[illegible]

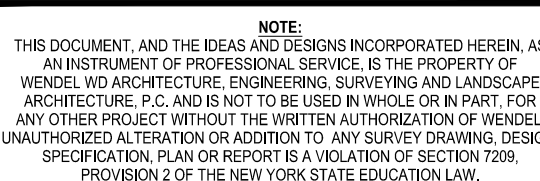
*Note: All Dandy Sacks™ can be ordered with optional oil absorbent pillows



1. CLEAR THE AREA OF ALL DEBRIS THAT WILL HINDER EXCAVATION

4. UPON STABILIZATION OF CONTRIBUTING DRAINAGE AREA, SEAL W
BASIN WITH STABLE SOIL TO FINAL GRADE, COMPACT IT PROPERLY
WITH PERMANENT OFFERING

MAXIMUM DRAINAGE AREA 1 ACRE



NO.	REVISIONS	DATE
DWG. TITLE		



PROJ. No. 300825PKLOT

DWG. No.

C501



**HAMBURG TOWN HALL
PARKING LOT
PROJECT #2025-06**

CONSTRUCTION DOCUMENTS



Wendel WD Architecture, Engineering, Surveying and
Landscape Architecture, P.C.



SCALE: N.T.S.



N.T.S.



N.T.S.



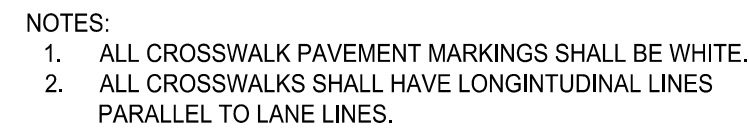
N.T.S



N.T.S.



N.T.S.

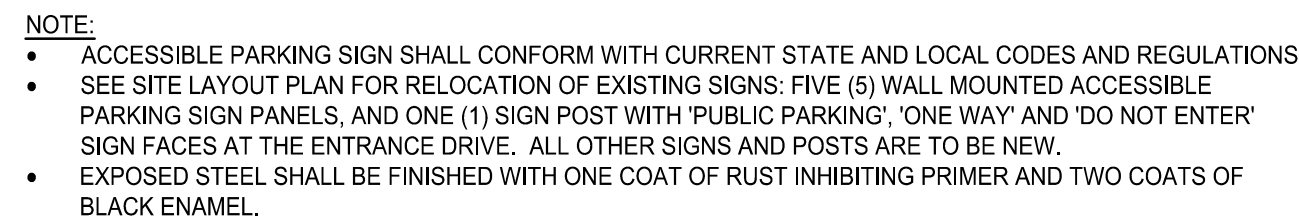


NOTES:

1. ALL CROSSWALK PAVEMENT MARKINGS SHALL BE WHITE.
2. ALL CROSSWALKS SHALL HAVE LONGINTUDINAL LINES PARALLEL TO LANE LINES.



N.T.S.



NOTE:

- ACCESSIBLE PARKING SIGN SHALL CONFORM WITH CURRENT STATE AND LOCAL CODES AND REGULATIONS
- SEE SITE LAYOUT PLAN FOR RELOCATION OF EXISTING SIGNS. FIVE (5) WALL MOUNTED ACCESSIBLE PARKING SIGN PANELS, AND ONE (1) SIGN POST WITH 'PUBLIC PARKING', 'ONE WAY' AND 'DO NOT ENTER' SIGN FACES AT THE ENTRANCE DRIVE. ALL OTHER SIGNS AND POSTS ARE TO BE NEW.
- EXPOSED STEEL SHALL BE FINISHED WITH ONE COAT OF RUST INHIBITING PRIMER AND TWO COATS OF BLACK ENAMEL.



N.T.S.



NOTES:

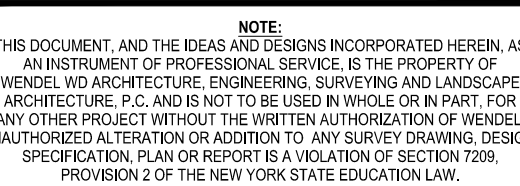
1. RACK SHALL BE ULINE MODEL NO. H-2544 OR APPROVED EQUAL.
2. REFER TO DETAIL 4 THIS SHEET FOR CONCRETE PAD DETAIL.



N.T.S.



N.T.S.

DWA3, TITU

SITE DETAILS



DATE 10/22/2025

NAME AGNOTED

SCALE AS NOTED

DOWN. WGA CHK. SAR

PROJ. No. 300825PKLOT

DWG No. _____

0175.10.

C502

STORMWATER CONVEYANCE AND STRUCTURES SPECIFICATION

PART 1 - GENERAL

1.1 SUMMARY

- A. SECTION INCLUDES:
1. PE PIPE AND FITTINGS.
 2. NON-PRESSURE TRANSITION COUPLINGS.
 3. CATCH BASINS.

1.2 ACTION SUBMITTALS

- A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.
- B. SHOP DRAWINGS:
1. CATCH BASINS: INCLUDE PLANS, ELEVATIONS, SECTIONS, DETAILS, FRAMES, COVERS, AND GRATES.

1.3 QUALITY ASSURANCE

- A. PIPING MATERIALS SHALL BEAR LABEL, STAMP, OR OTHER MARKINGS OF SPECIFIED TESTING AGENCY.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. DO NOT STORE PLASTIC PIPE, AND FITTINGS IN DIRECT SUNLIGHT.
- B. PROTECT PIPE, PIPE FITTINGS, AND SEALS FROM DIRT AND DAMAGE.
- C. HANDLE CATCH BASINS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RIGGING INSTRUCTIONS.

PART 2 - PRODUCTS

2.1 CORRUGATED PE PIPE AND FITTINGS

- A. SOURCE LIMITATIONS: OBTAIN CORRUGATED-PE PIPE AND FITTINGS FROM SINGLE MANUFACTURER.
- B. CORRUGATED-PE PIPE AND FITTINGS NPS 12 TO NPS 60: AASHTO M 294 OR ASTM F2448, TYPE S, WITH SMOOTH WATERWAY FOR COUPLING JOINTS.
- C. CORRUGATED-PE SILTIGHT COUPLINGS: PE SLEEVE WITH ASTM D1056, TYPE 2, CLASS A, GRADE 2 GASKET MATERIAL THAT MATES WITH PIPE AND FITTINGS.
- D. CORRUGATED-PE SOLTIGHT COUPLINGS: AASHTO M 294, CORRUGATED, MATCHING PIPE AND FITTINGS.

2.2 CONCRETE

- A. GENERAL: CAST-IN-PLACE CONCRETE IN ACCORDANCE WITH ACI 318, ACI 350, AND THE FOLLOWING:
1. CEMENT: ASTM C150, TYPE II.
 2. FINE AGGREGATE: ASTM C33, SAND.
 3. COARSE AGGREGATE: ASTM C33, CRUSHED GRAVEL.
 4. WATER: POTABLE.
- B. PORTLAND CEMENT DESIGN MIX: 4000 PSI MINIMUM, WITH 0.45 MAXIMUM WATER/CEMENTITIOUS MATERIALS RATIO.
1. REINFORCING FABRIC: ASTM A1064, STEEL, WELDED WIRE FABRIC, PLAIN.
 2. REINFORCING BARS: ASTM A615, GRADE 60 DEFORMED STEEL.

2.3 CATCH BASINS

- A. STANDARD PRECAST CONCRETE CATCH BASINS:
1. DESCRIPTION: ASTM C478, PRECAST, REINFORCED CONCRETE, OF DEPTH INDICATED, WITH PROVISION FOR SEALANT JOINTS.
 2. BASE SECTION: 6-INCH MINIMUM THICKNESS FOR FLOOR SLAB AND 6-INCH MINIMUM THICKNESS FOR WALLS AND BASE RISER SECTION, AND SEPARATE BASE SLAB OR BASE SECTION WITH INTEGRAL FLOOR.
 3. RISER SECTIONS: 6-INCH MINIMUM THICKNESS, AND LENGTHS TO PROVIDE DEPTH INDICATED.
 4. JOINT SEALANT: ASTM C990, BITUMEN OR BUTYL RUBBER.
 5. ADJUSTING RINGS: INTERLOCKING RINGS WITH LEVEL OR SLOPED EDGE IN THICKNESS AND SHAPE MATCHING CATCH BASIN FRAME AND GRATE. INCLUDE SEALANT RECOMMENDED BY RING MANUFACTURER.
 6. GRADE RINGS: INCLUDE TWO OR THREE REINFORCED-CONCRETE RINGS, OF 6- TO 9-INCH TOTAL THICKNESS, THAT MATCH 24-INCH-SQUARE FRAME AND GRATE.
 7. STEPS: INDIVIDUAL FRP STEPS OR FRP LADDER, WIDE ENOUGH TO ALLOW WORKER TO PLACE BOTH FEET ON ONE STEP AND DESIGNED TO PREVENT LATERAL SLIPPAGE OFF STEP. CAST OR ANCHOR STEPS INTO SIDEWALLS AT 12- TO 16-INCH INTERVALS. OMIT STEPS IF TOTAL DEPTH FROM FLOOR OF CATCH BASIN TO FINISHED GRADE IS LESS THAN 60 INCHES.
 8. PIPE CONNECTORS: ASTM C923, RESILIENT, OF SIZE REQUIRED, FOR EACH PIPE CONNECTING TO BASE SECTION.
- B. DESIGNED PRECAST CONCRETE CATCH BASINS: ASTM C913, PRECAST, REINFORCED CONCRETE; DESIGNED IN ACCORDANCE WITH ASTM C980 FOR A-16 (AASHTO HS20-44), HEAVY TRAFFIC, STRUCTURAL LOADING; OF DEPTH, SHAPE, AND DIMENSIONS INDICATED, WITH PROVISION FOR JOINT SEALANTS.
1. JOINT SEALANTS: ASTM C990, BITUMEN OR BUTYL RUBBER.
 2. ADJUSTING RINGS: INTERLOCKING RINGS WITH LEVEL OR SLOPED EDGE IN THICKNESS AND SHAPE MATCHING CATCH BASIN FRAME AND GRATE. INCLUDE SEALANT RECOMMENDED BY RING MANUFACTURER.
 3. GRADE RINGS: INCLUDE TWO OR THREE REINFORCED-CONCRETE RINGS, OF 6- TO 9-INCH TOTAL THICKNESS, THAT MATCH 24-INCH-SQUARE FRAME AND GRATE.
 4. STEPS: INDIVIDUAL FRP STEPS OR FRP LADDER, WIDE ENOUGH TO ALLOW WORKER TO PLACE BOTH FEET ON ONE STEP AND DESIGNED TO PREVENT LATERAL SLIPPAGE OFF STEP. CAST OR ANCHOR STEPS INTO SIDEWALLS AT 12- TO 16-INCH INTERVALS. OMIT STEPS IF TOTAL DEPTH FROM FLOOR OF CATCH BASIN TO FINISHED GRADE IS LESS THAN 60 INCHES.
 5. PIPE CONNECTORS: ASTM C923, RESILIENT, OF SIZE REQUIRED, FOR EACH PIPE CONNECTING TO BASE SECTION.
- C. FRAMES AND GRATES: ASTM A536, GRADE 60-40-18, DUCTILE IRON DESIGNED FOR A-16 (AASHTO HS20-44), STRUCTURAL LOADING, INCLUDE FLAT GRATE WITH SMALL SQUARE OR SHORT-SLOTTED DRAINAGE OPENINGS.
1. SIZE: 24 BY 24 INCHES MINIMUM UNLESS OTHERWISE INDICATED.
 2. GRATE FREE AREA: APPROXIMATELY 50 PERCENT UNLESS OTHERWISE INDICATED.

PART 3 - EXECUTION

3.1 EARTHWORK

- A. EXCAVATION, TRENCHING, AND BACKFILLING ARE SPECIFIED ON G003 OF THE CONTRACT PLANS.

3.2 PIPING INSTALLATION

- A. GENERAL LOCATIONS AND ARRANGEMENTS: DRAWING PLANS AND DETAILS INDICATE GENERAL LOCATION AND ARRANGEMENT OF UNDERGROUND STORM DRAINAGE PIPING, LOCATION AND ARRANGEMENT OF PIPING LAUREY TAKE INTO ACCOUNT DESIGN CONSIDERATIONS. INSTALL PIPING AS INDICATED, TO EXTENT PRACTICAL, WHERE SPECIFIC INSTALLATION IS NOT INDICATED. FOLLOW PIPING MANUFACTURER'S WRITTEN INSTRUCTIONS.
- B. INSTALL PIPING BEGINNING AT LOW POINT. TRUE TO GRADES AND ALIGNMENT INDICATED WITH UNBROKEN CONTINUITY OF INVERT. PLACE BELL ENDS OF PIPING FACING UPSTREAM. INSTALL GASKETS, SEALS, SLEEVES, AND COUPLINGS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR USE OF LUBRICANTS, CEMENTS, AND OTHER INSTALLATION REQUIREMENTS.
- C. REDUCING SIZE OF PIPING IN DIRECTION OF FLOW IS PROHIBITED.
- D. INSTALL GRAVITY-FLOW, NONPRESSURE DRAINAGE PIPING IN ACCORDANCE WITH THE FOLLOWING:
1. INSTALL PIPING PITCHED DOWN IN DIRECTION OF FLOW.
 2. INSTALL PIPING NPS 8 AND LARGER WITH RESTRAINED JOINTS AT TEE FITTINGS AND AT CHANGES IN DIRECTION. USE CORROSION-RESISTANT RODS, PIPE OR FITTING MANUFACTURER'S PROPRIETARY RESTRAINT SYSTEM, OR CAST-IN-PLACE CONCRETE SUPPORTS OR ANCHORS.
 3. INSTALL PIPING WITH 36-INCH-MINIMUM COVER.
 4. INSTALL PE CORRUGATED SEWER PIPING IN ACCORDANCE WITH ASTM D2321.

3.3 PIPE JOINT CONSTRUCTION

- A. JOIN GRAVITY-FLOW, NONPRESSURE DRAINAGE PIPING IN ACCORDANCE WITH THE FOLLOWING:
1. JOIN CORRUGATED-PE PIPING IN ACCORDANCE WITH ASTM D3212 FOR PUSH-ON JOINTS.

3.4 CATCH BASIN INSTALLATION

- A. CONSTRUCT CATCH BASINS TO SIZES AND GRADES INDICATED.
- B. SET FRAMES AND GRATES TO ELEVATIONS INDICATED.

3.5 CONCRETE PLACEMENT

- A. PLACE CAST-IN-PLACE CONCRETE IN ACCORDANCE WITH ACI 318.

3.6 CONNECTIONS

- A. PIPE COUPLINGS, EXPANSION JOINTS, AND DEFLECTION FITTINGS WITH PRESSURE RATINGS AT LEAST EQUAL TO PIPING RATING MAY BE USED IN APPLICATIONS BELOW UNLESS OTHERWISE INDICATED.
1. USE NONPRESSURE-TYPE FLEXIBLE COUPLINGS WHERE REQUIRED TO JOIN GRAVITY-FLOW, NONPRESSURE SEWER PIPING UNLESS OTHERWISE INDICATED.

- a. UNSHIELDED FLEXIBLE COUPLINGS FOR SAME OR MINOR DIFFERENCE OD PIPES.
- b. UNSHIELDED, INCREASER/REDUCER-PATTERN, FLEXIBLE COUPLINGS FOR PIPES WITH DIFFERENT OD.
- c. RING-TYPE FLEXIBLE COUPLINGS FOR PIPING OF DIFFERENT SIZES WHERE ANNULAR SPACE BETWEEN SMALLER PIPING'S OD AND LARGER PIPING'S ID PERMITS INSTALLATION.

3.7 FIELD QUALITY CONTROL

- A. INSPECT INTERIOR OF PIPING TO DETERMINE WHETHER LINE DISPLACEMENT OR OTHER DAMAGE HAS OCCURRED. INSPECT AFTER APPROXIMATELY 24 INCHES OF BACKFILL IS IN PLACE, AND AGAIN AT COMPLETION OF PROJECT.
1. SUBMIT SEPARATE REPORTS FOR EACH SYSTEM INSPECTION.
 2. DEFECTS REQUIRING CORRECTION INCLUDE THE FOLLOWING:
 - a. ALIGNMENT: LESS THAN FULL DIAMETER OF INSIDE OF PIPE IS VISIBLE BETWEEN STRUCTURES.
 - b. DEFLECTION: FLEXIBLE PIPING WITH DEFLECTION THAT PREVENTS PASSAGE OF BALL OR CYLINDER OF SIZE NOT LESS THAN 92.5 PERCENT OF PIPING DIAMETER.
 - c. DAMAGE: CRUSHED, BROKEN, CRACKED, OR OTHERWISE DAMAGED PIPING.
 - d. INFILTRATION: WATER LEAKAGE INTO PIPING.
 - e. EXFILTRATION: WATER LEAKAGE FROM OR AROUND PIPING.
 3. REPLACE DEFECTIVE PIPING USING NEW MATERIALS, AND REPEAT INSPECTIONS UNTIL DEFECTS ARE WITHIN ALLOWANCES SPECIFIED.
 4. REINSPECT AND REPEAT PROCEDURE UNTIL RESULTS ARE SATISFACTORY.
- B. TEST NEW PIPING SYSTEMS, AND PARTS OF EXISTING SYSTEMS THAT HAVE BEEN ALTERED, EXTENDED, OR REPAIRED, FOR LEAKS AND DEFECTS.
1. DO NOT ENCLOSE, COVER, OR PUT INTO SERVICE BEFORE INSPECTION AND APPROVAL.
 2. TEST COMPLETED PIPING SYSTEMS IN ACCORDANCE WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
 3. SCHEDULE TESTS AND INSPECTIONS BY AUTHORITIES HAVING JURISDICTION WITH AT LEAST 24 HOURS' ADVANCE NOTICE.
 4. SUBMIT SEPARATE REPORT FOR EACH TEST.
 5. GRAVITY-FLOW STORM DRAINAGE PIPING: TEST IN ACCORDANCE WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION, UNH-B-6, AND THE FOLLOWING:
 - a. EXCEPTION: PIPING WITH SOLTIGHT JOINTS UNLESS REQUIRED BY AUTHORITIES HAVING JURISDICTION.
 - b. OPTION: TEST PLASTIC PIPING IN ACCORDANCE WITH ASTM F1417.
 6. LEAKS AND LOSS IN TEST PRESSURE CONSTITUTE DEFECTS THAT MUST BE REPAIRED.
 7. REPLACE LEAKING PIPING USING NEW MATERIALS, AND REPEAT TESTING UNTIL LEAKAGE IS WITHIN ALLOWANCES SPECIFIED.

3.8 CLEANING

- A. CLEAN INTERIOR OF PIPING AND STRUCTURES OF DIRT AND SUPERFLUOUS MATERIALS.

END OF STORMWATER CONVEYANCE AND STRUCTURES SPECIFICATION

LANDSCAPE WORK SPECIFICATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS WHICH APPLY TO WORK SPECIFIED IN THIS SECTION.

1.2 DESCRIPTION OF WORK

- A. SUBGRADE ELEVATIONS: EXCAVATION, FILLING AND GRADING REQUIRED TO ESTABLISH ELEVATIONS ARE NOT SPECIFIED IN THIS SECTION.
- B. SECTION INCLUDES:
1. PLANTING SOIL
 2. SEEDING
 3. HYDROSEEDING
 4. TURF RENOVATION
- C. PESTICIDE APPLICATOR: STATE LICENSED, COMMERCIAL.

1.3 REFERENCE STANDARDS

- A. ASTM C602 - STANDARD SPECIFICATION FOR AGRICULTURAL LIMING MATERIALS.

1.4 QUALITY ASSURANCE

- A. SEEDING WORK IS TO BE PERFORMED BY A CONTRACTING FIRM OR FIRMS SPECIALIZING IN LANDSCAPE AND SEEDING WORK. CONTRACTOR MUST SUBMIT PROOF TO THE TOWN ENGINEER THAT THEY MEET THE FOLLOWING EXPERIENCE REQUIREMENTS:
1. SUCCESSFULLY COMPLETED A CONTRACT OF SIMILAR WORK IN AN AMOUNT OF NOT LESS THAN FIFTY PERCENT OF THE AMOUNT OF THE PROPOSED CONTRACT WITHIN THE LAST 5 YEARS.
 2. SEVENTY-FIVE PERCENT OF ALL THE CONTRACTORS' WORK IN THE LAST 5 YEARS MUST HAVE CONSISTED OF CONTRACTS IN WHICH A MAJORITY PERCENTAGE OF THE CONTRACT SUM WAS FOR THE INSTALLATION OF PLANT MATERIAL. LIST MUST INCLUDE OWNER'S NAME, PROJECT SITE, AND CONTRACT AMOUNT.
 3. INSTALLER'S FIELD SUPERVISION: REQUIRE INSTALLER TO MAINTAIN AN EXPERIENCED FULL-TIME SUPERVISOR ON PROJECT SITE WHEN WORK IS IN PROGRESS.
 4. PESTICIDE APPLICATOR: STATE LICENSED, COMMERCIAL.

1.5 SUBMITTALS

- A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT.
- B. CERTIFICATION OF GRASS SEED: FROM SEED VENDOR FOR EACH GRASS-SEED MONOSTAND OR MIXTURE, STATING THE BOTANICAL AND COMMON NAME, PERCENTAGE BY WEIGHT OF EACH SPECIES AND VARIETY, AND PERCENTAGE OF PURITY, GERMINATION, AND WEED SEED. INCLUDE THE YEAR OF PRODUCTION AND DATE OF PACKAGING.
- C. PRODUCT CERTIFICATES: FOR FERTILIZERS, FROM MANUFACTURER.
- D. PESTICIDES AND HERBICIDES: PRODUCT LABEL AND MANUFACTURER'S APPLICATION INSTRUCTIONS SPECIFIC TO PROJECT.
- E. SCHEDULE: SUBMIT SCHEDULE SHOWING SCHEDULED DATES FOR SEEDING IN EACH AREA OF SITE. ONCE ACCEPTED, REVISE DATES ONLY AS ACCEPTED IN WRITING BY THE TOWN ENGINEER, AFTER DOCUMENTATION OF REASONS FOR DELAY.
- F. OFF-SITE TOPSOIL, BEFORE DELIVERY OF TOPSOIL FROM OFF-SITE SOURCES, FURNISH TOWN ENGINEER WITH WRITTEN STATEMENT GIVING LOCATION OF PROPERTIES FROM WHICH TOPSOIL IS TO BE OBTAINED, NAMES AND ADDRESSES OF OWNERS, DEPTH TO BE STRIPPED, AND CROPS GROWN DURING THE PAST 2 YEARS.

1.6 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. PACKAGED MATERIALS: DELIVER PACKAGED MATERIALS IN ORIGINAL, UNOPENED CONTAINERS SHOWING WEIGHT, CERTIFIED ANALYSIS, NAME AND ADDRESS OF MANUFACTURER, AND COMPLIANCE WITH STATE AND FEDERAL LAWS IF APPLICABLE.
- B. BULK MATERIALS:
1. DO NOT DUMP OR STORE BULK MATERIALS NEAR STRUCTURES, UTILITIES, WALKWAYS AND PAVEMENTS, OR ON EXISTING TURF AREAS OR PLANTS.
 2. PROVIDE EROSION-CONTROL MEASURES TO PREVENT EROSION OR DISPLACEMENT OF BULK MATERIALS. DISCHARGE OF SOIL-BEARING WATER RUNOFF, AND AIRBORNE DUST REACHING ADJACENT PROPERTIES, WATER CONVEYANCE SYSTEMS, OR WALKWAYS.
 3. DO NOT MOVE OR HANDLE MATERIALS WHEN THEY ARE WET OR FROZEN.
 4. ACCOMPANY EACH DELIVERY OF BULK FERTILIZERS AND SOIL AMENDMENTS WITH APPROPRIATE CERTIFICATES

1.7 JOB CONDITIONS

- A. DETERMINE LOCATION OF UNDERGROUND UTILITIES AND PERFORM WORK IN A MANNER WHICH WILL AVOID POSSIBLE DAMAGE. HAND EXCAVATE, AS REQUIRED, MAINTAIN GRADE STAKES SET BY OTHERS UNTIL REMOVAL IS APPROVED BY PARTIES CONCERNED.
- B. DO NOT DAMAGE PREVIOUSLY INSTALLED TREES AND SHRUBS.
- C. OBSERVE PRECAUTIONARY MEASURES TO PROTECT EXISTING PAVED AREAS AGAINST DAMAGE DURING THE PLANTING OPERATION.
- D. WORK NOTIFICATION: NOTIFY TOWN ENGINEER AT LEAST 48 HOURS IN ADVANCE OF THE TIME CONTRACTOR INTENDS TO SEED, AND DO NOT PROCEED WITH SUCH WORK UNTIL PERMISSION HAS BEEN GRANTED.
- E. PERFORM SEEDING WORK ONLY AFTER OTHER WORK AFFECTING GROUND SURFACE HAS BEEN COMPLETED.
- F. SEEDING SHALL TAKE PLACE DURING NORMAL PLANTING SEASONS AS ESTABLISHED BELOW. ACTUAL WEATHER CONDITIONS AND SEASONAL VARIATIONS WILL DETERMINE WHEN SEEDING IS WARRANTED.
1. TIME OF SEEDING
 - a. SEEDING OPERATIONS SHALL NOT OCCUR AT A TIME WHEN THE SOIL OR BACKFILL IS FROZEN OR THE

- SOIL IS SATURATED.
- b. SEEDING SEASONS SHALL BE APRIL 1ST TO JUNE 6TH AND AUGUST 20TH TO OCTOBER 31ST.
 - c. WHEN DELAYS IN OPERATIONS CARRY THE WORK BEYOND THE SEASONS SPECIFIED, OR WHEN CONDITIONS OF HIGH WINDS (WINDS THAT EXCEED 5 MPH VELOCITY), DROUGHT, EXCESSIVE MOISTURE OR ICE ARE SUCH THAT SATISFACTORY RESULTS ARE NOT LIKELY TO BE OBTAINED AT ANY STAGE OF THE WORK, THE WORK WILL STOP. SEEDING WORK SHALL BE RESUMED ONLY WHEN THE DESIRED RESULTS ARE LIKELY TO BE OBTAINED OR WHEN THE OWNER AND/OR TOWN ENGINEER ACCEPTS A CORRECTIVE MEASURE AND PROCEDURE.
 - d. DORMANT SEEDING MAY TAKE PLACE AFTER NOVEMBER 15, BUT PRIOR TO CONTINUOUS SOIL FREEZE. SUCCESS OF DORMANT SEEDING DETERMINED AT TOWN ENGINEER'S DISCRETION.
 - e. SOIL CONDITIONS SHALL PREVAIL WHEN THE TIME OF PLANTING IS IN DISPUTE.
- G. RESTRICT TRAFFIC FROM LAWN AREAS UNTIL GRASS IS ESTABLISHED. ERECT SIGNS AND BARRIERS AS REQUIRED.

1.8 SPECIAL PROJECT WARRANTY

- A. WARRANTY LAWS THROUGH SPECIFIED MAINTENANCE PERIOD, AND UNTIL FINAL ACCEPTANCE.
- B. THE CONTRACTOR AT HIS EXPENSE THROUGH THE USE OF FENCES, BARRICADES, OR OTHER PHYSICAL BARRIERS SHALL PROTECT NEWLY SEEDED AREAS FROM FOOT TRAFFIC OR VEHICULAR TRESPASS. CONTRACTOR SHALL MONITOR, REPAIR, OR REPLACE BARRIERS AS NECESSARY OR AS REQUIRED BY THE TOWN ENGINEER.
- C. THE CONTRACTOR SHALL REPLACE DISPLACED MULCH, REMOVE ERODED TOPSOIL AND ADJUST OR REPLACE DISTURBED SEEDED AREAS.

PART 2 PRODUCTS

2.1 TOPSOIL

- A. EXISTING OR IMPORTED TOPSOIL: SHALL BE FERTILE, FRIABLE SOIL CONTAINING LESS THAN 10 PERCENT TOTAL VOLUME OF THE COMBINATION OF SUBSOIL, REFUSE, ROOTS LARGER THAN 1 INCH DIAMETER, HEAVY, STICKY OR STIFF CLAY, STONES LARGER THAN 2 INCHES IN ANY DIMENSION. TOPSOIL SHALL BE SUITABLE FOR THE GERMINATION OF SEEDS AND THE SUPPORT OF VEGETATIVE GROWTH. IMPORTED TOPSOIL SHALL NOT CONTAIN NOXIOUS WEED SEEDS IN QUANTITIES THAT CAUSE NOTICEABLE WEED INFESTATIONS IN THE FINAL PLANTING BEDS.
1. SOIL TEXTURE: USDA LOAM, SANDY CLAY LOAM OR SANDY LOAM WITH CLAY CONTENT BETWEEN 15 AND 25 PERCENT AND A COMBINED CLAY/SILT CONTENT NO GREATER THAN 55 PERCENT.
 2. PH SHALL BE BETWEEN 5.5 AND 7.0
 3. PERCENT ORGANIC MATTER SHALL BE BETWEEN 2 AND 5 PERCENT%
 4. SOLUBLE SALT LEVEL LESS THAN 2 MMH2O/M
 5. SOIL CHEMISTRY SUITABLE FOR GROWING THE PLANTS SPECIFIED.
- B. UNACCEPTABLE PROPERTIES: TOPSOIL SHALL NOT CONTAIN THE FOLLOWING:
1. UNACCEPTABLE MATERIALS: CONCRETE SLURRY, CONCRETE LAYERS OR CHUNKS, CEMENT, PLASTER, BUILDING DEBRIS, OILS, GASOLINE, DIESEL FUEL, PAINT THINNER, TURPENTINE, TAR, ROOFING COMPOUND, ACID, AND OTHER EXTRANEEOUS MATERIALS THAT ARE HARMFUL TO PLANT GROWTH.
 2. LARGE MATERIALS: STONES, ROOTS, CLAY LUMPS, AND POCKETS OF COARSE SAND EXCEEDING 2 INCHES IN ANY DIMENSION.
- C. IMPORTED TOPSOIL SHALL BE HARVESTED FROM FIELDS OR DEVELOPMENT SITES. THE ORGANIC CONTENT AND PARTICLE SIZE DISTRIBUTION SHALL BE THE RESULT OF NATURAL SOIL FORMATION. MANUFACTURED SOILS WHERE COARSE SAND, ORGANIC MATERIAL OR CHEMICALS HAVE BEEN ADDED TO MEET THE REQUIREMENTS OF TOPSOIL SHALL NOT BE ACCEPTABLE.

2.2 INORGANIC SOIL AMENDMENTS

- A. LIME: ASTM C602, AGRICULTURAL LIMING MATERIAL CONTAINING A MINIMUM OF 80 PERCENT CALCIUM CARBONATE EQUIVALENT AND AS FOLLOWS:
1. CLASS T, WITH A MINIMUM OF 99 PERCENT PASSING THROUGH A NO. 8 SIEVE AND A MINIMUM OF 75 PERCENT PASSING THROUGH A NO. 60 SIEVE.
 2. FORM: PROVIDE LIME IN FORM OF GROUND DOLOMITIC LIMESTONE.
- B. SULFUR, GRANULAR, BIODEGRADABLE, AND CONTAINING A MINIMUM OF 90 PERCENT ELEMENTAL SULFUR, WITH A MINIMUM OF 99 PERCENT PASSING THROUGH A NO. 6 SIEVE AND A MAXIMUM OF 10 PERCENT PASSING THROUGH A NO. 40 SIEVE.

2.3 SEED

- A. GRASS SEED: FRESH, CLEAN, DRY, NEW-CROP SEED COMPLYING WITH AOSA'S "RULES FOR TESTING SEEDS" FOR PURITY AND GERMINATION TOLERANCES.
- B. SEED SPECIES:
1. FOR LAWN AREAS (SEEDING RATE 5 LBS. PER 1,000 SQ. FT.):
 - a. 34% BLEND OF 3 PERENNIAL RYEGRASS SPECIES
 - b. 33% CREEPING RED FESCUE SPECIES
 - c. 33% KENTUCKY BLUEGRASS SPECIES

2.4 FERTILIZERS

- A. COMMERCIAL FERTILIZER: COMMERCIAL-GRADE COMPLETE FERTILIZER OF NEUTRAL CHARACTER, CONSISTING OF FAST- AND SLOW-RELEASE NITROGEN, 50 PERCENT DERIVED FROM NATURAL ORGANIC SOURCES OF UREA FORMALDEHYDE, PHOSPHOROUS, AND POTASSIUM IN THE FOLLOWING COMPOSITION:
1. COMPOSITION: 1 LB PER 1,000 SQ. FT. OF ACTUAL NITROGEN, 4 PERCENT PHOSPHOROUS, AND 2 PERCENT POTASSIUM, BY WEIGHT.

2.5 MULCHES

- A. STRAW MULCH: PROVIDE AIR-DRY, CLEAN, MILDEW- AND SEED-FREE, SALT HAY OR THRESHED STRAW OF WHEAT, RYE, OATS, OR BARLEY.
- B. FIBER MULCH: BIODEGRADABLE, DYED-WOOD, CELLULOSE-FIBER MULCH; NONTOXIC AND FREE OF PLANT-GROWTH OR GERMINATION INHIBITORS; WITH A MAXIMUM MOISTURE CONTENT OF 15 PERCENT AND A PH RANGE OF 4.5 TO 6.5.
- C. NONASPHALTIC TACKIFIER: COLLOIDAL TACKIFIER RECOMMENDED BY FIBER-MULCH MANUFACTURER FOR SLURRY APPLICATION; NONTOXIC AND FREE OF PLANT-GROWTH OR GERMINATION INHIBITORS.

2.6 PESTICIDES

- A. GENERAL: PESTICIDE, REGISTERED AND APPROVED BY THE EPA, ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, AND OF TYPE RECOMMENDED BY MANUFACTURER FOR EACH SPECIFIC PROBLEM AND AS REQUIRED FOR PROJECT CONDITIONS AND APPLICATION, DO NOT USE RESTRICTED PESTICIDES UNLESS AUTHORIZED IN WRITING BY AUTHORITIES HAVING JURISDICTION.
- B. PRE-EMERGENT HERBICIDE (SELECTIVE AND NONSELECTIVE): EFFECTIVE FOR CONTROLLING THE GERMINATION OR GROWTH OF WEEDS WITHIN PLANTED AREAS AT THE SOIL LEVEL DIRECTLY BELOW THE MULCH LAYER.
- C. POST-EMERGENT HERBICIDE (SELECTIVE AND NONSELECTIVE): EFFECTIVE FOR CONTROLLING WEED GROWTH THAT HAS ALREADY GERMINATED.

PART 3 EXECUTION

3.1 EXAMINATION

- A. EXAMINE AREAS TO BE SEEDED FOR COMPLIANCE WITH REQUIREMENTS AND OTHER CONDITIONS AFFECTING INSTALLATION AND PERFORMANCE OF THE WORK.
1. VERIFY THAT NO FOREIGN OR DELETERIOUS MATERIAL, OR LIQUID SUCH AS PAINT, PAINT WASHOUT, CONCRETE SLURRY, CONCRETE LAYERS OR CHUNKS, CEMENT, PLASTER, OILS, GASOLINE, DIESEL FUEL, PAINT THINNER, TURPENTINE, TAR, ROOFING COMPOUND, OR ACID HAS BEEN DEPOSITED IN SOIL WITHIN A PLANTING AREA.
 2. SUSPEND SEEDING OPERATIONS DURING PERIODS OF EXCESSIVE SOIL MOISTURE UNTIL THE MOISTURE CONTENT REACHES ACCEPTABLE LEVELS TO ATTAIN THE REQUIRED RESULTS.
 3. UNIFORMLY MOISTEN EXCESSIVELY DRY SOIL THAT IS NOT WORKABLE OR WHICH IS DUSTY.
- B. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
- C. IF CONTAMINATION BY FOREIGN OR DELETERIOUS MATERIAL OR LIQUID IS PRESENT IN SOIL WITHIN A SEEDING AREA, REMOVE THE SOIL AND CONTAMINATION AS DIRECTED BY TOWN ENGINEER AND REPLACE WITH NEW PLANTING SOIL.

3.2 PREPARATION

- A. PROTECT STRUCTURES; UTILITIES; SIDEWALKS; PAVEMENTS; AND OTHER FACILITIES, TREES, SHRUBS, AND PLANTINGS FROM DAMAGE CAUSED BY PLANTING OPERATIONS.
1. PROTECT ADJACENT AND ADJOINING AREAS FROM HYDROSEEDING AND HYDROMULCHING OVERSPRAY.
 2. PROTECT GRADE STAKES SET BY OTHERS UNTIL DIRECTED TO REMOVE THEM.
- B. INSTALL EROSION-CONTROL MEASURES TO PREVENT EROSION OR DISPLACEMENT OF SOILS AND DISCHARGE OF SOIL-BEARING WATER RUNOFF OR AIRBORNE DUST TO ADJACENT PROPERTIES AND WALKWAYS.

3.3 TURF AREA PREPARATION

- A. GENERAL: PREPARE PLANTING AREA FOR SOIL PLACEMENT AND MIX PLANTING SOIL.
- B. SUBGRADE PREPARATION: SCARIFY SUBGRADE TO A MINIMUM DEPTH OF 4 INCHES, REMOVE STONES LARGER THAN 3 INCHES IN ANY DIMENSION AND STICKS, ROOTS, RUBBISH, AND OTHER EXTRANEEOUS MATTER AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.
- C. SPREAD TOPSOIL TO MINIMUM DEPTH OF 4 INCHES TO MEET LINES, GRADES AND ELEVATIONS SHOWN. AFTER NATURAL SETTLEMENT.

- D. SOIL AMENDMENTS: APPLY LIME OR SULFUR AS RECOMMENDED BY MECHANICAL ROTARY OR DROP TYPE DISTRIBUTOR, THOROUGHLY AND EVENLY INCORPORATED WITH SOIL TO A DEPTH OF 3 INCHES BY DIGING OR OTHER APPROVED METHOD.
- E. FERTILIZING (FOR CONVENTIONAL SEEDING METHOD ONLY)
1. APPLY FERTILIZERS BY MECHANICAL ROTARY OR DROP TYPE DISTRIBUTOR, THOROUGHLY AND EVENLY INCORPORATED WITH SOIL TO A DEPTH OF 3 INCHES BY DIGING OR OTHER APPROVED METHOD. FERTILIZE AREAS INACCESSIBLE TO POWER EQUIPMENT WITH HAND TOOLS AND INCORPORATE INTO SOIL, ADJACENT TO EXISTING TREES THE DEPTH SHALL BE ADJUSTED TO AVOID DISTURBANCE OF ROOTS.
- F. FINE GRADE LAWN AREAS TO SMOOTH, EVEN SURFACE WITH LOOSE, UNIFORMLY FINE TEXTURE, ROLL AND RAKE AND REMOVE RIDGES AND FILL DEPRESSIONS, AS REQUIRED TO MEET FINISH GRADES. LIMIT FINE GRADING TO AREAS WHICH CAN BE PLANTED IMMEDIATELY AFTER GRADING.
1. WHERE SEEDED AREA IS ADJACENT TO PAVEMENT SUCH AS WALKS, CURBS, PARKING LOTS, ETC., THE TOPSOIL SHALL BE NO MORE THAN 1/2 INCH BELOW PAVEMENT SURFACE PRIOR TO THE SEEDING OPERATION.
- G. THE BORDERS OF THE AREA OF GROUND DISTURBED SHALL BE MERGED BY "FEATHERING" TOPSOIL INTO SURROUNDING SURFACE AREAS BY COMPACTING, RAKING OR OTHER MEANS, TO PERMIT WATER RUN-OFF AND TO PRESENT A UNIFORM SLOPE AND TRANSITION.
- H. CLEAN AND CLEAR ALL OBSTRUCTIONS FROM DRAINAGE STRUCTURES, DITCHES, SWALES, AS MAY BE NECESSARY TO PROVIDE A CLEAN, OPEN, FREE RUNNING PASSAGEWAY FOR ALL SURFACE WATER.
- I. MOISTEN PREPARED AREA BEFORE SEEDING IF SOIL IS DRY, WATER THOROUGHLY AND ALLOW SURFACE TO DRY BEFORE SEEDING. DO NOT CREATE MUDDY SOIL.
- J. BEFORE SEEDING, OBTAIN TOWN ENGINEER'S ACCEPTANCE OF FINISH GRADING; RESTORE SEEDING AREAS IF ERODED OR OTHERWISE DISTURBED AFTER FINISH GRADING.

3.4 CONVENTIONAL SEEDING

- A. SOW SEED WITH SPREADER OR SEEDING MACHINE. DO NOT BROADCAST OR DROP SEED WHEN WIND VELOCITY EXCEEDS 5 MPH.
1. EVENLY DISTRIBUTE SEED BY SOWING EQUAL QUANTITIES IN TWO DIRECTIONS AT RIGHT ANGLES TO EACH OTHER.
 2. DO NOT USE WET SEED OR SEED THAT IS MOLDY OR OTHERWISE DAMAGED.
 3. DO NOT SEED AGAINST EXISTING TREES. LIMIT EXTENT OF SEED TO OUTSIDE EDGE OF PLANTING SAUCER.
- B. SOW SEED AT RATE INDICATED.
- C. RAKE SEED LIGHTLY INTO TOP 1/8 INCH OF SOIL, AND WATER WITH FINE SPRAY.
- D. PROTECT SEEDED AREAS WITH SLOPES NOT EXCEEDING 1:6 BY SPREADING STRAW MULCH. SPREAD UNIFORMLY AT A MINIMUM RATE OF 2 TONS PER ACRE TO FORM A CONTINUOUS BLANKET 1-1/2 INCHES IN LOOSE THICKNESS OVER SEEDED AREAS. SPREAD BY HAND, BLOWER, OR OTHER SUITABLE EQUIPMENT.
1. ANCHOR STRAW MULCH BY CRIMPING INTO SOIL WITH SUITABLE MECHANICAL EQUIPMENT.

3.5 HYDROSEEDING

- A. HYDROSEEDING: MIX SPECIFIED SEED, COMMERCIAL FERTILIZER, AND FIBER MULCH IN WATER, USING EQUIPMENT SPECIFICALLY DESIGNED FOR HYDROSEED APPLICATION. CONTINUE MIXING UNTIL UNIFORMLY BLENDED INTO HOMOGENEOUS SLURRY SUITABLE FOR HYDRAULIC APPLICATION.
1. MIX SLURRY WITH FIBER-MULCH MANUFACTURER'S RECOMMENDED TACKIFIER.
- D. SPRAY-APPLY SLURRY UNIFORMLY TO ALL AREAS TO BE SEEDED IN A ONE-STEP PROCESS. APPLY SLURRY AT A RATE SO THAT MULCH COMPONENT IS DEPOSITED AT NOT LESS THAN 1500-LB PER ACRE DRY WEIGHT, AND SEED COMPONENT IS DEPOSITED AT NOT LESS THAN THE SPECIFIED SEED-SOWING RATE.

3.6 TURF RENOVATION

- A. RENOVATE TURF DAMAGED BY CONTRACTOR'S OPERATIONS, SUCH AS STORAGE OF MATERIALS OR EQUIPMENT AND MOVEMENT OF VEHICLES.
1. REESTABLISH TURF WHERE SETTLEMENT OR WASHOUTS OCCUR OR WHERE MINOR REGRADING IS REQUIRED.
 2. INSTALL TOPSOIL AS REQUIRED.
- B. REMOVE SOD AND VEGETATION FROM DISEASED OR UNSATISFACTORY TURF AREAS; DO NOT BURY IN SOIL.
- C. REMOVE TOPSOIL CONTAINING FOREIGN MATERIALS, SUCH AS OIL DRIPPINGS, FUEL SPILLS, STONES, GRAVEL, AND OTHER CONSTRUCTION MATERIALS RESULTING FROM CONTRACTOR'S OPERATIONS, AND REPLACE WITH NEW PLANTING SOIL.
- D. MOW, DETHATCH, CORE AERATE, AND RAKE EXISTING TURF.
- E. REMOVE WEEDS BEFORE SEEDING, WHERE WEEDS ARE EXTENSIVE, APPLY SELECTIVE HERBICIDES AS REQUIRED. DO NOT USE PRE-EMERGENT HERBICIDES
- F. REMOVE WASTE AND FOREIGN MATERIALS INCLUDING WEEDS, SOIL CORES, GRASS, VEGETATION, AND TURF, AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.
- G. TILL STRIPPED, BARE, AND COMPACTED AREAS THOROUGHLY TO A SOIL DEPTH OF 6 INCHES.
- H. APPLY SOIL AMENDMENTS AND INITIAL FERTILIZER REQUIRED FOR ESTABLISHING NEW TURF AND MIX THOROUGHLY INTO TOP 4 INCHES OF EXISTING SOIL. INSTALL NEW PLANTING SOIL TO FILL LOW SPOTS AND MEET FINISH GRADES.
- I. APPLY SEED AND PROTECT WITH STRAW MULCH OR HYDROSEED AS REQUIRED FOR NEW TURF.
- J. WATER AND MAINTAIN NEWLY PLANTED AREAS AND KEEP MOIST UNTIL NEW TURF IS SATISFACTORY.

3.7 TURF MAINTENANCE

- A. GENERAL: MAINTAIN AND ESTABLISH TURF BY WATERING, FERTILIZING, WEEDING, MOWING, TRIMMING, REPLANTING, AND PERFORMING OTHER OPERATIONS AS REQUIRED TO ESTABLISH HEALTHY, VIABLE TURF. ROLL, REGRADE, AND REPLANT BARE OR ERODED AREAS AND REMULCH TO PRODUCE A UNIFORMLY SMOOTH TURF. PROVIDE MATERIALS AND INSTALLATION THE SAME AS THOSE USED IN THE ORIGINAL INSTALLATION.
1. FILL IN AS NECESSARY SOIL SUBSIDENCE THAT MAY OCCUR BECAUSE OF SETTLING OR OTHER PROCESSES. REPLACE MATERIALS AND TURF DAMAGED OR LOST IN AREAS OF SUBSIDENCE.
 2. IN AREAS WHERE MULCH HAS BEEN DISTURBED BY WIND OR MAINTENANCE OPERATIONS, ADD NEW MULCH AND ANCHOR AS REQUIRED TO PREVENT DISPLACEMENT.
 3. APPLY TREATMENTS AS REQUIRED TO KEEP TURF AND SOIL FREE OF PESTS AND PATHOGENS OR DISEASE. USE INTEGRATED PEST MANAGEMENT PRACTICES WHENEVER POSSIBLE TO MINIMIZE THE USE OF PESTICIDES AND REDUCE HAZARDS.
- B. MOW TURF AS SOON AS TOP GROWTH IS TALL ENOUGH TO CUT. REPEAT MOWING TO MAINTAIN SPECIFIED HEIGHT WITHOUT CUTTING MORE THAN ONE-THIRD OF GRASS HEIGHT. REMOVE NO MORE THAN ONE-THIRD OF GRASS-LEAF GROWTH IN INITIAL OR SUBSEQUENT MOWINGS. DO NOT DELAY MOWING UNTIL GRASS BLADES BEND OVER AND BECOME MATTED. DO NOT MOW WHEN GRASS IS WET. SCHEDULE INITIAL AND SUBSEQUENT MOWINGS TO MAINTAIN GRASS HEIGHT AT 2 INCHES.

3.8 SATISFACTORY TURF

- A. TURF INSTALLATIONS SHALL MEET THE FOLLOWING CRITERIA AS DETERMINED BY THE TOWN ENGINEER:
1. SATISFACTORY SEEDED TURF: AT END OF MAINTENANCE PERIOD, A HEALTHY, UNIFORM, CLOSE STAND OF GRASS HAS BEEN ESTABLISHED, FREE OF WEEDS AND SURFACE IRREGULARITIES, WITH COVERAGE EXCEEDING 90 PERCENT OVER ANY 100 SQ. FT. AND NO BARE SPOTS GREATER THAN 6" X 6".
 2. USE SPECIFIED MATERIALS TO REESTABLISH TURF THAT DOES NOT COMPLY WITH REQUIREMENTS, AND CONTINUE MAINTENANCE UNTIL TURF IS SATISFACTORY.

3.9 CLEANUP AND PROTECTION

- A. DURING WORK KEEP PAVEMENTS CLEAN AND WORK AREA IN AN ORDERLY CONDITION.
- B. PROTECT WORK AND MATERIALS FROM DAMAGE DUE TO LANDSCAPE OPERATIONS, OPERATIONS BY OTHER CONTRACTORS AND TRADES AND TRESPASSERS. MAINTAIN