

- NOTES:**
1. CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATIONS OF ALL EXISTING UNDERGROUND UTILITIES.
 2. CONTRACTOR SHALL FIELD VERIFY ALL BUILDING DIMENSIONS PRIOR TO ANY CONSTRUCTION.
 3. GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166.
 4. THE LOCATIONS AND ELEVATIONS OF THE EXISTING UTILITIES SHOWN HEREIN ARE APPROXIMATE. THEY HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND/OR RECORDS. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ANY EXISTING UTILITIES (SHOWN OR NOT SHOWN) ARE NOT DAMAGED DURING CONSTRUCTION.
 5. EXISTING IMPROVEMENTS DONE AFTER DATE OF SURVEY ARE APPROXIMATE. FIELD VERIFY PRIOR TO CONSTRUCTION.

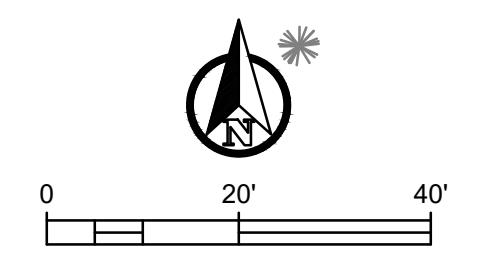
TOPOGRAPHIC INFORMATION PROVIDED BY:

DESIGN TREE ENGINEERING AND LAND SURVEYING
 3339 W. ST. GERMAIN
 SUITE 250
 ST. CLOUD, MN 56301
 TEL: 320-217-5557
 DATE OF SURVEY: APRIL 1, 2016

LEGEND

	HYDRANT
	SANITARY MANHOLE
	GATE VALVE
	POWER POLE
	LIGHT POLE
	CATCH BASIN
	SIGN
	DECIDUOUS TREE
	CONIFEROUS TREE
	SHRUB
	PEDESTAL
	UTILITY WIRE
	BOLLARD
	POWER BOX
	ELECTRIC METER
	MONITORING WELL
	SANITARY SEWER CLEANOUT
	WOOD FENCE
	STORM SEWER LINE
	SANITARY SEWER LINE
	WATERMAIN
	OVERHEAD ELECTRIC
	UNDERGROUND TELEPHONE
	UNDERGROUND FIBER
	UNDERGROUND ELECTRIC
	UNDERGROUND GAS LINE
	CONCRETE PAVEMENT
	BITUMINOUS PAVEMENT
	LANDSCAPING
	BUILDING
	CHAINLINK CONSTRUCTION FENCE

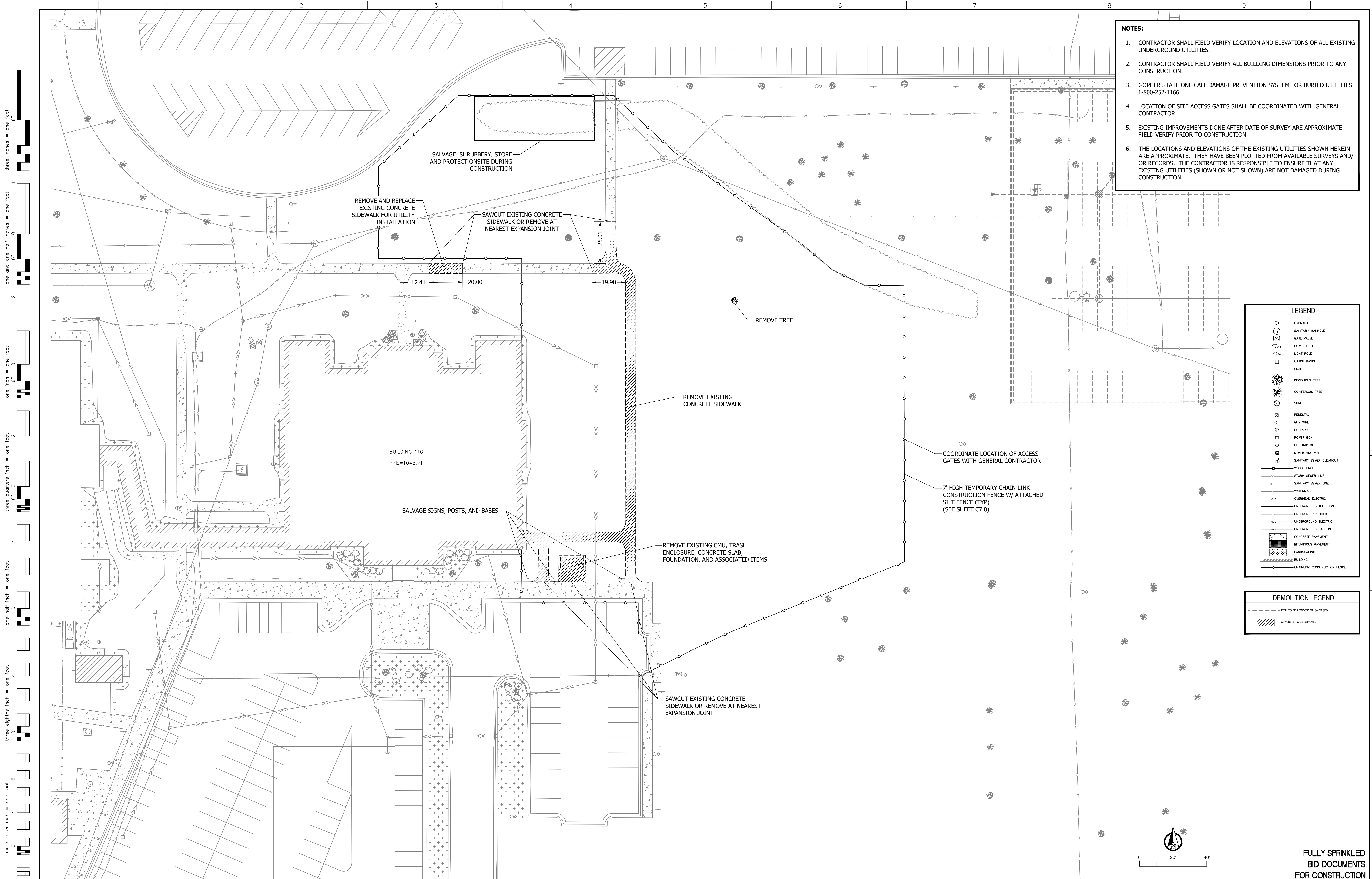
three inches = one foot
 one and one half inches = one foot
 one inch = one foot
 three quarters inch = one foot
 one half inch = one foot
 three eighths inch = one foot
 one quarter inch = one foot
 one eighth inch = one foot



FULLY SPRINKLED
 BID DOCUMENTS
 FOR CONSTRUCTION

ADDENDUM 1 - BID AND CONSTRUCTION DOCUMENTS 05/29/20 Revisions:	CONSULTANTS: DESIGN TREE engineering + land surveying St. Cloud Alexandria Rogers 320-217-5557	ARCHITECT/ENGINEERS: paradigm Architecture Engineering Design-Build 200 Envoy Circle #201, Louisville KY 40299 - PH: 502.339.8511 - www.paradigmusa.com	I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. PRINTED NAME: JERRY E. ANDERSON DATE: 12/27/2019 LICENSE #: 4123	Drawing Title CIVIL EXISTING CONDITIONS Approved Project Director	Project Title ST CLOUD ADH AND EC SUPPORT Location ST CLOUD VA HEALTH CARE SYSTEM 4801 VETERANS DRIVE, ST. CLOUD MN 56303	Project Number 656-343 Building Number --- Drawing Number C10	Office of Construction and Facilities Management
	Date: 12-27-2019 Checked: JEA Drawn: RJK						

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 2. CONTRACTOR SHALL FIELD VERIFY ALL BUILDING DIMENSIONS PRIOR TO ANY CONSTRUCTION.
 3. GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166.
 4. LOCATION OF SITE ACCESS GATES SHALL BE COORDINATED WITH GENERAL CONTRACTOR.
 5. EXISTING IMPROVEMENTS DONE AFTER DATE OF SURVEY ARE APPROXIMATE. FIELD VERIFY PRIOR TO CONSTRUCTION.
 6. THE LOCATIONS AND ELEVATIONS OF THE EXISTING UTILITIES SHOWN HEREIN ARE APPROXIMATE. THEY HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND/OR RECORDS. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ANY EXISTING UTILITIES (SHOWN OR NOT SHOWN) ARE NOT DAMAGED DURING CONSTRUCTION.



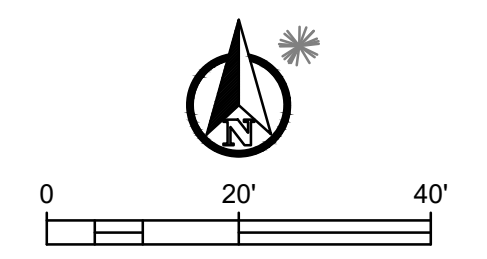
LEGEND

	HYDRANT
	SANITARY MANHOLE
	GATE VALVE
	POWER POLE
	LIGHT POLE
	CATCH BASIN
	SIGN
	DECIDUOUS TREE
	CONIFEROUS TREE
	SHRUB
	PEDISTAL
	GUY WIRE
	BOLLARD
	POWER BOX
	ELECTRIC METER
	MONITORING WELL
	SANITARY SEWER CLEANOUT
	WOOD FENCE
	STORM SEWER LINE
	SANITARY SEWER LINE
	WATERMAIN
	UNDERGROUND ELECTRIC
	UNDERGROUND FIBER
	UNDERGROUND ELECTRIC
	UNDERGROUND GAS LINE
	CONCRETE PAVEMENT
	BITUMINOUS PAVEMENT
	LANDSCAPING
	BUILDING
	CHAINLINK CONSTRUCTION FENCE

DEMOLITION LEGEND

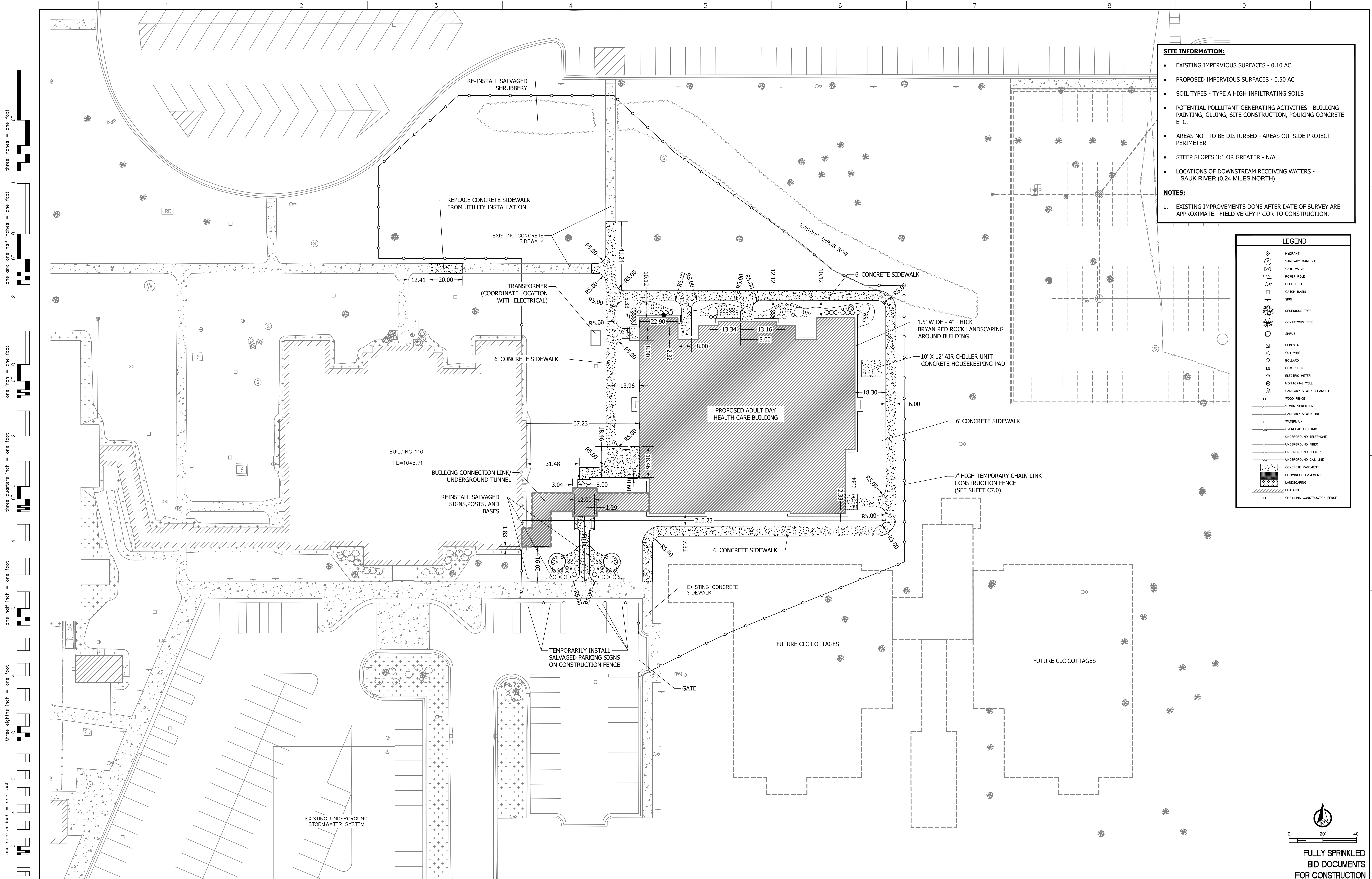
	ITEM TO BE REMOVED OR SALVAGED
	CONCRETE TO BE REMOVED

three inches = one foot
 one and one half inches = one foot
 one inch = one foot
 three quarters inch = one foot
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 three eighths inch = one foot
 one eighth inch = one foot
 one eighth inch = one foot



FULLY SPRINKLED
 BID DOCUMENTS
 FOR CONSTRUCTION

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	05/29/20 Date	12-27-2019 Date	JEA Checked	RJK Drawn	08-6231		



- SITE INFORMATION:**
- EXISTING IMPERVIOUS SURFACES - 0.10 AC
 - PROPOSED IMPERVIOUS SURFACES - 0.50 AC
 - SOIL TYPES - TYPE A HIGH INFILTRATING SOILS
 - POTENTIAL POLLUTANT-GENERATING ACTIVITIES - BUILDING PAINTING, GLUING, SITE CONSTRUCTION, POURING CONCRETE ETC.
 - AREAS NOT TO BE DISTURBED - AREAS OUTSIDE PROJECT PERIMETER
 - STEEP SLOPES 3:1 OR GREATER - N/A
 - LOCATIONS OF DOWNSTREAM RECEIVING WATERS - SAUK RIVER (0.24 MILES NORTH)
- NOTES:**
- EXISTING IMPROVEMENTS DONE AFTER DATE OF SURVEY ARE APPROXIMATE. FIELD VERIFY PRIOR TO CONSTRUCTION.

LEGEND

	HYDRANT
	SANITARY MANHOLE
	GATE VALVE
	POWER POLE
	LIGHT POLE
	CATCH BASIN
	SIGN
	DECIDUOUS TREE
	CONIFEROUS TREE
	SHRUB
	PEDESTAL
	GUY WIRE
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 one quarter inch = one foot
 one eighth inch = one foot

ADDENDUM 1 - BID AND CONSTRUCTION DOCUMENTS	Date
05/29/20	
Revisions:	

CONSULTANTS:

DESIGN TREE
 engineering + land surveying
 St. Cloud | Alexandria | Rogers
 320-217-5557

ARCHITECT/ENGINEERS:

paradigm
 Architecture | Engineering | Design-Build
 200 Envoy Circle #201, Louisville KY 40299 - PH: 502.339.8511 - www.paradigmusa.com

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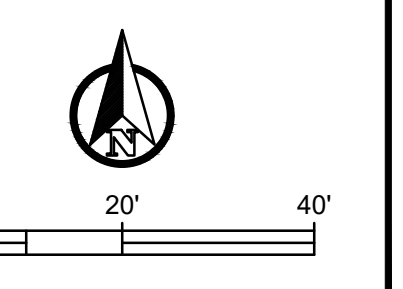
Jerry E. Anderson
 JERRY E. ANDERSON
 DATE: 12/27/2019 LICENSE #: 41223

Drawing Title	PROPOSED CIVIL SITE PLAN
Approved Project Director	

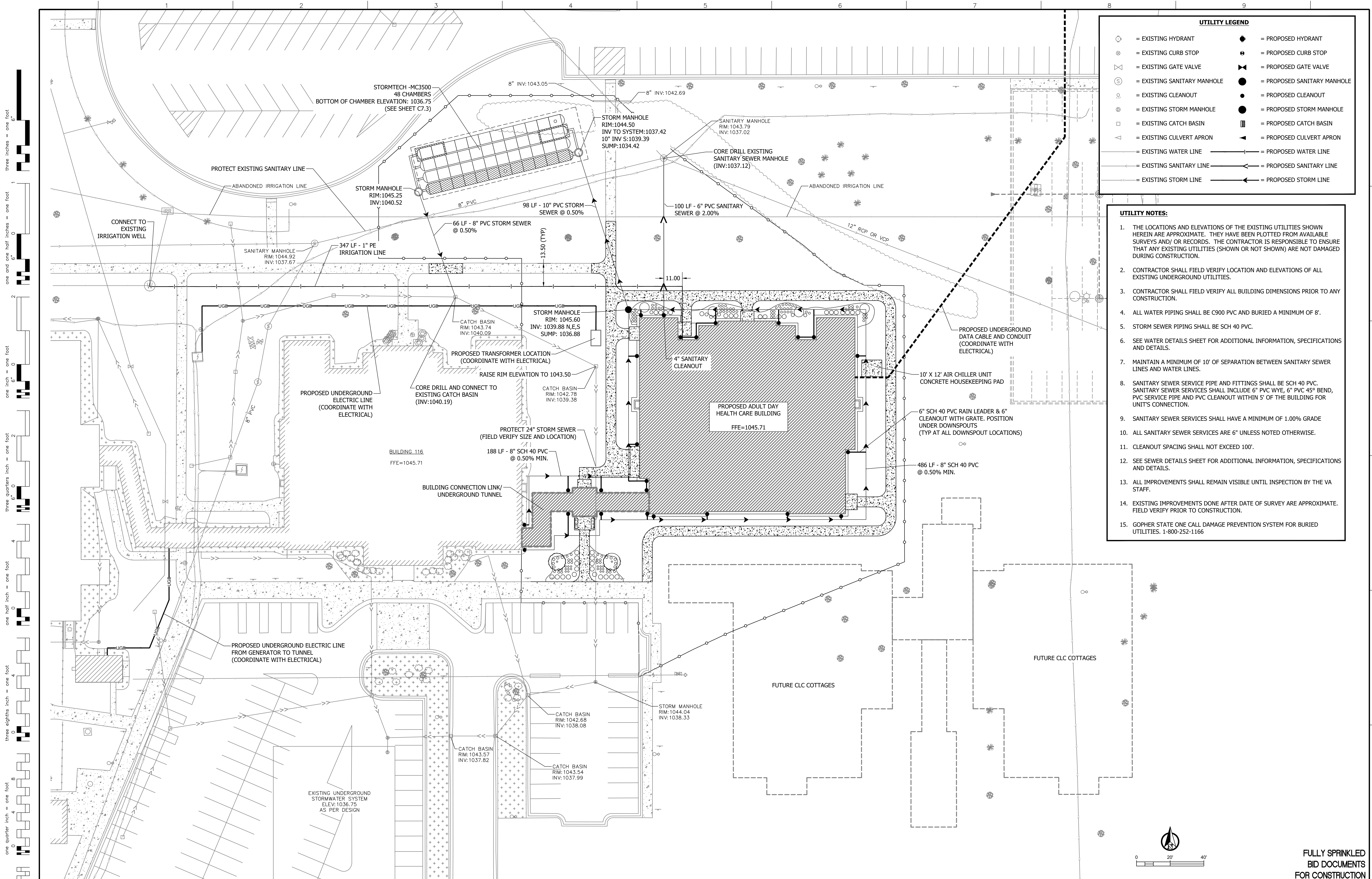
Project Title	ST CLOUD ADH AND EC SUPPORT
Location	ST CLOUD VA HEALTH CARE SYSTEM 4801 VETERANS DRIVE, ST. CLOUD MN 56303
Date	12-27-2019
Checked	JEA
Drawn	RJK

Project Number	656-343
Building Number	
Drawing Number	C3.0

Office of Construction and Facilities Management



FULLY SPRINKLED
 BID DOCUMENTS
 FOR CONSTRUCTION



Revisions:

Revisions	Date
ADDENDUM 1 - BID AND CONSTRUCTION DOCUMENTS	05/29/20

CONSULTANTS:

DESIGN TREE
engineering + land surveying
St. Cloud | Alexandria | Rogers
320-217-5557

ARCHITECT/ENGINEERS:

paradigm
Architecture | Engineering | Design-Build
200 Envoy Circle #201, Louisville KY 40299 - PH: 502.339.8511 - www.paradigmusa.com

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Jerry E. Anderson
JERRY E. ANDERSON
DATE: 12/27/2019 LICENSE #: 4123

Drawing Title:
PROPOSED CIVIL UTILITY PLAN

Approved Project Director:

Project Title:
ST CLOUD ADH AND EC SUPPORT

Location:
ST CLOUD VA HEALTH CARE SYSTEM
4801 VETERANS DRIVE, ST. CLOUD MN 56303

Date: 12-27-2019

Checked: JEA

Drawn: RJK

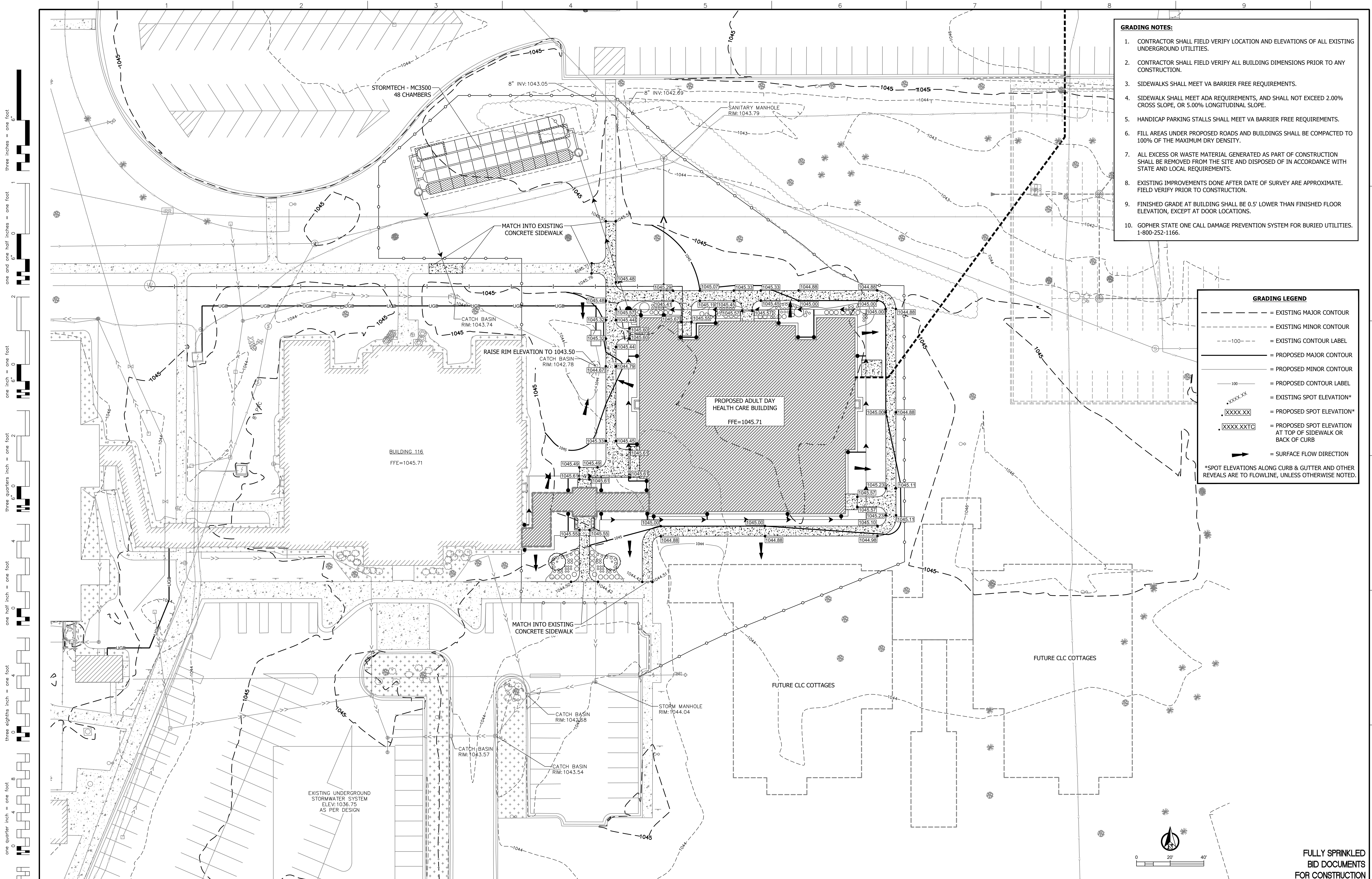
Project Number: 656-343

Building Number: ---

Drawing Number: C4.0

Office of Construction and Facilities Management

FULLY SPRINKLED
BID DOCUMENTS
FOR CONSTRUCTION



- GRADING NOTES:**
1. CONTRACTOR SHALL FIELD VERIFY LOCATION AND ELEVATIONS OF ALL EXISTING UNDERGROUND UTILITIES.
 2. CONTRACTOR SHALL FIELD VERIFY ALL BUILDING DIMENSIONS PRIOR TO ANY CONSTRUCTION.
 3. SIDEWALKS SHALL MEET VA BARRIER FREE REQUIREMENTS.
 4. SIDEWALK SHALL MEET ADA REQUIREMENTS, AND SHALL NOT EXCEED 2.00% CROSS SLOPE, OR 5.00% LONGITUDINAL SLOPE.
 5. HANDICAP PARKING STALLS SHALL MEET VA BARRIER FREE REQUIREMENTS.
 6. FILL AREAS UNDER PROPOSED ROADS AND BUILDINGS SHALL BE COMPACTED TO 100% OF THE MAXIMUM DRY DENSITY.
 7. ALL EXCESS OR WASTE MATERIAL GENERATED AS PART OF CONSTRUCTION SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH STATE AND LOCAL REQUIREMENTS.
 8. EXISTING IMPROVEMENTS DONE AFTER DATE OF SURVEY ARE APPROXIMATE. FIELD VERIFY PRIOR TO CONSTRUCTION.
 9. FINISHED GRADE AT BUILDING SHALL BE 0.5' LOWER THAN FINISHED FLOOR ELEVATION, EXCEPT AT DOOR LOCATIONS.
 10. GOPHER STATE ONE CALL DAMAGE PREVENTION SYSTEM FOR BURIED UTILITIES. 1-800-252-1166.

GRADING LEGEND

- - - - - = EXISTING MAJOR CONTOUR
- - - - - = EXISTING MINOR CONTOUR
- 100- - - = EXISTING CONTOUR LABEL
- - - - - = PROPOSED MAJOR CONTOUR
- - - - - = PROPOSED MINOR CONTOUR
- 100- - - = PROPOSED CONTOUR LABEL
- XXXXXX = EXISTING SPOT ELEVATION*
- XXXXXX = PROPOSED SPOT ELEVATION*
- XXXXXXC = PROPOSED SPOT ELEVATION AT TOP OF SIDEWALK OR BACK OF CURB
- = SURFACE FLOW DIRECTION

*SPOT ELEVATIONS ALONG CURB & GUTTER AND OTHER REVEALS ARE TO FLOWLINE, UNLESS OTHERWISE NOTED.

three quarters inch = one foot
 one half inch = one foot
 one inch = one foot
 one quarter inch = one foot
 one eighth inch = one foot
 one sixteenth inch = one foot

ADDDENDUM 1 - BID AND CONSTRUCTION DOCUMENTS 05/29/20	Date
Revisions:	

CONSULTANTS:

DESIGN TREE
 engineering + land surveying
 St. Cloud | Alexandria | Rogers
 320-217-5557

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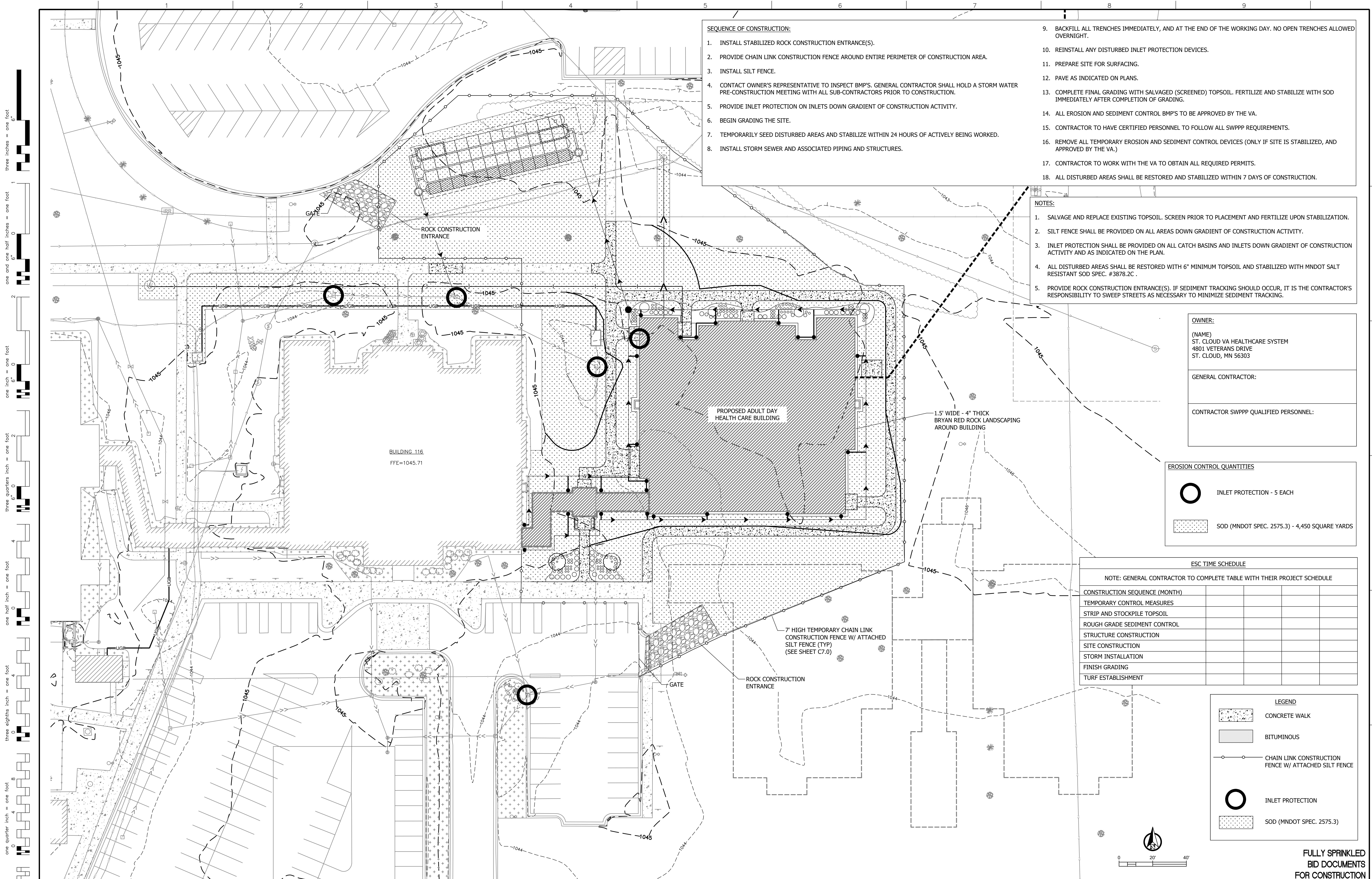
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Jerry E. Anderson
 JERRY E. ANDERSON
 DATE: 12/27/2019 LICENSE #: 4123

Drawing Title PROPOSED GRADING PLAN	Project Title ST CLOUD ADH AND EC SUPPORT	Project Number 656-343
Approved Project Director	Location ST CLOUD VA HEALTH CARE SYSTEM 480 VETERANS DRIVE, ST. CLOUD MN 56303	Building Number ---
Date 12-27-2019	Checked JEA	Draw RJK
Drawing Number C5.0		

Office of Construction and Facilities Management

FULLY SPRINKLED BID DOCUMENTS FOR CONSTRUCTION



- SEQUENCE OF CONSTRUCTION:**
1. INSTALL STABILIZED ROCK CONSTRUCTION ENTRANCE(S).
 2. PROVIDE CHAIN LINK CONSTRUCTION FENCE AROUND ENTIRE PERIMETER OF CONSTRUCTION AREA.
 3. INSTALL SILT FENCE.
 4. CONTACT OWNER'S REPRESENTATIVE TO INSPECT BMP'S. GENERAL CONTRACTOR SHALL HOLD A STORM WATER PRE-CONSTRUCTION MEETING WITH ALL SUB-CONTRACTORS PRIOR TO CONSTRUCTION.
 5. PROVIDE INLET PROTECTION ON INLETS DOWN GRADIENT OF CONSTRUCTION ACTIVITY.
 6. BEGIN GRADING THE SITE.
 7. TEMPORARILY SEED DISTURBED AREAS AND STABILIZE WITHIN 24 HOURS OF ACTIVELY BEING WORKED.
 8. INSTALL STORM SEWER AND ASSOCIATED PIPING AND STRUCTURES.

9. BACKFILL ALL TRENCHES IMMEDIATELY, AND AT THE END OF THE WORKING DAY. NO OPEN TRENCHES ALLOWED OVERNIGHT.
10. REINSTALL ANY DISTURBED INLET PROTECTION DEVICES.
11. PREPARE SITE FOR SURFACING.
12. PAVE AS INDICATED ON PLANS.
13. COMPLETE FINAL GRADING WITH SALVAGED (SCREENED) TOPSOIL. FERTILIZE AND STABILIZE WITH SOD IMMEDIATELY AFTER COMPLETION OF GRADING.
14. ALL EROSION AND SEDIMENT CONTROL BMP'S TO BE APPROVED BY THE VA.
15. CONTRACTOR TO HAVE CERTIFIED PERSONNEL TO FOLLOW ALL SWPPP REQUIREMENTS.
16. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES (ONLY IF SITE IS STABILIZED, AND APPROVED BY THE VA.)
17. CONTRACTOR TO WORK WITH THE VA TO OBTAIN ALL REQUIRED PERMITS.
18. ALL DISTURBED AREAS SHALL BE RESTORED AND STABILIZED WITHIN 7 DAYS OF CONSTRUCTION.

- NOTES:**
1. SALVAGE AND REPLACE EXISTING TOPSOIL. SCREEN PRIOR TO PLACEMENT AND FERTILIZE UPON STABILIZATION.
 2. SILT FENCE SHALL BE PROVIDED ON ALL AREAS DOWN GRADIENT OF CONSTRUCTION ACTIVITY.
 3. INLET PROTECTION SHALL BE PROVIDED ON ALL CATCH BASINS AND INLETS DOWN GRADIENT OF CONSTRUCTION ACTIVITY AND AS INDICATED ON THE PLAN.
 4. ALL DISTURBED AREAS SHALL BE RESTORED WITH 6" MINIMUM TOPSOIL AND STABILIZED WITH MNDOT SALT RESISTANT SOD SPEC. #3878.2C.
 5. PROVIDE ROCK CONSTRUCTION ENTRANCE(S). IF SEDIMENT TRACKING SHOULD OCCUR, IT IS THE CONTRACTOR'S RESPONSIBILITY TO SWEEP STREETS AS NECESSARY TO MINIMIZE SEDIMENT TRACKING.

OWNER:
(NAME)
ST. CLOUD VA HEALTHCARE SYSTEM
4801 VETERANS DRIVE
ST. CLOUD, MN 56303

GENERAL CONTRACTOR:

CONTRACTOR SWPPP QUALIFIED PERSONNEL:

EROSION CONTROL QUANTITIES

- INLET PROTECTION - 5 EACH
- SOD (MNDOT SPEC. 2575.3) - 4,450 SQUARE YARDS

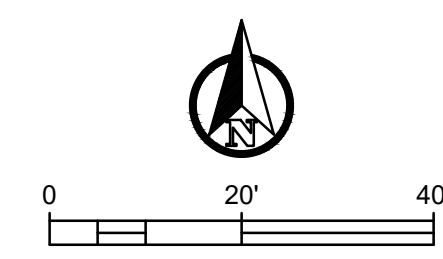
ESC TIME SCHEDULE

NOTE: GENERAL CONTRACTOR TO COMPLETE TABLE WITH THEIR PROJECT SCHEDULE

CONSTRUCTION SEQUENCE (MONTH)					
TEMPORARY CONTROL MEASURES					
STRIP AND STOCKPILE TOPSOIL					
ROUGH GRADE SEDIMENT CONTROL					
STRUCTURE CONSTRUCTION					
SITE CONSTRUCTION					
STORM INSTALLATION					
FINISH GRADING					
TURF ESTABLISHMENT					

LEGEND

- CONCRETE WALK
- BITUMINOUS
- CHAIN LINK CONSTRUCTION FENCE W/ ATTACHED SILT FENCE
- INLET PROTECTION
- SOD (MNDOT SPEC. 2575.3)



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 one half inch = one foot
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 one quarter inch = one foot
 one eighth inch = one foot

ADDDENDUM 1 - BID AND CONSTRUCTION DOCUMENTS 05/29/20

Revisions	Date

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Jerry E. Anderson
JERRY E. ANDERSON
DATE: 12/27/2019 LICENSE #: 4123

Drawing Title
EROSION CONTROL PLAN

Approved Project Director

Project Title
ST CLOUD ADH AND EC SUPPORT

Project Number
656-343

Building Number

Drawing Number
C6.0

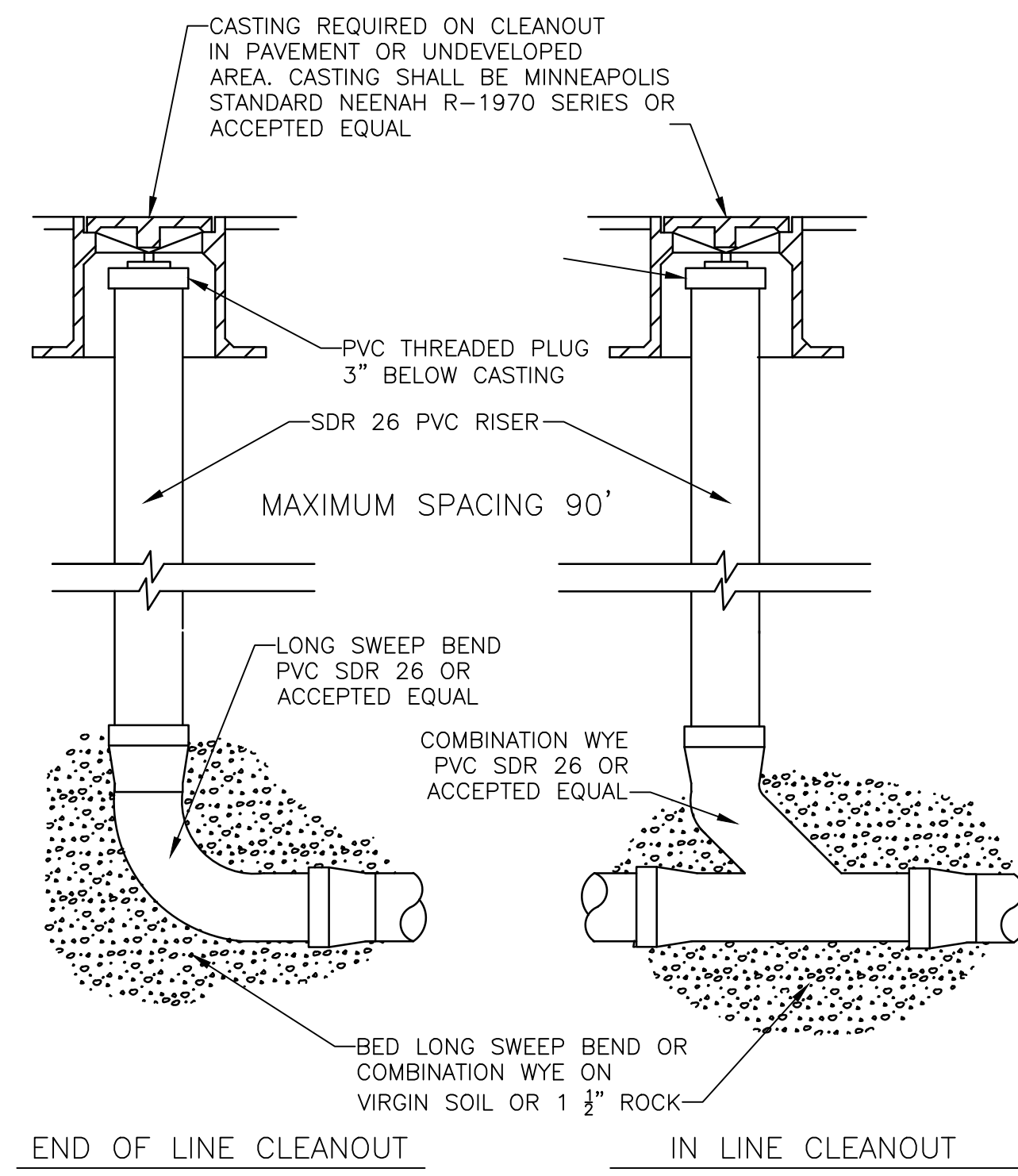
Location
ST CLOUD VA HEALTH CARE SYSTEM
4801 VETERANS DRIVE, ST. CLOUD MN 56303

Date
12-27-2019

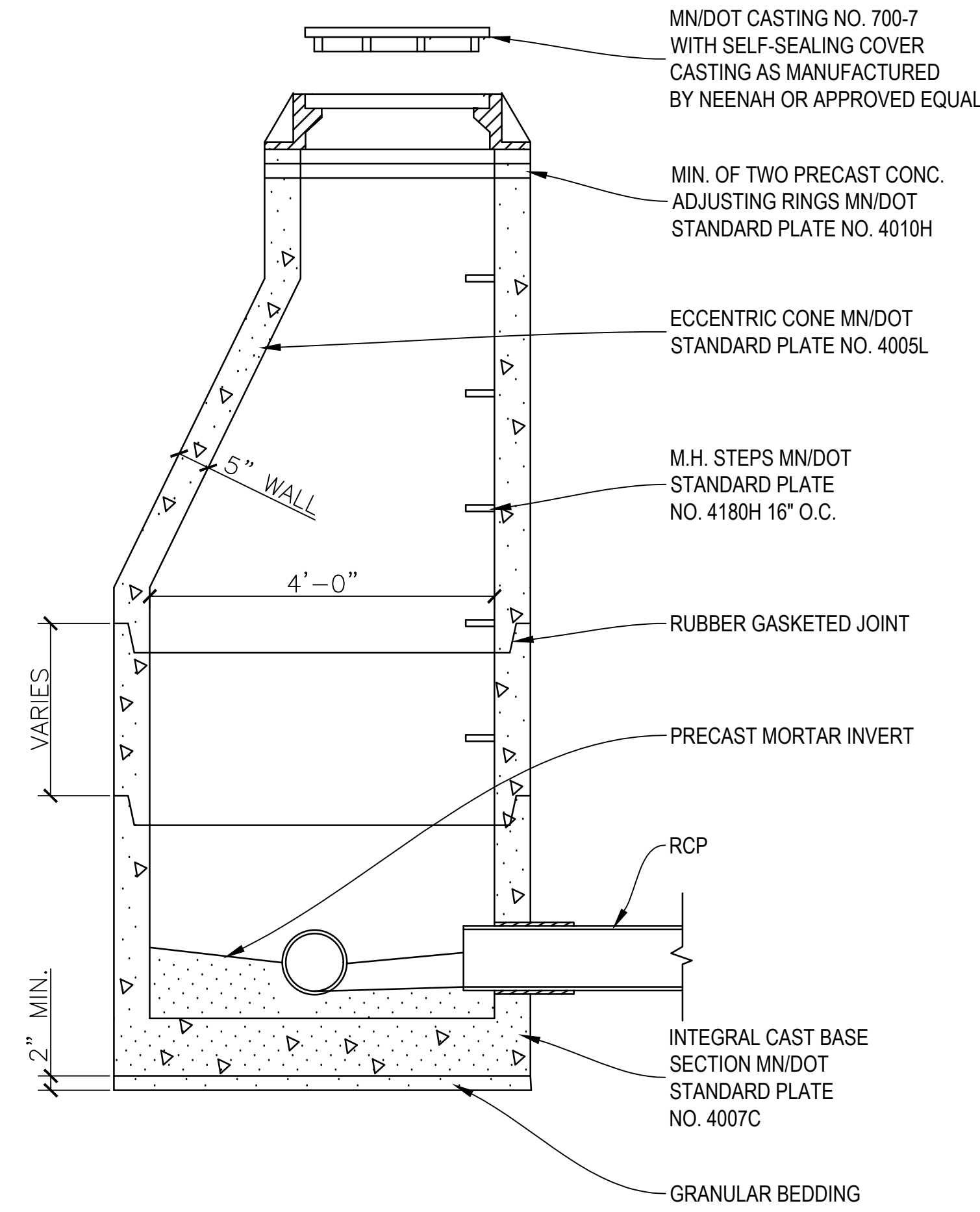
Checked
JEA

Drawn
RJK

Office of Construction and Facilities Management

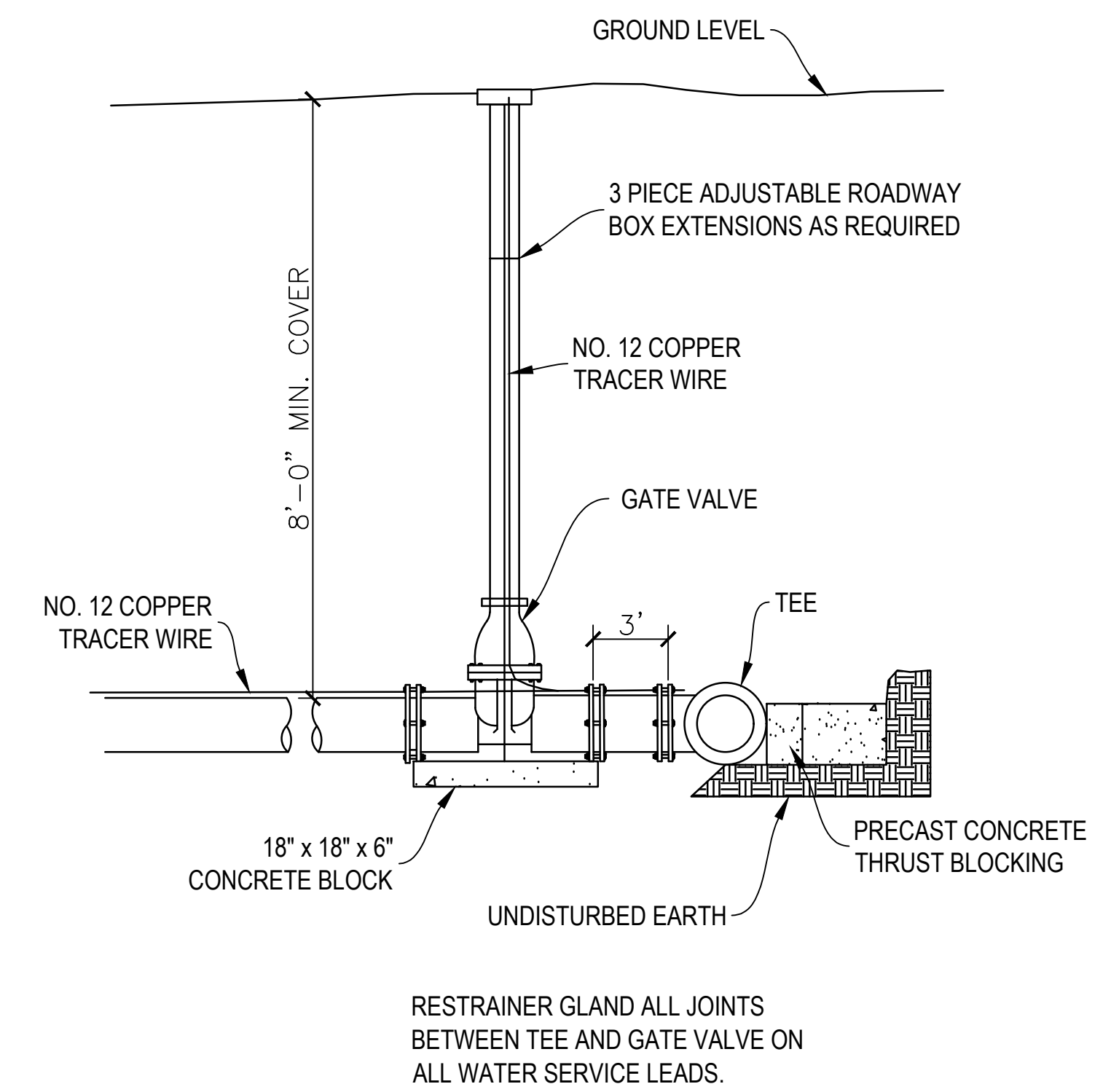


4 CLEANOUT CASING
NTS

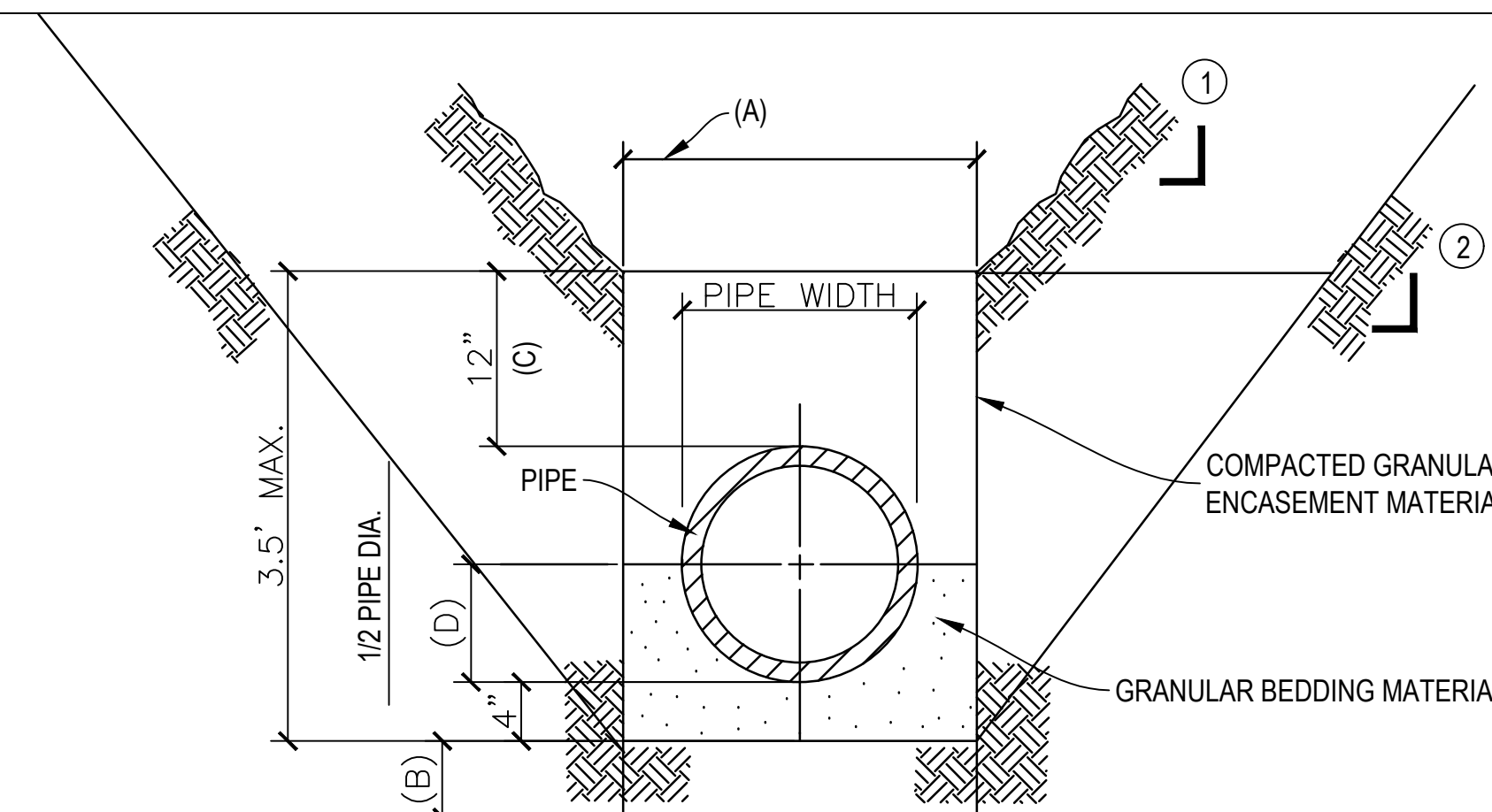


NOTE:
1. USE METAL SHIMS ONLY AT ADJUSTING RINGS WHEN LEVELING.

5 STANDARD DESIGN 'F' STORM MANHOLE
NTS

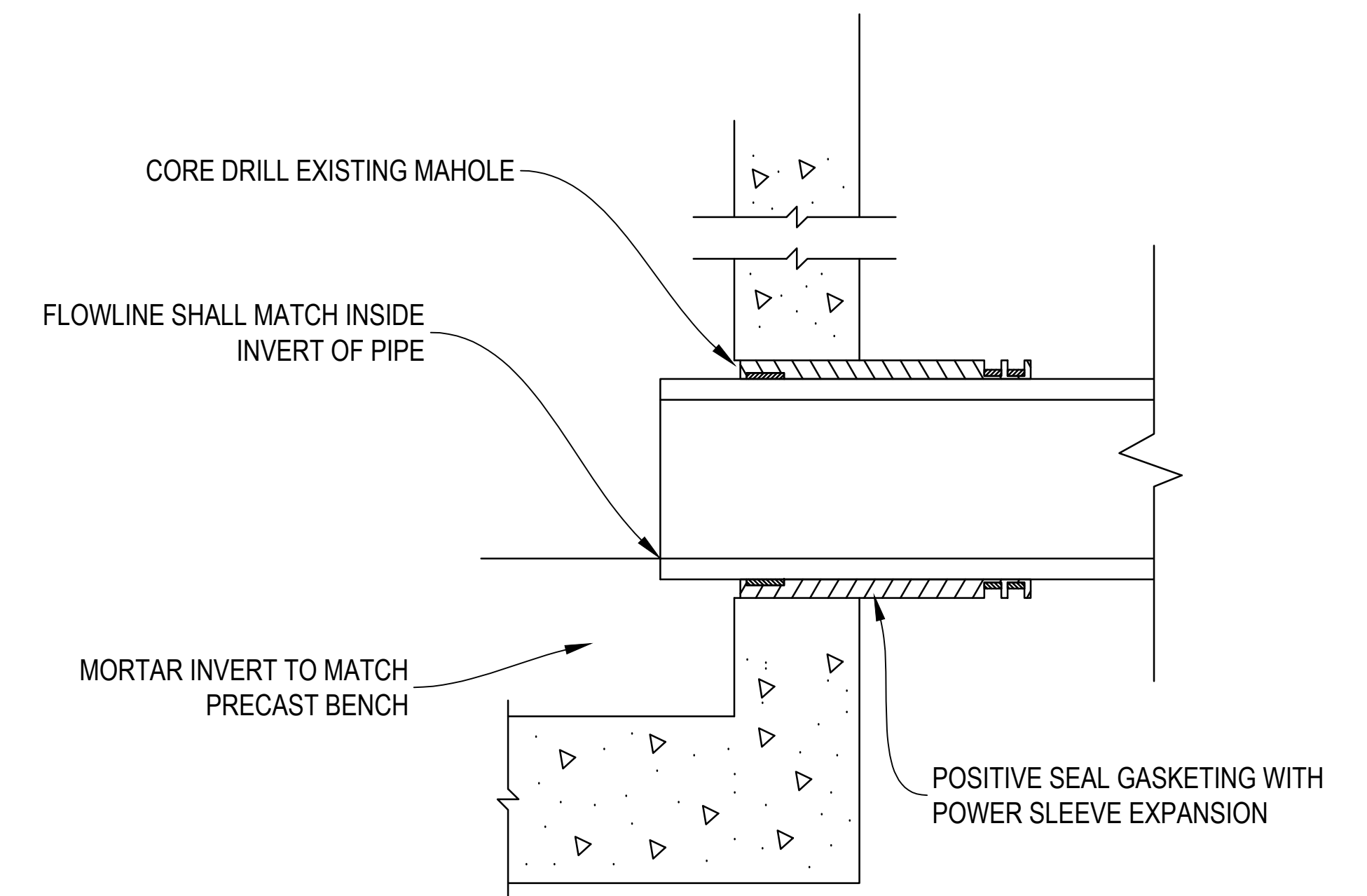


6 WATER SERVICE CONNECTION DETAIL
NTS



- NOTES:
THIS DETAIL APPLIES TO SANITARY SEWER, STORM SEWER, WATERMAIN, AND ALL SERVICE PIPES.
- ① 0-12' DEPTH TRENCH SLOPE DEPENDS ON SOIL TYPE.
 - ② 12-20' DEPTH TRENCH SLOPE DEPENDS ON SOIL TYPE.
 - ③ 0-20' DEPTH TRENCH SUPPORT OR SHIELD SYSTEM CAN BE UTILIZED TO REDUCE TRENCH WIDTH.
 - ④ 20' OR GREATER DEPTH TRENCH EXCAVATION MUST BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER. CONTRACTOR SHALL HAVE THE DESIGN COMPLETED AT HIS EXPENSE AND PROVIDE A COPY TO THE OWNER AND THE PROJECT ENGINEER.
- (A) MINIMUM TRENCH WIDTH SHALL ALLOW FOR SIX INCHES OF CLEARANCE ON EACH SIDE OF PIPE JOINT HUB.
- (B) THE TRENCH MAY BE OVEREXCAVATED A MIN. OF 6\"/>

7 TYPICAL PIPE BEDDING DETAIL
NTS



8 CORE DRILL TO EXISTING MANHOLE DETAIL
NTS

FULLY SPRINKLED
BID DOCUMENTS
FOR CONSTRUCTION

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Jerry E. Anderson
JERRY E. ANDERSON
DATE: 12/27/2019 LICENSE #: 41223

Drawing Title

CIVIL DETAILS

Approved Project Director

Project Title

ST CLOUD ADH AND EC SUPPORT

Location ST CLOUD VA HEALTH CARE SYSTEM
4801 VETERANS DRIVE, ST. CLOUD MN 56303

Date 12-27-2019

Checked JEA

Drawn RJK

Project Number

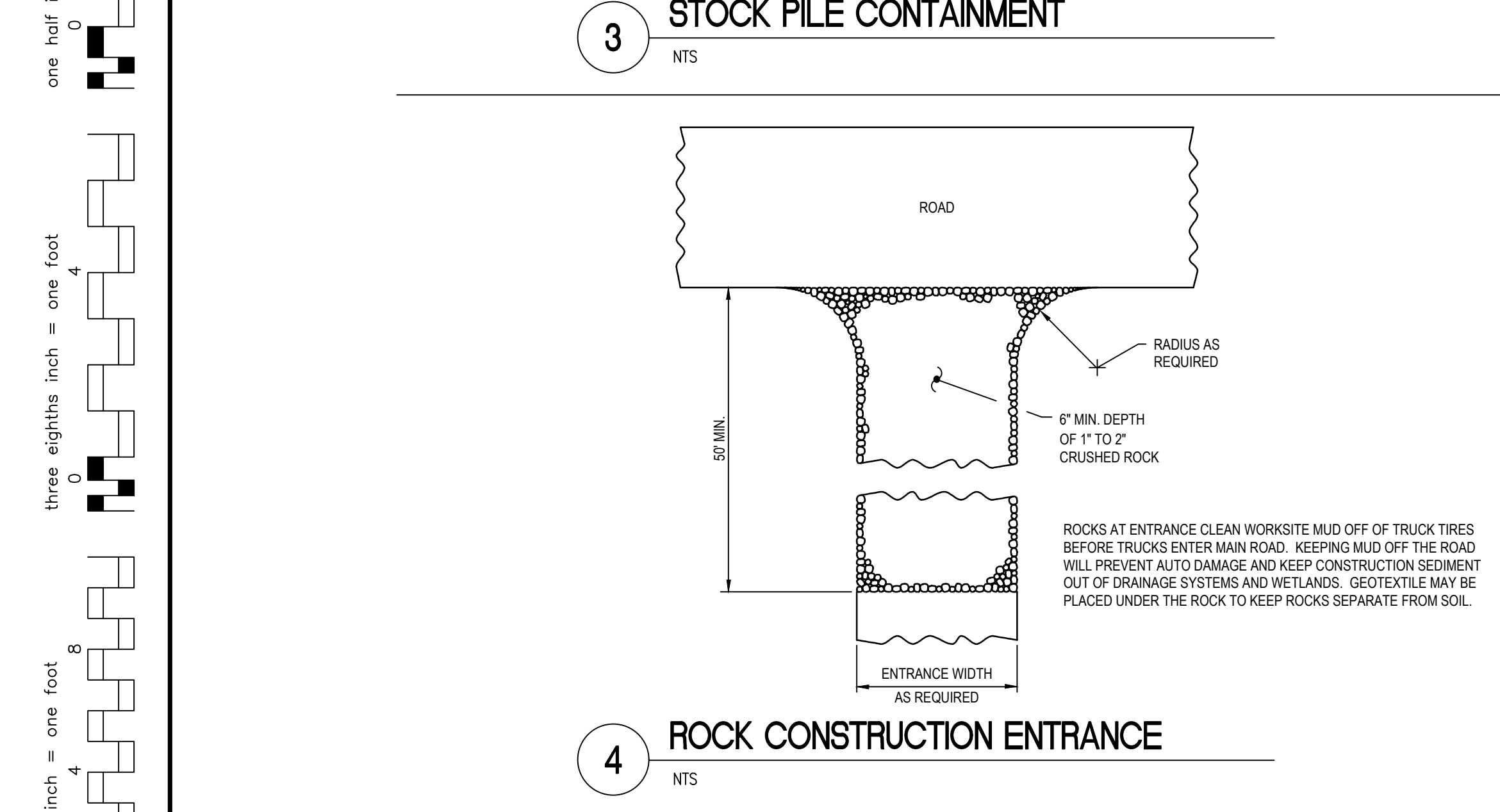
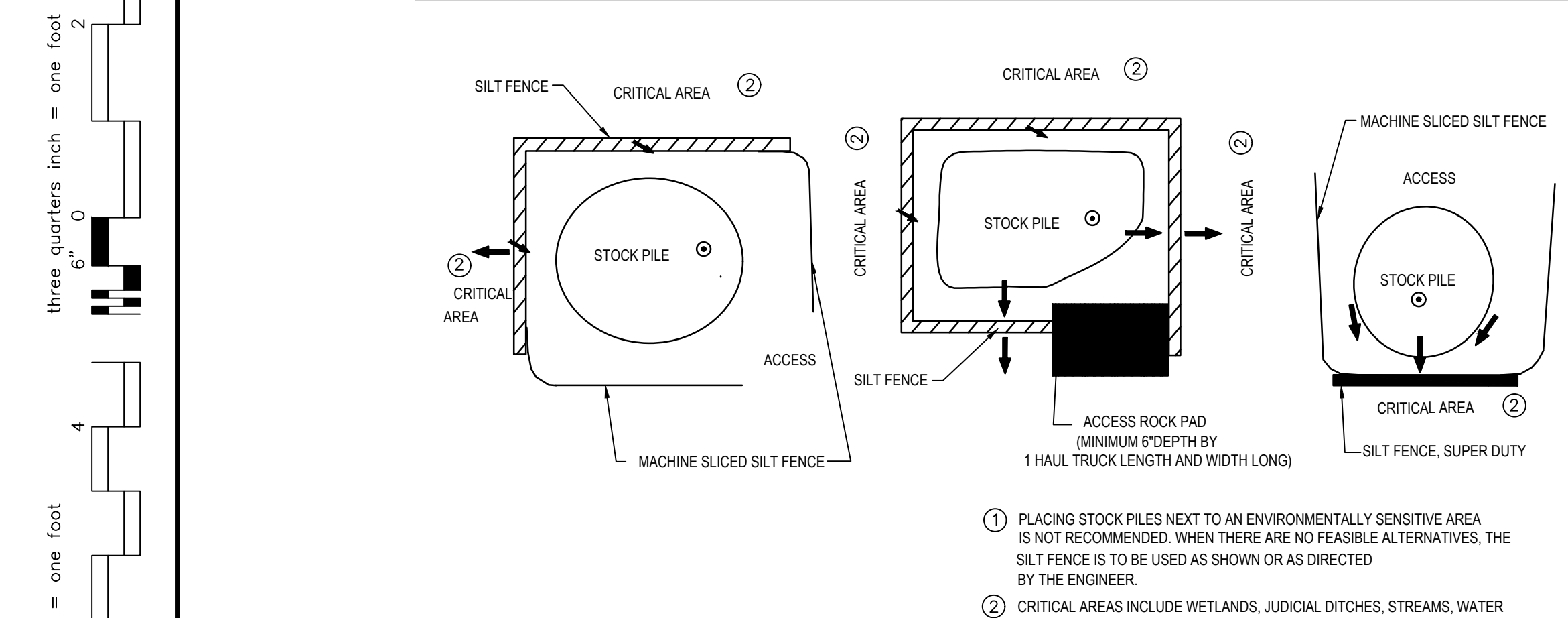
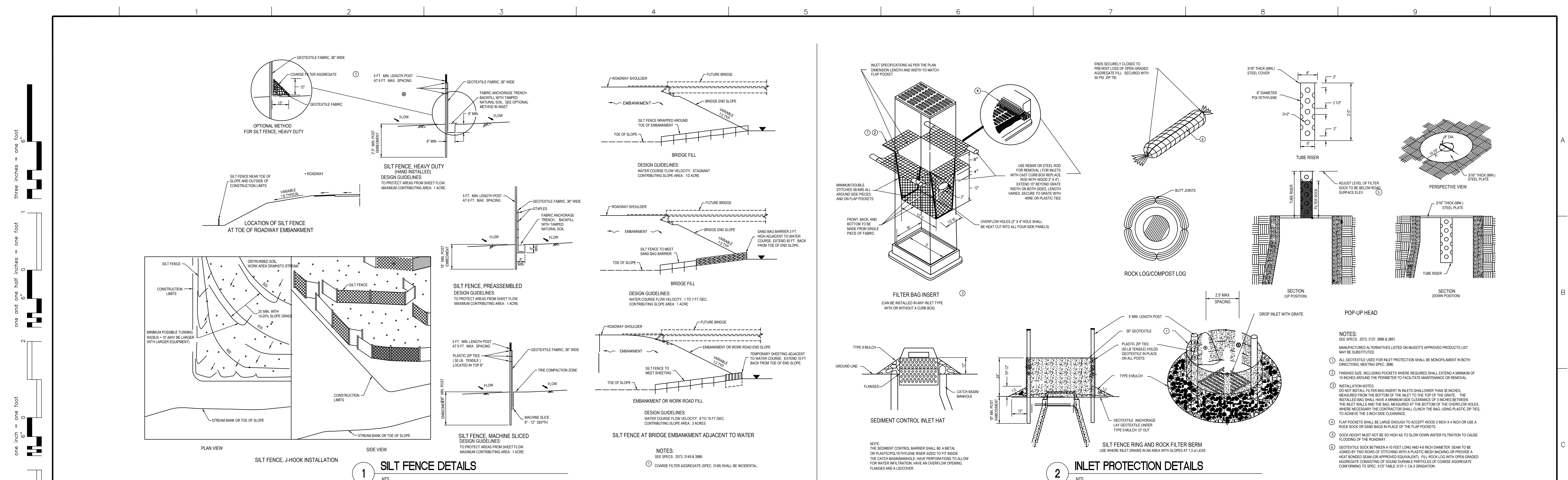
656-343

Building Number

Drawing Number

C7.1

Office of
Construction
and Facilities
Management



- ### EROSION NOTES
- CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE CODES AND BE CONSTRUCTED AS SUCH, WHERE A CONFLICT EXISTS BETWEEN LOCAL JURISDICTIONS STANDARD SPECIFICATIONS AND DESIGN TREE ENGINEERING STANDARD SPECIFICATIONS, THE MORE STRINGENT SHALL APPLY.
 - THE CONTRACTOR IS CAUTIONED THAT THE LOCATIONS AND/OR ELEVATIONS OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND THE VA. THE SUBSURFACE UTILITY INFORMATION SHOWN IS LEVEL D. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES. THE LOCATIONS OF UTILITIES SHALL BE OBTAINED BY CALLING MINNESOTA GOPHER STATE ONE CALL AND THE VA.
 - THE DESIGN SHOWN IS BASED UPON THE ENGINEER'S UNDERSTANDING OF THE EXISTING CONDITIONS. IF CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY, IT WILL BE CONTRACTOR'S RESPONSIBILITY AND EXPENSE TO HAVE TOPOGRAPHIC SURVEY DONE BY A REGISTERED LAND SURVEYOR AND SUBMIT IT TO OWNER FOR REVIEW.
 - THE CONTRACTORS SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES. CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGES THAT MAY OCCUR.
 - THE SWPPP IS COMPRISED OF THE EROSION AND SEDIMENT CONTROL PLAN, THE STANDARD DETAILS, THE SWPPP NARRATIVE, PLUS THE PERMIT AND ALL RELATED DOCUMENTS.
 - THE CONTRACTOR SHALL ASSIST THE VA IN COMPLETING AND SUBMITTING THE APPLICATION FOR THE MPCA GENERAL STORMWATER PERMIT FOR CONSTRUCTION ACTIVITY. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE SWPPP AND NPDES PERMIT AND BECOME FAMILIAR WITH THEIR CONTENTS. THE SWPPP AND ALL OTHER RELATED DOCUMENTS MUST BE KEPT ON SITE DURING CONSTRUCTION. CONTRACTOR MUST PROVIDE CERTIFIED PERSONNEL FOR SWPPP RECORDS.
 - CONTRACTOR SHALL IMPLEMENT BMP'S AS REQUIRED BY THE SWPPP AND PERMITS. THE CONTRACTOR SHALL OVERSEE THE INSPECTION AND MAINTENANCE OF THE BMP'S AND EROSION AND SEDIMENT PREVENTION FROM BEGINNING OF CONSTRUCTION TO COMPLETION OF CONSTRUCTION, AND NOTICE OF COMPLETION HAS BEEN FILED WITH THE MPCA BY EITHER THE OWNER OR THE OPERATOR ON THE PERMIT. ADDITIONAL BMP'S AND MAINTENANCE SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST TO THE OWNER.
 - BMP'S SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
 - ESC PLAN MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.
 - THE CONTRACTOR SHALL MINIMIZE CLEARING AS REQUIRED BY THE GENERAL PERMIT. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY DELINEATED ON THE SITE BEFORE WORK BEGINS.

- ### MAINTENANCE
- GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AREA, EMPLOYEE PARKING AREA, AND AREA FOR PORTABLE FACILITIES. NO VEHICLE CLEANING ALLOWED ON SITE.
 - NO TRUCK WASHOUT ALLOWED ON SITE.
 - SUFFICIENT OIL AND GREASE ABSORBING MATERIALS SHALL BE MAINTAINED ON SITE AND READILY AVAILABLE FOR USE.
 - DUST ON THE SITE SHALL BE CONTROLLED.
 - SOLID WASTE: CONSTRUCTION WASTE MUST BE DISPOSED OF PROPERLY, AND COMPLY WITH MPCA REQUIREMENTS.
 - HAZARDOUS MATERIALS MUST BE PROPERLY STORED IN CONTAINERS, AND PROTECTED FROM ELEMENTS.
 - THE CONTRACTOR SHALL INCLUDE SECONDARY CONTAINMENT FOR HAZARDOUS MATERIALS PER OSHA REQUIREMENTS.
 - ALL STORM WATER POLLUTION PREVENTION MEASURES ON THIS PLAN, AND IN THE SWPPP, MUST BE INITIATED PRIOR TO ANY SITE WORK.
 - DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS STOPPED SHALL BE TEMPORARILY SEEDED. SEEDING WILL BE IN ACCORDANCE WITH MNDOT SPEC. 2575.
 - DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY ESTABLISHED.
 - CONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT FROM CONVEYANCES AND FROM TEMPORARY SEDIMENT BASINS.
 - ON AND OFF SITE SOIL STOCK PILES AND BORROW AREAS SHALL BE PROTECTED WITH BMP'S.
 - TEMPORARY STOCKPILES MUST HAVE SILT FENCE OR OTHER EFFECTIVE SEDIMENT AND EROSION CONTROLS.
 - SLOPES SHALL BE LEFT IN A ROUGH CONDITION TO HELP ELIMINATE RILLING.
 - DUE TO GRADE CHANGES DURING THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE ESC MEASURES TO PREVENT EROSION AND SEDIMENTATION.
 - ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH DAY. THIS INCLUDES BACKFILLING OF TRENCHES AND PLACEMENT OF GRAVEL OR BITUMINOUS.
 - NO STOCKPILE OF MATERIALS NOT TO BE USED ON SITE.
 - ALL EXCESS MATERIALS TO BE REMOVED FROM SITE DAILY.
 - NO CONCRETE WASHOUT ALLOWED ON VA PROPERTY - TRUCKS TO BE TAKEN OFF SITE.
- ### MAINTENANCE
- ALL MEASURES STATED ON THIS ESC PLAN, AND IN THE SWPPP SHALL BE MAINTAINED UNTIL NO LONGER REQUIRED. ALL ESC MEASURES SHALL BE CLEANED AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:
 - ALL STORM DRAIN INLETS MADE OPERABLE DURING CONSTRUCTION MUST BE PROTECTED BY BMP'S UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLET HAVE BEEN STABILIZED.
 - ALL SODDED AREAS SHALL BE CHECKED TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE WATERED AND FERTILIZED AS NEEDED.
 - SILT FENCE SHALL BE REPAIRED OR REPLACED TO ORIGINAL CONDITION BY THE CONTRACTOR IF DAMAGED. SEDIMENT MUST BE REMOVED WHEN IT REACHES ONE THIRD THE HEIGHT OF THE SILT FENCE. THIS WORK MUST BE DONE WITHIN 24 HOURS OF DISCOVERY.
 - VEHICLE TRACKING OF SEDIMENT FROM THE CONSTRUCTION SITE MUST BE MINIMIZED BY BMP'S. STREET SWEEPING MUST BE USED IF BMP'S ARE NOT ADEQUATE TO PREVENT TRACKING. TRACED SEDIMENT MUST BE REMOVED WITHIN 24 HOURS.
- ### SITE STAGING
- CONTRACTOR TO PROVIDE A FINALIZED PLAN FOR VA APPROVAL SHOWING PARKING, STAGING, CONSTRUCTION FENCES, AND STORAGE AREAS PRIOR TO ANY WORK TAKING PLACE.
 - CONTRACTOR PARKING, STORAGE, AND INITIAL STAGING CAN BE LOCATED EAST OF BUILDING 98 AS SHOWN ON THE DRAWINGS.
 - MAINTAIN STAFF AND PATIENT ACCESS TO ALL BUILDINGS.
 - WORK TO BE DONE IN STREETS MUST BE APPROVED BY VA STAFF. WORK MUST BE DONE BETWEEN THE HOURS OF 6:00 PM AND 6:00 AM. ROADS MUST BE OPENED TO TRAFFIC BY 6:00 AM THE FOLLOWING DAY. CONTRACTOR MUST PROVIDE A TRAFFIC CONTROL AND DETOUR PLAN TO VA. ALL EMERGENCY SERVICES MUST BE NOTIFIED.

CONSULTANTS: DESIGN TREE engineering + land surveying St. Cloud Alexandria Rogers 320-217-5557		ARCHITECT/ENGINEERS: paradigm Architecture Engineering Design-Build 200 Envoy Circle #201, Louisville KY 40299 - PH: 502.339.8511 - www.paradigmusa.com		I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. JEREMY E. ANDERSON DATE: 12/27/2019 LICENSE #: 41223		Drawing Title EROSION CONTROL DETAILS		Project Title ST CLOUD ADH AND EC SUPPORT		Project Number 656-343		Office of Construction and Facilities Management
Approved Project Director _____		Location ST CLOUD VA HEALTH CARE SYSTEM 4801 VETERANS DRIVE, ST. CLOUD MN 56303		Building Number ---		Building Number ---		Drawn RJK				
Date 12-27-2019		Checked JEA		Drawn RJK		Drawing Number C7.2		Revisions: ADDENDUM 1 - BID AND CONSTRUCTION DOCUMENTS 05/29/20				

STORMWATER CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH MC-3500 OR APPROVED EQUAL.
- CHAMBERS SHALL BE MADE FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNBSTRUCTURED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL, BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
 - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC.
 - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET, THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
 - STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

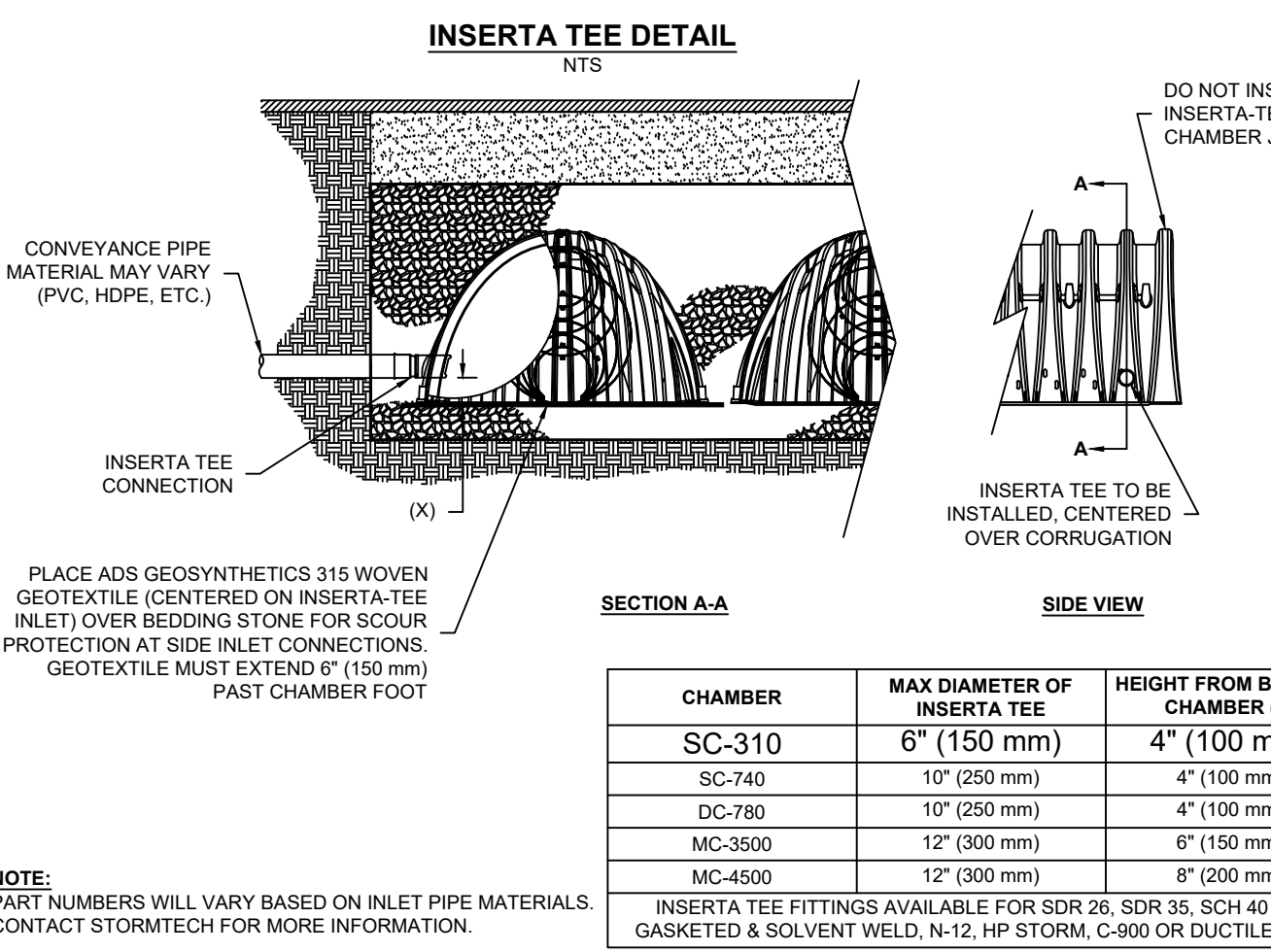
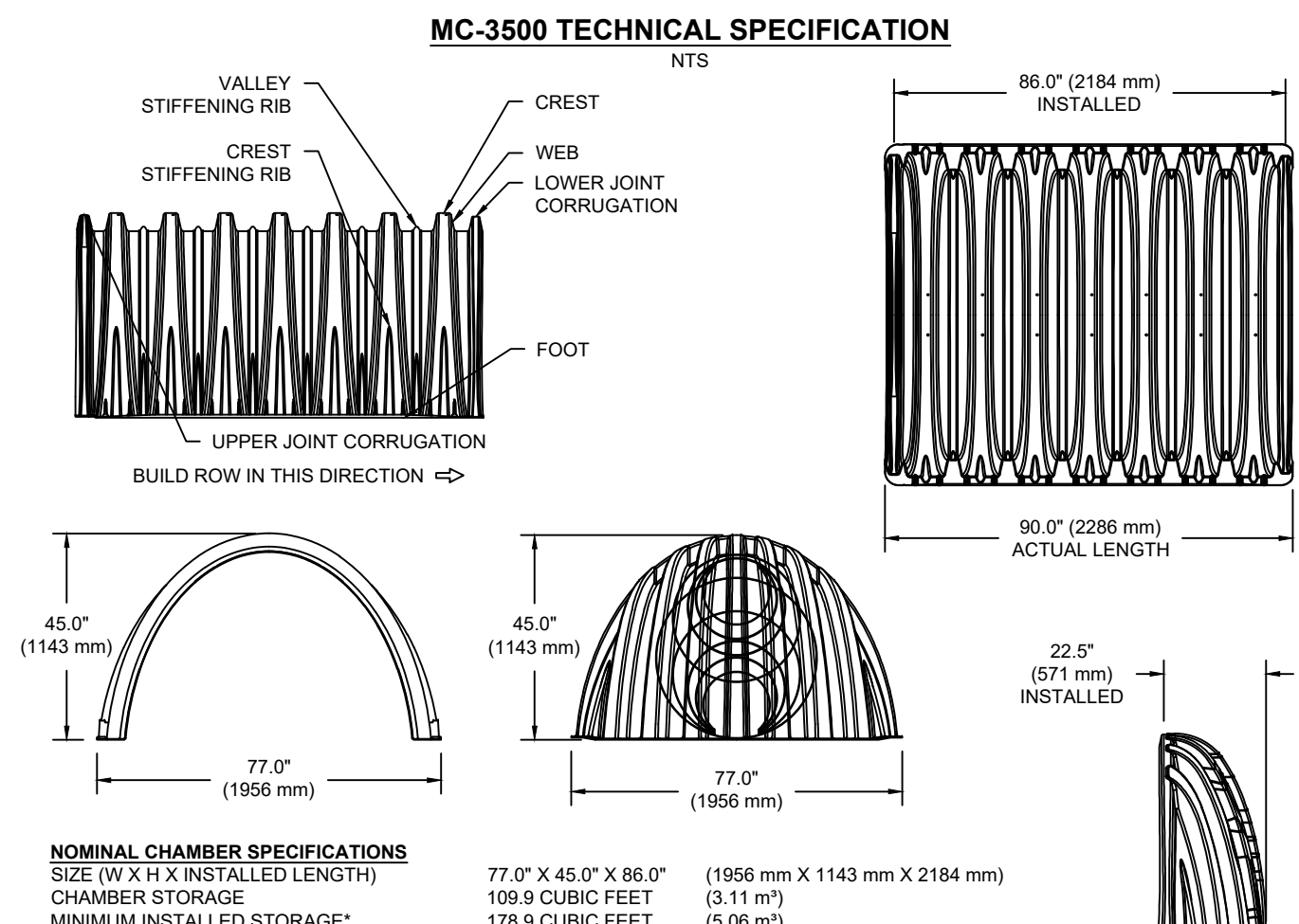
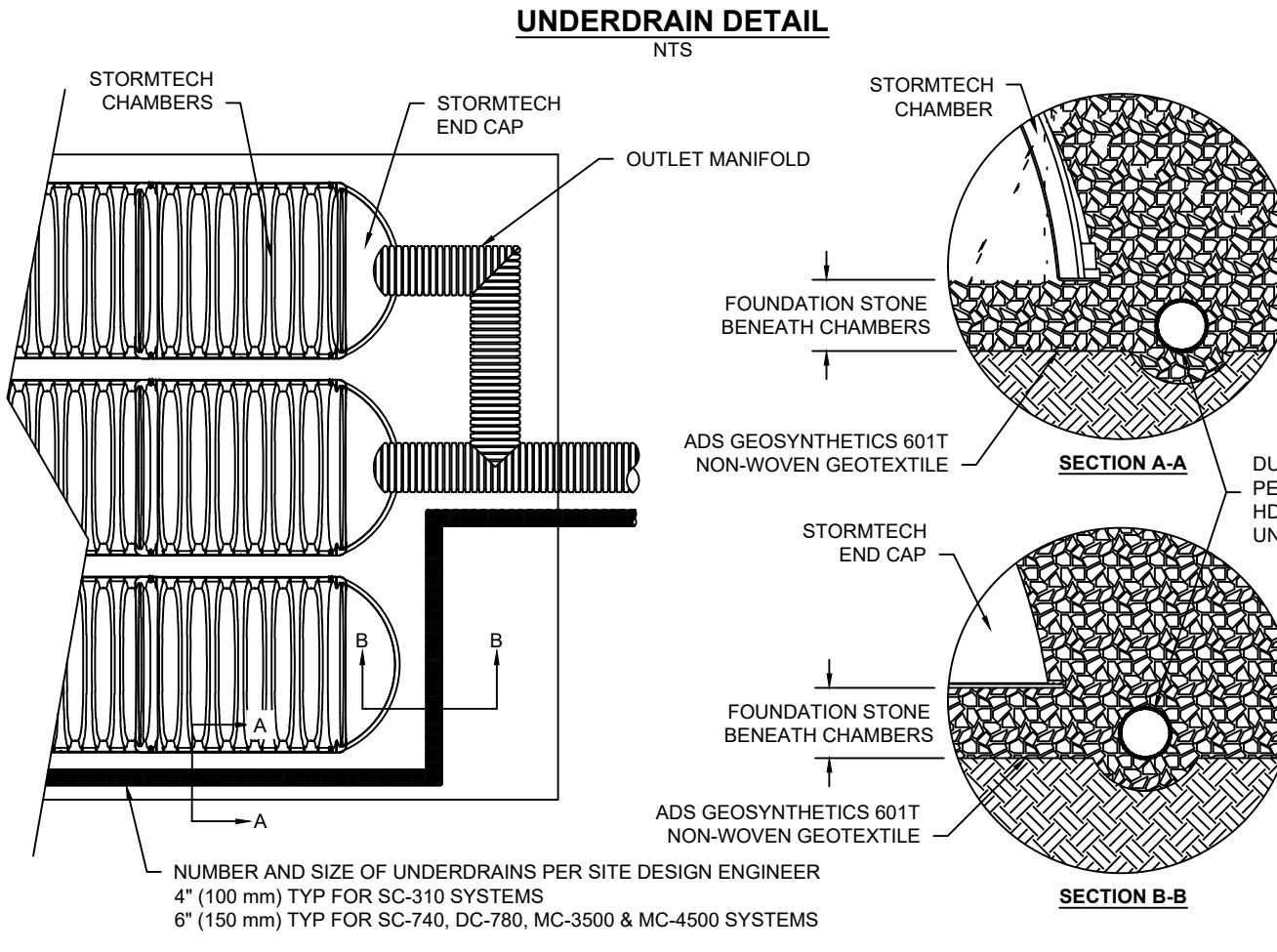
- STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONE/SHOOTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HIRE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
- INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4" (20-50 mm) MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4."
 - NO RUBBER TIED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
 - FULL 30" (762 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.
- USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

NOTES FOR CONSTRUCTION EQUIPMENT

- STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED.
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER TIED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
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USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-882-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	CHAMBER STORAGE	MINIMUM INSTALLED STORAGE*	WEIGHT
77.0" X 45.0" X 86.0" (1956 mm X 1143 mm X 2184 mm)	109.9 CUBIC FEET (3.11 m ³)	178.0 CUBIC FEET (5.06 m ³)	135.0 lbs.

NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	END CAP STORAGE	MINIMUM INSTALLED STORAGE*	WEIGHT
77.0" X 45.0" X 22.5" (1956 mm X 1143 mm X 571 mm)	14.9 CUBIC FEET (0.42 m ³)	46.0 CUBIC FEET (1.30 m ³)	60.0 lbs.

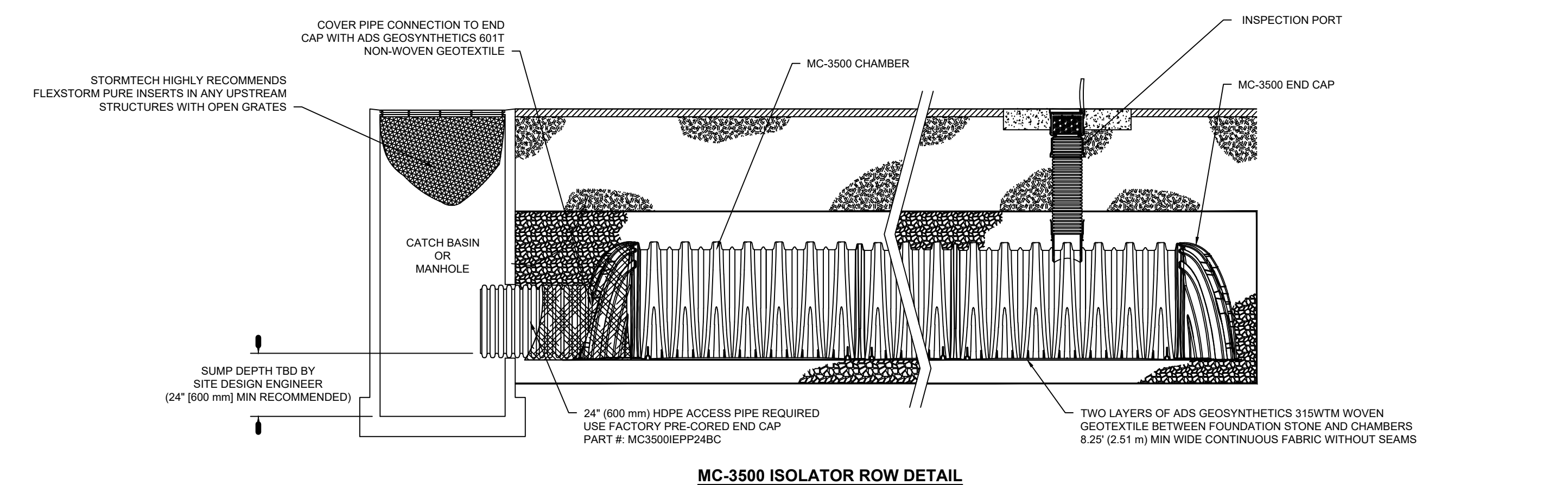
*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B" STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP08B	---	---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	---	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	---
MC3500IEPP10B	---	---	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	---
MC3500IEPP12B	---	---	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	---
MC3500IEPP15B	---	---	1.50" (38 mm)
MC3500IEPP18T	18" (450 mm)	20.03" (509 mm)	---
MC3500IEPP18B	---	---	1.77" (45 mm)
MC3500IEPP24T	24" (600 mm)	14.48" (368 mm)	---
MC3500IEPP24B	---	---	2.00" (52 mm)
MC3500IEPP30B	30" (750 mm)	---	---

NOTE: ALL DIMENSIONS ARE NOMINAL.

CUSTOM PRECURED INVERTS ARE AVAILABLE UPON REQUEST. INVERTED MANIFOLDS INCLUDE 12" (305 mm) RISE ON SIDE AND 15" (381 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 18" (450 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

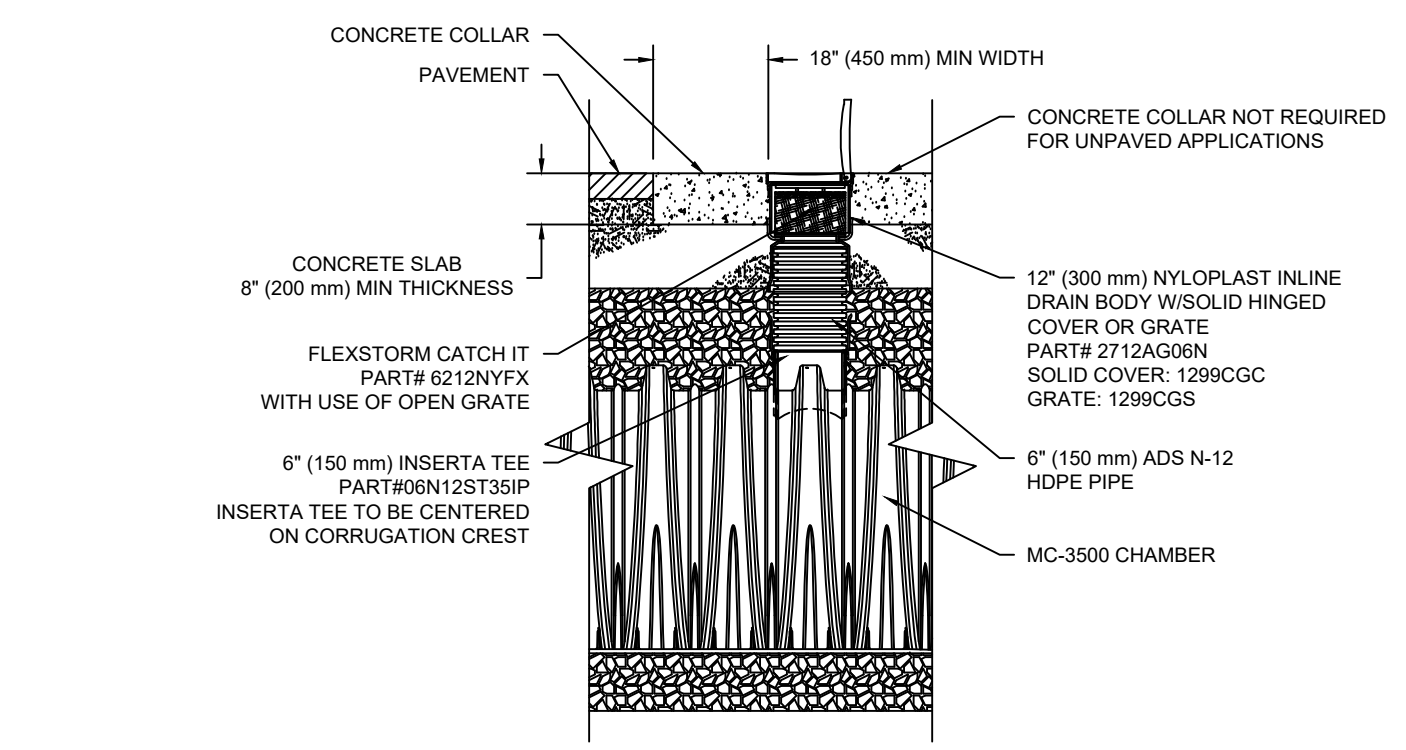


INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- REMOVE/REPLACE LID ON NYLOPLAST INLINE DRAIN
 - REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - USING A FLASHLIGHT AND STRADA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
- REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
 - USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE(S). MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY. FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE.
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A FRIED CULVERT CLEANING NOZZLE WITH REAR PACING SPRAY OF 45" (1.1 m) OR MORE IS PREFERRED
 - APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKLASH WATER IS CLEAN
 - VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS, RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION, ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS. (J)
- CONDUCT JETTING AND VACUUMING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



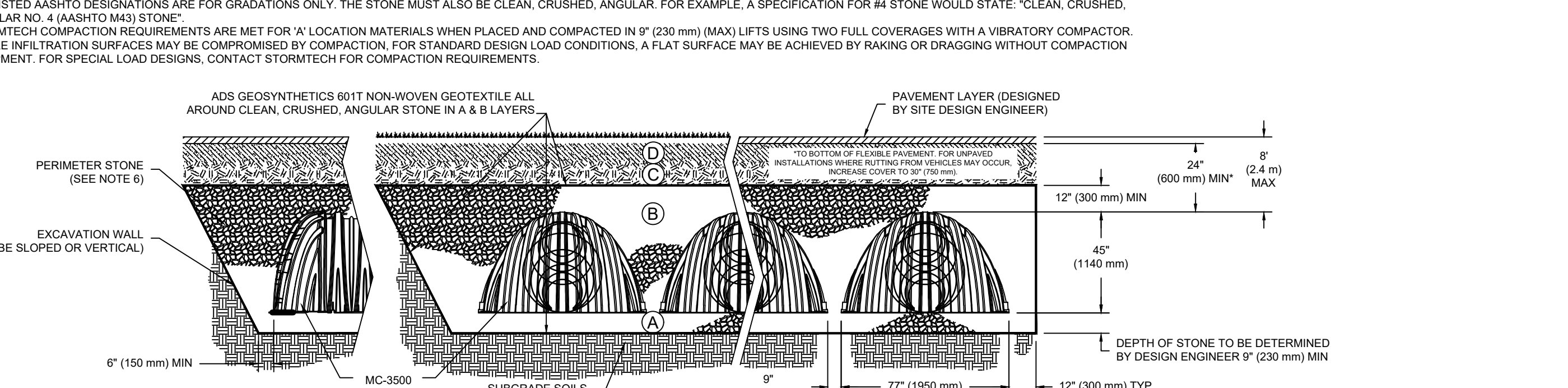
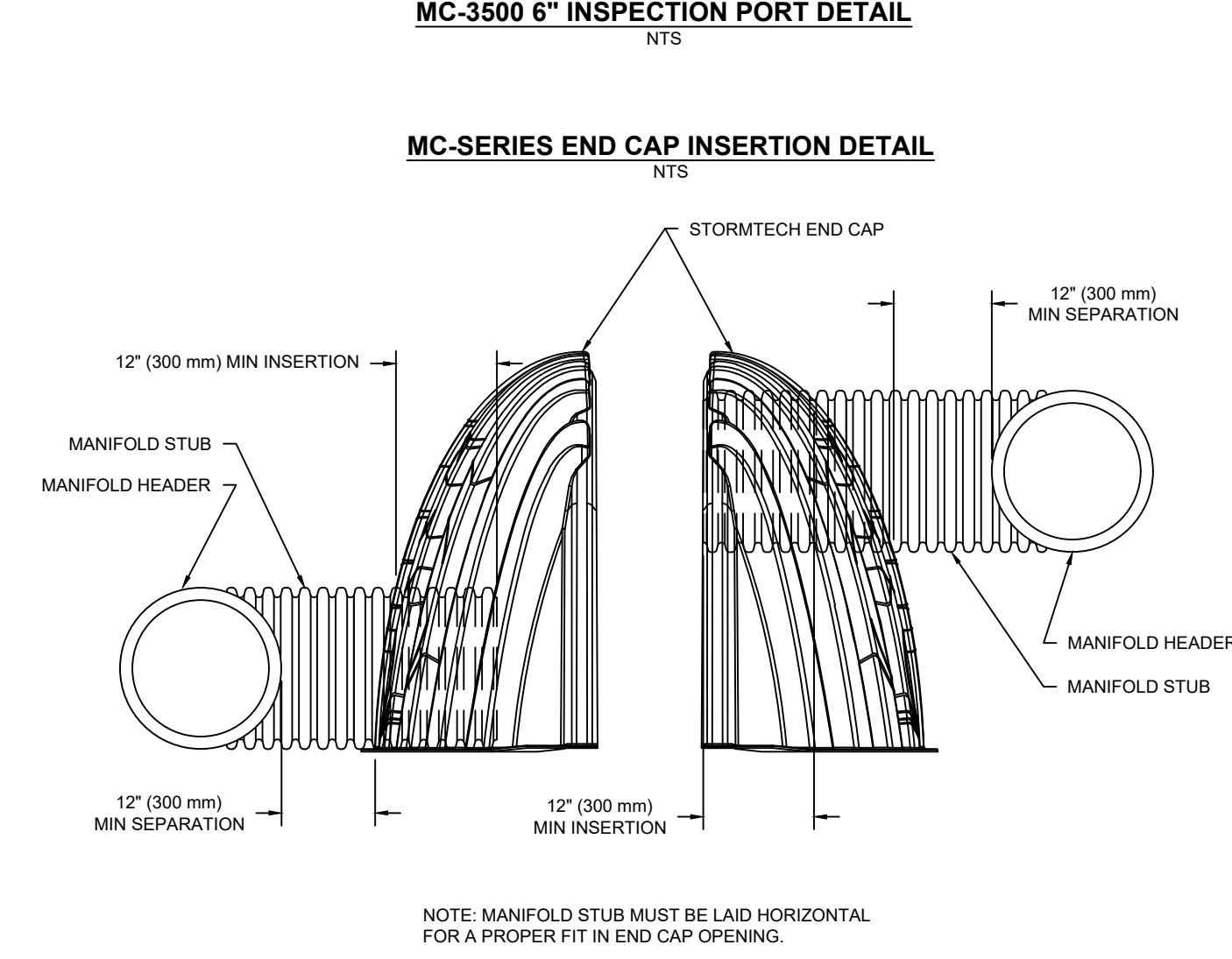
ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

LETTER	DESCRIPTION	REQUIREMENTS	DESIGNATION
A	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43 ¹ 3, 4
D	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43 ¹ 3, 4
F	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE (8" LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	NO COMPACTION REQUIRED.

PLAN ELEVATIONS & PIPE SIZES

TOP OF STONE ELEVATION: 1241.50
 TOP OF CHAMBER ELEVATION: 1240.50
 BOTTOM OF CHAMBER ELEVATION: 1236.75
 BOTTOM OF STONE ELEVATION: 1236.00

24" HDPE INVERT INTO ISOLATOR ROW: 1237.42
 12" MANIFOLD INV: 1236.92 (MAXIMUM) (TYPICAL OF ALL MANIFOLDS)
 8" PVC OUTLET INV: 1240.52



- NOTES:**
- MC-3500 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
 - MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
 - "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIALS, LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS. (J)
 - THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT. (J)
 - THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. (J)
 - PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
 - ONCE LAYER 'C' IS PLACED, ANY SOLID MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

<p>CONSULTANTS:</p> <p>DESIGN TREE engineering + land surveying</p> <p>St. Cloud Alexandria Rogers 320-217-5557</p>		<p>ARCHITECT/ENGINEERS:</p> <p>paradigm Architecture Engineering Design-Build</p> <p>200 Envoy Circle #201, Louisville KY 40299 - PH: 502.339.8511 - www.paradigmusa.com</p>		<p>I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF KENTUCKY.</p> <p>PRINTED NAME: JERRY E. ANDERSON DATE: 12/27/2019 LICENSE #: 41231</p>		<p>Drawing Title</p> <p>STORMTECH DETAILS</p> <p>Approved Project Director</p>		<p>Project Title</p> <p>ST CLOUD ADH AND EC SUPPORT</p> <p>Location ST CLOUD VA HEALTH CARE SYSTEM 480 VETERANS DRIVE, ST. CLOUD VA 58030</p> <p>Date 12-27-2019 Checked JEA Drawn RJK</p>		<p>Project Number</p> <p>656-343</p> <p>Building Number</p> <p>---</p> <p>Drawing Number</p> <p>C7.3</p>		<p>Office of Construction and Facilities Management</p>	
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three inches = one foot
 one and one half inches = one foot
 one inch = one foot
 three quarters inch = one foot
 one half inch = one foot
 three eighths inch = one foot
 one quarter inch = one foot
 one eighth inch = one foot

FULLY SPRINKLED
 BID DOCUMENTS
 FOR CONSTRUCTION

Project Description:

The work on the project includes the removal of an existing concrete sidewalk and landscaping, as well as stripping of topsoil to construct a new building on the St. Cloud VA Campus. Along with a new building, the project also includes a proposed concrete sidewalk, and associated storm sewer, sanitary sewer, and water services. An underground stormwater management system will also be installed to accommodate the proposed improvements. The project is located within the St. Cloud VA Campus in St. Cloud, Stearns County, Minnesota. The majority of underlying soils on the property are in Hydrologic Soil Group "A" and have high infiltration rates when thoroughly wet.

Receiving Waters:

All existing stormwater runoff is collected on site through the campus storm sewer system prior to discharging in the Sauk River, which is the northerly border of the property, and is listed by the MPCA as impaired. The VA Campus has a vast combination of BMP's on site prior to discharging runoff, which include but not limited to, infiltration basins, underground stormwater storage systems, rain gardens, and more.

Responsible Parties:

The Owner (St. Cloud VA) and the Contractor (TBD) are responsible co-permittees for the implementation of the SWPPP. The Contractor and Owner shall apply for the NPDES Construction General Permit immediately after award of Contract. The complete application must be submitted prior to start of construction activity. The Contractor is responsible for installation, inspection, maintenance, and repair of all erosion prevention and sediment control BMPs before, during, and after active construction. The Contractor shall amend the SWPPP before beginning construction to include the chain of responsibility of all operators on the site, or if not known, the title or position of the responsible party. The Contractor is responsible for identifying a person knowledgeable and experienced in the application of erosion prevention and sediment control BMPs who will oversee the implementation of the SWPPP before and during construction until the construction project is complete, the entire site has undergone Final Stabilization, and an NOT has been submitted to the MPCA. The Contractor must also supply the COR with SWPPP training certificates for both the BMP Installer AND the person overseeing the SWPPP. The owner must identify who will be responsible for the long-term operations and maintenance of all permanent stormwater management systems. The Contractor is liable until final stabilization of all disturbed areas is achieved and the Notice of Termination (NOT)/ Permit Modification form is submitted to the MPCA (as specified in the NPDES construction permit). Once the identity of Responsible Parties is known, the SWPPP must be amended to include this information in the area below.

Project Engineer

Jeremy E. Anderson, PE
Design Tree Engineering, Inc.
120 17th Ave. W.
Alexandria, MN 56308
(320)762-1290, ext. 104
jea@designtreeengineering.com

St. Cloud VA Contact:

Jon Copeland
Projects Section, General Engineer
VA Healthcare System
St. Cloud, MN
(320) 252-1670 ext. 6678
or (320) 255-6346

Contractor

TBD

SWPPP Amendments:

The Owner or Contractor must amend the SWPPP as necessary to include additional requirements, such as additional or modified BMPs that are designed to correct problems identified or address situations whenever:

- 1. There is a change in design, construction, operation, maintenance, weather or seasonal conditions that has a significant effect on the discharge of pollutants to surface water or underground waters.
- 2. Inspections or investigations by site owner or operators, USEPA or MPCA officials indicate the SWPPP is not effective in eliminating or significantly minimizing the discharge of pollutants to surface waters or underground waters or that the discharges are causing water quality standard exceedances.
- 3. The SWPPP is not achieving the general objectives of minimizing pollutants in stormwater discharges associated with construction activity, or the SWPPP is not consistent with the terms and conditions of this permit.
- 4. At any time after the permit coverage is effective, the MPCA deems necessary.

Construction Notes:

Construction shall be governed by MnDOT, City of St. Cloud, and St. Cloud VA's Specifications, special provisions, amendments and the project specifications and detail plates. Permits and maps relating to this project's SWPPP can be found in the Project Manual. The Contractor shall keep the inspection and maintenance log and NPDES permit on-site at all time during active construction. Please refer to plans and specifications for additional SWPPP information.

Soil Compaction should be minimized and topsoil should be preserved whenever and wherever possible during construction.

All soil stock piling shall include sediment control devices and shall be placed in areas away from surface waters or natural buffers.

Special Water, Impaired Water & TMDL Implementation Plans:

All disturbed areas not actively being worked must be stabilized within 7 days. The Owner is responsible for the long term maintenance of all infiltration basins and private storm sewer systems. Inlet protection, silt fences, final stabilization, and BMP's must be implemented prior to allowing any water runoff to be discharge off-site.

The site discharges storm water into an underground infiltration basin and overflows to the Sauk River which is considered a special/impaired river system.

Calculations:

Area to be Disturbed = 1.18 AC

Pre-Construction Impervious Area = 0.10 AC

Post-Construction Impervious Area = 0.50 AC

Net Increase in Impervious Area = 0.40 AC

Existing Runoff Rates Proposed Runoff Rates

2yr storm= 0.00 cfs

2yr storm= 0.00 cfs

10yr storm= 0.14 cfs

10yr storm= 0.00 cfs

100yr storm= 1.02 cfs

100yr storm= 0.00 cfs

Water Quality Volume 1.4" From New Impervious

- 1.4" x 21,780 SF = 2,541 cubic feet

Treatment Volume Provided with BMP (Stormtech)

- 9,278 cubic feet

Sequence of Construction- NPDES Permit needed for this contract, requirements apply:

Contractor to verify that all applicable permits have been obtained and NPDES permit modification form has been submitted to MPCA prior to the start of construction.

- 1. The Contractor must plan for and implement appropriate construction phasing, vegetation buffer strips, horizontal slope grading, and other construction practices that minimize erosion. The location of areas not to be disturbed are shown on Plans.
- 2. The Contractor shall be responsible for full implementation of and maintenance required by the SWPPP Narrative until the Notice of Termination is approved by the MPCA.
- 3. The Contractor shall construct Erosion and Sediment Control BMPs in the following construction sequence:
 - a. Install rock construction entrances where indicated in the Plans.
 - b. Install silt fence where indicated in the Plans.
 - c. Install silt fence around proposed infiltration and bioretention BMPs to protect soils from compaction.
 - d. Install inlet protection at each existing inlet as shown on the Plans.
 - e. Locate Portable toilets on flat surfaces away from drainage paths. Stake in areas susceptible to high winds.
 - f. Construct concrete washout area and provide signage.
 - g. Establish Waste Control Areas
 - h. Construct temporary sediment basins where 5 acres or more drain to one location. (Infiltration Basin 1, 2, and 5 may be used as temporary basins).
 - i. Construct diversions to sediment basins.
 - j. Rough Grade Site.
 - k. Leave disturbed area of site in a roughened condition to limit erosion. Temporarily stabilize areas that will be inactive for a period of 7 or more days.
 - l. Install storm drainage system and place inlet protection as each inlet is installed. Energy dissipation devices shall be in place and functional within 24 hours of connecting pipe outlets to surface waters.
 - m. Protect and repair BMPs, as necessary.
 - n. Perform street sweeping as needed and as directed by the COR.
 - o. Temporarily stabilize areas not be actively worked.
 - p. Site construction (Paving, Sidewalks, Buildings, etc.)
 - q. Final Grading.
 - r. Final stabilization (seeding, planting). Stabilize soil with sod or MNDOT Seed Mix 25-251 or 35-241
 - s. Remove temporary basins when permanent cover has reduced the acreage of disturbed soil to less than five (5) acres draining to a common location.
 - t. Construct stormwater infiltration basins & bioretention basins only when contributing drainage area has been constructed and fully stabilized.
 - u. Remove Erosion Control Devices upon site establishment in accordance with NPDES Notice of Termination.

Final Stabilization:

Final stabilization is not met until all of the following are completed.

- a. Stabilization by uniform perennial vegetative cover (70% density of it's expected final growth). Sod or MNDOT Seed Mixes 25-251 or 35-241 shall be used for final stabilization.
- b. Permanent stormwater management system is constructed, meets all requirements, and is operational.
- c. Drainage ditches fully stabilized.
- d. All temporary synthetic and structural BMPs are removed.
- e. Sediment from conveyance systems and sedimentation basins are cleaned out (returned to design capacity).

CONTRACTOR MUST PROVIDE ALL SWPPP DOCUMENTS & AMENDMENTS TO THE COR PRIOR TO THE NOT BEING SUBMITTED TO MPCA.

Notice of Termination (NOT) is submitted to MPCA.

Erosion Control Maintenance and Inspection: BMP inspection and maintenance Responsible Party _____

- 1. Inspect erosion control devices and provide routine maintenance as follows:
 - a. Inspect erosion control a minimum of once per week and after each rain event measuring 0.5 inches or more. Record inspections on MPCA inspection log sheet.
 - (1) Records of each inspection and maintenance activity shall include:
 - Date and Time of inspections
 - Name of person (s) conducting inspection
 - Findings of inspection, including recommendations for corrective actions
 - Corrective actions taken (including dates, times, and party completing maintenance activities)
 - Date and amount of all rainfall events greater than 0.5" in 24 hours
 - Documentation of changes made to the SWPPP as required by the NPDES General Stormwater Permit for Construction Activity
 - (2) Inspections are not required where the ground is frozen.
 - (3) Rainfall amounts must be obtained by a properly maintained rain gauge installed onsite, or by a weather station that is within one mile or by a weather reporting system.
 - (4) any discharges that occur during the inspection (s) must be described in writing and photographed.
- 2. Provide Maintenance for all devices as follows:
 - a. Silt fences erosion control devices at storm sewer inlets shall be inspected for depth of sediment, tears, to see if fabric is securely attached to support posts or structure, and to see that posts and devices are securely in place.
 - b. Silt fences, erosion control devices at storm sewer inlets and other erosion control devices shall be cleaned when sediment reached 1/2 of the height of the erosion control device, within 24 hours.
 - c. Rock Construction Entrances shall be inspected for clogging of river rocker. River rock that has become clogged with sediment shall be removed and replaced with fresh river rock.
 - d. Repairs or replacement of all erosion control devices shall occur within 24 hours of discovery.
 - e. Temporary sediment basins shall be cleaned when sediment reached 1/2 of the outlet's height or half of the basins storage volume. The basin shall be drained and sediment removed within 72 hours.
 - f. Temporary diversion berms shall be inspected and any breaches promptly repaired.
 - g. Tracked sediment from construction vehicles onto public streets and paved areas (including paved areas on the construction site) shall be removed within 24 hours of discovery.
 - h. The bottom and side slopes of proposed storm water treatment basins shall be stabilized within 200 feet of property lines or point of discharges to any surface water, including: curb and gutter, pavement, storm sewer, swales, or other similar storm conveyance devices.
 - i. Removal of sediment and restabilization of surface waters shall be accomplished within 7 days of discovery.

Pollution Prevention Management Measures

- 1. Storage, Handling, and Disposal of Construction Products, Materials and Wastes: The Contractor shall comply with the following to minimize the exposure to stormwater of any of the products, materials, or wastes/ Products or wastes which are either not a source of contamination to stormwater or are designed to be exposed to stormwater are not held to this requirement:
 - a. Building products that have the potential to leach pollutants must be under cover (e.g. plastic sheeting or temporary roofs) to prevent the discharge of pollutants or protected by a similarly effective means designed to minimize contact with stormwater
 - b. Pesticides, herbicides, insecticides, fertilizers, treatment chemicals, and landscape materials must be under cover (e.g., plastic sheeting or temporary roofs) to prevent the discharge of pollutants or protected by similarly effective means designed to minimize contact with stormwater.
 - c. Hazardous materials, toxic waste (including oil, diesel fuel, gasoline, hydraulic fluids, paint solvents, petroleum-based products, wood preservatives, additives, curing compounds, and acids) must be properly stored in sealed containers to prevent spills, leaks or other discharge. Restricted access storage areas must be provided to prevent vandalism. Storage and disposal of hazardous waste or hazardous materials must be in compliance with Minn. R. Ch 7045 including secondary containment as applicable.
 - d. Solid waste must be stored, collected and disposed of properly in compliance with Minn. R. ch. 7035.
 - e. Portable toilets must be positioned so that they are secure an will not be tipped or knocked over. Sanitary waste must be disposed of properly in accordance with Minn. R. ch. 7041.
- 2. Fueling and Maintenance of Equipment or Vehicles/Spill Prevention and Response: The Contractor shall take reasonable steps to prevent the discharge of spilled or leaked chemicals, including fuel, from any areas where chemicals or fuel will be loaded or unloaded including the use of drip pans or absorbents unless infeasible. The contractor must conduct fueling in a contained area unless infeasible. The Contractor must ensure adequate supplies are available at all times to clean up discharged materials and that an appropriate disposal method is available for recovered spilled materials. The Contractor must report and clean up spills immediately as required by Minn. Stat. §115.061, using dry clean up measures where possible.
- 3. Vehicle and Equipment Washing: If the Contractor washes the exterior of vehicles or equipment on the project site, washing must be limited to a defined area of the site. Runoff from the washing area must be contained in a sediment basin or other similarly effective controls an waste from the washing activity must be properly disposed of.
- 4. The Contractor must properly use and store soaps, detergents, or solvents.
- 5. No engine degreasing is allowed on site.
- 6. Concrete and other washouts waste: The Contractor must provide effective containment for all liquid and solid wastes generated by washout operations (concrete, stucco, paint, form release oils, curing compounds and other construction materials) related to the construction activity. The liquid and solid washout wastes must not contact the ground, and the containments must be designed so that it does not result in runoff from the washout operations or areas. Liquid and solid wastes must be disposed of properly and in compliance with MPCA rules. A sign must be installed adjacent to each washout facility that requires site personnel to utilize the proper facilities for disposal of concrete and other washout wastes.
- 7. Provide secondary containment for hazardous materials per OSHA requirements anywhere applicable during construction.

Dewatering and Basin Draining:

Dewatering or basin draining that may have turbid or sediment laden discharge water must be discharged to a temporary or permanent sedimentation basin on the project site whenever possible. Discharge from the temporary or permanent sedimentation basin must be visually checked to ensure adequate treatment is obtained in the basin and nuisance conditions, impacts to wetlands, and erosion in receiving channels or on downslope properties will not result from the discharge. Adequate sedimentation control measures are required for discharge water that contains suspended solids.

If using filters with backwash water, either haul the backwash water away for disposal, return the backwash water to the beginning of the treatment process, or incorporate the backwash water into the site in a manner that does not erode into runoff.

Timing of BMP Installation:

The Erosion and Sediment Control BMPs shall be installed as necessary to minimize erosion from disturbed surfaces and capture sediment on site and shall meet the NPDES permit Part IV construction activity requirements. Perimeter controls shall be placed prior to the start of any construction. All disturbed areas not actively being worked must be stabilized within 7 days.

Storm Water Pollution Prevention Plan:

The Permittees must implement the entire SWPPP and the requirements of the NPDES permit. The BMPs identified in the SWPPP and in the permit must be selected, installed and maintained in an appropriate and functional manner that is in accordance with manufacturer specifications and accepted engineering practices.

Temporary Sediment Basins, BMP Treatment & BMP Pretreatment Practices:

Project is not required to provide Temporary Sediment Basins for construction. The Stormwater BMP has 100% Removals of Total Suspended Solids (TSS) & Total Phosphorus (TP) and zero discharge from a 100-Year Storm Event by utilizing the highly infiltrative soils on-site. Two pre-treatment sumps are proposed prior to discharging stormwater to the Proposed BMP. Temperature is controlled by infiltrating 100% of the stormwater routed to the BMP.

Future Operation and Maintenance (O&M):

St. Cloud VA shall be responsible for performing future operations and maintenance of the permanent stormwater management systems on the property.

Contacts		
AGENCY	NAME	PHONE NUMBER
Stearns County	Chelle Benson	(320) 656-3613
DNR Waters	Nicki Blake-Bradley	(320) 223-7844
ACOE	St. Paul Office	(651) 290-5375
State Duty Officer	MPCA	(800)422-0798
SWPPP Designer	Jordan Lillemon	(320) 762-1290 ext. 109
Erosion Control Review	Jeremy E. Anderson, PE	(320) 762-1290 ext. 104
Erosion Control Supervisor	TBD	

LOCATION OF SWPPP REQUIREMENTS		
DESCRIPTION	TITLE	SHEET # OR SPECIFICATION SECTION
RECEIVING SURFACE WATER	Sauk River	NA
Final Stabilization	Erosion Control Plan	C6.0
Drainage Plans	Site Grading and Utility Plan	C4.0 & C5.0
Drainage Details	Details	C7.0 - C7.3
Erosion Control Sheets	Erosion Control Plan	C6.0
Erosion Control Details	Details	C7.2
Erosion & Sediment Control Quantities	Erosion Control Plan	C6.0
Existing & Proposed Drainage Maps	Final Stormwater Management Study	Project Manual

UNIVERSITY OF MINNESOTA
Jordan Lillemon
Design of Construction SWPPP (May 31 2022)

FULLY SPRINKLED
BID DOCUMENTS
FOR CONSTRUCTION

Office of
Construction
and Facilities
Management

CONSULTANTS:



St. Cloud | Alexandria | Rogers
320-252-1290

ARCHITECT/ENGINEERS:



Architecture | Engineering | Design-Build
230 E. Hwy One #201, LeSueur, MN 56299 - Tel: 562.339.2511 - www.paradigm.com

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.

PRINTED BY: JEREMY E. ANDERSON
DATE: 12/27/2019 LICENSE # 44223

Drawing Title:

SWPPP NARRATIVE

Approved Project Director:

DATE: 12-27-2019 CHECKED: JEA DFWAIT: JJK

Project Title:

ST CLOUD ADH AND EC SUPPORT

Location:

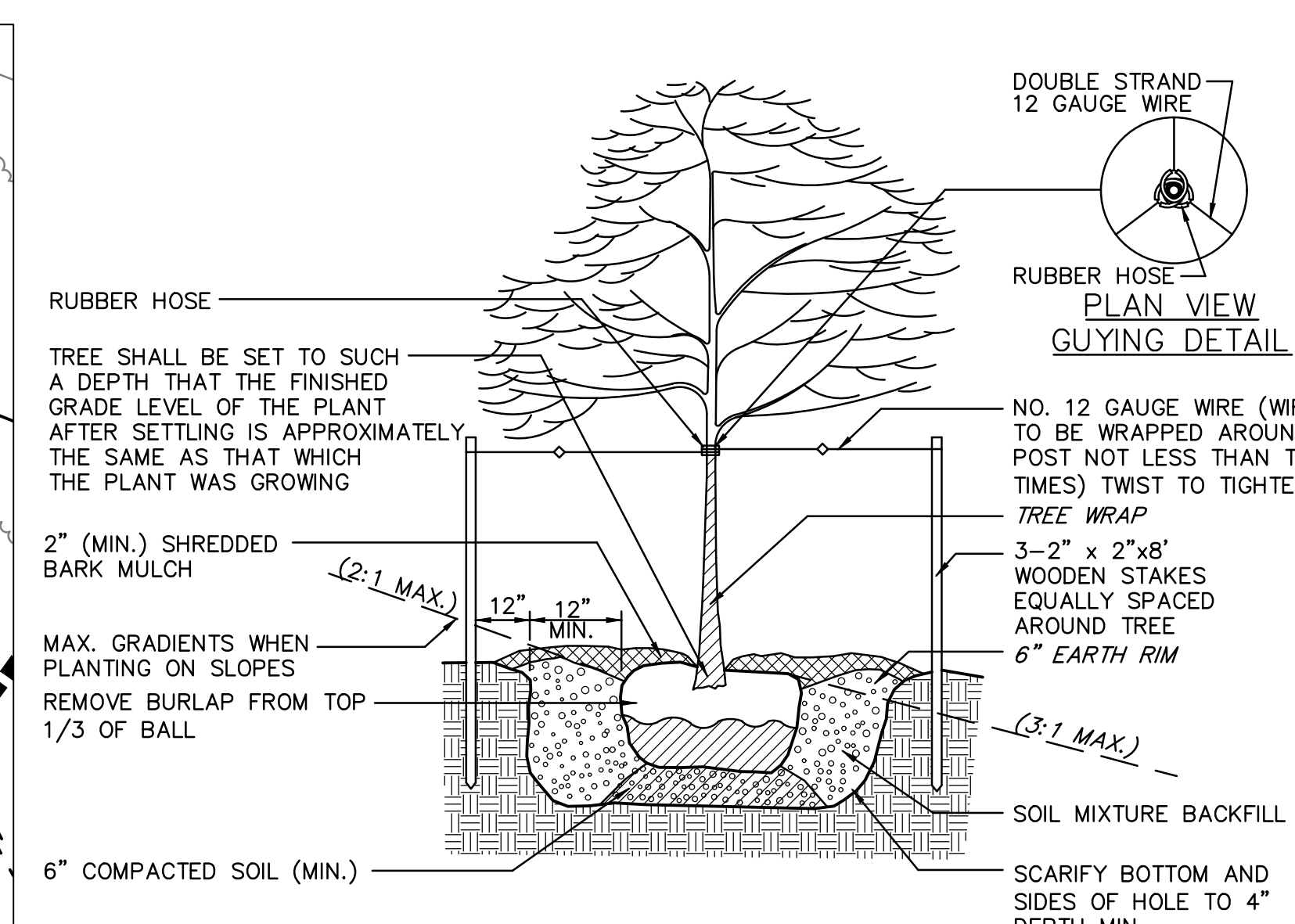
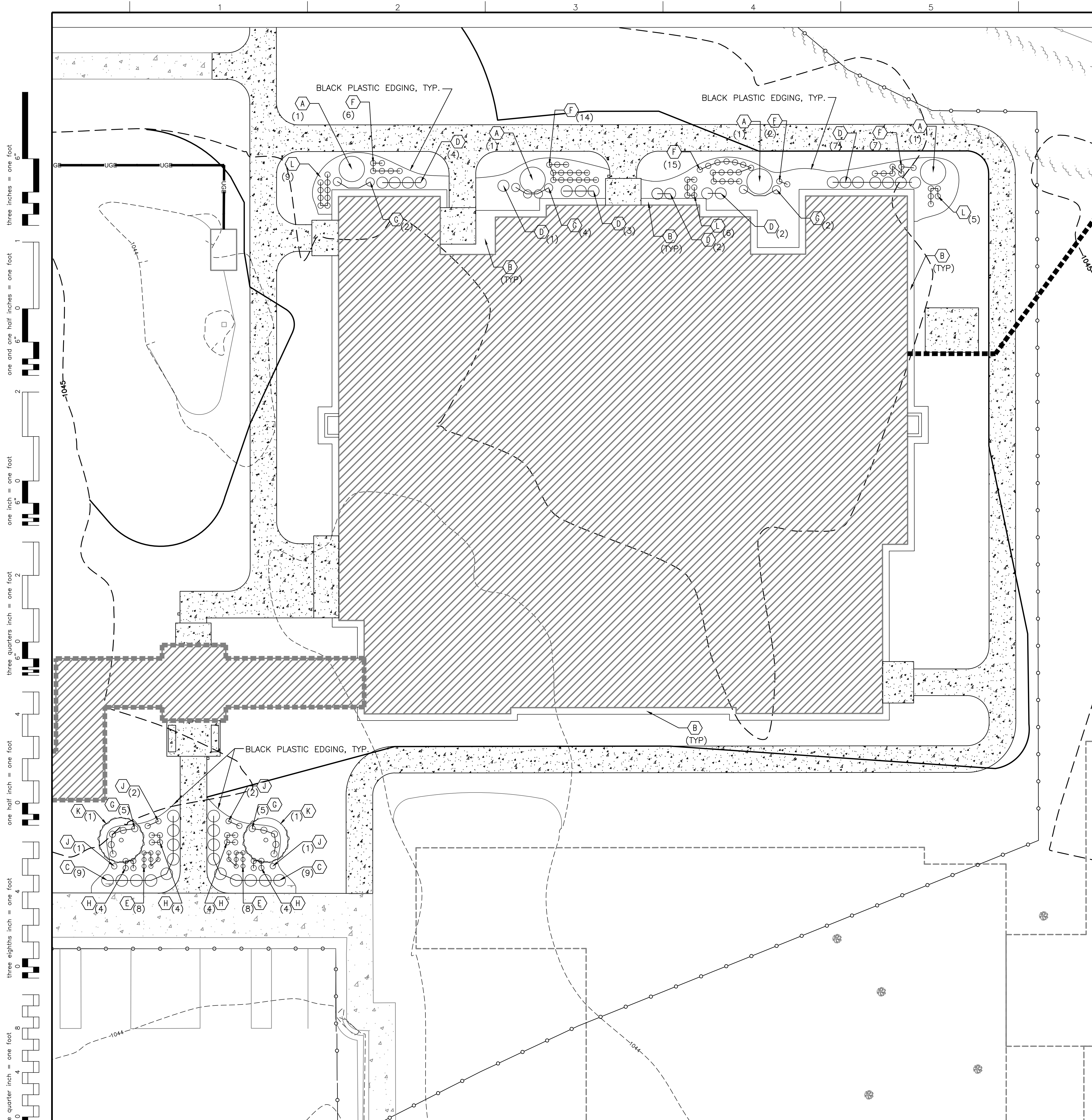
ST CLOUD VA HEALTH CARE SYSTEM
400 VETERANS DRIVE, ST. CLOUD, MN 56303

Project Number:

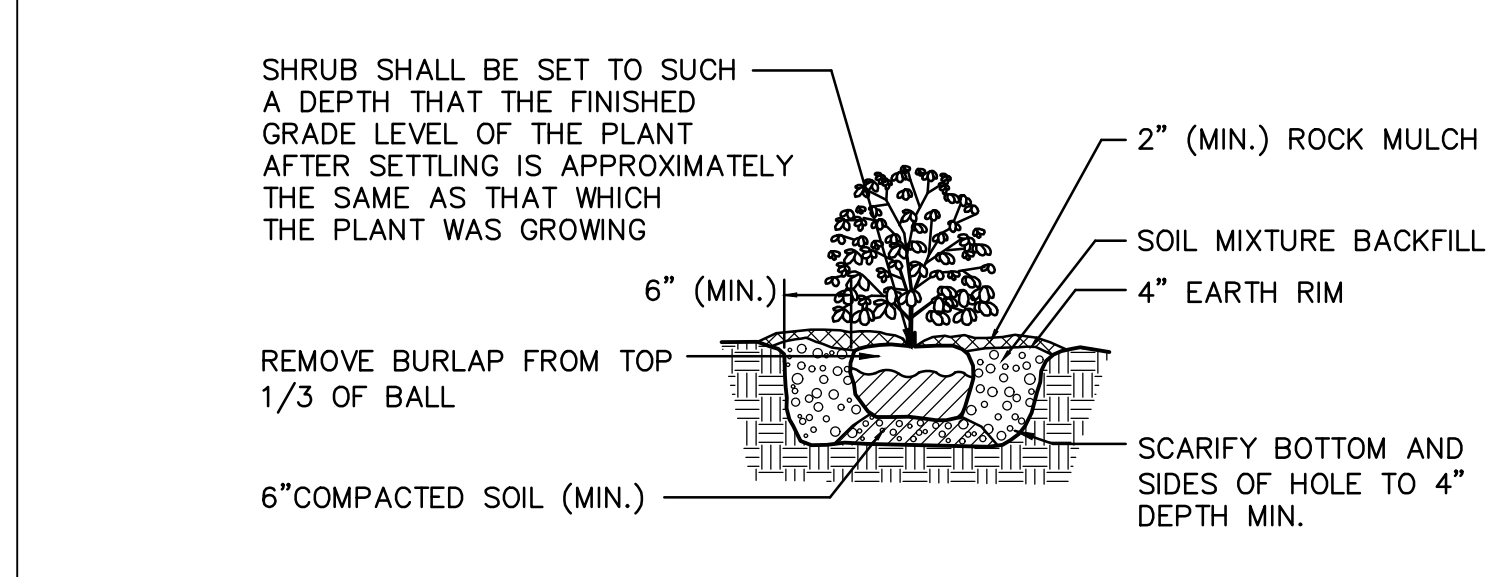
656-343

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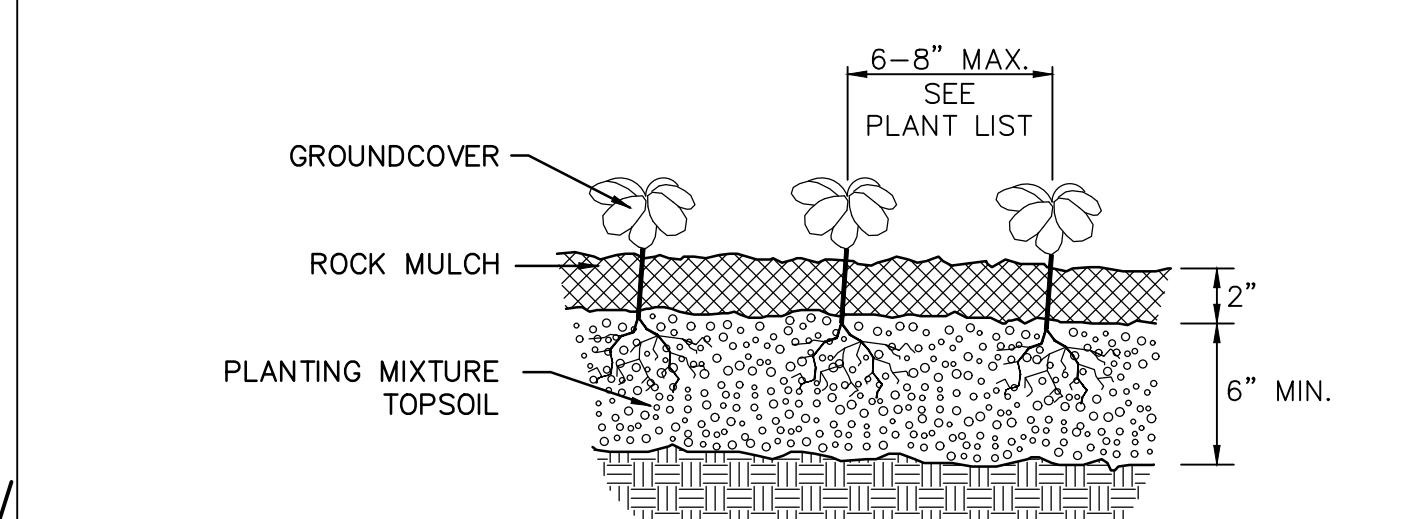
C7.4



TYPICAL TREE PLANTING
NOT TO SCALE



TYPICAL SHRUB PLANTING
NOT TO SCALE



TYPICAL GROUNDCOVER PLANTING
NOT TO SCALE

- NOTES**
- REFER TO C-001 FOR CIVIL ABBREVIATIONS, SYMBOLS, AND GENERAL NOTES.
 - ALL EXISTING UNDERGROUND UTILITIES TO BE PROTECTED DURING CONSTRUCTION UNLESS NOTED OTHERWISE.
 - ALL EXISTING DISTURBED GROUND, ASPHALT, SIDEWALKS, CURB AND GUTTER, ETC. SHALL BE REPAIRED TO MATCH EXISTING.
 - COORDINATE NEW LANDSCAPING WITH EXISTING CONDITIONS FROM PREVIOUS PROJECTS IN THIS AREA.

- LANDSCAPE NOTES**
- THE LOCATION AND TYPE OF ANY TREES OR LANDSCAPING WITHIN THE ROADWAY WILL BE EVALUATED FOR ROADSIDE SAFETY AND SIGHT DISTANCE REQUIREMENTS BY THE VA.

LANDSCAPE SCHEDULE

NO.	PLANTING NAME
A	CRABAPPLE 'SPRING SHOW'
B	18" GRAVEL @ PERIMETER OF BUILDING
C	JUNIPER 'BROADMOOR'
D	JUNIPER 'BLUE STAR'
E	SALVIA 'MAY NIGHT'
F	GALLARDIA 'BURGUNDY SILK'
G	HOSTA 'HADSPEN BLUE'
H	ECHINACEA 'MISTRAL'
J	BLUE OAT GRASS 'SAPPHIRE'
K	MAPLE 'AUTUMN BLAZE'
L	LITTLE BLUESTEM 'BLUE HEAVEN'

CIVIL HATCH SYMBOLS

	GRAVEL SURFACE (18" EXTERIOR BUILDING AREA)
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NOTE
ALL EXISTING DISTURBED GROUND, ASPHALT, SIDEWALKS, CURB AND GUTTER, ETC. SHALL BE REPAIRED TO MATCH EXISTING.

PROPOSED LANDSCAPE PLAN
T = 10'-0"

ADDDUM 1 - BID AND CONSTRUCTION DOCUMENTS 05/29/20
Revisions: _____ Date _____

CONSULTANTS:

DESIGN TREE
engineering + land surveying
St. Cloud | Alexandria | Rogers
320-217-5557

ARCHITECT/ENGINEERS:

paradigm
Architecture | Engineering | Design-Build
200 Envoy Circle #201, Louisville KY 40299 - PH: 502.339.8511 - www.paradigmusa.com

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Jerry E. Anderson
JERRY E. ANDERSON
DATE: 12/27/2019 LICENSE #: 4123

Drawing Title
LANDSCAPING PLAN

Approved Project Director

Project Title
ST CLOUD ADH AND EC SUPPORT

Location ST CLOUD VA HEALTH CARE SYSTEM
4801 VETERANS DRIVE, ST. CLOUD MN 56303

Date 12-27-2019

Checked JEA **Drawn** RJK

Project Number 656-343

Building Number ---

Drawing Number C8.0

FULLY SPRINKLED
BID DOCUMENTS
FOR CONSTRUCTION

Office of
Construction
and Facilities
Management