

MOUNT VERNON AVENUE & KENT PLACE BOULEVARD

IMPROVEMENT PROJECT

MOUNT VERNON AVENUE BRIDGE TO PASSAIC AVENUE

CITY OF SUMMIT UNION COUNTY, NEW JERSEY

SUMMARY OF QUANTITIES

BASE BID ITEM	DESCRIPTION	UNIT	QTY
<i>GENERAL WORK</i>			
1	MOBILIZATION	LS	LS
2	CLEARING SITE	LS	LS
3	FINAL CLEANUP	LS	LS
4	BREAKAWAY BARRICADE	UNIT	8
5	DRUM	UNIT	15
6	TRAFFIC CONE	UNIT	50
7	CONSTRUCTION SIGNS	SF	100
8	CONSTRUCTION IDENTIFICATION SIGNS, 48" X 36"	UNIT	2
9	CONSTRUCTION LAYOUT	LS	LS
10	UTILITY COORDINATION	LS	LS
11	INLET FILTER, TYPE 1	SF	80
12	FUEL PRICE ADJUSTMENT	DOLL	DOLL
13	ASPHALT PRICE ADJUSTMENT	DOLL	DOLL
<i>ROADWAY, CURBING & ADA</i>			
14	HMA MILLING, 2" OR LESS	SY	6,800
15	HOT MIX ASPHALT 9.5M64 SURFACE COURSE, 2" THICK	TON	910
16	TACK COAT	GAL	1,150
17	HOT MIX ASPHALT PAVEMENT REPAIR	SY	700
18	EXCAVATION, TEST PIT	CY	25
19	EXCAVATION, UNCLASSIFIED	CY	50
20	REMOVAL OF PAVEMENT	SY	100
21	GRANITE CURB	LF	740
22	HOT MIX ASPHALT DRIVEWAY 4" THICK	SY	20
23	DENSE-GRADED AGGREGATE BASE COURSE, VARIABLE THICKNESS	CY	5
24	TRAFFIC MARKING LINES, 4" THICK	LF	4,000
25	TRAFFIC MARKING LINES, 24" THICK	LF	300
<i>UTILITIES</i>			
26	RESET MANHOLE, SANITARY SEWER, USING NEW CASTING	UNIT	1
27	RESET MANHOLE, STORM SEWER, USING NEW CASTING	UNIT	5
28	RESET WATER VALVE BOX	UNIT	10
29	RESET GAS VALVE BOX	UNIT	10
30	RESET INLET, TYPE 'B', USING NEW CASTING	UNIT	5
31	RECONSTRUCTED INLET, TYPE A, USING NEW CASTING	UNIT	4
32	RECONSTRUCTED INLET, TYPE B, USING NEW CASTING	UNIT	1
33	15" REINFORCED CONCRETE PIPE, CLASS IV	LF	235
34	MANHOLE, 5' DIAMETER	UNIT	1
35	SEWER REPAIR, IF AND WHERE DIRECTED, 10' LENGTH, 10' DEPTH	UNIT	1
<i>LANDSCAPING</i>			
36	RETAINING WALL	SF	150
37	TOP SOIL SPREADING, 4" THICK	SY	350
38	BORROW TOPSOIL	CY	15
39	FERTILIZING AND SEEDING, TYPE A-3,	SY	350
<i>STREET SIGNS & PARKING METERS</i>			
40	REGULATORY AND WARNING SIGN	UNIT	5
41	STREET NAME SIGN & POST	UNIT	2
<i>ALTERNATE BID 'A'</i>			
ITEM	DESCRIPTION	UNIT	QTY
A1	GRANITE CURB	LF	300
A2	CONCRETE SIDEWALK, 4" THICK	SY	740
A3	DETECTABLE WARNING SURFACE	SY	7
A4	RESET DRIVEWAY, USING EXISTING BRICK OR BLOCK	SY	6
A5	CONCRETE SIDEWALK, REINFORCED, 6" THICK	SY	168
A6	TREE REMOVAL, OVER 6" & 36"	UNIT	2
A7	HOT MIX ASPHALT DRIVEWAY 4" THICK	SY	350
A8	DENSE-GRADED AGGREGATE BASE COURSE, VARIABLE THICKNESS	CY	10
A9	RESET MANHOLE, SANITARY SEWER, USING NEW CASTING	UNIT	3
A10	RESET MANHOLE, STORM SEWER, USING NEW CASTING	UNIT	1

UTILITIES

Public Service Electric & Gas Co.
48 Middle Avenue
Summit, NJ 07901
(908) 522 - 7404
michael.gomes@pscg.com

Jersey Central Power and Light
300 Madison Avenue
Morristown, NJ 07960
(888) 544 - 4877
ralstonsantiago@firstenergycorp.com

Comcast Cablevision of New Jersey
800 Rahway Avenue
Union, NJ 07083
(908) 258 - 8112

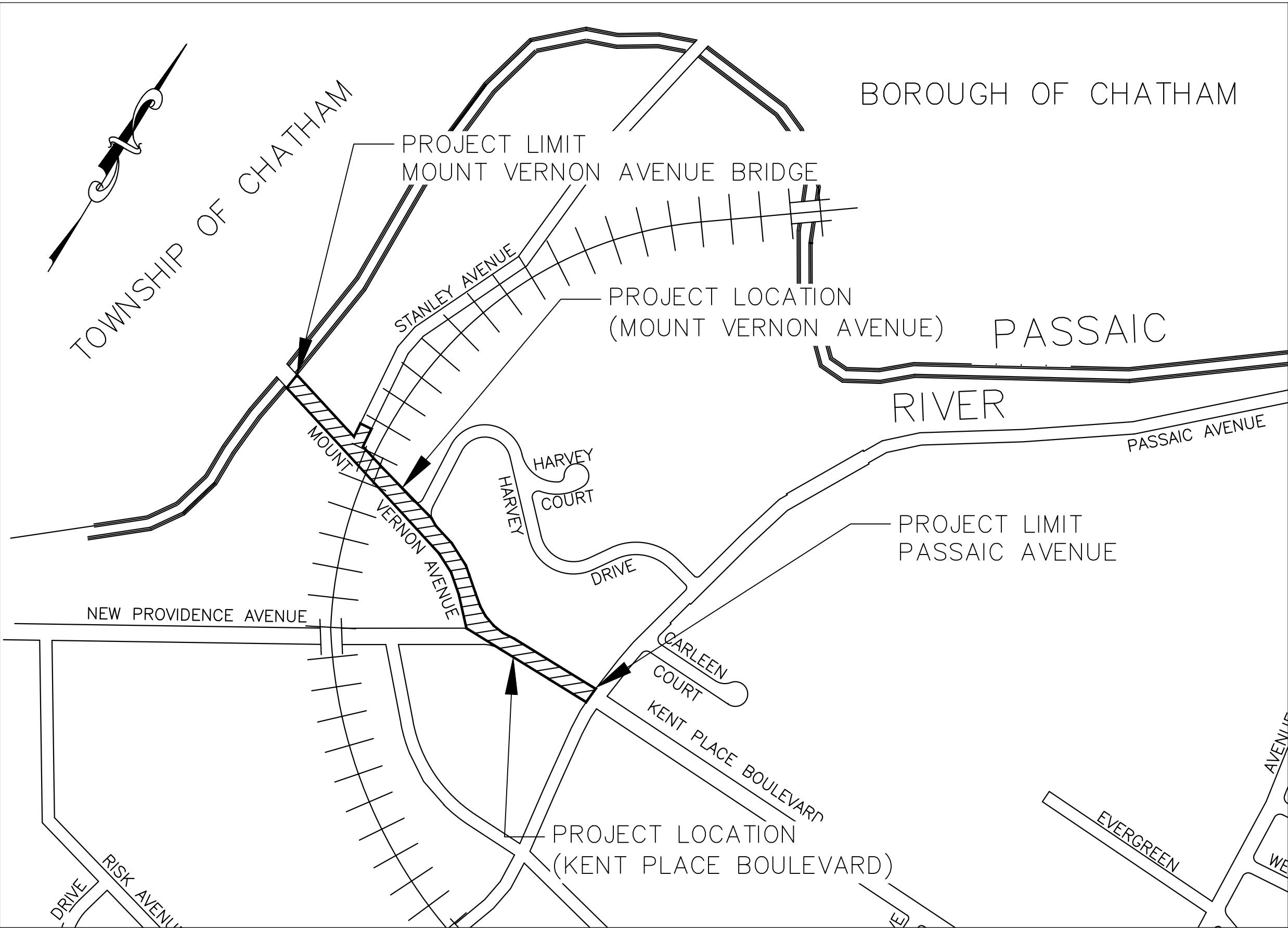
Verizon
445 Georges Road
North Brunswick, NJ 08902
(201) 996 - 6610
braxton.plummer@verizon.com

City of Summit
Division of Public Works
41 Chatham Road
Summit, NJ 07901
(908) 273 - 6404
aschrager@cityofsummit.org

New Jersey American Water Co.
167 JFK Parkway
Short Hills, NJ 07078
(973) 564 - 5706
mike.malloy@amwater.com

GENERAL CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE SUMMIT POLICE DEPARTMENT 72 HOURS PRIOR TO THE START OF ANY WORK AND SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITHIN 30 DAYS OF THE DAY THE PROJECT IS AWARDED TO CONTRACTOR.
2. ALL PROPOSED ADA CURB RAMPS SHALL COMPLY WITH THE LATEST ADA STANDARDS FOR ACCESSIBLE DESIGN.
3. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN ACCESS TO ALL DRIVEWAYS DURING CONSTRUCTION. THE CONTRACTOR SHALL INSTALL AND MAINTAIN HOT MIX ASPHALT TO PROVIDE A RIDING SURFACE FOR VEHICLE ACCESS TO EACH PROPERTY. ANY BACKFILLED TRENCHES SHALL RECEIVE A TEMPORARY ASPHALT TOPPING BY THE END OF EACH WORK DAY. EXPOSED DGA AT THE ROAD SURFACE WILL BE PERMITTED. METAL PLATES MAY BE USED AT THE DISCRETION OF THE CITY ENGINEER. NO SEPARATE PAYMENT SHALL BE MADE FOR TEMPORARY ASPHALT. ALL COSTS ASSOCIATED WITH TEMPORARY ASPHALT MEASURES, INCLUDING METAL PLATES, SHALL BE INCLUDED IN THE BID ITEM FOR MOBILIZATION.
4. STANLEY AVENUE IS TO BE PROOF ROLLED BEFORE FINAL PAVING AT THE ENGINEERS DISCRETION. PROOF ROLLING MUST BE COMPLETED WITH A LOADED DUMP TRUCK IN THE PRESENCE OF THE ENGINEER OR PROJECT INSPECTOR. COSTS SHALL BE INCLUDED IN BID ITEM FOR MILLING.
5. ALLOWABLE START TIME IS 8:00 AM FOR ALL WORK. THE CONTRACTOR SHALL MAKE PROVISIONS FOR MATERIAL AND EQUIPMENT STORAGE. THE CONTRACTOR SHALL COORDINATE THE STORAGE OF MATERIAL AND EQUIPMENT WITH THE ENGINEER AND THE POLICE DEPARTMENT.
6. ALL TRAFFIC CONTROL AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE M.U.T.C.D. AND MUNICIPAL TRAFFIC ORDINANCES. THE CONTRACTOR SHALL SUBMIT TRAFFIC CONTROL PLANS TO THE POLICE DEPARTMENT FOR REVIEW AND APPROVAL PRIOR TO THE START OF WORK. TRAFFIC CONTROL PLANS SHALL INCLUDE AT A MINIMUM, THE FOLLOWING SITUATIONS: 1)ROAD CLOSED, 2)LANE CLOSED, 3)SHOULDER CLOSED. THE CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL ON THE PROJECT. ALL REQUESTS FOR POLICE SERVICE FROM THE CITY SHALL BE SUBMITTED 72 HOURS BEFORE BEGINNING CONSTRUCTION OPERATIONS THAT REQUIRE POLICE SERVICES. CONTRACTOR MUST NOTIFY POLICE DEPARTMENT OF CANCELLATIONS 24 HOURS IN ADVANCE OR WILL BE SOLELY RESPONSIBLE FOR A MINIMUM CHARGE OF (4) HOURS. THE CITY OF SUMMIT WILL PAY THE COST DIRECTLY TO THE OFFICERS HIRED FOR ALL SCHEDULED TIME.
7. NO DRAINS ARE TO BE INSTALLED UNDER DRIVEWAY APRONS OR THROUGH DROP CURBS.
8. CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH ALL UTILITIES TO RAISE OR LOWER MANHOLES, METERS, VALVES, ETC. TO GRADE AS WORK PROGRESSES. THE LOCATIONS OF SUBSURFACE UTILITIES ARE APPROXIMATE AND ARE SHOWN FOR ILLUSTRATIVE PURPOSES. THE CONTRACTOR IS RESPONSIBLE TO CALL FOR A MARK OUT OF UNDERGROUND UTILITIES PRIOR TO THE START OF CONSTRUCTION.
9. THE CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT OF ANY DAMAGED CONCRETE BEFORE ACCEPTANCE OF THE PROJECT BY THE CITY AT NO ADDITIONAL COST. THIS INCLUDES CONCRETE THAT WAS MARKED, STEPPED IN OR STAMPED ONCE POURED, BUT PRIOR TO SETTING.
10. THE CONTRACTOR IS RESPONSIBLE TO PROTECT ALL TREES WITHIN THE PROJECT DURING CONSTRUCTION, UNLESS A TREE IS NOTED TO BE REMOVED ON THESE PLANS. DAMAGE TO EXISTING TREES WILL BE EVALUATED BY THE CITY FORESTER. THE PROJECT SPECIFICATIONS IMPOSE A PENALTY OF \$500 PER INCIDENT OF DAMAGE TO ANY TREE. ALL COSTS RELATED TO TREE PROTECTION ARE TO BE INCLUDED IN THE BID ITEM "MOBILIZATION".
11. NO SEPARATE PAYMENT SHALL BE MADE FOR ANY SAW CUTTING REQUIRED ON THE PROJECT. COSTS FOR SAW CUTTING SHALL BE INCLUDED IN THE VARIOUS ITEMS IN THE BID PROPOSAL.
12. THE CONTRACTOR IS RESPONSIBLE TO REPLACE/RESET ANY SPRINKLERS AND DOG FENCING DAMAGED/DISTURBED DURING CONSTRUCTION. THE COST FOR REPAIR/RESETTING SPRINKLERS AND REPAIRING DOG FENCING SHALL BE INCLUDED IN THE VARIOUS ITEMS IN THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING PROPERTY OWNERS FOR THE LOCATION OF THE SPRINKLERS AND DOG FENCES PRIOR TO THE START OF WORK.
13. NO SEPARATE PAYMENT SHALL BE MADE FOR THE RESETTING OR REPLACEMENT OF ANY WALKWAYS CONSTRUCTED OF GRANITE BLOCK, BRICK, BRICK PAVERS, STONE, SLATE, ETC. NO SEPARATE PAYMENT SHALL BE MADE FOR THE INSTALLATION OF CURB ALONG DRIVEWAY APRONS AND DRIVEWAYS WHERE CURBING CURRENTLY EXISTS. COST TO BE INCLUDED IN THE VARIOUS BID ITEMS.
14. ALL PAVEMENT STRIPING & MARKINGS SHALL BE THERMOPLASTIC PER NDOT STANDARDS.
15. THE CONTRACTOR IS RESPONSIBLE FOR THE STAKEOUT AND LAYOUT OF THE PROJECT. THE STAKEOUT AND LAYOUT IS TO BE PERFORMED BY A NEW JERSEY PROFESSIONAL LAND SURVEYOR. ALL COSTS ASSOCIATED WITH THE STAKEOUT AND LAYOUT OF THE PROJECT ARE TO BE INCLUDED IN THE BID ITEM "CONSTRUCTION LAYOUT". ALL GRADES ARE TO BE SET IN THE FIELD BY THE LAND SURVEYOR. THE CONTRACTOR IS TO SUBMIT TO THE ENGINEER A PROFILE WITH THE SET GRADES PRIOR TO THE BEGINNING OF CONSTRUCTION. THE PROFILE IS SUBJECT TO THE APPROVAL OF THE ENGINEER. ADJUSTMENTS CAN BE MADE IN THE FIELD DURING CONSTRUCTION UPON CONSULTATION WITH THE CITY ENGINEER.
16. SHOP DRAWINGS ARE TO BE SUBMITTED AT A MINIMUM OF THREE (3) WEEKS PRIOR TO CONSTRUCTION FOR ALL PROPOSED DRAINAGE STRUCTURES, SIGNS & POSTS, ANY CONCRETE FOOTINGS AND RFB SETUPS. ALL DRAINAGE STRUCTURES AND FOOTINGS MUST BE DESIGNED BY A NEW JERSEY PROFESSIONAL ENGINEER. ALL SHOP DRAWINGS ARE SUBJECT TO THE APPROVAL OF THE ENGINEER.
17. ALL MATERIALS, WORKMANSHIP AND CONSTRUCTION FOR THE IMPROVEMENTS SHOWN SHALL BE IN ACCORDANCE WITH THE NEW JERSEY DEPARTMENT OF TRANSPORTATION "2019 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" AND ALL APPLICABLE AMENDMENTS.
18. EXISTING CLEANOUTS LOCATED WITHIN EXTENTS OF NEW SIDEWALK SHALL BE RESET TO BE FLUSH WITH GRADE OR FINISHED SURFACE AND MUST BE ADA COMPLIANT. CLEANOUTS LOCATED WITHIN THE SIDEWALK SHALL INCLUDE A BRASS CAP. ALL COSTS RELATED TO CLEANOUTS TO BE INCLUDED IN THE BID ITEM "CONCRETE SIDEWALK"
19. EXISTING PIPE DISCHARGES THROUGH CURB SHALL BE MAINTAINED. RECONSTRUCT PIPE DISCHARGES AS NEEDED IF SIDEWALK CONFLICT ARISES. CONTRACTOR MAY USE LOW PROFILE EMITTERS FOR ADDITIONAL CLEARANCE. RECONSTRUCT CURB AT PIPE PENETRATION AS NEEDED. ALL COSTS RELATED TO RECONSTRUCTING AND/OR MODIFYING CURB DISCHARGES TO BE INCLUDED IN THE BID ITEM "CONCRETE SIDEWALK"
20. ANY MATERIALS OR DEBRIS REMOVED FROM THE SITE SHALL BE DONE SO IN ACCORDANCE WITH ALL APPLICABLE MUNICIPAL, STATE AND FEDERAL REGULATIONS.
21. NO SEPARATE PAYMENT SHALL BE MADE FOR HMA PROFILE MILLING. ALL COSTS ASSOCIATED WITH PROFILE MILLING SHALL BE PAID UNDER BID ITEM "HMA MILLING, 2" OR LESS."
22. SITE SURVEY PROVIDED BY STONEFIELD ENGINEERING & DESIGN. PHONE: (201) 340 - 4468
23. ANY PROPOSED PAVEMENT THICKNESS NOTED HEREIN SHALL BE POST-COMPACTION, UNLESS OTHERWISE NOTED.
24. ALL COSTS ASSOCIATED WITH THE RESETTING OR RECONSTRUCTION OF CURB ALONG INDIVIDUAL DRIVEWAY S SHALL BE INCLUDED IN THE VARIOUS BID ITEMS.
25. CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING TEST PITS AT THE LOCATION OF ANY PROPOSED UTILITY, STORM, OR SANITARY STRUCTURES AND/OR POTENTIAL CONFLICTS RESULTING FROM THE TEST PITS. SHALL BE BROUGHT TO THE ATTENTION OF THE CITY ENGINEER PRIOR TO INSTALLING THE PROPOSED INFRASTRUCTURE. ALL COSTS ASSOCIATED WITH TEST PITS SHALL BE INCLUDED IN THE BID ITEM "EXCAVATION, TEST PIT"
26. NO SEPARATE PAYMENT SHALL BE MADE FOR FLAGGERS. ALL COSTS FOR FLAGGERS SHALL BE INCLUDED IN VARIOUS ITEMS IN THE BID PROPOSAL.
27. NO SEPARATE PAYMENT SHALL BE MADE FOR THE EXCAVATION OF UNCLASSIFIED MATERIAL ASSOCIATED WITH HMA PAVEMENT REPAIR. ALL COSTS ASSOCIATED WITH THE EXCAVATION, UNCLASSIFIED, AND DISPOSAL OF THE EXISTING SUBBASE AND PLACEMENT OF DENSE GRADED AGGREGATE SHALL BE INCLUDED IN THE BID ITEM "HMA PAVEMENT REPAIR, IF AND WHERE DIRECTED."
28. NO SEPARATE PAYMENT SHALL BE MADE FOR THE EXCAVATION OF UNCLASSIFIED MATERIAL BEHIND THE CURB. ALL COSTS ASSOCIATED WITH THE REMOVAL OF ANY EXISTING MATERIAL BEHIND THE PROPOSED CURB SHALL BE INCLUDED IN THE BID ITEM "GRANITE BLOCK CURB".
29. ALL MATERIALS, WORKMANSHIP AND CONSTRUCTION FOR THE IMPROVEMENTS SHOWN SHALL BE IN ACCORDANCE WITH THE NEW JERSEY DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2019" AND ALL APPLICABLE AMENDMENTS.
30. ALL REGULATORY, WARNING, AND GUIDE SINGS, AS WELL AS STREET NAME SIGNAGE, WITHIN PROJECT LIMITS ARE TO BE REPLACED WITH NEW PLAQUES AND POSTS, UNLESS NOTED OTHERWISE.
31. ANY TYPE 'B' OR TYPE 'D' INLETS IDENTIFIED HEREIN FOR RECONSTRUCTION SHALL INCLUDE NEW NEW TYPE 'N' ECO-HEAD CURB PIECE AND CURBICLE SAFE GRATE. ALL COSTS ARE TO BE INCLUDED IN THE BID ITEM FOR THE RESETTING OR RECONSTRUCTING OF THE INLET.
32. CONTRACTOR SHALL REFER TO THE STANDARD TRAFFIC CONTROL PLANS WHICH ARE INCLUDED IN THE TECHNICAL SPECIFICATIONS FOR THIS PROJECT.



KEY MAP

SCALE: N.T.S.

PROJECT LENGTH: 1,650 L.F. ±

INDEX OF SHEETS	
SHEET	DESCRIPTION
1	COVER SHEET
2	CONSTRUCTION & LAYOUT PLAN
3	GRADING & DRAINAGE PLAN
4	SOIL EROSION & SEDIMENT CONTROL PLAN
5	SOIL EROSION & SEDIMENT CONTROL NOTES & DETAILS
6-7	CONSTRUCTION DETAILS
1 OF 2	ROUTE SURVEY (PROVIDED BY STONEFIELD)
2 OF 2	ROUTE SURVEY (PROVIDED BY STONEFIELD)

Project Safety Note:

The contractor(s) working on the project are responsible to ensure that all safety regulations of the Occupational Safety and Health Administration (OSHA) and the requirements of the State of New Jersey Department of Labor and Industry shall be adhered to on this project and that he or she shall instruct his or her personnel to follow these regulations. These regulations include, but are not limited to, the regulations concerning Trench Excavation, Competent Persons and Confined Space Regulations.

Funding Note:

This project is funded by the City of Summit and the New Jersey Department of Transportation

Survey Note:

The contractor is responsible for stakeout and vertical control of the project. Stakeout is required for the project. AutoCAD drawings are available for this project upon request. Cut sheets shall be submitted prior to the start of any work.

Specifications Note:

New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction 2019 and all of its amendments and Baseline Document Changes are to govern all construction herein.

REVISIONS

NO.	DATE	DESCRIPTION
1	9/3/25	REVISED PER NIDOT COMMENTS

MOUNT VERNON AVENUE & KENT PLACE BOULEVARD
IMPROVEMENT PROJECT

MOUNT VERNON AVENUE BRIDGE TO PASSAIC AVENUE

COVER SHEET

CITY OF SUMMIT UNION CO., N.J.
DIVISION OF ENGINEERING
DEPARTMENT OF COMMUNITY SERVICES
512 SPRINGFIELD AVENUE
SUMMIT, NJ 07901
UNION COUNTY

Aaron J. Schrager
Professional Engineer
New Jersey Lic. No. 67-46143
City Engineer

DATE:
5/7/2025

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BY: AS

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AS NOTED

1 OF 7

REVISIONS		NO.	DATE	DESCRIPTION
1	9/3/25			REVISED PER NJDOT COMMENTS

**MOUNT VERNON AVENUE & KENT PLACE BOULEVARD
IMPROVEMENT PROJECT**
MOUNT VERNON AVENUE BRIDGE TO PASSAIC AVENUE
CONSTRUCTION & LAYOUT PLAN

CITY OF SUMMIT UNION CO., N.J.
DIVISION OF ENGINEERING
DEPARTMENT OF COMMUNITY SERVICES
512 SPRINGFIELD AVENUE
SUMMIT, NJ 07901
UNION COUNTY

Aaron J. Schragger
Professional Engineer
New Jersey Lic. No. 46143
City Engineer



DATE:
5/7/2025

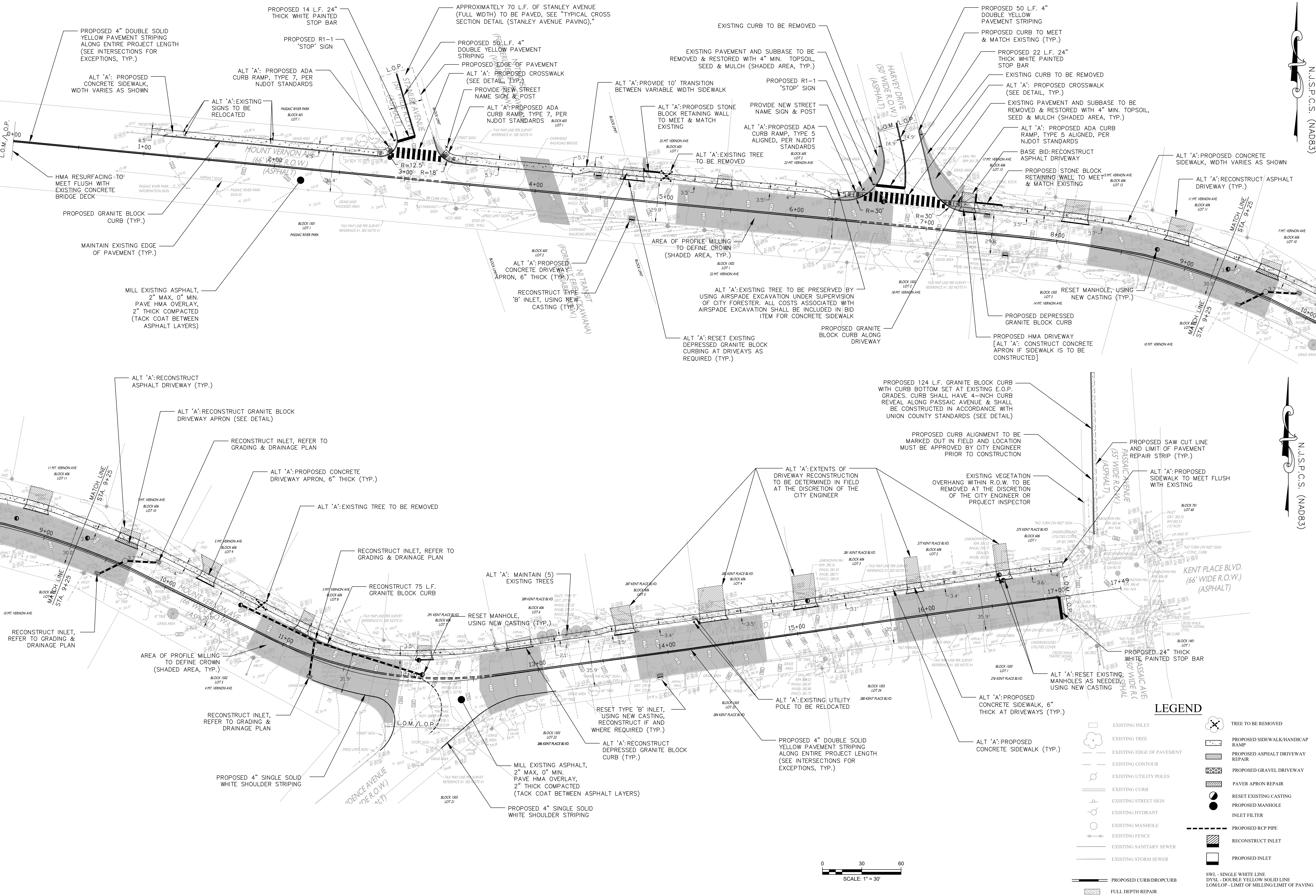
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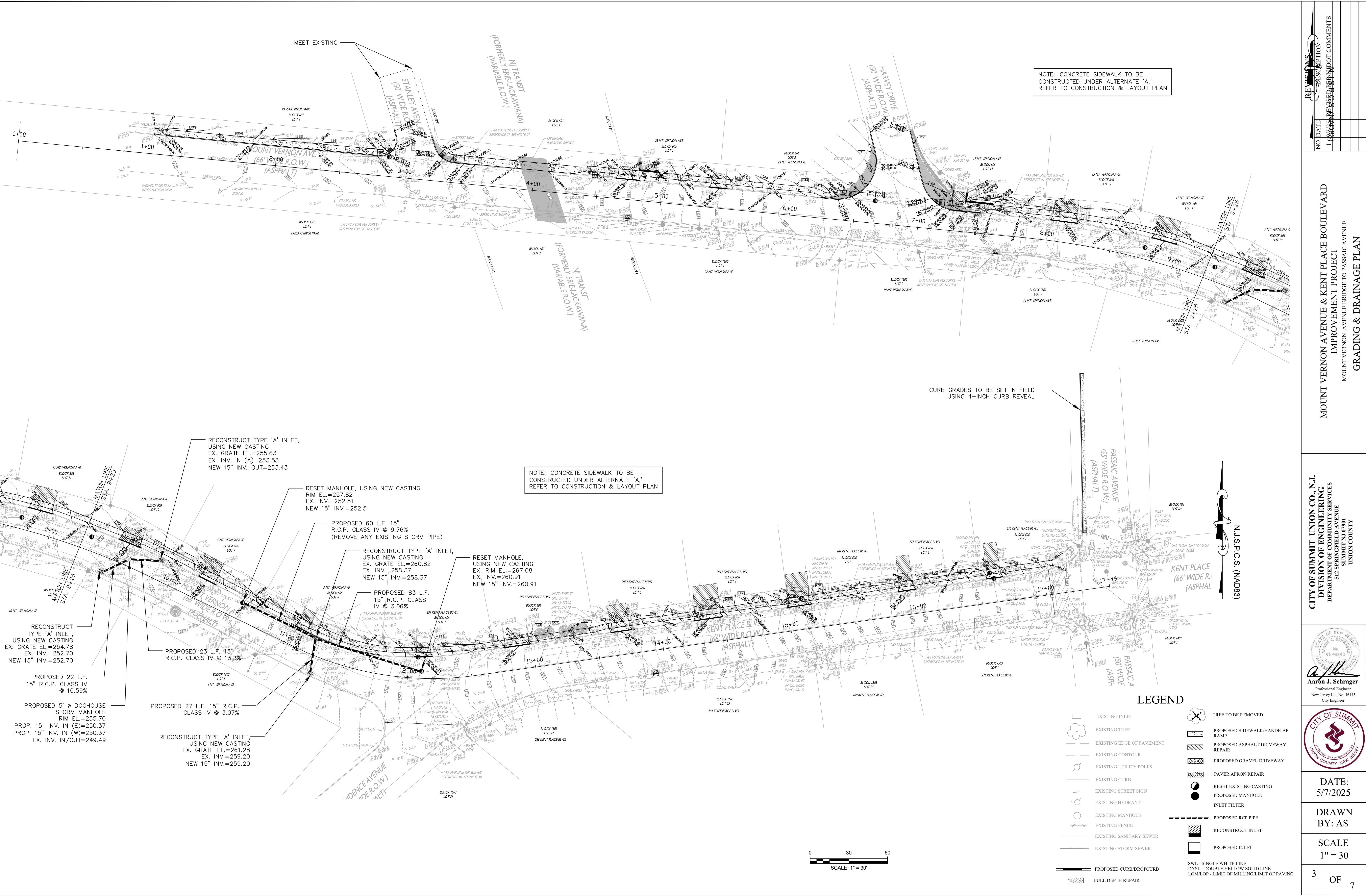
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1" = 30'

2 OF 7

N.J.S.P.C.S. (NAD83)

N.J.S.P.C.S. (NAD83)





NO.	DATE	DESCRIPTION
1	1/28/2025	REVISION PER NOT COMMENTS
2	1/28/2025	REVISION PER NOT COMMENTS
3	1/28/2025	REVISION PER NOT COMMENTS

MOUNT VERNON AVENUE & KENT PLACE BOULEVARD
IMPROVEMENT PROJECT
MOUNT VERNON AVENUE BRIDGE TO PASSAIC AVENUE
GRADING & DRAINAGE PLAN

CITY OF SUMMIT UNION CO., N.J.
DIVISION OF ENGINEERING
DEPARTMENT OF COMMUNITY SERVICES
512 SPRINGFIELD AVENUE
SUMMIT, NJ 07901
UNION COUNTY

STATE OF NEW JERSEY
No. 07-46143
A. J. Schragger
Aaron J. Schragger
Professional Engineer
New Jersey Lic. No. 46143
City Engineer

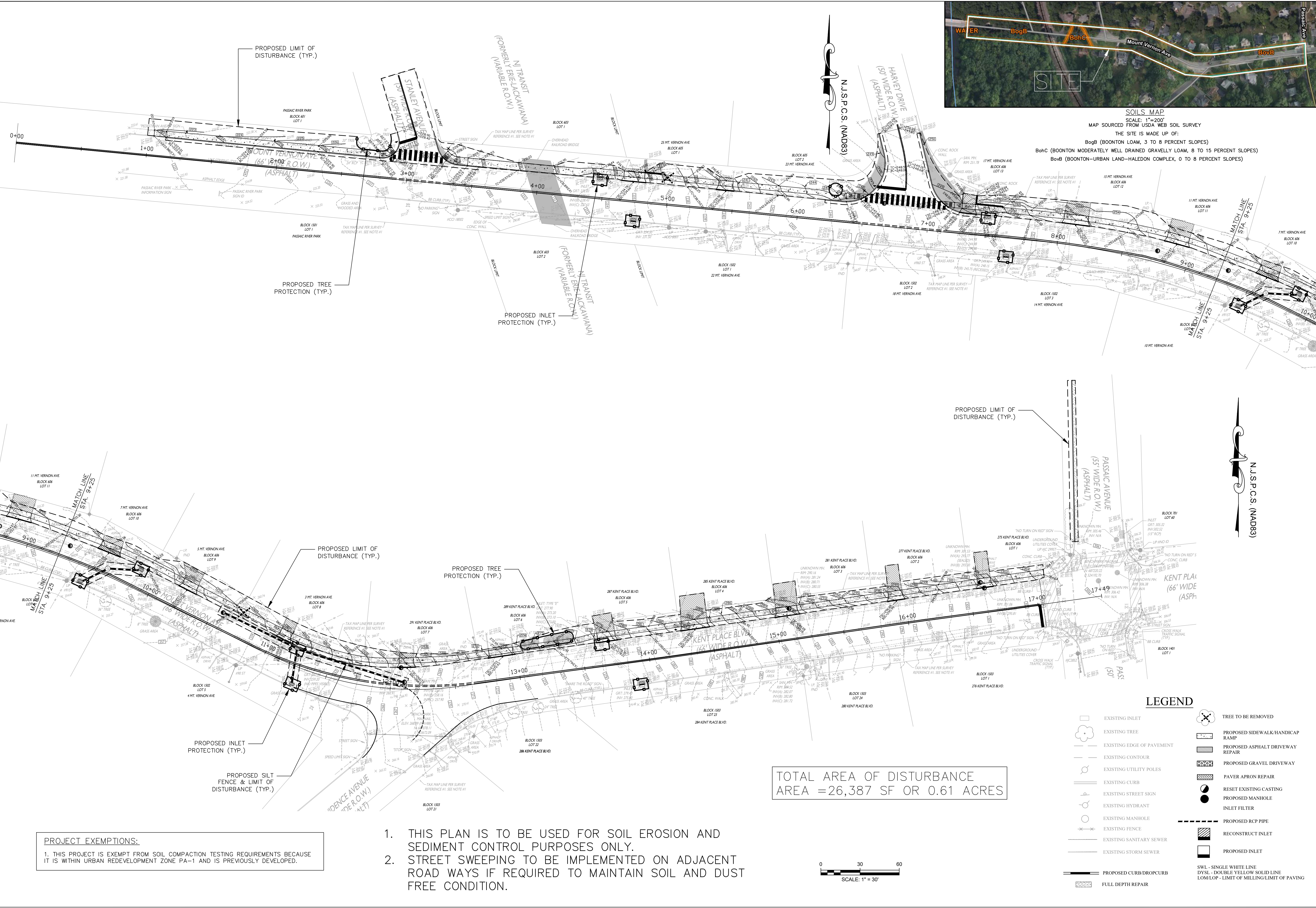


DATE:
5/7/2025

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1" = 30'

3 OF 7



REVISIONS		DESCRIPTION	
NO.	DATE	DESCRIPTION	REVISED PER NIDOT COMMENTS
1	9/3/25		

MOUNT VERNON AVENUE & KENT PLACE BOULEVARD IMPROVEMENT PROJECT		SOIL EROSION & SEDIMENT CONTROL PLAN	
CITY OF SUMMIT UNION CO., N.J.		DIVISION OF ENGINEERING	
DEPARTMENT OF COMMUNITY SERVICES		512 SPRINGFIELD AVENUE	
		SUMMIT, NEW JERSEY 07901	
		UNION COUNTY	

DATE: 5/7/2025		DRAWN BY: AS	
SCALE 1" = 30'		4 OF 7	

SOIL EROSION AND SEDIMENT CONTROL NOTES

- The Somerset-Union Soil Conservation District shall be notified in writing 48 hours in advance of any land disturbing activity.
- All Soil Erosion and Sediment Control practices shall be installed prior to any major soil disturbance, or in their proper sequence and maintained until permanent protection is established.
- Any disturbed areas that will be left exposed more than 30 Days and not subject to construction traffic, will immediately receive a temporary seeding. If the season prevents the establishment of a temporary cover, the disturbed areas will be mulched with straw, or equivalent material, at a rate of two (2) tons per acre, according to NJ State Standards
- Permanent Vegetation shall be seeded or sodded on all exposed areas within ten (10) days after final grading. Mulch will be used for protection until seeding is established
- All work shall be done in accordance with the NJ State Standards for Soil Erosion and Sediment Control in New Jersey.
- A sub-base course will be applied immediately following rough grading and installation of improvements in order to stabilize streets, roads, driveways and parking areas. In areas where no utilities are present, the sub-base shall be installed within 15 days or preliminary grading.
- Immediately following initial disturbance or rough grading all critical areas subject to erosion (steep slopes, roadway embankments) will receive a temporary seeding in combination with straw mulch or a suitable equivalent, at a rate of two (2) tons per acre, according to the NJ State Standards.
- Any steep slopes receiving pileup installation will be backfilled and stabilized daily, as the installation proceeds (i.e.: slopes greater than 3:1)
- Traffic control Standards require the installation of a 50x30x6"pad of 1 1/2"or 2" stone, at all construction driveways, immediately after initial site disturbance.
- At the time when the site preparation for permanent vegetative stabilization is going to be accomplished, any soil that will not provide a suitable environment to support adequate vegetative ground cover, shall be removed or treated in such a way that will permanently adjust the soil conditions and render it suitable for vegetative ground cover. If the removal or treatment of the soil will not provide a suitable condition, non-vegetative means of permanent ground stabilization will have to be employed.
- In that NJSA 4:24-39 et seq., requires that no Certificate of Occupancy be issued before the provisions of the Certified Plan for Soil Erosion and Sediment Control have been complied with for permanent measures, all site work for site plans and all work around individual lots in subdivisions, will have to be completed prior to the District issuing a Report of Compliance for the issuance of a Certificate of Occupancy by the Municipality.
- Conduit Outlet Protection must be installed at all required outfalls prior to the drainage system becoming operational.
- Any changes to the Certified Soil Erosion and Sediment Control Plan will require the submission of revised Soil Erosion and Sediment Control Plans to the District for recertification. The revised plans must meet all current NJ State Soil Erosion & Sediment Control Standards.
- The Somerset-Union Soil Conservation District shall be notified of any changes in ownership.
- Mulching of the NJ Standards is required for obtaining a Conditional Report of Compliance. Conditions are only issued when the season prohibits seeding.
- Contractor is responsible for keeping all adjacent roads clean during life of construction project.
- The developer shall be responsible for remediation any erosion or sediment problems that arise as a result of ongoing construction at the request of the Somerset-Union Soil Conservation District.
- Hydro seeding is a two- step process. The first step includes seed, fertilizer, lime, etc., along with minimal amounts of mulch to promote consistency, good seed to soil contact, and give a visual indication of coverage. Upon completion of seeding operation, hydromulch should be applied at a rate of 1500 lbs. per acre in second step. The use of hydromulch, as opposed to straw, is limited to optimum seeding depths as listed in the NJ Standards.
- Unfettered dewatering is not permitted. Necessary precautions must be taken during all dewatering operations to minimize soil transfer. Any dewatering methods used must be in accordance with the Standard for Dewatering. Revised 5/15/15

PROPOSED SEQUENCE OF DEVELOPMENT

Installation of any silt fence prior to any major soil disturbance. Week 1

Maintenance until permanent protection is established. Install and maintain inlet protection at any existing storm sewer inlets, as shown on the plans, until project is complete and permanently stabilized.

Clear and remove all existing vegetation in those areas where necessary. Any remaining vegetation and trees to be properly protected and to remain in its natural state. Week 1

Reconstruct/modify existing retaining walls as shown. Week 2

Install sidewalks. Week 3-5

Fine grading of all lawn and landscape areas. Week 6

Removal of all temporary sediment and erosion control devices. upon completion

STANDARD FOR TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

DEFINITION
Establishment of temporary vegetative cover on soils exposed for periods of two to 6 months which are not being graded, not under active construction or not scheduled for permanent seeding within 60 days.

PURPOSE
To temporarily stabilize the soil and reduce damage from wind and water erosion until permanent stabilization is accomplished.

WATER QUALITY ENHANCEMENT
Provides temporary protection against the impacts of wind and rain, slows the over land movement of stormwater runoff, increases infiltration and retains soil and nutrients on site, protecting streams or other stormwater conveyances.

WHERE APPLICABLE
On exposed soils that have the potential for causing off-site environmental damage.

METHODS AND MATERIALS

SITE PREPARATION
A. Grade as needed and feasible to permit the use of conventional equipment for seeded preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with Standards for Land Grading, pg. 19-1.

B. Install needed erosion control practices or facilities such as diversions, grade stabilization structures, channel stabilization measures, sediment basins, and waterways. See Standards 11 through 42.

C. Immediately prior to seeding, the surface should be scarified 6" to 12" where there has been soil compaction. This practice is permissible only where there is no danger to existing utilities (cables, irrigation systems, etc.).

SEEDBED PREPARATION
A. Apply ground limestone and fertilizer according to soil test recommendations such as offered by Rutgers Co-operative Extension. Soil sample motters are available from the local Rutgers Cooperative Extension offices. Fertilizer shall be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet of 10-10-10 or equivalent with 50% water insoluble nitrogen unless a soil test indicates otherwise. Apply limestone at the rate of 2 tons/acre unless soil testing indicates otherwise. Calcium carbonate is the equivalent and standard for measuring the ability of liming materials to neutralize soil acidity and supply calcium and magnesium to grasses and legumes.

B. Work lime and fertilizer into the soil as nearly as practical to a depth of 4 inches with a disc, springtooth harrow, or other suitable equipment. The final harrowing or disking operation should be on the general contour. Continue tillage until a reasonable uniform seedbed is prepared.

C. Inspect seedbed just before seeding. If traffic has left the soil compacted, the area must be retitled in accordance with the above.

D. Soils high in sulfides or having a pH of 4 or less refer to Standard for Management of High Acid Producing Soils, pg. 1-1.

SEEDING

A. Select seed from recommendations in Table 7-2.

TABLE 7-2 TEMPORARY VEGETATIVE STABILIZATION GRASSES, SEEDING RATES, DATES AND DEPTH.						
SEED SELECTIONS	SEEDING RATE ¹ (pounds)		OPTIMUM SEEDING DATE ² Based on Plant Hardiness Zone ³			OPTIMUM SEEDING DEPTH ⁴ (inches)
	Per Acre	Per 100 Sq. Ft.	Zone 5a,5b	Zone 6a	Zone 7a,7b	
COLD SEASON GRASSES						
1. Perennial ryegrass	100	1.0	3/15-6/1 8/1-9/15	3/1-5/15 8/15-10/1 18/15-10/15	2/15-5/1 0.5	
2. Spring oats	86	2.0	3/15-6/1 8/1-9/15	3/1-5/15 8/15-10/1 18/15-10/15	2/15-5/1 1.0	
3. Winter Barley	96	2.2	8/1-9/15	8/15-10/1 18/15-10/15	1.0	
4. Annual Ryegrass	100	1.0	3/15-6/1 8/1-9/15	3/1-6/1 8/1-9/15	2/15-5/1 18/15-10/15	0.5
5. Winter Cereal Rye	112	2.8	8/1-11/1	8/1-11/15 18/15-10/15	1.0	
WARM SEASON GRASSES						
6. Pearl millet	20	0.5	6/1-8/1	5/15-8/15 5/1-9/1	1.0	
7. Millet (German or Hungarian)	30	0.7	6/1-8/1	5/15-8/15 5/1-9/1	1.0	

- Seeding rate for warm season grass, selections 5 - 7 shall be adjusted to reflect the amount of Pure Line Seed (PLS) as determined by a germination test result. No adjustment is required for cool season grasses.
- May be planted throughout summer if soil moisture is adequate or seeded area can be irrigated.
- Plant Hardness Zone (See figure 7-1, pg. 7-4.)
- Twice the depth for sandy soils
- Conventional Seeding. Apply seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or cultipacker seeder. Except for drilled, hydroseeded or cultipacked seedings, seed shall be incorporated into the soil to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse textured soil.
- Hydroseeding is a broadcast seeding method usually involving a truck or trailer mounted tank, with an agitation system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Shortfibred mulch may be applied with a hydroseeder following seeding. (also see Section IV Mulching) Hydroseeding is not a preferred seeding method because seed and fertilizer are applied to the surface and not incorporated into the soil. Poor seed to soil contact occurs reducing seed germination and growth. Hydroseeding may be used for areas too steep for conventional equipment to traverse or too obstructed with rocks, stumps, etc.
- After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore capillarity, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

MULCHING

Mulching is required on all seeding. Mulch will insure against erosion before grass is established and will promote faster and earlier establishment. The existence of vegetation sufficient to control soil erosion shall be deemed compliance with this mulching requirement.

A. Straw or Hay. Unrotted small grain straw, hay free of seeds, applied at the rate of 1-1/2 to 2 tons per acre (70 to 90 pounds per 1,000 square feet), except that where a crimper is used instead of a liquid mulch-binder (tackifying or adhesive agent), the rate of application is 3 tons per acre. Mulch chopper-blowers must not grind the mulch. Hay mulch is not recommended for establishing fine turf or lawns due to the presence of weed seed. Application. Spread mulch uniformly by hand or mechanically so that approximately 95% of the soil surface will be covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000 square feet sections and distribute 70 to 90 pounds within each section. Mulch spreading shall be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area, steepness of slopes, and costs.

1. Peg and Twine. Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss-cross and a square pattern. Secure twine around each peg with two or more round turns.

2. Mulch Nettings. Staple paper, jute, cotton, or plastic nettings to the soil surface. A tractor-drawn implement, somewhat like a disc harrow, especially designed to push or cut some of the broadcast long fiber mulch 3 to 4 inches into the soil so as to anchor it and leave part standing upright. This technique is limited to areas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.

4. Liquid Mulch-Binders. -May be used to anchor hay or straw mulch.

- Applications should be heavier at edges where wind may catch the mulch, in valleys, and at crests of banks. The remainder of the area should be uniform in appearance.
- Use one of the following:
 - Organic and Vegetable Based Binders -Naturally occurring, powder based, hydrophilic materials when mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membraned networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phytotoxic effect or impede growth of turf grasses. Use at rates and weather conditions as recommended by the manufacturer to anchor mulch materials. Many new products are available, some of which may need further evaluation for use in this state.
 - Synthetic Binders -High polymer synthetic emulsion, miscible with water when diluted and following application to mulch, drying and curing shall no longer be soluble or dispersible in water. It shall be applied at rates recommended by the manufacturer and remain tacky until germination of grass.

Note: All names give above are registered trade names. This does not constitute a commendation of these products to the exclusion of other products.

B. Wood-fiber or paper-fiber mulch. Shall be made from wood, plant fibers or paper containing no growth or germination inhibiting materials, used at the rate of 1,500 pounds per acre (or as recommended by the project manufacturer) and may be applied by a hydroseeder. This mulch shall not be mixed in the tank with seed. Use is limited to flatter slopes and during optimum seeding periods in spring and fall.

C. Pelletized mulch. Compressed and extruded paper and/or wood fiber product, which may contain co-polymers, tackifiers, fertilizers and coloring agents. The dry pellets, when applied to a seeded area and watered, form a mulch mat. Pelletized mulch shall be applied in accordance with the manufacturer's recommendations. Mulch may be applied by hand or mechanical spreader at the rate of 60-75 lbs./1,000 square feet and activated with 0.2 to 0.4 inches of water. This material has bee found to be beneficial for use on small lawn or renovation areas, seeded areas where weed-free mulch is desired or on sites where straw mulch and tackifier agent are not practical or desirable.

Applying the full 0.2 to 0.4 inches of water after spreading pelletized mulch on the seed bed is extremely important for sufficient activation and expansion of the mulch to provide soil coverage.

STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

DEFINITION
Establishment of permanent vegetative cover on exposed soils where perennial vegetation is needed for long term protection.

PURPOSE
To permanently stabilize the soil, assuring conservation of soil and water, and to enhance the environment.

WATER QUALITY ENHANCEMENT
Slows the over land movement of stormwater runoff, increases infiltration and retains soil and nutrients on site, protecting streams or other stormwater conveyances.

WHERE APPLICABLE
On exposed soils that have the potential for causing off-site environmental damage.

SITE PREPARATION

- Grade as needed and feasible to permit the use of conventional equipment for seeded preparation, seeding, mulch application, and mulch anchoring. All grading should be done in accordance with Standard for Land Grading.
- Immediately prior to seeding and topsoil application, the subsoil shall be evaluated for compaction in accordance with the Standard for Land Grading .
- Topsoil should be handled only when it is dry enough to work without damaging the soil structure. A uniform application to a depth of 5 inches (unsettled) is required on all sites. Topsoil shall be amended with organic matter, as needed, in accordance with the Standard for Topsoiling.
- Install needed erosion control practices or facilities such as diversions, grade-stabilization structures, channel stabilization measures, sediment basins, and waterways.

SEEDBED PREPARATION

- Uniformly apply ground limestone and fertilizer to topsoil which has been spread and firmed, according to soil test recommendations such as offered by Rutgers Co-operative Extension. Soil sample motters are available from the local Rutgers Cooperative Extension offices (http://njnes.rutgers.edu/county/). Fertilizer shall be applied at the rate of 500 pounds per acre or 11 pounds per 1,000 square feet of 10-10-10 or equivalent with 50% water insoluble nitrogen unless a soil test indicates otherwise and incorporated into the surface 4 inches. If fertilizer is not incorporated, apply one-half the rate described above during seeded preparation and repeat another one-half rate application of the same fertilizer within 3 to 5 weeks after seeding.
- Work lime and fertilizer into the topsoil as nearly as practical to a depth of 4 inches with disc, spring-tooth harrow, or other suitable equipment. The final harrowing or disking operation should be on the general contour. Continue tillage until a reasonable uniform seedbed is prepared.
- High acid producing soils. Soils having a pH of 4 or less or containing iron sulfide shall be covered with a minimum of 12 inches of soil having a pH of 5 or more before initiating seeded preparation. See Standard for Management of High Acid-Producing Soils for specific requirements.

SEEDING

A. Select a mixture from Table 4-3 or use a mixture recommended by Rutgers Cooperative Extension or Natural Resources Conservation Service which is approved by the Soil Conservation District. Seed germination shall have been tested within 12 months of the planting date. No seed shall be accepted with a germination test date more than 12 months old unless related.

- Seeding rates specified are required when a report of compliance is requested prior to actual establishment of permanent vegetation. Up to 50% reduction in rates may be used when permanent vegetation is established prior to a report of compliance inspection. These rates apply to all methods of seeding. Establishing permanent vegetation means 80% vegetative coverage with the specified seed mixture for the seeded area and mowed once.
- Warm-season mixtures are grasses and legumes which maximize growth at high temperatures, generally 85o F and above. See Table 4-3 mixtures 1 to 7. Planting rates for warm-season grasses shall be the amount of Pure Line Seed (PLS) as determined by germination testing results.
- Cool-season mixtures are grasses and legumes which maximize growth at temperatures below 85oF. Many grasses become active at 65oF. See Table 4-3, mixtures 8-20. Adjustment of planting rates to compensate for the amount of PLS is not required for cool season grasses.

B. Conventional Seeding is performed by applying seed uniformly by hand, cyclone (centrifugal) seeder, drop seeder, drill or cultipacker seeder. Except for drilled, hydroseeded or cultipacked seedings, seed shall be incorporated into the soil within 24 hours of seedbed preparation to a depth of 1/4 to 1/2 inch, by raking or dragging. Depth of seed placement may be 1/4 inch deeper on coarse-textured soil.

C. After seeding, firming the soil with a corrugated roller will assure good seed-to-soil contact, restore capillarity, and improve seedling emergence. This is the preferred method. When performed on the contour, sheet erosion will be minimized and water conservation on site will be maximized.

D. Hydroseeding is a broadcast seeding method usually involving a truck, or trailer-mounted tank, with an agitation system and hydraulic pump for mixing seed, water and fertilizer and spraying the mix onto the prepared seedbed. Mulch shall not be included in the tank with seed. Shortfibred mulch may be applied with a hydroseeder following seeding. (also see Section 4-Mulching below). Hydroseeded seed and fertilizer are applied to the surface and not incorporated into the soil. When poor seed to soil contact occurs, there is a reduced seed germination and growth.

MULCHING

Mulching is required on all seeding. Mulch will protect against erosion before grass is established and will promote faster and earlier establishment. The existence of vegetation sufficient to control soil erosion shall be deemed compliance with this mulching requirement.

A. Straw or Hay. Unrotted small grain straw, hay free of seeds, to be applied at the rate of 1-1/2 to 2 tons per acre (70 to 90 pounds per 1,000 square feet), except that where a crimper is used instead of a liquid mulch-binder (tackifying or adhesive agent), the rate of application is 3 tons per acre. Mulch chopper-blowers must not grind the mulch. Hay mulch is not recommended for establishing fine turf or lawns due to the presence of weed seed. Application. Spread mulch uniformly by hand or mechanically so that approximately 95% of the soil surface will be covered. For uniform distribution of hand-spread mulch, divide area into approximately 1,000 square feet sections and distribute 70 to 90 pounds within each section. Mulch spreading shall be accomplished immediately after placement to minimize loss by wind or water. This may be done by one of the following methods, depending upon the size of the area, steepness of slopes, and costs.

1. Peg and Twine. Drive 8 to 10 inch wooden pegs to within 2 to 3 inches of the soil surface every 4 feet in all directions. Stakes may be driven before or after applying mulch. Secure mulch to soil surface by stretching twine between pegs in a criss-cross and a square pattern. Secure twine around each peg with two or more round turns.

2. Mulch Nettings - Staple paper, jute, cotton, or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.

3. Crimper (mulch anchoring cult tool) - A tractor-drawn implement, somewhat like a disc harrow, especially designed to push or cut some of the broadcast long fiber mulch 3 to 4 inches into the soil so as to anchor it and leave part standing upright. This technique is limited to areas traversable by a tractor, which must operate on the contour of slopes. Straw mulch rate must be 3 tons per acre. No tackifying or adhesive agent is required.

4. Liquid Mulch-Binders - May be used to anchor soil hay, hay or straw mulch.

- Applications should be heavier at edges where wind may catch the mulch, in valleys, and at crests of banks. The remainder of the area should be uniform in appearance.
- Use one of the following:
 - Organic and Vegetable Based Binders - Naturally occurring, powder-based, hydrophilic materials when mixed with water formulates a gel and when applied to mulch under satisfactory curing conditions will form membraned networks of insoluble polymers. The vegetable gel shall be physiologically harmless and not result in a phytotoxic effect or impede growth of turf grasses. Use at rates and weather conditions as recommended by the manufacturer to anchor mulch materials. Many new products are available, some of which may need further evaluation for use in this state.
 - Synthetic Binders -High polymer synthetic emulsion, miscible with water when diluted and, following application of mulch, drying and curing, shall no longer be soluble or dispersible in water. Binder shall be applied at rates recommended by the manufacturer and remain tacky until germination of grass.

Note: All names given above are registered trade names. This does not constitute a recommendation of these products to the exclusion of other products.

B. Wood-fiber or paper-fiber mulch - shall be made from wood, plant fibers or paper containing no growth or germination inhibiting materials, used at the rate of 1,500 pounds per acre (or as recommended by the product manufacturer) and may be applied by a hydroseeder. Mulch shall not be mixed in the tank with seed. Use is limited to flatter slopes and during optimum seeding periods in spring and fall.

C. Pelletized mulch - compressed and extruded paper and/or wood fiber product, which may contain co-polymers, tackifiers, fertilizers, and coloring agents. The dry pellets, when applied to a seeded area and watered, form a mulch mat. Pelletized mulch shall be applied in accordance with the manufacturer's recommendations. Mulch may be applied by hand or mechanical spreader at the rate of 60-75 lbs./1,000 square feet and activated with 0.2 to 0.4 inches of water. This material has been found to be beneficial for use on small lawn or renovation areas, seeded areas where weedseed free mulch is desired, or on sites where straw mulch and tackifier agent are not practical or desirable. Applying the full 0.2 to 0.4 inches of water after spreading pelletized mulch on the seed bed is extremely important for sufficient activation and expansion of the mulch to provide soil coverage.

IRRIGATION (where feasible)

If soil moisture is deficient supply new seeding with adequate water (a minimum of 1/4 inch applied up to twice a day until vegetation is well established). This is especially true when seedings are made in abnormally dry or hot weather or on droughty sites.

TOPDRESSING

Since soil organic matter content and slow release nitrogen fertilizer (water insoluble) are prescribed in Section 2A - Seeded Preparation in this Standard, no follow-up of topdressing is mandatory. An exception may be made where gross nitrogen deficiency exists in the soil to the extent that turf failure may develop. In that instance, topdress with 10-10-10 or equivalent at 300 lbs. per acre or 7 pounds per 1,000 square feet every 3 to 5 weeks until the gross nitrogen deficiency in the turf is ameliorated.

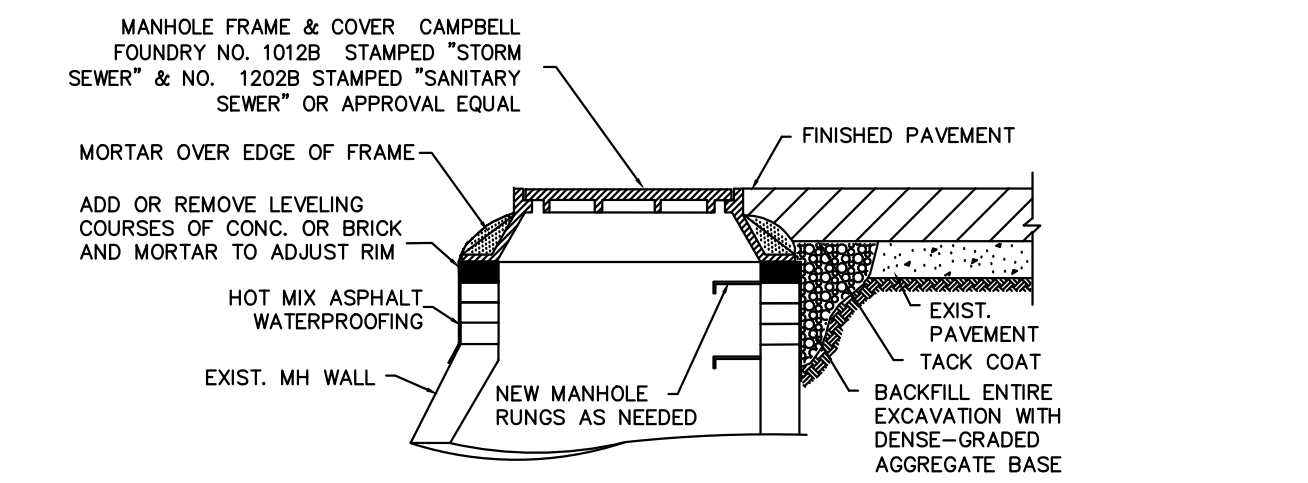
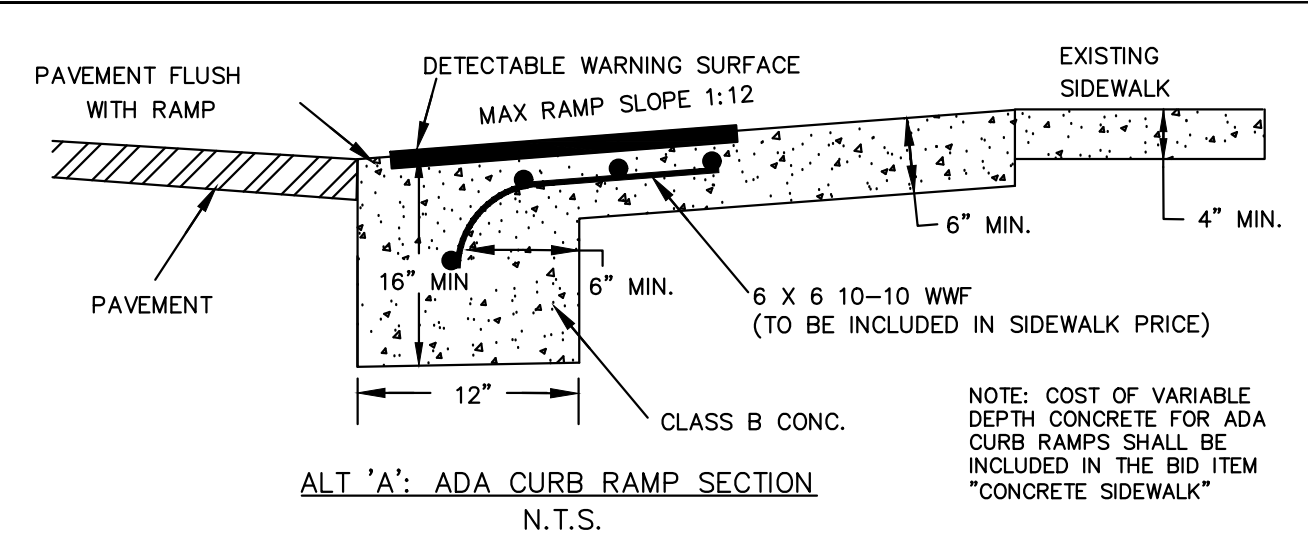
ESTABLISHING PERMANENT VEGETATIVE STABILIZATION

The quality of permanent vegetation rests with the contractor. The timing of seeding, preparing the seedbed, applying nutrients, mulch application, and other management are essential. The seed application rates in Table 4-3 are required when a Report of Compliance is requested prior to actual establishment of permanent vegetation. Up to 50% reduction in application rates may be used when permanent vegetation is established prior to requesting a Report of Compliance from the district. These rates apply to all methods of seeding. Establishing permanent vegetation means 80% vegetative cover (of the seeded species) and mowed once. Note this designation of mowed once does not guarantee the permanency of the turf should other maintenance factors be neglected or otherwise mismanaged.

TABLE 4-2 PERMANENT STABILIZATION MIXTURES FOR VARIOUS USES				
Application	PLANTING MIXTURES BY SOIL DRAINAGE CLASS ¹ (see Table 4-3)			
	Excessively Drained	Moderately Well Drained	Well to Poorly Drained	
Residential/commercial lots	10, 12, 15	6, 10, 12, 13, 14, 15	16	
Pond and channel banks, dikes, berms, and dams	2, 5, 6, 10	5, 6, 7, 8, 9, 15	2, 8, 16, 17	
Drainage ditches, swales, detention basins	2, 9, 11	2, 7, 9, 11, 12, 17	2, 9, 16, 17	
Filter Strips	12	11, 12	11, 12	
Grasses waterway, spillways	2, 3, 9, 10, 12	6, 7, 9, 10, 11, 12	2, 9, 11, 12	
Recreation areas, athletic fields	5, 12, 15, 18	12, 13, 14, 15, 18	16	
Special Problem Sites	2, 3, 5, 7, 8, 9, 10	15, 18	2, 9, 10, 11, 12	
Steep slope and banks, roadsides, borrow areas	2, 3, 4, 6			
Damp and gravel pits, Sanitary landfills	1, 2, 3, 4, 6, 20	15, 20	2, 8	
Dredged material, spoilbanks, borrow areas	2, 3, 6, 20	2, 3, 6, 11	2, 8	
Streambanks & shorelines ²	2, 8, 20, 21a	2, 8, 19b, 20, 21a, 21b	2,8,19a, 21a,b,c,d	
Utility Rights-of-Way	3, 7, 180	3, 7	8, 9, 17	

- Refer to Soil Surveys for drainage class descriptions.
- Refer to Soil Bioengineering Standard for additional seed mixtures.
- See Appendix E for description of turf grasses and cultivars

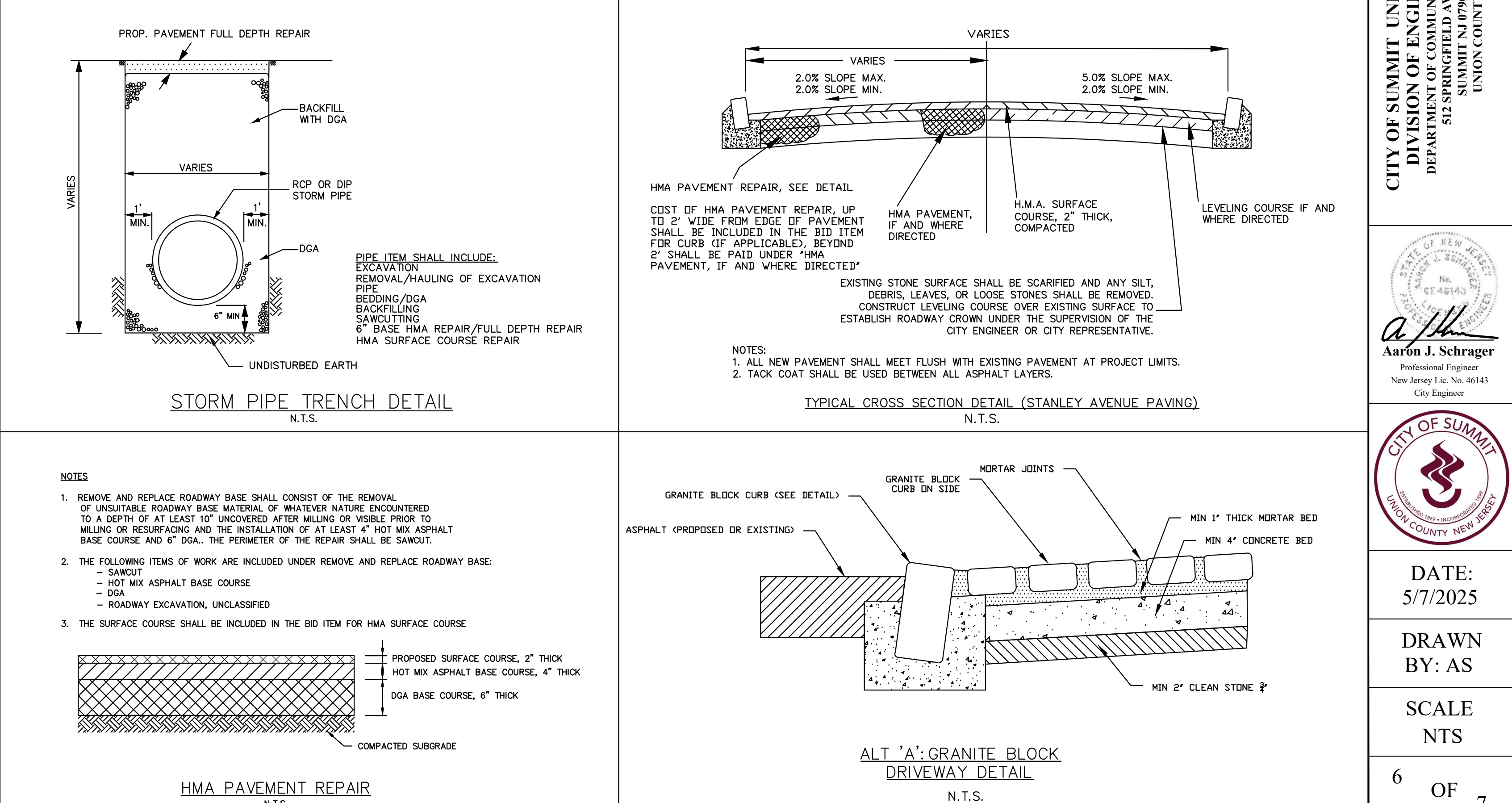
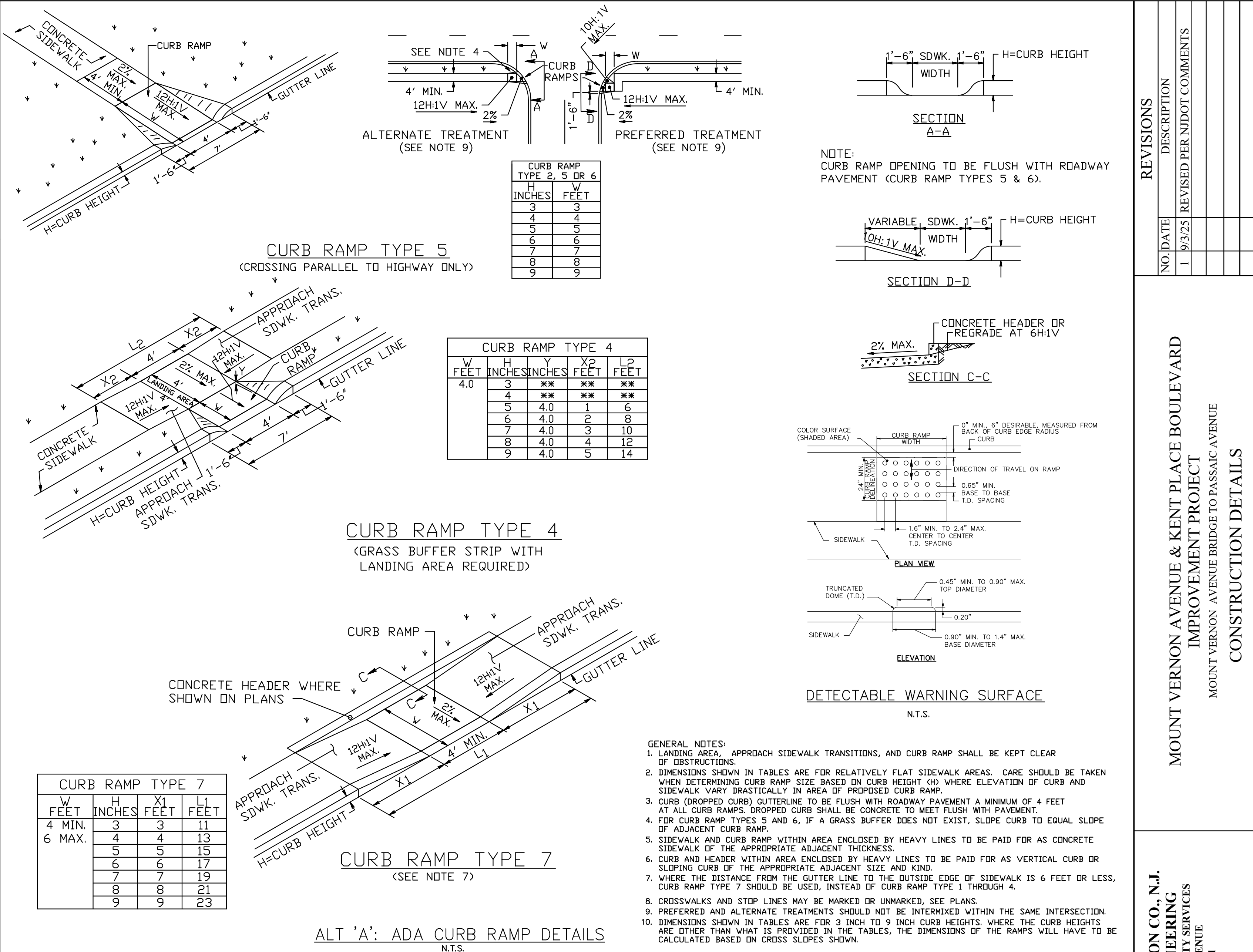
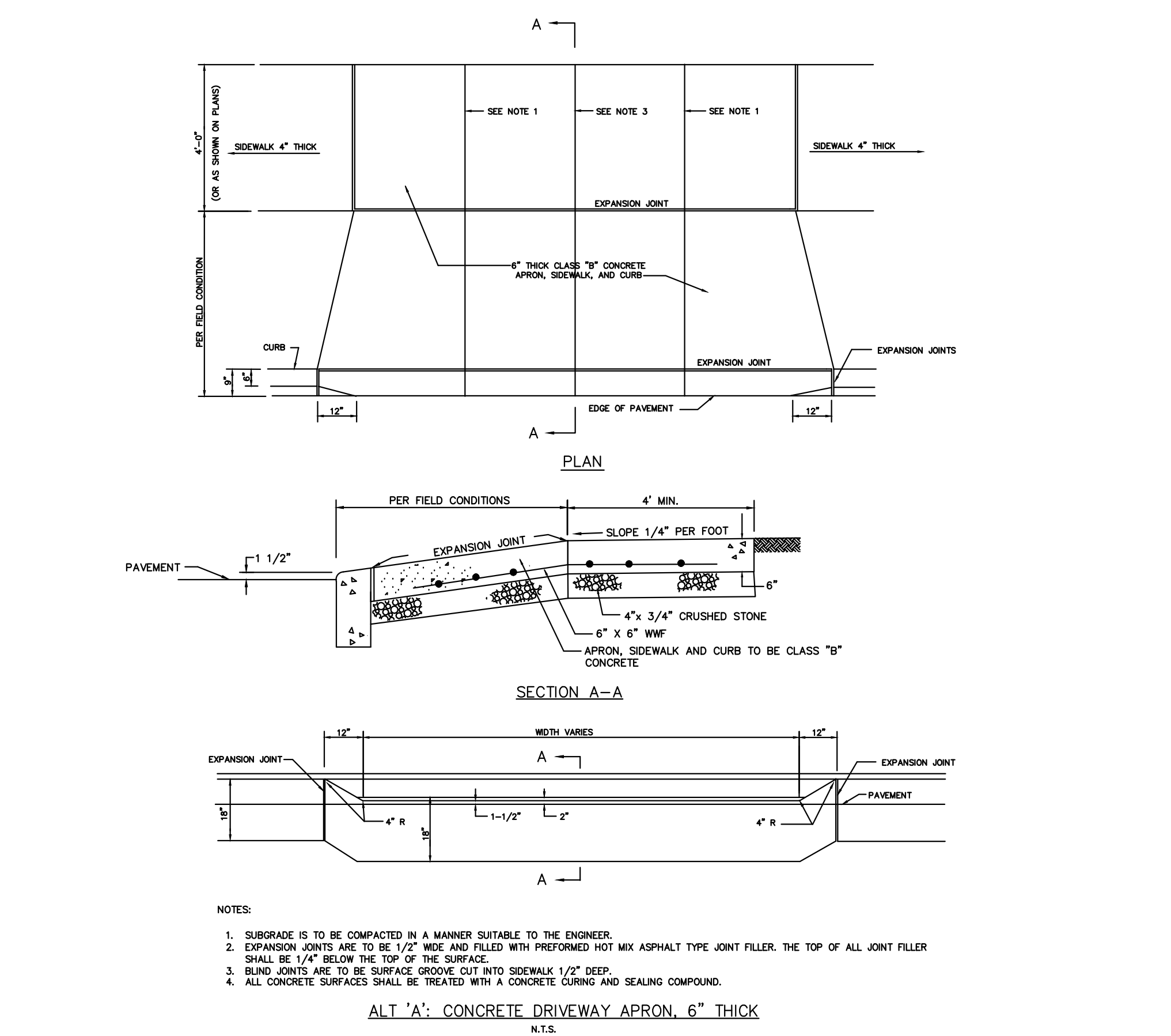
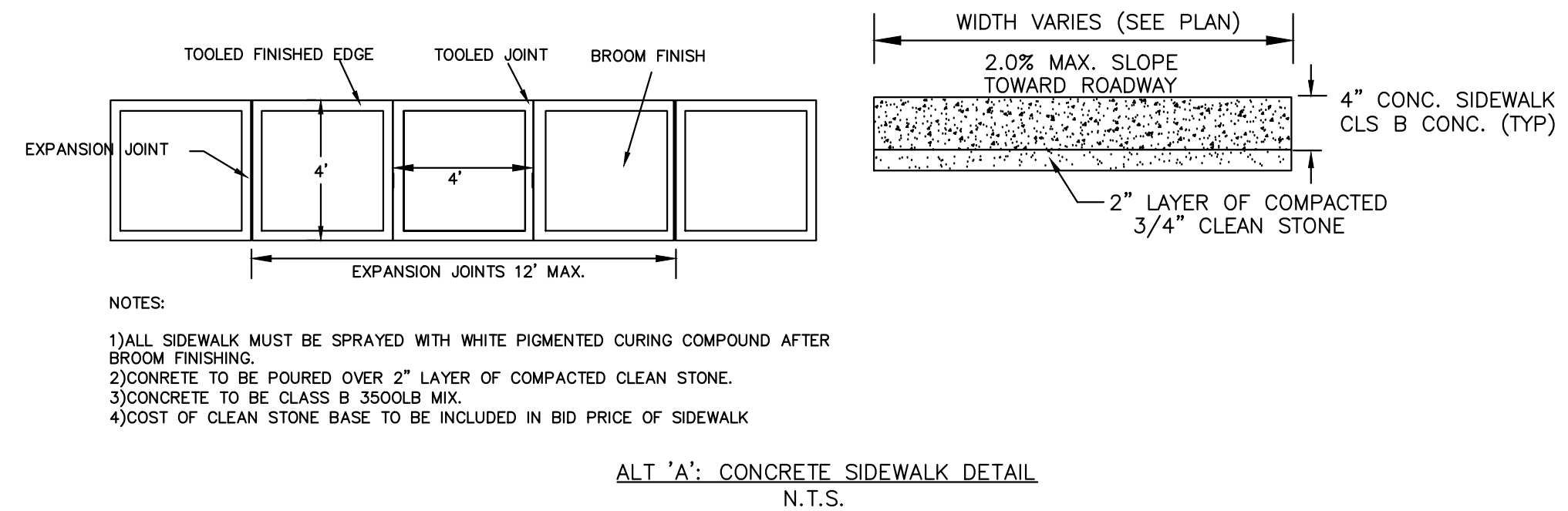
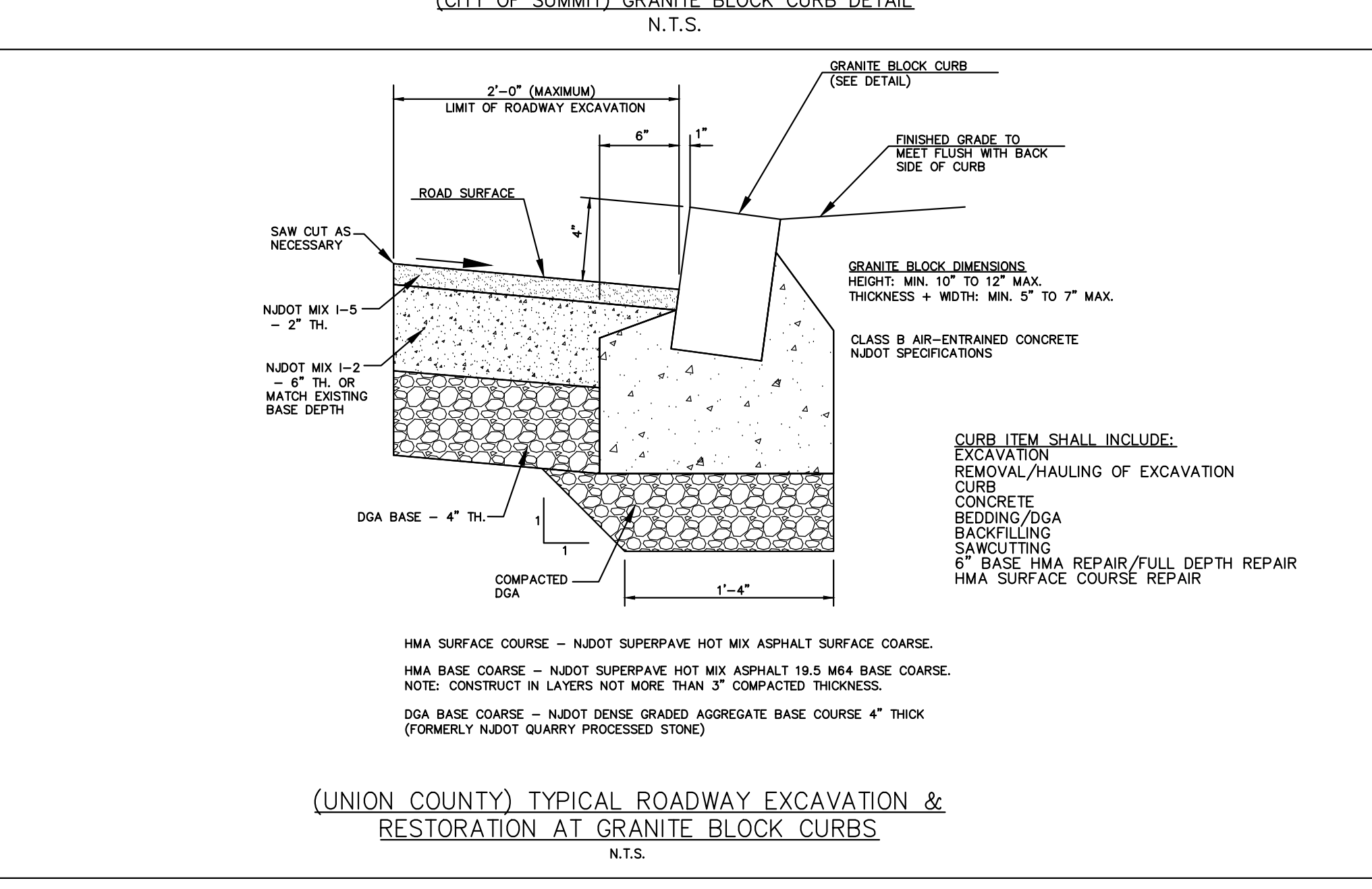
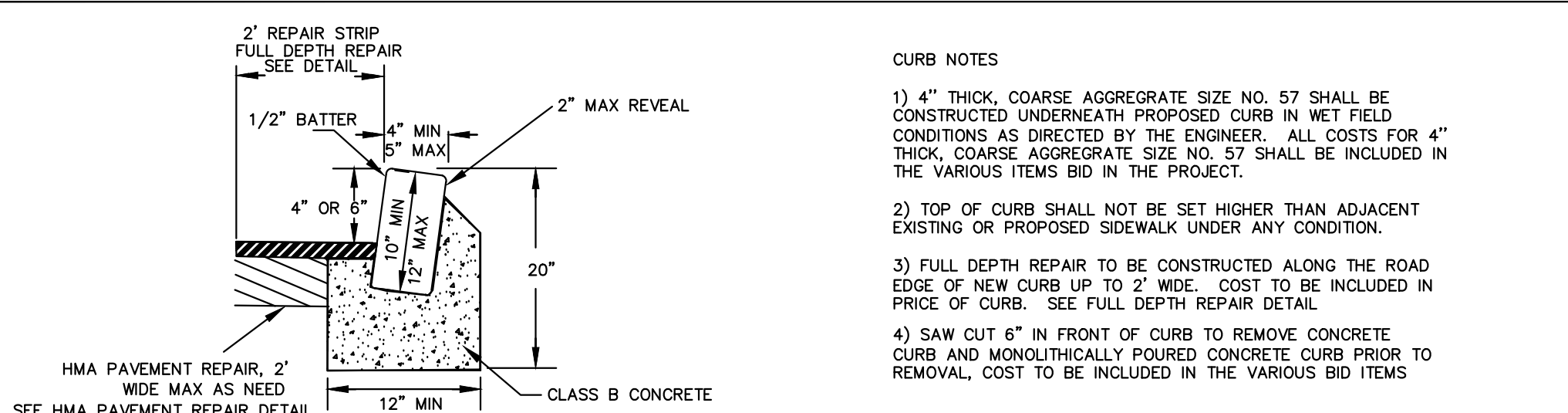
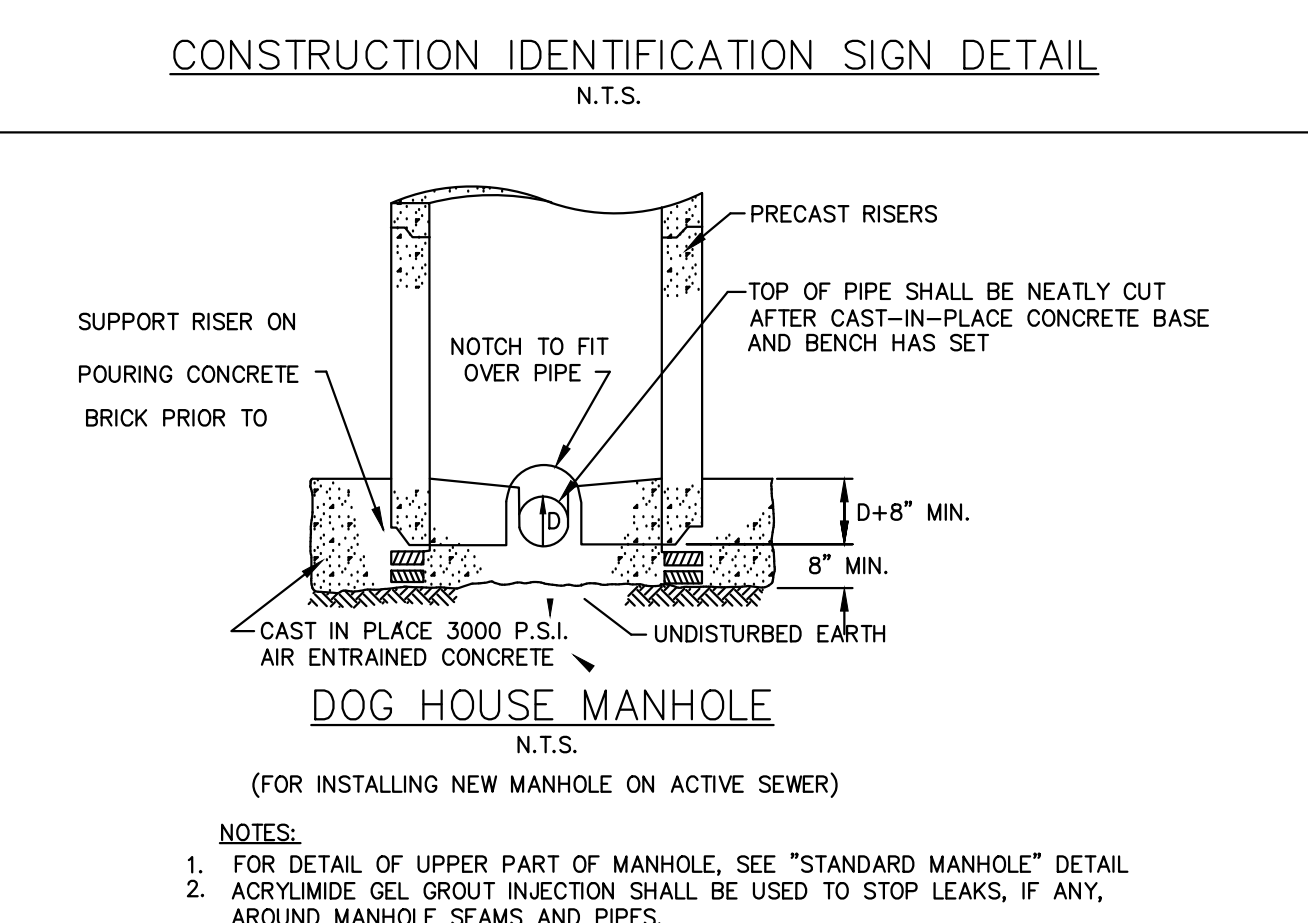
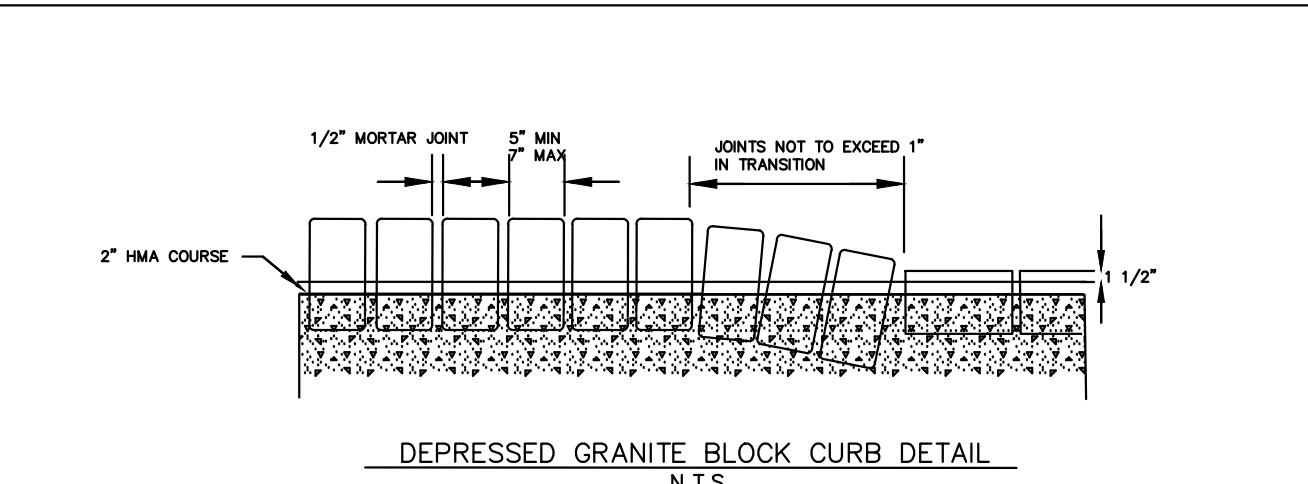
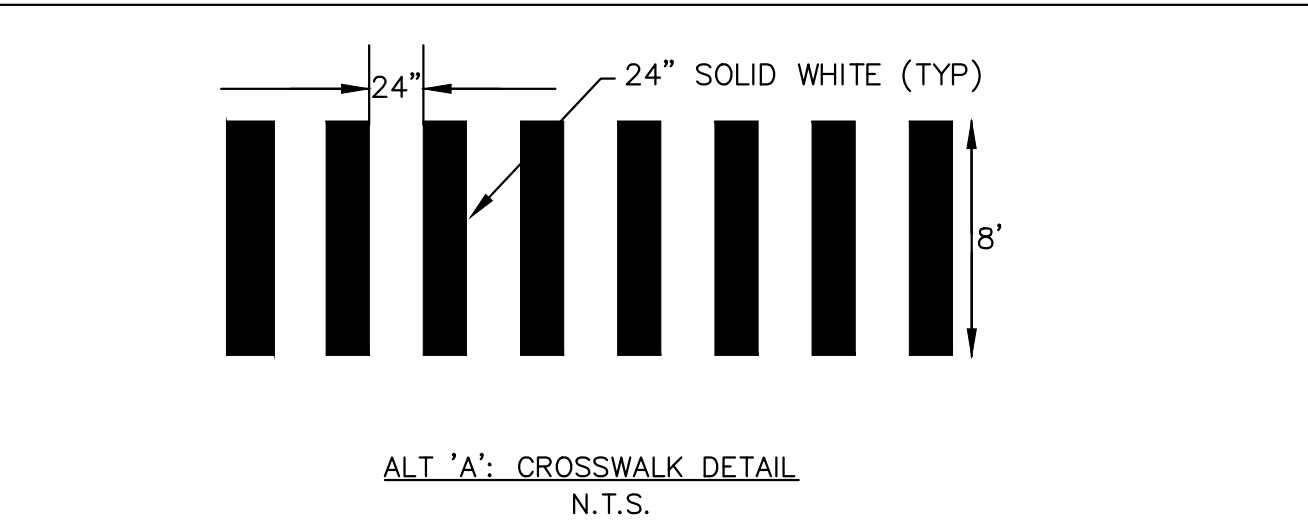
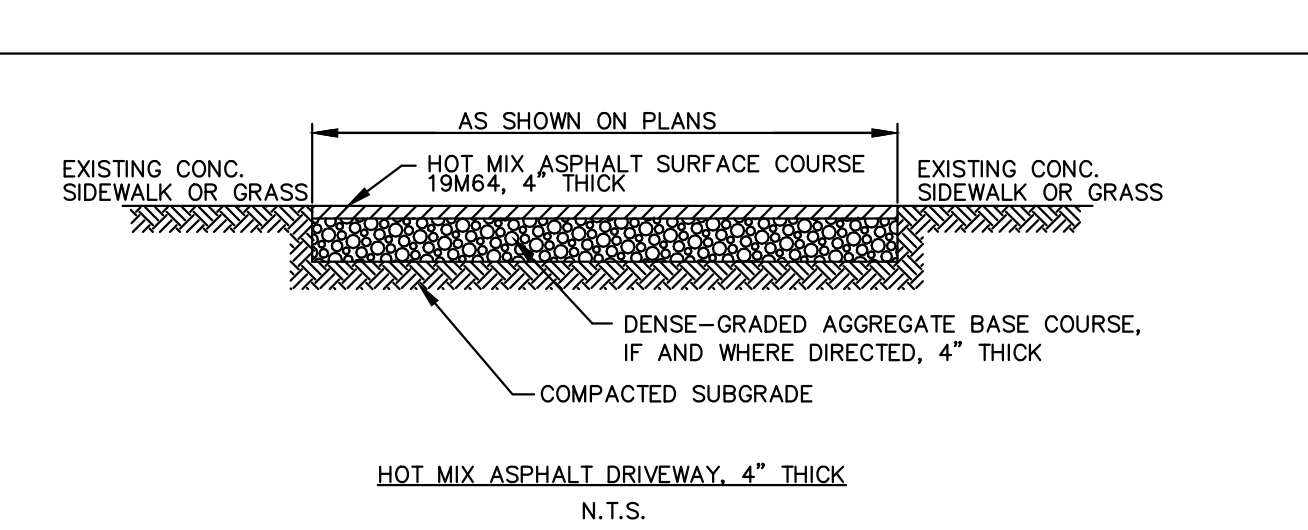
TABLE 4-3 PERMANENT VEGETATIVE MIXTURES, PLANTING RATES AND PLANTING DATES ¹									
SEED MIXTURE ²	PLANTING RATE ³	PLANTING DATES						MAINTENANCE LEVEL ⁴	REMARKS
		O = Optimal Planting period A = Acceptable Planting period							
		PLANT HARDINESS ZONES (see Figure 4-1)							
		Zone 5a, 6a	Zone 6b	Zone 7a, 7b					
	lb/acre	lb/1000 sq. ft.	3/15-5/21	6/1-8/11	8/1-10/21	4/30-6/14	8/15-10/25		
WARM SEASON SEED MIXTURES									
1A. For pinelands national reserve seed mixtures see table 4-4 page 4-17									
1. Switchgrass and/or Coastal panicgrass plus or Flatopoa	15 15 20 20	35 35 45 45							C-D
2. Deertongue or Switchgrass Realtop	15 20 45 10	35 45 10 23							C-D
3. Switchgrass Deertongue Little Bluestem Sheep fescue plus Partridge pea	15 15 20 20 10	35 35 45 45 25							C-D
4. Switchgrass Big Bluestem Little Bluestem Sand lovegrass Coastal panicgrass	10 5 10 10 10	25 10 45 45 25							C-D
5. Bermudagrass Zoysiagrass (seed) Zoysiagrass (sprigs)	15 30 70	35 70 70							A-D
COOL SEASON SEED MIXTURES									
6. Fine Fescue (Blend) Hard Fescue Chewings fescue Strong Creeping Red Fescue Kentucky Bluegrass Perennial ryegrass plus White clover	45 1 5 10	1 5 10							B-D
7. Strong Creeping red fescue Kentucky bluegrass Perennial ryegrass or Realtop plus White clover	130 50 10 25 5	3 1 25 10							B-D
8. Tall fescue (Turf-type) or Strong Creeping red fescue or Perennial ryegrass Flatopoa	30 7 25 40	7 10 25							B-D
9. Deertongue Realtop Wild rye (Dymus) Switchgrass	20 45 75 25	45 35 60							C-D
10. Tall fescue (Turf-type) Perennial ryegrass or White clover	265 20 10	25 5 25							C-D
11. Kentucky bluegrass Turf-type	15 45 22	0.33 1							C-D
12. Turf-type Tall fescue (Blend of 3 cultivars)	350	8							C-D
13. Hard Fescue Chewings fescue Strong Creeping Red Fescue Perennial ryegrass Ky. bluegrass (lawn)	175 45 45 1	4							A-C
14. Tall Fescue Ky. bluegrass (lawn), ryegrass (lawn)	265 20 50	6 5 25							A-B
15. Hard Fescue Strong Creeping Red Fescue Perennial ryegrass	130 45 1	3 45 10							C-D
16. Rough bluegrass Strong Creeping red fescue	90 130	2.0 3							C-D
17. Creeping Bentgrass Creeping red fescue Alkali Saltgrass	45 45 1	1							B-D
18. Hard or Sheep N.E. wildflower mixture	25 12	0.60 0.35							C-D
19. a. Smooth cordgrass Salt-marsh cordgrass	veg								C-D
20. American beachgrass Coastal panicgrass	veg 20	45							D
21. a. Purplebeetle willow b. Dwarf willow c. Redosier dogwood d. Silky dogwood	veg veg veg veg	Before 5/10 Before 5/10 Before 5/1 Before 5/1							D

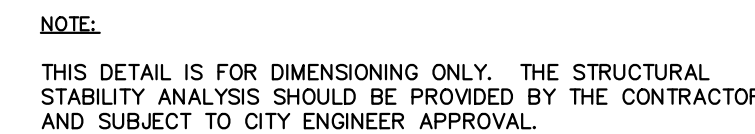
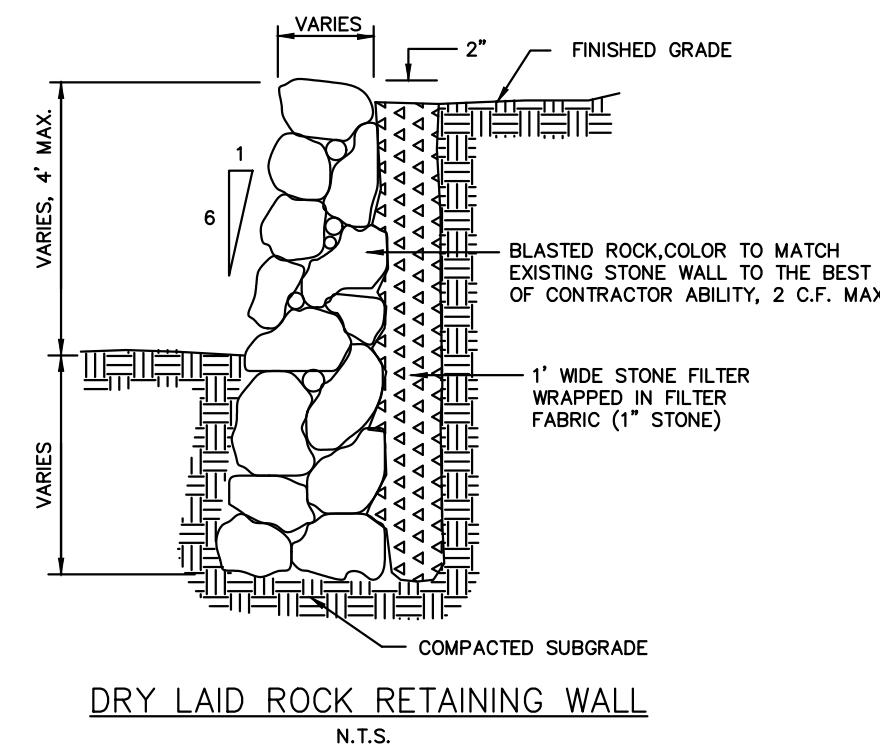
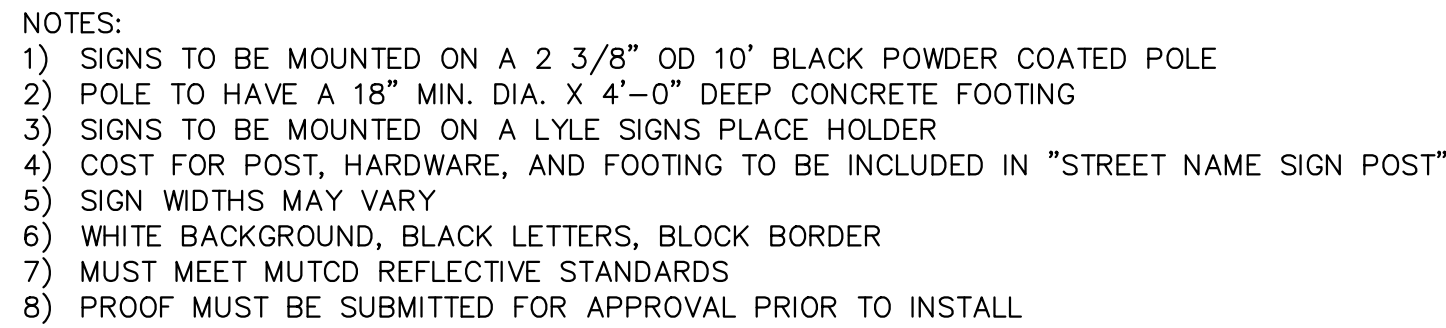
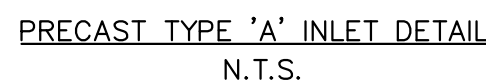
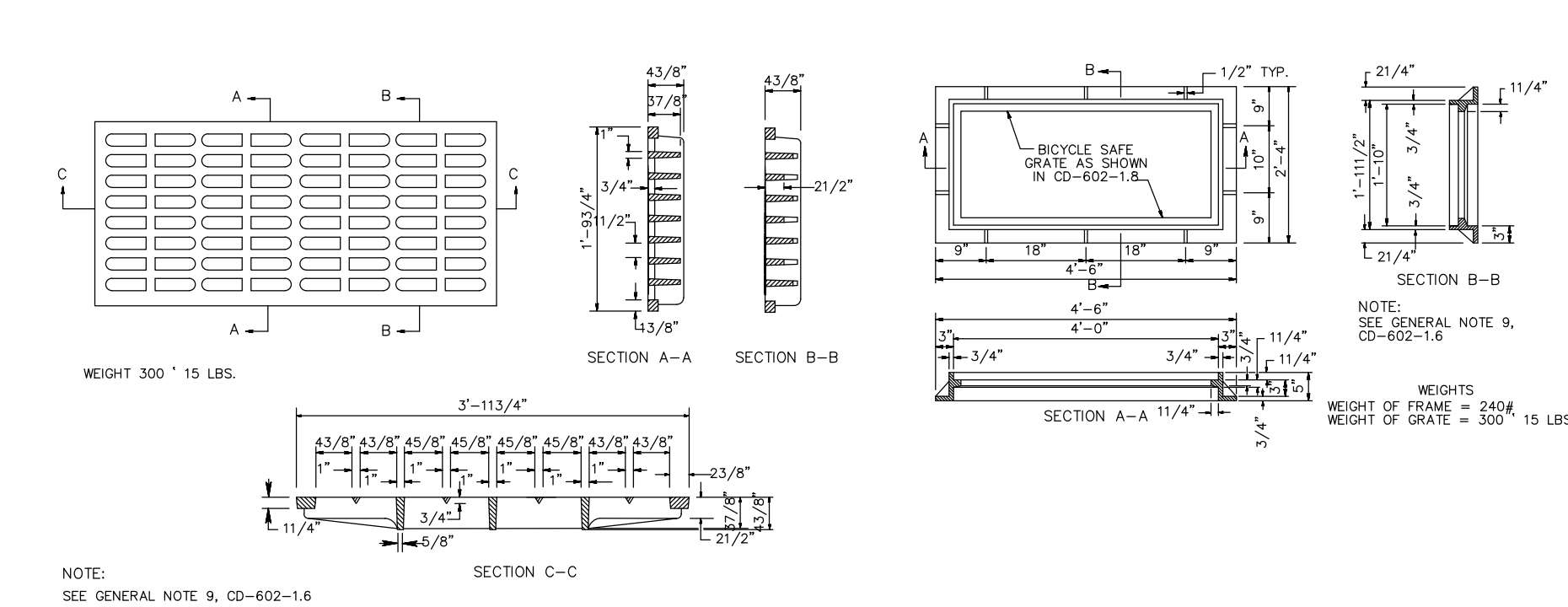


RESET/RECONSTRUCT MANHOLE USING NEW CASTING
N.T.S.

NOTES:

1. ALL MORTAR TO BE 1 PART PORTLAND CEMENT TO 2 PARTS CLEAN SAND.
2. RESET CASTINGS DETAIL IS SUITABLE FOR THE RESETTING OF BOTH INLETS AND MANHOLES.
3. EXTENT OF REPAIRS DEFINED BY N.DOT SPECIFICATION.



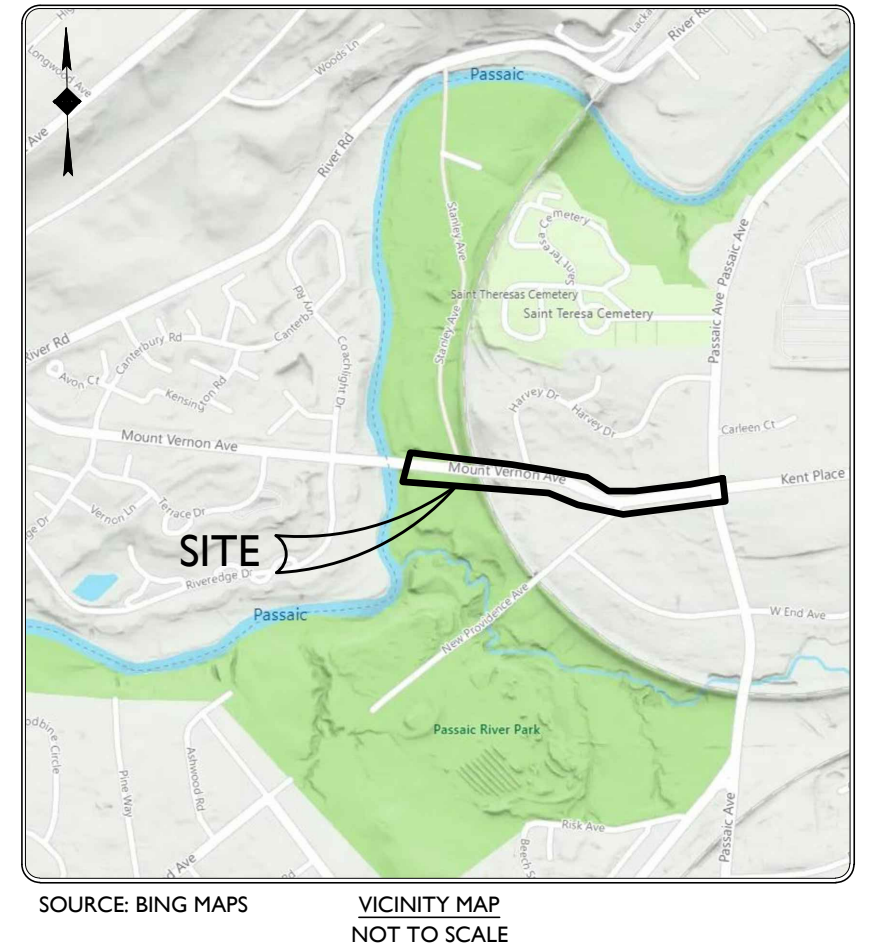


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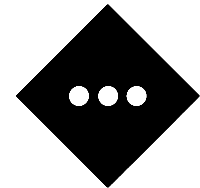
1. RIGHT OF WAY BOUNDARY LINES ARE SHOWN PER SURVEY REFERENCE #1, SHOWN HEREON. RIGHT OF WAY OR PROPERTY BOUNDARY WAS NOT A PART OF THIS SURVEY.
2. THIS SURVEY AND THE BOUNDARIES SHOWN HEREON ARE THE RESULT OF AN ACTUAL FIELD SURVEY PERFORMED DURING JUNE OF 2021 AND SUPPLEMENTED DURING SEPTEMBER OF 2021, BASED ON ADJACENT MAPS AND DEEDS OF RECORD, AND PHYSICAL EVIDENCE. THIS IS SUBJECT TO ALL EASEMENTS, RIGHTS OF WAY, AND AGREEMENTS OF RECORD THAT A TITLE SEARCH MAY DISCLOSE.
3. THIS SURVEY IS VALID ONLY WHEN A DIGITAL OR EMBOSSED SEAL IS AFFIXED HERETO.
4. THE CERTIFICATION SHOWN HEREON IS NOT TRANSFERABLE TO ADDITIONAL SURVEYS OR SUBSEQUENT OWNERS.
5. ANY SUBSURFACE UTILITIES SHOWN HAVE BEEN LOCATED FROM MARKOUTS OBSERVED ONLY. DURING THIS SURVEY, AND SURFACE FEATURES SUCH AS VALVES, MANHOLES AND GRATES, STORM DRAINAGE AND/OR SANITARY INLETTERS ARE DEPICTED BASED ON OBSERVATIONS MADE IN THE FIELD. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA. EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION USED. WHEN ANY PHYSICALLY LOCATED UTILITIES ARE DISCOVERED BEFORE ANY EXCAVATIONS ARE BEGUN, THE PROPER UTILITY AGENCIES MUST BE CONTACTED FOR VERIFICATION OF UTILITY TYPE AND FOR FIELD LOCATIONS.
6. BEARINGS ARE REFERENCED TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM (NAD83). ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAD83), ESTABLISHED VIA RTK GPS OBSERVATIONS.
7. BENCHMARK = DOCK SPIKE = 268.88' (NAD83)
8. BENCHMARK = DOCK SPIKE = 306.09' (NAD83)
9. BASEMENT OR BELOW GRADE STRUCTURES (IF ANY) UNKNOWN.

I. DIGITAL TAX MAP OF THE CITY OF SUMMIT, UNION COUNTY, NEW JERSEY, DATED: APRIL 2012. BASED ON THE TAX MAPS OF THE CITY OF SUMMIT, UNION COUNTY, NEW JERSEY, DATED OCTOBER 1, 1990.

- BUILDING
- CONCRETE SIDEWALK / MAT
- ASPHALT / CONCRETE CURB
- DEPRESSED CURB
- PROPERTY LINE
- ADJACENT PROPERTY LINE
- CHAIN LINK FENCE
- BOARD-ON-BOARD FENCE
- GUIDE RAIL
- MAST ARM LIGHT POLE
- POLE
- LIGHT POLE
- SIGNS
- WATER VALVE
- GAS VALVE
- FIRE HYDRANT
- DRAIN
- INLET
- MAN HOLE
- BOLLARDS
- MONITORING WELL
- VENT
- SWAGE CONNECTION
- BOX (ELEC. GAS ETC.)
- EDGE OF PAVEMENT
- OVERHEAD WIRE
- UNDERGROUND GAS LINE
- UNDERGROUND WATER LINE
- UNDERGROUND ELEC. LINE
- MAJOR CONTOUR
- MINOR CONTOUR
- GRADE SHOT
- TOP OF CURB SHOT
- BOTTOM OF CURB SHOT
- TOP OF WALL SHOT
- BOTTOM OF WALL SHOT
- HANDICAP PARKING
- LANDSCAPING
- PAY METER
- ELEC. METER
- GAS METER
- WATER METER
- AIR CONDITIONING UNIT
- DECIDUOUS TREE - DIAMETER NOTED
- CONIFEROUS TREE - DIAMETER NOTED
- PINE TREE - DIAMETER NOTED
- BIKE RACK
- CLEAN OUT
- SURVEY MONUMENT
- IRON PIN
- BEACH MARK
- DETACHABLE WARNING STRIP



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ROUTE SURVEY

MAP OF SURVEY OF:

**PORTION OF MOUNT VERNON AVENUE AND KENT PLACE BOULEVARD
CITY OF SUMMIT
UNION COUNTY, NEW JERSEY**

2	09/21/2021	TR	09/16/2021	GY	UPDATED FIELD WORK
1	6/16/2021	TR	6/1/2021	GY	FOR ISSUE
ISSUE	DATE	BY	FIELD DATE	FIELD CREW	DESCRIPTION

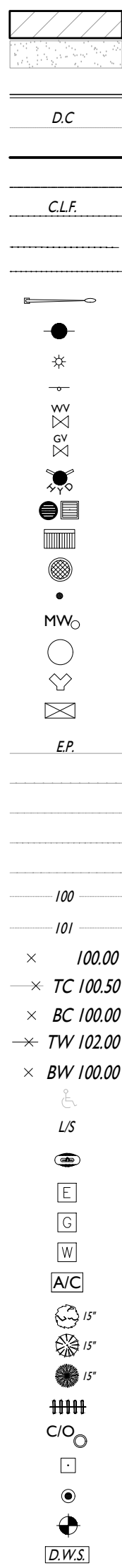
SUBJECT TO RESTRICTIONS, EASEMENTS OF RECORD AND OTHER FACTS WHICH A CURRENT TITLE SEARCH MIGHT DISCLOSE.

THOMAS F. MILLER
NEW JERSEY LAND SURVEYOR No. 24GS03626400
LICENSED PROFESSIONAL LAND SURVEYOR
NEW JERSEY CERTIFICATE OF AUTHORIZATION No. 24GA28184500

SCALE: 1"=30'	PROJECT ID: RUT-210097	SHEET: 1 OF 2
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Z:\RUTHERFORD\210097\1007\1007 CITY OF SUMMIT - KENT PLACE BLVD & MT. VERNON AVENUE SURVEY - NJ SURVEYING CAD\210097\1007\REVIEWS

SYMBOL



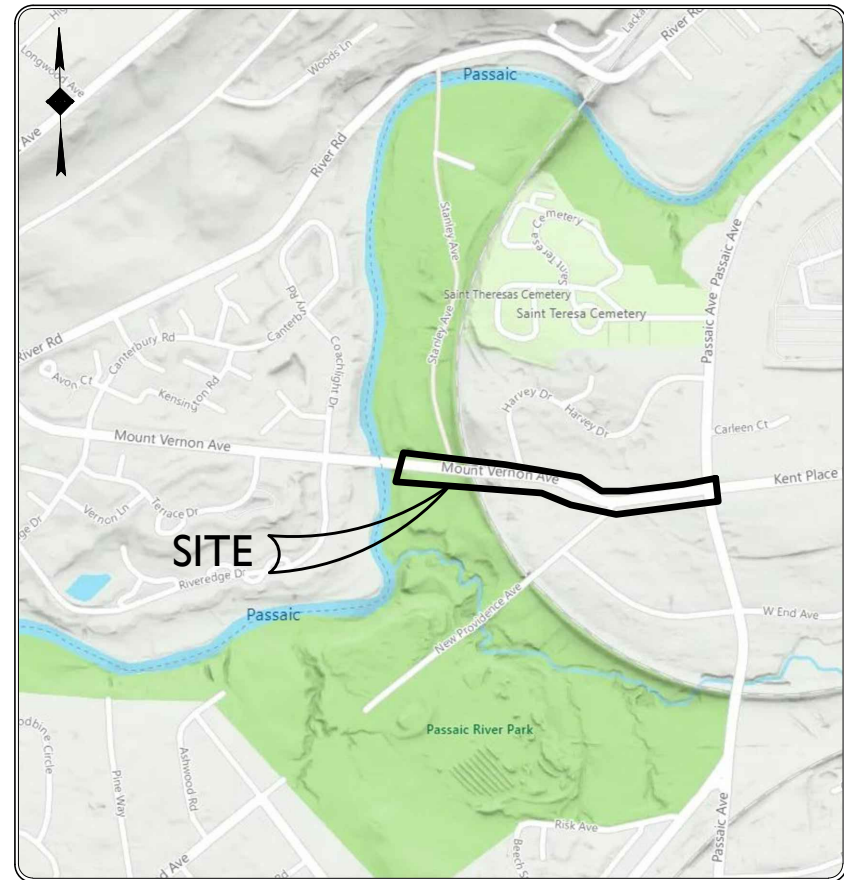
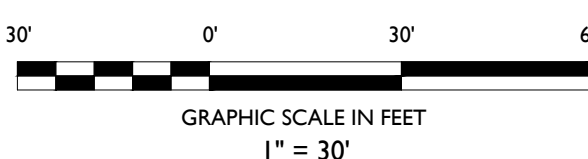
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MATCHLINE I-C

MATCHLINE I-B

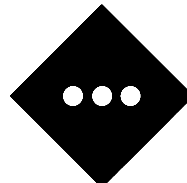
MATCHLINE I-C



SOURCE: BING MAPS
VICINITY MAP
NOT TO SCALE



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