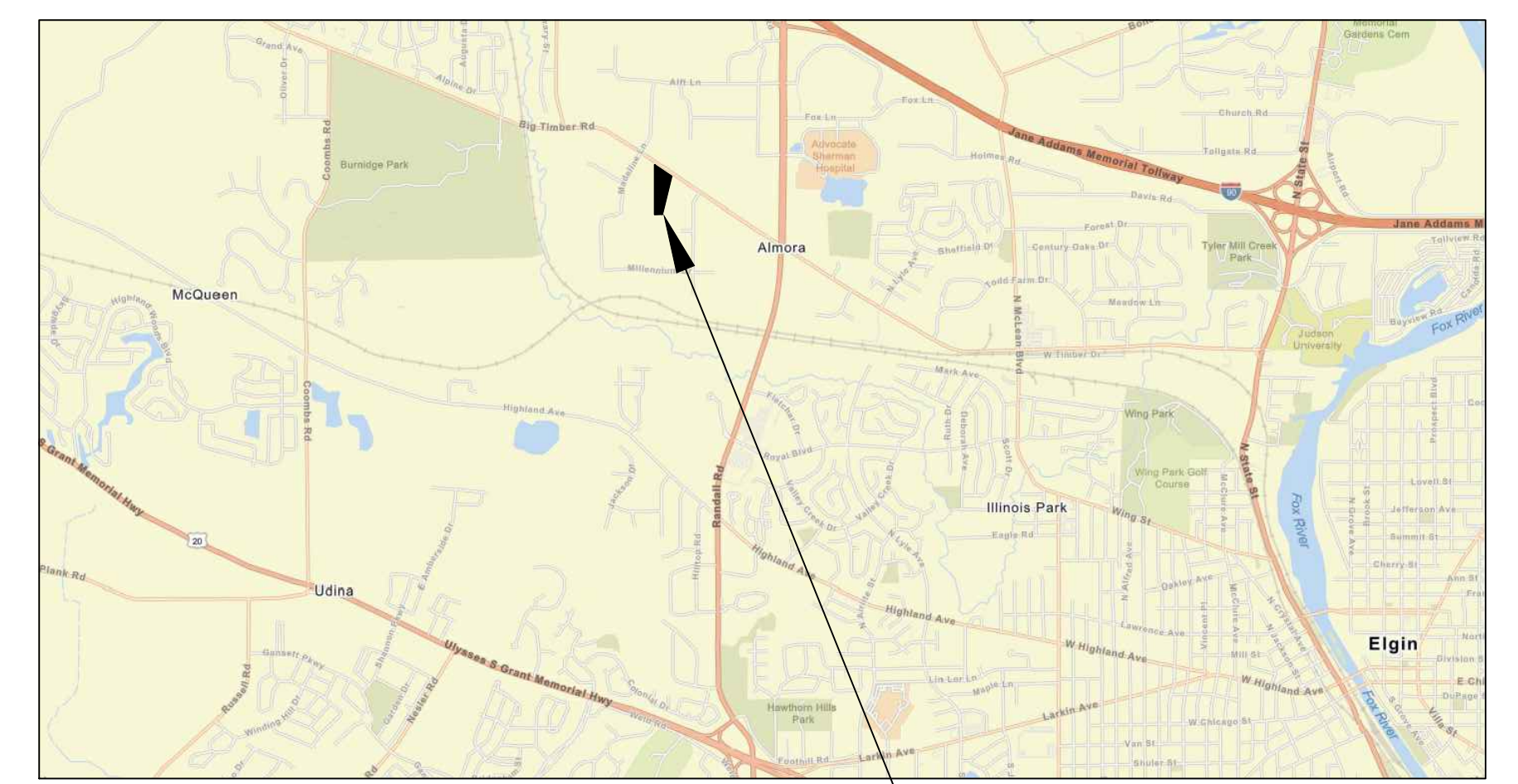


KANE COUNTY, ILLINOIS
KELLENBERGER PLUMBING AND UNDERGROUND INC.
 37W507 BIG TIMBER ROAD
DETENTION BASIN IMPROVEMENT



PROJECT LOCATION LOCATION MAP (N.T.S.)

EXISTING DETENTION STAGED STORAGE TABLE

Elevation (ft)	Area (sf)	Volume (cf)	Volume Sum (cf)	Volume Sum (acre-ft)
868.05	8505.0	0.0	0.0	0.000
869.00	9424.0	8512.5	8512.5	0.195
870.00	10947.0	10176.0	18688.5	0.429
871.00	12672.0	11799.0	30487.5	0.700
872.00	14923.0	13782.2	44269.7	1.016
872.21	15314.0	13174.8	47444.5	1.089

EXISTING INFILTRATION VOLUME STORAGE REQUIRED
 ORDINANCE REQUIRES INFILTRATION STORAGE OF THE FIRST 1.0" OF RAINFALL OVER THE IMPERVIOUS AREAS
 IMPERVIOUS AREA = 1.97 ACRE
 REQUIRED INFILTRATION STORAGE = 1.97 x (1/12) = 0.164 ACRE-FT

EXISTING RETENTION STAGED STORAGE TABLE

Elevation (ft)	Area (sf)	Volume (cf)	Volume Sum (cf)	Volume Sum (acre-ft)
866.00	2170.0	0.0	0.0	0.000
867.00	3806.0	2950.0	2950.0	0.068
868.05	8505.0	6300.2	9250.1	0.212

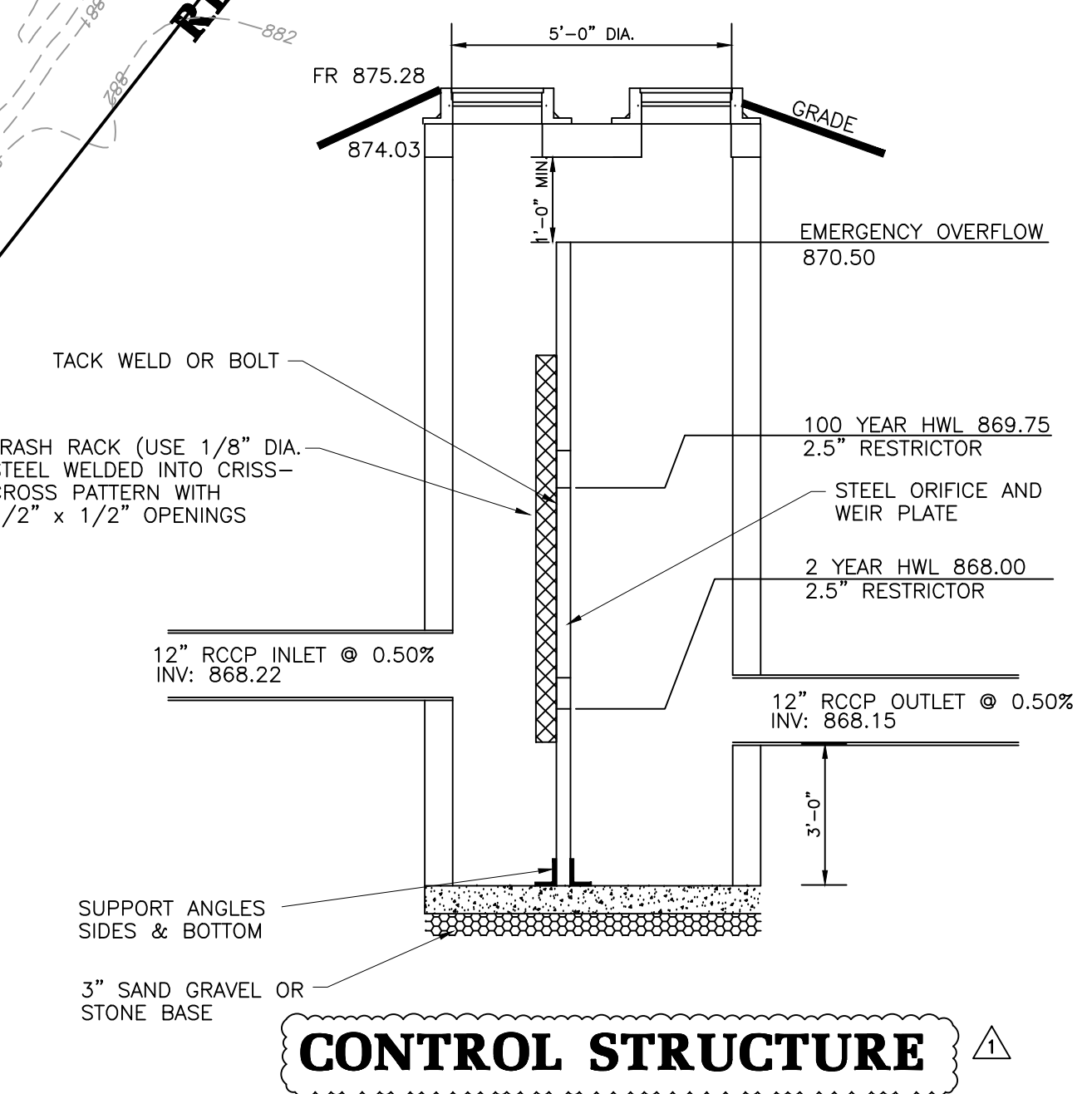
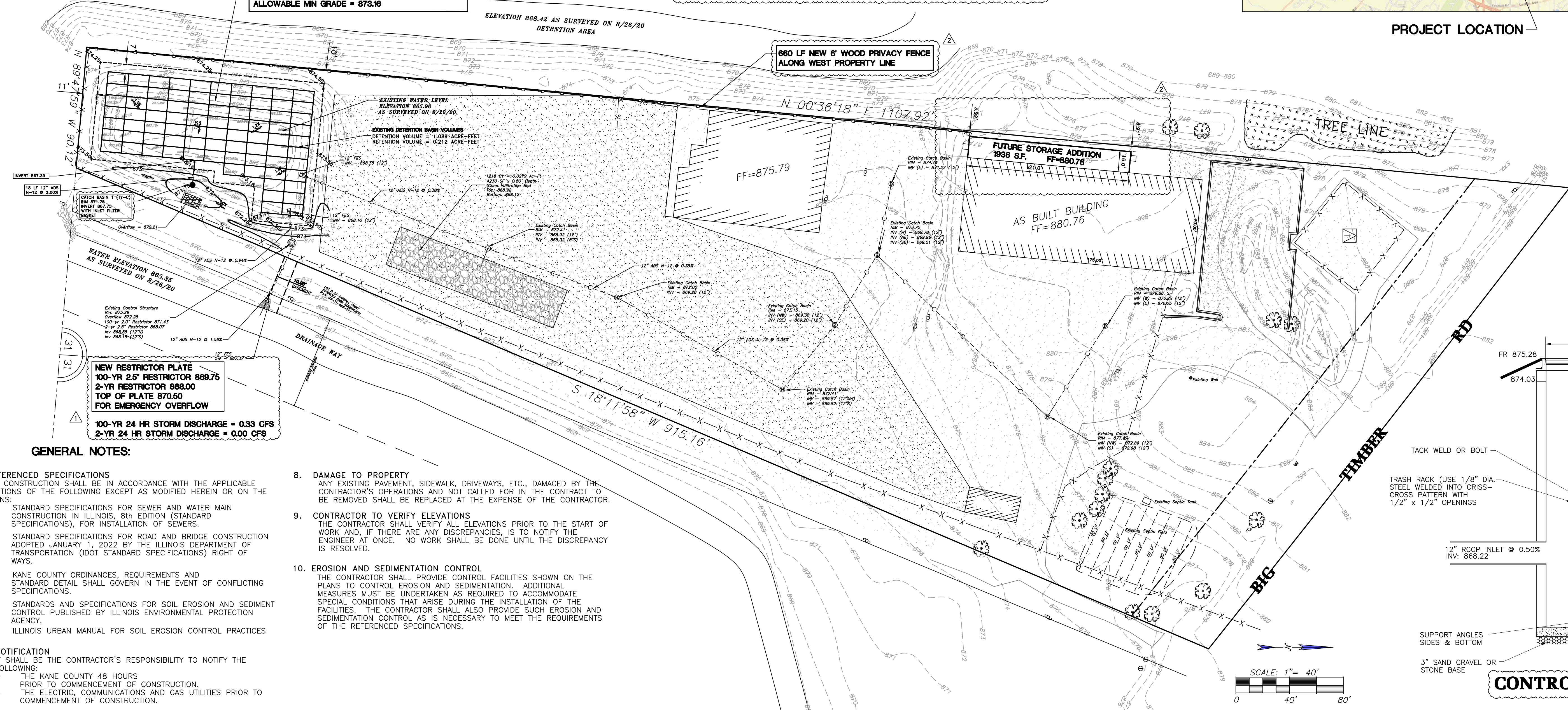
RETENTION VOLUME PROVIDED IN UNDERGROUND STORAGE SYSTEM FROM BOTTOM OF STONE TO OUTLET ELEVATION 868.10 = 0.86 AC-FT

CHAMBER SYSTEM INSTALLED - 80 CHAMBERS
CHAMBER STORAGE OF 80 CHAMBERS = 1584 AC-FT
TOP OF CHAMBER = 872.16
HWL OF SYSTEM = 871.68
BOTTOM = 866.00
0.00 CFS FOR 2YR - 24 HR HWL = 866.87
0.24 CFS FOR 100YR - 24 HR HWL = 870.33
ALLOWABLE MAX GRADE = 874.66
ALLOWABLE MIN GRADE = 873.16

INLET FILTER BASKETS INSTALLED IN ALL CATCH BASINS ON PROPERTY. INLET FILTERS ARE MAINTAINED AND CLEANED ON A REGULAR BASIS.

INDEX OF SHEETS:

1. SITE PLAN
2. STORMWATER POLLUTION PREVENTION PLAN
3. STORM TRAP DETAIL 1
4. STORM TRAP DETAIL 2
5. STORM TRAP DETAIL 3
6. STORM TRAP DETAIL 4
7. STORM TRAP DETAIL 5
8. STORM TRAP DETAIL 6
9. STORM TRAP DETAIL 7



- GENERAL NOTES:**
1. REFERENCED SPECIFICATIONS
 ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE FOLLOWING EXCEPT AS MODIFIED HEREIN OR ON THE PLANS:
 - STANDARD SPECIFICATIONS FOR SEWER AND WATER MAIN CONSTRUCTION IN ILLINOIS, 8th EDITION (STANDARD SPECIFICATIONS), FOR INSTALLATION OF SEWERS.
 - STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION ADOPTED JANUARY 1, 2022 BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION (DOT STANDARD SPECIFICATIONS) RIGHT OF WAYS.
 - KANE COUNTY ORDINANCES, REQUIREMENTS AND STANDARD DETAIL SHALL GOVERN IN THE EVENT OF CONFLICTING SPECIFICATIONS.
 - STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL PUBLISHED BY ILLINOIS ENVIRONMENTAL PROTECTION AGENCY.
 - ILLINOIS URBAN MANUAL FOR SOIL EROSION CONTROL PRACTICES
 2. NOTIFICATION
 IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE FOLLOWING:
 - THE KANE COUNTY 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 - THE ELECTRIC, COMMUNICATIONS AND GAS UTILITIES PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 3. PERMITS
 OWNER SHALL SECURE PERMITS AS FOLLOWS AND COMPLY WITH ALL REQUIREMENTS OF THE PERMITS:
 - KANE COUNTY
 4. QUANTITIES
 THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES AS INDICATED ON THE PLANS. THE QUANTITIES WHICH ARE INDICATED ARE FOR BIDDING PURPOSES ONLY AND MUST BE VERIFIED. ANY DISCREPANCIES ARE TO BE REPORTED TO THE DESIGN ENGINEER.
 5. EXAMINATION OF THE SITE
 THE CONTRACTOR IS RESPONSIBLE FOR EXAMINING ALL SITE CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION AND IS TO COMPARE THE SITE CONDITIONS AS INDICATED ON THE ENGINEERING PLANS.
 6. INDEMNIFICATION
 THE CONTRACTOR(S) SHALL INDEMNIFY THE ENGINEER AND THEIR AGENTS, THE KANE COUNTY AND THEIR AGENTS FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION AND TESTING OF THIS WORK ON THIS PROJECT.
 7. LOCATION OF EXISTING UNDERGROUND UTILITIES
 THE LOCATION OF VARIOUS EXISTING UNDERGROUND UTILITIES WHICH ARE SHOWN ON THE PLANS ARE FOR INFORMATION ONLY AND REPRESENT THE BEST KNOWLEDGE OF THE ENGINEER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR LOCATIONS AND ELEVATIONS PRIOR TO THE CONSTRUCTION OPERATIONS.
 8. DAMAGE TO PROPERTY
 ANY EXISTING PAVEMENT, SIDEWALK, DRIVEWAYS, ETC., DAMAGED BY THE CONTRACTOR'S OPERATIONS AND NOT CALLED FOR IN THE CONTRACT TO BE REMOVED SHALL BE REPLACED AT THE EXPENSE OF THE CONTRACTOR.
 9. CONTRACTOR TO VERIFY ELEVATIONS
 THE CONTRACTOR SHALL VERIFY ALL ELEVATIONS PRIOR TO THE START OF WORK AND, IF THERE ARE ANY DISCREPANCIES, IS TO NOTIFY THE ENGINEER AT ONCE. NO WORK SHALL BE DONE UNTIL THE DISCREPANCY IS RESOLVED.
 10. EROSION AND SEDIMENTATION CONTROL
 THE CONTRACTOR SHALL PROVIDE CONTROL FACILITIES SHOWN ON THE PLANS TO CONTROL EROSION AND SEDIMENTATION. ADDITIONAL MEASURES MUST BE UNDERTAKEN AS REQUIRED TO ACCOMMODATE SPECIAL CONDITIONS THAT ARISE DURING THE INSTALLATION OF THE FACILITIES. THE CONTRACTOR SHALL ALSO PROVIDE SUCH EROSION AND SEDIMENTATION CONTROL AS IS NECESSARY TO MEET THE REQUIREMENTS OF THE REFERENCED SPECIFICATIONS.

BENCHMARK:
 KANE COUNTY BENCHMARK DESIGNATION: IL KANE 4 41 8
 STATION IS LOCATED IN THE NORTHWEST CORNER OF THE INTERSECTION OF RANDALL ROAD AND BIG TIMBER ROAD. DATUM POINT IS ACCESSED THROUGH A 6 INCH LOGO CAP.
 ELEV: 860.00 NAVD 88

J.U.L.I.E.
 JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION CALL 811

 Know what's below. Call before you dig.

#	DATE	REMARKS
1	1/17/25	PER COUNTY REV
2	2/4/25	PER COUNTY REV

SCHEFLOW engineers
 1814 GRANDSTAND PLACE
 ELGIN, ILLINOIS 60123
 phone 847.697.7095
 fax 847.697.7099
 schefloweng.com
 Firm License No. 184-001104

KELLENBERGER
 37W507 BIG TIMBER ROAD
SITE PLAN

FRANK C. CUDDA
 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS
 62-036658

11/25 2/4/25
 LIC. EXP. DATE DATE
 Signature: Frank C. Cudda
 SIGNATURE

SCALE	DATE
1"=40'	12/12/24
DRAWN BY	JOB NO.
PCS	5938
CHECKED BY	SHEET NO.
FCC	1 of 9

RETENTION VOLUME PROVIDED IN UNDERGROUND STORAGE SYSTEM FROM BOTTOM OF STONE TO OUTLET ELEVATION 868.10 = 0.86 AC-FT

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LEGEND:

SILT FENCE —X—X—X—X—X—X—

INLET PROTECTION (IP)

INLET FILTER BASKETS INSTALLED IN ALL CATCH BASINS ON PROPERTY. INLET FILTERS ARE MAINTAINED AND CLEANED ON A REGULAR BASIS.

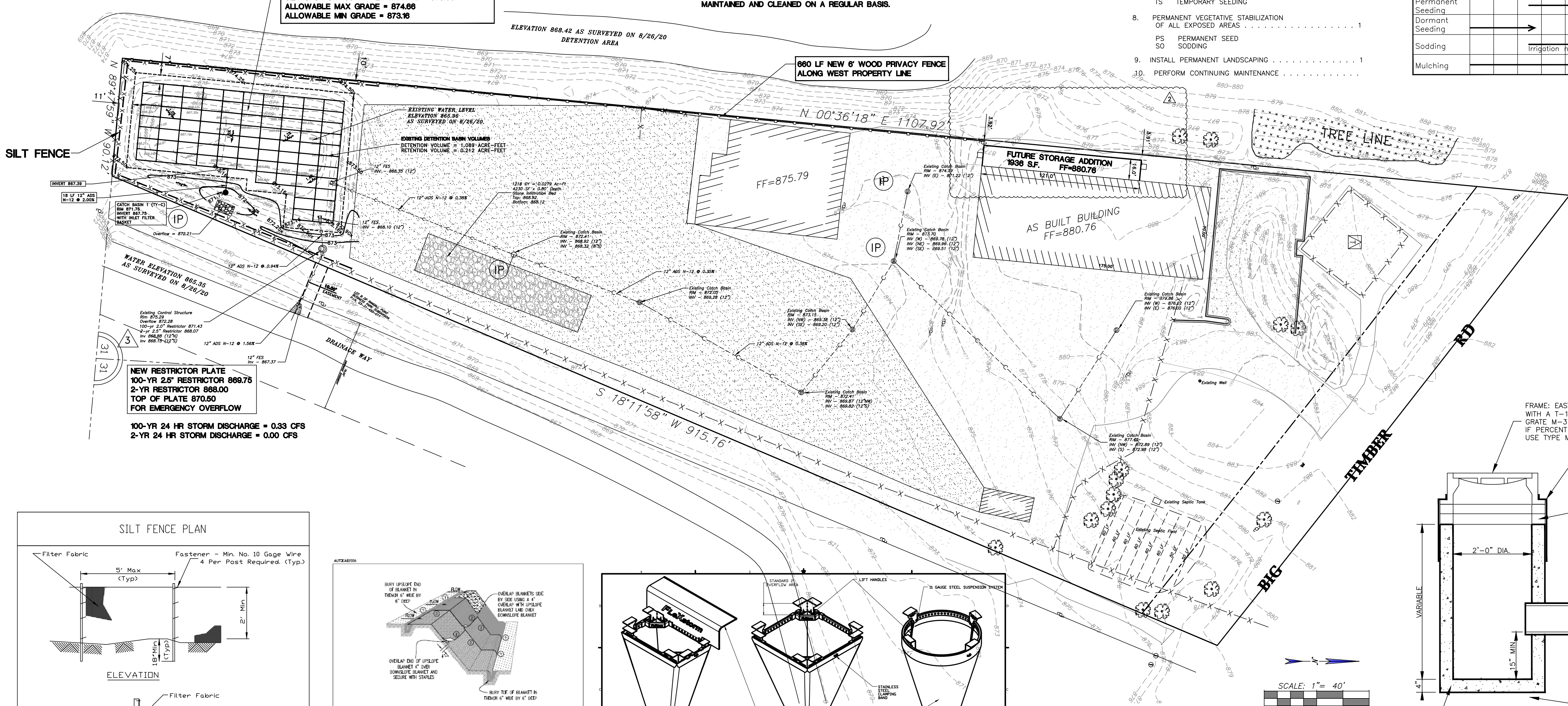
APPROXIMATE TIME SCHEDULE

NO.	DESCRIPTION	DAYS
1.	INSTALL SEDIMENT CONTROL MEASURES	1
	SF SILTATION FENCE	
2.	GRADE SITE/ EXCAVATION	4
	SP STOCKPILE TOPSOIL	
3.	PRESERVE AND PROTECT EXIST. VEG.	0
4.	TEMPORARY VEGETATIVE STABILIZATION OF CONTROL MEASURES	1
	TS TEMPORARY SEEDING	
	M MULCHING	
5.	INSTALL STORM TRAP SYSTEM	5
6.	INSTALL STORM SEWER	1
	IP INLET PROTECTION	
	CB CATCH BASIN	
7.	VEGETATIVE COVER ON ALL AREAS TO BE EXPOSED LONGER THAN 60 DAYS.	1
	TS TEMPORARY SEEDING	
8.	PERMANENT VEGETATIVE STABILIZATION OF ALL EXPOSED AREAS	1
	PS PERMANENT SEED	
	SO SODDING	
9.	INSTALL PERMANENT LANDSCAPING	1
10.	PERFORM CONTINUING MAINTENANCE	

VEGETATIVE COVER

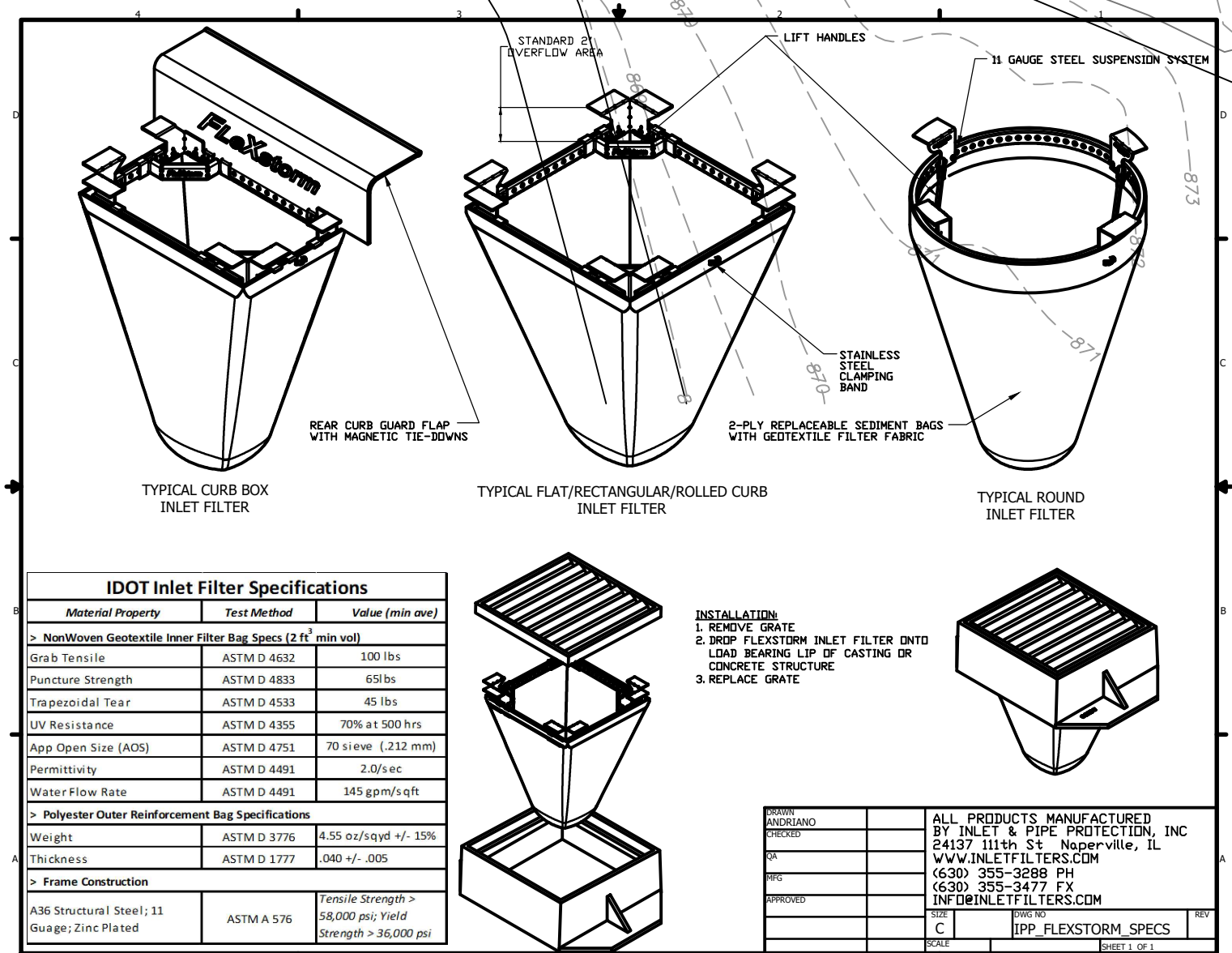
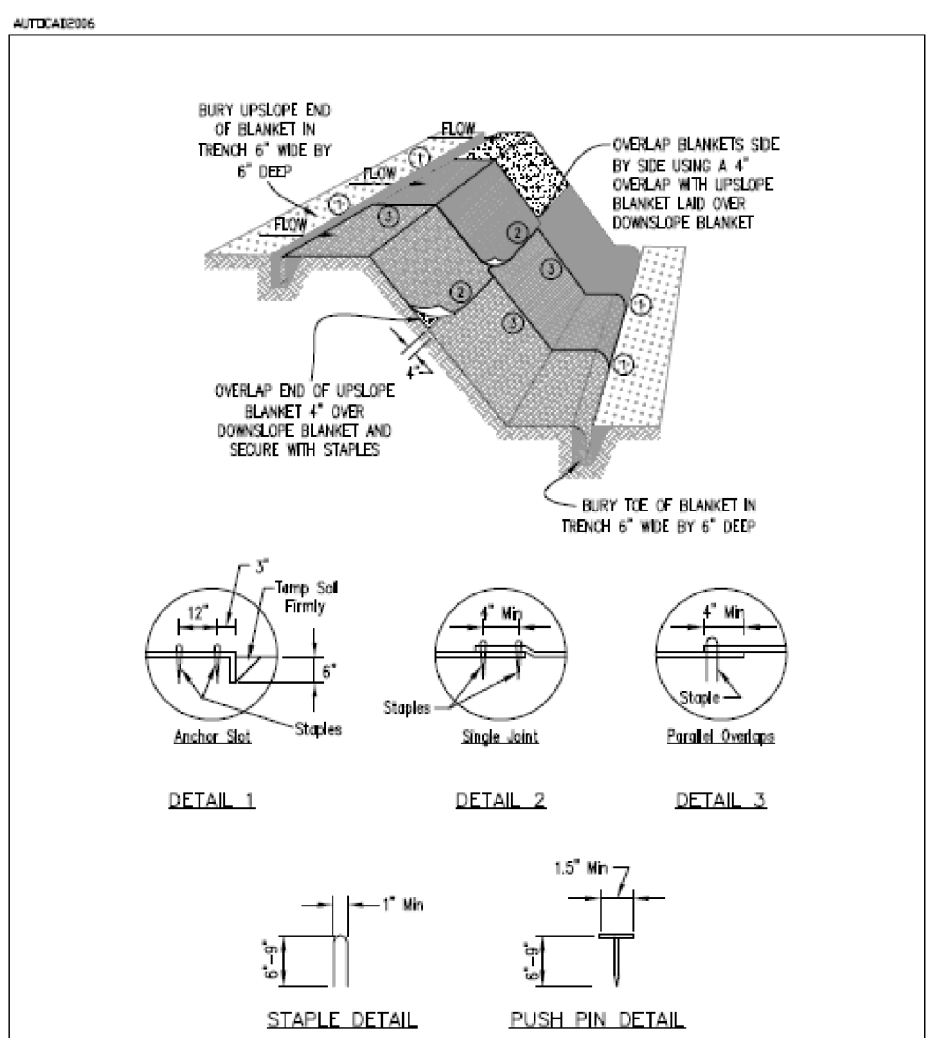
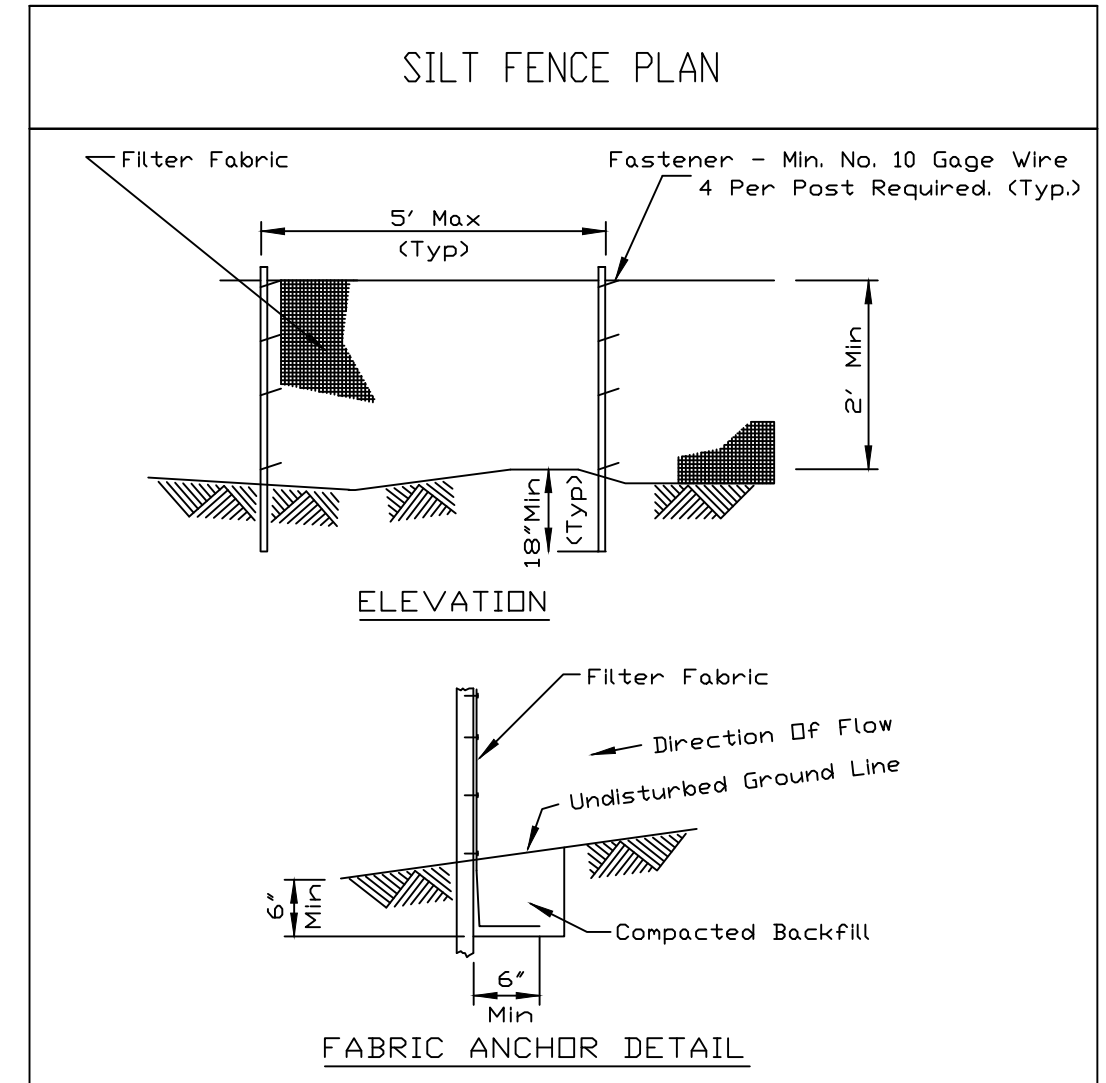
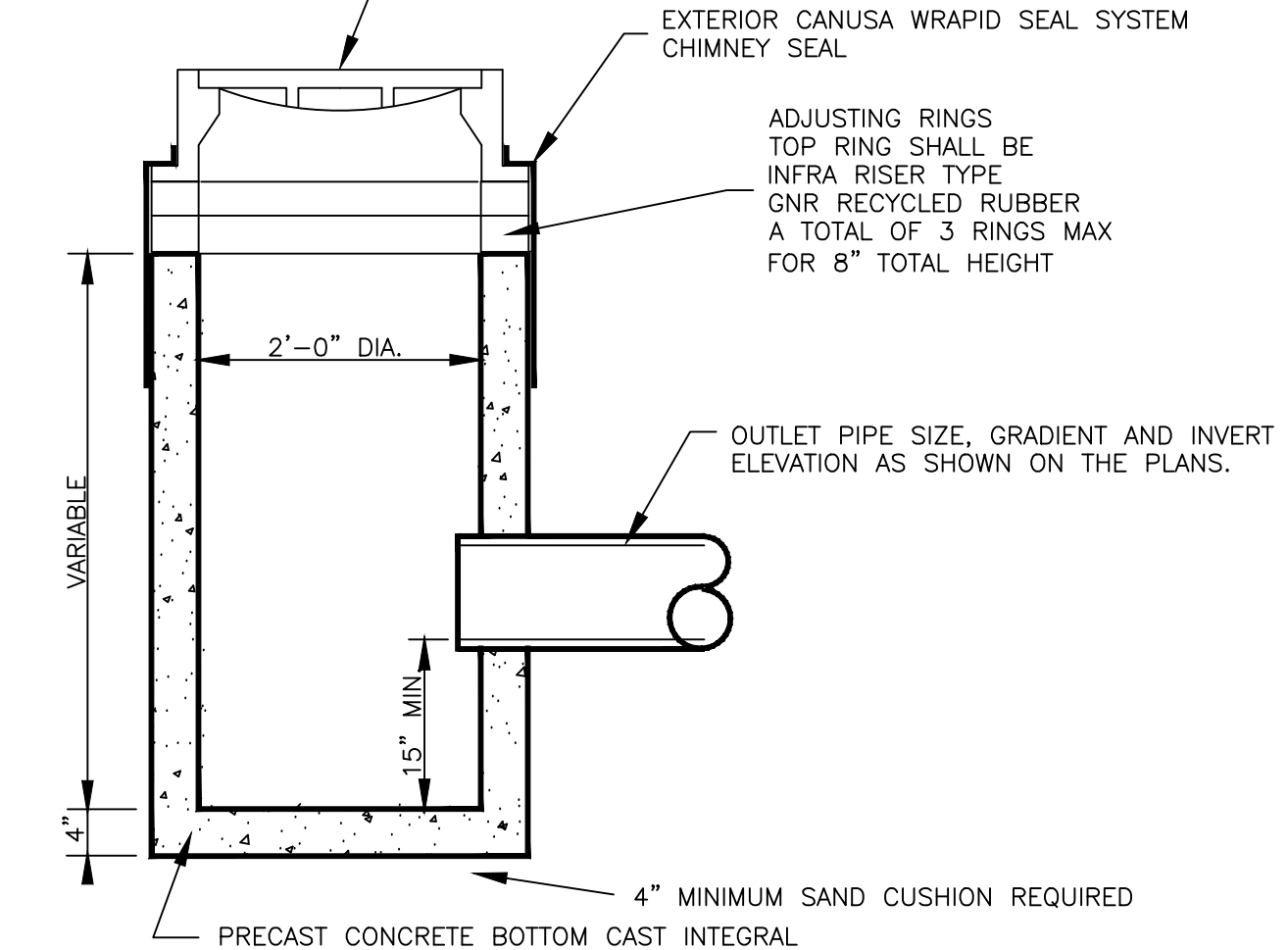
- PERMANENT SEEDING - SEEDING MIXTURE TO BE KENTUCKY BLUEGRASS @ 200 LBS/ACRE. SEED BED PREPARATION SHALL BE ACCORDING TO GREEN BOOK. FERTILIZE AT 130 LBS/ACRE OF NITROGEN AND 40 LBS/ACRE EACH OF PHOSPHORUS AND POTASSIUM.
- TEMPORARY SEEDING - SEEDING MIXTURE TO BE CEREAL RYE OR WHEAT @ 300 LBS/ACRE. SEED BED REQUIRED. TOPSOIL TO BE BROUGHT ON-SITE AND PLACED AT A 4" THICKNESS IN AREAS BEING PREPARED FOR SEED.
- MULCHING - MULCH ALL TEMPORARY AND PERMANENT SEEDING AREAS WITH AIR DRIED STRAW @ 2 TONS/ACRE. APPLY NETTING ON TOP OF MULCH AND SECURE WITH STAPLES. INSTALL ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

Stabilization Type	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Temporary Seeding						Irrigation needed						
Permanent Seeding						Irrigation needed						
Dormant Seeding												
Sodding						Irrigation needed for 2-3 weeks						
Mulching												



NEW RESTRICTOR PLATE
 100-YR 2.5" RESTRICTOR 869.75
 2-YR RESTRICTOR 868.00
 TOP OF PLATE 870.50
 FOR EMERGENCY OVERFLOW
 100-YR 24 HR STORM DISCHARGE = 0.33 CFS
 2-YR 24 HR STORM DISCHARGE = 0.00 CFS

FRAME: EAST JORDAN 7010 (FOR B6:12) WITH A T-1 BACK GRATE M-3 SINUSOIDAL IF PERCENT IS EQUAL OR GREATER THAN 3% USE TYPE M-4 DIRECTIONAL VANE GRATE



Drainage Statement
 To the best of our knowledge and belief, the drainage of surface waters will not be changed by the construction of this subdivision or any part thereof, or, that if drainage will be changed, reasonable provision has been made for the collection and diversion of such surface waters in to the public areas, or drains approved for the use by the municipal engineer, and that such surface waters are planned for in accordance with generally accepted engineering practices so as to reduce the likelihood of damages to the adjoining property because of the construction of this subdivision.

Signature: *Traci C. Lee*
 Date: 2/4/25

- NOTES:
- Temporary sediment fence shall be installed prior to any grading work in the area to be protected. They shall be maintained throughout the construction period and removed in conjunction with the final grading and site stabilization.
 - Filter fabric shall meet the requirements of material specification 592 Geotextile Table 1 or 2, Class with equivalent opening size of at least 30 for nonwoven and 50 for woven.
 - Fence posts shall be either standard steel post or wood post with a minimum cross-sectional area of 3.0 sq. in.

Project	Date	DESIGNED	Date
Checked	Date	DRAWN	Date
Approved	Date	CHECKED	Date



EROSION CONTROL BLANKET INSTALLATION DETAILS

#	DATE	REMARKS
1	1/7/25	PER COUNTY REV
2	2/4/25	PER COUNTY REV

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 schefloweng.com
 Firm License No. 184-001104

KELLENBERGER
 37W507 BIG TIMBER ROAD
STORMWATER POLLUTION PREVENTION PLAN

ILLINOIS
 SCALE 1"=40'
 DATE 12/12/24
 DRAWN BY PCS
 JOB NO. 5938
 CHECKED BY FCC
 SHEET NO. 2 of 9

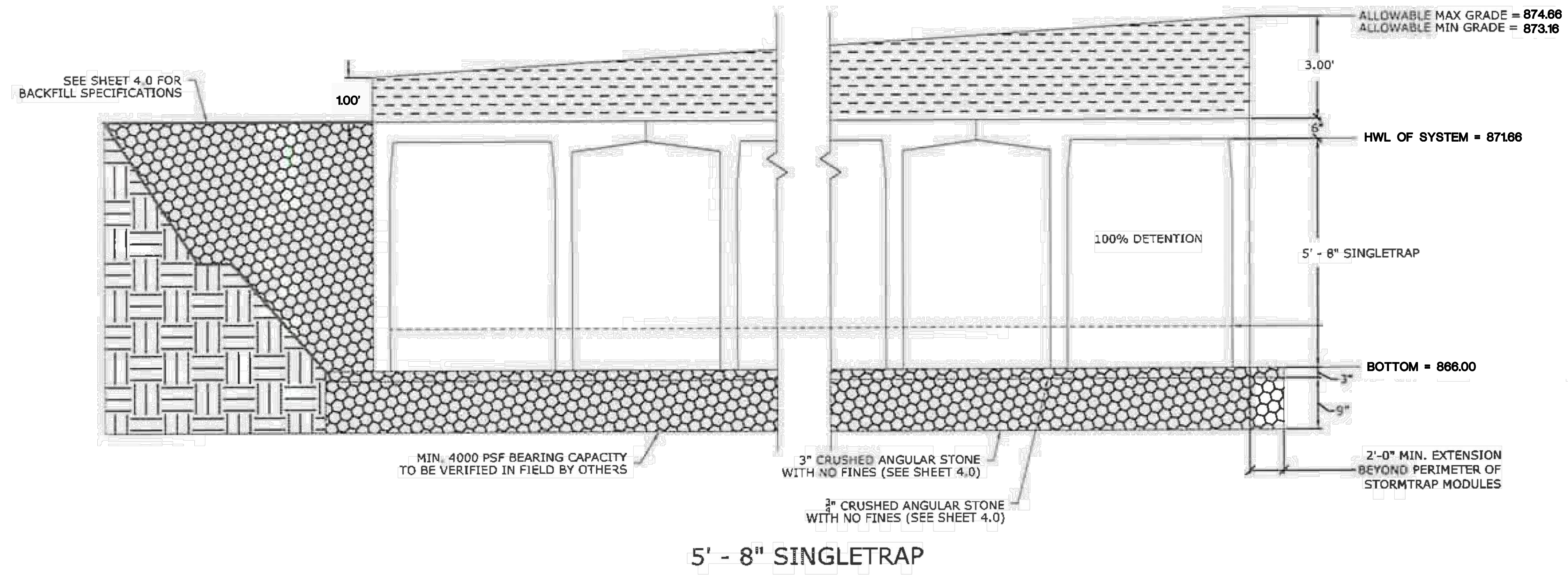
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STRUCTURAL DESIGN LOADING CRITERIA	
LIVE LOADING:	AASHTO HS-20 HIGHWAY LOADING
GROUND WATER TABLE:	BELOW INVERT OF SYSTEM
SOIL BEARING PRESSURE:	4000 PSF
SOIL DENSITY:	120 PCF
EQUIVALENT UNSATURATED LATERAL ACTIVE EARTH PRESSURE:	35 PSF / FT.
EQUIVALENT SATURATED LATERAL ACTIVE EARTH PRESSURE:	80 PSF/FT. (IF WATER TABLE PRESENT)
APPLICABLE CODES:	AASHTO ACI-318
BACKFILL TYPE:	SEE SHEET 4.0 FOR BACKFILL OPTIONS

STORMTRAP SYSTEM INFORMATION	
UNIT HEADROOM:	5' - 8" SINGLETRAP
UNIT QUANTITY:	80 CHAMBERS

SITE SPECIFIC DESIGN CRITERIA

1. STORMTRAP UNITS SHALL BE MANUFACTURED AND INSTALLED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER OF RECORD. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/ OUTLET PIPE TYPES, SIZES, INVERT ELEVATIONS AND SIZE OF OPENINGS.
2. COVER RANGE: MIN. 1.00' MAX. 3.00' CONSULT STORMTRAP FOR ADDITIONAL COVER OPTIONS.
3. ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE REQUIRED TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO STORMTRAP INSTALLATION.
4. FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE IS ASSUMED TO BE BELOW INVERT OF SYSTEM. IF WATER TABLE IS DIFFERENT THAN ASSUMED, CONTACT STORMTRAP.



#	DATE	REMARKS

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engineers

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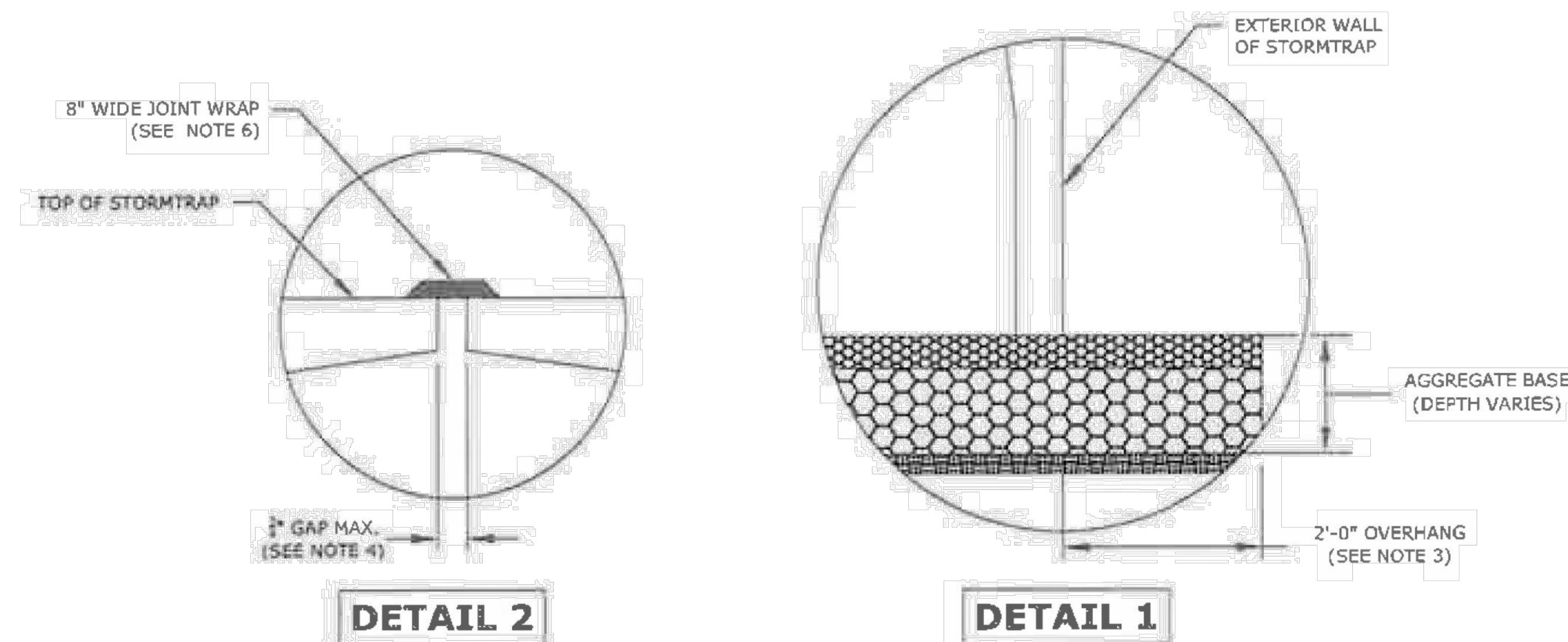
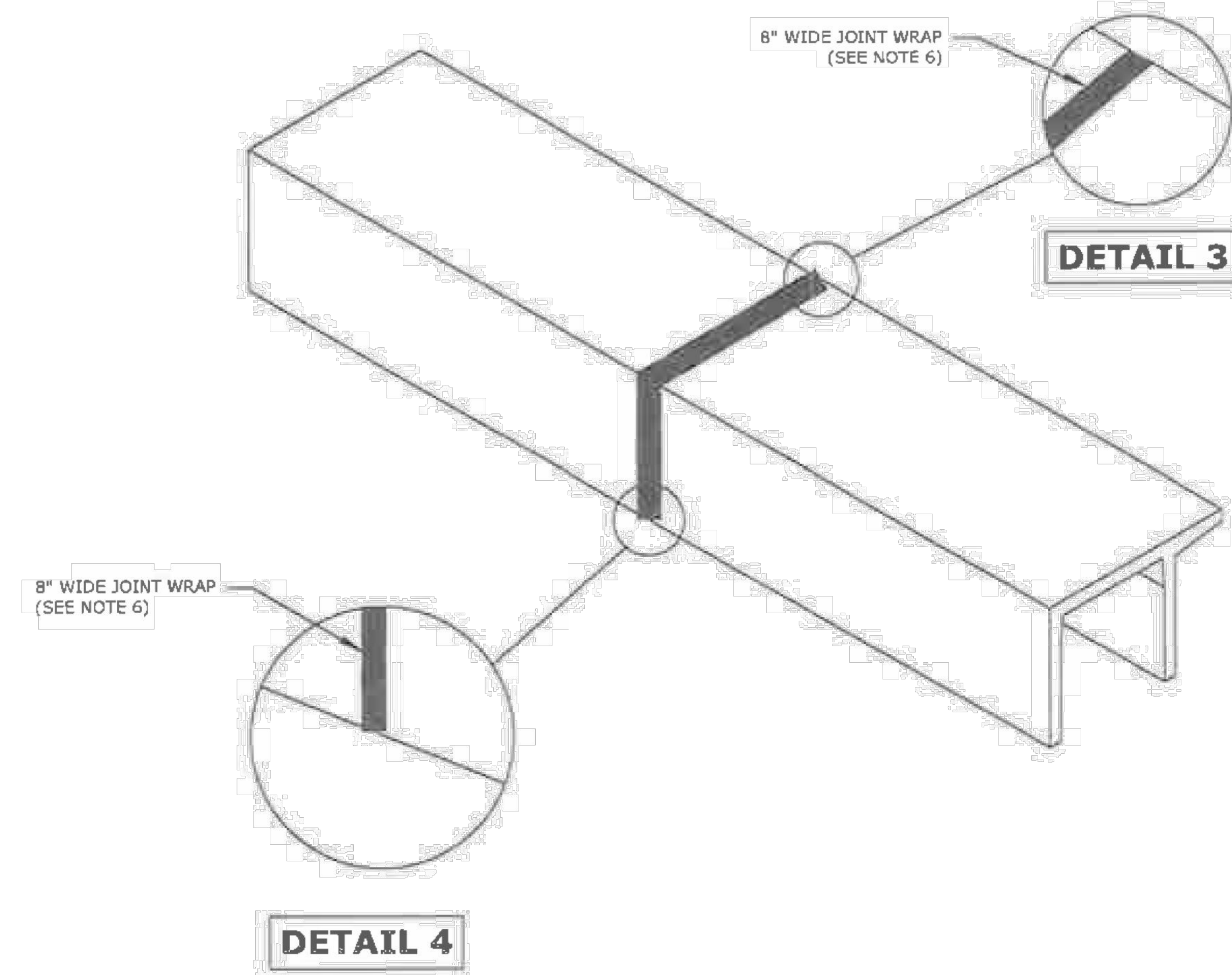
ELGIN ILLINOIS

KELLENBERGER
37W507 BIG TIMBER ROAD
STORM TRAP DETAIL 1


SCALE	DATE
NONE	6/10/24
DRAWN BY PCS	JOB NO. 5938
CHECKED BY FCC	SHEET NO. 3 of 9

STORMTRAP INSTALLATION SPECIFICATIONS

1. STORMTRAP SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C891 STANDARD PRACTICE FOR INSTALLATION OF UNDERGROUND PRE-CAST CONCRETE UTILITY STRUCTURES. THE FOLLOWING ADDITIONS AND/OR EXCEPTIONS SHALL APPLY:
2. IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO ENSURE THAT PROPER/ADEQUATE EQUIPMENT IS USED TO SET/INSTALL THE MODULES.
3. THE AGGREGATE FOUNDATION HAS BEEN DESIGNED BASED ON THE FOLLOWING ASSUMPTIONS. THESE ASSUMPTIONS WILL NEED TO BE VERIFIED BY A GEOTECHNICAL ENGINEER WHICH WILL NEED TO BE EMPLOYED BY THE OWNER.
 - 3.1. A QUALIFIED GEOTECHNICAL ENGINEER WILL BE EMPLOYED, BY OWNER, TO PROVIDE ASSISTANCE IN EVALUATING THE EXISTING SOIL CONDITIONS BELOW THE PROPOSED ENGINEERED STONE FOUNDATION. IF A STONE FOUNDATION DESIGN IS TO BE USED, THE BEARING PRESSURE OF THE SOILS BELOW THE STONE WILL NEED TO MEET OR EXCEED ALLOWABLE CAPACITY. IF THIS IS NOT POSSIBLE, THE STONE FOUNDATION MAY NOT BE AN OPTION FOR THIS LOCATION.
 - 3.2. A QUALIFIED GEOTECHNICAL ENGINEER WILL BE EMPLOYED, BY OWNER, TO EVALUATE A SOURCE OF STONE AGGREGATES THAT WILL BE PLACED ON PROPERLY COMPACTED SOILS (SEE SHEET 1.0 FOR SOIL BEARING CAPACITY REQUIREMENTS). THE AGGREGATE BASE COURSE FOR WHICH THE STORMTRAP SYSTEM WILL BEAR DIRECTLY ON SHALL CONSIST OF A 3" THICK BED OF 3/4" DIAMETER ANGULAR STONE, WELL COMPACTED AND SEATED, WITH NO FINES. AND A 9" THICK BED OF 3" DIAMETER STONE AGGREGATE (SEE SHEET 4.0 FOR FURTHER DESCRIPTION/EXPLANATION). PLEASE NOTE THAT THESE ARE ONLY MINIMUM RECOMMENDATIONS AND A QUALIFIED GEOTECHNICAL ENGINEER SHALL BE USED TO DETERMINE THE EXACT REQUIREMENTS FOR THE LOCATIONS THAT THE STORMTRAP SYSTEM IS TO BE LOCATED.
 - 3.3. THE CONTRACTOR SHALL REMOVE ANY AND ALL EXPANDABLE OR COLLAPSIBLE SOILS AT THE DIRECTION OF A QUALIFIED GEOTECHNICAL ENGINEER.
 - 3.4. THE AGGREGATE FOUNDATION SHALL BE INSTALLED SUCH THAT THE AGGREGATE EXTENDS A MINIMUM OF 2'-0" PAST THE OUTSIDE OF THE SYSTEM (SEE DETAIL 1).
 - 3.5. THE 3/4" AGGREGATE SHALL BE COMPACTED USING A VIBRATING ROLLER WITH ITS' FULL DYNAMIC FORCE APPLIED TO ACHIEVE A FLAT SURFACE.
 - 3.6. DISK, DRY AND COMPACT THE TOP 8" OF THE SUBGRADE SOILS TO 95% OF THE STANDARD DRY DENSITY AND 110% OPTIMUM MOISTURE CONTENT.
 - 3.7. AGGREGATE SHALL BE GRADED WITHIN +/- 1/4" OF THE GRADE SHOWN ON THE PLANS.
 - 3.8. MINIMUM SOIL BEARING CAPACITY LISTED ON SHEET 1.0 SHALL BE VERIFIED IN FIELD BY OTHERS.
4. THE STORMTRAP MODULES SHALL BE PLACED SUCH THAT THE MAXIMUM SPACE BETWEEN ADJACENT MODULES DOES NOT EXCEED 3/8" (SEE DETAIL 2). IF THE SPACE EXCEEDS 3/8", THE MODULES SHALL BE RESET WITH APPROPRIATE ADJUSTMENT MADE TO LINE AND GRADE TO BRING THE SPACE INTO SPECIFICATION.
5. STORMTRAP MODULES ARE NOT WATERTIGHT. IF A WATERTIGHT SOLUTION IS REQUIRED, CONTACT STORMTRAP FOR RECOMMENDATIONS. THE WATERTIGHT APPLICATION IS TO BE PROVIDED AND IMPLEMENTED BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT THE SELECTED WATERTIGHT SOLUTION PERFORMS AS SPECIFIED BY THE MANUFACTURER.
6. ALL EXTERIOR JOINTS BETWEEN ADJACENT STORMTRAP MODULES SHALL BE SEALED WITH 8" WIDE PRE-FORMED, COLD-APPLIED, SELF-ADHERING ELASTOMERIC RESIN, BONDED TO A WOVEN, HIGHLY PUNCTURE RESISTANT POLYMER WRAP, CONFORMING TO ASTM C891 AND SHALL BE INTEGRATED WITH PRIMER SEALANT AS APPROVED BY STORMTRAP (SEE DETAILS 3 & 4). THE JOINT WRAP DOES NOT PROVIDE A WATERTIGHT SEAL. THE SOLE PURPOSE OF THE JOINT WRAP IS TO PROVIDE A SILT AND SOIL TIGHT SYSTEM. THE ADHESIVE EXTERIOR JOINT WRAP SHALL BE INSTALLED ACCORDING TO THE FOLLOWING INSTALLATION INSTRUCTIONS:
 - 6.1. USE A BRUSH OR WET CLOTH TO THOROUGHLY CLEAN THE OUTSIDE SURFACE AT THE POINT WHERE THE JOINT WRAP IS TO BE APPLIED.
 - 6.2. A RELEASE PAPER PROTECTS THE ADHESIVE SIDE OF THE JOINT WRAP, PLACE THE ADHESIVE TAPE (ADHESIVE SIDE DOWN) AROUND THE STRUCTURE, REMOVING THE RELEASE PAPER AS YOU GO. PRESS THE JOINT WRAP FIRMLY AGAINST THE STORMTRAP MODULE SURFACE WHEN APPLYING.
7. IF THE CONTRACTOR NEEDS TO CANCEL ANY SHIPMENTS, THEY MUST DO SO 48 HOURS PRIOR TO THEIR SCHEDULED ARRIVAL AT THE JOB SITE. IF CANCELED AFTER THAT TIME, PLEASE CONTACT THE PROJECT MANAGER.
8. IF THE STORMTRAP MODULE(S) IS DAMAGED IN ANY WAY PRIOR, DURING, OR AFTER INSTALL, STORMTRAP MUST BE CONTACTED IMMEDIATELY TO ASSESS THE DAMAGE AND TO DETERMINE WHETHER OR NOT THE MODULE(S) WILL NEED TO BE REPLACED. IF ANY MODULE ARRIVES AT THE JOBSITE DAMAGED DO NOT UNLOAD IT; CONTACT STORMTRAP IMMEDIATELY. ANY DAMAGE NOT REPORTED BEFORE THE TRUCK IS UNLOADED WILL BE THE CONTRACTOR'S RESPONSIBILITY.
9. STORMTRAP MODULES CANNOT BE ALTERED IN ANY WAY AFTER MANUFACTURING WITHOUT WRITTEN CONSENT FROM STORMTRAP.



#	DATE	REMARKS


SCHFLO
 engineers

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ELGIN **ILLINOIS**
KELLENBERGER
37W507 BIG TIMBER ROAD
STORM TRAP DETAIL 2

SCALE	DATE
NONE	6/10/24
DRAWN BY PCS	JOB NO. 5938
CHECKED BY FCC	SHEET NO. 4 of 9

ZONE CHART		
ZONES	ZONE DESCRIPTIONS	REMARKS
ZONE 1 A	FOUNDATION AGGREGATE	#5 (3/4") STONE AGGREGATE (SEE NOTE 4 FOR DESCRIPTION)
ZONE 1 B	FOUNDATION AGGREGATE	3" STONE AGGREGATE (SEE NOTE 5 FOR DESCRIPTION)
ZONE 2	BACKFILL	UNIFIED SOILS CLASSIFICATION (GW, GP, SW, SP) - SEE BELOW FOR APPROVED BACKFILL OPTIONS
ZONE 3	FINAL COVER OVERTOP	MATERIALS NOT TO EXCEED 120 PCF

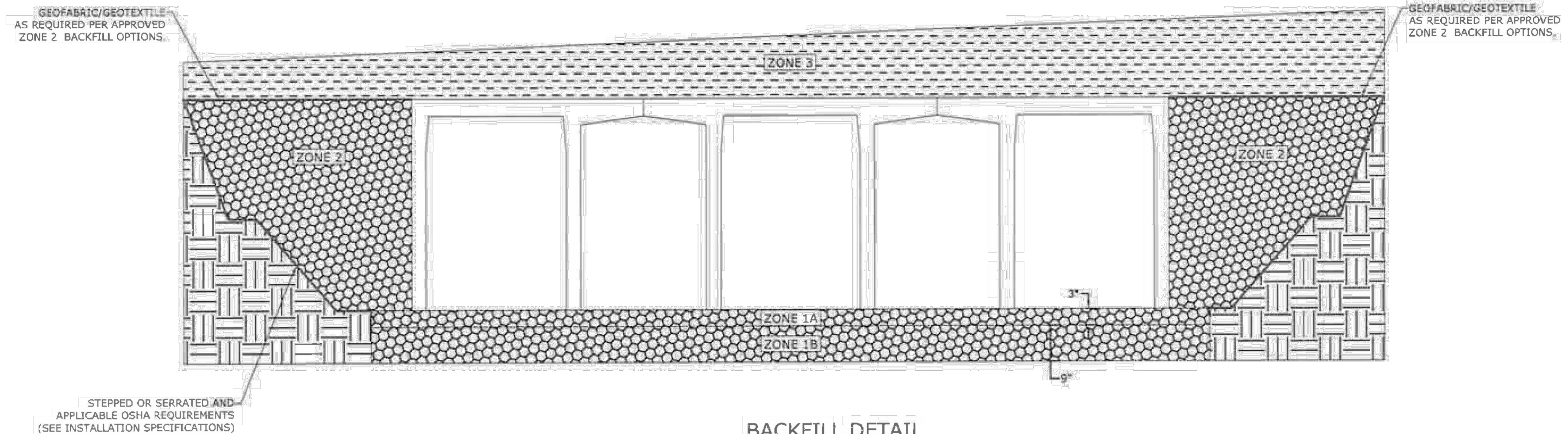
FILL DEPTH	TRACK WIDTH	MAX VEHICLE WEIGHT (KIPS)	MAX GROUND PRESSURE
12"	12"	51.8	1690 psf
	18"	56.1	1219 psf
	24"	68.1	1111 psf
	30"	76.7	1000 psf
	36"	85.0	924 psf

NOTE:
TRACK LENGTH NOT TO EXCEED 15'-4".
ONLY TWO TRACKS PER VEHICLE.

STORMTRAP ZONE INSTALLATION SPECIFICATIONS/PROCEDURES


1. THE FILL PLACED AROUND THE STORMTRAP MODULES MUST DEPOSITED ON BOTH SIDES AT THE SAME TIME AND TO APPROXIMATELY THE SAME ELEVATION. AT NO TIME SHALL THE FILL BEHIND ONE SIDE WALL BE MORE THAN 2'-0" HIGHER THAN THE FILL ON THE OPPOSITE SIDE. BACKFILL SHALL EITHER BE COMPACTED AND/OR VIBRATED TO ENSURE THAT BACKFILL AGGREGATE/STONE MATERIAL IS WELL SEATED AND PROPERLY INTER LOCKED. CARE SHALL BE TAKEN TO PREVENT ANY WEDGING ACTION AGAINST THE STRUCTURE, AND ALL SLOPES WITHIN THE AREA TO BE BACKFILLED MUST BE STEPPED OR SERRATED TO PREVENT WEDGING ACTION. CARE SHALL ALSO BE TAKEN AS NOT TO DISRUPT THE JOINT WRAP FROM THE JOINT DURING THE BACKFILL PROCESS. BACKFILL MUST BE FREE-DRAINING MATERIAL. SEE ZONE 2 BACKFILL CHART ON THIS PAGE FOR APPROVED BACKFILL OPTIONS. IF NATIVE EARTH IS SUSCEPTIBLE TO MIGRATION, CONFIRM WITH GEOTECHNICAL ENGINEER AND PROVIDE PROTECTION AS REQUIRED (PROVIDED BY OTHERS).
2. DURING PLACEMENT OF MATERIAL OVERTOP THE SYSTEM, AT NO TIME SHALL MACHINERY BE USED OVERTOP THAT EXCEEDS THE DESIGN LIMITATIONS OF THE SYSTEM. WHEN PLACEMENT OF MATERIAL OVERTOP, MATERIAL SHALL BE PLACED SUCH THAT THE DIRECTION OF PLACEMENT IS PARALLEL WITH THE OVERALL LONGITUDINAL DIRECTION OF THE SYSTEM WHENEVER POSSIBLE.
3. THE FILL PLACED OVERTOP THE SYSTEM SHALL BE PLACED AT A MINIMUM OF 6" LIFTS. AT NO TIME SHALL MACHINERY OR VEHICLES GREATER THAN THE DESIGN HS-20 LOADING CRITERIA TRAVEL OVERTOP THE SYSTEM WITHOUT THE MINIMUM DESIGN COVERAGE. IF TRAVEL IS NECESSARY OVERTOP THE SYSTEM PRIOR TO ACHIEVING THE MINIMUM DESIGN COVER, IT MAY BE NECESSARY TO REDUCE THE ULTIMATE LOAD/BURDEN OF THE OPERATING MACHINERY SO AS TO NOT EXCEED THE DESIGN CAPACITY OF THE SYSTEM. IN SOME CASES, IN ORDER TO ACHIEVE REQUIRED COMPACTION, HAND COMPACTION MAY BE NECESSARY IN ORDER NOT TO EXCEED THE ALLOTTED DESIGN LOADING. SEE CHART FOR TRACKED VEHICLE WIDTH AND ALLOWABLE MAXIMUM PRESSURE PER TRACK.
4. FREE DRAINING AGGREGATE - 80% AGGREGATE RETAINED ON 3/4" SIEVE MAJORITY OF AGGREGATE SIZE BETWEEN 3/4" AND 1" ONLY 5% OF MATERIAL PASSING #200 SIEVE NO FINES.
5. FREE DRAINING, NO FINES, 3" AGGREGATE - MAJORITY OF STONE SIZE IN BETWEEN 2" AND 3" - VERY SIMILAR TO COURSE AGGREGATE GRADATION #CA1.

APPROVED ZONE 2 BACKFILL OPTIONS	
OPTION	REMARKS
3/4" STONE AGGREGATE	THE STONE AGGREGATE SHALL CONSIST OF WASHED, CLEAN AND FREE DRAINING ANGULAR MATERIAL. THE SIZE OF THIS MATERIAL SHALL HAVE 100% PASSING THE 1" SIEVE WITH 0% TO 5% PASSING THE #8 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE BACKFILL (ASTM SIZE #57) AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
SAND	IMPORTED PURE SAND IS PERMITTED TO BE USED AS BACKFILL IF IT IS CLEAN AND FREE DRAINING. THE SAND USED FOR BACKFILLING SHALL HAVE LESS THAN 40% PASSING #40 SIEVE AND LESS THAN 5% PASSING #200 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE SAND BACKFILL.
CRUSHED CONCRETE AGGREGATE	CLEAN, FREE DRAINING CRUSHED CONCRETE AGGREGATE MATERIAL CAN BE USED AS BACKFILL FOR STORMTRAP'S MODULES. THE SIZE OF THIS MATERIAL SHALL HAVE 100% PASSING THE 1" SIEVE WITH 0% TO 5% PASSING THE #8 SIEVE. THIS MATERIAL SHALL BE SEPARATED FROM NATIVE MATERIAL USING GEOFABRIC AROUND THE PERIMETER OF THE BACKFILL.
ROAD PACK	STONE AGGREGATE 100% PASSING THE 1-1/2" SIEVE WITH LESS THAN 12% PASSING THE #200 SIEVE (ASTM SIZE #467). GEOFABRIC IS NOT REQUIRED FOR THIS BACKFILL OPTION.



BACKFILL DETAIL

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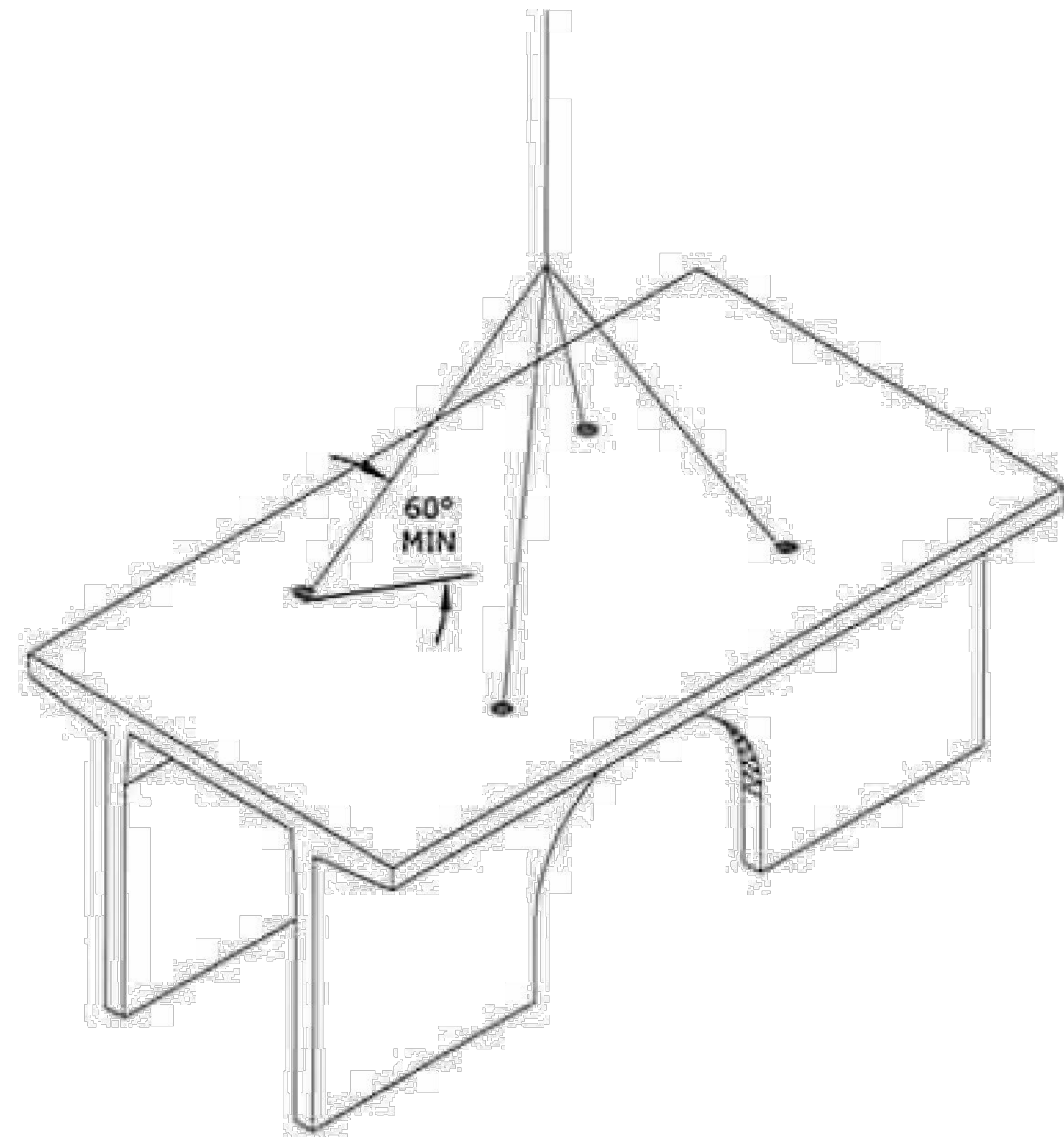

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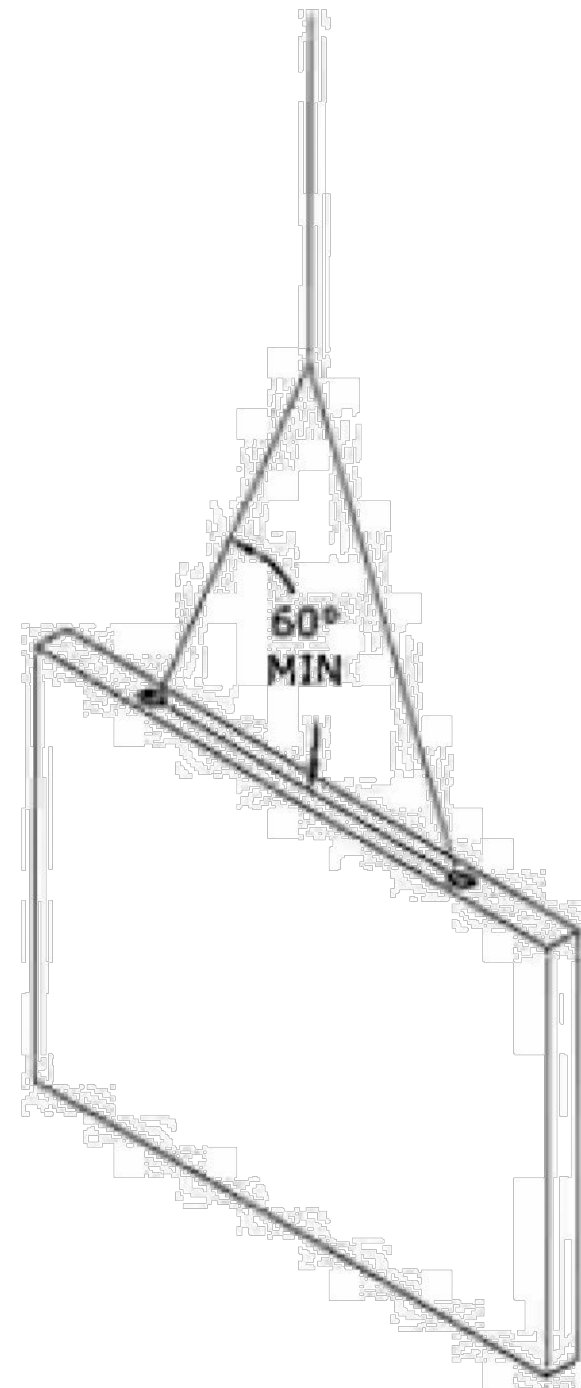
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END PANEL ERECTION/INSTALLATION NOTES

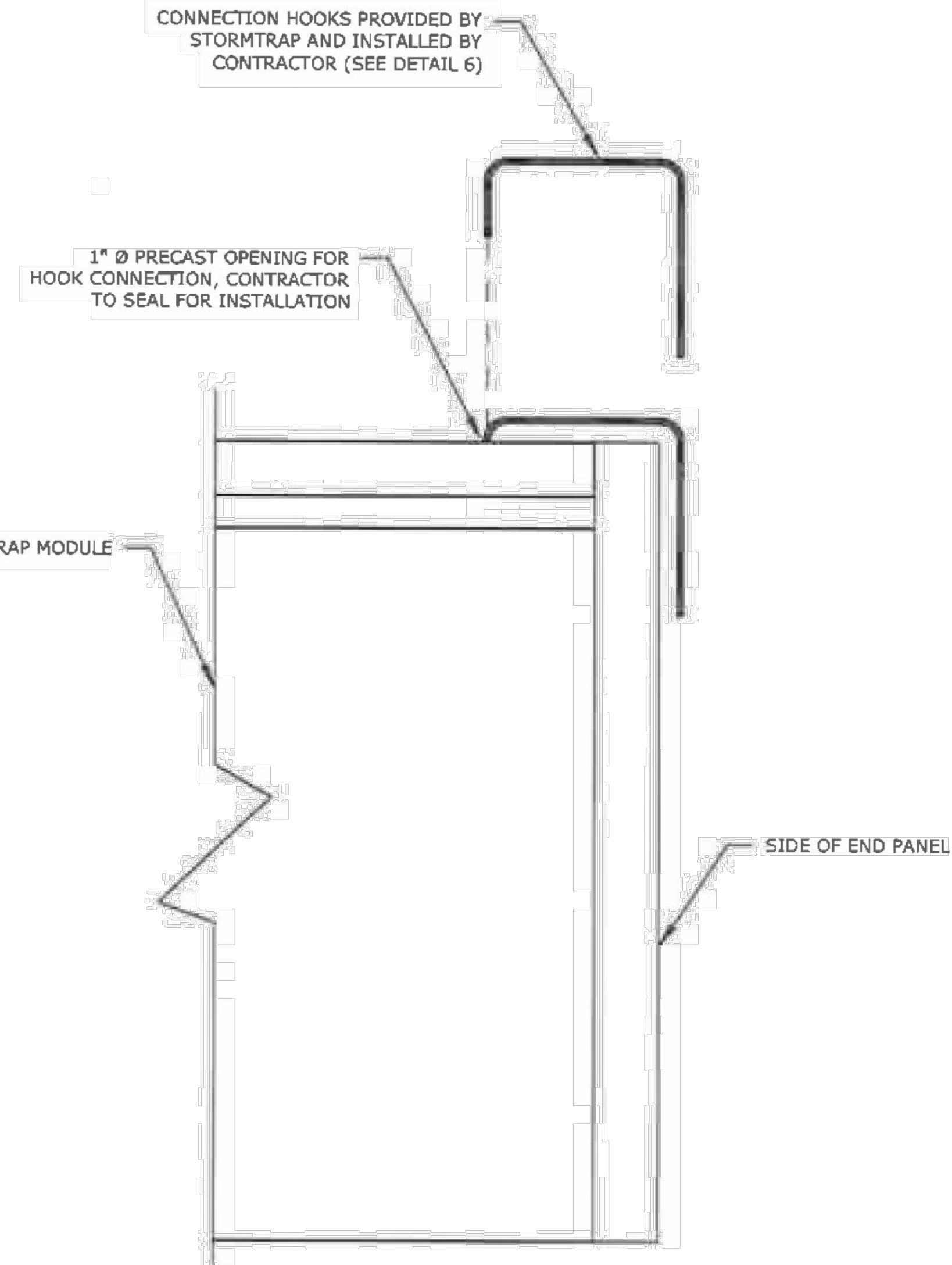
1. END PANELS WILL BE SUPPLIED TO CLOSE OFF OPEN ENDS OF ROWS.
2. PANELS SHALL BE INSTALLED IN A TILT UP FASHION DIRECTLY ADJACENT TO OPEN END OF MODULE (REFER TO SHEET 2.0 FOR END PANEL LOCATIONS).
3. CONNECTION HOOKS WILL BE SUPPLIED WITH END PANELS TO SECURELY CONNECT PANEL TO ADJACENT STORMTRAP MODULE (SEE PANEL CONNECTION ELEVATION VIEW).
4. ONCE CONNECTION HOOK IS ATTACHED, LIFTING CLUTCHES MAY BE REMOVED.
5. JOINT WRAP SHALL BE PLACED AROUND PERIMETER JOINT PANEL (SEE SHEET 3.0).



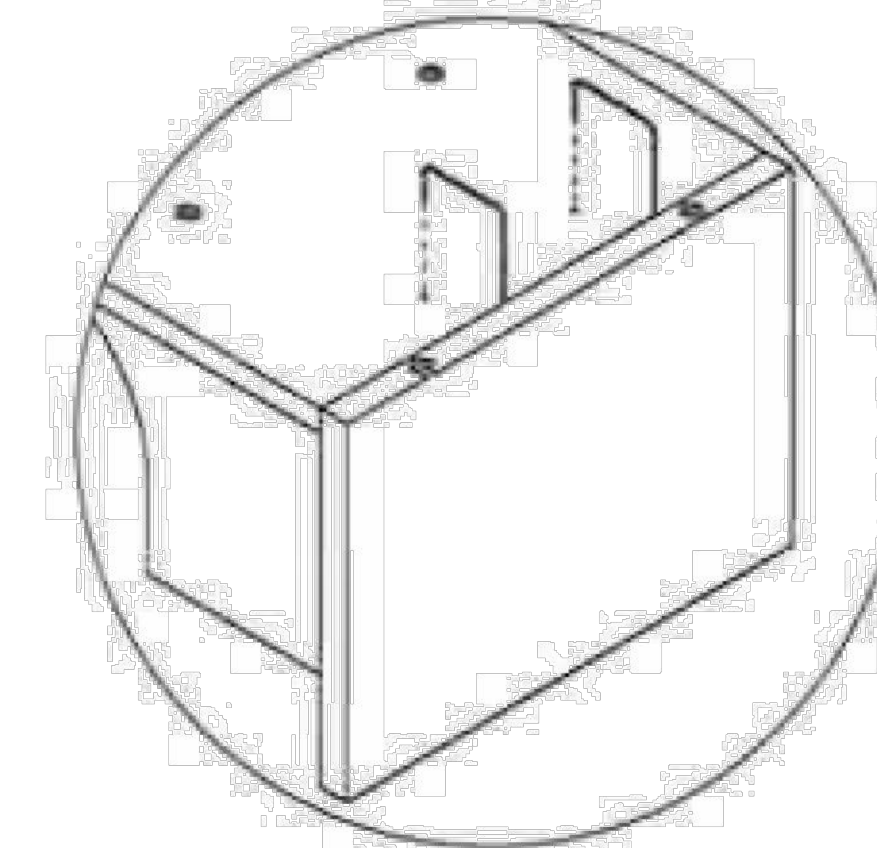
MODULE LIFTING DETAIL



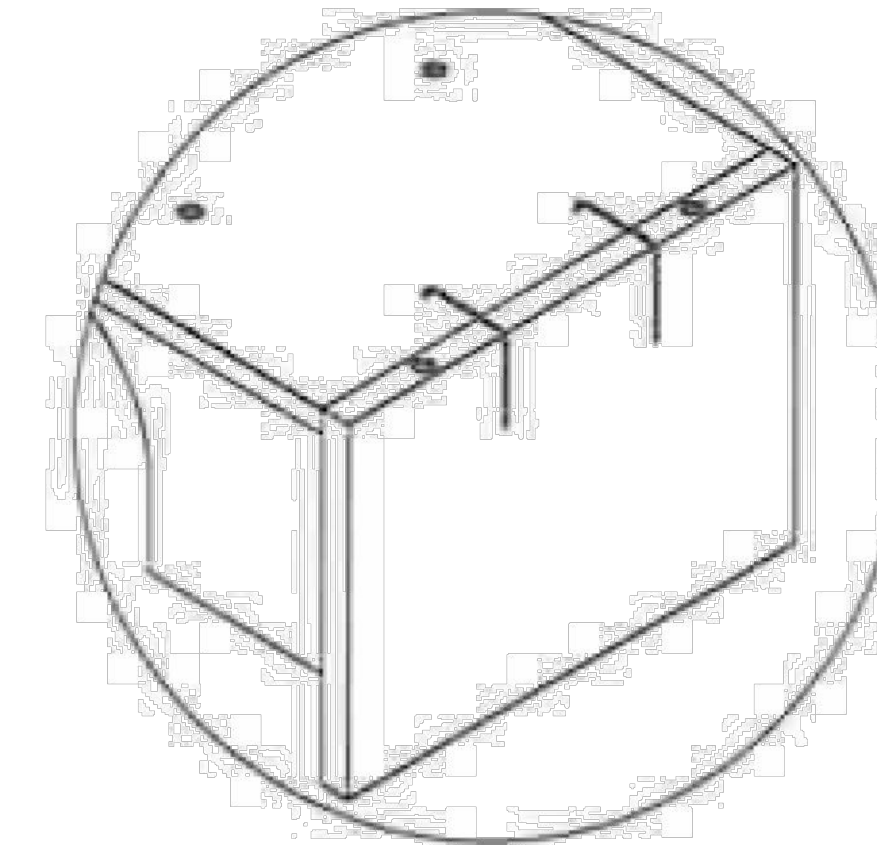
END PANEL LIFTING DETAIL



PANEL CONNECTION ELEVATION VIEW



STEP 1



STEP 2

DETAIL 6

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**RECOMMENDED
ACCESS OPENING SPECIFICATION**

1. A TYPICAL ACCESS OPENING FOR THE STORMTRAP SYSTEM ARE 2'-0" IN DIAMETER. ACCESS OPENINGS LARGER THAN 3'-0" IN DIAMETER NEED TO BE APPROVED BY STORMTRAP. ALL OPENINGS MUST RETAIN AT LEAST 1'-0" OF CLEARANCE FROM THE END OF THE STORMTRAP MODULE UNLESS NOTED OTHERWISE. ALL ACCESS OPENINGS TO BE LOCATED ON INSIDE LEG UNLESS OTHERWISE SPECIFIED.
2. PLASTIC COATED STEEL STEPS PRODUCED BY M.A. INDUSTRIES PART #PS3-PFC OR APPROVED EQUAL (SEE STEP DETAIL) ARE PROVIDED INSIDE ANY MODULE WHERE DEEMED NECESSARY. THE HIGHEST STEP IN THE MODULE IS TO BE PLACED A DISTANCE OF 1'-0" FROM THE INSIDE EDGE OF THE STORMTRAP MODULES. ALL ENSUING STEPS SHALL BE PLACED WITH A MAXIMUM DISTANCE OF 1'-4" BETWEEN THEM. STEPS MAY BE MOVED OR ALTERED TO AVOID OPENINGS OR OTHER IRREGULARITIES IN THE MODULE.
3. STORMTRAP LIFTING INSERTS MAY BE RELOCATED TO AVOID INTERFERENCE WITH ACCESS OPENINGS OR THE CENTER OF GRAVITY OF THE MODULE AS NEEDED.
4. STORMTRAP ACCESS OPENINGS MAY BE RELOCATED TO AVOID INTERFERENCE WITH INLET AND/OR OUTLET PIPE OPENINGS SO PLACEMENT OF STEPS IS ATTAINABLE.
5. ACCESS OPENINGS SHOULD BE LOCATED IN ORDER TO MEET THE APPROPRIATE MUNICIPAL REQUIREMENTS. STORMTRAP RECOMMENDS AT LEAST TWO ACCESS OPENINGS PER SYSTEM FOR ACCESS AND INSPECTION.
6. USE PRECAST ADJUSTING RINGS AS NEEDED TO MEET GRADE. STORMTRAP RECOMMENDS FOR COVER OVER 2' TO USE PRECAST BARREL OR CONE INSPECTIONS. (PROVIDED BY OTHERS)

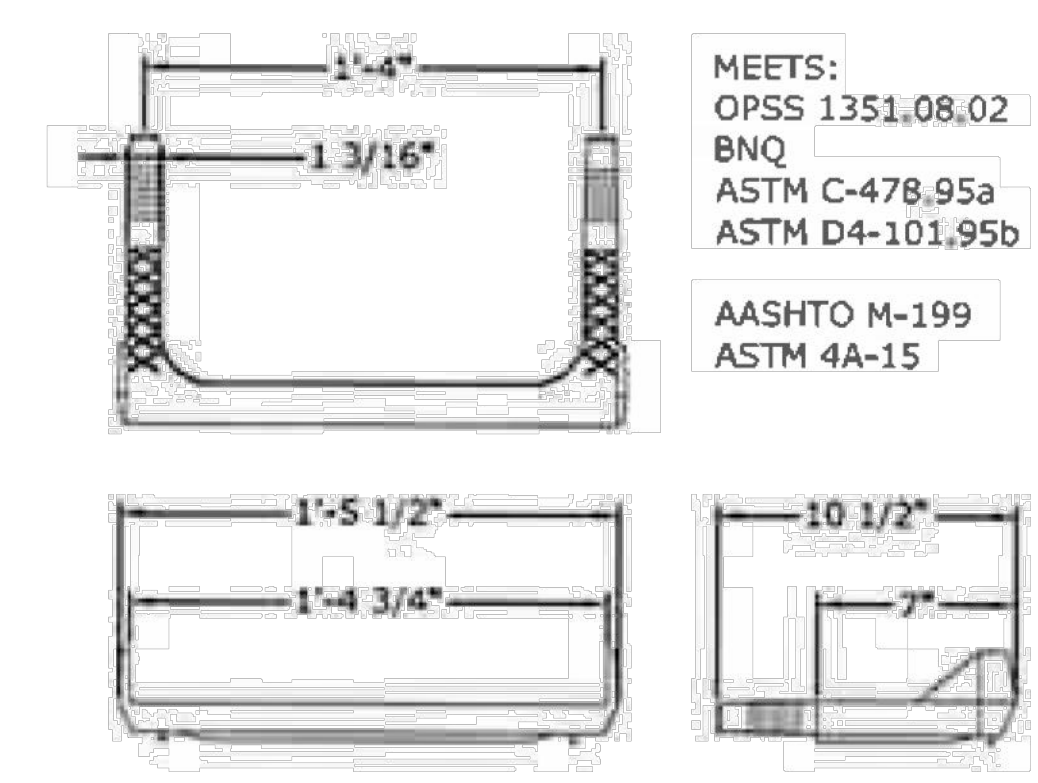
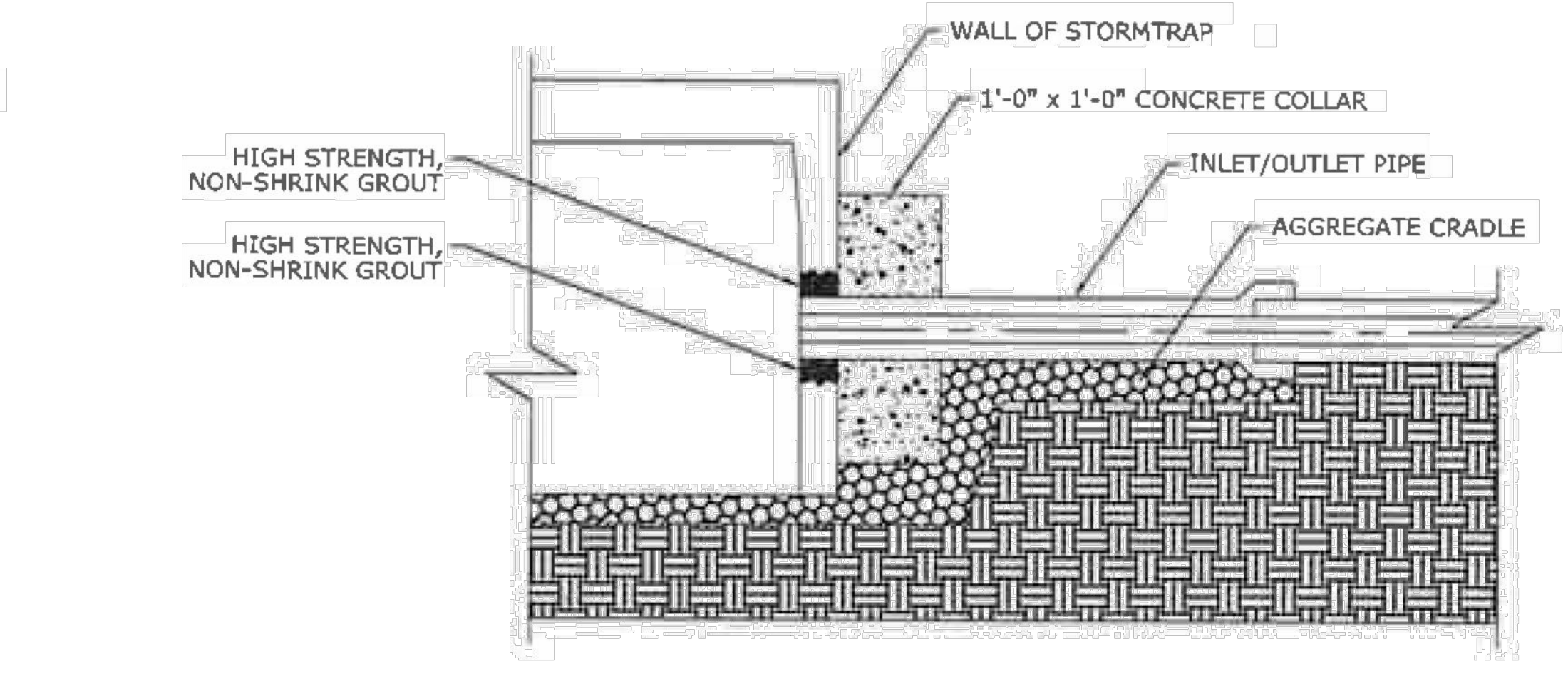
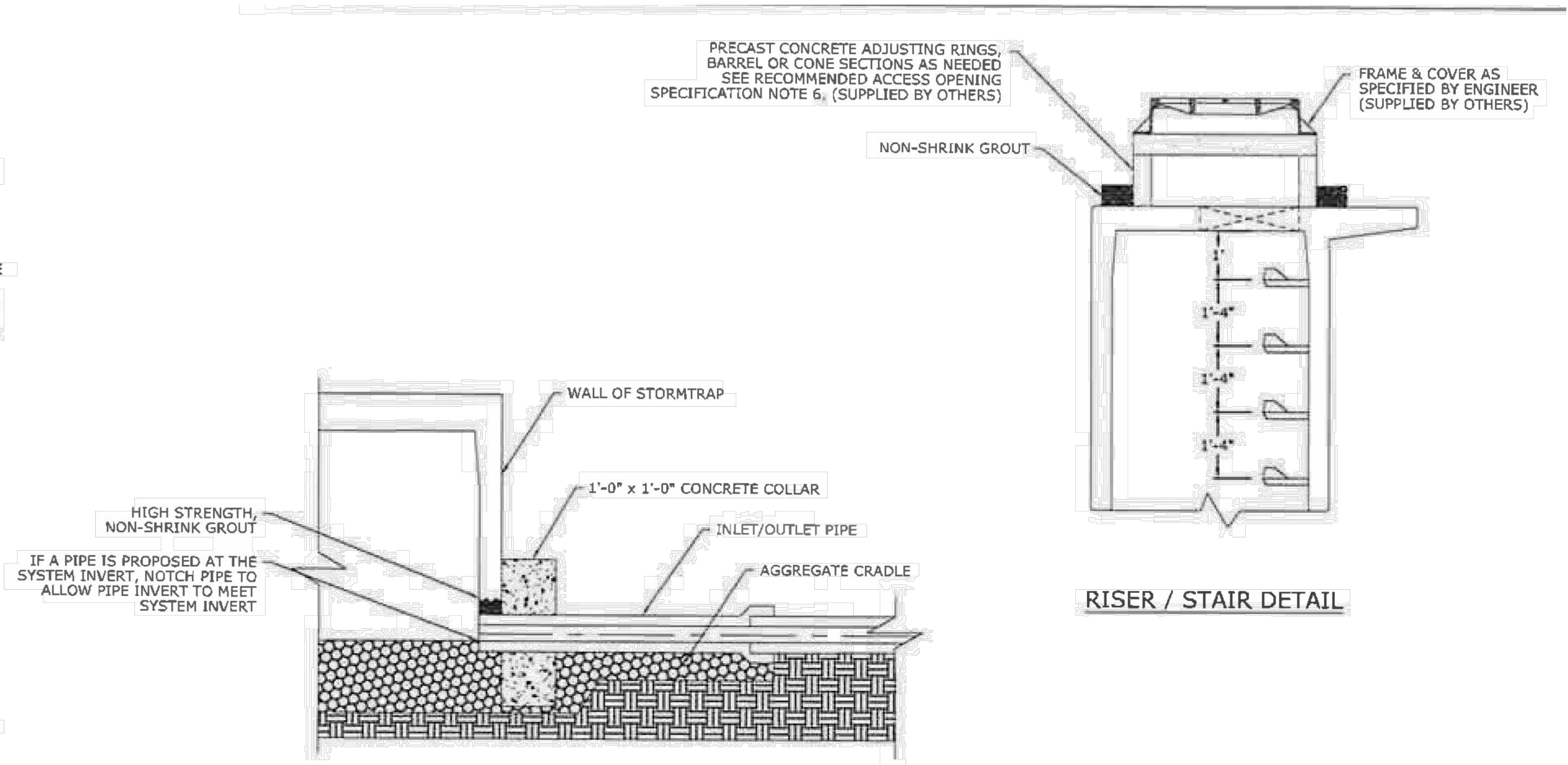
**RECOMMENDED
PIPE OPENING SPECIFICATION**

1. MINIMUM EDGE DISTANCE FOR AN OPENING ON THE OUTSIDE WALL SHALL BE NO LESS THAN 1'-0".
2. MAXIMUM OPENING SIZE TO BE DETERMINED BY THE MODULE HEIGHT. PREFERRED OPENING SIZE IS Ø 36" OR LESS. ANY OPENING NEEDED THAT DOES NOT FIT THIS CRITERIA SHALL BE BROUGHT TO THE ATTENTION OF STORMTRAP FOR REVIEW.
3. CONNECTING PIPES SHALL BE INSTALLED WITH A 1'-0" CONCRETE COLLAR, AND AN AGGREGATE CRADLE FOR AT LEAST ONE PIPE LENGTH (SEE PIPE CONNECTION DETAIL). A STRUCTURAL GRADE CONCRETE OR HIGH STRENGTH, NON-SHRINK GROUT WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI SHALL BE USED.
4. THE ANNULAR SPACE BETWEEN THE PIPE AND THE HOLE SHALL BE FILLED WITH HIGH STRENGTH NON-SHRINK GROUT.

**RECOMMENDED PIPE
INSTALLATION INSTRUCTIONS**

1. CLEAN AND LIGHTLY LUBRICATE ALL OF THE PIPE TO BE INSERTED INTO STORMTRAP.
2. IF PIPE IS CUT, CARE SHOULD BE TAKEN TO ALLOW NO SHARP EDGES. BEVEL AND LUBRICATE LEAD END OF PIPE.
3. ALIGN CENTER OF PIPE TO CORRECT ELEVATION AND INSERT INTO OPENING.

NOTE: ALL ANCILLARY PRODUCTS/SPECIFICATIONS RECOMMENDED AND SHOWN ON THIS SHEET ARE RECOMMENDATIONS ONLY AND SUBJECT TO CHANGE PER THE INSTALLING CONTRACTOR AND/OR PER LOCAL MUNICIPAL CODE/REQUIREMENTS.



PIPE CONNECTION DETAIL

STEP DETAIL

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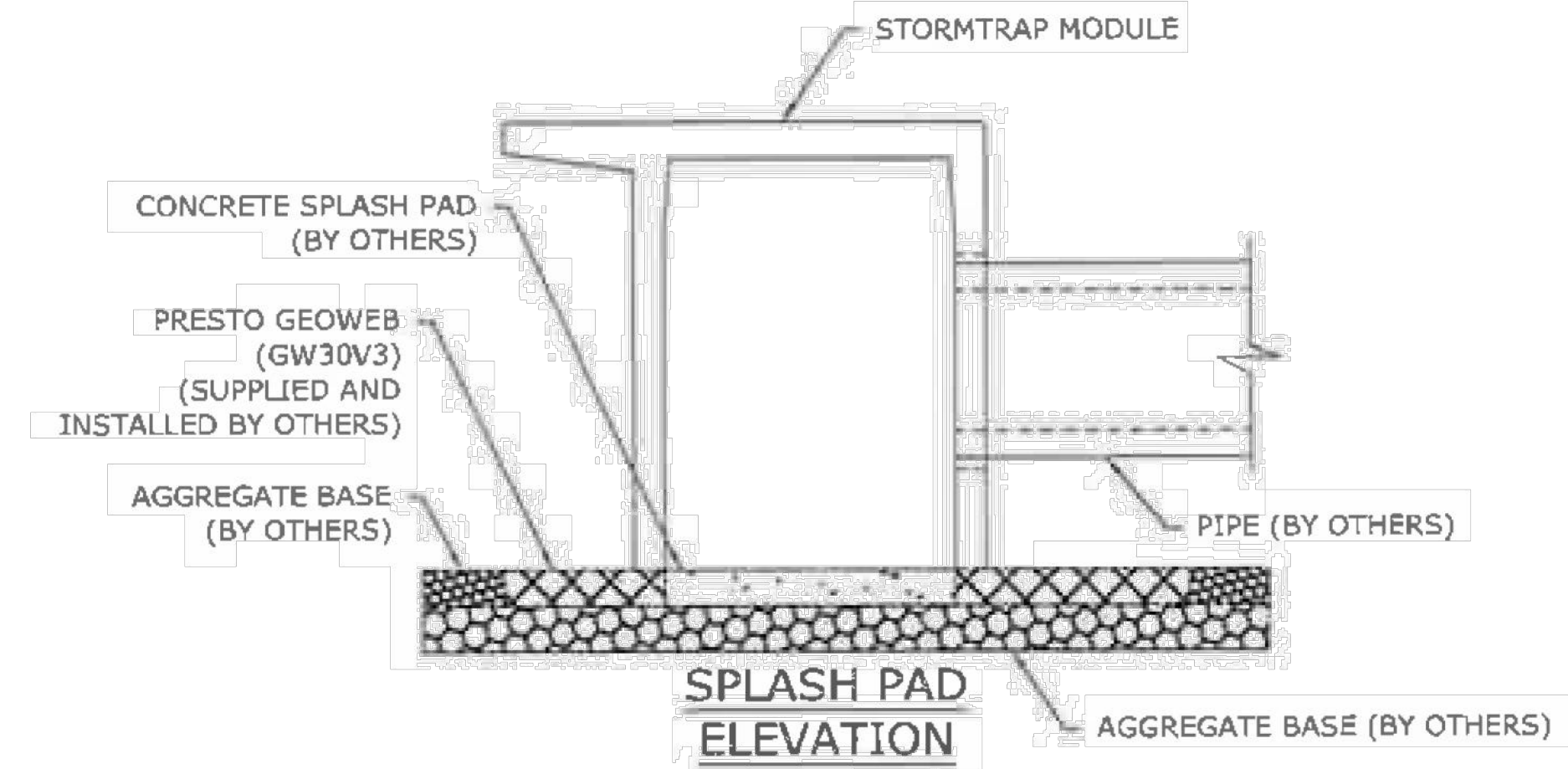
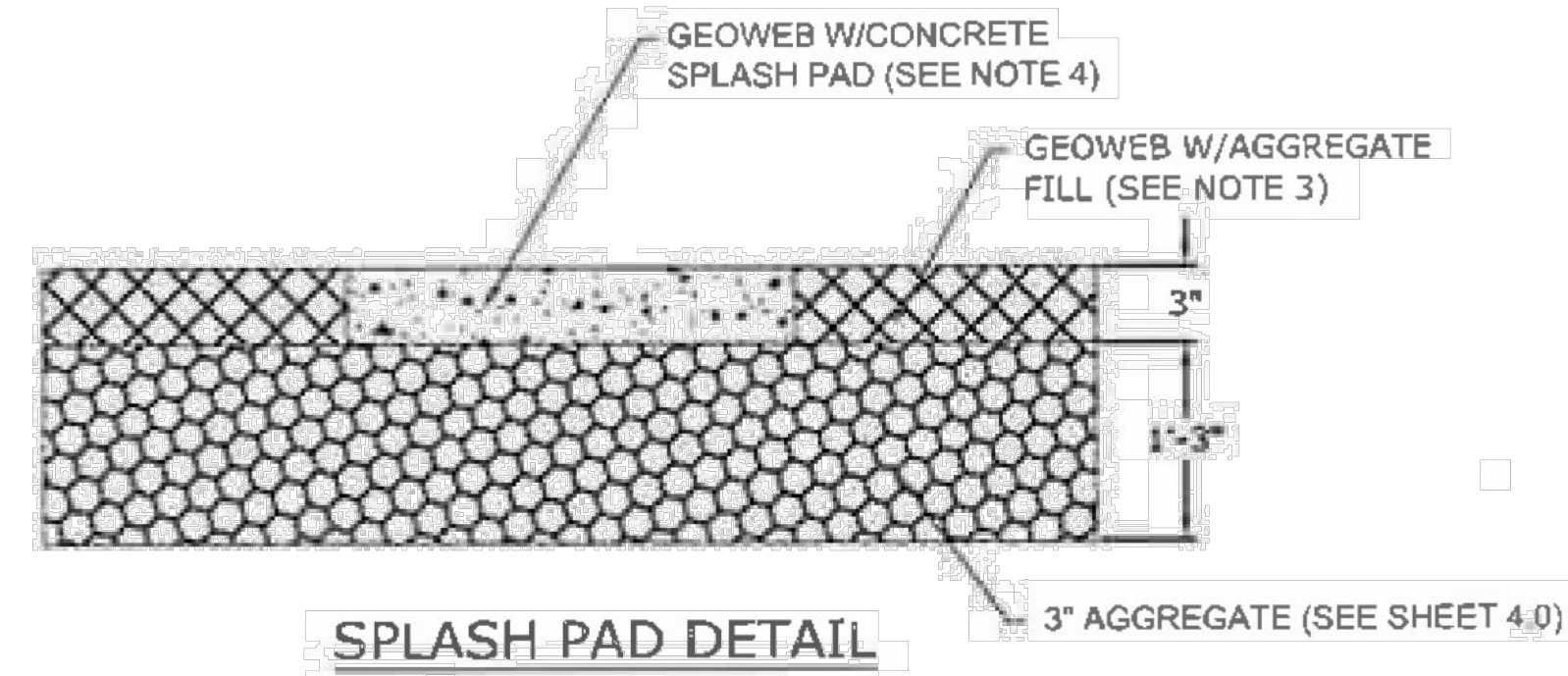
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STORM TRAP DETAIL 5

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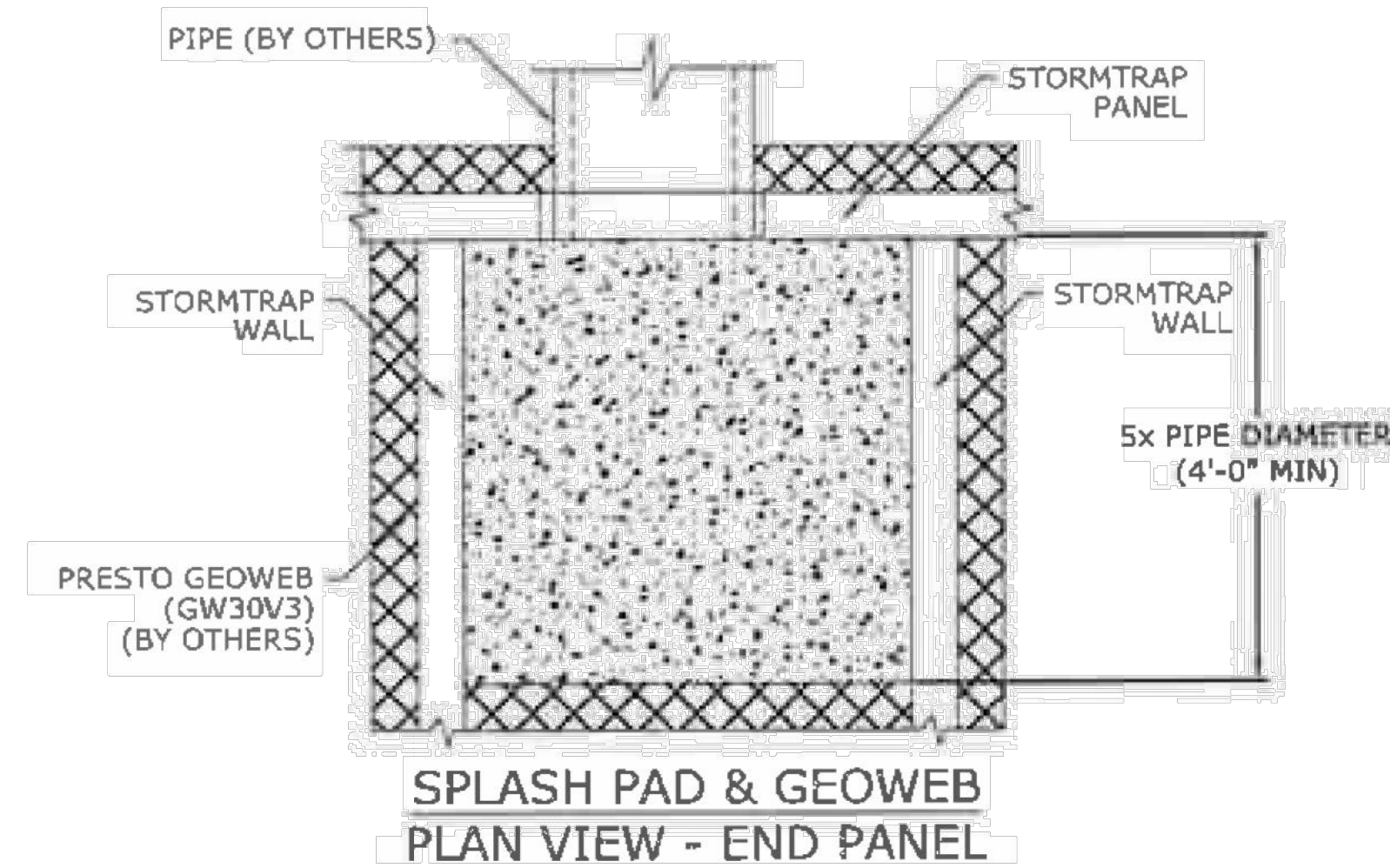
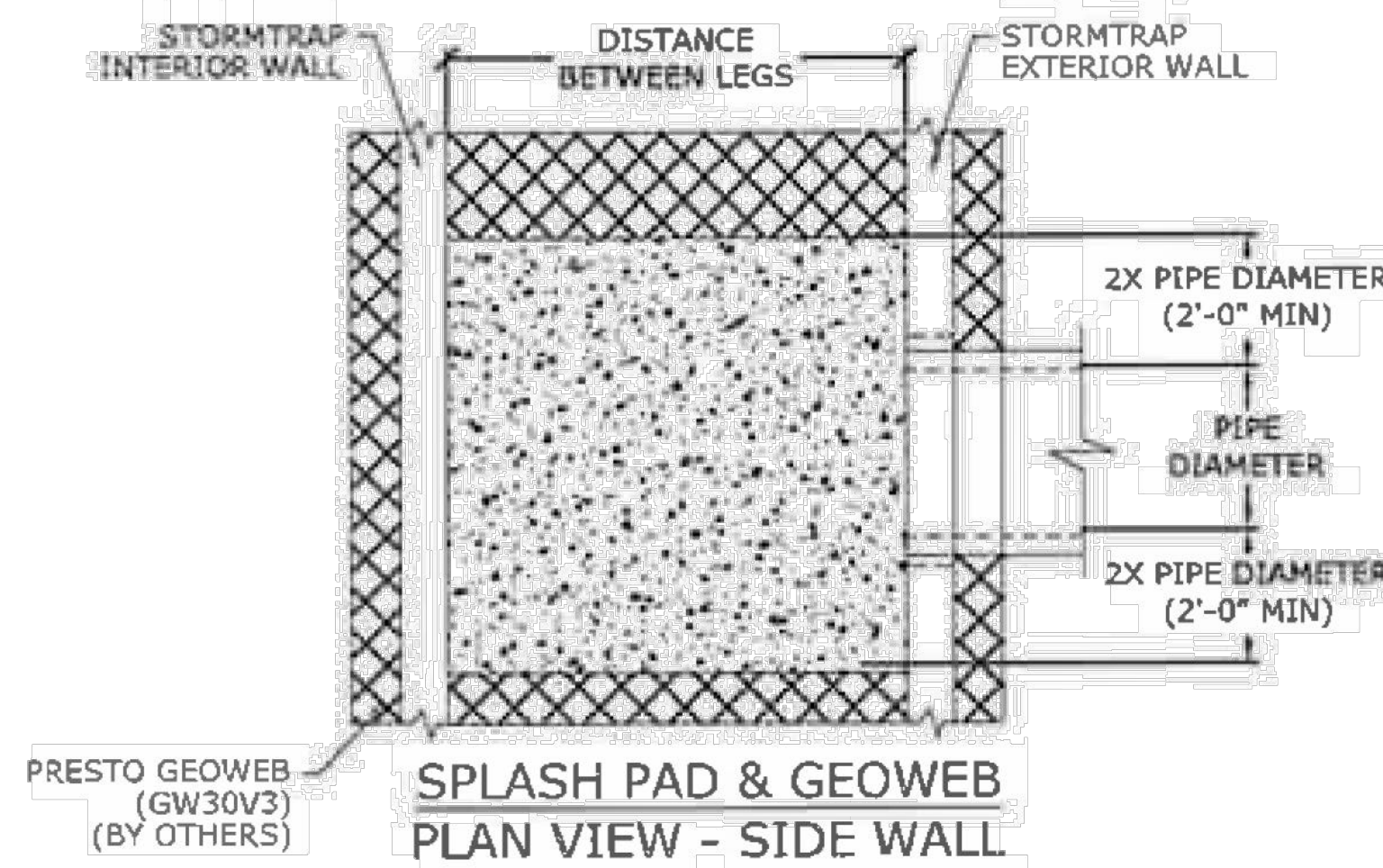
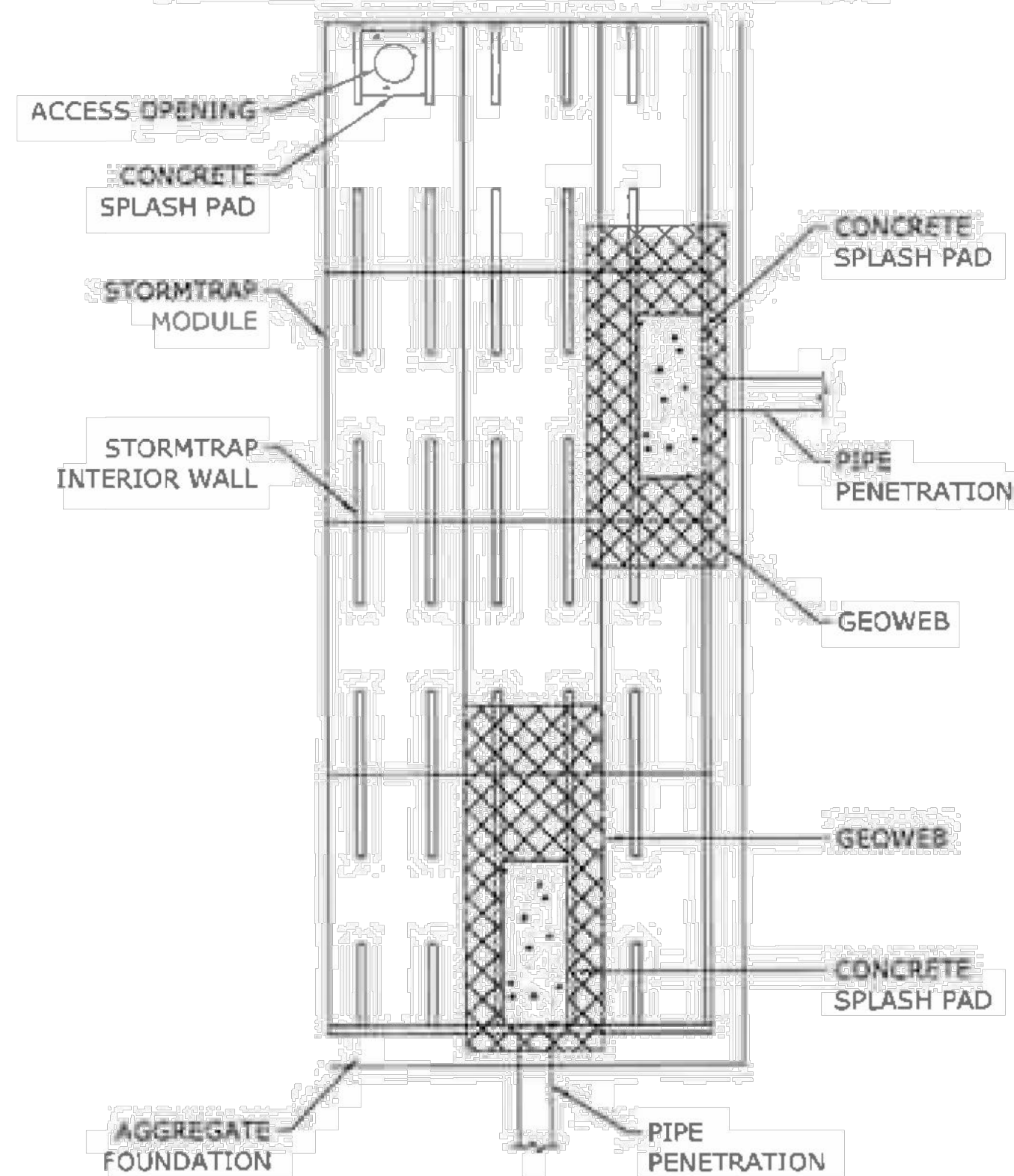
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NOTES:

1. THE APPROVED GEOWEB SHALL BE PRESTO GEOWEB (GW30V3). THE GEOWEB NOMINAL DIMENSIONS SHALL BE 9-FT X 25-FT.
2. THE CONCRETE SPLASH PAD AND GEOWEB SHALL BE INSTALLED PRIOR TO INSTALLATION OF THE STORMTRAP MODULES.
3. THE GEOWEB INFILL MATERIAL SHALL BE #5 AGGREGATE.
4. THE CONCRETE SPLASH PAD SHALL BE INSTALLED WITHIN THE GEOWEB AND IS REQUIRED AT ALL PIPE ENTRY LOCATIONS.
5. THE GEOWEB EDGE SHALL BE INSTALLED 1-FT BEYOND THE OUTER PERIMETER OF THE STORMTRAP SYSTEM.
6. THE GEOWEB LONGITUDINAL DIMENSION (25-FT) SHALL BE INSTALLED PARALLEL TO THE STORMTRAP LEGS.
7. THE CONCRETE SPLASH PAD AND GEOWEB SHALL BE CENTERED AT THE PIPE PENETRATION.
8. REFER TO SPLASH PAD LAYOUT FOR CONCRETE SPLASH PAD DIMENSIONS.
9. IF ANY PRODUCT OTHER THAN PRESTO GEOWEB IS TO BE INSTALLED, THE PRODUCT MANUFACTURER IS REQUIRED TO SUBMIT A LETTER STATING THAT THE PRODUCT IS EQUAL OR BETTER THEN PRESTO GEOWEB, BOTH IN PERFORMANCE AND IN STRUCTURAL CAPACITY.
10. ALL GEOWEB AND SPLASH PADS TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
11. A CONCRETE SPLASH PAD IS REQUIRED AT ANY ACCESS OPENING THAT HAS AN OPEN GRATE FOR DRAINAGE. THE CONCRETE SPLASH PAD SHALL EXTEND BETWEEN THE UNIT LEG WALLS AND 3'-0" FROM THE CENTERLINE OF THE OPENING ON BOTH SIDES UNLESS SPECIFIED OTHERWISE ON THE SPLASH PAD LAYOUT. GEOWEB IS NOT REQUIRED UNDER ACCESS OPENINGS.



SPLASH PAD CONFIGURATION

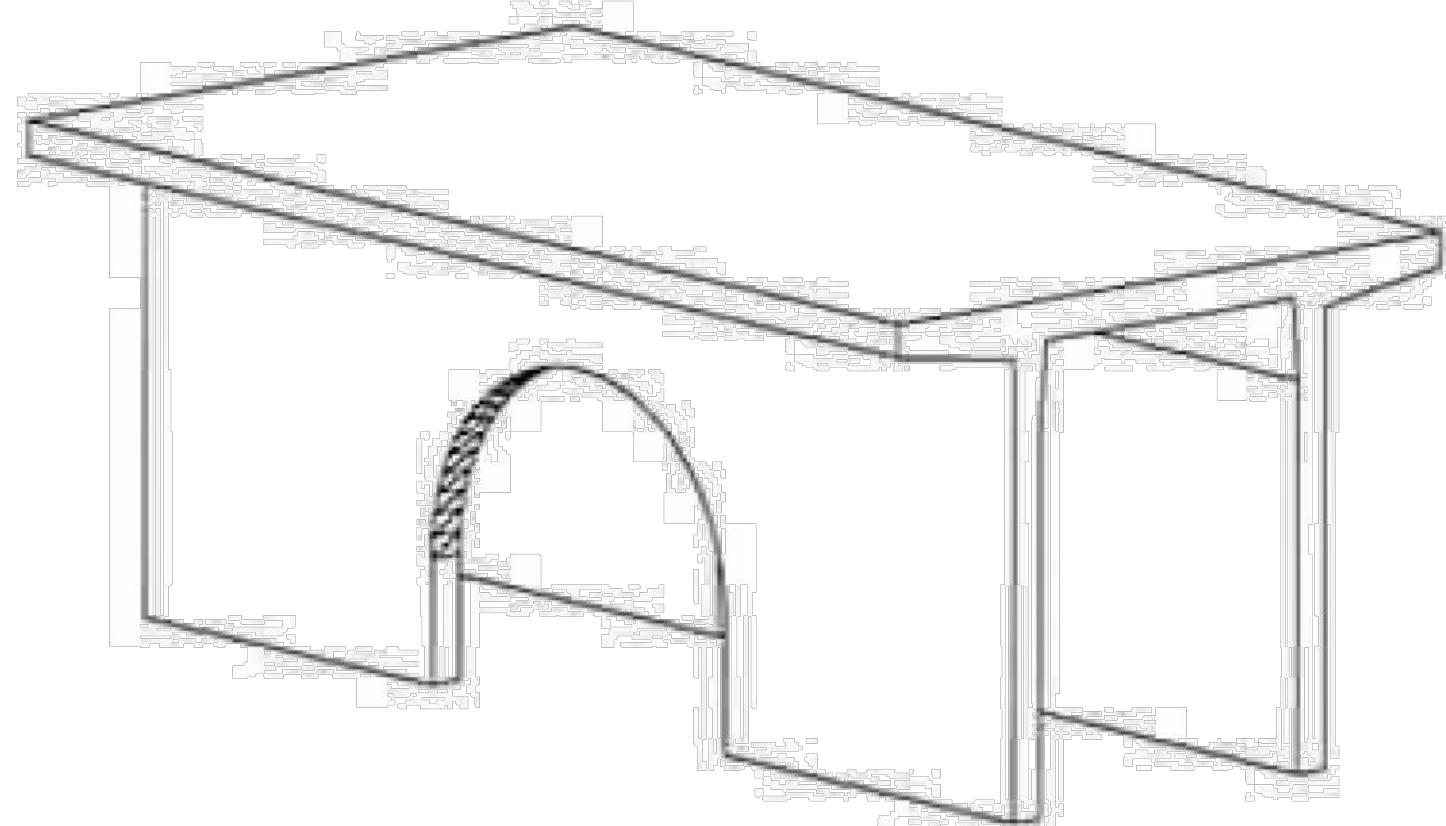


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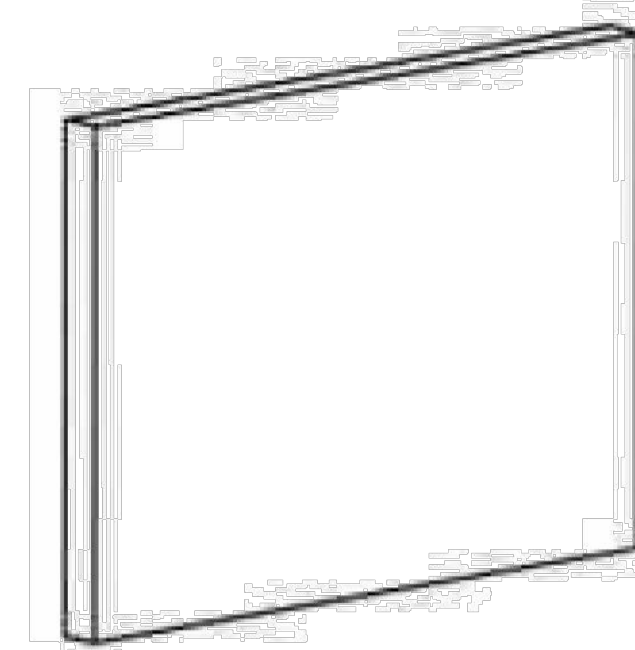

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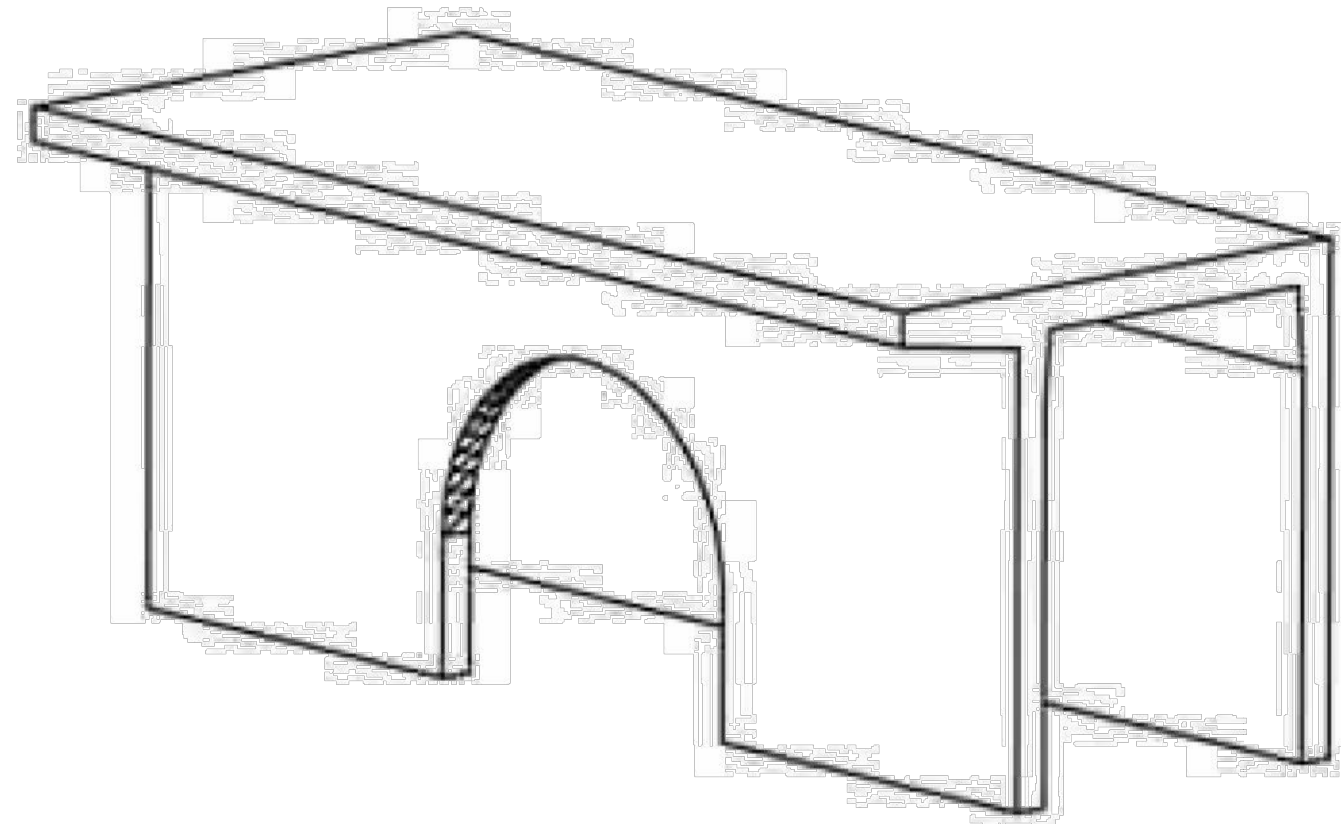
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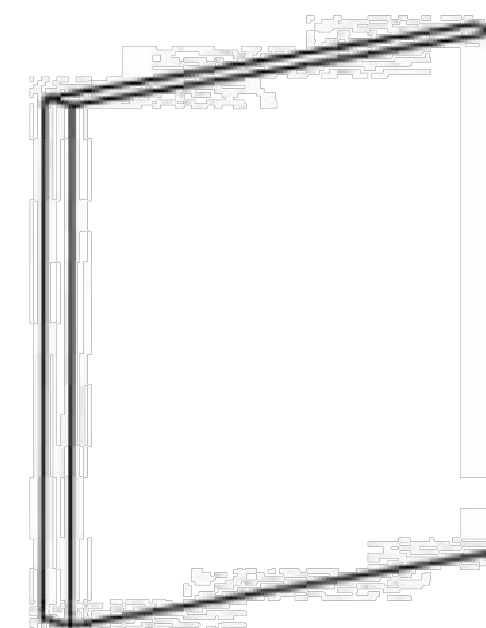
TYPE II



TYPE II
END PANEL



TYPE IV



TYPE IV
END PANEL

NOTES:

1. OPENING LOCATIONS AND SHAPES MAY VARY.
2. SP - INDICATES A MODULE WITH MODIFICATIONS.
3. P - INDICATES A MODULE WITH A PANEL ATTACHMENT.
4. POCKET WINDOW OPENINGS ARE OPTIONAL.

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