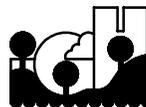


- NOTES:
1. ALL MANHOLES MUST BE A MINIMUM OF 4' IN DEPTH.
 2. MANHOLE STEPS SHALL BE PLACED SO THAT OFFSET VERTICAL PORTION OF CONE IS FACING DOWNSTREAM.
 3. PROVIDE POURED CONCRETE INVERTS AND DOGHOUSES.
 4. GROUT ALL LIFT HOLES.
 5. MARKING POSTS SHALL BE INSTALLED AT ALL MANHOLES LOCATED OUTSIDE OF STREET SECTION. SEE PLATE NO. MISC-01.
 6. MINIMUM 48" DIAMETER WHEN PIPE IS 36" OR SMALLER.
MINIMUM 72" DIAMETER WHEN PIPE IS LARGER THAN 36"



STORM STANDARD MANHOLE

CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

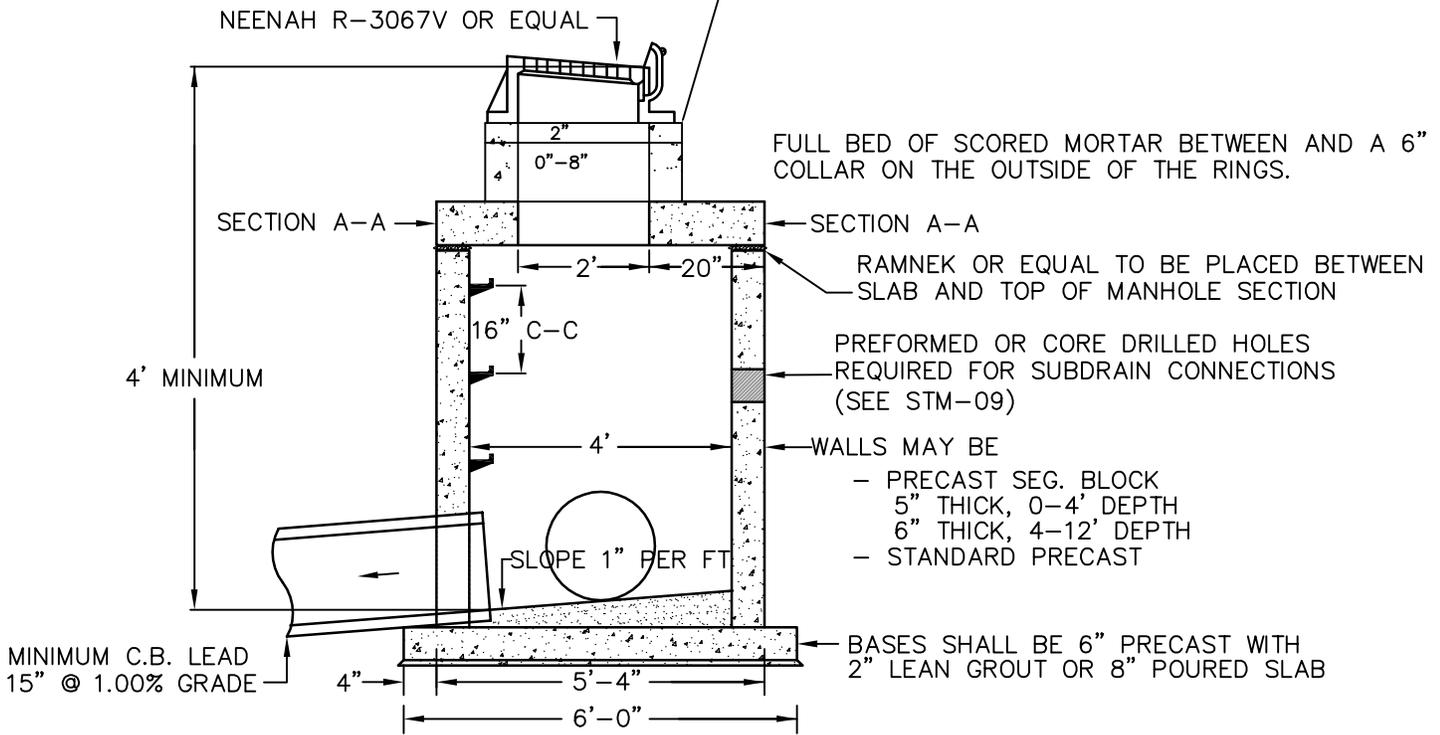
8/13

PLATE NO.
STM-01

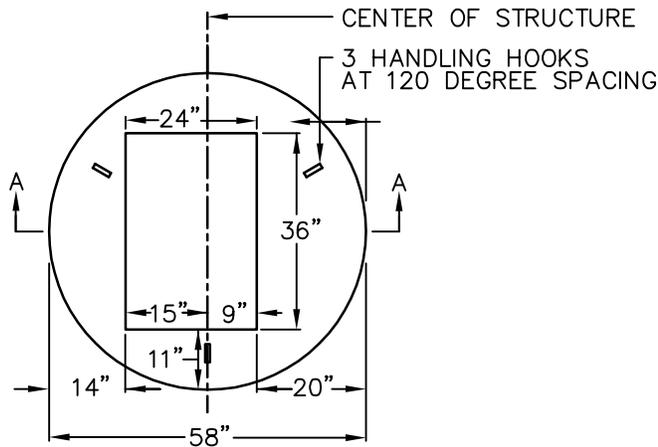
DIMENSION FROM BACK OF CURB TO CENTER OF PIPE.

- 4'DIA. M.H.—9" IN FROM BACK OF CURB
- 6'DIA. M.H.—3" BEHIND BACK OF CURB
- 8'DIA. M.H.—15" BEHIND BACK OF CURB

ADJUSTMENT RINGS TO PROVIDE A MINIMUM OF 4" AND A MAXIMUM OF 12" OF TOTAL ADJUSTMENT. USE LARGER SIZE RINGS TO REDUCE THE NUMBER OF MORTAR JOINTS. INCLUDE ONE 2" RING IMMEDIATELY UNDER THE CASTING



SECTION



PLAN

- NOTES:
1. ALL CATCH BASIN/MANHOLES MUST BE A MINIMUM OF 4' IN DEPTH.
 2. PROVIDE POURED CONCRETE INVERTS AND DOGHOUSES.
 3. GROUT ALL LIFT HOLES.
 4. DRAINTILE SHALL BE INSTALLED AT ALL CATCH BASINS. SEE PLATE NO. STM-09.
 5. STEPS SHALL BE PLACE IN EITHER FRONT CORNER DEPENDING ON PIPE CONFIGURATION.



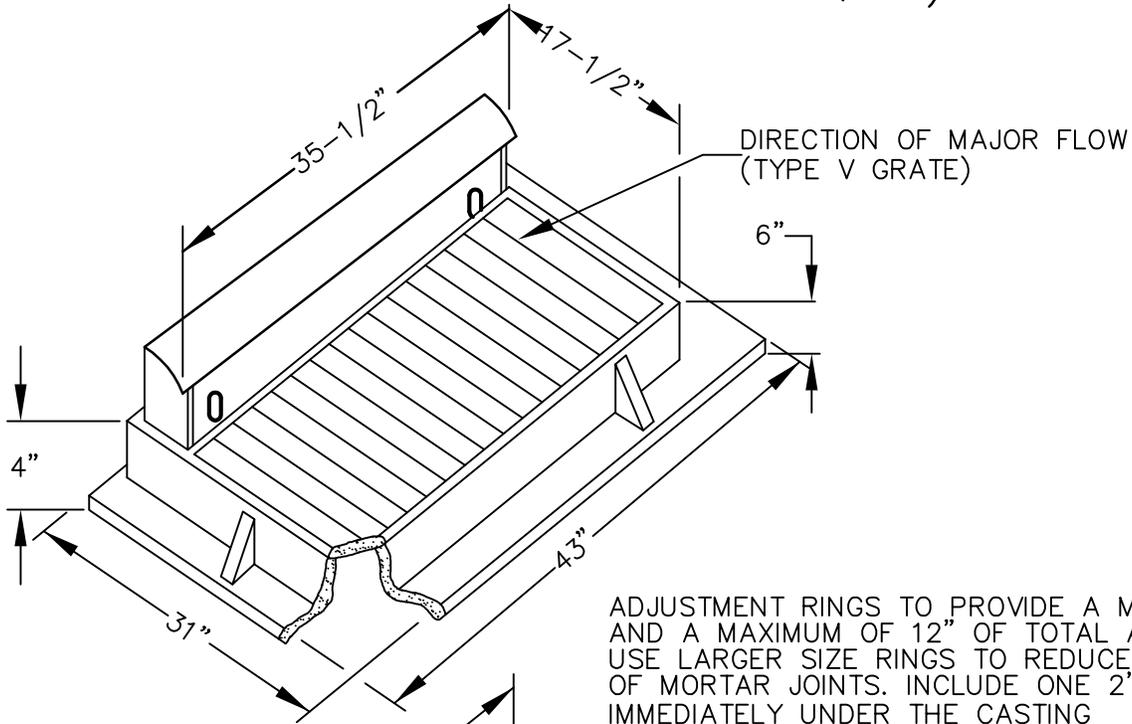
CATCH BASIN/MANHOLE WITH RECTANGULAR LID

CITY OF INVER GROVE HEIGHTS ENGINEERING DEPARTMENT

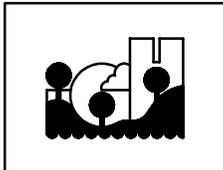
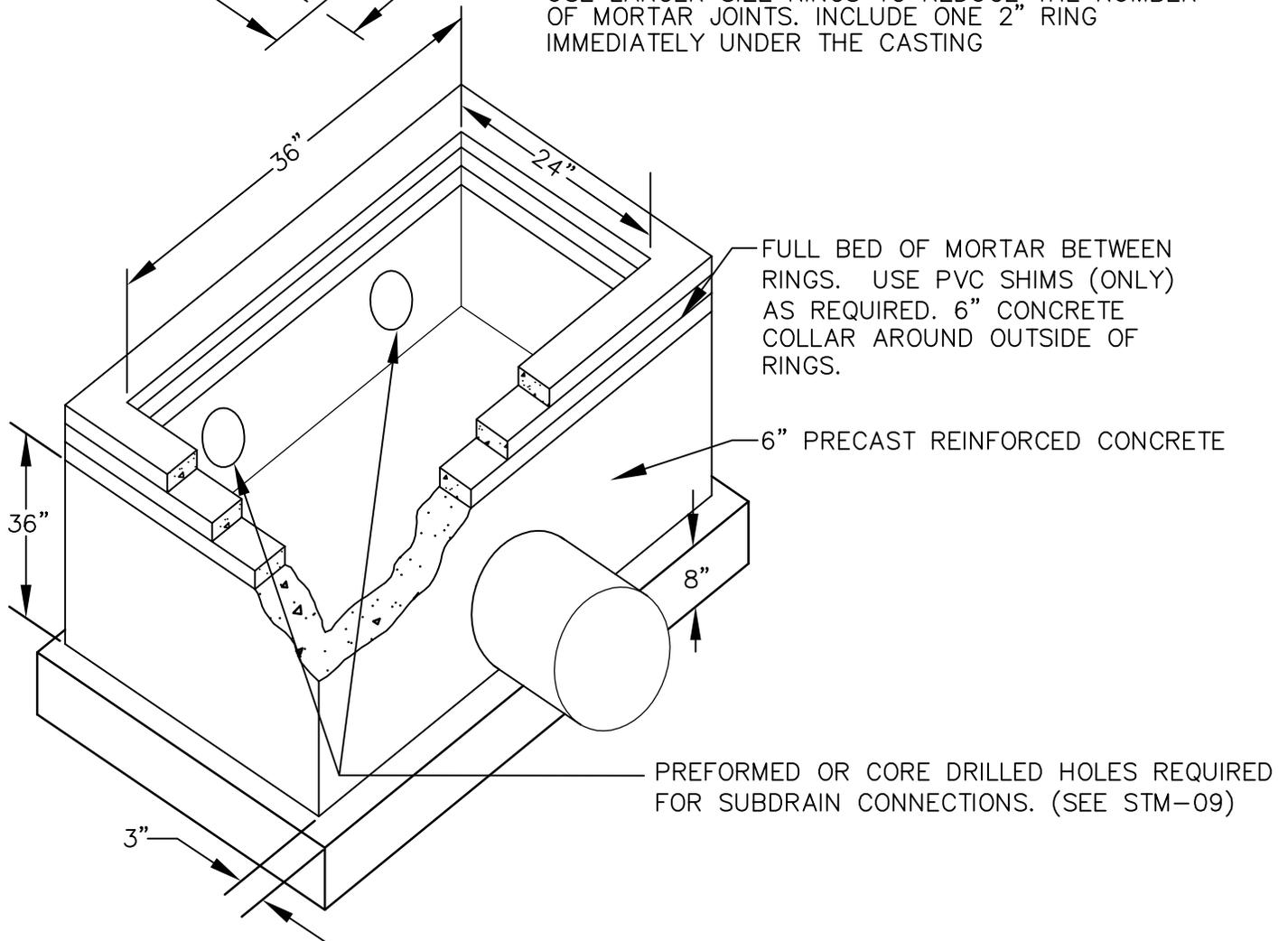
3/15

PLATE NO. STM-02

(NEENAH CASTING NO. R-3067 WITH
TYPE V GRATE OR APPROVED EQUAL)



ADJUSTMENT RINGS TO PROVIDE A MINIMUM OF 4" AND A MAXIMUM OF 12" OF TOTAL ADJUSTMENT. USE LARGER SIZE RINGS TO REDUCE THE NUMBER OF MORTAR JOINTS. INCLUDE ONE 2" RING IMMEDIATELY UNDER THE CASTING

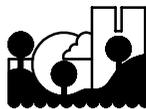
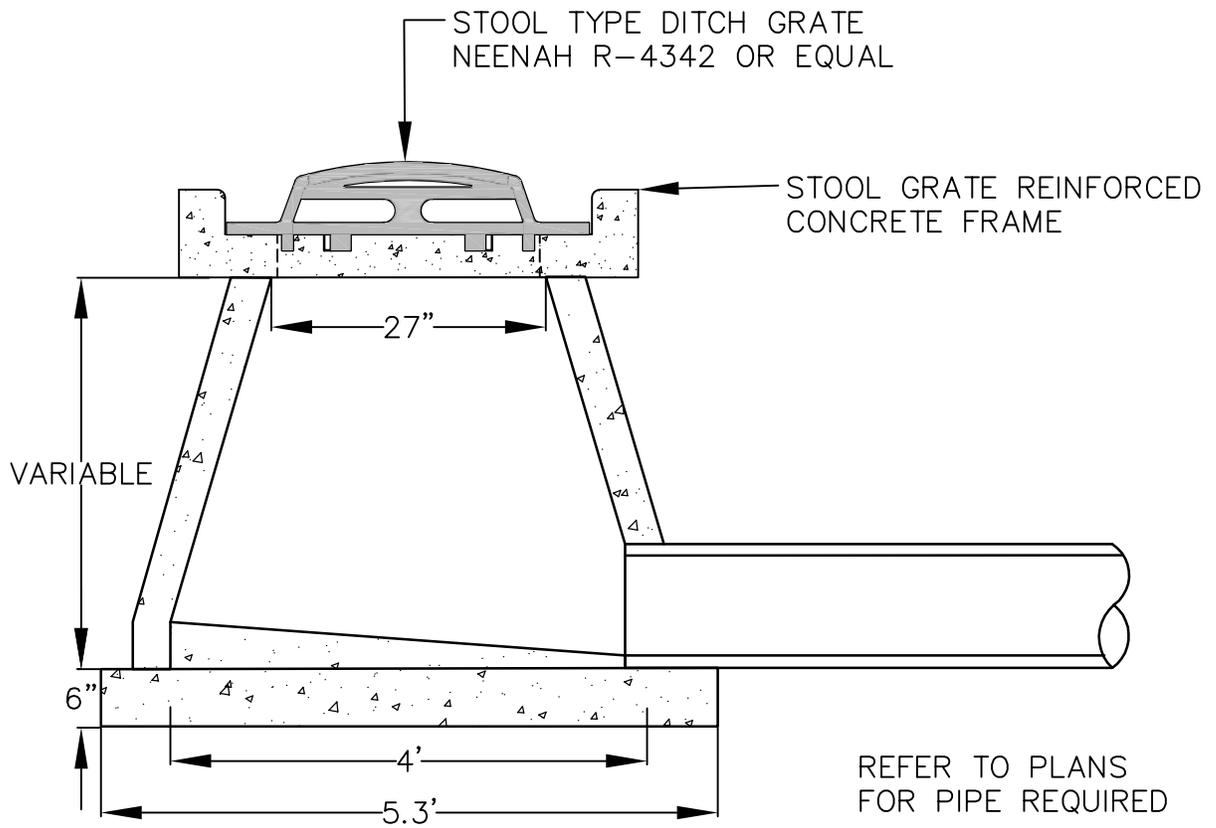


2' x 3' CATCH BASIN

CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

4/11

PLATE NO.
STM-03

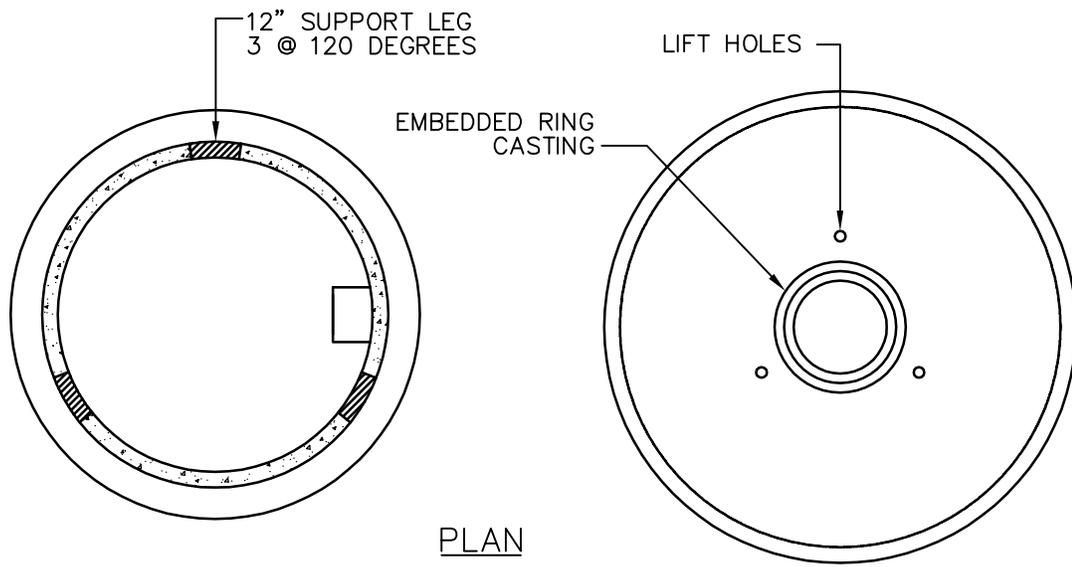
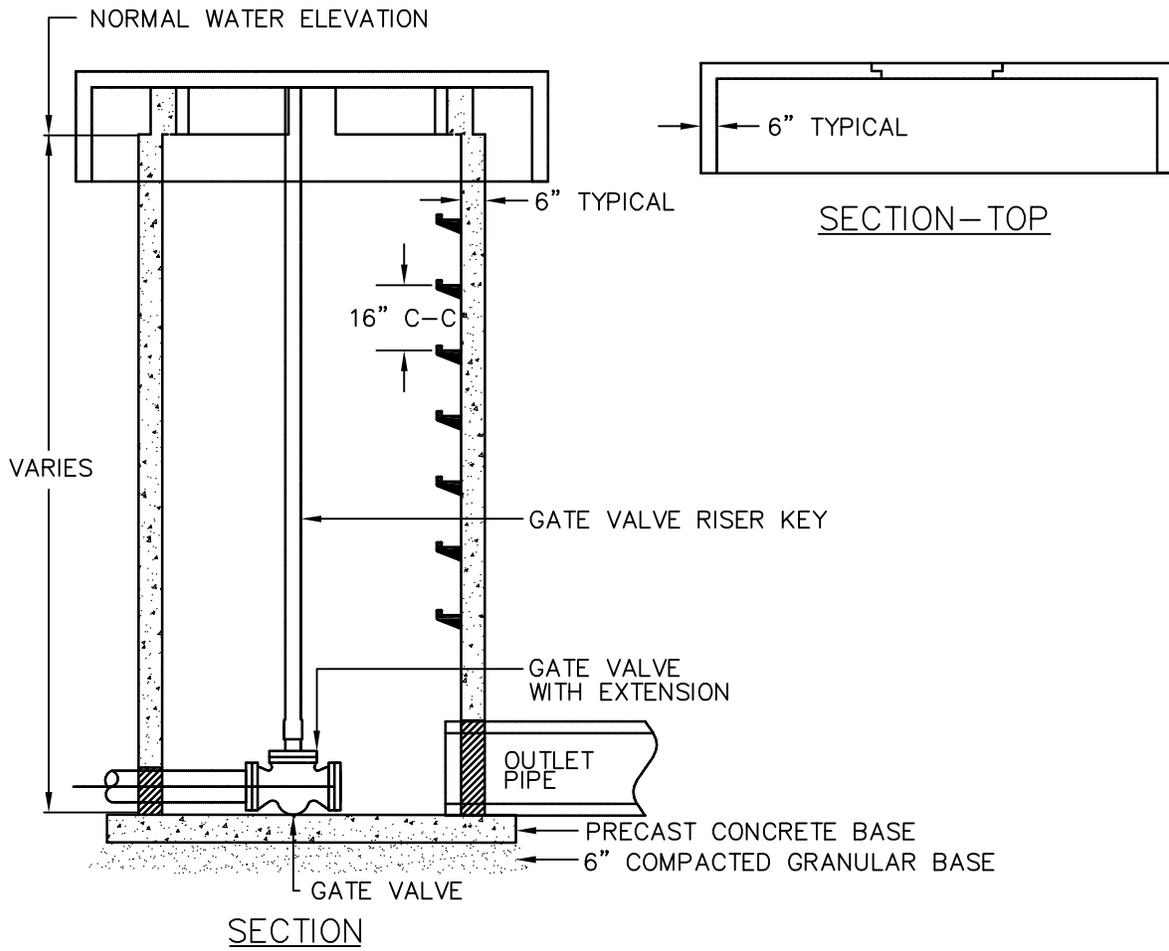


TYPE "G" CATCH BASIN

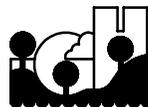
CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

4/11

PLATE NO.
STM-04



- NOTES: 1. PROVIDE POURED CONCRETE INVERTS AND DOGHOUSES.
2. GROUT ALL LIFT HOLES.

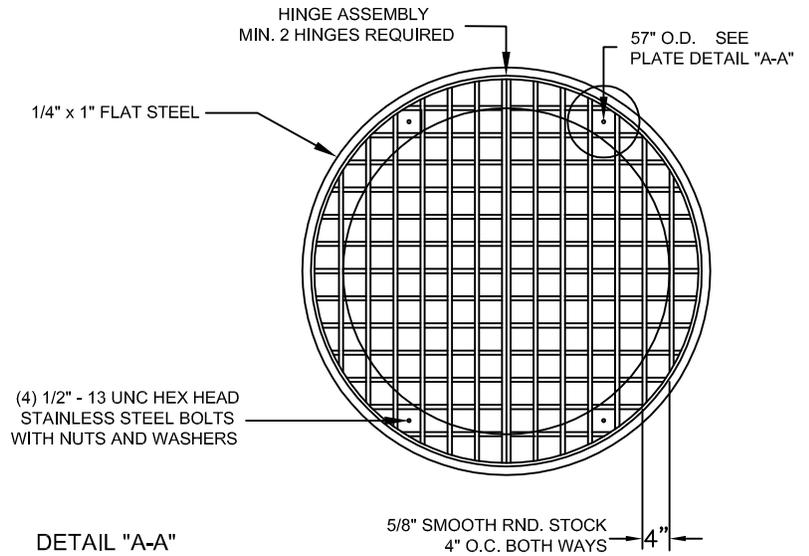
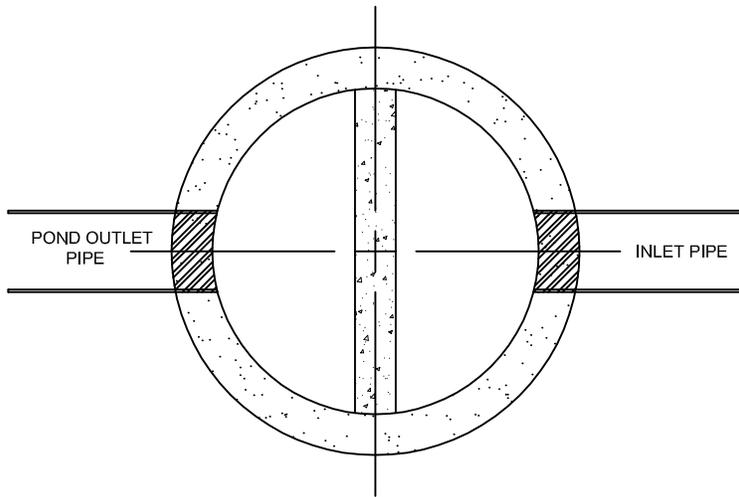


POND SKIMMER OUTLET
(CAP TYPE)

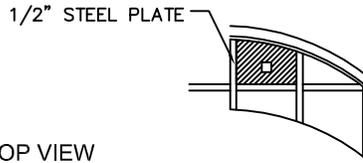
CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

4/11

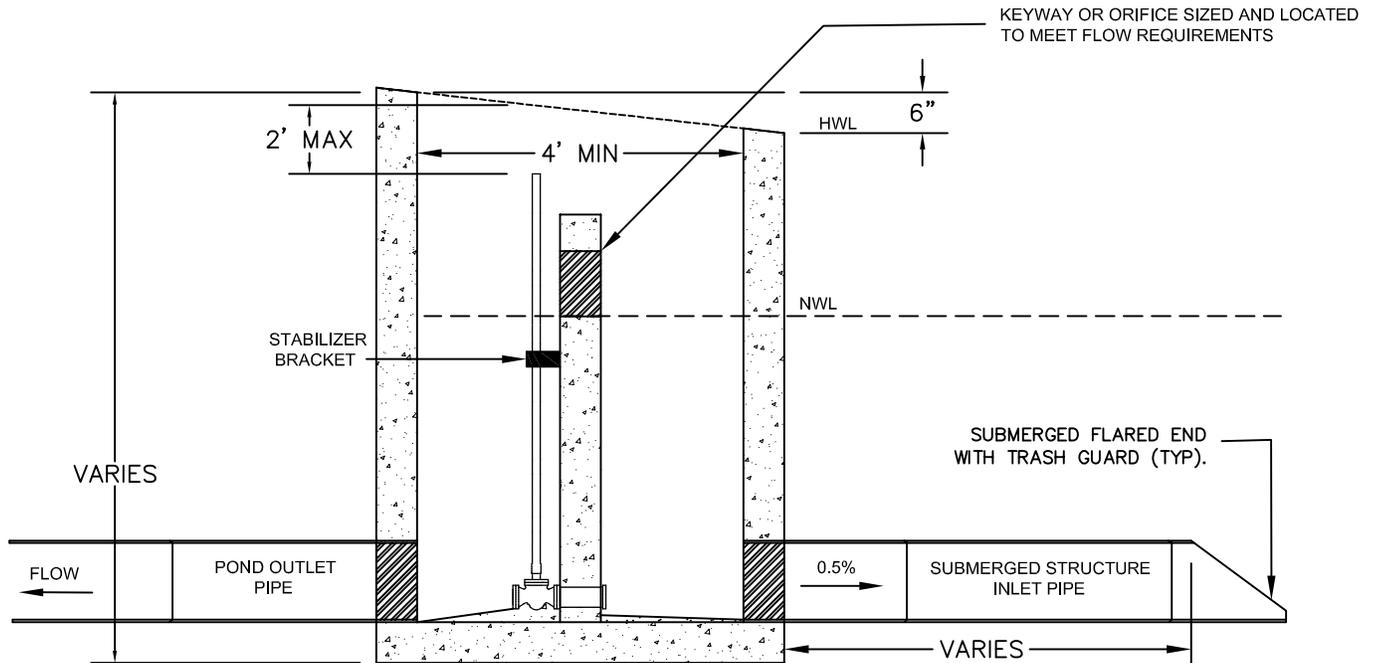
PLATE NO.
STM-05



- NOTE:**
1. GRATE TO BE MADE IN (2) PIECES.
 2. ALL METAL SHALL BE HOT-DIPPED GALVANIZED
 3. SEE PLAN ABOVE FOR ALL ELEVATIONS.



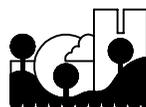
TOP VIEW



SECTION VIEW

4" DIP VALVE AND PIPE SHALL BE PROVIDED FOR POND DRAINAGE. VALVE SHALL BE PLACED ON THE DRY SIDE OF THE STRUCTURE AND THE PIPE RESTRAINED ON THE WET SIDE OF STRUCTURE. WEIR AND PIPE INTERFACE SHALL BE WATERTIGHT. VALVE SHALL HAVE AN EXTENSION ROD PLACED TO WITHIN 2 FEET OF TOP OF STRUCTURE. ROD SHALL BE STABILIZED TO WEIR WALL WITH A BRACKET.

STRUCTURE INLET PIPE SHALL BE SIZED TO LIMIT VELOCITIES TO 0.5 FT/S FOR THE TREATMENT STORM EVENT. POND OUTLET SHALL BE SIZED TO MEET RATE CONTROL REQUIREMENTS. TIE LAST 3 PIPE JOINTS. USE 2 TIE BOLT FASTENERS PER JOINT.

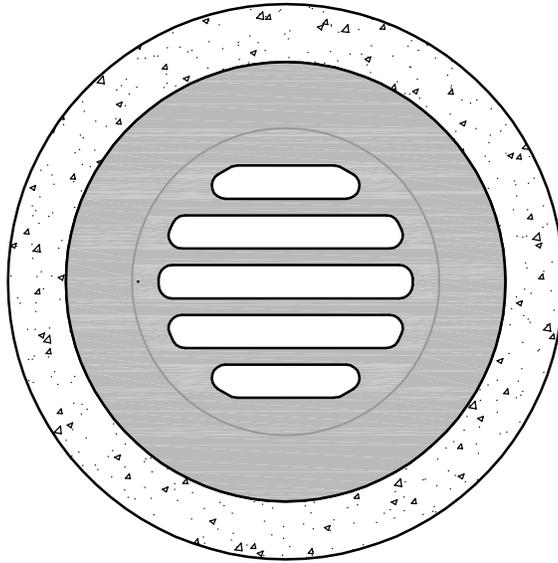


**POND SKIMMER OUTLET
(SUBMERGED INLET TYPE)**

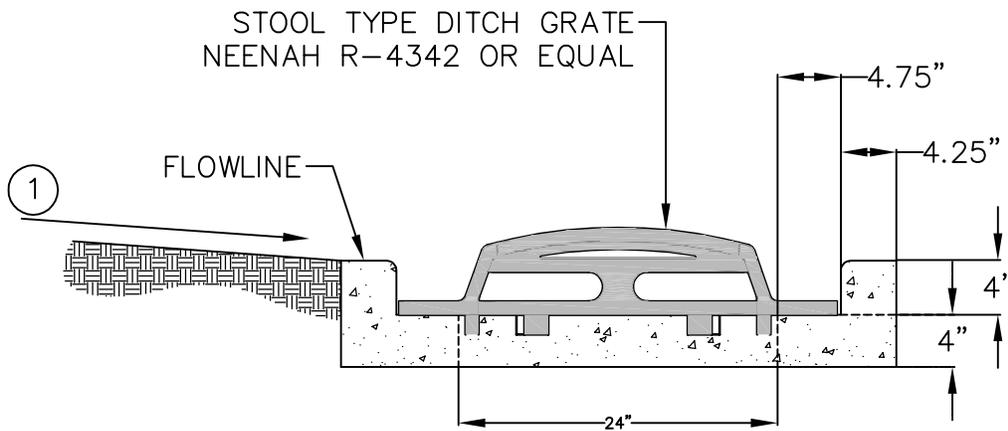
CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

3/15

PLATE NO.
STM-06



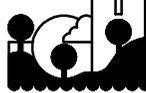
PLAN



SECTION

STOOL GRATE REINFORCED CONCRETE FRAME

① 4:1 MAXIMUM / 2% MINIMUM GRADE

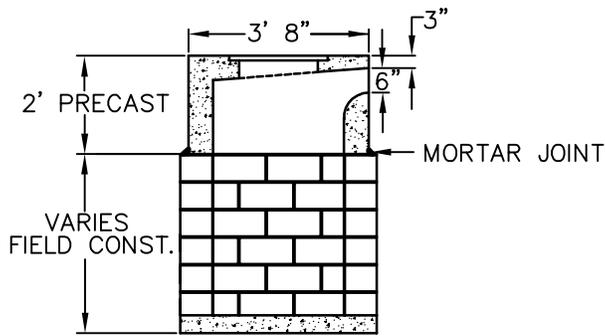


DITCH GRATE CASTING
AND CONCRETE COLLAR

CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

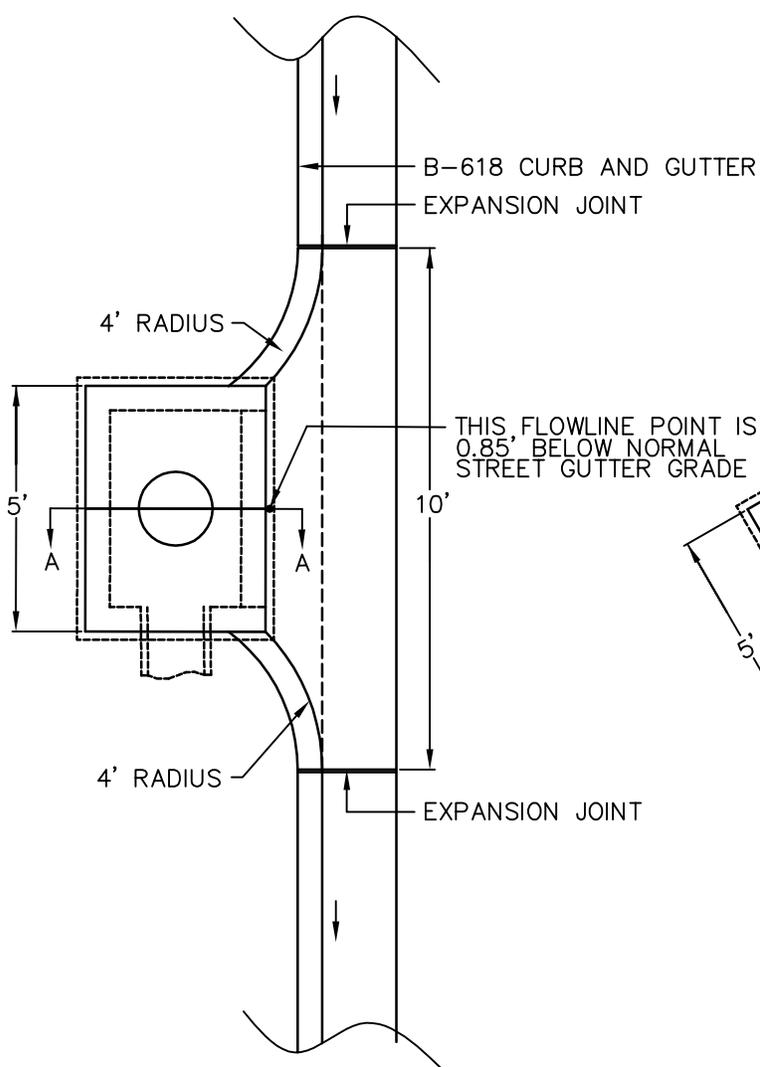
3/11

PLATE NO.
STM-07

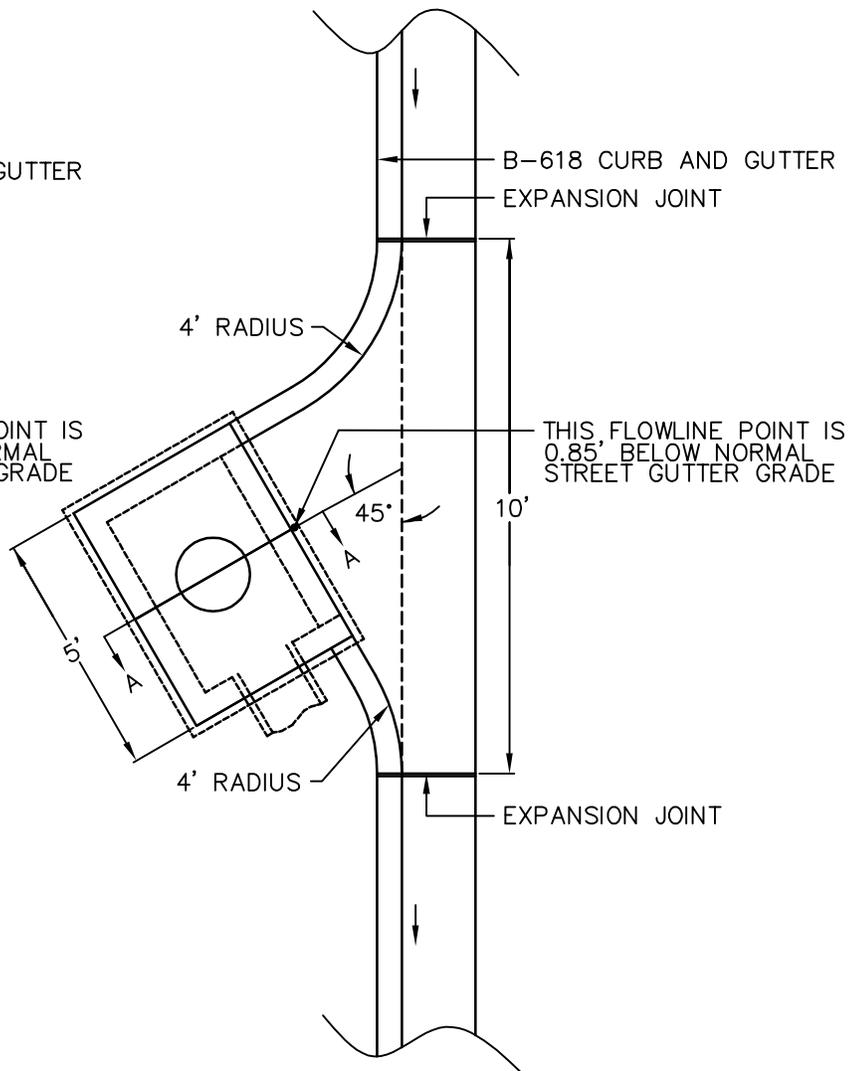


SECTION A-A

- NOTES:
1. LOWER SECTION SHALL BE CONSTRUCTED OF SOLID BLOCK MASONRY OR CAST IN PLACE CONCRETE.
 2. SLOPE FLOOR $5/8$ " PER FOOT TO OUTLET.
 3. SEE MNDOT PLATE 4021F.

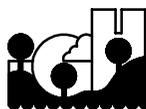


LOW POINT CATCH BASIN



AT GRADE CATCH BASIN

REFERENCE
MNDOT PLATE
4021F

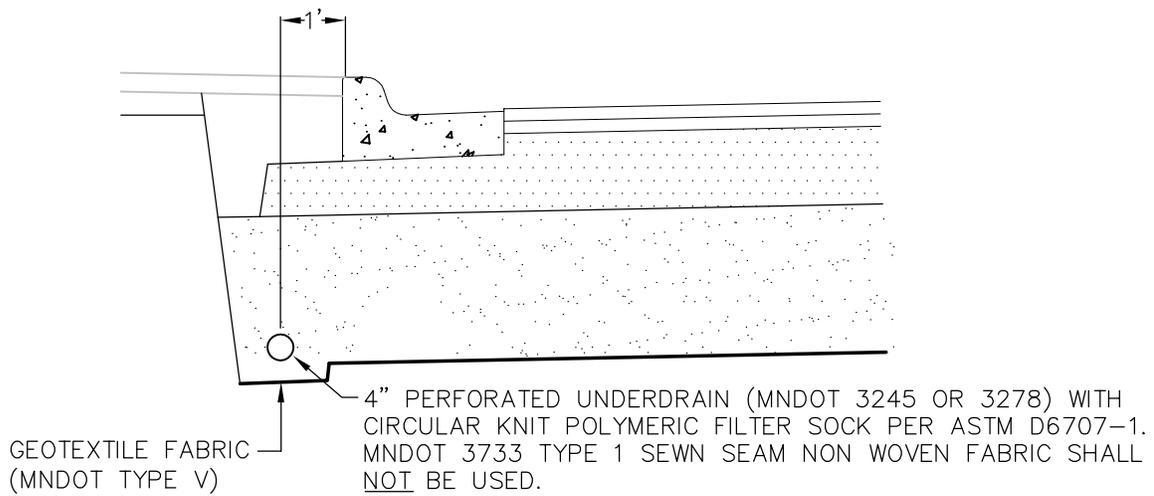


HIGH CAPACITY
CURB OPENING CATCH BASIN

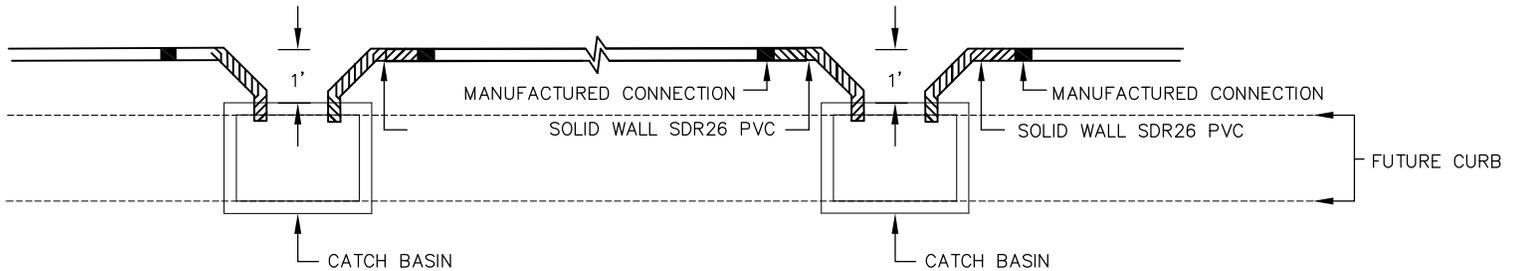
CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

3/11

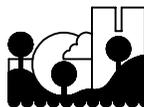
PLATE NO.
STM-08



SECTION



1. DRAINTILE SHALL BE PLACED CONTINUOUS IN BOTH SIDES OF THE STREET FROM CATCHBASIN TO CATCHBASIN. AT TERMINAL CATCHBASINS THE DRAINTILE SHALL BE EXTENDED A MINIMUM OF 30 FEET.
2. THE FIRST 18" AT THE CATCHBASIN SHALL BE NON PERFORATED SOLID WALL SDR 26 PVC. CONNECTIONS BETWEEN PVC AND HDPE SHALL BE MADE WITH MANUFACTURED CONNECTIONS (FERNCO FITTINGS OR EQUAL).
4. DRAINTILE SHALL BE PLACED IN THE DESIGN SECTION OF THE STREET, 6" BELOW SUBGRADE OR AT THE BOTTOM OF THE SELECT GRANULAR SECTION, AND 1' BEHIND THE PROPOSED CURBLINE.
5. DRAINTILE SHALL BE PLACED ON THE STREET SIDE OF THE CATCHBASIN AT THE REQUEST OF THE ENGINEER.
6. DRAINTILE SHALL BE PLACED AT THE SAME TIME THE SELECT GRANULAR SECTION IS PLACED AND FOLLOW THE STREET GRADE.
7. CONNECTIONS TO CATCH BASIN SHALL BE PRE FORMED OR CORE DRILLED. VOIDS AT CONNECTION TO BE GROUTED.
8. IF SUMP DISCHARGE CONNECTIONS ARE BEING INSTALLED, THE DRAIN TILE MUST RIGID PVC TO THE NEXT DOWNSTREAM CATCHBASIN.

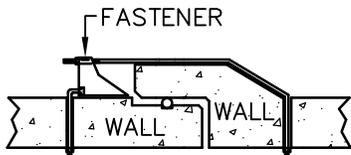
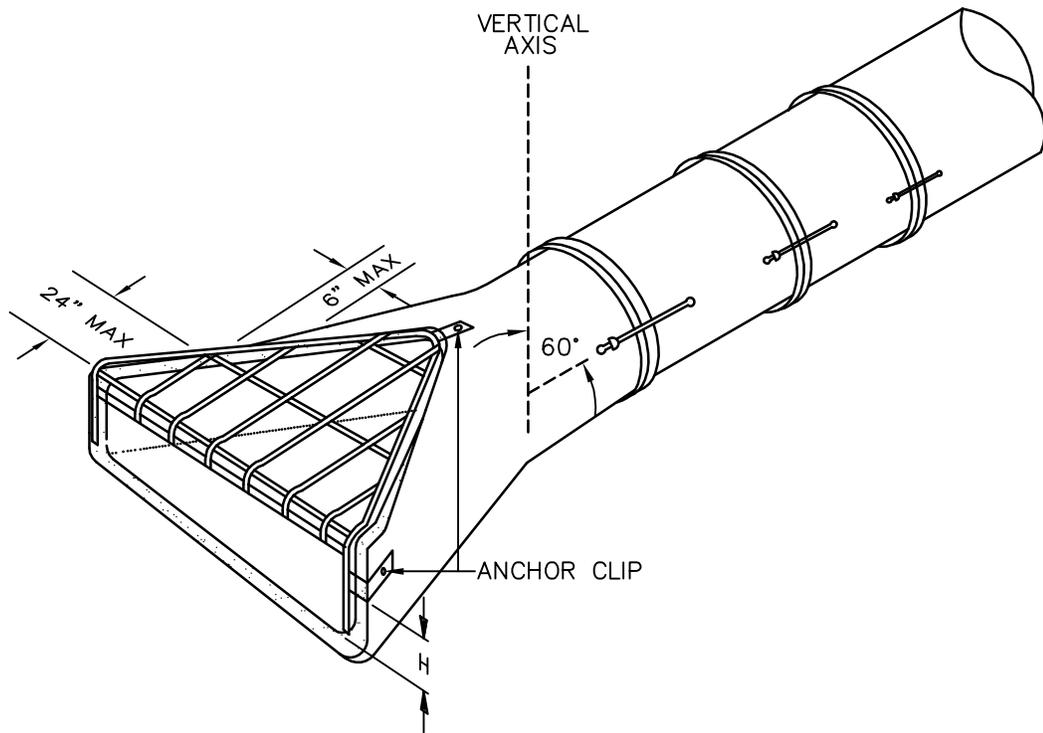


STREET DRAINTILE

CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

9/15

PLATE NO.
STM-09



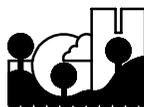
TIE BOLT & FASTENER ASSEMBLY

TRASH GUARD SIZING

PIPE SIZE (IN.)	BOLT DIAMETER (IN.)	BARS (IN.)	H (IN.)
15	5/8	3/4	4
18	5/8	3/4	4
21	3/4	1	6
24	3/4	1	6
27	3/4	1	6
30	3/4	1	6
36	3/4	1	6
42	3/4	1	6
48	1	1 1/4	12

- NOTES:
1. USE TWO TIE BOLT FASTENERS PER JOINT INSTALLED AT 60° FROM TOP OF PIPE.
 2. LAST THREE JOINTS SHALL BE TIED.
 3. TYING AND TRASH GUARD SHALL BE INCLUDED IN UNIT PRICE BID FOR END SECTION.
 4. BARS AND PLATES ARE HOT-ROLLED STEEL.
 5. BARS, PLATES, PIPE, AND BOLTS ARE GALVANIZED.
 6. VERTICAL OPENING SHALL BE A MAXIMUM OF 6" AND A MINIMUM OF 4" HIGH
 7. FOR RIP RAP PLACEMENT SEE DETAIL STM-12

RIP-RAP REFERENCE
CITY PLATE STM-12

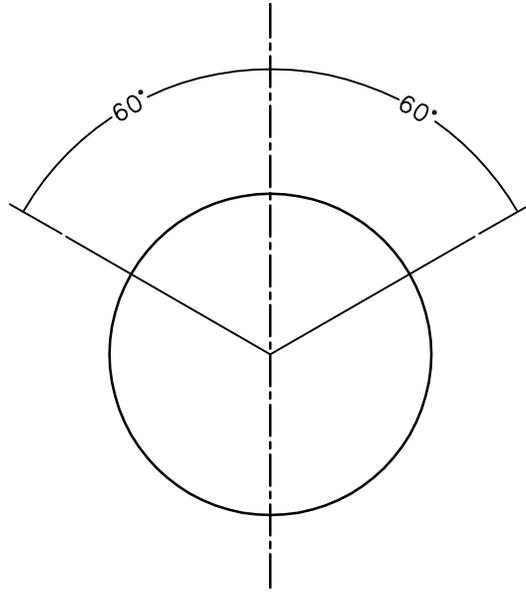


STANDARD FLARED END
SECTION AND TRASH GUARD

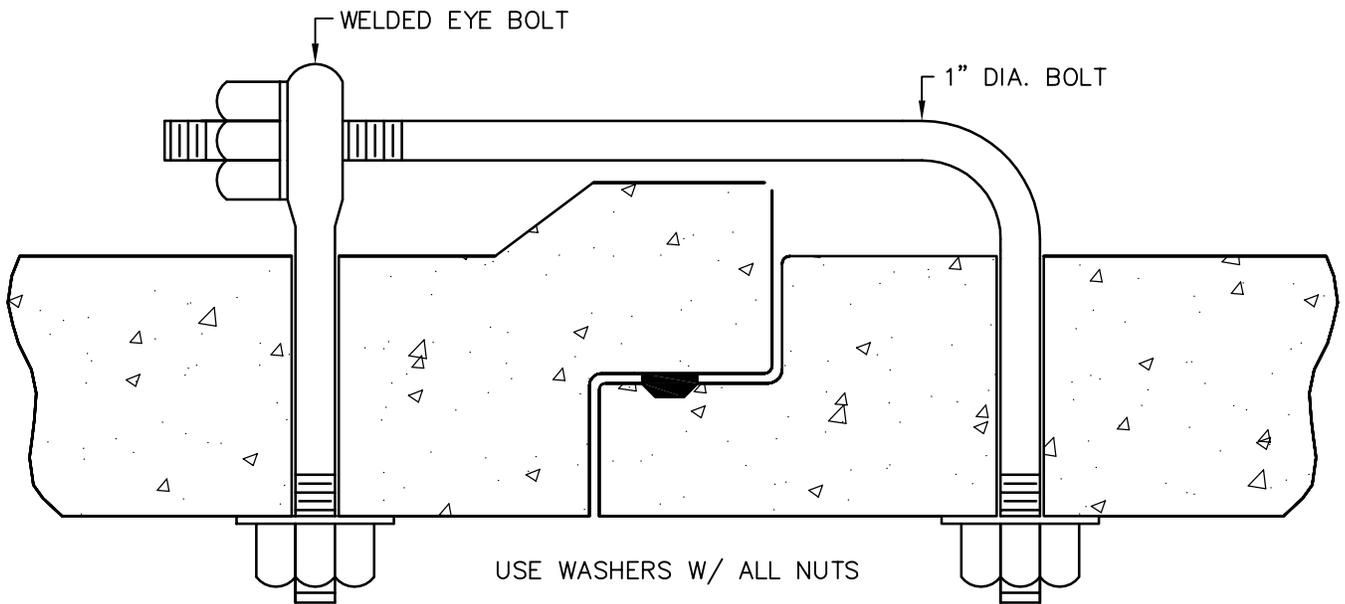
CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

3/11

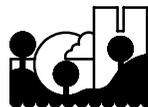
PLATE NO.
STM-10



TIE PLACEMENT



USE WASHERS W/ ALL NUTS

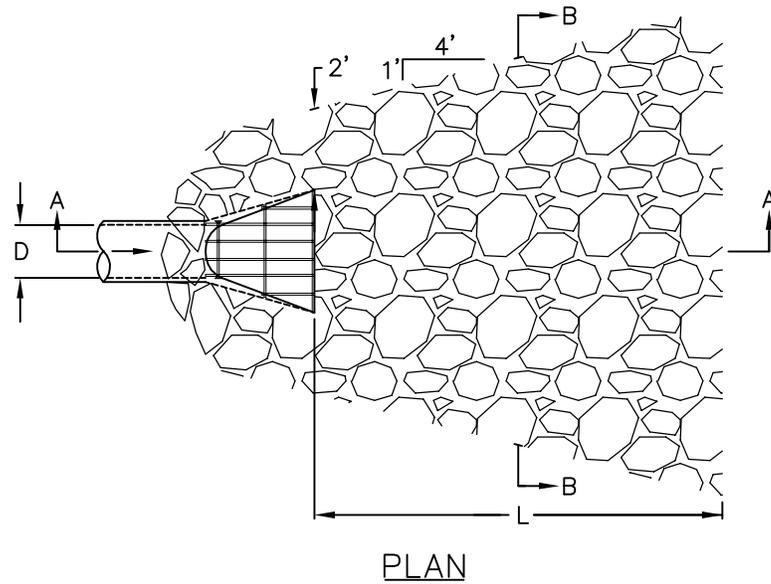


PIPE TIE DETAIL

CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

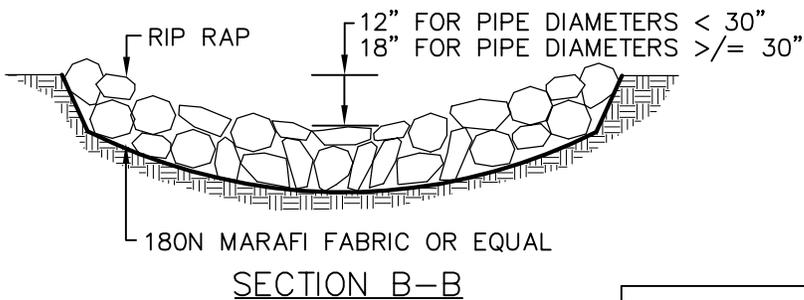
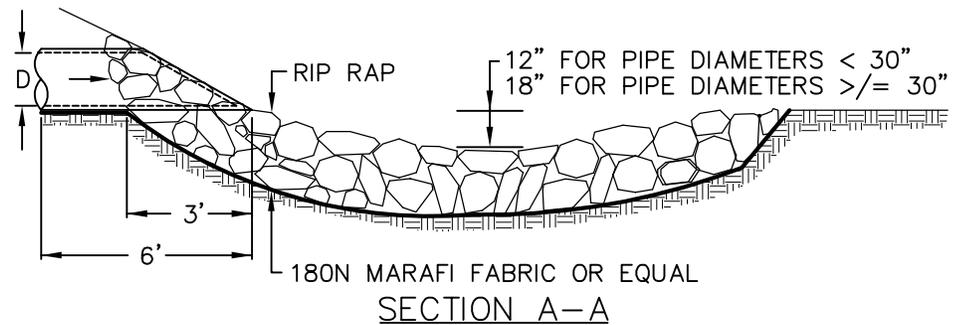
3/11

PLATE NO.
STM-11



180N MARAFI FABRIC OR EQUAL SHALL COVER THE AREA UNDER THE RIPRAP, 6' UNDER THE FLARED END SECTION AND EXTEND UP THE SIDES OF THE EXCAVATED AREA TO FINISHED GRADE.

RIPRAP SHALL EXTEND 3' UNDER THE FLARED END SECTION. PLACE A 3" LAYER OF 1.5" CRUSHED ROCK UNDER THE APRON TO AID IN GRADING. CRUSHED ROCK IS INCIDENTAL

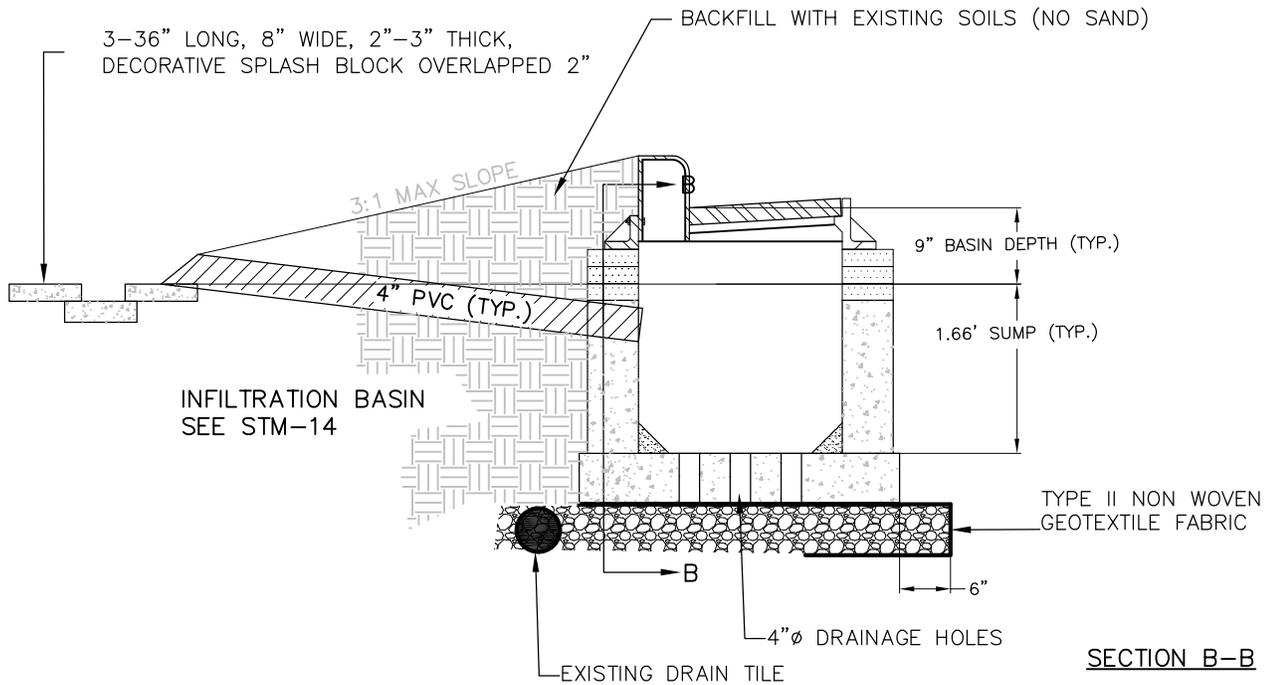
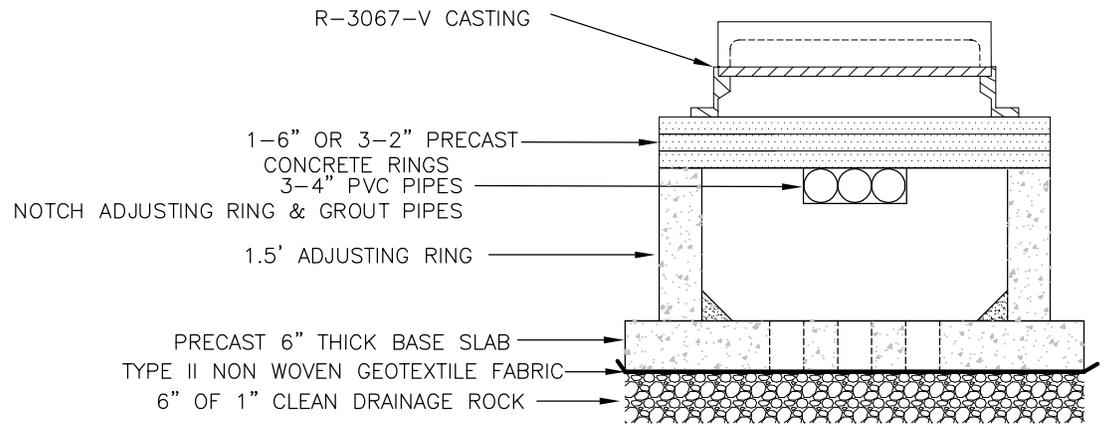


RIP RAP AT RCP OUTLETS

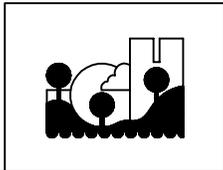
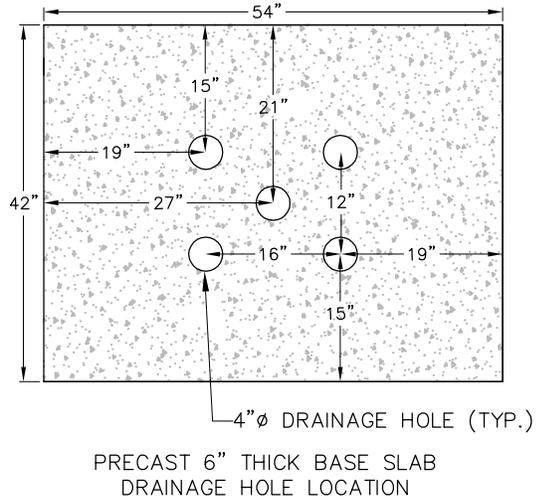
DIAMETER OF ROUND PIPE (IN.)	L (FT.)	CLASS II (6")		CLASS III (9")		CLASS IV (12")	
		12" DEPTH (CY)	6" DEPTH (CY)	18" DEPTH (CY)	9" DEPTH (CY)	24" DEPTH (CY)	12" DEPTH (CY)
15	8	3.5	1.8	5.3	2.7	7.0	3.5
18	10	4.5	2.3	6.8	3.4	9.0	4.5
21	10	4.8	2.4	7.3	3.7	9.8	4.9
24	12	6.1	3.1	9.2	4.6	12.3	6.2
27	12	6.5	3.3	9.7	4.9	13.0	6.5
30	14	8.0	4.0	11.9	6.0	15.9	8.0
36	16	10.0	5.0	15.0	7.5	20.0	10.0
42	18	11.7	5.9	17.5	8.8	23.4	11.7
48	20	13.8	6.9	20.70	10.4	27.6	13.8



RIP RAP



1. INLET CASTING SHALL BE SUMPED 2" FROM NORMAL GUTTER GRADE (SEE STR-07 FOR CURB TRANSITION)
2. BOTTOM SLAB DRAINAGE HOLES TO BE CONSTRUCTED DURING FABRICATION OR CORE DRILLED PRIOR TO PLACEMENT
3. 6" LAYER OF DRAINAGE ROCK SHALL BE PLACED TO ALLOW FLOW FROM UNDER STRUCTURE TO BIORETENTION FACILITY IF NO DRAINTILE IS INSTALLED.
4. PVC PIPE TO BE PLACED WITH REVERSE GRADE. INVERT AT BASIN SHALL BE A MINIMUM OF 1" HIGHER THAN TOP OF PIPE AT STRUCTURE.
5. DECORATIVE SPLASH BLOCKS TO BE SET WITH A 2" OVERLAP AND NO JOINTS MAY BE SET DIRECTLY UNDER PIPE
6. SEDIMENT BASIN STRUCTURE SHALL INCLUDE FRAME AND CASTING, 18" ADJUSTING RING, 6" OR 2" ADJUSTING RINGS, 6" BASE SLAB, DECORATIVE SPLASH BLOCKS, GEOTEXTILE FABRIC, DRAINAGE ROCK AND PVC PIPE.

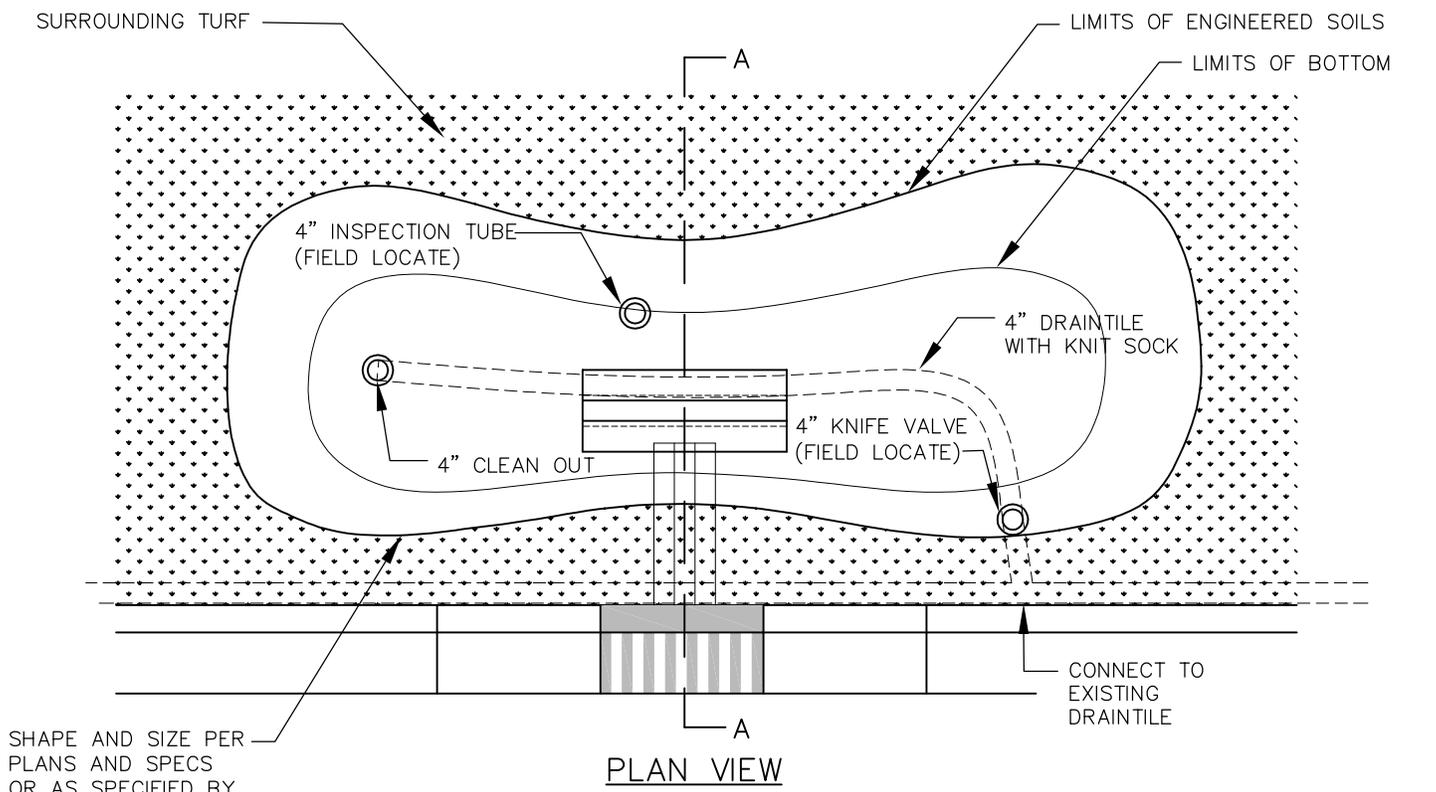


CURB INLET FOR BIORETENTION BASIN

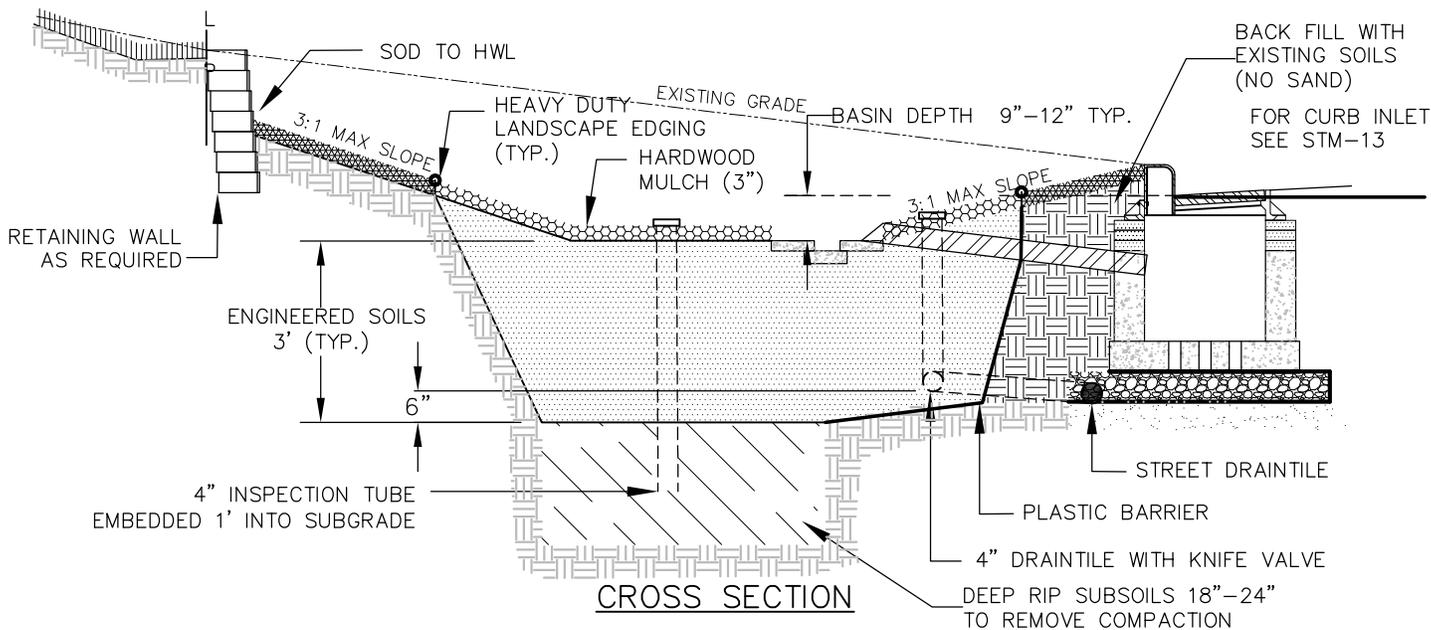
**CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT**

9/15

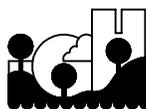
**PLATE NO.
STM-13**



ENGINEERED SOIL
 MIX 1: 80% COARSE-WASHED SAND (IMPORTED)
 20% LEAF-LITTER COMPOST (ORGANIC, GRADE 2)



1. BASIN DETAIL IS SHOWN FOR GENERAL CONSTRUCTION PURPOSES, SEE PLANS AND SPECS FOR SPECIFIC BASIN SIZE AND SHAPE.
2. SEE STM-19 FOR CONSTRUCTION, TESTING AND INSPECTION REQUIREMENTS.
3. ALL BIORETENTION BASINS SHALL BE CONSTRUCTED TO DAKOTA COUNTY SOIL AND WATER CONSERVATION DISTRICT STANDARDS.
4. ALL BIORETENTION BASINS SHALL BE VEGETATED WITH PLUGS OR POTTED PLANTS SEEDING ONLY WILL NOT BE APPROVED.
5. ALL CLEANOUTS, VALVE BOXES AND INSPECTION TUBES REQUIRE A SCREW TYPE CAP.
6. BASINS WITHOUT DRAINTILE OUTLET AVAILABILITY SHALL RECEIVE A MODIFIED DEPTH (9" OR LESS) OF MODIFIED SOIL MIXTURE (75% EXISTING SOILS AND 25% GRADE 2 LEAF LITTER COMPOST) AS APPROVED BY THE ENGINEER.

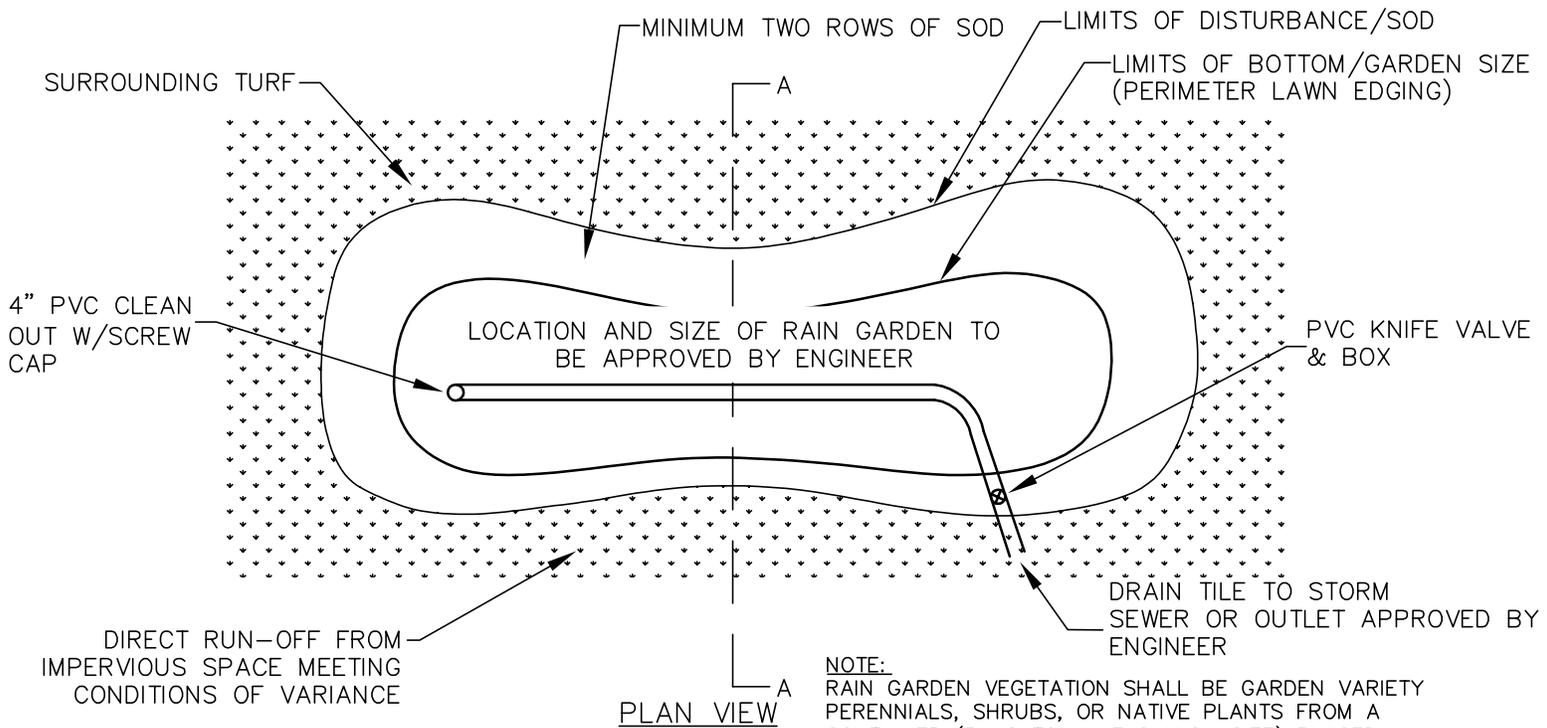


CURBSIDE BIORETENTION BASIN

**CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT**

9/15

**PLATE NO.
STM-14**

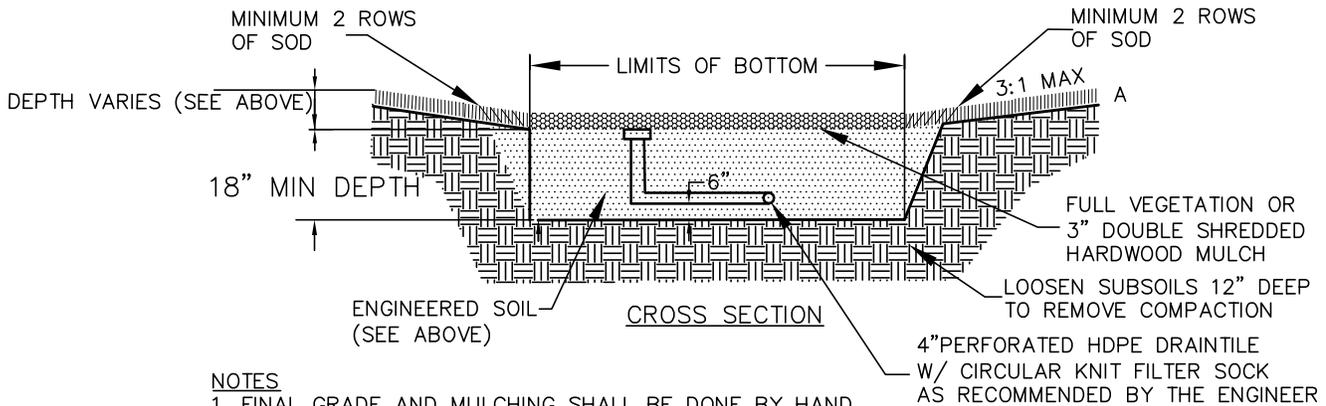


NOTE:
 RAIN GARDEN VEGETATION SHALL BE GARDEN VARIETY PERENNIALS, SHRUBS, OR NATIVE PLANTS FROM A CONTAINER (PLUG TO HALF GALLON SIZE) PLACED ACCORDING TO RECOMMENDED PLANT SPACING REQUIREMENTS OR AS APPROVED BY THE ENGINEER.

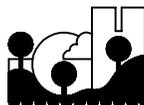
SUBSOIL TYPE	SUBSOIL TYPE	RECOM. DEPTH
A	SAND/GRAVEL	12"-18"
B	SAND WITH CLAY OR SILT	9"-12"
C	CLAY OR SILT WITH SAND	6"-9"
D	CLAYS OR SILTS	6"

ENGINEERED SOIL (DCSWCD MIX B)
 80% COARSE-WASHED SAND (MNDOT 3126)
 20% LEAF-LITTER COMPOST (ORGANIC, GRADE 2, MNDOT 3890)
 NO TOPSOIL OR ON-SITE SOILS MAY BE USED IN ENGINEERED SOIL MIX UNLESS APPROVED BY THE ENGINEER.
 3 RING INFILTRATOR TESTING AND INFILTRATION TEST ON ENGINEERED SOILS MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.

AREA OF ADDED IMPERVIOUS SURFACE AGREED TO BE TREATED (A) = _____ (SF)
 VOLUME OF STORM WATER TO BE STORED (0.29 X A) = _____(CF)



- NOTES**
- FINAL GRADE AND MULCHING SHALL BE DONE BY HAND.
 - NO EQUIPMENT WILL BE ALLOWED ON THE RAIN GARDEN AFTER EXCAVATION BEGINS.
 - PERIMETER EROSION CONTROL SHALL BE INSTALLED AND REMAIN IN PLACE UNTIL TURF IS ESTABLISHED AROUND RAIN GARDEN.
 - OWNER IS RESPONSIBLE FOR NOTIFYING ENGINEER FOR INSPECTION OF RAIN GARDEN FOR
 - FINALIZING RAIN GARDEN SIZE AND LOCATION.
 - OBSERVATION OF EXCAVATION AND SCARIFYING OF SUBSOIL.
 - APPROVAL TO BACKFILL WITH ENGINEERED SOILS.
 - FINAL INSPECTION WITH MULCH AND PLANTS INSTALLED.
 - GARDEN SIZE SHALL BE IN ACCORDANCE WITH THE MINIMUM GARDEN BOTTOM SIZE CALCULATED OR 12 SQUARE FEET, WHICHEVER IS GREATER.
 - OWNER SHALL MAINTAIN PER SMFMA AND REPORT O & M ACTIVITY ANNUALLY TO CITY ENGINEER.
 - FOLLOW CURRENT DAKOTA COUNTY SWCD LID STANDARDS.

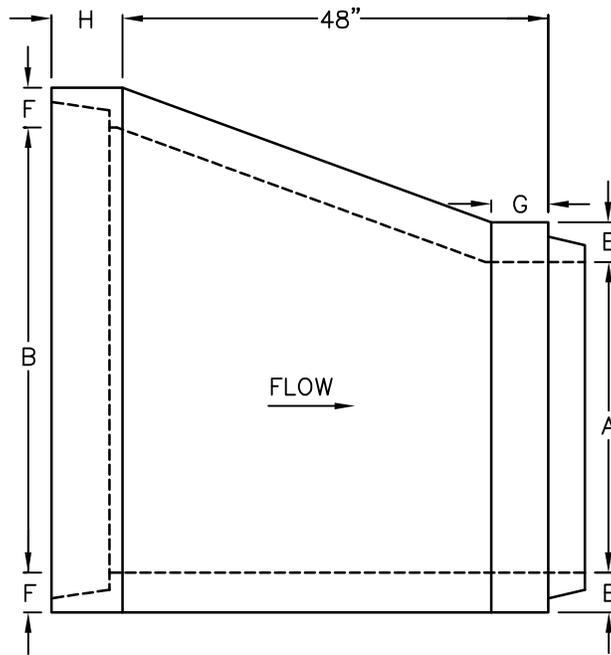


RESIDENTIAL BIORETENTION BASIN

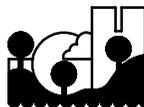
CITY OF INVER GROVE HEIGHTS
 ENGINEERING DEPARTMENT

11/14

PLATE NO.
 STM-15



DIA.		E Inches	F Inches	G Inches	H Inches
A	B				
Inches					
12 to 18		2	2 1/2	4	4
18 to 24		2 1/2	3	4	5
24 to 30		3	3 1/2	3 1/2	5
27 to 30		3 1/4	3 1/2	6	6
30 to 36		3 1/2	4	4	5
33 to 42		3 3/4	4 1/2	6	6
36 to 42		4	4 1/2	6	6 1/2
42 to 48		4 1/2	5	6	6 1/2



INCREASER\REDUCER DETAIL

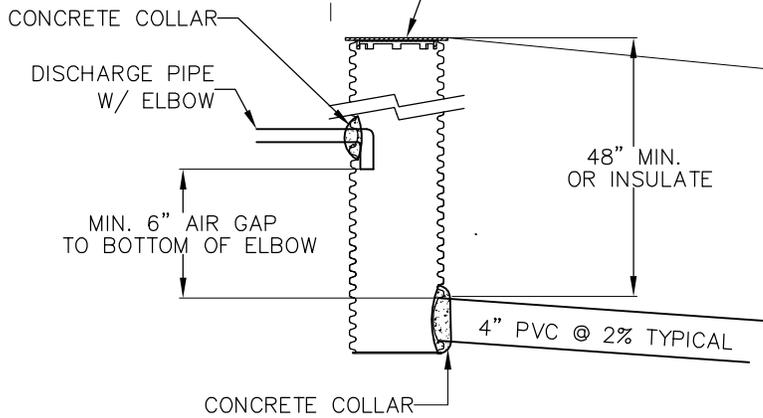
CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

3/11

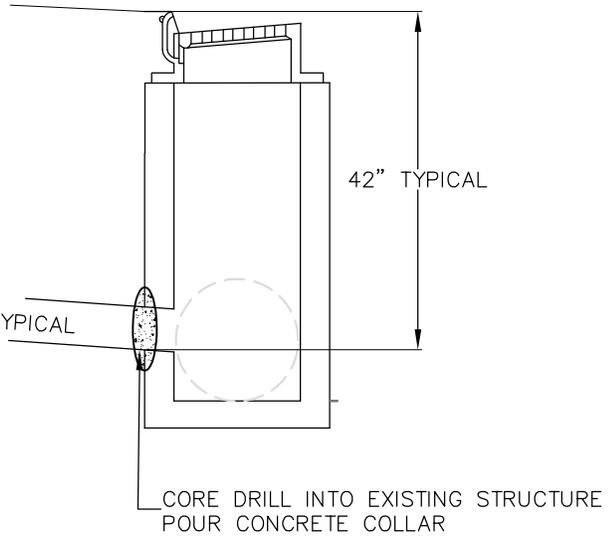
PLATE NO.
STM-16

PRIVATE
PROPERTY

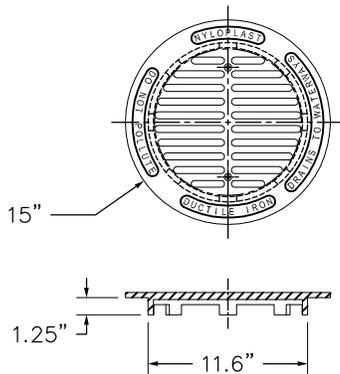
PUBLIC
RIGHT OF WAY



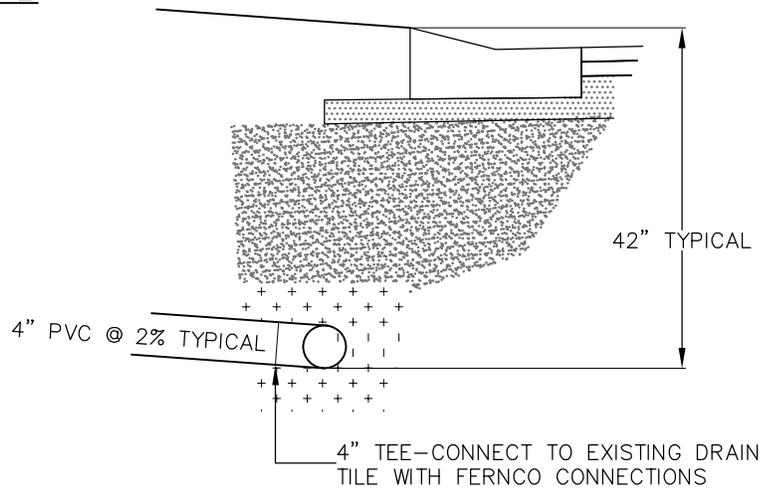
SERVICE ACCESS AT PROPERTY LINE



CONNECTION TO EXISTING CATCHBASIN

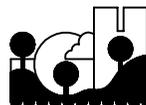


DROP IN GRATE
NYLOPLAST 1201D1 OR EQUAL



CONNECTION TO EXISTING DRAINTILE

NOTE: 1. ALL WORK DONE ON PRIVATE PROPERTY WILL REQUIRE A PLUMBING PERMIT FROM THE BUILDING DEPARTMENT. ALL WORK DONE ON PUBLIC RIGHT OF WAY OR PUBLIC EASEMENT WILL REQUIRE A RIGHT OF WAY EXCAVATION PERMIT FROM THE ENGINEERING DEPARTMENT.



SUMP DISCHARGE CONNECTION

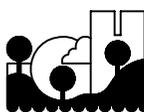
CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

11/14

PLATE NO.
STM-18

Bioretention Installation Notes

- 1) All work must comply with Dakota County Low Impact Development Standards. (See www.dakotaswcd.org)
- 2) The City of Inver Grove Heights Engineering Division is providing quality control and field verifications of the bioretention installations. Call the Engineering Division at (651) 450-2570 to schedule a preconstruction meeting prior to any disturbance in the bioretention area. City of Inver Grove Heights Engineering Division field verification is required prior to burying any work and/or installing any concrete, mulch and/or plant materials.
- 3) The bioretention areas must be staked off and marked to keep all construction traffic, equipment and material stockpiles out of the proposed bioretention areas.
- 4) Bioretention practices shall not be excavated until the contributing drainage areas with exposed soils have been fully stabilized and bituminous base course installed on contributing pavement areas. Divert upland drainage areas to prevent runoff from entering the excavated cell or into the work area. **DO NOT** use bioretention cells as temporary sediment basins or allow construction runoff into the cell.
- 5) Deliver sample materials onsite for city of Inver Grove Heights Engineering prior approval. Prior to beginning the installation, sufficient material quantities shall be onsite to complete the installation and stabilize exposed soil areas without delay.
- 6) Care must be taken to avoid contamination of engineered soils with sediment, in-situ or topsoil during and after installation. Materials must be segregated.
- 7) Installation with dry soil conditions is critical to prevent smearing and compaction. Schedule work for periods of dry weather. Do not work if soil conditions are wet. Excavation, soil placement and rapid stabilization of perimeter slopes with turf sod must be completed before the next precipitation event. Turf sod placed in flow paths shall be secured with at least 6 stakes per square yard. Place stakes along uphill seam edges to prevent undermining flows until sod roots establish.
- 8) Do not leave infiltration areas and/or perimeter slopes exposed overnight. Secure the site from risk of precipitation damages at the end of every work day. In the event of rain, take action to divert stormwater away from the work area and temporarily cover of all exposed soils with filter fabric or impermeable sheeting.
- 9) City of Inver Grove Heights Engineering Division field observation of excavation and soil placement is required. Notify the engineering division prior to digging. Use backhoe with tooth bucket for cell excavation to avoid compacting or smearing of soils. (Do not use skid steer for excavation within the cell) Use tooth bucket to scarify (rip) underlying soils 6" to 9" deep to remove compaction. Gently mix the first lift of engineered soils with the loosened underlying soils to avoid stratification and promote permeability. Use excavator bucket to place materials. Construction equipment shall not be allowed into the basin. Leveling and final grading within the cell must be completed by hand.
- 10) The side slopes of the bioretention cell shall be 3h:1v or flatter. Lawn edging shall be installed along the outside perimeter of the cell to physically defined the limits of the bioretention cell. Lawn edging shall be securely staked per manufacturers installation requirements or 5 ft O.C. whichever is greater.
- 11) Replacement Engineered Soil shall be Minnesota Stormwater Manual 4.1.2 Mix B: Enhanced Filtration Blend (Well blended mixture of 80% ASTM C-33 Coarse Washed Sand (MnDot 3126) and 20% MnDot 3890 Grade 2 Leaf Litter Compost. The material supplier shall provide documentation that the compost has been sampled and tested as required by the Seal of Testing Assurance (STA) Program of the United States Composting Council (USCC) and a gradation sieve analysis for the washed sand. **THE ENGINEERED SOIL SHALL NOT CONTAIN ANY TOPSOIL OR FILTER AGGREGATE WITH FINES.**
- 12) Perforated under-drains shall be slotted single wall HDPE with circular knit polymeric filament filter sock per ASTM D6707-01. MnDot 3733 Type sewn seam non-woven fabric shall **NOT** be used.
- 13) Notify the City of Inver Grove Heights Engineering Division prior to placing any mulch or installing any plantings. The engineering Division shall field check elevations, soil compaction and permeability. Note: Depending on conditions observed, compaction removal by hand may be needed prior to placing mulch and/or after plantings.
- 14) Install Temporary Blocks at Curb and Gutter Openings immediately following curb installation to protect cells from sediment and/or high flow damages. Do not allow water from pavement cleaning operations or runoff from exposed soils into the cell. The Engineering Division will remove the board and stakes after field observations determine the plantings are well established and the cell is ready to accept runoff.
- 15) Installed sod and plantings require a total of 1" of water per week and active weed management until well established. Watering costs are considered incidental to sod and planting installations.
- 16) Soil certification, delivery tickets, spec sheets and plant tags shall be provided to the City.



BIORETENTION BASIN INSTALLATION NOTES

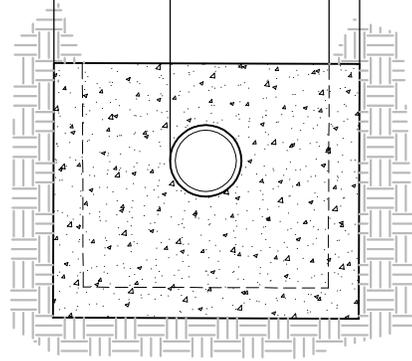
CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

3/15

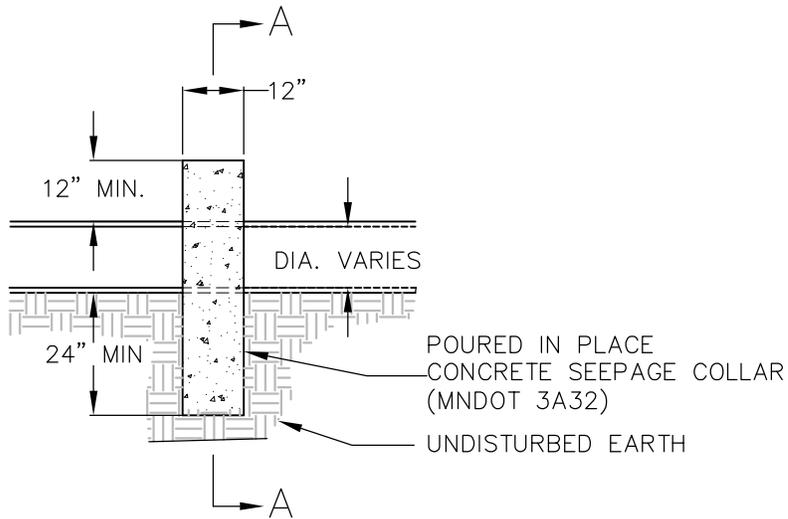
PLATE NO.
STM-19

24" MIN. TO
UNDISTURBED EARTH

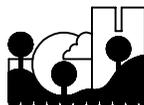
6" MIN. NOTCHED INTO
UNDISTURBED EARTH



SECTION A-A



- NOTE:
1. NO BLOCK OR OTHER FILL MATERIAL ALLOWED
 2. COLLAR SHALL BE ADEQUATELY FRAMED USING WOOD OR OTHER SUITABLE MATERIAL.
 3. NOTCH ALL SIDES INTO UNDISTURBED SOILS A MINIMUM OF 6".



ANTI-SEEPAGE COLLAR

CITY OF INVER GROVE HEIGHTS
ENGINEERING DEPARTMENT

2/15

PLATE NO.
STM-20