

SOIL MOVEMENT:
 FILL TO RE-GRADE BACK YARD:
 8278 S.F. x AVERAGE DEPTH (5'+1'+0'+4' = 10'/4 = 2.5)
 8278 x 2.5 = 20,695 CU.YDS./27 = 766 CU.YDS.
 ADDITIONAL EXCAVATION FOR PROPOSED DWELLING:
 738 S.F. x 8 = 5904 CU.F.T. / 27 = 219 CU.YDS.
 TOTAL AMOUNT OF SOIL NEEDED:
 766 - 219 = 547 CU.YDS.

CONSTRUCTION NOTE:
 THE EXISTING DWELLING,
 DRIVEWAY AND ASSOCIATED
 STRUCTURES WILL ALL BE
 REMOVED TO MAKE WAY FOR
 THE NEW DEVELOPMENT.

NOTE:
 ROOF AND FOUNDATION DRAIN
 CONNECTIONS AS PER
 ARCHITECTURAL PLANS. TIE
 DRAINS INTO SEEPAGE PITS.
 PROP. (2) 1530 GAL.
 SEEPAGE PITS IN 16'x29'
 CRUSHED STONE BOX
 TOP OF PITS 65.50
 INVERTS OF PIPES 63.50
 BOTTOM OF PITS 61.83
 BOTTOM OF STONE 59.08

ALTERNATE FRONT SETBACK REQUIREMENTS:

LOT 9.01 SETBACK	41.2 FEET
LOT 8 SETBACK	60.1 FEET
LOT 6 SETBACK	52.3 FEET
AVERAGE:	153.6/3 = 51.2 FEET

IMPROVED LOT COVERAGE CALCS.

DWELLING	3246 S.F.
COVERED PORCH	52 S.F.
COVERED TERRACE	279 S.F.
BAY WINDOWS	13 S.F.
UNCOVERED TERRACE	737 S.F.
FRONT WALK/STEPS	333 S.F.
A/Cs & GENERATOR	42 S.F.
DRIVEWAY	1841 S.F.
RETAINING WALLS	242 S.F.
TOTAL	6785 S.F.
6785 S.F./23,949.56 = 28.33%	

RES. & PARKING COVERAGE CALCS.

DWELLING	3246 S.F.
COVERED PORCH	52 S.F.
COVERED TERRACE	279 S.F.
BAY WINDOWS	13 S.F.
DRIVEWAY	1841 S.F.
TOTAL	5431 S.F.
5431 S.F./23,949.56 = 22.68%	

BUILDING HEIGHT CALCULATIONS:

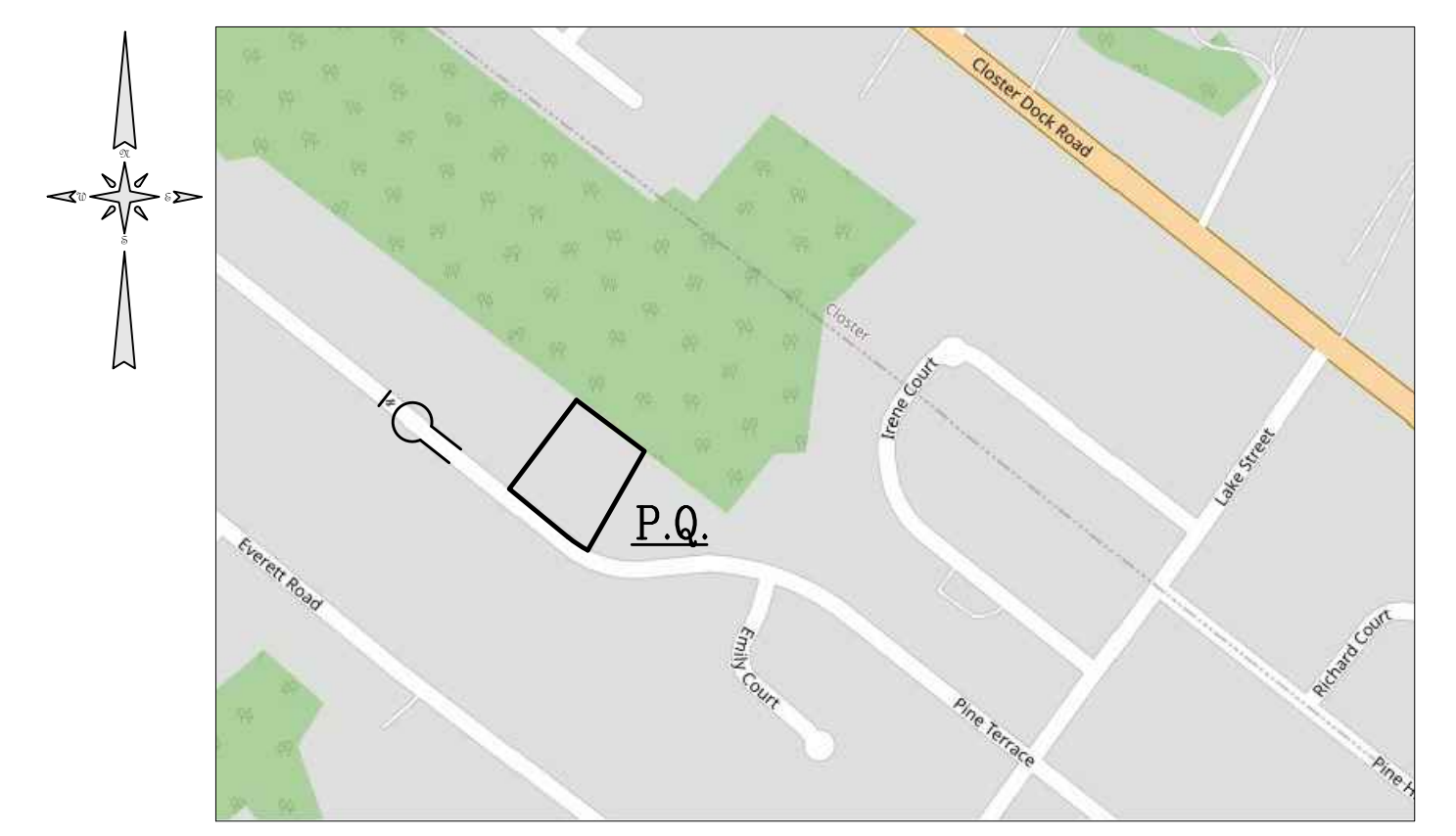
AVERAGE NATURAL GRADE	74.5 + 73.4 + 71.4 + 70.5 + 71.0 + 71.3 + 72.4 + 72.9
MIDPOINT OF ROOF	101.60
Result	577.4 / 8 = 72.18
Final Height	101.6 - 72.18 = 29.42 FEET

BUILDING COVERAGE CALCS.

DWELLING	3246 S.F.
COVERED PORCH	52 S.F.
COVERED TERRACE	279 S.F.
BAY WINDOWS	13 S.F.
TOTAL	3590 S.F.
3590 S.F./23,949.56 = 14.99%	

LIVABLE FLOOR AREA CALCS:

FIRST FLOOR	2447 S.F.
SECOND FLOOR	2919 S.F.
TOTAL	5366 S.F.
5366 S.F./23,949.56 = 22.41%	



GENERAL NOTES:

- Being known and designated as Lot 7 in Block 84.05 as shown on the current Tax Assessment Maps of the Borough of Demarest, Bergen County, New Jersey, Tax Map Sheet No. 5.
- Property lies in the R-BB Zone, Single Family Residence District.
- Existing area of lot: 23,949.56 S.F. or 0.55 acres.
- Elevations shown are based on N.A.V.D. 1988 Datum.
- All construction to be in accordance with the Borough of Demarest Ordinances and/or Specifications.
- Property owners: Chad Cutler
9 Avenue at Port Imperial, Unit 1003
West New York, NJ 07093
- Applicant: Chad Cutler
9 Avenue at Port Imperial, Unit 1003
West New York, NJ 07093
- The location and depths of all utilities shown are approximate. For their exact location and depths, the Contractor shall contact the respective utility companies at 1-800-272-1000. Prior to any construction contractor shall verify existing site conditions. If there are any conflicts with this plan the Engineer/Architect shall be notified before commencing construction. Contractors investigation shall include, but not be limited to, location and elevation of all underground utilities and structures, and clearances at crossings. Test holes may be necessary. Commencement of construction shall constitute acceptance by the contractor of this plan, conditions, and consequences thereof. Results of findings may necessitate adjustments to this plan.
- All disturbed areas are to be stabilized during construction based on the requirements of the Bergen County Soil Conservation District.
- All proposed roof leaders are to be tied into the on-site drainage system.
- Foundation drains and waterproofing as designed by Architect.
- All roof drainage and foundation drainage must remain separated until their final destination.
- This plan reflects conditions as of the drawing date and may not show current conditions.
- Costa Engineering Corporation, State of New Jersey Certificate of Authorization No. GA 276726.
- Grading around proposed dwelling shall conform to the current International Residential Code, New Jersey Edition, chapter 4, Section R401.
- Boundary survey information shown based upon survey entitled "Topographic Survey, Tax Lot 7 - Block 84.05, 74 Pine Terrace, Borough of Demarest, Bergen County, New Jersey" dated May 2, 2023, prepared by Schmidt Surveying, Dumont, NJ.
- The boundary information shown on this plan is for site planning and engineering design only and is not to be used as a survey for title or conveyancing purposes.
- All existing utility connections shall be inspected and re-used for the new proposed dwelling as long as they are in good working order. If not they shall be replaced with new service connections.

ZONING SCHEDULE: R-BB SINGLE FAMILY RESIDENTIAL DISTRICT

ITEM	MINIMUMS	EXISTING	PROPOSED
LOT FRONTAGE	150 FEET	150.00 FEET	150.00 FEET
LOT DEPTH	150 FEET	172.35 FEET	172.35 FEET
LOT AREA	30,000 S.F.	23,949.56 S.F. (E)	23,949.56 S.F. (E)
FRONT YARD	50 FT. (51.2 AVG.)	51.7 FEET	51.9 FEET
SIDE YARD, ONE	25 FEET	26.3 FEET	25.7 FEET
SIDE YARD, BOTH	50 FEET	68.0 FEET	55.5 FEET
REAR YARD DEPTH	50 FEET	61.0 FEET	52.4 FEET
REAR YARD WIDTH	150 FEET	129.93 FEET (E)	129.93 FEET (E)
ITEM	MAXIMUMS	EXISTING	EXISTING
BUILDING COVERAGE	15%	TO BE REMOVED	14.99% (3590 S.F.)
BUILDING HEIGHT	30 FEET *	TO BE REMOVED	29.42 FEET
FLOOR AREA	22.5%	TO BE REMOVED	22.41% (5366 S.F.)
IMPROVED LOT COV.	30%	TO BE REMOVED	28.33% (6785 S.F.)
RES & PARKING COV.	25%	TO BE REMOVED	22.68% (5431 S.F.)

* MEASURED FROM THE AVERAGE NATURAL GRADE AROUND THE PERIMETER OF THE PROPOSED STRUCTURE. NO MORE THAN 50% OF THE ROOF AREA SHALL EXCEED THE SPECIFIED AVERAGE HEIGHT.
 (E) = EXISTING NON-CONFORMITY

ACCESSORY STRUCTURES 175-19. B

ITEM	MINIMUMS	EXISTING	PROPOSED
SIDE YARD	25 FEET	15.3 FEET (E)	N/A (TO BE REMOVED)
REAR YARD	10 FEET	172.35 FEET	N/A (TO BE REMOVED)
HEIGHT	12 FEET	12 FEET ±	N/A (TO BE REMOVED)

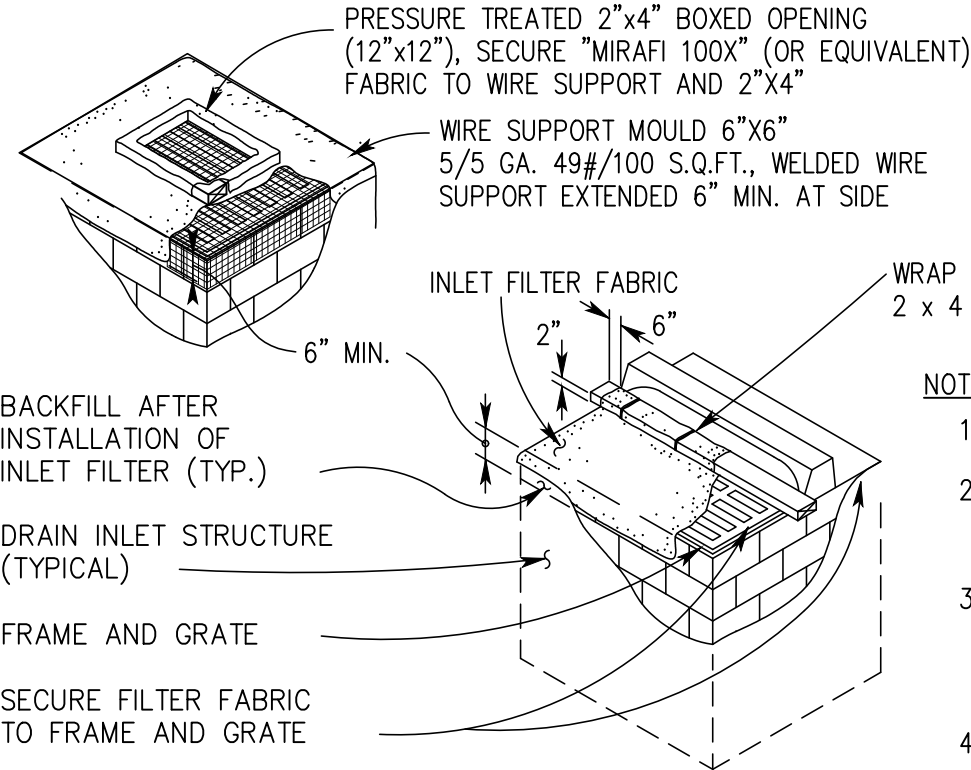
DATE	BY	DESCRIPTION
3-22-24	JEM	REVISED REAR YARD GRADING & RETAINING WALLS

ROBERT L. COSTA N.J. LIC. NO. 34702 & 4639
 PROFESSIONAL ENGINEER AND PLANNER
 SIGNED: _____ DATE: 8-10-23
 GRAPHIC SCALE: 0 20 40 60 80

C COSTA ENGINEERING CORPORATION
 PROFESSIONAL ENGINEERS • SURVEYORS • PLANNERS
 State of New Jersey Certificate of Authorization No. GA 276726.
 325 So. RIVER STREET - SUITE 302, HACKENSACK, N.J. 07601
 TEL: (201) 487-0015, FAX: (201) 487-3122

DRAWING TITLE:	SITE GRADING PLAN
PROJECT NAME:	CUTLER RESIDENCE
LOCATION:	BLOCK 84.05, LOT 7 74 PINE TERRACE BOROUGH OF DEMAREST BERGEN COUNTY, NEW JERSEY
PROJ. NO. 23-2346	SCALE: 1" = 20' DRAWN BY: JEM

LAWN INLET & FLAT GRATE INSTALLATION

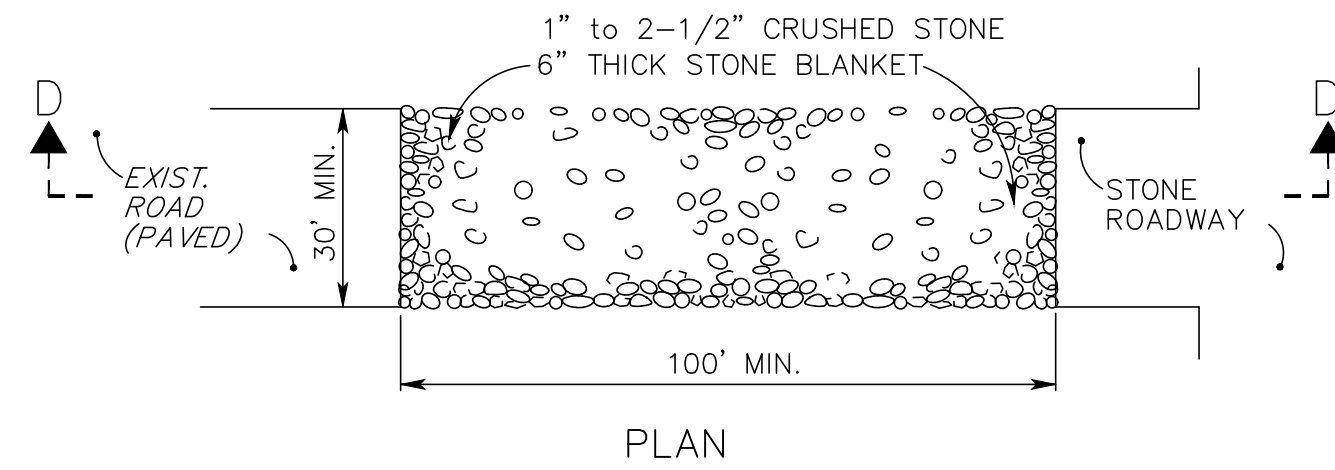


NOTES:

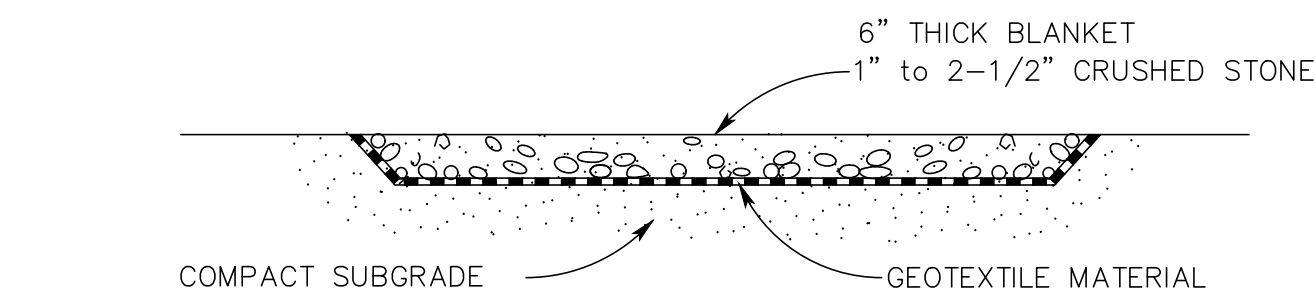
1. CONTRACTOR IS TO CLEAN INLET FILTER AFTER EVERY STORM.
2. CONTRACTOR TO REMOVE FABRIC AND MESH JUST PRIOR TO PAVING.
3. IF BOTTOM OF ROADWAY IS BELOW TOP OF INLET GRATE, CONSTRUCT PROPERLY FITTED OPENING(S) IN INLET WALL TO ALLOW PASSAGE OF WATER.
4. THE PROTECTION DEVICE WILL BE DESIGNED TO CAPTURE OR FILTER RUNOFF FROM THE 1 YEAR, 24 HOUR STORM EVENT AND SHALL SAFELY CONVEY HIGHER FLOWS DIRECTLY INTO THE STORM SEWER SYSTEM.

INLET FILTER BARRIER PROTECTION DETAIL

NTS



PLAN



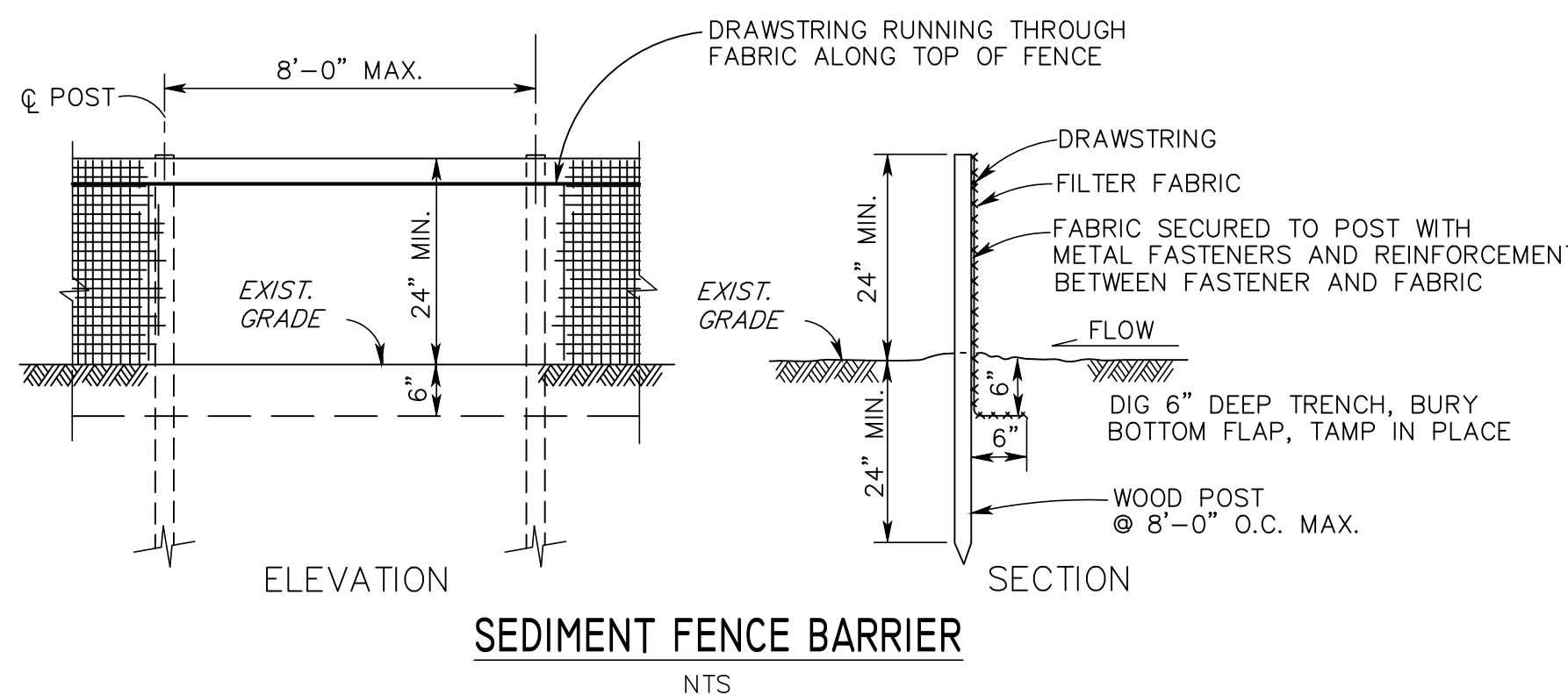
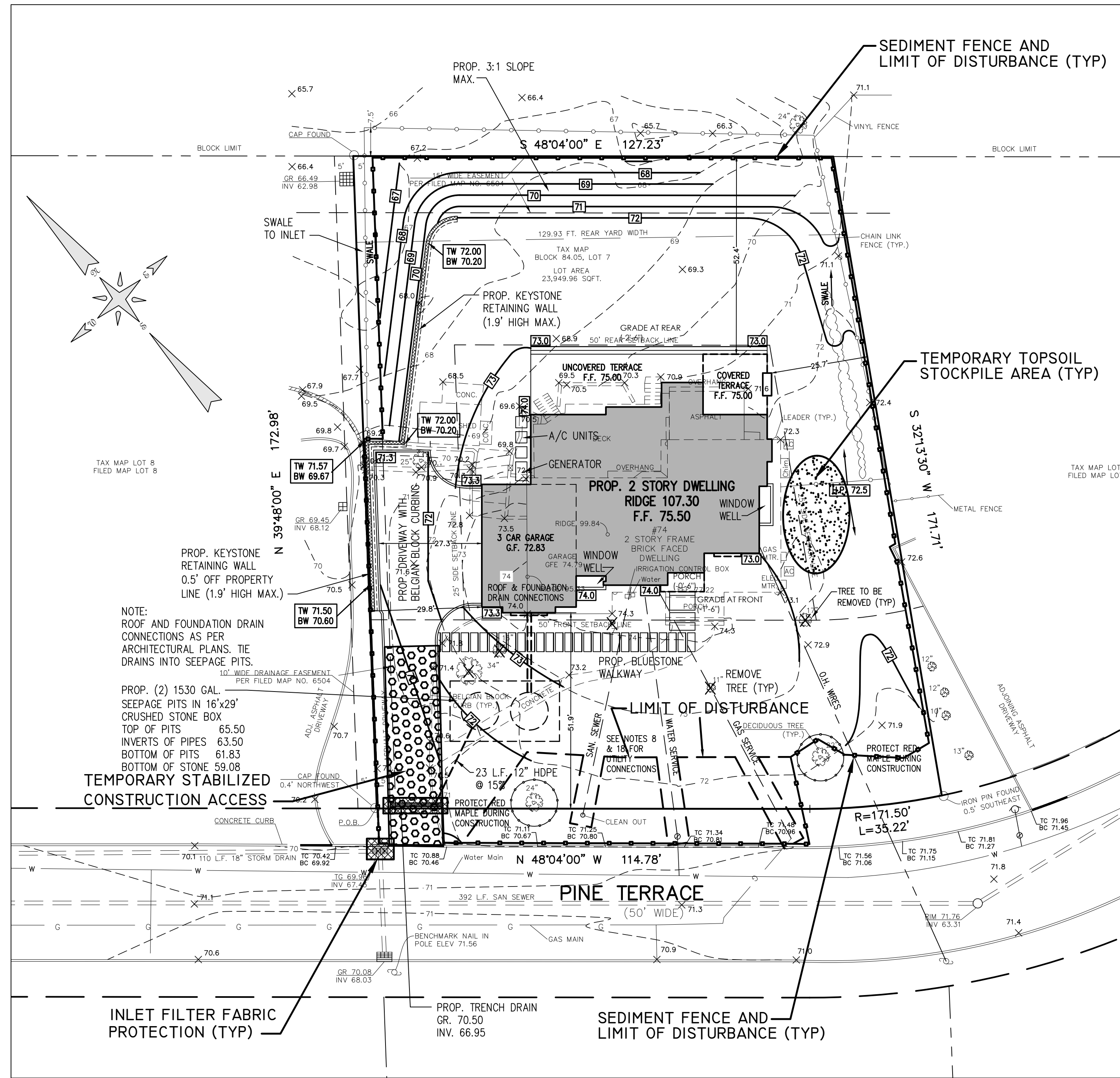
SECTION D-D

STABILIZED CONSTRUCTION ENTRANCE

NTS

CONSTRUCTION SEQUENCE:

1. The Soil Conservation District shall be notified in writing 48 hours prior to any land disturbance.
2. Construct stabilized construction access as shown on plans.
3. Install sediment fence as shown on plans.
4. Remove all vegetation in areas of proposed construction and demolish existing dwelling as shown.
5. Strip topsoil in areas of construction and store in designated areas as shown & temporarily stabilize.
6. Construct proposed foundation and rough grade to elevations shown on plans.
7. Construct proposed sewer lateral, underground utilities and underground drainage as shown on plans.
8. Construct proposed dwelling as shown on the Architectural and Engineering Drawings.
9. Construct proposed driveway, walks and patios as shown on plans.
10. Uniformly apply topsoil to an average depth of 5", minimum of 4", firmed in place to all planting and lawn areas as specified on plans.
11. Seed/sod as specified in the erosion control notes and landscape all planting areas.
12. Upon completion of all stabilization, remove all erosion control devices.
13. The contractor shall be responsible for the installation and maintenance of all erosion control devices prior to and during construction.



SEDIMENT FENCE BARRIER

NTS

AREA OF DISTURBANCE = 21,982 S.F. OR 0.51 AC.

**BERGEN COUNTY SOIL CONSERVATION DISTRICT
SOIL EROSION AND SEDIMENT CONTROL NOTES**

1. All Soil Erosion and Sediment Control Practices will be installed in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey (NJ Standards), and will be installed in proper sequence and maintained until permanent stabilization is established.
2. Any disturbed area that will be left exposed for more than thirty (30) days and not subject to construction traffic shall immediately receive a temporary seeding and mulching. If the season prohibits temporary seeding, the disturbed area will be mulched with unrolled straw at a rate of 2 tons per acre anchored by approved methods (i.e. Peg and Twine, Mulch netting, or liquid mulch binder).
3. Immediately following initial disturbance or rough grading all critical areas subject to erosion will receive a temporary seeding in combination with straw mulch or suitable equivalent, at a rate of 2 tons per acre, according to NJ Standards.

4. STABILIZATION SPECIFICATIONS

A. TEMPORARY SEEDING AND MULCHING:

- GROUND LIMESTONE- Applied uniformly according to soil test recommendations.
- FERTILIZER- Apply 11 lbs./1,000 sf of 10-20-10 or equivalent with 50% water insoluble nitrogen (unless a soil test indicates otherwise) worked into the soil a minimum of 4".
- SEED- Perennial rye grass 100 lbs/acre (2.3 lbs./1,000 sf) or other approved seeds; plant between March 1 and May 15 or between August 15 and October 1.
- MULCH- Unrotted straw or hay at a rate of 70 to 90 lbs/1,000 S.F. applied to achieve 95% soil surface coverage. Mulch shall be anchored by approved methods (i.e. Peg and Twine, Mulch netting, or liquid mulch binder).

B. PERMANENT SEEDING AND MULCHING:

- TOPSOIL- A uniform application to an average depth of 5", minimum of 4", firmed in place is required.
- GROUND LIMESTONE- Applied uniformly according to soil test recommendations.
- FERTILIZER- Apply 11 lbs./1,000 sf of 10-10-10 or equivalent with 50% water insoluble nitrogen (unless a soil test indicates otherwise) worked into the soil a minimum of 4".
- SEED- Turf type tall fescue (blend of three cultivars) 350 lbs/acre (8 lbs./1,000 sf) or other approved seeds; plant between March 1 and October 1. (Summer seedings require irrigation)
- MULCH- Unrotted straw or hay at a rate of 70 to 90 lbs/1,000 S.F. applied to achieve 95% soil surface coverage. Mulch shall be anchored by approved methods (i.e. Peg and Twine, Mulch netting, or liquid mulch binder).

5. The site shall at all times be graded and maintained such that all storm water runoff is diverted to Soil Erosion and Sediment Control facilities.
6. Soil erosion and sediment control measures will be inspected and maintained on a regular basis, including after every storm event.
7. Stockpiles are not to be located within 50' of a flood plain, slope, roadway or drainage facility. The base of all stockpiles shall be contained by a hay bale sediment barrier or silt fence.
8. A crushed stone, vehicle wheel-cleaning blanket will be installed wherever a construction access road intersects any paved roadway. Said blanket will be composed of 1" - 2 1/2" crushed stone, 6" thick, will be at least 30' x 100' and should be underlain with a suitable synthetic sediment filter fabric and maintained.
9. Maximum side slopes of all exposed surfaces shall not exceed 3:1 unless otherwise approved by the District.
10. Driveways must be stabilized with 1" - 2 1/2" crushed stone or subbase prior to individual lot construction.
11. All soil washed, dropped, spilled and tracked outside the limit of disturbance or onto public right-of-ways, will be removed immediately. Paved roadways must be kept clean at all times.
12. Catch basin inlets will be protected with an inlet filter designed in accordance with Section 28-1 of the NJ Standards.
13. Storm drainage outlets will be stabilized, as required, before the discharge points become operational.
14. Dewatering operations must discharge directly into a sediment control bag or other approved filter in accordance with Section 14-1 of the NJ Standards.
15. Dust shall be controlled via the application of water, calcium chloride or other approved method in accordance with Section 16-1 of the NJ Standards.
16. Trees to remain after construction are to be protected with a suitable fence installed at the drip line or beyond in accordance with Section 9-1 of the NJ Standards.
17. The project owner shall be responsible for any erosion or sedimentation that may occur below stormwater outfalls or off-site as a result of construction of the project.
18. Any revision to the certified Soil Erosion and Sediment Control Plan must be submitted to the District for review and approval prior to implementation in the field.
19. A copy of the certified Soil Erosion and Sediment Control Plan must be available at the project site throughout construction.
20. The Bergen County Soil Conservation District must be notified, in writing, at least 48 hours prior to any land disturbance: Bergen County SCD, 700 Kinderkamack Road, Suite 106, Oradell, NJ 07649 Tel: 201-261-4407 Fax: 201-261-7573.
21. The Bergen County Soil Conservation District may request additional measures to minimize on or off-site erosion problems during construction.
22. The owner must obtain a District issued report of compliance prior to the issuance of any certificate of occupancy. The District requires at least one week's notice to facilitate the scheduling of all report of compliance inspections. All site work must be completed, including temporary/permanent stabilization of all exposed areas, prior to the issuance of a report of compliance by the District.

This project is exempt from soil de-compaction remediation and testing as it is previously developed and does not contain any woody vegetation.

DATE	BY	CHKD	DESCRIPTION
3-22-24	JEM	RLC	REVISED REAR YARD GRADING & RETAINING WALLS
			REVISIONS

ROBERT L. COSTA N.J. LIC. NO. 34702 & 4639
PROFESSIONAL ENGINEER AND PLANNER

SIGNED: _____ DATE: 8-10-23

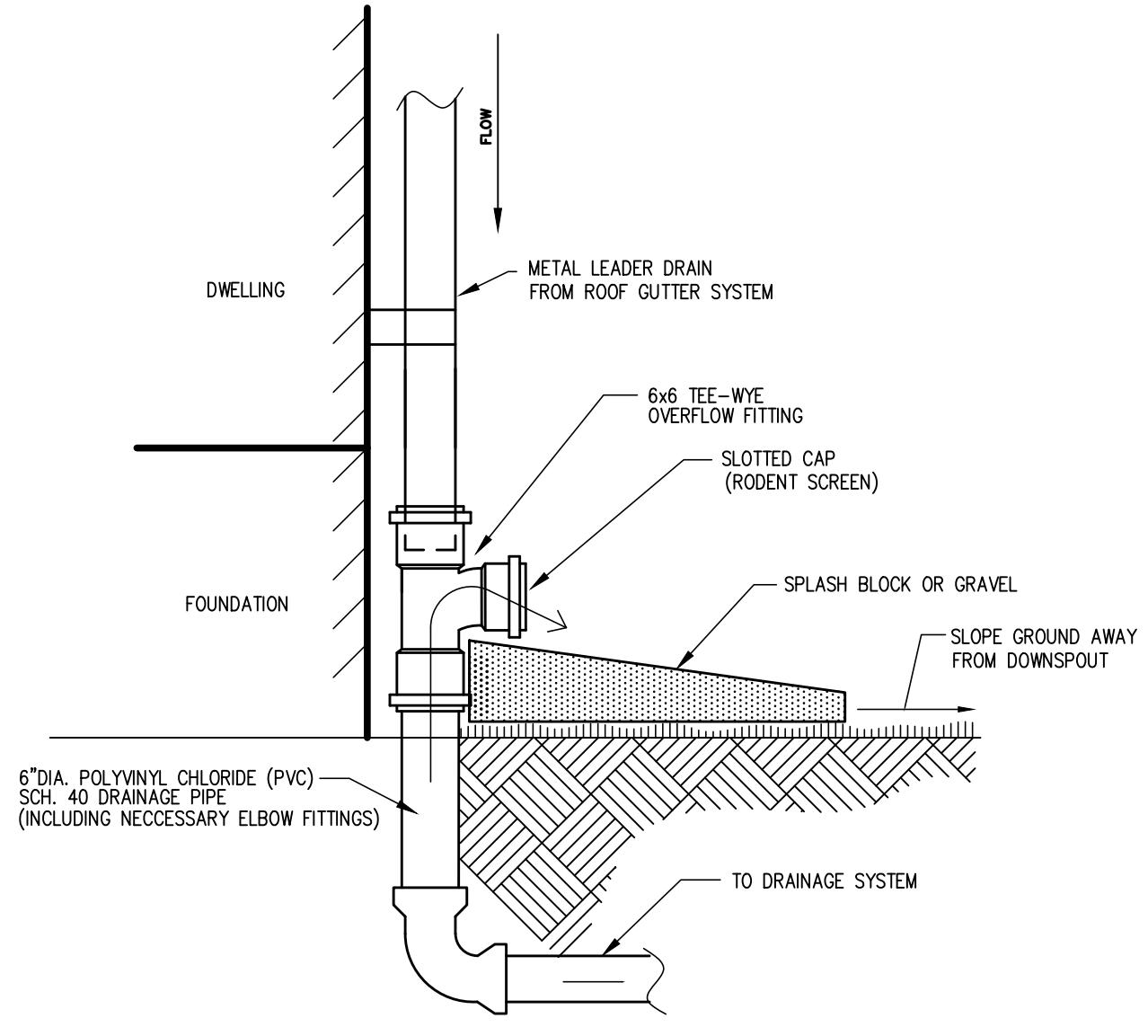
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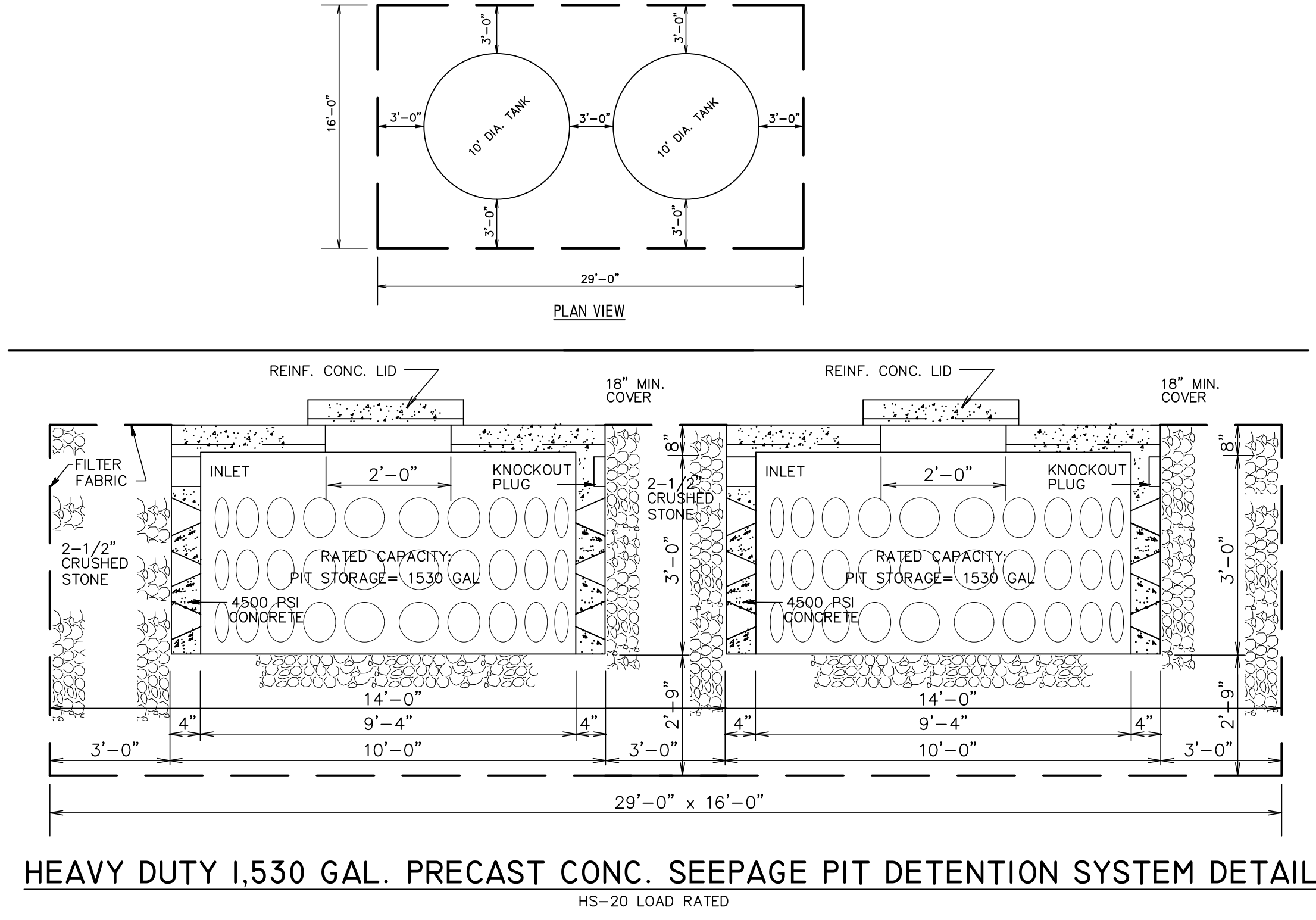
State of New Jersey Certificate of Authorization No. GA 276726.
325 So. RIVER STREET - SUITE 302, HACKENSACK, N.J. 07601
TEL: (201) 487-0015 FAX: (201) 487-9122

DRAWING TITLE: SOIL EROSION AND SEDIMENT CONTROL PLAN
PROJECT NAME: CUTLER RESIDENCE
LOCATION: BLOCK 84.05, LOT 7
74 PINE TERRACE
BOROUGH OF DEMAREST
BERGEN COUNTY, NEW JERSEY

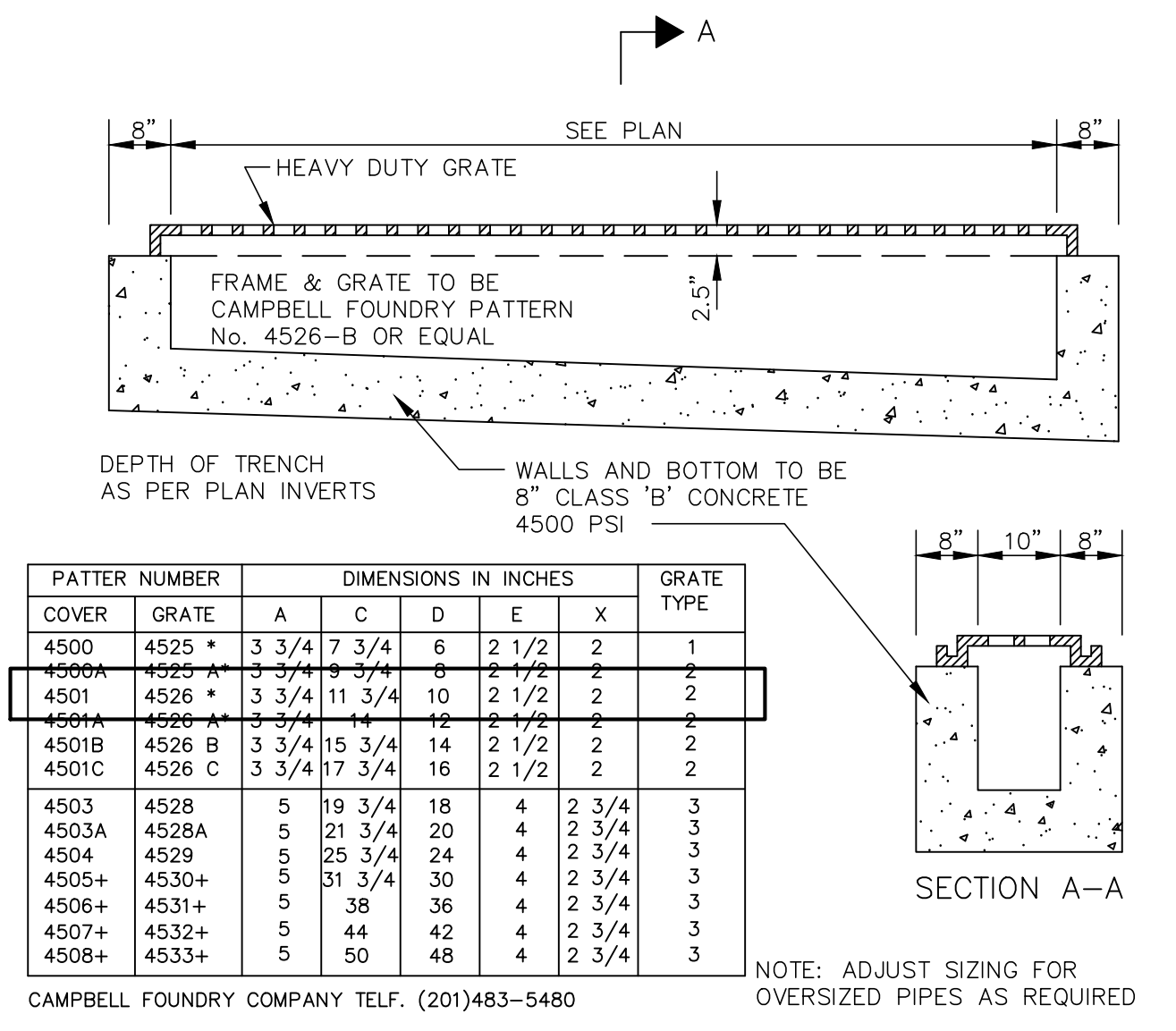
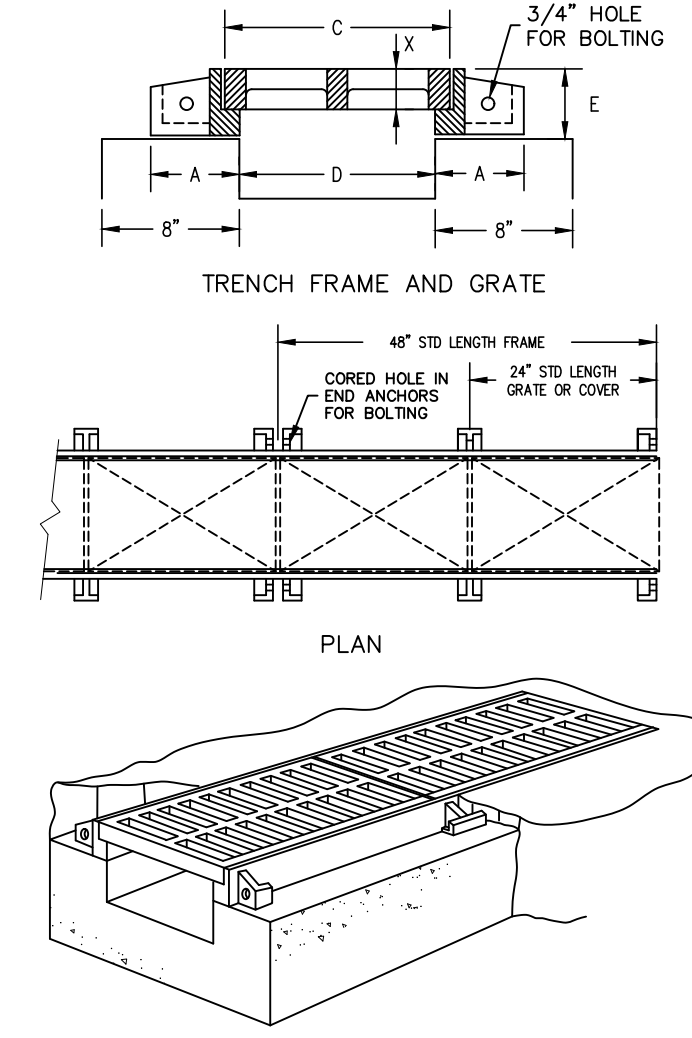
PROJ. NO. 23-2346 SCALE: 1" = 20' DRAWN BY: JEM



ROOF LEADER DRAIN CONNECTION OVERFLOW FITTING DETAIL

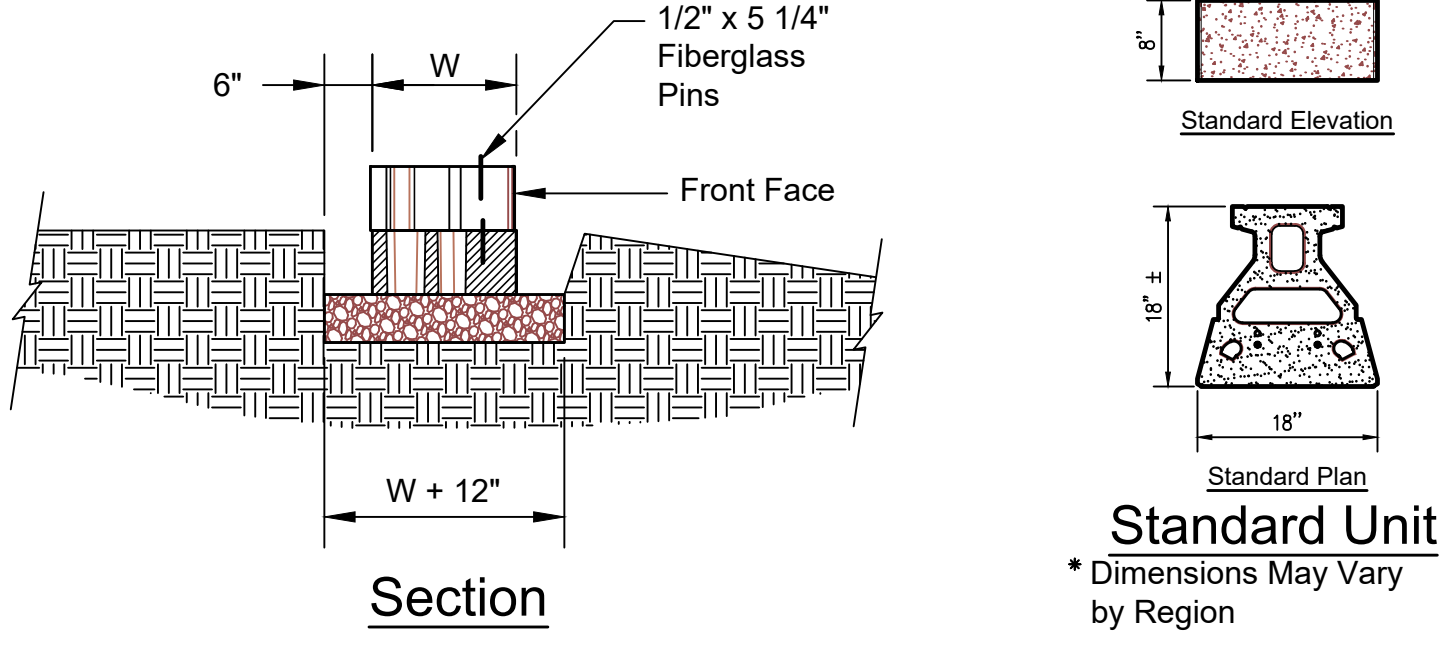
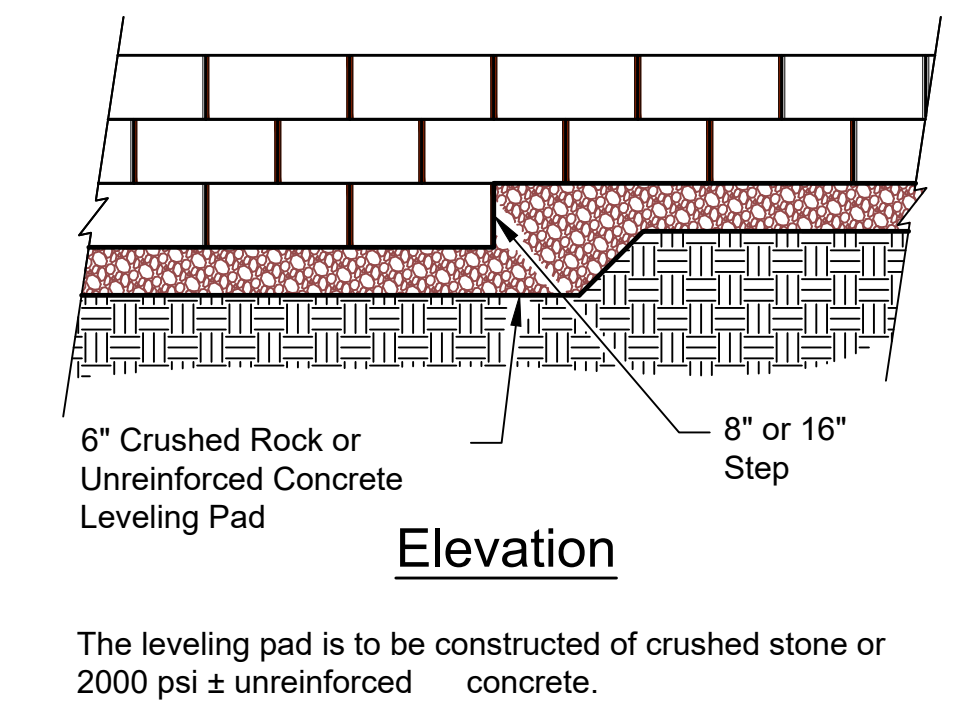


HEAVY DUTY 1,530 GAL. PRECAST CONC. SEEPAGE PIT DETENTION SYSTEM DETAIL
HS-20 LOAD RATED

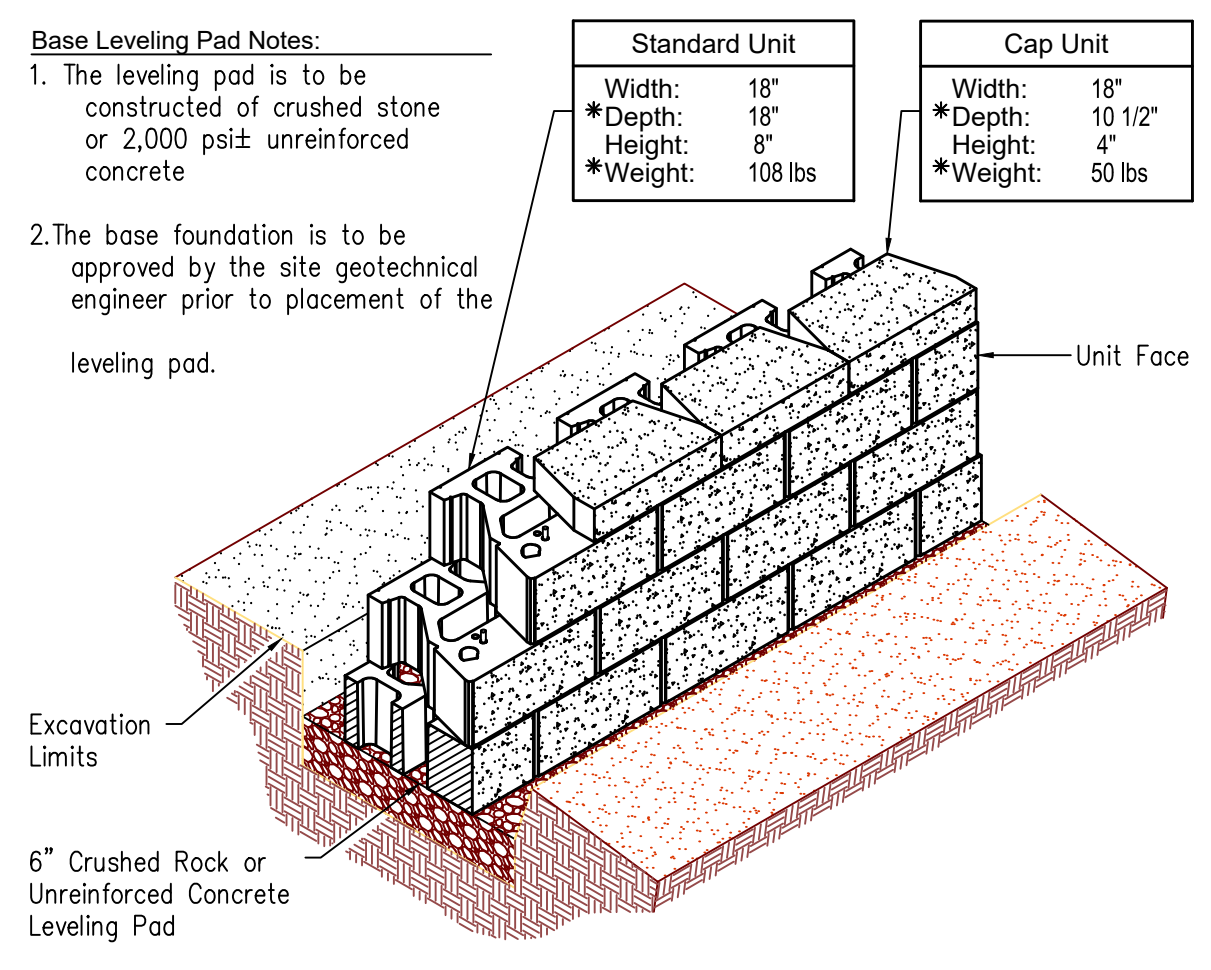


COVER	GRATE	DIMENSIONS IN INCHES						GRATE TYPE
		A	C	D	E	X		
4500	4525	3 3/4	7 3/4	6	2 1/2	2	1	
4501	4526	3 3/4	11 3/4	10	2 1/2	2	2	
4501A	4526A	3 3/4	14	12	2 1/2	2	2	
4501B	4526 B	3 3/4	15 3/4	14	2 1/2	2	2	
4501C	4526 C	3 3/4	17 3/4	16	2 1/2	2	2	
4503	4528	5	19 3/4	18	4	2 3/4	3	
4503A	4528A	5	21 3/4	20	4	2 3/4	3	
4504	4529	5	25 3/4	24	4	2 3/4	3	
4505+	4530+	5	31 3/4	30	4	2 3/4	3	
4506+	4531+	5	38	36	4	2 3/4	3	
4507+	4532+	5	44	42	4	2 3/4	3	
4508+	4533+	5	50	48	4	2 3/4	3	

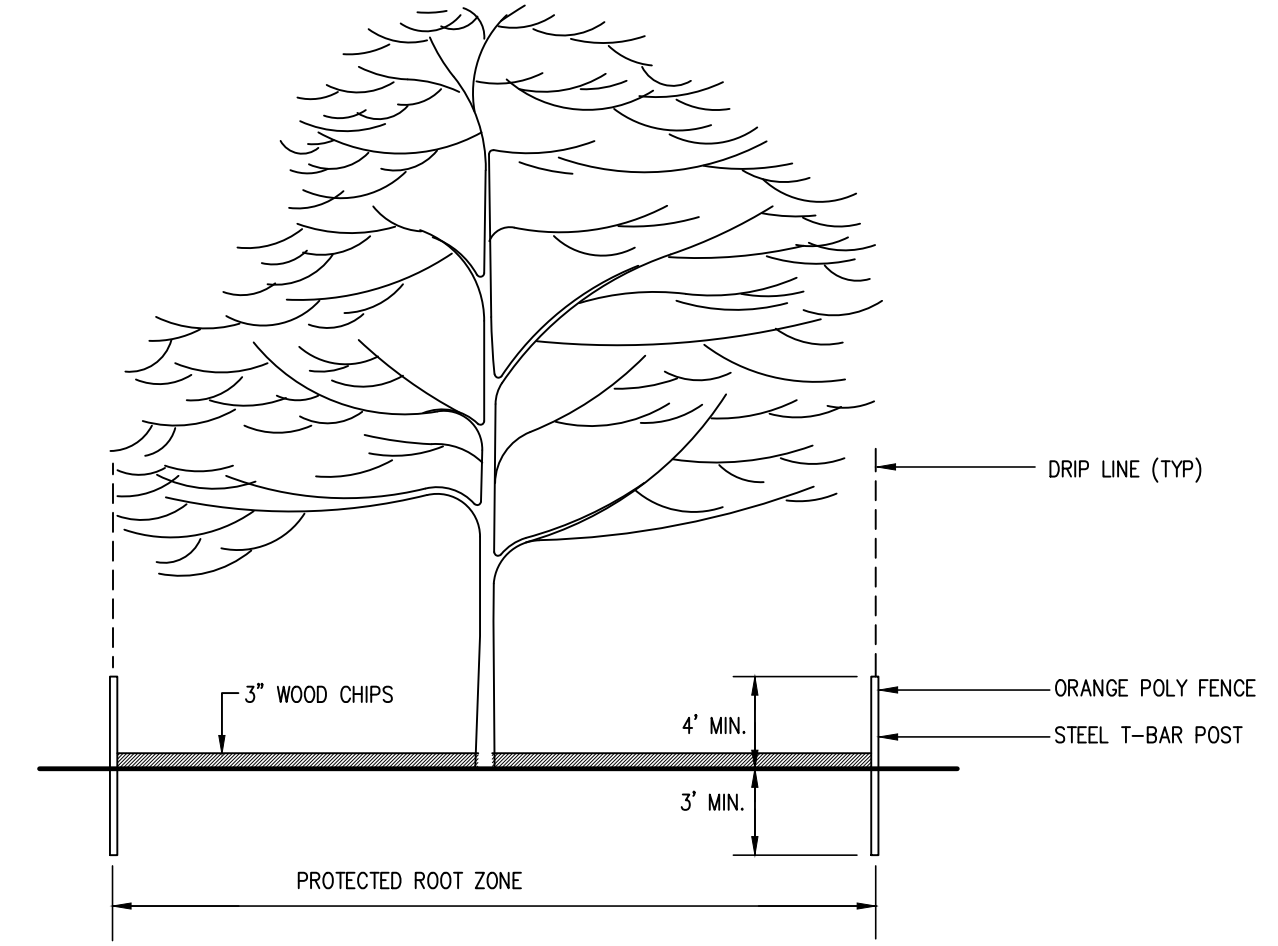
TRENCH DRAIN DETAIL
STANDARD HEAVY DUTY
N.T.S.



Leveling Pad Detail



Standard Unit/Base Pad Isometric Section View
* Dimensions & Weight May Vary by Region



TREE PROTECTION DETAIL
NTS

TREE PROTECTION NOTES:
1. PROTECTED ROOT ZONE SHALL BE DEFINED AS THE AREA DIRECTLY BELOW THE DRIP LINE OF THE TREE OR AS DEEMED APPROPRIATE IN THE FIELD BY THE ENGINEER OR LANDSCAPE ARCHITECT.
2. FOR MAXIMUM PROTECTION, NO VEHICLE TRESPASS, EXCAVATION, FILL, WASTE, DISCHARGE, OR MATERIAL STORAGE SHALL OCCUR IN THIS ZONE.
3. TREE PROTECTION FENCE SHALL BE PUT IN PLACE PRIOR TO START OF DEMOLITION AND CONSTRUCTION.

Case 1 / Rankine
New Case

Layer	Height	Length	Tension	Reinforcing	Tal	Tcl	Tsc	FS PO
2	2.00	5.5	138	5XT	1717	1220	N/A	1.86
1	0.67	4.0	201	5XT	1717	1374	N/A	2.38

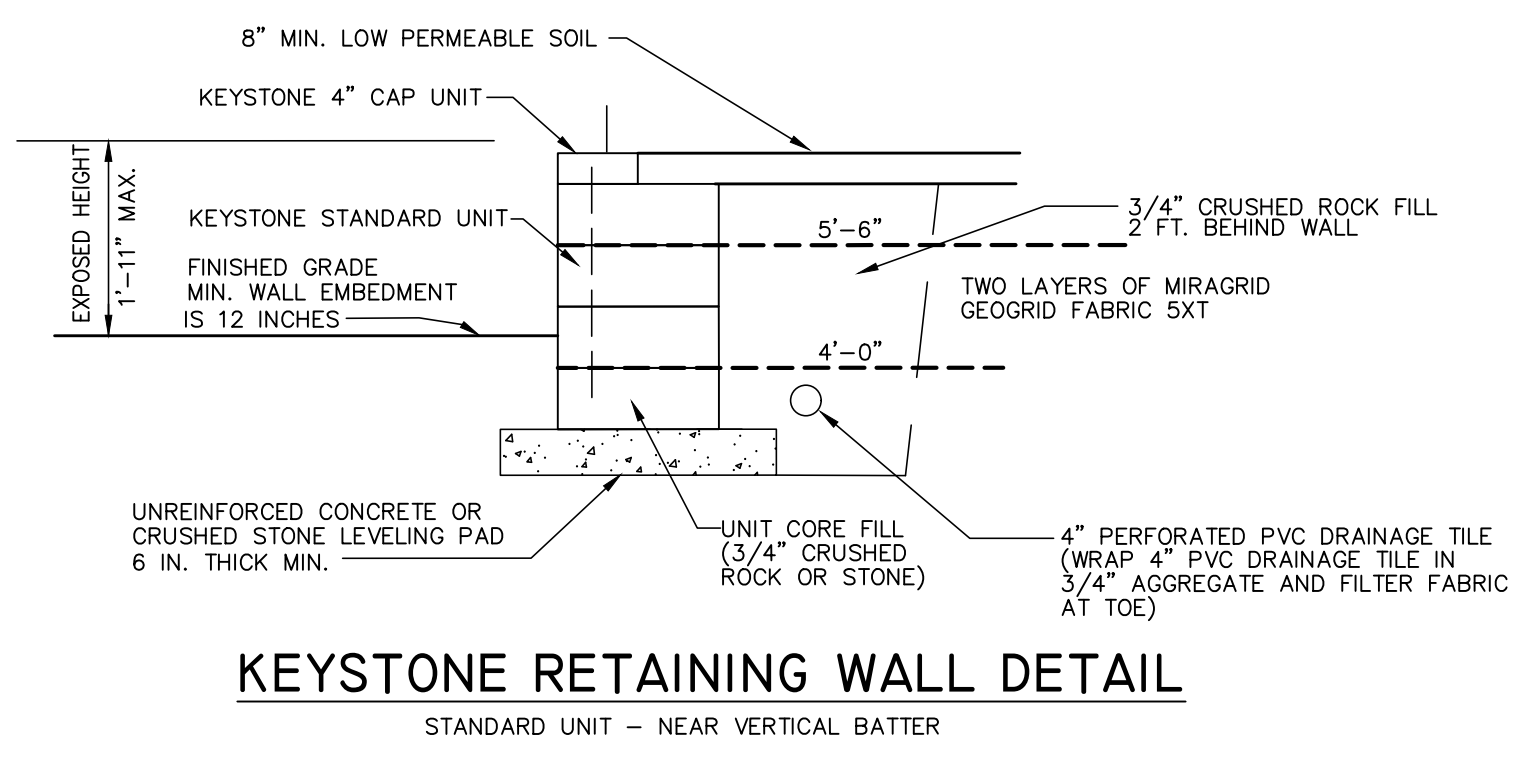
(2) - 4" Cap Units or (1) - 8" Cap Unit

4" Cap Unit
8" Keystone Unit

Secure all cap units with Keystone Kasepal or equal.

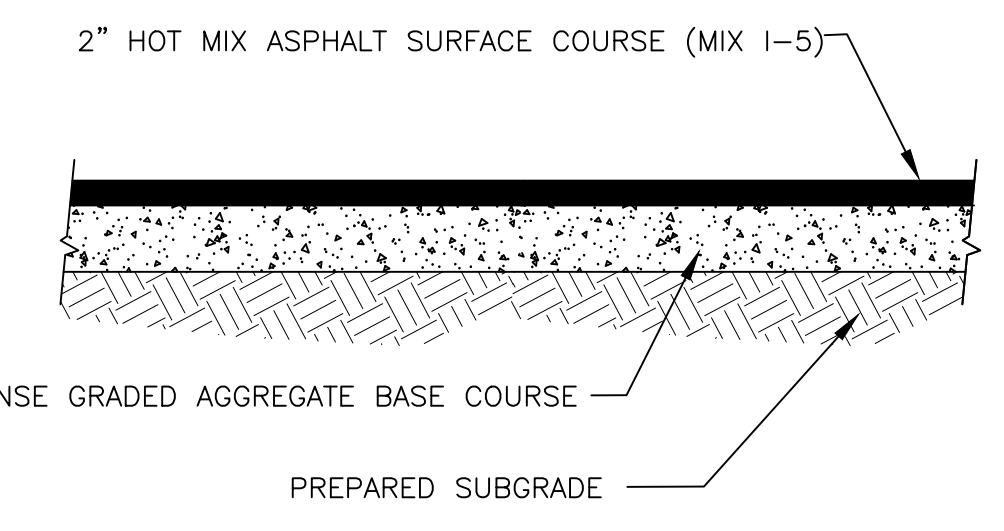
Top of Wall Steps

FS Sliding	2.18	e	0.07/0.29	FS Bearing	12.32/13.85	FS Bending	4.47
FS OT	6.89	Bearing	458/407	FS Shear	19.25		

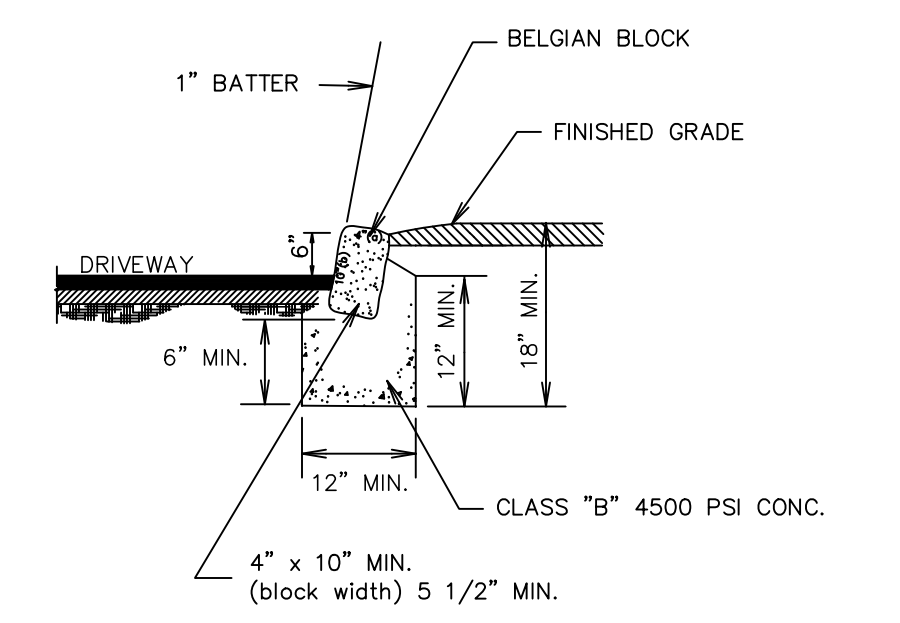


KEYSTONE RETAINING WALL DETAIL
STANDARD UNIT - NEAR VERTICAL BATTER

- DRAIN TILE OUTLET OPTIONS:
- DAYLIGHT AT ENDS OF WALLS.
 - DAYLIGHT THROUGH WALL AT 150' O.C.; CUT UNIT ACCORDINGLY TO FIT AROUND PIPE.
 - TIE INTO STORM WATER DRAINAGE SYSTEM.



TYPICAL DRIVEWAY SECTION
N.T.S.



BELGIAN BLOCK CURB DETAIL

DATE	BY	CHKD	DESCRIPTION
3-22-24	JEM	RLC	REVISED REAR YARD GRADING & RETAINING WALLS

ROBERT L. COSTA N.J. LIC. NO. 34702 & 4639
PROFESSIONAL ENGINEER AND PLANNER

SIGNED: _____ DATE: 8-10-23

0 20 40 60 80
GRAPHIC SCALE

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PROFESSIONAL ENGINEERS • SURVEYORS • PLANNERS

State of New Jersey Certificate of Authorization No. GA 276726.
325 So. RIVER STREET - SUITE 302, HACKENSACK, N.J. 07601
TEL (201) 487-0015 FAX (201) 487-9122

DRAWING TITLE: CONSTRUCTION DETAILS
PROJECT NAME: CUTLER RESIDENCE
LOCATION: BLOCK 84.05, LOT 7
74 PINE TERRACE
BOROUGH OF DEMAREST
BERGEN COUNTY, NEW JERSEY

PROJ. NO. 23-2346 SCALE: 1" = 20' DRAWN BY: JEM