STEEL T-POST: 5’ MIN. LENGTH AT 6’ MAX. SPACING

PLASTIC ZIP-TIES (3 MIN.) WITHIN TOP 8” OF FABRIC

GEOTEXTILE FABRIC (3 FT. WIDE)

ANCHOR FABRIC IN TRENCH WITH TAMPERED NATURAL SOIL BACKFILL

30” MINIMUM HEIGHT

DIRECTION OF RUNOFF

6” MIN.

24” MINIMUM POST EMBEDMENT

4” MIN.

INSTALLATION OF HEAVY DUTY SILT FENCE

CITY ENGINEER REG 23110

APPROVED DECEMBER 31, 2015

City of Golden Valley
GV-EC-020
5 FT. MIN. LENGTH POST AT 6 FT. MAX. SPACING

PLASTIC ZIP TIES (50 LB. TENSIL) LOCATED IN TOP 8 IN.

GEOTEXTILE FABRIC (3 FT. WIDE)

TIRE COMPACTION ZONE

MACHINE SLICE 8 IN. – 12 IN. DEPTH

MINIMUM POST EMBEDMENT

30" MINIMUM HEIGHT

DIRECTION OF RUNOFF

24"
STORM SEWER INLET

OPEN THROAT

2" x 2" WOOD STAKES OR REINFORCING BARS

BALE, TYPE 1 MULCH (MNDOT SPEC. 3882) 14"x18"x36" MINIMUM

NOTE: TWO 2" x 2" WOOD STAKES OR REINFORCING BARS IN EACH BALE AND EMBEDDED IN THE GROUND 10" MINIMUM DEPTH
GEOTEXTILE SILT FABRIC (MNDOT SPEC. 3886) TO BE PLACED UNDER CATCH BASIN GRATE, WRAPPED AROUND & STAPLED TO WOOD 2x4

NOTE:
The contractor shall place and maintain erosion control around catch basins as directed by engineer until turf has been established.
NOTE:
FOR EXACT RIPRAP QUANTITIES REFER TO MNDOT STANDARD PLATES M3133B, 3133C, AND 3134C.

GRANULAR FILTER BLANKET OR GEOTEXTILE FABRIC, TYPE IV (MNDOT SPEC. 3733) REQUIRED UNDER RIPRAP.

SECTION A–A

SECTION B–B
NOTES:

A) MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE MAY BE NECESSARY.

B) ANY MATERIAL WHICH STILL MAKES IT ONTO THE ROAD MUST BE CLEANED UP IMMEDIATELY.

C) RECYCLED BITUMINOUS IS NOT ALLOWED.

MINIMUM DIMENSIONS

RESIDENTIAL – 20’ LONG X 20’ WIDE BY 6” DEEP.

COMMERCIAL – 50’ LONG X 20’ WIDE BY 8” DEEP.

CONSTRUCT BERM 6” HIGH UNIFORMLY ACROSS WIDTH OF ENTRANCE

SEE MNDOT 2573.3 K

PLACE GEOTEXTILE FABRIC UNDER ROCK, EXTEND 2’ BEYOND EDGE.

1” TO 3” CRUSHED ROCK FOR RESIDENTIAL CONSTRUCTION ENTRANCE. (MNDOT CA-1 or CA-2 COURSE AGGREGATE)

3” TO 6” CRUSHED ROCK FOR COMMERCIAL CONSTRUCTION ENTRANCE. (MNDOT CA-1 or CA-2 COURSE AGGREGATE)
FABRIC BAG
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE)

DO NOT INSTALL INLET PROTECTION IN INLETS SHALLower THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE. TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.


USE REBAR OR STEEL ROD FOR REMOVAL OR FOR INLETS WITH CAST CURB BOX USE WOOD 2" X 4", EXTEND 10" BEYOND GRATE WIDTH ON BOTH SIDES. LENGTH VARIES. SECURE TO GRATE WITH WIRE OR PLASTIC TIES.

4" X 6" OVAL HOLE SHALL BE HEAT CUT INTO ALL FOUR SIDE PANELS.

GENERAL NOTES
INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT SEDIMENT TRAPPED ON THE GEOFABRIC FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

1. FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

2. FOR INLET PROTECTION, WITH CURB BOX, AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

3. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2" X 4".

APPROVED DECEMBER 31, 2015
CITY ENGINEER REG 23110

City of Golden Valley
GV-EC-090

FAST FLOW INLET BAG TO PROTECT STORM INLETS
OPEN AREA:
The area must be clearly marked, a minimum size of 10'x10' and 6" below existing surface. The perimeter must be protected with silt fence (see detail GV-EC-010)

BEHIND CURB:
The area must be clearly marked, a minimum size of 10'x10' and 6" below curb, sloping away from the street. The perimeter must be protected with silt fence (see detail GV-EC-010)
NOTE:
MANHOLE OR CATCH BASIN ADJUSTING RINGS—ADJUSTING RINGS SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) PRODUCED BY LADTECH OR AN APPROVED EQUAL. THE RINGS SHALL PROVIDE A MINIMUM ADJUSTMENT OF 4" USING MINIMUM OF 2 — 2" IMMEDIATELY UNDER THE CASTING RINGS AND USE A COMBINATION OF 2", 6" QND 12" RINGS TO ACHIEVE NEEDED HEIGHT. JOINTS BETWEEN STRUCTURE, RINGS AND CASTING SHALL BE SEALED WITH A CONTINUOUS BEAD OF BUTYL CAULK. SOLID REINFORCED CONCRETE ADJUSTING RINGS MAY BE USED IN SPECIAL SITUATIONS ONLY WITH PRIOR WRITTEN APPROVAL BY THE CITY ENGINEER.

APPROVED JANUARY 1, 2018
CITY ENGINEER REG 23110
NEENAH R-1733 SERIES SOLID COVER (SEE RIGHT), ESS BROS. 301, OR APPROVED EQUAL

27” PLASTIC HDPE ADJUSTING RINGS (MIN. 2) SEE NOTE

O-RINGS ON JOINTS

VARIÉS

5”

D
2

3”

8” PRECAST CONC. OR CAST-IN-PLACE BASE

NOTE:
WHERE PVC PIPE IS USED THE MANHOLE SHALL BE FURNISHED WITH WATER TIGHT BOOT.

NO STEPS SHALL BE INSTALLED ON MANHOLES LESS THAN 15 FT. DEEP. OVER 15 FT. NON-CORROSOUS STEPS SHALL BE INSTALLED.

PLASTIC HDPE ADJUSTING RINGS (MIN. 2)
USE A COMBINATION OF 2", 6"
AND 12" RINGS TO ACHIEVE NEEDED HEIGHT. INCLUDE MIN.
2-2" RING IMMEDIATELY UNDER THE CASTING. RINGS SEALED W/BUTYL CAULK. SEE GV-SS-010

CITY ENGINEER REG 23110

APPROVED JANUARY 1, 2018

STANDARD SANITARY SEWER MANHOLE WITH CASTING & COVER

GV-SS-020
NEENAH R-1733 SERIES
SOLID COVER, ESS BROS.
301, OR APPROVED EQUAL
(SEE DETAIL GV-SS-020)

PLASTIC HDPE ADJUSTING
RINGS (MIN. 2)
USE A COMBINATION OF 2", 6"
AND 12" RINGS TO ACHIEVE
NEEDED HEIGHT. INCLUDE MIN.
2-2" RING IMMEDIATELY UNDER
THE CASTING. RINGS SEALED
W/BUTYL CAULK. SEE
GV-SS-010

ADAPT TO NEXT
LENGTH PIPE MATERIAL

1ST 20 FT. OF PIPE
TO BE MIN. CL 52 D.I.P.

MINIMUM OF 4" OF BRICK;
CONCRETE HORSESHOE, OR
OTHER APPROVED MATERIAL;
AND CONCRETE ON ALL SIDES.

NOTE:
WHERE PVC PIPE IS USED
THE MANHOLE SHALL BE
FURNISHED WITH INTERPACE
BOOT OR APPROVED EQUAL.

NO STEPS SHALL BE
INSTALLED ON MANHOLES
LESS THAN 15 FT. DEEP.
OVER 15 FT. NON-CORROSIVE
STEPS SHALL BE INSTALLED.

CONCRETE BLOCK MAY BE
USED FOR FILLER OUTSIDE
OF MANHOLE LINE.
MCDONALD 74M "A" SERIES CAST IRON METER PIT FRAME AND COVER

FITTING HUB WITH 4" THREADED PLUG. APPLY TEFLOM THREAD TAPE, OR APPROVED EQUAL, OVER THREADS.

INSTALL APPROVED FERROUS METAL CAP

1.0' CAST IRON FRAME & COVER (SEE ABOVE)

NOTE: FOR TRACER WIRE INSTALLATION REQUIREMENTS, REFER TO THE MINNESOTA RURAL WATER ASSOCIATION STANDARD DETAILS.

GROUND WIRE

FLOW

MAGNESIUM GROUNDING ANODE

PIPE MATERIAL AND SLOPE PER STATE PLUMBING CODE

APPROVED JANUARY 1, 2018
CITY ENGINEER REG 23110
SANITARY SEWER SERVICE PROPERTY LINE TO HOUSE
GV-SS-040
CAST IRON FRAME & COVER
(SEE DETAIL GV-SS-040)

FITTING HUB WITH 4” THREADED PLUG. APPLY TEFLOW THREAD TAPE, OR APPROVED EQUAL, OVER THREADS.

FINISHED GRADE

NOTE:
FOR TRACER WIRE INSTALLATION REQUIREMENTS, REFER TO THE MINNESOTA RURAL WATER ASSOCIATION STANDARD DETAILS.

MINIMUM 4” PVC CLEANOUT

1.0’

2% SLOPE MINIMUM

COMPACTED FILL

BENDS AS NEEDED

MAGNESIUM GROUND ANODE

INSERTA TEE® (OR APPROVED EQUAL)

SEWER MAIN

NOTE:
ALL SERVICE PIPE SHALL BE SDR-26 PVC, SCHEDULE 40 PVC, OR CL 52 DIP. SERVICE SHALL BE A MINIMUM OF 8.0’ DEEP AT THE PROPERTY LINE. SCHEDULE 40 PVC PIPE SHALL HAVE SOLVENT JOINTS.

APPROVED JANUARY 1, 2018

CITY ENGINEER REG 23110

SANITARY SEWER SERVICE WITH RISER (DEEP SERVICE)
NEENAH R-1758-E FRAME, LID, AND INNER LID, ESS BROS. 309, OR APPROVED EQUAL

PRECAST CONCRETE TOP SLAB

E-Z STICK 1/2" GASKET MATERIAL

PRESSURE AIR RELEASE SEWER VALVE, CRISPIN (OR APPROVED EQUAL)

BLIND FLANGE WITH 2" PIPE THREAD

VARIABLE

PRECAST MH SECTION WITH A-LOK SEAL AROUND OPENING

LIFTING HOOK IN CENTER OF MH

BALL VALVE

STAINLESS STEEL NIPPLE

ALUMINUM GRATE

MANHOLE JOINT WITH "O" RING RUBBER GASKET

12" x 12" x 6" SUMP

PRECAST REINFORCED CONCRETE BASE SLAB WITH CONCRETE Topping AND CONCRETE PIPE SUPPORT

12" VARIABLE

VARIABLE (TYPICALLY 7'-6"

APPROVED JANUARY 1, 2018
CITY ENGINEER REG 23110
ACCESS/AIR RELEASE MANHOLE
GV-SS-060
CAST IRON FRAME & COVER
(SEE DETAIL GV-SS-040)

FITTING HUB WITH 4" THREADED PLUG. APPLY TEFLOW THREAD TAPE, OR APPROVED EQUAL, OVER THREADS.

FINISHED GRADE

MINIMUM 4" PVC CLEANOUT
1.0'

NOTE:
FOR TRACER WIRE INSTALLATION REQUIREMENTS, REFER TO THE MINNESOTA RURAL WATER ASSOCIATION STANDARD DETAILS.

BENDS AS NEEDED

2% SLOPE MINIMUM

MAGNESIUM GROUND ANODE

INSERTA TEE® (OR APPROVED EQUAL)
SEWER MAIN

PLUG OR CAP GLUED INPLACE

NOTE:
ALL SERVICE PIPE SHALL BE SDR-26 PVC, SCHEDULE 40 PVC, OR CL 52 DIP. SERVICE SHALL BE A MINIMUM OF 8.0' DEEP AT THE PROPERTY LINE. SCHEDULE 40 PVC PIPE SHALL HAVE SOLVENT JOINTS.

APPROVED JANUARY 1, 2018
CITY ENGINEER REG 23110

SANITARY SEWER SERVICE (MAIN TO PROPERTY LINE)
NOTE:
AT EACH TRANSITION WHERE PIPES CHANGE SIZE, THE CONTRACTOR SHALL USE A MANUFACTURED TRANSITION ADAPTER APPROVED BY THE MANUFACTURER OR THE ENGINEER.
NOTES:
1. WIRE SHOWN AWAY FROM PIPE FOR CLARITY. WIRE SHALL BE INSTALLED ON THE BOTTOM SIDE OF THE PIPE BELOW THE SPRING LINE. THE WIRE SHALL BE FASTENED TO THE PIPE WITH TAPE OR PLASTIC TIES AT 5' INTERVALS.

GRADE LEVEL / IN-GROUND ACCESS BOX

HDPE INSULATED
#12 AWG COPPER CLAD STEEL - GREEN (TYP)

#12 AWG COPPER CLAD STEEL - GREEN (TYP)

DRIVE-IN MAGNESIUM GROUNDING ANODE (SEE SEWER SERVICE DETAIL)

MAINLINE TO LATERAL LUG CONNECTOR (TYP)

GRADE LEVEL / IN-GROUND ACCESS BOX AND DRIVE-IN MAGNESIUM GROUNDING ANODE (SEE SEWER SERVICE DETAIL)

SEWER SERVICE (TYP)

DRIVE-IN MAGNESIUM GROUNDING ANODE (TYP)

MANHOLE (TYP)

4-WAY CONNECTOR OR TWO 3-WAY CONNECTORS WITH SHORT JUMPER WIRE

TRACE WIRE PLAN (SEWER)

NO SCALE

APPROVED JANUARY 1, 2018

CITY ENGINEER REG 23110

TRACE WIRE PLAN (SEWER)

MINNESOTA RURAL WATER ASSOCIATION STANDARD DETAIL

Golden Valley
GV-SS-090
SEWER SERVICE - PLAN VIEW
NO SCALE

NOTES:
1. WIRE SHOWN AWAY FROM PIPE FOR CLARITY. WIRE SHALL BE INSTALLED IMMEDIATELY ADJACENT TO THE SERVICE PIPE. THE WIRE SHALL BE FASTENED TO THE PIPE WITH TAPE OR PLASTIC TIES AT 2’ INTERVALS.

COIL 2’ OF EXTRA RED AND GREEN WIRE IN ACCESS BOX. RED WIRE IS FROM GROUNDING ANODE AND GREEN WIRE IS TRACE WIRE ON SERVICE PIPE THAT CONNECTS TO THE MAIN LINE WIRE.

GRADE LEVEL CAST IRON FRAME & COVER WIRE TO BE INSTALLED DIRECTLY OVER SEWER SERVICE NEAR THE RIGHT-OF-WAY LINE

SEWER SERVICE - SECTION VIEW
NO SCALE

WIRE CONTINUES WITH SEWER SERVICE AND CONNECTS TO MAINLINE WIRE (SEE PLAN VIEW ABOVE)

CITY ENGINEER REG 23110

TRACE WIRE PLAN (SEWER SERVICE)
MINNESOTA RURAL WATER ASSOCIATION STANDARD DETAIL

VARIOUS DETAILS SHOWN ARE TO BE USED AS PER DETAIL GV-SS-040

RIGHT-OF-WAY LINE
DRIVE-IN MAGNESIUM GROUNDING ANODE ROD
SEWER SERVICE ON PRIVATE SIDE

#12 AWG COPPER CLAD STEEL – GREEN (TYP)

TAPE OR PLASTIC TIE (TYP)

MAINLINE TO LATERAL LUG CONNECTOR

CAST IRON FRAME & COVER (SEE DETAIL GV-SS-040)

#14 AWG COPPER CLAD STEEL – RED, FACTORY CONNECTED TO GROUND ROD

DRIVE-IN MAGNESIUM GROUNDING ANODE ROD

SEWER SERVICE
Mainline to grounding anode lug connector

#14 AWG copper clad steel — red, factory connected to ground rod

Drive-in magnesium grounding anode rod

Trace wire shall be routed around manholes on the north and/or east side

Tape or plastic tie (typ)

#12 AWG copper clad steel — green (typ)

Sewer manhole - plan view

No scale

Sewer manhole - section view

No scale

Approved December 31, 2015

Golden Valley

Trace Wire Plan
(Sewer Manhole)

Minnesota Rural Water Association Standard Detail

GV-SS-110
SANITARY SEWER MANHOLE RECONSTRUCTION

City of Golden Valley
GV-SS-120

APPROVED JANUARY 1, 2018
CITY ENGINEER REG 23110

(RECONSTRUCTED)

PRE-CAST CONCRETE SLAB REINFORCED FOR STREET LOADING WITH 27" OPENING

EACH NEW BARREL JOINT SHALL BE SEALED WITH INFIS-SHIELD 6" EXTERNAL RUBBER SEAL WRAP OR APPROVED EQUAL.

PLASTIC HDPE ADJUSTING RINGS (MIN. 2) USE A COMBINATION OF 2", 6" AND 12" RINGS TO ACHIEVE NEEDED HEIGHT. INCLUDE MIN. 2-2" RING IMMEDIATELY UNDER THE CASTING. RINGS SEALED W/BUTYL CAULK. SEE GV-SS-010

REPLACE COVER WITH NEENAH 1733 SERIES SOLID COVER, ESS BROS. 301, WITH GOLDEN VALLEY LOGO, OR APPROVED EQUAL. SEE GV-SS-020

REPLACE COVER WITH NEENAH 1733 SERIES SOLID COVER, ESS BROS. 301, WITH GOLDEN VALLEY LOGO, OR APPROVED EQUAL. SEE GV-SS-020

REPLACE COVER WITH NEENAH 1733 SERIES SOLID COVER, ESS BROS. 301, WITH GOLDEN VALLEY LOGO, OR APPROVED EQUAL. SEE GV-SS-020

REPLACE COVER WITH NEENAH 1733 SERIES SOLID COVER, ESS BROS. 301, WITH GOLDEN VALLEY LOGO, OR APPROVED EQUAL. SEE GV-SS-020

REPLACE COVER WITH NEENAH 1733 SERIES SOLID COVER, ESS BROS. 301, WITH GOLDEN VALLEY LOGO, OR APPROVED EQUAL. SEE GV-SS-020

NOTE: MANHOLES SHOULD NOT HAVE STEPS UNLESS THEY EXCEED 15' IN DEPTH.
NEENAH R-1733 SERIES SOLID COVER (SEE RIGHT), ESS BROS.
301, OR APPROVED EQUAL

27" HDPE PLASTIC ADJUSTING RINGS
(MIN. 2) SEE NOTE:

O-RINGS ON JOINTS

PRECAST OR BLOCK DESIGN 4020

NOTE: WHERE PVC PIPE IS USED THE CONTRACTOR SHALL FURNISH MANHOLE WITH WATER TIGHT BOOT.

NOTE: DASHED LINE DENOTES SUMP, IF SPECIFIED, IN MANHOLE

NOTE:
PLASTIC HDPE ADJUSTING RINGS (MIN. 2)
USE A COMBINATION OF 2", 6" AND 12" RINGS TO ACHIEVE NEEDED HEIGHT.
INCLUDE MIN. 2-2" RING IMMEDIATELY UNDER THE CASTING. RINGS SEALED W/BUTYL CAULK. SEE GV-SS-010
HDPE PLASTIC ADJUSTMENT RINGS (OR APPROVED EQUAL)
MIN. 2
OR AS DIRECTED BY ENGINEER.
SEE NOTE:

SEAL ADJUSTMENT RINGS (SEE NOTE)

OPENINGS AS REQUIRED

PRECAST CONCRETE BASE SLAB

NOTE:

CASTINGS SHALL BE NEENAH R3067–L WITH "L" TYPE GRATE.

IF MORE THAN 5 − 2” RINGS ARE NEEDED CONTRACTOR SHALL USE A COMBINATION OF 2”, 6” AND 12” RINGS TO ACHIEVE NEEDED HEIGHT.

REINFORCING AND CONCRETE ARE TO BE IN ACCORDANCE WITH ASTM SPECIFICATION C478.

NOTE:

PLASTIC HDPE ADJUSTING RINGS (MIN. 2)
USE A COMBINATION OF 2”, 6” AND 12” RINGS TO ACHIEVE NEEDED HEIGHT. INCLUDE MIN. 2–2” RING IMMEDIATELY UNDER THE CASTING.
RINGS SEALED W/BUTYL CAULK. SEE GV–SS–010
HDPE PLASTIC ADJUSTMENT RINGS
(or approved equal)
Min. 2
or as directed by
Engineer.
See Note:

SEAL ADJUSTMENT
RINGS (SEE NOTE)

OPENINGS AS
REQUIRED

VARIABLE
(2’ TYP.)

PRECAST CONCRETE
BASE SLAB

NOTE:

CASTINGS SHALL BE NEENAH R3067-L WITH "L"
TYPE GRATE.

IF MORE THAN 5 – 2” RINGS ARE NEEDED
CONTRACTOR SHALL USE A COMBINATION OF 2”,
6” AND 12” RINGS TO ACHIEVE NEEDED HEIGHT.

RINGS SHALL BE SEALED USING APPROVED
FLEX-SEAL UTILITY SEALANT AND APPLICATION
SHALL FOLLOW DETAIL GV-SS-010.

REINFORCING AND CONCRETE ARE TO BE IN
ACCORDANCE WITH ASTM SPECIFICATION C478.

NOTE:

PLASTIC HDPE ADJUSTING
RINGS (MIN. 2)
USE A COMBINATION
OF 2", 6" AND 12"
RINGS TO ACHIEVE
NEEDED HEIGHT.
INCLUDED MIN. 2–2”
RING IMMEDIATELY
UNDER THE CASTING.
RINGS SEALED
W/BUTYL CAULK. SEE
GV-SS-010
NEENAH R-4342 DITCH GRATE, STOOL TYPE

8" POURED CONC. BASE. FOR ALTERNATE PRECAST CONCRETE BASE, SEE MNDOT STANDARD PLATES INDEX. BASE REINFORCEMENT: 0.12 SQ. IN. PER FOOT IN EACH DIRECTION.

27" DIA. PRECAST CONCRETE PIPE

SLOPE 1"/FT.

5" MIN.

2" CLR.
FOR TRACER WIRE INSTALLATION REQUIREMENTS, REFER TO THE MINNESOTA RURAL WATER ASSOCIATION STANDARD DETAILS.
CONCRETE CURB

TYPICAL SECTION
12" MIN.

MAINLINE TO LATERAL LUG CONNECTOR

COARSE FILTER AGGREGATE MNDOT SPEC. 3149.2 H

PERFORATED PIPE WITH GEOTEXTILE SOCK

6"X4" WYE

GEOTEXTILE FABRIC TYPE V

4" PVC 2.0 % SLOPE

SOLID PVC PIPE (SUMP SERVICE STUB)

PERFORATED PIPE WITH GEOTEXTILE SOCK (SUB-GRADE DRAINAGE)
50 FT. TYP. UPSTREAM OF STRUCTURE (OR AS DIRECTED BY ENGINEER)

TRACE WIRE ACCESS BOX

FOR TRACER WIRE BOX (SEE DETAIL GV-ST-110)

NOTE:
EXTEND COARSE FILTER AGGREGATE & GEOTEXTILE FABRIC FULL LENGTH OF PERFORATED PIPE

PERFORATED PIPE SHALL BE PLACED AT THE BOTTOM OF THE STREET EXCAVATION WITH PERFORATIONS UP (OR AS DIRECTED BY ENGINEER)

MAGNESIUM GROUNDING ANODE
PVC CAP ON END OF STUB

METAL LOCATE POST

1.5' MAX.

5' MINIMUM

CITY ENGINEER REG 23110

SUBL-GRADE & SUMP DRAINAGE PIPE WITH SERVICE STUB & CLEANOUT

APPROVED JANUARY 1, 2018

Golden Valley

GV-ST-060
CONCRETE CURB

TYPICAL SECTION

MAINLINE TO LATERAL LUG CONNECTOR

12" MIN.

GEOTEXTILE FABRIC (TYPE V)

PVC CAP ON END OF STUB

2.0 % SLOPE

COARSE FILTER AGGREGATE MNDOT SPEC. 3149.2 H

PERFORATED PIPE WITH GEOTEXTILE SOCK

4" SOLID PVC PIPE (SUMP SERVICE STUB)

6’ TRACE WIRE WRAPPED AROUND CAP

FOR TRACE WIRE BOX (SEE DETAIL GV–ST–110)

TRACE WIRE ACCESS BOX

NOTE:
CLEANOUT TO BE INSTALLED AT END OF STUB AT TIME OF CONNECTION BY OTHERS (SEE DETAIL GV–ST–060)

NOTE:
EXTEND COARSE FILTER AGGREGATE & GEOTEXTILE FABRIC FULL LENGTH OF PERFORATED PIPE ONLY

PERFORATED PIPE SHALL BE PLACED AT THE BOTTOM OF THE STREET EXCAVATION WITH PERFORATIONS UP (OR AS DIRECTED BY ENGINEER)

NOTE:
FOR TRACER WIRE INSTALLATION REQUIREMENTS, REFER TO THE MINNESOTA RURAL WATER ASSOCIATION STANDARD DETAILS.

6" PERFORATED PIPE WITH GEOTEXTILE SOCK (SUB–GRADE DRAINAGE) 50 FT. TYP. FROM DRAINAGE STRUCTURE (OR AS DIRECTED BY ENGINEER)

MAGNESIUM GROUNDING ANODE

6" SOLID PVC PIPE SDR–35 (SUMP DRAINAGE)
GRATE TO BE HOT DIPPED GALVANIZED AND TO COME IN TWO SECTIONS PROVIDE 6-1/2" SS ANCHOR BOLTS WITH CLIPS

1 1/2" x 3/8" STEEL BARS @ 4" O.C. 1 1/2" x 3/8" OUTER RING

1/4" x 1/4" STEEL BAR WELD TO EACH MEMBER PROVIDE 1/2" DIA. CONTINUOUS HINGE BAR

PROVIDE 1/4" PLATE WITH LOCKING CLASP. CLASP TO HAVE 1/2" PADLOCK HOLE.

NO SCALE

POND BUFFER ZONE (VARIES)

GRATE (SEE ABOVE)

FINISHED GRADE

3:1 SLOPE

100 YEAR HIGH WATER LEVEL

6"

6"

3:1 SLOPE

VARIES

NWL

NWL

8" MINIMUM

PIPE LENGTH AND GRADE FROM POND TO VARY

PRECAST CONCRETE SLAB

STRUCTURE TO BE SCREENED BY PLANTINGS IN BUFFER ZONE.

RIP-RAP AND FABRIC AS DIRECTED BY ENGINEER

FINISHED GRADE

3:1 SLOPE

3:1 SLOPE

8" MINIMUM

STRUCTURE BEDDING DEPTH TO VARY AS DIRECTED BY ENGINEER

APPROVED JANUARY 1, 2018

OUTLET CONTROL SKIMMER STRUCTURE WITH GRATE

CITY ENGINEER REG 23110

City of Golden Valley

GV-ST-080
NOTE:
FOR TRACER WIRE INSTALLATION REQUIREMENTS, REFER TO THE MINNESOTA RURAL WATER ASSOCIATION STANDARD DETAILS.

1/4" HARDWARE CLOTH SCREEN

1 1/2" OR 2" PIPE

1" MIN. TO CONNECTION POINT AT RIGHT OF WAY

MINIMUM 2" PIPE

EXISTING GROUND

FROM SUMP PUMP

BUILDING FOUNDATION

MAGNESIUM GROUNDING ANODE

TO CONNECTION POINT AT RIGHT OF WAY

(GV-ST-100)

APPROVED FEBRUARY 1, 2020

CITY ENGINEER REG 23110

SUMP PUMP OVERFLOW (REQUIRED) ASSEMBLY AT HOUSE

(NOT TO SCALE)
TRACE WIRE ACCESS BOX

TRACER WIRE ACCESS BOX SHALL BE MANUFACTURED WITH THE FOLLOWING TEXT AND COLOR

- WATER = BLUE
- STORM SEWER = GREEN
- SANITARY SEWER = GREEN
- ALL OTHER OTHER UTILITIES SHALL HAVE NO TEXT AND BE PAINTED BY THE CONTRACTOR IN THE FIELD WITH ENAMEL PAINT CONSISTENT WITH THE AMERICAN PUBLIC WORKS ASSOCIATION COLOR CODE.

NOTES:

CASTING CONFORMS TO: ASTM SPECIFICATION A-48 CLASS 30

ABS SHAFT CONFORMS TO: ASTM SPECIFICATIONS D-1788

TRACER WIRE ACCESS BOXES SHALL BE MANUFACTURED BY CP TEST SERVICES – VALVCO, INC. AND SHALL INCLUDE AN SP-BRACKET MANUFACTURED BY COPPERHEAD INDUSTRIES.
SIDEWALK WITH 2’ CONCRETE SHOULDER (AT DRIVEWAY)

EXPANSION MATERIAL MEETING MDOT 2521

NOT TO SCALE
4" TROWEL MARKS (SMOOTH FINISH – TROWELED AFTER BROOM FINISH)

BROOMED FINISH

NO SCALE

CORE DRILL OR PREFORM A 6" DIAMETER HOLE FOR EACH POST

PEDESTRIAN CURB RAMP (SEE GV-SM-020)

CROSSWALK MARKING (EPOXY)

NOTE: PLACE 2'X2' TRUNCATED DOME PANELS IN DIRECTION OF PEDESTRIAN TRAVEL

CONCRETE SHOULDER VARIES AS DIRECTED BY THE ENGINEER

SIGN LOCATION

NO SCALE

CITY ENGINEER REG 23110

SIDEWALK WITH 2' CONCRETE SHOULDER

APPROVED JANUARY 1, 2018

City of Golden Valley

GV-STRT-020
(EXISTING DRIVEWAY) MIN. 14.0' MAX. 25.0' EXPANSION JOINT IF APRON ABUTS CONCRETE. EXPANSION JOINT 6"

TOP VIEW

PROFILE VIEW

3.0' CURB TAPER 3.0' CURB TAPER

DROP CURB AT DRIVEWAYS

NOTE: REBAR NOT ALLOWED IN CITY ROW.

DROP CURB AT DRIVEWAY OPENINGS. (TRANSITION TO BE MADE IN 3 FT.)

DRIVEWAY APPROACH WITH CONCRETE APRON (D412)
CONTRACTION JOINTS
SPACED EQUALLY WITH
NO CURB LENGTH
OVER 10 FT.

EXPANSION JOINT

WIDTH
VARIABLE

CONTRACTION
JOINTS
A
A

NO. 4 REBAR TIED &
SUPPORTED ON BASKETS

SECTION AA
THRU GUTTER

BACK OF CURB RADIUS
VARIATES.

NO. 4 REBARS
12" O.C.

6% SLOPE
7"

18"  18"
3"

6% SLOPE
CONTRACTION JOINTS SPACED EQUALLY WITH NO CURB LENGTH OVER 10 FT.

EXPANSION JOINT (TYP.)

3 NO. 4 EPOXY COATED REINFORCING RODS CONTINUOUS IN CROSS GUTTER FROM EXPANSION JOINT TO EXPANSION JOINT.

WIDTH VARIABLE

CONTRACTION JOINTS (TYP.)

A

A

BACK OF CURB RADIUS VARIES.

SECTION AA THRU GUTTER

NO. 4 REBARS 12" O.C.

6% SLOPE

7"

18" 18"

6% SLOPE

3"
5'–0" UNLESS OTHERWISE DENOTED

NEENAH R–3067–L (OR APPROVED EQUAL)

CURB RETURN

① TAPER CONC. CURB & GUTTER TO MATCH CASTING

PLAN VIEW

1/2" EXPANSION JOINT

CASTING

GUTTER 6"

3’–6”

3’–6”

TOP OF CURB

1.25” SUMP

SECTION
* If less than 3", the asphalt shall be replaced to the curb.

Note: The thickness of the asphalt patch shall match the thickness of the existing pavement but in no case less than 3". The thickness of the Class 5 base shall match the thickness of the existing CL 5 but not less than 6".

The city engineer shall specify larger thicknesses if it is deemed necessary.

The existing asphalt shall be saw cut to form a neat, rectangular patch a minimum of 18" larger on all sides than the excavation.

Excavations shall be compacted in no greater than 6" lifts.

An inspection by the city is required when the excavation has been filled to the top of the Class 5 and before placement of asphalt.

The contractor shall provide a soil density test on the compacted soils from a testing company approved by the city. Test must be in compliance with the current MnDOT standard specifications for construction.

Two soil density tests must be performed; one in the upper 3’ and one below.
COMPACTED EXISTING SOIL
IF THE EXISTING SOILS ARE
NOT SUITABLE, THE CONTRACTOR
SHALL NOTIFY THE CITY
ENGINEER AND HE SHALL
SPECIFY THE TYPE OF
BACKFILL TO USE.

* IF LESS THAN 3', THE ASPHALT SHALL BE REPLACED TO THE CURB.

NOTE: THE THICKNESS OF THE ASPHALT PATCH SHALL MATCH THE THICKNESS OF THE EXISTING PAVEMENT BUT IN NO CASE LESS THAN 3". THE THICKNESS OF THE CLASS 5 BASE SHALL MATCH THE THICKNESS OF THE EXISTING CL 5 BUT NOT LESS THAN 6". THE CITY ENGINEER SHALL SPECIFY LARGER THICKNESSES IF IT IS DEEMED NECESSARY.

THE EXISTING ASPHALT SHALL BE SAW CUTOFF FORM A NEAT, RECTANGULAR PATCH A MINIMUMUM OF 18" LARGER ON ALL SIDES THAN THE EXCAVATION.

EXCAVATIONS SHALL BE COMPACTED IN NO GREATER THAN 6" LIFTS.

AN INSPECTION BY THE CITY IS REQUIRED WHEN THE EXCAVATION HAS BEEN FILLED TO THE TOP OF THE CLASS 5 AND BEFORE PLACEMENT OF ASPHALT.

THE CONTRACTOR SHALL PROVIDE A SOIL DENSITY TEST ON THE COMPACTED SOILS FROM A TESTING COMPANY APPROVED BY THE CITY. TEST MUST BE IN COMPLIANCE WITH THE CURRENT MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

TWO SOIL DENSITY TESTS MUST BE PERFORMED; ONE IN THE UPPER 3' AND ONE BELOW THE UPPER 3'.
OVERLAP THE EXISTING GEOTEXTILE FABRIC A MINIMUM OF 2" WITH TYPE V GEOTEXTILE ON EACH SIDE OF THE EXCAVATION.

* IF LESS THAN 3', THE ASPHALT SHALL BE REPLACED TO THE CURB.

NOTE: THE THICKNESS OF THE ASPHALT PATCH SHALL MATCH THE THICKNESS OF THE EXISTING PAVEMENT BUT IN NO CASE LESS THAN 3". THE THICKNESS OF THE CLASS 5 BASE SHALL MATCH THE THICKNESS OF THE EXISTING CL 5 BUT NOT LESS THAN 6". THE CITY ENGINEER SHALL SPECIFY LARGER THICKNESSES IF IT IS DEEMED NECESSARY.

THE EXISTING ASPHALT SHALL BE SAW CUT TO FORM A NEAT, RECTANGULAR PATCH.

EXTREME CARE MUST BE TAKEN TO EXPOSE THE PORTION OF GEOTEXTILE FABRIC WHICH IS TO BE OVERLAPPED TO PREVENT DAMAGE TO THE EXISTING FABRIC. IF THE FABRIC IS DAMAGED, THE EXCAVATION MUST BE ENLARGED TO PROVIDE A MINIMUM OF 2' OF OVERLAP ON TO UNDAMAGED FABRIC.

EXCAVATIONS SHALL BE COMPACTED IN NO GREATER THAN 6" LIFTS.

AN INSPECTION BY THE CITY IS REQUIRED WHEN THE EXCAVATION HAS BEEN FILLED TO THE EXISTING GEOTEXTILE FABRIC AND BEFORE PLACEMENT OF SAND AND ALSO WHEN IT IS FILLED TO THE TOP OF THE CLASS 5, BEFORE

THE CONTRACTOR SHALL PROVIDE A SOIL DENSITY TEST ON THE COMPACTED SOILS FROM A TESTING COMPANY APPROVED BY THE CITY. TEST MUST BE IN COMPLIANCE WITH THE CURRENT MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

TWO SOIL DENSITY TESTS MUST BE PERFORMED; ONE IN THE UPPER 3' AND ONE BELOW
EXCAVATIONS SHALL BE COMPACTED IN NO GREATER THAN 6" LIFTS.

AN INSPECTION BY THE CITY IS REQUIRED WHEN THE EXCAVATION HAS BEEN FILLED TO THE TOP OF THE CLASS 5 AND BEFORE PLACEMENT OF ASPHALT. ALSO WHEN THE EXISTING ASPHALT HAS BEEN MILLED AND READY FOR THE PLACEMENT OF THE ASPHALT WEAR COURSE.

THE CONTRACTOR SHALL PROVIDE A SOIL DENSITY TEST ON THE COMPACTED SOILS FROM A TESTING COMPANY APPROVED BY THE CITY. TEST MUST BE IN COMPLIANCE WITH THE CURRENT MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.
EXCAVATIONS SHALL BE COMPAKTED IN NO GREATER THAN 6” LIFTS.

AN INSPECTION BY THE CITY IS REQUIRED WHEN THE EXCAVATION HAS BEEN FILLED TO THE TOP OF THE CLASS 5 AND BEFORE PLACEMENT OF ASPHALT.

THE CONTRACTOR SHALL PROVIDE A SOIL DENSITY TEST ON THE COMPACTED SOILS FROM A TESTING COMPANY APPROVED BY THE CITY. TEST MUST BE IN COMPLIANCE WITH THE CURRENT MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

TWO SOIL DENSITY TESTS MUST BE PERFORMED; ONE IN THE UPPER 3’ AND ONE BELOW
COMPACTED EXISTING SOIL
IF THE EXISTING SOILS ARE NOT SUITABLE, THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND HE SHALL SPECIFY THE TYPE OF BACKFILL TO USE.

* IF LESS THAN 3', THE ASPHALT SHALL BE REPLACED TO THE CURB.

NOTE: THE THICKNESS OF THE ASPHALT PATCH SHALL MATCH THE THICKNESS OF THE EXISTING PAVEMENT BUT IN NO CASE LESS THAN 3". THE THICKNESS OF THE CLASS 5 BASE SHALL MATCH THE THICKNESS OF THE EXISTING CL 5 BUT NOT LESS THAN 6". THE CITY ENGINEER SHALL SPECIFY LARGER THICKNESSES IF IT IS DEEMED NECESSARY.

THE EXISTING ASPHALT SHALL BE SAW CUT TO FORM A NEAT, RECTANGULAR PATCH A MINIMUM OF 18" LARGER ON ALL SIDES THAN THE EXCAVATION.

THE CITY ENGINEER SHALL DETERMINE THE LIMITS OF THE OVERLAY.

EXCAVATIONS SHALL BE COMPACTED IN NO GREATER THAN 6" LIFTS.

AN INSPECTION BY THE CITY IS REQUIRED WHEN THE EXCAVATION HAS BEEN FILLED TO THE TOP OF THE CLASS 5 AND BEFORE PLACEMENT OF ASPHALT.

THE CONTRACTOR SHALL PROVIDE A SOIL DENSITY TEST ON THE COMPACTED SOILS FROM A TESTING COMPANY APPROVED BY THE CITY. TEST MUST BE IN COMPLIANCE WITH THE CURRENT MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

TWO SOIL DENSITY TESTS MUST BE PERFORMED; ONE IN THE UPPER 3' AND ONE BELOW THE UPPER 3'.
COMPACTED EXISTING SOIL.
IF THE EXISTING SOILS ARE
NOT SUITABLE, THE CONTRACTOR
SHALL NOTIFY THE CITY
ENGINEER AND HE SHALL
SPECIFY THE TYPE OF
APPROVED BACKFILL MATERIAL.

* IF LESS THAN 3', THE ASPHALT SHALL BE REPLACED
TO THE CURB.

NOTE: THE THICKNESS OF THE ASPHALT PATCH SHALL MATCH
THE THICKNESS OF THE EXISTING PAVEMENT BUT IN NO
CASE LESS THAN 3". THE THICKNESS OF THE CLASS 5
BASE SHALL MATCH THE THICKNESS OF THE EXISTING
CL 5 BUT NOT LESS THAN 6".
THE CITY ENGINEER SHALL SPECIFY LARGER THICKNESSES
IF IT IS DEEMED NECESSARY.

THE EXISTING ASPHALT SHALL BE
SAW CUT TO FORM A NEAT,
RECTANGULAR PATCH A
MINIMUM OF 18" LARGER
ON ALL SIDES THAN THE
EXCAVATION.

THE CITY ENGINEER SHALL
DETERMINE THE LIMITS OF
PAVEMENT PRESERVATION.

EXCAVATIONS SHALL BE COMPACTED IN NO GREATER THAN 6" LIFTS.

AN INSPECTION BY THE CITY IS REQUIRED WHEN THE EXCAVATION HAS BEEN
FILLED TO THE TOP OF THE CLASS 5 AND BEFORE PLACEMENT OF ASPHALT.

THE CONTRACTOR SHALL PROVIDE A SOIL DENSITY TEST ON THE COMPACTED SOILS
FROM A TESTING COMPANY APPROVED BY THE CITY. TEST MUST BE IN COMPLIANCE WITH
THE CURRENT MNDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

TWO SOIL DENSITY TESTS MUST BE PERFORMED; ONE IN THE UPPER 3' AND ONE BELOW
THE UPPER 3'.
NO PRIVATE FACILITIES ARE ALLOWED TO RUN PARALLEL TO PUBLIC FACILITIES IN THE CLEAR ZONE SHOWN ABOVE

NOTE:
MINIMUM SEPARATION 1:1
RISE: RUN
FOR USE WITH TYPE V GEOTEXTILE FABRIC

THIS SEAM TYPE REQUIRES THE MATING OF TWO PARALLEL SECTIONS OF GEOTEXTILE WHICH ARE THEN Turned TWice IN THE SAME DIRECTION (HENCE "DOUBLE J") TO CREATE A THICKNESS OF 6 PLIES WHICH IS THEN SEWN WITH 2 ROWS OF STITCHES. THIS SEAM ALSO ENCAPSULATES THE SELVAGE SO THAT IT CANNOT BE USED AS A STITCHING SURFACE.
SEWN "J" SEAM

FOR USE WITH TYPE VI GEOTEXTILE FABRIC.
NOTE:
BOTTOM OF MAILBOX SHOULD BE 41–45 INCHES ABOVE GRADE. FACE OF MAILBOX SHOULD BE BETWEEN 6 AND 8 INCHES FROM FACE OF CURB.

MAILBOX AND POST SHOULD MEET CURRENT UNITED STATES POST OFFICE GUIDELINES.
ALL POSTS 8"x8"x6' "BROWN TONE" OR APPROVED EQUAL, C.C.A. TREATED WOOD. ASSEMBLY AND HARDWARE SHALL BE AS DETAILED ON MNDOT STANDARD PLATE 8330G EXCEPT THAT THE POSTS USED SHALL CONFORM TO THE ABOVE DRAWING AND THE END POST PLATE WASHER SHALL BE FLAT (NO 3" CURVATURE) OF THE SAME DIMENSIONS SHOWN.
SIGNS

SIGNS SHALL BE MADE OF FLAT ALUMINUM THAT IS .080 THICK AND 9" HIGH WITH 1.5" RADIUS CORNERS AND TELESPAR PUNCHING.

SIGNS SHALL BE SINGLE FACE DG3 DIAMOND GRADE SHEETING.

PUBLIC STREET SIGNS SHALL HAVE A GREEN BACKGROUND WITH WHITE LETTERING, .5" E 450 SERIES BORDER, AND 6" CITY LOGO ON LEFT.

SIGNS SHALL HAVE .75" OF GREEN BACKGROUND ON ALL SIDES OF THE SIGN LEGEND.

STREET NAMES SHALL BE 6" UPPER CASE AND 4.5" LOWER CASE USING CLEARVIEW ONE FONT WITH .375" MARGINS.

STREET SUFFIXES AND BLOCK NUMBERS SHALL BE 3" UPPER CASE AND 2.25" LOWER CASE USING CLEARVIEW ONE FONT WITH .375" MARGINS.

A 6" ARROW SHALL BE ON THE RIGHT IF APPLICABLE.

ALL SIGNS SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MN MUTCD).
QUICK PUNCH
SQUARE TUBE
STREET NAME SIGN
POST DETAIL

2" #34 RIVET
AND 1 1/2" PLASTIC SPACER
(SIGN TO SIGN)

2" PYRAMID CAP

3/8" DRIVE RIVET W/ (1) NYLON
WASHERS (SIGN TO POST)

QUICK PUNCH (NOT PRE-PUNCHED)
SQUARE TUBE POST
ASSEMBLY
2" x 2" X 12' - 14ga.

5/16" @ 90° CORNER BOLT
(SIGN POST TO ANCHOR POST)

GROUND LINE

1" TO 2"

2-1/2" X 2-1/2" X 18" - 12ga.
OMNI SLEEVE
FOR SOIL STABILIZATION

PRE PUNCHE SQUARE TUBE ANCHOR ASSEMBLY
2-1/4" x 2-1/4" x 4' - 12ga

4'-0"
LEVEL OF BACKFILL

COMPACTED DRAINABLE FILL (SELECT GRANULAR OR COARSE FILTER AGGREGATE)

5' STRIPS MIRAGRID 5T @ 1/3 POINTS OF EXPOSED WALL

VARIES 6.5' MAX.

4" PVC DRAINTILE

APPROVED GRATE

NOTE: EXTEND DRAINTILE OUT THROUGH FACE OF WALL EVERY 100' TO 150'. CAP EXPOSED END WITH APPROVED GRATE.

33"

6"

COMPACTED GRAVEL FOOTING BATTER WALL 1/2" PER COURSE

NOTE: INSTALL A MINIMUM OF ONE COURSE BELOW GRADE

8"

24"

18"

FIBERGLASS PINS

FACE TEXTURE, COLOR, AND STYLE TO BE DETERMINED BY ENGINEER

APPROVED JANUARY 1, 2018

MODULAR BLOCK RETAINING WALL

CITY ENGINEER REG 23110

City of Golden Valley

GV-STRT-240
NOTE: THE ENGINEER SHALL MAKE FIELD DETERMINATIONS OF SUBGRADE SUITABILITY AND, IF NECESSARY, SHALL DIRECT THE CONTRACTOR TO VARY THE DEPTH OF COMMON EXCAVATION AND SELECT GRANULAR BORROW.

1.5" PLANT MIXED BITUMINOUS WEARING COURSE, MIXTURE DESIGNATION SPWEA240C

3" PLANT MIXED BITUMINOUS BASE COURSE, MIXTURE DESIGNATION SPNWB230B

6" AGGREGATE BASE, CLASS 5 -100% CRUSHED LIMESTONE - SPEC. 2211

0 to 36" SELECT GRANULAR BORROW - SPEC. 2149.232 (AS DIRECTED BY THE ENGINEER)

GEOTEXTILE FABRIC TYPE IV - SPEC. 2105 AS DEEMED NECESSARY BY THE ENGINEER
EZ SEE HYDRANT MARKER (72610 W-R 10501) W/RED REFLECTIVE TAPE 65"OVERALL LENGTH.

APPROVED MATERIALS:

FITTINGS - ALL FITTINGS SHALL BE EPOXY COATED DUCTILE IRON AND BOLTED WITH EPOXY COATED STAINLESS STEEL OR COR-BLUE BOLTS AND NUTS.

HYDRANTS - AVK DRY BARREL SERIES 2700 OR APPROVED EQUAL (THREADS - NATIONAL STANDARD ON 2 1/2" BUTTS AND MINNEAPOLIS ON 4 1/2" STEAMER NOZZLE). HYDRANTS SHALL BE PAINTED IN AVK YELLOW.

PIPE - CL 52 DIP (MINIMUM).

GATE VALVE BOX - SIZE G DUCTILE IRON, TYLER 6860, WITH 5" DROP LID HAVING THE WORD "WATER" CAST THEREON AND #6 ROUND BASE. THE BOXES SHALL EXTEND NOT LESS THAN 12" UPWARD FROM INITIAL INSTALLED POSITION AND INCLUDE A POWER SEAL MODEL 5000 VALVE BOX ALIGNER, EPOXY COATED 1/4" STEEL PER ASTM A53/A512.

GATE VALVE - AVK VALVE SERIES 65 WITH EXTERIOR EPOXY COATING.

INSTALL 2 - 3/4" THREADED RODS AT SPRING LINE OF EACH SECTION OF PIPE. COVER ALL RODS WITH POLY ENCASEMENT OR APPROVED CORROSION INHIBITOR. MEGALUG GLANDS MAY BE SUBSTITUTED FOR RODS (RODDING IS REQUIRED IF MORE THAN ONE PIPE LENGTH IS USED BETWEEN THE VALVE AND THE TEE).

SET HYDRANT ON 16"x16"x5" CONCRETE BLOCK

CUT 6" DIA. NIPPLE TO GET 12" FLANGE TO FLANGE.

MIN. 1 CY DRAIN PIT USING 1 1/2" CLEAR RIVER ROCK. FILL TO ABOVE DRAIN OPENING AND PLACE GEOTEXTILE FABRIC OVER TOP.

CONCRETE BLOCK

VALVE BOX ALIGNER

TEE

16"x16"x5" CONCRETE BLOCK

CITY ENGINEER REG 23110

APPROVED JANUARY 1, 2018

TYPICAL HYDRANT INSTALLATION

City of
Golden Valley
GV-WM-010
EZ SEE HYDRANT MARKER (72610 W-R 10501) W/RED REFLECTIVE TAPE 65” OVERALL LENGTH.

APPROVED MATERIALS:

FITTINGS — ALL FITTINGS SHALL BE EPOXY COATED DUCTILE IRON AND BOLTED WITH EPOXY COATED STAINLESS STEEL OR COR-BLUE BOLTS AND NUTS.

HYDRANTS — AVK DRY BARREL SERIES 2700 (27M/PNN-14) OR APPROVED EQUAL (THREADS — NATIONAL STANDARD ON 2 1/2” BUTS AND MINNEAPOLIS ON 4 1/2” STEAMER NOZZLE). HYDRANTS SHALL BE PAINTED IN AVK YELLOW.

PIPE — CL 52 DIP (MINIMUM).

GATE VALVE BOX — SIZE G DUCTILE IRON, TYLER 6860, WITH 5” DROP LID HAVING THE WORD “WATER” CAST THEREON AND #6 ROUND BASE. THE BOXES SHALL EXTEND NOT LESS THAN 12” UPWARD FROM INITIAL INSTALLED POSITION AND INCLUDE A POWER SEAL MODEL 5000 VALVE BOX ALIGNER, EPOXY COATED 1/4” STEEL PER ASTM A53/A512.

GATE VALVE — AVK VALVE SERIES 65/MFN MJ/FL, VALVE INSTALLED DIRECTLY TO HYDRANT.

INSTALL 1 – 3/4” THREADED RODS AT SPRING LINE OF EACH SECTION OF PIPE. COVER ALL RODS WITH POLY ENCASEMENT OR APPROVED CORROSION INHIBITOR. MEGALUG GLANDS MAY BE SUBSTITUTED FOR RODS (RODDING IS REQUIRED IF MORE THAN ONE PIPE LENGTH IS USED BETWEEN THE VALVE AND THE TEE).

CONCRETE BLOCK

AVK GATE VALVE WITH FLANGE ON ONE END, MECHANICAL JOINT ON THE OTHER.

SET HYDRANT AND VALVE ON 16”X16”X5” CONCRETE BLOCK

MIN. 1 CY DRAIN PIT USING 1 1/2” CLEAR RIVER ROCK. FILL TO ABOVE DRAIN OPENING AND PLACE GEOTEXTILE FABRIC OVER TOP.

APPROVED JANUARY 1, 2018

TYPICAL HYDRANT INSTALLATION

City of Golden Valley

GV-WM-015
NOTE:
FORM GOOSENECK 6” ABOVE TAP TO ALLOW FOR SETTLEMENT
MAINTAIN A MINIMUM OF 8’ OF COVER OVER SERVICE.

ANY SERVICE LARGER THAN 1” TO BE 1.5”/2” C–900 SDR 7 OR (4”STUB) TO PROPERTY
LINE WITH 4” GATE VALVE AND FLANGED REDUCER.

NOTE: NO MAGNESIUM GROUND ROD
NEEDED AT MAIN CONNECTION IF MAIN
LINE WIRE IS PRESENT AND CONNECTION
IS MADE WITH APPROVED 3 WAY
CONNECTOR.

APPROVED MATERIALS FOR COPPER & (PLASTIC) PIPING:

CURB STOP – 1” CURB STOP AY MCDONALD 76104 OR (PLASTIC 76104–33)

CURB BOX – AY MCDONALD SERIES 5622A 8 CURB BOX COMPLETE W/5623LTW LID– NO EXTENSION

CORPORATION STOP – 1” AY MCDONALD 74701B OR (PLASTIC 74701B–33)

TAPS – 1” SMITH–BLAIR SERIES 372 STAINLESS STEEL SERVICE SADDLE

WATER SERVICE – COPPER TYPE K OR C900 (PLASTIC W/ 1” SS INSERT AY MCDONALD 6136)
W/TRACER WIRE AS SHOWN OR MINNESOTA RURAL WATER ASSOCIATION STANDARDS.
NOTE:
FOR TRACER WIRE INSTALLATION REQUIREMENTS, REFER TO THE MINNESOTA RURAL WATER ASSOCIATION STANDARD DETAILS.

11/2" STEEL PIPE
MINIMUM 8’
TO WATER MAIN

8”x8”x2” CONCRETE BLOCK

FINISHED GRADE
TRACER WIRE ACCESS BOX
COPPERHEAD INDUSTRIES SP-Bracket
TRACER WIRE

NOTE:
TRACER WIRE REQUIRES MAGNESIUM GROUNDING ANODE AT FOUNDATION WALL AND CURB BOX.

APPROVED MATERIALS FOR COPPER & (PLASTIC) PIPING:

CURB STOP – 1” CURB STOP AY MCDONALD 76104 OR (PLASTIC 76104–33)
CURB BOX – CURB BOX AY MCDONALD SERIES 5622A 8 CURB BOX COMPLETE W/ 5623LTW LID

PIPE MATERIAL – ACCORDING TO STATE PLUMBING CODE: COPPER AND PLASTIC
(PLASTIC PIPE REQUIRES 1” STAINLESS STEEL INSERT AY MCDONALD 6136)
TRACER BOX ACCESS BOX – SHALL INCLUDE SNAKEPIT BRACKET BY COPPERHEAD

APPROVED JANUARY 16, 2020
CITY ENGINEER REG 23110

TYPICAL WATER SERVICE
PROPERTY LINE TO HOUSE

GV-WM-030
MUST BE GREATER THAN SLEEVE LENGTH TO ALLOW FOR REMOVAL OF SLEEVE AND VALVE.

NEENAH R-1733 SERIES SOLID COVER, ESS BROS. 301, OR APPROVED EQUAL WITH "WATER" ON IT

PLASTIC HDPE ADJUSTING RINGS (MIN. 2 MAX. 5)

WALL SHALL BE PRECAST CONCRETE

NOTE:

THE MANHOLE SHALL BE SET SO THE OPERATING NUT IS CENTERED ON THE OPENING IN THE COVER.

THE WALL OPENING FOR PIPE SHALL HAVE A 2" MIN. CLEARANCE ALL AROUND.

PRECAST CONCRETE MANHOLE PIPE SHALL CONFORM TO A.S.T.M. C-478.

BUTTERFLY VALVE AS SPECIFIED FOR 16" AND LARGER WATER MAIN.

POURED OR PRECAST CONCRETE BASE

PLACE ON MIN. 18" DEEP 1 1/2" ROCK SUMP

CONCRETE BLOCK

VARIES (8' MINIMUM)

VARIES

27"

16"

4"

CITY ENGINEER REG 23110

APPROVED JANUARY 1, 2018

WATERMAIN VALVE MANHOLE

GV-WM-040
NOTE:
MINIMUM 2" PER FOOT UNDER 8' OF COVER — 2" THICK HIGH DENSITY POLYSTYRENE INSULATION (MINIMUM TOTAL R VALUE OF 20) LAYERS WITH JOINTS STAGGERED AND EXTENDING A MINIMUM OF 2' EACH WAY FROM WATERMAIN C/L OR AS DIRECTED BY THE ENGINEER.
SET 1/4" BELOW FINISHED BITUMINOUS ELEVATION

FINISHED GRADE

FITTINGS – ALL FITTINGS SHALL BE EPOXY COATED DUCTILE IRON AND BOLTED WITH EPOXY COATED STAINLESS STEEL OR COR-BLUE BOLTS AND NUTS.

GATE VALVE – AVK VALVE SERIES 65 WITH EXTERIOR EPOXY COATING.

GATE VALVE BOX – SIZE G DUCTILE IRON, TYLER 6860, WITH 5" DROP LID HAVING THE WORD "WATER" CAST THEREON AND #6 ROUND BASE. THE BOXES SHALL EXTEND NOT LESS THAN 12" UPWARD FROM INITIAL INSTALLED POSITION AND INCLUDE A POWER SEAL MODEL 5000 VALVE BOX ALIGNER, EPOXY COATED 1/4" STEEL PER ASTM A53/A512.

VALVE BOX ALIGNER

16"x16"x5" CONCRETE BLOCK
NOTES:
1. WIRE SHOWN AWAY FROM PIPE FOR CLARITY. WIRE SHALL BE INSTALLED ON THE BOTTOM SIDE OF THE PIPE BELOW THE SPRING LINE. THE WIRE SHALL BE FASTENED TO THE PIPE WITH TAPE OR PLASTIC TIES AT 5' INTERVALS.
HOLDDOWN: 5/8" DIA. THREADED ROD
HAIRPIN & NUTS
DIP SIZE VARIES
NAIL WEDGES

HP 10 X 42 PILE CAP

TYPICAL SECTION

3/4" DIA 1325 BOLTS PER PILE
(1 EACH SIDE OF BEAM)

LONGITUDINAL BRACE
ANGLE 4" X 4" X 3/8"
CONTINUOUS BETWEEN CAPS

HELICAL PILES

NOTE:
HELICAL PILE – SEE SPECIFICATIONS FOR DIMENSIONS, LENGTH & LOADS.

STEEL CAP, ANGLES AND RODS SHALL BE COVERED WITH AN APPROVED CORROSION INHIBITOR.

SECTION A–A

NOT TO SCALE
ALL BOLTS AND RODS SHALL BE COVERED WITH AN APPROVED CORROSION INHIBITOR.

ELEVATION AT MANHOLE

NOT TO SCALE