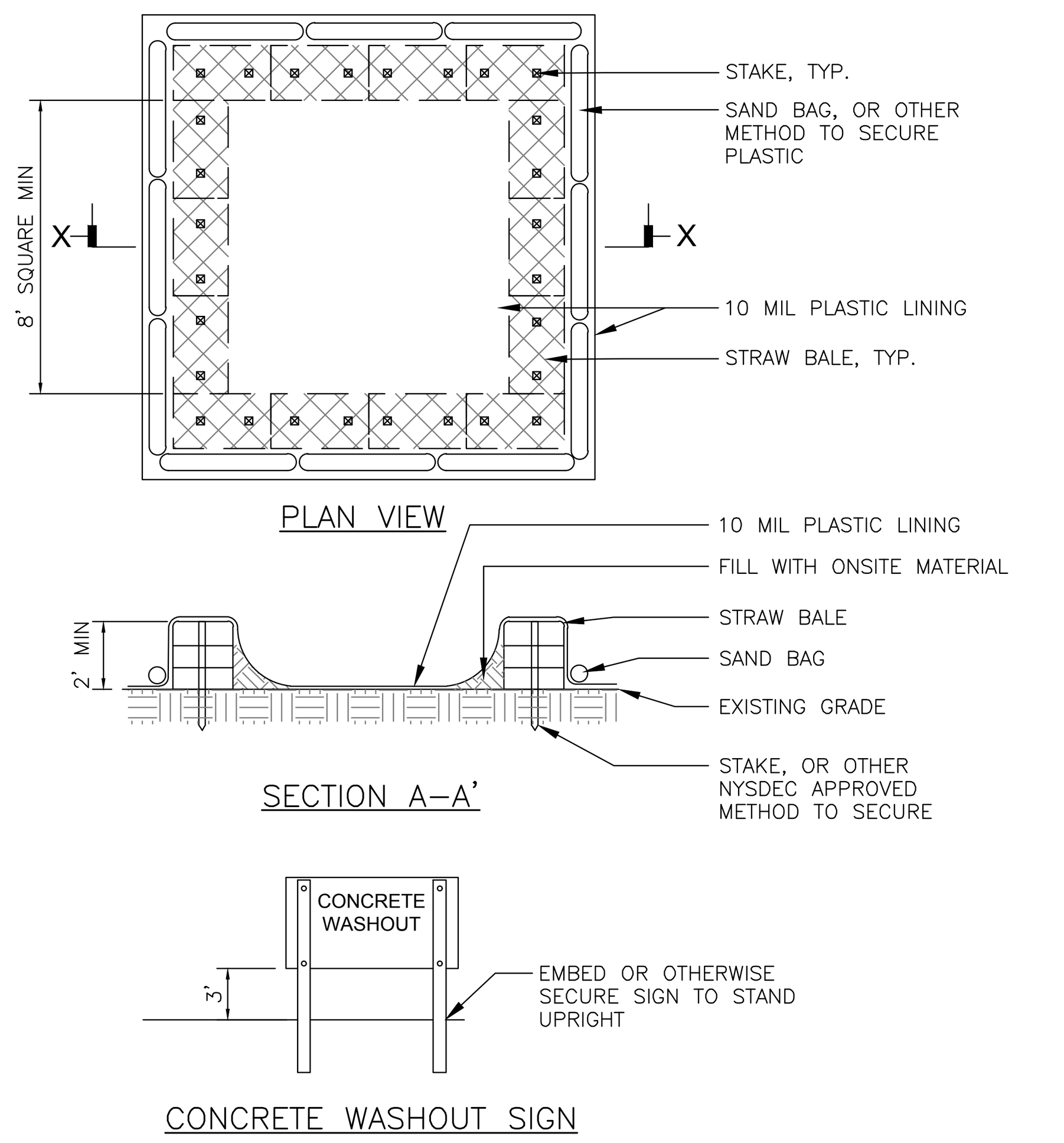
nationalgrid

Lockport-Batavia Line #112
Rebuild Project

Appendix A

Plan & Profile Drawings

Part 2 of 11

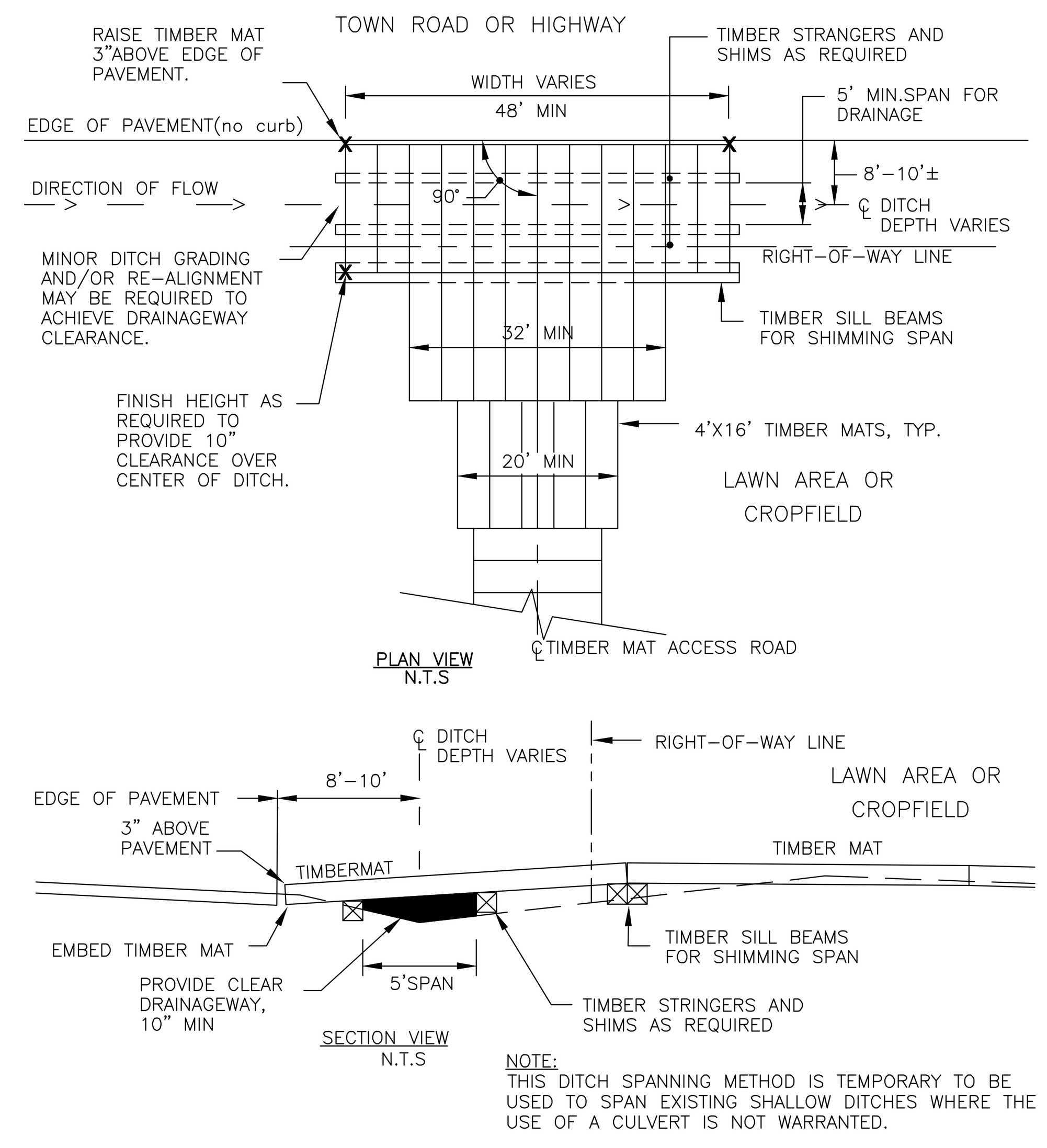


NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING, CONSTRUCTION, AND INTEGRITY OF THE WASHOUT. THE CAPACITY OF THE WASHOUT SHALL BE 60 GALLONS PER TRUCK TO BE CLEANED WITHIN THE EXPECTED MAINTENANCE FREQUENCY. ADDITIONAL CAPACITY SHALL BE PROVIDED TO ACCOMMODATE RAINFALL.
2. OTHER METHODS OF CONCRETE WASHOUT CONTAINMENT MAY BE UTILIZED IF APPROVED BY THE OWNER'S REPRESENTATIVE.
3. LOCATE WASHOUT AREA AT LEAST 100' FROM STORM DRAINS, OPEN DITCHES, OR WATER BODIES.
4. THE PLASTIC LINING SHALL BE MAINTAINED IN A WATER TIGHT CONDITION AND SHALL BE REPLACED AT EVERY CLEANING.
5. DO NOT ALLOW RUNOFF TO ENTER THIS AREA.
6. THE CONCRETE WASHOUT SIGN SHALL BE PLACED WITHIN 30 FEET OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

CONCRETE WASHOUT AREA

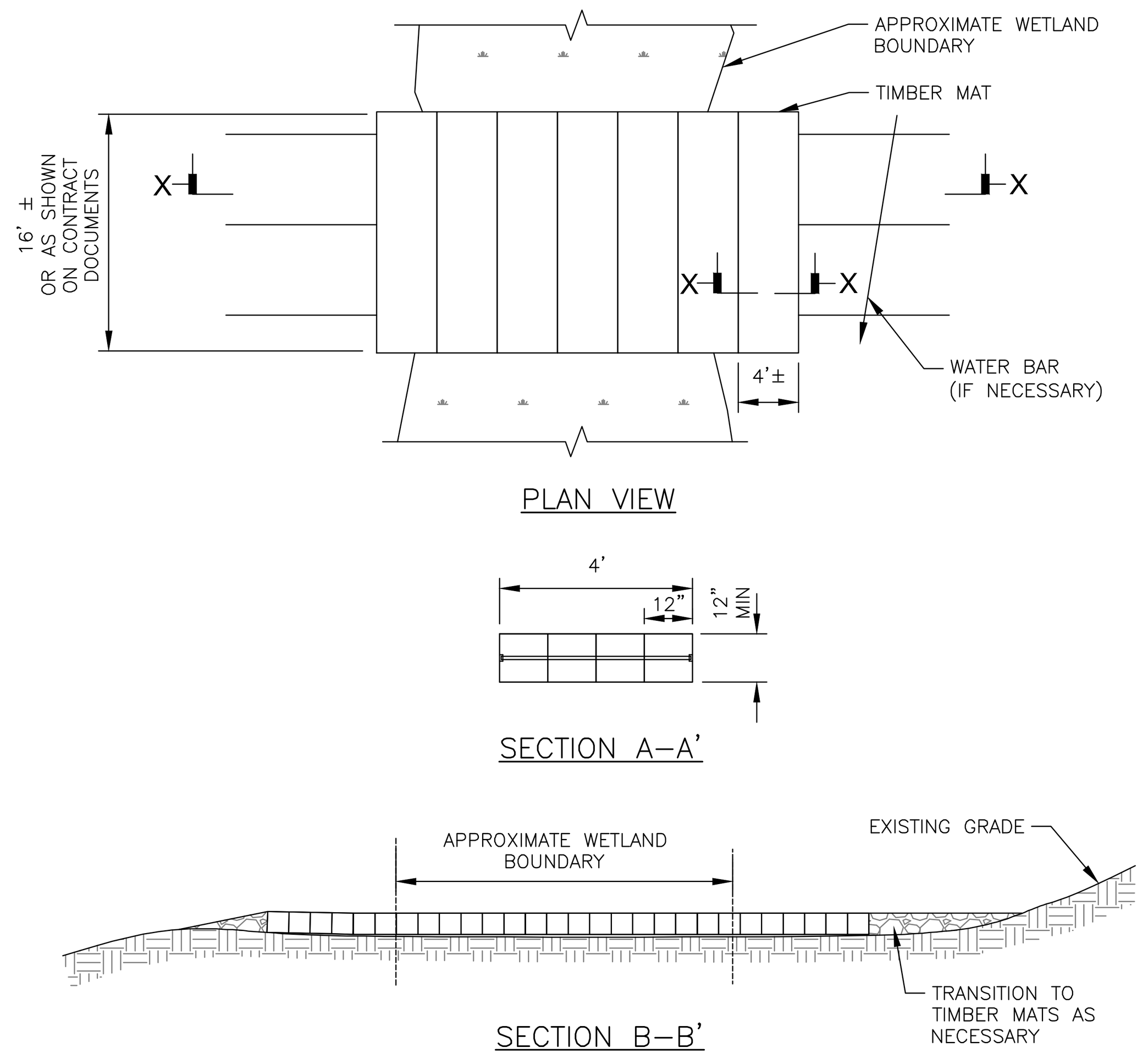
NOT TO SCALE



NOTE:
THIS DITCH SPANNING METHOD IS TEMPORARY TO BE USED TO SPAN EXISTING SHALLOW DITCHES WHERE THE USE OF A CULVERT IS NOT WARRANTED.

ROADSIDE DRAINAGE

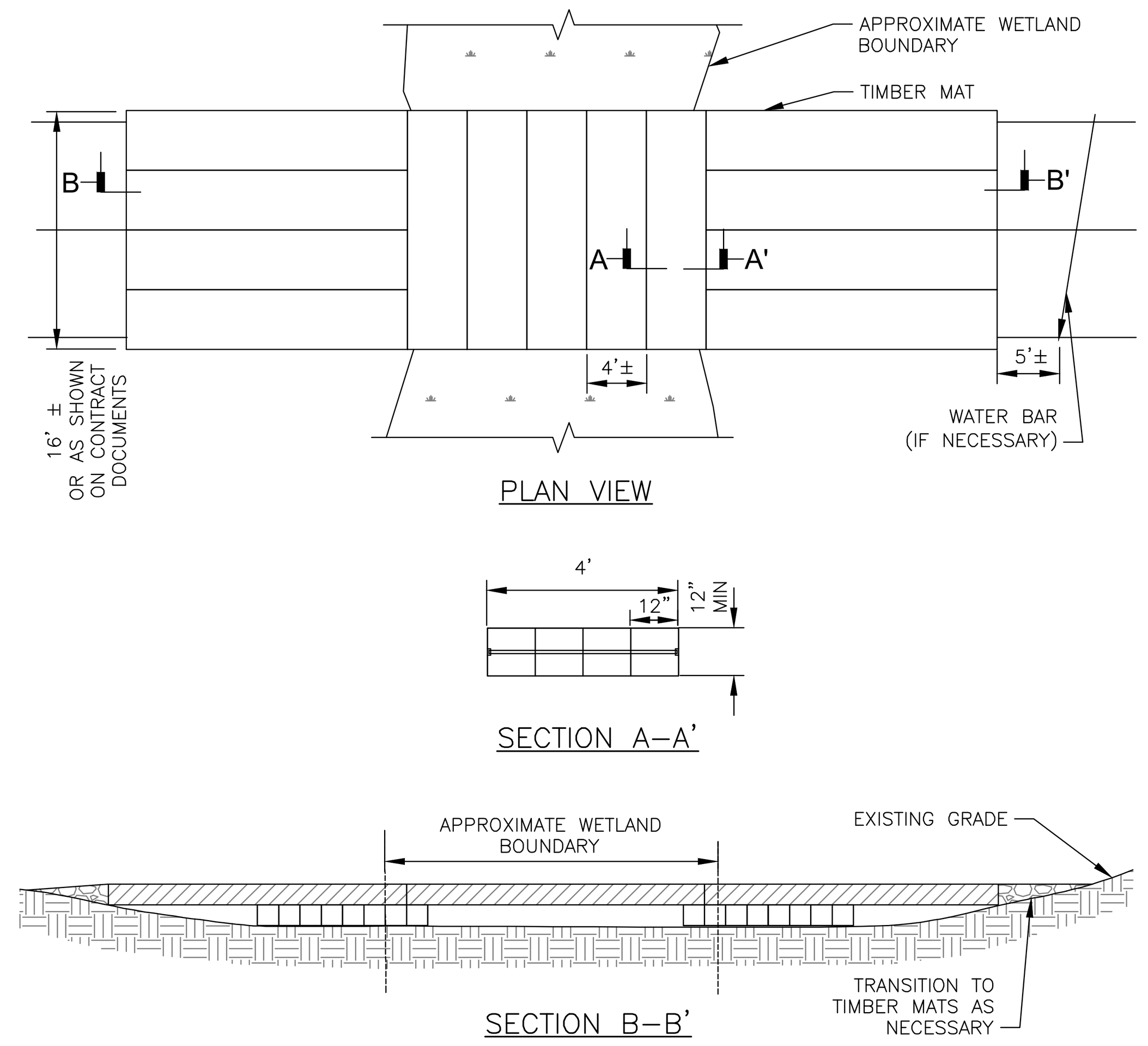
NOT TO SCALE



NOTES:
1. TIMBER MATS SHOULD BE INSTALLED IN WETLANDS AND OTHER AREAS IF NECESSARY TO PREVENT RUTTING.
2. BASED ON ACTUAL SITE CONDITIONS, MULTIPLE LAYERS OF TIMBER MATS MAY BE REQUIRED.
3. TIMBER MAT SURFACE SHOULD BE LEVEL TO PREVENT EQUIPMENT AND VEHICLES FROM SLIDING OFF DURING MUDDY OR ICING CONDITIONS, AND PREVENT TIMBERS FROM BREAKING.
4. SEDIMENT TRACKED ONTO TIMBER MATTING SHOULD BE REMOVED AS NECESSARY TO PREVENT SEDIMENT FROM ENTERING WETLAND DURING RAIN EVENTS. SEDIMENT SHOULD BE REMOVED TO A STABILIZED SOIL STOCKPILE OR OTHER APPROVED LOCATION.
5. PERIMETER EROSION AND SEDIMENT CONTROLS ARE REQUIRED TO BE INSTALLED PRIOR TO PLACING TIMBER MATTING.
6. UNLESS PERMITTED FOR REMOVAL, STUMPS WITHIN THE WETLAND SHOULD REMAIN. THIS MAY REQUIRE ADDITIONAL TIMBERS TO BRIDGE ABOVE.
7. UPON REMOVAL OF TIMBER MATTING ALL SPLINTERED WOOD SHOULD BE REMOVED. IF EXPOSED SOILS ARE PRESENT STRAW MULCH SHOULD BE APPLIED.

TIMBER MAT DETAIL

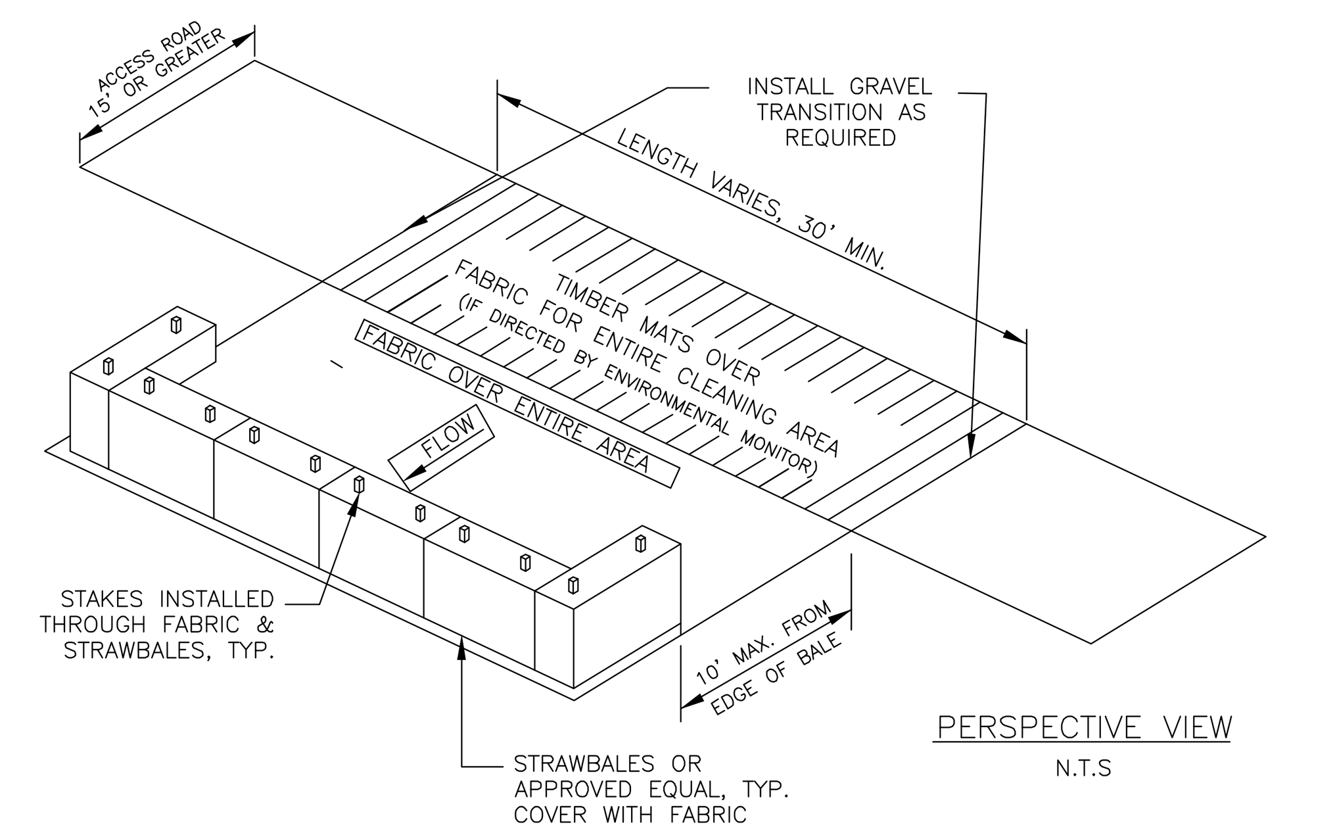
NOT TO SCALE



NOTES:
1. TIMBER MATS SHALL BE INSTALLED IN WETLANDS AND OTHER AREAS IF NECESSARY TO PREVENT RUTTING.
2. BASED ON ACTUAL SITE CONDITIONS, MULTIPLE LAYERS OF TIMBER MATS MAY BE REQUIRED.
3. TIMBER MAT SURFACE MUST BE LEVEL TO PREVENT EQUIPMENT AND VEHICLES FROM SLIDING OFF DURING MUDDY OR ICING CONDITIONS, AND PREVENT TIMBERS FROM BREAKING.
4. SEDIMENT TRACKED ONTO TIMBER MATTING MUST BE REMOVED AS NECESSARY TO PREVENT SEDIMENT FROM ENTERING WETLAND DURING RAIN EVENTS. SEDIMENT MUST BE REMOVED TO A STABILIZED SOIL STOCKPILE.
5. PERIMETER EROSION AND SEDIMENT CONTROLS ARE REQUIRED TO BE INSTALLED PRIOR TO PLACING TIMBER MATTING.
6. UNLESS PERMITTED FOR REMOVAL, STUMPS WITHIN THE WETLAND MUST REMAIN. THIS MAY REQUIRE ADDITIONAL TIMBERS TO BRIDGE ABOVE.
7. UPON REMOVAL OF TIMBER MATTING ALL SPLINTERED WOOD MUST BE REMOVED. IF EXPOSED SOILS ARE PRESENT STRAW MULCH SHALL BE APPLIED.

TIMBER MAT– BRIDGING

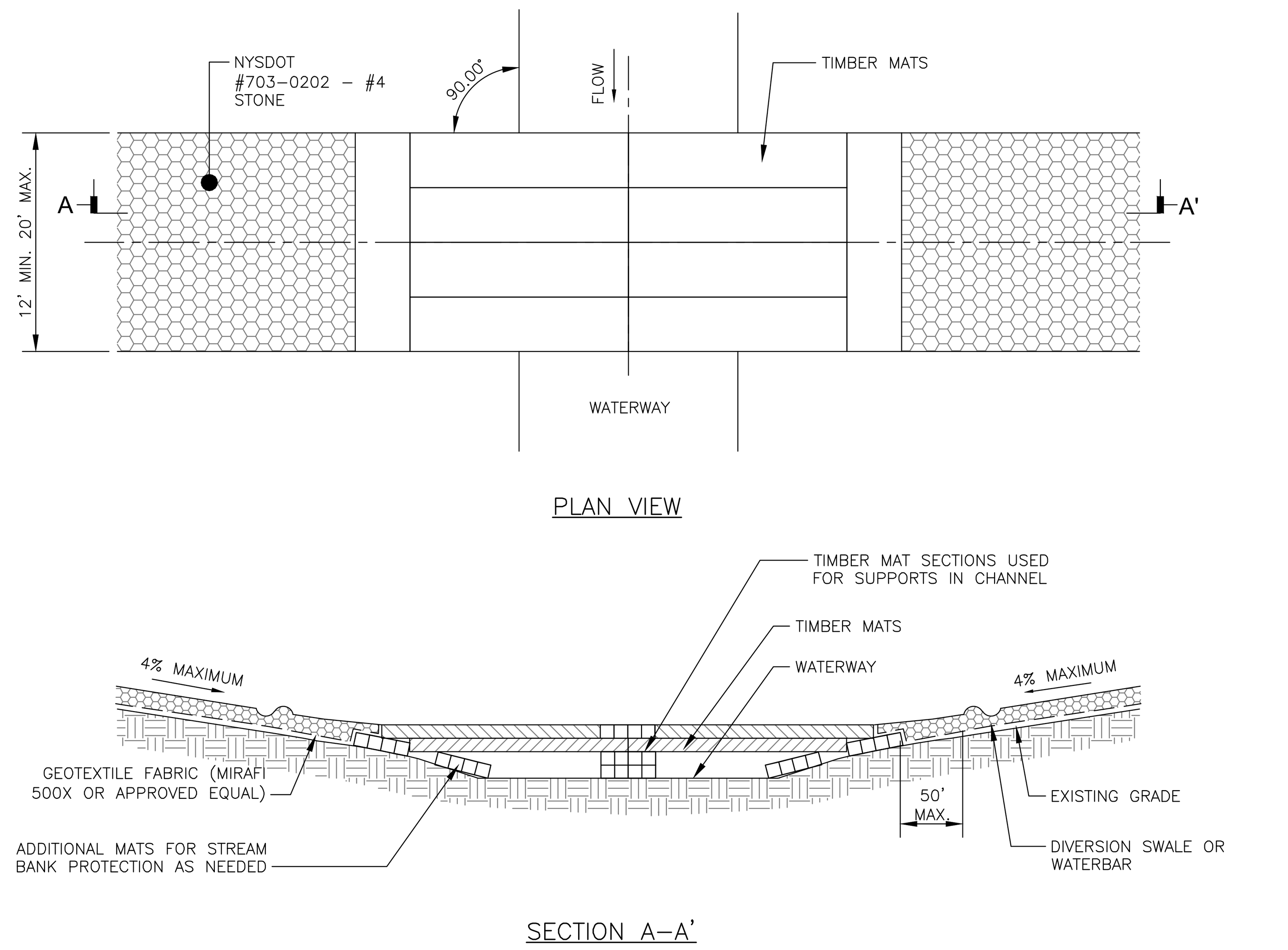
NOT TO SCALE



NOTES:
1. FOR GENERAL USE WHERE REGULAR CLEANING OF VEHICLES AND EQUIPMENT WILL OCCUR AND CONTAINMENT OF MATERIAL IS REQUIRED. LOCATIONS TO BE DETERMINED BY THE ENVIRONMENTAL MONITOR.
2. MAY ALSO BE USED AS A FILLING POINT FOR WATER TRUCKS LIMITING EROSION CAUSED BY OVERFLOW OR SPILLAGE OF WATER.
3. CLEAR AND GRADE TO PROVIDE MAXIMUM SLOPE OF 1%.
4. PLACE FILTER FABRIC (FOR CLEANING STATIONS TO REMAIN IN USE FOR MORE THAN 3 MONTHS).
5. PLACE TIMBER MATS OVER FILTER FABRIC AT CLEANING AREA ONLY.
6. INSTALL SILT FENCE/STRAW BALES (OR APPROVED EQUAL) DOWN GRADIENT (SEE SILT FENCE INFORMATION SHEET.)
7. TWO(2) STAKES TO BE INSTALLED IN EACH STRAW BALE (OR APPROVED EQUAL) THROUGH FABRIC.
8. CANNOT BE UTILIZED FOR CLEANING EQUIPMENT OR VEHICLES THAT MAY CAUSE CONTAMINATION OF RUNOFF SUCH AS FERTILIZER EQUIPMENT OR CONCRETE EQUIPMENT.
9. INSPECT DAILY FOR SEDIMENT BUILDUP.
10. INSPECT ADJACENT AREAS FOR SEDIMENT DEPOSIT AND INSTALL ADDITIONAL CONTROLS AS NECESSARY.
11. REPAIR AREAS AS REQUIRED TO MAINTAIN CONTROL IN GOOD WORKING CONDITION.
12. EXPAND STABILIZED AREA AS REQUIRED TO ACCOMMODATE ACTIVITIES. LENGTH AND WIDTH OF CLEANING STATION MAY BE INCREASED FOR LARGER VEHICLES AND EQUIPMENT.

INVASIVE SPECIES CLEANING STATION

NOT TO SCALE

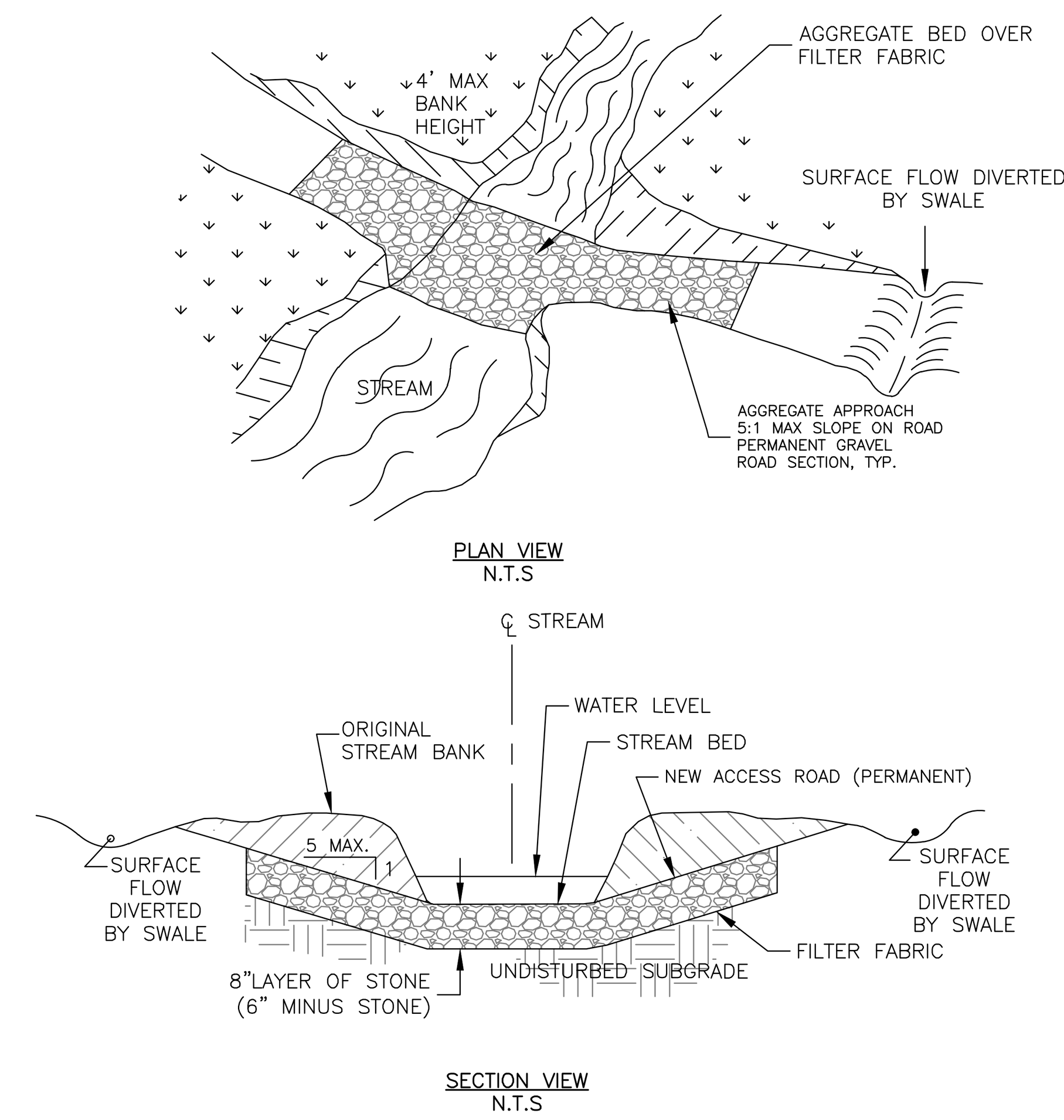


NOTES:

1. IN–STREAM EXCAVATION SHOULD BE COMPLETED IN ACCORDANCE WITH "TEMPORARY ACCESS WATERWAY CROSSING" ON PAGE 2.32 OF THE 2016 NYSDEC STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL (OR NEWEST VERSION).
2. THE CONSTRUCTION OF ANY CROSSING SHOULD NOT CAUSE A SIGNIFICANT WATER LEVEL DIFFERENCE BETWEEN THE UPSTREAM AND DOWNSTREAM WATER SURFACE ELEVATIONS. FISH SPAWNING OR MIGRATION DATES CAN VARY ACROSS NEW YORK, AND RESTRICTIONS IMPOSED BY THE NYSDEC MAY VARY AND MUST BE VERIFIED.
3. THE TEMPORARY WATERWAY CROSSING SHOULD BE AT RIGHT ANGLES TO THE STREAM. WHERE APPROACH CONDITIONS DICTATE, THE CROSSING MAY VARY 15 DEGREES FROM A LINE DRAWN PERPENDICULAR TO THE CENTERLINE OF THE STREAM AT THE INTENDED CROSSING LOCATION.
4. ALL FILL MATERIALS ASSOCIATED WITH THE ROADWAY APPROACH SHOULD BE LIMITED TO A MAXIMUM HEIGHT OF 2 FEET ABOVE THE EXISTING FLOOD PLAIN ELEVATION.
5. A WATER DIVERTING STRUCTURE SUCH AS A SWALE OR WATER BAR SHOULD BE CONSTRUCTED (ACROSS THE ROADWAY ON BOTH ROADWAY APPROACHES) 50 FEET (MAXIMUM) ON EITHER SIDE OF THE WATERWAY CROSSING. THIS WILL PREVENT ROADWAY SURFACE RUNOFF FROM DIRECTLY ENTERING THE WATERWAY. THE 50 FEET IS MEASURED FROM THE TOP OF THE WATERWAY BANK. IF THE ROADWAY APPROACH IS CONSTRUCTED WITH A REVERSE GRADE AWAY FROM THE WATERWAY, A SEPARATE DIVERTING STRUCTURE IS NOT REQUIRED.
6. ALL CROSSINGS SHOULD HAVE ONE TRAFFIC LANE. THE MINIMUM WIDTH SHOULD BE 12 FEET WITH A MAXIMUM WIDTH OF 20 FEET.
7. ANCHORS: TIMBER MATS SHOULD BE SECURELY ANCHORED AT ONLY ONE END, USING STEEL CABLE OR CHAIN. ANCHORING AT ONLY ONE END WILL PREVENT CHANNEL OBSTRUCTION IN THE EVENT THAT FLOODWATERS FLOAT THE BRIDGE. ACCEPTABLE ANCHORS ARE LARGE TREES, LARGE BOULDERS, OR DRIVEN STEEL ANCHORS. ANCHORING SHOULD BE SUFFICIENT TO PREVENT THE TIMBER MATS FROM FLOATING DOWNSTREAM AND POSSIBLY CAUSING AN OBSTRUCTION TO THE FLOW.

STREAM CROSSING – TIMBER MATS

NOT TO SCALE

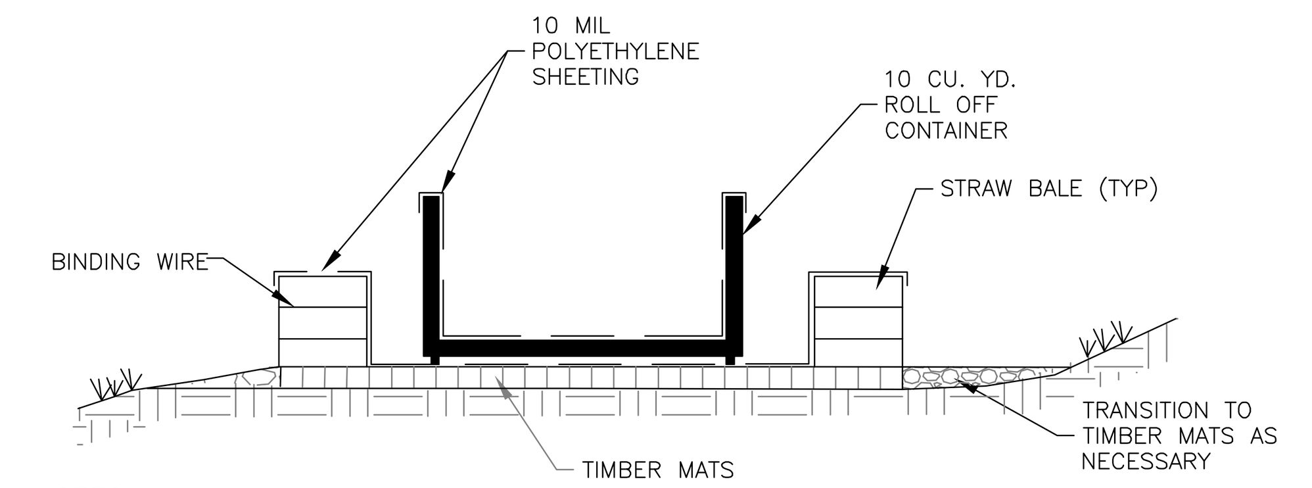


NOTES:

1. ADAPTED FROM DETAILS PROVIDED BY USDA–NRCS. NEW YORK DEPARTMENT OF TRANSPORTATION NEW YORK DEPARTMENT CONSERVATION, NEW YORK STATE SOIL WATER CONSERVATION COMMITTEE.
2. FORDS ARE PROHIBITED IN PROTECTED STREAMS.

ACCESS FORD

NOT TO SCALE



NOTES:
1. THIS CONCRETE WASHOUT IS TO BE USED WHEN 100 FEET OF SEPARATION FROM WETLANDS OR WATERBODIES IS NOT POSSIBLE AND ONLY AFTER APPROVAL FROM THE ENVIRONMENTAL MONITOR AND DPS STAFF.
2. ROLL OFF CONTAINERS PLACED ON MATTED WORKPADS MUST BE LINED WITH 10 MIL. POLYETHYLENE PLACEMENT OF THE WASHOUTS ON THE MATTED WORKPADS SHALL BE AT THE DIRECTION OF THE ENVIRONMENTAL MONITOR.
3. STRAW BALE BARRIER LINED WITH 10 MIL. POLYETHYLENE LINES MUST BE PROVIDED AS SECONDARY CONTAINMENT FOR THE ROLL OFF CONTAINER.
4. CONTAINMENT MUST BE STRUCTURALLY SOUND, LEAK FREE AND CONTAIN ALL LIQUID WASTES.
5. CONTAINMENT DEVICES MUST BE OF SUFFICIENT QUANTITY OR VOLUME TO COMPLETELY CONTAIN THE LIQUID WASTE GENERATED.
6. WASHOUT MUST BE CLEANED OR NEW FACILITIES CONSTRUCTED AND READY TO USE ONCE WASHOUT IS 75% FULL.
7. WASHOUT AREA(S) SHALL BE INSTALLED IN A LOCATION EASILY ACCESSIBLE BY CONCRETE TRUCKS.
8. CONCRETE WASHOUT SHALL BE INSPECTED DAILY.
9. AT LEAST WEEKLY REMOVE ACCUMULATION OF SAND AND AGGREGATE AND DISPOSE OF PROPERLY.

DOUBLE CONTAINMENT CONCRETE WASHOUT

NOT TO SCALE

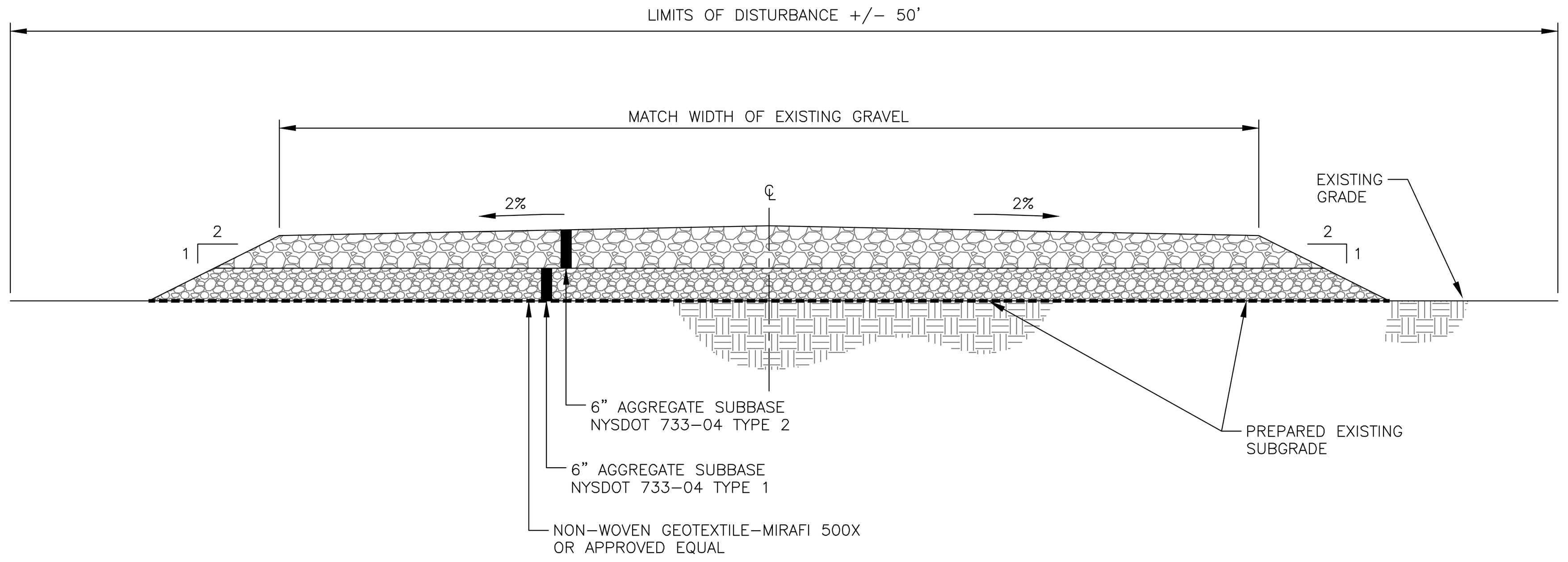
ORIGINAL ISSUE DATE 6/06/25
FILE INDEX 6.1-L10-M5
DRAWING NUMBER L1-41568
SHEET NUMBER 10

115kV TRANSMISSION LINES
LOCKPORT - BATAVIA 112
REBUILD PROJECT
EROSION PREV. & SEDIMENT CONTROL DETAILS

PREPARED BY nationalgrid
ACCOUNT NUMBER

DES. APPROVED HP
DR. APPROVED FISHER
CK. APPROVED VL
APPROVED RW

DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.



THIS TYPICAL ACCESS ROAD SECTION SHALL BE USED IN AREAS WITH AN EXISTING, STABLE, GRAVEL ROAD.

TYPE 1: IMPROVE EXISTING ACCESS AS NECESSARY

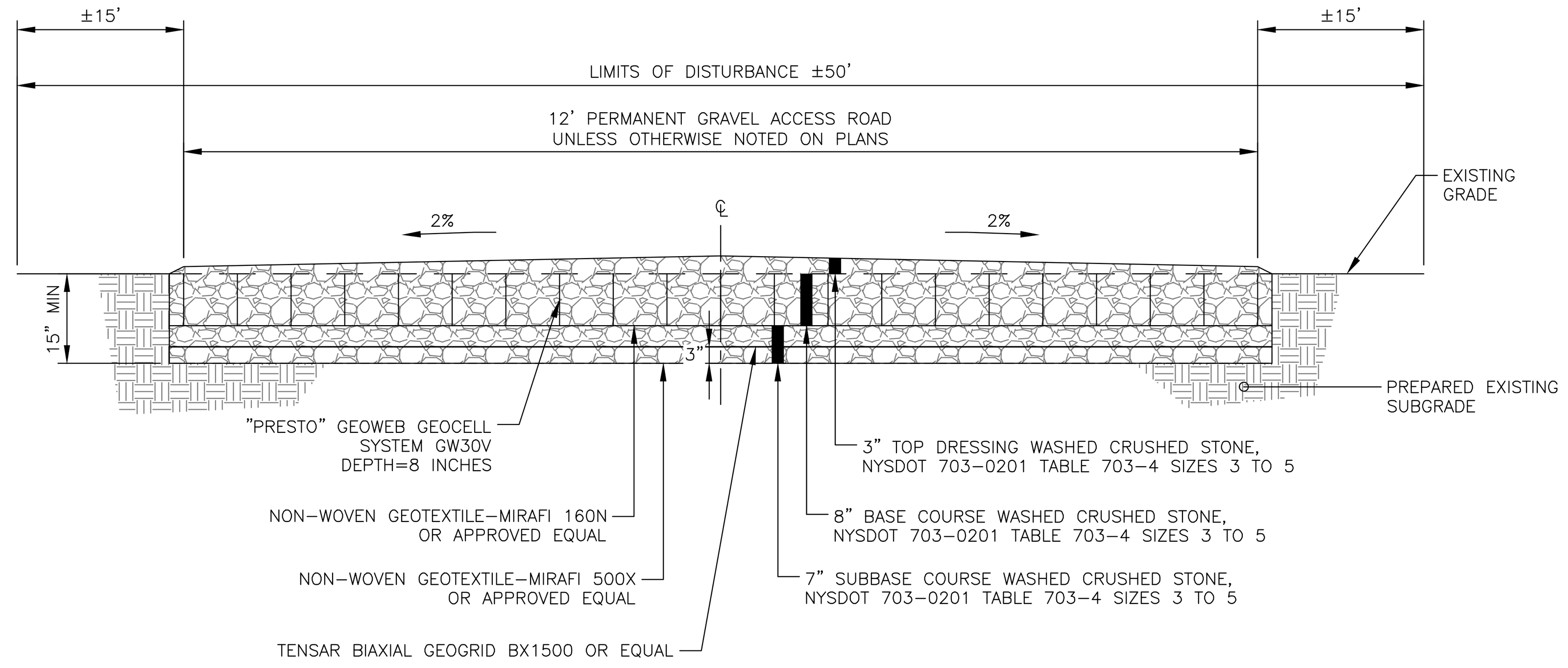
(NOT TO SCALE)

TABLE 733-04A SUBBASE GRADATION		
SIEVE SIZE DESIGNATION	PERCENTAGE PASSING BY WEIGHT	
	TYPE 1	TYPE 2
4 INCH	–	–
3 INCH	100	–
2 INCH	90–100	100
1/4 INCH	30–65	25–60
NO. 40	5–40	5–40
NO. 200	0–10	0–10

TABLE 733-13A SELECT GRANULAR SUBGRADE GRADATION	
SIEVE SIZE DESIGNATION	PERCENTAGE PASSING BY WEIGHT
3/4 INCH	30–100
NO. 40	0–50
NO. 200	0–10

TABLE 703-4 SIZES OF STONE, GRAVEL AND SLAG											
SIZE DESIGNATION	SCREEN SIZES										
	4 INCH	3 INCH	2½ INCH	2 INCH	1½ INCH	1 INCH	½ INCH	¼ INCH	⅛ INCH	#80	# 200
1	–	–	–	–	–	100	90–100	0–15	–	–	0–1.0
3	–	–	100	90–100	35–75	0–15	–	–	–	–	0–0.7
4A	–	100	90–100	–	0–20	–	–	–	–	–	0–0.7
4	100	90–100	–	0–15	–	–	–	–	–	–	0–0.7
5	90–100	0–15	–	–	–	–	–	–	–	–	0–0.7

FROM "NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (USC) MAY 1, 2016.



THIS TYPICAL ACCESS ROAD SECTION WITH PERVIOUS PAVEMENT SHALL BE USED FOR ROAD CONSTRUCTION WHERE WEAK SOILS ARE ENCOUNTERED AND IN AREAS INDICATED ON THE CONSTRUCTION PLANS.

ROAD INSTALLATION SPECIFICATIONS:

RIGHT-OF-WAY PREPARATION:

1. STAKE LIMITS OF DISTURBANCE IN THE FIELD PRIOR TO CONSTRUCTION.
2. INSTALL EROSION AND SEDIMENT CONTROLS AS DETAILED ON THE CONSTRUCTION PLANS AND AS DIRECTED BY THE ENVIRONMENTAL MONITOR.
3. CLEAR AND GRUB WITHIN THE LIMIT OF DISTURBANCE.
4. BEGIN ROAD CONSTRUCTION AT THE ENTRANCE FROM THE PUBLIC ROAD AND PROGRESS INTO THE SITE.

SUBGRADE PREPARATION:

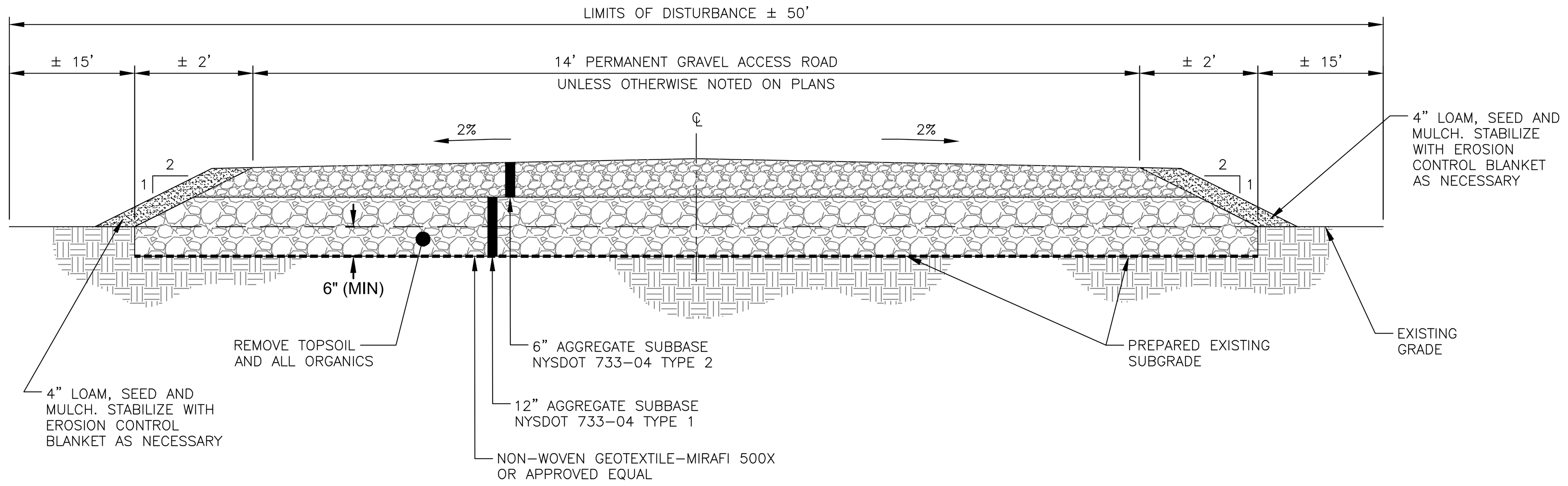
1. IN AREAS WITH AN EXISTING STABLE ROAD BASE (TYPE 1), REMOVE ANY ORGANIC MATERIAL PRESENT, GRADE AS NECESSARY, AND COMPACT THE SUBGRADE TO ACHIEVE A UNIFORM SURFACE ACROSS THE WIDTH OF THE ROAD BASE.
2. IN AREAS WITHOUT AN EXISTING STABLE ROAD BASE (TYPE 2), STRIP THE TOP 6 INCHES (MIN.) OF EXISTING SOIL AND STOCKPILE ACCORDING TO THE SPECIFICATION OR AS DIRECTED BY THE ENVIRONMENTAL MONITOR. GRADE AS NECESSARY AND COMPACT THE SUBGRADE TO ACHIEVE A UNIFORM SURFACE ACROSS THE WIDTH OF THE ROAD BASE.
3. INSPECT THE COMPACTED SURFACE FOR DEBRIS AND UNSUITABLE MATERIAL AND REMOVE AS NEEDED.
4. PRIOR TO PLACEMENT OF THE GEOTEXTILE, CONTRACTOR SHALL PERFORM COMPACTION TESTING TO VERIFY COMPACTION RATES ARE IN COMPLIANCE WITH THE PROJECT SPECIFICATIONS. COMPACTION SHALL MEET A MINIMUM 90 PERCENT OF THE MAXIMUM DRY DENSITY – MODIFIED PROCTOR (ASTM D1557, METHOD C). SUBMIT TESTING RESULTS TO NATIONAL GRID TO ENSURE COMPLIANCE AS SECTIONS OF THE ROAD BASE PREPARATIONS ARE COMPLETED.
5. INSPECT FOR GROUNDWATER SEEPS, SOFT SOILS AND OTHER CONDITIONS THAT MAY RESULT IN UNSTABLE SOIL CONDITIONS SUCH AS RUTTING OR SETTLING.

ROAD INSTALLATION:

1. PLACE THE GEOTEXTILE ACROSS THE FULL WIDTH OF THE GRAVEL ROAD BASE. FABRIC SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
2. WHERE REQUIRED, PLACE SELECT GRANULAR SUBGRADE IN 12-INCH MAXIMUM LIFTS (LOOSE) AND COMPACT. COVER FINAL LIFT WITH GEOTEXTILE.
3. PLACE THE SUBBASE AGGREGATE IN 12-INCH MAXIMUM LIFTS (LOOSE). AGGREGATE TO CONFORM TO NYSDOT SUBBASE COURSE TYPE 2.
4. CARE SHALL BE TAKEN TO PREVENT DAMAGING THE SPEARATION FILTER FABRIC DURING MATERIAL DUMPING AND SPREADING.
5. GRADE AND COMPACT EACH LIFT. PRIOR TO PLACEMENT OF THE NEXT LIFT, COMPACTION TESTING SHALL BE CONDUCTED BY THE CONTRACTOR TO ENSURE THE COMPACTION RATES ARE IN COMPLIANCE WITH THE PROJECT SPECIFICATIONS. ALL ROAD MATERIALS SHALL BE COMPACTED TO NO LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY – MODIFIED PROCTOR (ASTM D1557, METHOD C). TESTING SHALL OCCUR EVERY 250 FEET ALONG THE CENTERLINE OF THE ORAD.
6. SHOULD CONDITIONS ALLOW, TRAVEL UPON THE FIRST LIFT OF GRAVEL IS PERMISSIBLE TO ALLOW FOR ACCESS ON A TEMPORARY BASIS. THE MINIMUM 8 INCH LIFT DEPTH MUST BE INSTALLED PRIOR TO ACCESS.
7. AREAS WHERE TESTING SHALL OCCUR LESS THAN THREE TIMES ALONG THE ROAD CENTERLINE DUE TO THE LENGTH OF THE GRAVEL SEGMENT, TESTING SHALL OCCUR AT QUARTER LENGTH INTERVALS ALONG THE CENTERLINE.
8. CONSTRUCTION OF GRAVEL ROAD SHALL CONTINUE IN APPROPRIATE LIFTS UNTIL FINAL GRADE IS ACHIEVED.
9. INSPECT AND MAINTAIN THAT THE ROAD IS PROPERLY CROWNED.
10. THE CROWN ON ALL ROAD TYPES SHALL END 100 FEET FROM PAVED INTERSECTIONS.
11. CAP THE GRAVEL ROADS WITH A MINIMUM 2 INCHES AGGREGATE CONFORMING TO GRADATION REQUIREMENTS AND PLASTICITY INDEX TABLE 1. COMPACT AGGREGATE TO 95 PERCENT OF THE MAXIMUM DRY DENSITY – MODIFIED PROCTOR (ASTM D1557, METHOD C).

TYPE 3: PROPOSED PERMANENT PERVIOUS GRAVEL ACCESS

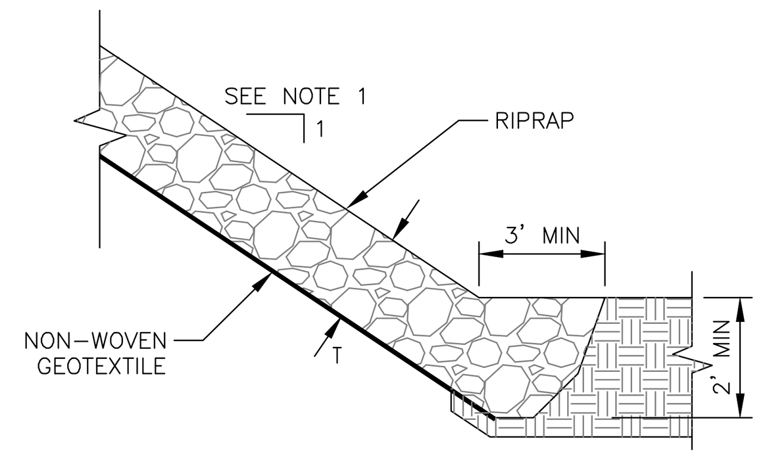
(NOT TO SCALE)



THIS TYPICAL ACCESS ROAD SECTION SHALL BE USED FOR ROAD CONSTRUCTION ON NATIVE SOIL AND EXISTING UNIMPROVED ROADS.

TYPE 2A: PROPOSED PERMANENT GRAVEL ACCESS

(NOT TO SCALE)

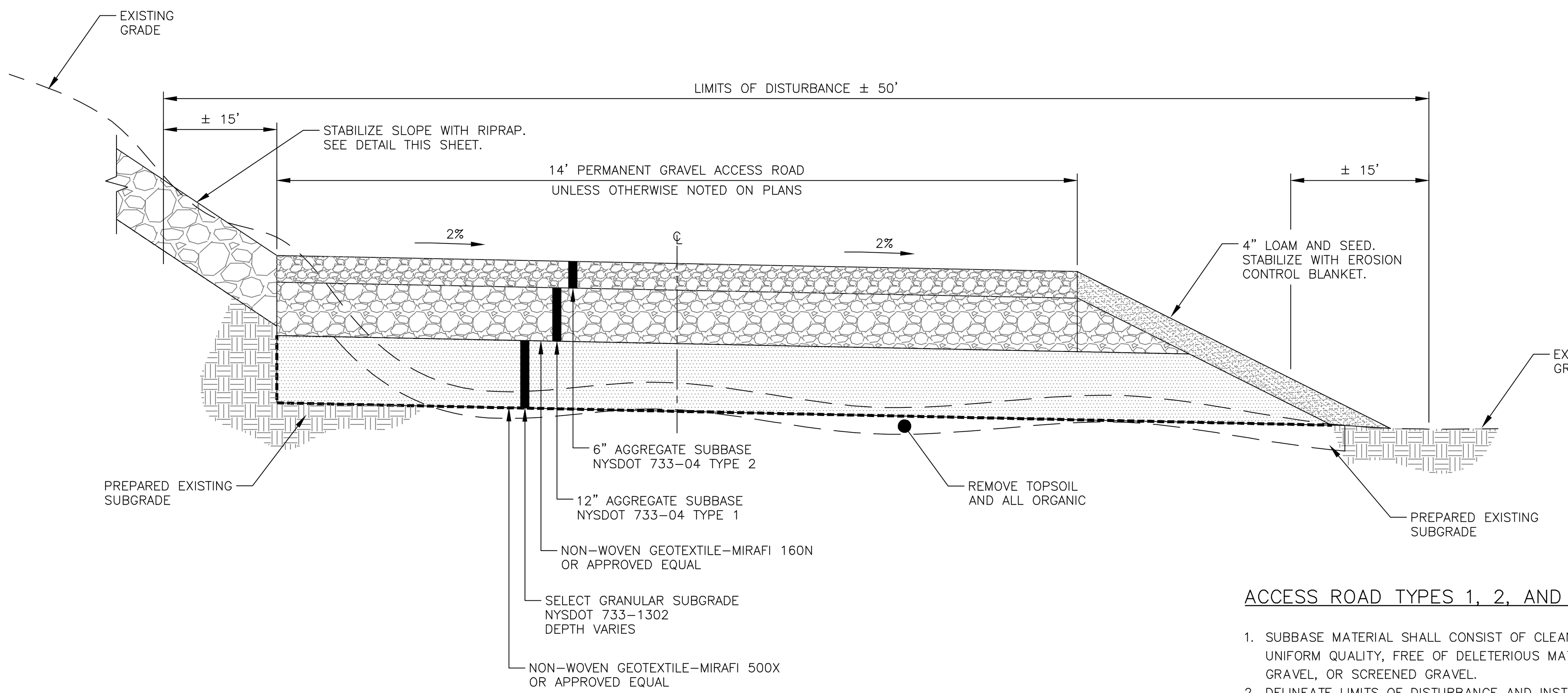


NOTES:

1. ALL SLOPES STEEPER THAN 3:1 SHALL BE STABILIZED WITH RIPRAP.
2. RIPRAP GRADATION SHALL BE R-3(D_{50}=4").
3. MINIMUM RIPRAP THICKNESS (T) OF RIPRAP COVER SHALL BE 9" (2.25*D_{50}).
4. GEOTEXTILE SHALL BE MIRAFI 140NL OR APPROVED EQUAL.

TYPICAL RIPRAP SLOPE

(NOT TO SCALE)



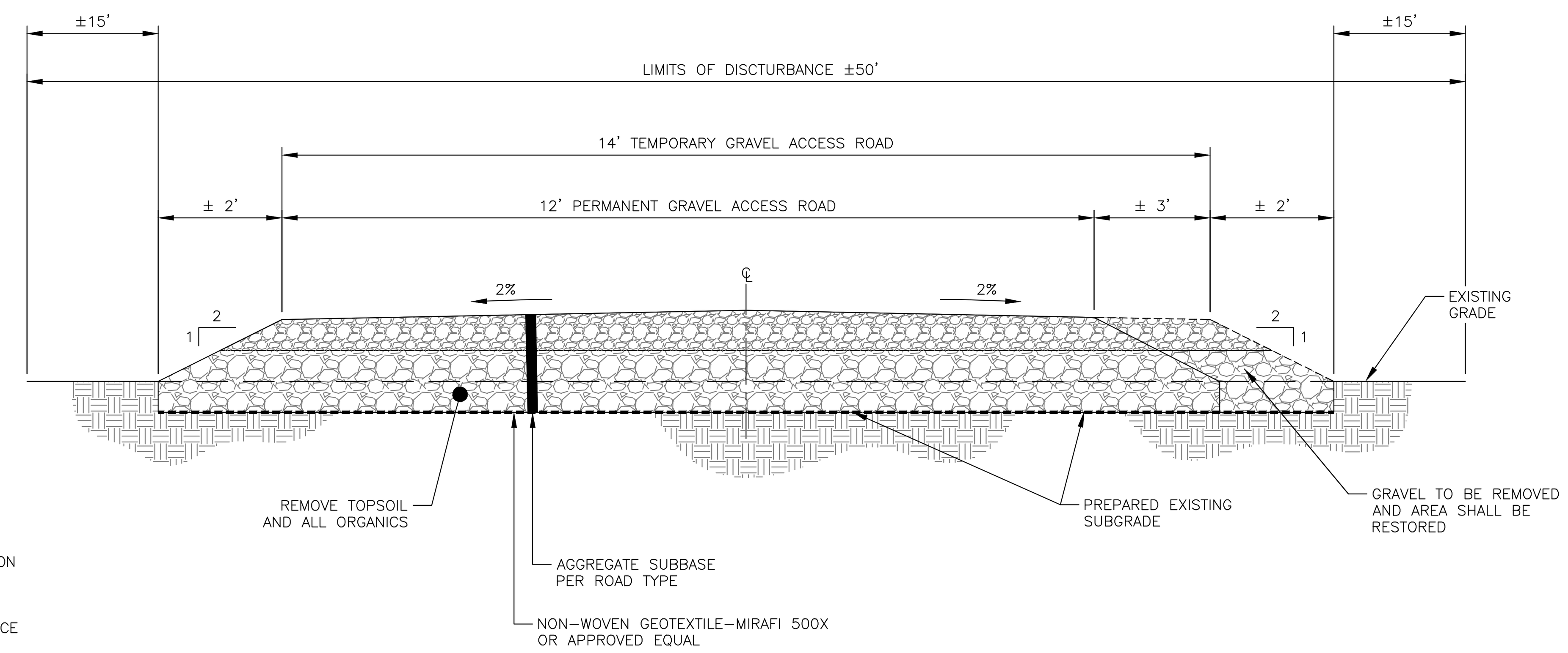
THIS TYPICAL ACCESS ROAD SECTION SHALL BE USED FOR ROAD CONSTRUCTION REQUIRING ADDITIONAL SUBGRADE MATERIAL, AND ALSO INCLUDES PERMEABLE PAVEMENT WHERE INDICATED ON PLANS.

TYPE 2B: PROPOSED PERMANENT GRAVEL ACCESS– CROSS SLOPE

(NOT TO SCALE)

ACCESS ROAD TYPES 1, 2, AND 3 CONSTRUCTION NOTES:

1. SUBBASE MATERIAL SHALL CONSIST OF CLEAN, DURABLE, SHARP-ANGLED FRAGMENTS OF ROCK OF UNIFORM QUALITY, FREE OF DELETERIOUS MATERIALS. ROCK SHALL BE CRUSHED STONE, CRUSHED GRAVEL, OR SCREENED GRAVEL.
2. DELINEATE LIMITS OF DISTURBANCE AND INSTALL EROSION & SEDIMENT CONTROL BMPS AS SHOWN ON PLAN AND DIRECTED BY ENGINEER OR ENVIRONMENTAL MONITOR.
3. STRIP TOPSOIL AND ORGANICS (+/-6 INCHES). STOCKPILE TOPSOIL FOR FINAL SITE RESTORATION. REMOVE ALL SOFT, ORGANIC OR OTHER UNACCEPTABLE MATERIAL FROM THE SUBGRADE AND REPLACE WITH SELECT GRANULAR SUBGRADE, NYSDOT 733-1302.
4. COMPACT THE TOP SIX (6) INCHES OF SUBGRADE TO 95% MAXIMUM DRY DENSITY (MINIMUM) PER ASTM D1557. DURING COMPACTION THE SUBGRADE SHALL BE AT MINUS 3 TO PLUS 2 PERCENT (-3% TO +2%) OF THE OPTIMUM MOISTURE CONTENT.
5. INSTALL GEOTEXTILE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
6. PLACE ALL SUBGRADE MATERIAL IN MAXIMUM 12" LIFTS (LOOSE). GRADE AND COMPACT TO 95% MAXIMUM DRY DENSITY.
7. CONSTRUCTION SHALL COMPLY WITH APPLICABLE PORTIONS OF NYSDOT SECTIONS:
   - 203 – EXCAVATION AND EMBANKMENT
   - 206 – TRENCH, CULVERT, AND STRUCTURAL EXCAVATION
   - 207 – GEOSYNTHETICS
   - 212 – ROCK SLOPE REINFOREMENT
   - 304 – SUBBASE COURSE
   - 619 – WORK ZONE TRAFFIC CONTROL
   - 703 – AGGREGATES



THIS TYPICAL ACCESS ROAD SECTION SHALL BE USED FOR ROAD CONSTRUCTION REQUIRING THE REMOVAL OF ±3' GRAVEL FROM THE ROAD EDGE FOLLOWING CONSTRUCTION. THIS ROAD SECTION MAY APPLY TO TYPE 1, 2, 3 OR 4 ACCESS ROADS AS INDICATED ON THE PLANS.

ACCESS ROAD DETAIL – RESTORED SHOULDER

(NOT TO SCALE)

ORIGINAL ISSUE DATE 6/06/25
FILE INDEX 6.1-L10-M5
DRAWING NUMBER L1-41568
SHEET NUMBER 11

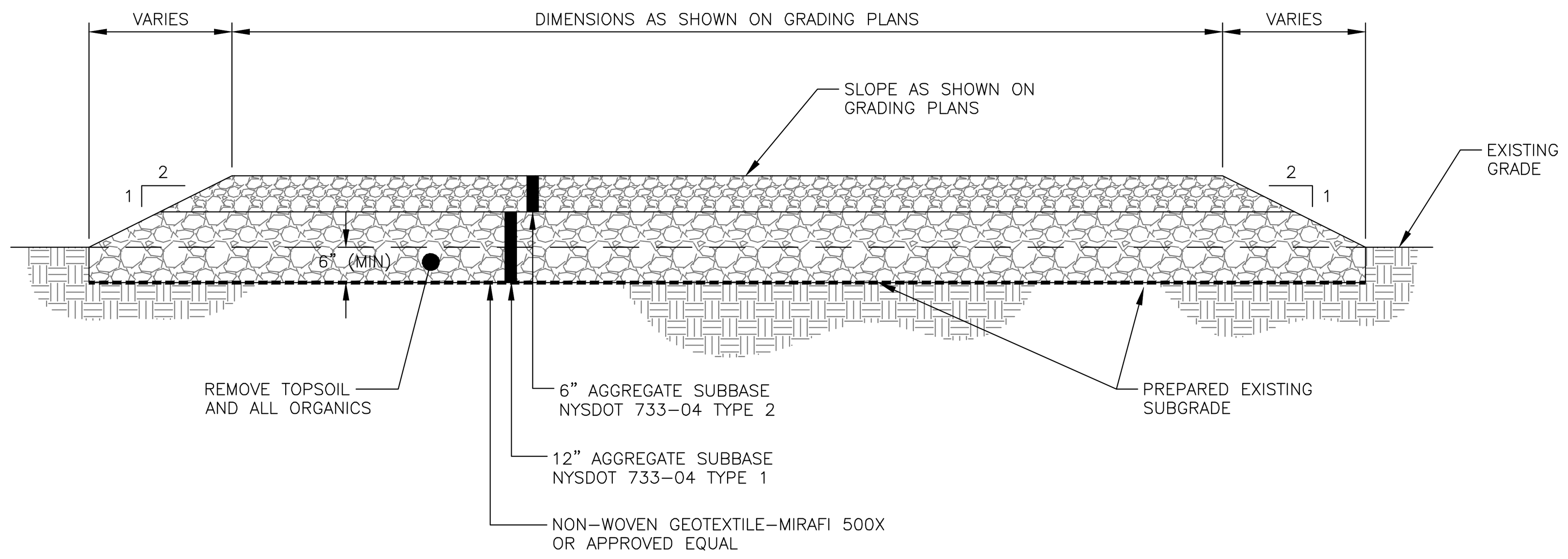
115KV TRANSMISSION LINES
LOCKPORT - BATAVIA 112
REBUILD PROJECT
CIVIL CONSTRUCTION NOTES & DETAILS

PREPARED BY nationalgrid

ACCOUNT NUMBER

DES.	APPROVED	HP
DR.	APPROVED	FISHER
CK.	APPROVED	VL
	APPROVED	RW

DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.



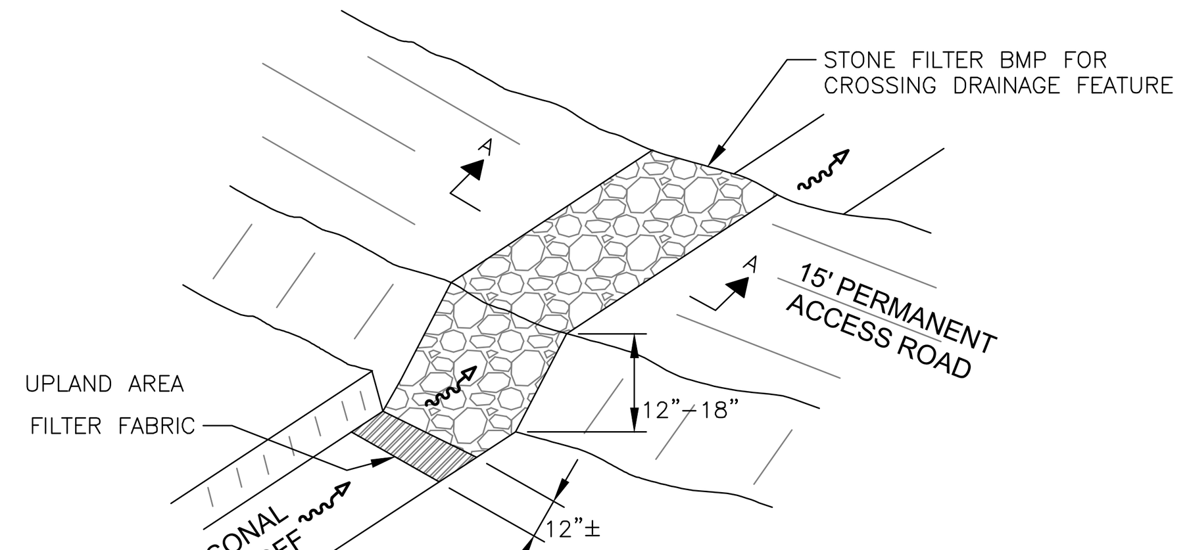
CONSTRUCTION PAD NOTES:

1. DELINEATE LIMITS OF DISTURBANCE AND INSTALL EROSION & SEDIMENT CONTROL BMPs AS SHOWN ON PLAN AND DIRECTED BY ENGINEER OR ENVIRONMENTAL MONITOR.
2. STRIP TOPSOIL AND ORGANICS (±6 INCHES). STOCKPILE TOPSOIL FOR FINAL SITE RESTORATION. REMOVE ALL SOFT, ORGANIC OR OTHER UNACCEPTABLE MATERIAL FROM THE SUBGRADE AND REPLACE WITH SELECT GRANULAR SUBGRADE, NYSDOT 733-1302.
3. COMPACT THE TOP SIX (6) INCHES OF SUBGRADE TO 95% MAXIMUM DRY DENSITY (MINIMUM) PER ASTM D1557. DURING COMPACTION THE SUBGRADE SHALL BE AT MINUS 3 TO PLUS 2 PERCENT (-3% TO +2%) OF THE OPTIMUM MOISTURE CONTENT.
4. INSTALL GEOTEXTILE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.**
5. PLACE AGGREGATE SUBBASE IN MAXIMUM 12" LIFTS (LOOSE). GRADE AND COMPACT TO 95% MAXIMUM DRY DENSITY.

** GEOTEXTILE NOT REQUIRED IN CONSTRUCTION PADS IDENTIFIED AS "IMPROVE AS NECESSARY"

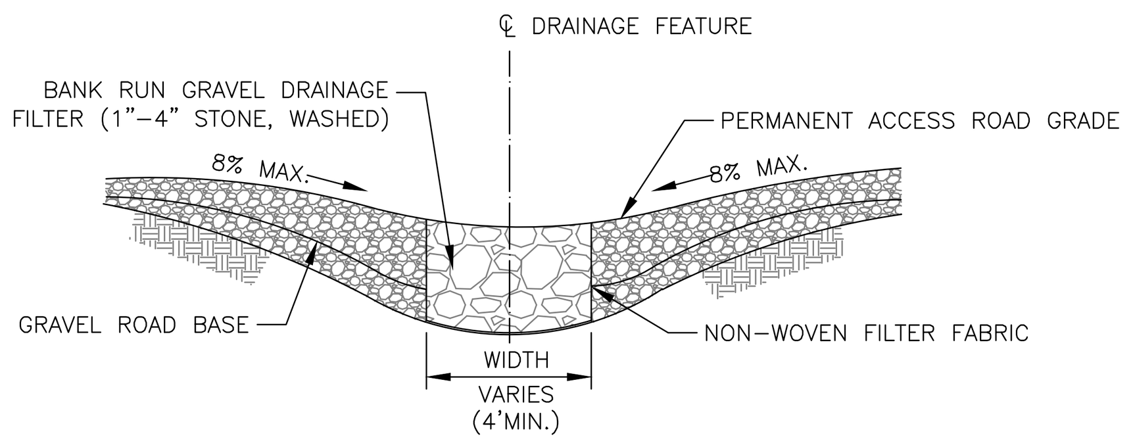
PROPOSED GRAVEL WORK AREA

(NOT TO SCALE)



ISOMETRIC VIEW

(NOT TO SCALE)



SECTION A-A

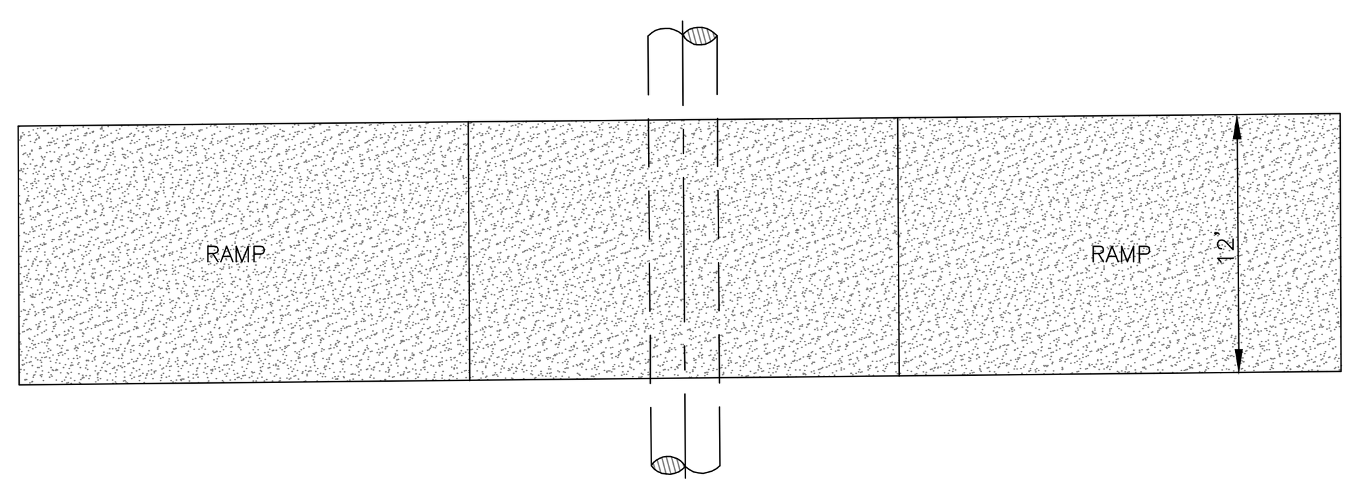
(NOT TO SCALE)

NOTES:

A STONE FILTER DRAINAGE CROSSING IS A BMP TO BE USED WHERE THE DRAINAGE FEATURE IS INTERMITTENT AND SHALLOW WITH DISTINCT CHANNEL CHARACTERISTICS AND DOES NOT INCLUDE ADJOINING BORDERING VEGETATED WETLAND RESOURCE AREAS.

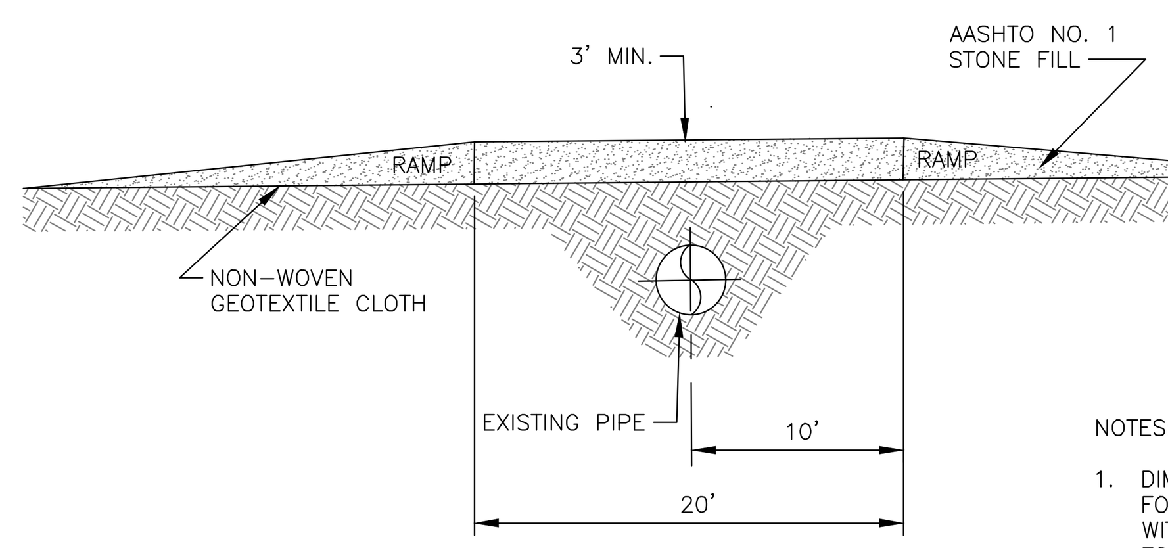
STONE FILTER AT DRAINAGE CROSSING

(NOT TO SCALE)



PLAN VIEW

(NOT TO SCALE)



SIDE VIEW

(NOT TO SCALE)

NOTES:

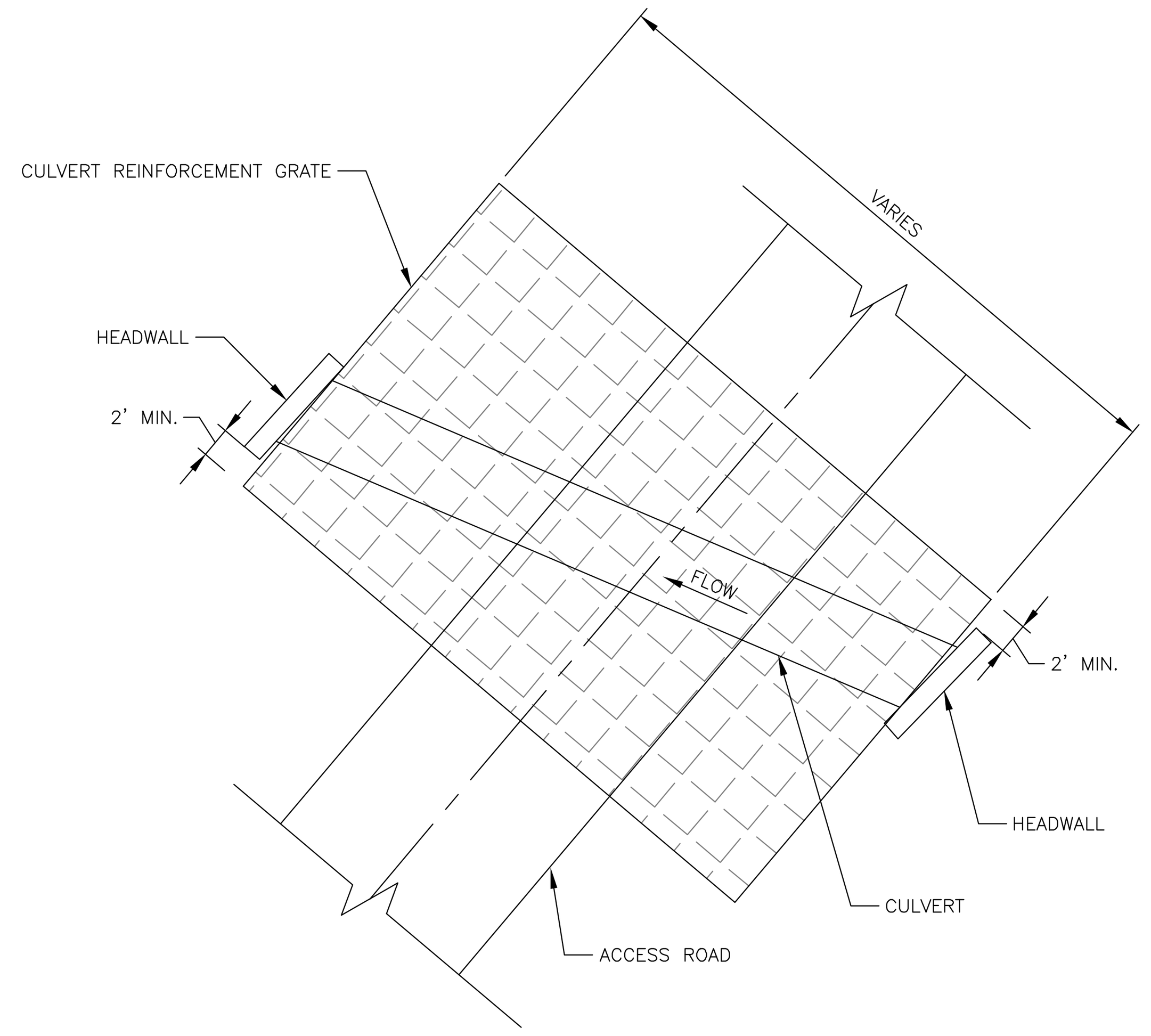
1. DIMENSIONS SHOWN ARE FOR PIPELINE BURIED WITH 4 FEET OF COVER. FOR PIPELINE BURIED WITH MORE THAN 4 FEET OF COVER - CONTACT ENGINEER.
2. STONE FILL TO BE SUPPLIED AND INSTALLED BY THE CONTRACTOR.

SPECIAL NOTE:

PROPOSED VEHICLE & EQUIPMENT WHEEL / TRACK LOAD WEIGHTS SHALL BE PROVIDED TO NFG ENGINEERING SERVICES TO DETERMINE IF ADDITIONAL MEASURES ARE NECESSARY, BASED ON THE SPECIFIC PIPELINE TO BE CROSSED.

STONE BRIDGE PIPELINE CROSSING

NOT TO SCALE
BMP 32A



NOTES:

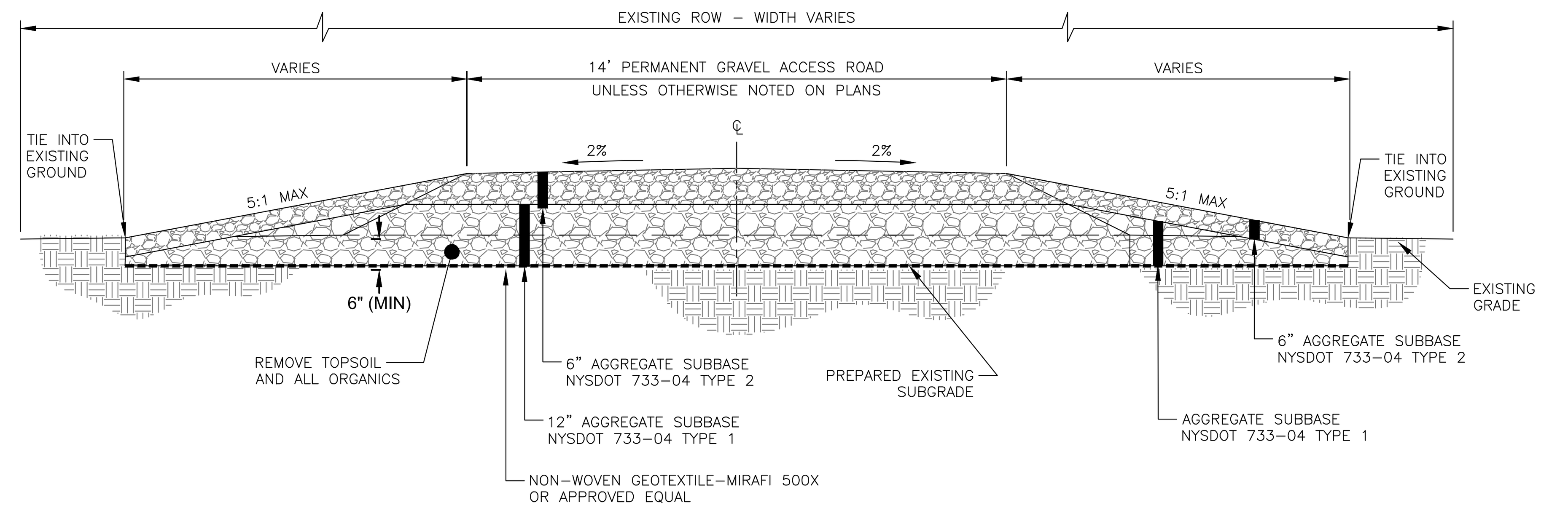
1. REINFORCE CULVERTS AT LOCATIONS SHOWN ON EM&CP DRAWINGS.
2. CULVERT REINFORCEMENT SHALL BE HEAVY DUTY RIVETED CARBON STEEL GALVANIZED GRATING 37-R-5 BY OHIO GRATINGS INC. OR OWNER APPROVED EQUAL.
3. AT MINIMUM, GRATINGS SHALL HAVE AN H15/H20 RATING FOR A 72" CLEAR SPAN.
4. SEE DETAILED CULVERT DRAWINGS FOR INDIVIDUAL CULVERT CROSSINGS.

TYPICAL CULVERT REINFORCEMENT GRATE

(NOT TO SCALE)

Common Name	Stone Type	Alternate/Equivalent	Alternate Common Names	Approximate Stone Size/Gradation as applicable	Manual/Table Reference
Subbase Course, Type 1	NYSDOT #304.11		Sub-Grade Fill	Percent Passing By Weight 3": 100 2": 90-100 1/4": 25-60 No. 40: 5-40 No. 200: 0-10	NYSDOT Standard Specifications Table 733-04A
Subbase Course, Type 2	NYSDOT #304.12		Crusher Run	Percent Passing By Weight 2": 100 1/4": 25-60 No. 40: 5-40 No. 200: 0-10	NYSDOT Standard Specifications Table 733-04A
#1b Crushed Stone	NYSDOT #703-0201	AASHTO #7 Standard Course Aggregate	Crushed Stone, Clean Stone	1/16"	NYSDOT Standard Specifications Table 703-4
#1a Crushed Stone	NYSDOT #703-0201	AASHTO #8 Standard Course Aggregate	Crushed Stone, Clean Stone	3/16"	NYSDOT Standard Specifications Table 703-4
#1 Crushed Stone	NYSDOT #703-0201	AASHTO #67 Standard Coarse Aggregate	Crushed Stone, Clean Stone	3/8"	NYSDOT Standard Specifications Table 703-4
#2 Crushed Stone	NYSDOT #703-0201	AASHTO #4 Standard Coarse Aggregate	Crushed Stone, Clean Stone	3/4"	NYSDOT Standard Specifications Table 703-4
#3 Crushed Stone	NYSDOT #703-0201	AASHTO #2 Standard Coarse Aggregate	Crushed Stone, Clean Stone	1-1/2"	NYSDOT Standard Specifications Table 703-4
#4 Crushed Stone	NYSDOT #703-0201	AASHTO #1 Standard Coarse Aggregate	Crushed Stone, Clean Stone	2-1/2"	NYSDOT Standard Specifications Table 703-4
#5 Crushed Stone	NYSDOT #703-0201		Crushed Stone, Clean Stone	3-1/2"	NYSDOT Standard Specifications Table 703-4
Select Granular Fill	NYSDOT #203.07			Percent Passing By Weight 4": 100 No. 40: 0-70 No. 200: 0-15	NYSDOT Standard Specifications Table 733-11A
Light Stone Filling	NYSDOT #620.03		Riprap	Percent Of Total Weight Lighter than 100 lbs: 90-100 Larger than 6": 50-100 Smaller than 1/2": 0-10	NYSDOT Standard Specifications Table 620-1

Note - "#" is not equivalent to inches. For example, #2 stone is not 2 inch stone.



THIS DETAIL TO BE USED FOR FARM ROAD ACCESS

PROPOSED FARM ACCESS CROSSING PERMANENT GRAVEL ACCESS

(NOT TO SCALE)

37-R-5 HEAVY DUTY RIVETED CARBON STEEL GALVANIZED GRATINGS

MODEL SPECIFICATION FOR TYPE 37-R-5 CARBON STEEL GALVANIZED GRATING AS MANUFACTURED BY OHIO GRATINGS INC™ 5299 SOUTHWAY ST., SW. CANTON OHIO 44706 OR APPROVED EQUAL.

NOTE: THE SPECIFIER WILL NEED TO EDIT THIS SPECIFICATION TO REFLECT THE OPTIONS IN THIS DOCUMENT SHOWN IN RED. SOME EDITING CAN BE ACCOMPLISHED BY DELETING UNNECESSARY REQUIREMENTS. FOR HEAVY DUTY RIVETED BRIDGE DECK PLEASE CONTACT OHIO GRATINGS FOR GRATING TYPE RECOMMENDATION BASED ON THE SPECIFIC APPLICATION.

SECTION 05 53 00
METAL FABRICATIONS - METAL GRATINGS

PART 1: GENERAL

1.1 SECTION INCLUDES
- A. PREFABRICATED HEAVY DUTY RIVETED CARBON STEEL BAR GRATINGS
- B. PREFABRICATED SUPPORT FRAMES FOR GRATINGS
- C. MISCELLANEOUS INSTALLATION HARDWARE AND ACCESSORIES

1.2 REFERENCES
- A. ASTM A-36 CARBON STEEL
- B. ASTM A-1011 CS TYPE B STEEL STRIP HOT-ROLLED CARBON
- C. ASTM A-575 CARBON STEEL RIVETS
- D. ANSI/NAAMM-MBG-532-09 HEAVY DUTY METAL BAR GRATING MANUAL

1.3 ACTION SUBMITTALS
- A. PRODUCT DATA: THE CONTRACTOR SHALL SUBMIT THE MANUFACTURER'S CATALOG PAGES INCLUDING LOAD TABLES, ANCHOR DETAILS AND STANDARD INSTALLATION DETAILS.
- B. SHOP DRAWINGS: THE CONTRACTOR SHALL SUBMIT FOR APPROVAL SHOP DRAWINGS FOR THE FABRICATION AND ERECTION OF ALL GRATINGS, BASED ON CONSTRUCTION DRAWINGS OF CURRENT ISSUE. INCLUDE PLANS, ELEVATIONS, AND DETAILS OF SECTIONS AND CONNECTIONS AS REQUIRED. SHOW TYPE AND LOCATION OF ALL FASTENERS.
- C. SAMPLES OF GRATING AND ANCHORAGE SYSTEM SHALL BE SUBMITTED FOR APPROVAL.

1.4 QUALITY ASSURANCE
- A. MANUFACTURER QUALIFICATION: A COMPANY SPECIALIZING IN THE MANUFACTURE OF METAL BAR GRATINGS WITH NOT LESS THAN 10 YEARS OF DOCUMENTED EXPERIENCE.
- B. FABRICATION TOLERANCES SHALL BE IN ACCORDANCE WITH APPLICABLE PROVISIONS AND RECOMMENDATIONS OF ANSI/NAAMM 532-09 METAL BAR GRATING MANUAL.

PART 2: PRODUCTS

2.1 SOURCE REQUIREMENTS:
DESIGN IS BASED UPON USE OF GRATINGS AS MANUFACTURED BY OHIO GRATINGS AND TERMINOLOGY USED HEREIN MAY INCLUDE REFERENCE TO THE SPECIFIC PERFORMANCE OR PRODUCT OF THIS MANUFACTURER. SUCH REFERENCE SHALL BE CONSTRUED ONLY AS ESTABLISHING THE QUALITY OF MATERIALS. OPERATIONAL FEATURES AND WORKMANSHIP TO BE USED UNDER THIS SECTION AND SHALL NOT, IN ANY WAY, BE CONSTRUED AS LIMITING COMPETITION.

2.2 MANUFACTURERS:
ACCEPTABLE MANUFACTURERS INCLUDE OHIO GRATINGS, 5299 SOUTHWAY ST. SW. CANTON, OHIO 44706, 800-321-9800 WWW.OHIOGRATINGS.COM, OF APPROVED EQUAL.

2.3 MANUFACTURED UNITS:
- A. DESCRIPTION: GRATING: TYPE 37-R-5 HEAVY DUTY RIVETED CARBON STEEL GRATING WITH GALVANIZED FINISH. MANUFACTURED BY HYDRAULIC COMPRESSION OF 3/8" DIA RIVETS TO JOIN HEAVY DUTY CONNECTING BARS 1-1/2" DEEP X 3/16" THICK IN RETICULINE FASHION TO HEAVY DUTY MAIN BEARING BARS. CONNECTING BARS ARE FORMED AND PUNCHED FOR RIVETS 2-1/2" ON CENTER. BEARING BARS ARE ALSO PUNCHED TO RECEIVE RIVETS 5" ON CENTER.
  1. MAIN BEARING BAR SPACING 2-5/16" FACE TO FACE.
  2. BEARING BAR THICKNESS: 1/4" (OR 5/16" OR 3/8") AS SHOWN ON THE DRAWINGS.
  3. MAIN BEARING BAR DEPTH IS TO BE BASED ON LOADING REQUIREMENTS AND THE CLEAR SPAN SHOWN ON THE DRAWINGS.
  4. CONNECTING BAR 1-1/2" X 3/16" SERRATED AND RAISED 1/8" ABOVE TOP SURFACE OF MAIN BARS.
  5. TOP OF MAIN BEARING BARS ARE TO BE SMOOTH.
  6. RIVETS 3/8" DIAMETER AND SPACED 5" ON CENTER ALONG MAIN BEARING BARS.
- B. FABRICATION: LOAD BAND ENDS OF GRATING WITH BARS OF SAME THICKNESS AS THE MAIN BEARING BARS. WELD BANDING FLUSH WITH THE TOP SURFACE OF THE GRATING. DEPTH OF BANDING TO BE 1/2" LESS THAN THE DEPTH OF THE MAIN BEARING BARS AS SHOWN ON THE DRAWINGS. INCLUDE WELDED ANCHOR BLOCKS 1/4" FROM THE BOTTOM SURFACE WITH HOLE TO ACCEPT THE SPECIFIED ATTACHMENT BLOTS WITH WASHERS AND NUTS.
- C. STEEL FRAMES: CARBON STEEL ASTM A-36 FRAMES SHALL BE PROVIDED AS SHOWN ON THE CONTRACT DRAWINGS TO SUPPORT AND ATTACH THE GRATINGS. INCLUDE ANCHORS AS SHOWN FOR LOCKING FRAME INTO CONCRETE AS SHOWN ON THE PLANS. GALVANIZE FRAMES AFTER FABRICATION PER ASTM A123.
- D. DESIGN CRITERIA:
  LOADING: UNLESS SHOWN OTHERWISE ON THE CONTRACT DRAWINGS, GRATINGS SHALL BE DESIGNED AND MANUFACTURED TO MEET THE LIVE LOAD CONDITIONS OF AASHTO HS 20 WITH 30% IMPACT FACTOR. MAIN BEARING BAR DEPTH SHALL BE AS SHOWN ON THE CONTRACT DRAWINGS OR AS RECOMMENDED BY THE MANUFACTURER TO MEET THE LOADING REQUIREMENTS, AND CLEAR SPAN CONDITIONS.
- E. MATERIALS: MAIN BEARING BARS ARE TO BE ASTM A-36 CARBON STEEL. CONNECTING BARS ARE TO BE PER ASTM A-1011 CS TYPE B. RIVETS ARE TO BE PER ASTM A-575. BANDING IS TO BE CARBON STEEL PER ASTM A-36.
- F. FABRICATION TOLERANCES: SHALL BE IN ACCORDANCE WITH ANSI/NAAMM MBG 532-09 METAL BAR GRATING MANUAL.
- G. FINISH: GRATINGS AND FRAMES SHALL BE HOT-DIP GALVANIZED PER ASTM A123 (OR POWDER COAT PAINTED BLACK AS SHOWN ON THE DRAWINGS).

2.4 ACCESSORIES:
PROVIDE APPROPRIATE FASTENERS FOR TYPE, GRADE, AND CLASS REQUIRED FOR THE APPROVED ANCHORAGE SYSTEM.

PART 3: EXECUTION

3.1 FIELD VERIFICATION:
CONTRACTOR IS TO PROVIDE FIELD MEASUREMENTS PRIOR TO PREPARATION OF FINAL SHOP DRAWINGS AND FABRICATION WHERE REQUIRED TO ENSURE PROPER FITTING OF THE WORK.

3.2 INSTALLATION
- A. PRIOR TO GRATING INSTALLATION. CONTRACTOR SHALL INSPECT SUPPORTS FOR CORRECT ALIGNMENT AND CONDITIONS FOR PROPER ATTACHMENT AND SUPPORT OF THE GRATINGS. ANY INCONSISTENCIES BETWEEN CONTRACT DRAWINGS AND SUPPORTING STRUCTURE DEEMED DETRIMENTAL TO GRATING PLACEMENT SHALL BE REPORTED IN WRITING TO THE ENGINEER, ARCHITECT OR OWNER'S AGENT PRIOR TO PLACEMENT.
- B. INSTALL GRATING IN ACCORDANCE WITH SHOP DRAWINGS AND STANDARD INSTALLATION CLEARANCES AS RECOMMENDED BY ANSI/NAAMM MBG-532-09 METAL BAR GRATING MANUAL.

3.3 GRATING ATTACHMENT:
USE APPROVED ATTACHMENT SYSTEM AND FASTENERS TO SECURE GRATING TO SUPPORTING MEMBERS AS SHOWN ON PLANS.

ORIGINAL ISSUE DATE 6/06/25
FILE INDEX 6.1-L10-M5
DRAWING NUMBER L1-41568
SHEET NUMBER 12

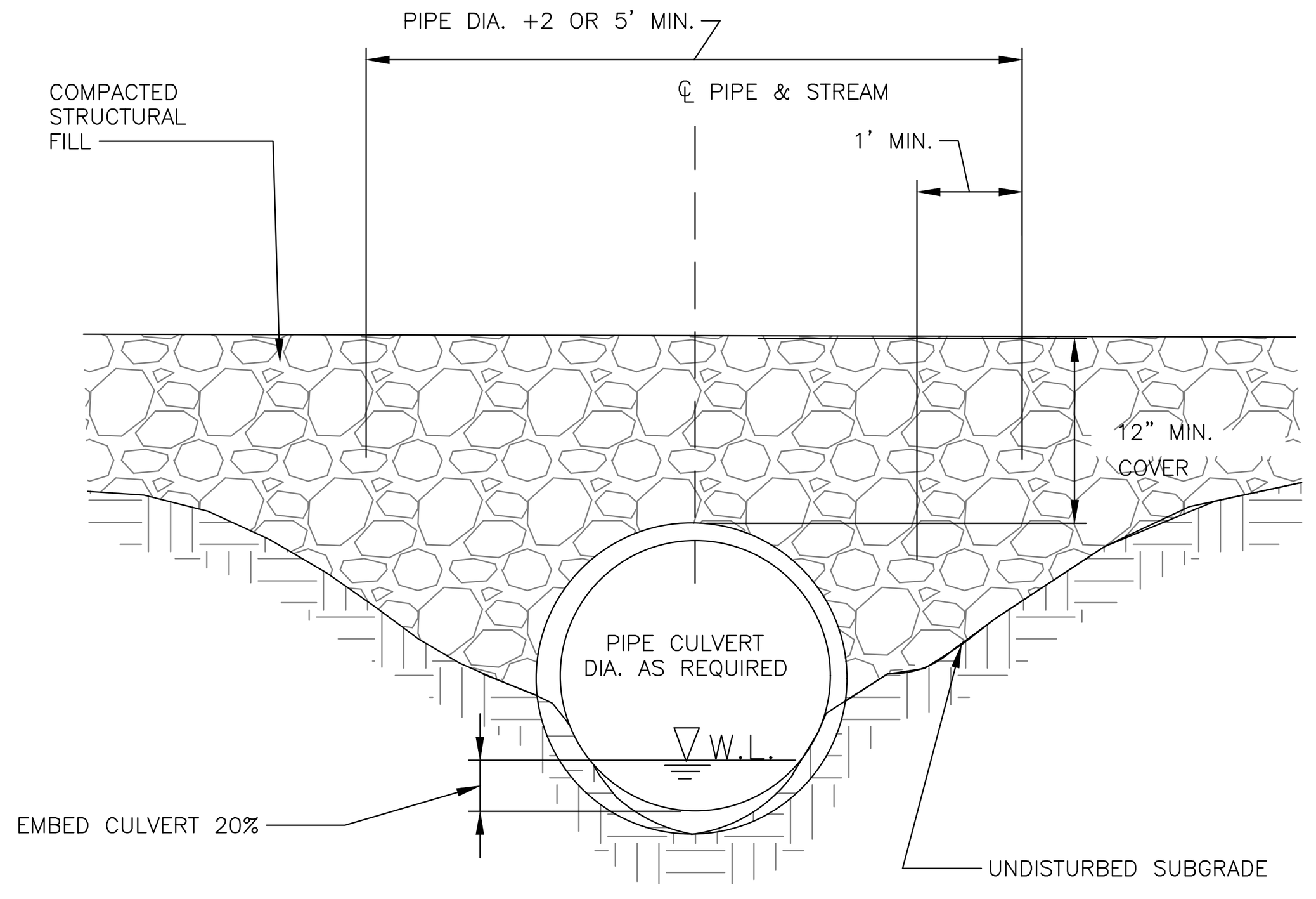
115kV TRANSMISSION LINES
LOCKPORT - BATAVIA 112
REBUILD PROJECT
CIVIL CONSTRUCTION NOTES & DETAILS

PREPARED BY nationalgrid

ACCOUNT NUMBER

DES. HP APPROVED
DR. FISHER APPROVED
CK. VL APPROVED
RW APPROVED

DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.



SECTION VIEW

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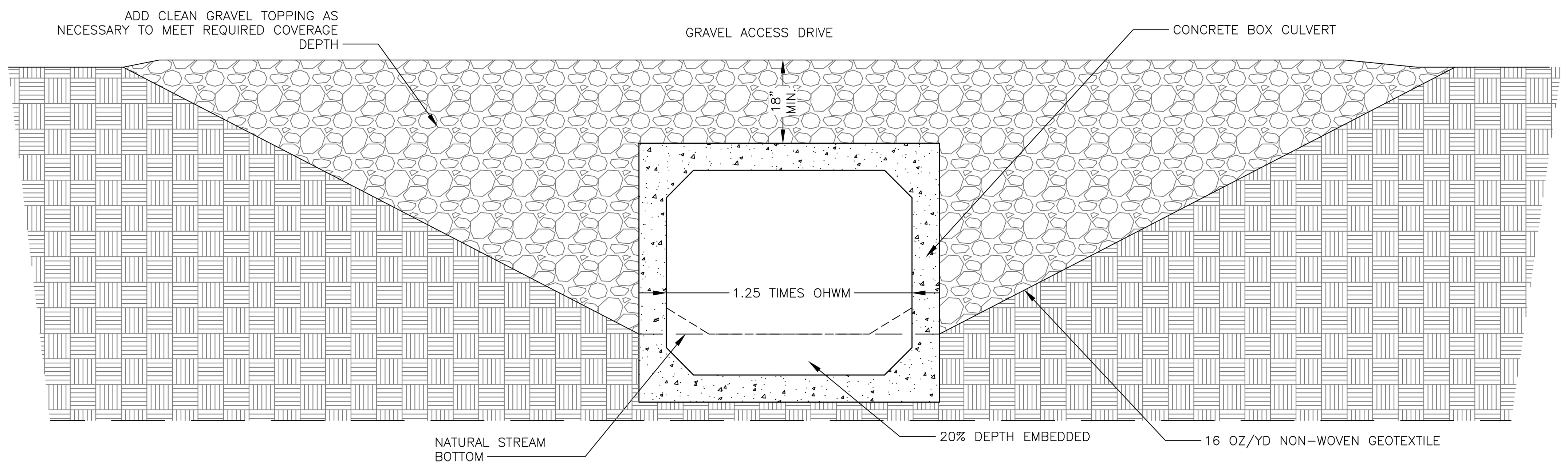

BOX CULVERT DETAIL

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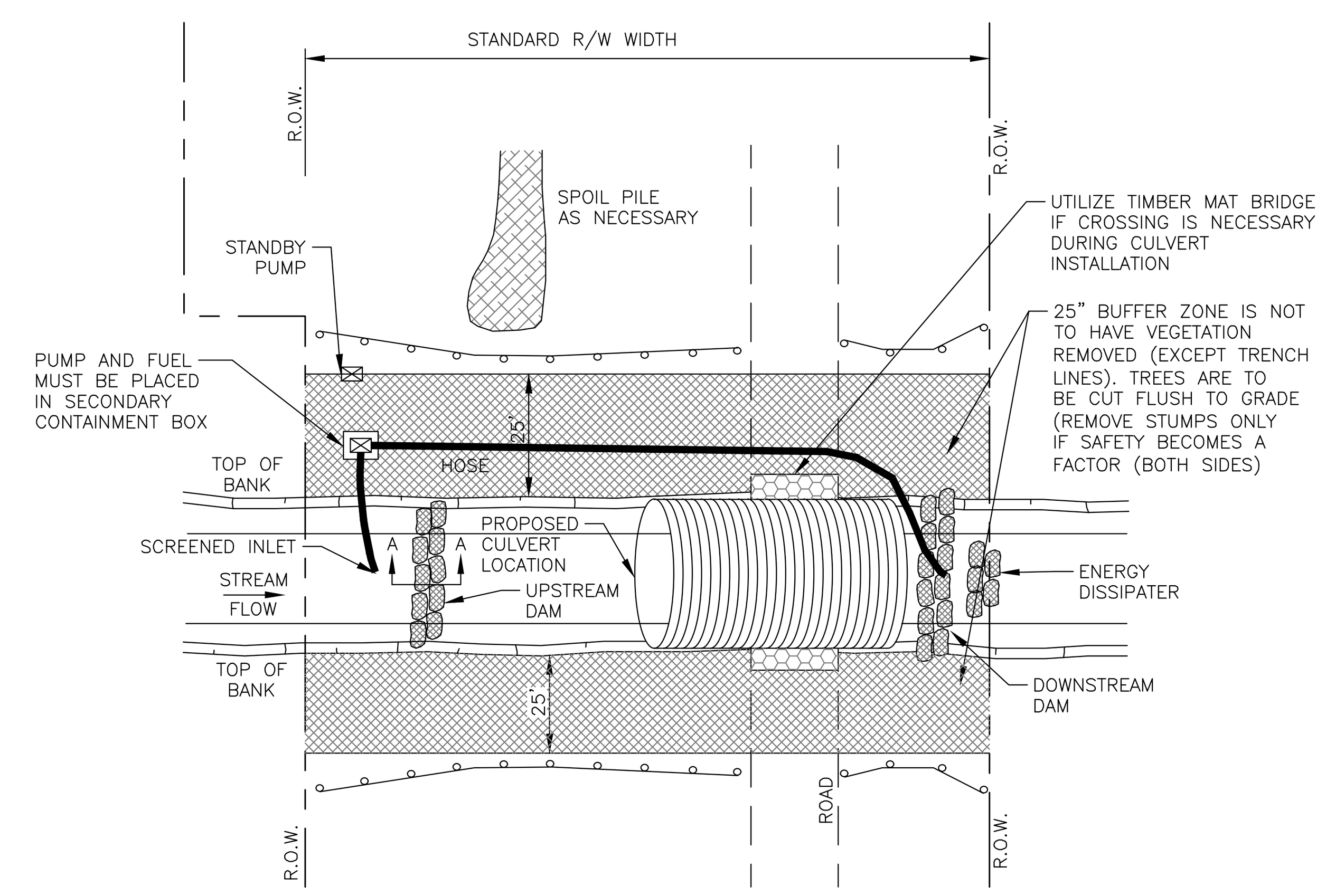
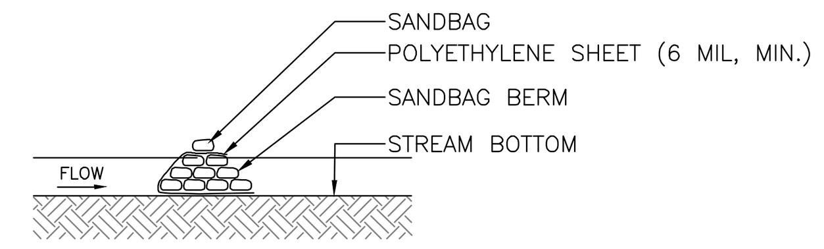




SECTION A–A

NOTES:

1. SCHEDULE CONSTRUCTION DURING LOW FLOW PERIOD.
2. SET UP PUMP AND HOSE AS SHOWN, OR USE OTHER PRACTICAL ALTERNATIVES. PUMP SHOULD HAVE TWICE THE PUMPING CAPACITY OF ANTICIPATED FLOW. HAVE STANDBY PUMP ON SITE.
3. INSTALL DAMS COMPOSED OF SANDBAGS OR CLEAN GRAVEL WITH PLASTIC LINER TO KEEP STREAM BED DRY.
4. DISMANTLE DOWNSTREAM DAM, THEN UPSTREAM DAM. KEEP PUMP RUNNING TO MAINTAIN FLOW.
5. MONITOR DAM AND PUMP FOR PROPER OPERATION THROUGHOUT THE CROSSING INSTALLATION.
6. UNDISTURBED VEGETATION BUFFER SHALL BE 25 FT OR TO EDGE OF EXISTING NON–NATIVE VEGETATION WHERE THAT DISTANCE IS <25 FT.

SPECIFICATIONS FOR CORRUGATED METAL PIPE–ALUMINIZED TYPE 2 STEEL:

SCOPE:
THIS SPECIFICATION COVERS THE MANUFACTURER AND INSTALLATION OF THE CORRUGATED METAL PIPE (CMP) DETAILED IN THE PROJECT PLANS.

MATERIAL:
THE ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M 274 OR ASTM A 929.

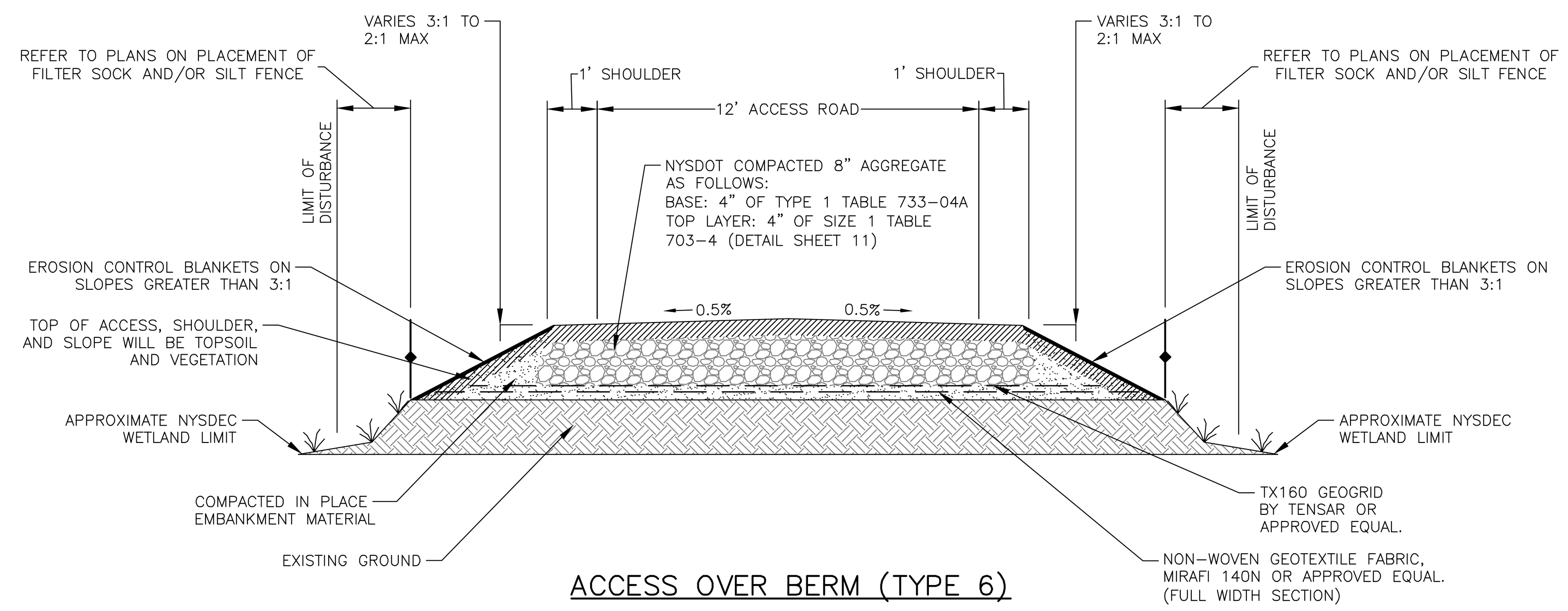
PIPE:
THE CMP SHALL BE MANUFACTURED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF AASHTO M–36 OR ASTM A270. THE PIPE SIZES, GAUGES, AND CORRUGATIONS SHALL BE AS SHOWN ON THE PROJECT PLANS.

HANDLING & ASSEMBLY:
SHALL BE IN ACCORDANCE WITH NCSPA'S (NATIONAL CORRUGATED STEEL PIPE ASSOCIATION) RECOMMENDATIONS.

INSTALLATION:
SHALL BE IN ACCORDANCE WITH AASHTO TO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II, OR ASTM A 798 AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE WITH THE PROJECT ENGINEER.

IT IS ALWAYS THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.

CONSTRUCTION LOADS:
CONSTRUCTION LOADS MAY BE HIGHER THAN FINAL LOADS. FOLLOW THE MANUFACTURER'S OR NCSPA GUIDELINES.



ACCESS OVER BERM (TYPE 6)

NOT TO SCALE

NOTES:
1. CONTRACTOR SHALL CONTACT NYSDEC TO COORDINATE LOWERING OF WATER SURFACE LEVEL PRIOR TO START OF CONSTRUCTION.
2. DESIGN TO BE CONFIRMED USING GEOTECHNICAL DATA.

ADS, INC. DRAINAGE HANDBOOK SPECIFICATIONS 1–6
ADS N–12 WT IB PIPE (PER AASHTO) SPECIFICATION

SCOPE
THIS SPECIFICATION DESCRIBES 4 THROUGH 60–INCH (100 TO 1500mm) ADS N–12 WT IB PIPE (PER AASHTO) FOR USE IN GRAVITY–FLOW LAND DRAINAGE APPLICATIONS.

PIPE REQUIREMENTS
ADS N–12 WT IB PIPE (PER AASHTO) SHALL HAVE A SMOOTH INTERIOR AND ANNULAR EXTERIOR CORRUGATIONS.
- 4 THROUGH 10–INCH (100 TO 250mm) PIPE SHALL MEET AASHTO M252, TYPE S
- 12 THROUGH 60–INCH (300 TO 1500mm) PIPE SHALL MEET AASHTO M294, TYPE S OR ASTM F2306.
- MANNING'S "N" VALUE FOR USE IN DESIGN SHALL BE 0.012.

JOINT PERFORMANCE

PIPE SHALL BE JOINED USING A BELL & SPIGOT JOINT MEETING THE REQUIREMENTS OF AASHTO M252, AASHTO M294, OR ASTM F2306. THE JOINT SHALL BE WATERTIGHT ACCORDING TO THE REQUIREMENTS OF ASTM D3212. GASKETS SHALL MEET THE REQUIREMENTS OF ASTM F477. GASKETS SHALL BE INSTALLED BY THE PIPE MANUFACTURER AND COVERED WITH A REMOVABLE, PROTECTIVE WRAP TO ENSURE THE GASKET IS FREE FROM DEBRIS. A JOINT LUBRICANT AVAILABLE FROM THE MANUFACTURER SHALL BE USED ON THE GASKET AND BELL DURING ASSEMBLY. 12 THROUGH 60–INCH (300 TO 1500mm) DIAMETERS SHALL HAVE AN EXTERIOR BELL WRAP INSTALLED BY THE MANUFACTURER.

FITTINGS

FITTINGS SHALL CONFORM TO AASHTO M252, AASHTO M294, OR ASTM F2306. BELL AND SPIGOT CONNECTIONS SHALL UTILIZE A WELDED BELL AND VALLEY OR SADDLE GASKET MEETING THE WATERTIGHT JOINT PERFORMANCE REQUIREMENTS OF AASHTO M252, AASHTO M294, OR ASTM F2306.

FIELD PIPE AND JOINT PERFORMANCE

TO ASSURE WATERTIGHTNESS, FIELD PERFORMANCE VERIFICATION MAY BE ACCOMPLISHED BY TESTING IN ACCORDANCE WITH ASTM F2487. APPROPRIATE SAFETY PRECAUTIONS MUST BE USED WHEN FIELD–TESTING ANY PIPE MATERIAL. CONTACT THE MANUFACTURER FOR RECOMMENDED LEAKAGE RATES.

MATERIAL PROPERTIES

MATERIAL FOR PIPE AND FITTING PRODUCTION SHALL BE HIGH–DENSITY POLYETHYLENE CONFORMING WITH THE MINIMUM REQUIREMENTS OF CELL CLASSIFICATION 424420C FOR 4 THROUGH 10–INCH (100 TO 250mm) DIAMETERS, AND 435400C FOR 12 THROUGH 60–INCH (300 TO 1500mm) DIAMETERS, AS DEFINED AND DESCRIBED IN THE LATEST VERSION OF ASTMD3350, EXCEPT THAT CARBON BLACK CONTENT SHOULD NOT EXCEED 4%. THE 12 THROUGH 60–INCH (300 TO 1500mm) PIPE MATERIAL SHALL COMPLY WITH THE NOTCHED CONSTANT LIGAMENT–STRESS (NCLS) TEST AS SPECIFIED IN SECTIONS 9.5 AND 5.1 OF AASHTO M294 AND ASTM F2306 RESPECTIVELY.

INSTALLATION

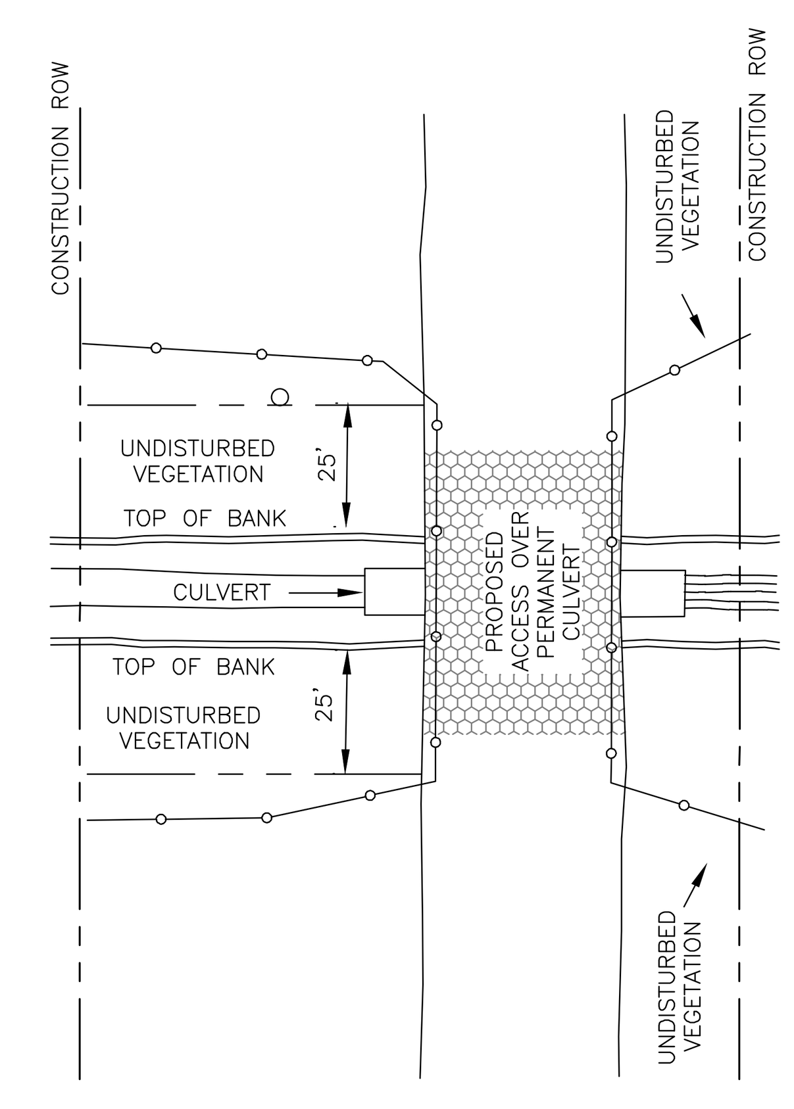
INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D2321 AND ADS RECOMMENDED INSTALLATION GUIDELINES, WITH THE EXCEPTION THAT MINIMUM COVER IN TRAFFICKED AREAS FOR 4 THROUGH 48–INCH (100 to 1200MM) DIAMETERS SHALL BE ONE FOOT (0.3m) AND FOR 60–INCH (1500mm) DIAMETER THE MINIMUM COVER SHALL BE 2FT (0.6m) IN SINGLE RUN APPLICATIONS. BACKFILL FOR MINIMUM COVER SITUATIONS SHALL CONSIST OF CLASS 1 (COMPACTED), CLASS 2 (MINIMUM 90% SPD) OR CLASS 3 (MINIMUM 95%) MATERIAL. MAXIMUM FILL HEIGHTS DEPEND ON EMBEDMENT MATERIAL AND COMPACTION LEVEL, PLEASE REFER TO TECHNICAL NOTE 2.01. CONTACT YOUR LOCAL ADS REPRESENTATIVE OR VISIT OUR WEBSITE AT WWW.ADS–PIPE.COM FOR A COPY OF THE LATEST INSTALLATION GUIDELINES.

PIPE DIMENSIONS

	NOMINAL DIAMETER IN (mm)												
PIPE ID IN (mm)	4 (100)	6 (150)	8 (200)	10 (250)	12 (300)	15 (375)	18 (450)	24 (600)	30 (750)	36 (900)	42 (1050)	46 (1200)	60 (1500)
PIPE OD IN (mm)	4.8 (122)	6.9 (175)	9.1 (231)	11.4 (290)	14.5 (368)	18 (457)	22 (559)	28 (711)	36 (914)	42 (1067)	48 (1219)	54 (1372)	67 (1702)

*PIPE O.D. VALUES ARE PROVIDED FOR REFERENCE PURPOSES ONLY. VALUES STATED FOR 12 THROUGH 60–INCH ARE +/– 1 INCH. CONTACT A SALES REPRESENTATIVE FOR EXACT VALUES.

DURING TRANSMISSION LINE CONSTRUCTION



CULVERT INSTALLATION PHASING

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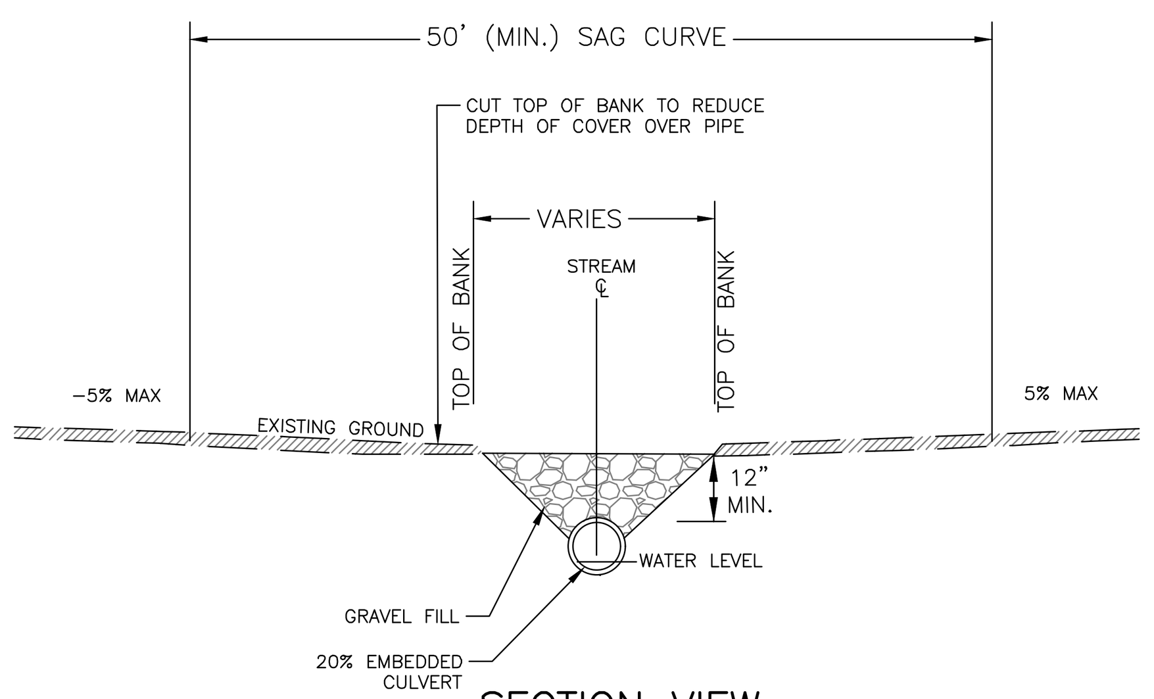

NOTES:
1. PIPE CULVERT CAN BE CORRUGATED STEEL PIPE (CSP) OR CORRUGATED PLASTIC PIPE WITH SMOOTH INTERIOR (HDPE).

SECTION VIEW

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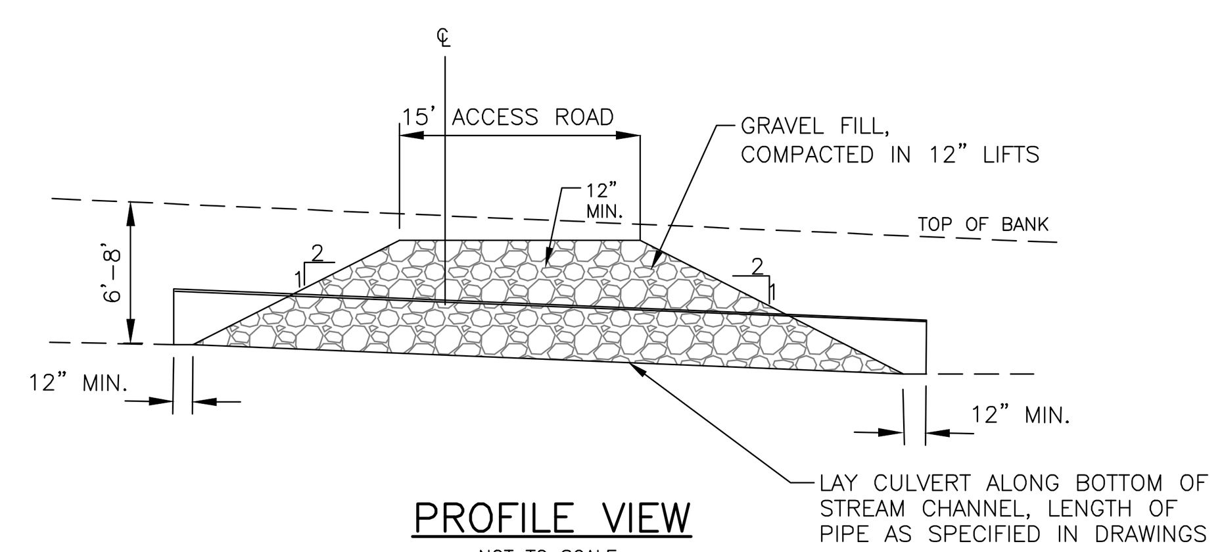

PROFILE VIEW

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TYPE 1: PIPE CULVERT INSTALLATION DETAIL

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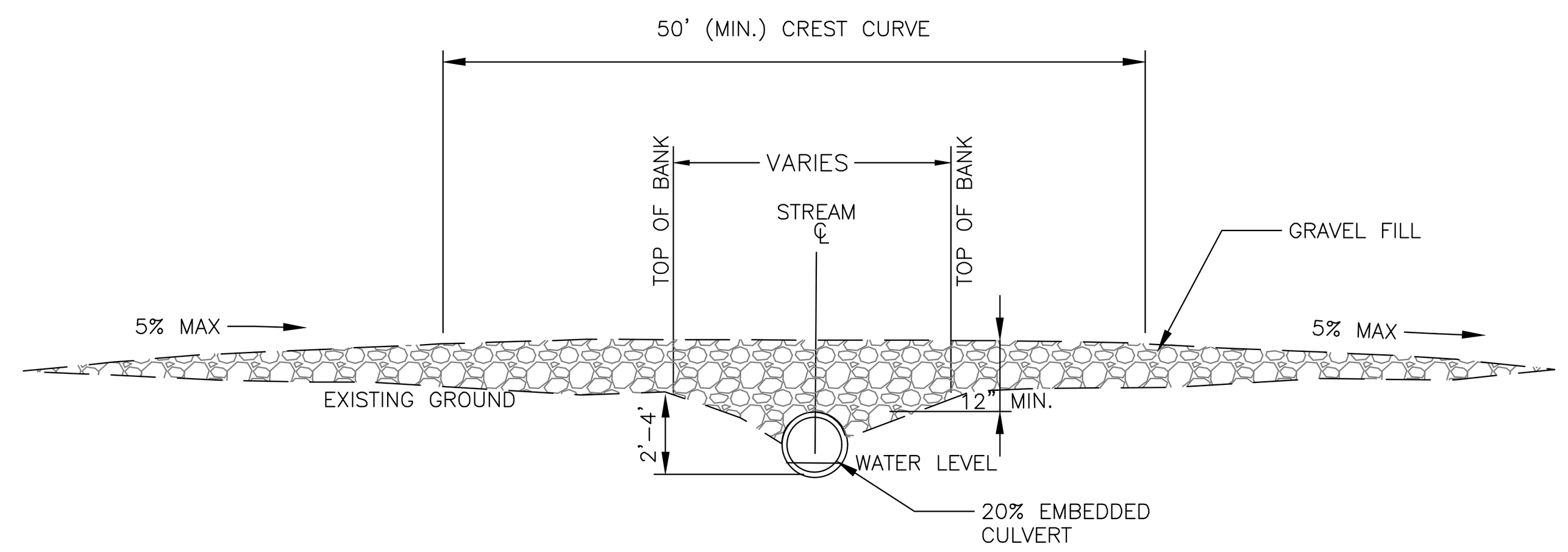

NOTES:
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SECTION VIEW

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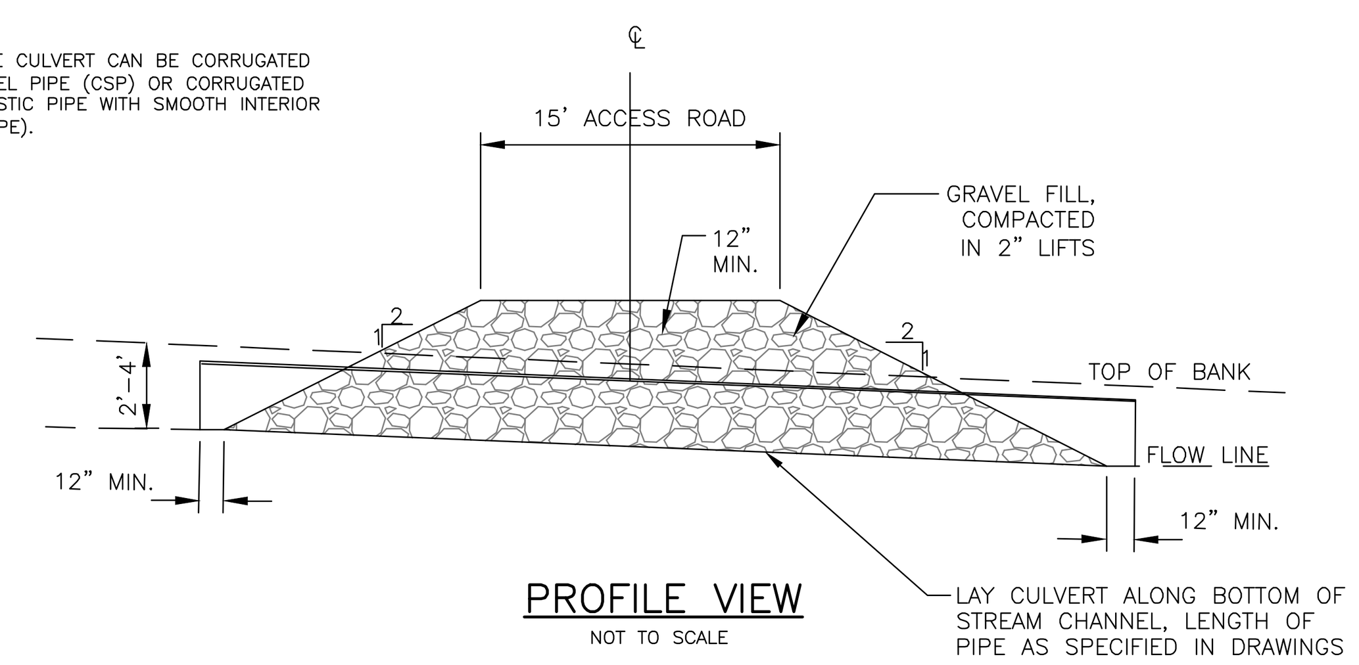

PROFILE VIEW

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TYPE 2: PIPE CULVERT INSTALLATION DETAIL

NOT TO SCALE

ORIGINAL ISSUE DATE	6/06/25
FILE INDEX	6.1-L10-M5
DRAWING NUMBER	L1-41568
SHEET NUMBER	13

115kV TRANSMISSION LINES
LOCKPORT - BATAVIA 112
REBUILD PROJECT
CIVIL CONSTRUCTION NOTES & DETAILS

PREPARED BY nationalgrid

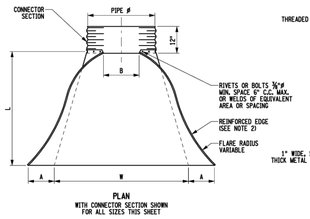
ACCOUNT NUMBER

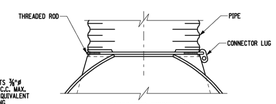
DES.	APPROVED HP
DR.	APPROVED FISHER
CK.	APPROVED VL
	APPROVED RW

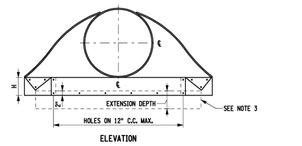
DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.

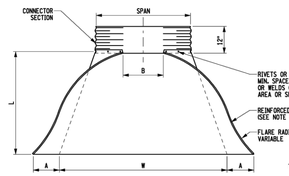
CORRUGATED METAL PIPE									
PIPE DIA.	END SECTION GAUGE AND DIMENSIONS						APPROX. SLOPE	BODY PIECES (NOTE 4)	TOE PLATE EXTENSION
	GAUGE	A 1"ø	B 1"ø	H 1"ø	L 1½"ø	W 2"ø			DEPTH / LENGTH 2"ø
12"	16	6"	6"	6"	21"	24"	2-1/2	1 OR 2	8" / 34"
15"	16	7"	8"	6"	26"	30"	2-1/2	1 OR 2	8" / 40"
18"	16	8"	10"	6"	31"	36"	2-1/2	1 OR 2	8" / 46"
21"	16	9"	12"	6"	36"	42"	2-1/2	1 OR 2	8" / 52"
24"	16	10"	13"	6"	41"	48"	2-1/2	1 OR 2	8" / 58"
30"	14	12"	16"	8"	51"	60"	2-1/2	1 OR 2	8" / 70"
36"	14	14"	19"	8"	60"	72"	2-1/2	1 OR 2	8" / 82"
42"	12	16"	23"	11"	69"	84"	2-1/2	1 OR 2	8" / 94"
48"	12	18"	27"	12"	78"	96"	2-1/4	1, 2 OR 3	8" / 110"
54"	12	18"	30"	12"	84"	102"	1, 2 OR 3	8"	12" / 122"
60"	12	18"	33"	12"	87"	114"	1-3/4	3	12" / 134"
66"	12	18"	36"	12"	87"	120"	1-1/2	3	12" / 140"
72"	12	18"	39"	12"	87"	126"	1-1/3	3	12" / 146"
78"	12	18"	42"	12"	87"	132"	1-1/4	3	12" / 152"
84"	12	18"	45"	12"	87"	138"	1-1/6	3	12" / 158"
90"	12	24"	47"	12"	87"	144"	1-1/2	3	12" / 164"
96"	12	25"	50"	12"	87"	150"	1-1/2	3	12" / 170"

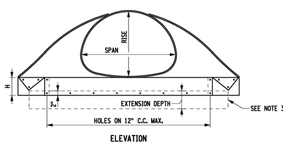
CORRUGATED METAL PIPE ARCH									
2 2/3" x ½" CORRUGATION	3" X 1" OR 5" X 1" CORRUGATION	END SECTION GAUGE AND DIMENSIONS					APPROX. SLOPE	BODY PIECES (NOTE 4)	TOE PLATE EXTENSION
SPAN AND RISE	SPAN AND RISE	GAUGE	A 1"ø	B 1"ø	H 1"ø	L 1½"ø	W 2"ø			DEPTH / LENGTH 2"ø
17" X 13"		16	7"	9"	6"	19"	30"	2-1/2	1 OR 2	8" / 40"
21" X 15"		16	7"	10"	6"	23"	36"	2-1/2	1 OR 2	8" / 46"
24" X 18"		16	8"	12"	6"	28"	42"	2-1/2	1 OR 2	8" / 52"
28" X 20"		16	9"	14"	6"	32"	48"	2-1/2	1 OR 2	8" / 58"
35" X 24"		14	10"	16"	6"	39"	60"	2-1/2	1 OR 2	8" / 70"
42" X 29"		14	12"	18"	8"	46"	75"	2-1/2	1 OR 2	8" / 85"
49" X 33"		12	13"	21"	9"	53"	85"	2-1/2	1 OR 2	8" / 105"
57" X 38"		12	18"	26"	12"	63"	90"	2-1/2	1, 2 OR 3	8" / 110"
64" X 43"	60" X 46"	12	18"	30"	12"	70"	102"	2-1/4	1, 2 OR 3	8" / 122"
71" X 47"	66" X 51"	12	18"	33"	12"	77"	114"	2-1/4	3	8" / 134"
77" X 52"	73" X 55"	12	18"	36"	12"	77"	126"	2	3	12" / 140"
83" X 57"	81" X 59"	12	18"	39"	12"	77"	138"	2	3	12" / 158"
	87" X 63"	12	22"	34"	12"	77"	148"	1-1/2	3	12" / 168"
	95" X 67"	12	22"	34"	12"	77"	162"	1-1/2	3	12" / 182"
	103" X 71"	12	22"	38"	12"	77"	174"	1-1/2	3	12" / 194"
	112" X 75"	12	24"	40"	12"	77"	174"	1-1/2	3	12" / 194"

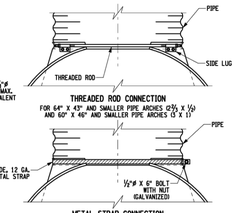


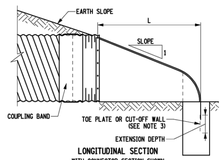












NOTES:

1. ALL PIPES AND PIPE ARCHES WHOSE DIMENSIONS ARE LARGER THAN THOSE LISTED BELOW SHALL HAVE 12 GA. SIDES AND 10 GA. CENTER PANELS. PIPES - 54", PIPE ARCHES - 64" X 43" (2⅔" X ½" CORR.) AND 60" X 46" (3" X 1" OR 5" X 1"). PIPES AND PIPE ARCHES WHOSE DIMENSIONS ARE EQUAL TO OR SMALLER THAN THOSE LISTED ABOVE, WHICH ARE ALLOWED TO BE ASSEMBLED FROM 3 PIECES, SHALL HAVE 12 GA. SIDES AND 10 GA. CENTER PANELS.
2. REINFORCED EDGES SHALL BE SUPPLEMENTED WITH STIFFENER ANGLES FOR THE FOLLOWING PIPES AND PIPE ARCHES: PIPES - 60" OR LARGER, PIPE ARCHES - 71" X 47" (2⅔" X ½"), 73" X 55" (3 X 1 OR 5 X 1). THE ANGLES SHALL BE THE SAME BASE METAL AS THE END SECTION AND SHALL BE 2" X 2" X ¼" FOR 60" THRU 72" DIAMETERS AND 2½" X 2½" X ¼" FOR 78"ø AND LARGER. THE ANGLES SHALL BE ATTACHED BY ⅝"ø GALVANIZED NUTS AND BOLTS.
3. A TOE PLATE EXTENSION SHALL BE SUPPLIED WHEN SPECIFIED IN DRAINAGE STRUCTURE TABLE. THE TOE PLATE EXTENSION SHALL BE THE SAME BASE METAL AS THE END SECTION AND SHALL BE FASTENED TO THE END SECTION WITH ⅝"ø BOLTS. A CUT-OFF WALL SHALL BE POURED IF INDICATED IN THE CONTRACT DOCUMENTS. PAYMENT WILL BE MADE UNDER APPROPRIATE CONTRACT ITEMS. REFER TO STANDARD SHEET "CUT-OFF WALLS FOR END SECTIONS".
4. FOR PIPES AND PIPE ARCHES WITH 3 PIECE BODIES, THE WIDTH OF THE CENTER PANEL SHALL BE GREATER THAN 20% OF THE PIPE PERIPHERY. MULTIPLE PANEL BODIES SHALL HAVE LAP SEAMS WHICH SHALL BE TIGHTLY JOINED BY ⅝"ø GALVANIZED RIVETS OR BOLTS.
5. THE CONTRACTOR SHALL HAVE THE OPTION OF SUPPLYING EITHER A THREADED ROD CONNECTION OR METAL STRAP CONNECTION.
6. THE CONTRACTOR SHALL HAVE THE OPTION OF SUPPLYING EITHER A THREADED ROD CONNECTION OR A METAL STRAP CONNECTION FOR 17" X 13" THRU 28" X 20" PIPE ARCHES (2⅔" X ½") ONLY.

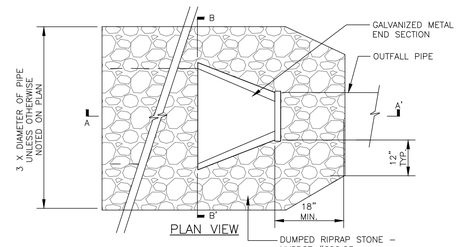
STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY STANDARD SHEET

ALUMINUM AND STEEL END SECTIONS FOR CORRUGATED PIPE AND PIPE ARCH

APPROVED OCTOBER 01, 2008	ISSUED UNDER EB 08-036
/S/ ROBERT L. SACK, P.E. DEPUTY CHIEF ENGINEER (TECHNICAL SERVICES)	603-02

EFFECTIVE DATE: 01/08/09



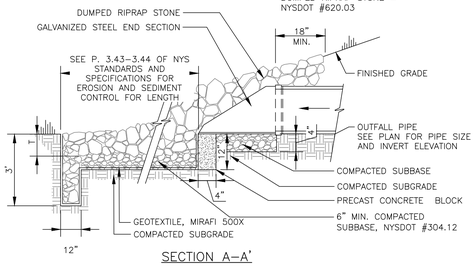
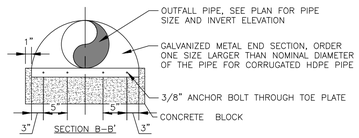
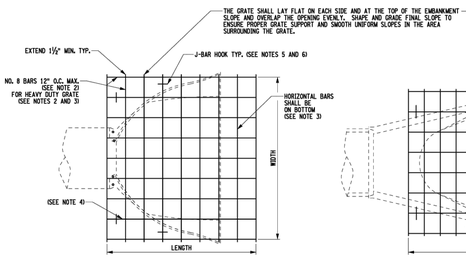


TABLE 1 – RIP RAP THICKNESS (T)	
PIPE DIA.	THICKNESS
< 24"	12" MIN.
> 24"	18" MIN.



ROCK OUTLET PROTECTION

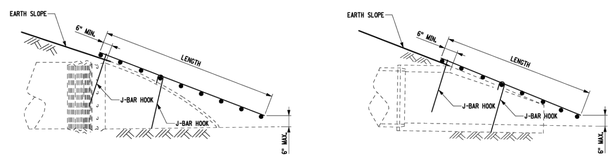
NOT TO SCALE

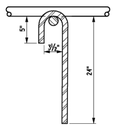


NOTES:

1. CORRUGATED POLYETHYLENE PIPES UTILIZE METAL END SECTIONS WHICH ARE ONE STANDARD PIPE DIAMETER LARGER THAN CORRUGATED STEEL PIPE. THEREFORE, A SAFETY GRATE FOR A 30" DIA. CORRUGATED POLYETHYLENE PIPE WOULD HAVE DIMENSIONS OF 17'-0" X 7'-0".
2. BARS SHALL BE GRADE 60, FULL LENGTH, WITH NO SPLICES OR BUTT WELDS. VERTICAL BARS SHALL BE ON TOP.
3. THE HORIZONTAL BARS SHALL BE NO. 11 FOR THE HEAVY-DUTY GRATES.
4. BARS SHALL BE WELDED AT EACH INTERSECTION WITH 4 TACK WELDS OR A DOUBLE FLARE BEVEL GROOVE WELD, AT THE CONTRACTOR'S OPTION. WELDING SHALL MEET THE REQUIREMENTS OF THE NYS STEEL CONSTRUCTION MANUAL, EXCEPT THAT RADIOGRAPHIC INSPECTION WILL NOT BE REQUIRED.
5. J-BAR HOOKS SHALL BE NO. 6 BAR, OR NO. 4 GALVANIZED IN ACCORDANCE WITH §719-01.
6. J-BAR HOOKS SHOWN INSTALLED PERPENDICULAR TO SLOPE. HOOKS MAY ALSO BE INSTALLED VERTICALLY. J-BAR SHALL BE WITH LONG LEGS ON THE DOWNHILL SIDE.
7. PAYMENT AREA OF SAFETY GRATES FOR PIPE DIMENSIONS OTHER THAN THOSE LISTED IN THE TABLE WILL BE BASED ON THE PRODUCT OF THE OVERALL LENGTH AND WIDTH.

CULVERT-END SAFETY GRATE DIMENSIONS AND PAYMENT AREAS			
PIPE DIMENSION (DIA.)	WIDTH (FT.)	LENGTH (FT.)	PAYMENT AREA (SQ. FT.)
REINFORCED CONCRETE PIPE			
18	4	4	16
24	5	6	30
30	6	8	48
36	7	9	63
42	8	11	88
48	9	12	108
CORRUGATED METAL PIPE (CORR. HDPE PIPE)			
18	5	4	20
24 (18)	6	5	30
30 (24)	8	5	40
36 (30)	9	6	54
42 (36)	10	7	70
48 (42)	11	8	88
(48)	12	9	108
CORRUGATED METAL PIPE ARCH			
2⅔ x ½ / 3 X 1 OR 5 X 1			
35 X 24	---	7	4	28
42 X 29	---	9	5	45
49 X 33	---	10	6	60
57 X 38	---	11	7	77
64 X 43	60 X 46	12	7	84
71 X 47	---	13	8	104





STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY STANDARD SHEET

CULVERT-END SAFETY GRATE

APPROVED OCTOBER 01, 2008	ISSUED UNDER EB 08-036
/S/ ROBERT L. SACK, P.E. DEPUTY CHIEF ENGINEER (TECHNICAL SERVICES)	603-05

EFFECTIVE DATE: 01/08/09

115kV TRANSMISSION LINES
LOCKPORT - BATAVIA 112
REBUILD PROJECT
NYSDOT NOTES & DETAILS

ORIGINAL ISSUE DATE: 6/06/25
FILE: 6.1-L10-M5
DRAWING NUMBER: L1-41568
SHEET NUMBER: 14

PREPARED BY: nationalgrid

DES.	APPROVED HP
DR.	APPROVED FISHER
CK.	APPROVED VL
	APPROVED RW

ACCOUNT NUMBER

DATE	DESCRIPTION OF ISSUE OR REVISION	DR.	CK.	APP.

DEFINITION OF TERMS:

DRIVEWAY - EVERY ENTRANCE OR EXIT USED BY VEHICULAR TRAFFIC TO AND FROM LANDS OR BUILDINGS ADJOINING A HIGHWAY.

RESIDENTIAL DRIVEWAY - A DRIVEWAY SERVING FOUR OR FEWER PRIVATE HOMES OR AN APARTMENT BUILDING FOR FOUR OR FEWER FAMILY UNITS.

COMMERCIAL DRIVEWAY - A DRIVEWAY SERVING A COMMERCIAL ESTABLISHMENT, INDUSTRY, GOVERNMENTAL OR EDUCATIONAL INSTITUTION, PRIVATE UTILITY, HOSPITAL, CHURCH, APARTMENT BUILDING, OR OTHER COMPARABLE TRAFFIC GENERATOR.

MAJOR COMMERCIAL DRIVEWAY - ANY COMMERCIAL DRIVEWAY WHERE THE ACTUAL OR ANTICIPATED TRAFFIC VOLUME ON A TYPICAL DAY IS DEFINED BY THE DRIVEWAY POLICY AS DEFINED IN THE HIGHWAY DESIGN MANUAL, ROW CHAPTER 5 APPENDIX 5A.

MINOR COMMERCIAL DRIVEWAY - ANY COMMERCIAL DRIVEWAY WHERE THE ACTUAL OR ANTICIPATED TRAFFIC VOLUMES ON A TYPICAL DAY ARE LESS THAN THE VALUES STIPULATED FOR A MAJOR COMMERCIAL DRIVEWAY.

FIELD ENTRANCE - A DRIVEWAY SERVING A FARMYARD, CULTIVATED OR UNCULTIVATED FIELD, TIMBERLAND, OR UNDEVELOPED LAND NOT USED FOR INDUSTRIAL, COMMERCIAL, OR RESIDENTIAL PURPOSES.

URBAN / RURAL - THE AREA CHARACTER BASED ON NYSDOT HIGHWAY DESIGN MANUAL CHAPTER 2, SECTION 2.4.

DRIVEWAY OFFSET - THE DISTANCE IN FEET MEASURED FROM THE INSIDE EDGE OF THE OUTERMOST TRAVEL LANE, OR TURNING LANE, TO THE HIGHWAY EDGE OF PAVEMENT. THE DISTANCE IS EQUAL TO THE WIDTH OF THE OUTERMOST LANE AND THE WIDTH OF THE PAVED SHOULDER, OR CURB OFFSET.

HIGHWAY EDGE OF PAVEMENT - THE OUTSIDE EDGE OF THE PAVED HIGHWAY SURFACE.

SHOULDER WIDTH - THE WIDTH IN FEET OF PAVED SHOULDER INCLUDING A PARKING LANE, BIKE LANE, CURB OFFSET, OR OTHER PAVED AREA OUTSIDE OF THE TRAVEL LANE.

MINIMUM PAVING LIMIT (MPL) - THE MINIMUM DISTANCE IN FEET MEASURED ALONG THE CENTERLINE OF A DRIVEWAY FROM THE OUTSIDE EDGE OF THE OUTERMOST TRAVEL LANE THAT A DRIVEWAY MUST BE PAVED (INCLUDES THE SHOULDER WIDTH).

PAVEMENT LENGTH (PL) - THE DISTANCE IN FEET MEASURED ALONG THE CENTERLINE OF A DRIVEWAY FROM THE HIGHWAY EDGE OF PAVEMENT TO THE END OF PROPOSED DRIVEWAY PAVEMENT.

TRANSITION LENGTH (TL) - THE DISTANCE IN FEET MEASURED ALONG THE CENTERLINE OF A DRIVEWAY BEYOND THE DRIVEWAY PAVEMENT LENGTH (PL) TO THE END OF PROPOSED DRIVEWAY WORK. THE TRANSITION LENGTH (TL) IS TYPICALLY USED FOR GRADING, LAYOUT, OR TRANSITION REASONS. THE TRANSITION LENGTH (TL) ONLY APPLIES TO DRIVEWAYS THAT ARE UNPAVED.

BUFFER ZONE - A PHYSICAL DISTANCE SEPARATING THE PEDESTRIAN ACCESS ROUTE AND THE VEHICLE TRAVELED WAY. THE BUFFER ZONE BUFFERS PEDESTRIANS FROM TRAFFIC AND PROVIDES SPACE FOR SNOW STORAGE, UTILITIES, PLANTS, AND OTHER STREET APPURTENANCES. THE BUFFER ZONE MAY BE PLANTED OR PAVED.

SHARED-USE-PATH (SUP) - A BICYCLE AND PEDESTRIAN FACILITY, TYPICALLY WITHIN THE RIGHT-OF-WAY, SEPARATED FROM MOTORIZED VEHICULAR TRAFFIC BY A BUFFER ZONE OR BARRIER. REFER TO HIGHWAY DESIGN MANUAL CHAPTER 17 AND AASHTO GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES FOR GUIDANCE ON BUFFER ZONE WIDTH AND SEPARATION OF SHARED USE PATHS FROM ROADWAYS.

SIDEWALK - A SMOOTH, STABLE AND SLIP RESISTANT EXTERIOR PATHWAY INTENDED FOR PEDESTRIAN USE ALONG A VEHICULAR WAY SEPARATED WITH A CURB OFFSET.

ASPHALT

PCC - PORTLAND CEMENT CONCRETE

GENERAL NOTES FOR DRIVEWAY STANDARD SHEETS:

1. THE DRIVEWAY STANDARD SHEETS APPLY TO FIELD ENTRANCES, RESIDENTIAL DRIVEWAYS AND MINOR COMMERCIAL DRIVEWAYS. FIELD ENTRANCES AND RESIDENTIAL DRIVEWAYS ACCOMMODATE AN AASHTO PASSENGER CAR DESIGN VEHICLE. MINOR COMMERCIAL DRIVEWAYS ACCOMMODATE AN AASHTO SINGLE UNIT TRUCK DESIGN VEHICLE.
2. DRIVEWAY WORK PERFORMED OFF THE RIGHT-OF-WAY REQUIRES AN EASEMENT OR A DRIVEWAY RELEASE. A DRIVEWAY RELOCATION WILL REQUIRE A TEMPORARY EASEMENT MAP.
3. IF COMMERCIAL PROPERTY DEVELOPMENT PLANS INVOLVE NEW OR MODIFIED ACCESS TO A STATE HIGHWAY A COMMERCIAL HIGHWAY WORK PERMIT APPLICATION FORM PERM 33-COM MUST BE FILLED OUT AND SUBMITTED TO THE REGIONAL PERMIT COORDINATOR.
4. SEE THE DRIVEWAY TABLE IN THE CONTRACT PLANS FOR SPECIFIC DRIVEWAY LOCATIONS, WIDTHS ("W"), CORNER ANGLES, LENGTHS ("L"), MATERIAL, AND ENTRANCE TYPE.
5. DETECTABLE WARNING SURFACES SHALL BE PROVIDED WHERE THE PEDESTRIAN ACCESS ROUTE CROSSES DRIVEWAYS WITH SIGNAL YIELD OR STOP CONTROL. DETECTABLE WARNING SURFACES SHALL NOT BE PROVIDED AT CROSSINGS OF UNCONTROLLED DRIVEWAY APRONS.
6. THE TAPER METHOD IS GENERALLY NOT RECOMMENDED FOR DRIVEWAYS WITH A DRIVEWAY OFFSET LESS THAN 1.6 FEET, UNLESS IT CAN BE FIELD VERIFIED THAT THE DRIVEWAY ENTRANCE WIDTH WILL ACCOMMODATE THE VEHICLES THAT USE THE DRIVEWAY ON A REGULAR BASIS.
7. TYPE 3 AND TYPE 4 DRIVEWAY ENTRANCES CAN BE USED WITHOUT CURB IF A TAPER STYLE ENTRANCE BETTER MATCHES THE HIGHWAY CORRIDOR AESTHETICS OR SPECIFIC SITE CONDITIONS THAN A RADIUS STYLE ENTRANCE.
8. UP TO 10" OF ASHPALT MAY BE REQUIRED FOR HEAVY TRUCKS PER CONTRACT DOCUMENTS.
9. UP TO 9" OF PCC MAY BE REQUIRED FOR HEAVY TRUCKS PER CONTRACT DOCUMENTS.
10. UP TO 12" OF SUBBASE MAY BE REQUIRED FOR HEAVY TRUCKS PER CONTRACT DOCUMENTS.
11. THE DETAILS SHOW THE PAVEMENT LENGTH ("PL") EXTENDING TO THE MINIMUM PAVING LIMIT ("MPL"). HOWEVER, THE "PL" CAN EXTEND BEYOND THE "MPL" AS SPECIFIED IN THE CONTRACT DOCUMENTS.
12. A DRIVEWAY TIP-UP SECTION SHOULD EXTEND TO A LOGICAL TERMINI (EXAMPLES: SIDEWALK EDGE, WHERE THE DRIVEWAY GRADE MATCHES EXISTING GROUND, OR LAYOUT POINT). FOR REFERENCE, A REASONABLE LENGTH FOR TAPERING THE TIP-UP SECTION BACK TO THE EDGE OF DRIVEWAY IS 3 TO 4 TIMES THE LENGTH OF CURB DROP. THE TIP-UP SECTION IS NOT PART OF THE DRIVEWAY OPENING WIDTH. REFER TO NYSDOT STANDARD SHEET 609-02 "MISCELLANEOUS CURB DETAILS" FOR THE CURB TRANSITION.
13. TO DETERMINE THE LIMITS OF SHOULDER RECONSTRUCTION, REFER TO THE DRIVEWAY OPENING TABLES ON SHEET 4 FOR NO SHOULDER (0") OFFSET.
14. FOR PCC SHOULDERS, SEE STANDARD SHEET 502-02 FOR LONGITUDINAL JOINT TIE DETAILS.
15. DIMENSIONS AND ANGLES MAY BE INTERPOLATED FOR VALUES OTHER THAN THOSE SHOWN IN THE TABLES.
16. THE SHOULDER PAVEMENT THICKNESSES SHOWN ARE DEFAULT VALUES UNLESS OTHERWISE SHOWN IN THE PLANS. MATERIALS SHALL BE AS SPECIFIED IN THE CONTRACT DOCUMENTS.

WIDTH / LENGTH:

17. WHERE THERE ARE CONSTRAINTS THAT PREVENT THE CONSTRUCTION OF THE DRIVEWAY OPENING USING EITHER OF THE LAYOUT METHODS, THE ENGINEER MAY SPECIFY A SMALL CORNER CURB RADIUS OF 2' (OR A "1/2 BULL NOSE" CURB ALONG LOW SPEED HIGHWAYS), PROVIDED THE DRIVEWAY OPENING MEETS THE REQUIREMENTS OF THE "DRIVEWAY OPENING" TABLES ON SHEET 4.
18. FOR RESIDENTIAL DRIVEWAYS, THE MINIMUM PAVING LIMIT SHALL BE 10' FROM THE OUTSIDE EDGE OF TRAVEL LANE OR 2' BEHIND ANY SIDEWALK, IF PRESENT, WHICHEVER IS GREATER. FOR MINOR COMMERCIAL DRIVEWAYS, THE MINIMUM PAVING LIMIT SHALL BE 30' FROM THE OUTSIDE EDGE OF TRAVEL LANE, OR 2' BEHIND ANY SIDEWALK, IF PRESENT, OR EXTEND TO THE RIGHT-OF-WAY LINE, WHICHEVER IS GREATER. THE PAVING LIMIT MAY EXTEND BEYOND THE MINIMUM PAVING LIMIT FOR NEW DRIVEWAYS AND TO TRANSITION TO EXISTING PAVED DRIVEWAYS. THE PAVING LIMIT WILL BE NOTED IN THE DRIVEWAY TABLE OF THE CONTRACT PLANS.
19. FOR GRADING AND CONSTRUCTION REQUIREMENTS OF TRANSITIONS FROM PLACED ASHPALT TO EXISTING ASHPALT DRIVEWAYS, REFER TO DETAIL 9 - "TIE-IN TO EXISTING DRIVEWAYS" ON SHEET 9, AND TABLE 3 - "DRIVEWAY MATERIALS AND THICKNESS" ON SHEET 2.
20. FOR PCC DRIVEWAYS, REFER TO THE 502 SERIES STANDARD SHEETS FOR METAL REINFORCEMENT, JOINT TIES, SAWING AND SEALING, ETC.
21. A 5' MINIMUM BUFFER ZONE SHALL BE USED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS.

SITE CONDITIONS (SIDEWALK / CURB):

22. ANY PCC SIDEWALK WHICH CROSSES A DRIVEWAY SHALL HAVE A MINIMUM THICKNESS OF 6" AND INCLUDE STEEL MESH REINFORCEMENT WITH 3" OF TOP COVER.
23. FOR GRADE CHANGES REFER TO THE DRIVEWAY PROFILES ON SHEET 8. VERTICAL CURVES ARE RECOMMENDED TO CONNECT TANGENTS, SEE TABLE 5 - "MINIMUM LENGTH OF VERTICAL CURVE" ON SHEET 2 FOR TYPICAL VERTICAL CURVE LENGTHS "L".
24. WHERE THE EXISTING GRADE OF THE DRIVEWAY PROFILE IS LESS THAN OR EQUAL TO 2%, MATCH THE CROSS SLOPE OF THE SIDEWALK TO THE EXISTING DRIVEWAY PROFILE GRADE.
25. WHERE THE EXISTING GRADE OF THE DRIVEWAY PROFILE EXCEEDS 2% (UNCUT THE DRIVEWAY AND RECONSTRUCT A MINIMUM OF 2' ON BOTH SIDES OF THE SIDEWALK, TO TRANSITION FROM THE EXISTING GRADE OF THE DRIVEWAY PROFILE TO THE SIDEWALK CROSS SLOPE.
26. TO PREVENT DRIVEWAY GRADES FROM EXCEEDING THE VALUES IN TABLE 2 - "MAXIMUM DRIVEWAY SLOPE" ON SHEET 2, IT MAY BE NECESSARY TO DEPRESS THE SIDEWALK ACROSS THE DRIVEWAY. SIDEWALK RAMPS SHALL HAVE THE LEAST RUNNING SLOPE POSSIBLE, WITH A MAXIMUM DESIGN AND LAYOUT SLOPE OF 7.5%. THE RUNNING SLOPE FOR WORK ACCEPTANCE SHALL BE A MAXIMUM OF 8.3%. WHERE EXISTING CONDITIONS DO NOT ALLOW THE CONSTRUCTION OF A SIDEWALK RAMP AT 8.3% OR LESS RUNNING SLOPE, THE RAMP LENGTH SHALL NOT BE REQUIRED TO EXCEED 15'-0" FOR DESIGN AND LAYOUT. THE RAMP LENGTH SHALL NOT BE REQUIRED TO EXCEED 15'-0" FOR WORK ACCEPTANCE.
27. WHERE DRAINAGE IS CARRIED ALONG THE CURB, CONSTRUCT THE DRIVEWAY WITH A SHORT UPGRADE TO PREVENT RUNOFF FROM PONDING AT THE DRIVEWAY ENTRANCE (FLAT DRIVEWAY) OR RUNNING DOWN THE DRIVEWAY (DOWNHILL DRIVEWAY) SLOPES. IF CONDITIONS MAKE THE ADDITION OF A SHORT UPGRADE IMPRACTICAL, USE 1" CURB REVEAL AND CONTINUE CURB ACROSS THE DRIVEWAY OPENING, TYPICALLY, CURB REVEAL WILL NOT BE CONSTRUCTED IN RURAL AREAS. IF CURB REVEAL IS SPECIFIED FOR A SPECIFIC DRIVEWAY, IT WILL BE NOTED IN THE DRIVEWAY TABLE OF THE CONTRACT PLANS IN THE "COMMENTS" COLUMN.

ENTRANCE TYPE:

28. THE ENGINEER MAY INTERCHANGE TYPE 1, TYPE 3 AND TYPE 4 RESIDENTIAL DRIVEWAYS TO BETTER MATCH THE EXISTING ENTRANCE TYPES ALONG THE HIGHWAY CORRIDOR WHILE CONSIDERING AVAILABLE SPACE, CONSTRUCTABILITY, SAFETY, AND FUNCTIONALITY. THE DRIVEWAY TYPE SHALL COMPLY WITH TABLE 4 - "DRIVEWAY ENTRANCE TYPE SELECTION" ON SHEET 2.
29. FOR DRIVEWAYS WITH VARYING WIDTHS AND/OR CURVED ALIGNMENTS, DETERMINE THE DRIVEWAY WIDTH AND CORNER ANGLE 20'-0" FROM THE EDGE OF TRAVEL LANE.
30. FOR A ONE-WAY DRIVEWAY ENTRANCE OR EXIT, THE DRIVEWAY ENTRANCE WIDENING IS ONLY NECESSARY ON ONE SIDE OF THE DRIVEWAY TO ACCOMMODATE THE SHARPER TURNING MOVEMENT. ONE-WAY DRIVEWAYS WILL BE IDENTIFIED ON THE DRIVEWAY TABLE OF THE CONTRACT PLANS UNDER "COMMENTS". FOR CURBED HIGHWAYS, A SMALL CORNER CURB RADIUS OF 2' (OR 1'-2" BULLNOSE" CURB ALONG LOW SPEED HIGHWAYS) SHALL BE CONSTRUCTED TO ELIMINATE A SHARP CORNER BEND IN THE CURB LINE (WHICH IS SAFER FOR SNOWPLOW OPERATIONS).

MATERIAL:

31. FOR DRIVEWAY MATERIAL REQUIREMENTS, USE TABLE 3 - "DRIVEWAY MATERIALS AND THICKNESS" ON SHEET 2.
32. FOR FIELD ENTRANCES, THE MATERIAL WITHIN THE PAVEMENT LENGTH ("PL") CAN CONSIST OF GRAVEL OR STONE AND BE CONNECTED TO THE EDGE OF THE HIGHWAY SHOULDER WITHOUT REMOVING ANY OF THE EXISTING SHOULDER MATERIAL.

DESIGN ELEMENT TOLERANCES		
ELEMENT	DESIGN AND FIELD LAYOUT LIMIT	LIMIT FOR WORK ACCEPTANCE
SIDEWALK CROSS SLOPE - SEE NOTE 12	1.5% MAX.	2.0% MAX.
SIDEWALK GRADE (RUNNING SLOPE) - SEE NOTE 11	4.5% MAX.	5.0% MAX.
CURB RAMP GRADE (RUNNING SLOPE) - SEE NOTE 21	7.5% MAX.	8.3% MAX.
BLENDED TRANSITION GRADE (RUNNING SLOPE) - SEE NOTE 7	4.5% MAX.	5.0% MAX.

NOTES REFERENCED IN THE TABLE ABOVE CAN BE FOUND ON STANDARD SHEET 608-01 SHEET 1 OF 9.

ALL VALUES SHOWN ON THE 608-03 STANDARD SHEETS REFER TO DESIGN AND FIELD LAYOUT LIMITS.

FOR ADDITIONAL REQUIREMENTS AND TOLERANCES, SEE "CRITICAL ELEMENTS FOR THE DESIGN, LAYOUT, AND CONSTRUCTION OF PEDESTRIAN FACILITIES" AVAILABLE ON THE NYSDOT HIGHWAY DESIGN MANUAL CHAPTER 18 WEBSITE.

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

U.S. CUSTOMARY STANDARD SHEET

RESIDENTIAL AND MINOR COMMERCIAL DRIVEWAYS (SHEET 1 OF 9)

APPROVED MARCH 07, 2016	ISSUED UNDER EB 16-012
/S/ RICHARD W. LEE, P.E. DEPUTY CHIEF ENGINEER (DESIGN)	608-03

ERRATA 1 EFF. 05/01/2023 ISSUED WITH EB 23-007

DRIVEWAY OPENING LAYOUT:

THERE ARE TWO RECOMMENDED DRIVEWAY OPENING WIDENING METHODS: (1.) THE RADIUS METHOD, WHICH UTILIZES A CIRCULAR ARC TO WIDEN THE DRIVEWAY, AND (2.) THE TAPER METHOD, WHICH UTILIZES A STRAIGHT TAPER WIDENING OUT AT AN ESTABLISHED FLARE RATE.

THE RADIUS METHOD IS THE TYPICAL METHOD, ALTHOUGH THE TAPER METHOD IS A REASONABLE ALTERNATIVE FOR URBAN AREAS AND OTHER AREAS WHERE IT MIGHT BETTER MATCH THE HIGHWAY CORRIDOR AESTHETICS AND FUNCTIONALITY. SEE TABLE 4 - "DRIVEWAY ENTRANCE TYPE SELECTION" ON SHEET 2 FOR ADDITIONAL VARIABLES CONCERNING THE SELECTION OF A DRIVEWAY OPENING WIDENING METHOD.

RADIUS METHOD OF LAYOUT:

STEP 1. LOCATE AN OFFSET LINE 11' PARALLEL FROM THE INSIDE EDGE OF THE OUTERMOST TRAVEL LANE.

STEP 2. SCRIBE A LINE PARALLEL TO THE OFFSET LINE, OFFSET "R" FEET (SEE TABLE 6).

STEP 3. SCRIBE A LINE PARALLEL TO THE EDGE OF DRIVEWAY (NEAR SIDE), OFFSET "R" FEET.

STEP 4. FIND THE CENTER POINT OF THE CORNER RADIUS ARC, WHICH IS LOCATED AT THE INTERSECTION OF THE LINES FROM STEPS 2 AND 3.

STEP 5. FROM THE CENTER POINT, SCRIBE AN ARC WITH RADIUS "R", WHICH IS TANGENT TO BOTH THE OFFSET LINE AND THE EDGE OF DRIVEWAY. THE ARC SHOULD INTERSECT THE LINES AT THE DISTANCES "X" LISTED IN TABLE 7. DISTANCES IN TABLE 7 ARE AS MEASURED FROM THE INTERSECTION POINT OF THE OFFSET LINE AND THE EDGE OF TRAVEL LANES AND THE PROJECTED EDGE OF DRIVEWAY TO EITHER OF THE ARC TANGENT POINTS (SAME DISTANCE ALONG THE OFFSET LINE OR ALONG THE PROJECTED EDGE OF DRIVEWAY).

STEP 6. FIND THE DRIVEWAY OPENING LIMIT POINT WHICH IS WHERE THE ARC INTERSECTS THE HIGHWAY EDGE OF PAVEMENT.

STEP 7. REPEAT STEPS 1 - 6 FOR THE OTHER SIDE OF THE DRIVEWAY OPENING.

FIELD LAYOUT NOTES:

FOR THE RADIUS METHOD OF LAYOUT, IF OBSTRUCTIONS HINDER THE ABILITY TO SCRIBE THE CORNER ANGLE ARC FROM THE CENTER POINT, LOCATE POINTS ALONG THE ARC BY USING "T" VALUES FROM TABLES 9 THROUGH 11 ON SHEET 4 AT VARIOUS DRIVEWAY OFFSETS ("I"). IS MEASURED FROM THE PROJECTED EDGE OF DRIVEWAY TO THE ARC).

TAPER METHOD OF LAYOUT:

TAPER METHOD OF LAYOUT IS NOT RECOMMENDED FOR DRIVEWAYS WITH CORNER ANGLES LESS THAN 80° OR GREATER THAN 100°, NOR IS IT RECOMMENDED FOR DRIVEWAYS WITH A DRIVEWAY OFFSET (OUTER TRAVEL LANE + PAVED SHOULDER) LESS THAN 1.6', UNLESS IT CAN BE FIELD VERIFIED THAT THE DRIVEWAY ENTRANCE WIDTH WILL ACCOMMODATE THE VEHICLES THAT USE THE DRIVEWAY ON A REGULAR BASIS.

STEP 1. SCRIBE A LINE (LAYOUT LINE) OFFSET THE APPROPRIATE "LAYOUT DISTANCE" (SEE TABLE 8) FROM THE INSIDE EDGE OF THE OUTERMOST TRAVEL LANE.

STEP 2. LOCATE THE TAPER LAYOUT POINT, WHICH IS AT THE INTERSECTION OF THE EDGE OF DRIVEWAY AND THE LAYOUT LINE.

STEP 3. SCRIBE A 1:1" (SEE TABLE 8) TAPER FROM THE LAYOUT POINT TO THE EDGE OF PAVEMENT (WITH "I" BEING PERPENDICULAR TO THE EDGE OF TRAVEL LANE).

STEP 4. FIND THE DRIVEWAY OPENING LIMIT POINT WHICH IS WHERE THE TAPER INTERSECTS THE EDGE OF PAVEMENT.

STEP 5. REPEAT STEPS 1 - 4 FOR THE OTHER SIDE OF THE DRIVEWAY OPENING.

ALTERNATE TAPER METHOD OF LAYOUT:

FOLLOW THE STEPS AS PER THE ABOVE TAPER LAYOUT METHOD, EXCEPT FOR STEPS 3 AND 4. LOCATE THE DRIVEWAY OPENING LIMIT BY USING THE APPROPRIATE "I" VALUE FROM EITHER TABLE 12 OR 13 ON SHEET 4. "I" IS THE DISTANCE BETWEEN THE DRIVEWAY OPENING LIMIT AND THE INTERSECTION POINT OF THE PROJECTED EDGE OF DRIVEWAY AND THE EDGE OF PAVEMENT.

TABLE 6
RADIUS METHOD - CORNER RADIUS

DRIVEWAY CLASSIFICATION	"R"
RESIDENTIAL "W" ≤ 13'	16'
RESIDENTIAL "W" > 13'	13'
MINOR COMMERCIAL (ALL WIDTHS)	33'

TABLE 7
RADIUS METHOD - DISTANCE FROM INTERSECTION POINT TO ARC TANGENT POINT

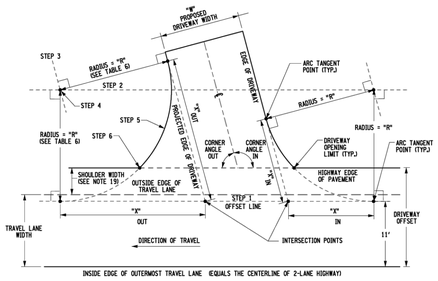
CORNER ANGLE	"X" FT.		
	RESIDENTIAL DRIVEWAY ≤ 13' WIDE (W=16')	RESIDENTIAL DRIVEWAY >13' WIDE (W=13')	MINOR COMMERCIAL DRIVEWAY (W=33')
60°	21.7	22.5	57.2
65°	25.1	20.4	51.8
70°	22.8	18.6	47.1
75°	20.8	16.9	43.0
80°	19.1	15.5	39.3
85°	17.5	14.2	36.0
90°	16.0	13.0	33.0
95°	14.7	11.9	30.2
100°	13.4	10.9	27.7
105°	12.3	10.0	25.3
110°	11.2	9.1	23.1
115°	10.2	8.3	21.0
120°	9.2	7.5	19.0

SEE GENERAL NOTE 15.
"X" REFERS TO EITHER "X_{IN}" OR "X_{OUT}". THE CORNER ANGLE FOR "X_{IN} + "X_{OUT} IS EQUAL TO 180°.

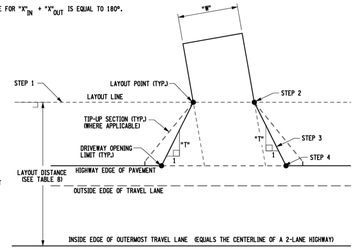
TABLE 8
TAPER METHOD VALUES

DRIVEWAY CLASSIFICATION	TAPER (1:"I")	LAYOUT DISTANCE
RESIDENTIAL	1:2	28'
MINOR COMMERCIAL	1:1½	41'

LAYOUT DISTANCE IS MEASURED FROM THE INSIDE EDGE OF OUTERMOST TRAVEL LANE, TO THE LAYOUT LINE.



RADIUS LAYOUT
VALID FOR RESIDENTIAL OR MINOR COMMERCIAL DRIVEWAYS
(FOR THE VALUES OF "R" AND "X" SEE TABLES 6 AND 7, RESPECTIVELY)



TAPER LAYOUT
VALID FOR RESIDENTIAL OR MINOR COMMERCIAL DRIVEWAYS
(FOR THE VALUE OF "I" SEE TABLE 8)

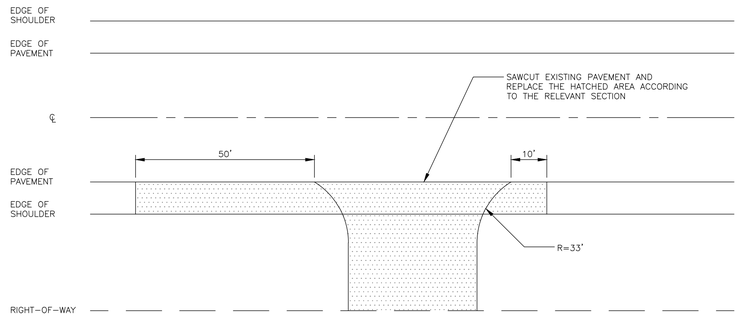
NEW YORK STATE OF OPPORTUNITY. Department of Transportation

U.S. CUSTOMARY STANDARD SHEET

RESIDENTIAL AND MINOR COMMERCIAL DRIVEWAYS (SHEET 3 OF 9)

APPROVED MARCH 07, 2016	ISSUED UNDER EB 16-012
/S/ RICHARD W. LEE, P.E. DEPUTY CHIEF ENGINEER (DESIGN)	608-03

NOTE:
ALL GENERAL NOTES AND ABBREVIATIONS REFERENCED ON THIS SHEET CAN BE FOUND ON STANDARD SHEET 608-03, SHEET 1 OF 9.



SHOULDER RECONSTRUCTION:

RECONSTRUCT HIGHWAY SHOULDER 50' PRIOR TO THE PAVED CONSTRUCTION ENTRANCE IN THE DIRECTION OF TRAVEL.

CROSS-SECTION OF THE REBUILT SHOULDER SHALL CONSIST OF THE FOLLOWING COURSES:

- 1.5" SURFACE COURSE – ITEM 402.098303
- 2.0" BINDER COURSE – ITEM 402.19803
- TWO 3.0" LIFTS OF BASE COURSE – 402.258903
- MIN. 12" SUBBASE COURSE – 304.15
- TACK COAT (407.0102) MUST BE APPLIED BETWEEN ALL LAYERS AND ON ALL VERTICAL SURFACES.

SHOULDER RECONSTRUCTION AND PAVED CONSTRUCTION ENTRANCES ARE REQUIRED FOR...

PAVED DRIVEWAY

THE DRIVEWAY SHALL MEET 608-03 STANDARDS WITH THE ASPHALT MEETING THE FOLLOWING MINIMUM REQUIREMENTS:

- 1.5" SURFACE COURSE – ITEM 402.098303
- 2.5" BINDER COURSE – ITEM 402.198903
- TWO 3.0" LIFTS OF BASE COURSE – 402.258903
- MIN. 12" SUBBASE COURSE – 304.15
- TACK COAT (407.0102) MUST BE APPLIED BETWEEN ALL LAYERS AND ON ALL VERTICAL SURFACES.

PAVED CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE

115kV TRANSMISSION LINES
LOCKPORT - BATAVIA 112
REBUILD PROJECT
NYSDOT NOTES & DETAILS

ORIGINAL ISSUE DATE: 6/06/25
FILE: 6.1-L10-M5
DRAWING NUMBER: L1-41568
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PREPARED BY: nationalgrid
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	DES.	DR.	CK.	APP.
APPROVED	HP	FISHER	VL	RW

DESCRIPTION OF ISSUE OR REVISION | DATE

GENERAL NOTES

1. THE TYPICAL DETAILS DEPICTED ON THE STANDARD SHEETS AND IN THE MUTCD, REFLECT THE MINIMUM REQUIREMENTS.
2. PROPOSED REVISIONS TO THE TRAFFIC CONTROL PLAN SHALL BE PROVIDED, IN WRITING, TO THE DOT ENGINEER FOR REVIEW AND APPROVAL BY THE REGIONAL DIRECTOR OR HIS/HER DESIGNEE FIVE (5) WORK DAYS PRIOR TO THE PLANNED IMPLEMENTATION OF SUCH PROPOSED REVISIONS, EXCEPT FOR CHANGES THAT ALTER THE SCOPE OF THE TRAFFIC CONTROL PLAN. SUCH CHANGES IN SCOPE MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL BY THE REGIONAL DIRECTOR OR HIS/HER DESIGNEE THIRTY (30) WORK DAYS PRIOR TO IMPLEMENTATION OF SUCH REVISIONS.
3. THE NAMES, ADDRESSES, AND TELEPHONE NUMBERS OF STAFF WHO ARE AUTHORIZED TO SECURE LABOR, MATERIALS, AND EQUIPMENT FOR EMERGENCY REPAIRS OUTSIDE NORMAL WORKING HOURS SHALL BE PROVIDED, IN WRITING, TO THE NYSDOT ENGINEER. THE ENGINEER WILL PROVIDE THE SUBMITTED INFORMATION TO REGIONAL MANAGEMENT, THE NEW YORK STATE POLICE, THE RESIDENT ENGINEER, AND THE LOCAL POLICE.
4. STANDARD SHEET 619-503 MAY BE USED FOR AN OFFSITE DETOUR SETUP FOR BOTH LONG TERM AND SHORT TERM WORK DURATIONS.
5. REGIONAL HIGH-VOLUME RESTRICTIONS SHALL BE FOLLOWED. CONSULT WITH DOT ENGINEER IF EXCEPTION NEEDED.
6. PLAN AHEAD TO AVOID CONFLICTING WORK ZONES. CHECK FOR CONSTRUCTION PROJECTS, CLOSURES, & RESTRICTIONS AT WWW.511NY.ORG, WWW.DOT.NY.GOV/PROJECTS, AND WITH NYSDOT ENGINEER.
7. WORK ZONE INCIDENTS SHALL BE DOCUMENTED AND REPORTED USING EITHER THE DEPARTMENT'S WORK ZONE INCIDENT FORM, OR THE CONSTRUCTION INCIDENT REPORTING SYSTEM, AS APPROPRIATE.
8. CONSIDER CLOSURE WIDTH AND THE ABILITY TO ACCOMMODATE WIDE LOAD VEHICLES BEFORE ESTABLISHING WORK ZONES.
9. IF THE WORK ZONE AFFECTS AN EXISTING ACCESSIBLE AND DETECTABLE PEDESTRIAN FACILITY, ACCESSIBILITY AND DETECTABILITY SHALL BE PROVIDED ALONG THE ALTERNATE ROUTE.

ACTIVITY AREA

1. A 500' MINIMUM LONGITUDINAL DISTANCE SHALL BE MAINTAINED BETWEEN CONSTRUCTION OPERATIONS ON ALTERNATE SIDES OF THE ROADWAY, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
2. WHEN TWO OR MORE AREAS ARE ADJACENT, OVERLAP, OR ARE IN CLOSE PROXIMITY, THE CONTRACTOR SHALL ENSURE THERE ARE NO CONFLICTING SIGNS AND THAT LANE CONTINUITY IS MAINTAINED THROUGHOUT ALL WORK AREAS.

SIGNS

1. THE LOCATIONS OF THE SIGNS SHOWN ON THE WORK ZONE TRAFFIC CONTROL PLANS AND DETAILS MAY BE ADJUSTED BASED ON SIGHT DISTANCE AND OTHER CONSIDERATIONS. THE FINAL LOCATIONS OF SIGNS ARE SUBJECT TO APPROVAL OF THE ENGINEER.
2. FOR LONG TERM WORK DURATIONS, ANY EXISTING SIGNS, INCLUDING OVERHEAD SIGNS, WHICH CONFLICT WITH THE TEMPORARY TRAFFIC CONTROL SIGN LAYOUT SHALL BE COVERED, REMOVED, STORED OR RESET, AS APPROVED BY THE ENGINEER. ALL APPROPRIATE EXISTING SIGNS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND/OR LOCATION UNLESS OTHERWISE REPLACED IN THIS CONTRACT.
3. SIGNS AT OR NEAR INTERSECTIONS SHALL BE PLACED SO THAT THEY DO NOT OBSTRUCT A MOTORIST'S LINE OF SIGHT.
4. SIGNS MOUNTED ON THE MEDIAN OF DIVIDED HIGHWAYS WHERE MEDIAN BARRIER IS IN PLACE MAY BE MOUNTED ON THE BARRIER WITH A SADDLE TYPE BRACKET OR OMITTED WITH THE APPROVAL OF THE DOT ENGINEER. LAYING THE SIGN DOWN IN A HORIZONTAL POSITION IS NOT PERMITTED.
5. THE DIMENSIONS OF WORK ZONE TRAFFIC CONTROL SIGNS ARE DESCRIBED IN THE MUTCD. ANY CHANGES TO THE DIMENSIONS SHALL BE APPROVED BY THE REGIONAL DIRECTOR OR BY HIS/HER DESIGNEE.
6. NYR9-12 SHALL BE USED IN PLACE OF NYR9-11 WHEN A REDUCED REGULATORY SPEED LIMIT SIGN IS AUTHORIZED.
7. RIGID AND FLEXIBLE "ROLL-UP" SIGNS MAY BE USED FOR MOBILE, SHORT DURATION AND SHORT-TERM STATIONARY WORK. RIGID SIGNS MUST BE MOUNTED AT LEAST 5 FEET ABOVE GRADE (7 FEET WHERE THERE ARE PEDESTRIANS OR PARKED CARS). FLEXIBLE SIGNS SHALL BE MOUNTED AT LEAST ONE FOOT ABOVE GRADE. MESH SIGNS SHALL NOT BE USED. USE RETRO REFLECTORIZED RIGID SIGNS FOR NIGHTTIME WORK.

LANE WIDTHS

1. UNLESS AUTHORIZED BY THE ENGINEER, THE MINIMUM LANE WIDTHS FOR WORK ZONE TRAVEL LANES SHALL BE AS FOLLOWS: FREEWAYS AND/OR EXPRESSWAYS IS 11'. THE MINIMUM LANE WIDTH FOR ALL OTHER TYPES OF ROADWAYS IS 10'.
2. A WRITTEN NOTE SHALL BE PROVIDED TO THE ENGINEER, A MINIMUM OF 21 CALENDAR DAYS IN ADVANCE OF PERFORMING ANY WORK THAT RESULTS IN THE REDUCED WIDTH OF AN EXISTING ROADWAY, SO THAT THE ENGINEER MAY NOTIFY THE REGIONAL PERMIT ENGINEER IN A TIMELY MANNER.
3. IF THE WORK ZONE AFFECTS PEDESTRIANS, A MINIMUM PEDESTRIAN PATHWAY WIDTH OF 5 FEET SHALL BE MAINTAINED UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.
4. TEMPORARY BICYCLE ACCOMMODATIONS SHALL NOT BE LESS THAN WHAT CURRENTLY EXISTS UNLESS AUTHORIZED BY THE ENGINEER.

PROTECTIVE VEHICLES

1. PROTECTIVE VEHICLES ARE DIVIDED INTO 2 CATEGORIES BASED ON THE GROSS VEHICLE WEIGHT (GVW):

   - PROTECTIVE VEHICLE LIGHT (PVL) SHALL HAVE A MINIMUM GVW OF 9,500 LBS. OR GREATER.

   - PROTECTIVE VEHICLE HEAVY (PVH) SHALL HAVE A MINIMUM GVW OF 22,000 LBS. OR GREATER.
2. IF THE PROTECTIVE VEHICLE ENCROACHES INTO THE TRAVEL LANE, OR IF IT REMAINS ENTIRELY ON THE SHOULDER OF ANY HIGH SPEED ROAD (45 MPH), IT SHALL BE EQUIPPED WITH A DEPLOYED TRUCK/TRAILER MOUNTED IMPACT ATTENUATOR (TMIA, SEE TABLE 011-01 ON SHEET 619-011). BALLAST MAY BE USED TO BRING A LIGHTER VEHICLE UP TO THE INDICATED WEIGHT PROVIDED THE BALLAST IS SECURELY CONTAINED WITHIN AN ENCLOSED BODY OR OTHERWISE SECURELY FASTENED TO THE VEHICLE PURSUANT TO FEDERAL MOTOR CARRIER SAFETY ADMINISTRATION (FMCSA) CARGO SECUREMENT RULES, SUCH THAT:

   - THE BALLAST WILL NOT SEPARATE FROM THE VEHICLE UPON IMPACT AND

   - THE BALLAST WEIGHT WILL NOT EXCEED THE MANUFACTURER'S GROSS VEHICLE WEIGHT RATING (GVWR).

   - TRUCK/TRAILER MOUNTED IMPACT ATTENUATORS SHALL NOT BE MOUNTED/INSTALLED ON VEHICLES WITH A GROSS WEIGHT (GVW) LESS THAN WHAT IS MINIMALLY REQUIRED BY THE MANUFACTURER OF THE TMIA.
3. WHEN A PROTECTIVE VEHICLE(S) IS USED BETWEEN THE WORK VEHICLE (CREW) OR HAZARD AND THE TRAFFIC IN A MOVING OPERATION IT IS REFERRED TO AS A SHADOW VEHICLE(S).
4. WHEN A PROTECTIVE VEHICLE(S) IS USED BETWEEN THE WORK VEHICLE (CREW) OR HAZARD AND THE TRAFFIC IN A STATIONARY OPERATION IT IS REFERRED TO AS A BARRIER VEHICLE(S).
5. WHEN A PROTECTIVE VEHICLE IS USED IN ADVANCE OF EITHER MOVING OR STATIONARY OPERATIONS TO DISPLAY SIGN MESSAGES IT IS REFERRED TO AS AN ADVANCE WARNING VEHICLE. WHEN SIGNS ARE MOUNTED ON AN ADVANCED WARNING VEHICLE, THEY SHALL NOT OBSTRUCT VISIBILITY OF ANY LIGHTS (TAILLIGHTS OR WARNING LIGHTS), OR SIDE-VIEW MIRRORS ON THE VEHICLE, OR TRUCK MOUNTED ARROW BOARDS.
6. IN A MOVING OPERATION OR A STATIONARY OPERATION THAT OCCUPIES A LOCATION FOR UP TO 1 HOUR, THE OPERATOR SHALL REMAIN IN THE PROTECTIVE VEHICLE WITH THE SAFETY BELT AND HEADREST PROPERLY ADJUSTED, MAINTAIN VEHICLE SPACING, AND KEEP THE WHEELS ALIGNED WITH THE LANE STRIPING AND LANE TO MAINTAIN LANE DISCIPLINE AND TO STAY IN LANE IF STRUCK. THE PARKING BRAKE SHALL BE SET WHENEVER POSSIBLE. TWO-WAY RADIOS SHOULD BE USED TO COMMUNICATE BETWEEN THE OPERATOR AND THE WORK CREW.
7. IN A STATIONARY OPERATION THAT OCCUPIES A LOCATION FOR MORE THAN 1 HOUR, ONCE THE PROTECTIVE VEHICLE HAS BEEN APPROPRIATELY PLACED, IT SHOULD BE UNOCCUPIED. UNOCCUPIED VEHICLE SHALL BE POSITIONED PARALLEL TO TRAFFIC, PARKING BRAKE SET, PLACED IN 2ND GEAR (MANUAL TRANSMISSIONS /ENGINE OFF) OR PARK / NEUTRAL (AUTOMATIC TRANSMISSIONS). THE FRONT WHEELS SHALL BE ALIGNED WITH THE LANE STRIPING AND LANE TO MAINTAIN LANE DISCIPLINE AND TO STAY IN LANE IF STRUCK.
8. NO WORK ACTIVITY, EQUIPMENT, VEHICLES AND/OR MATERIALS SHALL BE LOCATED BETWEEN THE PROTECTIVE VEHICLE AND THE ACTIVE WORK AREA (ROLL AHEAD DISTANCE).
9. DIRECT VERBAL COMMUNICATION BETWEEN THE PROTECTIVE VEHICLES AND THE WORK VEHICLE(S) / EQUIPMENT SHALL BE UTILIZED WHERE AVAILABLE.

CHANNELIZING DEVICES

1. WHERE POSSIBLE ALL CHANNELIZING AND GUIDING DEVICES ARE TO BE PLACED SO AS TO PROVIDE A MINIMUM 2' LATERAL CLEARANCE TO THE TRAVELED WAY.
2. A DROP-OFF OF GREATER THAN 24 INCHES WITHIN 10 FEET FROM THE EDGE OF THE TRAVELED WAY TO REMAIN AT THE END OF THE WORK SHIFT SHALL BE SEPARATED FROM TRAFFIC WITH POSITIVE BARRIER. FOR POSTED SPEED LIMIT OF 45 MPH AND LESS, A DROP-OFF OF GREATER THAN 24 INCHES WITHIN 10 FEET FROM THE EDGE OF THE TRAVELED WAY THAT IS 100 FEET OR LESS IN LENGTH WILL BE ALLOWED WITH CHANNELIZING DEVICES CONSISTING OF DRUMS, EXTRA TALL CONES, OR OVERSIZED VERTICAL PANELS ONLY AT A MAXIMUM SPACING OF 20 FEET FOR SHORT DURATIONS NOR TO EXCEED ONE WORK SHIFT.
3. TEMPORARY POSITIVE BARRIER MAY BE SUBSTITUTED WITH DRUM CHANNELIZING DEVICES, IN SOME CIRCUMSTANCES, WITH APPROVAL OF THE REGIONAL TRAFFIC ENGINEER BASED ON GUIDANCE FOUND IN THE HIGHWAY DESIGN MANUAL AND ENGINEERING JUDGEMENT.

PUBLIC ACCESS

1. PROPERTY OWNERS WHOSE DRIVEWAYS WILL BE MADE INACCESSIBLE SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO RESTRICTING USE OF THE DRIVEWAY. FOR MULTIPLE ACCESS PROPERTIES, AT LEAST ONE DRIVEWAY SHALL BE OPEN AT ALL TIMES. ACCESS SHALL BE RESTORED TO ALL DRIVEWAYS AS SOON AS POSSIBLE.
2. SUITABLE RAMPS SHALL BE INSTALLED TO MAINTAIN SMOOTH TRANSITIONS FROM RESIDENTIAL AND COMMERCIAL DRIVEWAYS TO AND FROM THE WORK AREA.

LANE CLOSURES

1. LANE CLOSURES SHALL BE LOCATED TO PROVIDE OPTIMUM VISIBILITY, I.E. BEFORE CURVES AND CRESTS, TO THE EXTENT CONDITIONS PERMIT.
2. THE ENGINEER MAY REQUIRE THAT ALL LANES BE RE-OPENED AT ANY TIME IF THE ROUTE IS NEEDED FOR EMERGENCY PURPOSES. THIS COULD INCLUDE INCIDENTS AT LOCATIONS OUTSIDE THE CONTRACT LIMITS.
3. EACH ARROW PANEL SHALL BE VISIBLE 1500 FEET IN ADVANCE FROM ANY POINT WITHIN THE ROADWAY.

TOLERANCE NOTE

1. ALL DIMENSIONS ON ANY 619 STANDARD SHEET ARE NOMINAL.

   - WHEN A DECIMAL POINT WITH SIGNIFICANT DIGIT(S) TO THE RIGHT OF IT IS/ARE PRESENT-TOLERANCE FOR EACH DIMENSION IS ONE HALF OF THE LAST SIGNIFICANT DIGIT IN THE UNITS SHOWN. (e.g. 1.0' IS 0.05' & 1.00" IS 0.005").

   - OTHERWISE, TOLERANCE FOR EACH DIMENSION IS THE LESSER OF 10% OF THE NOMINAL DIMENSION SHOWN OR 6" (e.g. TOLERANCE FOR 3' IS 3.6" & TOLERANCE FOR 10' IS 6").
2. TOLERANCE ARE NOT CUMULATIVE. ABOVE DOES NOT APPLY WHEN ANY RANGE, MAXIMUM OR MINIMUM DIMENSION OR A CONTEXT SPECIFIC TOLERANCE IS SPECIFIED.

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

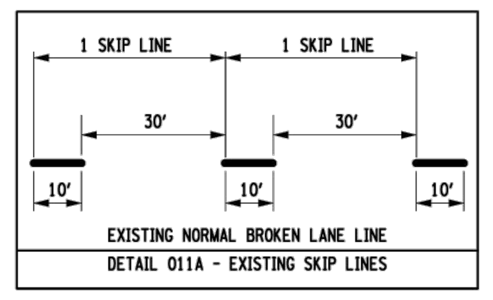
U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL GENERAL NOTES (SHEET 1 OF 2)

ERRATA 3 EFF. 05/01/24 ISSUED WITH EB 24-007	APPROVED DECEMBER 21, 2022	ISSUED UNDER EI 22-033
ERRATA 2 EFF. 09/01/23 ISSUED WITH EB 23-016	Robert Limoges ROBERT LIMOGES, P.E. DIRECTOR, OTSM	619-010
ERRATA 1 EFF. 05/01/23 ISSUED WITH EB 22-033		

WORK ZONE TRAFFIC CONTROL LEGEND	
SYMBOL	DESCRIPTION
	ARROW PANEL
	ARROW PANEL, CAUTION MODE
	ARROW PANEL TRAILER OR SUPPORT
	CHANGEABLE MESSAGE SIGN (PVMS)
	CHANNELIZING DEVICE
	CONE
	CRASH CUSHION/TEMPORARY IMPACT ATTENUATOR
	DIRECTION OF TEMPORARY TRAFFIC DETOUR
	DIRECTION OF TRAFFIC
	AUTOMATED FLAGGER ASSISTANCE DEVICE WITH OPERATOR
	FLAGGER
	FLAG TREE
	LUMINAIRE
	MOWER
	PARKWAY GRASS SHOULDER
	PAVEMENT MARKINGS THAT SHALL BE REMOVED FOR A LONG TERM PROJECT
PVMS	PORTABLE VARIABLE MESSAGE SIGN
	ORANGE FLAGS (MIN. 18" X 18")
	TRAILER FOR ARROW PANEL OR PORTABLE VARIABLE MESSAGE SIGN (PVMS)

WORK ZONE TRAFFIC CONTROL LEGEND	
SYMBOL	DESCRIPTION
	SIGN, TEMPORARY
	SPOTTER
	TEMPORARY POSITIVE BARRIER
	TEMPORARY POSITIVE BARRIER WITH WARNING LIGHTS
	TEMPORARY TRAFFIC SIGNAL HEAD
	TYPE III BARRICADE
	WARNING LIGHTS
	WORK AREA
	WORK VEHICLE
	WORK VEHICLE (MULCHING/HERBICIDE OPERATION)
	WORK VEHICLE (PAVEMENT MARKING)
	WORK VEHICLE (SIGNAL WORK)
PV	PROTECTIVE VEHICLE
PVL	PROTECTIVE VEHICLE LIGHT
PVH	PROTECTIVE VEHICLE HEAVY
	TRUCK/TRAILER MOUNTED IMPACT ATTENUATOR (TMIA)



DETAIL 011A - EXISTING SKIP LINES

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL GENERAL TABLES AND LEGEND (SHEET 1 OF 2)

ERRATA 2 EFF. 09/01/23 ISSUED WITH EB 23-016	APPROVED DECEMBER 21, 2022	ISSUED UNDER EI 22-033
ERRATA 1 EFF. 05/01/2023 ISSUED WITH EB 22-033	Robert Limoges ROBERT LIMOGES, P.E. DIRECTOR, OTSM	619-011

WORK DURATION DEFINITIONS

1. THERE ARE MAINLY FIVE WORK DURATIONS:
   - A. LONG-TERM IS STATIONARY WORK THAT OCCUPIES A LOCATION MORE THAN 3 CONSECUTIVE DAYS.
   - B. INTERMEDIATE-TERM IS STATIONARY WORK THAT OCCUPIES A LOCATION MORE THAN ONE DAYLIGHT PERIOD UP TO 3 CONSECUTIVE DAYS, OR NIGHTTIME WORK LASTING MORE THAN 1 HOUR.
   - C. SHORT-TERM IS STATIONARY DAYTIME WORK THAT OCCUPIES A LOCATION FOR MORE THAN 1 HOUR WITHIN A SINGLE DAYLIGHT PERIOD.
   - D. SHORT DURATION IS WORK THAT OCCUPIES A LOCATION UP TO 1 HOUR. IT CAN BE PERFORMED DURING THE DAYTIME OR AT NIGHT IN ACCORDANCE WITH NOTES N1 TO N11 NOTES ON NIGHTTIME WORK.
   - E. MOBILE IS WORK THAT MOVES INTERMITTENTLY OR CONTINUOUSLY WHERE THE WORK AT ANY SPECIFIC LOCATION COMPLETES WITHIN 15 MINUTES. IT IS USED FOR VEHICLE BASED OPERATIONS AND DOES NOT INVOLVE WORKERS ON FOOT. IT CAN BE PERFORMED DURING THE DAYTIME OR AT NIGHT IN ACCORDANCE WITH NOTES N1 TO N10 NOTES ON NIGHTTIME WORK.
2. SPECIAL OPERATIONS ARE WORK OPERATIONS THAT DO NOT FIT INTO ONE OF THE ABOVE FIVE CATEGORIES. SPECIAL OPERATIONS INCLUDE:
   - A. STOP AND GO OPERATIONS - WORK THAT COMPLETES WITHIN 5 MINUTES AND ALLOWS WORKERS ON FOOT.
   - B. OTHER OPERATIONS INCLUDING MOWING, MULCHING/HERBICIDE OPERATIONS, TEMPORARY ROAD/INTERSECTION CLOSURES, ETC.

ROADWAY TYPE DEFINITIONS

1. FREEWAY:
   - A. INTERSTATE: INTERREGIONAL HIGH-SPEED, HIGH-VOLUME, DIVIDED FACILITIES WITH COMPLETE CONTROL OF ACCESS.
   - B. PARKWAY: DIVIDED HIGHWAYS FOR NON-COMMERCIAL TRAFFIC WITH FULL CONTROL OF ACCESS, GRADE PARKWAY SEPARATIONS, INTERCHANGES, AND OCCASIONAL AT-GRADE INTERSECTIONS. PARKWAYS ARE DESIGNATED BY LAW.
2. EXPRESSWAY: DIVIDED HIGHWAYS FOR THROUGH TRAFFIC WITH FULL OR PARTIAL CONTROL OF ACCESS AND GENERALLY WITH GRADE SEPARATIONS AT MAJOR CROSSROADS. ALL FREEWAY STANDARD SHEETS ARE APPLICABLE TO EXPRESSWAY.
3. NON-FREEWAY:
   - A. MULTILANE DIVIDED HIGHWAY
   - B. MULTILANE UNDIVIDED HIGHWAY
   - C. TWO-LANE TWO-WAY ROADWAY

ALL NON-FREEWAYS CAN BE EITHER URBAN OR RURAL:

URBAN: (MEETS MORE THAN 1 OF THE FOLLOWING CRITERIA)
- HIGH DENSITY DEVELOPMENT
- ON-STREET PARKING
- VARIED BUILDING SETBACKS
- MULTI-STORY AND LOW-TO MEDIUM-RISE STRUCTURES FOR RESIDENTIAL
- COMMERCIAL, AND EDUCATIONAL USES, STRUCTURES THAT ACCOMMODATE MIXED USES: COMMERCIAL, RESIDENTIAL, AND PARKING
- LIGHT INDUSTRIAL, AND SOMETIMES HEAVY INDUSTRIAL, LAND USE
- PROMINENT DESTINATIONS WITH SPECIALIZED STRUCTURES, E.G., LARGE THEATERS, SPORTS FACILITIES OR CONFERENCE CENTERS
- HIGH LEVELS OF PEDESTRIAN AND BICYCLIST ACTIVITY, WITH NEARLY CONTINUOUS SIDEWALKS AND MARKED CROSSWALKS
- HIGHER DENSITY OF TRANSIT STOPS AND ROUTES
- DRIVEWAY DENSITIES GREATER THAN 25 DRIVEWAYS/MILE ON EACH SIDE OF THE ROAD
- MINOR COMMERCIAL DRIVEWAY DENSITIES OF 10 DRIVEWAYS/MILE OR GREATER
- MAJOR COMMERCIAL DRIVEWAYS
- HIGH DENSITY OF CROSS STREETS

RURAL: DOES NOT MEET MORE THAN ONE OF THE ABOVE CRITERIA.

NOTES FOR NIGHTTIME OPERATIONS:

N1. WORK OCCURRING AFTER SUNSET AND BEFORE SUNRISE WILL BE CONSIDERED NIGHTTIME OPERATIONS.

N2. ALL SIGNS, STOP/SLOW PADDLES AND RED FLAGS USED TO WARN/ALERT/CONTROL TRAFFIC SHALL BE RETROREFLECTIVE.

N3. ALL WORKERS INVOLVED SHALL WEAR PROTECTIVE HELMETS AND NIGHTTIME APPAREL IN ACCORDANCE WITH §107-05A. HIGH VISIBILITY APPAREL AT ALL TIMES.

N4. VEHICLES OPERATING ON THE PAVEMENT OF A CLOSED ROADWAY OR TRAVEL LANE SHALL DISPLAY ROTATING AMBER BEACONS OR FLASHING LED BEACONS AT ALL TIMES.

N5. LEVEL I ILLUMINATION SHALL BE PROVIDED NEAR THE BEGINNING OF LANE CLOSURE TAPERS AND AT ROAD CLOSURES, INCLUDING THE SETUP AND REMOVAL OF THE CLOSURE TAPERS.

N6. LEVEL II ILLUMINATION SHALL BE PROVIDED FOR FLAGGING STATIONS, ASPHALT PAVING, MILLING, AND CONCRETE PLACEMENT AND/OR REMOVAL OPERATIONS, INCLUDING BRIDGE DECKS, 50 FEET AHEAD OF AND 100 FEET BEHIND A PAVING OR MILLING MACHINE.

N7. LEVEL III ILLUMINATION SHALL BE PROVIDED FOR PAVEMENT OR STRUCTURAL CRACK FILLING, JOINT REPAIR, PAVEMENT PATCHING AND REPAIRS, INSTALLATION OF SIGNAL EQUIPMENT OR OTHER ELECTRICAL/MECHANICAL EQUIPMENT, AND OTHER TASKS INVOLVING FINE DETAILS OR INTRICATE PARTS AND EQUIPMENT.

N8. ALL LIGHTING SHALL BE DESIGNED, INSTALLED, AND OPERATED TO AVOID GLARE THAT AFFECTS TRAFFIC ON THE ROADWAY OR THAT CAUSES ANNOYANCE OR DISCOMFORT FOR RESIDENCES ADJOINING THE ROADWAY.

N9. PRIOR TO THE START OF NIGHTTIME OPERATIONS, A WRITTEN NIGHTTIME OPERATIONS AND LIGHTING PLAN IS REQUIRED FOR APPROVAL FROM THE DOT ENGINEER.

N10. SEE STANDARD SPECIFICATIONS §619 FOR ADDITIONAL REQUIREMENTS AND CONSIDERATIONS. REFER TO SECTION 619-3.19B FOR BALLOON LIGHTING REQUIREMENTS.

N11. FLAGGERS SHALL USE A FLASHLIGHT WITH RED GLOW CONE/RED LED BATON FOR FLAGGING IN NON-ILLUMINATED FLAGGER STATIONS DURING NIGHTTIME OPERATIONS.

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL GENERAL NOTES (SHEET 2 OF 2)

ERRATA 1 eff. 09/01/23 ISSUED WITH EB 23-016	APPROVED DECEMBER 21, 2022	ISSUED UNDER EI 22-033
	Robert Limoges ROBERT LIMOGES, P.E. DIRECTOR, OTSM	619-010

TABLE 011-01: PROTECTIVE VEHICLE REQUIREMENTS A,B

CLOSURE TYPE	DURATION	MOBILE OPERATION AND STOP & GO				SHORT DURATION OPERATION				SHORT TERM OPERATION				INTERMEDIATE TERM OPERATION				LONG TERM OPERATION			
	ROAD TYPE & SPEED	FREEWAY	NON-FREEWAY			FREEWAY	NON-FREEWAY			FREEWAY	NON-FREEWAY			FREEWAY	NON-FREEWAY			FREEWAY	NON-FREEWAY		
			≥ 45 MPH	35 - 40 MPH	≤ 30 MPH		≥ 45 MPH	35 - 40 MPH	≤ 30 MPH		≥ 45 MPH	35 - 40 MPH	≤ 30 MPH		≥ 45 MPH	35 - 40 MPH	≤ 30 MPH		≥ 45 MPH	35 - 40 MPH	≤ 30 MPH
	EXPOSURE CONDITIONS (SEE NOTE 1)																				
LANE CLOSURE OR ENCROACHMENT	WORKERS ON FOOT OR WORK VEHICLE EXPOSED TO TRAFFIC	PVH+TMIA	PVH+TMIA	PVL+TMIA	PVL	PVH+TMIA	PVH+TMIA	PVL+TMIA	PVL	PVH+TMIA	PVH+TMIA	PVL+TMIA	PVL	PVH+TMIA	PVH+TMIA	PVL+TMIA	SEE NOTE 2	PVH+TMIA	PVH+TMIA	PVL+TMIA	SEE NOTE 2
	-NO WORKERS ON FOOT -NO WORK VEHICLE EXPOSED TO TRAFFIC -OTHER HAZARDS EXPOSED (IE EQUIPMENT, MATERIALS)					PVH+TMIA	PVH+TMIA	PVL	PVL	PVH+TMIA	PVH+TMIA	PVL	SEE NOTE 2	PVH+TMIA	PVH+TMIA	SEE NOTE 2	SEE NOTE 2	PVH+TMIA	PVH+TMIA	SEE NOTE 2	SEE NOTE 2
SHOULDER CLOSURE OR ENCROACHMENT	WORKERS ON FOOT OR WORK VEHICLE EXPOSED TO TRAFFIC	PVH+TMIA	PVH+TMIA	PVL+TMIA	PVL	PVH+TMIA	PVH+TMIA	PVL	PVL	PVH+TMIA	PVH+TMIA	PVL	PVL	PVH+TMIA	PVH+TMIA	SEE NOTE 2	SEE NOTE 2	PVH+TMIA	PVH+TMIA	SEE NOTE 2	SEE NOTE 2
	-NO WORKERS ON FOOT -NO WORK VEHICLE EXPOSED TO TRAFFIC -OTHER HAZARDS EXPOSED (IE EQUIPMENT, MATERIALS, EXCAVATION)					PVH+TMIA	PVH+TMIA	PVL	PVL	PVH+TMIA	PVH+TMIA	PVL	SEE NOTE 2	PVH+TMIA	SEE NOTE 3	SEE NOTE 2	SEE NOTE 2	PVH+TMIA	SEE NOTE 3	SEE NOTE 2	SEE NOTE 2

LEGEND
PVL - PROTECTIVE VEHICLE LIGHT (MINIMUM GROSS WEIGHT 9,500 LBS. OR GREATER) (SEE NOTE 5)
PVH - PROTECTIVE VEHICLE HEAVY (MINIMUM GROSS WEIGHT 22,000 LBS. OR GREATER)
TMIA - TRUCK/TRAILER MOUNTED IMPACT ATTENUATOR

A. THESE PROTECTIVE VEHICLE REQUIREMENTS ARE NOT APPLICABLE TO PAVING AND MILLING OPERATIONS. A STANDARD BUFFER SPACE SHALL BE PROVIDED FOR THESE OPERATIONS IN ACCORDANCE WITH TABLE 011-03.

B. THESE PROTECTIVE VEHICLE REQUIREMENTS ARE NOT APPLICABLE TO FLAGGING OPERATIONS. PROTECTIVE VEHICLES WITH APPROPRIATE ROLL AHEAD DISTANCE MAY BE USED IN ADVANCE OF THE WORK AREA IF DEEMED NECESSARY BY THE DOT ENGINEER AND THEIR DESIGNEE.

NOTES
1. THE EXPOSURE CONDITIONS ASSUME THERE IS NO POSITIVE PROTECTION PRESENT.
2. EITHER A PROTECTIVE LIGHT (PVL) OR THE STANDARD BUFFER SPACE (SEE TABLE 011-03 SHALL BE PROVIDED.
3. EITHER A PROTECTIVE VEHICLE HEAVY (PVH) OR THE STANDARD BUFFER SPACE (SEE TABLE 011-03) SHALL BE PROVIDED.
4. TRUCK/TRAILER MOUNTED IMPACT ATTENUATORS (TMIA) SHALL NOT BE MOUNTED/INSTALLED ON VEHICLES WITH A GROSS VEHICLE WEIGHT (GVW) LESS THAN WHAT IS MINIMALLY REQUIRED BY THE MANUFACTURER OF THE TMIA.
5. THE USE OF A PROTECTIVE VEHICLE LIGHT (PVL) AS A SHADOW VEHICLE IS LIMITED TO NON-FREEWAY ROADWAYS WHERE THE POSTED SPEED LIMITS IS ≤ 40 MPH UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.

TABLE 011-02: TAPER LENGTHS & NUMBER OF CONES CHART

PRECONSTRUCTION POSTED SPEED LIMIT (MPH)	TAPER LENGTH: (FT.)/ * OF SKIP LINES/ * OF CHANNELIZING DEVICES									SHOULDER TAPER LENGTH: (FT.)/ * OF SKIP LINES/ * OF CHANNELIZING DEVICES						
	LATERAL SHIFT OF TRAFFIC FLOW PATH (FT.)									FOR SHOULDER WIDTH						
	4	5	6	7	8	9	10	11	12	≤ 4 FT.	5 - 7 FT.	8 FT.	9 FT.	10 FT.	11 FT.	12 FT.
25	40/1/2	80/2/3	80/2/3	80/2/3	80/2/3	120/3/4	120/3/4	120/3/4	120/3/4	40/1/2	40/1/2	40/1/2	40/1/2	40/1/2	40/1/2	40/1/2
30	80/2/3	80/2/3	80/2/3	120/3/4	120/3/4	160/4/5	160/4/5	160/4/5	200/5/6	40/1/2	40/1/2	40/1/2	40/1/2	80/2/3	80/2/3	80/2/3
35	80/2/3	120/3/4	120/3/4	160/4/5	160/4/5	200/5/6	200/5/6	240/6/7	240/6/7	40/1/2	40/1/2	80/2/3	80/2/3	80/2/3	80/2/3	80/2/3
40	120/3/4	160/4/5	160/4/5	200/5/6	240/6/7	240/6/7	280/7/8	320/8/9	320/8/9	40/1/2	80/2/3	80/2/3	80/2/3	120/3/4	120/3/4	120/3/4
45	200/5/6	240/6/7	280/7/8	320/8/9	360/9/10	400/10/11	440/11/12	520/13/14	560/14/15	80/2/3	80/2/3	120/3/4	120/3/4	120/3/4	120/3/4	160/4/5
50	200/5/6	240/6/7	320/8/9	360/9/10	400/10/11	440/11/12	520/13/14	560/14/15	600/15/16	80/2/3	120/3/4	160/4/5	160/4/5	160/4/5	160/4/5	160/4/5
55	240/6/7	280/7/8	320/8/9	400/10/11	440/11/12	520/13/14	560/14/15	600/15/16	680/17/18	80/2/3	120/3/4	160/4/5	160/4/5	160/4/5	200/5/6	200/5/6
60	240/6/7	320/8/9	360/9/10	440/11/12	480/12/13	560/14/15	600/15/16	680/17/18	720/18/19	80/2/3	120/3/4	160/4/5	200/5/6	200/5/6	240/6/7	240/6/7
65	280/7/8	320/8/9	400/10/11	480/12/13	520/13/14	600/15/16	640/16/17	720/18/19	800/19/20	80/2/3	160/4/5	200/5/6	240/6/7	240/6/7	280/7/8	280/7/8

* THIS TABLE WAS CREATED WITH REFERENCE TO MUTCD TABLE 6H-4.
** THE NUMBER OF CHANNELIZING DEVICES SHOWN IS CALCULATED BASED ON A 40FT DEVICE SPACING. THE NUMBER OF CHANNELIZING DEVICES CAN BE ADJUSTED AS NECESSARY.

TABLE 011-03 LONGITUDINAL BUFFER SPACE

PRECONSTRUCTION POSTED SPEED LIMIT (MPH)	DISTANCE (FT.)/ * OF SKIP LINES
25	155 / 4
30	200 / 5
35	250 / 6
40	305 / 8
45	360 / 9
50	425 / 11
55	495 / 13
65	645 / 16

* THIS TABLE IS THE SAME AS MUTCD TABLE 6C-2.

TABLE 011-04: ROLL AHEAD DISTANCE FOR PROTECTIVE VEHICLES

PRECONSTRUCTION POSTED SPEED LIMIT (MPH)	ROLL AHEAD DISTANCE (FT.)/* OF SKIP LINES FOR VEHICLES			
	PROTECTIVE VEHICLES WEIGHING 9,500 TO 21,999 LBS. GVW		PROTECTIVE VEHICLES WEIGHING 22,000 LBS. OR GREATER GVW	
	STATIONARY OPERATION	MOVING OPERATION (15 MPH MAX.)	STATIONARY OPERATION	MOVING OPERATION (15 MPH MAX.)
≥ 60	200/5	240/6	160/4	200/5
45 - 55	160/4	200/5	120/3	160/4
≤ 40	120/3	120/3	80/2	120/3

TABLE 011-05 FLARE RATES FOR POSITIVE BARRIER

TYPE OF POSITIVE BARRIER	POSTED SPEED LIMIT				
	30 MPH	40 MPH	50 MPH	55 MPH	65 MPH
TEMPORARY POSITIVE BARRIER	8:1	11:1	14:1	16:1	20:1
BOX BEAM OR HEAVY POST CORRUGATED BEAM	7:1	9:1	11:1	12:1	15:1

TABLE 011-06 ADVANCE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS			SIGN LEGEND	
	A (FT.)	B (FT.)	C (FT.)	XX	YY
URBAN (≤ 30 MPH*)	100	100	100	AHEAD	AHEAD
URBAN (35-40 MPH*)	200	200	200	AHEAD	AHEAD
URBAN (≥ 45 MPH*)	350	350	350	1000 FT.	AHEAD
RURAL	500	500	500	1500 FT.	1000 FT.
FREEWAY	1000	1500	2640	1 MILE	½ MILE

* PRECONSTRUCTION POSTED SPEED LIMIT.
** THIS TABLE IS THE SAME AS MUTCD TABLE NY6H-3.

TABLE 011-07 TAPER LENGTH FOR TEMPORARY TRAFFIC CONTROL ZONES

TYPE OF TAPER	TAPER LENGTH (L)
MERGING TAPER	L
SHIFTING TAPER	L/2
SHOULDER TAPER	L/3
ONE-LANE, TWO-WAY TRAFFIC TAPER	50 FT. MIN -100 FT. MAX
DOWNSTREAM TAPER	50 FT. MIN -100 FT. MAX

* THIS TABLE IS THE SAME AS MUTCD TABLE 6C-3.

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL GENERAL TABLES AND LEGEND (SHEET 2 OF 2)

ERRATA 2 EFF. 09/01/23 ISSUED WITH EB 23-016	APPROVED DECEMBER 21, 2022	ISSUED UNDER EI 22-033
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115kV TRANSMISSION LINES
LOCKPORT - BATAVIA 112
REBUILD PROJECT
NYSDOT NOTES & DETAILS

PREPARED BY nationalgrid

ACCOUNT NUMBER

DES. APPROVED HP
DR. APPROVED FISHER
CK. APPROVED VL
APPROVED RW

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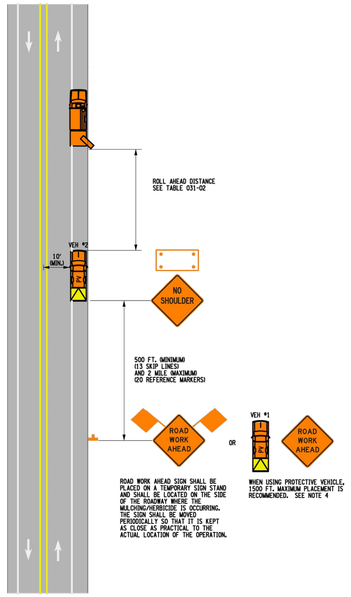


TABLE 031-01: PROTECTIVE VEHICLE REQUIREMENTS

CLOSURE TYPE	ROAD TYPE & SPEED	NON-FREEWAY		
		≥ 45 MPH	35 - 40 MPH	≤ 30 MPH
	EXPOSURE CONDITIONS (SEE NOTE 1)			
LANE CLOSURE OR ENCROACHMENT	WORKERS ON FOOT OR WORK VEHICLE EXPOSED TO TRAFFIC	PVH+TMA	PVL+TMA	PVL
	-NO WORKERS ON FOOT -NO WORK VEHICLE EXPOSED TO TRAFFIC -OTHER HAZARDS EXPOSED (IE EQUIPMENT, MATERIALS)			
SHOULDER CLOSURE OR ENCROACHMENT	WORKERS ON FOOT OR WORK VEHICLE EXPOSED TO TRAFFIC	PVH+TMA	PVL+TMA	PVL
	-NO WORKERS ON FOOT -NO WORK VEHICLE EXPOSED TO TRAFFIC -OTHER HAZARDS EXPOSED (IE EQUIPMENT, MATERIALS, EXCAVATION)			

LEGEND
PVL - PROTECTIVE VEHICLE LIGHT (MINIMUM GROSS WEIGHT 9,500 LBS. OR GREATER) (SEE NOTE 3)
PVH - PROTECTIVE VEHICLE HEAVY (MINIMUM GROSS WEIGHT 22,000 LBS. OR GREATER)
TMA - TRUCK/TRAILER MOUNTED IMPACT ATTENUATOR

NOTES:
1. THE EXPOSURE CONDITIONS ASSUME THERE IS NO POSITIVE PROTECTION PRESENT.
2. TRUCK/TRAILER MOUNTED IMPACT ATTENUATORS (TMA) SHALL NOT BE MOUNTED/INSTALLED ON VEHICLES WITH A GROSS VEHICLE WEIGHT (GVW) LESS THAN WHAT IS MINIMALLY REQUIRED BY THE MANUFACTURER OF THE TMA.
3. THE USE OF A PROTECTIVE VEHICLE LIGHT (PVL) AS A SHADOW VEHICLE IS LIMITED TO NON-FREEWAY ROADWAYS WHERE THE POSTED SPEED LIMITS IS ≤ 40 MPH UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.
4. THE ENGINEER MAY MODIFY THE PROTECTIVE VEHICLE REQUIREMENTS WHEN IT HAS BEEN DETERMINED THE COMBINATION OF SITE-SPECIFIC CONDITIONS (GEOMETRY, LANE/SHOULDER WIDTHS, SIGHT DISTANCES, AND TRAFFIC VOLUMES) LIMIT THE BENEFIT OF THE PROTECTIVE VEHICLE. THIS DECISION MAY BE MADE REGARDLESS OF THE PREVAILING OPERATING SPEED BUT MUST BE DOCUMENTED.

TABLE 031-02: ROLL AHEAD DISTANCE FOR PROTECTIVE VEHICLES

PRECONSTRUCTION POSTED SPEED LIMIT (MPH)	ROLL AHEAD DISTANCE (FT.)/* OF SKIP LINES FOR VEHICLES MOVING OPERATION (15 MPH MAX.)	
	PROTECTIVE VEHICLES WEIGHING 9,500 TO 21,999 LBS. GVW	PROTECTIVE VEHICLES WEIGHING 22,000 LBS. OR GREATER GVW
45 - 55	200/5	160/4
≤ 40	120/3	120/3

TABLE 031-03: REQUIRED SIGN SIZES*

SIGN	NON-FREEWAY	FREEWAY
W8-23	36x36	48x48
W20-1	36x36	48x48
WARNING FLAG	18x18	18x18

*FREEWAY SIZES MAY BE USED ON NON-FREEWAY, IF SPACE CONSTRAINTS DO NOT EXIST.

NOTES:
1. THE HERBICIDE/MULCHING OPERATION IS A SPECIAL OPERATION. IT SHALL BE SCHEDULED AND COMPLETED DURING DAYLIGHT WORK SHIFTS. THE WORK SHALL BE SUSPENDED DURING PERIODS OF POOR VISIBILITY.
2. WORK VEHICLE SHALL HAVE AN AMBER BEACON OPERATING AT ALL TIMES. IF IT IS NECESSARY FOR THE WORKER TO ENCROACH ONTO THE TRAVEL LANE, THE WORK VEHICLE SHALL BE FOLLOWED BY A PROTECTIVE VEHICLE WITH OPERATING FLASHING LIGHTS.
3. APPROVED PERSONAL PROTECTIVE EQUIPMENT (PPE) SHALL BE WORN WHILE ON WORK VEHICLES NOT EQUIPPED WITH AN ENCLOSED CAB. PPE IS REQUIRED WHEN EXITING WORK VEHICLE WITHIN RIGHT OF WAY. PESTICIDE APPLICATORS ARE REQUIRED TO WEAR APPROVED PPE, THAT ADHERES TO THE PRODUCT LABEL.
4. IF SHOULDER AREA BECOMES TOO NARROW FOR VEH #1 TO BE COMPLETELY ON THE SHOULDER, THE VEHICLE SHALL STAY ON THE WIDER SHOULDER AREA UNTIL OPERATOR CAN SAFELY DRIVE AROUND THE NARROW SHOULDER TO NEW SET-UP POINT. VEH #1 SHALL STAY AS FAR TO THE RIGHT AS PRACTICAL.
5. WHERE PRACTICAL AND AS NEEDED, THE WORK AND PROTECTIVE VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW VEHICULAR TRAFFIC TO PASS.
6. VEH #2 SHALL BE PLACED TO OPTIMIZE AND ENHANCE VISIBILITY FROM THE REAR OF THE OPERATION, AND SHALL NOT EXCEED THE APPROPRIATE ROLL AHEAD DISTANCE VALUES.

ARROW PANEL (CAUTION MODE)
PROTECTIVE VEHICLE (EITHER PVH OR PVL) SEE TABLE 031-01
WORK VEHICLE (SEE NOTE 2)
ROAD WORK AHEAD — W20-1
NO SHOULDER — W8-23

ERRATA 1 EFF. 09/01/23
ISSUED WITH EB 23-016

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL
TWO-LANE TWO-WAY ROADWAY
SHOULDER CLOSURE/LANE ENCROACHMENT
MULCHING/HERBICIDE OPERATION

APPROVED DECEMBER 2, 2021 — Robert Limoges — ROBERT LIMOGES, P.E. DIRECTOR, OTSM

ISSUED UNDER EI 21-028

619-031

TABLE 060-01: PROTECTIVE VEHICLE REQUIREMENTS

CLOSURE TYPE	ROAD TYPE & SPEED	NON-FREEWAY		
		≥ 45 MPH	35 - 40 MPH	≤ 30 MPH
	EXPOSURE CONDITIONS (SEE NOTE 1)			
LANE CLOSURE OR ENCROACHMENT	WORKERS ON FOOT OR WORK VEHICLE EXPOSED TO TRAFFIC	PVH+TMA	PVL+TMA	PVL

LEGEND
PVL - PROTECTIVE VEHICLE LIGHT (MINIMUM GROSS WEIGHT 9,500 LBS. OR GREATER) (SEE NOTE 3)
PVH - PROTECTIVE VEHICLE HEAVY (MINIMUM GROSS WEIGHT 22,000 LBS. OR GREATER)
TMA - TRUCK/TRAILER MOUNTED IMPACT ATTENUATOR

NOTES
1. THE EXPOSURE CONDITIONS ASSUME THERE IS NO POSITIVE PROTECTION PRESENT.
2. TRUCK/TRAILER MOUNTED IMPACT ATTENUATORS (TMA) SHALL NOT BE MOUNTED/INSTALLED ON VEHICLES WITH A GROSS VEHICLE WEIGHT (GVW) LESS THAN WHAT IS MINIMALLY REQUIRED BY THE MANUFACTURER OF THE TMA.
3. THE USE OF A PROTECTIVE VEHICLE LIGHT (PVL) AS A SHADOW VEHICLE IS LIMITED TO NON-FREEWAY ROADWAYS WHERE THE POSTED SPEED LIMITS IS ≤ 40 MPH UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.

TABLE 060-02: ROLL AHEAD DISTANCE FOR PROTECTIVE VEHICLES

PRECONSTRUCTION POSTED SPEED LIMIT (MPH)	ROLL AHEAD DISTANCE (FT.)/* OF SKIP LINES FOR VEHICLES MOVING OPERATION (15 MPH MAX.)	
	PROTECTIVE VEHICLES WEIGHING 9,500 TO 21,999 LBS. GVW	PROTECTIVE VEHICLES WEIGHING 22,000 LBS. OR GREATER GVW
45 - 55	200/5	160/4
≤ 40	120/3	120/3

TABLE 060-03: REQUIRED SIGN SIZES*

SIGN	NON-FREEWAY	FREEWAY
NYW8-30	48x24	48x24
NYW8-31	48x24	48x24
NYW8-32	48x24	48x24
NYW23-1	36x36	48x48
W3-4	36x36	48x48
W23-1	48x24	48x24
WARNING FLAG	18x18	18x18

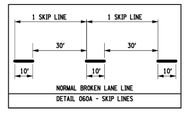
*FREEWAY SIZES MAY BE USED ON NON-FREEWAY, IF SPACE CONSTRAINTS DO NOT EXIST.

TABLE 060-04: PAVEMENT MARKING PVMS MESSAGING

EACH PHASE OF MESSAGE SHALL DISPLAY A MINIMUM OF 2 SECONDS AND A MAXIMUM OF 4 SECONDS

CONDITION/EVENT SCENARIO	PHASE 1 MESSAGE	PHASE 2 MESSAGE	PHASE 3 MESSAGE	COMMENTS
CAUTION/HAZARD	● ● ● ●	BE PREPARED TO STOP	DO NOT PASS	USED TO PROVIDE ADVANCE WARNING OF HAZARD CONDITION UNTIL APPROPRIATELY POSITIONED TO DISPLAY WARNING SEQUENCES, INCLUDING INSTALLING/REMOVING CONES & SIGNS
YELLOW LINES WET	● ● ● ●	WET PAINT YELLOW	DO NOT PASS	VEHICLE 2 (PRIMARY) VEHICLE 1 (IF AVAILABLE)
WHITE LINES WET	● ● ● ●	WET PAINT WHITE	DO NOT PASS	VEHICLE 2 (PRIMARY) VEHICLE 1 (IF AVAILABLE)
YELLOW & WHITE LINES WET	WET PAINT YELLOW	DO NOT PASS (+)	WET PAINT WHITE	VEHICLE 2 (PRIMARY) VEHICLE 1 (IF AVAILABLE)
TO RELIEVE LONG QUEUES BY MEANS OF FLAGGING	● ● ● ●	SLOW TRAFFIC AHEAD	BE PREPARED TO STOP	DISPLAYED ON VEHICLE #1 ON ROADWAY SEGMENTS WHERE FLAGGING MUST OCCUR TO RELIEVE LONG TRAFFIC QUEUES
YELLOW LINES WET	● ● ● ●	WET PAINT YELLOW	➡	FOR USE ONLY ON VEHICLE #2/ MULTI-LANE ROADWAYS WHERE PASSING IS PERMITTED ON THE RIGHT
WHITE LINES WET	● ● ● ●	WET PAINT WHITE	OR ⬅	FOR USE ONLY ON VEHICLE #2/ MULTI-LANE ROADWAYS WHERE PASSING IS PERMITTED

(+) THIS PHASE MESSAGE MAY BE SUBSTITUTED BY THE 4 CORNER "CAUTION" MODE OF THE APPROPRIATE DIRECTIONAL ARROW ONLY ON A MULTI-LANE ROADWAY WHERE PASSING IS PERMITTED DURING PERIODS WHEN THE PAVEMENT MARKING TRAIN IS STATIONARY TO RELIEVE TRAFFIC QUEUES.



ERRATA 1 EFF. 09/01/23
ISSUED WITH EB 23-016

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

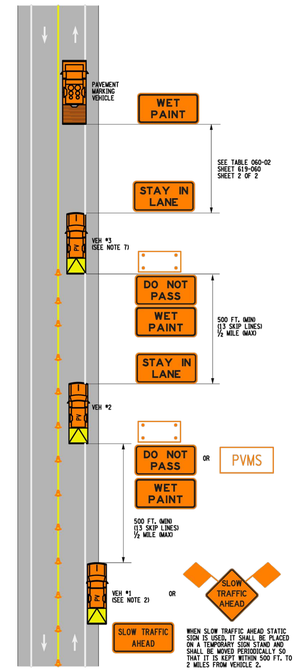
U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL
NON-FREEWAY
LANE CLOSURE
PAVEMENT MARKING OPERATIONS
(SHEET 2 OF 2)

APPROVED AUGUST 11, 2022 — Robert Limoges — ROBERT LIMOGES, P.E. DIRECTOR, OTSM

ISSUED UNDER EI 22-019

619-060



NOTES:
1. TRAFFIC QUEUES SHALL BE CONTINUOUSLY MONITORED. TRAFFIC SHALL BE RELIEVED AS SOON AS PRACTICABLE BY PULLING OFF ON A SHOULDER THAT SUPPORTS THE WIDTH AND WEIGHT OF THE VEHICLES IN THE PAVEMENT MARKING TRAIN. REFER TO SPECIAL NOTE "WHEN SHOULDERS ARE NOT SUITABLE TO UTILIZE TO RELIEVE TRAFFIC QUEUE.
2. VEH #1 SHALL NOT ENCROACH INTO TRAVEL LANE. STAY AS FAR TO THE RIGHT AS POSSIBLE AND ADJUST ITS SPACING TO ENHANCE VISIBILITY FROM THE REAR OF THE OPERATION. IF SHOULDER BECOMES TOO NARROW FOR VEH #1 TO BE COMPLETELY ON THE SHOULDER, THE VEHICLE SHALL STAY ON THE WIDER SHOULDER UNTIL THE OPERATORS OF VEH #1 CAN SAFELY DRIVE TO THE NEW SET-UP POINT. WHEN THE SHOULDER WIDTH IS TOO NARROW FOR VEH #1 TO REMAIN ON THE SHOULDER FOR A SIGNIFICANT DISTANCE A SLOW TRAFFIC AHEAD (NYW23-1) STATIC SIGN IS RECOMMENDED.
3. VERBAL COMMUNICATION MUST BE MAINTAINED BETWEEN ALL VEHICLES IN TRAIN TO ENSURE SITUATIONAL AWARENESS OF TRAFFIC, PROPER SPACING OF VEHICLES AND THE RELIEF OF TRAFFIC QUEUES.
4. IN URBAN CONDITIONS, VEHICLE SPACING MAY BE ADJUSTED IN ORDER TO ACCOMMODATE SIDE STREETS AND DRIVEWAYS. IT MAY BE NECESSARY TO MAINTAIN VISUAL CONTACT BETWEEN THE VEHICLES TO DISCOURAGE ROAD USERS FROM ENTERING BETWEEN THE FIRST AND LAST VEHICLES OF THE PAVEMENT MARKING TRAIN. CONES MAY BE USED IF NECESSARY TO KEEP TRAFFIC OFF OF WET PAINT.
5. THE ON-SITE SUPERVISORS SHALL EVALUATE FIELD CONDITIONS THAT AFFECT ACTUAL DRYING TIME OF THE PAINT, TO AVOID THE POSSIBILITY OF WET PAINT DAMAGE TO VEHICLES. THE SUPERVISOR SHALL ADJUST THE SPEED OF THE PAVEMENT MARKING TRAIN, CONSIDER THE USE OF A DRYING AGENT AND/OR THE USE OF ADDITIONAL SHADOW VEHICLES. THE USE OF CONES SHALL BE LIMITED TO:
   A) VILLAGE AND URBAN SETTINGS WITH LOW TRAVEL SPEEDS (LESS THAN OR EQUAL TO 35 MPH) AND HIGH TRAFFIC VOLUMES, OR
   B) CIRCUMSTANCES WHICH DO NOT ALLOW FOR PAINT TO DRY BEFORE VEH #2 PASSES.
6. PORTABLE VARIABLE MESSAGE SIGNS (PVMS) MAY BE USED TO SUPPLEMENT REQUIRED WARNING SIGNS USING APPROVED MESSAGES (SEE TABLE 060-04 ON SHEET 619-060 SHEET 2 OF 2). IF USED, THE PVMS WILL REPLACE THE SIGNS SHOWN ON THE BACK OF VEH #2. PVMS, IF USED SHALL DISPLAY APPROPRIATE MESSAGING FOUND IN TABLE 060-04 FOR CONDITIONS.
7. VEH #3 SHALL BE PLACED TO OPTIMIZE AND ENHANCE VISIBILITY FROM THE REAR OF THE OPERATION AND SHALL REMAIN WITHIN THE ALLOWABLE ROLL-AHEAD DISTANCE LIMITS.
8. ADDITIONAL PROTECTIVE VEHICLES, IF USED, SHALL BE PLACED BETWEEN VEHICLE #2 AND VEHICLE #3 IN THE DIAGRAM. THE ADDITIONAL PROTECTIVE VEHICLES SHALL MAINTAIN A DISTANCE OF 500 FT. MINIMUM AND ½ MILE MAXIMUM FROM VEHICLE #3 OR OTHER ADDITIONAL PROTECTIVE VEHICLES. THE ADDITIONAL PROTECTIVE VEHICLES SHALL NOT ENCUMBER THE ROLL-AHEAD DISTANCE VALUES OF VEHICLE #2.
9. WHEN PAINTING MULTI-LANE ROADS, THE ARROW PANEL SHALL DISPLAY THE APPROPRIATE ARROW IN THE DIRECTION WHERE TRAFFIC WOULD BE PERMITTED TO PASS.
10. WHEN THE STATIC ADVANCE WARNING SIGN IS USED INSTEAD OF VEH #1, MORE THAN ONE STATIC "SLOW TRAFFIC AHEAD" SIGN MAY BE USED IN CASES WHERE SITE CONDITIONS LIMIT THE SIGHT DISTANCE.

SPECIAL NOTE:

ON ROADWAYS WHERE IT IS NOT POSSIBLE TO PULL THE PAVEMENT MARKING OPERATION VEHICLES OFF THE ROAD TO RELIEVE THE QUEUED TRAFFIC, THE FOLLOWING SHALL APPLY:

S1. THE "SLOW TRAFFIC AHEAD" SIGN (W23-1) SHALL BE REMOVED AND REPLACED WITH A "BE PREPARED TO STOP" SIGN (W3-4) ON VEH #1 OR STATIC SIGN STAND. VEH #1 MUST REMAIN COMPLETELY ON THE SHOULDER.

S2. TRAFFIC QUEUE RELIEF OPERATIONS SHALL HAVE A 5 MINUTE MAXIMUM TIME FRAME AND SHALL BE AT THE DISCRETION OF THE SUPERVISOR ON-SITE BASED ON EXISTING TRAFFIC CONDITIONS.

S3. ALL VEHICLES IN THE OPERATION SHALL BE MADE AWARE OF NEED TO RELIEVE TRAFFIC QUEUE. WHERE POSSIBLE, QUEUE RELIEF SHOULD BE PERFORMED WHERE PASSING OF TRAFFIC IS PERMITTED IN THE DIRECTION THE PAVEMENT MARKING OPERATION IS MOVING. THE LOCATION OF THE STOP MUST MEET THE FOLLOWING CRITERIA:
ONCOMING TRAFFIC HAS A MINIMUM OF 750' FEET OF VISIBILITY TO THE LEAD VEHICLE IN THE PAVEMENT MARKING TRAIN AND THERE ARE NO SIDE STREETS / DRIVEWAYS FOR TRAFFIC TO ENTER BETWEEN THE FIRST AND LAST VEHICLE IN THE TRAIN.

S4. THE PAVEMENT MARKING TRAIN MAY STOP IN LANE ONLY WHEN VERIFIED THE ABOVE CONDITIONS EXIST. THE DISTANCE BETWEEN THE PAVEMENT MARKING VEHICLE AND PROTECTIVE VEHICLE 2 SHOULD BE REDUCED TO THEIR MINIMUM VALUES IF NECESSARY.

S5. THE OPERATOR OF PROTECTIVE VEHICLE 2 SHALL EXIT THE VEHICLE, EQUIPPED WITH A LED STOP / SLOW & TWO-WAY RADIO, SHALL HOLD TRAFFIC IN LANE.

S6. THE OPERATOR / OCCUPANT OF THE PAVEMENT MARKING VEHICLE EQUIPPED WITH A LED STOP / SLOW & TWO-WAY RADIO, SHALL HOLD STOP/ THE TRAFFIC IN THE OPPOSING LANE WHEN IT IS SAFE TO DO SO. THEY WILL THEN RADIO TO THE OPERATOR OF PROTECTIVE VEHICLE 2 TO RELEASE THEIR TRAFFIC.

S7. THE OPERATOR OF PROTECTIVE VEHICLE WILL RELEASE THEIR TRAFFIC, THEN RADIO TO THE OPERATOR / OCCUPANT OF THE PAVEMENT MARKING VEHICLE A DESCRIPTION OF THE LAST VEHICLE THAT THEY PERMIT TO PASS.

S8. ONCE THE LAST VEHICLE PASSES THE PAVEMENT MARKING VEHICLE, THE OPERATOR / OCCUPANT WILL RELEASE TRAFFIC IN THE OPPOSING LANE, RADIO THE OPERATOR OF PROTECTIVE VEHICLE 2 THEY ARE DISCONTINUING FLAGGING AND RE-MOUNT THE VEHICLE & PROCEED.

S9. THE OPERATOR OF PROTECTIVE VEHICLE 2 WILL DISCONTINUE FLAGGING, RE-MOUNT THE VEHICLE AND RADIO TO ALL IN THE PAVEMENT MARKING TRAIN TO PROCEED WITH OPERATIONS.

USE OF CONES

C1. WHEN CONES ARE USED IN VILLAGES AND URBAN SETTINGS TO MARK WET PAINT, THEY SHALL:
- NOT BE PLACED WITHIN 25 FT. OF AN INTERSECTION, DRIVEWAY, OR MAILBOX TO AVOID THE IMPRESSION OF A CLOSED LANE TO TRAFFIC APPROACHING FROM A SIDE STREET OR DRIVEWAY.
- BE SPACED 120 FT. APART (MAX.)
- BE STAGGERED (NOT PLACED DIRECTLY ACROSS FROM EACH OTHER) WHEN BOTH CENTER AND EDGE LINE ARE PLACED SIMULTANEOUSLY.
- BE REMOVED AFTER PAVEMENT MARKINGS ARE DRIED SUFFICIENTLY.
- BE SET AND RETRIEVED USING APPROPRIATE 619 STANDARD SHEET.

C2. NYSDOT EMPLOYEES SETTING/RETRIEVING CONES SHALL ADHERE TO THE NYSDOT WORK PLATFORM POLICY. OTHERS SHALL ADHERE TO PLATFORM MANUFACTURERS GUIDANCE FOR USE.

C3. STAY IN LANE STATIC SIGNS ARE REQUIRED IN ADVANCE OF CONES AND RECOMMENDED EVERY HALF MILE THROUGHOUT.

SLOW TRAFFIC AHEAD — W23-1
SLOW TRAFFIC AHEAD — NYW23-1
DO NOT PASS — NYW8-32
PVMS — PORTABLE VARIABLE MESSAGE SIGN
ARROW PANEL (CAUTION MODE) (SEE NOTE 5)
WET PAINT — NYW8-30
BE PREPARED TO STOP — W3-4 (SEE SPECIAL NOTE S1)
PROTECTIVE VEHICLE (EITHER PVH OR PVL) SEE TABLE 060-01
STAY IN LANE — NYW8-31 MOUNTED TO THE FRONT OF THE VEHICLE FACING FORWARD (SEE USE OF CONES NOTE C3)
PAVEMENT MARKING VEHICLE

REFER TO SHEET 2 OF 2 FOR ALL TABLES

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL
NON-FREEWAY
PAVEMENT MARKING OPERATIONS
(SHEET 1 OF 2)

APPROVED AUGUST 11, 2022 — Robert Limoges — ROBERT LIMOGES, P.E. DIRECTOR, OTSM

ISSUED UNDER EI 22-019

619-060

ERRATA 1 EFF. 09/01/23
ISSUED WITH EB 23-016

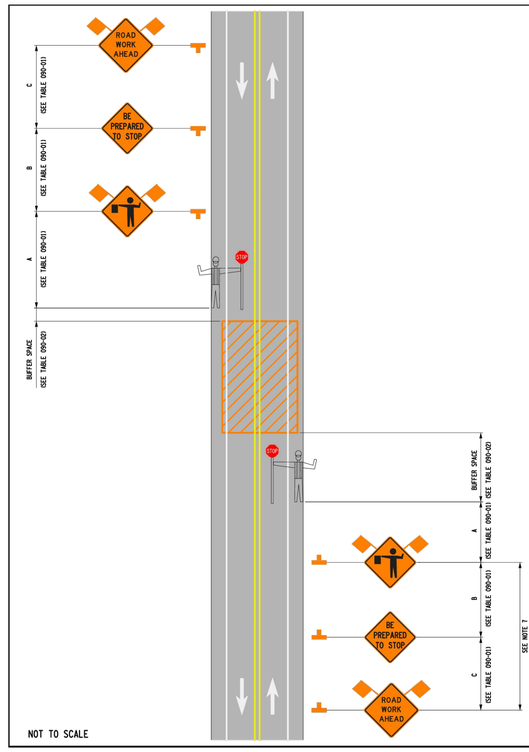


TABLE 090-01: ADVANCE WARNING SIGN SPACING

ROAD TYPE	DISTANCE BETWEEN SIGNS			SIGN LEGEND	
	A (FT.)	B (FT.)	C (FT.)	XX	YY
URBAN (≤ 30 MPH)	100	100	100	AHEAD	AHEAD
URBAN (35-40 MPH)	200	200	200	AHEAD	AHEAD
URBAN (≥ 45 MPH)	350	350	350	1,000 FT.	AHEAD
RURAL	500	500	500	1500 FT.	1,000 FT.

* PRECONSTRUCTION POSTED SPEED LIMIT

TABLE 090-02: LONGITUDINAL BUFFER SPACE

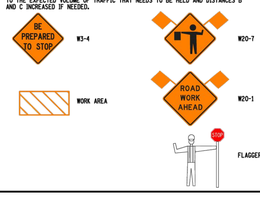
PRECONSTRUCTION POSTED SPEED LIMIT (MPH)	DISTANCE (FT.)/ * OF SKIP LINES
25	155/4
30	200/5
35	245/6
40	295/8
45	360/9
50	425/11
55	495/13

TABLE 090-03: REQUIRED SIGN SIZE*

SIGN	NON-FREEWAY	FREEWAY
W3-4	36x36	48x48
W20-1	36x36	48x48
W20-7	36x36	48x48
WARNING FLAG	18x18	18x18

*FREEWAY SIZES MAY BE USED ON NON-FREEWAY, IF SPACE CONSTRAINTS DO NOT EXIST.

NOTES:
1. DURATION OF THE CLOSURE SHALL NOT EXCEED 5 MINUTES.
2. IN URBAN CONDITIONS, ADVANCE WARNING SIGN SPACINGS MAY BE ADJUSTED IN ORDER TO ACCOMMODATE SIDE STREETS AND DRIVEWAYS. IF THERE IS A CONFLICT, MOVE THE SIGN UPSTREAM.
3. FLAGGER SYMBOL SIGN (W20-7) AND "BE PREPARED TO STOP" (W3-4) SHALL BE REMOVED, COVERED OR TURNED AWAY FROM ROAD USERS WHEN FLAGGING OPERATIONS ARE NOT OCCURING.
4. FOR MULTI LANE ROADWAYS, A SITE SPECIFIC PLAN IS REQUIRED ILLUSTRATING PROPOSED STRATEGIES / SIGNAGE TO REDUCE THE ROAD TO A SINGLE LANE ON EACH APPROACH TO THE WORK AREA.
5. TRAFFIC IN BOTH DIRECTIONS WILL BE STOPPED FOR THE ENTIRE DURATION OF THE WORK. THE WORK SHALL BE SUSPENDED DURING PERIODS OF POOR VISIBILITY AND DURING PEAK HOURS.
6. WORK SHOULD BE SCHEDULED DURING NON-PEAK HOURS.
7. PRIOR TO PLACING THE ADVANCE WARNING SIGNS, CONSIDERATION NEEDS TO BE GIVEN TO THE EXPECTED VOLUME OF TRAFFIC THAT NEEDS TO BE HELD AND DISTANCES B AND C INCREASED IF NEEDED.



NEW YORK STATE OF OPPORTUNITY. Department of Transportation

U.S. CUSTOMARY STANDARD SHEET

WORK ZONE TRAFFIC CONTROL
TWO-LANE TWO-WAY ROADWAY
TEMPORARY ROAD CLOSURE

APPROVED DECEMBER 2, 2021 — Robert Limoges — ROBERT LIMOGES, P.E. DIRECTOR, OTSM

ISSUED UNDER EI 21-028

619-090

DESCRIPTION OF ISSUE OR REVISION	DATE	APPROVED
ORIGINAL ISSUE	6/06/25	HP
FILE NAME	6.1-L10-M5	FISHER
DRAWING NUMBER	L1-41568	VL
SHEET NUMBER	16B	RW
ACCOUNT NUMBER		

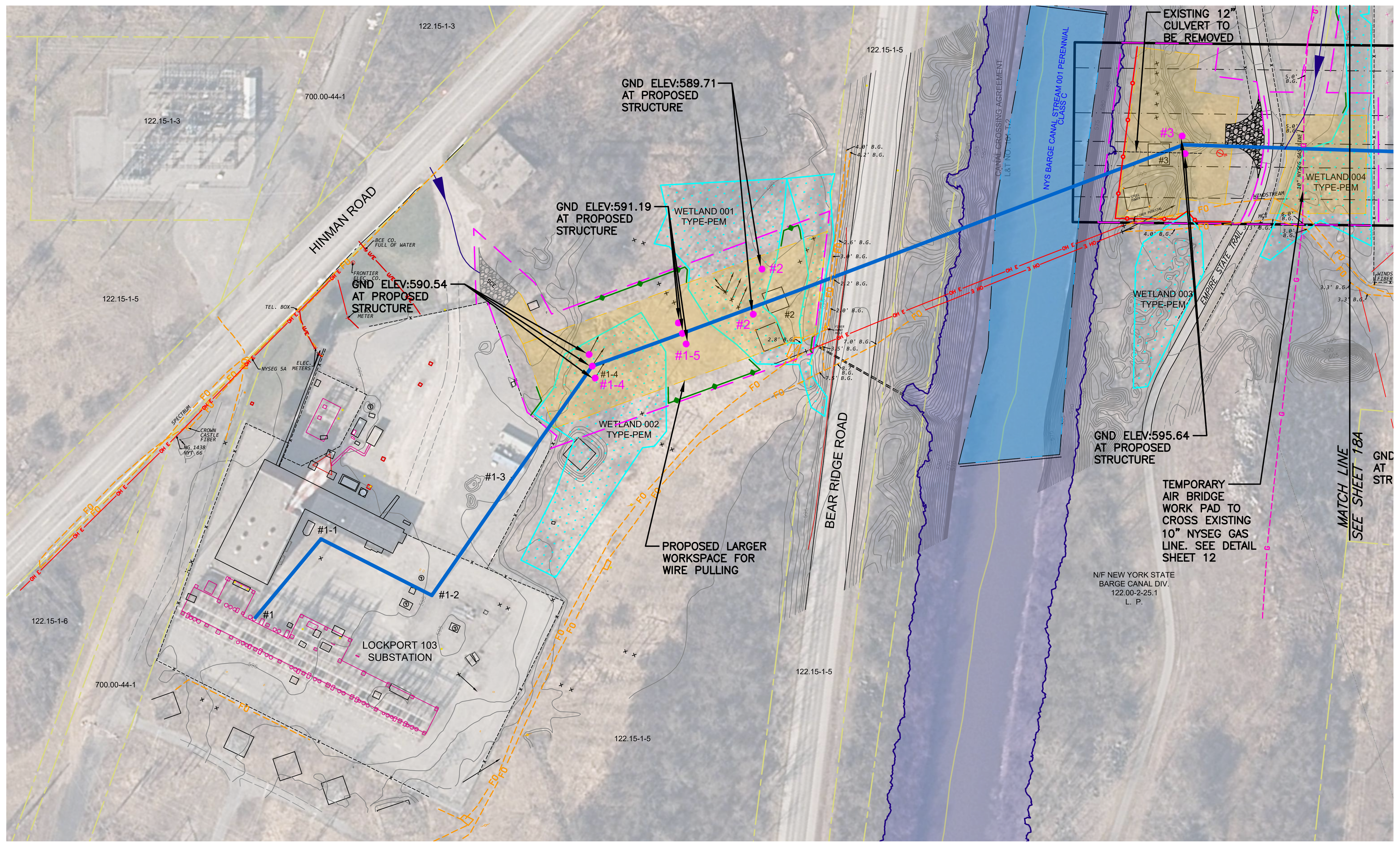
PREPARED BY: nationalgrid

115kV TRANSMISSION LINES
LOCKPORT - BATAVIA 112
REBUILD PROJECT
NYSDOT NOTES & DETAILS

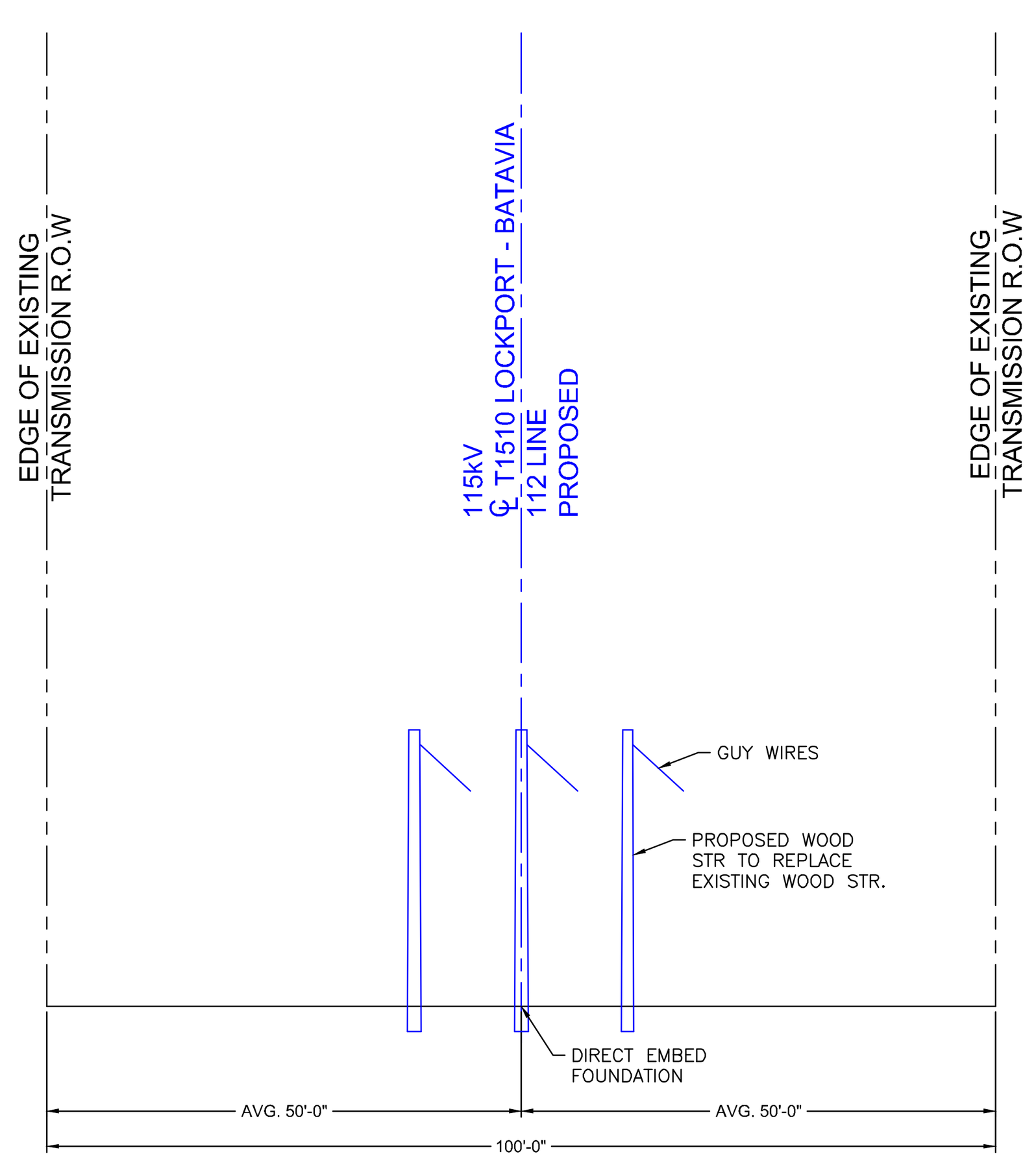
DES. | DR. | CK. | APP. | CK. | DR.

CITY OF LOCKPORT T.D 5101 & TOWN OF LOCKPORT T.D. 5119 - NIAGARA COUNTY
PLAN VIEW

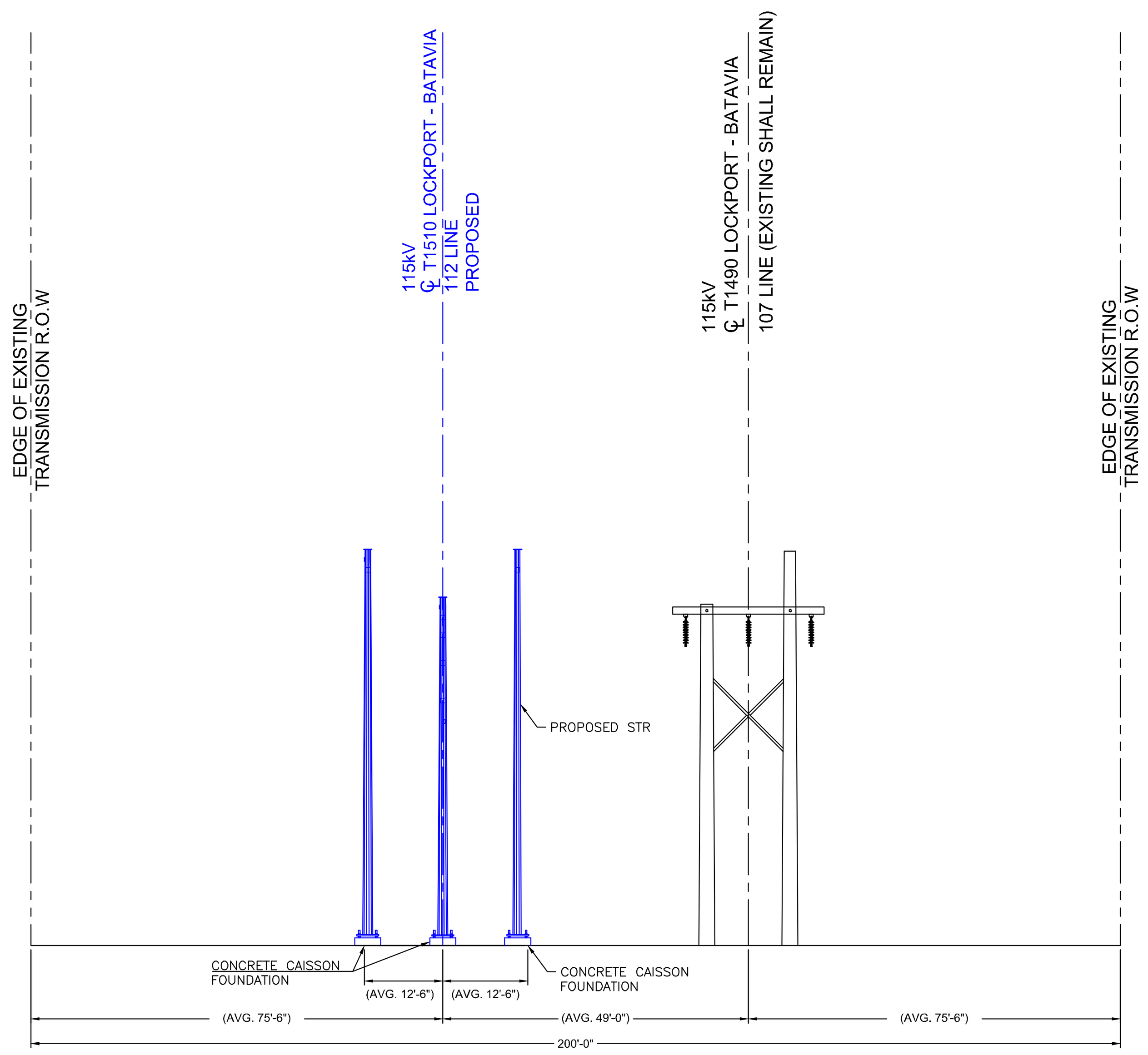
100 FEET 0 100 200 300
Scale: 1"=100'



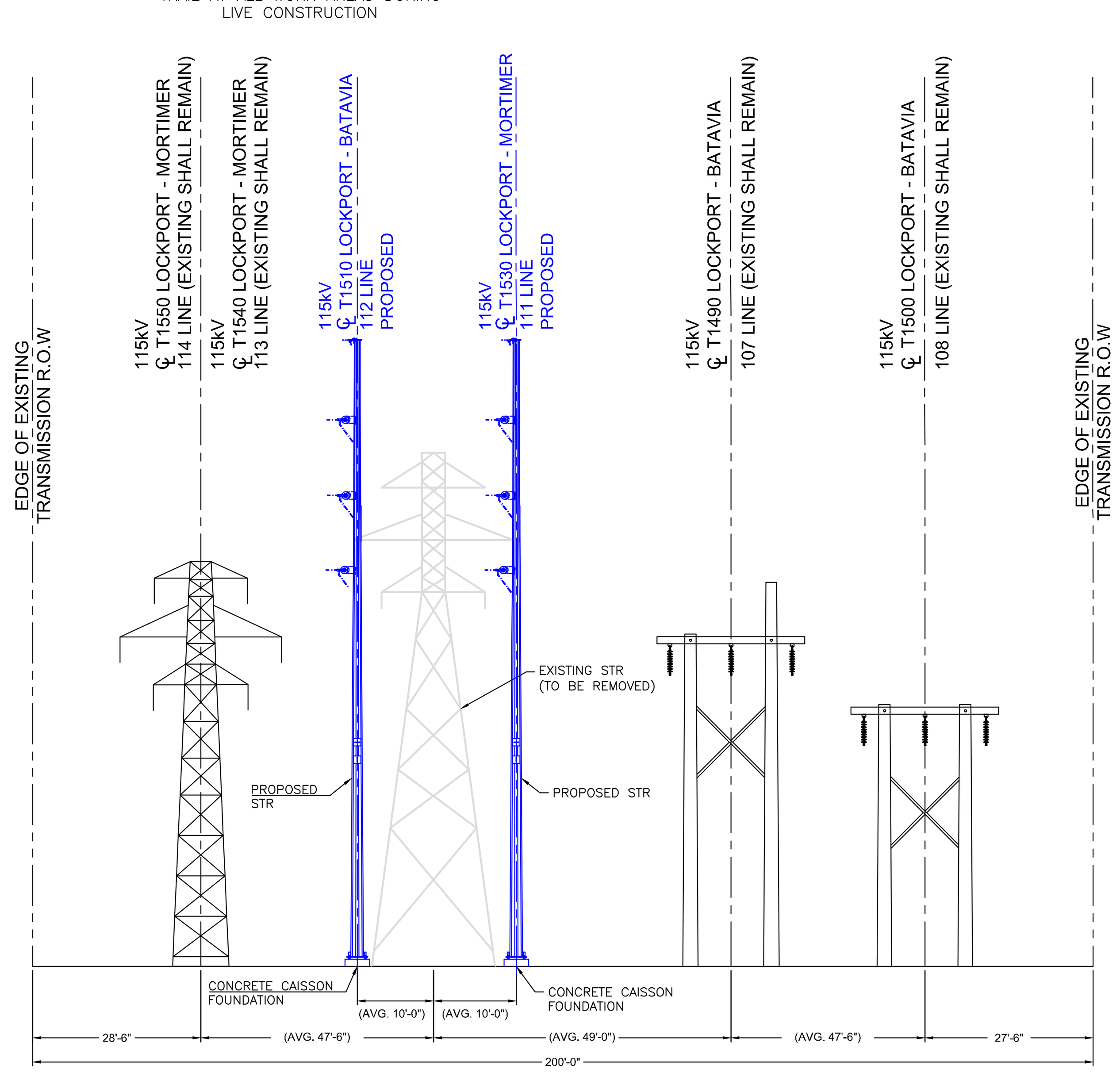
TEMPORARY ORANGE CONSTRUCTION FENCE TO BE INSTALLED ADJACENT TO OR ACROSS THE EMPIRE STATE TRAIL AT ALL WORK AREAS DURING LIVE CONSTRUCTION



NIAGARA MOHAWK POWER CORP.
PROPOSED CROSS-SECTION CONFIGURATION
FACING LOCKPORT SUBSTATION
STRUCTURES 1-4



NIAGARA MOHAWK POWER CORP.
PROPOSED CROSS-SECTION CONFIGURATION
FACING LOCKPORT SUBSTATION
STRUCTURES 1-5



NIAGARA MOHAWK POWER CORP.
PROPOSED CROSS-SECTION CONFIGURATION
FACING LOCKPORT SUBSTATION
STRUCTURES 2 TO 3

EXISTING FEATURES

- PROPERTY COUNTY TAX MAP
- CONTOUR LINE
- TOWN LINE
- FENCE
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- UNDER GROUND GAS LINE
- UNDER GROUND FIBER OPTIC
- UNDER GROUND WATER
- UNDERGROUND PETROLEUM
- UNDERGROUND STORM SEWER
- UNDERGROUND SANITARY SEWER
- UNDERGROUND TELEPHONE
- NIAGARA MOHAWK POWER CORP. EXISTING PROPERTY LINES
- NIAGARA MOHAWK POWER CORP. EXISTING EASEMENT LIMITS
- NIAGARA MOHAWK POWER CORP. LEGACY PROPERTY LINES
- ADJOINER PROPERTY LINES
- NIAGARA MOHAWK POWER CORP. L&T DOCUMENT NUMBER
- TAX MAP IDENTIFICATION NUMBER (S.B.L)
- SUB-TRANSMISSION & TRANSMISSION LINES
- WOOD POLES
- FLEX TOWERS
- SQUARE BASE TOWERS
- 3 LEGGED TOWERS
- GUY WIRES
- CULVERT
- DITCH
- STREAM CENTERLINE, I.D. NUMBER CLASS
- STREAM BANK, I.D. NUMBER & CLASS
- DEC WETLAND
- DEC WETLAND 100' ADJACENT AREA
- DELINEATED WETLANDS
- WATER BODY

PROPOSED FEATURES

- SILT FENCE
- FILTER SOCK
- CULVERT
- BOX CULVERT
- ROCK OUTLET PROTECTION
- DITCH
- CONTOUR LINE (MAJOR)
- CONTOUR LINE (MINOR)
- PERMANENT STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY STABILIZED CONSTRUCTION ENTRANCE
- LIMIT OF DISTURBANCE
- FENCE
- PARK BOUNDARY LINE
- FEMA FLOODPLAIN
- PROPOSED PERMANENT EASEMENT
- TRANSMISSION LINES (115kV)
- PROPOSED STRUCTURE LOCATION
- PROPOSED INVASIVE SPECIES CLEANING STATION
- GATE TO BE INSTALLED
- TEMPORARY ORANGE CONSTRUCTION FENCE
- TYPE 1 - PROPOSED ACCESS OVER EXISTING, IMPROVE AS NECESSARY
- WILDLIFE MANAGEMENT AREA
- EROSION CONTROL FILTER STRIP
- TYPE 2 - PERMANENT ACCESS ROADS & WORK AREAS
- TYPE 3 - TIMBER MAT DURING CONSTRUCTION PERVIOUS POST CONSTRUCTION
- TYPE 4 - TEMPORARY CONSTRUCTION WORK AREAS, PULLING PADS OR ACCESS, IMPROVE AS NECESSARY
- TYPE 5 - TIMBER MAT ACCESS ROADS & WORK AREAS
- TYPE 6 - BERM ACCESS, IMPROVE AS NECESSARY

CLEARING LIMITS FOR THE PROJECT WILL BE THE SAME AS THE LIMITS OF DISTURBANCE.
EXISTING #112 LINE STRUCTURES TO BE REMOVED.
SYMBOLS SHOWN HERE MAY BE LARGER THEN REPRESENTED ON DETAILED DRAWING.

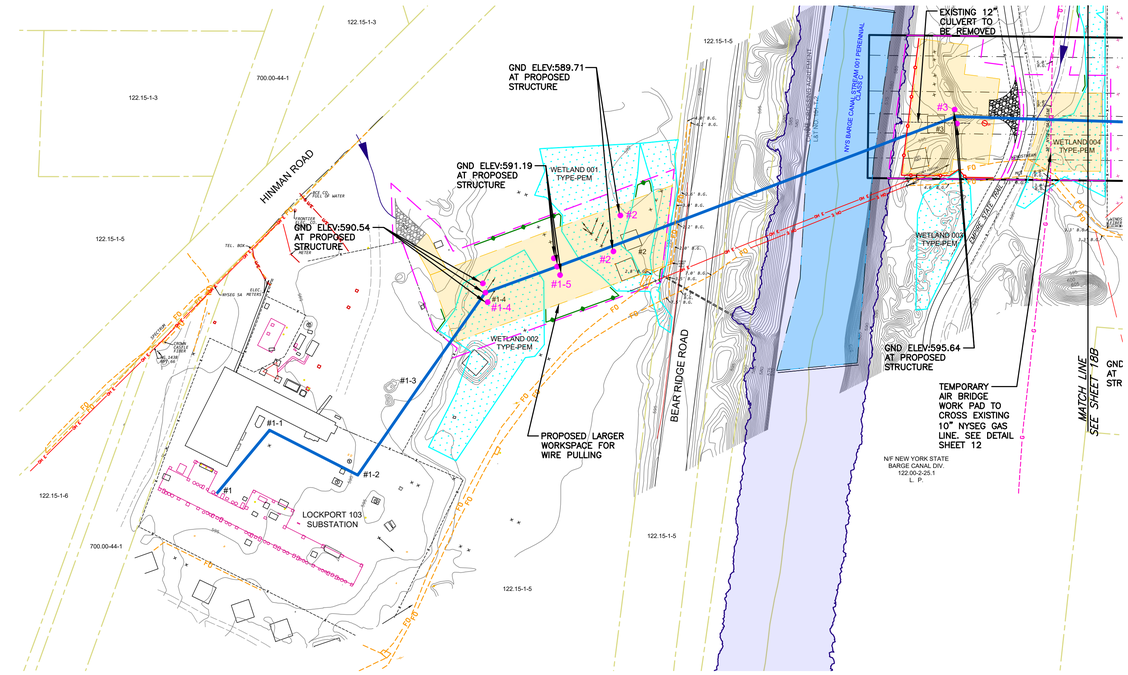
ORIGINAL ISSUE DATE	6/06/25
FILE INDEX	6.1-L10-M5
DRAWING NUMBER	L1-41568
SHEET NUMBER	17A

115kV TRANSMISSION LINES
LOCKPORT - BATAVIA 112
REBUILD PROJECT
FORESTRY & REAL ESTATE PLAN

PREPARED BY nationalgrid

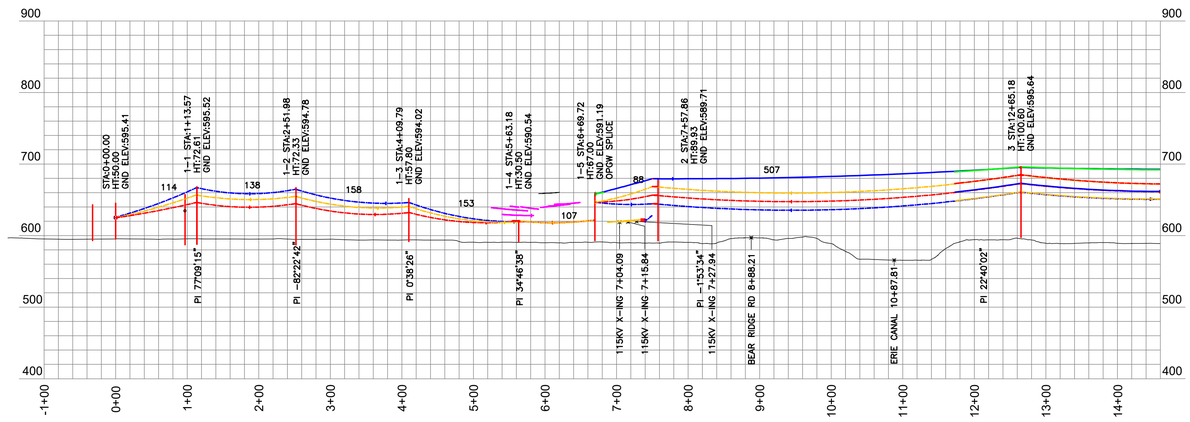
DES. HP APPROVED
DR. FISHER APPROVED
CK. VL APPROVED
RW APPROVED
ACCOUNT NUMBER
DESCRIPTION OF ISSUE OR REVISION | DATE | DR. | CK. | APP.

CITY OF LOCKPORT T.D 5101 & TOWN OF LOCKPORT T.D. 5119 - NIAGARA COUNTY
PLAN VIEW



100 FEET 0 100 200 300
Scale: 1"=100'

TEMPORARY ORANGE CONSTRUCTION FENCE TO BE INSTALLED ADJACENT TO OR ACROSS THE EMPIRE STATE TRAIL AT ALL WORK AREAS DURING LIVE CONSTRUCTION



LOCKPORT - BATAVIA 112 LINE (FROM 1- 5 TO 211)																		
		EXISTING STRUCTURE																
EXISTING STR NUMBER	NEW STR NUMBER	TYPE	POLE 1 HT (FT, AGL)	POLE 1 CL	POLE 2 HT (FT, AGL)	POLE 2 CL	POLE 3 HT (FT, AGL)	POLE 3 CL	TYPE	MATERIAL	POLE 1 HT, FT (TOTAL/ EMB)	POLE 1 CL	POLE 2 HT, FT (TOTAL/ EMB)	POLE 2 CL	POLE 3 HT, FT (TOTAL/ EMB)	POLE 3 CL	FOUNDATION TYPE	NOTES
LOCKPORT SUB	LOCKPORT SUB	STATION LATTICE TOWER	UNK															
1-3	1-1	SC WD MONOPOLE DE	72															
1-2	1-2	SC WD MONOPOLE DE	72															
1-1	1-3	SC WD MONOPOLE DA SUSP	58															
1-2	1-4	SC WD 3-POLE DE	30	UNK	30	UNK	30	UNK										
	1-5	NO EXISTING STRUCTURE							3PDE	STEEL	65/0	N/A	55/0	N/A	65/0	N/A	INSTALL CONCRETE CAISSON (3)	
2	2	DC STEEL LATTICE TOWER DE	76						SPDE	STEEL	90/0	N/A					INSTALL CONCRETE CAISSON (1)	
2A									SPDE	STEEL	90/0	N/A					INSTALL CONCRETE CAISSON (1)	
3	3	DC STEEL LATTICE TOWER DE	79						SPDE	STEEL	105/0	N/A					INSTALL CONCRETE CAISSON (1)	
3A									SPDE	STEEL	105/0	N/A					INSTALL CONCRETE CAISSON (1)	
-	3-1	NO EXISTING STRUCTURE							BPSU-DELTA	STEEL	125/20	H4					INSTALL DIRECT EMBED (1)	
									BPSU-DELTA	STEEL	125/20	H4					INSTALL DIRECT EMBED (1)	

LOCKPORT - BATAVIA LINE 112			
OPGW 1/2"			
FROM	TO	RULING SPAN	NESC HEAVY TENSION (LBS)
1-5	2	76.99	3000
3	4	363.73	5000
4	15	485.47	5000

LOCKPORT - BATAVIA LINE 112			
795 KCMIL ACSR "DRAKE"			
FROM	TO	RULING SPAN	NESC HEAVY TENSION (LBS)
1-5	2	78.89	2800
3	4	363.30	8000
4	15	485.46	8000

LINE 111			
3/8 HS			
FROM	TO	RULING SPAN	NESC HEAVY TENSION (LBS)
1-5	2	106.64	2500
2	3	487.74	3500
3	4	367.11	3500

LOCKPORT - BATAVIA LINE 112			
795 KCMIL ACSR "DRAKE"			
FROM	TO	RULING SPAN	NESC HEAVY TENSION (LBS)
1-4	1-5	104.94	EXISTING TENSION

LINE 111			
795 KCMIL ACSR "DRAKE"			
FROM	TO	RULING SPAN	NESC HEAVY TENSION (LBS)
2	3	487.11	8000
3	4	366.59	8000

CONDUCTOR DISPLAYED AT 257° F
SHIELDWIRE DISPLAYED AT 120°F

PREPARED FOR CONSTRUCTION GROUP USE

HOWEVER, THIS SHEET SHOULD NOT BE CONSIDERED THE SOLE SOURCE OF INFORMATION REQUIRED FOR THE CONSTRUCTION OF THAT PORTION OF THE PROJECT DEPICTED ON THIS SHEET AND SHOULD ONLY BE USED IN CONJUNCTION WITH SHEETS OF THE SAME NUMBER CONTAINED IN THIS SET OF PLANS.

ORIGINAL ISSUE DATE: 6/06/25
FILE NAME: 6.1-L10-M5
DRAWING NUMBER: L1-41568
SHEET NUMBER: 17B

115kV TRANSMISSION LINES
LOCKPORT - BATAVIA 112
REBUILD PROJECT
CONSTRUCTION PLAN & PROFILE

PREPARED BY: nationalgrid

	APPROVED	ACCOUNT NUMBER
DES.	HP	
DR.	FISHER	
CK.	VL	
	RW	

APP.
CK.
DR.
DESCRIPTION OF ISSUE OR REVISION
DATE