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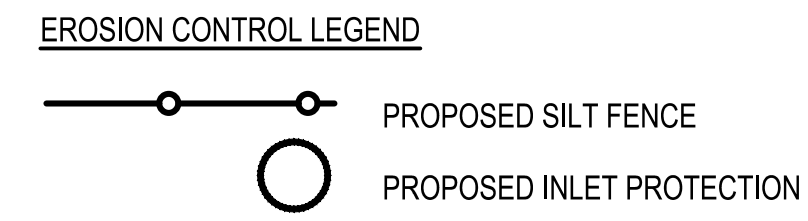
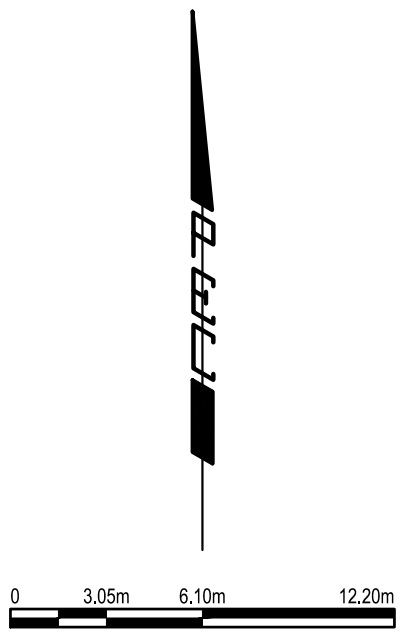
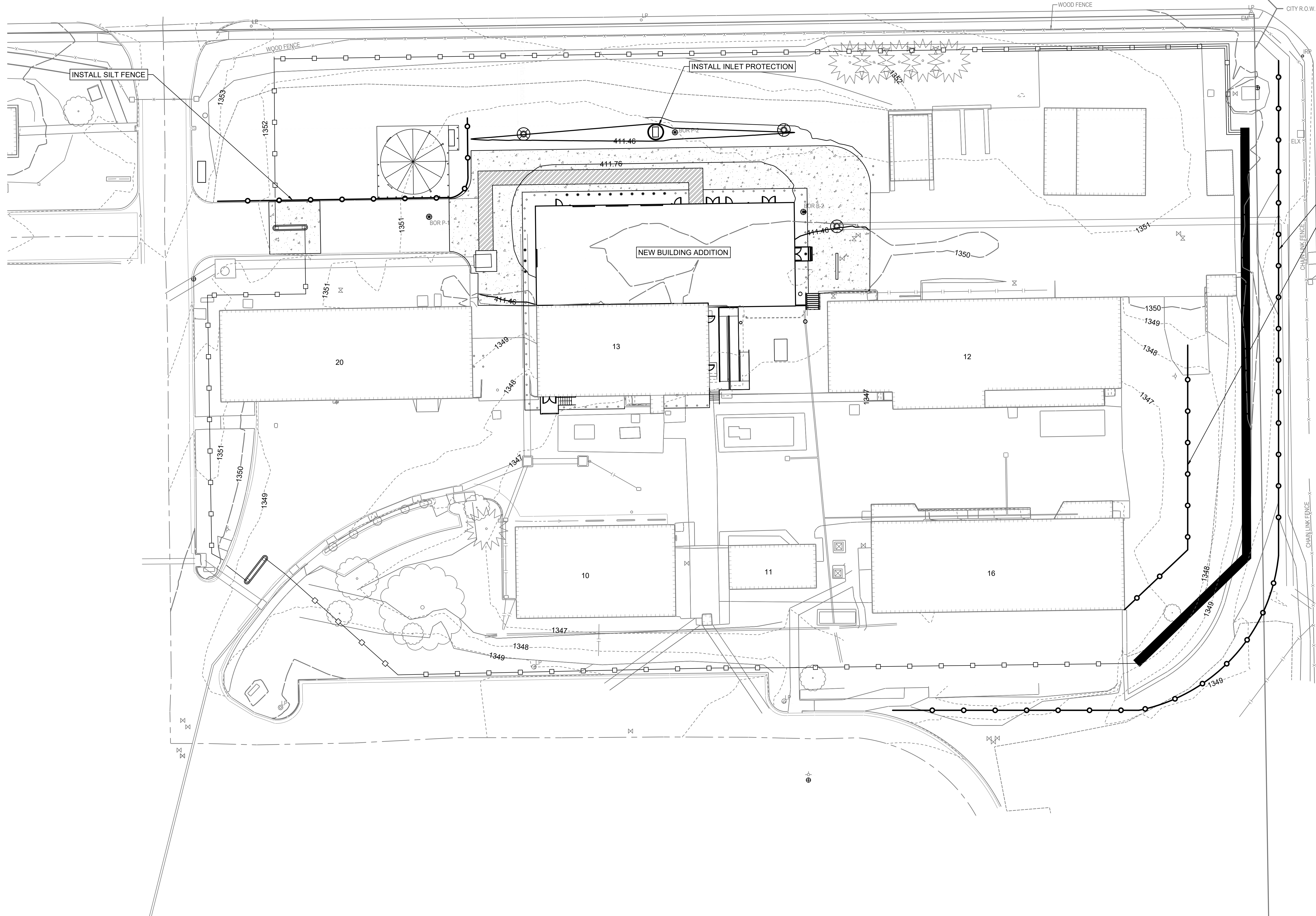
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U:\Wichita-Civil\2020\200664\000\Drawings\Metric Conversion\200664-000 - CG102.01 - EROSION CONTROL PLAN.dwg 9-3-21 12:42:36 PM

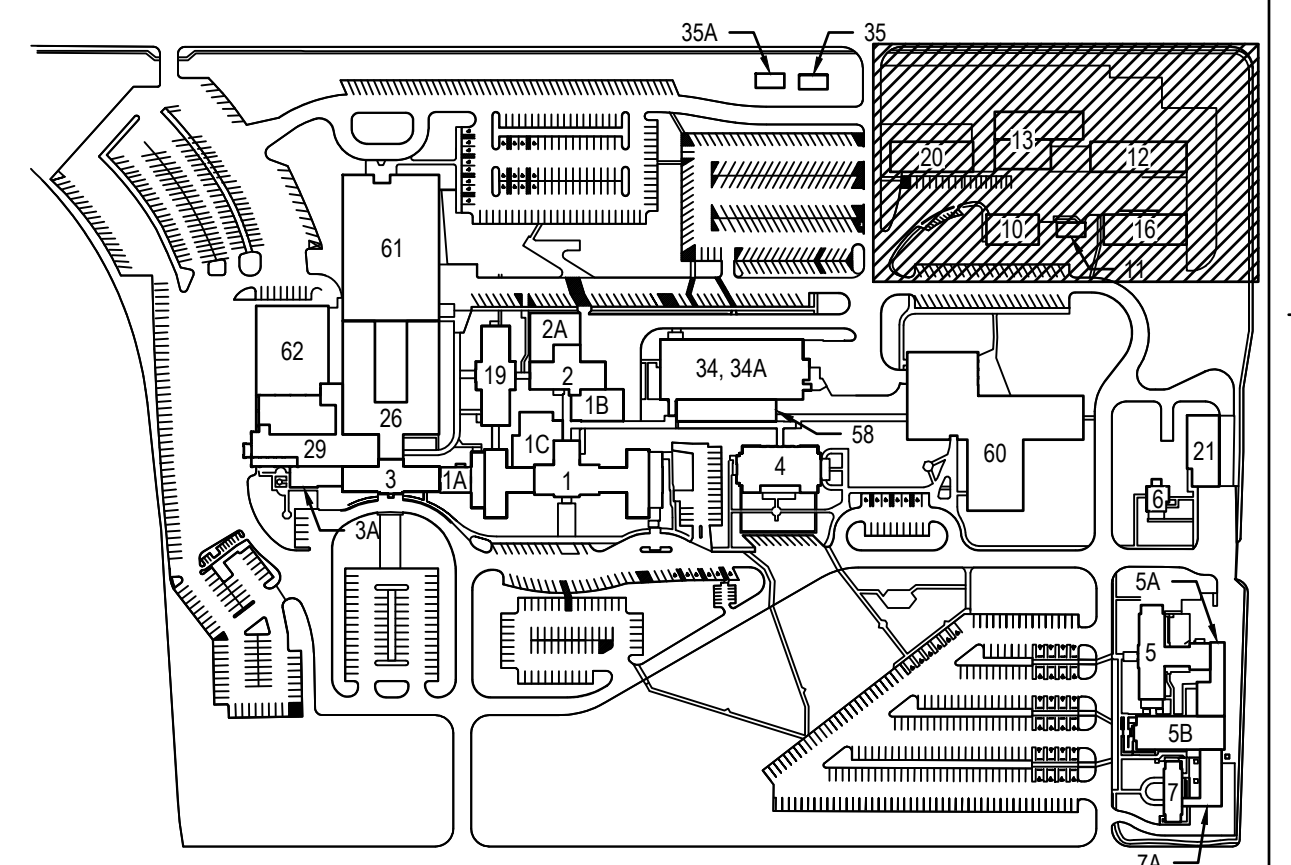
VA FORM 08-6231

E. WATERMAN STREET



- EROSION CONTROL NOTES:**
1. THE CONTRACTOR SHALL PREPARE AND SUBMIT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH KDPHE REQUIREMENTS TO THE V.A. FOR APPROVAL PRIOR TO START OF CONSTRUCTION.
  2. THE CONTRACTOR SHALL INSTALL ANY ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES AS NEEDED TO PREVENT SEDIMENT TRANSPORT INTO STORM SEWERS, GUTTERS, OR OFF-SITE DURING CONSTRUCTION.
  3. SEE SHEET C-001 FOR ADDITIONAL EROSION CONTROL AND SEEDING NOTES.

S. EDGEMOOR DRIVE



KEYPLAN



PRINTS OF THIS DRAWING SHALL NOT BE USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER.

NO.	DESCRIPTION	DATE

**CONSULTANTS**

<p><b>HAZARDOUS MATERIALS</b> MABBETT &amp; ASSOCIATES, INC. 105 CENTRAL PARK DRIVE, STONEHAM, MA 02180 PHONE: (781)275-6591</p>	<p><b>FIRE SUPPRESSION</b> KOFFEL ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045 PHONE: (410)729-2246</p>
<p><b>CIVIL / STRUCTURAL</b> PROFESSIONAL ENGINEERING CONSULTANTS, P.A. 303 SOUTH TOPEKA, WICHITA, KS 67202 PHONE: (316)262-2881</p>	<p><b>ELECTRONIC SECURITY</b> MAGNA ENGINEERS 861 CORPORATE DRIVE, SUITE 210, LEXINGTON, KY 40503 PHONE: (859)309-2990</p>
<p><b>ARCHITECTURAL</b> OCULUS INC. 1 SOUTH MEMORIAL DRIVE, SUITE 1500, SAINT LOUIS, MO 63102 PHONE: (314)367-6100</p>	<p><b>PHYSICAL SECURITY</b> FORCE PROTECT 3210 GULF BLVD. UNIT 304, BELLAIR BEACH, FL 33786 PHONE: (802)836-4232</p>

**ENGINEER OF RECORD**

**Miller-Remick LLC**  
M.E.P. & Structural Engineering  
A Service Disabled Veteran Owned Small Business

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PHONE: (856)429-4000  
FAX: (856)429-9002  
MR PROJECT NO: 0499-0121

**PROFESSIONAL ENGINEERING CONSULTANTS, P.A.**  
PROFESSIONAL ENGINEER

**SCOTT M. TURNER**  
26113  
08/03/2021  
KANSAS  
PROFESSIONAL ENGINEER

**Office of Construction and Facilities Management**

**VA** U.S. Department of Veterans Affairs

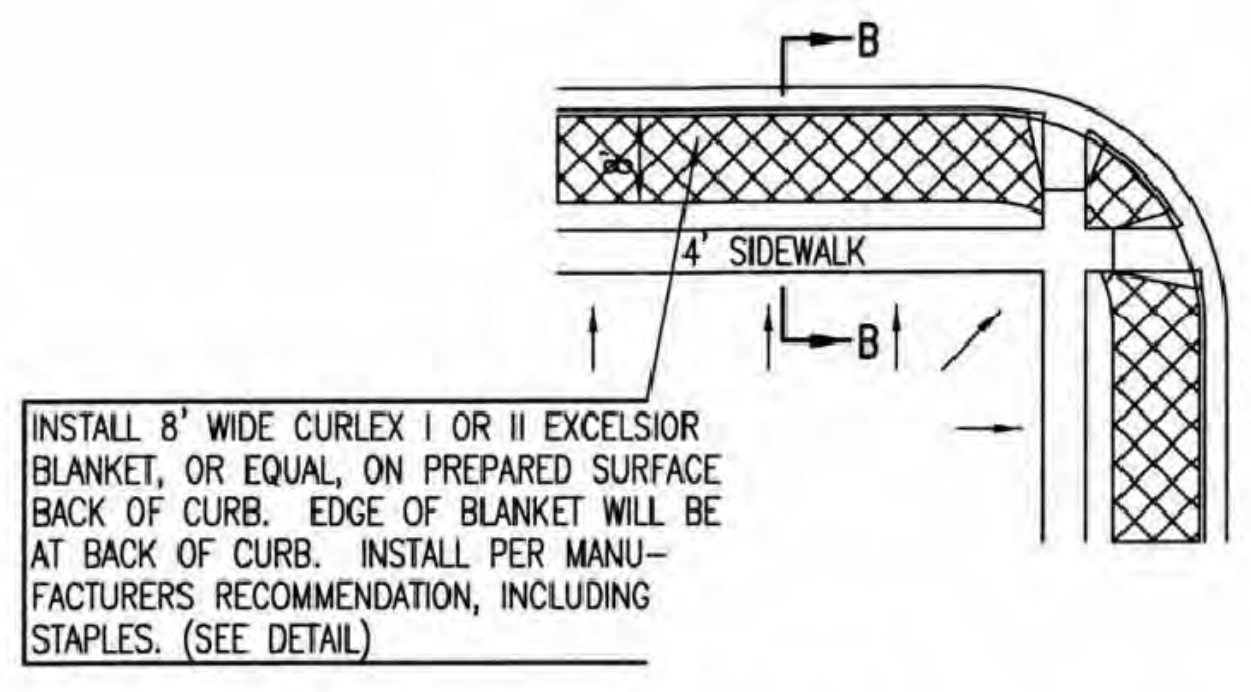
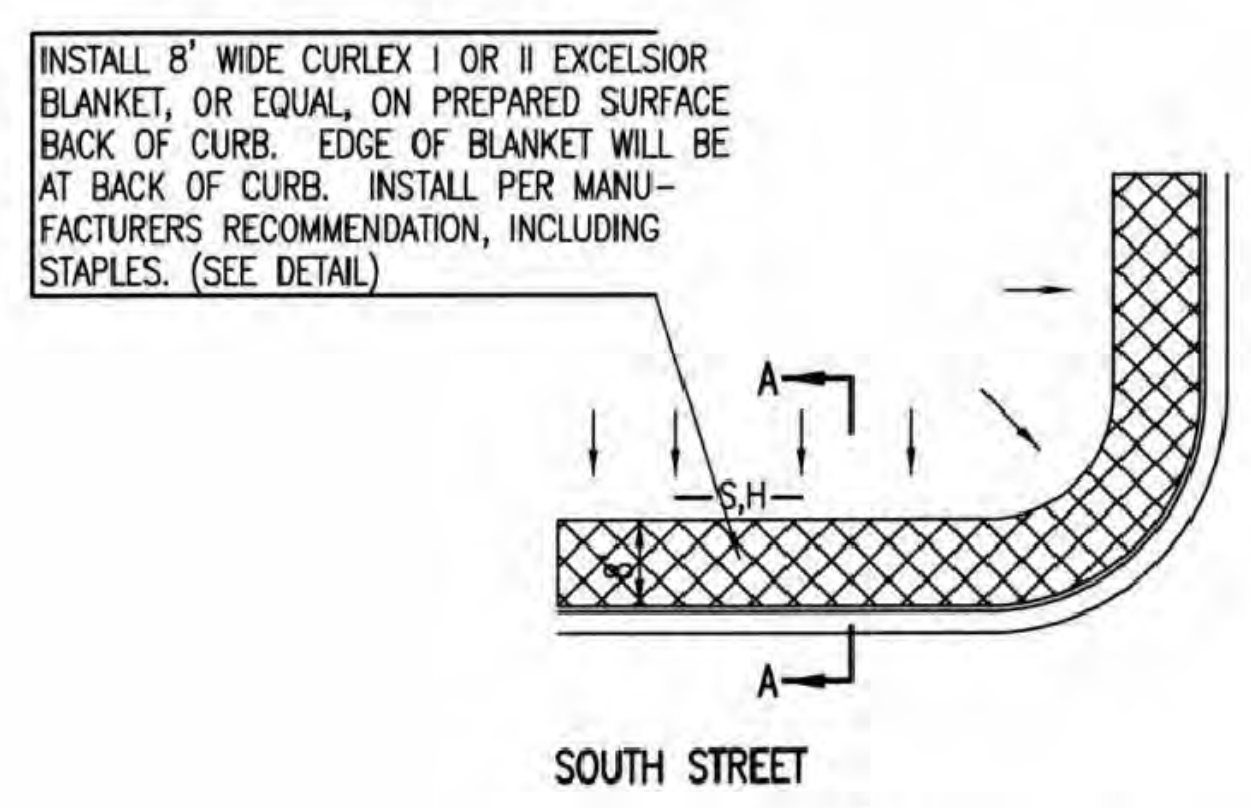
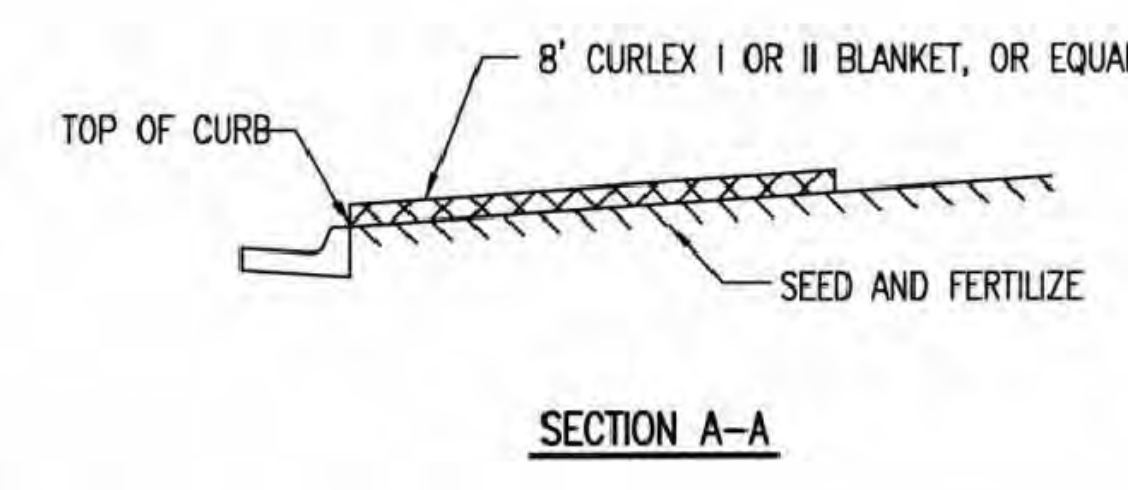
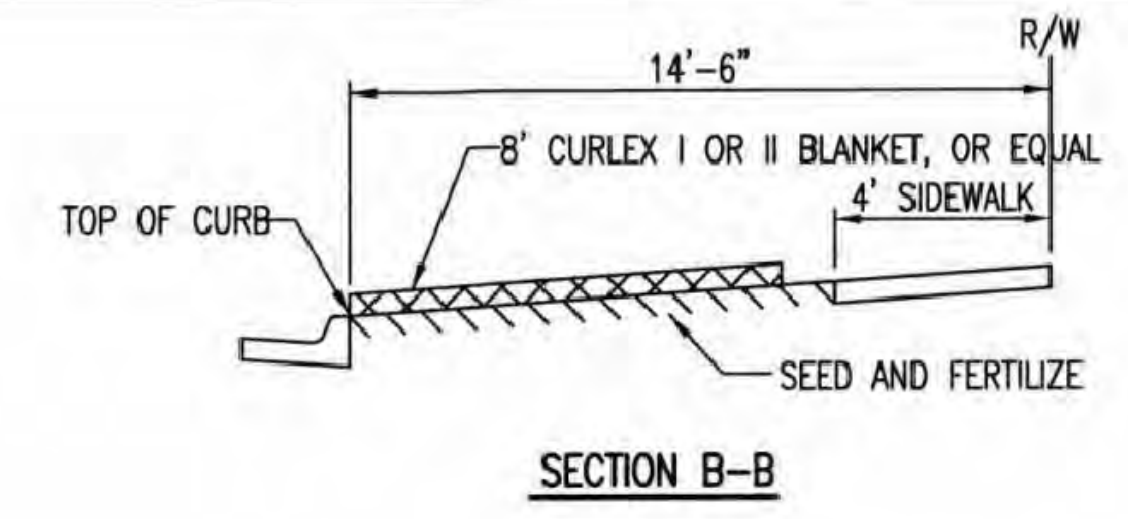
<p>Drawing Title CIVIL SITE EROSION CONTROL PLAN, PHASE 1</p>
<p>Approved: Project Director</p>

<p>Phase 100% BID SET</p>
<p>FULLY SPRINKLERED</p>

<p>Project Title INSTALL NEW BOILERS IN BUILDING 13</p>		
<p>Location ROBERT J. DOLE VA MEDICAL CENTER WICHITA, KANSAS</p>		
<p>Issue Date 2021-09-03</p>	<p>Checked DRC</p>	<p>Drawn SMT / DSB</p>

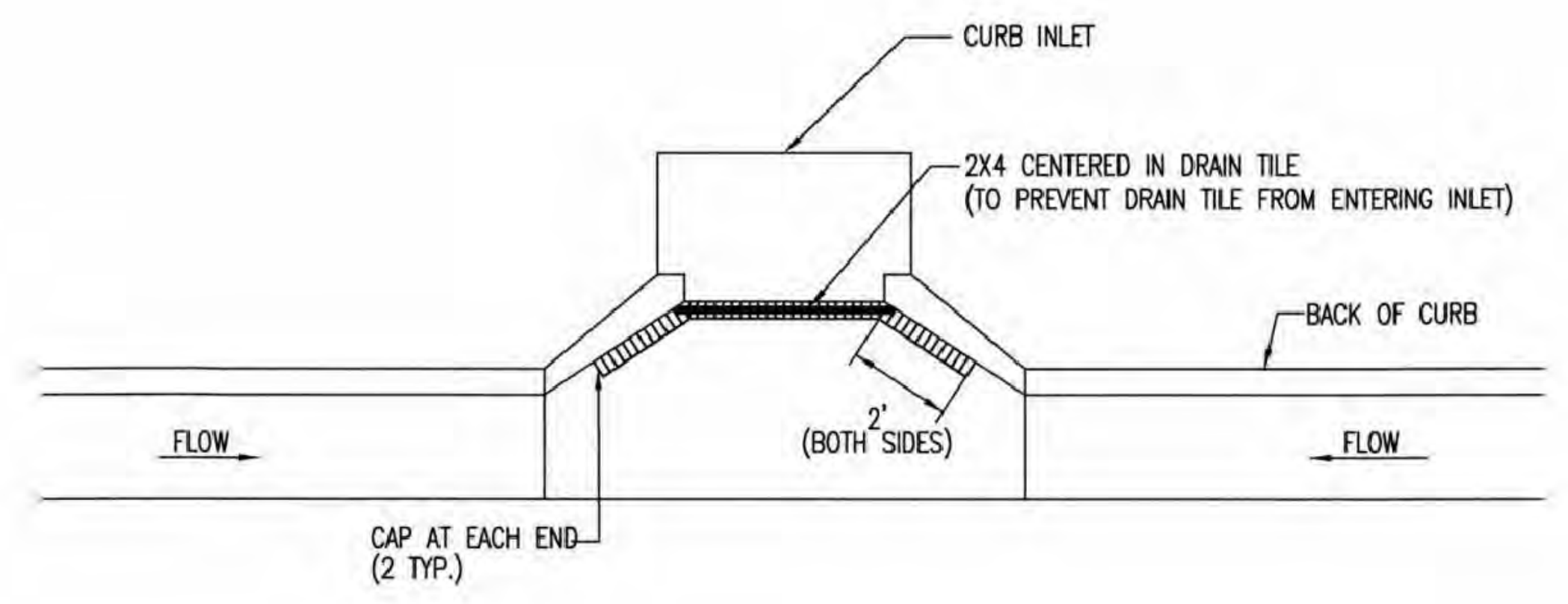
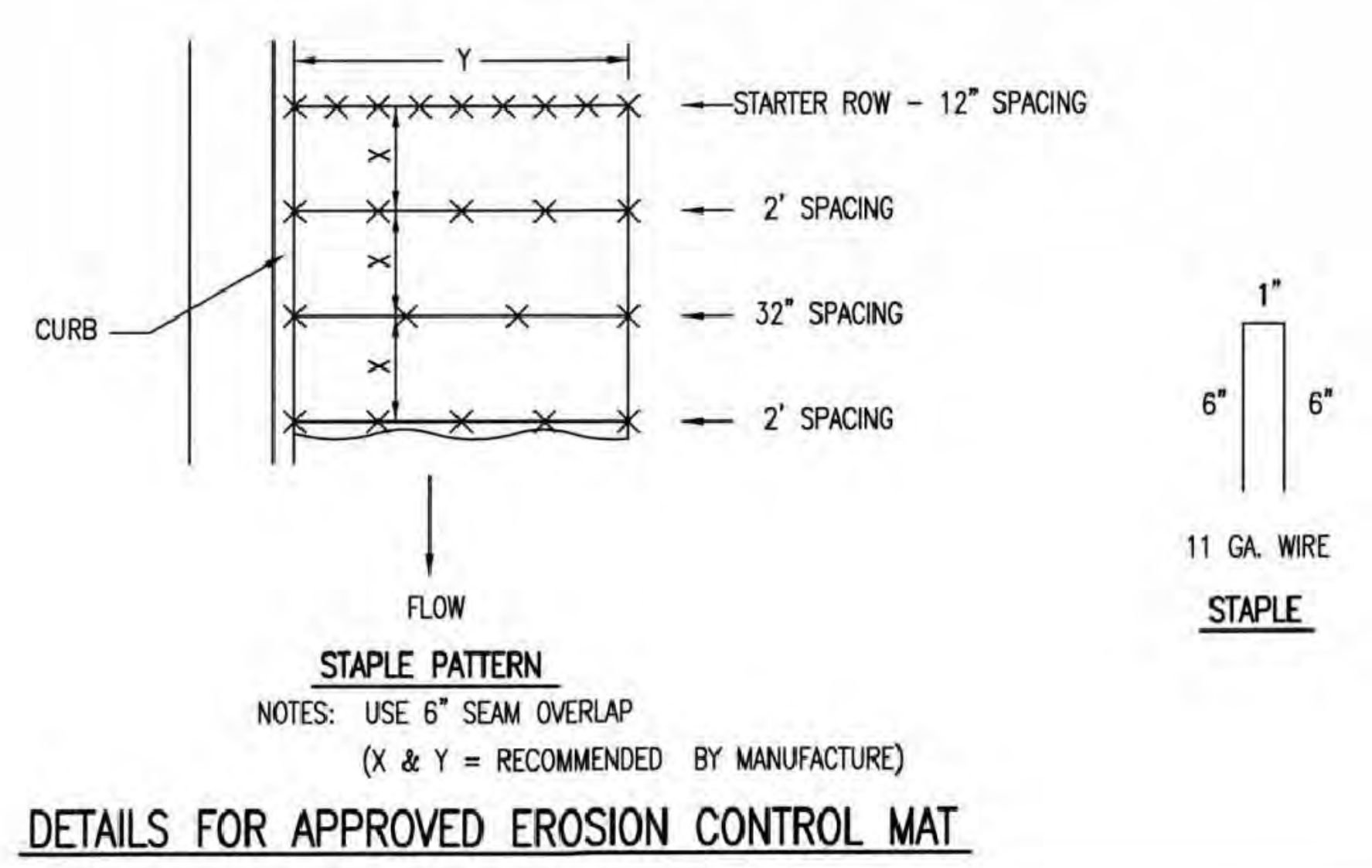
<p>Project Number 589A7-18-302</p>
<p>Building Number 13</p>
<p>Drawing Number CG102.01</p>





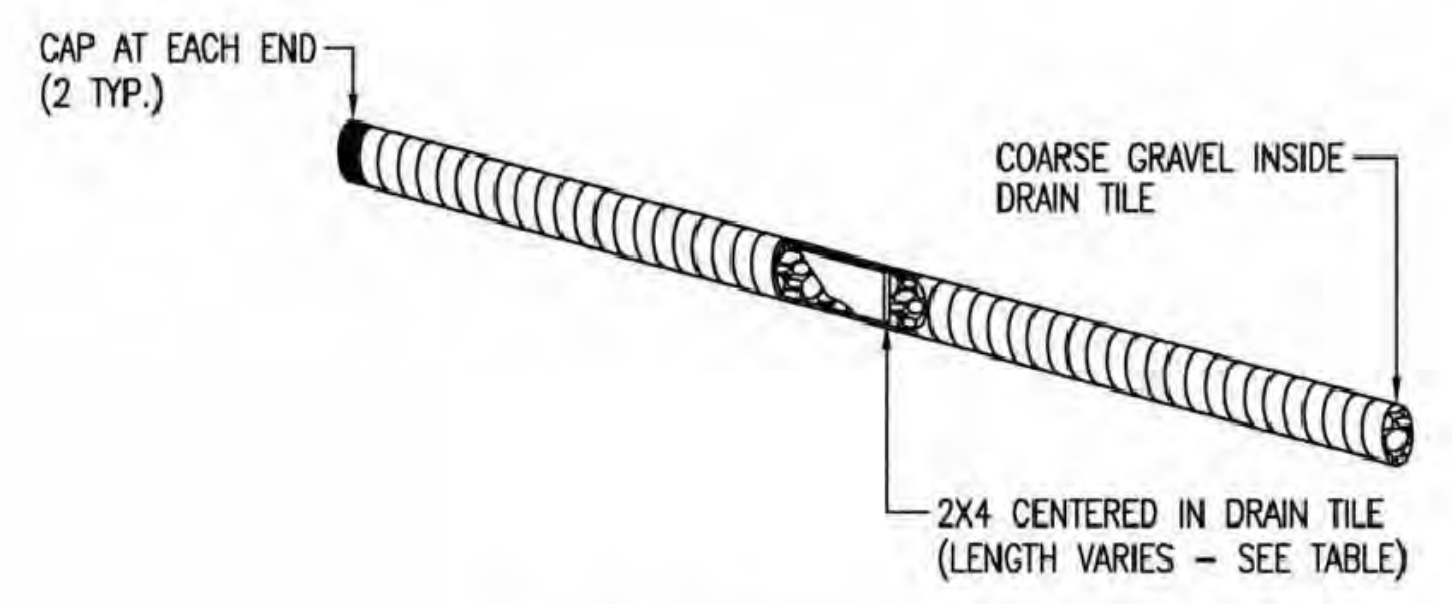
- GENERAL NOTES**
- EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
  - EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
  - AFTER INSTALLATION OF EXCELSIOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB AND INTO THE GUTTER, SUPPLEMENTAL EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS NEEDED, TO FIX THE PROBLEM.

**BACK OF CURB PROTECTION DETAIL**

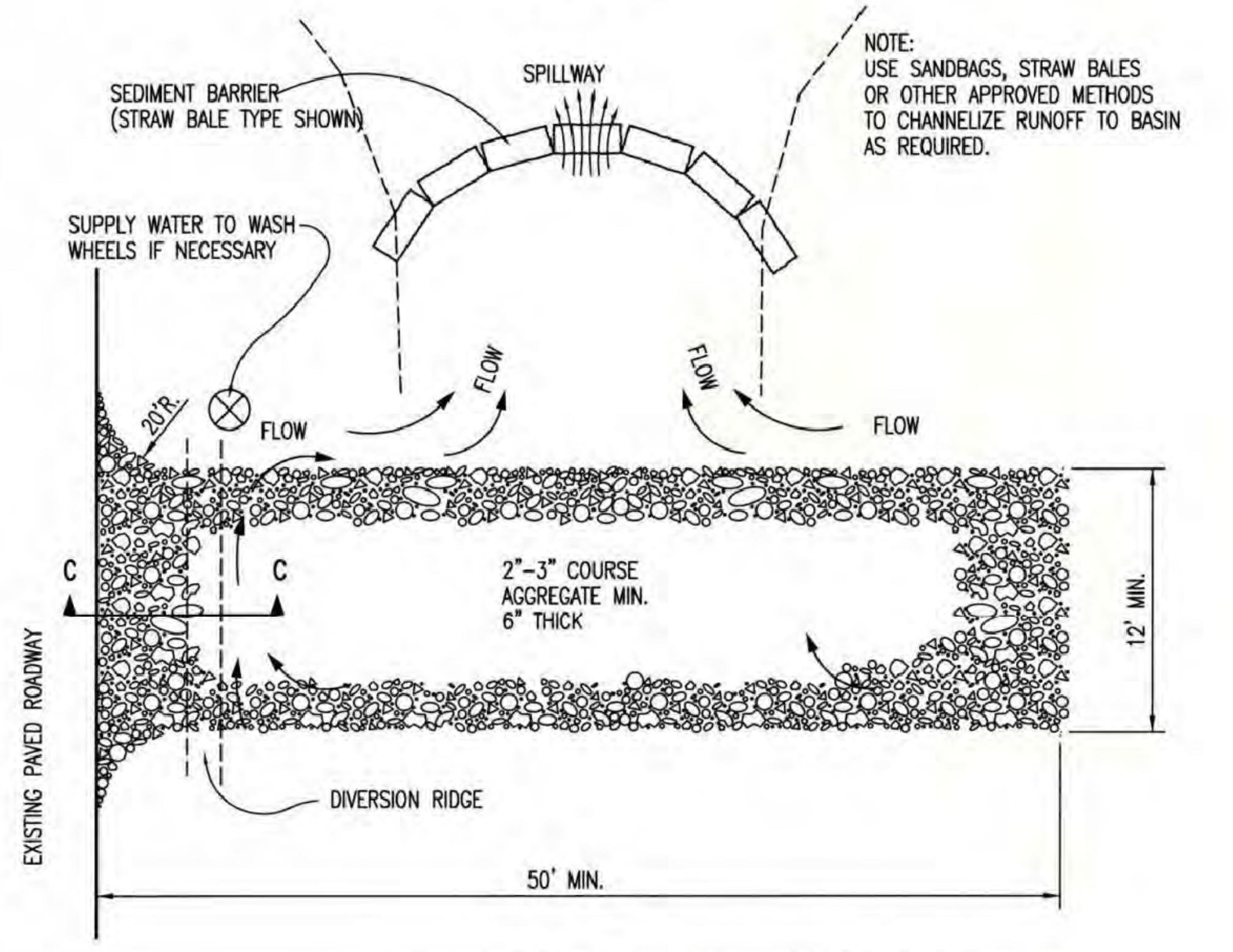
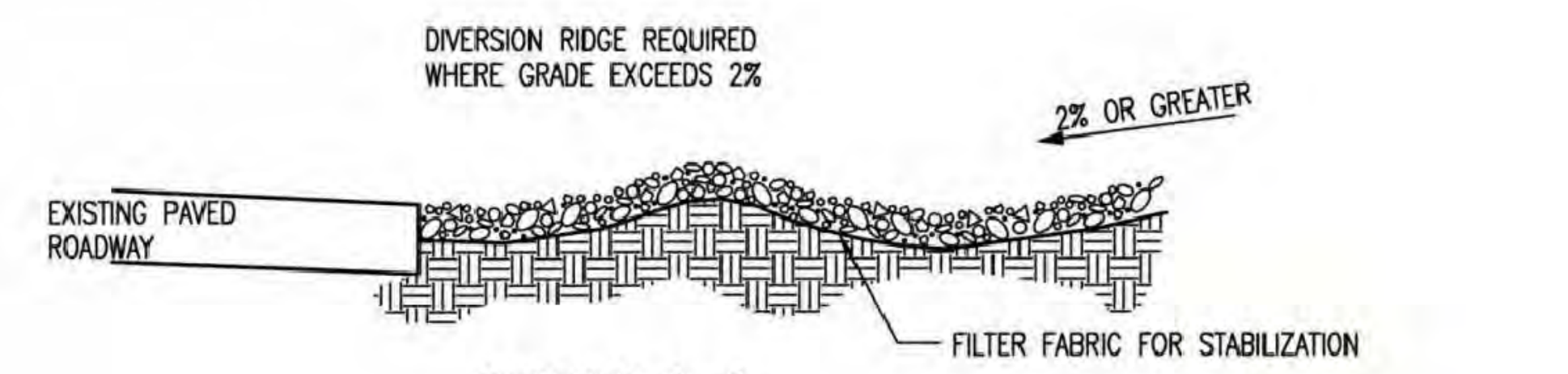


NOTE: PLACE 4" PERFORATED PVC PIPE, FILLED WITH 1/2"-1" DIA. GRAVEL, IN FRONT OF CURB INLET AS SHOWN.

2X4 LENGTH	INLET TYPE	INLET OPENING
5'-6"	1-A	5'-0"
10'-6"	1-A	10'-0"
15'-6"	1-A	15'-0"



**CURB INLET PROTECTION**  
4" PERFORATED PIPE W/ GRAVEL



**STABILIZED CONSTRUCTION ENTRANCE**

- GENERAL NOTES**
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
  - WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
  - WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN, AS SHOWN ABOVE.
  - DRIVE ENTRANCES ONTO RESIDENTIAL LOTS WILL NOT BE REQUIRED TO HAVE THE SEDIMENT BARRIER SHOWN, BUT WHEEL WASHING MAY BE REQUIRED IF STABILIZED ENTRANCE IS NOT SUFFICIENT TO KEEP MUD FROM BEING TRACKED ONTO ADJACENT STREET. ENTRANCE SHALL EXTEND FROM BACK OF CURB TO DWELLING.

REVISION DATE: MAY 2013



**BACK OF CURB PROTECTION, CURB INLET PROTECTION AND CONSTRUCTION ENTRANCE**

CITY ENGINEER  
**GARY JANZEN, P.E.**

PROJECT NUMBER	OCA NUMBER	DATE

CITY ENGINEER'S OFFICE  
CITY HALL - SEVENTH FLOOR  
455 NORTH MAIN STREET  
WICHITA, KANSAS 67202-1620  
(316) 268-4501

SHEET



PRINTS OF THIS DRAWING SHALL NOT BE USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER.

NO.	DESCRIPTION	DATE

**CONSULTANTS**

<b>HAZARDOUS MATERIALS</b> MABBETT & ASSOCIATES, INC. 105 CENTRAL STREET, STONEHAM, MA 02180 PHONE: (781)275-6591	<b>FIRE SUPPRESSION</b> KOFFEL ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045 PHONE: (410)729-2246
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PROFESSIONAL ENGINEER

**SCOTT M. TURNER**  
LICENSE NO. 26113  
08/03/2021  
KANSAS PROFESSIONAL ENGINEER

Office of Construction and Facilities Management

**VA** U.S. Department of Veterans Affairs

Drawing Title  
CIVIL SITE  
BACK OF CURB PROTECTION AND CONSTRUCTION ENTRANCE

Approved: Project Director

Phase  
100% BID SET

FULLY SPRINKLERED

Project Title  
INSTALL NEW BOILERS IN BUILDING 13

Location  
ROBERT J. DOLE VA MEDICAL CENTER  
WICHITA, KANSAS

Issue Date	Checked	Drawn
2021-09-03	DRC	SMT /DSB

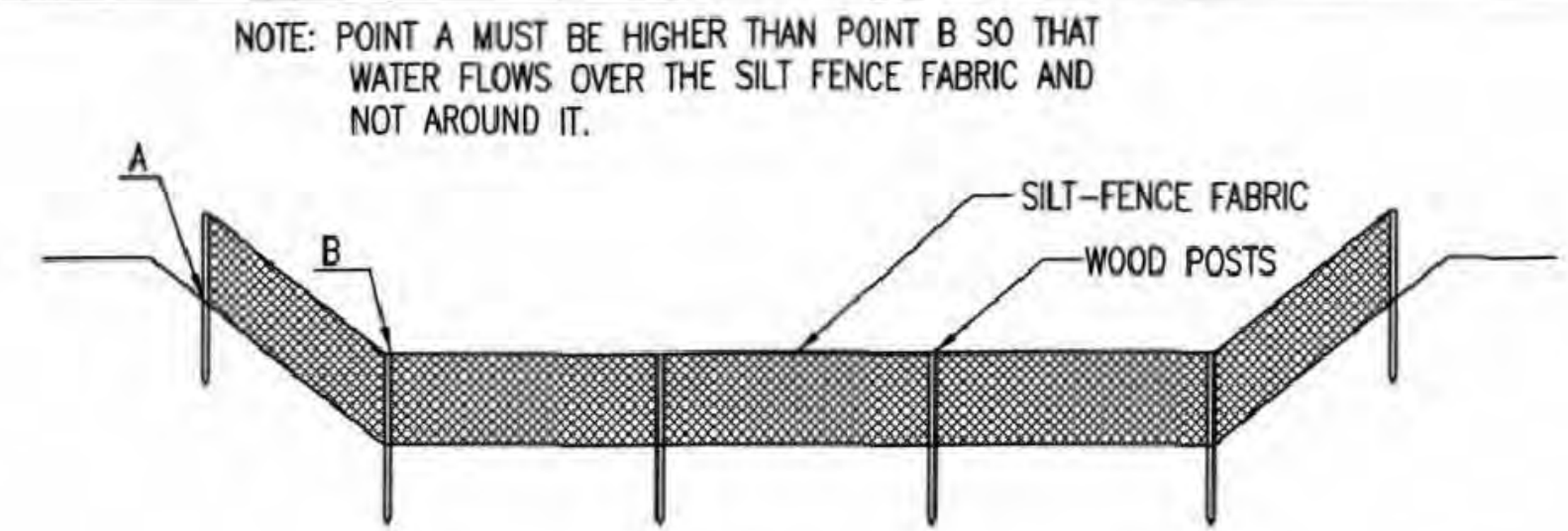
Project Number  
589A7-18-302

Building Number  
13

Drawing Number  
CG501

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**ELEVATION**  
**SILT FENCE DITCH CHECKS**  
(STREAM PROTECTION)

**MATERIAL SPECIFICATION:**

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. SILT FENCE FABRIC SHOULD BE ATTACHED TO THE WOODEN POSTS WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

**PLACEMENT:**

PLACE SILT FENCE IN DITCHES WHERE IT IS UNLIKELY THAT IT WILL BE OVERTOPPED. WATER SHOULD FLOW THROUGH A SILT FENCE DITCH CHECK, NOT OVER IT. SILT FENCE DITCH CHECKS OFTEN FAIL WHEN OVERTOPPED. SILT FENCE DITCH CHECKS SHOULD BE PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH. THE SILT FENCE SHOULD EXTEND FAR ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE FENCE IS HIGHER THAN THE TOP OF THE LOW POINT OF THE FENCE. THIS PREVENTS WATER FROM FLOWING AROUND THE CHECK. SILT FENCE DITCH CHECKS SHOULD NOT BE PLACED IN DITCHES WHERE HIGH FLOWS ARE EXPECTED. ROCK CHECKS SHOULD BE USED INSTEAD. SILT FENCE SHOULD BE PLACED IN DITCHES WITH SLOPES OF 6% OR LESS. FOR SLOPES STEEPER THAN 6%, ROCK CHECKS SHOULD BE USED.

THE FOLLOWING TABLE PROVIDES CHECK SPACING FOR A GIVEN DITCH GRADE:

DITCH CHECK DITCH GRADE (%)	SPACING CHECK SPACING (FEET)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

**PROPER INSTALLATION METHOD:**

EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS AT LEAST 12" DEEP BY 6" WIDE. EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK. PLACE THE SOIL ON THE UPSTREAM SIDE OF THE TRENCH FOR LATER USE. ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC ON THE DOWNSLOPE SIDE OF THE TRENCH. PLACE THE EDGE OF THE FABRIC IN THE TRENCH STARTING AT THE TOP UPSLOPE EDGE OF THE TRENCH. LINE TWO SIDES OF THE TRENCH WITH THE FABRIC AS SHOWN ON DETAIL. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT FENCE FABRIC SHOULD REMAIN EXPOSED. LAY THE EXPOSED SILT FENCE ON THE UPSLOPE SIDE OF THE TRENCH TO CLEAR AN AREA FOR DRIVING IN THE POSTS. JUST DOWNSLOPE OF THE TRENCH, DRIVE POSTS INTO THE GROUND TO A DEPTH OF AT LEAST 24". PLACE POSTS NO MORE THAN 4' APART. ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

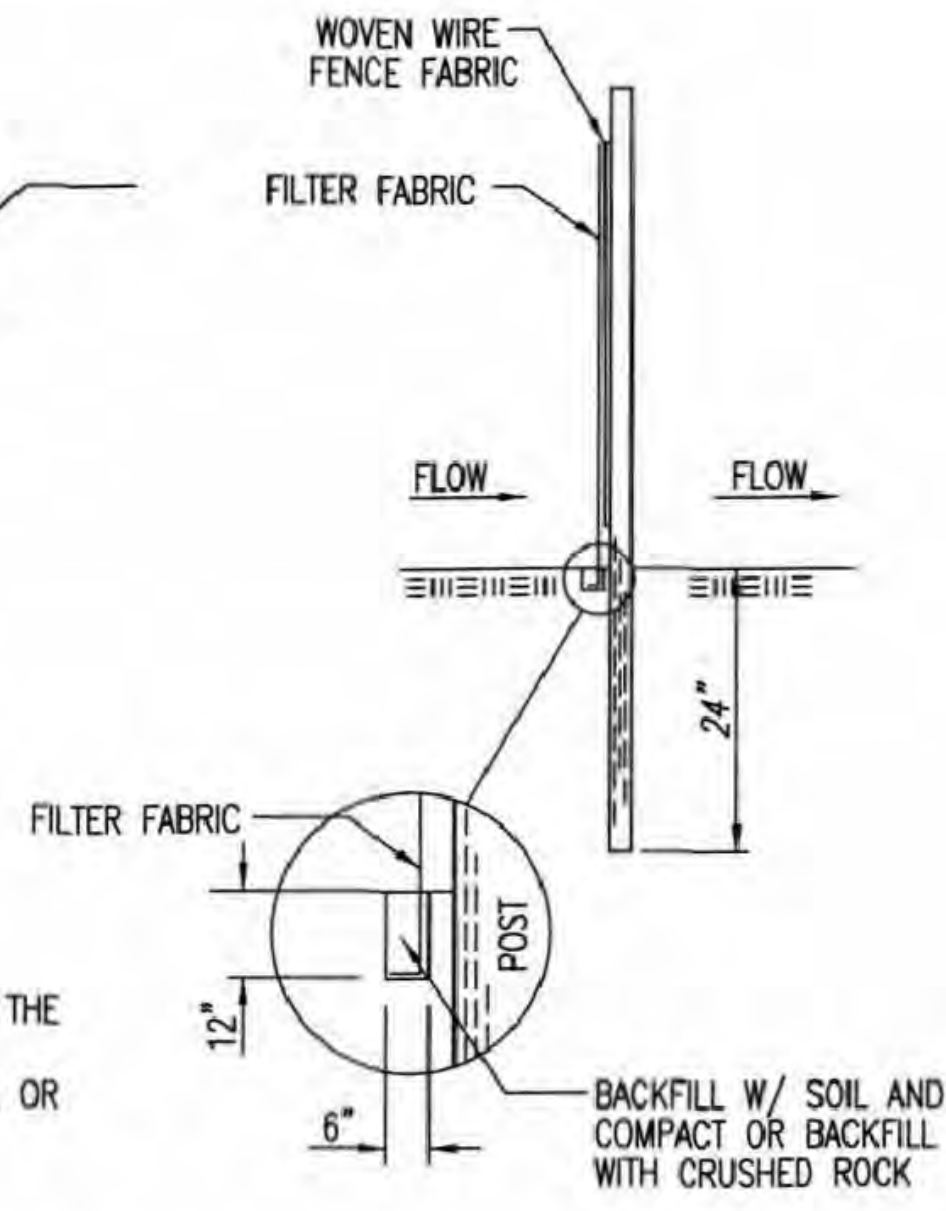
**LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:**

WATER SHOULD FLOW THROUGH A SILT FENCE DITCH CHECK--NOT OVER IT. PLACE SILT FENCE IN DITCHES WHERE IT IS UNLIKELY THAT IT WILL BE OVERTOPPED. SILT FENCE INSTALLATIONS QUICKLY DEGRADE WHEN WATER OVERTOPS THEM. DO NOT PLACE SILT FENCE POSTS ON THE UPSLOPE SIDE OF THE SILT FENCE FABRIC. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL. DO NOT PLACE A SILT FENCE DITCH CHECK DIRECTLY IN FRONT OF A CULVERT OUTLET. IT WILL NOT STAND UP TO THE CONCENTRATED FLOW. DO NOT PLACE SILT FENCE DITCH CHECKS IN DITCHES THAT WILL LIKELY EXPERIENCE HIGH FLOWS. THEY WILL NOT STAND UP TO CONCENTRATED FLOW. FOLLOW PRESCRIBED DITCH CHECK SPACING GUIDELINES. IF SPACING GUIDELINES ARE EXCEEDED, EROSION WILL OCCUR BETWEEN THE DITCH CHECKS. DO NOT ALLOW WATER TO FLOW AROUND THE DITCH CHECK. MAKE SURE THAT THE DITCH CHECK IS LONG ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE FENCE IS HIGHER THAN THE LOW POINT ON THE TOP OF THE FENCE. DO NOT PLACE SILT FENCE DITCH CHECKS IN CHANNELS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE CHECK IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT.

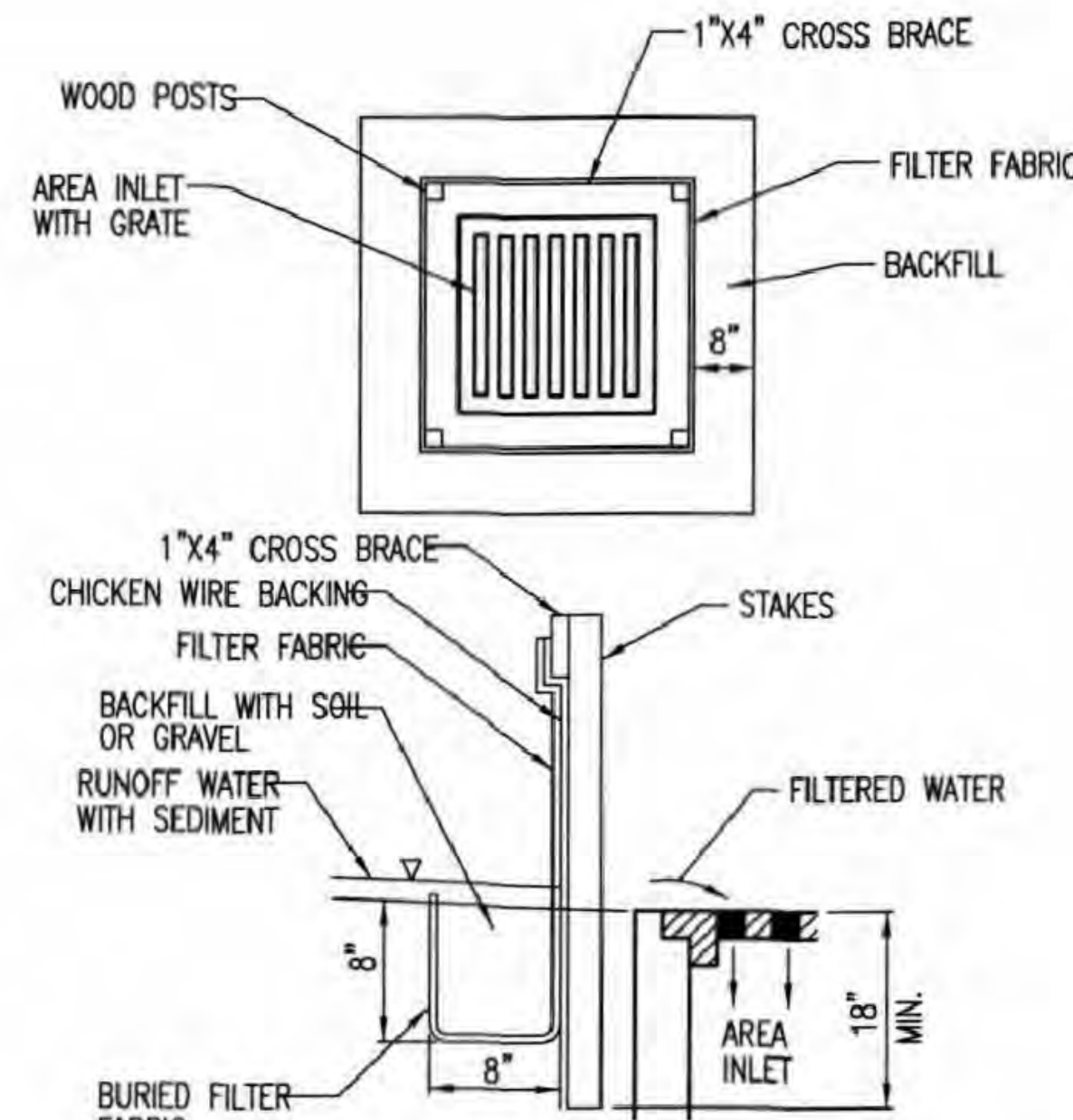
**INSPECTION AND MAINTENANCE:**

SILT FENCE DITCH CHECKS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- DOES WATER FLOW AROUND THE DITCH CHECK?
- DOES WATER FLOW UNDER THE DITCH CHECK?
- DOES THE SILT FENCE SAG EXCESSIVELY?
- HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE DITCH CHECK?



**ANCHOR TRENCH DETAIL**



**SILT FENCE BARRIERS FOR AREA INLETS**  
(INLET PROTECTION)

**MATERIAL SPECIFICATION:**

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE WIRE OR POLYMERIC MESH BACKING USED TO HELP SUPPORT THE SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. THE MATERIAL USED TO FRAME THE TOPS OF THE POSTS SHOULD BE 1" BY 4" BOARDS. SILT FENCE FABRIC AND SUPPORT BACKING SHOULD BE ATTACHED TO THE WOODEN POSTS AND FRAME WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

**PLACEMENT:**

PLACE A SILT FENCE DROP INLET BARRIER IN A LOCATION WHERE IT IS UNLIKELY TO BE OVERTOPPED. WATER SHOULD FLOW THROUGH SILT FENCE, NOT OVER IT. SILT FENCE BARRIERS FOR AREA INLETS OFTEN FAIL WHEN REPEATEDLY OVERTOPPED. WHEN USED AS A BARRIER FOR AREA INLETS, SILT FENCE FABRIC AND POSTS MUST BE SUPPORTED AT THE TOP BY A WOODEN FRAME. WHEN A SILT FENCE BARRIER FOR AREA INLETS IS LOCATED NEAR AN INLET THAT HAS STEEP APPROACH SLOPES, THE STORAGE CAPACITY BEHIND THE BARRIER IS DRAMATICALLY REDUCED. TIMELY REMOVAL OF SEDIMENT MUST OCCUR FOR A BARRIER TO OPERATE PROPERLY IN THIS LOCATION.

**PROPER INSTALLATION METHOD:**

EXCAVATE A TRENCH AROUND THE PERIMETER OF THE AREA INLET THAT IS AT LEAST 8" DEEP BY 8" WIDE. DRIVE POSTS TO A DEPTH OF AT LEAST 18" AROUND THE PERIMETER OF THE AREA INLET. THE DISTANCE BETWEEN POSTS SHOULD BE 4' OR LESS. IF THE DISTANCE BETWEEN TWO ADJACENT CORNER POSTS IS MORE THAN 4', ADD ANOTHER POST(S) BETWEEN THEM. CONNECT THE TOPS OF ALL THE POSTS WITH A WOODEN FRAME MADE OF 1" BY 4" BOARDS. USE NAILS OR SCREWS FOR FASTENING. ATTACH THE WIRE OR POLYMERIC-MESH BACKING TO THE OUTSIDE OF THE POST/FRAME STRUCTURE WITH STAPLES, WIRE, ZIP TIES, OR NAILS. ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC LONG ENOUGH TO WRAP AROUND THE PERIMETER OF THE AREA INLET. ADD MORE LENGTH FOR OVERLAPPING THE FABRIC JOINT. PLACE THE EDGE OF THE FABRIC IN THE TRENCH, STARTING AT THE OUTSIDE EDGE OF THE TRENCH. LINE ALL THREE SIDES OF THE TRENCH WITH THE FABRIC. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT FENCE FABRIC SHOULD REMAIN EXPOSED. ATTACH THE SILT FENCE TO THE OUTSIDE OF THE POST/FRAME STRUCTURE WITH STAPLES, WIRE, ZIP TIES, OR NAILS. THE JOINT SHOULD BE OVERLAPPED TO THE NEXT POST.

NOTE: WHEN A SILT FENCE BARRIER FOR AREA INLET IS PLACED IN A SHALLOW MEDIAN DITCH, MAKE SURE THAT THE TOP OF THE BARRIER IS NOT HIGHER THAN THE PAVED ROAD. IN THIS CONFIGURATION, WATER MAY SPREAD ONTO THE ROADWAY CAUSING A HAZARDOUS CONDITION.

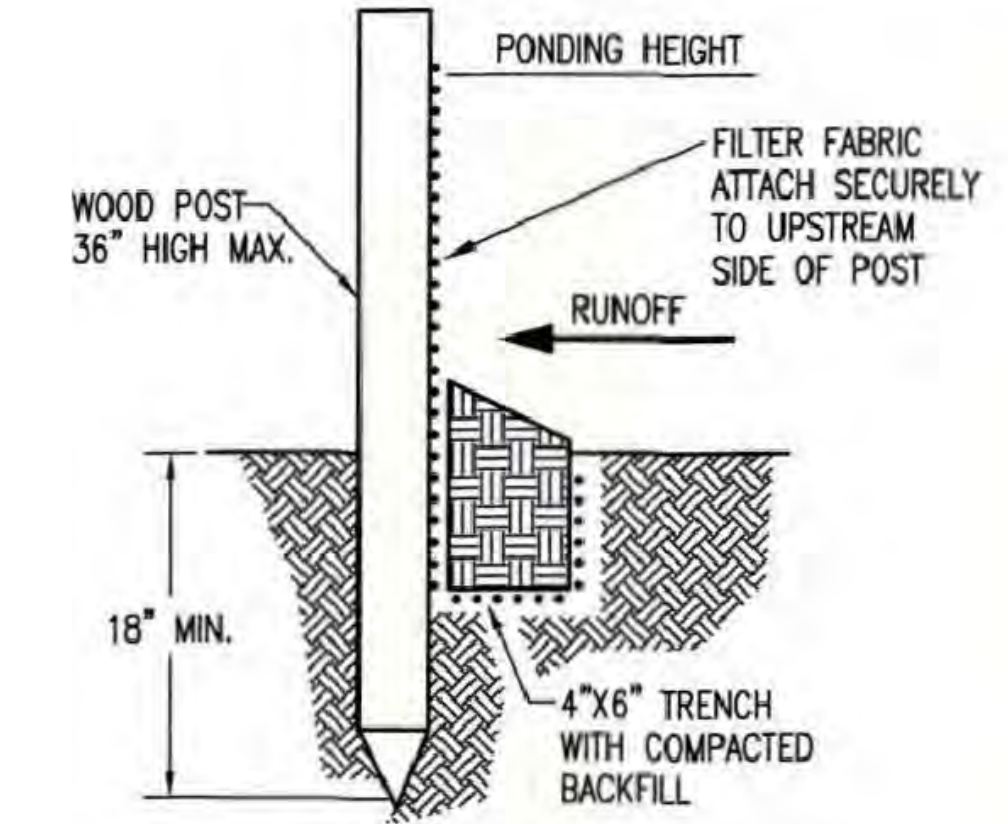
**LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:**

WATER SHOULD FLOW THROUGH A SILT FENCE BARRIER FOR AREA INLET--NOT OVER IT. PLACE A SILT FENCE BARRIER FOR AREA INLET IN A LOCATION WHERE IT IS UNLIKELY TO BE OVERTOPPED. SILT FENCE BARRIER FOR AREA INLETS OFTEN FAIL WHEN REPEATEDLY OVERTOPPED. DO NOT PLACE POSTS ON THE OUTSIDE OF THE SILT FENCE BARRIER FOR AREA INLET. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESISTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL. DO NOT INSTALL SILT FENCE BARRIER FOR AREA INLETS WITHOUT FRAMING THE TOP OF THE POSTS. THE CORNER POSTS AROUND AREA INLETS ARE STRESSED IN TWO DIRECTIONS WHEREAS A NORMAL SILT FENCE IS ONLY STRESSED IN ONE DIRECTION. THIS ADDED STRESS REQUIRES MORE SUPPORT.

**INSPECTION AND MAINTENANCE:**

SILT FENCE BARRIER FOR AREA INLETS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- DOES WATER FLOW UNDER THE SILT FENCE?
- DOES THE SILT FENCE SAG EXCESSIVELY?
- HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE AREA INLET BARRIER?



**SILT FENCE BARRIERS**

**MATERIAL SPECIFICATION:**

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. SILT FENCE FABRIC SHOULD BE ATTACHED TO THE WOODEN POSTS WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

**PLACEMENT:**

A SLOPE BARRIER SHOULD BE USED AT THE TOE OF A SLOPE WHEN A DITCH DOES NOT EXIST. THE SLOPE BARRIER SHOULD BE PLACED ON NEARLY LEVEL GROUND 5' TO 10' AWAY FROM THE TOE OF A SLOPE. THE BARRIER IS PLACED AWAY FROM THE TOE OF THE SLOPE TO PROVIDE ADEQUATE STORAGE FOR SETTLING OUT SEDIMENT. WHEN PRACTICABLE, SILT FENCE SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. SILT FENCE SLOPE BARRIERS CAN ALSO BE PLACED ALONG RIGHT-OF-WAY FENCE LINES TO KEEP SEDIMENT FROM CROSSING ONTO ADJACENT PROPERTY. WHEN PLACED IN THIS MANNER, THE SLOPE BARRIER WILL NOT LIKELY FOLLOW CONTOURS.

**PROPER INSTALLATION METHOD:**

EXCAVATE A TRENCH THE LENGTH OF THE PLANNED SLOPE BARRIER THAT IS 6" DEEP BY 4" WIDE. MAKE SURE THAT THE TRENCH IS EXCAVATED ALONG A SINGLE CONTOUR. WHEN PRACTICABLE, SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. PLACE THE SOIL ON THE UPSLOPE SIDE OF THE TRENCH FOR LATER USE. ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC ON THE DOWNSLOPE SIDE OF THE TRENCH. PLACE THE EDGE OF THE FABRIC IN THE TRENCH STARTING AT THE TOP UPSLOPE EDGE. LINE ALL THREE SIDES OF THE TRENCH WITH THE FABRIC. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT FENCE FABRIC SHOULD REMAIN EXPOSED. LAY THE EXPOSED SILT FENCE UPSLOPE OF THE TRENCH TO CLEAR AN AREA FOR DRIVING IN THE POSTS. JUST DOWNSLOPE OF THE TRENCH, DRIVE POSTS INTO THE GROUND TO A DEPTH OF AT LEAST 18". PLACE POSTS NO MORE THAN 4' APART. ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

**LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:**


WHEN PRACTICABLE, DO NOT PLACE SILT FENCE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. WHEN THE FLOW CONCENTRATES, IT OVERTOPS THE BARRIER AND THE SILT FENCE SLOPE BARRIER QUICKLY DEGRADES. DO NOT PLACE SILT-FENCE POSTS ON THE UPSLOPE SIDE OF THE SILT FENCE FABRIC. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL. DO NOT PLACE SILT FENCE SLOPE BARRIERS IN AREAS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE BARRIER IS NOT SUFFICIENTLY ANCHORED, IT WILL WASH OUT. SILT FENCE SLOPE BARRIERS MUST BE DUG INTO THE GROUND--SILT FENCE AT GROUND LEVEL DOES NOT WORK BECAUSE WATER WILL FLOW UNDERNEATH.

**INSPECTION AND MAINTENANCE:**

SILT FENCE SLOPE BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- ARE THERE ANY POINTS ALONG THE SLOPE BARRIER WHERE WATER IS CONCENTRATING?
- DOES WATER FLOW UNDER THE SLOPE BARRIER?
- DO THE SILT FENCES SAG EXCESSIVELY?
- HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE SLOPE BARRIER?

REVISION DATE: MAY 2013



**CITY OF WICHITA**  
PUBLIC WORKS & UTILITIES  
ENGINEERING DIVISION

**SILT FENCE DITCH CHECK AND BARRIER DETAILS**

CITY ENGINEER  
**GARY JANZEN, P.E.**

PROJECT NUMBER: \_\_\_\_\_ OCA NUMBER: \_\_\_\_\_ DATE: \_\_\_\_\_

CITY ENGINEER'S OFFICE  
CITY HALL - SEVENTH FLOOR  
455 NORTH MAIN STREET  
WICHITA, KANSAS 67202-1620  
(316) 268-4501

SHEET \_\_\_\_\_

SW-502

NO.	DESCRIPTION	DATE

**CONSULTANTS**

HAZARDOUS MATERIALS	FIRE SUPPRESSION
MABBETT & ASSOCIATES, INC. 105 CENTRAL STREET, STONEHAM, MA 02180 PHONE: (781)275-6599	KOFFEL ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045 PHONE: (410)759-2246
CIVIL/STRUCTURAL	ELECTRONIC SECURITY
PROFESSIONAL ENGINEERING CONSULTANTS, P.A. 303 SOUTH TOPEKA, WICHITA, KS 67202 PHONE: (316)262-2891	MAGNA ENGINEERS 861 CORPORATE DRIVE, SUITE 210, LEXINGTON, KY 40503 PHONE: (859)309-2990
ARCHITECTURAL	PHYSICAL SECURITY
OCULUS INC. 1 SOUTH MEMORIAL DRIVE, SUITE 1500, SAINT LOUIS, MO 63102 PHONE: (314)367-6100	FORCE PROTECT 3210 GULF BLVD UNIT 304, BELLSHAR BEACH, FL 33786 PHONE: (802)836-4232

**ENGINEER OF RECORD**

**Miller-Remick LLC**  
M.E.P. & Structural Engineering  
A Service Disabled Veteran Owned Small Business

1010 KINGS HIGHWAY SOUTH  
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MR PROJECT NO: 0499-0121

**PROFESSIONAL ENGINEERING CONSULTANTS, P.A.**  
PROFESSIONAL ENGINEER

**SOOT M. TUNNELL**  
26113  
08/03/2021  
KANSAS  
PROFESSIONAL ENGINEER

**Office of Construction and Facilities Management**

**VA** U.S. Department of Veterans Affairs

Drawing Title  
**CIVIL SITE SLIT FENCE DITCH CHECK AND BARRIER DETAILS**

Approved: Project Director

Phase  
**100% BID SET**

**FULLY SPRINKLERED**

Project Title  
**INSTALL NEW BOILERS IN BUILDING 13**

Location  
**ROBERT J. DOLE VA MEDICAL CENTER WICHITA, KANSAS**

Issue Date  
**2021-09-03**

Checked  
**DRC**

Drawn  
**SMT /DSB**

Project Number  
**589A7-18-302**

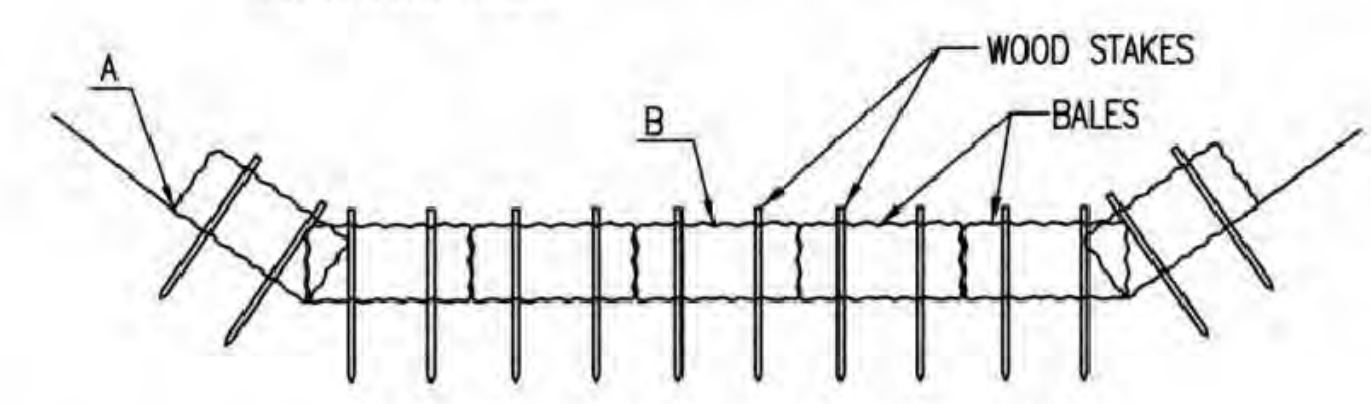
Building Number  
**13**

Drawing Number  
**CG502**

U:\Wichita-Civil\2020\20664\000\Drawings\METRIC CONVERSION\20664-000 - 05502 - SILT FENCE DITCH CHECK AND BARRIER DETAILS.dwg 9-3-21 12:42:46 PM



NOTE: POINT A MUST BE HIGHER THAN POINT B SO THAT WATER FLOWS OVER THE BALES AND NOT AROUND THEM.



**STRAW BALE DITCH CHECKS**

**MATERIAL SPECIFICATION:**

BALE DITCH CHECKS MAY BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE. THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. OPTIONAL: THE DOWNSTREAM SCOUR APRON SHOULD BE CONSTRUCTED OF A DOUBLE-NETTED STRAW EROSION-CONTROL BLANKET AT LEAST 6' WIDE. OPTIONAL: THE METAL LANDSCAPE STAPLES USED TO ANCHOR THE EROSION-CONTROL BLANKET SHOULD BE AT LEAST 8" LONG.

**PLACEMENT:**

BALE DITCH CHECKS SHOULD BE PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH. THE DITCH CHECK SHOULD EXTEND FAR ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE CHECK IS HIGHER THAN THE TOP OF THE LOWEST CENTER BALE. THIS PREVENTS WATER FROM FLOWING AROUND THE CHECK. STRAW BALE DITCH CHECKS SHOULD NOT BE PLACED IN DITCHES WHERE HIGH FLOWS ARE EXPECTED. ROCK CHECKS SHOULD BE USED INSTEAD. BALES SHOULD BE PLACED IN DITCHES WITH SLOPES OF 6% OR LESS. FOR SLOPES STEEPER THAN 6%, ROCK CHECKS SHOULD BE USED. THE FOLLOWING TABLE PROVIDES CHECK SPACING FOR A GIVEN DITCH GRADE:

DITCH CHECK SPACING	CHECK SPACING
DITCH GRADE (%)	(FEET)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

**PROPER INSTALLATION METHOD:**

EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS 4" DEEP AND A BALE'S WIDTH WIDE. EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK. PLACE THE SOIL ON THE UPSTREAM SIDE OF THE TRENCH-IT WILL BE USED LATER. OPTIONAL: ON THE DOWNSTREAM SIDE OF THE TRENCH, ROLL OUT A LENGTH OF EROSION-CONTROL BLANKET (SCOUR APRON) EQUAL TO THE LENGTH OF THE TRENCH. PLACE THE UPSTREAM EDGE OF THE EROSION-CONTROL BLANKET ALONG THE BOTTOM UPSTREAM EDGE OF THE TRENCH. THE EROSION CONTROL BLANKET SHOULD BE ANCHORED IN THE TRENCH WITH ONE ROW OF 8" LANDSCAPE STAPLES PLACED ON 18" CENTERS. THE REMAINDER OF THE EROSION-CONTROL BLANKET (THE PORTION THAT IS NOT LYING IN THE TRENCH) WILL SERVE AS THE DOWNSTREAM SCOUR APRON. THIS SECTION OF THE BLANKET SHOULD BE ANCHORED TO THE GROUND WITH 8" LANDSCAPE STAPLES PLACED AROUND THE PERIMETER OF THE BLANKET ON 18" CENTERS. THE REMAINDER OF THE BLANKET SHOULD BE ANCHORED USING TWO EVENLY SPACED ROWS OF 8" LANDSCAPE STAPLES ON 18" CENTERS PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH. PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE ALONG THE CENTERLINE OF THE DITCH CHECK, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND. ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE UPSTREAM SIDE OF THE CHECK AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP AND EXTEND UPSTREAM NO MORE THAN 24".

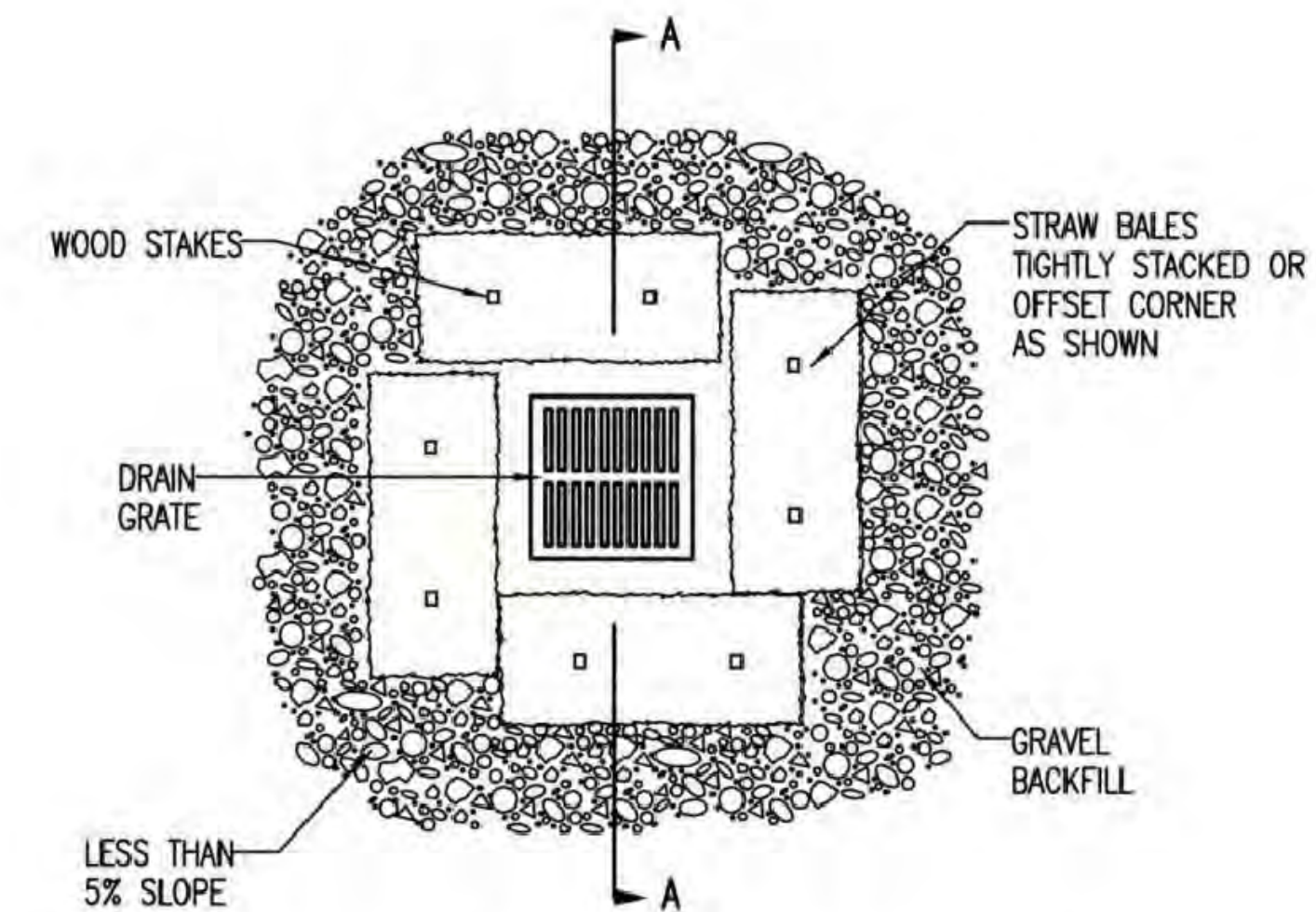
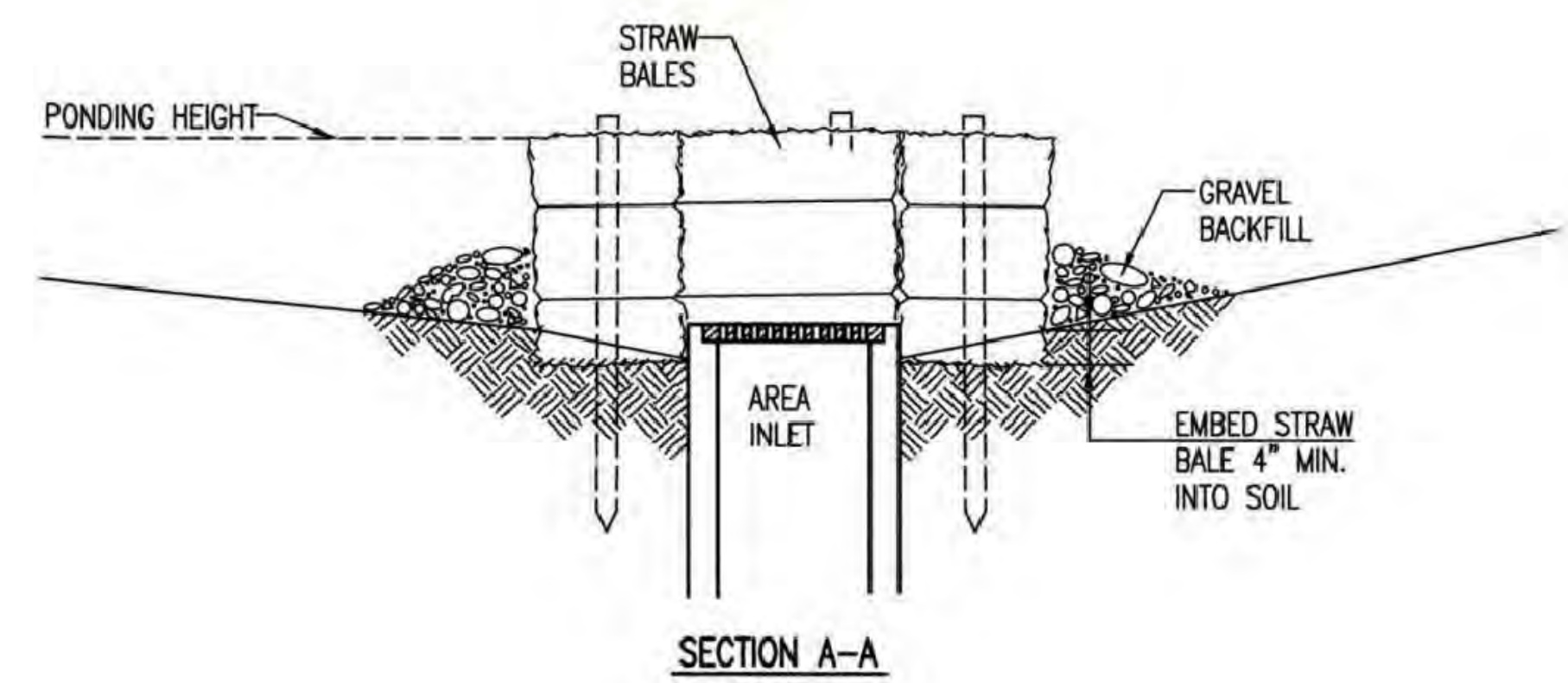
**LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:**

DO NOT PLACE A BALE DITCH CHECK DIRECTLY IN FRONT OF A CULVERT OUTLET. IT WILL NOT STAND UP TO THE CONCENTRATED FLOW. DO NOT PLACE BALE DITCH CHECKS IN DITCHES THAT WILL LIKELY EXPERIENCE HIGH FLOWS. THEY WILL NOT STAND UP TO CONCENTRATED FLOW. FOLLOW PRESCRIBED DITCH-CHECK SPACING GUIDELINES. IF SPACING GUIDELINES ARE EXCEEDED, EROSION WILL OCCUR BETWEEN THE DITCH CHECKS. DO NOT ALLOW WATER TO FLOW AROUND THE DITCH CHECK. MAKE SURE THAT THE DITCH CHECK IS LONG ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE CHECK IS HIGHER THAN THE TOP OF THE LOWEST CENTER BALE. DO NOT PLACE BALE DITCH CHECKS IN CHANNELS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE CHECK IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT. BALE DITCH CHECKS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE CHECK.

**INSPECTION AND MAINTENANCE:**

BALE DITCH CHECKS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

DOES WATER FLOW AROUND THE DITCH CHECK?  
DOES WATER FLOW UNDER THE DITCH CHECK?  
DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?  
ARE ANY BALES AND/OR SCOUR APRONS (OPTIONAL) DISLODGED?  
ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?  
DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE DITCH CHECK?



**STRAW BALE BARRIERS FOR AREA INLETS (INLET PROTECTION)**

**MATERIAL SPECIFICATION:**

BALE AREA INLET BARRIERS SHOULD BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE. THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. TWINE SHOULD BE USED TO BIND BALES. THE USE OF WIRE BINDING IS PROHIBITED BECAUSE IT DOES NOT BIODEGRADE READILY.

**PLACEMENT:**

BALE AREA INLET BARRIERS SHOULD BE PLACED DIRECTLY AROUND THE PERIMETER OF A DROP INLET. WHEN A BALE AREA INLET BARRIER IS LOCATED NEAR AN INLET THAT HAS STEEP APPROACH SLOPES, THE STORAGE CAPACITY BEHIND THE BARRIER IS DRASTICALLY REDUCED. TIMELY REMOVAL OF SEDIMENT MUST OCCUR FOR A BARRIER TO OPERATE PROPERLY IN THIS LOCATION.

**PROPER INSTALLATION METHOD:**

EXCAVATE A TRENCH AROUND THE PERIMETER OF THE AREA INLET THAT IS AT LEAST 4" DEEP BY A BALE'S WIDTH WIDE. PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. SOME BALES MAY NEED TO BE SHORTENED TO FIT INTO THE TRENCH AROUND THE AREA INLET. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND. ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE RECEIVING SIDE OF THE BARRIER AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP. NOTE: WHEN A BALE AREA INLET BARRIER IS PLACED IN A SHALLOW MEDIAN DITCH, MAKE SURE THAT THE TOP OF THE BARRIER IS NOT HIGHER THAN THE PAVED ROAD. IN THIS CONFIGURATION, WATER MAY SPREAD ONTO THE ROADWAY CAUSING A HAZARDOUS CONDITION.

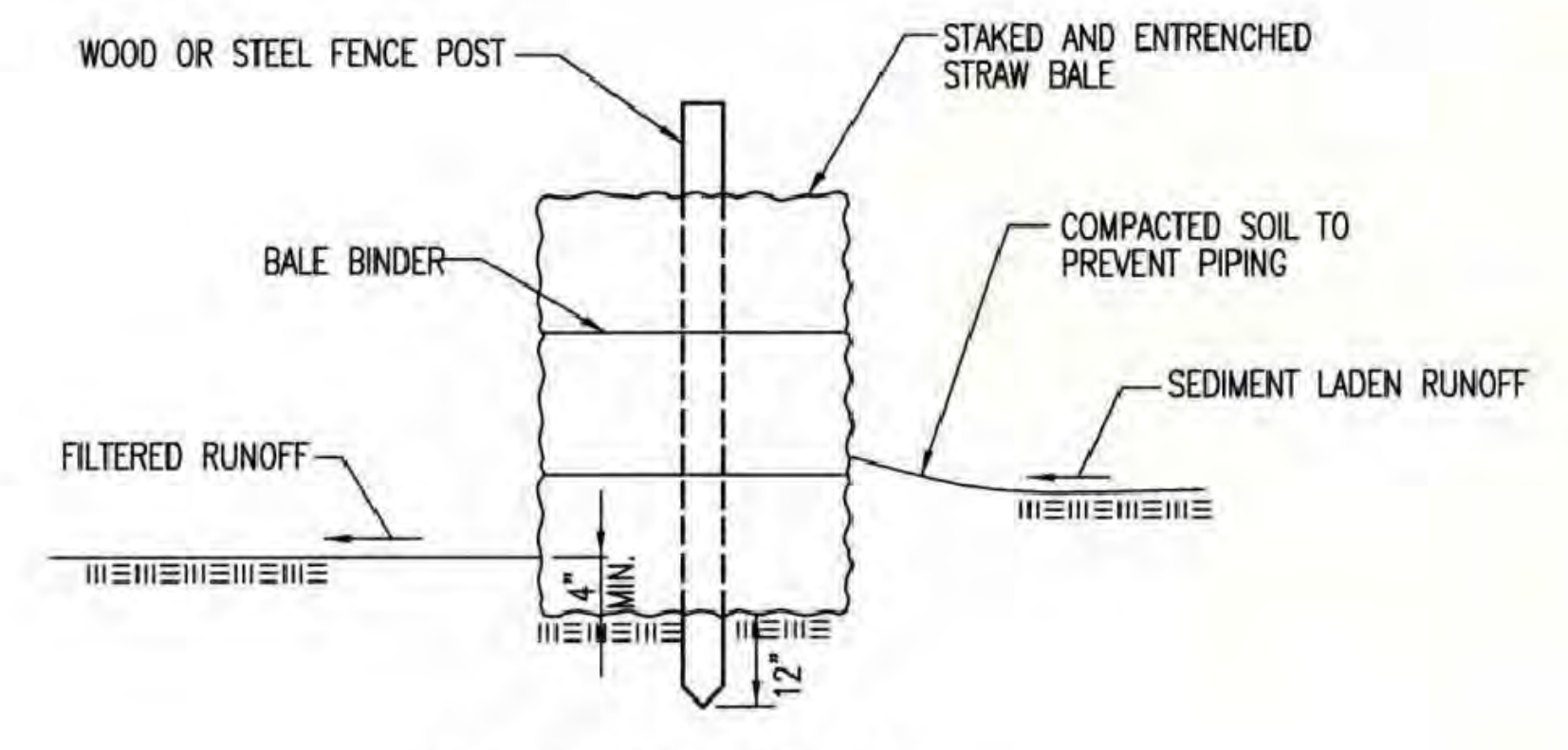
**LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:**

BALES SHOULD BE PLACED DIRECTLY AGAINST THE PERIMETER OF THE AREA INLET. THIS ALLOWS OVERTOPPING WATER TO FLOW DIRECTLY INTO THE INLET INSTEAD OF ONTO NEARBY SOIL CAUSING SCOUR. BALE AREA INLET BARRIERS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE BARRIER.

**INSPECTION AND MAINTENANCE:**

BALE AREA INLET BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

DOES WATER FLOW UNDER THE AREA INLET BARRIER?  
DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?  
ARE ANY BALES DISLODGED?  
ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?  
DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE AREA INLET BARRIER?



**STRAW BALE BARRIERS**

**MATERIAL SPECIFICATION:**

BALE SLOPE BARRIERS MAY BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE. THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. TWINE SHOULD BE USED TO BIND BALES. THE USE OF WIRE BINDING IS PROHIBITED BECAUSE IT DOES NOT BIODEGRADE READILY.

**PLACEMENT:**

A SLOPE BARRIER SHOULD BE USED AT THE TOE OF A SLOPE WHEN A DITCH DOES NOT EXIST. THE SLOPE BARRIER SHOULD BE PLACED ON NEARLY LEVEL GROUND 5' TO 10' AWAY FROM THE TOE OF A SLOPE. THE BARRIER IS PLACED AWAY FROM THE TOE OF THE SLOPE TO PROVIDE ADEQUATE STORAGE FOR SETTLING OUT SEDIMENT. WHEN PRACTICABLE, BALE SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. BALE SLOPE BARRIERS CAN ALSO BE PLACED ALONG RIGHT-OF-WAY FENCE LINES TO KEEP SEDIMENT FROM CROSSING ONTO ADJACENT PROPERTY. WHEN PLACED IN THIS MANNER, THE SLOPE BARRIER WILL NOT LIKELY FOLLOW CONTOURS.

**PROPER INSTALLATION METHOD:**

EXCAVATE A TRENCH THE LENGTH OF THE PLANNED SLOPE BARRIER THAT IS 4" DEEP AND A BALE'S WIDTH WIDE. MAKE SURE THAT THE TRENCH IS EXCAVATED ALONG A SINGLE CONTOUR. WHEN PRACTICABLE, SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. PLACE THE SOIL ON THE UPSLOPE SIDE OF THE TRENCH FOR LATER USE. PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE ALONG THE CENTERLINE OF THE DITCH CHECK, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND. ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE UPSLOPE SIDE OF THE CHECK AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP.

**LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:**

WHEN PRACTICAL, DO NOT PLACE BALE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. CONCENTRATED FLOW OVER A SLOPE BARRIER CREATES A SCOUR HOLE ON THE DOWNSLOPE SIDE OF THE BARRIER. THE SCOUR HOLE EVENTUALLY UNDERMINES THE BALES AND THE BARRIER FAILS. DO NOT PLACE BALE SLOPE BARRIERS IN AREAS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE BARRIER IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT. BALE SLOPE BARRIERS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE BARRIER.

**INSPECTION AND MAINTENANCE:**

BALE SLOPE BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

ARE THERE ANY POINTS ALONG THE SLOPE BARRIER WHERE WATER IS CONCENTRATING?  
DOES WATER FLOW UNDER THE SLOPE BARRIER?  
DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?  
ARE ANY BALES DISLODGED?  
ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?  
DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE SLOPE BARRIER?



REVISION DATE: MAY 2013

**STRAW BALE DITCH CHECK AND BARRIER DETAILS**

CITY ENGINEER  
**GARY JANZEN, P.E.**

PROJECT NUMBER	OCA NUMBER	DATE

SHEET

CITY ENGINEER'S OFFICE  
CITY HALL - SEVENTH FLOOR  
455 NORTH MAIN STREET  
WICHITA, KANSAS 67202-1620  
(316) 268-4501

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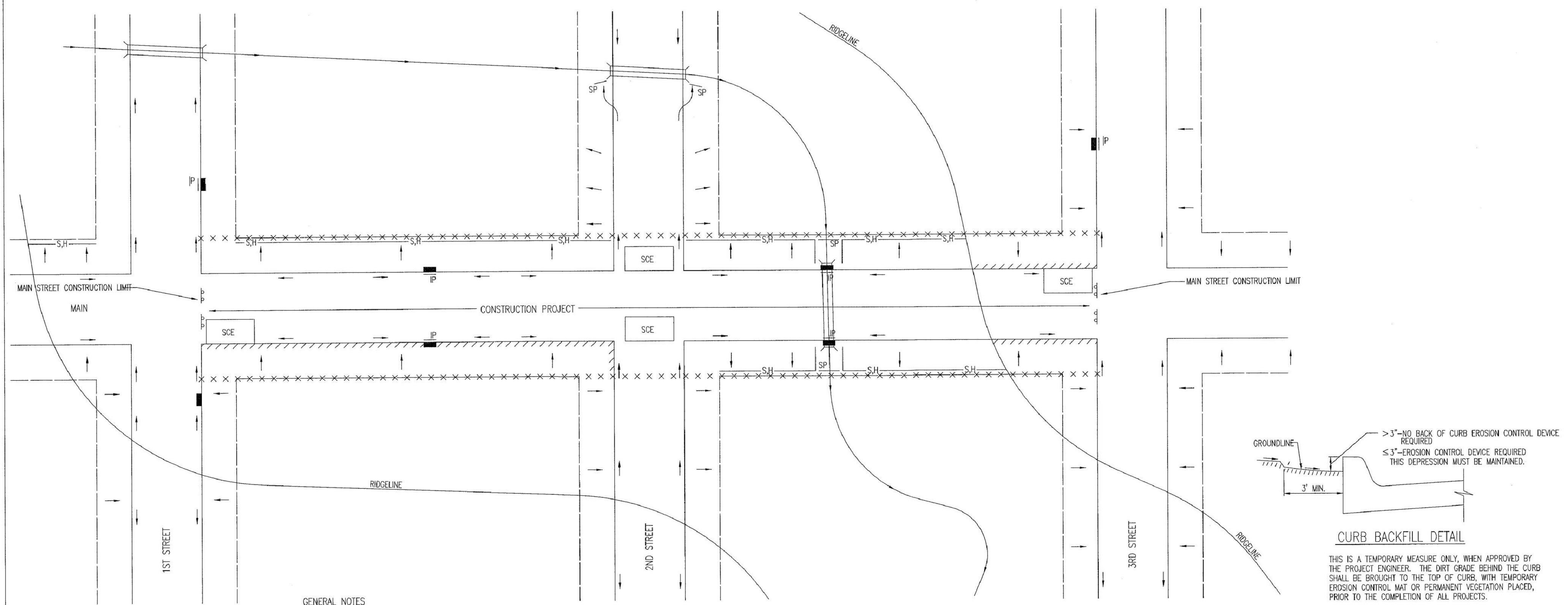
PRINTS OF THIS DRAWING SHALL NOT BE USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER.	<b>CONSULTANTS</b> <table border="1" style="width: 100%; font-size: x-small;"> <tr> <td style="width: 33%;"> <b>HAZARDOUS MATERIALS</b>            MABBETT &amp; ASSOCIATES, INC.            105 CENTRAL STREET, STONEHAM, MA 02180            PHONE: (781)274-6091         </td> <td style="width: 33%;"> <b>FIRE SUPPRESSION</b>            KOFFEL ASSOCIATES            8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045            PHONE: (410)729-2246         </td> <td style="width: 33%;"> <b>ELECTRONIC SECURITY</b>            MAGNA ENGINEERS            861 CORPORATE DRIVE, SUITE 210, LEXINGTON, KY 40503            PHONE: (859)309-2990         </td> </tr> <tr> <td> <b>CIVIL/STRUCTURAL</b>            PROFESSIONAL ENGINEERING CONSULTANTS, P.A.            303 SOUTH TOPEKA WICHITA, KS 67202            PHONE: (316)262-2891         </td> <td> <b>PHYSICAL SECURITY</b>            FORCE PROTECT            3210 GULF BLVD, UNIT 304, BELLEAIR BEACH, FL 33786            PHONE: (802)836-4232         </td> <td> <b>ARCHITECTURAL</b>            OCULUS INC.            1 SOUTH MEMORIAL DRIVE, SUITE 1500, SAINT LOUIS, MO 63102            PHONE: (314)367-6100         </td> </tr> </table>	<b>HAZARDOUS MATERIALS</b> MABBETT & ASSOCIATES, INC. 105 CENTRAL STREET, STONEHAM, MA 02180 PHONE: (781)274-6091	<b>FIRE SUPPRESSION</b> KOFFEL ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045 PHONE: (410)729-2246	<b>ELECTRONIC SECURITY</b> MAGNA ENGINEERS 861 CORPORATE DRIVE, SUITE 210, LEXINGTON, KY 40503 PHONE: (859)309-2990	<b>CIVIL/STRUCTURAL</b> PROFESSIONAL ENGINEERING CONSULTANTS, P.A. 303 SOUTH TOPEKA WICHITA, KS 67202 PHONE: (316)262-2891	<b>PHYSICAL SECURITY</b> FORCE PROTECT 3210 GULF BLVD, UNIT 304, BELLEAIR BEACH, FL 33786 PHONE: (802)836-4232	<b>ARCHITECTURAL</b> OCULUS INC. 1 SOUTH MEMORIAL DRIVE, SUITE 1500, SAINT LOUIS, MO 63102 PHONE: (314)367-6100	<b>ENGINEER OF RECORD</b> <b>Miller-Remick LLC</b> <small>M.E.P. &amp; Structural Engineering A Service Disabled Veteran Owned Small Business</small> 1010 KINGS HIGHWAY SOUTH CHERRY HILL, NEW JERSEY 08034 PHONE: (856)429-4000 FAX: (856)429-5025 MR PROJECT NO: 0499-0121	<b>PROFESSIONAL ENGINEERING CONSULTANTS, P.A.</b> PROFESSIONAL ENGINEER 	<b>Office of Construction and Facilities Management</b> U.S. Department of Veterans Affairs	<b>Drawing Title</b> CIVIL SITE STRAW BALE DITCH CHECK AND BARRIER DETAILS <b>Approved: Project Director</b>	<b>Phase</b> 100% BID SET FULLY SPRINKLERED	<b>Project Title</b> INSTALL NEW BOILERS IN BUILDING 13 <b>Location</b> ROBERT J. DOLE VA MEDICAL CENTER WICHITA, KANSAS <table border="1" style="width: 100%; font-size: x-small;"> <tr> <td style="width: 33%;">Issue Date</td> <td style="width: 33%;">Checked</td> <td style="width: 33%;">Drawn</td> </tr> <tr> <td>2021-09-03</td> <td>DRC</td> <td>SMT / DSB</td> </tr> </table>	Issue Date	Checked	Drawn	2021-09-03	DRC	SMT / DSB	<b>Project Number</b> 589A7-18-302 <b>Building Number</b> 13 <b>Drawing Number</b> CG503
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SW-503



GENERAL NOTES

- THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPES OF EROSION CONTROL DEVICES WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
- EROSION CONTROL DEVICES MUST BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PROCESS AND UNTIL THE DISTURBED EARTH IS RESTABILIZED.
- IF THE PROJECT WILL DISTURB 1 ACRE OR MORE, A FEDERAL/STATE NPDES STORMWATER PERMIT IS REQUIRED. A DETAILED STORMWATER POLLUTION PREVENTION PLAN, IS REQUIRED. THE EROSION CONTROL DEVICES SHOWN ON THIS SHEET ARE CONSIDERED TO BE THE MINIMUM TO BE SHOWN IN THE POLLUTION PREVENTION PLAN.
- FOR PROJECTS DISTURBING LESS THAN 1 ACRE, CONTRACTORS ARE ENCOURAGED TO PREPARE STORMWATER POLLUTION PREVENTION PLANS PRIOR TO CONSTRUCTION. EROSION CONTROL DEVICES MUST BE USED ON ALL PROJECTS.
- FAILURE TO USE AND MAINTAIN EROSION CONTROL DEVICES IS A VIOLATION OF SECTION 16.32 OF THE CITY CODE AND WILL SUBJECT THE CONTRACTOR TO THE PENALTIES PROVIDED FOR THEREIN.
- THE APPLICATION OF EROSION CONTROL DEVICES SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE A DIFFERENT DEVICE OTHER THAN THOSE SHOWN. EROSION CONTROL DEVICES, OTHER THAN THOSE SHOWN, MAY BE UTILIZED AS LONG AS THEY ARE EFFECTIVE AND MAINTAINED.



LEGEND

- R-O-W LIMITS
- DRAINAGE FLOW PATH
- x x x x x R/W LIMIT WITHIN CONSTRUCTION LIMIT
- STORM WATER INLETS
- IP INLET PROTECTION
- S,H- SILT FENCE OR HAY BALE BARRIER
- SP STREAM PROTECTION
- SCE STABILIZED CONSTRUCTION ENTRANCE
- //// BACK OF CURB PROTECTION

GENERAL NOTES

- THE INTENT OF ALL EROSION CONTROL DEVICES IS TO KEEP ALL SEDIMENT CONFINED TO THE CONSTRUCTION SITE AND OUT OF ALL UNDERGROUND PIPES, DITCHES, LAKES, AND OTHER DRAINAGE FACILITIES, AND OFF OF STREETS.
- THE POINT OF COMPLIANCE IS GENERALLY THE RIGHT-OF-WAY LINES WITHIN THE LIMITS OF CONSTRUCTION.
- EROSION CONTROL DEVICES WILL BE REQUIRED AT ALL POINTS ALONG THE PROJECT WHERE DISTURBED EARTH CAN DRAIN ONTO PRIVATE PROPERTY.
- INLET PROTECTION DEVICES WILL BE REQUIRED WHEREVER WATER CAN DRAIN OFF THE PROJECT SITE INTO AN INLET, INCLUDING ANY SIDE STREET INLETS.
- EROSION CONTROL DEVICES SHALL BE INSTALLED AT CREEK CROSSINGS SO AS TO PREVENT SEDIMENT FROM ENTERING THEREIN.
- STABILIZED CONSTRUCTION ENTRANCES SHALL BE PROVIDED, AS NEEDED, TO PREVENT MUD FROM TRACKING ONTO STREETS NOT UNDER CONSTRUCTION AND ON STREETS WITHIN THE PROJECT LIMITS IF TRAFFIC IS BEING MAINTAINED THROUGH THE PROJECT.
- ANY MUD TRACKED ONTO STREETS MUST BE REMOVED AT THE END OF EACH WORK DAY.
- THE CONTRACTOR WILL BE REQUIRED TO PLACE EROSION CONTROL DEVICES BACK OF CURB, WHENEVER WATER CAN DRAIN OVER CURB, TO KEEP ERODED SOIL OUT OF THE GUTTERLINES, IN ACCORDANCE WITH THE FOLLOWING:
  - THE DEVICE REQUIRED WILL BE APPROVED EROSION CONTROL MAT LISTED ON THE CITY'S APPROVED MATERIAL LIST. SAID BLANKET SHALL BE PLACED OVER THE APPROPRIATE SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS. (SEE SOIL EROSION BMPs - BACK OF CURB SEDIMENT BARRIER DETAILS)
  - THIS DEVICE SHALL BE INSTALLED IMMEDIATELY WHENEVER THE CURB IS BACKFILLED TO WITHIN 3" OF THE TOP OF CURB. (SEE CURB BACKFILL DETAIL) OTHER BMP'S MAY BE REQUIRED AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB.
  - ADDITIONALLY, OTHER EROSION CONTROL DEVICES (HAY BALES, SILT FENCE, ETC.) WILL BE INSTALLED AT LOCATIONS OF CONCENTRATED FLOW RESULTING IN SEDIMENT OVERRUNNING THE MAT.
  - SHOULD THE PROJECT PLANS SPECIFY THAT THE RIGHT-OF-WAY IS TO BE SODDED, THE EXCELSIOR MAT WILL NOT BE REQUIRED SO LONG AS THE SOD IS PLACED WITHIN 48 HOURS AFTER CURB BACKFILL REACHES A HEIGHT OF 3" OR LESS FROM TOP OF CURB. (SEE CURB BACKFILL DETAIL)

REVISION: JUNE 2015

**CITY OF WICHITA**  
PUBLIC WORKS & UTILITIES  
ENGINEERING DIVISION

**STREET IMPROVEMENT PROJECTS**

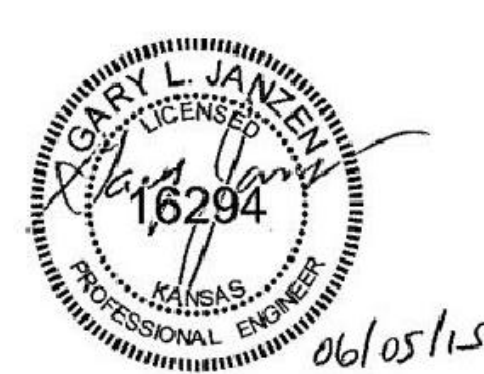
CITY ENGINEER  
**GARY JANZEN, P.E.**

PROJECT NUMBER	OCA NUMBER	DATE

CITY ENGINEER'S OFFICE  
CITY HALL - SEVENTH FLOOR  
455 NORTH MAIN STREET  
WICHITA, KANSAS 67202-1620  
(316) 268-4501

SHEET

**CG504**

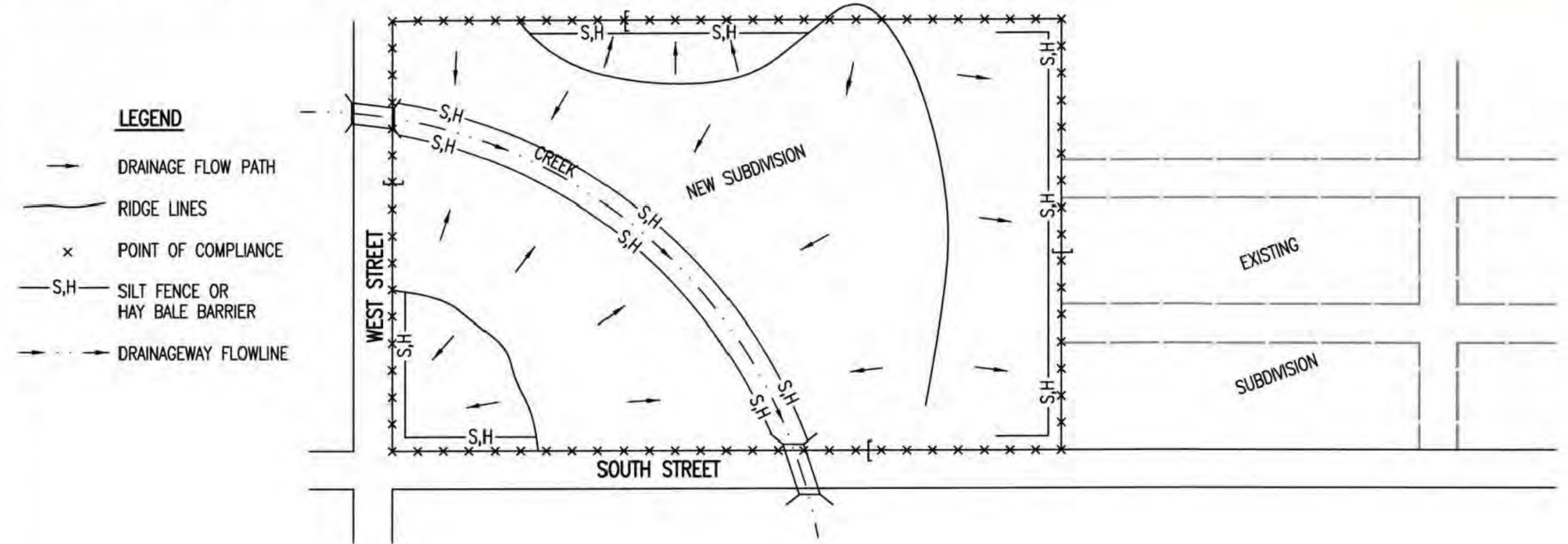


PRINTS OF THIS DRAWING SHALL NOT BE USED FOR ANY PURPOSE WHATSOEVER WITHOUT THE SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER.	<b>CONSULTANTS</b> <table border="1" style="width: 100%; font-size: 8px;"> <tr> <td style="width: 33%;"> <b>HAZARDOUS MATERIALS</b> MABBETT &amp; ASSOCIATES, INC. 105 CENTRAL STREET, STONEHAM, MA 02180 PHONE: (781)275-6591                 </td> <td style="width: 33%;"> <b>FIRE SUPPRESSION</b> KOFFEL ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045 PHONE: (410)729-2246                 </td> <td style="width: 33%;"> <b>ELECTRONIC SECURITY</b> MAGNA ENGINEERS 861 CORPORATE DRIVE, SUITE 210, LEXINGTON, KY 40503 PHONE: (859)309-2990                 </td> </tr> <tr> <td> <b>CIVIL/STRUCTURAL</b> PROFESSIONAL ENGINEERING CONSULTANTS, P.A. 303 SOUTH TOPEKA, WICHITA, KS 67202 PHONE: (316)262-2881                 </td> <td> <b>PHYSICAL SECURITY</b> FORCE PROTECT 3210 GULF BLVD UNIT 304, BELLAIR BEACH, FL 33786 PHONE: (602)836-4232                 </td> <td> <b>ARCHITECTURAL</b> OCULUS INC. 1 SOUTH MEMORIAL DRIVE, SUITE 1500, SAINT LOUIS, MO 63102 PHONE: (314)367-6100                 </td> </tr> </table>	<b>HAZARDOUS MATERIALS</b> MABBETT & ASSOCIATES, INC. 105 CENTRAL STREET, STONEHAM, MA 02180 PHONE: (781)275-6591	<b>FIRE SUPPRESSION</b> KOFFEL ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045 PHONE: (410)729-2246	<b>ELECTRONIC SECURITY</b> MAGNA ENGINEERS 861 CORPORATE DRIVE, SUITE 210, LEXINGTON, KY 40503 PHONE: (859)309-2990	<b>CIVIL/STRUCTURAL</b> PROFESSIONAL ENGINEERING CONSULTANTS, P.A. 303 SOUTH TOPEKA, WICHITA, KS 67202 PHONE: (316)262-2881	<b>PHYSICAL SECURITY</b> FORCE PROTECT 3210 GULF BLVD UNIT 304, BELLAIR BEACH, FL 33786 PHONE: (602)836-4232	<b>ARCHITECTURAL</b> OCULUS INC. 1 SOUTH MEMORIAL DRIVE, SUITE 1500, SAINT LOUIS, MO 63102 PHONE: (314)367-6100	<b>ENGINEER OF RECORD</b> <p><b>Miller-Remick LLC</b> M.E.P. &amp; Structural Engineering A Service Disabled Veteran Owned Small Business 1010 KINGS HIGHWAY SOUTH CHERRY HILL, NEW JERSEY 08034 PHONE: (856)429-4000 FAX: (856)429-5002 MR PROJECT NO: 0499-0121</p>	<b>PROFESSIONAL ENGINEERING CONSULTANTS, P.A.</b> 	<b>Office of Construction and Facilities Management</b> U.S. Department of Veterans Affairs	Drawing Title <b>CIVIL SITE STREET IMPROVEMENT PROJECTS DETAILS</b> Approved: Project Director	Phase <b>100% BID SET</b>  <b>FULLY SPRINKLERED</b>	Project Title <b>INSTALL NEW BOILERS IN BUILDING 13</b> Location ROBERT J. DOLE VA MEDICAL CENTER WICHITA, KANSAS	Project Number <b>589A7-18-302</b> Building Number <b>13</b> Drawing Number <b>CG504</b>
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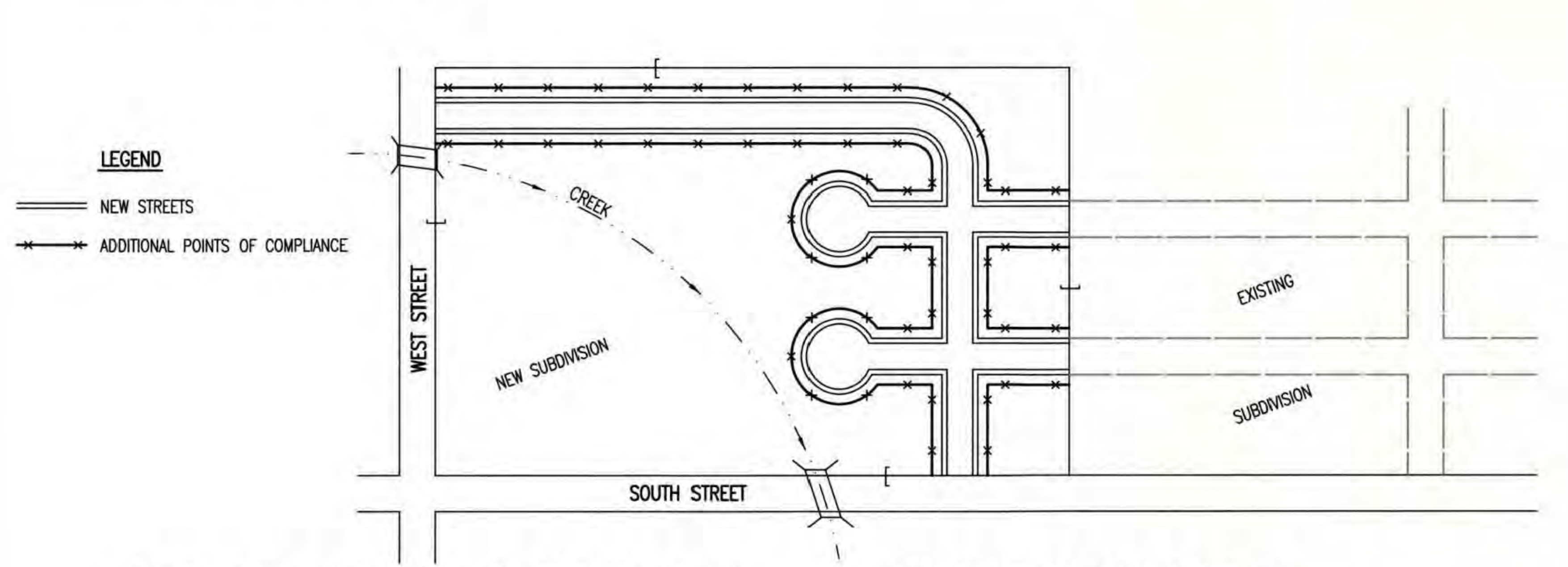


**PHASE 1 - INITIAL EARTHWORK AND UTILITIES (EXCEPT STORM SEWER)**



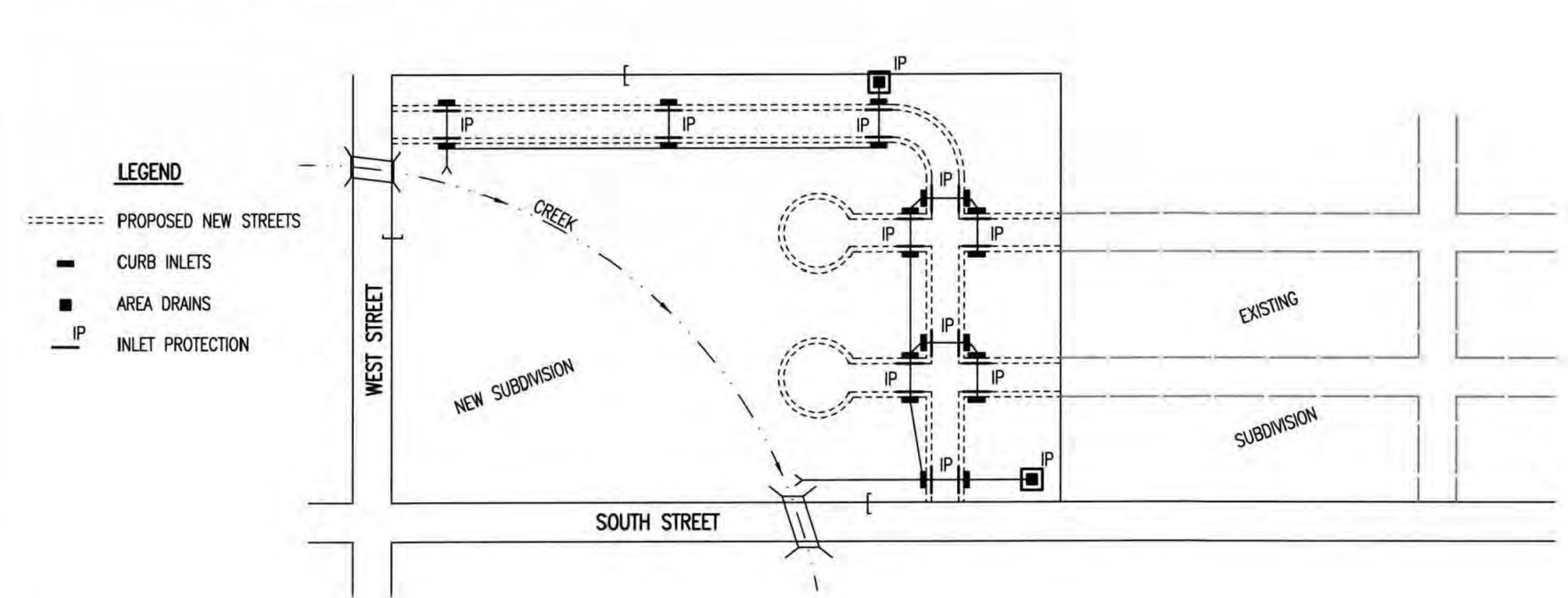
- LEGEND**
- DRAINAGE FLOW PATH
  - RIDGE LINES
  - x POINT OF COMPLIANCE
  - S.H. SILT FENCE OR HAY BALE BARRIER
  - - - DRAINAGEWAY FLOWLINE
- DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM THE SITE. SHOULD LAKES BE CONSTRUCTED WITHIN THE SUBDIVISION THAT WILL DISCHARGE DURING STORMS, THEY ARE ALSO A POINT OF COMPLIANCE.
  - HAY BALES OR SILT FENCE MUST BE CONSTRUCTED ALONG THE PROPERTY LINE WHERE ON SITE WATER CAN DRAIN OFF THE PROPERTY. THESE EROSION CONTROL DEVICES WILL ALSO BE INSTALLED ALONG ANY DRAINAGE DITCH OR LAKE THAT CAN DISCHARGE.
  - SHOULD SILT OR SEDIMENT ENTER THE DITCHES OR STREETS ON THE ADJACENT BOUNDARY STREETS, APPROPRIATE EROSION CONTROL DEVICES WILL BE PLACED WITHIN THE SUBDIVISION TO PREVENT THIS.
  - ANY MUD TRACKED ONTO ADJACENT STREETS WILL BE REMOVED WITHIN 48 HOURS OR BY FRIDAY AT 6:00 PM, WHICHEVER IS EARLIER.
  - CONTRACTORS WORKING WITHIN THE SITE WILL NOT BE REQUIRED TO USE INDIVIDUAL EROSION CONTROL DEVICES AS LONG AS THOSE SPECIFIED ABOVE ARE IN PLACE AND EFFECTIVE. CONTRACTORS WORKING ON THE BOUNDARY LINE STREETS OR ON ADJACENT PROPERTIES TO EXTEND UTILITIES ARE EXPECTED TO USE EROSION CONTROL DEVICES AT THEIR WORK LOCATIONS, AS NEEDED.
  - UTILIZE STABILIZED CONSTRUCTION ENTRANCE AT ENTRANCE AND EXIT ONTO ANY EXISTING PUBLIC STREETS.
  - IF THE INITIAL EARTH WORK AND UTILITIES ARE DONE AS PART OF A PUBLIC IMPROVEMENT PROJECT, THESE EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS SPECIFIED IN THE INDIVIDUAL PROJECT CONTRACTS. THE CONTRACTOR WILL MAINTAIN THE DEVICES UNTIL COMPLETION OF THE CONTRACT, AT WHICH TIME THE DEVELOPER WILL ASSUME MAINTENANCE RESPONSIBILITIES. IF THESE CONTRACTS ARE NOT PUBLIC IMPROVEMENT PROJECTS, THE DEVELOPER WILL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING THESE DEVICES.
  - WITHIN 14 DAYS OF COMPLETION OF EARTHWORK ACTIVITIES IN ANY GIVEN AREA, THAT AREA SHALL BE TEMPORARILY OR PERMANENTLY SEEDED AND MULCHED.

**PHASE 3 - STREET CONSTRUCTION**



- LEGEND**
- NEW STREETS
  - x ADDITIONAL POINTS OF COMPLIANCE
- DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, NEW STREETS ARE INSTALLED. ALL EROSION CONTROL DEVICES INSTALLED DURING PHASE 1 AND 2 MUST STILL BE MAINTAINED. THE POINT OF COMPLIANCE NOW SHIFTS TO THE BACK OF CURB ALONG EACH STREET.
  - CURB OPENING INLET PROTECTION:
    - A. SUMP AREAS - INLET PROTECTION SHALL BE PROVIDED WHEN STREET SUBGRADE WORK IS COMPLETED.
    - B. NON-SUMP LOCATIONS - PROVIDE INLET PROTECTION AS SOON AS BASE COURSE ASPHALT IS INSTALLED, BEFORE THE SURFACE COURSE LIFT.
  - EROSION CONTROL DEVICES WILL BE REQUIRED BACK OF CURB WHEREVER WATER CAN FLOW OVER THE CURB AND THE CURB HAS BEEN BACKFILLED TO WITHIN 3" OR LESS OF THE TOP OF CURB (SEE CURB BACKFILL DETAIL). FOR CURBS NOT YET ENTIRELY BACKFILLED (3" OR MORE BELOW TOP OF CURB), ADDITIONAL DEVICES WILL BE REQUIRED AT POINTS WHERE WATER BREAKS OVER CURB WHICH COULD RESULT IN THE PLACEMENT OF SEDIMENT IN THE GUTTER.
  - SEE DETAIL SHEET FOR BACK OF CURB PROTECTION.
  - THE BACK OF CURB PROTECTION SPECIFIED ON THIS PLAN MAY HAVE TO BE SUPPLEMENTED WITH HAY BALE OR SILT FENCE EROSION CONTROL DEVICES AT LOCATIONS WHERE CONCENTRATED FLOW RESULTS IN SEDIMENT BEING CARRIED OVER THE EXCELSIOR MATS.
  - THE STREET CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING BACK OF CURB EROSION CONTROL DEVICES.
  - THE INDIVIDUAL LOT OWNERS WILL BE RESPONSIBLE FOR MAINTAINING THE BACK OF CURB EROSION CONTROL DEVICES IN FRONT OF THEIR LOTS UNTIL SUCH TIME AS ADJACENT DISTURBED EARTH IS STABILIZED WITH GRASS OR SOD.

**PHASE 2 - INSTALLATION OF STORM SEWER**

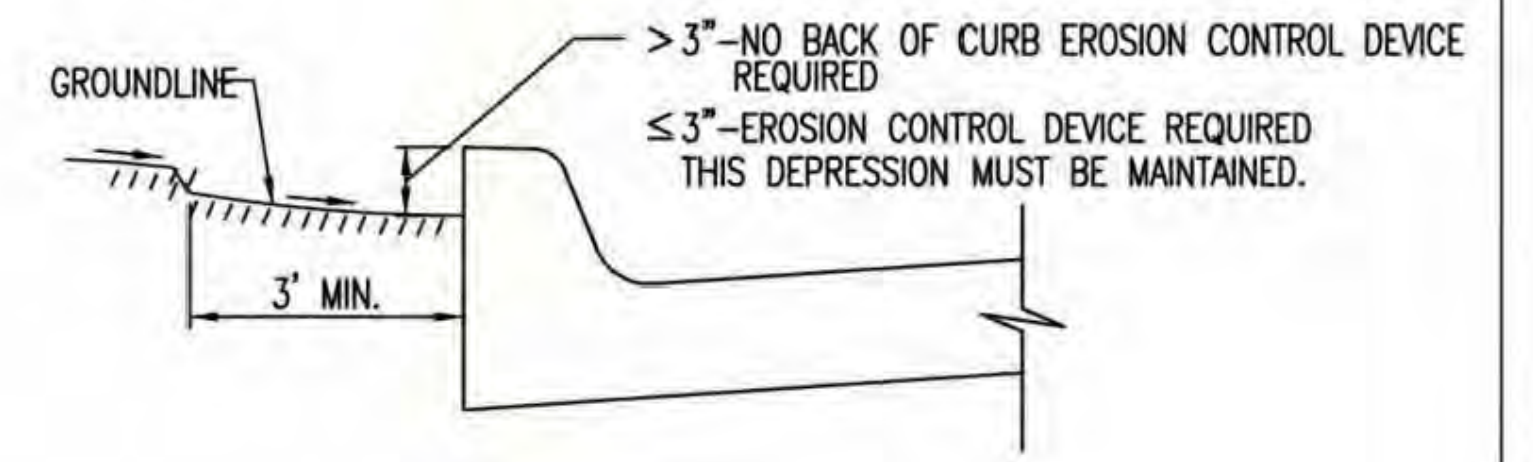


- LEGEND**
- - - PROPOSED NEW STREETS
  - CURB INLETS
  - AREA DRAINS
  - IP INLET PROTECTION
- DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL EROSION CONTROL DEVICES REQUIRED IN PHASE 1 SHALL REMAIN IN PLACE AND BE MAINTAINED.
  - AS NEW STORM SEWERS, WITH INLETS, ARE INSTALLED, THE STORM SEWERS MUST NOW BE PROTECTED SO ALL NEW INLETS BECOME POINTS OF COMPLIANCE.
  - AREA DRAINS - AS SOON AS WATER CAN FLOW INTO THESE DRAINS, HAY BALE OR SILT FENCE PROTECTION WILL BE INSTALLED AROUND THEM.
  - CURB OPENING INLETS - AS SOON AS WATER CAN FLOW INTO THESE DRAINS, INLET PROTECTION DEVICES MUST BE INSTALLED. IF WATER CANNOT FLOW INTO CURB INLETS UNTIL STREET CONSTRUCTION IS COMPLETE, THEN STREET CONTRACTOR WILL INSTALL INLET PROTECTION. SEE PHASE 3 - STREET CONSTRUCTION.
  - THE STORM SEWER CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING THESE DEVICES.
  - THE SUBDIVISION DEVELOPER WILL MAINTAIN THESE EROSION CONTROL DEVICES ONCE INSTALLED.
  - ALL DISTURBED GROUND WILL BE FINAL GRADED AND TEMPORARILY OR PERMANENTLY SEEDED WITHIN 14 DAYS IF COMPLETION OF WORK IN ANY GIVEN PART OF THE SUBDIVISION.
  - ONCE ALL DISTURBED GROUND DRAINING TO AN INLET HAS BEEN RESTABILIZED WITH GRASS OR SOD, THE SUBDIVISION DEVELOPER WILL BE RESPONSIBLE FOR PERMANENTLY REMOVING THE INLET PROTECTION.

**GENERAL NOTES**

- THE INTENT OF ALL EROSION CONTROL DEVICES IS TO PREVENT ERODED SOIL FROM ENTERING DITCHES, STORM SEWERS, LAKES, STREETS OR ANY OTHER OTHER DRAINAGE FEATURE.
- THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPE OF EROSION CONTROL DEVICES WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
- EROSION CONTROL DEVICES SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS TO REMAIN EFFECTIVE. MAINTENANCE SHALL BE AS INDICATED ON SOIL EROSION BMP'S DETAIL SHEETS.
- PERSONS DESTROYING EROSION CONTROL DEVICES SHALL BE RESPONSIBLE FOR IMMEDIATELY REPAIRING THEM OR INSTALLING SUITABLE REPLACEMENT DEVICES.
- THE DEVELOPMENT OF ANY SUBDIVISION THAT DISTURBS 1 ACRE OR MORE WILL REQUIRE A FEDERAL/STATE NPDES STORMWATER PERMIT. THE PREPARATION OF A STORMWATER POLLUTION PREVENTION PLAN IS REQUIRED. EROSION CONTROL DEVICES ARE REQUIRED. THE DETAILS SHOWN ON THIS SHEET ARE THE MINIMUM STANDARDS TO BE SHOWN ON POLLUTION PREVENTION PLANS.
- FOR SUBDIVISIONS SMALLER THAN 1 ACRE, SOIL EROSION DEVICES ARE REQUIRED. ALSO, DEVELOPERS AND CONTRACTORS ARE ENCOURAGED TO DEVELOP POLLUTION PREVENTION PLANS FOR EACH PROJECT PRIOR TO CONSTRUCTION.
- FAILURE TO USE AND MAINTAIN SOIL EROSION DEVICES IS A VIOLATION OF SECTION 16.32 OF THE CITY CODE AND WILL SUBJECT THE SUBDIVISION DEVELOPER AND CONTRACTORS TO THE PENALTIES PROVIDED THEREIN.
- THE APPLICATION OF EROSION CONTROL DEVICES SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE DEVICES OTHER THAN THAT SHOWN. EROSION CONTROL DEVICES, OTHER THAN THOSE SHOWN, MAY BE UTILIZED SO LONG AS THEY ARE EFFECTIVE AND MAINTAINED.
- A STABILIZED EARTH SURFACE IS DEFINED AS ONE THAT IS HARD SURFACED WITH CONCRETE, ASPHALT, OR THE LIKE, OR ONE ON WHICH 70% OF THE GRASS HAS GERMINATED ON THE ENTIRE SURFACE.

SEE DETAIL SHEET FOR BACK OF CURB PROTECTION DETAIL



**CURB BACKFILL DETAIL (STREET CONSTRUCTION ONLY)**

THIS IS A TEMPORARY MEASURE ONLY, WHEN APPROVED BY THE PROJECT ENGINEER. THE DIRT GRADE BEHIND THE CURB SHALL BE BROUGHT TO THE TOP OF CURB, WITH TEMPORARY EROSION CONTROL MAT OR PERMANENT VEGETATION PLACED, PRIOR TO THE COMPLETION OF ALL PROJECTS.

REVISION DATE: MAY 2013



**SUBDIVISION DEVELOPMENT PROCESS**

CITY ENGINEER  
**GARY JANZEN, P.E.**

PROJECT NUMBER	OCA NUMBER	DATE

CITY ENGINEER'S OFFICE  
CITY HALL - SEVENTH FLOOR  
455 NORTH MAIN STREET  
WICHITA, KANSAS 67202-1620  
(316) 268-4501

SHEET

SW-505

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NO.	DESCRIPTION	DATE

**CONSULTANTS**

<b>HAZARDOUS MATERIALS</b> MABBETT & ASSOCIATES, INC. 105 CENTRAL STREET, STONEHAM, MA 02180 PHONE: (781)275-6590	<b>FIRE SUPPRESSION</b> KOFFEL ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045 PHONE: (410)729-2246
<b>CIVIL/STRUCTURAL</b> PROFESSIONAL ENGINEERING CONSULTANTS, P.A. 303 SOUTH TOPEKA, WICHITA, KS 67202 PHONE: (316)262-2881	<b>ELECTRONIC SECURITY</b> MAGNA ENGINEERS 861 CORPORATE DRIVE, SUITE 210, LEXINGTON, KY 40503 PHONE: (859)509-2990
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**ENGINEER OF RECORD**

**Miller-Remick LLC**  
M.E.P. & Structural Engineering  
A Service Disabled Veteran Owned Small Business  
1010 KINGS HIGHWAY SOUTH  
CHERRY HILL, NEW JERSEY 08034  
PHONE: (856)429-4000  
FAX: (856)429-9025  
MR PROJECT NO: 0499-0121

**PROFESSIONAL ENGINEERING CONSULTANTS, P.A.**  
PROFESSIONAL ENGINEER

**SCOTT M. TUNNELL**  
26113  
08/03/2021  
KANSAS PROFESSIONAL ENGINEER

**Office of Construction and Facilities Management**

**VA** U.S. Department of Veterans Affairs

Drawing Title  
**CIVIL SITE SUBDIVISION DEVELOPMENT PROCESS DETAILS**

Approved: Project Director

Phase  
**100% BID SET**

**FULLY SPRINKLERED**

Project Title  
**INSTALL NEW BOILERS IN BUILDING 13**

Location  
**ROBERT J. DOLE VA MEDICAL CENTER WICHITA, KANSAS**

Issue Date	Checked	Drawn
2021-09-03	DRC	SMT / DSB

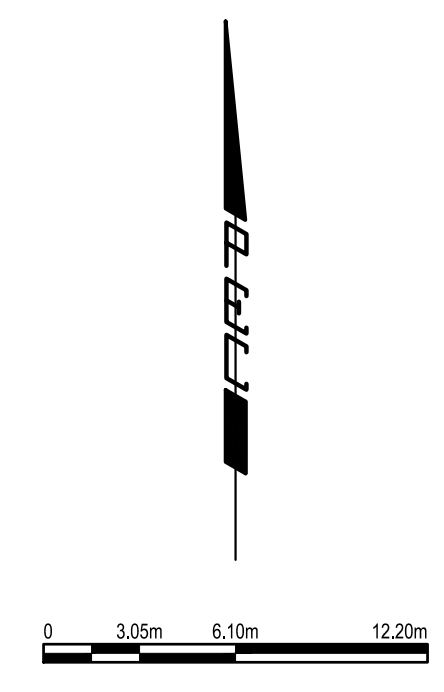
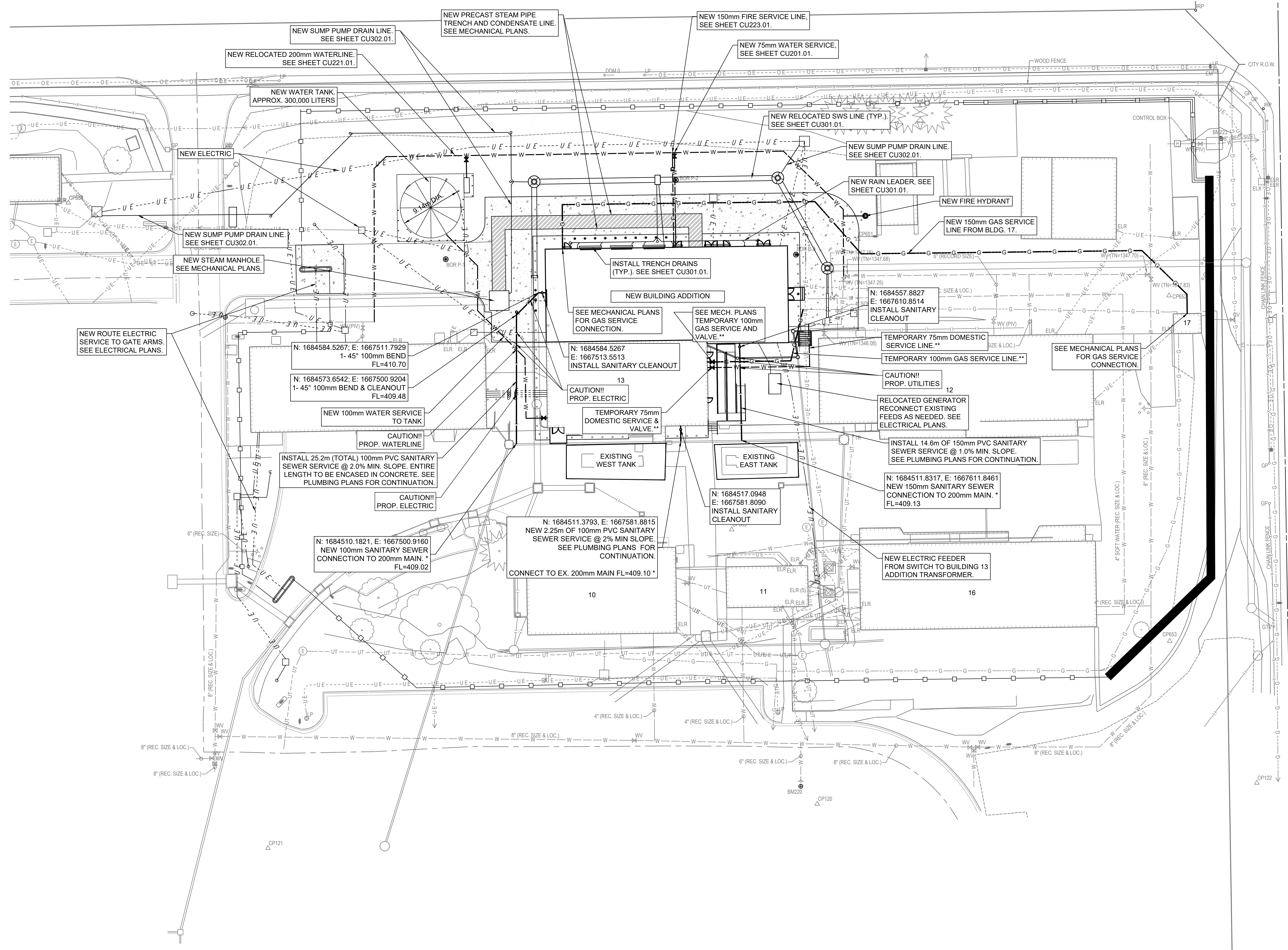
Project Number  
**589A7-18-302**

Building Number  
**13**

Drawing Number  
**CG505**

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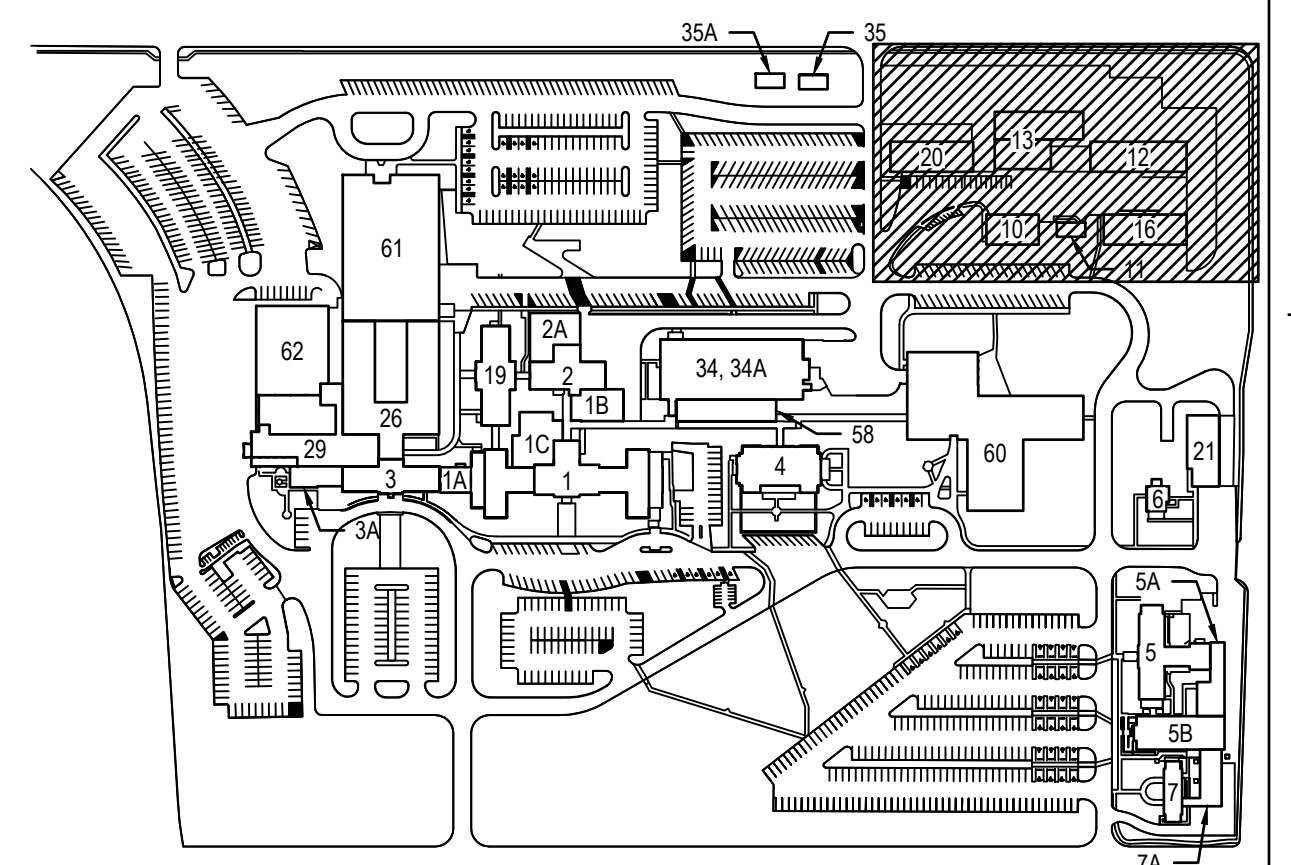




**UTILITY LEGEND**

	PROPOSED STORM SEWER
	PROPOSED STORM SEWER MANHOLE
	PROPOSED SANITARY SEWER
	PROPOSED SANITARY SEWER CLEANOUT
	PROPOSED WATERLINE
	PROPOSED UNDERGROUND ELECTRIC
	PROPOSED UNDERGROUND TELECOMMICABLE
	PROPOSED GAS SERVICE LINE

- GENERAL NOTES**
- SEE ELECTRICAL SITE PLAN FOR ADDITIONAL UG ELECTRIC AND TELECOM INFORMATION. COORDINATE ALL WORK WITH ELECTRICAL PLANS.
- \* PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE THE EXISTING 200mm SANITARY SEWER PIPE AT TIE-IN LOCATION TO VERIFY ITS HORIZONTAL AND VERTICAL LOCATION. THE PIPE LOCATION SHALL BE REPORTED TO THE ENGINEER SO THAT ANY NECESSARY PLAN MODIFICATIONS CAN BE MADE. ANY ADDITIONAL LABOR OR MATERIALS NECESSARY TO COMPLETE THE CONNECTION SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.
- \*\* REMOVE TEMPORARY SERVICES PRIOR TO CONSTRUCTION OF ADA RAMP



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NO.	DESCRIPTION	DATE

**CONSULTANTS**

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**ENGINEER OF RECORD**

**Miller-Remick LLC**  
 M.E.P. & Structural Engineering  
 A Service Disabled Veteran Owned Small Business

1010 KINGS HIGHWAY SOUTH  
 CHERRY HILL, NEW JERSEY 08034  
 PHONE: (856)429-4000  
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 MR PROJECT NO: 0499-0121

**PROFESSIONAL ENGINEERING CONSULTANTS, P.A.**  
 PROFESSIONAL ENGINEER

SCOTT M. TURNER  
 26113  
 08/03/2021  
 KANSAS PROFESSIONAL ENGINEER

**Office of Construction and Facilities Management**

VA U.S. Department of Veterans Affairs

Drawing Title  
**CIVIL SITE UTILITY PLAN, PHASE 1**

Approved: Project Director

Phase  
**100% BID SET**

**FULLY SPRINKLERED**

Project Title  
**INSTALL NEW BOILERS IN BUILDING 13**

Location  
 ROBERT J. DOLE VA MEDICAL CENTER  
 WICHITA, KANSAS

Issue Date  
 2021-09-03

Checked  
 DRC

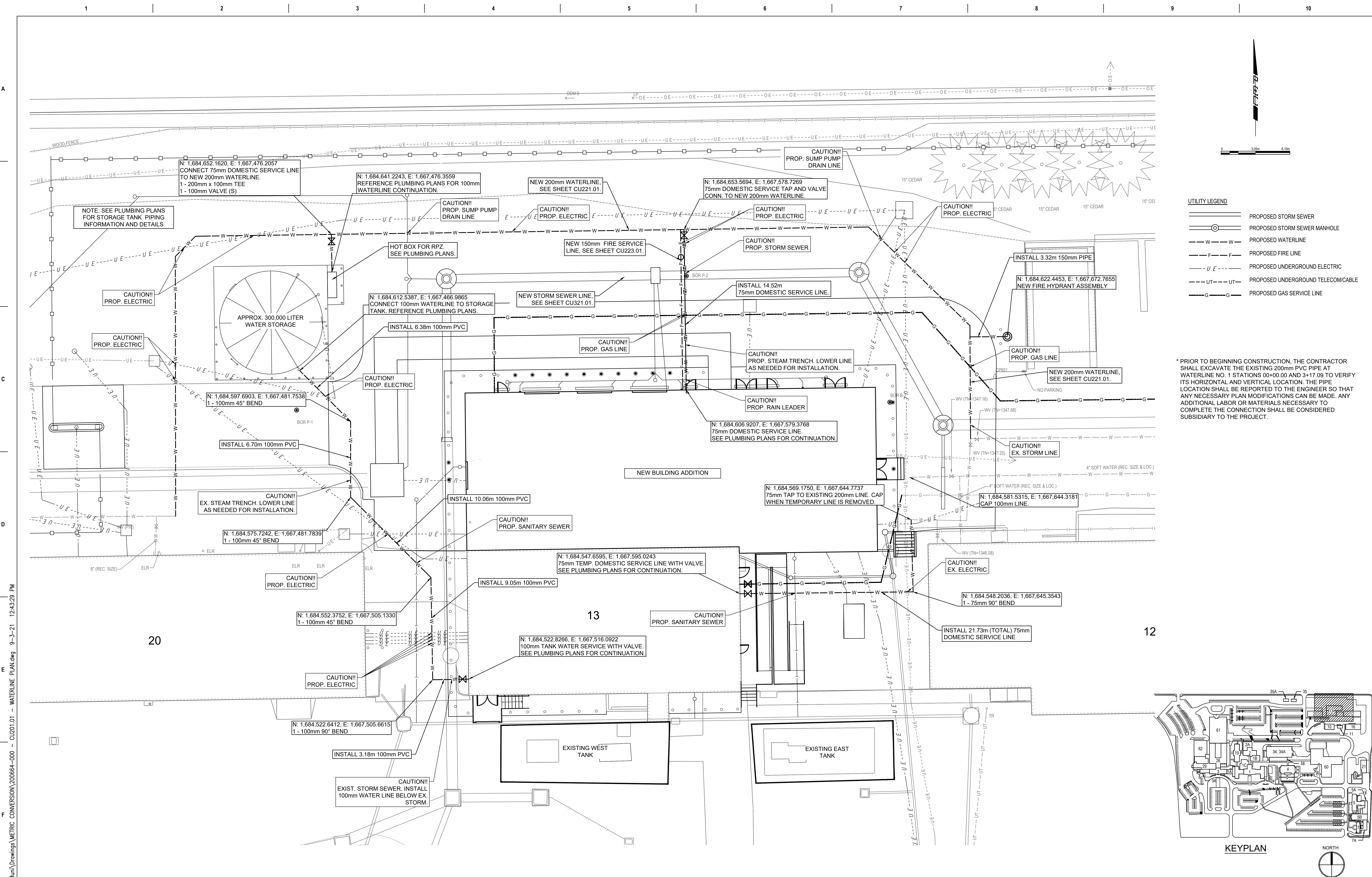
Drawn  
 SMT / DSB

Project Number  
 589A7-18-302

Building Number  
 13

Drawing Number  
 CU101.01





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**ENGINEER OF RECORD**

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**SCOTT M. TURNER**  
26113  
08/03/2021  
KANSAS  
PROFESSIONAL ENGINEER

**Office of Construction and Facilities Management**

**VA** U.S. Department of Veterans Affairs

**Drawing Title**  
CIVIL SITE OVERALL WATER PLAN, PHASE 1

**Approved:** Project Director

**Phase**  
100% BID SET

**FULLY SPRINKLERED**

**Project Title**  
INSTALL NEW BOILERS IN BUILDING 13

**Location**  
ROBERT J. DOLE VA MEDICAL CENTER  
WICHITA, KANSAS

**Issue Date**  
2021-09-03

**Checked**  
DRC

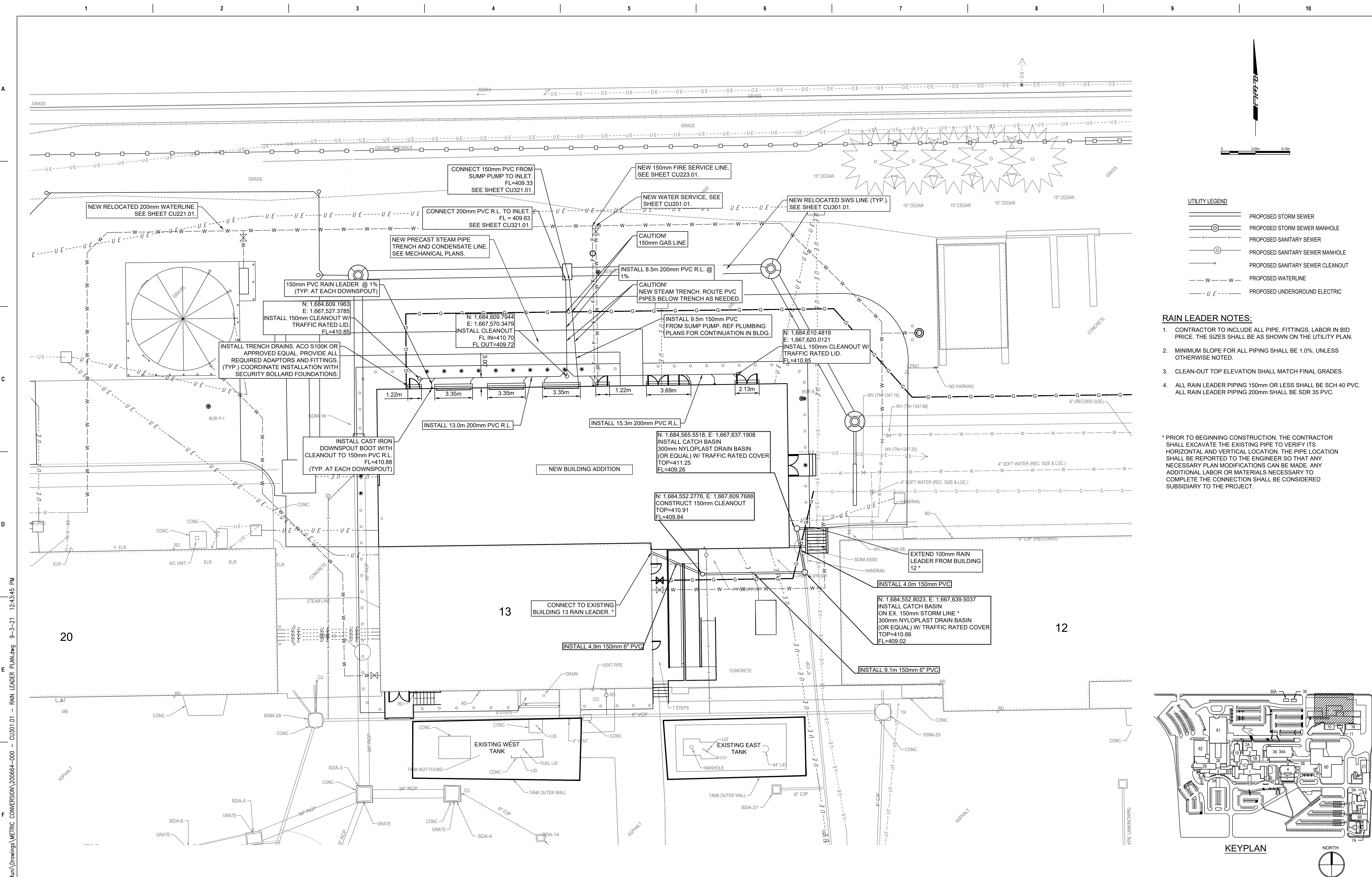
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SMT / DSB

**Project Number**  
589A7-18-302

**Building Number**  
13

**Drawing Number**  
CU201.01

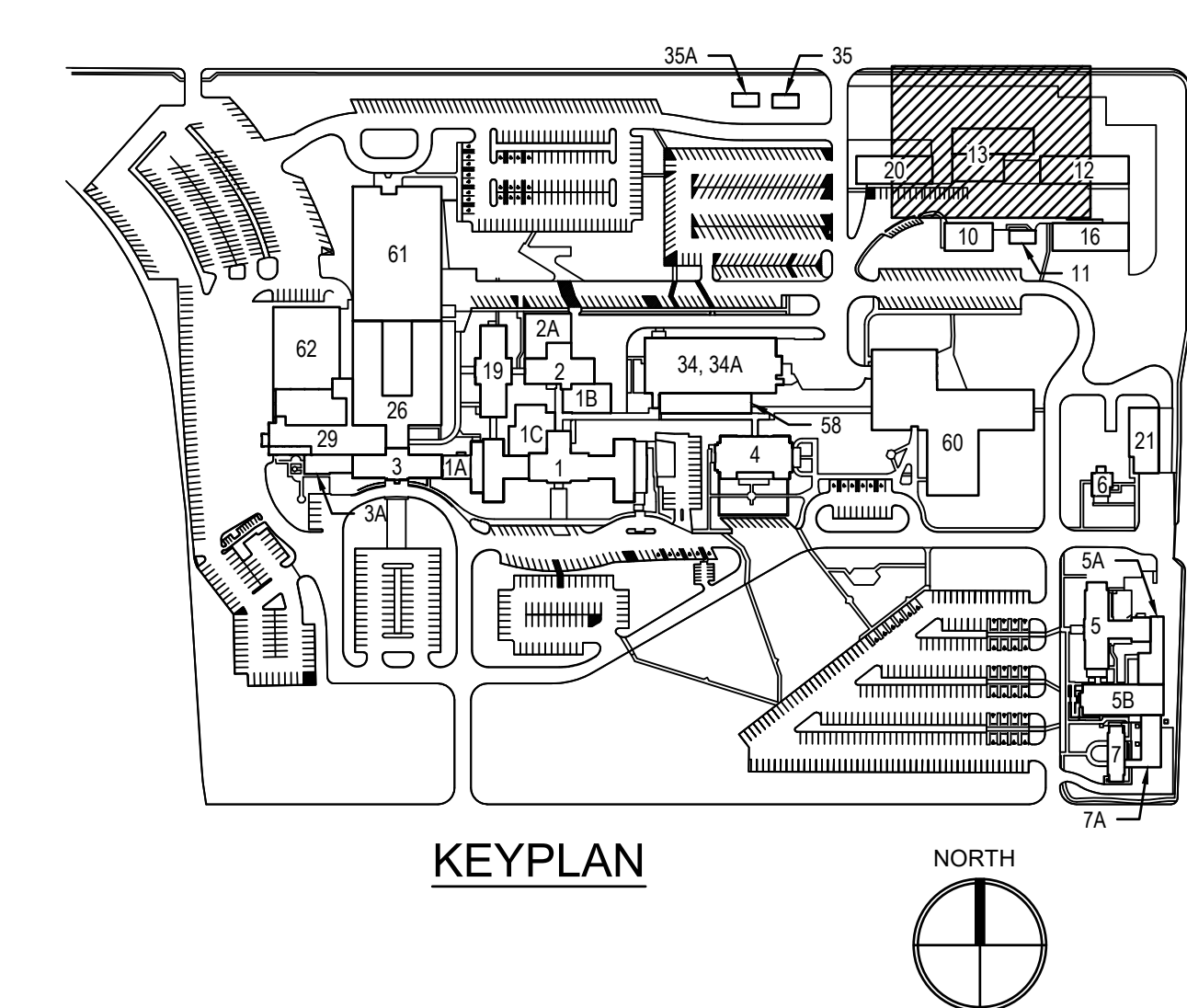




- UTILITY LEGEND**
- PROPOSED STORM SEWER
  - PROPOSED STORM SEWER MANHOLE
  - PROPOSED SANITARY SEWER
  - PROPOSED SANITARY SEWER MANHOLE
  - PROPOSED SANITARY SEWER CLEANOUT
  - PROPOSED WATERLINE
  - PROPOSED UNDERGROUND ELECTRIC

- RAIN LEADER NOTES:**
1. CONTRACTOR TO INCLUDE ALL PIPE, FITTINGS, LABOR IN BID PRICE. THE SIZES SHALL BE AS SHOWN ON THE UTILITY PLAN.
  2. MINIMUM SLOPE FOR ALL PIPING SHALL BE 1.0%, UNLESS OTHERWISE NOTED.
  3. CLEAN-OUT TOP ELEVATION SHALL MATCH FINAL GRADES.
  4. ALL RAIN LEADER PIPING 150mm OR LESS SHALL BE SCH 40 PVC. ALL RAIN LEADER PIPING 200mm SHALL BE SDR 35 PVC.

\* PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE THE EXISTING PIPE TO VERIFY ITS HORIZONTAL AND VERTICAL LOCATION. THE PIPE LOCATION SHALL BE REPORTED TO THE ENGINEER SO THAT ANY NECESSARY PLAN MODIFICATIONS CAN BE MADE. ANY ADDITIONAL LABOR OR MATERIALS NECESSARY TO COMPLETE THE CONNECTION SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.



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NO.	DESCRIPTION	DATE

**CONSULTANTS**

<p><b>HAZARDOUS MATERIALS</b>  <b>MABBETT &amp; ASSOCIATES, INC.</b>          105 CENTRAL STREET, STONEHAM, MA 02180          PHONE: (781)275-0591</p>	<p><b>FIRE SUPPRESSION</b>  <b>KOFFEL ASSOCIATES</b>          8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045          PHONE: (410)759-2246</p>
<p><b>CIVIL/STRUCTURAL</b>  <b>PROFESSIONAL ENGINEERING CONSULTANTS, P.A.</b>          303 SOUTH TOPEKA, WICHITA, KS 67202          PHONE: (316)262-2881</p>	<p><b>ELECTRONIC SECURITY</b>  <b>MAGNA ENGINEERS</b>          861 CORPORATE DRIVE, SUITE 210, LEXINGTON, KY 40503          PHONE: (859)309-2990</p>
<p><b>ARCHITECTURAL</b>  <b>OCULUS INC.</b>          1 SOUTH MEMORIAL DRIVE, SUITE 1500, SAINT LOUIS, MO 63102          PHONE: (314)367-6100</p>	<p><b>PHYSICAL SECURITY</b>  <b>FORCE PROTECT</b>          3210 GULF BLVD. UNIT 304, BELL SAIR BEACH, FL 33786          PHONE: (802)836-4232</p>

**ENGINEER OF RECORD**

**Miller-Remick LLC**  
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 MR PROJECT NO: 0499-0121

**PROFESSIONAL ENGINEERING CONSULTANTS, P.A.**  
 PROFESSIONAL ENGINEER

**Office of Construction and Facilities Management**  
 U.S. Department of Veterans Affairs

**Drawing Title**  
 CIVIL SITE  
 RAIN LEADER PLAN, PHASE 1

**Phase**  
 100% BID SET

**Project Title**  
 INSTALL NEW BOILERS IN BUILDING 13

**Project Number**  
 589A7-18-302

**Building Number**  
 13

**Drawing Number**  
 CU301.01

**Approved: Project Director**

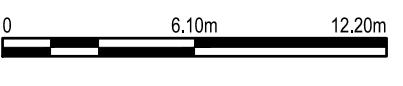
**Issue Date**  
 2021-09-03

**Checked**  
 DRC

**Drawn**  
 SMT / DSB

**Location**  
 ROBERT J. DOLE VA MEDICAL CENTER  
 WICHITA, KANSAS



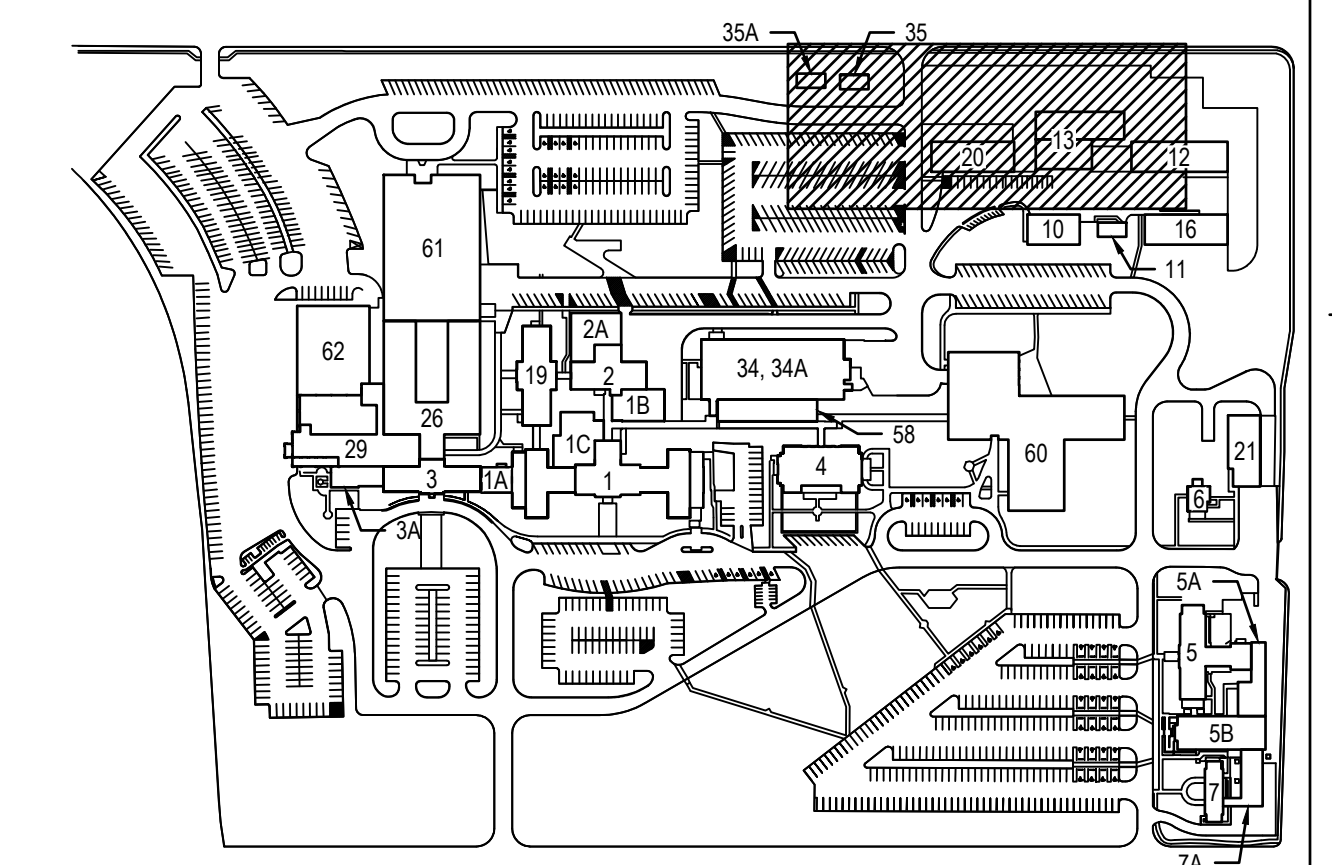
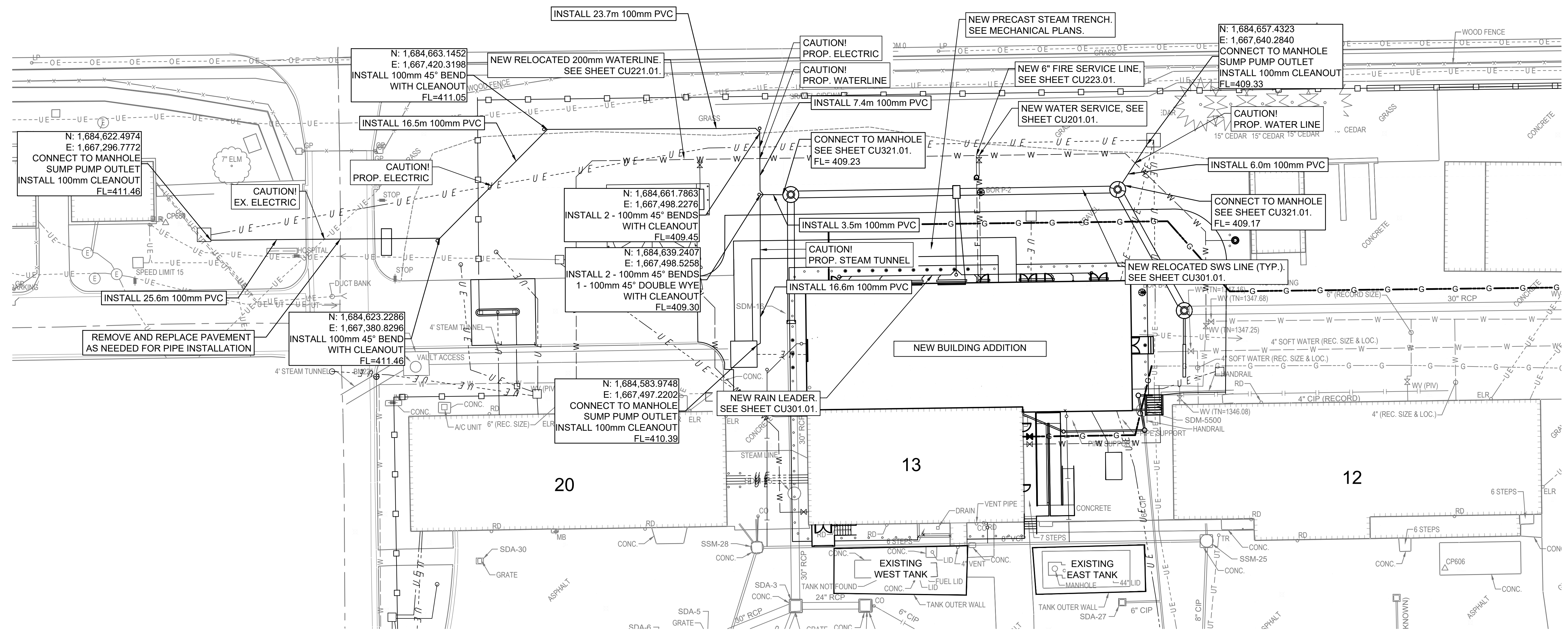


UTILITY LEGEND

- PROPOSED STORM SEWER
- PROPOSED STORM SEWER MANHOLE
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER CLEANOUT
- PROPOSED WATERLINE
- PROPOSED UNDERGROUND ELECTRIC

SUMP PUMP LINE NOTES:

1. CONTRACTOR TO INCLUDE ALL PIPE, FITTINGS, LABOR IN BID PRICE. THE SIZES SHALL BE AS SHOWN ON THE UTILITY PLAN.
2. MINIMUM SLOPE FOR ALL PIPING SHALL BE 2.0%, UNLESS OTHERWISE NOTED.
3. CLEAN-OUT TOP ELEVATION SHALL MATCH FINAL GRADES.



KEYPLAN



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NO.	DESCRIPTION	DATE

CONSULTANTS	
<b>HAZARDOUS MATERIALS</b> MABBETT & ASSOCIATES, INC. 105 CENTRAL STREET, STONEHAM, MA 02180 PHONE: (781)275-6550	<b>FIRE SUPPRESSION</b> KOFFEL ASSOCIATES 8815 CENTRE PARK DRIVE, SUITE 200, COLUMBIA, MD 21045 PHONE: (410)759-2246
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<b>ARCHITECTURAL</b> OCULUS INC. 1 SOUTH MEMORIAL DRIVE, SUITE 1500, SAINT LOUIS, MO 63102 PHONE: (314)367-6100	<b>PHYSICAL SECURITY</b> FORCE PROTECT 3210 GULF BLVD UNIT 304, BELLEAIR BEACH, FL 33786 PHONE: (802)836-4232

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**Office of Construction and Facilities Management**  
 U.S. Department of Veterans Affairs

Drawing Title <b>CIVIL SITE MANHOLE SUMP PUMP PIPING PLAN, PHASE 1</b>
Approved: Project Director

Phase <b>100% BID SET</b>
<b>FULLY SPRINKLERED</b>

Project Title <b>INSTALL NEW BOILERS IN BUILDING 13</b>		
Location <b>ROBERT J. DOLE VA MEDICAL CENTER WICHITA, KANSAS</b>		
Issue Date <b>2021-09-03</b>	Checked <b>DRC</b>	Drawn <b>SMT / DSB</b>

Project Number <b>589A7-18-302</b>
Building Number <b>13</b>
Drawing Number <b>CU302.01</b>



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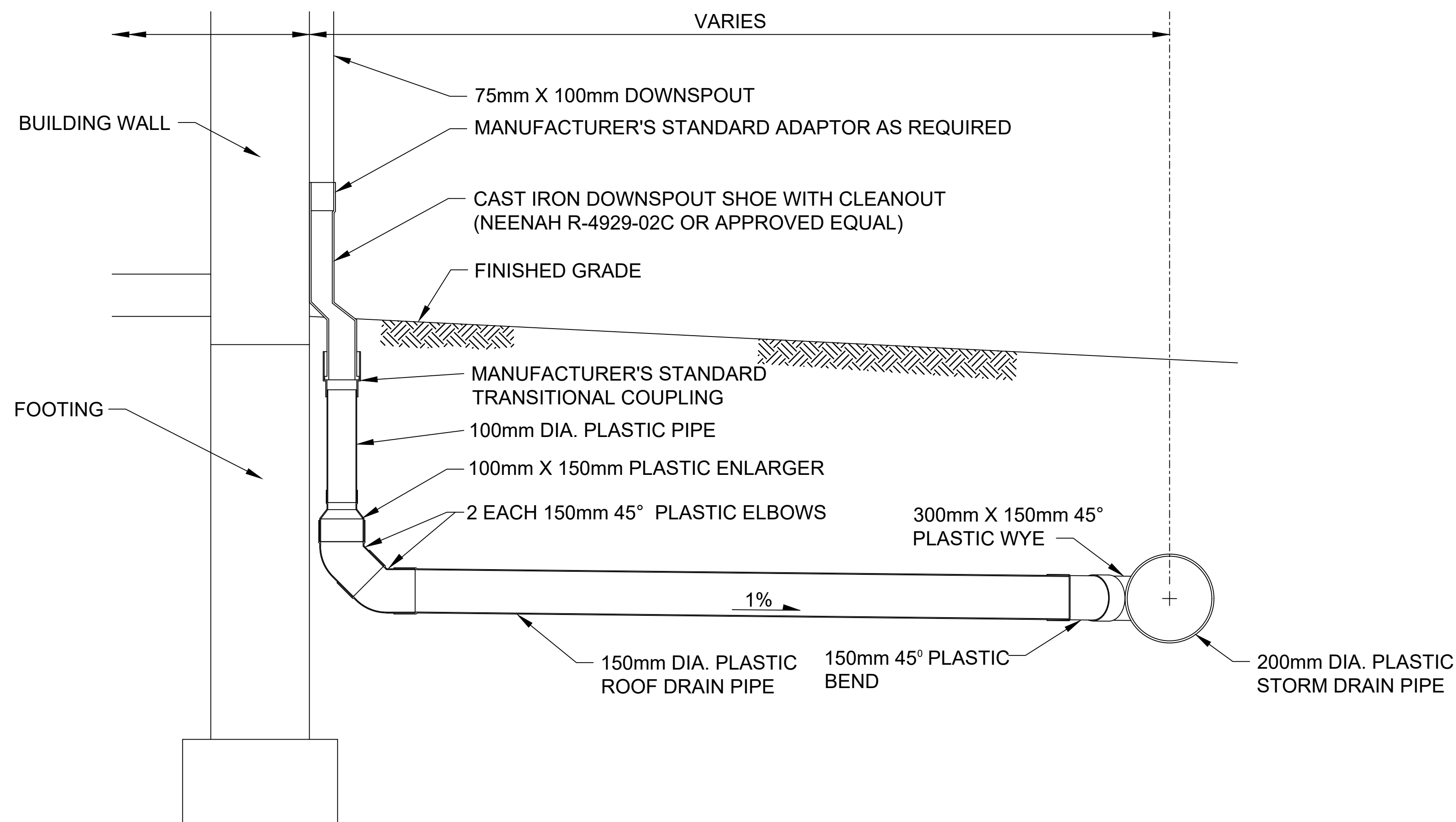
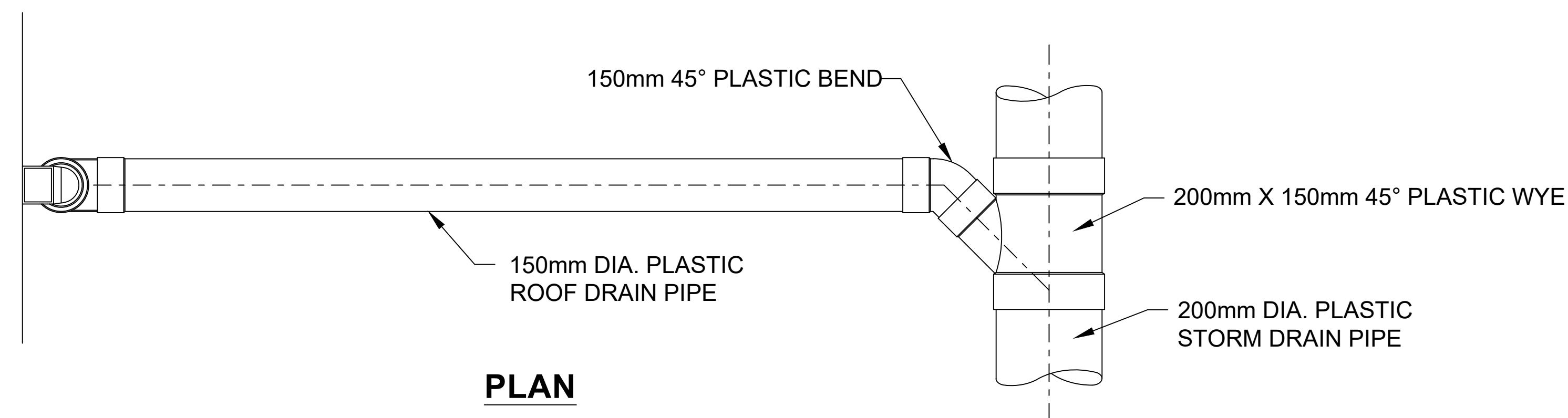
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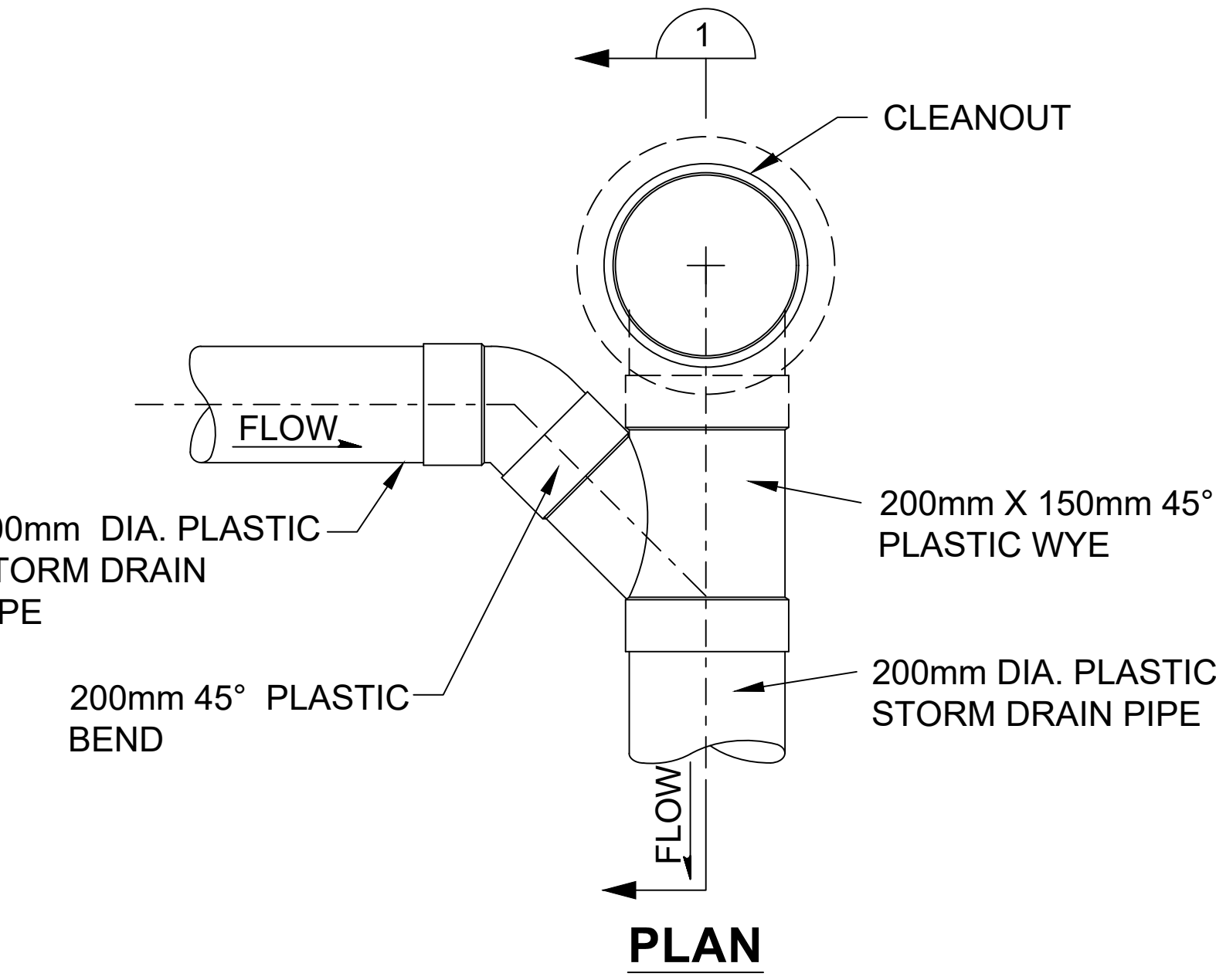
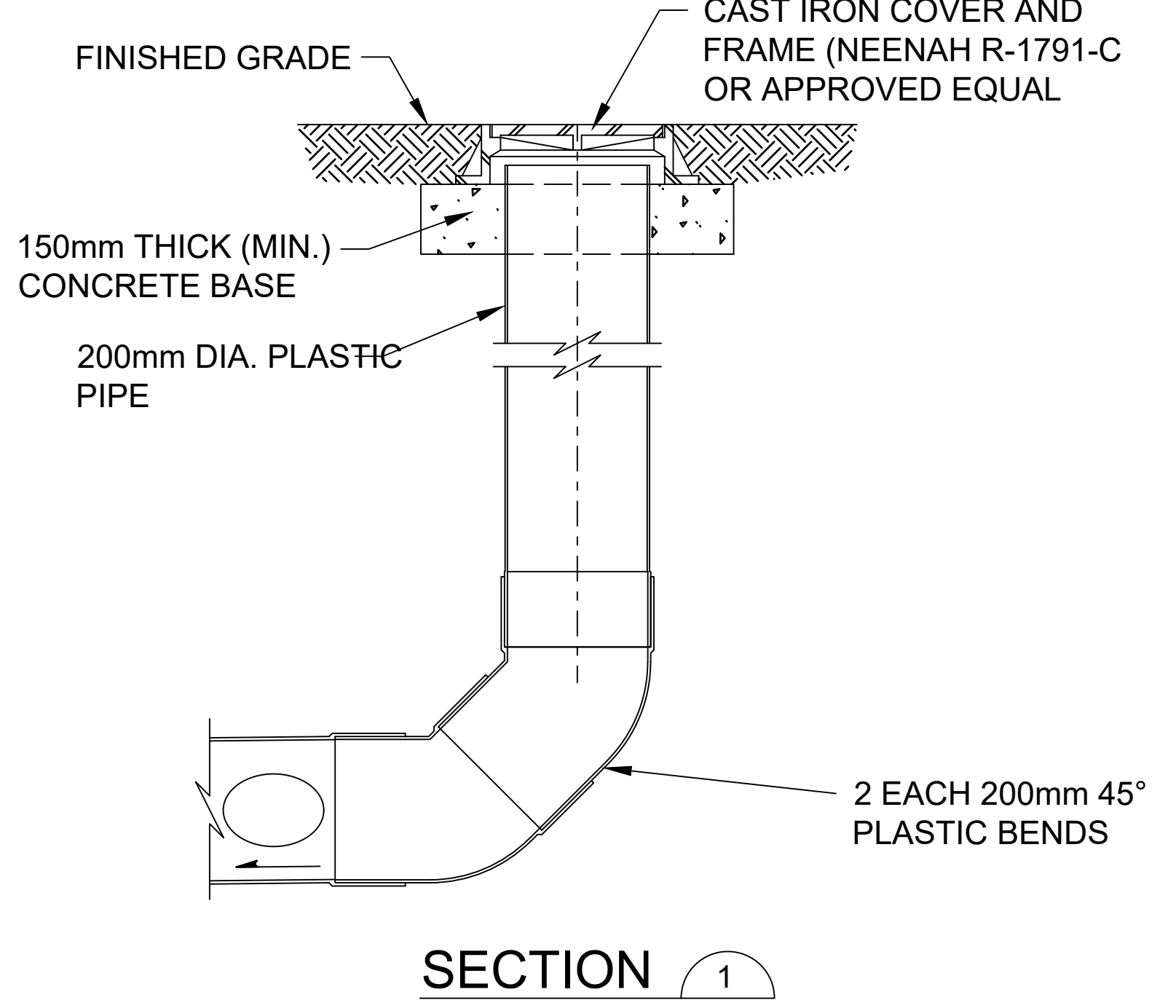
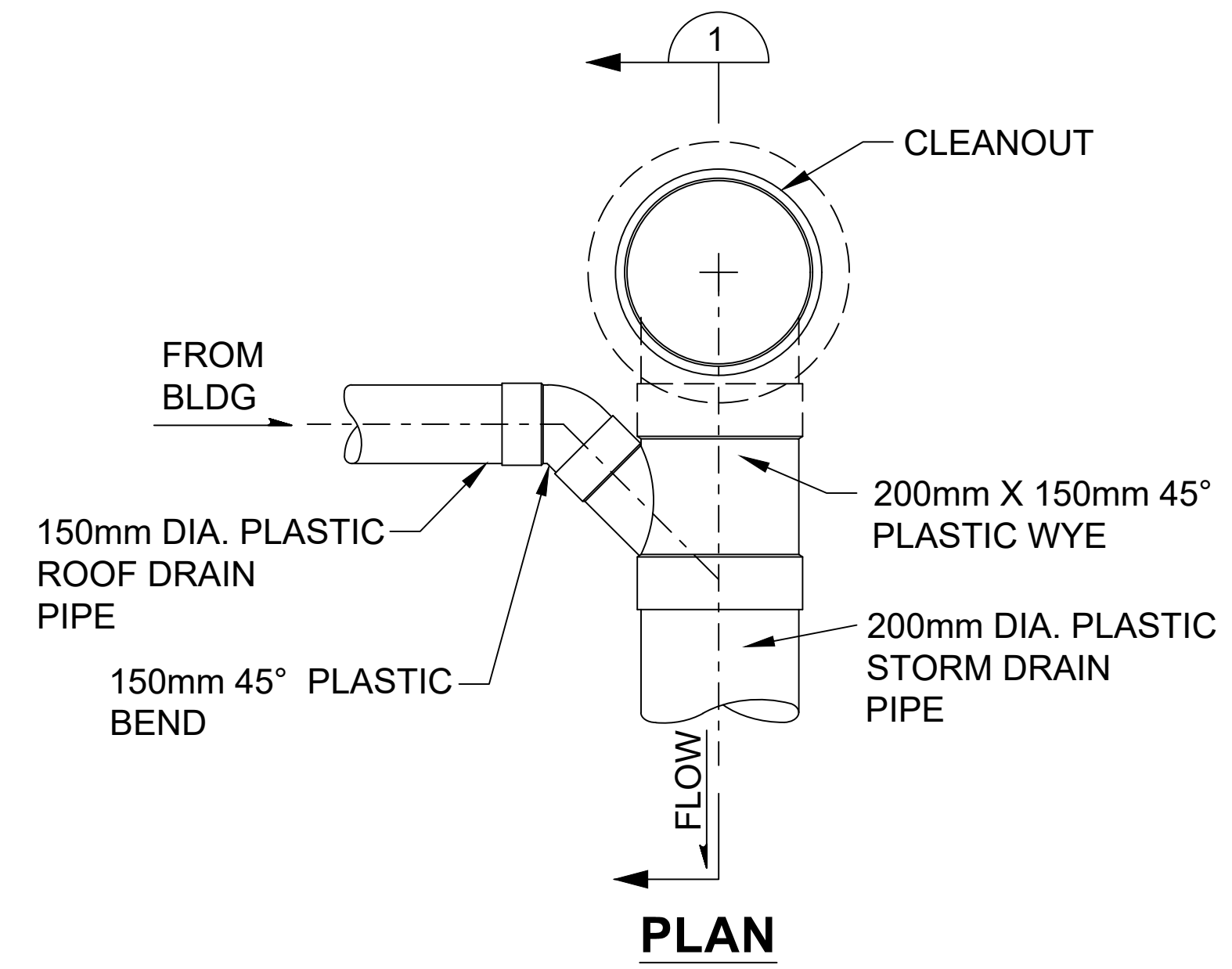
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E

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1 TYPICAL ROOF DRAIN DETAILS  
NOT TO SCALE



NOTES:  
1. STORM DRAIN CLEANOUTS SHALL BE INSTALLED AT THE END OF STORM DRAIN LINES AND AT EACH 90 DEGREE TURN IN STORM DRAIN LINES AS INDICATED.

2 STORM DRAIN CLEANOUT DETAILS  
NOT TO SCALE

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CONSULTANTS	
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<b>CIVIL / STRUCTURAL</b> PROFESSIONAL ENGINEERING CONSULTANTS, P.A. 303 SOUTH TOPEKA, WICHITA, KS 67202 PHONE: (316)262-2881	<b>ELECTRONIC SECURITY</b> MAGNA ENGINEERS 861 CORPORATE DRIVE, SUITE 210, LEXINGTON, KY 40503 PHONE: (859)309-2990
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 08/03/2021  
 KANSAS  
 PROFESSIONAL ENGINEER

Office of  
 Construction  
 and Facilities  
 Management

VA U.S. Department  
 of Veterans Affairs

Drawing Title CIVIL SITE ROOF DRAIN DETAILS
Approved: Project Director

Phase 100% BID SET
FULLY SPRINKLERED

Project Title INSTALL NEW BOILERS IN BUILDING 13		
Location ROBERT J. DOLE VA MEDICAL CENTER WICHITA, KANSAS		
Issue Date 2021-09-03	Checked DRC	Drawn SMT / DSB

Project Number 589A7-18-302
Building Number 13
Drawing Number CU501



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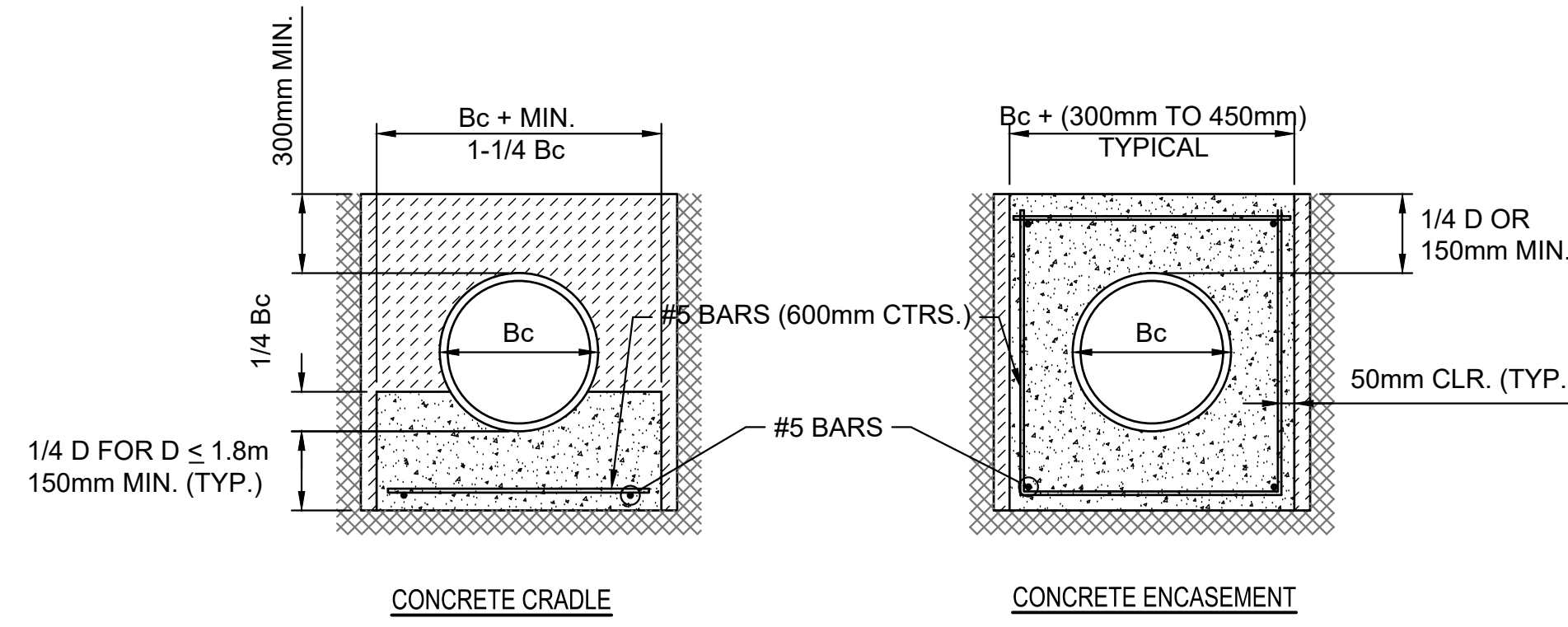
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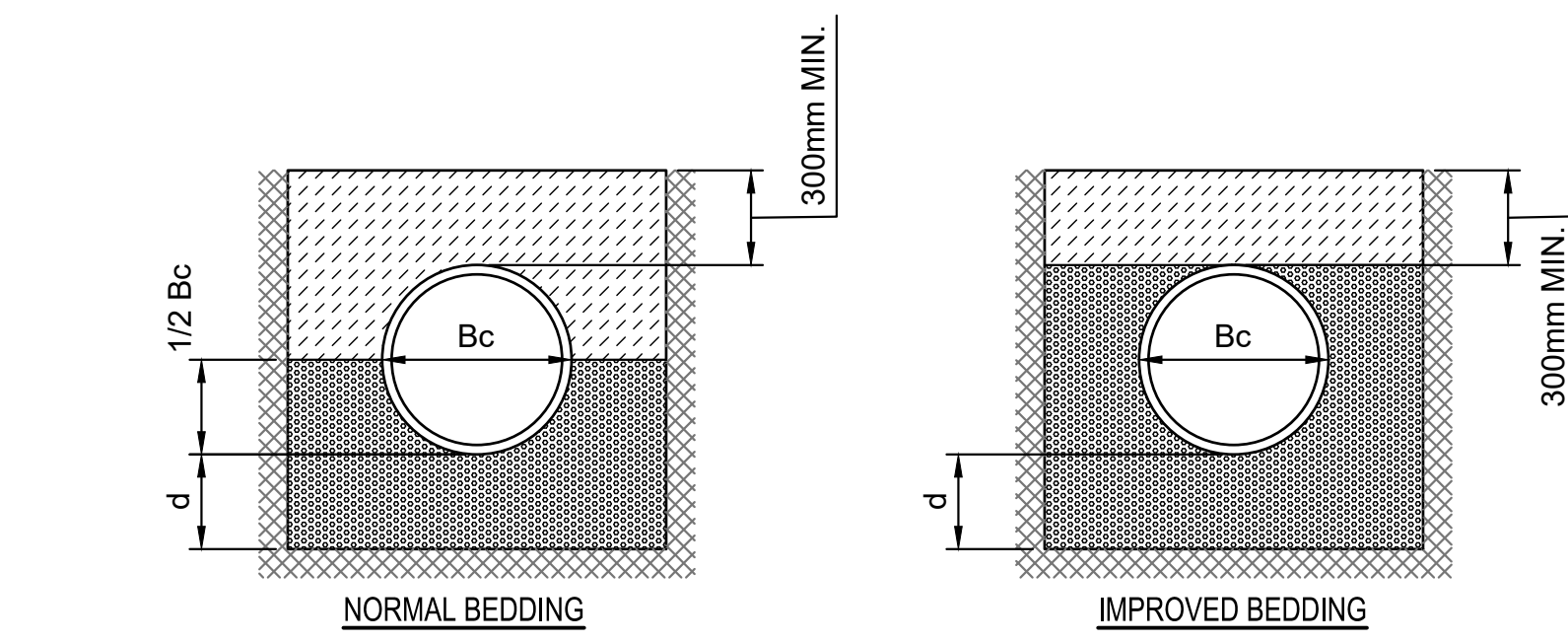
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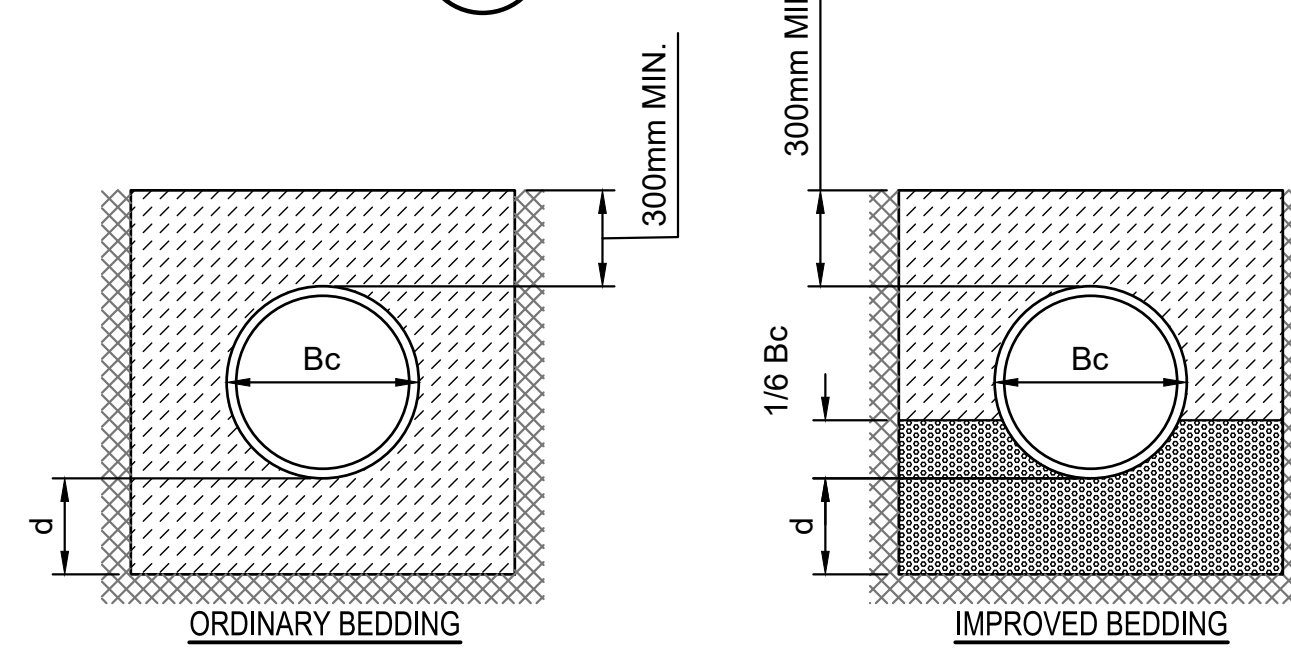
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**1 CLASS A**  
NOT TO SCALE



**2 CLASS B**  
NOT TO SCALE



**3 CLASS C**  
NOT TO SCALE

**4 PIPE ZONE BACKFILLING**  
NOT TO SCALE

- Bc = OUTSIDE PIPE DIAMETER
- H = BACKFILL FROM TOP OF PIPE TO EXISTING GROUND
- D = INSIDE PIPE DIAMETER
- d = DEPTH OF BEDDING MATERIAL BELOW PIPE
- GRANULAR BEDDING MATERIAL OR SAND-GRAVEL BEDDING
- COMPACTED EMBEDMENT
- CONCRETE

DEPTH OF BEDDING MATERIAL BELOW PIPE		
D	d (MIN) SOIL	d (MIN) ROCK
700mm & SMALLER	100mm	150mm
750mm TO 1500mm	125mm	225mm
1650mm & LARGER	150mm	300mm

GRANULAR BEDDING MATERIAL SHALL BE AN APPROVED MATERIAL CONSISTING OF DURABLE CRUSHED ROCK CONFORMING WITH THE REQUIREMENTS OF THE LATEST REVISION OF ASTM C-33 SIZE NO. 67 (3/4" TO NO. 4); TO BE PLACED IN NOT MORE THAN 6" LAYERS AND COMPACTED BY SLICING WITH A SHOVEL OR VIBRATING. SOUNDNESS, ABRASION, AND ABSORPTION LIMITS SHALL BE AS REQUIRED FOR COARSE AGGREGATES IN 03 30 00 CAST-IN-PLACE CONCRETE IN THE SPECIFICATIONS.

SAND-GRAVEL BEDDING MATERIAL - SAND-GRAVEL MIX MEETING TYPE UD-1 OF THE 2015 KANSAS STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION.

COMPACTED EMBEDMENT SHALL BE AN APPROVED SAND MATERIAL FREE FROM DEBRIS, ORGANIC MATERIAL, AND STONES WITH 100% PASSING THE 3/4" SIEVE TO BE PLACED IN UNIFORM LAYERS NOT MORE THAN 6" THICK AND COMPACTED TO 95 PERCENT MAXIMUM DENSITY AS DETERMINED BY ASTM D698. GRANULAR BEDDING MATERIAL MAY BE SUBSTITUTED FOR ALL OR PART OF COMPACTED EMBEDMENT MATERIALS.

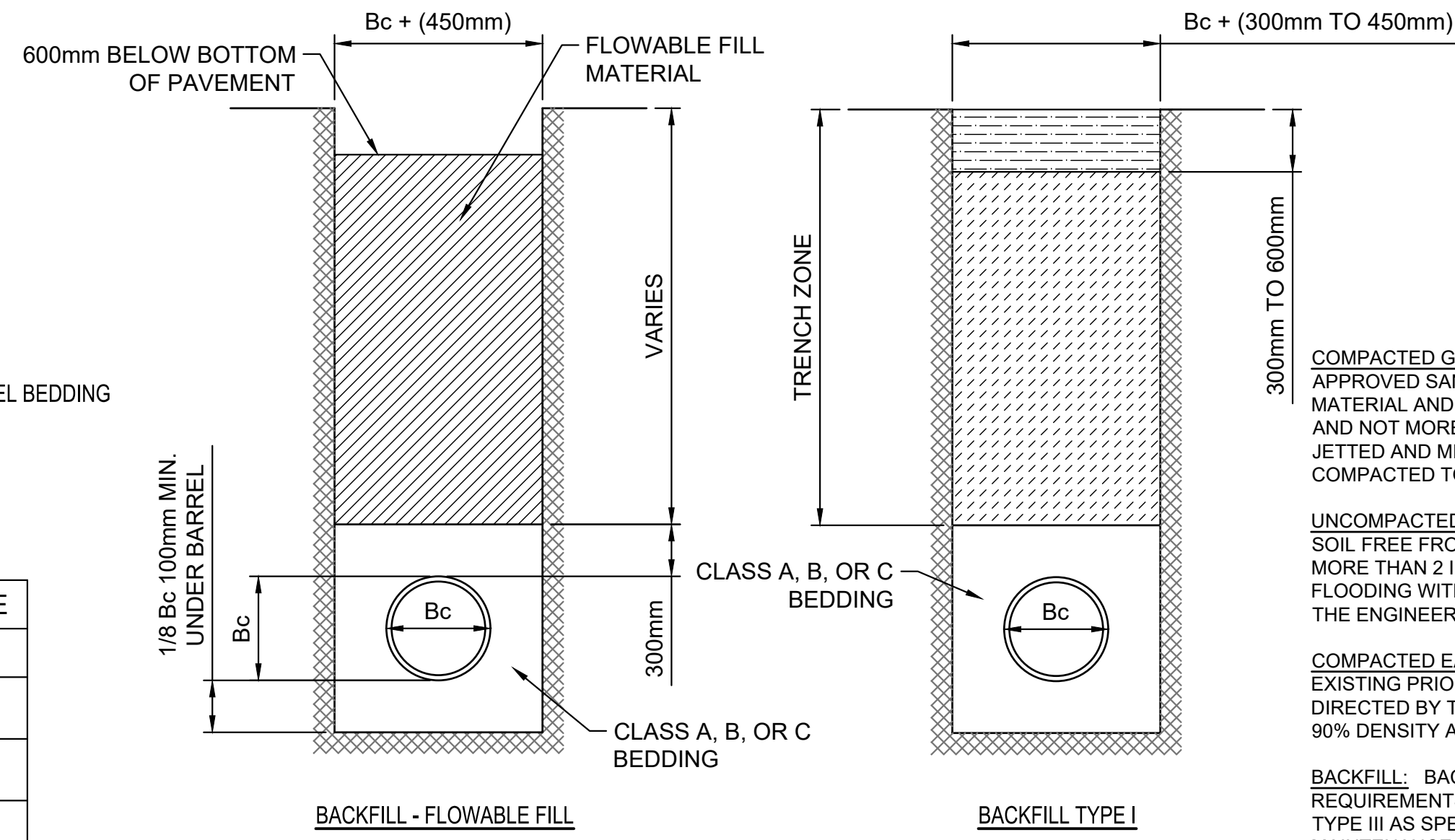
CLASS A "CONCRETE CRADLE" AND/OR CLASS A "CONCRETE ENCASEMENT" IS NOT REQUIRED UNLESS SPECIFIED ON THE PLANS. HOWEVER, WHERE UNEXPECTED TRENCH CONDITIONS EXIST OR IMPROPER TRENCHING IS PERFORMED CLASS A BEDDING MAY BE REQUIRED AS DETERMINED BY THE ENGINEER.

CLASS B BEDDING SHALL BE USED FOR ALL FLEXIBLE PIPE.

- A. CLASS B NORMAL BEDDING SHALL BE USED FOR PVC PIPE UNLESS WET CONDITIONS ARE ENCOUNTERED.
- B. CLASS B IMPROVED BEDDING SHALL BE USED FOR OTHER FLEXIBLE PIPE, AND FOR PVC PIPE IN WET CONDITIONS.

CLASS C BEDDING SHALL BE USED FOR ALL RIGID PIPE.

- A. CLASS C ORDINARY BEDDING SHALL BE USED FOR ALL RIGID PIPE UNLESS WET CONDITIONS ARE ENCOUNTERED.
- B. CLASS C IMPROVED BEDDING SHALL BE USED FOR WET CONDITIONS EXISTING IN THE TRENCH, AS DIRECTED BY THE ENGINEER, AT NO ADDITIONAL COST TO THE OWNER. THE DIMENSIONS SHALL BE EQUAL TO THAT REQUIRED FOR "ROCK" EXCAVATION (SEE SPECIFICATIONS).



- Bc = OUTSIDE PIPE DIAMETER
- COMPACTED GRANULAR BACKFILL
- UNCOMPACTED EARTH BACKFILL
- COMPACTED EARTH BACKFILL

COMPACTED GRANULAR BACKFILL MATERIAL SHALL BE AN APPROVED SAND MATERIAL FREE FROM DEBRIS, ORGANIC MATERIAL AND STONES WITH 100% PASSING THE 20mm SIEVE AND NOT MORE THAN 15% PASSING A NO. 200 SIEVE. TO BE JETTED AND MECHANICALLY VIBRATED INTO PLACE AND COMPACTED TO 95% DENSITY AS DETERMINED BY ASTM D698.

UNCOMPACTED EARTH BACKFILL MATERIAL MAY BE NATURAL SOIL FREE FROM LARGE CLODS OR STONES, BRUSH, ROOTS MORE THAN 2 INCHES IN DIAMETER, DEBRIS, AND JUNK. FLOODING WITH WATER SHALL BE PROVIDED AS DIRECTED BY THE ENGINEER.

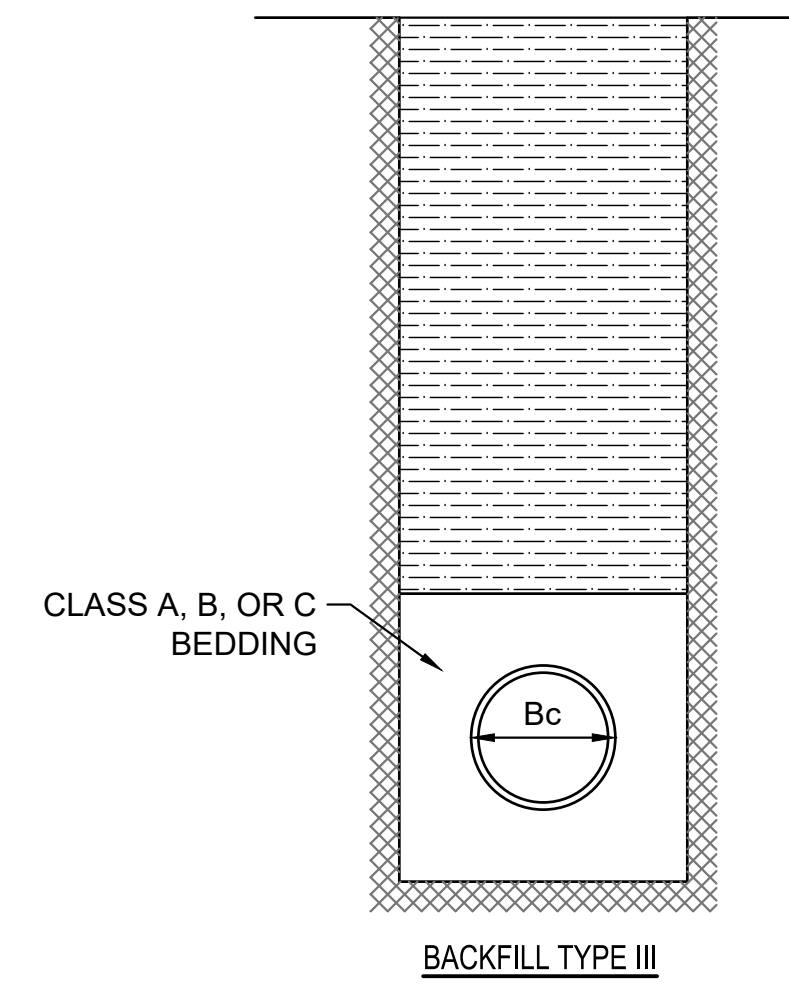
COMPACTED EARTH BACKFILL SHALL CONSIST OF MATERIAL EXISTING PRIOR TO TRENCHING OR SELECTED MATERIAL AS DIRECTED BY THE ENGINEER, AND SHALL BE COMPACTED TO 90% DENSITY AS DETERMINED BY ASTM D698.

BACKFILL: BACKFILL MATERIAL AND COMPACTION REQUIREMENTS SHALL CONFORM TO EITHER TYPE I, TYPE II OR TYPE III AS SPECIFIED IN THE PLANS. ONE YEAR MAINTENANCE WILL BE REQUIRED ON ALL BACKFILL.

BACKFILLING THROUGH ROCK: BACKFILLING THROUGH ROCK SHALL BE PERFORMED AS SPECIFIED IN THE PARAGRAPH BACKFILL ABOVE, EXCEPT THAT THE PIPE ZONE IS INCREASED TO PROVIDE EIGHTEEN (18) INCHES OF COVER OVER THE PIPE. WHEN APPROVED BY THE ENGINEER THE REMAINDER OF THE BACKFILL MAY BE EXCAVATED ROCK PROVIDED THE EXCAVATED ROCK HAS BEEN BROKEN UP SO THAT EARTH AND ROCK WILL THOROUGHLY MIX AND NOT RESULT IN VOIDS AROUND THE LARGER PIECES OF ROCK. ANY EXCESS ROCK REMAINING AFTER THE TRENCH HAS BEEN BACKFILLED SHALL BE REMOVED OR WASTED AS DIRECTED BY THE ENGINEER.

BACKFILLING UNDER PAVEMENT: BACKFILLING UNDER EXISTING OR PROPOSED PAVEMENT SHALL BE PERFORMED AS BACKFILL TYPE I OR BACKFILL - FLOWABLE FILL TO A LEVEL OF TWO (2) FEET FROM THE BOTTOM OF THE PAVEMENT. THE REMAINDER OF THE TRENCH SHALL BE BACKFILLED WITH SELECTED MATERIAL, SUFFICIENTLY DAMP TO BE PROPERLY COMPACTED IN LAYERS NOT EXCEEDING SIX (6) INCHES IN DEPTH. COMPACTION SHALL BE PERFORMED WITH MECHANICAL TAMPERS AND CONTINUED UNTIL A RELATIVE DENSITY OF 100 PERCENT OF STANDARD DENSITY, IN CONFORMANCE WITH ASTM D698 IS ATTAINED.

BACKFILLING UNDER GRAVEL STREETS: WHERE THE TRENCH CROSSES OR IS IN EXISTING GRAVEL SURFACED STREETS, THE BACKFILL SHALL BE COMPACTED AS PROVIDED IN THE PARAGRAPH "BACKFILLING UNDER PAVEMENT".



**5 TRENCH ZONE BACKFILLING**  
NOT TO SCALE

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CONSULTANTS	
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**ENGINEER OF RECORD**

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 26113  
 08/03/2021  
 KANSAS PROFESSIONAL ENGINEER

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title <b>CIVIL SITE PIPE INSTALLATION DETAILS</b>
Approved: Project Director

Phase <b>100% BID SET</b>
<b>FULLY SPRINKLERED</b>

Project Title <b>INSTALL NEW BOILERS IN BUILDING 13</b>		
Location ROBERT J. DOLE VA MEDICAL CENTER WICHITA, KANSAS		
Issue Date 2021-09-03	Checked DRC	Drawn SMT / DSB

Project Number 589A7-18-302
Building Number 13
Drawing Number CU502