

# SITE PLAN PRIME CARWASH

## LOT 4, FRIDLEY PALMS PLAT 1 355 E HICKMAN ROAD, WAUKEE, IA

**PROJECT CONTACTS**

**SANITARY SEWER**  
WAUKEE PUBLIC WORKS DEPARTMENT  
805 UNIVERSITY AVENUE  
WAUKEE, IA 50263  
CONTACT: TIM ROYER  
PHONE: (515-478-1420)

**WATER MAIN**  
WAUKEE PUBLIC WORKS DEPARTMENT  
805 UNIVERSITY AVENUE  
WAUKEE, IA 50263  
CONTACT: TIM ROYER  
PHONE: 515-478-1420

**STORM SEWER**  
WAUKEE PUBLIC WORKS DEPARTMENT  
805 UNIVERSITY AVENUE  
WAUKEE, IA 50263  
CONTACT: TIM ROYER  
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**NATURAL GAS UTILITY**  
WAUKEE PUBLIC WORKS DEPARTMENT  
805 UNIVERSITY AVENUE  
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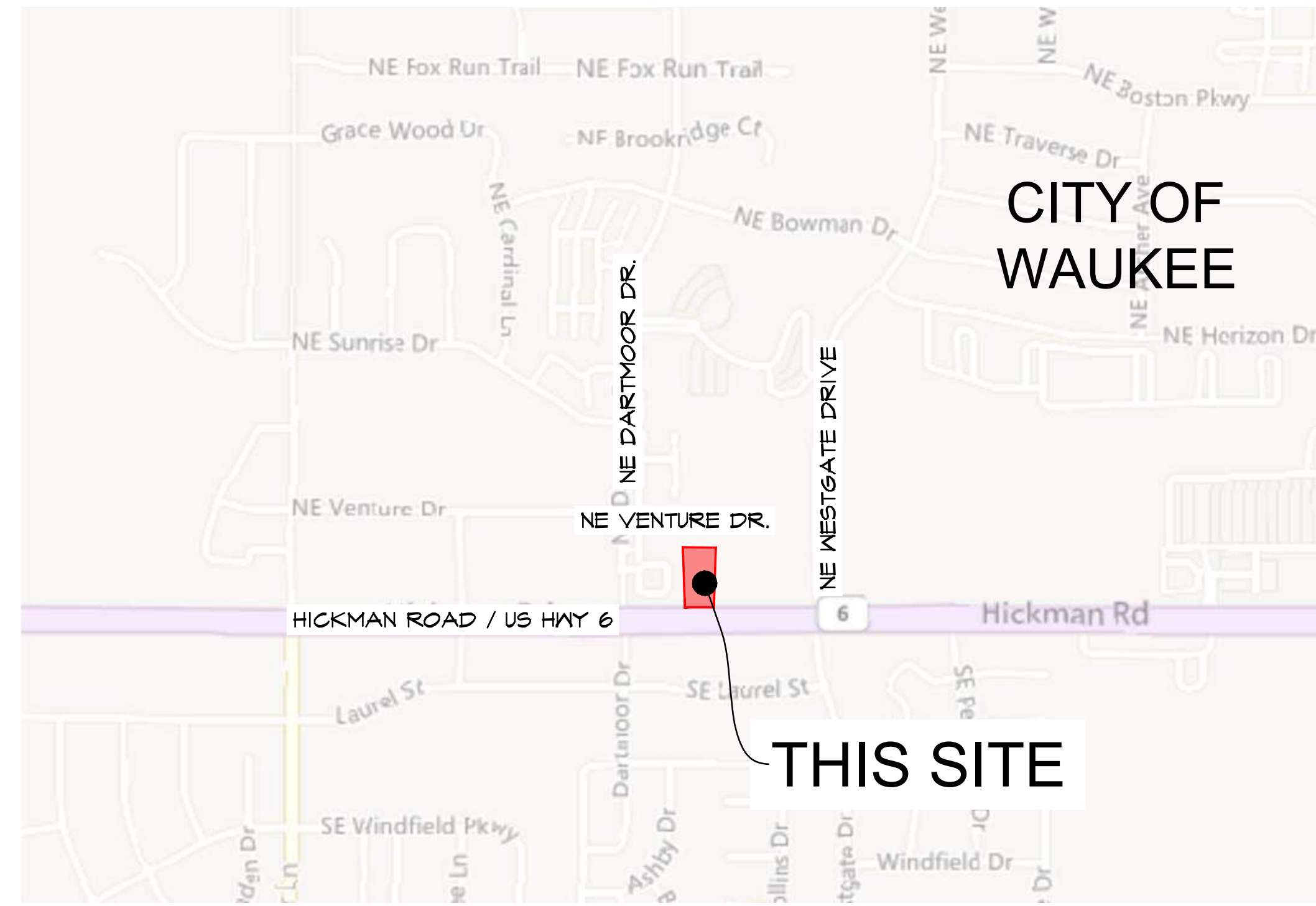
**ELECTRIC**  
MID AMERICAN ENERGY  
666 GRAND AVENUE  
DES MOINES, IA 50309  
CONTACT: DAVE HARRIS  
PHONE: 515-252-6130

**TELEPHONE**  
CENTURY LINK  
2103 E UNIVERSITY  
DES MOINES, IA 50317  
CONTACT: DAVE HARRIS  
PHONE: 303-263-1250

**BUILDING DEPARTMENT**  
204 W HICKMAN ROAD  
WAUKEE, IA 50263  
CONTACT: KEITH RASH  
PHONE: 515-478-1943

**HEALTH DEPARTMENT**  
DALLAS COUNTY PUBLIC HEALTH  
25747 N AVENUE  
ADEL, IA 50003  
PHONE: 515-943-3750

**FIRE DEPARTMENT**  
1300 SE LA GRANT PKWY  
WAUKEE, IA 50263  
FIRE MARSHALL: JUSTIN FREDERICK  
PH: 515-478-7918  
EMAIL: JFREDERICK@WAUKEE.ORG



VIGNITY MAP  
1" = 1000'

**EXISTING USE**  
OPEN SPACE

**PROPOSED USE**  
COMMERCIAL RETAIL

**ZONING / LAND USE:**  
C-1B LARGE SCALE COMMERCIAL DISTRICT  
PD-1 PLANNED DEVELOPMENT OVERLAY  
(BK 2017, PG. 2513B)

**BULK REGULATIONS**  
(BK 2017, PG. 2513B)  
FRONT YARD SETBACK = 50 FEET  
SIDE YARD SETBACK = 0 FEET  
SIDE YARD SETBACK = 20 FEET IF ADJACENT TO 'R' DISTRICT  
REAR YARD SETBACK = 50 FEET  
MAXIMUM HEIGHT = 40 FEET

**SITE AREAS**  
IMPERVIOUS 39,422 SQ. FT. 65.58%  
OPEN SPACE 20,640 SQ. FT. 34.42%  
TOTAL = 1.38 AC = 60,112 SQ. FT. 100.00%

**OPEN SPACE REQUIREMENTS**  
REQUIRED: 60,112 SQ. FT. X 20% = 12,022 SQ. FT.  
PROPOSED: 20,640 SQ. FT.

**PROPOSED BUILDING USE**  
LUXURY TUNNEL CARWASH  
MAXIMUM HEIGHT = 33'

**PARKING REQUIREMENTS - CARWASH**  
REQUIRED 2/1000 S.F.  
BUILDING INTERIOR: 10,100 S.F.  
REQUIRED SPACES: 21 SPACES  
PROVIDED SPACES: 21 SPACES INCLUDING ONE (1) ADA SPACE

**ESTIMATED EMPLOYEES:**  
12 EMPLOYEES / LARGEST SHIFT

**BENCHMARK**  
FRAIRIE CROSSING PLAT 3, WAUKEE, IOWA  
BURY BOLT ON HYD. EAST SIDE OF NE WESTGATE DR. AND  
20' SOUTH OF CL OF NE HORIZON DR.

ELEV. = 1027.480

**DRAWING INDEX**

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4	S.U.D.A.S. DETAILS 'B'
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6	STORMTECH® SC-140 CHAMBER DETAILS
7	STORMTECH® SC-140 CHAMBER DETAILS CONT.
8	DIMENSION PLAN
9	GRADING PLAN
10	UTILITY PLAN - SANITARY
11	UTILITY PLAN - STORM SEWER
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**PROPOSED CONSTRUCTION SCHEDULE**

GRADING ACTIVITIES: OCTOBER, 2023  
UTILITY PLACEMENT: OCTOBER, 2023  
PAVEMENT: NOVEMBER 2024 - APRIL 2023  
PUNCH LIST ITEMS: JUNE, 2024

**APPLICANT / DEVELOPER:**

1814 VENTURES LLC  
ATTN: CHAD GALLOWAY  
610 KESSLER BLVD WEST DRIVE  
INDIANAPOLIS, IN, 46228, USA  
EMAIL: CHAD.GALLOWAY@KCP SURGICAL.COM  
PHONE: 317-448-0319

**PROPERTY OWNER:**

FRIDLEY PROPERTIES LLC  
ATTN: RUSSELL VANNORSDEL  
1321 WALNUT STREET  
DES MOINES IA 50304  
EMAIL: RUSSELL@FRIDLEYTHEATRES.COM

**PROJECT MANAGER:**

JEFFREY A. GADDIS, PLS  
CIVIL ENGINEERING CONSULTANTS  
2400 86TH STREET, #12  
URBANDALE, IOWA 50322  
PH. 515-276-4884 EXT. #221  
EMAIL: GADDIS@CECLAC.COM

**PROFESSIONAL LAND SURVEYOR:**

JEFFREY A. GADDIS, PLS  
CIVIL ENGINEERING CONSULTANTS  
2400 86TH STREET, #12  
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515-276-4884 EXT. 221  
GADDIS@CECLAC.COM

**MUNICIPALITY PLANNER:**

MELISSA DEBOER, AICP  
PLANNER  
CITY OF WAUKEE  
515-478-7918  
EMAIL: MDEBOER@WAUKEE.ORG

**LEGAL DESCRIPTION:**

LOT 4, FRIDLEY PALMS PLAT 1, AN OFFICIAL PLAT RECORDED IN BOOK 2018, PAGE 5310 AT THE DALLAS COUNTY RECORDER'S, CITY OF WAUKEE, DALLAS COUNTY, IOWA AND CONTAINING 1.38 ACRES MORE OR LESS

**EASEMENT NOTES:**

1. THE CITY IS NOT RESPONSIBLE FOR REMOVAL OR REPLACEMENT OF ANY PRIVATE IMPROVEMENTS WITHIN THE EXISTING SANITARY SEWER EASEMENT RECORDED IN BOOK 2018, PAGE AT THE DALLAS COUNTY RECORDER'S OFFICE.

**CERTIFICATION**

	<p>I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.</p> <p style="text-align: center;"><b>PRELIMINARY</b></p> <p>SHANE J. DEVIK, IOWA LIC. NO. 16507 DATE MY LICENSE RENEWAL DATE IS DECEMBER 31, 2024 PAGES OR SHEETS COVERED BY THIS SEAL:</p> <p style="text-align: center;">SHEETS 1 - 21</p>
	<p>I HEREBY CERTIFY THAT THIS LAND SURVEYING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF IOWA.</p> <p style="text-align: center;"><b>PRELIMINARY</b></p> <p>JEFFREY A. GADDIS, IOWA LICENSE NO. 18381 DATE MY LICENSE RENEWAL DATE IS DECEMBER 31, 2024</p> <p style="text-align: center;">SHEETS 1 - 21</p>
	<p>I HEREBY CERTIFY THAT THE PORTION OF THIS TECHNICAL SUBMISSION DESCRIBED BELOW WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF IOWA.</p> <p style="text-align: center;"><b>PRELIMINARY</b></p> <p>BY: KENT R. ZARLEY, IOWA REG. NO. 257 MY LICENSE RENEWAL DATE IS: JUNE 30, 2025 PAGES OR SHEETS COVERED BY THIS SEAL:</p>



Civil Engineering Consultants, Inc.  
2400 86th Street, Unit 12 Urbandale, Iowa 50322  
515.276.4884 mail@ceclac.com



DATE: Oct. 9, 2023  
4TH & 5TH SUB. ...  
2ND SEP 15, 2023 & 3RD SUB. OCT. 09, 2023  
1ST SUB. AUG. 22, 2023  
DATE OF SURVEY: AUG. 22, 2023  
DESIGNED BY: JAG  
DRAWN BY: JAG

PRIME CARWASH  
355 E HICKMAN ROAD, WAUKEE, IA  
COVER

SHEET  
—  
OF 21

**GENERAL NOTES**

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH 2023 EDITION OF CITY OF WAUKEE STANDARD SPECIFICATIONS AND 2023 EDITION OF S.U.D.A.S. STANDARD SPECIFICATIONS. CONTRACTOR SHALL ARRANGE FOR TESTING AND INSPECTION AND NOTIFY FOLLOWING AT LEAST ONE WEEK PRIOR TO BEGINNING CONSTRUCTION:
  - CITY OF WAUKEE PUBLIC WORKS DEPARTMENT.
  - PRIME CAR WASH - BOBBY HATFIELD 1-317-363-2111
  - 1814 VENTURES LLC - GHAD GALLOWAY 1-317-449-0314
  - CIVIL ENGINEERING CONSULTANTS, INC. 1-515-276-4884 EXT221
  - IOWA ONE-CALL
- CONTRACTOR IS RESPONSIBLE FOR SETTING UP PRECONSTRUCTION MEETING WITH CITY OF WAUKEE ENGINEERING DEPARTMENT AT LEAST ONE WEEK PRIOR TO CONSTRUCTION.
- ALL TESTING IS TO BE COMPLETED PER CITY OF WAUKEE STANDARD SPECIFICATIONS. ALL TESTING IS TO BE WITNESSED BY CITY OF WAUKEE.
- LOCATION OF EXISTING FACILITIES AND APPURTENANCES SHOWN ON PLAN ARE BASED ON AVAILABLE INFORMATION WITHOUT UNCOVERING AND MEASURING TO DETERMINE EXACT FACILITIES LOCATIONS. CIVIL ENGINEERING CONSULTANTS, INC. DOES NOT GUARANTEE LOCATION OF EXISTING FACILITIES AS SHOWN OR THAT ALL EXISTING FACILITIES ARE SHOWN. IT IS CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL PUBLIC AND PRIVATE UTILITY PROVIDERS SERVING AREA AND IOWA ONE CALL TO DETERMINE EXTENT AND PRECISE LOCATION OF EXISTING FACILITIES BEFORE CONSTRUCTION BEGINS.
- CONTRACTOR SHALL PROTECT EXISTING ON-SITE FACILITIES FROM DAMAGE RESULTING FROM CONTRACTOR'S WORK. IF DAMAGE, BREAKAGE, INTERRUPTION OF SERVICE, ETC. OF EXISTING FACILITIES DOES OCCUR CONTRACTOR SHALL IMMEDIATELY CONTACT THE UTILITY'S OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY FARM TILE DAMAGE DURING CONSTRUCTION AND RECORDING LOCATION OF TILE.
- ANY CHANGES TO CONSTRUCTION DRAWINGS DURING CONSTRUCTION SHALL BE APPROVED IN WRITING BY CITY OF WAUKEE ENGINEERING DEPARTMENT.
- CONTRACTOR IS RESPONSIBLE FOR ANY CHANGES MADE DURING CONSTRUCTION THAT HAVE NOT BEEN APPROVED IN WRITING BY CITY OF WAUKEE ENGINEERING DEPARTMENT.
- CONTRACTOR SHALL NOTIFY CITY OF WAUKEE ENGINEERING DEPARTMENT 48-HOURS IN ADVANCE OF ANY WORK BEING PERFORMED ON HOLIDAY OR WEEKEND.
- ALL CONSTRUCTION STAKING SHALL BE PERFORMED UNDER DIRECT SUPERVISION OF LICENSED ENGINEER OR LAND SURVEYOR.
- ALL WORK SHALL BE CONDUCTED IN ACCORDANCE WITH O.S.H.A. CODES AND STANDARDS. NOTHING INDICATED ON PLANS SHALL RELIEVE CONTRACTOR FROM COMPLYING WITH ALL APPLICABLE SAFETY REGULATIONS.
- CONTRACTOR SHALL CONDUCT CLEAN-UP, SURFACE RESTORATION, AND SURFACE REPLACEMENT ACTIVITIES AS CONSTRUCTION PROGRESSES. ALL DEBRIS SPILLED ON R.O.W. OR ADJACENT PROPERTY SHALL BE PICKED UP BY CONTRACTOR AT END OF EACH DAY AND PRIOR TO ANY RAIN EVENT.
- IF DISCREPANCY EXISTS BETWEEN DETAILED PLANS AND QUANTITIES, PLANS SHALL GOVERN.
- SIDEWALKS AND PEDESTRIAN RAMPS ARE TO BE DESIGNED AND INSTALLED PER LATEST PROWAG AND ADA REQUIREMENTS. CURB RAMPS ARE TO BE STAKED OUT BY ENGINEERING DESIGN FIRM OR UNDER THE DIRECTION OF A PROFESSIONAL LAND SURVEYOR.
- ALL TEMPORARY TRAFFIC CONTROLS MUST BE IN CONFORMANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.).
- CONTRACTOR SHALL PROTECT AND BACK FILL AROUND UNDERGROUND UTILITIES. BACKFILL SHALL BE IN 6-INCH LIFTS, COMPACTED TO 95% STANDARD PROCTOR DENSITY, OR AS PRESCRIBED IN GEOTECHNICAL REPORT, WHICHEVER IS MORE STRINGENT.
- CIVIL ENGINEERING CONSULTANTS, INC. IS NOT A GEOTECHNICAL ENGINEER.
22. GEOTECHNICAL REPORT CAN BE OBTAINED BY CONTACTING APPLICANT AND ASKING FOR GEOTECHNICAL REPORT PREPARED BY ALLENDER BUTZKE ENGINEERS PN: 2312191.
- GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL DEWATERING ACTIVITIES.
- CONTRACTOR TO PROVIDE SUBMITTALS OF CONSTRUCTION MATERIALS PRIOR TO CONSTRUCTION

**GRADING NOTES**

- ONE WEEK PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY:
  - CITY OF WAUKEE - ENGINEERING DEPARTMENT
  - WAUKEE CROSSING, LLC
  - CIVIL ENGINEERING CONSULTANTS, INC. PHONE: 515.276.4884
  - IOWA ONE-CALL
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF WAUKEE STANDARD SPECIFICATIONS, CODES, AND POLICIES, S.U.D.A.S., AND IN ACCORDANCE WITH GEOTECHNICAL REPORT PREPARED BY ALLENDER BUTZKE ENGINEERS PN: 211373.
- ALL SPOT ELEVATIONS ARE AT GUTTER UNLO.
- WAUKEE EROSION AND SEDIMENT CONTROL ORDINANCE IS APPLICABLE TO SITE.
- LOCATIONS AND DIMENSIONS SHOWN ON PLANS FOR EXISTING UTILITIES ARE IN ACCORDANCE WITH AVAILABLE INFORMATION WITHOUT UNCOVERING AND MEASURING. ENGINEER DOES NOT GUARANTEE ACCURACY OF INFORMATION OR THAT ALL EXISTING UNDERGROUND FACILITIES ARE SHOWN. IT IS RESPONSIBILITY OF CONTRACTOR TO CONTACT ALL PUBLIC AND/OR PRIVATE UTILITIES SERVING AREA TO DETERMINE PRESENT EXTENT AND EXACT LOCATION OF FACILITIES BEFORE BEGINNING WORK.
- CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT UTILITIES OR STRUCTURES AT SITE. IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO NOTIFY OWNERS OF UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK. CONTRACTOR SHALL NOTIFY PROPER UTILITY IMMEDIATELY UPON BREAKING OR DAMAGE TO ANY UTILITY LINE OR APPURTENANCE, OR INTERRUPTION OF SERVICE. IF EXISTING UTILITY LINES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, CONTRACTOR SHALL NOTIFY ENGINEER SO THAT CONFLICT MAY BE RESOLVED.
- STRIP TOPSOIL FROM ALL AREAS WHICH ARE TO RECEIVE STRUCTURAL FILL.
- AREAS TO RECEIVE FILL TO BE BENCHED.
- PREPARE BOTTOM OF BENCH FOR FILL BY DISCING TO DEPTH OF 6-INCHES AND COMPACT. ANY LOCALIZED AREAS WHICH CANNOT BE SATISFACTORILY COMPACTED OR WHICH SHOW EVIDENCE OF PUMPING ACTION SHALL BE UNDERCUT AND RECOMPACTED WITH ON-SITE FILL.
- ALL SITE GRADING FILL SHALL BE COMPACTED TO DENSITY NOT LESS THAN 95% STANDARD PROCTOR.
- ALL AREAS WHICH ARE TO RECEIVE PAVING SHALL HAVE TOP 12-INCHES DISCED AND RECOMPACTED TO 95% STANDARD PROCTOR DENSITY.
- MOISTURE CONTENT OF FILL MATERIAL SHALL MATCH URBAN STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS, BETWEEN 0% AND 4% OVER OPTIMUM MOISTURE.
- MAINTAIN ALL CUT AND FILL AREAS FOR SURFACE DRAINAGE AT ALL TIMES.
- ALL FINAL GRADES SHALL BE WITHIN 0.1' OF FINISHED GRADE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ALL TOPSOIL REQUIREMENTS OF GENERAL PERMIT #2 ARE MET.
- BACKFILL TO TOP OF ALL CURBS.
- ANY CONFLICTS BETWEEN THESE DRAWINGS AND GEOTECHNICAL REPORT, FOLLOW GEOTECHNICAL REPORT.

**PAVING NOTES**

- SIDEWALKS AND PEDESTRIAN RAMPS ARE TO BE DESIGNED AND INSTALLED PER LATEST PROWAG REQUIREMENTS. CURB RAMPS ARE TO BE STAKED OUT BY THE ENGINEERING DESIGN FIRM OR UNDER THE DIRECTION OF A PROFESSIONAL LAND SURVEYOR.
- ALL PAVING SHALL BE 6-INCH NON-REINFORCED P.C.C. UNLESS NOTED OTHERWISE (SEE PAVING DETAIL SHEETS)
- ALL PUBLIC TRAILS, SIDEWALKS & RAMPS TO BE 6-INCH (MIN) NON REINFORCED P.C.C.
- ALL PRIVATE TRAILS & SIDEWALKS TO BE 4-INCH (MIN) NON-REINFORCED P.C.C.
- ALL DRIVES & PARKING SHALL HAVE 6-INCH CURBS UNLESS NOTED OTHERWISE
- ALL PAVEMENT MARKINGS SHALL BE DURABLE. COLOR AS SELECTED.
- PREPARED SUBGRADE TO BE COMPACTED TO 95% STANDARD PROCTOR, OR AS PRESCRIBED IN GEOTECHNICAL REPORT, WHICHEVER IS MORE STRINGENT.
- ALL PAVED AREAS TO CONDUCT A PROOF-ROLL TEST IN PRESENCE OF GEOTECHNICAL ENGINEER, AS PRESCRIBED BY GEOTECHNICAL ENGINEER.

**FIRE SAFETY CONSTRUCTION NOTES:**

- APPROVED FIRE APPARATUS ACCESS ROADS SHALL BE PROVIDED WHEN CONSTRUCTION BEGINS.
- IF PAVING IS NOT INSTALLED PRIOR TO BUILDING CONSTRUCTION AFTER FOOTING INSTALLATION, AN APPROVED ROUTE AROUND EXTERIOR OF BUILDING TO EXTEND TO WITHIN 100 FEET OF ALL PORTIONS OF EXTERIOR WALLS SHALL BE PROVIDED AND COMPLY WITH I.F.C. SECTION 503.2.

**MISCELLANEOUS NOTES:**

- ALL DEBRIS AND SOILS SPILLED OR TRACKED INTO PUBLIC RIGHT-OF-WAY SHALL BE CLEANED UP AT END OF EACH WORK DAY AND PRIOR TO A RAIN EVENT.
- THIS PROJECT INCLUDES SAW-CUTTING AND/OR CONCRETE GRINDING, STORM SEWERS AND DRAINAGEWAYS ARE REQUIRED TO BE PROTECTED FROM CONCRETE SLURRY CREATED BY SAWCUTTING AND CONCRETE GRINDING.

**WATER NOTES**

- FOLLOW WAUKEE STANDARD SPECIFICATIONS FOR PIPE MATERIALS, FIRE HYDRANTS, CURB STOPS, VALVES AND INSTALLATION.
- CONTRACTOR SHALL PROTECT AND BACKFILL AROUND ALL UTILITIES AND STRUCTURES. BACKFILL SHALL BE IN ACCORDANCE WITH WAUKEE STANDARD SPECIFICATIONS.
- HYDRANTS, MANHOLE COVERS AND VALVE BOXES SHALL BE SET TO CONFORM TO FINISHED PAVEMENT ELEVATIONS.
- HYDRANTS SHALL BE SET NOT MORE THAN 4 FEET FROM CENTER OF WATER MAIN U.N.O.
- AN APPROVED SADDLE SHALL BE USED FOR ALL WATER SERVICE TAPS.
- ALL SERVICE LINES SHALL BE TESTED WITH WATER MAIN.
- WHERE STORM SEWERS CROSS OVER OR LESS THAN 18-INCHES BELOW WATER MAIN:
  - PROVIDE FLEXIBLE O-RING-GASKET JOINTS MEETING ASTM C443 AT A MINIMUM OF 10 FEET ON EACH SIDE OF THE WATER MAIN CROSSING.
  - SEWER MUST BE ADEQUATELY SUPPORTED.
  - LOW PERMEABLE SOIL SHALL BE USED FOR BACKFILL WITHIN 10' OF POINT OF CROSSING.
- ALL HYDRANTS SHALL HAVE 5" STORZ FITTINGS INCLUDING ANY RELOCATED HYDRANTS.
- WATER MAIN DEPTH BURIED SHALL BE MINIMUM OF 5'-6".

**CRITICAL CROSSING NOTES:**

THE HORIZONTAL SEPARATION DISTANCE BETWEEN A WATER MAIN AND A SANITARY SEWER OR STORM SEWER MUST BE AT LEAST 10 FEET, UNLESS:

- TOP OF SEWER IS AT LEAST 18 INCHES BELOW BOTTOM OF WATER MAIN, AND
- THE SEWER IS PLACED IN SEPARATE TRENCH OR IN SAME TRENCH ON A BENCH OF UNDISTURBED EARTH AT MINIMUM HORIZONTAL SEPARATION OF 3 FEET FROM WATER MAIN
- WHEN IT IS IMPOSSIBLE TO OBTAIN REQUIRED HORIZONTAL CLEARANCE OF 3 FEET AND VERTICAL CLEARANCE OF 18 INCHES BETWEEN SEWERS AND WATER MAINS, SEWERS MUST BE CONSTRUCTED OF WATER MAIN MATERIAL MEETING REQUIREMENTS OF SUDAS SPECIFICATIONS SECTION 5010, 2.01. HOWEVER PROVIDE MINIMUM HORIZONTAL SEPARATION OF AT LEAST 2 FEET.

THE VERTICAL SEPARATION DISTANCE BETWEEN A WATER MAIN AND A SANITARY SEWER OR STORM SEWER SHALL BE AT LEAST 18 INCHES WHEN MEASURED FROM THE TOP OF THE SEWER TO THE BOTTOM OF THE WATER MAIN:

- WHERE THE SANITARY SEWER MUST CROSS OVER THE WATER MAIN OR BELOW THE WATER MAIN BUT AT LESS THAN 18 INCHES, THE SANITARY SEWER MUST BE REPLACED WITH WATER MAIN MATERIAL 20 FEET CENTERED OVER THE WATER MAIN AND MUST MAINTAIN A MINIMUM VERTICAL CLEARANCE OF 18 INCHES OVER THE WATER MAIN OR 6 INCHES BELOW THE WATER MAIN.
- WHERE THE STORM SEWER MUST CROSS OVER THE WATER MAIN OR BELOW THE WATER MAIN BUT AT LESS THAN 18 INCHES, THE STORM SEWER MUST BE REPLACED WITH WATER MAIN MATERIAL 20 FEET CENTERED OVER THE WATER MAIN AND MUST MAINTAIN A MINIMUM VERTICAL CLEARANCE OF 18 INCHES OVER THE WATER MAIN OR 6 INCHES BELOW THE WATER MAIN.

**SANITARY NOTES**

- CASTING TYPES ARE FROM S.U.D.A.S. SPECS.
- CONNECTIONS TO EXISTING MANHOLES ARE TO BE CORE DRILLED AND USE LINK SEAL.
- CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING AS-BUILT LOCATIONS OF ALL SANITARY SEWER SERVICES & PROVIDING INFORMATION TO ENGINEER.
- CONTRACTOR SHALL CLEAN AND TELEVIEW THE SANITARY SEWER AT PROJECT COMPLETION.
- ALL MANHOLES AND MANHOLE CASTINGS MUST BE ROTATED AS REQUIRED TO AVOID MANHOLE CONFLICTS WITH SIDEWALKS.
- ALL SANITARY MANHOLES SHALL BE VACUUM TESTED.
- ONE WEEK PRIOR TO SANITARY SEWER CONSTRUCTION, CONTRACTOR SHALL NOTIFY CITY OF WAUKEE
- PIPE MATERIALS PER WAUKEE STANDARD SPECIFICATIONS.

**STORM NOTES**

- ALL REINFORCE CONCRETE PIPE (RCP) IS CLASS III RCP
- ALL FLARED END SECTIONS SHALL HAVE SUDAS 4030.221 FOOTING, APRON GUARDS SUDAS 4030.224, & A 3" WIDE CLAY WATER STOP. THE LAST THREE SECTIONS OF PIPE SHALL BE TIED.
- ALL STORM SEWER ARE TO BE CLEANED AND TELEVIEWED UPON COMPLETION.
- PAVEMENT REINFORCEMENT IS REQUIRED WHERE EARTH COVER OVER STORM SEWERS IS LESS THAN 2 FEET.

**POST CONSTRUCTION NOTES**

- THE INDIVIDUAL LOT OWNER IS RESPONSIBLE FOR THE MAINTENANCE OF THE POST CONSTRUCTION FACILITIES. THIS INCLUDES THE STORM WATER PRETREATMENT STRUCTURE, WATER QUALITY UNDERGROUND DETENTION SYSTEM, AND ABOVE THE GROUND STORM WATER DETENTION BASIN WITHIN LOT 4, FRIDLEY PALMS PLAT I

POND MAINTENANCE PLAN FROM ISWMM SECTION 9.11 PG. 44	
ACTIVITY	SCHEDULE
INSPECT STORM INLETS, OUTLETS FOR DEBRIS. LOOK FOR SIGNS OF SEDIMENT ACCUMULATION, FLOW CHANNELIZATION, EROSION DAMAGE, LOCAL STREAMBANK INSTABILITY. CHECK THE OUTFALL FOR SIGNS OF SURFACE EROSION, SEEPAGE, OR TUNNELING ALONG OUTFALL PIPE.	AT LEAST ANNUALLY AND AFTER RAIN EVENTS OF 1.25" OR LARGER
CLEAN AND REMOVE DEBRIS FROM INLET AND OUTLET STRUCTURE.	AT LEAST THREE TIMES ANNUALLY
MONITOR VEGETATION AND PERFORM REPLACEMENT PLANTING AS NECESSARY.	ANNUALLY (AFTER SHORT-TERM ESTABLISHMENT PERIOD)
- EXAMINE STABILITY OF THE SAFETY BENCH AND SHORELINE EDGE - INSPECT FOR INVASIVE VEGETATION AND REMOVE WHERE POSSIBLE - INSPECT FOR DAMAGE TO THE EMBANKMENT AND INLET/OUTLET STRUCTURES; REPAIR AS NECESSARY - NOTE ANY SIGNS OF HYDROCARBON BUILD-UP AND REMOVE ACCORDINGLY	ANNUAL INSPECTION
REPAIR UNDERCUT OR ERODED AREAS.	WHEN OBSERVED
HARVEST WETLAND PLANTS THAT HAVE BEEN "CHOKED OUT" BY SEDIMENT ACCUMULATION.	ANNUALLY
REMOVE SEDIMENT WHEN TOTAL POOL VOLUME HAS BECOME REDUCED SIGNIFICANTLY (~25%), WHEN PLANTS ALONG POND EDGE ARE "CHOKED" WITH SEDIMENT OR THE POND BECOMES EUTROPHIC (ESTIMATED TIME: EVERY 10-20 YEARS).	AS NEEDED; WHEN APPROXIMATELY 6-INCHES OF DEPTH IS LOST IN THE PORTION LOCATED ON LOT 2, OR AS NOTED

**THE PRESERVER NOTES**

- THE PRESERVER SHALL BE MAINTAINED AND INSPECTED IN ACCORDANCE WITH MOMENTUM ENVIRONMENTAL'S PRESERVER INSPECTION AND MAINTENANCE MANUAL, THE MANUAL CAN BE OBTAINED BY CONTACTING THE ENGINEER.
  - THE PRESERVER SHALL BE MAINTAINED, AT A MINIMUM, TWICE ANNUALLY, IN THE SPRING AND FALL. REPORT, INSPECTION AND MAINTENANCE SHALL BE MORE STRINGENT. CLEANING AND SHALL OCCUR PRIOR TO HEAVY RAINFALL. FALL INSPECTION SHALL OCCUR AFTER LEAF FALL AND FALL STREET CLEANING AND SHALL OCCUR PRIOR TO SNOW/RAINFALL.
  - NOTEWORTHY ITEMS DURING INSPECTION SHALL INCLUDE (BUT NOT LIMITED TO):
    - POLLUTANT DEPTHS - OIL/FLOATABLES, SEDIMENT/SETTLABLE SOLIDS
    - SITE CONDITIONS - STABILIZATION, CONSTRUCTION ACTIVITY, EQUIPMENT WASH-DOWN, EROSION, WINTER SANDING
    - MAINTENANCE/CLEANING PERFORMANCE
    - POLLUTANT COMPOSITION - HYDROCARBONS (OIL, GAS, GREASE), TRASH, ORGANICS
    - WATER LEVELS - OCCUR AFTER SNOWMELT, BLOSSOM/SEED FALL AND SPRING STREET CLEANING
    - STRUCTURAL CONDITION - CASTINGS CONDITION, CHIMNEY CONDITION (ADJUSTING RING DETRIORATION, LEAKING/PROPER SEAL), SPALLING CONCRETE, PRESERVER COMPONENTS (CONDITION, CONNECTIONS, DEBRIS ACCUMULATION)
  - MAINTENANCE FREQUENCY SHALL BE DETERMINED BASED OFF OF INSPECTIONS AND THE POLLUTANT STORAGE VOLUME (POLLUTANT STORAGE VOLUME SHALL BE DETERMINED IN ACCORDANCE WITH MOMENTUM ENVIRONMENTAL'S PRESERVER INSPECTION AND MAINTENANCE MANUAL.
    - TYPICAL STRUCTURE CLEANOUT SHALL INCLUDE VACUUMING OUT THE WATER AND DEBRIS CONTAINED IN THE STRUCTURE. WATER CAN BE SPRAYED TO DISLODGE AND/OR MOVE DEBRIS FOR VACUUM COLLECTION. COLLECTED POLLUTANTS SHALL BE PROPERLY DISPOSED OF. CONFINED SHALL ENTRY PROCEDURES SHALL BE FOLLOWED IF PHYSICAL ACCESS IS NECESSARY.
    - STRUCTURAL CONDITION SHALL BE DETERMINED AFTER CLEANOUT OF THE STRUCTURE. ANY NECESSARY REPAIRS SHALL OCCUR AS SOON AS POSSIBLE.

**LEGEND**

(NOT ALL ITEMS IN LEGEND EXIST ON SUBJECT PROPERTY)

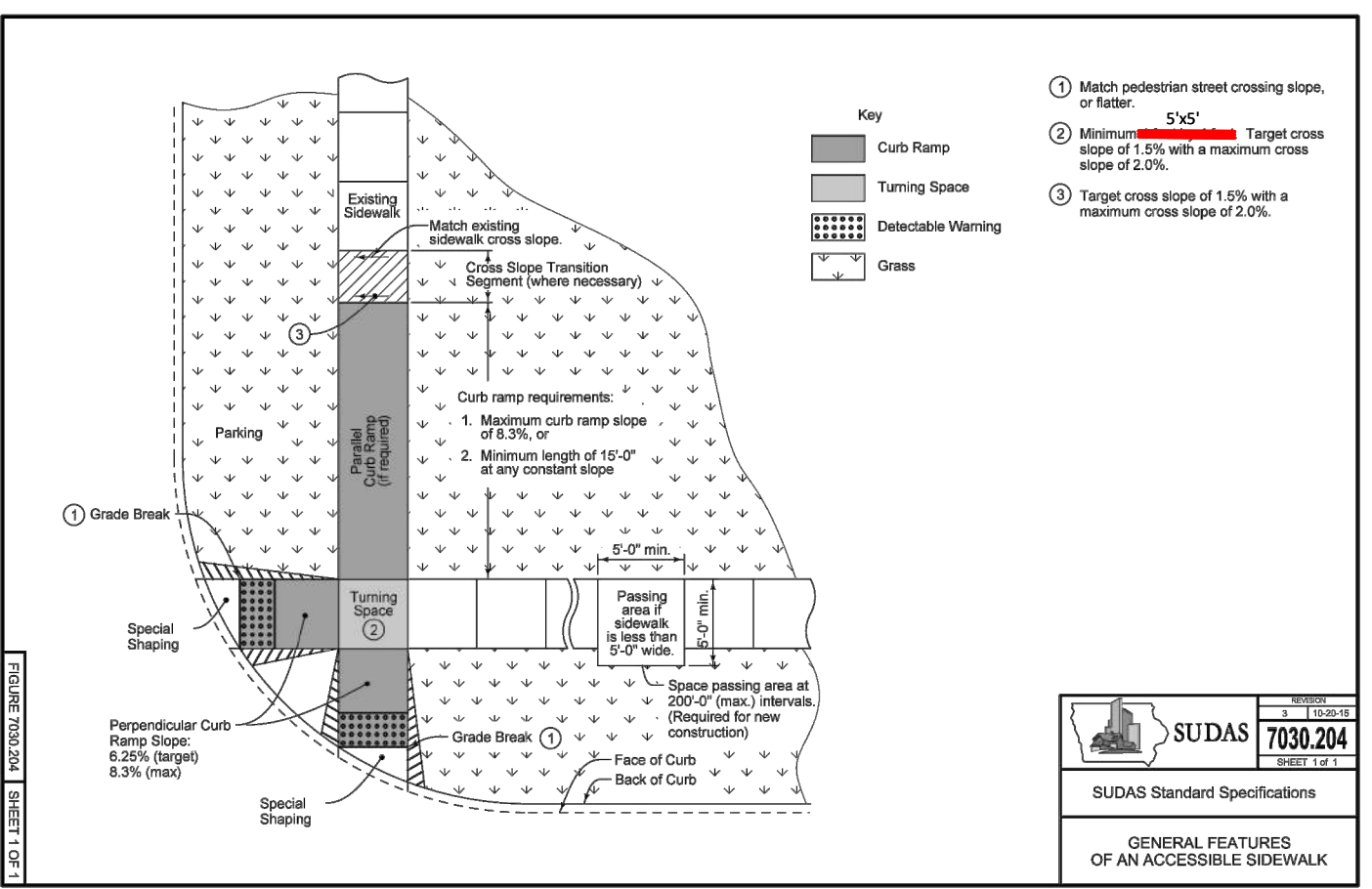
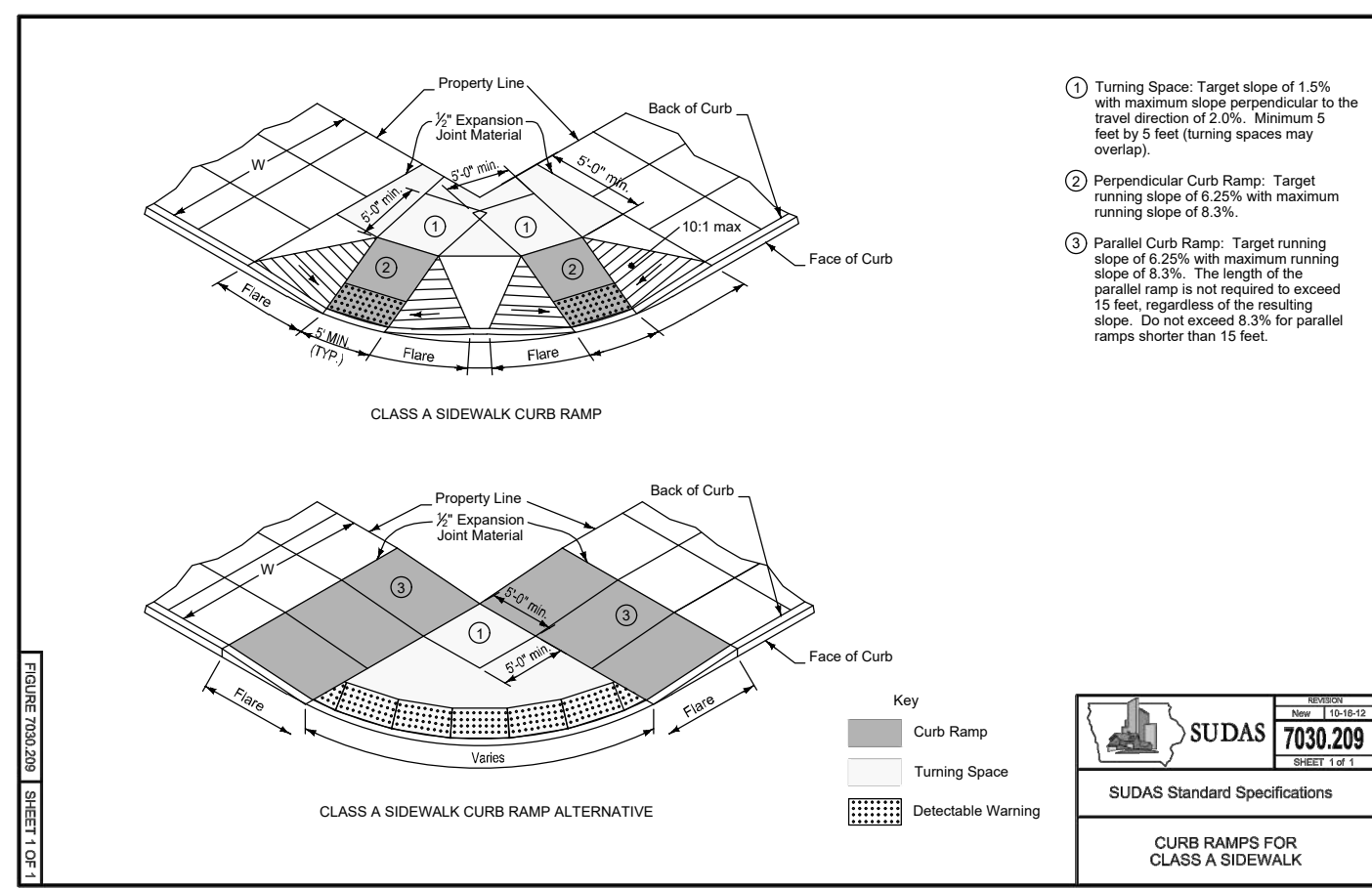
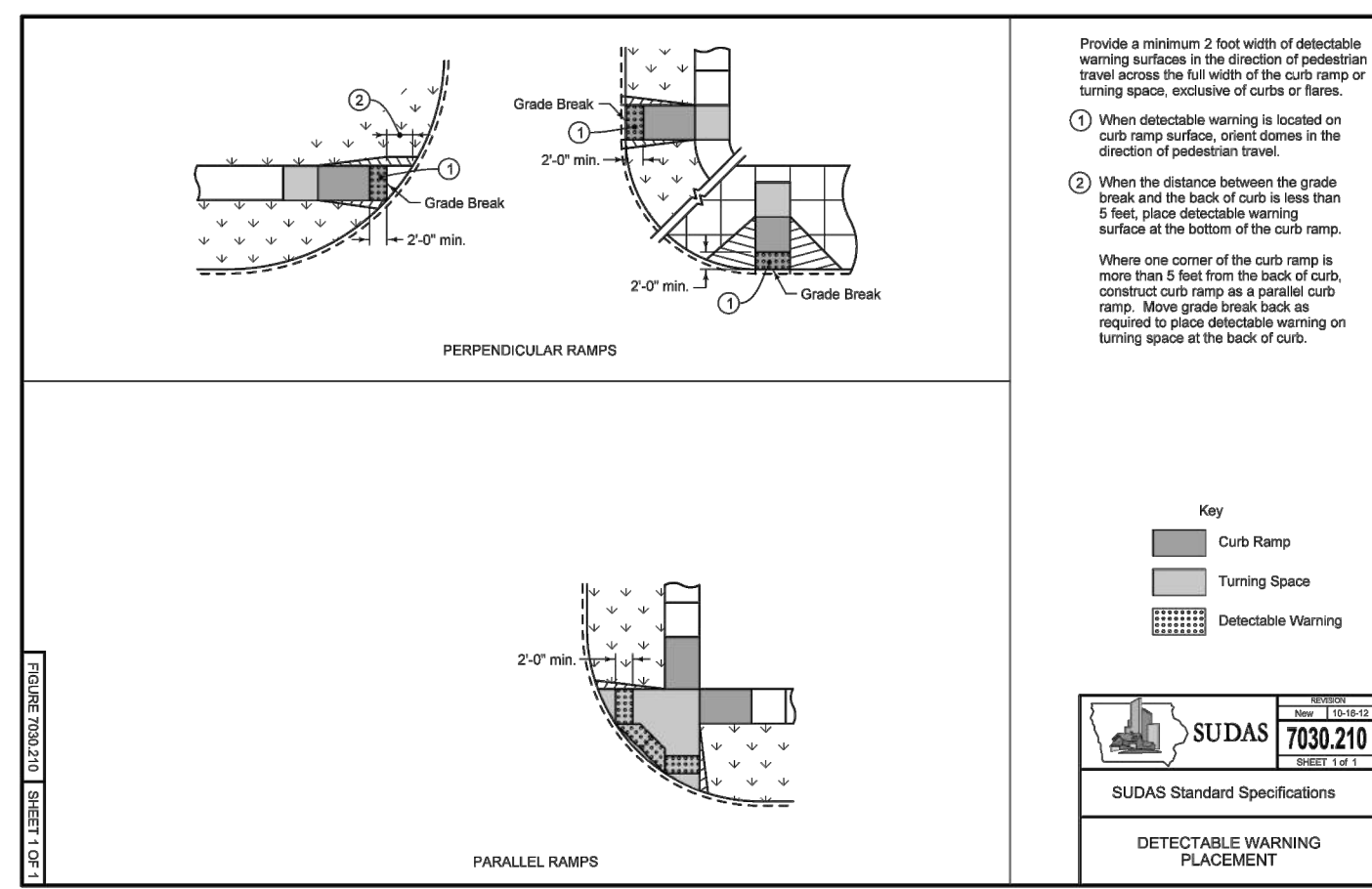
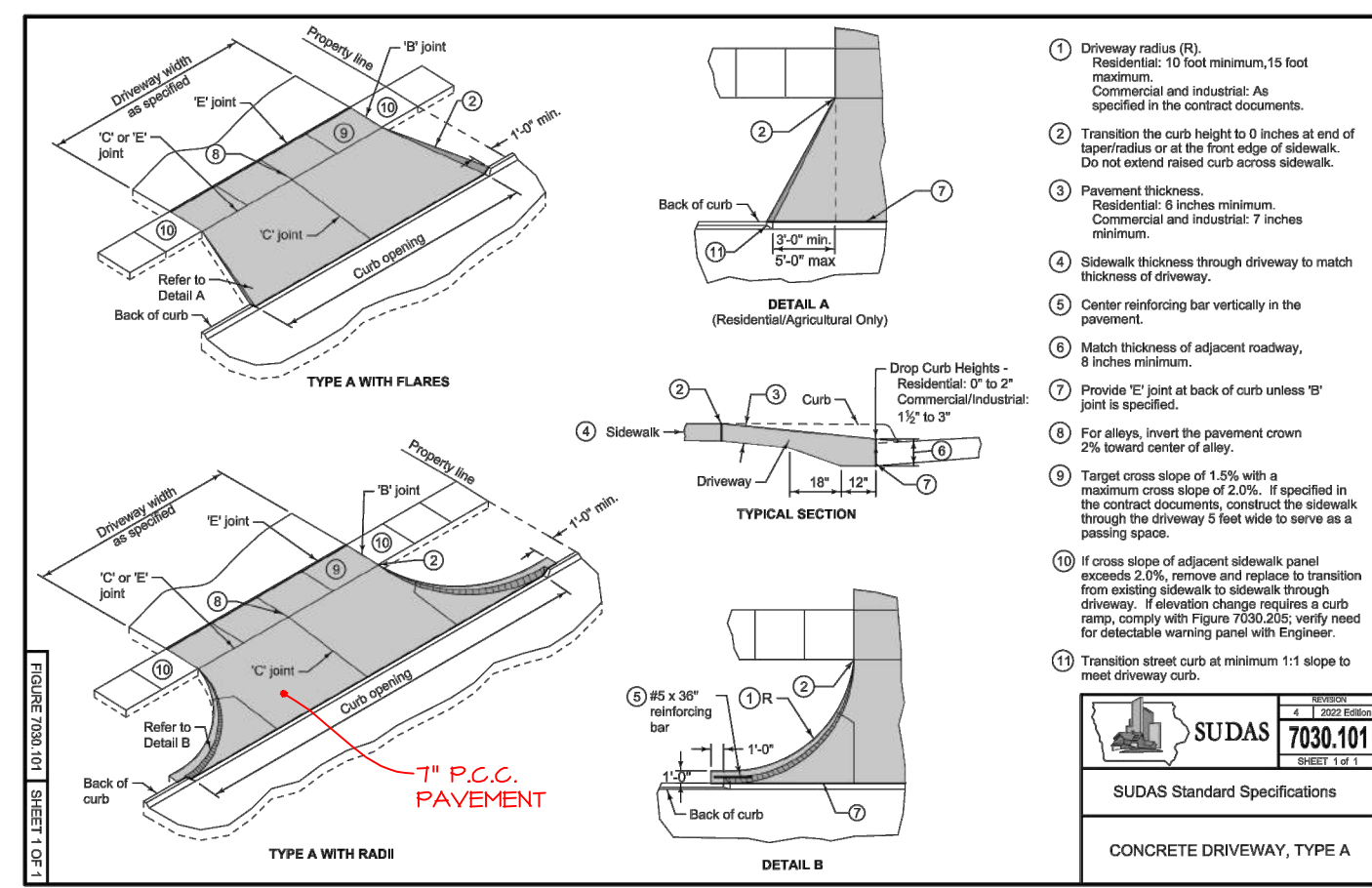
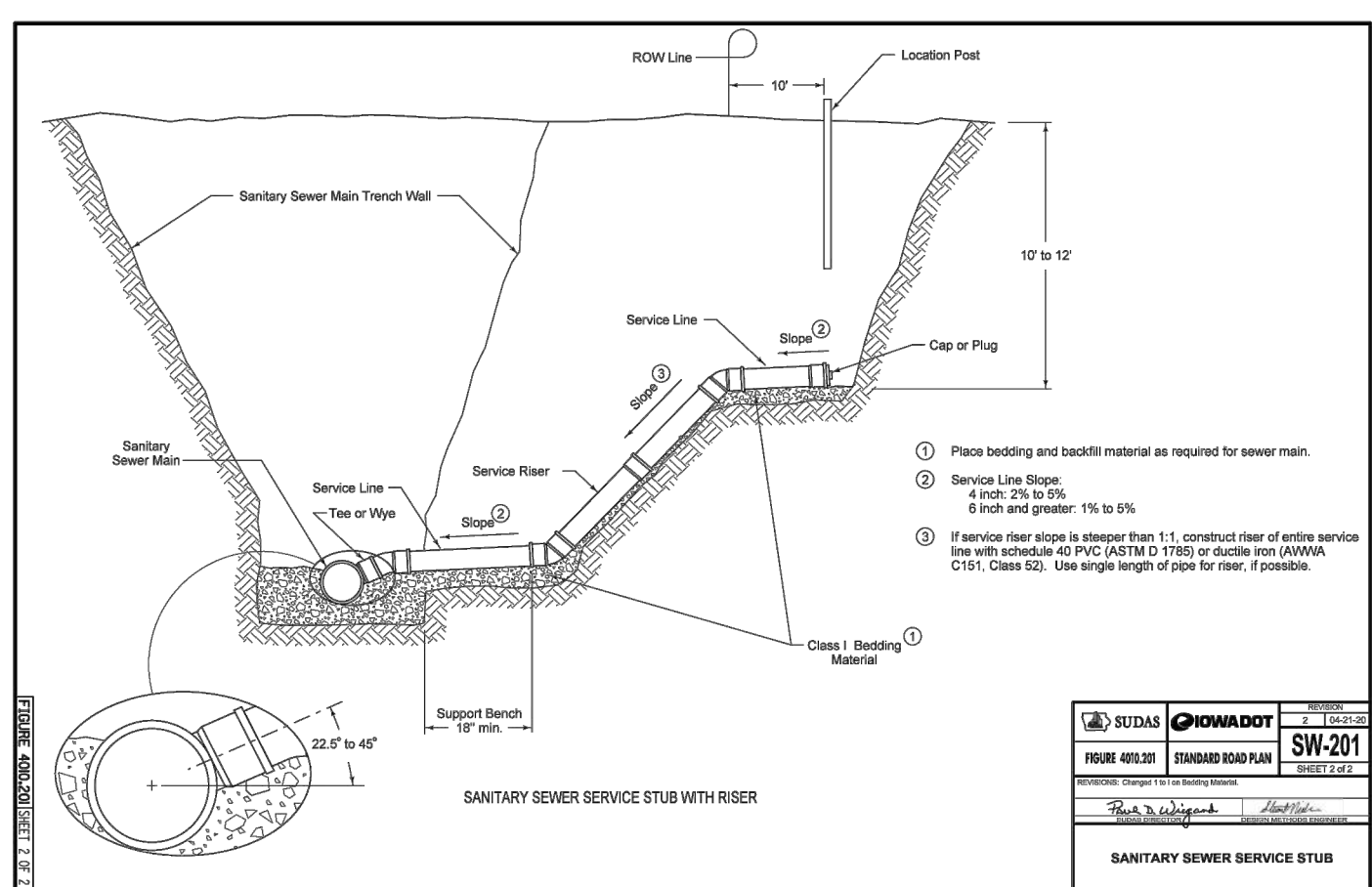
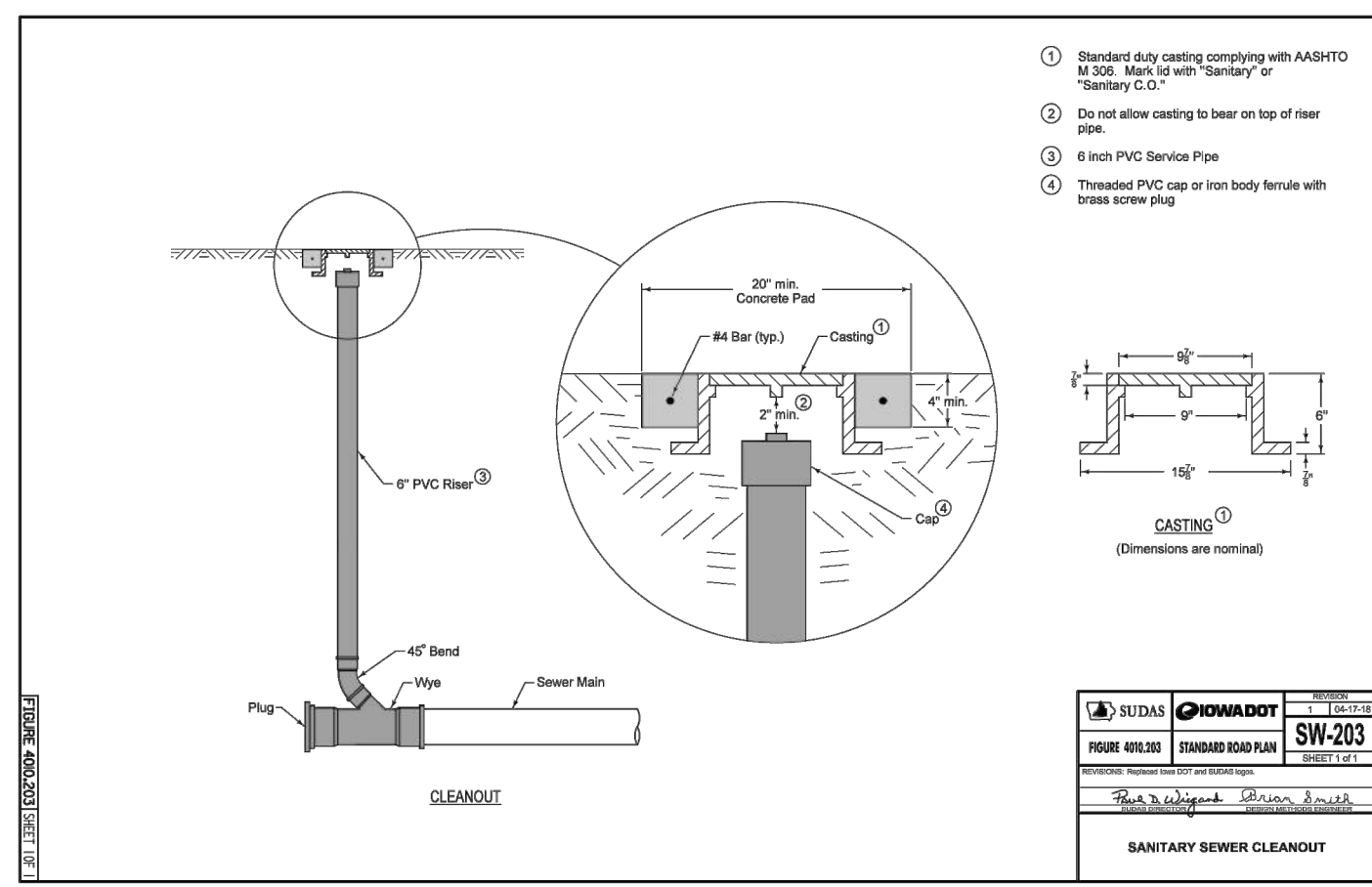
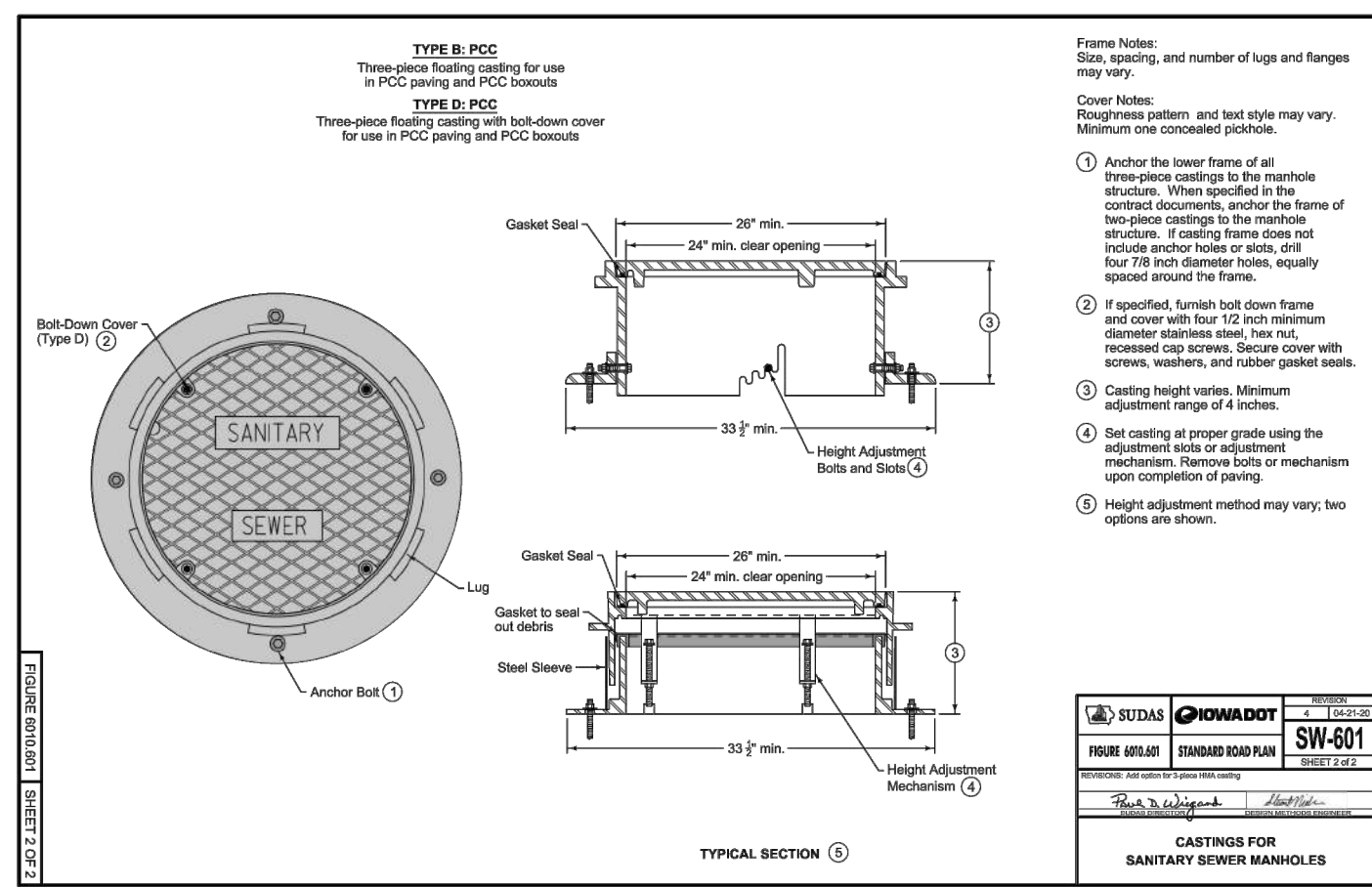
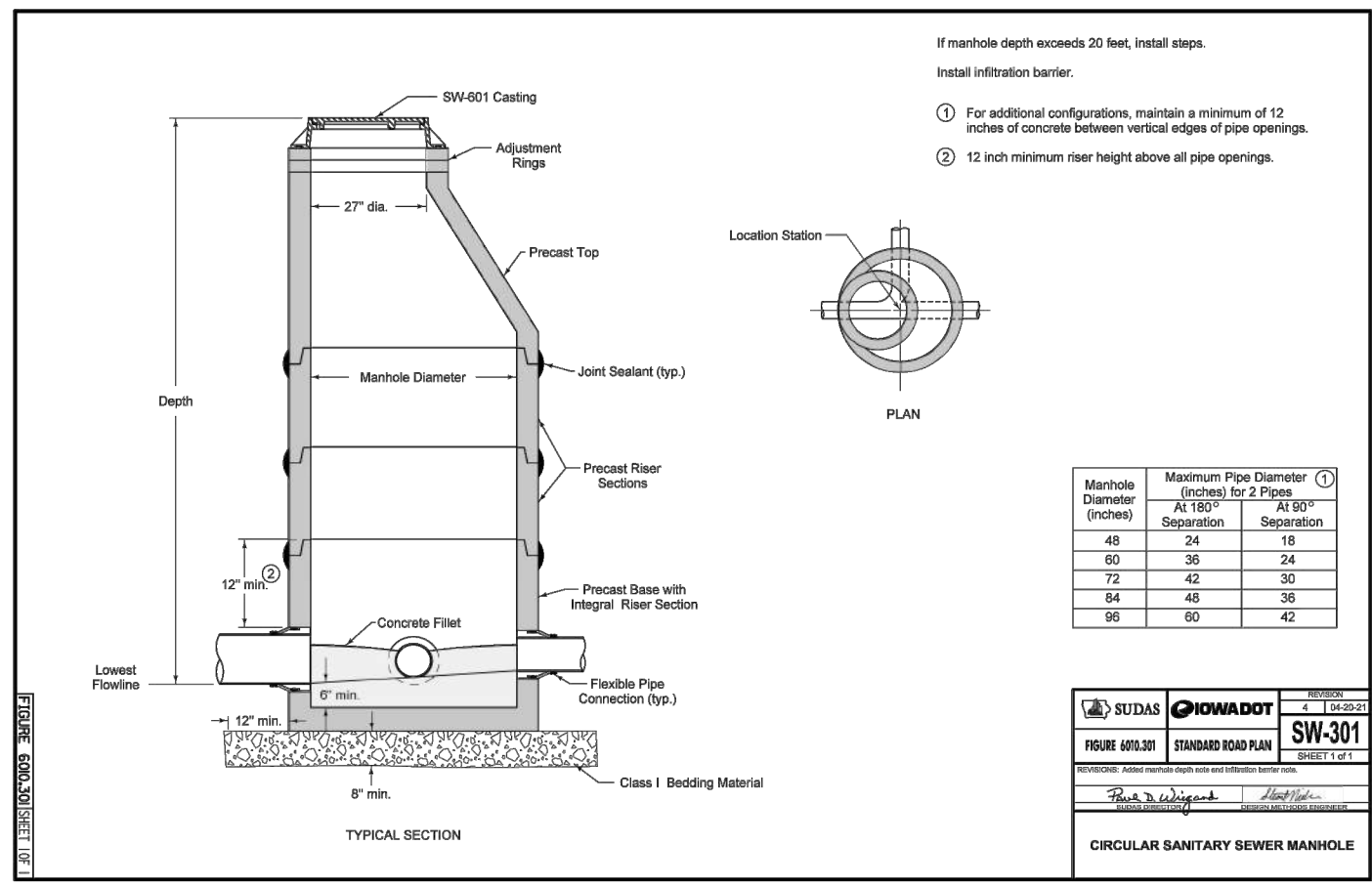
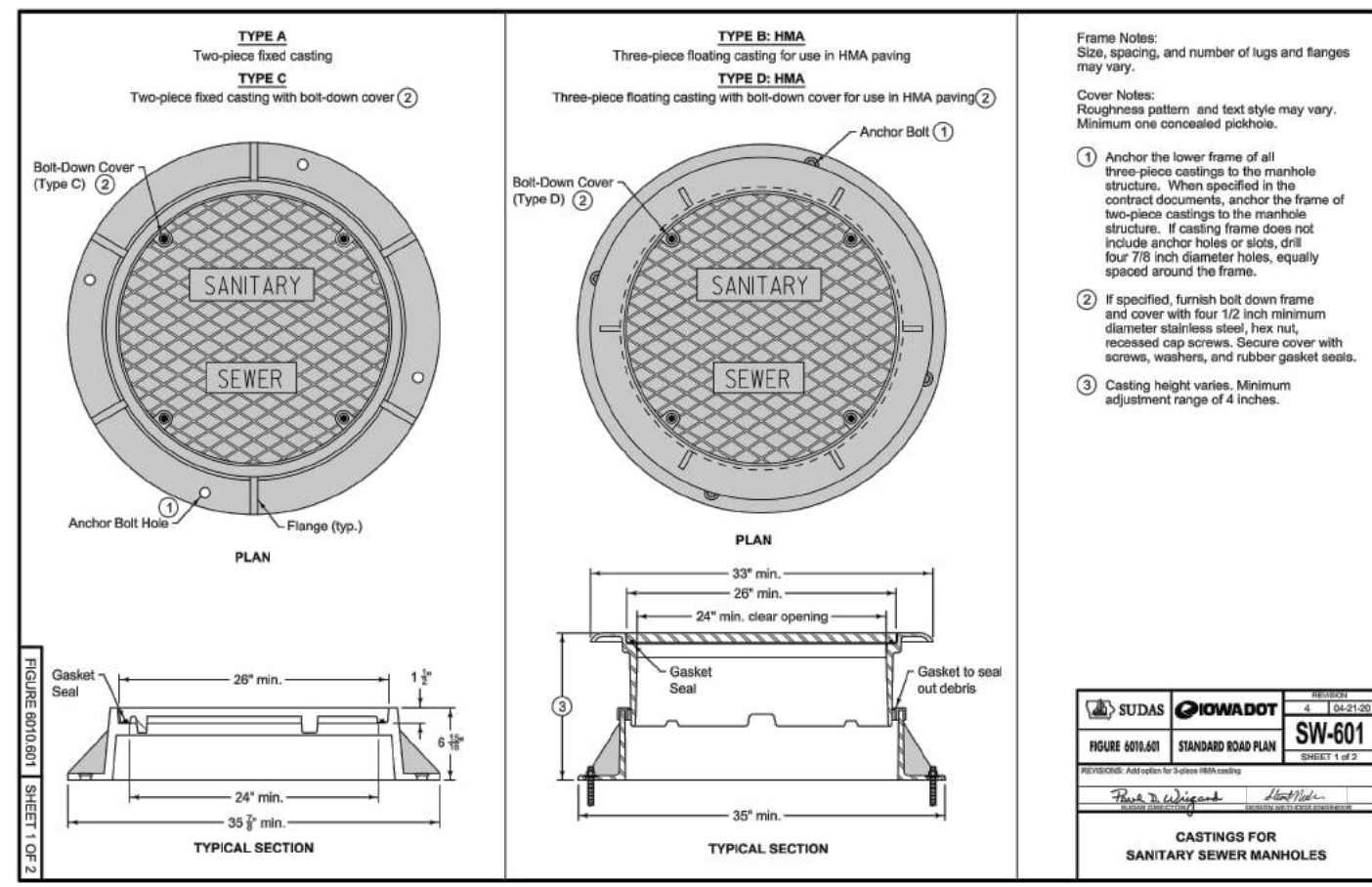
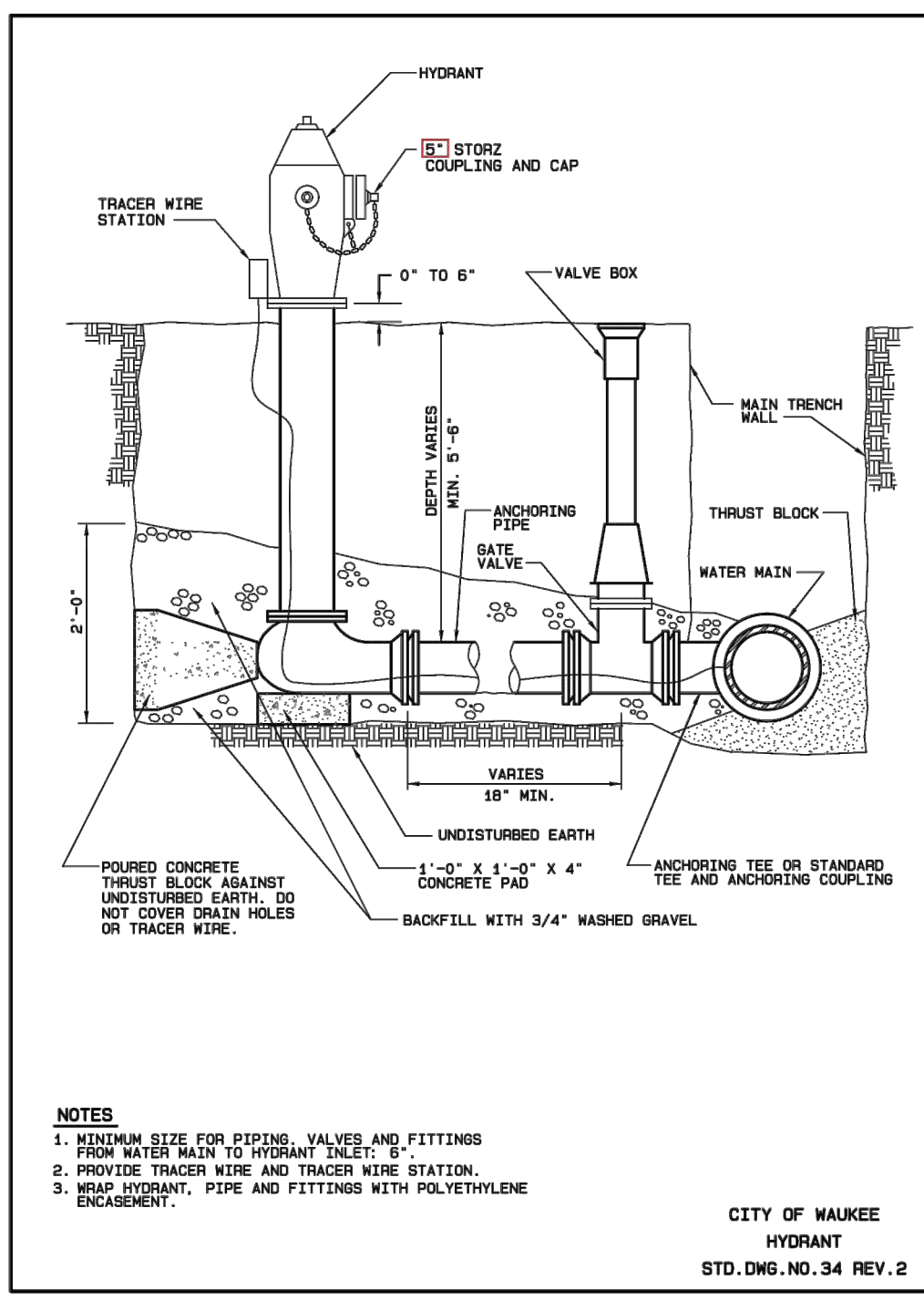
	C.E.C. CONTROL POINT & BENCHMARKS		SANITARY & STORM MANHOLE
	FOUND CORNERS		OPEN THROAT INTAKE OR M5 INTAKE
	SET PROPERTY CORNER (5/8" I.R. WELBIE CAP #10301 UNLESS OTHERWISE NOTED)		SINGLE & DOUBLE BACK OF CURB(B/C) INTAKE
	PROPERTY BOUNDARY		STORM AREA INTAKE
	LOT LINES		COMMUNICATIONS RISER
	ORIGINAL PLATTED LOT LINES		COMMUNICATIONS RISER
	TREE LINE		ELECTRIC TRANSFORMER
	EDGE OF ASPHALTIC CEMENT CONCRETE (HOT MIX ASPHALT + HMA)		ELECTRIC METER
	EDGE OF PORTLAND CEMENT CONCRETE (P.C.C.)		ELECTRIC BOX
	CURB & EDGE OF PORTLAND CEMENT CONCRETE SLAB		WOOD POWER POLE WITH LIGHT
	GUTTER		POWER POLE
	CENTERLINE STREET		STEEL STREET LIGHT POLE
	SIDEWALK		METAL LIGHT POLE
	EXISTING CHAIN LINK FENCE		GUTWIRE ANCHOR
	EXISTING PIPE FENCE		FIRE HYDRANT
	EXISTING WIRE FENCE		WATER MAIN GATE VALVE
	OVERHEAD WIRES (X = NUMBER OF WIRES)		WATER MAIN STOP BOX VALVE
	UNDERGROUND FIBER OPTIC LINES		SIGN
	STORM SEWER AND SIZE		DEEDED BEARING & DISTANCE
	SANITARY SEWER AND SIZE		PREVIOUSLY RECORDED BEARING & DISTANCE
	WATER MAIN AND SIZE		MEASURED BEARING & DISTANCE
	GAS MAIN AND SIZE		FINISHED FLOOR ELEVATION
	UNDERGROUND ELECTRIC		PORTLAND CEMENT CONCRETE
	UNDERGROUND CABLE TELEVISION LINE		ASPHALTIC CEMENT CONCRETE
	UNDERGROUND TELEPHONE LINE		CONCRETE MASONRY UNIT
	RETAINING WALL		FLAGPOLE
	EXISTING BUILDING		IRON ROD
	MAPS		IRON PIPE
	EST		COUNTY RECORDER'S INDEXING BOOK AND PAGE
	PLANS		EXISTING DECIDUOUS TREE & CALIPER SIZE (GRAPHIC TREE SIZE IS REPRESENTATIVE OF APPROXIMATE DRIP LINE)
	B/B		EXISTING EVERGREEN TREE & CALIPER SIZE (GRAPHIC TREE SIZE IS REPRESENTATIVE OF APPROXIMATE DRIP LINE)
	CI & DIP		BUILDING HEIGHT MEASURED FROM THE EXISTING GROUND TO PEAK (HEIGHT ACCURACY = +/- 0.5 FEET)
	VCP		PROPERTY ADDRESS
	RCP		
	RCB		
	CLEAN OUT		

Civil Engineering Consultants, Inc.  
2400 86th Street, Unit 12 Urbandale, Iowa 50322  
515.276.4884 mail@cecinc.com



DATE: Oct. 9, 2023  
4TH & 5TH SUB. ....  
2ND SEP 15, 2023 & 3RD SUB. OCT. 09, 2023  
1ST SUB. AUG. 22, 2023  
DATE OF SURVEY: AUG. 22, 2023  
DESIGNED BY: JAG  
DRAWN BY: JAG

PRIME CARWASH  
335 E HICKMAN ROAD, WAUKEE, IA  
NOTES & LEGEND



Refer to SW-514 for baseout details.

- Cast-in-place base shown. If base is precast integral with bottom riser, the footprint of the base is not required to extend beyond the outer edge of the riser.
- For additional configurations, maintain a minimum of 12 inches of concrete between vertical edges of pipe openings.
- 12 inch minimum riser height above all pipe openings.

Manhole Diameter (inches)	Maximum Pipe Diameter (inches) for 2 Pipes Separation	Maximum Pipe Diameter (inches) for 3 Pipes Separation
48	24	18
60	30	24
72	42	30
84	48	36
96	60	42

**SUDAS 4040.232**  
STANDARD SPECIFICATIONS  
SUDAS Standard Specifications  
SUBDRAIN CLEANOUTS

Refer to SW-514 for baseout details.

- Install four #4 diagonal bars at all pipe openings.
- SW-603 Type R unless Type Q is specified in the contract documents.
- Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.
- 12 inch minimum wall height above all pipes.

**SUDAS 4040.232**  
STANDARD SPECIFICATIONS  
SUDAS Standard Specifications  
SINGLE GRATE INTAKE

**SUDAS 4040.232**  
STANDARD SPECIFICATIONS  
SUDAS Standard Specifications  
CASTINGS FOR STORM SEWER MANHOLES

Refer to SW-514 for baseout details.

- Anchor the lower frame of all three-piece castings to the concrete structure. When specified in the contract documents, anchor the frame of two-piece castings to the manhole structure. If casting frame does not include anchor holes or slots, drill four 7/8 inch diameter holes, equally spaced around the frame.
- Casting height varies. Minimum adjustment range of 4 inches.

**SUDAS 4040.232**  
STANDARD SPECIFICATIONS  
SUDAS Standard Specifications  
CASTINGS FOR STORM SEWER MANHOLES

Refer to SW-514 for baseout details.

- SW-603 Type R unless Type Q is specified in the contract documents.
- Cast-in-place base shown. Base may be square. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.
- For additional configurations, maintain a minimum of 12 inches of concrete between vertical edges of pipe openings.
- 12 inch minimum riser height above all pipes.

Manhole Diameter (inches)	Maximum Pipe Diameter (inches) for 2 Pipes Separation	Maximum Pipe Diameter (inches) for 3 Pipes Separation
48	24	18
60	30	24
72	42	30
84	48	36
96	60	42

**SUDAS 4040.232**  
STANDARD SPECIFICATIONS  
SUDAS Standard Specifications  
CIRCULAR SINGLE GRATE INTAKE

Refer to SW-514 for baseout details.

- SW-603 Type R unless Type Q is specified in the contract documents.
- Cast-in-place base shown. Base may be square. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.
- For additional configurations, maintain a minimum of 12 inches of concrete between vertical edges of pipe openings.
- 12 inch minimum riser height above all pipes.

Manhole Diameter (inches)	Maximum Pipe Diameter (inches) for 2 Pipes Separation	Maximum Pipe Diameter (inches) for 3 Pipes Separation
48	24	18
60	30	24
72	42	30
84	48	36
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**SUDAS 4040.232**  
STANDARD SPECIFICATIONS  
SUDAS Standard Specifications  
CIRCULAR SINGLE GRATE INTAKE

**SUDAS 4040.232**  
STANDARD SPECIFICATIONS  
SUDAS Standard Specifications  
CASTINGS FOR AREA INTAKES

Frame provided in three segments (two ends and one center). End segments together as specified by the casting manufacturer.

- Provide bicycle safe, vane style grates with a minimum open area of 4 square feet. At low points, grates with vanes facing both directions will be allowed.
- If required by casting manufacturer, provide support frame under all frame joints. Muddy structure walls as required to provide pocket for frame.
- Cast grates without locking lips so it may be used in an inverted position.

**SUDAS 4040.232**  
STANDARD SPECIFICATIONS  
SUDAS Standard Specifications  
CASTINGS FOR AREA INTAKES

Refer to SW-514 for baseout details.

- Precast (shown) or cast-in-place base.
  - Precast: 8 inch thick concrete with #8 welded wire mesh on 4 inch centers (WAF 4" x 4"). Center mesh vertically within riser.
  - Cast-in-place: 8 inch thick non-reinforced concrete.
- 12 inch minimum riser height above all pipes.

INTAKE SIZE - CASE 1	Outlet Pipe Diameter, D2	Minimum Riser Diameter, D1
12"	12"	18"
18"	18"	24"
24"	24"	30"
30"	30"	36"
36"	36"	42"
42"	42"	48"

**SUDAS 4040.232**  
STANDARD SPECIFICATIONS  
SUDAS Standard Specifications  
CIRCULAR AREA INTAKE

**SUDAS 4040.232**  
STANDARD SPECIFICATIONS  
SUDAS Standard Specifications  
CASTINGS FOR GRATE INTAKES

**SUDAS 4040.232**  
STANDARD SPECIFICATIONS  
SUDAS Standard Specifications  
CASTINGS FOR GRATE INTAKES

Frame minimum weight = 220 lbs. Grate minimum weight = 340 lbs.

**SUDAS 4040.232**  
STANDARD SPECIFICATIONS  
SUDAS Standard Specifications  
CASTINGS FOR GRATE INTAKES

Use in non-traffic areas.

- Light duty casting. Label lid with "SUDAS" or "SUDAS C.O."
- Do not allow casting to bear on top of riser pipe; provide 2 inch clearance, minimum.
- A manufactured cleanout may be used in lieu of a Type B cleanout, if approved by the Engineer.
- Design is intended for use in conjunction with 8 inch PVC riser pipe. Other riser pipe may be used with smaller pipe, as approved by the Engineer.
- Provide Type G casting, as required to fit pipe size.
- PVC riser pipe, match diameter of subdrain (8 inches maximum).

**SUDAS 4040.232**  
STANDARD SPECIFICATIONS  
SUDAS Standard Specifications  
SUBDRAIN CLEANOUTS

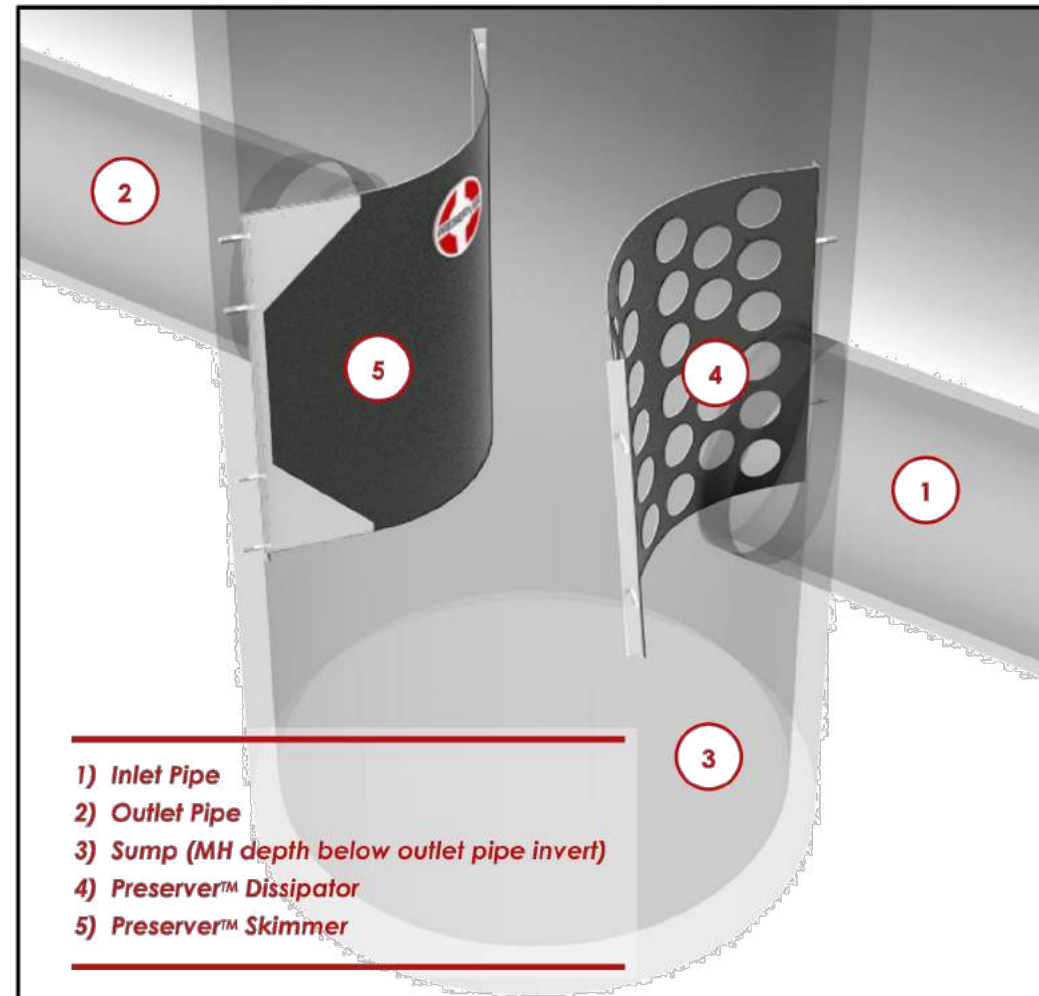
**SUDAS 4040.232**  
STANDARD SPECIFICATIONS  
SUDAS Standard Specifications  
FLARED END SECTION FOOTING DETAIL

**SUDAS 4040.232**  
STANDARD SPECIFICATIONS  
SUDAS Standard Specifications  
CONCRETE PIPE APRON GUARD

**SUDAS 9040.110**  
STANDARD SPECIFICATIONS  
SUDAS Standard Specifications  
RIP RAP FOR PIPE OUTLET ONTO FLAT GROUND



### Preserver™ Inspection & Maintenance Manual



#### Inspection Items

- Noteworthy items during inspection include (but are not limited to):
- Pollutant depths?
- Whether maintenance/cleaning was performed
- Structural condition
- Oil/floatables
- Sediment/settleable solids
- Site conditions?
- Stabilized
- Construction activity
- Equipment wash-down
- Erosion
- Winter sanding
- Hydrocarbons
- Grease
- Trash
- Organics
- Water level (below outlet invert indicates leaking)
- Casting condition
- Chimney condition
- Adjusting ring deterioration
- Leaking/proper seal
- Spalling concrete
- Condition
- Connections
- Debris accumulation

#### 3. Maintenance

##### Frequency

Annual maintenance of treatment structures is common, and is typically performed in the Fall following leaf fall and street cleaning, and ideally occurs prior to snow/rainfall. However, each site is unique, and structure-specific maintenance may be more or less frequent. The maintenance frequency should be determined as described in Section 2. At a minimum, pollutant storage volumes must not be exceeded (Section 4).

##### Execution<sup>4,5</sup>

Structure cleanout will typically require no more than vacuuming out the water and debris contained in the structure. Water can be sprayed to dislodge and/or move debris for vacuum collection. Following cleanout, the structural condition should be determined. Any repairs determined necessary should be done as soon as possible. Contact Momentum should Preserver™ replacement parts be needed.



2) When measuring sediment depth, the tape/rod should be lowered slowly until minimal resistance is detected.
3) When noting site conditions, the entire treatment structure's drainage area should be included.
4) Collected pollutants must be disposed of properly.
5) Should physical access be determined necessary, confined space entry procedures must be followed.

#### 1. Inspection & Maintenance Introduction

Proper inspection and maintenance of any stormwater treatment device is critical to its performance and longevity. Keeping that unavoidable fact in mind, ease of maintenance was a key element in the design of The Preserver™. The Preserver™ components have been designed to provide ease of access, and maximize accessibility to the structure without the need for confined space entry. Inspection and maintenance can be performed quickly, easily, and inexpensively. In addition, cleanout of the structure requires little or no more than vacuuming.



Following the guidance provided in this document will help to ensure proper function and maximize the benefits provided by The Preserver™.

#### 2. Inspection<sup>1</sup>

##### Frequency

Following installation of Preserver™ components, structures should be inspected often until a maintenance frequency can be determined. At a minimum, inspections are recommended twice annually, in the Spring and Fall. Depending on your local climate, the Spring inspection should follow snowmelt, blossom/seed fall, Spring street cleaning, and will ideally occur prior to heavy rainfall. Fall inspection should follow leaf fall, Fall street cleaning, and will ideally occur prior to snow/rainfall.

1) An "Inspection and Maintenance Log" sheet is available for download at www.MomentumEnv.com.

#### 4. Storage Volumes

Use the table and methodology below to determine allowable pollutant storage volumes for The Preserver™. The methodology below assumes that circular pipe and stock Preserver™ components are used - please contact Momentum if customized components or calculations are needed for your project.

Table with 4 columns: Structure Diameter (ft), Structure Footprint (sq ft), Storage Volume Per Foot of Depth\* (cf), Storage Volume Per Foot of Depth† (gal.). Rows for diameters 4, 5, 6, 7, 8, 9, 10, 12.

\*Adjust footprint and storage volume values accordingly for square and rectangular structures.

Cleanout depths vary according to outlet pipe diameter:
- Maximum Oil/Floatables Depth = 1/2 x outlet pipe diameter
- Maximum Sediment Depth = sump depth - outlet pipe diameter

##### Example:

- 5' diameter structure
4' sump depth
18" outlet pipe diameter

##### Oil/Floatables Storage:

Maximum Oil/Floatables Depth = 1/2 x 18" = 9" or 0.75'

Maximum Oil/Floatables Volume = 0.75' (max. depth) x 146.9 gal. (5' structure diameter volume/ft) = 110.2 gallons

##### Sediment/Settleable Solids Storage:

Maximum Sediment Depth = 4' (sump depth) - 18" (outlet pipe dia.) = 2.5'

Maximum Sediment Volume = 2.5' (max. depth) x 19.6 cf (5' structure diameter volume/ft) = 49.0 cubic feet



### Preserver™ Inspection & Maintenance Log

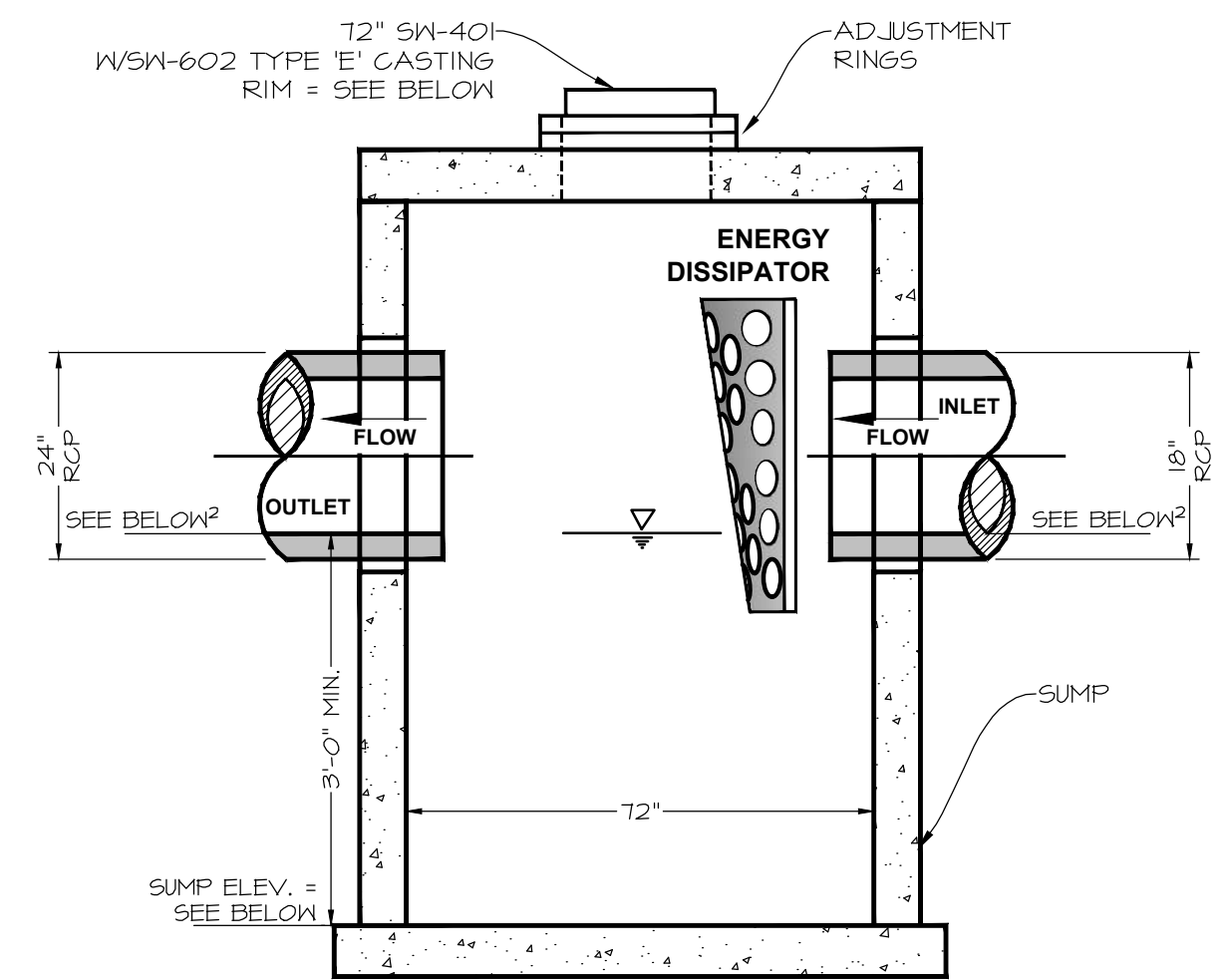
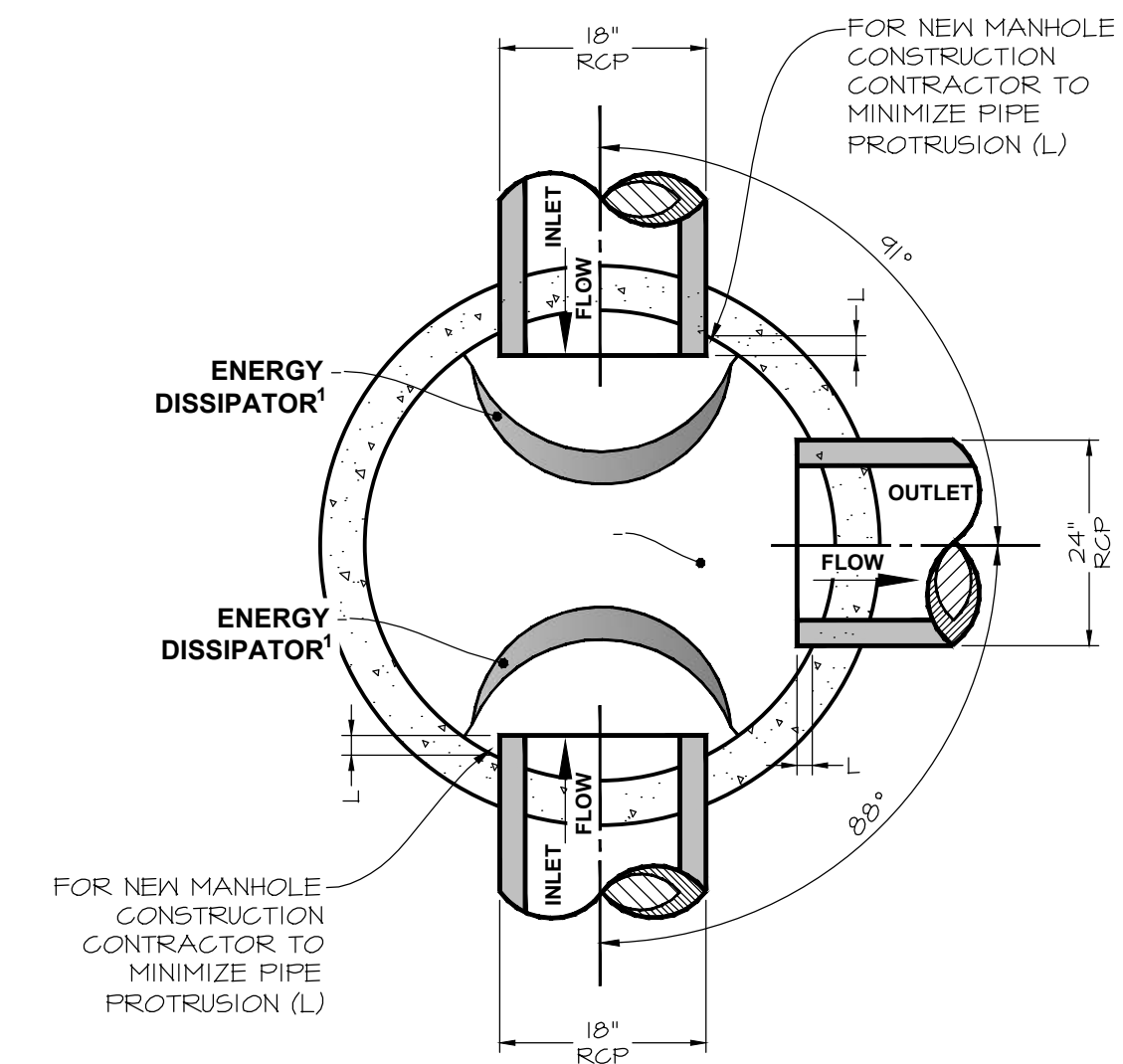
Site ID: \_\_\_\_\_ Structure ID: \_\_\_\_\_

Structure Diameter: \_\_\_\_\_ Sump Depth: \_\_\_\_\_ Outlet Pipe Diameter: \_\_\_\_\_

Table with 7 columns: Date, Initials, Oil/Floatables Depth, Sediment Depth, Cleaned?, Notes. Multiple empty rows for data entry.

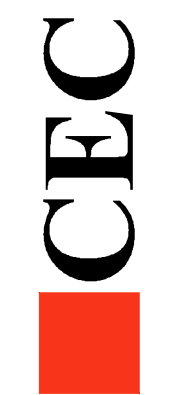
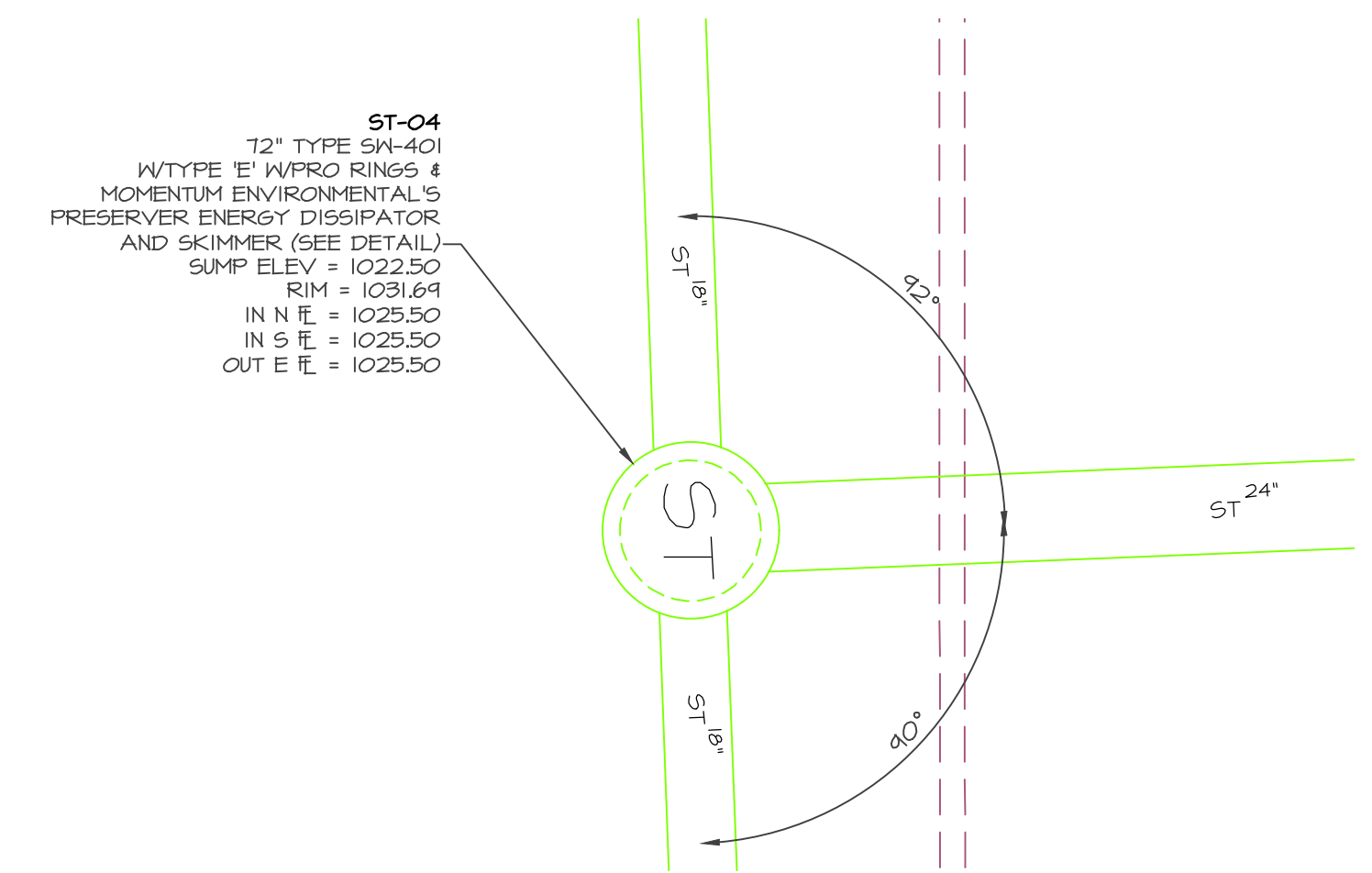
##### NOTES:

- 1) Following installation, structures should be inspected a minimum of twice annually, in the Spring and Fall. Depending on your local climate, the Spring inspection should follow snowmelt, blossom/seed fall, Spring street cleaning, and will ideally occur prior to heavy rainfall. Fall inspection should follow leaf fall, Fall street cleaning, and will ideally occur prior to snow/rainfall.
2) Owners should plan for annual Fall maintenance. Once sufficient inspections have been logged to determine a trend, maintenance can be adjusted accordingly.
3) Noteworthy items during inspection/maintenance may include: site conditions (stabilized, construction, erosion, etc.), pollutant composition (oils, trash, organics, etc.), low water-level (leaking structure), structural condition (casting, spalling concrete, Preserver™ components, etc.), etc.
4) Refer to "Preserver™ Inspection and Maintenance Manual" for additional guidance and requirements.



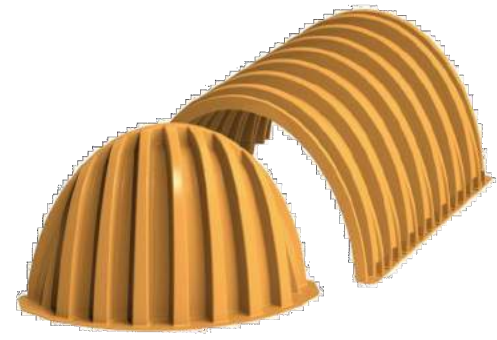
NOTE 2: MINIMIZE ELEVATION DIFFERENCE BETWEEN INLET AND OUTLET INVERTS FOR THE HYDRODYNAMIC SEPARATOR TO FUNCTION AS DESIGNED.

### ST-04 PROPOSED 72" SW 401 WITH HYDRODYNAMIC SEPARATOR



# StormTech® MC-3500 Chamber

Designed to meet the most stringent industry performance standards for superior structural integrity while providing designers with a cost-effective method to save valuable land and protect water resources. The StormTech system is designed primarily to be used under parking lots, thus maximizing land usage for private (commercial) and public applications. StormTech chambers can also be used in conjunction with Green Infrastructure, thus enhancing the performance and extending the service life of these practices.



## Nominal Chamber Specifications (not to scale)

**Size (L x W x H)**  
90" x 77" x 45"  
2286 mm x 1956 mm x 1143 mm

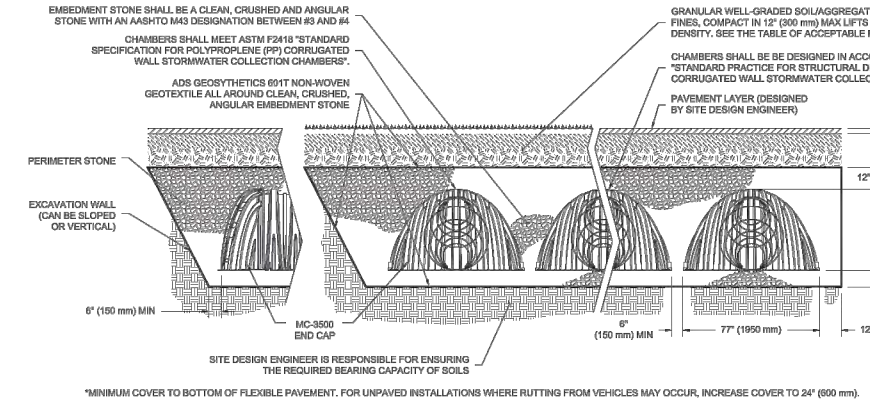
**Chamber Storage**  
109.9 ft³ (3.11 m³)

**Min. Installed Storage\***  
175.0 ft³ (4.96 m³)

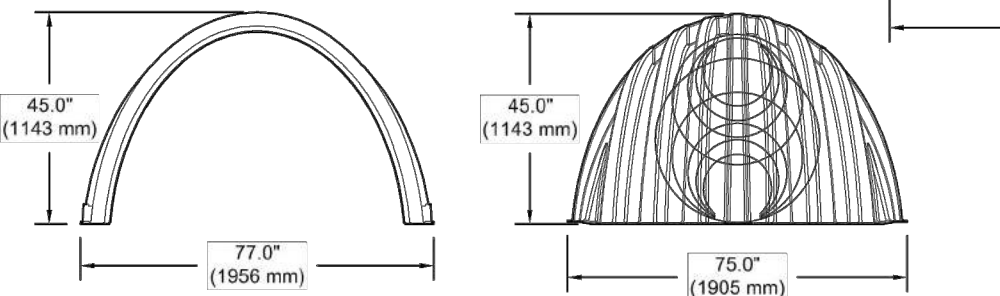
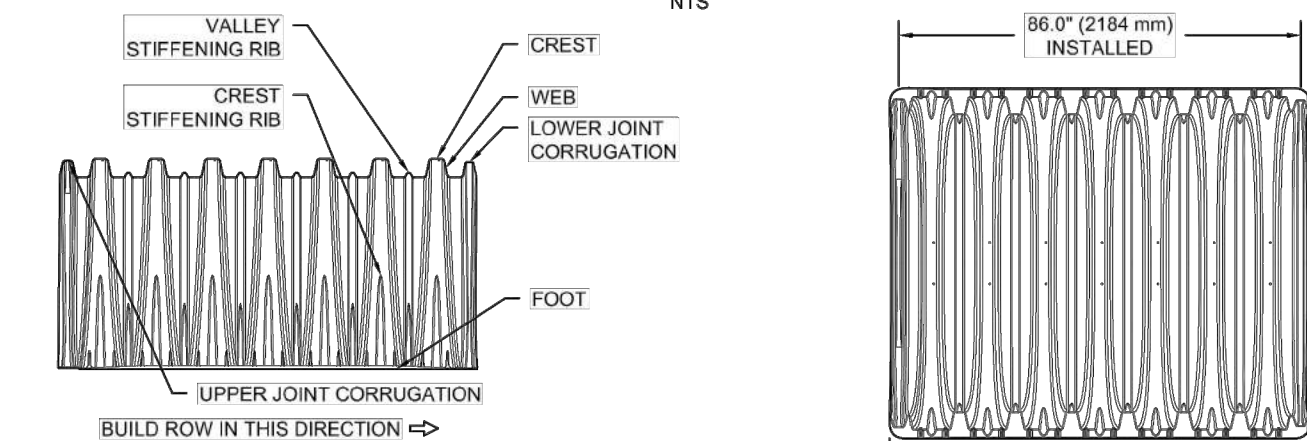
**Weight**  
134 lbs (60.8 kg)

**Shipping**  
15 chambers/pallet  
7 end caps/pallet  
7 pallets/truck

\*Assumes a minimum of 12" (300 mm) of stone above, 9" (230 mm) of stone below chambers, 6" (150 mm) of stone between chambers/ end caps and 40% stone porosity.



## MC-3500 TECHNICAL SPECIFICATION



**NOMINAL CHAMBER SPECIFICATIONS**  
SIZE (W X H X INSTALLED LENGTH) 77.0" X 45.0" X 86.0" (1956 mm X 1143 mm X 2184 mm)  
CHAMBER STORAGE 109.9 CUBIC FEET (3.11 m³)  
MINIMUM INSTALLED STORAGE\* 175.0 CUBIC FEET (4.96 m³)  
WEIGHT 134 lbs. (60.8 kg)

**NOMINAL END CAP SPECIFICATIONS**  
SIZE (W X H X INSTALLED LENGTH) 75.0" X 45.0" X 22.2" (1905 mm X 1143 mm X 564 mm)  
END CAP STORAGE 14.9 CUBIC FEET (0.42 m³)  
MINIMUM INSTALLED STORAGE\* 45.1 CUBIC FEET (1.28 m³)  
WEIGHT 49 lbs. (22.2 kg)

\*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION, 6" (152 mm) STONE BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"  
PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"  
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"  
END CAPS WITH A WELDED CROWN PLATE END WITH "C"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B	---	---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	---
MC3500IEPP08B	---	---	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	---	---	2.06" (52 mm)
MC3500IEPP30T	30" (750 mm)	---	2.75" (70 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL.

CUSTOM PARTIAL CUT INVERTS ARE AVAILABLE UPON REQUEST.  
INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 16-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	
ADS SALES REP	
PROJECT NO.	



## PRIME\_CARWASH - 10-6-23 WAUKEE, IA, USA

### MC-3500 STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH MC-3500.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45/78 DESIGNATION SS.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS 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 BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
  - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
  - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
  - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT². THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND (I) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
  - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
  - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.45 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD. THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
  - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

60303 ADS, INC.

### INSTALLATION - 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:
  - STONES/ROCKS 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 HOE 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 - 6" (150 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 MEETING THE AASHTO M33 DESIGNATION OF #3 OR #4.
- STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

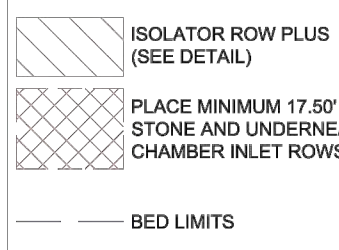
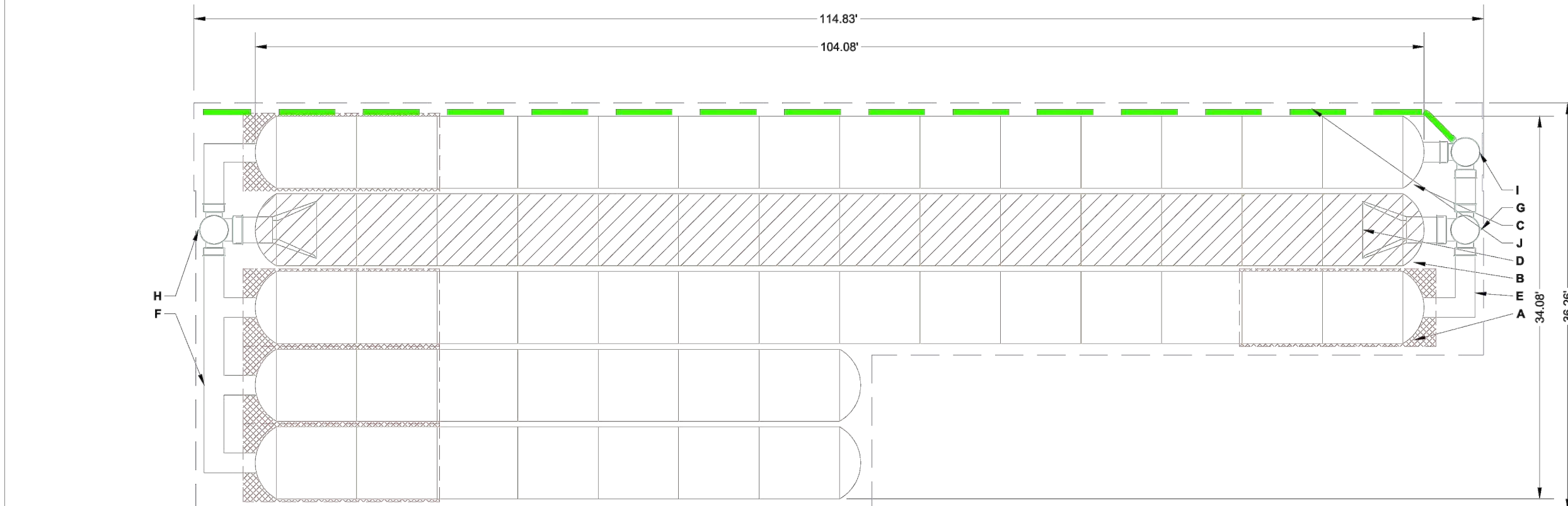
### NOTES FOR CONSTRUCTION EQUIPMENT

- 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 TIRED 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 36" (900 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.

CONTACT STORMTECH AT 1-888-892-2894 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

PROPOSED LAYOUT	CONCEPTUAL ELEVATIONS:	PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT	MAX FLOW
56 STORMTECH MC-3500 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED): 1036.90					
10 STORMTECH MC-3500 END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC): 1030.90		A	18" TOP CORED END CAP, PART#: MC3500IEPP18TC / TYP OF ALL 18" TOP CONNECTIONS	20.03'	
12 STONE ABOVE (IN)	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC): 1030.40		B	24" BOTTOM CORED END CAP, PART#: MC3500IEPP24BC / TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS	2.06"	
9 STONE BELOW (IN)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT): 1030.40		C	18" BOTTOM CORED END CAP, PART#: MC3500IEPP18BC / TYP OF ALL 18" BOTTOM CONNECTIONS	1.77'	
40 STONE VOID	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT): 1029.40		D	18" x 18" TOP MANIFOLD INVERT:		
INSTALLED SYSTEM VOLUME (CF)	TOP OF STONE: 1028.90					
(PERIMETER STONE INCLUDED)	TOP OF MC-3500 CHAMBER: 1028.90					
(COVER STONE INCLUDED)	18" x 18" TOP MANIFOLD INVERT: 1028.82					
(BASE STONE INCLUDED)	24" ISOLATOR ROW PLUS INVERT: 1025.32					
3405 SYSTEM AREA (SF)	24" ISOLATOR ROW PLUS INVERT: 1025.30 PLUS ROW					5.5 CFS IN
302.2 SYSTEM PERIMETER (ft)	18" BOTTOM CONNECTION INVERT: 1024.40 PLUS ROW					16.2 CFS IN
	BOTTOM OF MC-3500 CHAMBER: 1024.40 PLUS ROW					
	UNDERDRAIN INVERT: 1024.40					4.0 CFS OUT
	BOTTOM OF STONE: 1024.40					
	UNDERDRAIN					



### NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6 32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE IN-SITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- NOT FOR CONSTRUCTION:** THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

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WAUKEE, IA, USA  
DATE: 10/6/23  
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StormTech Chamber System  
888-892-2894 | WWW.STORMTECH.COM  
4640 TROENAN BLVD  
HILLIAND, OH 43026  
1-800-753-4773

DATE: 10/6/23  
DESIGNER: JAG  
CHECKER: JAG  
DATE OF SURVEY: 10/6/23  
DESIGNED BY: JAG  
DRAWN BY: JAG

Civil Engineering Consultants, Inc.  
2400 86th Street Unit 12 Des Moines, Iowa 50322  
515.276.4884 mail@cecinc.com



DATE: AUG. 22, 2023  
4TH & 5TH SUB. ....  
2ND SEP 15, 2023 & 3RD SUB. OCT. 09, 2023  
1ST SUB. AUG. 22, 2023  
DATE OF SURVEY: AUG. 22, 2023  
DESIGNED BY: JAG  
DRAWN BY: JAG

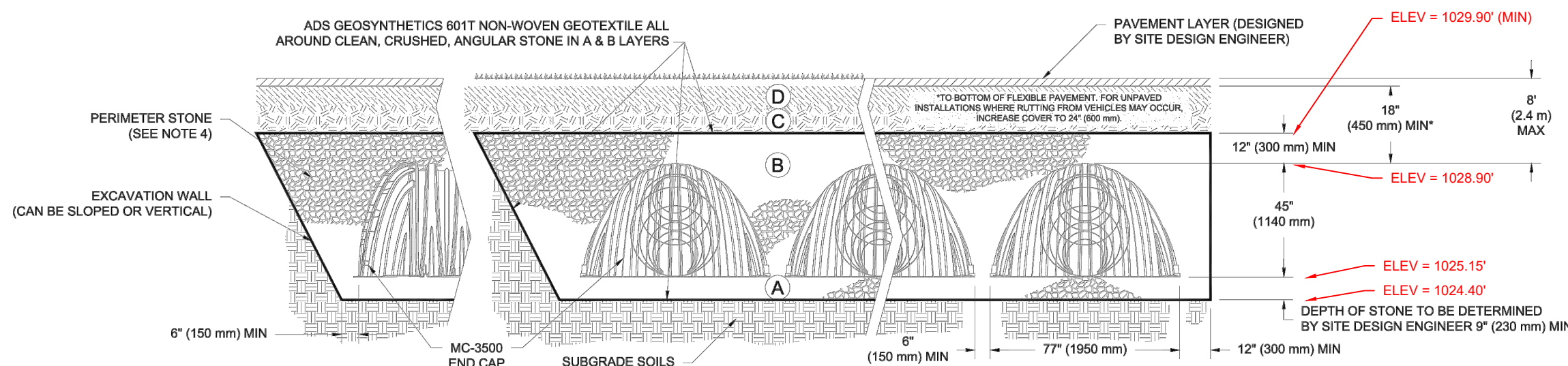
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STORMTECH® MC-3500 CHAMBER DETAILS

SHEET  
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2 OF 6

**ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS**

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	<b>FINAL FILL:</b> FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	<b>INITIAL FILL:</b> FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE 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.	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.
B	<b>EMBEDMENT STONE:</b> FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE AASHTO M43' 3, 4	NO COMPACTION REQUIRED.
A	<b>FOUNDATION STONE:</b> FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE AASHTO M43' 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. <sup>2,3</sup>

- PLEASE NOTE:
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
  - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
  - WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTOR EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
  - ONCE LAYER 'C' IS PLACED, ANY SOIL/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.



**NOTES:**

- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
- MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- 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.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
  - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
  - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
  - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT<sup>2</sup>. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. (AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

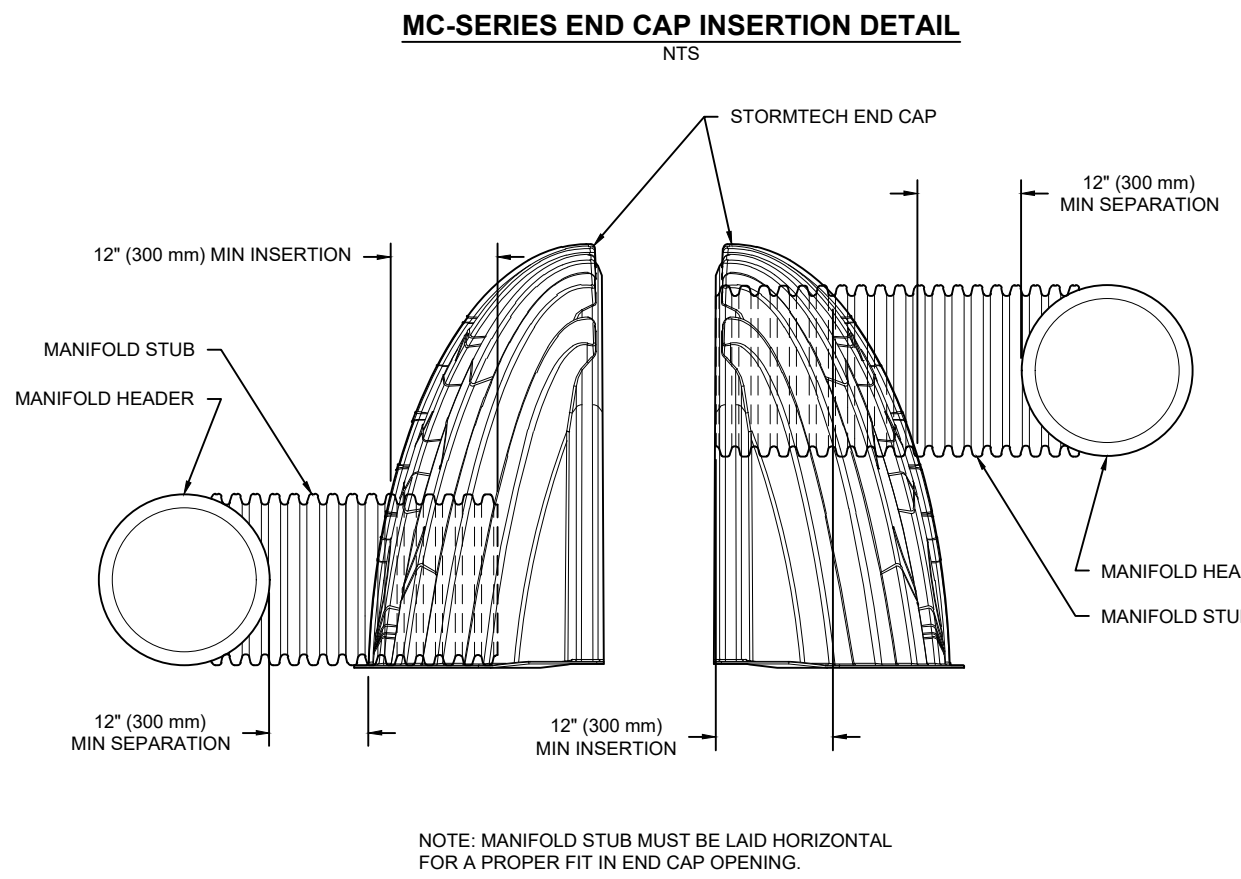
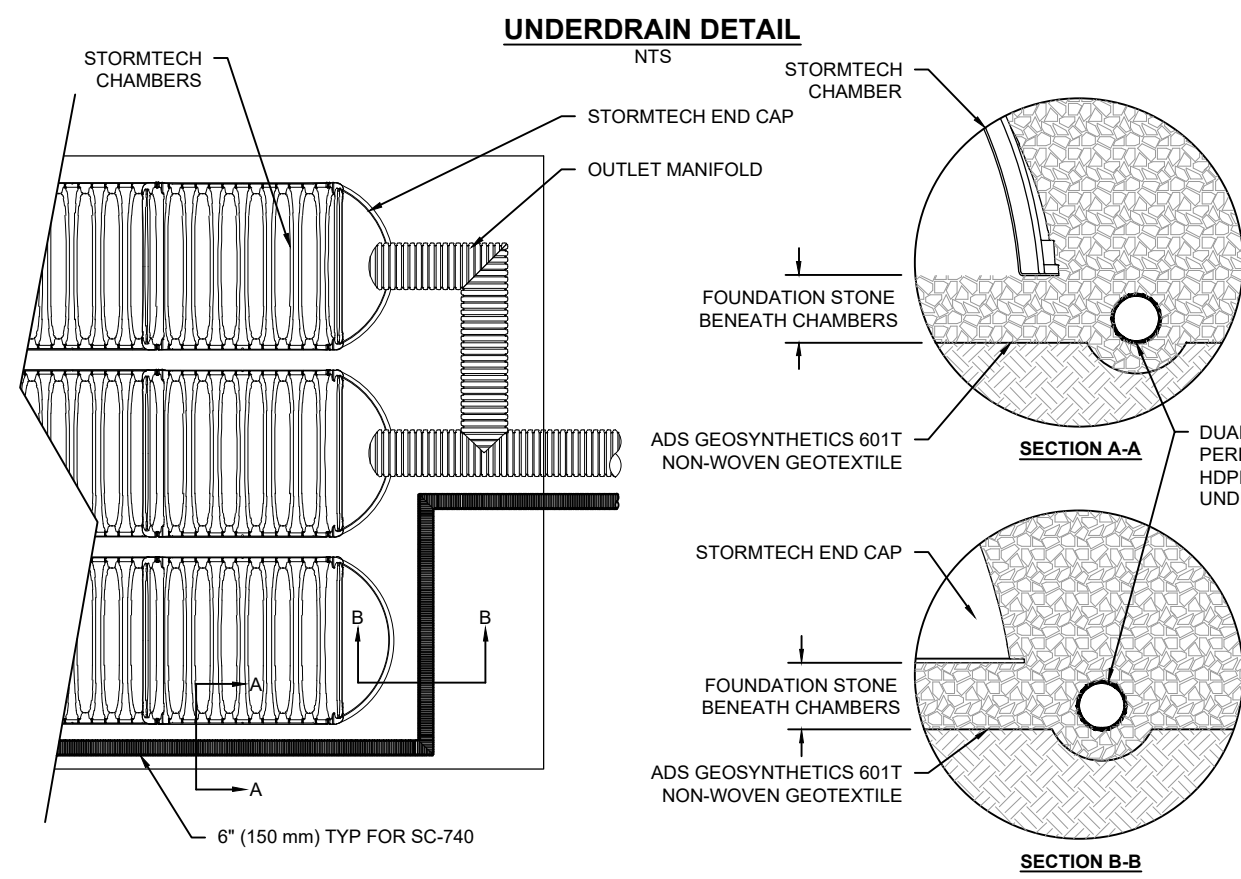
**StormTech Chamber System**  
 4640 TRUMAN BLVD  
 HILLIARD, OH 43026  
 1-800-733-7473

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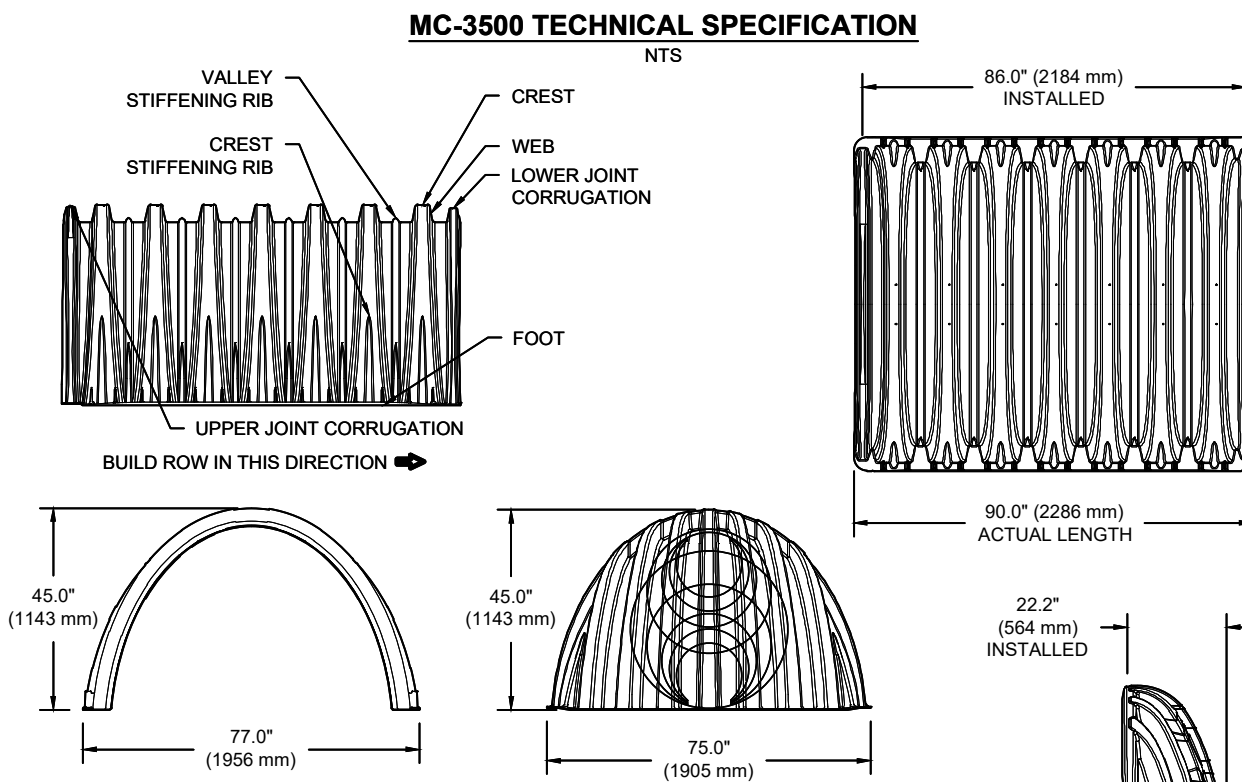
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SHEET 3 OF 6



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.



**NOMINAL CHAMBER SPECIFICATIONS**

SIZE (W X H X INSTALLED LENGTH)	CHAMBER STORAGE	MINIMUM INSTALLED STORAGE*	WEIGHT
77.0" X 45.0" X 86.0"	109.9 CUBIC FEET (3.11 m <sup>3</sup> )	175.0 CUBIC FEET (4.96 m <sup>3</sup> )	134 lbs. (60.8 kg)

**NOMINAL END CAP SPECIFICATIONS**

SIZE (W X H X INSTALLED LENGTH)	END CAP STORAGE	MINIMUM INSTALLED STORAGE*	WEIGHT
75.0" X 45.0" X 22.2"	14.9 CUBIC FEET (0.42 m <sup>3</sup> )	45.1 CUBIC FEET (1.28 m <sup>3</sup> )	49 lbs. (22.2 kg)

\*ASSUMES 12" (305 mm) STONE ABOVE, 6" (229 mm) STONE FOUNDATION, 6" SPACING BETWEEN CHAMBERS, 6" (152 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" END CAPS WITH A WELDED CROWN PLATE END WITH "C" END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC3500EPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500EPP06B	---	---	0.66" (17 mm)
MC3500EPP08T	8" (200 mm)	31.16" (791 mm)	---
MC3500EPP08B	---	---	0.81" (21 mm)
MC3500EPP10T	10" (250 mm)	29.04" (738 mm)	---
MC3500EPP10B	---	---	0.93" (24 mm)
MC3500EPP12T	12" (300 mm)	26.36" (670 mm)	---
MC3500EPP12B	---	---	1.35" (34 mm)
MC3500EPP15T	15" (375 mm)	23.39" (594 mm)	---
MC3500EPP15B	---	---	1.50" (38 mm)
MC3500EPP18TC	---	20.03" (509 mm)	---
MC3500EPP18TW	---	---	---
MC3500EPP18BC	18" (450 mm)	---	1.77" (45 mm)
MC3500EPP18BW	---	---	---
MC3500EPP24TC	---	14.48" (368 mm)	---
MC3500EPP24TW	---	---	---
MC3500EPP24BC	24" (600 mm)	---	2.06" (52 mm)
MC3500EPP24BW	---	---	---
MC3500EPP30BC	30" (750 mm)	---	2.75" (70 mm)

CUSTOM PRECURED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

NOTE: ALL DIMENSIONS ARE NOMINAL.

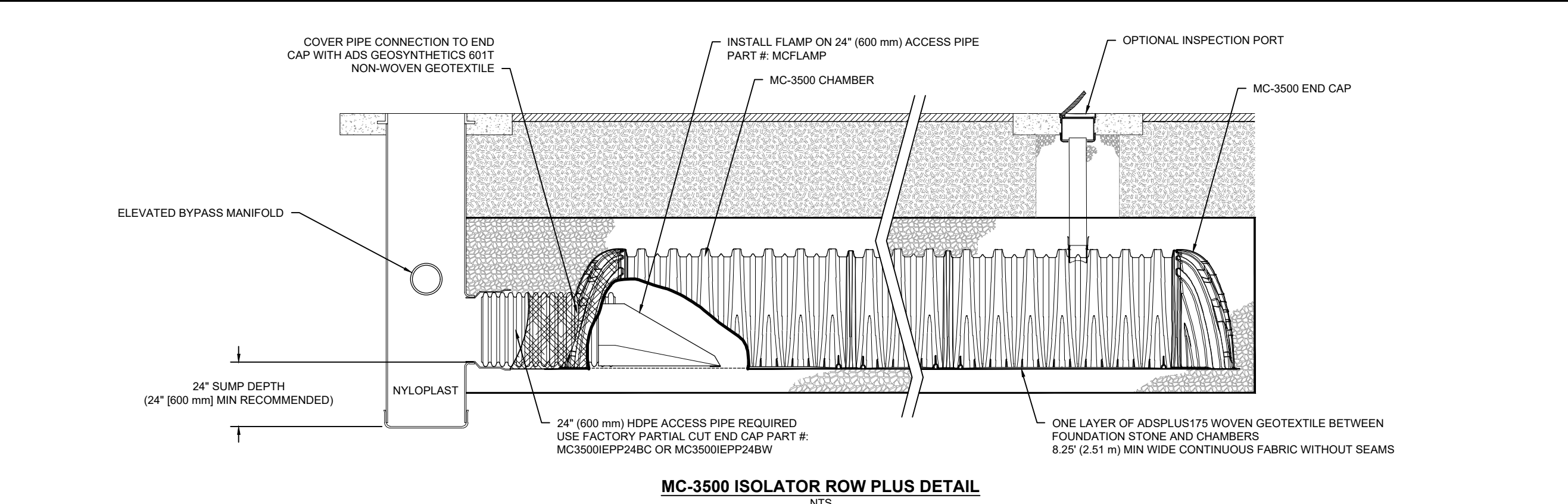
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**INSPECTION & MAINTENANCE**

- INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
  - INSPECTION PORTS (IF PRESENT)
  - REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - USING A FLASHLIGHT AND STADIUM ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - LOWER A CAMERA INTO ISOLATOR ROW PLUS 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.
- ALL ISOLATOR PLUS ROWS
  - REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - 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.
- CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
  - A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
  - APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
  - VACUUM STRUCTURE SUMP AS REQUIRED
- REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- 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.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

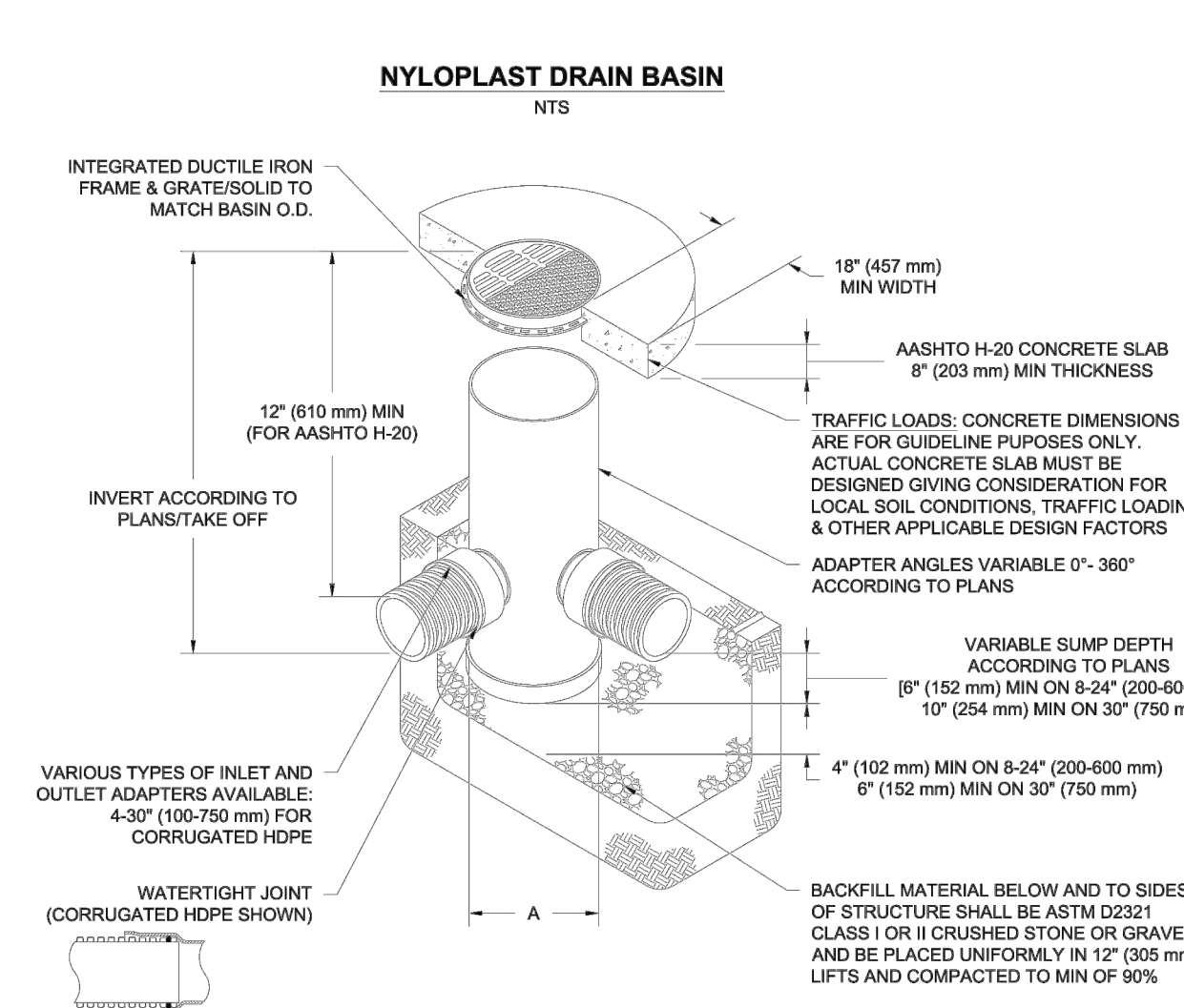
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SHEET 4 OF 6



- NOTES**
- 8-30" (200-750 mm) GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
  - 12-30" (300-750 mm) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
  - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
  - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SOL 35 PVO
  - FOR COMPLETE DESIGN AND PRODUCT INFORMATION: WWW.NYLOPLAST-US.COM
  - TO ORDER CALL: 800-821-6710

A	PART #	GRATE/SOLID COVER OPTIONS
8" (200 mm)	2808AG	PEDESTRIAN LIGHT DUTY STANDARD LIGHT DUTY SOLID LIGHT DUTY
10" (250 mm)	2810AG	PEDESTRIAN LIGHT DUTY STANDARD LIGHT DUTY SOLID LIGHT DUTY
12" (300 mm)	2812AG	PEDESTRIAN AASHTO H-20 SOLID AASHTO H-20
15" (375 mm)	2815AG	PEDESTRIAN AASHTO H-10 STANDARD AASHTO H-20 SOLID AASHTO H-20
18" (450 mm)	2818AG	PEDESTRIAN AASHTO H-10 STANDARD AASHTO H-20 SOLID AASHTO H-20
24" (600 mm)	2824AG	PEDESTRIAN AASHTO H-10 STANDARD AASHTO H-20 SOLID AASHTO H-20
30" (750 mm)	2830AG	PEDESTRIAN AASHTO H-20 STANDARD AASHTO H-20 SOLID AASHTO H-20

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**Civil Engineering Consultants, Inc. CEC**  
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 515.276.4884 mail@cecinc.com

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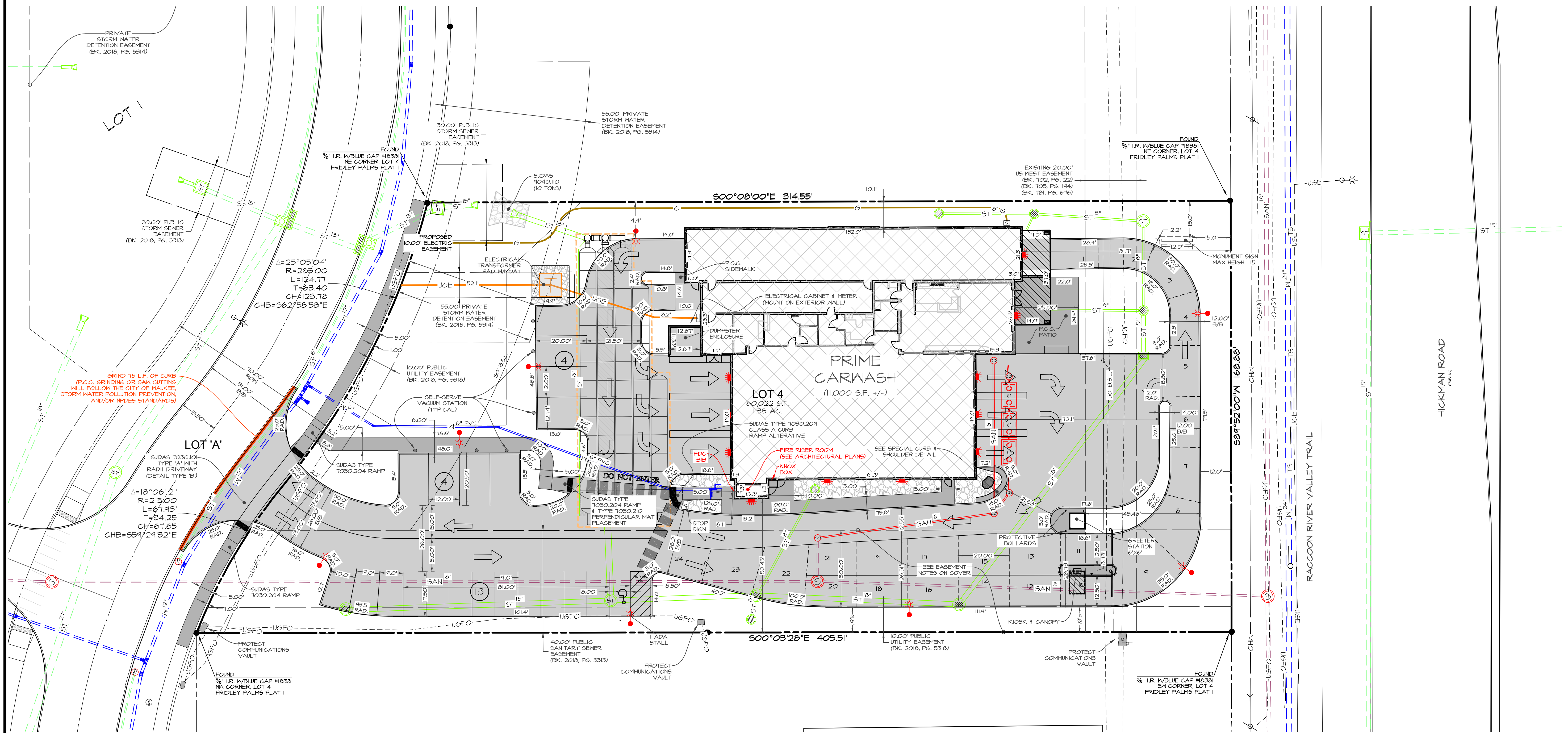
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 4640 TRUMAN BLVD  
 HILLIARD, OH 43026  
 1-800-733-7473

SHEET 6 OF 6

DATE: AUG. 22, 2023  
 4TH & 5TH SUB. ....  
 2ND SEP 15, 2023 & 3RD SUB. OCT. 09, 2023  
 1ST SUB. AUG. 22, 2023  
 DATE OF SURVEY: AUG. 22, 2023  
 DESIGNED BY: JAG  
 DRAWN BY: JAG

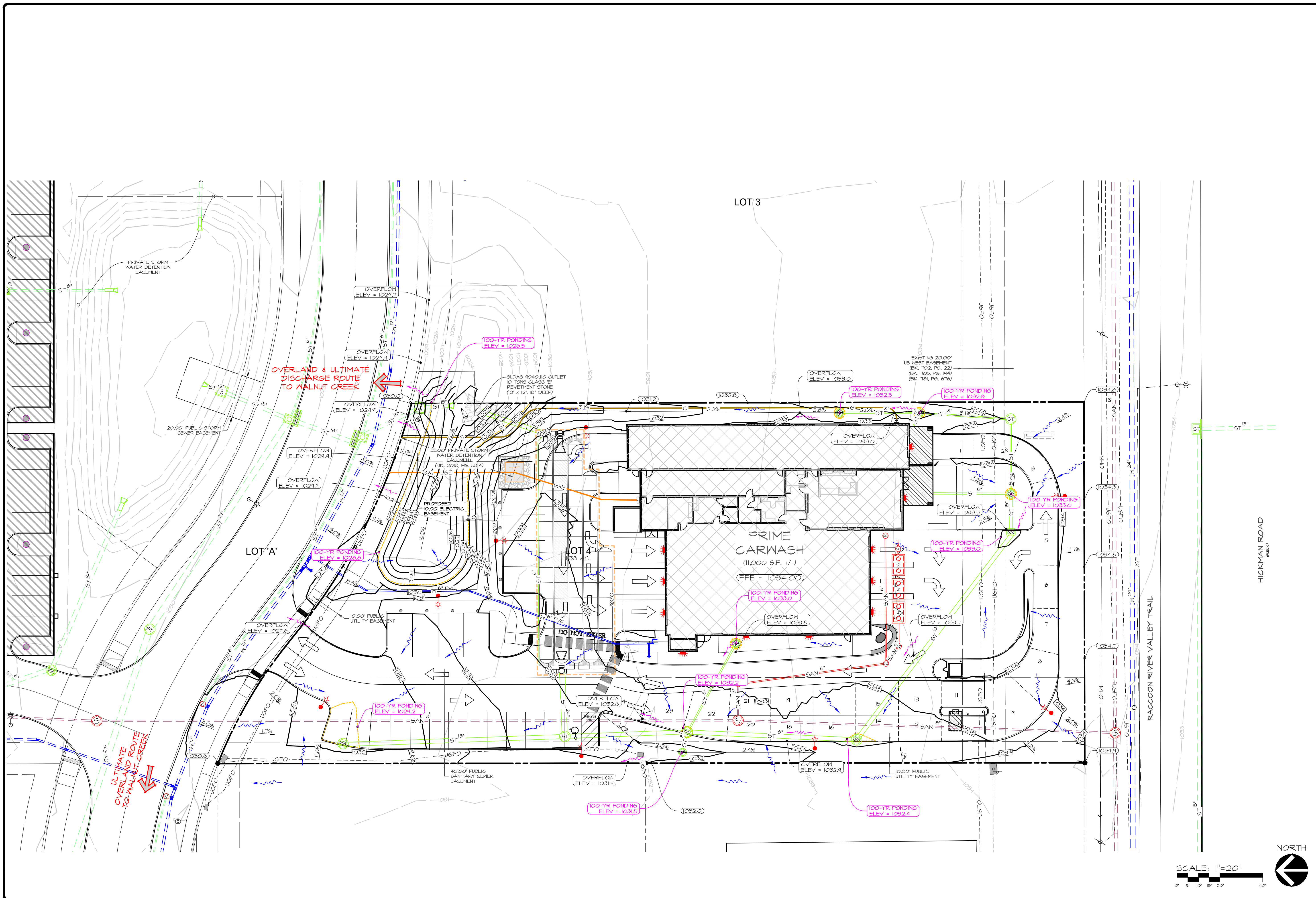
STORMTECH MC-3500 CHAMBER DETAILS CONT.

SHEET 6 OF 21  
 E-1040



DATE:	OCT. 9, 2023
DESIGNED BY:	JAG
DRAWN BY:	JAG
4TH & 5TH SUB. ....	
2ND SEP 15, 2023 & 3RD SUB. OCT. 04, 2023	
1ST SUB. AUG. 22, 2023	

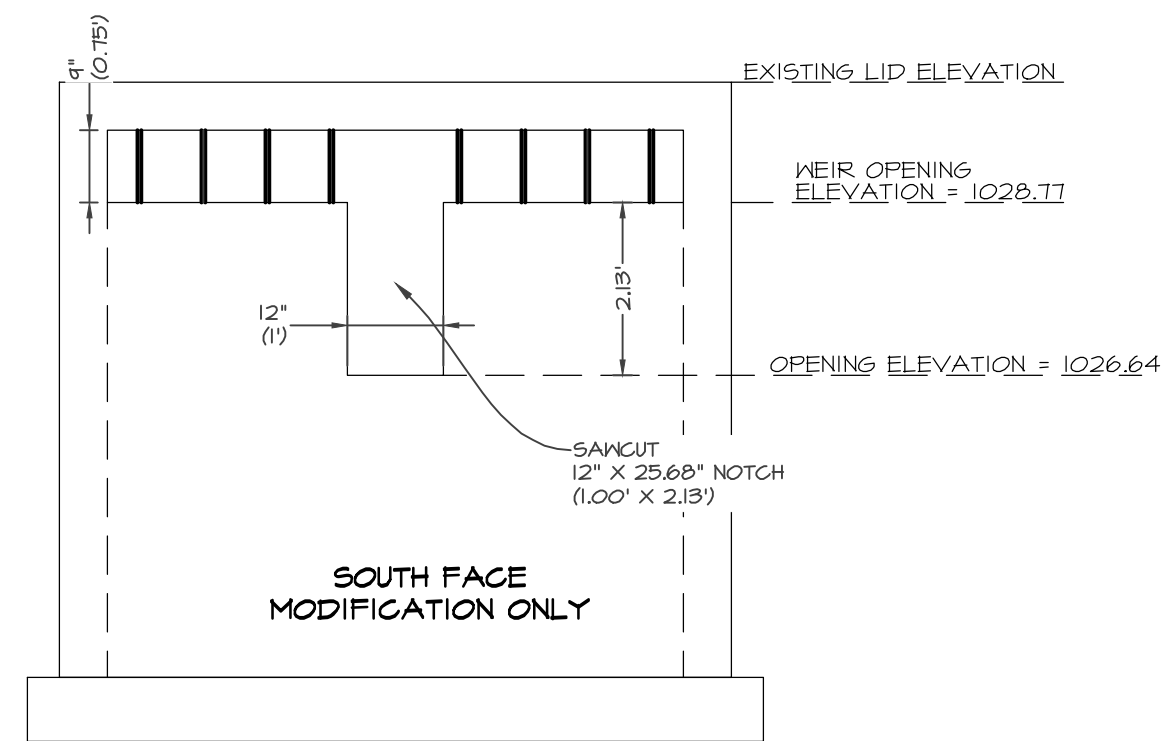
**PRIME CARWASH**  
 355 E HICKMAN ROAD, WAUKEE, IA  
**DIMENSION PLAN**



DATE:	Oct. 4, 2023
DESIGNED BY:	JAG
DRAWN BY:	JAG
DATE OF SURVEY:	1ST SUB, AUG. 22, 2023
DATE:	4TH & 5TH SUB, ...
	2ND SEP 15, 2023 & 3RD SUB, OCT. 04, 2023
	4TH & 5TH SUB, ...







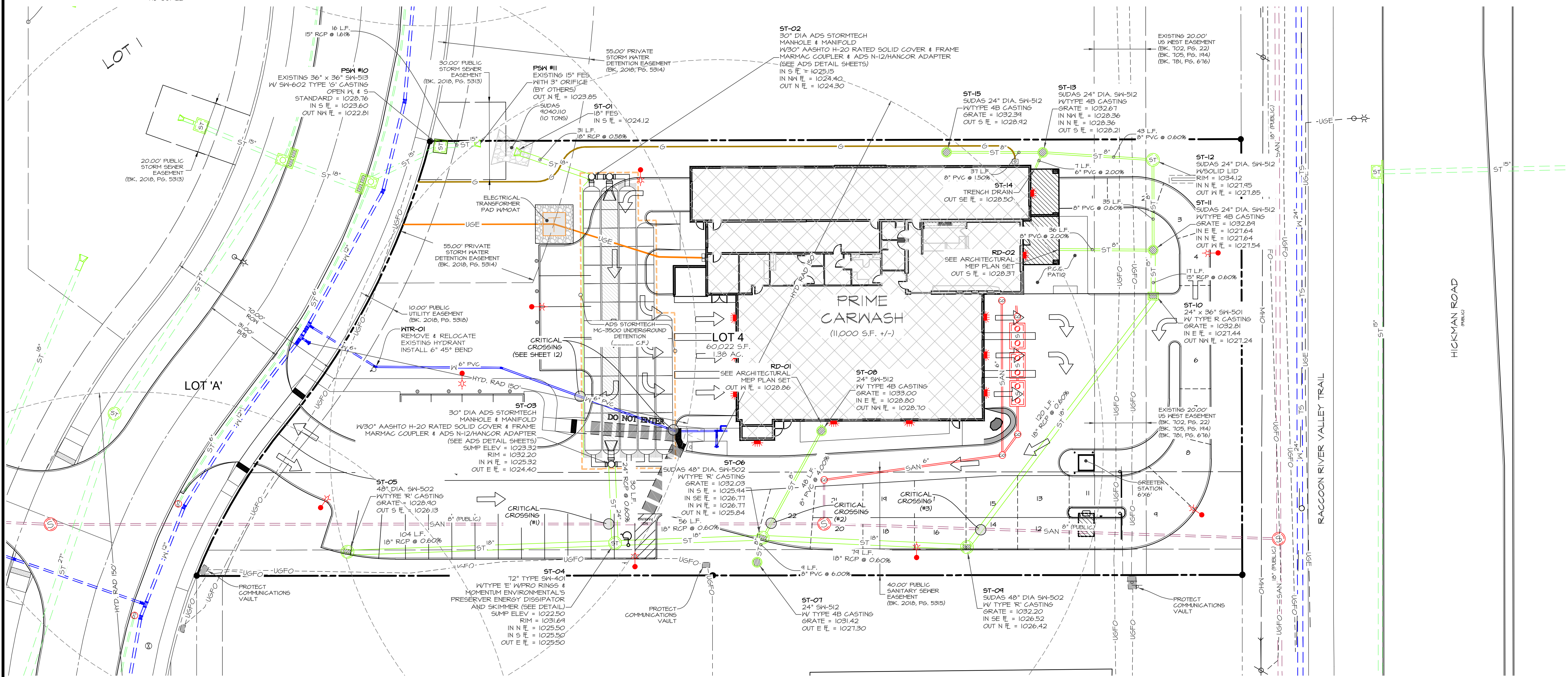
EXISTING SM-513  
OPENINGS ON ALL SIDES  
WEIR @ ELEV = 1028.77

**EXISTING PSW #10  
SM-513 POND OUTLET  
STRUCTURE MODIFICATION**

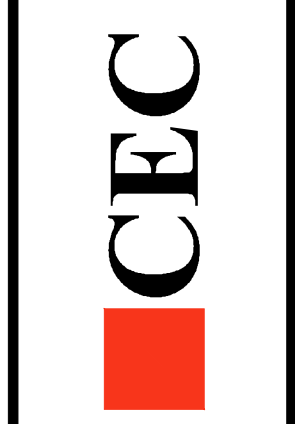
NO SCALE

**CRITICAL CROSSING TABLE**

NUMBER	BOTTOM OF STORM (feet)	TOP OF SANITARY (feet)	MIN. SEPERATION (feet)
1	1025.3	1017.0	8.3
2	1027.0	1016.5	10.5
3	1026.8	1016.1	10.7

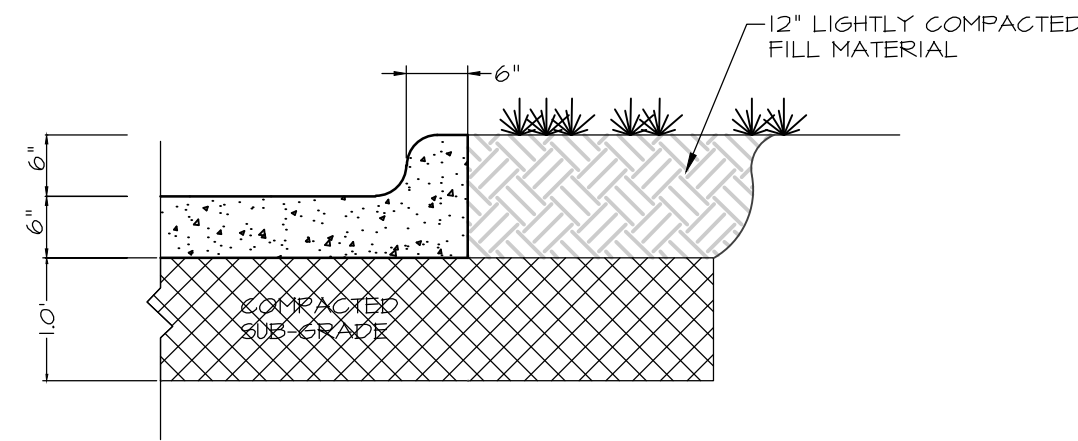


**NOTE:**  
SANITARY SEWER, STORM SEWER, & WATER MAIN  
INTERNAL TO THE PLAT BOUNDARY  
ARE PRIVATE UNLESS NOTED OTHERWISE.



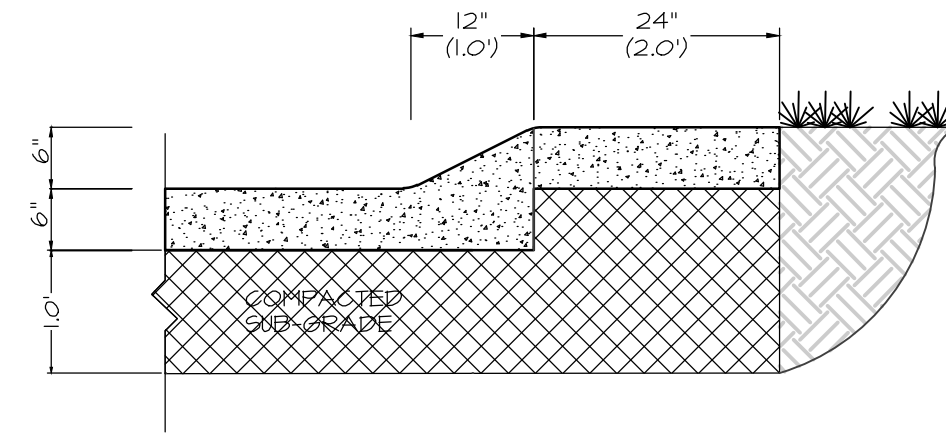


PAVING NOTES SEE SHEET #2



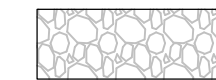




P.C.C. CURB DETAIL

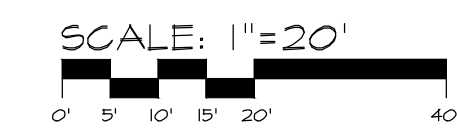
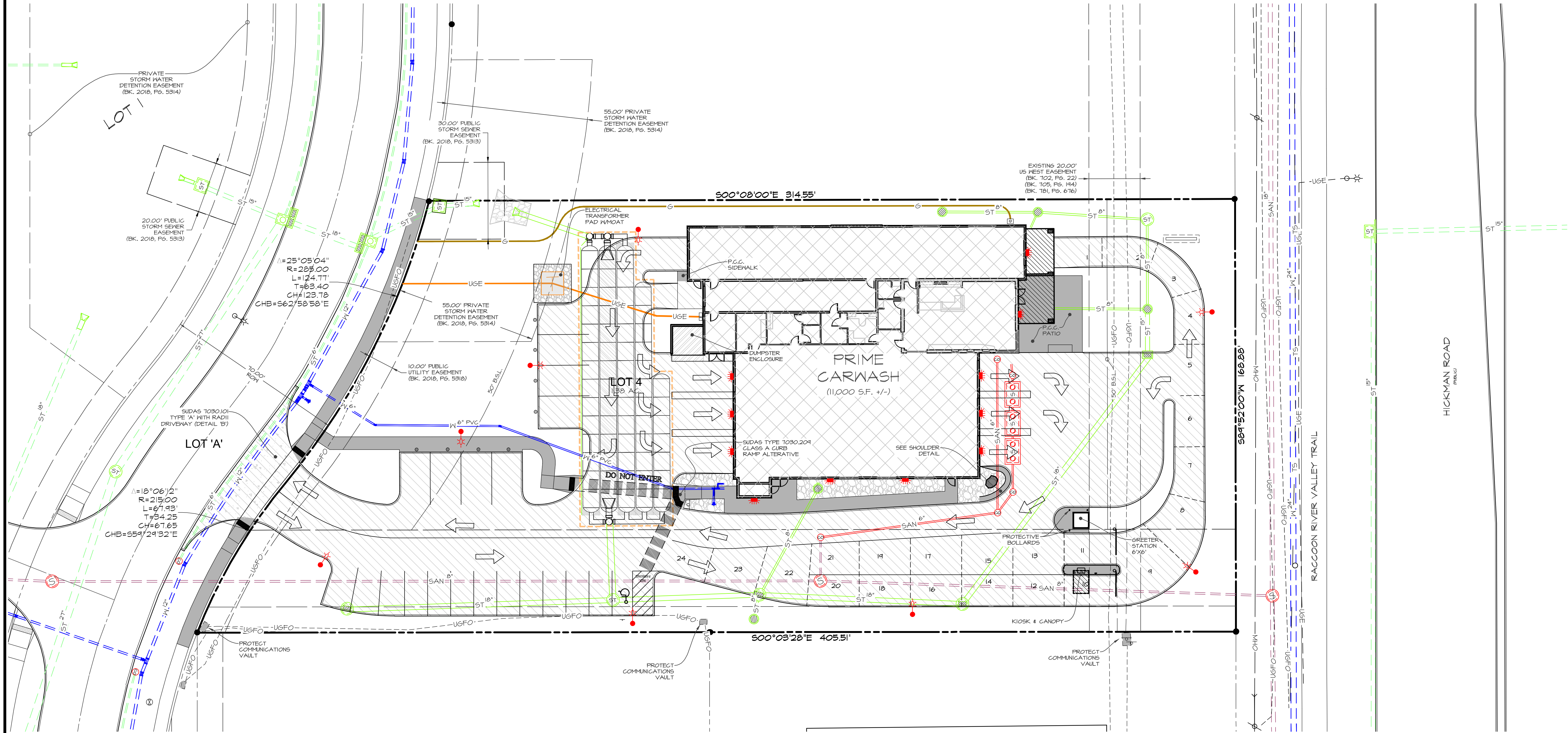
NO SCALE



SHOULDER DETAIL

NO SCALE

-  LANDSCAPING ROCK
-  4" NON-REINFORCED P.C.C.
-  6" NON-REINFORCED P.C.C.
-  1' NON-REINFORCED P.C.C.
-  8" NON-REINFORCED P.C.C.



Civil Engineering Consultants, Inc.  
 2400 86th Street, Unit 12 · Des Moines, Iowa 50322  
 515.276.4884 · mail@cecinc.com



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 1ST SUB. AUG. 22, 2023  
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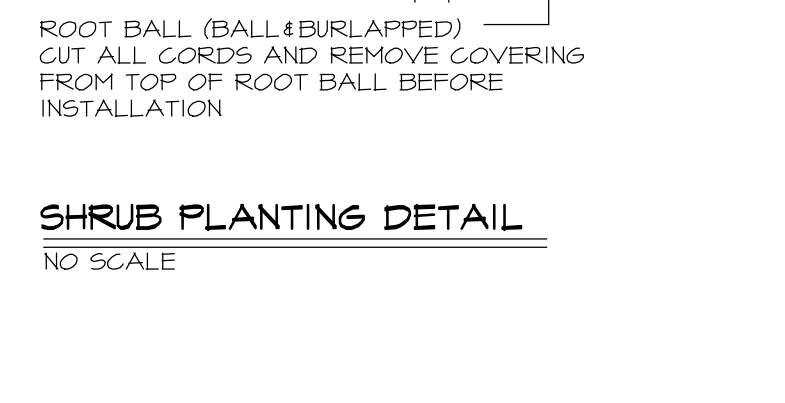
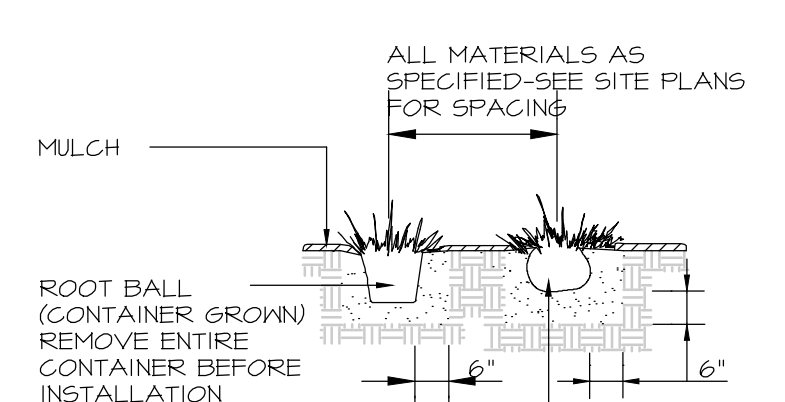
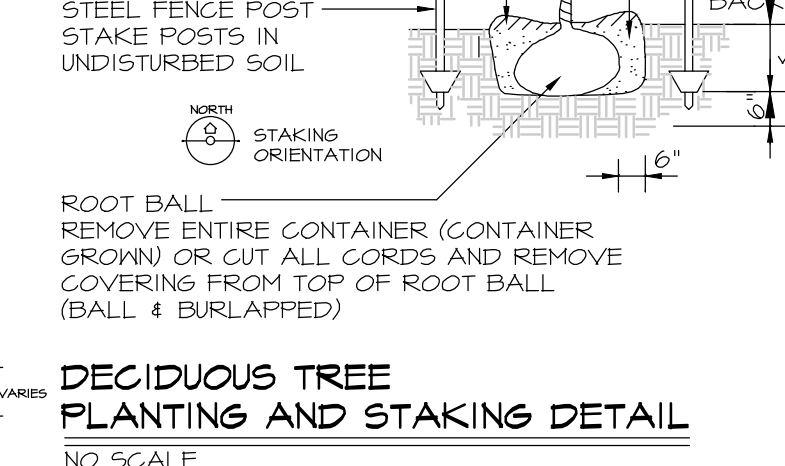
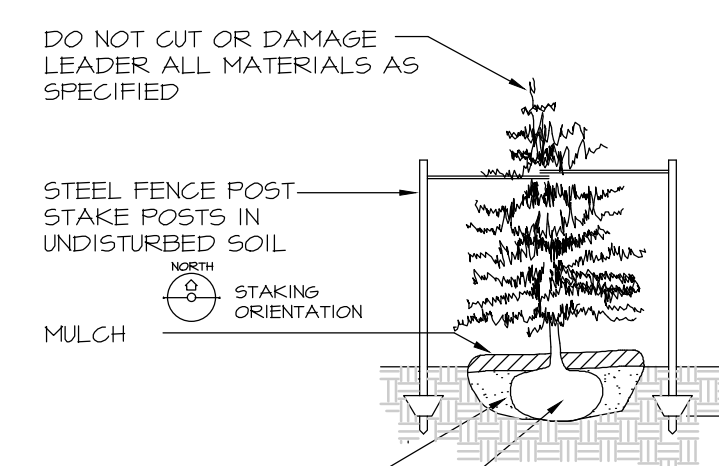
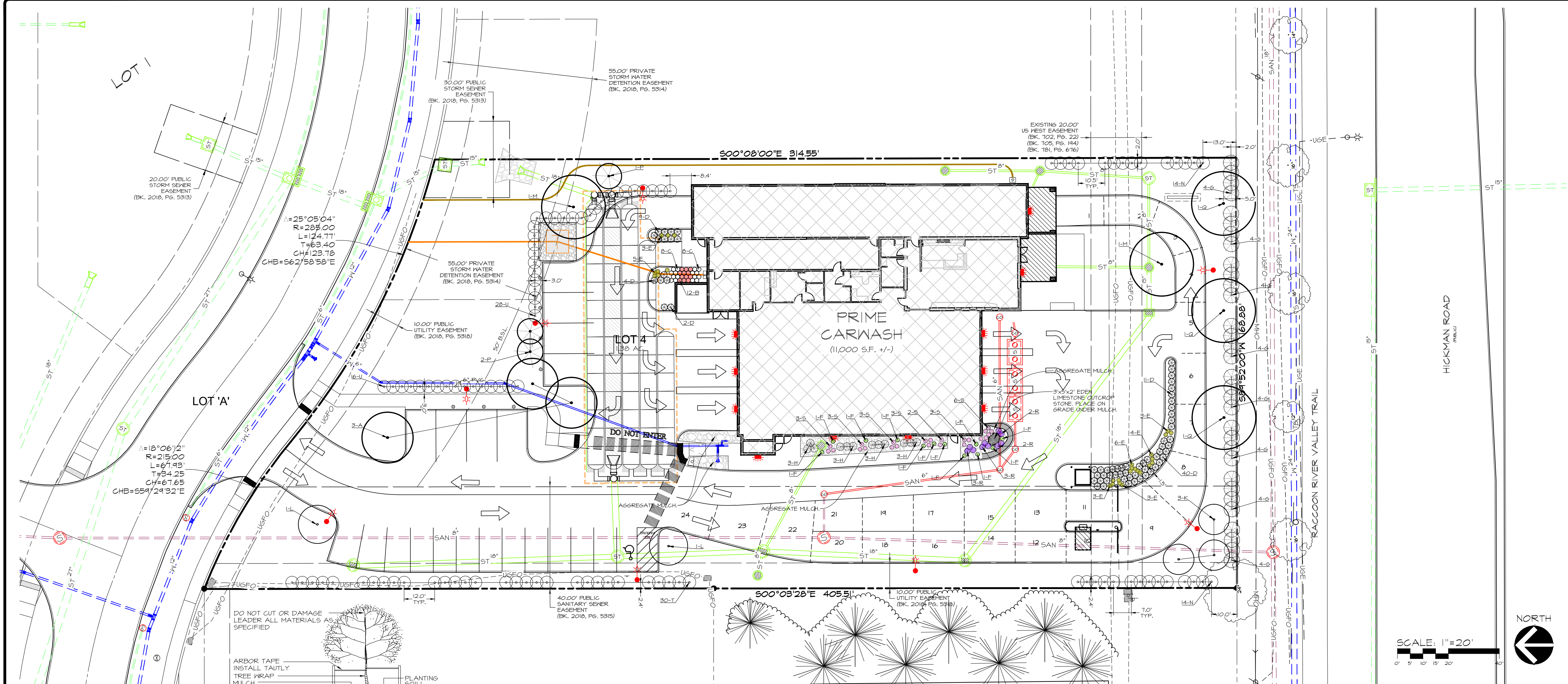
PRIME CARWASH  
 335 E HICKMAN ROAD, WAUKEE, IA  
 PAVING PLAN

SHEET  
 OF 21  
 E-1090









**SIZES NOTED IN PLANT SCHEDULE ARE STRICT MINIMUM SIZES AND WILL BE VERIFIED DURING INITIAL ACCEPTANCE INSPECTION.**

**MINIMUM OF 10% OF EACH SPECIES SPECIFIED ARE TO HAVE PLANT IDENTIFICATION TAGS ATTACHED DURING INITIAL ACCEPTANCE. TAGS SHALL BE REMOVED AFTER PLANT MATERIAL HAS BEEN ACCEPTED.**

**ALL DECIDUOUS TREES ARE TO BE WRAPPED WITH TREE WRAP AND SHALL BE ATTACHED WITH COTTON STRING. TAPES AND PLASTIC FASTENERS ARE NOT ACCEPTABLE.**

**NOTES**

- MULCH BEDS: 3" SHREDDED HARDWOOD MULCH UNLESS NOTED AS MINERAL MULCH-NATURAL COLOR.
- MINERAL MULCH: 1.5"-2" CLEAN TRAP ROCK 3" THICK OVER SEPERATION FABRIC.
- SOD ALL DISTURBED AREAS INCLUDING DISTURBED R.O.M.
- ALL MULCH BEDS TO HAVE SPADE CUT EDGE UNLESS NOTED OTHERWISE.
- ROOT FLARE TO BE AT OR ABOVE FINISHED GRADE TYPICAL.
- IF THERE IS A QUANTITY DISCREPANCY, PLAN QUANTITY GOVERNS.
- DO NOT PLANT WITHIN 5' OF FIRE HYDRANT OR F.D.C.

**LANDSCAPING CALCULATIONS:**

- OPEN SPACE REQUIREMENT: 20% OPEN SPACE REQUIRED.  
SITE AREA: 60,022 \* 20% = 12,004 S.F. REQ'D.  
OPEN SPACE PROVIDED: 20,405 S.F. (34.0%)
- 1 TREE + 1 SHRUB / 1000 S.F. REQUIRED OPEN SPACE  
12,004 / 1000 = 12 PLANT UNITS OF 1 TREE + 1 SHRUB.
- 50% REQUIRED TREES TO BE OVERSTORY (6) AND 25% REQUIRED TREES TO BE EVERGREEN (3).
- REQUIRED MINIMUMS: 6 OVERSTORY TREES + 3 EVERGREEN TREES (12 TREES TOTAL MIN.) + 24 SHRUBS.
- PROVIDED: 8 OVERSTORY TREES  
3 EVERGREEN TREES  
5 UNDERSTORY TREES  
134 SHRUBS
- NO BUFFERS REQUIRED.

**PLANTING REGULATORY MINIMUM SIZES:**

- DECIDUOUS OVERSTORY: 8' HT.
- EVERGREEN OVERSTORY: 6' HT.
- DECIDUOUS ORNAMENTAL TREES: 6' HT.

SEE PLANT SCHEDULE FOR PLANT SIZES THIS SITE PLAN.

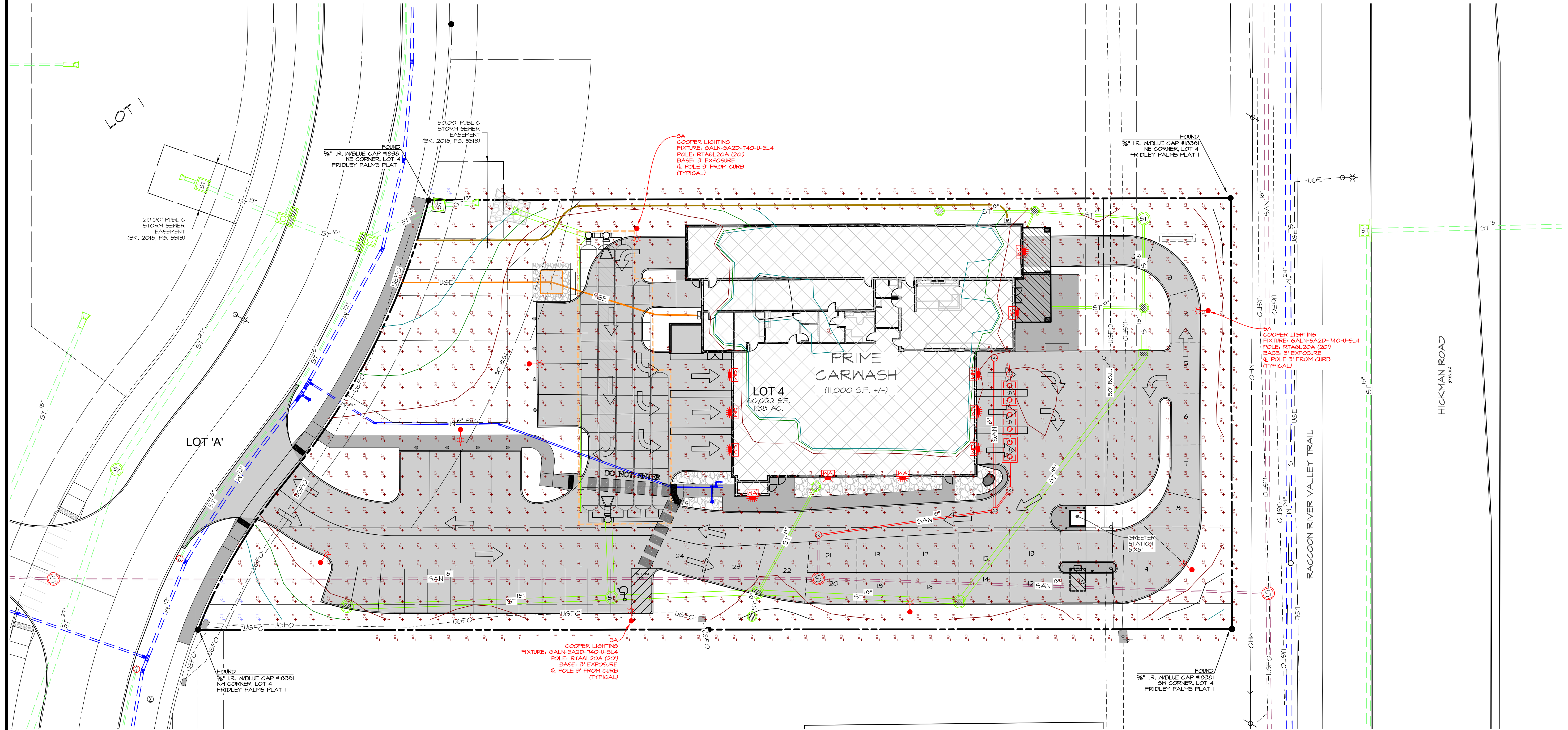
**PLANT SCHEDULE**

MARK	Botanical name	QUAN.	SIZE	ROOT TYPE	COMMENTS
	<b>COMMON NAME</b>				
A	<i>Acer saccharum subsp. nigrum 'Green Column'</i> GREEN COLUMN MAPLE	3	2" CAL.	B&B	MATCHED, SPECIMEN
B	<i>Astilbe 'August Light'</i> AUGUST LIGHT ASTILBE	12	1 GAL.	CONT.	MATCHED, SPECIMEN MULCH BED, 24" o.c.
C	<i>Astilbe 'Deutschland'</i> DEUTSCHLAND ASTILBE	16	1 GAL.	CONT.	MATCHED, SPECIMEN MULCH BED, 24" o.c.
D	<i>Chosmanthium latifolium</i> NORTHERN SEA OATS	66	1 GAL.	CONT.	MATCHED, SPECIMEN, MULCH BED, 2.5' o.c., 12" FROM WALK, 15" FROM CURB
E	<i>Careopsis 'Icterus'</i> JETHRO TULL COREOPSIS	27	1 GAL.	CONT.	MATCHED, SPECIMEN 16" o.c., MULCH BED
F	<i>Hylotelephium 'Lime Zinger'</i> LIME ZINGER SEDUM	12	1 GAL.	CONT.	MATCHED, SPECIMEN, MULCH BED
G	<i>Juniperus x pfitzeriana 'Mint Julep'</i> MINT JULEP JUNIPER	32	3 GAL.	CONT.	MATCHED, SPECIMEN
H	<i>Juniperus squamata 'Blue Star'</i> BLUE STAR JUNIPER	12	3 GAL.	CONT.	MATCHED, SPECIMEN, MULCH BED 3' FROM WALK, 2.5' o.c.
J	NOT USED				
K	<i>Malus 'Hozam'</i> HOLIDAY GOLD CRABAPPLE	3	1.5" CAL.	CONT.	MATCHED, SPECIMEN
L	<i>Malus 'Sutzyam'</i> SUGAR TYME CRABAPPLE	2	1.5" CAL.	CONT.	MATCHED, SPECIMEN
M	<i>Ostrya virginiana 'JFS-KW5'</i> AUTUMN TREASURE HOPHORNBEAM	2	2" CAL.	B&B	MATCHED, SPECIMEN
N	<i>Physocarpus opulifolius 'Ruby Spice'</i> RUBY SPICE NINEBARK	28	3 GAL.	CONT.	MATCHED, SPECIMEN MULCH BED, 3.5' o.c.
P	<i>Pinus flexilis 'Vanderwolf's Pyramid'</i> VANDERWOLF'S PYRAMID LIMBER PINE	3	7' HT.	B&B	MATCHED, SPECIMEN 8' o.c., 8' FROM CURB
Q	<i>Quercus macrocarpa 'JFS-KW3'</i> URBAN PINNACLE OAK	3	2" CAL.	B&B	MATCHED, SPECIMEN
R	<i>Salvia x sylvestris 'May Night'</i> MAY NIGHT SALVIA	10	1 GAL.	CONT.	MATCHED, SPECIMEN 1.75' o.c., MULCH BED
S	<i>Sedum telephium 'Autumn Fire'</i> AUTUMN FIRE SEDUM	23	1 GAL.	CONT.	MATCHED, SPECIMEN, MULCH BED 1.5' o.c.
T	<i>Spiraea japonica 'Froebelii'</i> FROEBEL SPIREA	30	3 GAL.	CONT.	MATCHED, SPECIMEN, MULCH BED 4' o.c.
U	<i>Viburnum plicatum 'Newzam'</i> NEWPORT VIBURNUM	44	3 GAL.	CONT.	MATCHED, SPECIMEN, MULCH BED 4' o.c., 3' FROM CURB/WALK

**EXTERIOR LIGHTING FIXTURE SCHEDULE**

TYPE	WATT	DESCRIPTION	MANUF	CATALOG #	VOLT	NOTES
SA	125	LED SITE LUMINAIRE WITH 15228 LUMENS, T0 CRI, 4000K, TYPE 4 DISTRIBUTION WITH SPILL CONTROL. FIXTURE MOUNTED 22' AFF ON 20' POLE	COOPER	FIXTURE: 6ALN-SA2D-140-U-SL4 POLE: RTA6L20A	120/2TT	<a href="#">Streetworks-6LAN-6alleon-II-Spec-Sheet.pdf</a>
WA	20	LED LARGE DOWNLIGHT WALLPACK WITH 2422 LUMENS, 4000K, TYPE 1 DISTRIBUTION, WALL MOUNTED AT 10'-0" AFF. FINISH TO BE SELECTED BY ARCHITECT.	LIGMAN	ULEE-30021-20W-T1-W40-FINISH-1 20/2TT	120/2TT	<a href="#">ULEE-30021_Fill.pdf</a>
WB	24	LED LARGE SURFACE WALLPACK WITH 2485 LUMENS, 4000K, WALL MOUNTED AT 6'-6" AFF. FINISH TO BE SELECTED BY ARCHITECT.	LIGMAN	UFA-31941-24W-W40-FINISH-120/2 TT	120/2TT	<a href="#">UFA-31941.pdf</a>
WC	20	LED LARGE DOWNLIGHT WALL PACK WITH 2422 LUMENS, TYPE 4 DISTRIBUTION, WALL MOUNTED AT 12'-0" AFF. FINISH TO BE SELECTED BY ARCHITECT.	LIGMAN	ULEE-30021-20W-T4-W40-FINISH- 120/2TT	120/2TT	<a href="#">ULEE-30021_Fill.pdf</a>

- NOTES**
1. PROVIDE ALL REQUIRED ACCESSORIES FOR A COMPLETE AND FUNCTIONAL INSTALLATION.
  2. VERIFY FINISHES WITH ARCHITECTURAL PLANS PRIOR TO ORDERING MATERIALS.
  3. REFER TO ARCHITECTURAL ELEVATIONS FOR ADDITIONAL INFORMATION.



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DESIGNED BY:	JAG
DRAWN BY:	JAG

**PRIME CARWASH**  
335 E HICKMAN ROAD, WAUKEE, IA  
**SITE PHOTOMETRICS PLAN**

# STORM WATER POLLUTION PREVENTION PLAN

## I. SITE DESCRIPTION/APPLICANT/SCHEDULE

- OWNER/APPLICANT: 1914 VENTURES, L.L.C.  
610 KESSLER BOULEVARD WEST DRIVE, INDIANAPOLIS, IN 46228  
CONTACT: CHAD GALLOWAY, PHONE: 317-448-0319
- LOCATION: A PARCEL OF LAND IN THE SE ¼ OF SECTION 21, T19N, R26W
- NATURE OF CONSTRUCTION ACTIVITY: GRADING AND CONSTRUCTION FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENT
- AREAS: TOTAL SITE AREA = 1.38 ACRES  
SITE AREA AFFECTED = 1.38 ACRES
- RUNOFF COEFFICIENT = 0.25 (RATIONAL METHOD)
- APPROXIMATE SLOPES ANTICIPATED: 3:1 OR FLATTER
- 100 YEAR RUNOFF: APPROXIMATELY 9 CFS
- RUNOFF FROM THIS PROJECT WILL FLOW INTO STORM SEWER TO WALNUT CREEK
- SOILS:
  - BEMIS MORAINÉ WITH SLOPES BETWEEN 2% TO 6%
  - NICOLLET LOAM WITH SLOPES BETWEEN 1% TO 3%
  - CLARION LOAM, BEMIS MORAINÉ WITH SLOPES BETWEEN 2% TO 6%
- ESTIMATED DATE WORK IS TO COMMENCE: OCTOBER 2023
- ESTIMATED DATE WORK IS TO BE COMPLETED: OCTOBER 2024

## 2. CONTROLS (ALL SEDIMENT AND EROSION CONTROLS TO BE INSTALLED, MAINTAINED AND REPLACED PER SUDAS SECTION 9040)

- EROSION AND SEDIMENT CONTROLS
- STABILIZATION PRACTICES
- EXISTING VEGETATION IS PRESERVED WHERE ATTAINABLE AND STABILIZE DISTURBED AREAS.
- PERMANENT SEEDING AND/OR SODDING AFTER CONSTRUCTION.
- VEGETATIVE BUFFER STRIPS THROUGHOUT PROJECT.
- PROTECTION OF TREES AND PRESERVATION OF MATURE VEGETATION WHEREVER POSSIBLE.
- STRUCTURAL PRACTICES
- SILT FENCES - TEMPORARY DEVICE TO REMOVE SEDIMENT FROM RUNOFF
- TEMPORARY SEDIMENTATION BASIN - TEMPORARY STRUCTURE TO DETAIN RUNOFF AND ALLOW SEDIMENTATION TO SETTLE OUT
- RIP RAP - PLACED AT OUTLET OF STORM SEWER TO PREVENT DOWNSTREAM EROSION
- DRAINAGE SWALES - STABILIZES SURFACE FROM EROSION WHILE CARRYING SURFACE RUNOFF
- INLET PROTECTION - FILTERS SEDIMENT FROM RUNOFF PRIOR TO ENTERING STORM SEWER SYSTEM
- STORM WATER MANAGEMENT
- FLOW ATTENUATION BY USE OF OPEN VEGETATED SWALES AND NATURAL DEPRESSIONS.
- INFILTRATION OF RUNOFF ON SITE
- VELOCITY DISSIPATION DEVICES AT DISCHARGE LOCATIONS TO PROVIDE NON-EROSIVE VELOCITY FLOWS.
- WASTE DISPOSAL
- ALL MATERIAL WASTES MUST BE REMOVED FROM SITE.
- OFF-SITE VEHICLE TRACKING OF SEDIMENTS SHALL BE MINIMIZED.
- STABILIZE ENTRANCE WITH 8-INCHES OF LIMESTONE IN ORDER TO PREVENT MUD FROM TRACKING OUT ONTO ROADWAY
- TOTAL COMPLIANCE WITH APPLICABLE STATE/LOCAL WASTE DISPOSAL REGULATIONS.
- CONTROLS MUST BE IN GOOD OPERATING CONDITION UNTIL CONSTRUCTION ACTIVITY IS COMPLETE AND FINAL STABILIZATION HAS BEEN REACHED.

## 3. CONTRACTORS

- GENERAL CONTRACTOR SHALL HAVE PRIMARY RESPONSIBILITY OF IMPLEMENTING MEASURES CONTAINED IN PLAN.
- ALL CONTRACTORS AND SUBCONTRACTORS SHALL SIGN A CERTIFICATION STATEMENT BEFORE CONDUCTING ANY PROFESSIONAL SERVICE AT SITE RELATING TO NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT. SEE CERTIFICATION THIS SHEET.
- PERSONS ACCOMPLISHING WORK UNDER THIS PERMIT:

NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_

PHONE: \_\_\_\_\_

NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_

PHONE: \_\_\_\_\_

NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_

PHONE: \_\_\_\_\_

NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_

PHONE: \_\_\_\_\_

## 4. IMPLEMENTATION / MAINTENANCE

- MAINTAIN EFFECTIVE OPERATING CONDITIONS OF ALL PROTECTIVE MEASURES IDENTIFIED IN PLAN.
- CURB CUT SHALL BE ONE OF THE FIRST ITEMS OF CONSTRUCTION IN ORDER TO ACCESS SITE. "JUMPING THE CURB" IS NOT ALLOWED.
- PRIOR TO INITIAL GRADING, INSTALL PERIMETER SILT FENCE TO PROTECT UNDISTURBED AREAS.
- DO NOT DISTURB AN AREA UNTIL IT IS NECESSARY FOR CONSTRUCTION TO PROCEED.
- AFTER INITIAL GRADING PRIOR TO UTILITY CONSTRUCTION, ALL DISTURBED AREAS OUTSIDE PROPOSED RIGHT-OF-WAYS ARE TO HAVE TEMPORARY SEEDING AND MULCHING. CONTRACTORS AND SUBS ARE TO MINIMIZE DISTURBANCE TO THESE SEEDING AREAS THROUGH USE OF SPECIFIC ACCESS ROUTES WITHIN SITE.
- INSTALL ADDITIONAL CONTROLS AS CONSTRUCTION COMMENCES. PROVIDE SILT FENCE, INTAKE BASKETS, ETC. AS SOON AS POSSIBLE DURING CONSTRUCTION.
- TEMPORARY EARTH PILES SHALL HAVE DOWNSLOPE SILT FENCE PROTECTION.
- ALL INTAKES AND MANHOLES TO HAVE SILT FENCE AROUND THEM PRIOR TO PAVING AND INLET FILTERS AFTER PAVING. INLET FILTERS SHALL REMAIN IN PLACE UNTIL SITE HAS PERENNIAL GROUND COVER.
- ALL INTAKES SHALL BE COVERED DURING CONSTRUCTION TO PREVENT SEDIMENTATION DEPOSITS WITHIN STORM SEWER. INTAKE BASKETS SHALL BE PLACED IN STRUCTURE ONCE CASTINGS ARE IN PLACE.
- ANY SOIL OR SPILL, WASHED, TRACKED OR DROPPED ON TO ADJOINING RIGHT-OF-WAYS AND PROPERTY SHALL BE CLEANED UP BY CONTRACTOR IMMEDIATELY. EARTH RAMPS SHALL NOT BE CONSTRUCTED IN STREET GUTTER.
- MATERIAL OR EQUIPMENT STORAGE AREAS MUST BE WITHIN LIMITS OF SOIL DISTURBING ACTIVITY. THESE AREAS SHALL BE INSPECTED FOR POTENTIAL POLLUTANTS ENTERING SYSTEM.
- DURING CONSTRUCTION IF IT BECOMES EVIDENT THAT DISTURBED AREA WILL NOT BE DISTURBED FOR PERIOD EXCEEDING 14 DAYS, STABILIZATION OF THE DISTURBED AREAS SHALL INITIATE IMMEDIATELY.
- PERMANENT SEEDING AND MULCHING TO BE DONE IMMEDIATELY AFTER FINAL GRADING.
- ANY FAILED AREA OF SEEDING SHALL BE RESEEDDED - IN THE EVENT THAT SEEDING/MULCHING DOES NOT OCCUR PRIOR TO WINTER, ALL DISTURBED AREAS SHALL BE MULCHED.
- SILT FENCING SHALL BE CLEANED WHEN THEY HAVE LOST 50% OF THEIR CAPACITY.
- DRAINAGE SWALES REMAIN UNDISTURBED.
- ROCK OUTLET PROTECTION SHALL REMAIN INTACT.
- PERMANENT FINAL PLANT COVERINGS OR STRUCTURES SHALL BE INSTALLED IMMEDIATELY AFTER FINAL GRADING IS COMPLETED. REPLANTING MAY BE REQUIRED TO ENSURE ADEQUATE VEGETATIVE COVER IS ESTABLISHED. ADEQUATE VEGETATIVE COVER IS CONSIDERED TO BE 70% MIN. COVERAGE OF SOIL SURFACE BY INTENDED SPECIES. IF NATIVE LANDSCAPE IS USED, THEN 20% COVERAGE BY COVER CROP IS REQUIRED.
- SOIL SHALL BE WATERED DURING DRY, WINDY CONDITIONS TO MINIMIZE EROSION.
- WORK REQUIRING ENTERING AND LEAVING SITE OVER COUNTY ROADWAYS INCLUDING MATERIAL DELIVERY AND MOVEMENT OF EQUIPMENT SHALL NOT BE PERMITTED DURING PERIODS WHEN GROUND IS EXCEPTIONALLY SOFT AND WET AND EROSION BY VEHICLE IS CERTAIN.
- SOIL STOCKPILES SHALL BE STABILIZED WITH VEGETATION OR COVERED. MOWING MAY BE REQUIRED IF VEGETATION BECOMES A NUISANCE.
- EROSION CONTROL CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROL MEASURES ONCE SITE HAS BEEN PERMANENTLY ESTABLISHED WITH GROUND COVER.
- CONCRETE WASHOUT AREA SHALL BE DESIGNED AND CONSTRUCTED PER SUDAS SECTION 11.050 AND SHALL HAVE AN IMPERMEABLE LINER TO CONTAIN ALL WASTE CONCRETE MATERIALS. WHEN CONTAINER IS ¾ FULL (AVOID SPILLOVER) PCC WASTE SHALL BE DISPOSED OF PROPERLY (SENT TO AN APPROPRIATE RECYCLING FACILITY). PCC WASTE SHALL NOT BE BURIED ON SITE.
- TRASH SHALL BE CLEANED UP DAILY OR PUT INTO COVERED DUMPSTER.

## 5. INSPECTIONS

- CONTRACTOR SHALL KEEP A COPY OF SWPPP ON SITE
- QUALIFIED PERSONNEL SHALL INSPECT DISTURBED AREAS OF CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS.
- INSPECT SITE FOR EVIDENCE OF, OR POTENTIAL OF, POLLUTANTS ENTERING DRAINAGE SYSTEM FROM STORED MATERIALS.
- OBSERVE EROSION AND SEDIMENT CONTROL MEASURES TO ENSURE THAT THEY ARE OPERATING CORRECTLY. REPAIR AND REPLACE AS NECESSARY.
- LOCATIONS WHERE VEHICLES ENTER OR EXIT SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING.
- INSPECT DISCHARGE LOCATIONS TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS.
- ANY MODIFICATIONS TO PLAN AS RESULT OF AN INSPECTION SHALL BE IMPLEMENTED WITHIN 7 CALENDAR DAYS OF INSPECTION. IF IT IS DETERMINED TO BE IMPRACTICABLE TO MAKE THESE CHANGES WITHIN 72 HOURS OF INSPECTION, REASONING AND AN ESTIMATED DATE OF WHEN CHANGES WILL BE MADE SHALL BE DOCUMENTED IN PLANS.
- AN INSPECTION REPORT SHALL BE PREPARED AND RETAINED AS PART OF PREVENTION PLAN UNTIL PROJECT TERMINATION. THIS REPORT WILL CONTAIN FOLLOWING:
  - SUMMARY OF SCOPE OF INSPECTION
  - QUALIFICATIONS OF PERSONNEL MAKING INSPECTION.
  - MAJOR OBSERVATIONS RELATING TO IMPLEMENTATION OF PREVENTION PLAN.
  - ANY ACTIONS TAKEN
  - SIGNATURE
- REPORTS SHALL CONFORM TO STANDARDS SET BY IOWA DNR. COPIES OF THESE REPORTS SHALL BE FORWARDED TO OWNER
- CONTRACTOR IS TO TAKE NECESSARY ACTIONS TO CORRECT DEFICIENCIES FOUND DURING INSPECTIONS AS SOON AS PRACTICABLE BUT IN NO CASE LATER THAN SEVEN (7) DAYS AFTER INSPECTION. IF IT IS DETERMINED THAT IT IS IMPRACTICABLE TO MAKE THESE CHANGES WITHIN 72 HOURS OF INSPECTION, REASONING AND AN ESTIMATED DATE OF WHEN CHANGES WILL BE MADE SHALL BE DOCUMENTED IN PLANS.
- SWPPP RECORDS SHALL BE RETAINED FOR AT LEAST THREE YEARS AFTER NOTICE OF DISCONTINUATION HAS BEEN FILED.

## 6. NON-STORM WATER DISCHARGES

- WATER MAIN FLUSHING
  - FLUSHED WATER WILL BE DISCHARGED INTO THE STORM SEWER SYSTEM WHERE, WHEN DISCHARGED, IT WILL UNDERGO EROSION AND SEDIMENT CONTROLS CONSISTING OF:
    - SILTATION BASIN
    - ROCK OUTLET PROTECTION (RIPRAP)
    - SILT FENCING
    - EXISTING VEGETATION
  - FLUSHED WATER CONTAINING CHEMICALS (I.E. CHLORINE AND/OR DETERGENTS) NEED TO BE NEUTRALIZED PRIOR TO DISCHARGE TO THE CONTROLS LISTED.
  - PETROLEUM STORAGE INCLUDING BUT NOT LIMITED TO FUEL, GEAR OIL, ENGINE OIL, HYDRAULIC OIL, WASTE OIL SHALL NOT BE STORED ON SITE.
  - CONCRETE WASHOUT AREAS SHALL BE DESIGNED IN COMPLIANCE WITH SUDAS SPECIFICATION 11.050.
  - PORTABLE TOILETS SHALL BE SECURED FROM OVERTURNING AND SHALL HAVE DOWNSLOPE SILT FENCE PROTECTION. HOLDING TANK WILL BE PUMPED OUT AS NEEDED AND DISPOSED OF OFF-SITE.
  - CONTRACTOR SHALL CONTAIN AND PROPERLY DISPOSE OF ALL CONCRETE RAUCUTTINGS AND GRINDING.
  - DISCHARGES FROM DEWATERING ACTIVITIES, INCLUDING DISCHARGES FROM DEWATERING OF TRENCHES AND EXCAVATIONS, ARE PROHIBITED UNLESS MANAGED BY APPROPRIATE CONTROLS SUCH AS DEWATERING BAGS OR EQUAL.
  - FOLLOWING DISCHARGES ARE PROHIBITED:
    - WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO
    - PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS
    - FUEL OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE
    - SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING
    - DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER AND OTHER WASH WATERS SHALL BE MINIMIZED. WASH WATERS SHALL BE TREATED IN SEDIMENT BASIN OR EQUAL CONTROL.
    - EXPOSURE OF BUILDING MATERIALS, BUILDING PRODUCTS, CONSTRUCTION WASTES, TRASH, LANDSCAPE MATERIALS, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER PRESENT MATERIALS TO PRECIPITATION AND STORM WATER SHALL BE MINIMIZED.
    - DISCHARGE OF POLLUTANTS FROM SPILLS AND LEAKS SHALL BE MINIMIZED.

## 7. REPORT ANY HAZARDOUS CONDITIONS CONDITION AND UPDATE PLAN

- IOWA LAW REQUIRES THAT HAZARDOUS CONDITION OR SPILL IS REPORTED NOT MORE THAN SIX HOURS AFTER ONSET OF SAID CONDITION OR SPILL. IDNR AND LOCAL OR COUNTY SHERIFF'S OFFICE SHALL BE NOTIFIED.
- MODIFY SWPPP WITHIN 5 CALENDAR DAYS OF HAZARDOUS CONDITION. PLAN UPDATE SHALL INCLUDE RELEASE AND CIRCUMSTANCES OF RELEASE AND PLANS TO PREVENT FUTURE REOCCURRENCE OF SUCH RELEASES.

## 8. NOTICE OF DISCONTINUATION (NOD)

- WITHIN 30 DAYS OF FINAL SITE STABILIZATION OWNER OR GENERAL CONTRACTOR MUST SUBMIT NOTICE OF DISCONTINUATION TO IDNR. NOD SHALL INCLUDE:
  - NAME OF THE OWNER OR OPERATOR TO WHICH COVERAGE UNDER GENERAL PERMIT WAS ISSUED
  - GENERAL PERMIT NUMBER AND PERMIT AUTHORIZATION NUMBER
  - DATE CONSTRUCTION SITE REACHED FINAL STABILIZATION
  - SIGNED CERTIFICATION
- NOD SHALL BE MAILED TO:
  - STORM WATER COORDINATOR
  - IOWA DEPARTMENT OF NATURAL RESOURCES
  - 502 E. 9TH STREET
  - DES MOINES, IOWA 50319-0034

## THE PRESERVER NOTES

1. THE PRESERVER SHALL BE MAINTAINED AND INSPECTED IN ACCORDANCE WITH MOMENTUM ENVIRONMENTAL'S PRESERVER INSPECTION AND MAINTENANCE MANUAL. THE MANUAL CAN BE OBTAINED BY CONTACTING THE ENGINEER.
- 1.1 THE PRESERVER SHALL BE INSPECTED, AT A MINIMUM, TWICE ANNUALLY, IN THE SPRING AND FALL. SPRING INSPECTION SHALL OCCUR AFTER SNOWMELT, BLOSSOM/SEED FALL AND SPRING STREET CLEANING AND SHALL OCCUR PRIOR TO HEAVY RAINFALL. FALL INSPECTION SHALL OCCUR AFTER LEAF FALL AND FALL STREET CLEANING AND SHALL OCCUR PRIOR TO SNOW/RAINFALL.
- 1.2 NOTEWORTHY ITEMS DURING INSPECTION SHALL INCLUDE (BUT NOT LIMITED TO):
  - 1.2.1 POLLUTANT DEPTHS - OIL/FLOATABLES, SEDIMENT/SETTLABLE SOLIDS
  - 1.2.2 SITE CONDITIONS - STABILIZATION, CONSTRUCTION ACTIVITY, EQUIPMENT WASH-DOWN, EROSION, WINTER SANDING
  - 1.2.3 MAINTENANCE/CLEANING PERFORMANCE
  - 1.2.4 POLLUTANT COMPOSITION - HYDROCARBONS (OIL, GAS, GREASE), TRASH, ORGANICS
  - 1.2.5 WATER LEVEL - BELOW OUTLET INVERT INDICATES LEAKING
  - 1.2.6 STRUCTURAL CONDITION - CASTING CONDITION, CHIMNEY CONDITION (ADJUSTING RING DETERIORATION, LEAKING/PROPER SEAL), SPALLING CONCRETE, PRESERVER COMPONENTS (CONDITION, CONNECTIONS, DEBRIS ACCUMULATION)
- 1.3 MAINTENANCE FREQUENCY SHALL BE DETERMINED BASED OFF OF INSPECTIONS AND THE POLLUTANT STORAGE VOLUME (POLLUTANT STORAGE VOLUME SHALL BE DETERMINED IN ACCORDANCE WITH MOMENTUM ENVIRONMENTAL'S PRESERVER INSPECTION AND MAINTENANCE MANUAL.
  - 1.3.1 TYPICAL STRUCTURE CLEANOUT SHALL INCLUDE VACUUMING OUT THE WATER AND DEBRIS CONTAINED IN THE STRUCTURE. WATER CAN BE SPRAYED TO DISLODGE AND DEBRIS FOR VACUUM COLLECTION. COLLECTED POLLUTANTS SHALL BE PROPERLY DISPOSED OF. CONFINED SHALL ENTRY PROCEDURES SHALL BE FOLLOWED IF PHYSICAL ACCESS IS NECESSARY.
  - 1.3.2 STRUCTURAL CONDITION SHALL BE DETERMINED AFTER CLEANOUT OF THE STRUCTURE. ANY NECESSARY REPAIRS SHALL OCCUR AS SOON AS POSSIBLE.

## SEQUENCE OF MAJOR ACTIVITIES

1. **PRE-CONSTRUCTION:** SOIL STABILIZATION AND EROSION CONTROL MEASURES WILL BE PLACED BY CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION OPERATIONS. VEGETATION IN AREAS NOT NEEDED FOR CONSTRUCTION SHALL BE PRESERVED. EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ACHIEVED.
2. INSTALL UPSTREAM DIVERSIONS, DOWN SLOPE AND SIDE SLOPE PERIMETER CONTROLS BEFORE COMMENCING LAND DISTURBING ACTIVITIES.
3. DO NOT DISTURB AN AREA UNLESS IT IS NECESSARY FOR CONSTRUCTION TO PROCEED.
4. COVER OR STABILIZE DISTURBED AREAS AS SOON AS POSSIBLE.
5. TIME CONSTRUCTION ACTIVITIES TO LIMIT IMPACT ON SEASONAL WEATHER CHANGES.
6. IF INFILTRATION METHODS ARE USED, INSTALL THEM AFTER UPSTREAM IS STABILIZED.
7. DO NOT REMOVE PERIMETER CONTROLS UNTIL UPSTREAM AREAS ARE STABILIZED.
8. DISTURBED AREAS SHALL BE SEEDED, FERTILIZED AND MULCHED AS SOON AS POSSIBLE.
9. NOTICE OF DISCONTINUATION WILL BE FILED ONCE SITE IS STABILIZED.

## OWNER'S CERTIFICATION

"I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE AS PART OF THIS CERTIFICATION. FURTHER, BY MY SIGNATURE, I UNDERSTAND THAT I AM BECOMING A CO-PERMITTEE, ALONG WITH THE CONTRACTOR AND SUBCONTRACTORS SIGNING SUCH CERTIFICATIONS, TO THE IOWA DEPARTMENT OF NATURAL RESOURCES NPDES GENERAL PERMIT NO. 2 FOR "STORM WATER DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY FOR CONSTRUCTION ACTIVITIES" AT THE IDENTIFIED SITE. AS A CO-PERMITTEE, I UNDERSTAND THAT I, AND MY ORGANIZATION, ARE LEGALLY REQUIRED UNDER THE CLEAN WATER ACT AND THE CODE OF IOWA, TO ENSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE STORM WATER POLLUTION PREVENTION PLAN DEVELOPED UNDER THIS NPDES PERMIT AND THE TERMS OF THIS NPDES PERMIT.

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED, BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS."

NAME / TITLE: CHAD GALLOWAY - PARTNER

COMPANY: 1914 VENTURES LLC

TELEPHONE NUMBER: 317-448-0319

## CONTRACTOR CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE AS PART OF THIS CERTIFICATION. FURTHER, BY MY SIGNATURE, I UNDERSTAND THAT I AM BECOMING A CO-PERMITTEE, ALONG WITH THE OWNER(S) AND OTHER CONTRACTORS AND SUBCONTRACTORS SIGNING SUCH CERTIFICATIONS, TO THE IOWA DEPARTMENT OF NATURAL RESOURCES NPDES GENERAL PERMIT NO. 2 FOR "STORM WATER DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY FOR CONSTRUCTION ACTIVITIES" AT THE IDENTIFIED SITE. AS A CO-PERMITTEE, I UNDERSTAND THAT I, AND MY COMPANY, ARE LEGALLY REQUIRED UNDER THE CLEAN WATER ACT AND THE CODE OF IOWA, TO ENSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE STORM WATER POLLUTION PREVENTION PLAN DEVELOPED UNDER THIS NPDES PERMIT AND THE TERMS OF THIS NPDES PERMIT.

### GENERAL CONTRACTOR

NAME / TITLE: \_\_\_\_\_

COMPANY: \_\_\_\_\_

TELEPHONE NUMBER: \_\_\_\_\_

### SUBCONTRACTOR

NAME / TITLE: \_\_\_\_\_

COMPANY: \_\_\_\_\_

TELEPHONE NUMBER: \_\_\_\_\_

### SUBCONTRACTOR

NAME / TITLE: \_\_\_\_\_

COMPANY: \_\_\_\_\_

### SUBCONTRACTOR

NAME / TITLE: \_\_\_\_\_

COMPANY: \_\_\_\_\_

## QUANTITIES

1,452 LF	SILT FENCE
20,500 SQ-FT	SOD - (PERMANENT)
1.38 ACRES	SEEDING - TYPE 4 (TEMPORARY AS NEEDED)
12 TONS	CLASS 1 RIPRAP OVER ENGINEERING FABRIC
8 EA	INTAKE FILTER BASKETS
1 EA	CONSTRUCTION ENTRANCE

## AREA OF DISTURBANCE

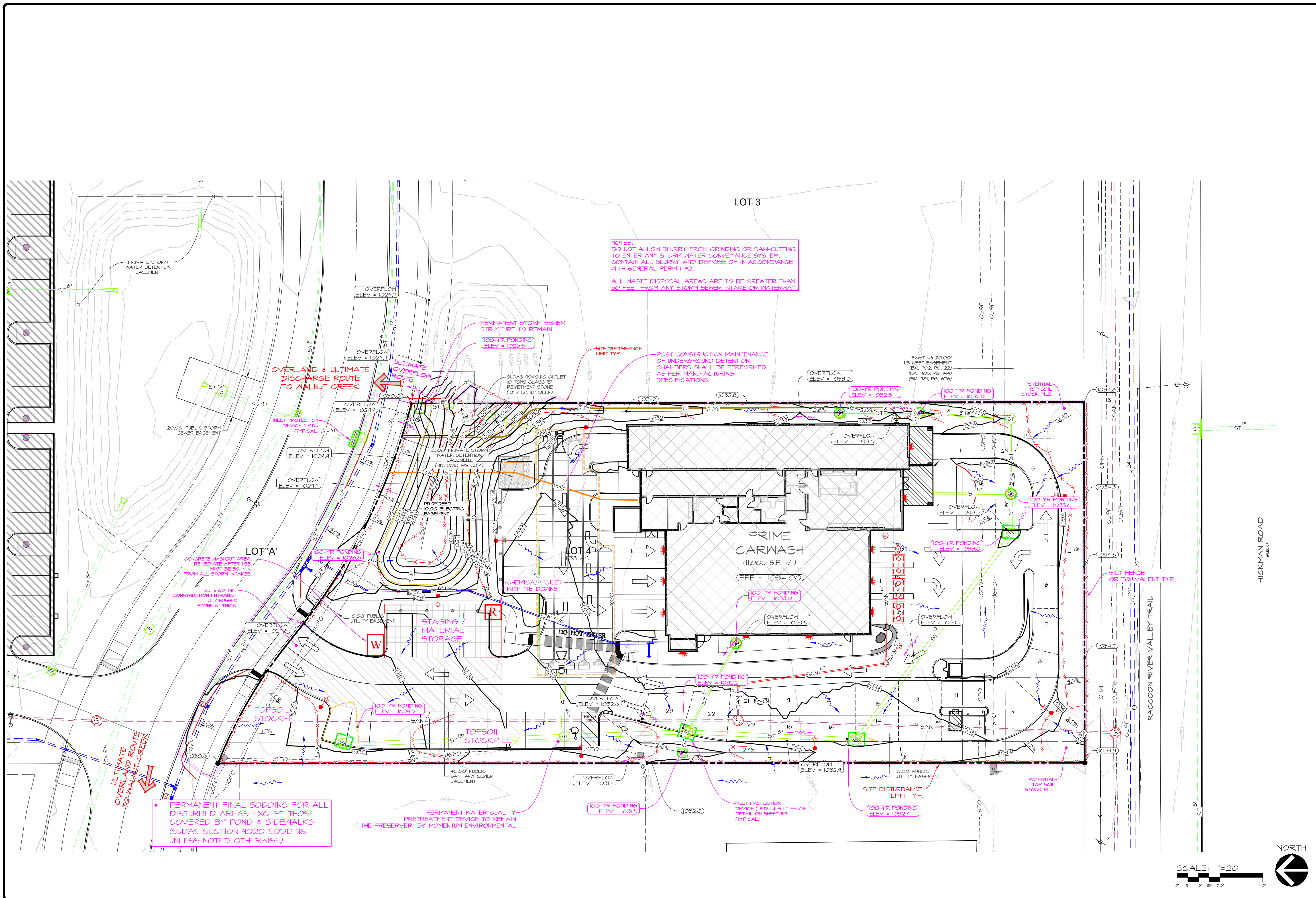
1.38 ACRES

NPDES PERMIT AUTHORIZATION NUMBER  
43534 - 43131

DATE: AUG. 22, 2023  
4TH & 5TH SUB. ....  
2ND SEP 15, 2023 & 3RD SUB. OCT. 09, 2023  
1ST SUB. AUG. 22, 2023  
DATE OF SURVEY: AUG. 22, 2023  
DESIGNED BY: JAG  
DRAWN BY: JAG

PRIME CARWASH  
335 E HICKMAN ROAD, WAUKEE, IA  
EROSION & SEDIMENT CONTROL NOTES

SHEET  
OF 21  
E-91040



NOTES:  
DO NOT ALLOW SLURRY FROM GRINDING OR SAN-CUTTING TO ENTER ANY STORM WATER CONVEYANCE SYSTEM. CONTAIN ALL SLURRY AND DISPOSE OF IN ACCORDANCE WITH GENERAL PERMIT #2.  
ALL WASTE DISPOSAL AREAS ARE TO BE GREATER THAN 50 FEET FROM ANY STORM SEWER INTAKE OR WATERWAY.

PERMANENT FINAL SODDING FOR ALL DISTURBED AREAS EXCEPT THOSE COVERED BY POND & SIDEWALKS (SUDAS SECTION 9020 SODDING UNLESS NOTED OTHERWISE)

PERMANENT WATER QUALITY PRETREATMENT DEVICE TO REMAIN "THE PRESERVER" BY MOMENTUM ENVIRONMENTAL

POST CONSTRUCTION MAINTENANCE OF UNDERGROUND DETENTION CHAMBERS SHALL BE PERFORMED AS PER MANUFACTURING SPECIFICATIONS.

ULTIMATE OVERLAND ROUTE TO WALNUT CREEK

OVERLAND & ULTIMATE DISCHARGE ROUTE TO WALNUT CREEK

PERMANENT STORM SEWER STRUCTURE TO REMAIN

CONCRETE WASHOUT AREA. REMEDIATE AFTER USE. MUST BE 50' MIN. FROM ALL STORM INTAKES.

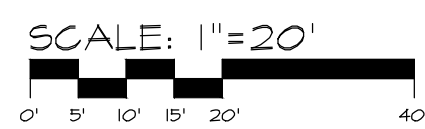
CHEMICAL TOILET WITH TIE-DOWNS

STAGING / MATERIAL STORAGE

DO NOT ENTER

100' PUBLIC UTILITY EASEMENT

INLET PROTECTION DEVICE (I.P.D.) & SILT FENCE DETAIL ON SHEET #14 (TYPICAL)

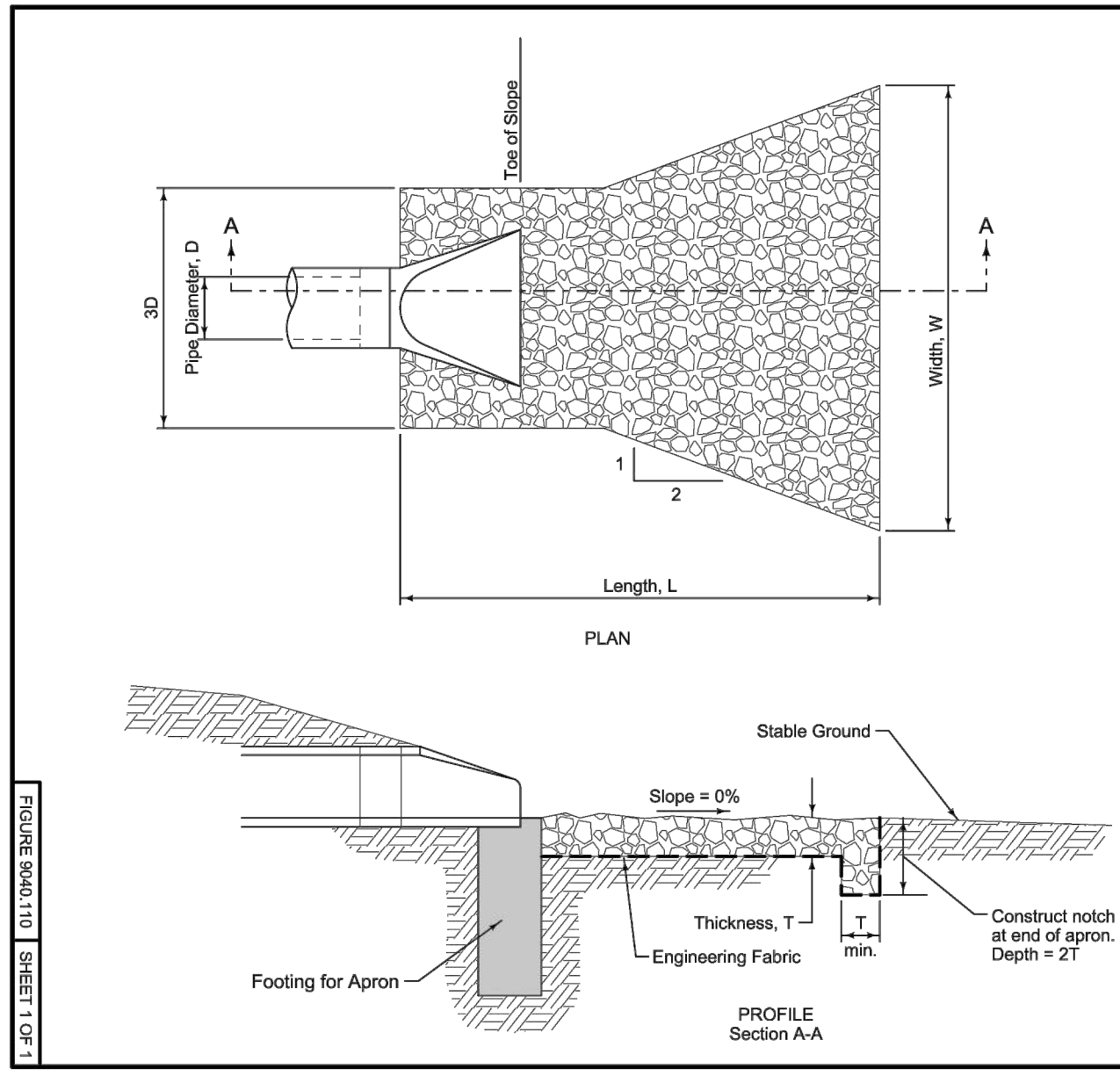


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DESIGNED BY: JAG  
DRAWN BY: JAG

PRIME CARWASH  
355 E HICKMAN ROAD, WAUKEE, IA  
EROSION & SEDIMENT CONTROL - PLAN

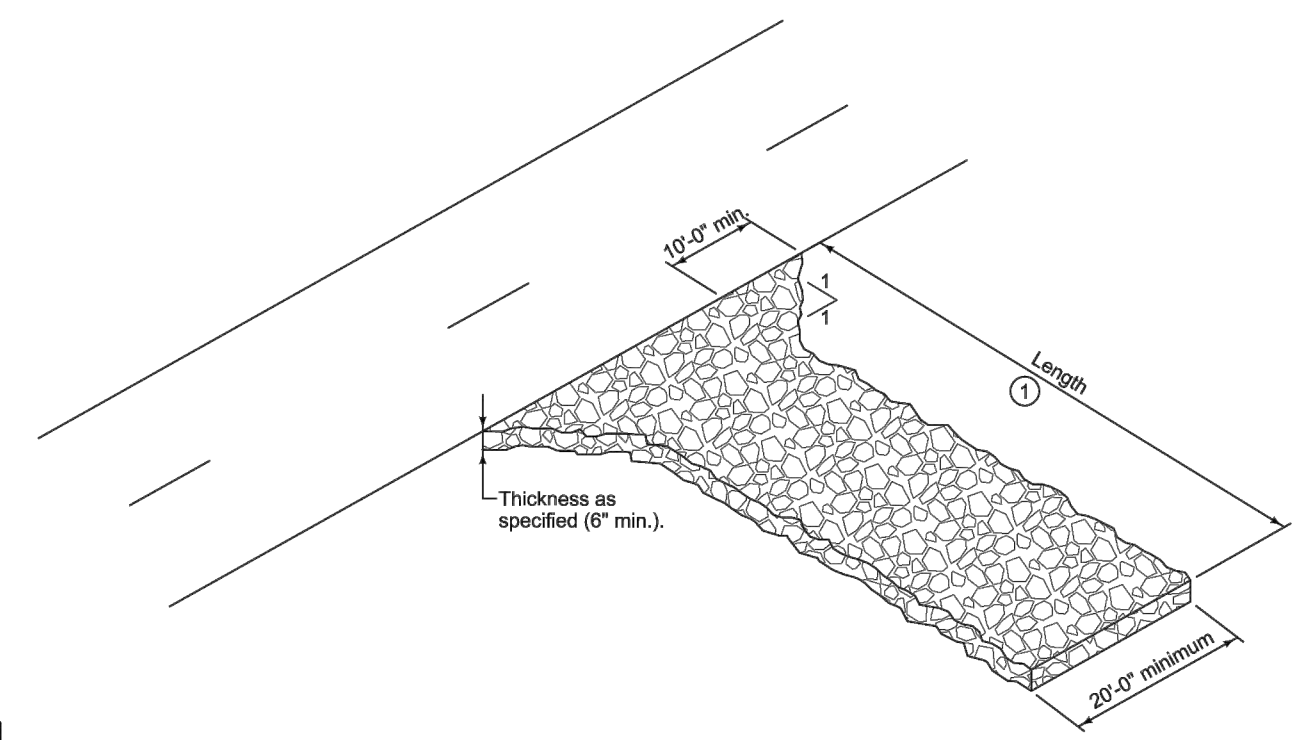
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OF 21  
E-4040



**SUDAS** 9040.110  
SHEET 1 OF 1

SUDAS Standard Specifications

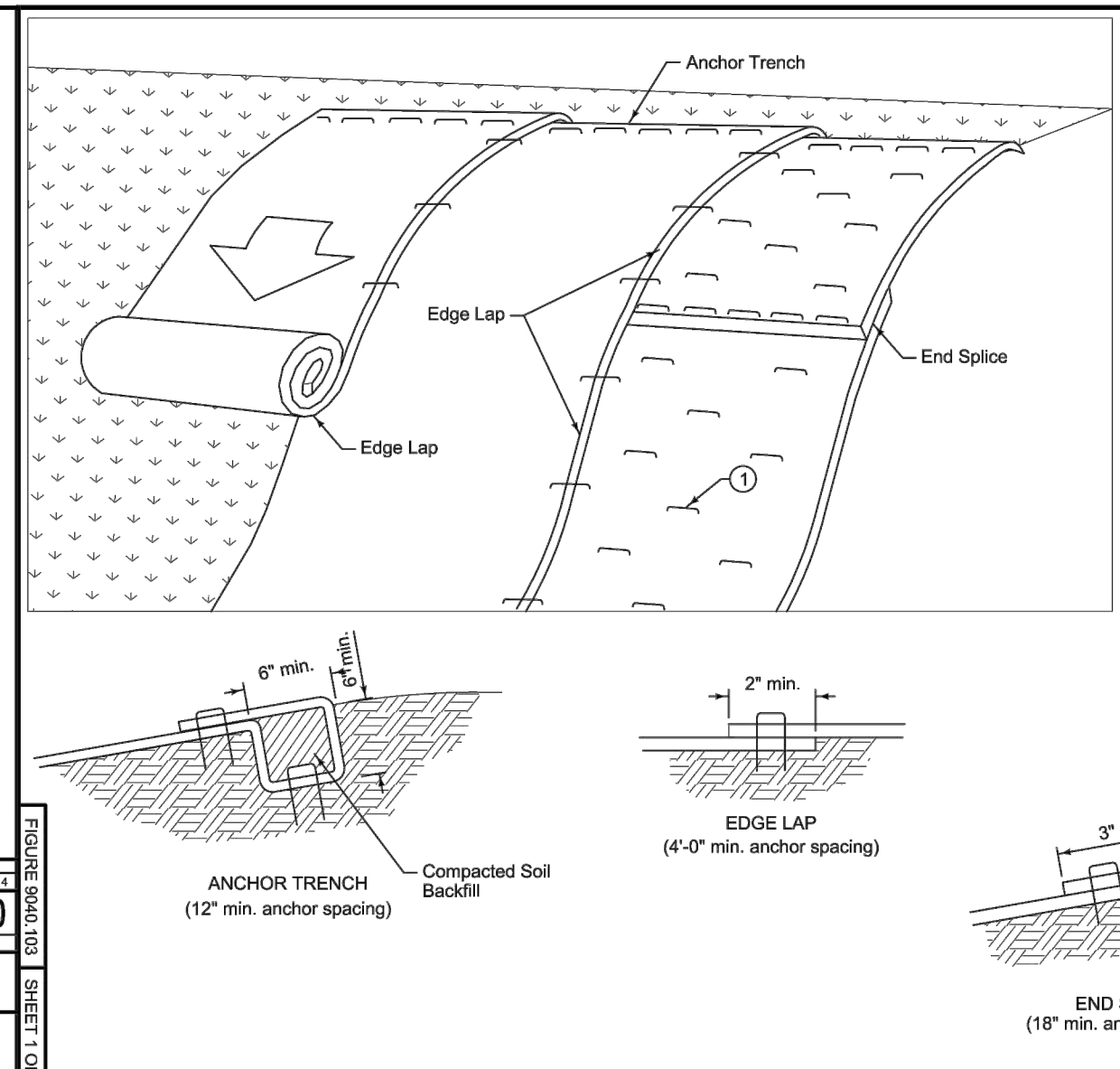
RIP RAP FOR PIPE OUTLET ONTO FLAT GROUND



**SUDAS** 9040.120  
SHEET 1 OF 1

SUDAS Standard Specifications

STABILIZED CONSTRUCTION ENTRANCE



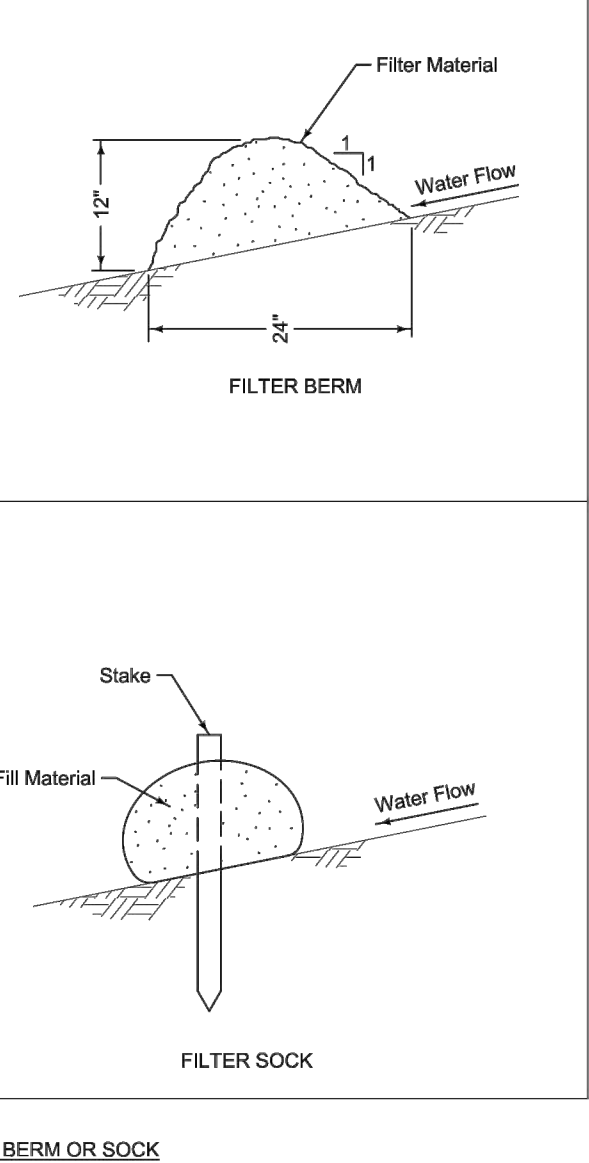
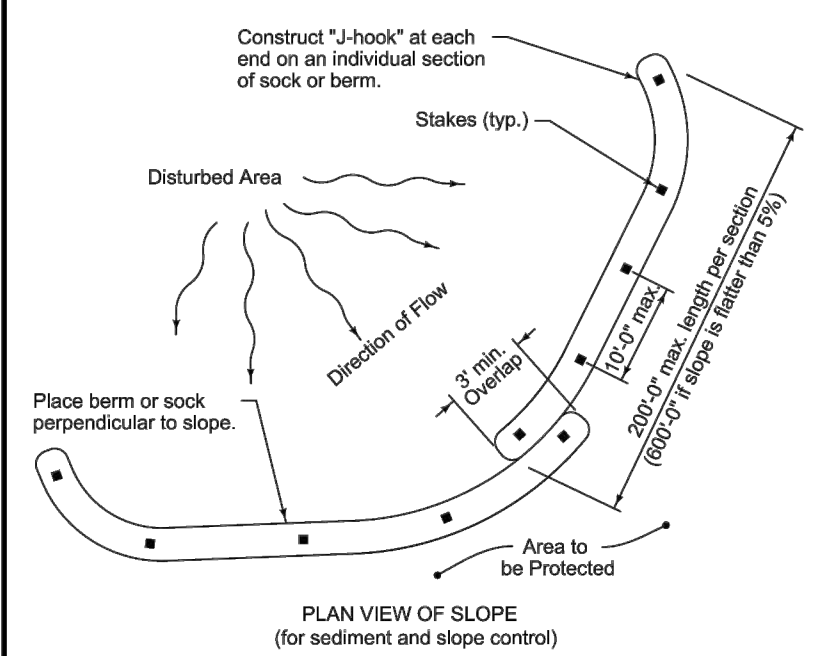
**SUDAS** 9040.103  
SHEET 1 OF 1

SUDAS Standard Specifications

ROLLED EROSION CONTROL PRODUCT (RECP) INSTALLATION ON SLOPES

**TABLE 1**

Max. slope	Min. anchors
≤ 3:1	1.5yd <sup>2</sup>
2:1	2yd <sup>2</sup>
1:1	2.5yd <sup>2</sup>



**SUDAS** 9040.102  
SHEET 1 OF 1

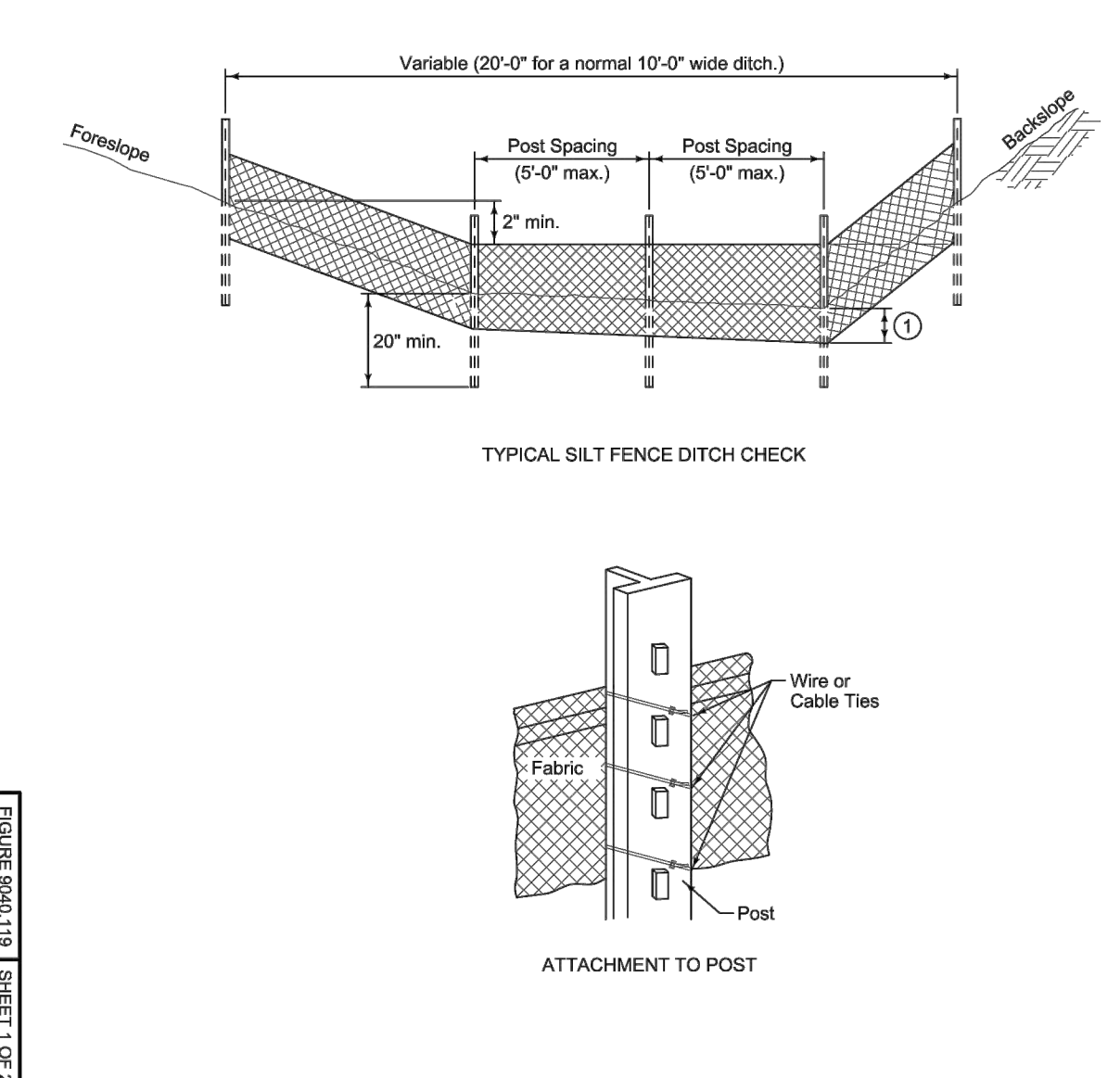
SUDAS Standard Specifications

FILTER BERM AND FILTER SOCK

Berm shown is typical for slopes flatter than 3:1. For steeper slopes, increase berm size as directed by the Engineer.

Place berm in uncompacted windrow perpendicular to the slope at locations specified in the contract documents.

Filter sock diameter as specified in the contract documents.



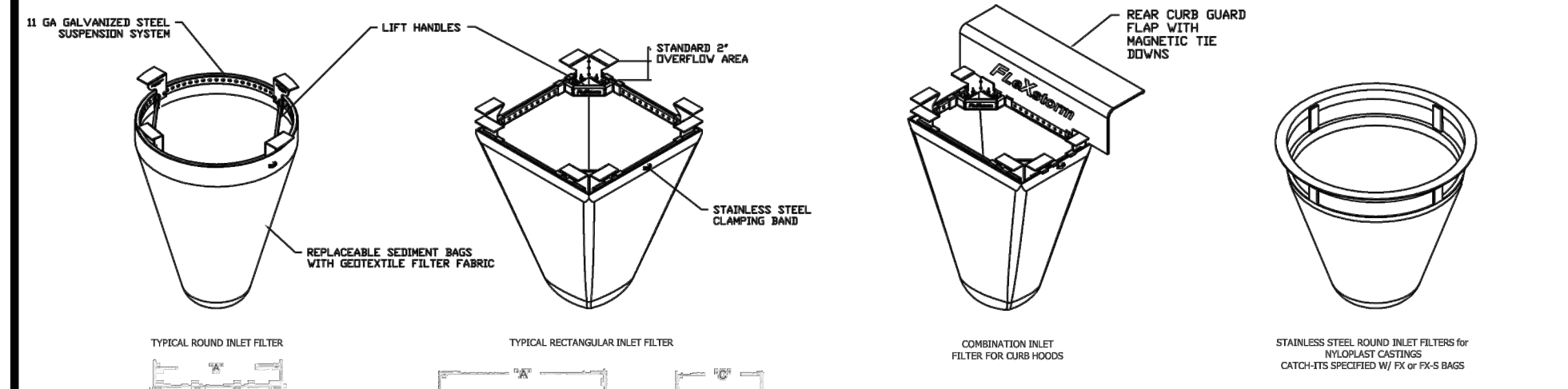
**SUDAS** 9040.119  
SHEET 1 OF 1

SUDAS Standard Specifications

SILT FENCE

Insert 12 inches of fabric a minimum of 6 inches deep (fabric may be folded below the ground line).

**FLEXSTORM CATCH-IT FILTERS FOR TEMPORARY INLET PROTECTION**  
PRODUCT SELECTION AND SPECIFICATION DRAWING



**NOTES:**

- ALL FRAMING IS CONSTRUCTED OF CORROSION RESISTANT STEEL (ZINC PLATED OR GALVANIZED) FOR 7 YEAR MINIMUM SERVICE LIFE.
- UPON ORDERING CONFIRMATION OF THE DOT CALLOUT, PRECAST OR CASTING MAKE AND MODEL, OR DETAILED DIMENSIONAL FORMS MUST BE PROVIDED TO CONFIGURE AND ASSEMBLE YOUR CUSTOMIZED FLEXSTORM INLET FILTER. PART NUMBER ALDNE IS NOT SUFFICIENT.
- FOR WRITTEN SPECIFICATIONS AND MAINTENANCE GUIDELINES VISIT [WWW.INLETFILTERS.COM](http://WWW.INLETFILTERS.COM)

STYLE	FRAME STYLE AND SIZE	Frame P/N:
ROUND	Small Round (up to 20" dia grates (A) dia)	62MRD
	Med Round (20.1" - 26.0" dia grates (A) up to 25" dia openings (B))	62MRD
	Large Round (26.1" - 36.0" dia grates (A) up to 30" openings (B))	62LRD
	XL Round (36.1" dia - 36" dia grates (A) up to 37" dia openings (B))	62XLRD
RECT / SQUARE	Small Rect / Square (up to 36" (B) x 36" (D) openings or 60" perimeter)	62RSQ
	Med Rect / Square (up to 36" (B) x 24" (D) openings or 90" perimeter)	62MRSQ
	Large Rect / Square (up to 36" (B) x 24" (D) openings or 120" perimeter)	62LSQ
	XL Rect / Square (side by side 2 each to fit up to 48" (B) x 36" (D) openings)	62XLRSQ
COMBO	Small Rect / Square (Inf Rect sizing, shipped with Magnetic Curb Flaps)	62SCR
	Med Rect / Square (Inf Rect sizing, shipped with Magnetic Curb Flaps)	62MSR
	Large Rect / Square (Inf Rect sizing, shipped with Magnetic Curb Flaps)	62LSR
	XL Rect / Square (Inf Rect sizing, shipped with Magnetic Curb Flaps)	62XLSR
HYDRAST	12" diameter Nyloplast castings (Stainless Steel Framing standard)	6212NY
	15" diameter Nyloplast castings (Stainless Steel Framing standard)	6215NY
	18" diameter Nyloplast castings (Stainless Steel Framing standard)	6218NY
	24" diameter Nyloplast castings (Stainless Steel Framing standard)	6224NY
	30" diameter Nyloplast castings (Stainless Steel Framing standard)	6230NY

SPECIFICATIONS FOR STANDARD BAGS BY NOMINAL SIZE			
Nominal Bag Size	Solids Storage (CuFt)	FX (Woven)	IL (NonWoven)
Small	1.6	1.2	0.9
Medium	3.1	1.7	1.3
Large	3.8	2.7	1.9
XL	4.2	3.6	2.6

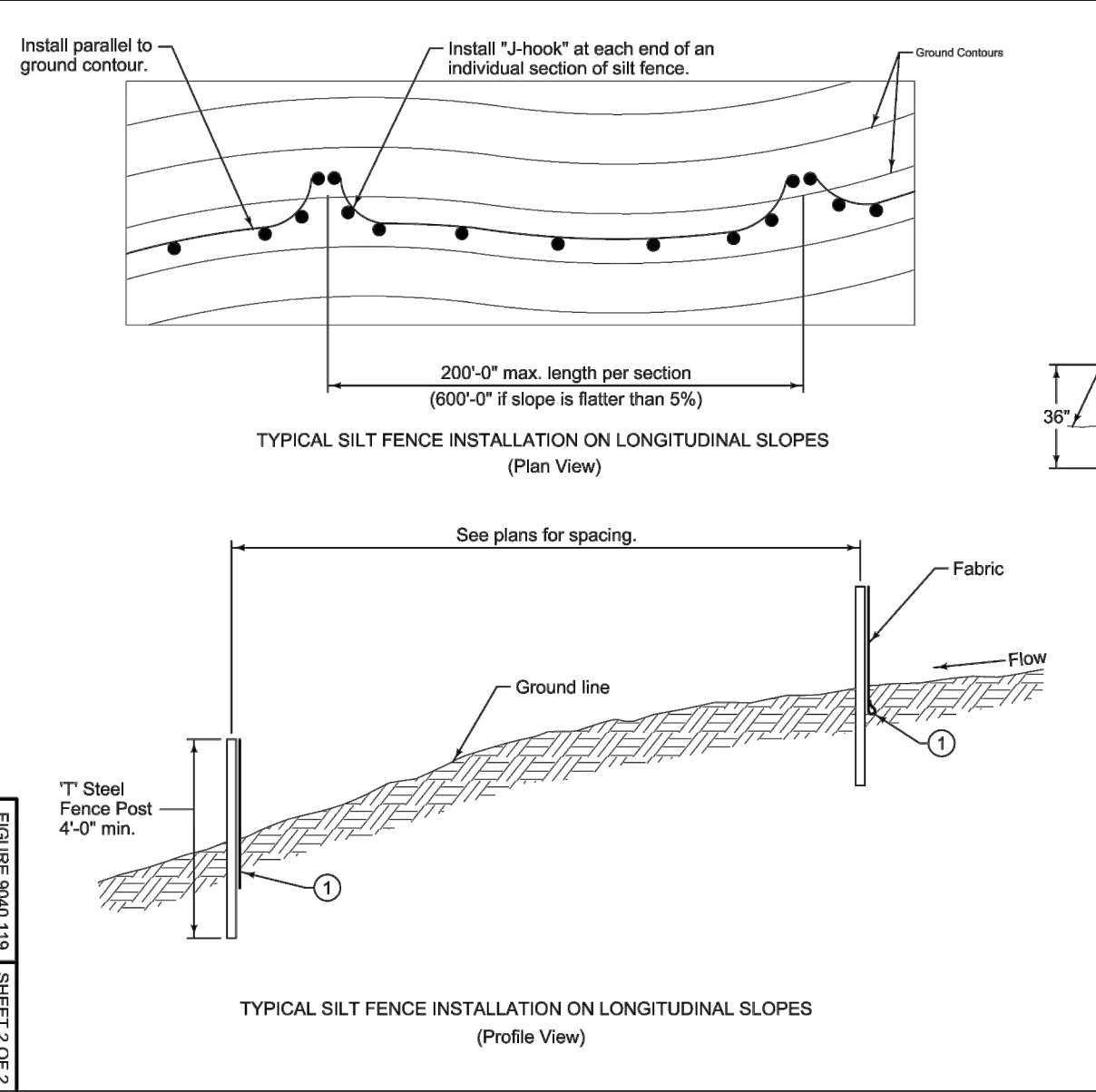
**INSTALLATION:**

- REMOVE GRATE
- DRDP FLEXSTORM INLET FILTER ONTO LOAD BEARING LIP OF CASTING OR CONCRETE STRUCTURE
- REPLACE GRATE

**FLEXSTORM**  
INLET FILTERS  
**CATCH IT**

ALL PRODUCTS MANUFACTURED BY INLET & PIPE PROTECTION, INC A DIVISION OF ADS, INC.  
WWW.INLETFILTERS.COM  
(866) 287-8655 PH  
(630) 355-3477 FX  
INLETFILTERS.COM

PROJECT: FLEXSTORM\_CATCH\_IT  
SCALE: 1" = 1'-0"



**SUDAS** 9040.119  
SHEET 1 OF 1

SUDAS Standard Specifications

SILT FENCE

Insert 12 inches of fabric a minimum of 6 inches deep (fabric may be folded below the ground line).

Reduce post spacing to 5'-0" at water concentration areas, or as required to adequately support fence.

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PRIME CARMASH  
335 E HICKMAN ROAD, WAUKEE, IA  
EROSION & SEDIMENT CONTROL - DETAILS