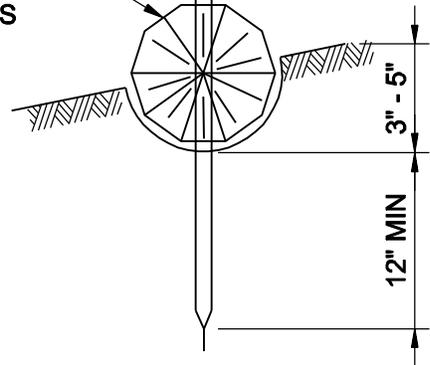
STAGGER JOINTS



PLAN

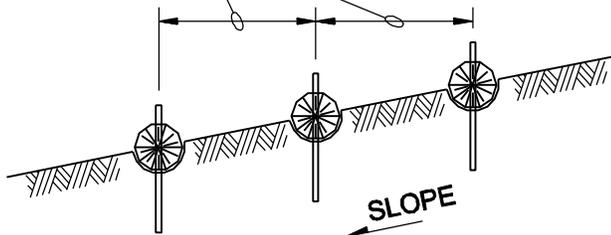
STAKE

8" MIN DIA. STRAW WATTLES



SECTION

BARRIER SPACING, SEE TABLE



ELEVATION

BARRIER SPACING FOR GENERAL APPLICATION

| INSTALL PARALLEL ALONG CONTOURS AS FOLLOWS | | |
|--|-----------------|----------------------|
| % SLOPE | SLOPE (V:H) | MAX SPACING ON SLOPE |
| 10% FLATTER | 1:10 OR FLATTER | 300' |
| 10% TO 15% | 1:10 TO 1:7.5 | 150' |
| 15% TO 20% | 1:7.5 TO 1:5 | 100' |
| 20% TO 30% | 1:5 TO 1:3 | 50' |
| 30% OR MORE | 1:3 OR STEEPER | 25' |

NOTES:

1. STAKING SHALL BE WITH 1" x 2" WOODEN STAKES OR APPROVED EQUAL.
2. ADDITIONAL STAKES MAY BE INSTALLED ON DOWNHILL SIDE OF WATTLES, ON STEEP SLOPES OR HIGHLY EROSIIVE SOILS.



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STRAW WATTLES

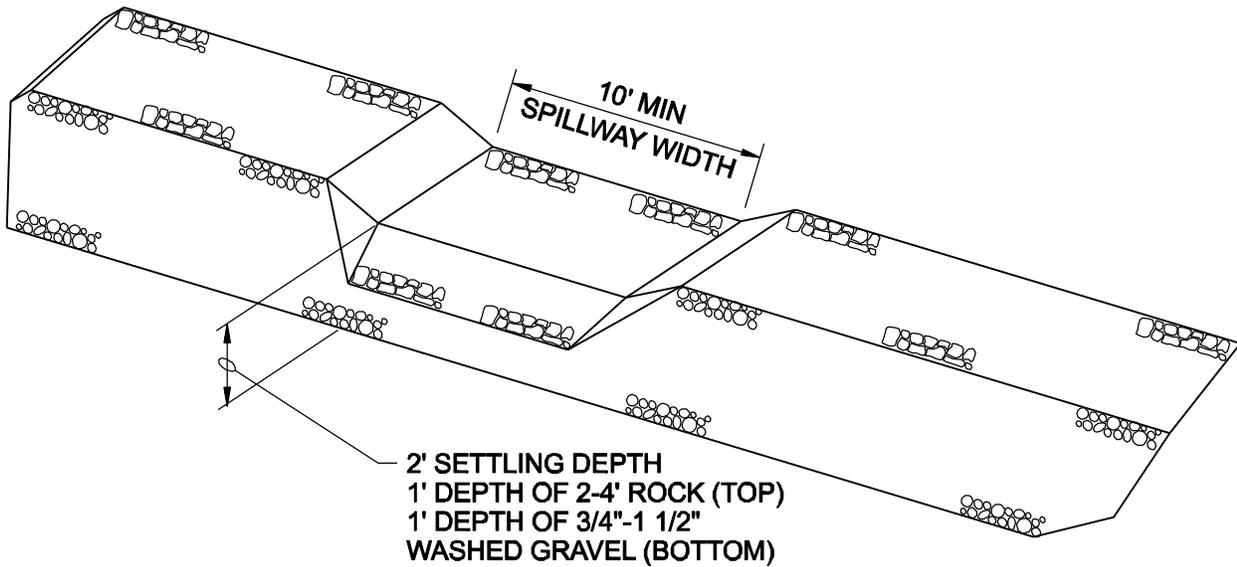
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DIVISION

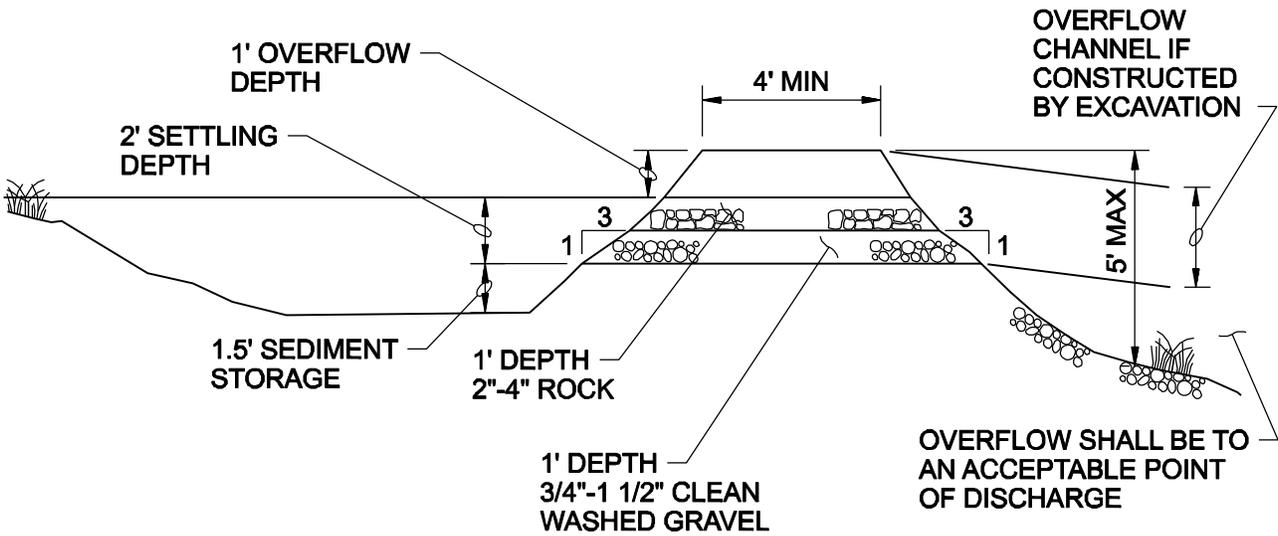
STORM

DRAWING NO.

658



OVERFLOW



SECTION

NOTE:

1. A SEDIMENT FENCE OR SIMILAR FILTER MUST BE CONSTRUCTED TO FILTER RUNOFF FROM THE SEDIMENT TRAP PRIOR TO DISCHARGE FROM THE CONSTRUCTION SITE.



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SEDIMENT TRAP

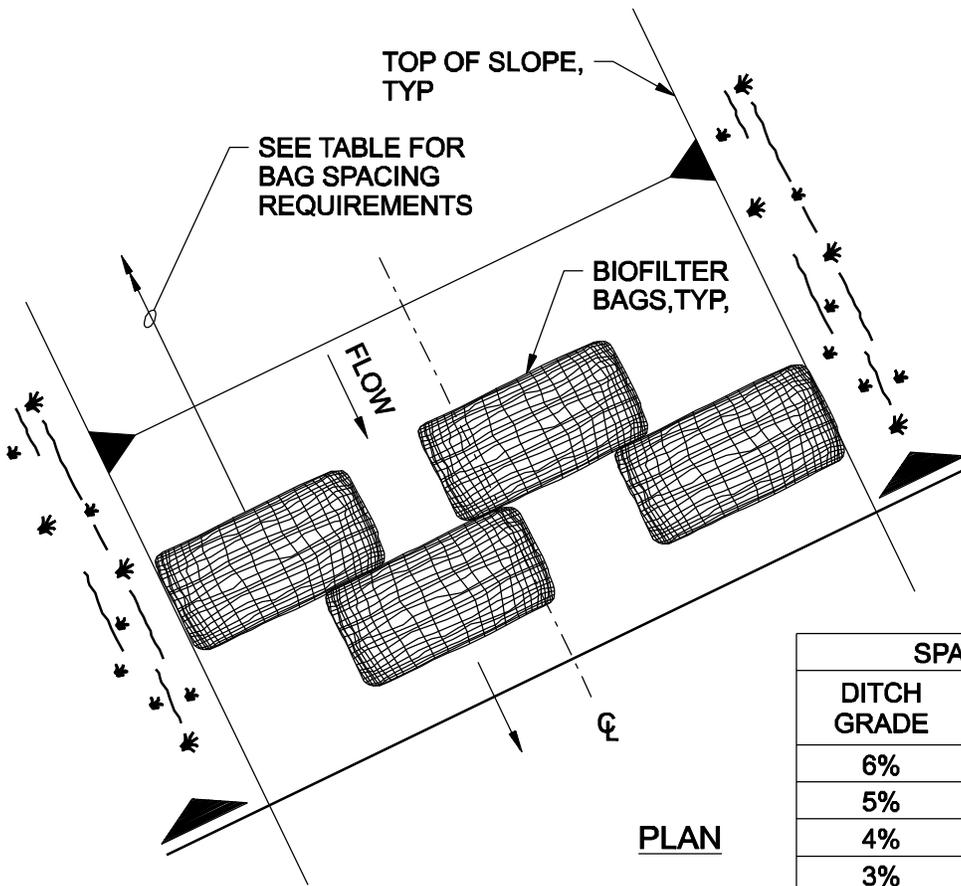
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STORM

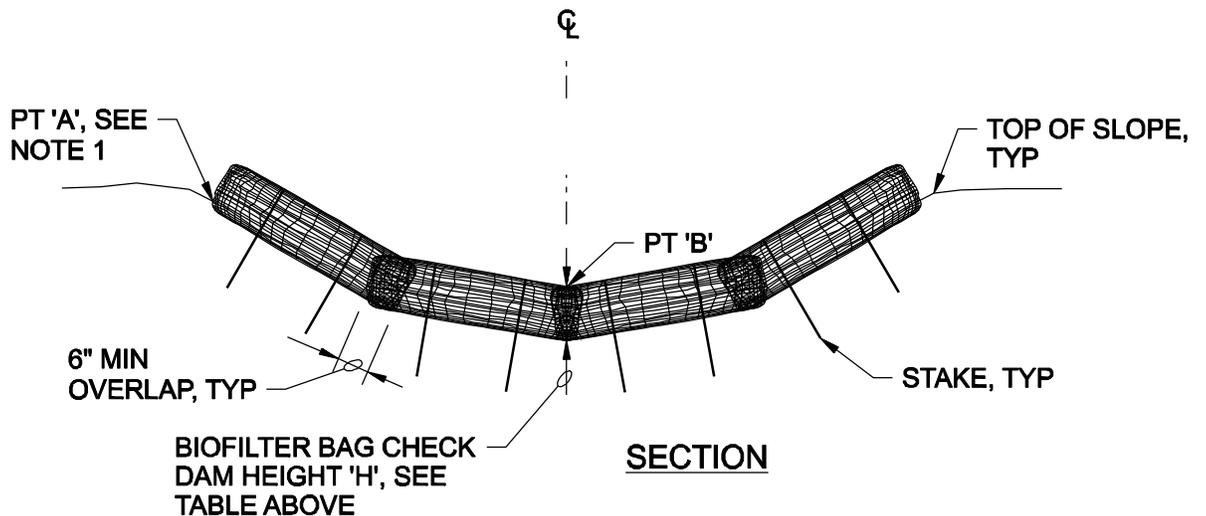
DRAWING NO.

660



| SPACING FOR CHECK DAMS | | |
|------------------------|--------------|---------------|
| DITCH GRADE | 'H' = 6-INCH | 'H' = 12-INCH |
| 6% | NOT ALLOWED | 16' |
| 5% | NOT ALLOWED | 20' |
| 4% | NOT ALLOWED | 26' |
| 3% | 15' | 33' |
| 2% | 25' | 50' |

PLAN



SECTION

NOTES:

1. POINT 'A' MUST BE 6" MINIMUM HIGHER THAN PT 'B'.
2. STAKING OF BIOFILTER BAGS IS REQUIRED USING 2 EACH 1" x 2" LONG WOOD STAKES OR APPROVED EQUAL PER BIOFILTER BAG.
3. DRIVE STAKES MINIMUM 12" INTO GROUND AND FLUSH WITH TOP OF BIOFILTER BAG.
4. EMBED BIOFILTER BAGS MINIMUM OF 4" INTO GROUND SURFACE.



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**BIOFILTER BAG
CHECK DAMS**

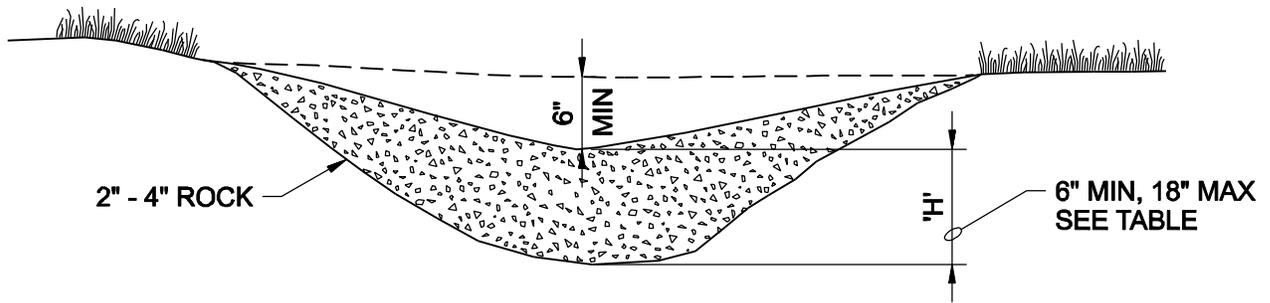
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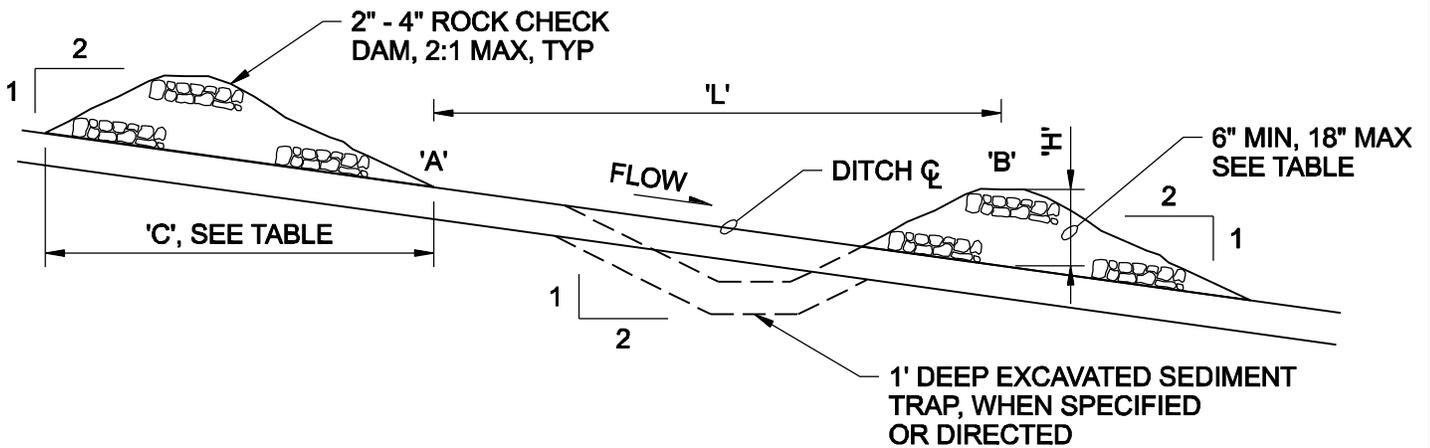
DRAWING NO.

662



ROCK CHECK DAM

| 'L' = SPACING FOR CHECK DAMS ALONG DITCH | | | |
|--|------------------------------|-------------------------------|-------------------------------|
| DITCH GRADE | 'H' = 6-INCH 'C' = 3' MIN | 'H' = 12-INCH 'C' = 4' MIN | 'H' = 18-INCH 'C' = 4' MIN |
| 6% | NOT ALLOWED | 16' | 26' |
| 5% | NOT ALLOWED | 20' | 30' |
| 4% | NOT ALLOWED | 26' | 40' |
| 3% | 15' | 33' | 50' |
| 2% | 25' | 50' | 80' |



SPACING BETWEEN ROCK CHECK DAMS

NOTES:

1. 'L' IS THE SPACING ALONG SWALE OR DITCH SUCH THAT POINTS 'A' AND 'B' ARE OF EQUAL ELEVATION. SEE TABLE FOR CHECK DAM SPACING AND HEIGHT REQUIREMENTS BASED ON SWALE OR DITCH GRADE.
2. ANY SEDIMENT DEPOSITION OF MORE THAN 6-INCHES HIGH SHALL BE REMOVED SO THAT THE SWALE OR DITCH IS RESTORED TO ITS ORIGINAL DESIGN CAPACITY.
3. THE SWALE OR DITCH SHALL BE EXAMINED FOR SIGNS OF SCOURING AND EROSION OF THE BED AND BANKS. IF SCOURING OR EROSION HAS OCCURRED, AFFECTED AREAS SHALL BE PROTECTED BY RIPRAP OR ANY EROSION CONTROL BLANKET OR NET.



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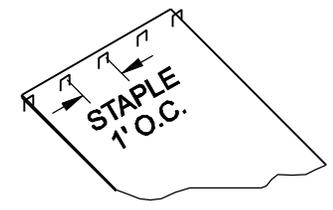
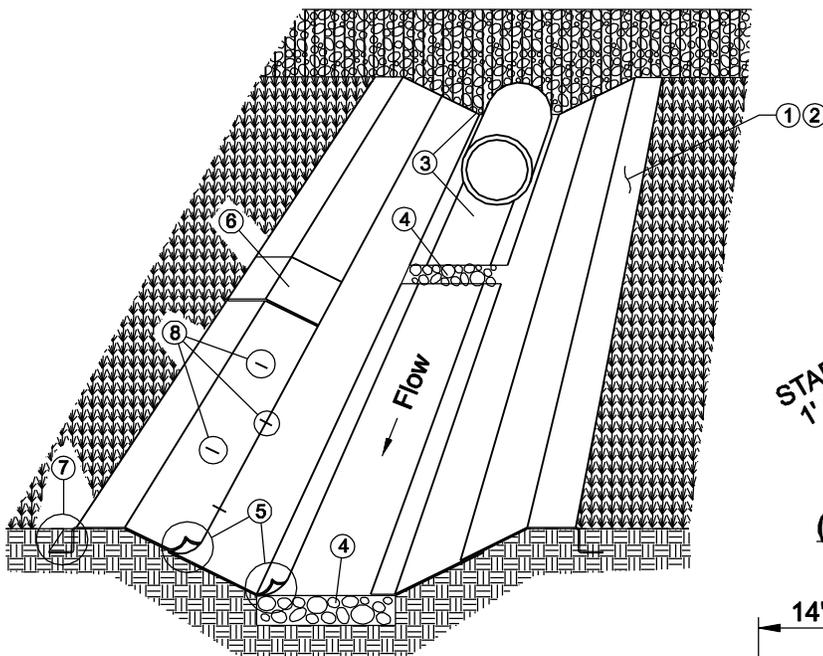
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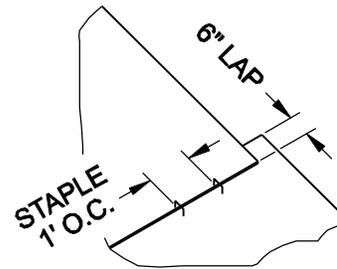
**ROCK CHECK
DAMS**

NO SCALE
DIVISION
STORM
DRAWING NO.

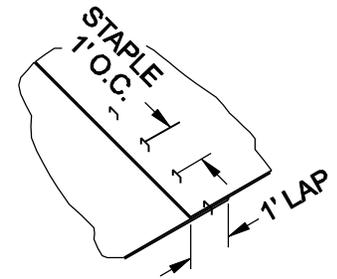
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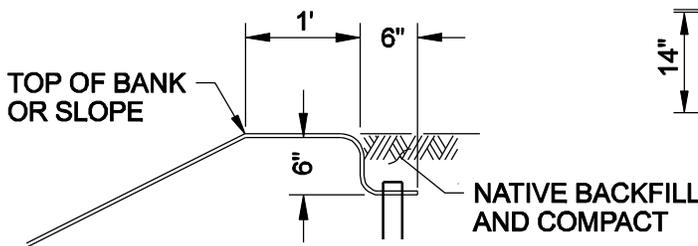
**FIGURE B1
(BEGINNING EDGE)**



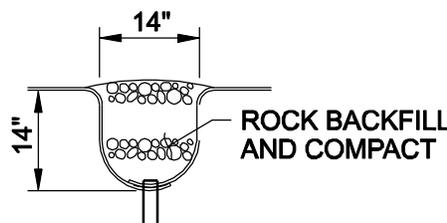
**FIGURE B2
(EDGE LAPS)**



**FIGURE B3
(END LAPS)**



**FIGURE A1
(EDGE ANCHOR)**



**FIGURE A2
(CHECK SLOT)**

NOTES:

1. INFORMATION SHOWN IS MINIMUM CRITERIA FOR MATTING INSTALLATION. ALL MANUFACTURER'S RECOMMENDATIONS WHICH ARE MORE STRINGENT MUST BE APPLIED. STAPLES IN COHESIVE SOILS SHALL HAVE A 6" STAPLE LENGTH AND IN NON-COHESIVE SOILS SHALL HAVE A 12" STAPLE LENGTH.
2. AREA SHALL BE PREPARED BY REMOVING ALL MATERIALS (VEGETATION, ROCKS, WOOD, ETC.) LARGER THAN 2" IN SIZE. APPLY FERTILIZER AND SEED PRIOR TO MATTING INSTALLATION. PLACE MATTING LOOSELY AND IN FULL CONTACT WITH THE SOIL.
3. INSTALL MAT IN CENTER OF CHANNEL IN THE DIRECTION OF WATER FLOW. ANCHOR UPSTREAM END OF MAT WITH CHECK SLOT (FIG. B1 & A2). BACKFILL CHECK SLOT WITH ROCK. FOR CULVERT OUTFALLS, PLACE MAT UNDER PIPE 1' MINIMUM UPSTREAM FROM PIPE OUTLET.
4. CONSTRUCT CHECK SLOTS ACROSS CHANNEL BOTTOM AT 50' SPACINGS AND AT THE END OF EACH MAT (FIG. A2). STAPLE MAT AT BOTTOM OF CHECK SLOT (FIG. A2 & B1). BACKFILL CHECK SLOT WITH ROCK.
5. OVERLAP SIDE CHANNEL MAT EDGES 6" OVER THE CENTER CHANNEL MAT AND STAPLE EDGES 1' O.C. (FIG. B2). CONTINUE OVERLAP AND STAPLING PATTERN FOR EACH ADDITIONAL SIDE MAT.
6. LAP UPSTREAM MAT END 1' OVER BEGINNING EDGE OF DOWNSTREAM MAT. STAPLE 1' O.C. (FIG. B3).
7. ANCHOR TOP EDGE OF SIDE CHANNEL MATS IN TRENCH AND STAPLE 1' O.C. (FIG. A1 & B1)
8. STAPLE MAT INTERIOR AT 2' O.C. STAGGERED SPACING.



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**CHANNEL MATTING
INSTALLATION**

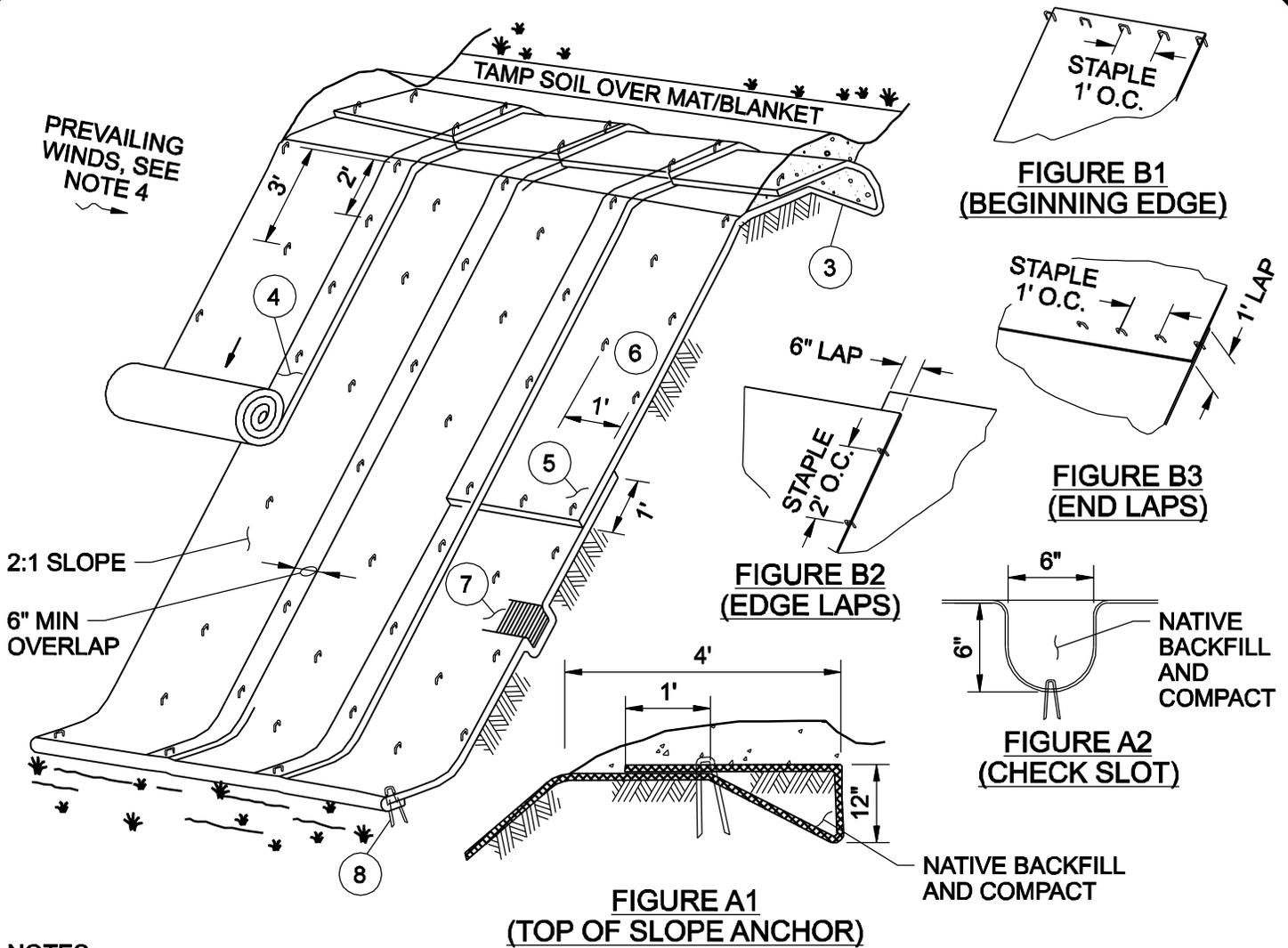
NO SCALE

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STORM

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666



**FIGURE A1
(TOP OF SLOPE ANCHOR)**

**FIGURE B1
(BEGINNING EDGE)**

**FIGURE B3
(END LAPS)**

**FIGURE B2
(EDGE LAPS)**

**FIGURE A2
(CHECK SLOT)**

NOTES:

1. INFORMATION SHOWN IS MINIMUM CRITERIA FOR MATTING INSTALLATION. ALL MANUFACTURER'S RECOMMENDATIONS WHICH ARE MORE STRINGENT MUST BE APPLIED. STAPLES IN COHESIVE SOILS SHALL HAVE A 6" STAPLE LENGTH AND IN NON-COHESIVE SOILS SHALL HAVE A 12" STAPLE LENGTH.
2. AREA SHALL BE PREPARED BY REMOVING ALL MATERIALS (VEGETATION, ROCKS, WOOD, ETC.) LARGER THAN 2" IN SIZE. APPLY FERTILIZER AND SEED PRIOR TO MATTING INSTALLATION. PLACE MATTING LOOSELY AND IN FULL CONTACT WITH THE SOIL. DO NOT STRETCH. MATS/BLANKETS SHOULD BE INSTALLED VERTICALLY DOWNSLOPE.
3. ANCHOR MATTING AT TOP OF SLOPE (FIG. A1) STAPLE IN TRENCH AND AT OVERLAP 1' O.C. (FIG. B1)
4. OVERLAP MAT EDGES 6" AND STAPLE EDGES 2" O.C. (FIG. B2). INSTALL MATTING SO EDGE OVERLAPS ARE SHINGLED AWAY FROM PREVAILING WINDS.
5. OVERLAP MAT ENDS 1', UPPER MAT OVER LOWER MAT, AND STAPLE (FIG. B3).
6. STAGGER ALTERNATE ROWS OF STAPLES ACROSS MAT PLACED AT 1' O.C. STAPLE DOWN THE MIDDLE OF THE MAT AT MAX 3' O.C.
7. CONSTRUCT CHECK SLOT WHEN SPECIFIED OR AS RECOMMENDED BY THE MANUFACTURER (FIG A3). STAPLE MAT IN BOTTOM OF CHECK SLOT (FIG. A3 & B1)
8. EXTEND MAT 2' BEYOND TOE OF SLOPE; FOLD MAT BACK UNDER 4" AND STAPLE (FIG. B1)



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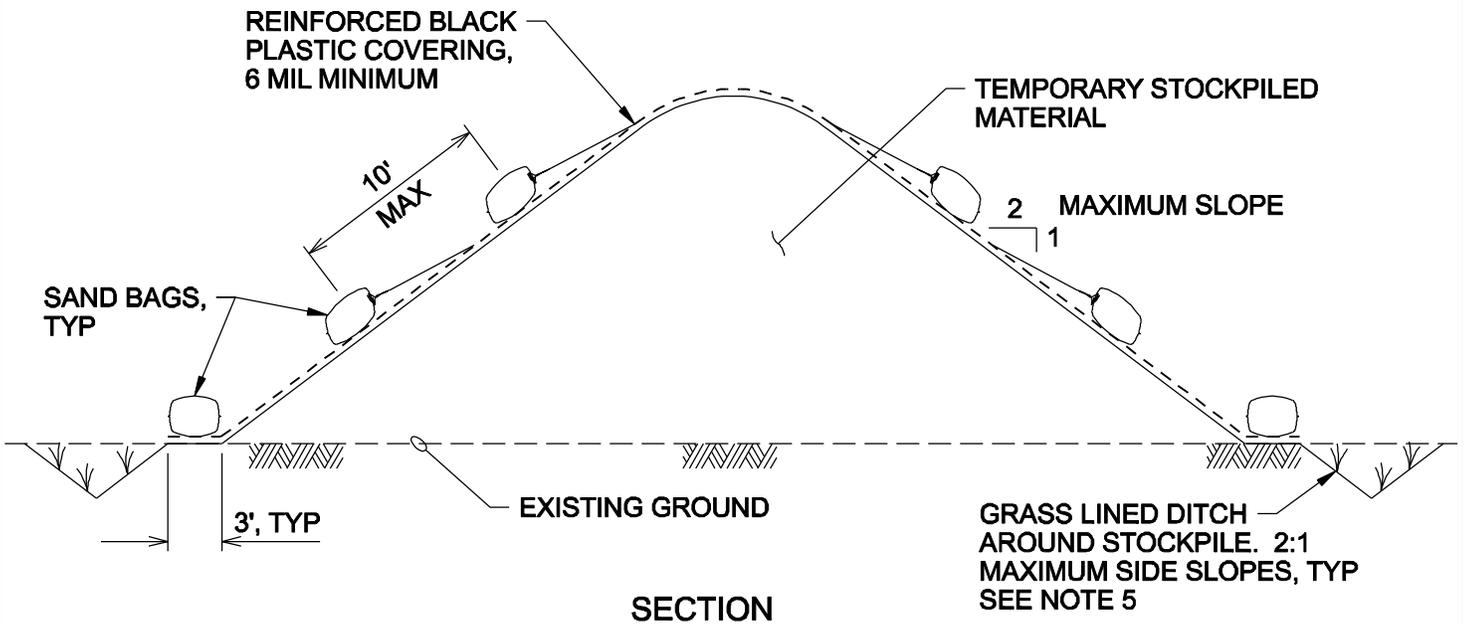
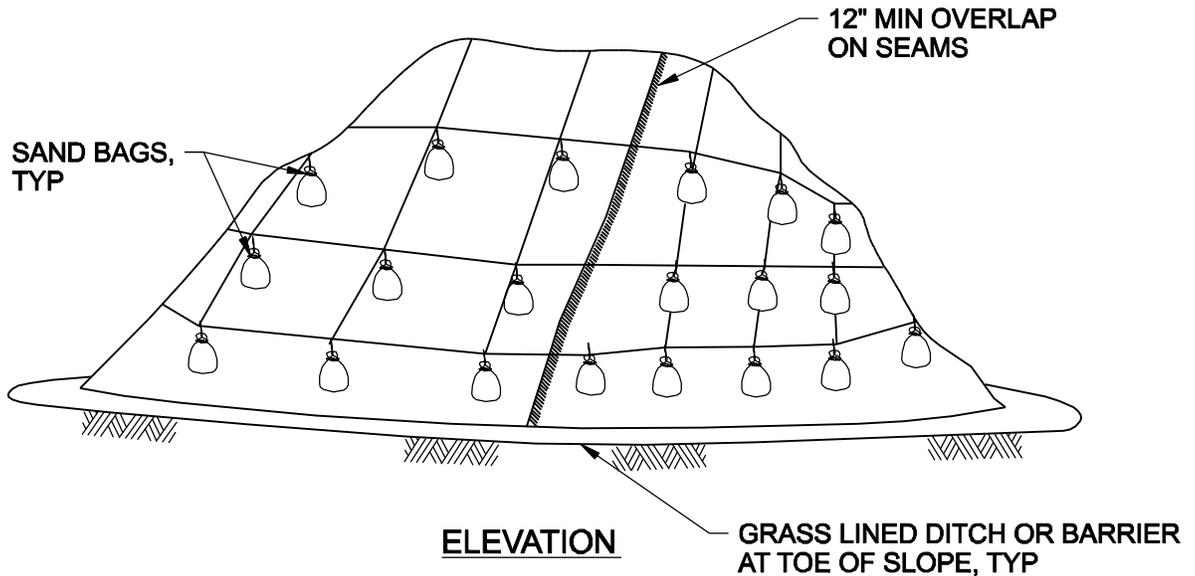
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STANDARD DRAWING TITLE

**SLOPE MATTING
INSTALLATION**

NO SCALE
DIVISION
STORM
DRAWING NO.

668



NOTES:

1. ALL SEAMS SHALL BE TAPED OR WEIGHTED DOWN FULL LENGTH. ALL SEAMS SHALL HAVE A MINIMUM 12" OVERLAP.
2. SEAMS PARALLEL TO THE SLOPE CONTOUR SHALL HAVE THE UPHILL SHEET OVERLAP THE DOWNHILL SHEET.
3. NO SURFACE RUN-OFF SHALL BE ALLOWED TO RUN UNDER THE PLASTIC COVERING.
4. DRAINAGE FROM AREAS COVERED BY REINFORCED PLASTIC SHEETING SHALL BE CONTROLLED SUCH THAT NO DISCHARGE OCCURS DIRECTLY ONTO UNCONTROLLED DISTURBED AREAS OF THE CONSTRUCTION SITE.
5. PROVIDE GRASS LINED DITCH OR BARRIER AT TOE OF SLOPE AS REQUIRED BY CITY ENGINEER.
6. COVERING SHALL BE MAINTAINED TIGHTLY IN PLACE BY USING SANDBAGS OR TIRES ON ROPES WITH A MAXIMUM 10' GRID SPACING IN ALL DIRECTIONS.



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STANDARD DRAWING TITLE

**TEMPORARY
PLASTIC SHEETING
STOCKPILE COVERING**

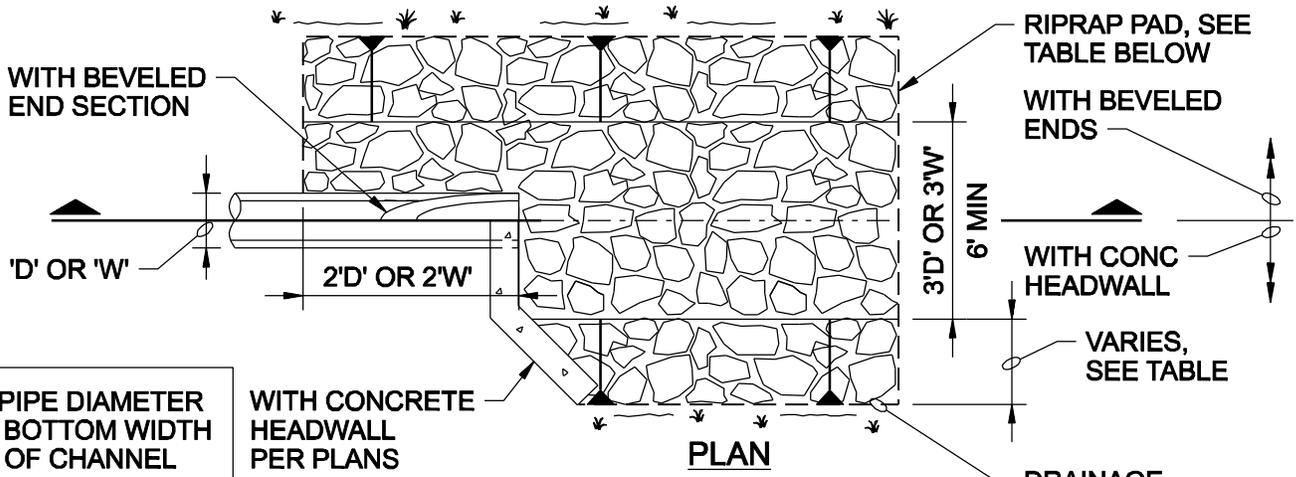
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DIVISION

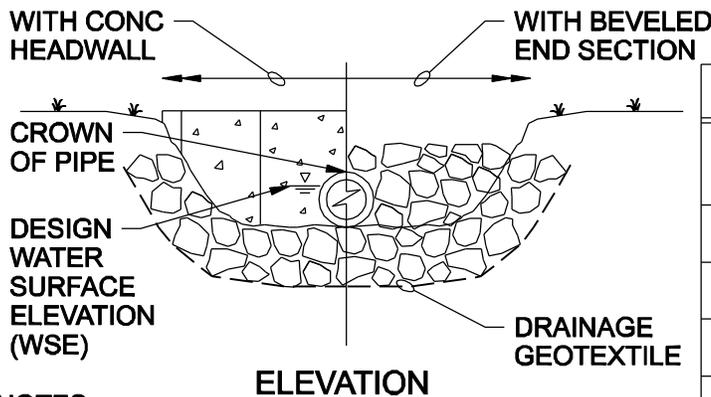
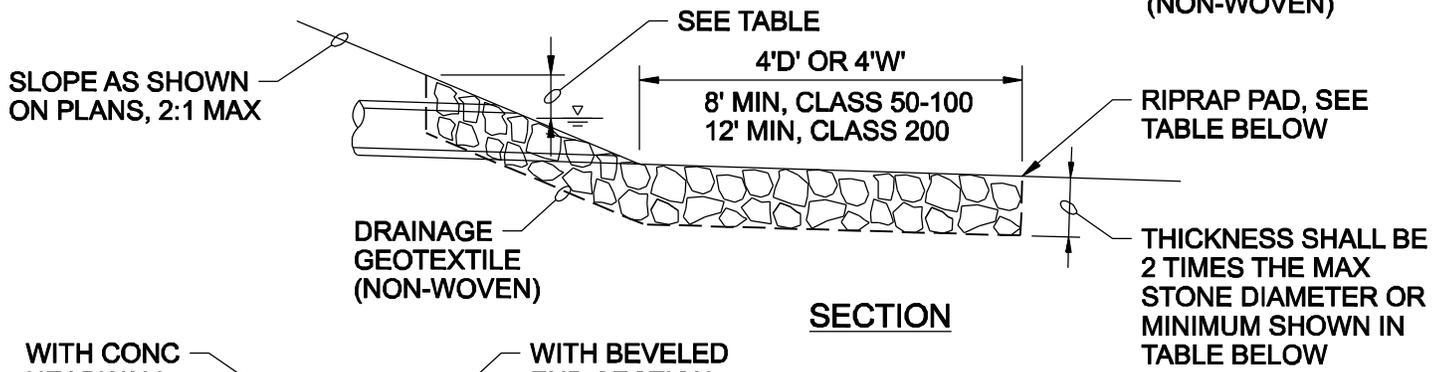
STORM

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670



'D' = PIPE DIAMETER
'W' = BOTTOM WIDTH OF CHANNEL



| MINIMUM OUTLET PROTECTION | | | |
|------------------------------|--------------------|--------------------------|------------------------------------|
| VELOCITY @ DESIGN FLOW (FPS) | OUTLET PROTECTION | MINIMUM RIPRAP THICKNESS | MIN HEIGHT ABOVE WSE OR PIPE CROWN |
| 0 - 5 | ODOT CLASS 50 | 2 x MAX DIA. 1.5' MIN | 1' ABOVE WSE OR CROWN +1' |
| 5 - 8 | ODOT CLASS 100 | 2 x MAX DIA. 2' MIN | 1.5' ABOVE WSE OR CROWN +1' |
| 8 - 12 | ODOT CLASS 200 | 2 x MAX DIA. 2.5' MIN | 2' ABOVE WSE OR CROWN +1' |
| > 12 | BY DESIGN ENGINEER | | |

NOTES:

1. THE RIPRAP PAD DIMENSIONS SHOWN ABOVE APPLY TO FLOWS THAT ARE LESS THAN OR EQUAL TO 2 CFS. RIPRAP FOR FLOWS THAT ARE GREATER THAN 2 CFS MUST BE DESIGNED BY THE DESIGN ENGINEER. IN ADDITION, VELOCITIES GREATER THAN 12 FEET PER SECOND SHALL BE DESIGNED BY THE DESIGN ENGINEER. VELOCITIES EXCEEDING 20 FPS SHALL USE AN ENERGY DISSIPATOR.
2. TYPE OF RIPRAP SHALL BE ODOT CLASS 50-200 (ENGLISH) PER THE STANDARD CONSTRUCTION SPECIFICATIONS. CONCRETE SHALL BE USED WHEN REQUIRED BY THE CITY ENGINEER.
3. RIPRAP SHALL BE PLACED A MINIMUM DEPTH OF 2 TIMES THE MAXIMUM STONE DIAMETER REGARDLESS OF MINIMUM RIPRAP THICKNESS SHOWN. RIPRAP SHALL BE PLACED TO MINIMUM HEIGHT ABOVE THE DESIGN WATER SURFACE ELEVATION OR PIPE CROWN AS SHOWN IN THE TABLE ABOVE. RIPRAP SHALL BE PLACED WITH MINIMUM VOIDS. SURFACE ROCKS SHALL PROTRUDE AT LEAST 1/2 THE ROCK VERTICAL DIMENSION. RIPRAP IS TO BE PLACED OVER A NATURAL BEDDING OR SHALL BE GROUTED OR PLACED OVER A GRAVEL BEDDING AS REQUIRED BY THE CITY ENGINEER.
4. REGULATORY APPROVAL MAY BE REQUIRED IF OUTLET IS CONSTRUCTED IN FISH BEARING STREAMS.

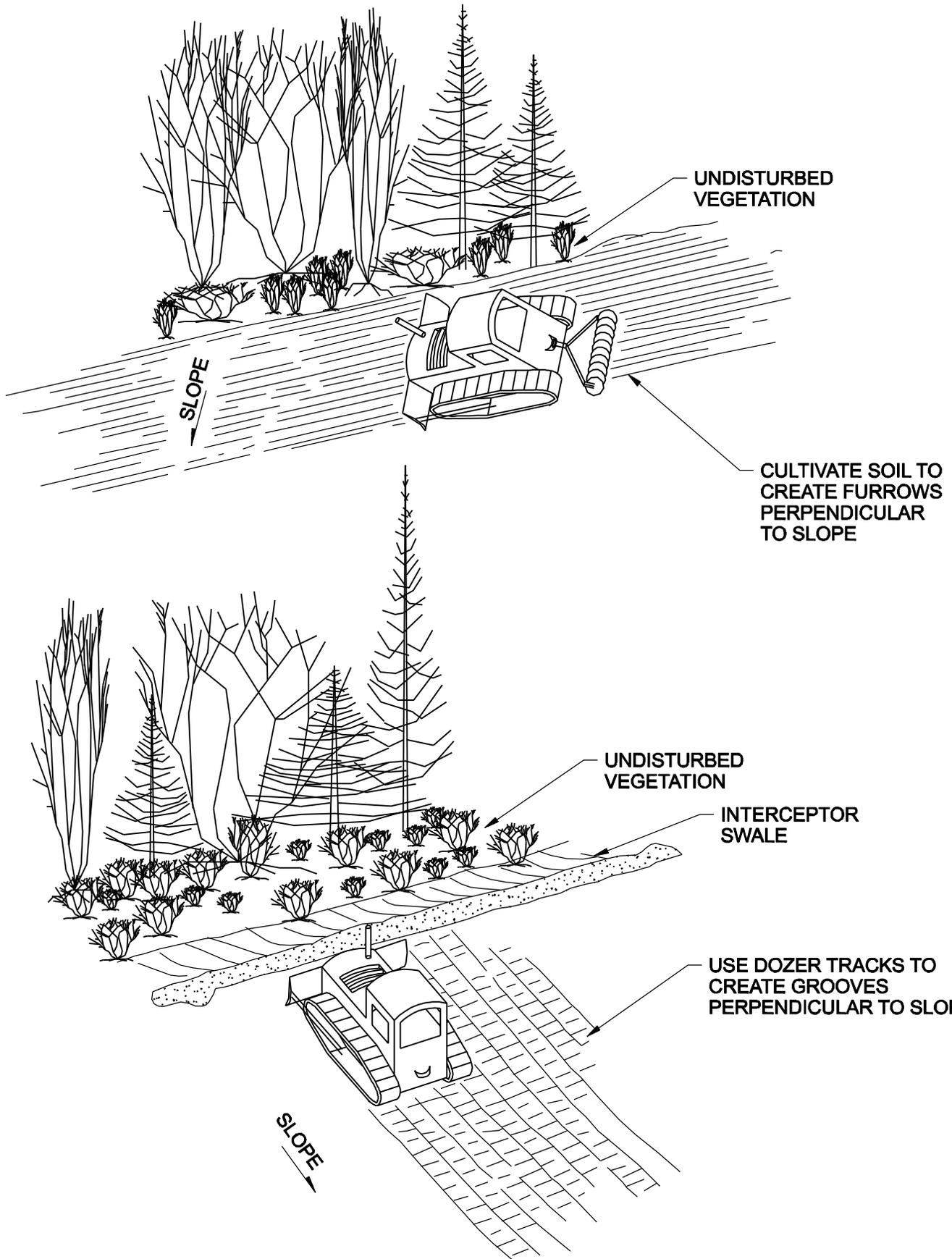


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STANDARD DRAWING TITLE
RIPRAP OUTLET PROTECTION

| |
|-------------|
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STANDARD DRAWING TITLE

**SURFACE ROUGHENING
 CAT TRACKING**

NO SCALE

DIVISION

STORM

DRAWING NO.

674