

TULIP STREET IMPROVEMENT PROJECT SECTION 2

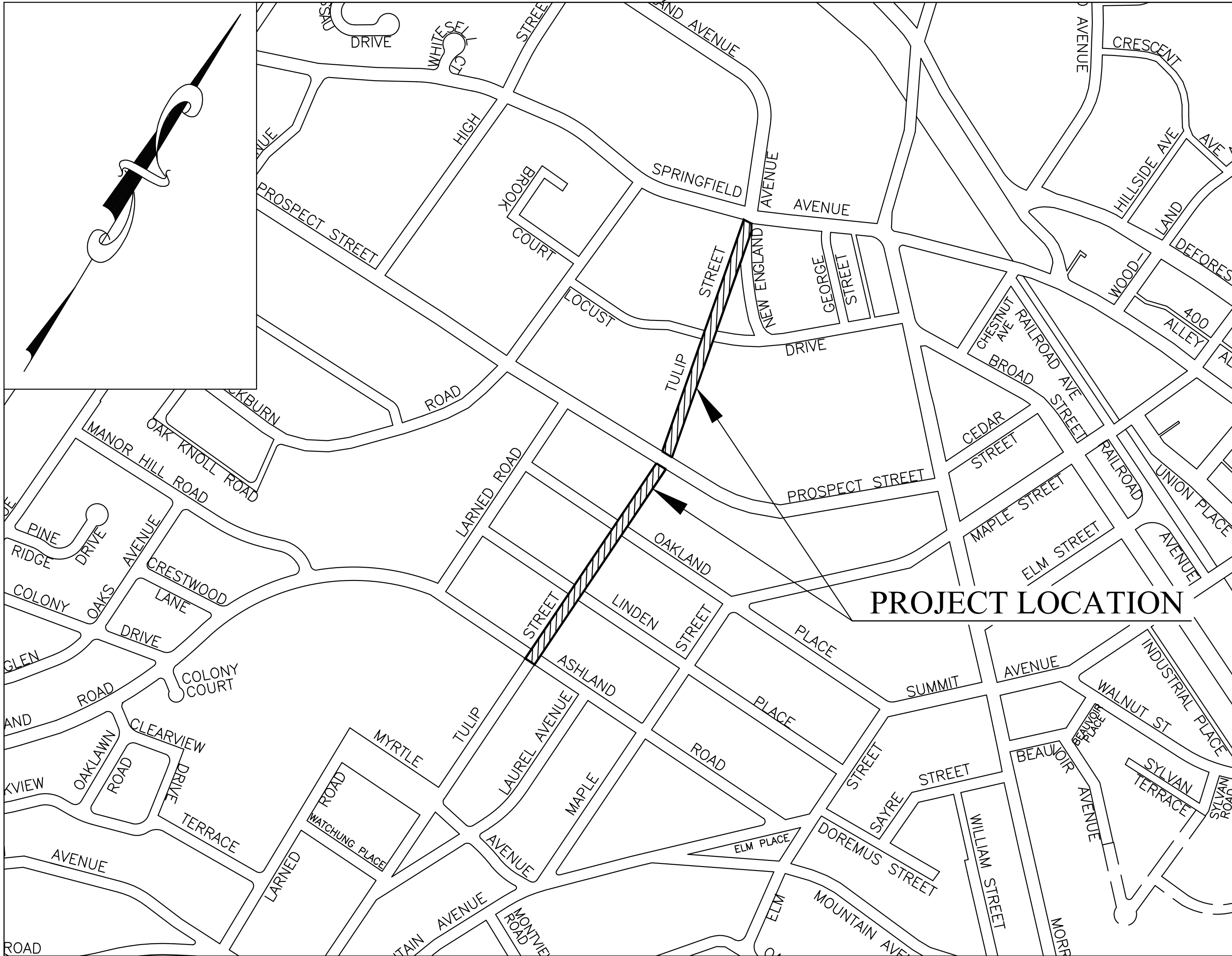
GENERAL CONSTRUCTION NOTES:

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. NO SEPARATE PAYMENT SHALL BE MADE FOR FLAGGERS. ALL COSTS FOR FLAGGERS SHALL BE INCLUDED IN VARIOUS ITEMS IN THE BID PROPOSAL.
3. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN ACCESS TO ALL DRIVEWAYS DURING CONSTRUCTION. THE CONTRACTOR SHALL INSTALL AND MAINTAIN DENSE GRADED AGGREGATE OR HOT MIX ASPHALT TO PROVIDE A RIDING SURFACE FOR VEHICLE ACCESS TO EACH PROPERTY. NO SEPARATE PAYMENT SHALL BE MADE FOR MAINTAINING ACCESS TO DRIVEWAYS. ALL DRIVEWAY ACCESS COSTS SHALL BE INCLUDED IN THE VARIOUS ITEMS IN THE PROJECT.
4. THE ROAD IS TO BE PROOF ROLLED AFTER MILLING IS COMPLETED BUT BEFORE FINAL PAVING. PROOF ROLLING MUST BE COMPLETED WITH A LOADED DUMP TRUCK IN THE PRESENCE OF THE ENGINEER OR PROJECT INSPECTOR. ALL COSTS ASSOCIATED WITH PROOF ROLLING SHALL BE INCLUDED IN BID ITEM FOR MILLING.
5. THE CONTRACTOR SHALL LEAVE THE MILLED ROAD UNPAVED FOR AT LEAST 48 HOURS AND SHALL PROOF ROLL PRIOR TO PAVING. THE CONTRACTOR SHALL INSTALL HOT MIX ASPHALT BASE COURSE AS A TEMPORARY SURFACE IN AREAS DEEMED NECESSARY BY THE ENGINEER. NO SEPARATE PAYMENT SHALL BE MADE FOR TEMPORARY PAVEMENT. ALL TEMPORARY PAVEMENT COSTS SHALL BE INCLUDED IN THE VARIOUS ITEMS IN THE PROJECT.
6. ALLOWABLE HOURS OF WORK ARE 8:00 AM TO 4:30 PM. 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. ALL COSTS FOR MATERIAL AND EQUIPMENT STORAGE SHALL BE INCLUDED IN THE BID ITEM "MOBILIZATION".
7. 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, 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 OF POLICE SERVICES DIRECTLY TO THE OFFICERS HIRED FOR THE SCHEDULED TIMES.
8. NO HOUSE LEADER DRAINS ARE TO BE INSTALLED UNDER DRIVEWAY APRONS OR THROUGH DROP CURBS.
9. CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH ALL UTILITIES TO RAISE OR LOWER MANHOLES, METERS, VALVES, ETC. TO GRADE AS WORK PROGRESSES. ALL COSTS FOR COORDINATION WITH UTILITY COMPANIES SHALL BE INCLUDED IN THE BID ITEM "UTILITY COORDINATION". 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.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE REPLACEMENT/RESTORATION OF ANY SIDEWALK, CURB OR PAVEMENT WHICH IS DAMAGED DURING CONSTRUCTION. ALL REPLACEMENT/RESTORATION MUST BE COMPLETED BEFORE ACCEPTANCE OF THE PROJECT BY THE CITY AT NO ADDITIONAL COST.
11. THE CONTRACTOR IS RESPONSIBLE TO PROTECT ALL TREES WITHIN THE PROJECT DURING CONSTRUCTION. UNLESS OTHERWISE NOTED, DAMAGE TO EXISTING TREES WILL BE EVALUATED BY THE CITY FORESTER. THE PROJECT SPECIFICATIONS IMPOSES 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". THE CITY FORESTER SHALL BE CONSULTED TO ASSESS THE CONDITION OF AN EXISTING TREE WHICH MAY BE COMPROMISED BY THE INSTALLATION OF NEW CURBING. IF THE TREE IS DETERMINED TO BE HEALTHY, A METAL PLATE MAY BE USED IN LIEU OF CURBING AT THE DISCRETION OF THE FORESTER OR THE ENGINEER. NO SEPARATE PAYMENT SHALL BE MADE FOR THE INSTALLATION OF ANY METAL PLATES. ALL COSTS FOR METAL PLATES SHALL BE INCLUDED IN THE VARIOUS ITEMS BID IN THE PROJECT.
12. 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.
13. 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.
14. ALL COSTS ASSOCIATED WITH THE RESETING OR REPLACEMENT OF ANY WALKWAYS CONSTRUCTED OF GRANITE BLOCK, BRICK, BRICK PAVERS, STONE, SLATE, ETC. SHALL BE INCLUDED IN THE BID ITEM FOR "CONCRETE SIDEWALK." NO SEPARATE PAYMENT SHALL BE MADE FOR THE INSTALLATION, RECONSTRUCTION OR RESETING OF CURB ALONG THE SIDES OF A DRIVEWAY LEADING TO THE SIDEWALK WHERE CURBING CURRENTLY EXISTS.
15. NO SEPARATE PAYMENT SHALL BE MADE FOR THE EXCAVATION OF UNCLASSIFIED MATERIAL ASSOCIATED WITH FULL DEPTH 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 "FULL DEPTH REPAIR, IF AND WHERE DIRECTED."
16. 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".
17. NO SEPARATE PAYMENT SHALL BE MADE FOR THE INSTALLATION AND MAINTENANCE OF ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES. ALL COSTS ARE TO BE INCLUDED IN THE BID ITEM "MOBILIZATION". INLET FILTERS SHALL BE INSTALLED AT ALL EXISTING OR NEW CATCH BASINS AND SHALL BE MAINTAINED UNTIL THE SITE IS STABILIZED AND THE SURFACE COURSE IS INSTALLED.
18. 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 CUT SHEET AND ASSOCIATED PLAN PRIOR TO THE BEGINNING OF CONSTRUCTION. CUT SHEETS ARE SUBJECT TO THE APPROVAL OF THE ENGINEER.
19. SHOP DRAWINGS ARE TO BE SUBMITTED AT A MINIMUM OF THREE (3) WEEKS PRIOR TO CONSTRUCTION FOR ITEMS SUCH AS, BUT NOT LIMITED TO, DRAINAGE STRUCTURES, SIGNS & POSTS, CONCRETE FOOTINGS RRFB SETUPS, ETC.. ALL DRAINAGE STRUCTURES AND FOOTINGS MUST BE PREPARED/DESIGNED BY A NEW JERSEY PROFESSIONAL ENGINEER. ALL SHOP DRAWINGS ARE SUBJECT TO THE APPROVAL OF THE ENGINEER.
20. SITE SURVEY PROVIDED BY BOSWELL ENGINEERING. (201) 641 - 0770
21. 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.
22. ALL REGULATORY, WARNING, AND GUIDE SIGNS, AS WELL AS STREET NAME SIGNS & POSTS, WITHIN PROJECT LIMITS ARE TO BE REPLACED , UNLESS NOTED OTHERWISE. ALL PLAQUES, POSTS, AND MOUNTING SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
23. ANY TYPE 'B' OR TYPE 'D' INLETS IDENTIFIED HEREIN FOR RECONSTRUCTION SHALL INCLUDE NEW NEW TYPE 'N' ECO-HEAD CURB PIECE AND BICYCLE SAFE GRATE. ALL COSTS ARE TO BE INCLUDED IN THE BID ITEM FOR RECONSTRUCTED INLET.
24. ANY PROPOSED PAVEMENT THICKNESS NOTED HEREIN SHALL BE POST-COMPACTION, UNLESS OTHERWISE NOTED.
25. ALL PAVEMENT STRIPING & MARKINGS SHALL BE THERMOPLASTIC PER NJDOT STANDARDS.

SPRINGFIELD AVENUE TO ASHLAND ROAD

CITY OF SUMMIT

UNION COUNTY, NEW JERSEY



LOCATION MAP

SCALE: 1"=400'

Project Length: 2,277 FT.

INDEX OF SHEETS

SHEET	DESCRIPTION
1	COVER SHEET
2-3	CONSTRUCTION PLANS
4-6	SOIL EROSION & SEDIMENT CONTROL PLANS
7	TRAFFIC DETOUR PLAN
8-10	CONSTRUCTION DETAILS
1 OF 4	EXISTING CONDITIONS SURVEY (PROVIDED BY BOSWELL)
2 OF 4	EXISTING CONDITIONS SURVEY (PROVIDED BY BOSWELL)
3 OF 4	EXISTING CONDITIONS SURVEY (PROVIDED BY BOSWELL)
4 OF 4	EXISTING CONDITIONS SURVEY (PROVIDED BY BOSWELL)

UTILITIES

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

Jersey Central Power and Light
300 Madison Avenue
Morristown, NJ 07960
(888) 544-4877

Verizon
445 Georges Road
North Brunswick, NJ 08902
(201) 996-6610

City of Summit
Division of Public Works
41 Chatham Road
Summit, NJ 07901
(908) 273-6404

New Jersey American Water Co.
167 JFK Parkway
Short Hills, NJ 07078
(908) 295-1496

SUMMARY OF QUANTITIES

BASE BID ITEM	DESCRIPTION	UNIT	QTY
GENERAL WORK			
1	MOBILIZATION	LS	1
2	CLEARING SITE	LS	1
3	FINAL CLEANUP	LS	1
4	BREAKAWAY BARRICADE	UNIT	20
5	DRUM	UNIT	20
6	TRAFFIC CONE	UNIT	50
7	CONSTRUCTION SIGNS	SF	350
8	CONSTRUCTION IDENTIFICATION SIGNS, 18" X 36"	UNIT	4
9	CONSTRUCTION LAYOUT	LS	1
10	UTILITY COORDINATION	LS	1
11	INLET FILTERS, TYPE 1	SF	355
12	FUEL PRICE ADJUSTMENT	DOLL	DOLL
13	ASPHALT PRICE ADJUSTMENT	DOLL	DOLL
ROADWAY, CURBING & ADA			
14	HMA MILLING, 2" OR LESS	SY	7,500
15	FULL DEPTH REPAIR	SY	375
16	HOT MIX ASPHALT 9.5M64 SURFACE COURSE, 2" THICK	TON	1,200
17	TACK COAT	GAL	1,125
18	EXCAVATION, TEST PIT	CY	50
19	EXCAVATION, UNCLASSIFIED	CY	50
20	CONCRETE SIDEWALK, 4" THICK	SY	200
21	DETECTABLE WARNING SURFACE	SY	19
22	GRANITE BLOCK CURB	LF	450
23	HOT MIX ASPHALT DRIVEWAY 5" THICK, IF AND WHERE DIRECTED	SY	50
24	CONCRETE DRIVEWAY, 6" THICK, IF AND WHERE DIRECTED	SY	25
25	GRAVEL DRIVEWAY, 8" THICK, IF AND WHERE DIRECTED	SY	25
26	TRAFFIC MARKING LINES, 4" THICK	LF	7,600
27	ROADWAY SURFACE TREATMENT	SY	500
UTILITIES			
28	RESET MANHOLE, SANITARY SEWER, USING NEW CASTING	UNIT	9
29	SET MANHOLE CASTING	UNIT	4
30	VIDEO INSPECTION OF SEWER	LF	3,500
31	VIDEO INSPECTION OF PIPE	LF	1,500
32	CLEANING EXISTING PIPE, 8" TO 21" DIAMETER, IF AND WHERE DIRECTED	LF	500
33	RECONSTRUCTED INLET, TYPE B, USING NEW CASTING	UNIT	10
34	INLET, TYPE B	UNIT	2
35	MANHOLE, 4' DIAMETER	UNIT	2
36	MANHOLE, 7' DIAMETER	UNIT	1
37	15" REINFORCED CONCRETE PIPE, CLASS III	LF	12
38	18" REINFORCED CONCRETE PIPE, CLASS III	LF	47
39	18" REINFORCED CONCRETE PIPE, CLASS V	LF	76
40	SEWER REPAIR, IF AND WHERE DIRECTED, 10' LENGTH, 10' DEPTH	UNIT	1
41	RECONSTRUCT MANHOLE, IF AND WHERE DIRECTED	UNIT	1
42	RESET GAS VALVE BOX	UNIT	20
43	RESET WATER VALVE BOX	UNIT	25
LANDSCAPING			
44	TOP SOIL SPREADING, 4" THICK	SY	250
45	FERTILIZING AND SEEDING, TYPE A-3,	SY	250
46	BORROW TOPSOIL	CY	50
47	1-14 SOIL AGGREGATE	CY	50
48	TREE REMOVAL, OVER 6" to 36", IF AND WHERE DIRECTED	UNIT	1
49	TREE REMOVAL, OVER 36", IF AND WHERE DIRECTED	UNIT	1
STREET SIGNS & PARKING METERS			
50	GUIDE SIGN, TYPE GA, BREAKAWAY SUPPORTS	SF	150
51	REGULATORY AND WARNING SIGN	SF	240
52	STREET NAME SIGN & POST	UNIT	5

Funding Note:

This project is funded by the City of Summit and the NJDOT.

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.

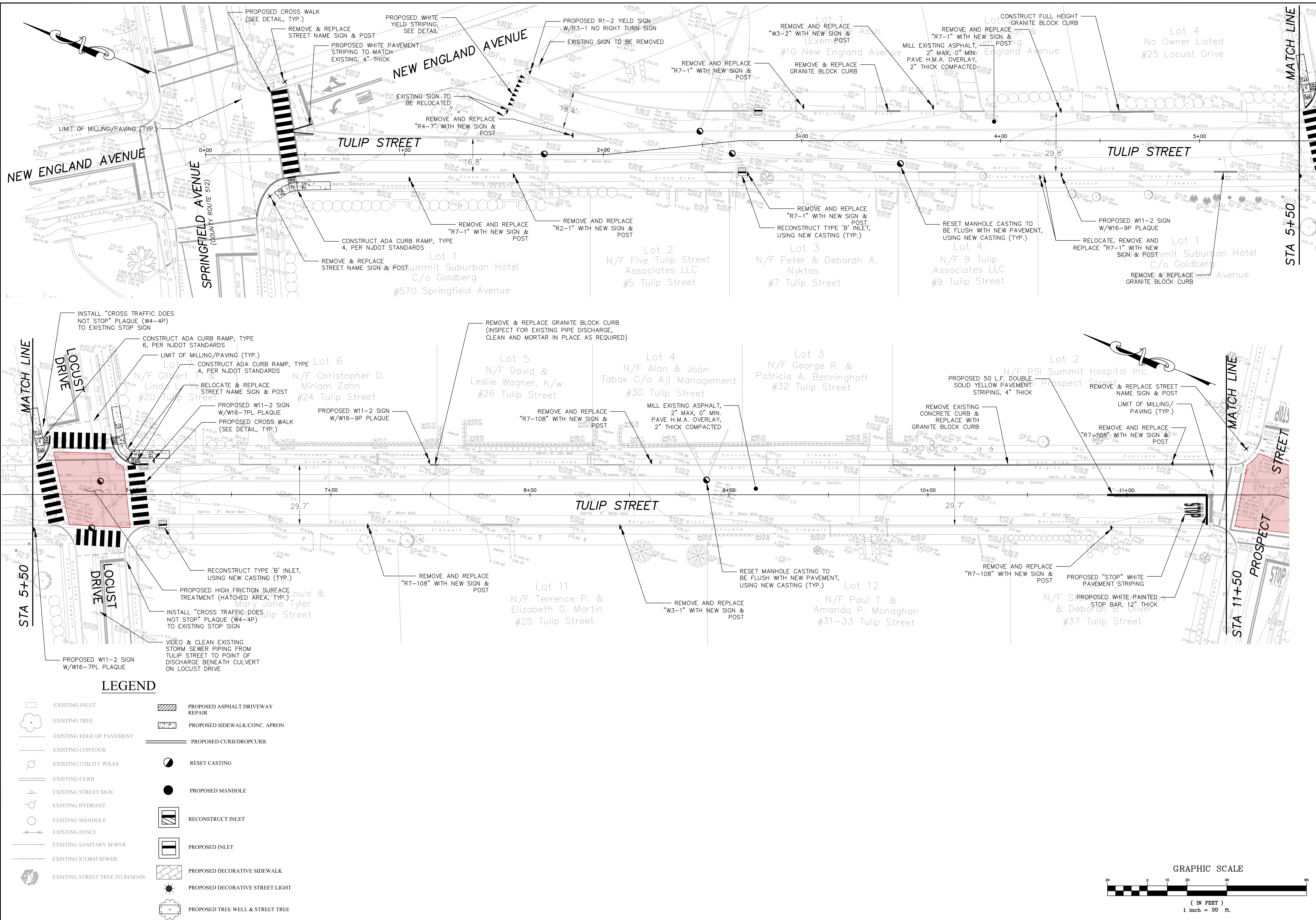
Project Safety Note:

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.

Specifications Note:

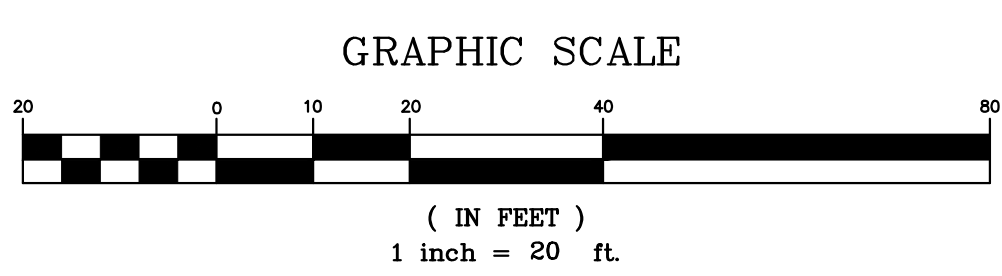
New Jersey Department of Transportation Standard Specifications for Road and Bridge Construciton 2019 and all of its amendments and Baseline Document Changes are to govern all construction here in.

REVISIONS	
NO.	DATE DESCRIPTION
#1	5/8/25 UPDATED SUMMARY OF QUANTITIES
#2	6/19/25 UPDATED PER NJDOT COMMENTS



LEGEND

- | | | | |
|--|--------------------------------|--|----------------------------------|
| | EXISTING INLET | | PROPOSED ASPHALT DRIVEWAY REPAIR |
| | EXISTING TREE | | PROPOSED SIDEWALK/CONC. APRON |
| | EXISTING EDGE OF PAVEMENT | | PROPOSED CURB/DROPCURB |
| | EXISTING CONTOUR | | RESET CASTING |
| | EXISTING UTILITY POLES | | PROPOSED MANHOLE |
| | EXISTING CURB | | RECONSTRUCT INLET |
| | EXISTING STREET SIGN | | PROPOSED INLET |
| | EXISTING HYDRANT | | PROPOSED DECORATIVE SIDEWALK |
| | EXISTING MANHOLE | | PROPOSED DECORATIVE STREET LIGHT |
| | EXISTING FENCE | | PROPOSED TREE WELL & STREET TREE |
| | EXISTING SANITARY SEWER | | |
| | EXISTING STORM SEWER | | |
| | EXISTING STREET TREE TO REMAIN | | |



REVISIONS	
NO./DATE	DESCRIPTION
#1	5/8/25 ADDED SIGNAGE & SURFACE TREATMENT

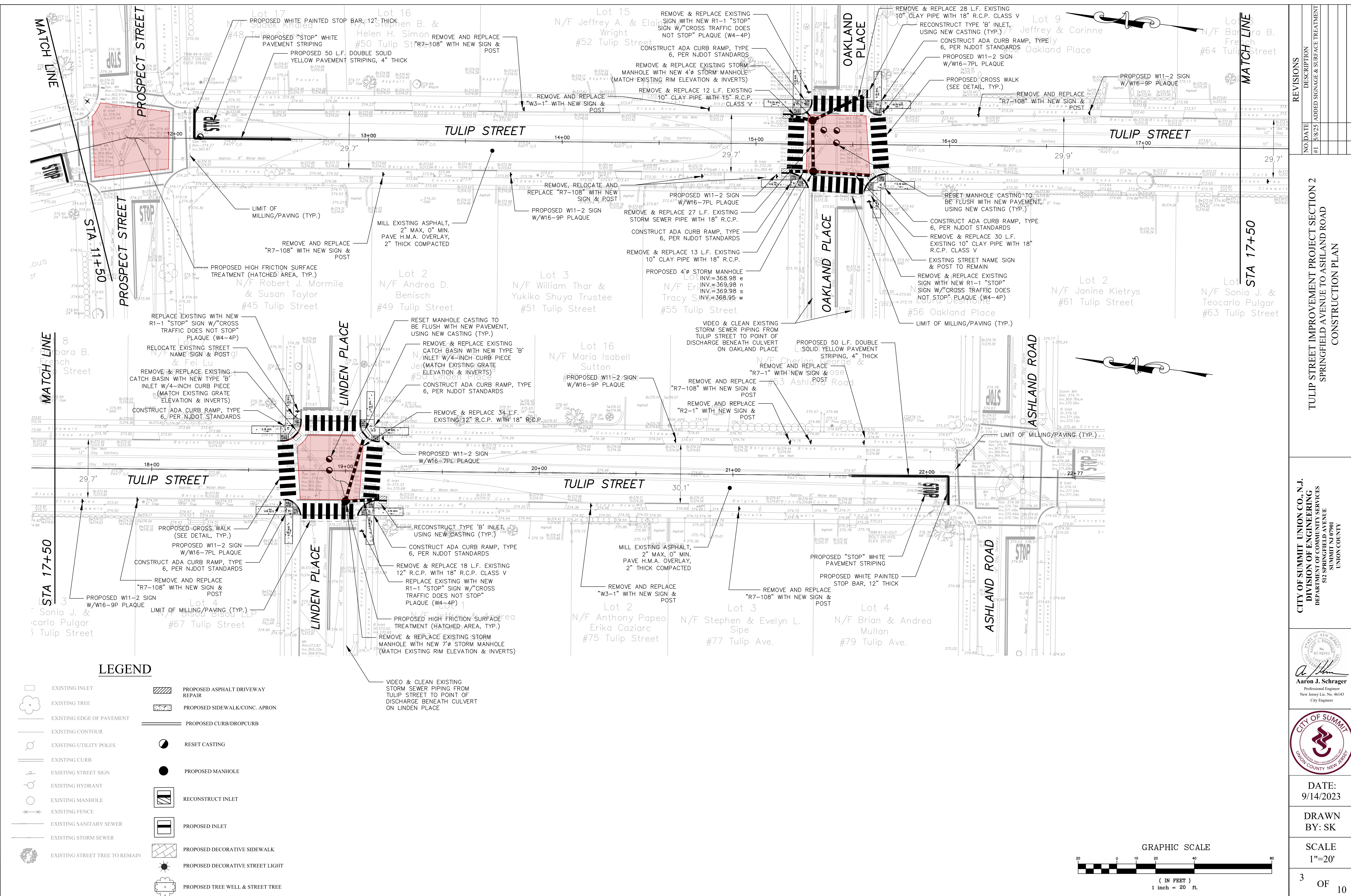
TULIP STREET IMPROVEMENT PROJECT SECTION 2	
SPRINGFIELD AVENUE TO ASHLAND ROAD	
CONSTRUCTION PLAN	

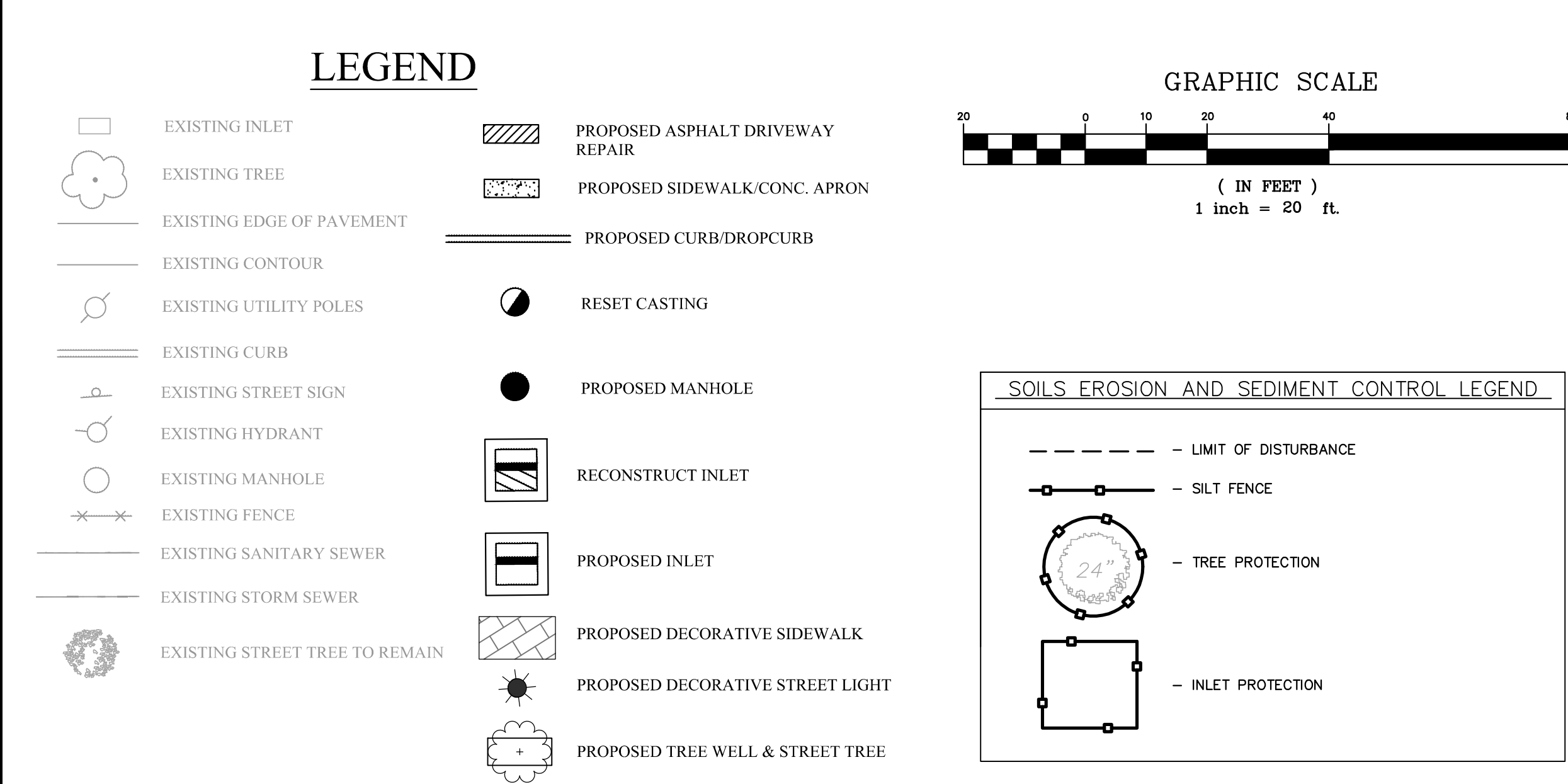
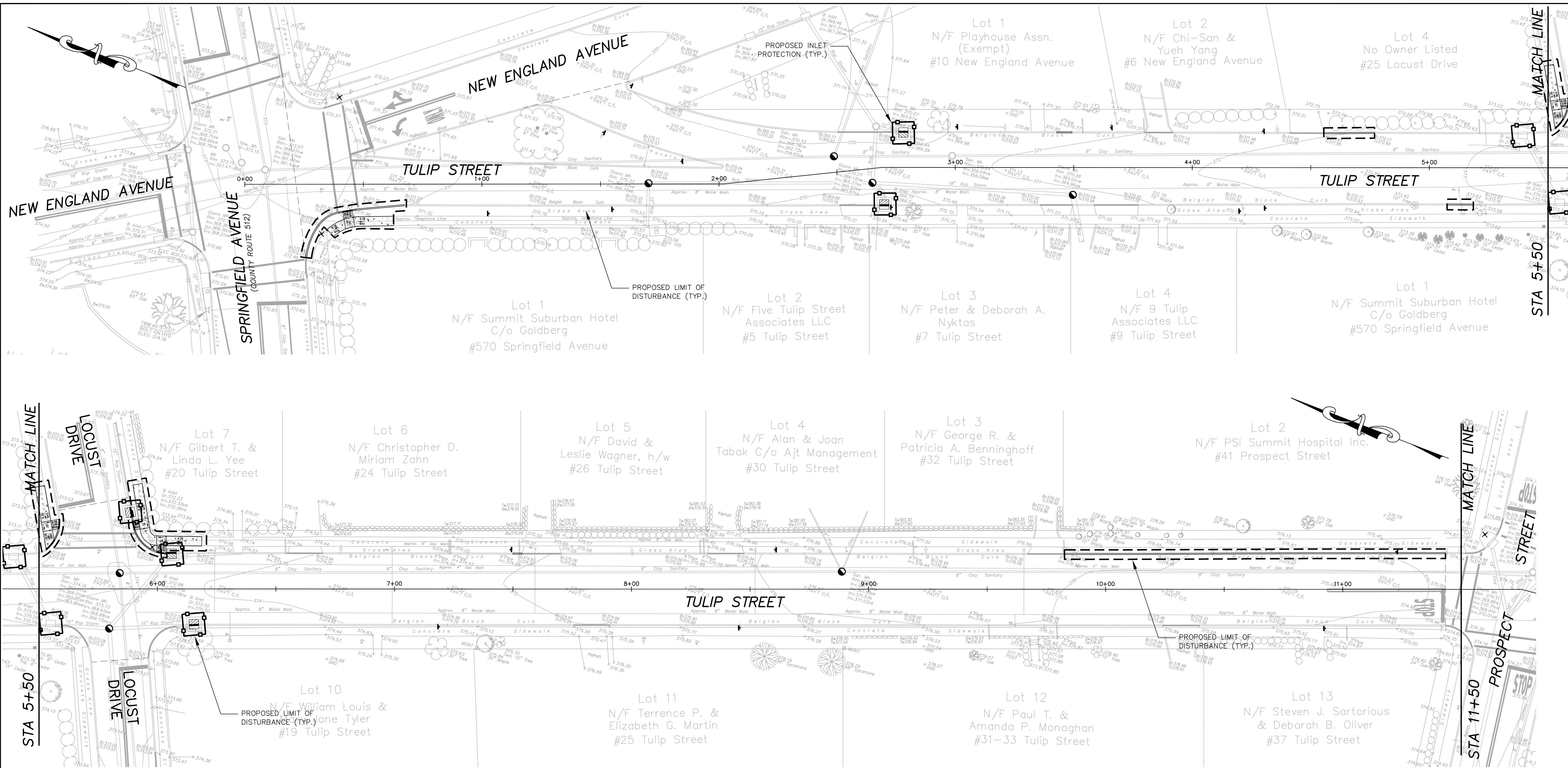
CITY OF SUMMIT UNION CO., N.J.	
DIVISION OF ENGINEERING	
DEPARTMENT OF COMMUNITY SERVICES	
512 SPRINGFIELD AVENUE	
SUMMIT NJ 07901	
UNION COUNTY	

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

CITY OF SUMMIT
UNION COUNTY NEW JERSEY

DATE:	9/14/2023
DRAWN BY:	SK
SCALE	1"=20'
2 OF 10	





1. THIS PLAN IS TO BE USED FOR SOIL EROSION AND SEDIMENT CONTROL PURPOSES ONLY.
2. STREET SWEEPING TO BE IMPLEMENTED ON ROAD WAYS IF REQUIRED TO MAINTAIN SOIL AND DUST FREE CONDITION.



SOILS MAP
SCALE: 1"=150'
MAP SOURCED FROM USDA WEB SOIL SURVEY
THE SITE IS MADE UP OF:
BovB (BOONTON-URBAN LAND COMPLEX, 15 TO 25 PERCENT SLOPES)
BovB (BOONTON-URBAN LAND-HALEDON COMPLEX, 0 TO 8 PERCENT SLOPES)
HatB (HALEDON-URBAN LAND-HASBROUCK COMPLEX, 0 TO 8 PERCENT SLOPES)
UR (URBAN LAND)

TOTAL PROJECT AREA OF DISTURBANCE
AREA =6,661 SF OR 0.15 ACRES

PROJECT EXEMPTIONS:
1. THIS PROJECT IS EXEMPT FROM SOIL COMPACTION TESTING REQUIREMENTS BECAUSE IT IS WITHIN URBAN REDEVELOPMENT ZONE PA-1 AND IS PREVIOUSLY DEVELOPED.

REVISIONS	
NO	DATE

TULIP STREET IMPROVEMENT PROJECT SECTION 2
SPRINGFIELD AVENUE TO ASHLAND ROAD
SOIL EROSION & SEDIMENT CONTROL 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

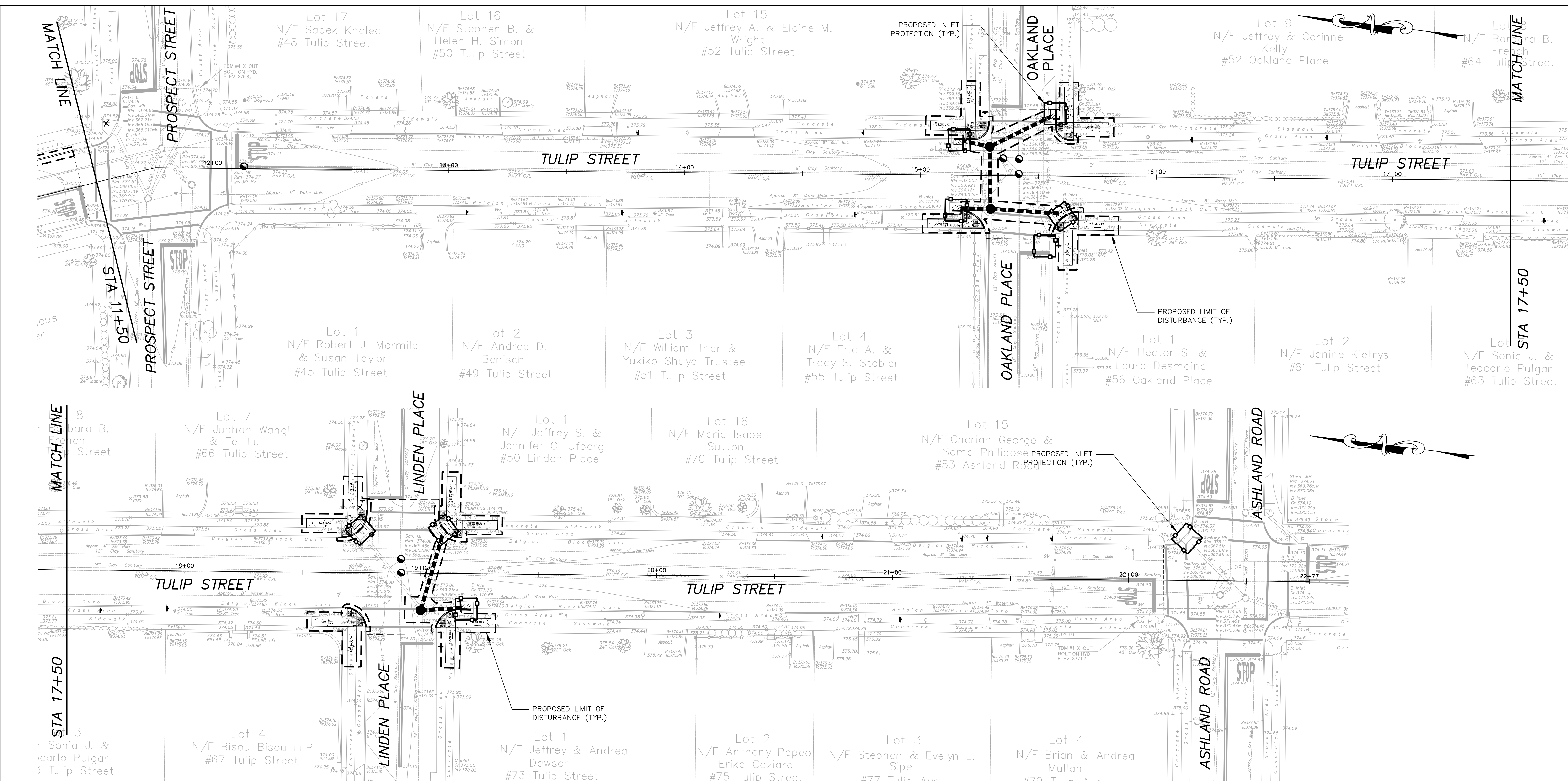
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UNION COUNTY NEW JERSEY

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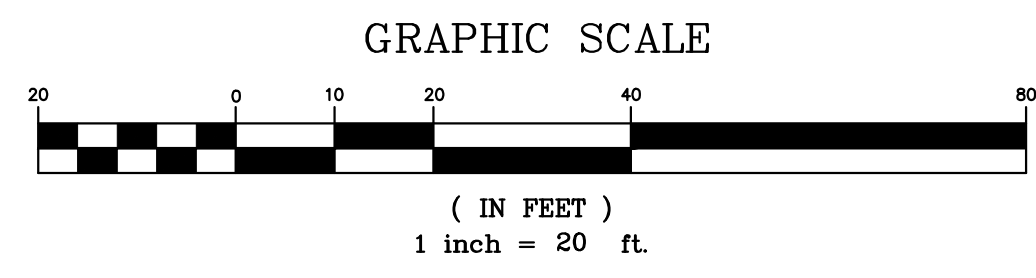
SCALE
1"=20'

4 OF 10



LEGEND

- | | | | |
|--|--------------------------------|--|----------------------------------|
| | EXISTING INLET | | PROPOSED ASPHALT DRIVEWAY REPAIR |
| | EXISTING TREE | | PROPOSED SIDEWALK/CONC. APRON |
| | EXISTING EDGE OF PAVEMENT | | PROPOSED CURB/DROPCURB |
| | EXISTING CONTOUR | | RESET CASTING |
| | EXISTING UTILITY POLES | | PROPOSED MANHOLE |
| | EXISTING CURB | | RECONSTRUCT INLET |
| | EXISTING STREET SIGN | | PROPOSED INLET |
| | EXISTING HYDRANT | | PROPOSED DECORATIVE SIDEWALK |
| | EXISTING MANHOLE | | PROPOSED DECORATIVE STREET LIGHT |
| | EXISTING FENCE | | PROPOSED TREE WELL & STREET TREE |
| | EXISTING SANITARY SEWER | | |
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| | EXISTING STREET TREE TO REMAIN | | |



REVISIONS	
NO.	DATE

TULIP STREET IMPROVEMENT PROJECT SECTION 2
SPRINGFIELD AVENUE TO ASHLAND ROAD
SOIL EROSION & SEDIMENT CONTROL PLAN

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

DATE:
9/14/2023

DRAWN
BY: SK

SCALE
1"=20'

5 OF 10

SOIL EROSION AND SEDIMENT CONTROL NOTES	
1. All Soil Erosion and Sediment Control practices shall be installed prior to any major soil disturbances, or in their proper sequence and maintained until permanent protection is established.	
2. 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 2 (two) tons per acre, according to NJ State Standards	
3. Permanent Vegetation shall be seeded or soded on all exposed areas within ten (10) days after final grading. Mulch will be used for protection until seeding is established	
4. All work shall be done in accordance with the NJ State Standards for Soil Erosion and Sediment Control in New Jersey, 7th Edition last revised January 2014	
5. 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.	
6. Immediately following initial disturbance or rough grading all critical areas subject to erosion (i.e.: 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.	
7. Any steep slopes receiving pipeline installation will be backfilled and stabilized daily, as the installation proceeds (i.e.: slopes greater than 3:1)	
8. Traffic Control Standards require the installation of a 50x30x6 pad at 1 1/2" or 2" stone, at all construction driveways, immediately after initial site disturbance.	
9. The Somerset-Union Soil Conservation District shall be notified in writing 48 hours in advance of any land disturbing activity.	
10. 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 suitable conditions, non-vegetative means of permanent ground stabilization will have to be employed. Topsoil should be handled only when it is dry enough to work without damaging the soil structure. A uniform application of a depth of 5 inches (unsettled) is required on all sites.	
11. In that N.J.S.A. 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.	
12. Conduit Outlet Protection must be installed at all required outfalls prior to the drainage system becoming operational.	
13. 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 re-certification. The revised plans must meet all current NJ State Soil Erosion & Sediment Control Standards.	
14. The Somerset-Union Soil Conservation District shall be notified of any changes in ownership.	
15. Mulching to the NJ Standards is required for obtaining a Conditional Report of Compliance. Conditions are only issued when the season prohibits seeding.	
16. Contractor is responsible for keeping all adjacent roads clean during life of construction project.	
17. The developer shall be responsible for remedying any erosion or sediment problems that arise as a result of ongoing construction at the request of the Somerset-Union Soil Conservation District.	
18. 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, hydro-mulch should be applied at a rate of 1500 lbs. per acre in combination with the use of hydro-mulch, as opposed to seed, to optimize seeding dates as listed in the NJ Standards.	

PROPOSED SEQUENCE OF DEVELOPMENT

Installation of any silt fence prior to any major soil disturbance. 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.	Week 1
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
Construct drainage improvements.	Week 2-3
Perform spot repairs for underground stormwater and sanitary sewers.	Week 4
Construct concrete improvements, e.g. curb sidewalk, aprons, etc.	Week 5-6
Mill existing roadway	Week 7
Perform full depth pavement reconstruction as required.	Week 7
Construct pavement surface course	Week 8
Fine grading and restoration of all lawn and landscape areas.	Week 9
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 six 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.	
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.	

STANDARD FOR TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION	
DEFINITION Establishment of temporary vegetative cover on soils exposed for periods of two to six 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.	
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.	

STANDARD FOR TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION	
DEFINITION Establishment of temporary vegetative cover on soils exposed for periods of two to six 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.	
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.	

STANDARD FOR TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION	
DEFINITION Establishment of temporary vegetative cover on soils exposed for periods of two to six 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.	
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.	

STANDARD FOR TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION	
DEFINITION Establishment of temporary vegetative cover on soils exposed for periods of two to six 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.	
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.	

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 1000 Sq. Ft.	ZONE 5a,6a	ZONE 6b	ZONE 7a,b	
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	2/15-5/1 8/15-10/15	0.5
2. Spring oats	86	2.0	3/15-6/1 8/1-9/15	3/1-5/15 8/15-10/1	2/15-5/1 8/15-10/15	1.0
3. Winter Barley	96	2.2	8/1-9/15	8/15-10/1	8/15-10/15	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 8/15-10/15	0.5
5. Winter Cereal Rye	112	2.8	8/1-11/1	8/1-11/15	8/1-12/15	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

1. 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.
2. May be planted throughout summer if soil moisture is adequate or seeded area can be irrigated.
3. Plant Hardiness Zone (see figure 7-1, pg. 7-4).
4. Twice the depth for sandy soils.

B. 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.

C. 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. Short fibered 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, boulders.

D. 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-blender (tackifying or adhesive agent), the rate of application is 3 tons per acre. Mulch chopper-blenders 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 95% of the soil surface will be covered with mulch. Uniform distribution of hand-spread mulch, divide area into approximately 1,000 square feet sections and distribute 70 to 90 pounds within each section. Anchoring 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.

- 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. Stokes 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 two or more round turns.
- Mulch Nettings. Staple paper, jute, cotton, or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.
- 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.
- Liquid Mulch-Binders – May be used to anchor salt 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 turfgrass. 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 evolution 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 given 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 product 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, forms 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 of 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 weed-seed 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.

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 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 Standard for Land Grading .	
B. Immediately prior to seeding and topsoil application, the subsoil shall be evaluated for compaction in accordance with the Standard for Land Grading .	
C. 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.	
D. Install needed erosion control practices or facilities such as diversions, grade-stabilization structures, channel stabilization measures, sediment basins, and waterways.	

SEEDBED PREPARATION	
A. 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 millers are available from the local Rutgers Co-operative 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, 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.	
C. High acid producing soil. 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 retested.

1. 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 cover of the seeded area with the specified seed mixture for the seeded area and mowed once.

2. 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.

3. 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 actually received in cool season grasses is not required.

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 seeded 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.

A. 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. Shortfibered mulch may be applied with a hydroseeder following seeding. (also see Section IV Mulching below). Hydroseeding is not a preferred seeding method because 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-blender (tackifying or adhesive agent), the rate of application is 3 tons per acre. Mulch chopper-blenders 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 at least 85% of the soil surface is 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. Anchoring 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.

- 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. Stokes 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 two or more round turns.
- Mulch Nettings – Staple paper, jute, cotton, or plastic nettings to the soil surface. Use a degradable netting in areas to be mowed.
- 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.
- Liquid Mulch-Binders – May be used to anchor salt 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 turfgrass. 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 evolution 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 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 24 – Seeded Preparation in this Standard, no follow-up of topdressing is mandatory. An exception may be made where grass 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 pounds per acre or 7 pounds per 1,000 square feet every 3 to 5 weeks until the grass 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 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 <u>Drained</u>	Moderately Well to Drained	Somewhat Poorly 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			
Steep slope and banks, roadcuts, borrow areas	2, 3, 4, 6	2, 3, 5, 7, 8, 9, 10, 15, 18	2, 9, 10, 11, 12
Sand and gravel pits, Sanitary landfills	1, 2, 3, 4, 6, 20	1, 2, 3, 4, 5, 6, 8, 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	2, 3, 7, 18a	3, 7	8, 9, 17

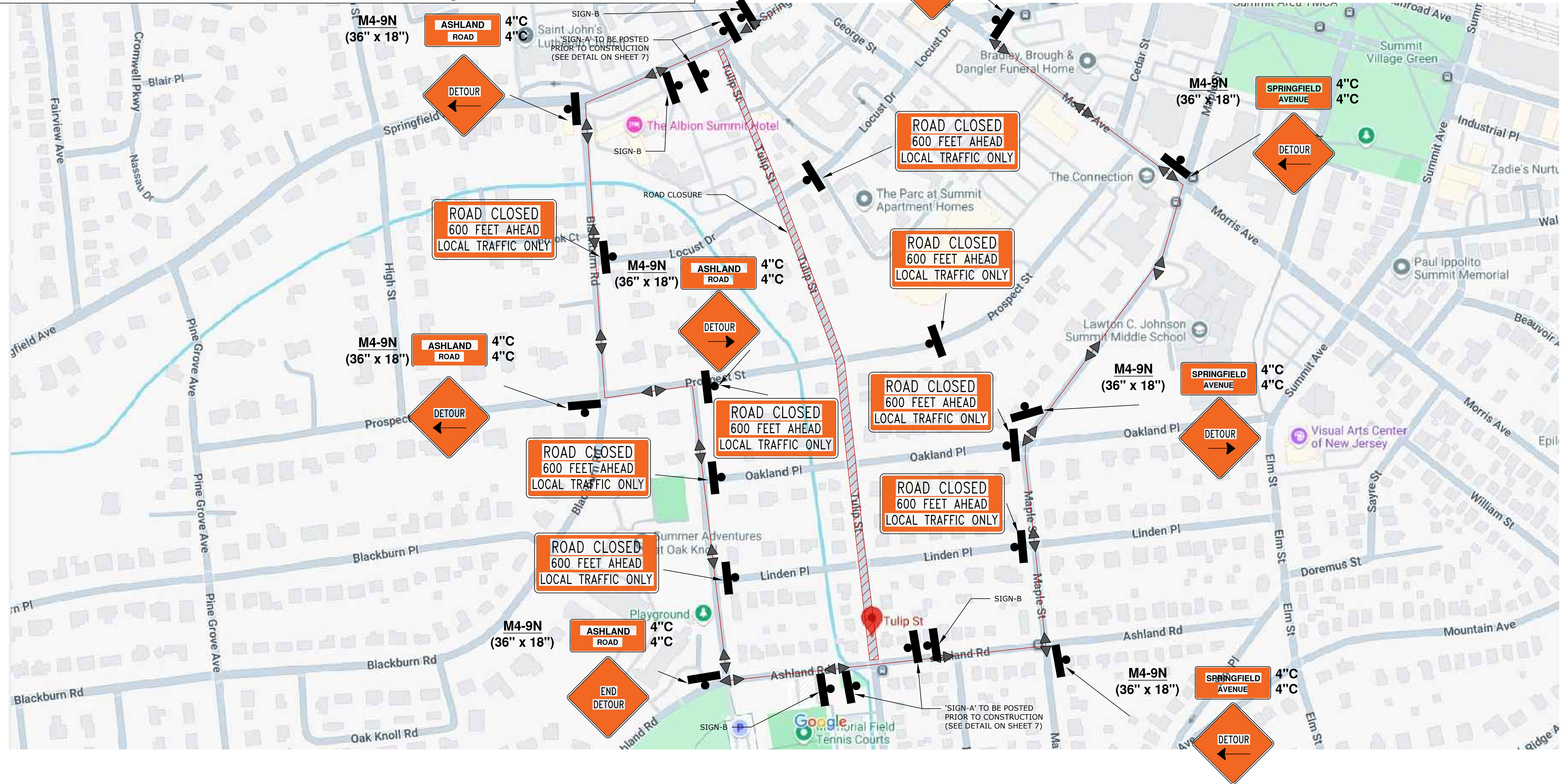
1. Refer to Soil Surveys for drainage class descriptions.
2. Refer to Soil Bioengineering Standard for additional seed mixtures.
3. Spillways only.
4. See Appendix E for description of turf grasses and cultivars

TABLE 4-3 PERMANENT VEGETATIVE MIXTURES, PLANTING RATES AND PLANTING DATES ¹									
SEED MIXTURE ²	PLANTING RATE ³	PLANTING DATES						REMARKS	
		O = Optimal Planting period A = Acceptable Planting period							
		PLANT HARDINESS ZONES (see Figure 4-1)							
		Zone 5b, 6a		Zone 6b		Zone 7a, 7b			
8a/10a	8b/10b	8c/10c	8d/10d	8e/10e	8f/10f	8g/10g	8h/10h	Maintenance Level ⁴	
WARM SEASON SEED MIXTURES									
1A. For pinehills national preserve seed mixtures see table 4-4 page 4-17									
1. Switchgrass and/or Coastal panicgrass plus or Flatpea	15 20 45	.35 45 20	O	O	O	O			C-D
2. Deertongue or Switchgrass Redtop	15 20 10	.35 45 23	O	O	O	O			C-D
									Use Deertongue if pH < 4.0. Switchgrass is superior wildlife plant. Use for waterways. Redtop provides quick cover.
3. Switchgrass Deertongue Little Bluestem Sheep fescue plus Partridge pea	15 10 20 20	.35 25 45 45	O						C-D
									Pinehills mixture.
4. Switchgrass Big Bluestem Little Bluestem Sand lovegrass Coastal panicgrass	10 5 10 4	.25 10 10 10							C-D
									Native warm - season mix.
5. Bermudagrass Zoysia/ragweed (seed) Zoysia (sprigs)	30 35	.70 30	O	O	O	O			A-D
									Bermudagrass has superior salt tolerance. Zoysia has greater wear tolerance.
COOL SEASON SEED MIXTURES	130	3	A	A	A	A	A	O	
									General low-maintenance mixture.
6. Fine Fescue (Bend) Hard Fescue Chewings fescue Strong Creeping Red Fescue Kentucky Bluegrass Perennial ryegrass plus White clover	45 10 10 10 10	.15 15 25 45 25							B-D
									White clover can be removed when establish lows
7. Strong Creeping red fescue Little Bluestem Perennial ryegrass or Redtop plus White clover	120 50 10	.3 5 25	A	A	O	A	A	A	B-D
									Suitable waterway mix. Canada bluegrass more drought tolerant. Used Redtop for increased drought tolerance.
8. Tall fescue (turf-type) or Strong Creeping red fescue or Perennial ryegrass Flatpea	30 7 30 7	.7 105 45 60	O	A	O	A	O		B-D
									Tall fescue best selected for droughty conditions. Use creeping red fescue in heavy shade. Flatpea to suppress woody vegetation.
9. Deertongue Redtop Wild rye (Elymus) Switchgrass	20 2 15 25	.45 105 35 60			O	O			C-D
									Native wet mix.
10. Tall fescue (turf-type) Perennial ryegrass or White clover	265 20 5	.6 10 10	A	A	A	O	A	A	C-D
									White clover can be excluded on low sites
11. Kentucky bluegrass turf-type Tall fescue	15 45 22	.033 5	A	A	O	A	A	O	C-D
									Filter strip use for nutrient uptake.
12. Turf-type Tall fescue (Bend or 3 cultivars)	350	8	A	A	O	A	A	O	C-D
									Use in a managed filter strip for nutrient uptake.
13. Hard Fescue Chewings fescue and/or Strong Creeping Red Fescue Perennial ryegrass (ky. bluegrass (seed)	175 45 1	4 1 1	A	A	A	O	A	A	A-C
									General low/recreation.
14. Tall Fescue (ky. bluegrass (seed) Pnn. ryegrass (seed)	265 20 50	.6 10 20	A	A	O	A	A	O	A-B
									Athletic field/mix 3 cultivars or Kentucky Bluegrass.
15. Hard Fescue Chewings fescue Strong Creeping Red Fescue Perennial ryegrass	120 3 45 10	.3 1 5 25	A	A	O	A	O	A	C-D
									Low maintenance mix only persistent under low mix.
16. Rough bluegrass Strong Creeping red fescue	90 130	.3 5	A	A	O	A	O	A	C-D
									Moist shade.
17. Creeping Bentgrass Creeping red fescue Albino Saltgrass	45 45 1	.1 5 1	A	A	O	A	O	A	B-D
									Use bentgrass under wetter conditions. Saltgrass will only persistent under saline conditions
18. Hard or Sheep fescue N.E. wildflower mixture	25 12	.060 0.35	O	A	O	O	A	O	C-D
									regional wildflower mix. Hydroseeding not recommended
19. a. Smooth cordgrass b. Saltmeadow cordgrass	veg veg				O	Before 7/1		Before 7/1	C-D
									Planted in the intertidal zone. Planted above mean high tide.
20. American beachgrass Coastal panicgrass	veg veg	.4 50			Before 4/1				D
									Coastal panicgrass may be interseeded between rows of beachgrass
21. a. Purshell willow b. Dwarf willow c. Red willow d. Silky dogwood	veg veg veg veg				Before 5/10			Before 5/1	D
									Also refer to chapters 18 and 19 of USDA NRCS engineering field handbook



R11-3
(60"x30")

W20-2C
(48" x 48")



7 OF 10

LANE CLOSURE HOURS
Tulip Street (Springfield Avenue to Ashland Road)

Holiday Shopping Season

All Lanes Maintained
Monday to Friday

Saturday
3:00 AM to 9:00 AM and
3:00 PM to 10:00 PM
Sunday
9:00 AM to 10:00 PM

One lane Maintained - One lane Closed

Monday to Thursday
9:00 AM to 3:00 PM and
10:00 PM to 6:00 AM (Next Day)
Friday
9:00 AM to 3:00 PM and
10:00 PM to 9:00 AM (Saturday)
Saturday
10:00 PM to 9:00 AM (Sunday)
Sunday
10:00 PM to 6:00 AM (Monday)

All other times of the Year

All Lanes Maintained
Monday to Friday

Saturday
6:00 AM to 9:00 AM and
3:00 PM to 8:00 PM
Sunday
8:00 AM to 8:00 PM
9:00 AM to 8:00 PM

One lane Maintained- One lane Closed

Monday to Thursday
9:00 AM to 3:00 PM and
8:00 PM to 6:00 AM (Next Day)
Friday
9:00 AM to 3:00 PM and
8:00 PM to 8:00 AM (Saturday)
Saturday
8:00 PM to 9:00 AM (Sunday)
Sunday
8:00 PM to 6:00 AM (Monday)

No lane, shoulder, ramp closures, or traffic shifts will be permitted on the following holidays:

- Easter Sunday (including 6:00 AM Saturday until Noon Monday)
- Memorial Day (See Note Below)
- July 4th (See Note Below)
- Labor Day (See Note Below)
- Election Day (6:00 AM until 8:00 PM the day of)
- Thanksgiving Day (See Note Below)
- Christmas Day (See Note Below)
- New Year's Day (See Note Below)

NOTE:

If Holiday Falls On	No Lane Closures Permitted
Sunday or Monday	6:00 AM Friday until Noon Tuesday
Tuesday	6:00 AM Friday until Noon Wednesday
Wednesday	6:00 AM Tuesday until Noon Thursday
Thursday	6:00 AM Wednesday until Noon Monday
Friday or Saturday	6:00 AM Thursday until Noon Monday

Further Traffic Operations Notes:

1. The proposed work and lane closures must be coordinated with all other projects that are underway at the same time near the project area.
2. Ramps / Turn Lanes / Auxiliary Lanes / Median Openings / Side Streets may be closed between the hours of 10:00 PM and 6:00 AM the next day unless otherwise specified. An approved signed detour is required for all Ramps / Turn Lanes / Auxiliary Lanes / Median Openings / Side Streets closures. Two consecutive Ramps / Turn Lanes / Auxiliary Lanes / Median Openings / Side Streets may not be closed at the same time.
3. Access to all fire & emergency lanes and Driveways must be maintained during business hours. Access to all fire and emergency lanes and at least one driveway must be maintained during non-business hours.
4. The minimum allowable lane width for each travel lane when work is performed shall be 11 feet.
5. The Holiday Shopping Season shall start on Friday 6 AM of the weekend before Thanksgiving, and end after Sunday of the weekend after New Year's Day.

ON OR ABOUT
DAY, / /22
CONSTRUCTION WILL BEGIN
ON FERNWOOD ROAD

18"x36"

NOTE: THE CONTRACTOR SHALL MOUNT THE SIGN IN ACCORDANCE WITH NJDOT 2019 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. SIGN TO BE INSTALLED AT LEAST ONE (1) WEEK IN ADVANCE OF CONSTRUCTION START.

CONSTRUCTION IDENTIFICATION SIGN DETAIL

N.T.S.

END
DETOUR

M4-8a
N.T.S.
(30" x 24")

ROAD CLOSED
THRU TRAFFIC

ROAD
CLOSED

R11-4
N.T.S.
(60"x30")

R11-2
N.T.S.
(48"x30")

DETOUR
→

M4-9R
N.T.S.
(30" x 24")

DETOUR
←

M4-9L
N.T.S.
(30" x 24")

TRAFFIC CONTROL SIGNS

N.T.S.

LEGEND

- BREAKAWAY BARRICADES
- BREAKAWAY BARRICADES WITH SIGN
- CONSTRUCTION SIGNS
- DRUMS
- CONSTRUCTION BARRIER CURB (TYPE SPECIFIED)
- DIRECTION OF TRAFFIC FLOW
- TRAFFIC DIRECTOR, FLAGGER
- TRAILER MOUNTED MOUNTED ARROW BOARD SHOWING CAUTION MODE
- ILLUMINATED FLASHING ARROW MOUNTED ON TOWING VEHICLE SHOWING ARROW PATTERN (LEFT, RIGHT, BOTH)
- TRAFFIC CONTROL TRUCK WITH MOUNTED CRASH CUSHION AND ARROW BOARD SHOWING CAUTION MODE
- TRAFFIC CONTROL TRUCK WITH MOUNTED CRASH CUSHION AND ARROW BOARD SHOWING ARROW PATTERN (LEFT, RIGHT, BOTH)
- TEMPORARY CRASH CUSHION, INERTIAL BARRIER SYSTEM
- TEMPORARY CRASH CUSHION, (ALL OTHER APPROVED)
- BUFFER ZONE
- WORK AREA
- PAINT STRIPING TRUCK OR OTHER OPERATING VEHICLE

GENERAL NOTES:

1. ADVANCE WARNING SIGNS DISTANCES AND TAPER LENGTHS MAY BE EXTENDED, AT DIRECTION OF THE DEPARTMENT, TO ADJUST FOR REDUCED VISIBILITY DUE TO HORIZONTAL AND VERTICAL CURVATURE OF THE ROADWAY.
2. THE APPROXIMATE LOCATIONS OF THE ILLUMINATED FLASHING ARROW BOARDS ARE SHOWN ON THE TRAFFIC CONTROL PLANS. THESE LOCATIONS MAY BE MODIFIED AS APPROVED BY THE DEPARTMENT TO ADJUST FOR VISIBILITY DUE TO HORIZONTAL OR VERTICAL CURVATURE OF THE ROADWAY OR TO POSITION AT A SAFER LOCATION. ILLUMINATED FLASHING ARROW BOARDS ARE TO BE USED FOR TEMPORARY LANE CLOSURES AND AT LOCATIONS SHOWN ON THE TRAFFIC CONTROL PLANS.
3. PRIOR TO ANY ROAD CONSTRUCTION, TRAFFIC CONTROL SIGNS AND DEVICES ARE TO BE IN PLACE.
4. RAMP AND/OR SIDE STREETS ENTERING THE ROADWAY AFTER THE FIRST ADVANCE WARNING SIGN ARE TO BE PROVIDED WITH AT LEAST ONE W20-1P SIGN (ROAD WORK AHEAD) AS A MINIMUM.
5. ALL EXISTING ROAD SIGNS, PAVEMENT MARKINGS, AND / OR FLOWABLE PAVEMENT REFLECTORS WHICH CONFLICT WITH THE PROPOSED TRAFFIC CONTROL PLAN ARE TO BE COVERED, REMOVED, OR RELOCATED AS DIRECTED BY THE RE.
6. CONFLICTING OR NON-OPERATING SIGNAL INDICATIONS ON EITHER THE EXISTING TEMPORARY OR PROPOSED TRAFFIC SIGNAL SYSTEMS ARE TO BE BAGGED OR COVERED.
7. MAINTENANCE AND PROTECTION OF TRAFFIC TO BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES - PART VI STANDARDS AND GUIDES FOR TRAFFIC CONTROL FOR STREET AND HIGHWAY CONSTRUCTION, MAINTENANCE, UTILITY, AND INCIDENT MANAGEMENT OPERATIONS, UNLESS OTHERWISE NOTED IN THE PLANS AND SPECIFICATIONS.
8. CONSTRUCTION SIGN W99-2 (GIVE US A BRAKE) TO BE LOCATED 200 FEET IN ADVANCE OF PROJECT LIMITS.
9. A W-6 (ARROW) SIGN MOUNTED ON A BREAKAWAY BARRICADE AND CENTERED ON THE CLOSED ROAD TO BE LOCATED 100 FEET BEYOND EACH INTERSECTION OR MARK ACCESS POINT WITHIN THE AREA OF A LANE OR SHOULDER CLOSURE.
10. CONSTRUCTION SIGN R11-4 (ROAD CLOSED TO TRAVEL) TO BE PLACED AT THE INTERSECTING STREETS WHICH ARE CLOSED TO TRAFFIC BECAUSE OF CONSTRUCTION.
11. CONSTRUCTION SIGN M8-8A (SYMBOL FOR UNDEVELOPED) AND M8-14A (DEVELOPED PAVEMENT) TO BE USED WHEN SIGN PAVEMENT CONDITIONS EXIST.
12. MOVING WORK AREAS IN A LANE CLOSURE REQUIRE A TRAILER MOUNTED ILLUMINATED FLASHING ARROW TO REMAIN AT THE END OF THE TAPER. THE TRAFFIC CONTROL TRUCK WITH MOUNTED CRASH CUSHION THAT IS TO MOVE WITH THE WORK AREAS TO KEEP A 70 FEET MIN. AND 150 FEET MAX. BUFFER IN ADVANCE OF EACH WORK AREA.
13. THE CONTRACTOR TO SUBMIT A PLAN FOR THE SAFE ACCESS OF CONSTRUCTION VEHICLES THROUGHOUT THE WORK SITE WHERE SPACE CONSTRAINTS PRESENT THE USE OF LANE CLOSURES. THE PLAN TO BE SUBMITTED TO THE RE AS SPECIFIED IN THE SPECIFICATIONS.
14. BACKFILL ALL EXCAVATED AREAS WITHIN OR ADJACENT TO THE ROADWAY AND PLACE ON AT LEAST 8% V. SLOPE BEFORE THE END OF EACH WORK DAY. OTHER EXCAVATED AREA WITHIN THE CLEAR ZONE ARE TO BE BACKFILLED.
15. WHERE REQUIRED, THE CONTRACTOR IS TO MAKE PROVISIONS FOR MAINTAINING PEDESTRIAN CROSSING LOCATIONS AND TYPE AS DIRECTED BY THE RE.
16. BITUMINOUS CONCRETE PLACED DURING THE VARIOUS CONSTRUCTION STAGES TO BE TRANSPORTED ON A MINIMUM 20% V. SLOPE TO MEET THE ADJACENT EXISTING GRADE AT THE LONGITUDINAL AND TRANSVERSE LIMITS OF THE STAGE CONSTRUCTION AREAS UNLESS OTHERWISE NOTED ON THE STAGE CONSTRUCTION PLANS.
17. THE PLACEMENT AND / OR RELOCATION OF CONSTRUCTION BARRIER CURBS TO BE DONE DURING ALLOWABLE LANE CLOSURE HOURS.
18. CONSTRUCTION ZONE SPEED LIMIT WILL BE DETERMINED BY THE BUREAU OF TRAFFIC ENGINEERING, REGIONAL TRAFFIC ENGINEER - WORK ZONE, AT THE TIME OF OR DURING CONSTRUCTION, AS REQUESTED BY THE RE.
19. THE SPEED LIMIT, R2-1 (BLACK ON WHITE) WITH ADDED WORK ZONE PLATE (BLACK ON ORANGE) SIGNS TO BE LOCATED THROUGH WORK AREAS AS DIRECTED BY THE BUREAU OF TRAFFIC ENGINEERING, REGIONAL TRAFFIC ENGINEER - WORK ZONE.
20. THE REDUCED SPEED AHEAD SIGN, W3-5(3) (BLACK ON ORANGE) TO BE LOCATED IN ADVANCE OF SPEED LIMIT R2-1 SIGNS WHICH REDUCE THE NORMAL POSTED SPEED LIMIT THROUGH THE CONSTRUCTION ZONE.
21. TRAFFIC FINES DOUBLED IN WORK AREA. (R/NJ5-17(3)) - 4 FEET BY 2.5 FEET SIGN TO BE LOCATED 500 FEET AFTER THE FIRST ADVANCE WARNING SIGN (W20 SERIES) AT EACH WORK AREA LOCATED WITHIN URBAN AREAS. THIS SIGN TO ALSO BE USED ON PROJECTS REQUIRING MOVING OPERATIONS IN WHICH CASE THE SIGN IS TO BE MOUNTED ON A SLOW MOVING CONSTRUCTION VEHICLE.
22. DO NOT CONSTRUCT THE FINAL HMA SURFACE PAVEMENT UNTIL THE FINAL STAGE OF THE PROJECT UNLESS OTHERWISE DIRECTED BY THE RE OR INDICATED ON THE PLANS. SET MANHOLES AND INLETS TO FINISHED GRADE AND CONSTRUCT TEMPORARY PAVEMENT RAMPS AROUND THEM WITH A MINIMUM 20% V. SLOPE IN ALL DIRECTIONS USING HOT MIX ASPHALT PAVEMENT. THIS TEMPORARY MATERIAL WILL BE REMOVED IMMEDIATELY PRIOR TO PLACING THE SURFACE COURSE.
23. PLACE TRAFFIC CONTROL DEVICES FOR LANE CLOSURES INCLUDING SIGNS, CONES, BARRICADES, ETC. AS SHOWN ON PLANS. NO SIGNS ARE TO BE PLACED WITHOUT ACTUAL LANE CLOSURES AND REMOVE IMMEDIATELY UPON REMOVAL OF THE CLOSURES.
24. CONES MAY BE SUBSTITUTED FOR DRUMS AND INSTALLED UPON THE APPROVAL OF THE RE.
25. TRAFFIC IMPACT NOTICES AND CHANGES.
 - A. TERMS:
WHEN THE FOLLOWING TERMS ARE USED, THE INTENT AND MEANING IS AS FOLLOWS:
I. IMPACTS TO NORMAL TRAFFIC FLOW - WORK THAT REQUIRES A PORTION OF THE PAVED ROADWAY BEING BLOCKED OR CLOSED WITH SAFETY DEVICES OR VEHICLES INCLUDING, BUT NOT LIMITED TO, CURB OR PARTIAL LANE CLOSURES, FULL OR PARTIAL RAMP CLOSURES, SHOULDER CLOSURES, MOVING OPERATIONS, SUCH AS TRAFFIC STRIPING OR SWEEPING, LANE CHANGES, OR ALTERNATING TRAFFIC. THIS APPLIES EVEN WHEN DETOURS ARE PROVIDED.
II. TEMPORARY LANE CLOSURES - WORK DESCRIBED UNDER "IMPACTS TO NORMAL TRAFFIC FLOW" WHICH IS ROUTINELY SET UP AND REMOVED ON A DAILY BASIS.
III. PERMANENT LANE CLOSURES - WORK DESCRIBED UNDER "IMPACTS TO NORMAL TRAFFIC FLOW" WHICH REMAINS IN PLACE CONTINUOUSLY FOR 24 HOURS OR MORE.
 - B. ADVANCE NOTICES:
FOR THE INITIAL START OF WORK THAT REQUIRES "IMPACTS TO NORMAL TRAFFIC FLOW", THE CONTRACTOR IS TO NOTIFY THE RE IN WRITING ON THE ADVANCE FORM, TO-103 PROVIDED BY THE DEPARTMENT, IN ADVANCE OF THE PROPOSED DATE. THE NOTICE IS TO BE SUBMITTED AT LEAST TWENTY-THREE CALENDAR DAYS, BUT NOT MORE THAN SIXTY CALENDAR DAYS, BEFORE THE PROPOSED DATE. START OF WORK THAT IMPACTS NORMAL TRAFFIC FLOW WILL NOT BE PERMITTED PRIOR TO THE DATE STATED IN THE NOTICE. THE CONTRACTOR IS TO CONFIRM IN WRITING TO THE RE, THE PROPOSED DATE SEVEN (AND/OR FOURTEEN) CALENDAR DAYS BEFORE STARTING THE ESTABLISHMENT OF THE TRAFFIC CONTROL MEASURES FOR THE TRAFFIC IMPACT. THE CONTRACTOR IS TO IMMEDIATELY NOTIFY THE RE IF THE PROPOSED ESTABLISHMENT OF THE TRAFFIC CONTROL MEASURES CANNOT BE COMPLETED ON THE PROPOSED DATE. FOR "PERMANENT LANE CLOSURES", THE CONTRACTOR IS TO NOTIFY THE RE IN WRITING ON ADVANCE FORM TO-103 OF THE PROPOSED DATE A NEW TRAFFIC PATTERN WILL BE ESTABLISHED. THE NOTICE IS TO BE SUBMITTED AT LEAST TWENTY-THREE CALENDAR DAYS, BUT NOT MORE THAN SIXTY CALENDAR DAYS, IN ADVANCE OF THE PROPOSED DATE. START OF A NEW TRAFFIC PATTERN WILL NOT BE PERMITTED PRIOR TO THE DATE STATED IN THE NOTICE. THE CONTRACTOR IS TO CONFIRM IN WRITING TO THE RE, THE PROPOSED DATE OF THE NEW TRAFFIC PATTERN SEVEN (AND/OR FOURTEEN) DAYS BEFORE STARTING TRAFFIC CONTROL MEASURES FOR THE ESTABLISHMENT OF THE NEW PATTERN. THE CONTRACTOR IS TO IMMEDIATELY NOTIFY THE RE IF THE PROPOSED ESTABLISHMENT CANNOT BE COMPLETED ON THE PROPOSED DATE. STARTING THE ESTABLISHMENT OF A NEW PERMANENT TRAFFIC PATTERN IS TO BE COMPLETED BY 6:00 PM THE FOLLOWING SUNDAY. THE 11:00 PM FRIDAY AND BE COMPLETED AND READY FOR OPERATIONS BY 6:00 PM THE FOLLOWING SUNDAY. THE ESTABLISHMENT IS TO BE COMPLETED IN ACCORDANCE WITH THE LANE CLOSURE HOURS SPECIFIED IN THE CONTRACT. ADVANCE NOTICES SENT PRIOR TO THE PRE-CONSTRUCTION MEETING ARE TO BE ADDRESSED TO THE CONTACT PERSON AS SPECIFIED IN SUBSECTION 101.04 OF THE SPECIAL PROVISIONS.
 - C. PROGRESS NOTICES
D. CHANGES TO THE SCHEDULED CLOSURES
26. WHERE FINAL HMA PAVING IS PERFORMED AND THE LANE IS TO BE RE-OPENED TO TRAFFIC AND THE ITEM TRAFFIC STRIPES IS UNABLE TO BE APPLIED, APPLY THE ITEM TRAFFIC STRIPES, LATEX, ENSURE THAT THE ITEM TRAFFIC STRIPES IS APPLIED WITHIN 14 DAYS.

NOTE TO DESIGNER:

THIS SHEET REQUIRES DESIGN SPECIFIC INFORMATION TO BE ADDED AND INCLUDED IN THE CONTRACT PLANS.

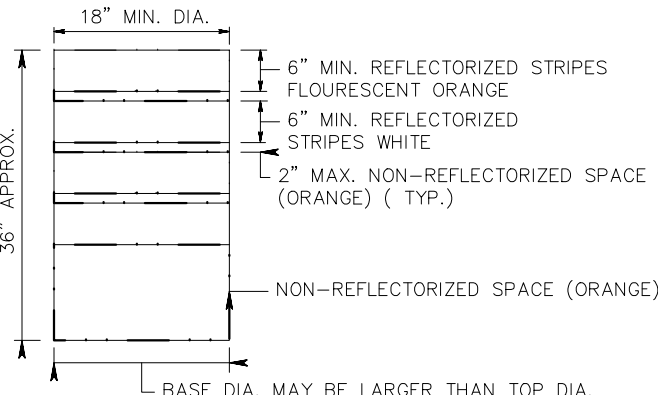
REMOVE THIS NOTE AFTER DESIGN SPECIFIC INFORMATION IS ADDED.

TRAFFIC CONTROL NOTES

ENSURE DRUMS ARE MADE OF ORANGE PLASTIC WITH A MINIMUM OF FOUR ALTERNATE FLUORESCENT ORANGE AND WHITE RETROREFLECTIVE STRIPES. IF THERE ARE NON-REFLECTORIZED SPACES BETWEEN THE STRIPES, THEY ARE TO BE NO MORE THAN 2" WIDE. ENSURE RETROREFLECTIVE SHEETING FOR STRIPES CONFORMS WITH ASTM D4956 TYPE VII OR VIII WITH S2 REQUIREMENTS.

ENSURE THE TOP OF THE DRUM IS NOT OPEN. CONSTRUCT DRUMS TO INHIBIT ROLLING IF KNOCKED OVER.

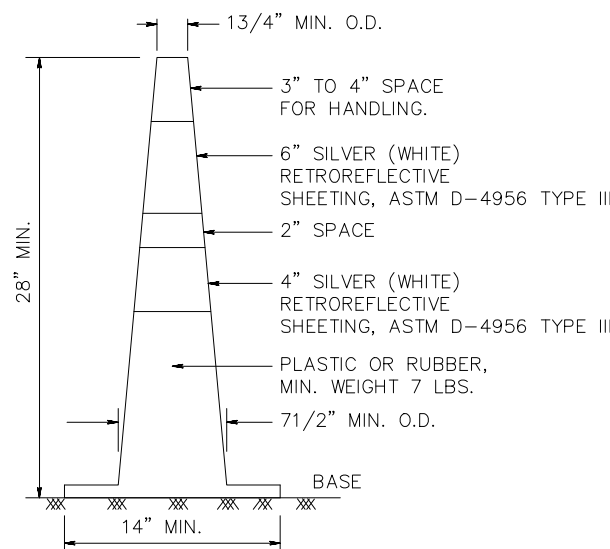
ENSURE THE REFLECTORIZED AREA OF DRUMS IS ROUND EXCEPT OTHER SHAPES, WHICH PROVIDE THE SAME VISIBILITY AS AN 18 INCH DIAMETER ROUND DRUM REGARDLESS OF ORIENTATION, MAY BE USED.



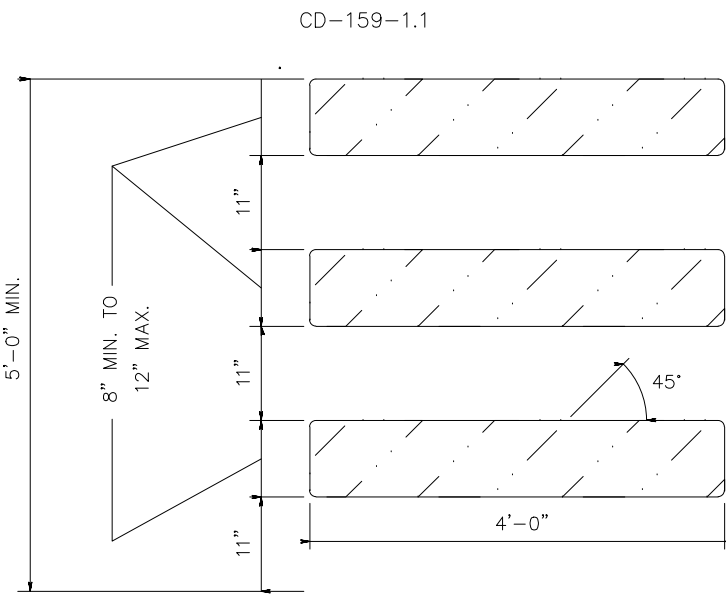
DRUMS

NOTES:

- 1. TRAFFIC CONES MUST BE PREDOMINANTLY ORANGE IN COLOR.
- 2. BASES MAY BE OF BREAKAWAY BALLASTED TYPE.
- 3. MINOR MANUFACTURER'S VARIATIONS MAY BE ACCEPTABLE UPON APPROVAL OF THE RE.



TRAFFIC CONES



TYPE III BARRICADE - FRONT VIEW

NOTES:

1. ENSURE THE 8" MIN. x 48", TO 12" MAX. x 48" BARRICADE RAILS TO BE ATTACHED ACCORDING TO THE MANUFACTURER'S RECOMMENDATION.
2. ENSURE ORANGE AND SILVER (WHITE) STRIPES TO BE RETROREFLECTIVE SHEETING, ASTM D4956 TYPE III. ALTERNATE ORANGE AND SILVER (WHITE) STRIPES 6" WIDE SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION TRAFFIC IS TO PASS.
3. THE FRAMING, RAILS, AND BALLAST FOR BREAKAWAY BARRICADE TO BE NCHRP-350 CRASHED TESTED AND FHWA APPROVED.
4. IF NECESSARY, FABRICATE THE BALLAST AND PLACE ACCORDING TO THE MANUFACTURER'S RECOMMENDATION.

BREAKAWAY BARRICADES

TRAFFIC CONTROL DEVICES

N.T.S.

CD-159-1.3

TULIP STREET IMPROVEMENT PROJECT SECTION 2
SPRINGFIELD AVENUE TO ASHLAND ROAD
TRAFFIC CONTROL NOTES & DETAILS

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

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

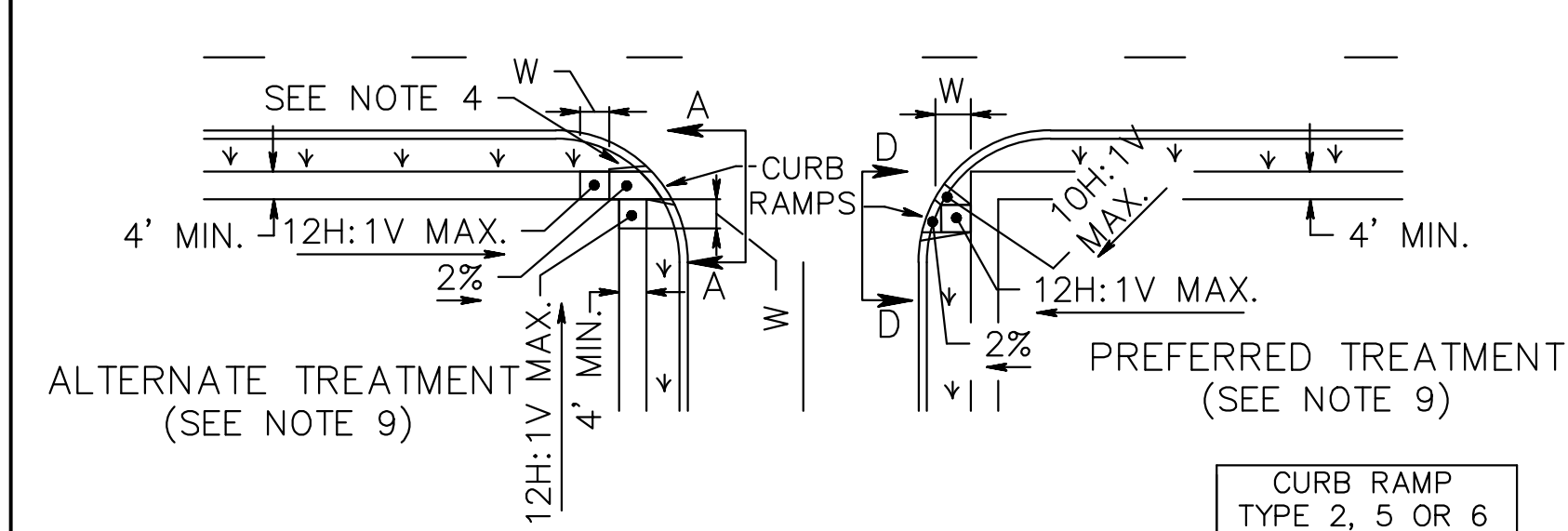


DATE:
6/12/2025

DRAWN
BY: KS

SCALE
N.T.S.

8 OF 10

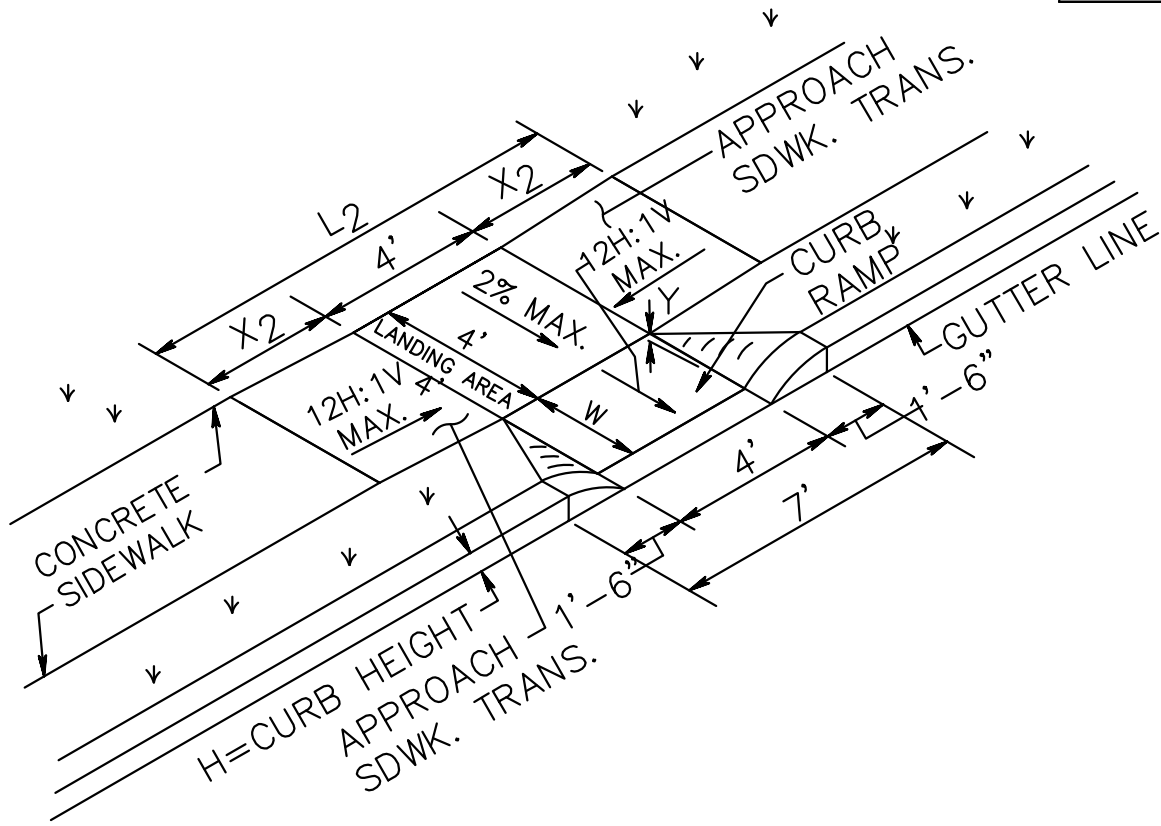


ALTERNATE TREATMENT (SEE NOTE 9)

PREFERRED TREATMENT (SEE NOTE 9)

CURB RAMP TYPE 2, 5 OR 6				
H INCHES	W FEET	H INCHES	W FEET	H INCHES
3	3	4	4	5
4	4	5	5	6
5	5	6	6	7
6	6	7	7	8
7	7	8	8	9

CURB RAMP TYPE 6
(CROSSING PARALLEL TO HIGHWAY ONLY)

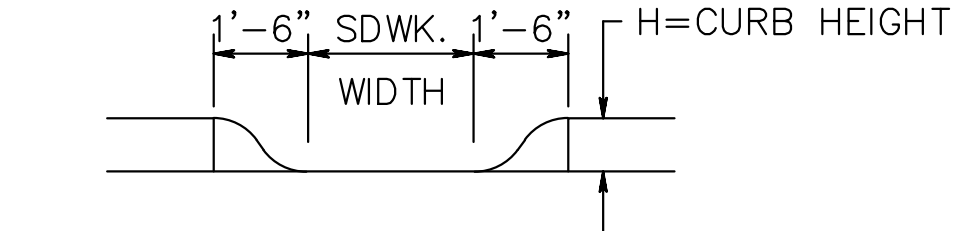


CURB RAMP TYPE 4
(GRASS BUFFER STRIP WITH LANDING AREA REQUIRED)

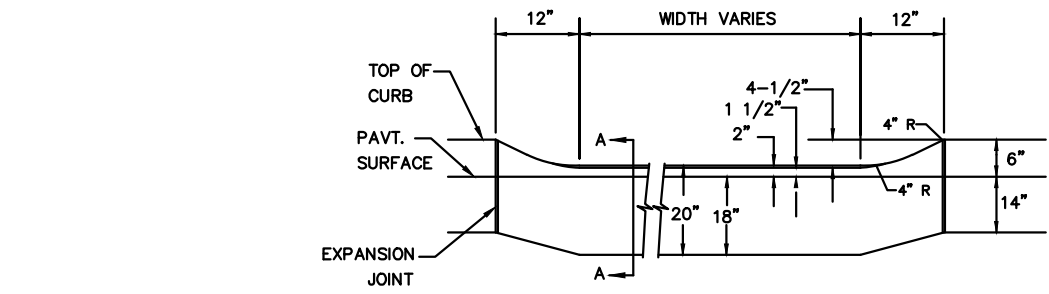
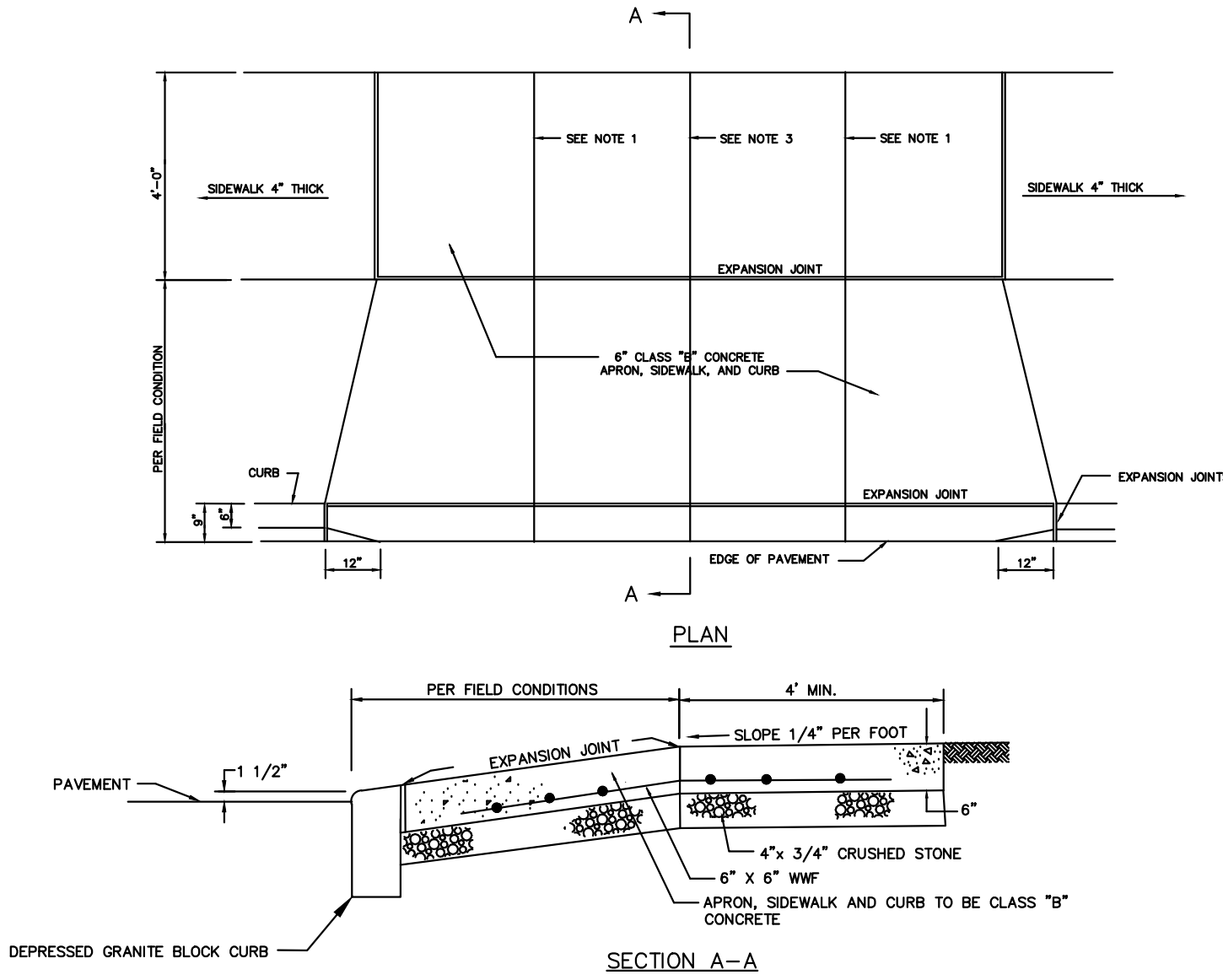
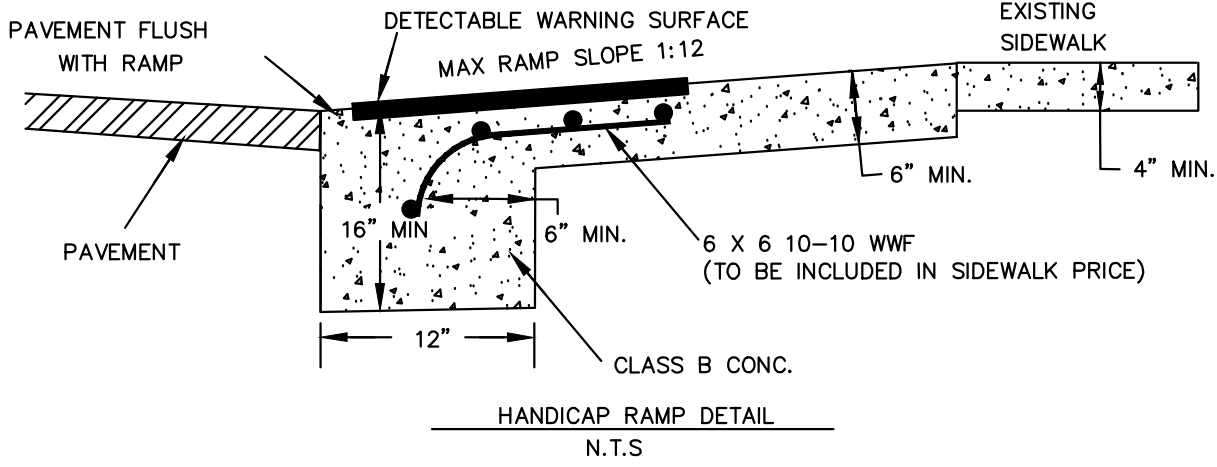
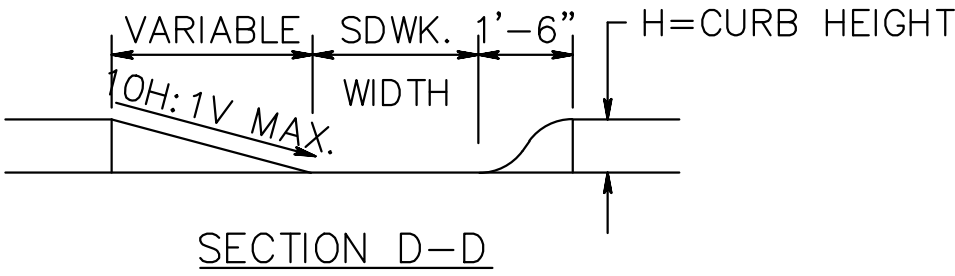
CURB RAMP TYPE 4				
W FEET	H INCHES	Y INCHES	X2 FEET	L2 FEET
2.5	3	2.5	0.5	5
	4	2.5	1.5	7
	5	2.5	2.5	9
	6	2.5	3.5	11
	7	2.5	4.5	13
	8	2.5	5.5	15
3.0	9	2.5	6.5	17
	3	**	**	**
	4	3.0	1	6
	5	3.0	2	8
	6	3.0	3	10
	7	3.0	4	12
3.5	8	3.0	5	14
	9	3.0	6	16
	3	**	**	**
	4	3.5	0.5	5
	5	3.5	1.5	7
	6	3.5	2.5	9
4.0	7	3.5	3.5	11
	8	3.5	4.5	13
	9	3.5	5.5	15
	3	**	**	**
	4	**	**	**
	5	4.0	1	6
	6	4.0	2	8
	7	4.0	3	10
	8	4.0	4	12
	9	4.0	5	14

* TYPE 3 RAMP IS NOT APPLICABLE, USE TYPE 1.
** TYPE 4 RAMP IS NOT APPLICABLE, USE TYPE 2.

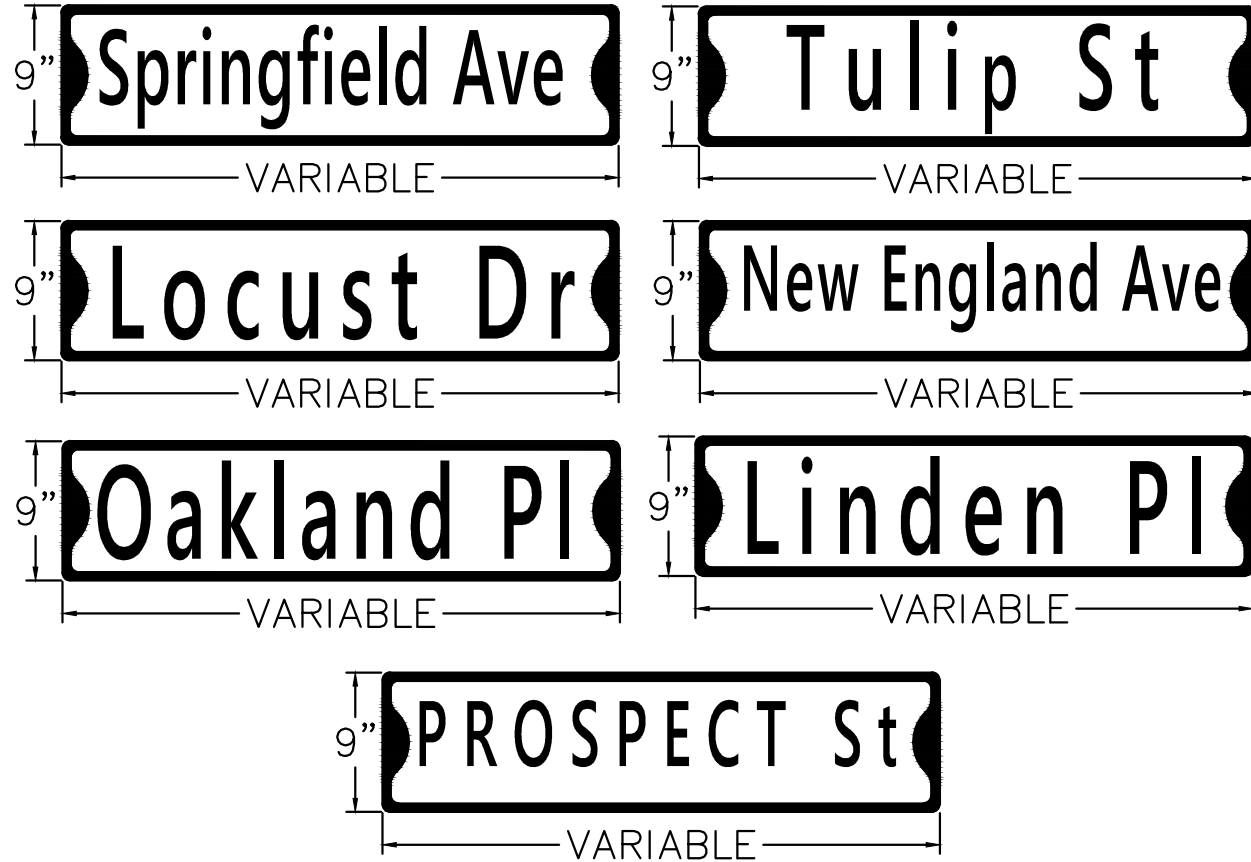
- GENERAL NOTES:
- LANDING AREA, APPROACH SIDEWALK TRANSITIONS, AND CURB RAMP SHALL BE KEPT CLEAR OF OBSTRUCTIONS.
 - DIMENSIONS SHOWN IN TABLES ARE FOR RELATIVELY FLAT SIDEWALK AREAS. CARE SHOULD BE TAKEN WHEN DETERMINING CURB RAMP SIZE BASED ON CURB HEIGHT (H) WHERE ELEVATION OF CURB AND SIDEWALK VARY DRASTICALLY IN AREA OF PROPOSED CURB RAMP.
 - CURB (DROPPED CURB) GUTTERLINE TO BE FLUSH WITH ROADWAY PAVEMENT A MINIMUM OF 4 FEET AT ALL CURB RAMPS. DROPPED CURB SHALL BE CONCRETE CURB AND SHALL TRANSITION TO FULL HEIGHT GRANITE BLOCK CURB AS SHOWN ON PLANS.
 - FOR CURB RAMP TYPES 5 AND 6, IF A GRASS BUFFER DOES NOT EXIST, SLOPE CURB TO EQUAL SLOPE OF ADJACENT CURB RAMP.
 - SIDEWALK AND CURB RAMP WITHIN AREA ENCLOSED BY HEAVY LINES TO BE PAID FOR AS CONCRETE SIDEWALK OF THE APPROPRIATE ADJACENT THICKNESS.
 - CURB AND HEADER WITHIN AREA ENCLOSED BY HEAVY LINES TO BE PAID FOR AS VERTICAL CURB OR SLOPING CURB OF THE APPROPRIATE ADJACENT SIZE AND KIND.
 - WHERE THE DISTANCE FROM THE GUTTER LINE TO THE OUTSIDE EDGE OF SIDEWALK IS 6 FEET OR LESS, CURB RAMP TYPE 7 SHOULD BE USED, INSTEAD OF CURB RAMP TYPE 1 THROUGH 4.
 - CROSSWALKS AND STOP LINES MAY BE MARKED OR UNMARKED, SEE PLANS.
 - PREFERRED AND ALTERNATE TREATMENTS SHOULD NOT BE INTERMIXED WITHIN THE SAME INTERSECTION.
 - DIMENSIONS SHOWN IN TABLES ARE FOR 3 INCH TO 9 INCH CURB HEIGHTS. WHERE THE CURB HEIGHTS ARE OTHER THAN WHAT IS PROVIDED IN THE TABLES, THE DIMENSIONS OF THE RAMPS WILL HAVE TO BE CALCULATED BASED ON CROSS SLOPES SHOWN.



NOTE:
CURB RAMP OPENING TO BE FLUSH WITH ROADWAY PAVEMENT (CURB RAMP TYPES 5 & 6).



- NOTES:
- SUBGRADE IS TO BE COMPACTED IN A MANNER SUITABLE TO THE ENGINEER.
 - EXPANSION JOINTS ARE TO BE 1/2" WIDE AND FILLED WITH PREFORMED HOT MIX ASPHALT TYPE JOINT FILLER. THE TOP OF ALL JOINT FILLER SHALL BE 1/4" BELOW THE TOP OF THE SURFACE.
 - BLIND JOINTS ARE TO BE SURFACE GROOVE CUT INTO SIDEWALK 1/2" DEEP.
 - ALL CONCRETE SURFACES SHALL BE TREATED WITH A CONCRETE CURING AND SEALING COMPOUND.
- CONCRETE DRIVEWAY, 6" THICK
N.T.S.



- NOTES:
- SIGNS TO BE MOUNTED ON A 2" OD X 10' GALVANIZED POLE.
 - POLE TO HAVE A 18" MIN. DIA. X 4'-0" DEEP CONCRETE FOOTING.
 - SIGNS TO BE MOUNTED ON GALVANIZED (OR APPROVED EQUAL) PLACE HOLDER.
 - COST FOR POST, HARDWARE, AND FOOTING TO BE INCLUDED IN "STREET NAME SIGN POST".
 - SIGN WIDTHS MAY VARY.
 - WHITE RETRO-REFLECTIVE BACKING (3M DIAMOND GRADE™ OR APPROVED EQUAL).
 - BLACK "LYLE" STYLE BORDER (OR APPROVED EQUAL).
 - BLACK LETTERS (FONT TYPE: "HIGHWAY SERIES C" OR APPROVED EQUAL).
 - MUST MEET MUTCD REFLECTIVE STANDARDS.
 - PROOF MUST BE SUBMITTED FOR APPROVAL PRIOR TO INSTALL.
- STREET SIGN DETAILS (CITY OF SUMMIT STANDARD): 9" SIGN (D3-1)
N.T.S.

REVISIONS		DESCRIPTION		UPDATED SIGN DETAILS	
NO.	DATE	NO.	DATE	NO.	DATE
1	5/8/25	1	5/8/25	1	5/8/25
2		2		2	
3		3		3	
4		4		4	
5		5		5	
6		6		6	
7		7		7	
8		8		8	
9		9		9	
10		10		10	

TULIP STREET IMPROVEMENT PROJECT SECTION 2
SPRINGFIELD AVENUE TO ASHLAND ROAD
CONSTRUCTION DETAILS

CITY OF SUMMIT UNION CO., N.J.
DIVISION OF ENGINEERING
DEPARTMENT OF COMMUNITY SERVICES
512 SPRINGFIELD AVENUE
SPRINGFIELD, N.J. 07081
UNION COUNTY

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

DATE:
9/14/2023

DRAWN
BY: SK

SCALE
N.T.S.

10 OF 10