BELIEVERS BIBLE CHAPEL SERVICE CONSTRUCTION

CITY OF COON RAPIDS, MINNESOTA

OWNER

BELIEVERS BIBLE CHAPEL
11024 UNIVERSITY AVENUE
COON RAPIDS, MN 55448
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HAKANSON ANDERSON
3601 THURSTON AVE.
ANOKA, MN 55303
CRAIG J. JOCHUM, P.E.
763-427-5860
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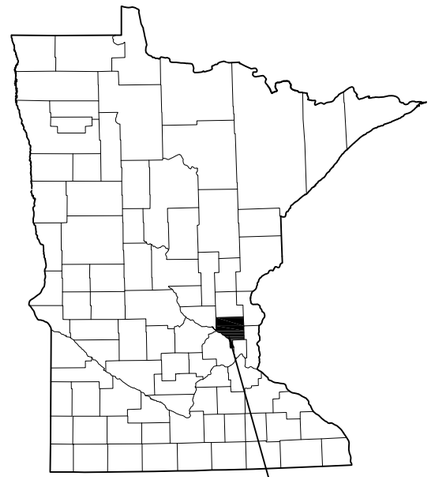

CITY OF COON RAPIDS,
ANOKA COUNTY,
MINNESOTA

GOVERNING SPECIFICATIONS

THE 2018 EDITION OF THE MINNESOTA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION" AND THE 2013 EDITION OF THE CEAM "STANDARD SPECIFICATIONS" SHALL APPLY.

ALL FEDERAL, STATE AND LOCAL LAWS, REGULATIONS, AND ORDINANCES SHALL BE COMPLIED WITH IN THE CONSTRUCTION OF THIS PROJECT.

ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE LATEST EDITION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, INCLUDING THE LATEST FIELD MANUAL FOR TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS.

ALL REQUIREMENTS OF THE PROJECT MANUAL FOR THE BELIEVERS BIBLE CHAPEL SERVICE CONSTRUCTION PROJECT.

SHEET INDEX

THIS PLAN CONTAINS 6 SHEETS

LEGEND

- EXISTING CONTOUR (906)
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- GAS LINE EASEMENT
- DELINEATED WETLAND (W)
- DRAINAGE AND UTILITY EASEMENT
- UNDERGROUND GAS LINE (G)
- EXISTING CONCRETE CURB & GUTTER
- EXISTING STORM SEWER (>>)
- EXISTING SANITARY SEWER (>)
- EXISTING WATERMAIN (I)
- EXISTING WATER VALVE
- EXISTING CATCH BASIN
- EXISTING STORM SEWER MANHOLE (D)
- EXISTING SANITARY SEWER MANHOLE (S)
- EXISTING HYDRANT
- PROPOSED CONTOUR (906)
- PROPOSED STORM SEWER (>>)
- PROPOSED SANITARY SEWER (>)
- PROPOSED WATERMAIN (I)
- PROPOSED CATCH BASIN
- PROPOSED SANITARY SEWER MANHOLE (S)
- PROPOSED STORM SEWER MANHOLE (D)
- PROPOSED HYDRANT
- PROPOSED WATER VALVE
- PROPOSED CONCRETE CURB & GUTTER
- SILT FENCE PER (2/2)
- DETAIL NUMBER (2/3)
- SHEET NUMBER (2/3)

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

CRAIG J. JOCHUM, P.E.
HAKANSON ANDERSON
DESIGN ENGINEER

23461 LIC. NO.

DATE 1/7/20

DATE	REVISION
2/28/20	REVISIONS PER OWNER
7/20/20	CITY COMMENTS AND ADD SHEET 5 AND 6
9/8/20	COON CREEK REVIEW NO. 1
9/29/20	COON CREEK REVIEW NO. 2
2/23/21	ISSUED FOR BID

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-2, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

BENCHMARKS:
① TOP NUT HYDRANT NE CORNER OF CVS PARKING LOT.
ELEV=911.10
DATUM:
NAVD 88

Civil Engineers and Land Surveyors
3601 Thurston Ave., Anoka, Minnesota 55303
763-427-5860 FAX 763-427-0520

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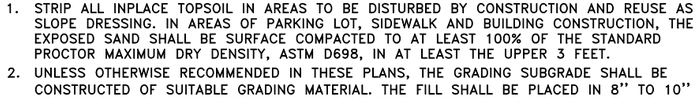
GENERAL CONSTRUCTION AND SOILS NOTES:

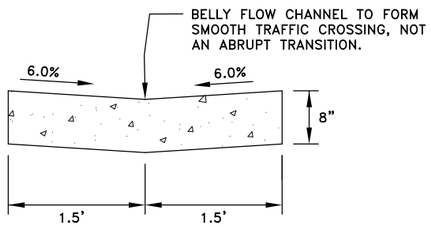
1. STRIP ALL INPLACE TOPSOIL IN AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS SLOPE DRESSING. IN AREAS OF PARKING LOT, SIDEWALK AND BUILDING CONSTRUCTION, THE EXPOSED SAND SHALL BE SURFACE COMPACTED TO AT LEAST 100% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY, ASTM D698, IN AT LEAST THE UPPER 3 FEET.
2. UNLESS OTHERWISE RECOMMENDED IN THESE PLANS, THE GRADING SUBGRADE SHALL BE CONSTRUCTED OF SUITABLE GRADING MATERIAL. THE FILL SHALL BE PLACED IN 8'' TO 10'' LOOSE LIFTS, AND COMPACTED TO 100% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY.
3. SUITABLE GRADING MATERIAL FOR THIS PROJECT SHALL CONSIST OF ALL SOILS ENCOUNTERED WITH THE EXCEPTION OF TOPSOIL, SILT, DEBRIS, ORGANIC MATERIAL AND OTHER UNSTABLE MATERIAL.
4. WHEN PLACING NEW PAVEMENT ADJACENT TO INPLACE PAVEMENT CUT VERTICALLY TO THE BOTTOM OF INPLACE SURFACING OR TOP OF GRADING SUBGRADE, WHICHEVER IS DEEPER, AT A 1(V):2(H) TO THE BOTTOM OF EXCAVATION.
5. PROVIDE A SAW CUT WHEN PLACING NEW PAVEMENT ADJACENT TO INPLACE PAVEMENT AND AT TERMINI OF CONSTRUCTION TO ENSURE A UNIFORM JOINT.
6. BITUMINOUS AND CONCRETE ITEMS DISTURBED BY CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF IN ACCORDANCE WITH Mn/DOT SPEC. 2104.3.
7. USE TACK COAT BETWEEN ALL BITUMINOUS MIXTURES. THE BITUMINOUS TACK COAT MATERIAL SHALL BE APPLIED AT A UNIFORM RATE OF 0.04 GAL/SY TO 0.06 GAL/SY BETWEEN BITUMINOUS LAYERS. THE APPLICATION RATES ARE FOR UNDILUTED EMULSIONS (AS SUPPLIED FROM THE REFINERY) OR MC AND RC LIQUID ASPHALTS. THE ASPHALT EMULSION MAY BE FURTHER DILUTED IN THE FIELD IN ACCORDANCE WITH SPEC. 2357.
8. PERFORMANCE GRADED (PG) ASPHALT BINDER PG 58-28, SPEC. 3151 MODIFIED, SHALL BE USED FOR ALL BITUMINOUS MIXES ON THIS PROJECT. SPEC. 3151 MODIFIED IS INCLUDED IN TECHNICAL MEMORANDUM NO. 02-06-MRR-01. SPECIFIC PG GRADES SHALL BE STATED IN THE SPECIAL PROVISIONS AND AT THE END OF THE MIX DESIGNATION NUMBER SHOWN ON THE TYPICAL SECTION.
9. THE BITUMINOUS MIXTURES SHALL MEET THE REQUIREMENTS OF SPECIFICATIONS 2360 AND 3139.

GENERAL EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL INSTALL EROSION AND SEDIMENT CONTROL FACILITIES (BMP'S) PRIOR TO GRADING AND REMOVAL ACTIVITIES. BMP'S SHALL BE MAINTAINED FOR THE DURATION OF CONSTRUCTION ACTIVITIES AND POTENTIAL FOR EROSION HAS PASSED.
2. THE CONTRACTOR SHALL SCHEDULE THEIR OPERATIONS TO MINIMIZE THE AMOUNT OF DISTURBED AREA AT ANY GIVEN TIME.
3. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PROPERLY DISPOSED OF WITHIN THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION IS APPROVED BY THE ENGINEER.
4. CONTRACTOR SHALL STABILIZE ALL DISTURBED AREAS AND SOIL STOCKPILES TO PREVENT EROSION, WITHIN 7 DAYS OF ROUGH GRADING OR INACTIVITY.



1/2 LIGHT DUTY PARKING LOT SECTION
NO SCALE



6/2 CONCRETE VALLEY GUTTER
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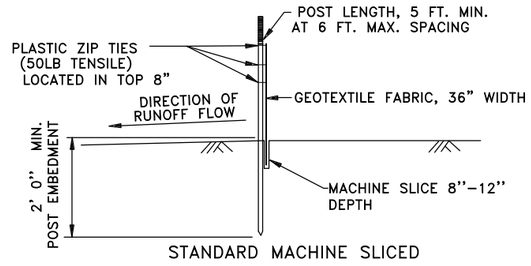
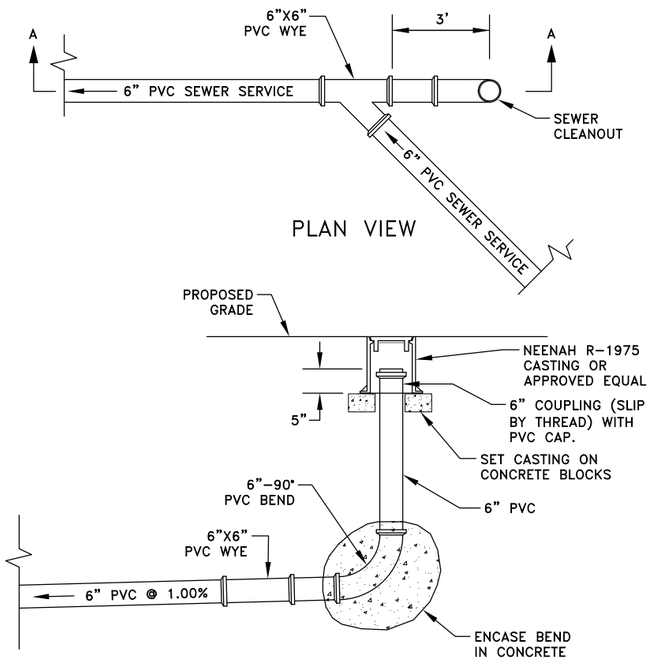
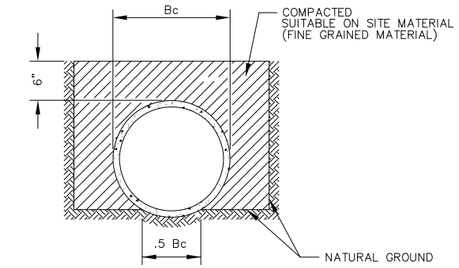


2/2 SILT FENCE DETAILS
TO PROTECT AREAS FROM SHEET FLOW (SEE SPEC. 3886)

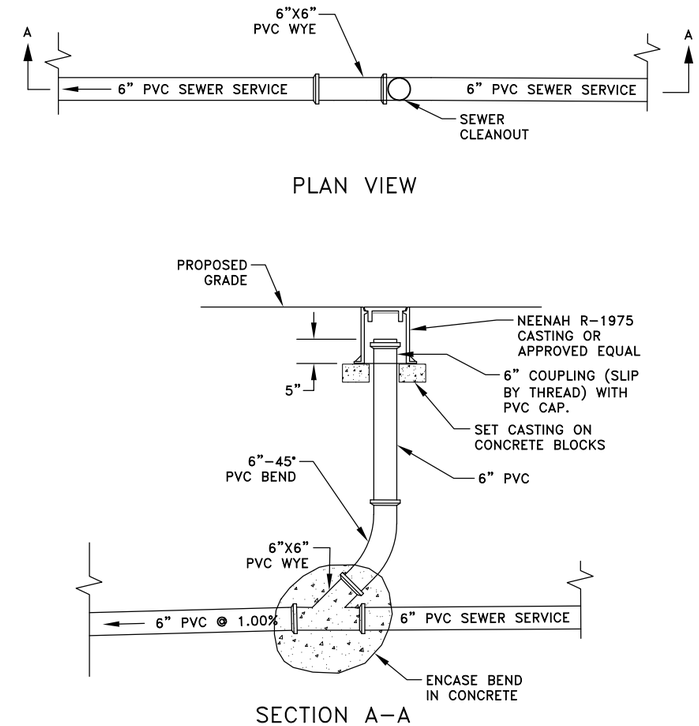


4/2 SANITARY SEWER CLEANOUT DETAIL - TYPE 1



THE BOTTOM OF THE TRENCH SHALL BE SHAPED TO FIT THE PIPE BARREL FOR AT LEAST 50% OF THE OUTSIDE DIAMETER. THE REMAINDER OF THE PIPE IS SURROUNDED TO A HEIGHT OF AT LEAST 6" ABOVE ITS TOP BY SUITABLE ON SITE MATERIALS, PLACED BY HAND TOOLS AND COMPACTED TO COMPLETELY FILL ALL SPACES UNDER AND ADJACENT TO THE PIPE.

3/2 CLASS C PIPE BEDDING DETAIL



5/2 SANITARY SEWER CLEANOUT DETAIL - TYPE 2

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2/23/21	ISSUED FOR BID

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CRAIG J. JOCHUM, P.E.
Date 1/7/20 Lic. No. 23461

DESIGNED BY: CJJ
DRAWN BY: SGJ
CHECKED BY: TAE

Hakanson Anderson
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BELIEVERS BIBLE CHAPEL
SERVICE CONSTRUCTION

DETAILS AND NOTES

COON RAPIDS, MINNESOTA

SHEET 2 OF 6 SHEETS

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LEGEND

- CLEAR AND GRUB
- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE PAVEMENT
- CLEAR AND GRUB TREE (INCIDENTAL)
- REMOVE CURB AND GUTTER
- SILT FENCE SEE (2/2)

SAWCUT 10LF CONCRETE WALK
REMOVE 146 SF CONCRETE WALK

CLEAR AND GRUB TREES – INCIDENTAL

REMOVE 38LF CURB AND GUTTER

REMOVE 20LF CURB AND GUTTER

CONTRACTOR SHALL REMOVE EXISTING SEPTIC TANKS. TANKS SHALL BE PUMPED PRIOR TO REMOVAL. TANKS SHALL BE DISPOSED OF IN CONFORMANCE WITH ALL LAWS AND CITY ORDINANCES. IF PORTIONS OF THE DRAINFIELD ARE ENCOUNTERED DURING EXCAVATION OF THE INFILTRATION BASIN THE MATERIAL SHALL BE PROPERLY DISPOSED.

REMOVE THE CURB STOP AND CAP THE EXISTING WATER SERVICE AT THE RIGHT OF WAY LINE. (4)

ROCK CONSTRUCTION ENTRANCE SEE (1/3). CONSTRUCT PRIOR TO EXPORTING MATERIAL

BORING HA-1
ELEVATION=907.9

REMOVE 802 SY BITUMINOUS PAVEMENT

REMOVE 8LF CURB AND GUTTER

REMOVE 8LF CURB AND GUTTER

(3) INLET PROTECTIONS SEE (2/5)

Monitoring Well

NORTHDALE BLVD NW

UNIVERSITY AVE NE

Existing Building

Shed

Block Wall

Timber Wall

Wood Fence

Gas Meter

Canopy Above

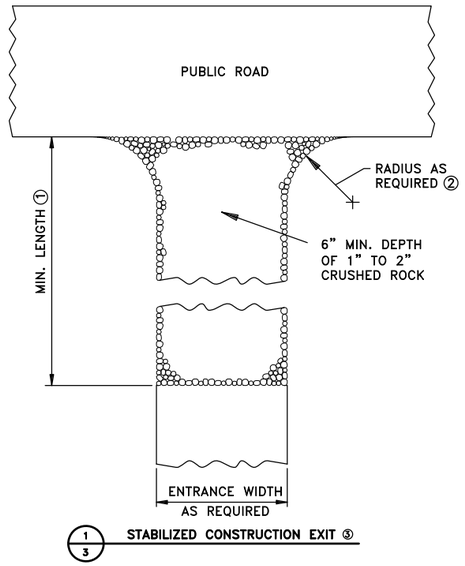
Elec. Meter

4X4 Post next to IPF

6052
906.25
TOP PIPE

6089
905.73
DRAIN

RTE=908.89



(1/3) STABILIZED CONSTRUCTION EXIT (3)

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REFERENCE NOTES:

1. MINIMUM LENGTH SHALL BE THE GREATER OF 50 FEET OR A LENGTH SUFFICIENT TO ALLOW A MINIMUM OF 5 TIRE ROTATIONS ON THE PROVIDED PAD. MINIMUM LENGTH SHALL BE CALCULATED USING THE LARGEST TIRE WHICH WILL BE USED IN TYPICAL OPERATIONS.
2. PROVIDE RADIUS OR WIDEN PAD SUFFICIENTLY TO PREVENT VEHICLE TIRES FROM TRACKING OFF OF PAD WHEN LEAVING SITE.
3. MAINTENANCE OF CONSTRUCTION EXITS SHALL OCCUR WHEN THE EFFECTIVENESS OF SEDIMENT REMOVAL HAS BEEN REDUCED. MAINTENANCE SHALL CONSIST OF REMOVING SEDIMENT AND CLEANING THE MATERIALS OR PLACING ADDITIONAL MATERIAL OVER SEDIMENT FILLED MATERIAL TO RESTORE EFFECTIVENESS.
4. ONLY IF ALTERNATIVE BID NO. 1 IS SELECTED.

GENERAL NOTES:

1. CONTRACTOR SHALL WORK WITH UTILITY COMPANIES AND OWNER TO FIELD LOCATE ALL ADJACENT AND ONSITE UTILITIES AND SEWER AND WATER SERVICE.

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BELIEVERS BIBLE CHAPEL
SERVICE CONSTRUCTION

EXISTING TOPOGRAPHY AND REMOVALS

COON RAPIDS, MINNESOTA

SHEET 3 OF 6 SHEETS

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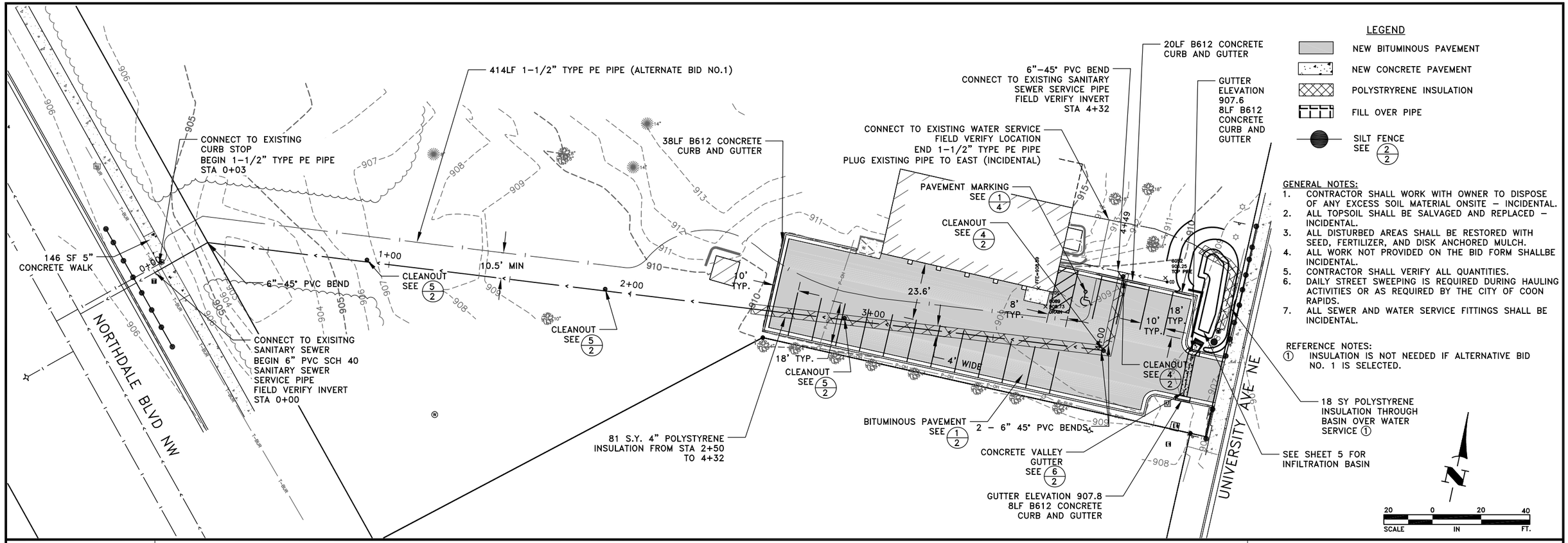

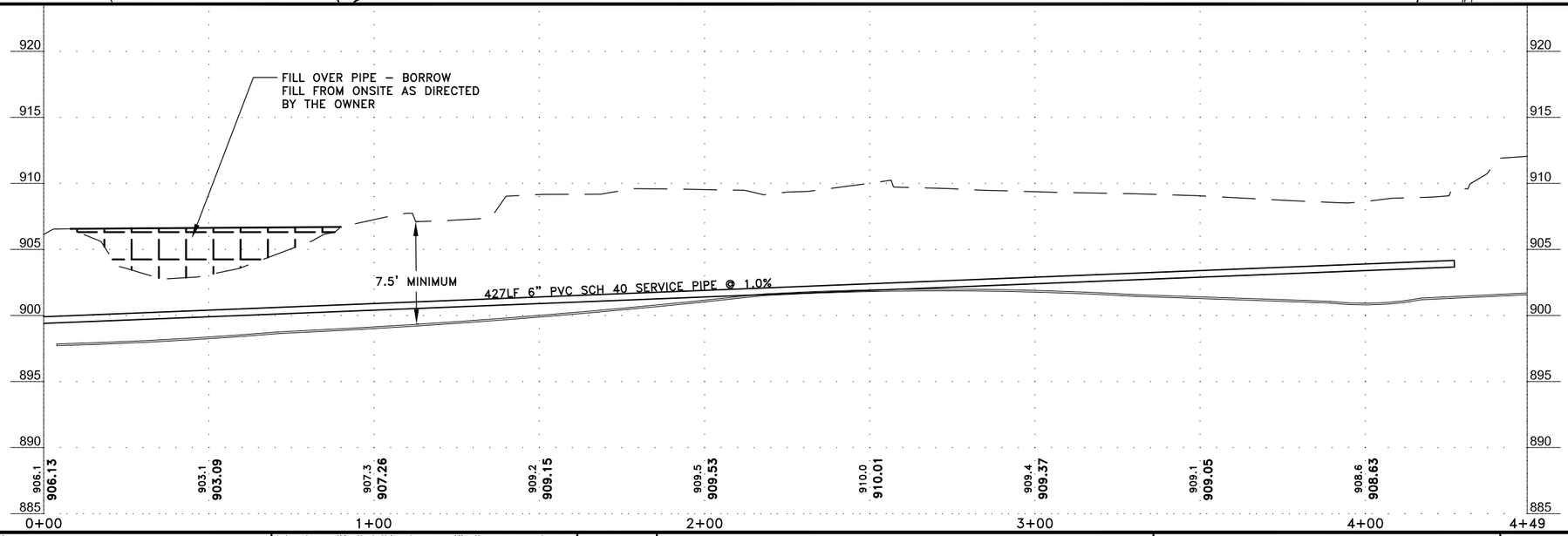

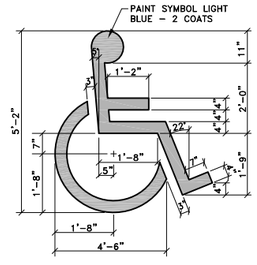

1/4 H.C. PARKING SYMBOL

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BELIEVERS BIBLE CHAPEL
SERVICE CONSTRUCTION

CONSTRUCTION PLAN

COON RAPIDS, MINNESOTA

SHEET 4 OF 6 SHEETS

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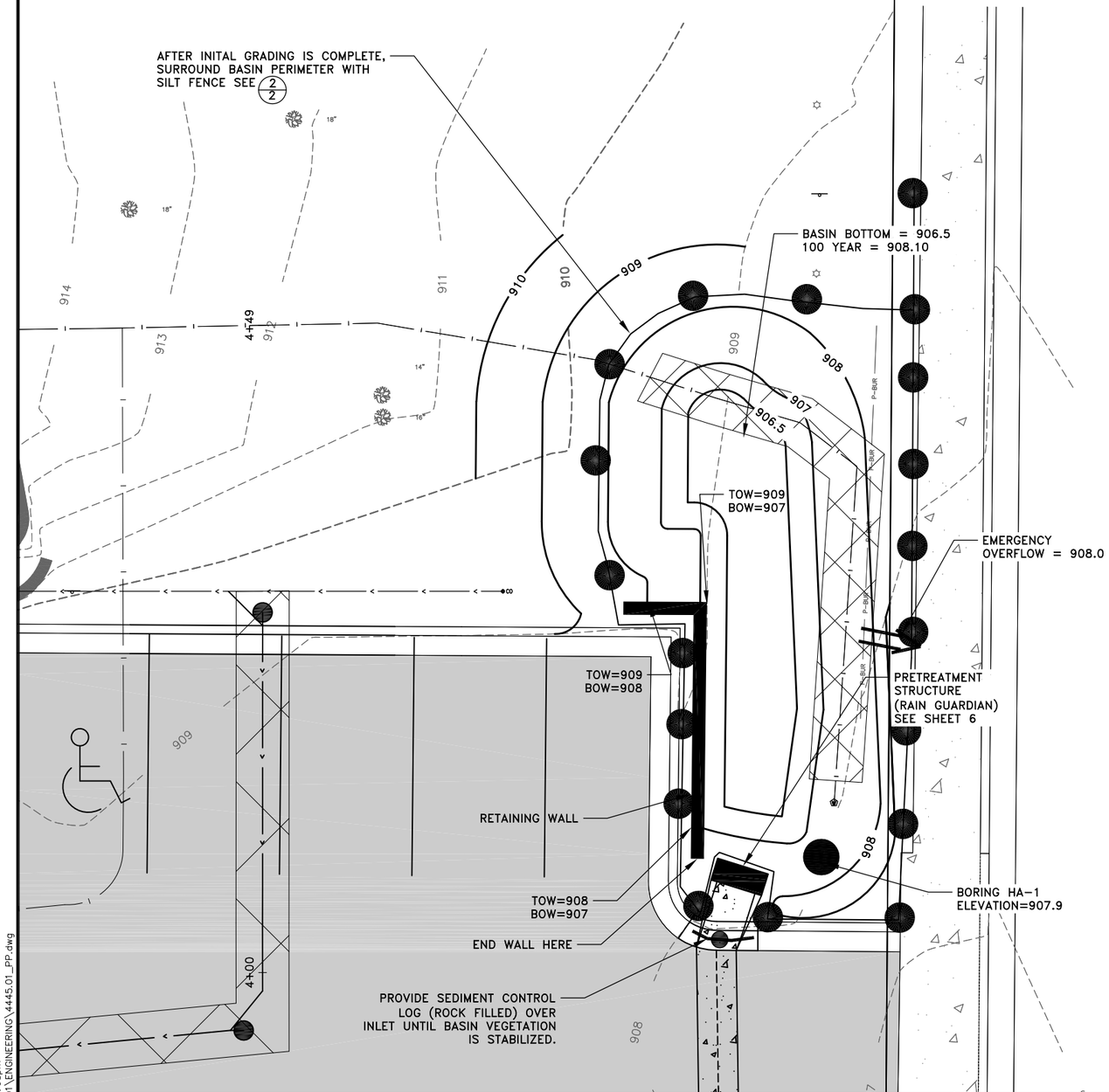
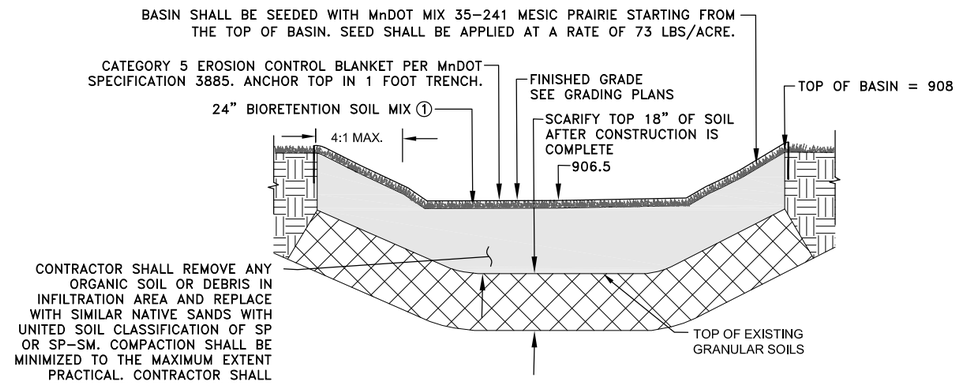
TOW = TOP OF WALL ELEVATION
BOW = GROUND ELEVATION AT BOTTOM OF WALL

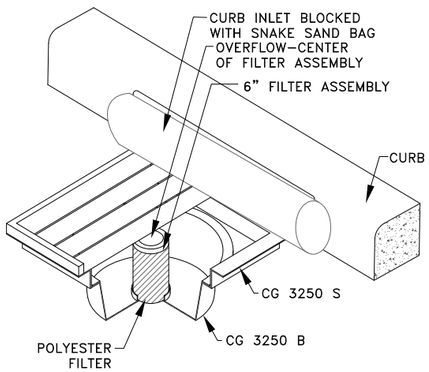


BASIN NOTES:

1. IMPERVIOUS AREA CONSTRUCTION SHALL BE COMPLETE AND PERVIOUS AREAS SHALL BE ESTABLISHED WITH DENSE HEALTHY VEGETATION PRIOR TO INTRODUCING STORMWATER TO THE BASINS.
2. CONSTRUCTION EQUIPMENT SHALL BE MINIMIZED OVER THE FOOTPRINT OF THE BASINS. ONLY LOW PRESSURE WIDE TRACKED EQUIPMENT SHALL BE USED FOR CONSTRUCTION.
3. THE OWNER WITH THE CONTRACTORS ASSISTANCE SHALL CONDUCT A POST CONSTRUCTION TEST ON THE INFILTRATION BASIN BY FILLING THE BASIN TO A MINIMUM DEPTH OF 6 INCHES AND MONITORING THE TIME NECESSARY TO DRAIN. THE COON CREEK WATERSHED DISTRICT SHALL BE NOTIFIED PRIOR TO THE TEST TO WITNESS THE RESULTS.



1/5 INFILTRATION BASIN ④
NTS



2/5 STORM DRAIN INLET PROTECTION TYPE 2 ②③
POST-CURB

REFERENCE NOTES:

① *MIX SHALL MEET THE MINNESOTA STORMWATER MANUAL MIX B.
*MIX SHALL BE 70 TO 85 PERCENT CONSTRUCTION SAND (AASHTO M-6 OR ASTM C-33 WASHED SAND)
*MIX SHALL BE 15-30% ORGANIC MATTER (MnDOT GRADE 2 COMPOST PER SPECIFICATION 3890)
*MIX SHALL BE PROVIDED BY PLAISTED COMPANIES OF ELK RIVER OR OTHER APPROVED SUPPLIER.

② TYPE 2 INLET PROTECTION, OR APPROVED EQUAL, SHALL BE INSTALLED ON ALL EXISTING AND NEW CASTINGS RECEIVING RUNOFF FROM THE PROJECT AREA. INLET PROTECTION SHALL BE INSTALLED ON EXISTING, OFF SITE CASTINGS PRIOR TO THE START OF CONSTRUCTION.

③ CONTRACTOR SHALL BE PAID FOR THE NUMBER OF INDIVIDUAL STORM DRAIN INLETS PROTECTED OVER THE LIFE OF THE CONTRACT, REGARDLESS OF THE TYPE AND NUMBER OF DEVICES USED AT EACH STORM DRAIN INLET.

④ ALL LABOR, EQUIPMENT AND MATERIAL REQUIRED TO CONSTRUCT THE INFILTRATION BASIN INCLUDING EROSION CONTROL AND RESTORATION ITEMS SHALL BE INCIDENTAL TO THE BID ITEM FOR "INFILTRATION POND".

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BELIEVERS BIBLE CHAPEL
SERVICE CONSTRUCTION

INFILTRATION BASIN AND DETAIL

COON RAPIDS, MINNESOTA

SHEET 5 OF 6 SHEETS

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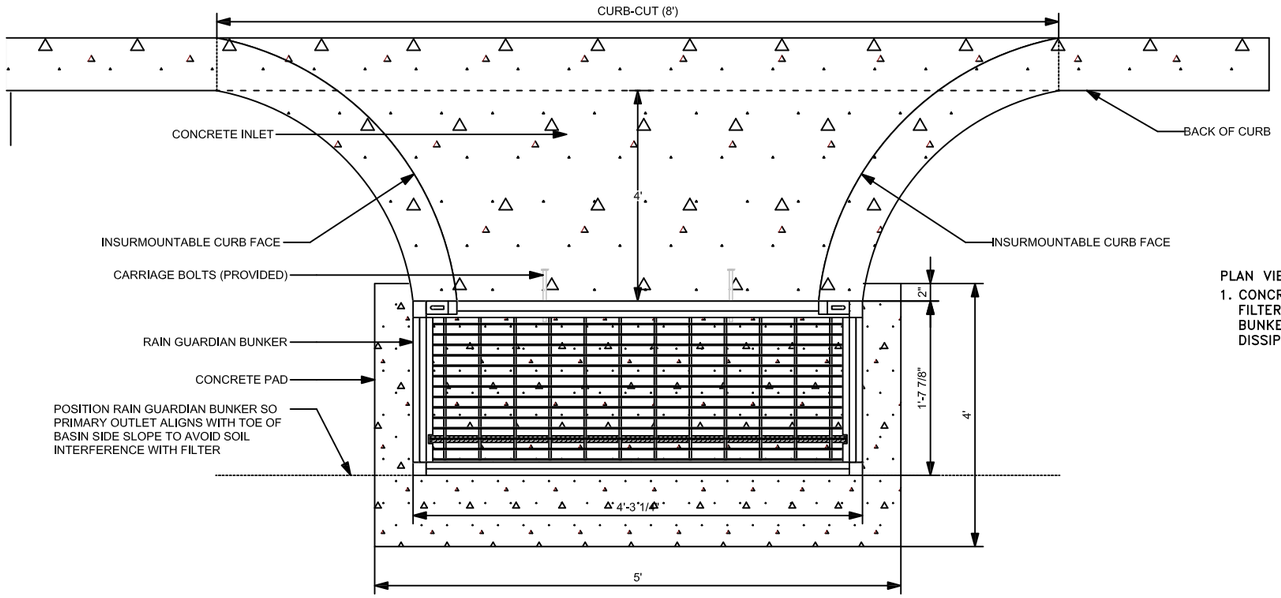
RAIN GUARDIAN BUNKER PLAN VIEW
U.S. PATENT 8,501,016

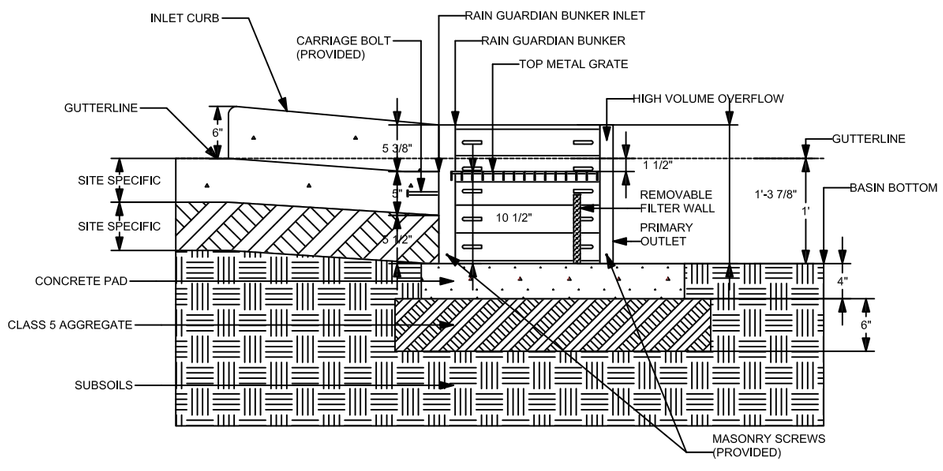


PLAN VIEW

PLAN VIEW GENERAL NOTES:
1. CONCRETE PAD EXTENDS BEYOND THE FILTER WALL OF THE RAIN GUARDIAN BUNKER TO SERVE AS A SPLASH DISSIPATOR.

INSTALLATION NOTES:
1. INSTALL THE CONCRETE PAD WITH A 1'10" OFFSET FROM THE BACK OF THE CURB TO ACCOMMODATE THE CONCRETE INLET. THIS DISTANCE MAY VARY BASED ON SITE CONDITIONS, BUT CONSIDERATIONS SHOULD INCLUDE SLOPE OF THE INLET AND BASIN SIDE SLOPES ADJACENT TO THE RAIN GUARDIAN BUNKER. POSITION RAIN GUARDIAN BUNKER SO PRIMARY OUTLET ALIGNS WITH TOE OF BASIN SIDE SLOPE TO AVOID SOIL INTERFERENCE WITH REMOVABLE FILTER WALL. THE CONCRETE PAD SHOULD BE REINFORCED WITH REBAR.
2. EXCAVATE 1'10" BELOW THE GUTTERLINE ELEVATION (I.E. THE BASIN OVERFLOW ELEVATION) TO ACCOMMODATE THE 1' PONDING DEPTH, 6" CLASS 5 AGGREGATE, AND 4" CONCRETE PAD TO WHICH THE RAIN GUARDIAN BUNKER WILL BE SECURED. THEREFORE, THE TOP OF THE FINISHED CONCRETE PAD IS PRECISELY 1' BELOW THE GUTTERLINE ELEVATION. THE TOP OF THE RAIN GUARDIAN BUNKER METAL GRATE WILL BE 10–1/2" ABOVE THE TOP OF THE CONCRETE PAD AND 1–1/2" BELOW THE GUTTERLINE ELEVATION TO ACCOMMODATE A SLOPED INLET FROM THE GUTTER TO THE RAIN GUARDIAN BUNKER.
3. THE RAIN GUARDIAN BUNKER SHOULD BE POSITIONED 2" FROM THE EDGE OF THE CONCRETE PAD CLOSEST TO THE BACK OF THE CURB. THEREFORE, THE RAIN GUARDIAN BUNKER WILL BE 2' FROM THE BACK OF THE CURB.
4. USING THE PILOT HOLE IN EACH OF THE FOUR CORNER POSTS, PREDRILL 5/32" HOLES INTO THE CONCRETE PAD WITH A 4–1/2" MASONRY BIT AND HAMMER DRILL.
5. SECURE RAIN GUARDIAN BUNKER TO CONCRETE PAD WITH FOUR 3/16" X 2–3/4" MASONRY SCREWS (PROVIDED).
6. INSTALL FRAMING FOR INLET BETWEEN RAIN GUARDIAN BUNKER AND BACK OF CURB. TOP ELEVATIONS OF THE FRAMING SHOULD MATCH THE TOP OF THE CURB ON THE STREET SIDE AND THE TOP OF THE RAIN GUARDIAN BUNKER ON THE BASIN SIDE.
7. WHEN POURING THE CONCRETE INLET, ENSURE THE CARRIAGE BOLTS ON THE RAIN GUARDIAN BUNKER ARE SURROUNDED BY AT LEAST 2" OF CONCRETE ON ALL SIDES.
8. SIDE CURBS OF THE POURED INLET MUST HAVE AN INSURMOUNTABLE PROFILE TO PREVENT WATER FLOW FROM OVERTOPPING THE DOWNSTREAM SIDE OF THE INLET.
9. WRAP CABLE THROUGH TOP METAL GRATE AND SECURE WITH PROVIDED CLAMP. ENSURE SUFFICIENT SLACK EXISTS IN CABLE TO ALLOW FOR GRATE REMOVAL AND PLACEMENT IN CONCRETE INLET DURING CLEANING. REMOVABLE FILTER WALL SHOULD BE INSTALLED WITH FILTER FABRIC FACING THE RAIN GUARDIAN BUNKER INLET.

RAIN GUARDIAN BUNKER CROSS-SECTION VIEW
U.S. PATENT 8,501,016



CROSS–SECTION VIEW

CROSS–SECTIONAL VIEW GENERAL NOTES:
1. THE TOP OF THE CLASS 5 BASE (COMPACTED TO 95% STANDARD PROCTOR) IS PRECISELY 1'4" BELOW THE GUTTERLINE ELEVATION.
2. THE TOP OF THE CONCRETE PAD IS PRECISELY 1' BELOW THE GUTTERLINE.

DATE	REVISION
7/20/20	CITY COMMENTS AND ADD SHEET 5 AND 6
9/8/20	COON CREEK REVIEW NO. 1
9/29/20	COON CREEK REVIEW NO. 2
2/23/21	ISSUED FOR BID

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

CRAIG J. JOCHUM, P.E.
Date 1/7/20 Lic. No. 23461

DESIGNED BY: CJJ
DRAWN BY: SGJ
CHECKED BY: TAE

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BELIEVERS BIBLE CHAPEL
SERVICE CONSTRUCTION

PRETREATMENT STRUCTURE–RAIN GUARDIAN DETAIL
COON RAPIDS, MINNESOTA

SHEET 6 OF 6 SHEETS

4445.01

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