CONSTRUCTION METHODS


2. CLEAR BRUSH AND NEATLY TRIM AND/OR REMOVE TREES IN CONFLICT WITH THE Post Placements Locations. Remove any large trees that are absolutely necessary to perform the work. Obtain approval from the project engineer prior to clearing any trees that will impact the final alignment. If the trees are not removed, the contractor shall be responsible for the trimming so that the trees are not harming and future growth is not hindered. Maintain all plantings in front of or removed and confirm approval from the project engineer prior to performing the work. For clarification, trees shall be interpreted as any growth with a minimum diameter from 3.”

3. DO NOT SHIP CONCRETE PANELS, POSTS, OR CARDS UNTIL THE CONCRETE IS 1" THICK AND SHIP TO DESTINATION BIFURCATED AT LOCATIONS OTHER THAN THOSE SHOWN IN THE STANDARD DRAWINGS. TRANSPORT AND STORE PANELS IN AN UPRIGHT POSITION, PROVIDE UNFULDING SUPPORTS CAPABLE OF MAINTAINING THE PANELS IN AN UPRIGHT POSITION.

4. INSTALL NOISE BARRIERS IN ACCORDANCE WITH THE PROJECT PLANS. MAKE JOINTS AND CONNECTIONS IN SUCH A MANNER AS TO BE STRUCTURALY ADEQUATE WITH NO VISIBILITY OF THE POSITIONS OF THE INTERIOR TRANSMISSION. NOISE PANEL ATTACHMENTS TO POSTS AND INSTALLATION METHODS SHALL BE STRUCTURALLY ADEQUATE. MOVE SCAFFOLDS OR MILITARY VEHICLES FROM THE STRUCTURAL AREA IN THE MANNER THAT IS MOST INEFFECTIVE.

5. PROTECTION OF EXISTING SMEARS AND CURB WORK: BEFORE EXCAVATING FOR THE DRILLED SHAFTS, FIELD VERIFY THE LOCATION OF ALL EXISTING SCAFFOLDS AND CURB WORK SHOWN IN THE PROJECT PLANS. SHOULD A SCAFFOLD OR CURB WORK BE DAMAGED BY THE CONTRACTOR’S NEGLIGANCE IN THE ABOVE MENTIONED WORK, REPLACE THE DAMAGED SECTIONS OF THE SCAFFOLD OR CURB WORK AT NO ADDITIONAL COST TO THE DEPARTMENT AND REFER TO CMS 20-20 FOR REQUIREMENTS TO COOPERATE WITH UTILITIES.

6. DISPOSE OF ALL EXCESS EXCAVATION IN A MANNER SATISFACTORY TO THE ENGINEER. FOR NOISE BARRIERS THAT ARE BUILT ON TOP OF EARTH BURMS, CONSTRUCT THE BURMS OF SUBSTITUTE MATERIALS IN ACCORDANCE WITH ITEM 205 OF THE CMS.

7. INSTALL TEMPORARY FENCE WHEN THE TIME BETWEEN THE REMOVAL OF THE EXISTING FENCE AND THE INSTALLATION OF THE PROPOSED FENCE ON NOISE BARRIERS IS LESS THAN 4 MONTHS. THE TEMPORARY FENCE SHALL BE A WOOD SNOW FENCE, PLASTIC SNOW FENCE OR BRUSH FENCE MOUNTED ON DRiven POSTS. THE TEMPORARY FENCE SHALL BE REMOVE FROM THE EXISTING FENCE EARLIER THAN 3 MONTHS PRIOR TO THE COMPLETED INSTALLATION OF THE NOISE BARRIER PANELS.

8. RESTORATION OF WORK AREA:

A. SEQUENCE OF NOISE BARRIER INSTALLATION, RESTORE ALL AREAS DISTURBED BY THE NOISE BARRIER CONSTRUCTION TO THEIR ORIGINAL CONDITION. RESTORATION SHALL INCLUDE SEEDING AND MACHINING IN ACCORDANCE WITH CMS ITEM 605 USING A CROWN VICTORY TYPE SEED MIXTURE AS DEFINED IN SECTION 609.39. THE DEPARTMENT WILL MAKE THE RESTORATION FROM SOMING SEEDS WITHIN DURING THE MONTHS OF SEPTEMBER AND OCTOBER, BUT OTHER RESTRICTIONS ON REQUIREMENTS OF 659 SHALL APPLY.

NOISE BARRIER SEALER

DESCRIPTION

A SEALER TO ALL CONCRETE SURFACE AREAS OF NOISE BARRIER PANELS AND CONCRETE POSTS, INCLUDING CONCRETE TO CONCRETE CONTACT SURFACES.

APPLY THE COLOR DEFINED BY THE FEDERAL COLOR STANDARD IDENTIFICATION NUMBER IN THE NOISE WALL PLANS; IF THERE IS NO NUMBER, THE ENGINEER WILL SPECIFY THE COLOR.

MATERIALS

OF THE SEALER SHALL MEET THE FOLLOWING PERFORMANCE REQUIREMENTS:

1. FREEZE-THAW TEST: SUBMIT THE APPLIED FINISH COATING TO FREEZE-THAW CYCLE TESTS AS FOLLOWS:
   a. Cover the concrete specimen, not less than 4" in diameter, with a minimum of 3/8" of concrete or 4" concrete blocks, with a 3/8" layer of mortar between the concrete blocks. Subject the block to a temperature of 0°F for 24 hours, then subject the block to 50°F for an additional 24 hours. Repeat this process 50 cycles. At the end of each cycle, submerge the specimen in water at room temperature for 24 hours. After removing the specimen from the water, subject the specimen to a curing temperature of 75°F for 7 days, or until the specimen attains a strength of 2000 psi.

2. ACCELERATED WEATHERING TEST: Subject the applied finish coating to a 5,000 hour exposure test in a two-carbon arc weatherometer, ASTM D 4032 Section 6.7.3. Subject the specimen to a temperature of 100°F and a relative humidity of 90%, with a 10% water content. Subject the specimen to an 8-hour test cycle. After each test cycle, subject the specimen to a 1-hour rest period. Subject the specimen to a total of 10,000 hours of testing. At the end of the test period, subject the specimen to a curing temperature of 75°F for 7 days, or until the specimen attains a strength of 2000 psi.

3. FUNGUS GROWTH RESISTANCE: The applied finish coating shall pass the fungus growth resistance test according to the specifications of ASTM D-2241 (Type II, Fungus Growth Test). Fungus growth shall not be indicated after a minimum incubation period of 5 days.

4. IMPACT RESISTANCE: Apply the coating to a concrete panel, prepared according to the specifications of ASTM C 1012, Method B. Subject the specimen to a temperature of 23°F for 24 hours, then subject the specimen to a temperature of 75°F for 24 hours. Test the specimen for impact resistance according to the specifications of ASTM C 1012, Method B. Subject the specimen to a temperature of 50°F for 24 hours, then subject the specimen to a temperature of 75°F for 24 hours. Subject the specimen to a total of 10,000 hours of testing. At the end of the test period, subject the specimen to a curing temperature of 75°F for 7 days, or until the specimen attains a strength of 2000 psi.

5. FLEXIBILITY TEST: Cast a sheet metal specimen with the applied finish coating at a rate of 50°F ± 5°F air temperature and cure for 24 hours. Subject the specimen to a cure temperature of 75°F for 7 days, or until the specimen attains a strength of 2000 psi.

6. ADHESION: The coating shall not show signs of cracking, delamination, or loss of adhesion.

7. SCALING RESISTANCE: TREATED CONCRETE SHALL PASS ASTM C 672, SCALING RESISTANCE TEST, WITH A PASSING RESISTANCE OF NO SCALING ON CONCRETE SURFACES AS COMPARED TO "NEVER SCALING" ON UNTRATED CONCRETE.

MATERIALS APPROVALS

SUBMIT CERTIFIED TEST DATA TO THE ENGINEER THAT SHOWS THE SEALER WILL MEET THE MATERIAL REQUIREMENTS.

THE FOLLOWING PRODUCTS AND COVERAGE RATES ARE PRE-APPROVED:

1. THICKMAST COAT FINE 0011
   a. Thicken Mast Coating Company
   b. 4510 W. 44th St., Kansas City, MO 64111
   c. 816-471-0212

APPLYMENT OF YEARS THICKNESS: 20 MILS TEXTURED SURFACE: 30 MILS, SMOOTH SURFACE: 40 MILS

2. BRIQUE COAT-X70 1/4" SMOOTH/ 1/2" TEXTURED
   a. Brique Coating
   b. 1705 E. 14th St., Dallas, TX 75201
   c. 214-747-3333

APPLYMENT OF YEARS THICKNESS: 20 MILS TEXTURED SURFACE: 30 MILS, SMOOTH SURFACE: 40 MILS

3. TEXTURED BY CHEMSTORS
   a. 3200 W. 26th St., Chicago, IL 60612
   b. 312-991-7414

APPLYMENT OF YEARS THICKNESS: 40 MILS TEXTURED SURFACE: 50 MILS, SMOOTH SURFACE: 60 MILS

APPLYMENT OF YEARS THICKNESS: 20 MILS TEXTURED SURFACE: 30 MILS, SMOOTH SURFACE: 40 MILS

4. MARK-73 BY POLY-CARB
   a. 1635 W. 26th St., Chicago, IL 60612
   b. 312-991-7414

APPLICATION TEMPERATURES

MINIMUM AIR TEMPERATURE: 40 DEGREES F
MAXIMUM AIR TEMPERATURE: 90 DEGREES F

DO NOT APPLY SEALER IF THE AIR TEMPERATURE IS EXPECTED TO FALL BELOW OR ABOVE THE ABOVE TEMPERATURE RANGES FOR UP TO 24 HOURS AFTER APPLICATION. DO NOT APPLY SEALER IF THE AIR TEMPERATURE IS EXPECTED TO FALL BELOW OR ABOVE THE ABOVE TEMPERATURE RANGES FOR UP TO 24 HOURS AFTER APPLICATION.

CLEARLY NOTE WHERE APPLICATION HAS STOPPED UNLESS THE ENTIRE APPLICATION CONTINUOUSLY, THE SEALER WILL BE INSPECTED AND RUBBLED AT THE NEW START POINT TO MEET SPECIFICATIONS.

MIXING SEALER

MIX SEALER ACCORDING TO THE MANUFACTURER’S RECOMMENDED WRITTEN INSTRUCTIONS. MIX TO A UNIFORM CONSISTENCY AND MIX UNTIL THE DURING THE APPLICATION.

TEST APPLICATION

APPLY THE SEALER TO A MEASURED TEST COVERAGE AREA OF DIFFERENT NOISE WALL COMPONENT TO DEMONSTRATE THE DESIRED PHYSICAL AND VISUAL EFFECT OF THE SEALER AND TO SHOW THE ENGINEER COVERAGE IS ACHIEVED.

APPLICATOR

APPLY THE SEALER TO A MEASURED TEST COVERAGE AREA OF DIFFERENT NOISE WALL COMPONENT TO DEMONSTRATE THE DESIRABLE PHYSICAL AND VISUAL EFFECT OF THE SEALER AND TO SHOW THE ENGINEER COVERAGE IS ACHIEVED.

STORAGE

STORE SEALER COMPONENTS IN FLEXIBLE SEALED CONTAINERS IN A DRY LOCATION AND AS RECOMMENDED BY THE MANUFACTURER. THE SEALER SHALL MEET THE MANUFACTURER’S WRITTEN Specifications AND LOST OF THE MATERIAL, THIS SAMPLE IS FOR VERIFICATION OF MATERIalse ACCEPTABILITY.

CONTRACTOR TESTING EQUIPMENT

PROVIDE, IN GOOD WORKING ORDER, THE FOLLOWING TEST EQUIPMENT:

1. ONE SYGING PSYCHROMETER INCLUDING PSYCHROMETER TABLES USED TO READING RELATIVE HUMIDITY AND CEIL POINT TEMPERATURE.

2. ONE HUMIDITY THERMOMETER OR ANALOGUE METER OR PRODUCTS MANUFACTURED IN METHOD TIA X-180 G. G. 080000 MANUFACTURER: RYAN INC.

3. ONE SIC TRASH CANISTER OR PRODUCTS MANUFACTURED IN METHOD TIA X-180 G. G. 080000 MANUFACTURER: RYAN INC.

4. ONE RECORDER THERMOMETER CAPABLE OF READING THE DATE, TIME, AND TEMPERATURE OVER A PERIOD OF AT LEAST 12 HOURS.

ENVIRONMENTAL REQUIREMENTS

PROTECT PLANTS AND VEGETATION FROM OVERSANDING BY COVERING WITH DRY CLOTHS. COVER WITH A FOIL, AND THE STATE AND LOCAL ENVIRONMENTAL REQUIREMENTS.

PRECAUTIONS

FOLLOW PRECAUTIONS ON THE MANUFACTURER’S M.S.

BASES OF PAYMENT

PAYMENT WILL BE CONSIDERED THE COST OF WALLS, MATERIALS, LABOR TO APPLY SEALER TO AS INCENTIVAL TO THE TRUE COLD POINT OF THE NOISE WALLS.
PROVIDE A MINIMUM OF 6" X 8" REBAR EQUALLY SPACED AS DRILLED SHAFT VERTICAL REINFORCEMENT GRADES MAY BE SLIGHTLY ADJUSTED TO AVOID INTERFERENCE WITH THE ANCHOR BOLTS.

"C" ANCHOR BOLTS WITH STANDARD CIRCULAR WASHERS (GALVANIZED) (A REQUIRED)

LAP SPACES (17") (STagger SPACED LOCATIONS BETWEEN TIES)

SECTION 1-1: TYPICAL DRILLED SHAFT

TYPICAL DRILLED SHAFT ELEVATION

LEGEND:
+ = CENTER OF DRILLED SHAFT

NOTES:
1. FOR GENERAL NOTES REFER TO SHEETS 1-31/3.
2. REFER TO THE REINFORCING STEEL LIST IN THE PROJECT PLANS FOR THE REINFORCING STEEL DETAILS FOR EACH DRILLED SHAFT DESIGN.
TYPICAL FILL SECTION

TYPICAL CUT SECTION

TYPICAL SLOPED SECTION

TYPICAL ELEVATION OF SLOPED SECTION - DRAINAGE

SLOPED SECTION DRAINAGE NOTES:

1. Construct a trench with a minimum longitudinal slope of 1% under the noise barrier panels as shown in the typical elevation.
2. Provide underdrain slope of 1% minimum as specified in project plans, install in accordance with item 605.
3. Outlet conduit to be spaced at 50 ft maximum install in accordance with item 605.