
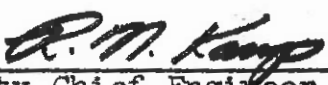
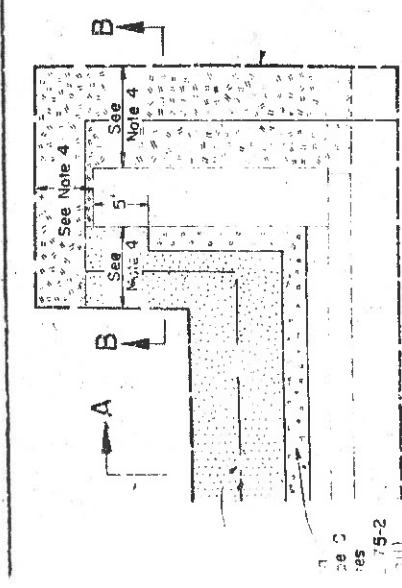


TO:  MAIN OFFICE  REGIONAL OFFICES  <b>SUPERSEDED BY EI 82-059</b> <b>EFFECTIVE 10/15/1982</b>	 <b>ENGINEERING INSTRUCTION</b> NEW YORK STATE DEPARTMENT OF TRANSPORTATION
Distribution: <input checked="" type="checkbox"/> Main Office <input checked="" type="checkbox"/> Regions <input type="checkbox"/> Special	<b>SUBJECT: EXCAVATION AND BACKFILL SHEETS</b>  Subject Code: 7.35-2      MODIFIES EI 74-089 DATE 9/23/74
APPROVED:   Deputy Chief Engineer (Structures)	Code: <u>EI 75-15</u> Date: <u>2/13/75</u> Supersedes: BDD 74-1, 2, 3, 4 and 5

Bridge Design Data Sheets 75-1, 2, 3, 4 and 5 are being issued due to the following:

1. Deletion of Item 203.04, Select Subgrade, in Addendum No. 2 of the Standard Specifications.
2. Elimination of the reference to the A.A.S.H.O. T-99 compaction test. Compaction testing will be in accordance with current Soils Bureau directives.

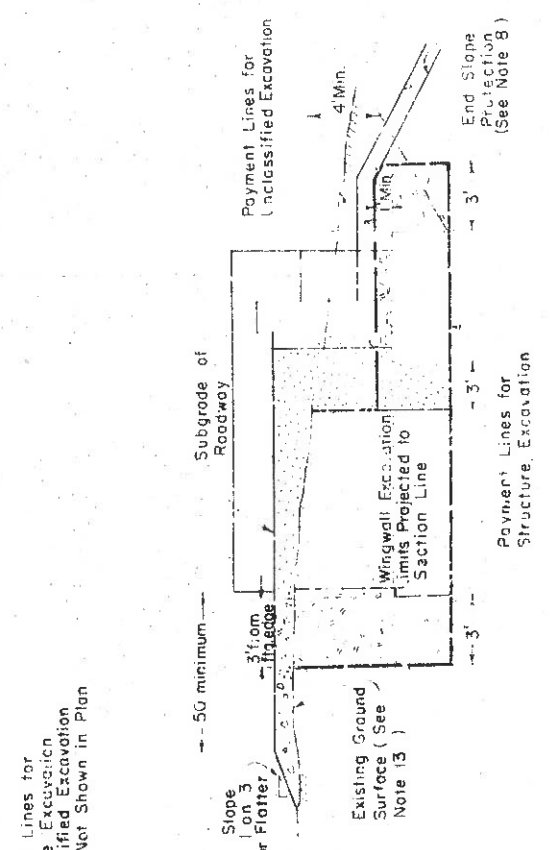
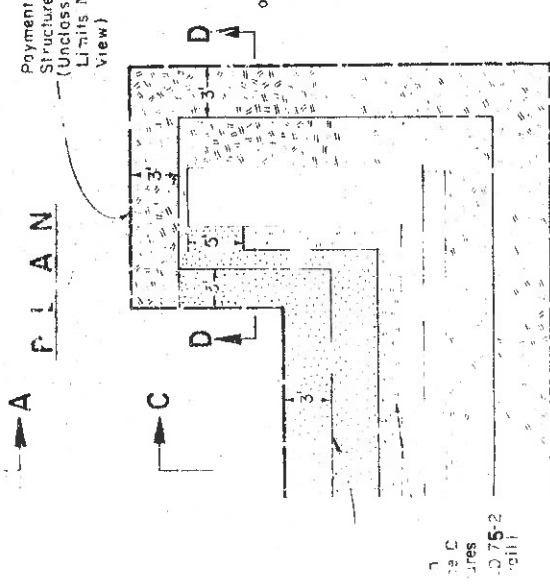
These sheets shall become effective immediately and shall also be used on structures already detailed if the changes can be made without extensive revisions.



SECTION A-A

SECTION B-B

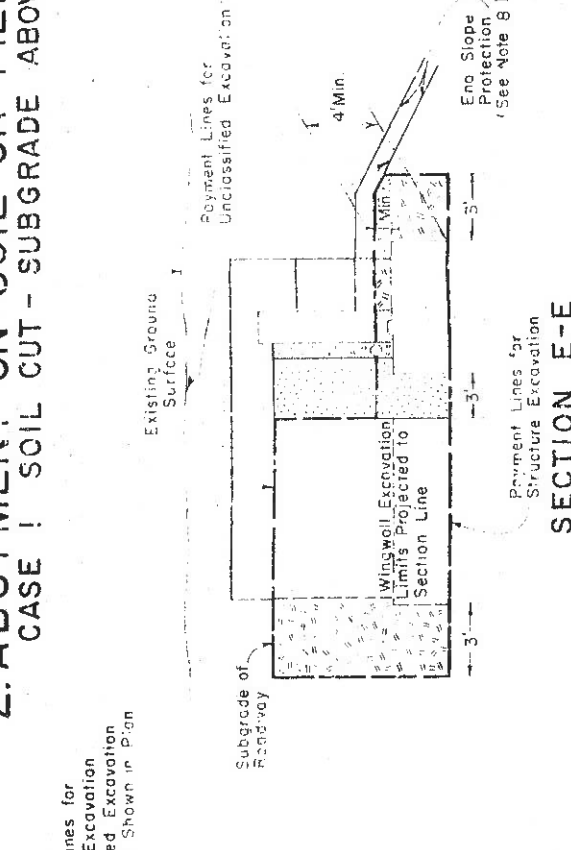
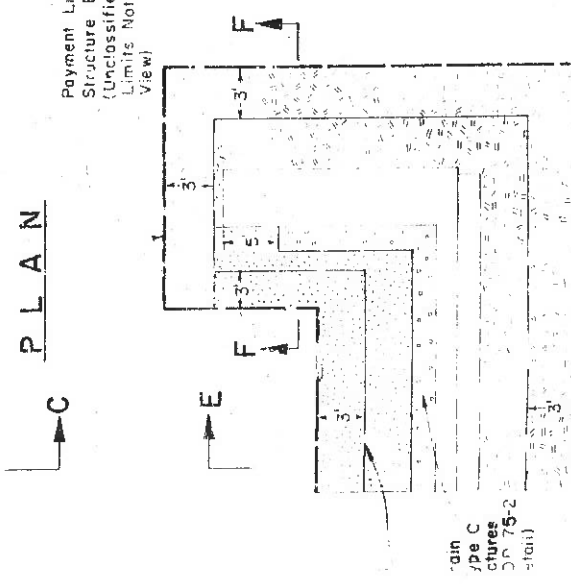
1. ABUTMENT ON ROCK - SOIL AND ROCK CUT



SECTION C-C

SECTION D-D

2. ABUTMENT ON SOIL OR PILE FOUNDATION CASE 1 SOIL CUT - SUBGRADE ABOVE EXISTING GROUND



SECTION E-E

SECTION F-F

3. ABUTMENT ON SOIL OR PILE FOUNDATION CASE 2 SOIL CUT - SUBGRADE BELOW EXISTING GROUND

GENERAL NOTES

- Dimensions for abutment setback, depth of embedment for abutments and wing-wall footings, and finished rock slope to be determined by Soil Mechanics Bureau.
- Step wingwall footing to obtain minimum embedment in rock, whenever feasible. The Soil Mechanics Bureau will provide allowable step elevation and bearing capacity criteria.
- If the height between subgrade and finished ground exceeds 5', provide porous drainage material with cut on outside of wingwall as shown on BDD 75-2, "Wall on Soil or Piles, Foundation-Soil Cut."
- Minimum dimension shall be 3 feet; when the heel of the footing exceeds 3 feet, the footing shall be poured against the rock face.
- At box bridges the payment line for Item 203.21 will be 2 feet above the top slab or to the subgrade of roadway, whichever is less.
- At box bridges where construction equipment is to be allowed to cross over the installation before placement of adjacent embankment material, 1 vertical on 5 horizontal rammed with a minimum of 2' - 0" fill over top slab shall be constructed and compacted under the general specifications Section 203, "Excavation and Embankments." Where these rams cannot be utilized as part of the completed embankment, they shall be installed and removed at the Contractor's expense.
- Indicate on the plans the estimated depth of unsuitable material below the bottom of footing as reported by Soil Mechanics Bureau. Also place the following special note on the plans: "Unsuitable material shall be removed to the depths noted on the plans. No payment will be made for removal below these depths unless authorized in writing by the Engineer after consultation with the Regional Soils Engineer." The excavation shall be backfilled with Item 203.21 and so otherwise specified.
- Slope protection treatment shall be as specified by Preliminary Plan Unit in conjunction with Soil Mechanics Bureau as required.
- At some sites, fill is to be placed to the subgrade of roadway and allowed to stand, in order to consolidate underlying material, before piles are driven. In this case, a detail should be used similar to the applicable case shown on Bridge Design Data Sheet B.D.D. 73-4 or 5.
- Highway embankment material placed within these limits shall have maximum dimension of 6 inches and shall be compacted to 95% of maximum density. Quantity to be included in highway estimate.
- Highway embankment material and Item 203.21 shall be placed simultaneously, in sequence, on both sides of the vertical payment line.
- The rear limit of Item 203.21 for abutments with unsymmetrical wingwalls shall be defined by a vertical plane drawn parallel to the centerline of bearing from 5 feet outside the shorter wingwall. The remainder of the longer wall shall be backfilled with Item 203.21 in accordance with BDD 75-2, No. 7, "Walls on Soil or Pile Foundation."
- Topsoil shall be stripped beneath abutments and placed in fills less than 20' in height from a rectangular or trapezoidal area bounded by lines 15 feet outside the abutment and wingwall footings, or to the toe of slope, whichever is less. The depth of stripping shall be determined by the Regional Soils Engineer and displayed on the highway cross sections by the Regional Design Engineer.

SPECIAL NOTE

The designer shall determine if sheeting is required for any of the structure excavations shown on these BDD sheets. If sheeting is required, complete details shall be shown on the plans.

- Special Structure Fill - Bridges (Item 203.21)
- Underdrain Pipe, Type C at Structures (Item 605.11)
- Highway Embankment Material (Item 203.04 or Item 203.03)
- Backfill with Suitable Excavated Materials Provided For Under Item 203.04, Structure Excavation
- As an Enclosure Within These Lines Designates Payment Lines for Structure Excavation (Item 206.01)

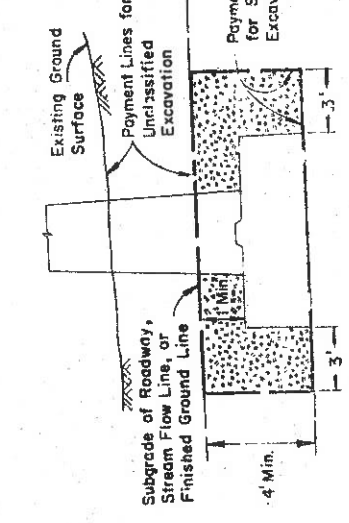
STATE OF NEW YORK  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF CONSTRUCTION

EXCAVATION AND BACKFILL  
PAYMENT LINES AND DETAILS  
FOR BRIDGES

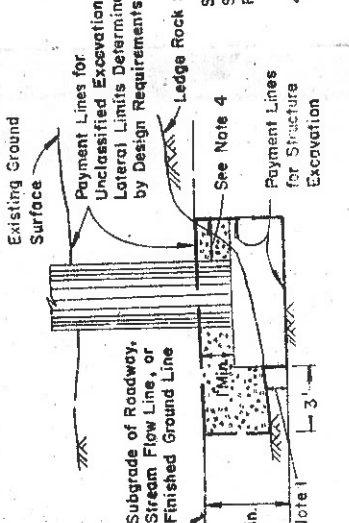
Approved \_\_\_\_\_ 1973  
County Chief Engineer  
(Structures)

REVISED 2/7/75  
REVISED 9/9/1974  
(1973 Spec. Item No.)

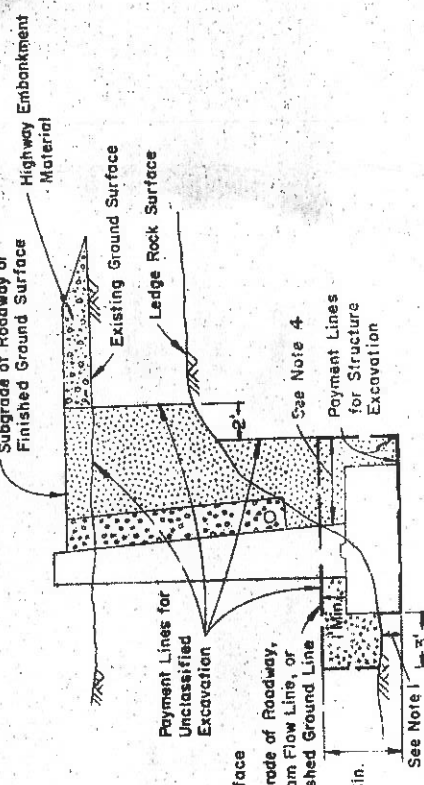
Prepared and submitted for approval by the Soil Mechanics Bureau  
*Wm. P. Hoffmann, P.E.* 9/29/72  
Wm. P. Hoffmann, Director



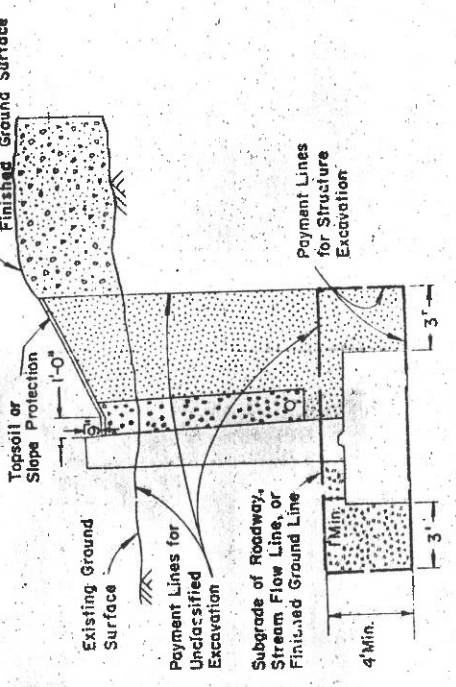
4. PIER ON SOIL OR PILE FOUNDATION - SOIL CUT



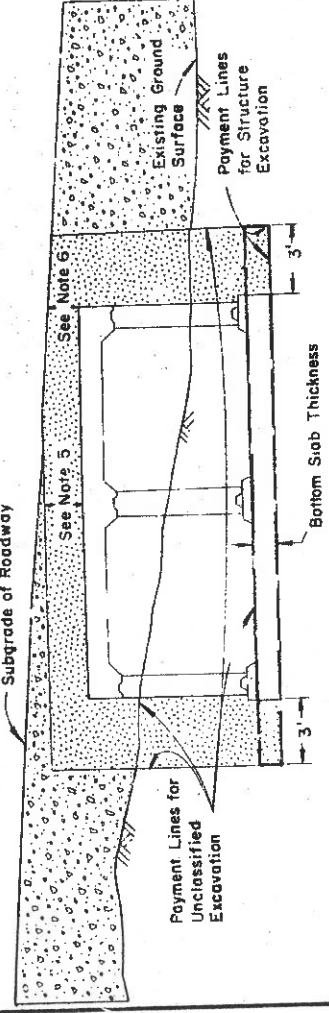
5. PIER ON ROCK, SOIL AND/OR ROCK CUT



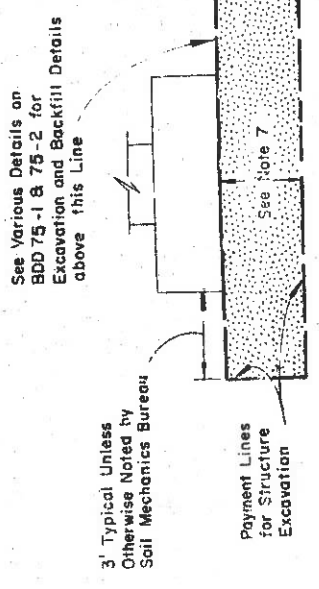
6. WALLS ON ROCK, SOIL AND/OR ROCK CUT



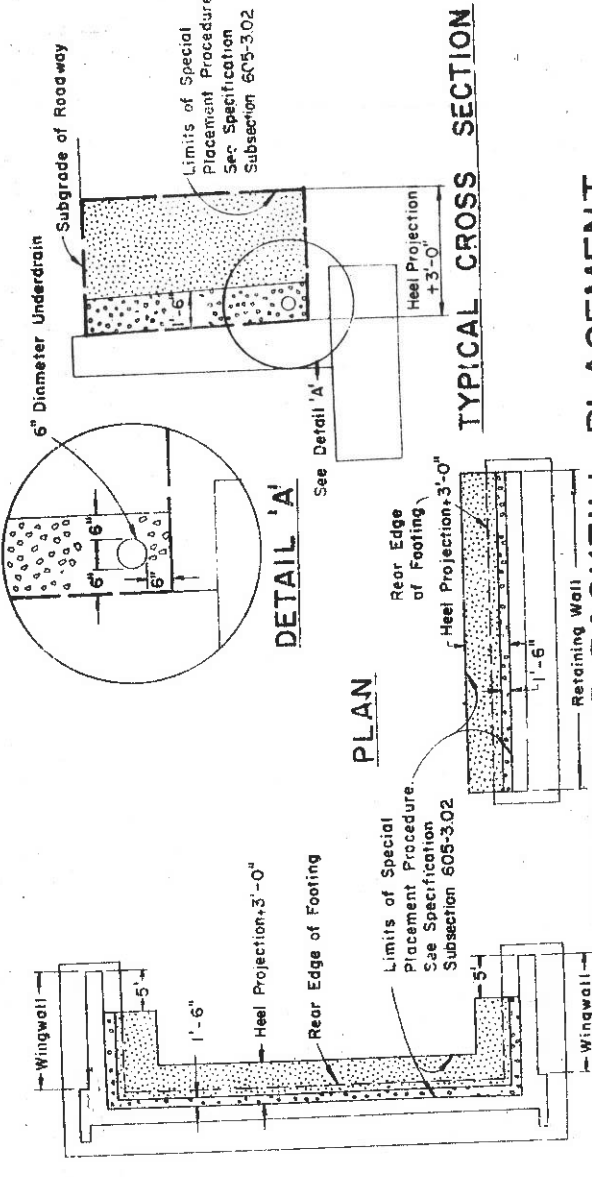
7. WALLS ON SOIL OR PILE FOUNDATION - SOIL CUT



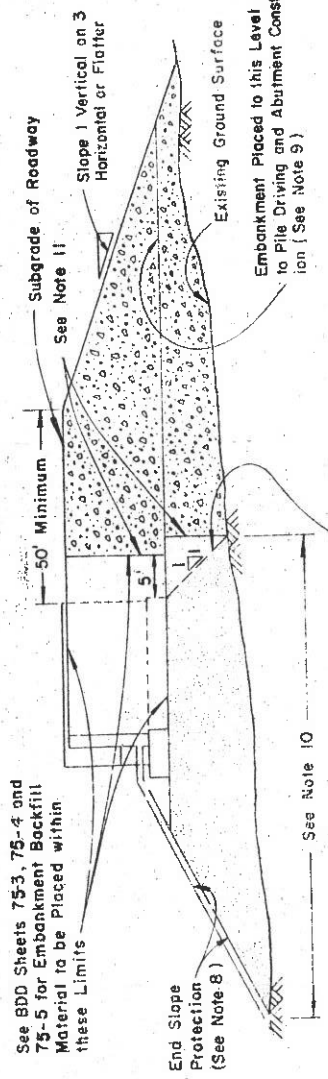
8. BOX BRIDGE-SOIL CUT



9. UNSUITABLE MATERIAL REMOVAL ABUTMENT ON FILL PILE FOUNDATION



11. STRUCTURE BACKFILL PLACEMENT LIMITS FOR POROUS DRAINAGE AGGREGATE



10. ABUTMENT ON FILL PILE FOUNDATION

LEGEND

	Select Structure Fill - Bridges (Item 203.21)
	Highway Embankment Material 6" Topsize (Item 203.01 or Item 202.03)
	Underdrain Filter, Type C at Structures, Item 605.11
	Highway Embankment Material (Item 203.01 or Item 203.03)
	Backfill with Suitable Excavated Material as Provided For Under Item 206.01, Structure Excavation.
	Area Enclosed Within These Lines Designates Payment Limits for Structure Excavation Item 206.01

Note: For General Notes See Drawing BDD-75-1

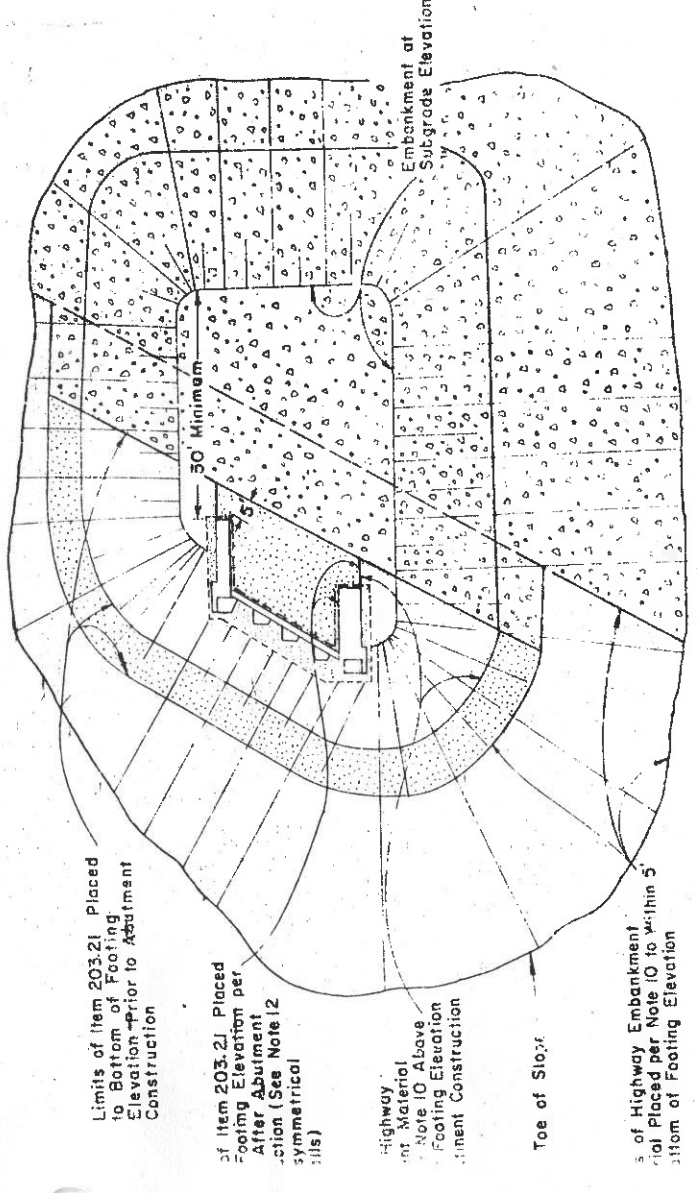
STATE OF NEW YORK  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF CONSTRUCTION

EXCAVATION AND BACKFILL  
PAYMENT LINES AND DETAILS  
FOR BRIDGES

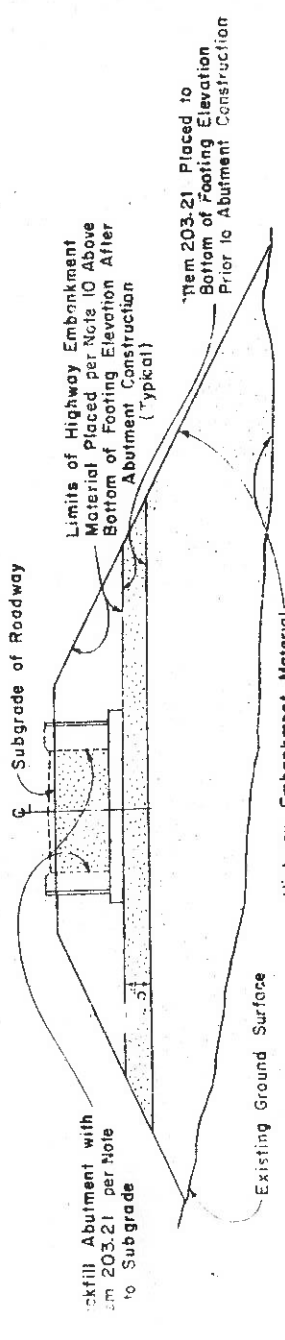
REVISED 2/7/75  
REVISED 9/9/1974  
(1973 Spec. Item No.)

Approved \_\_\_\_\_ 1973  
Deputy Chief Engineer  
(Structures.)

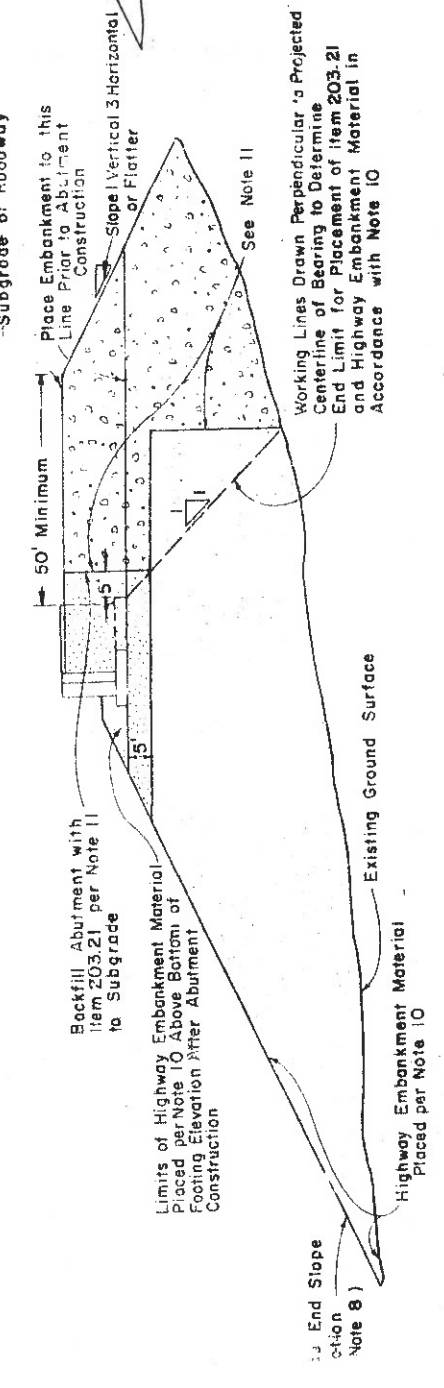
Prepared and submitted for approval by the Soil Mechanics Bureau  
Wm. P. Hoffmann, P.E. 9/29/72  
Director



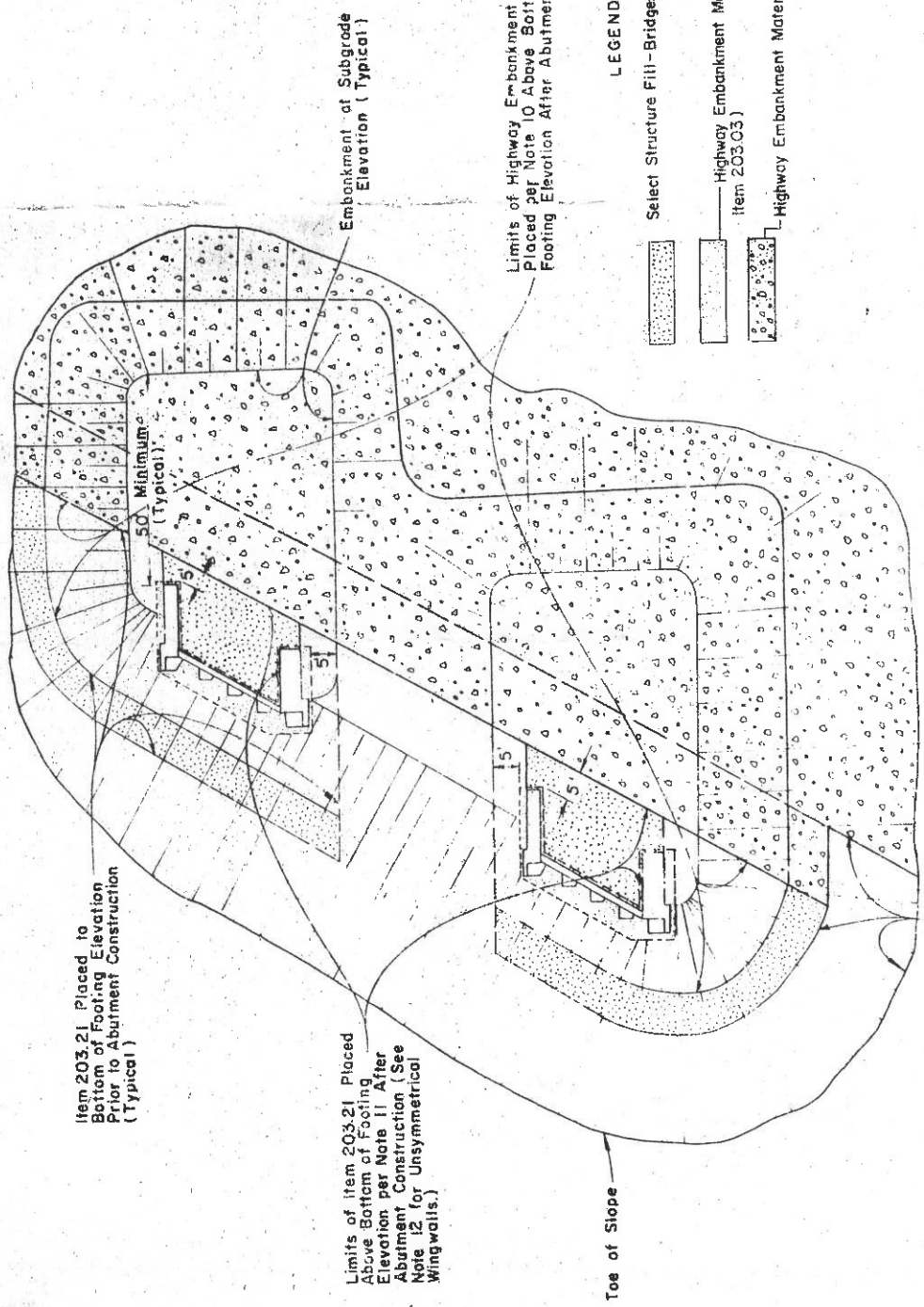
**TYPICAL EMBANKMENT PLAN  
SINGLE ABUTMENT**



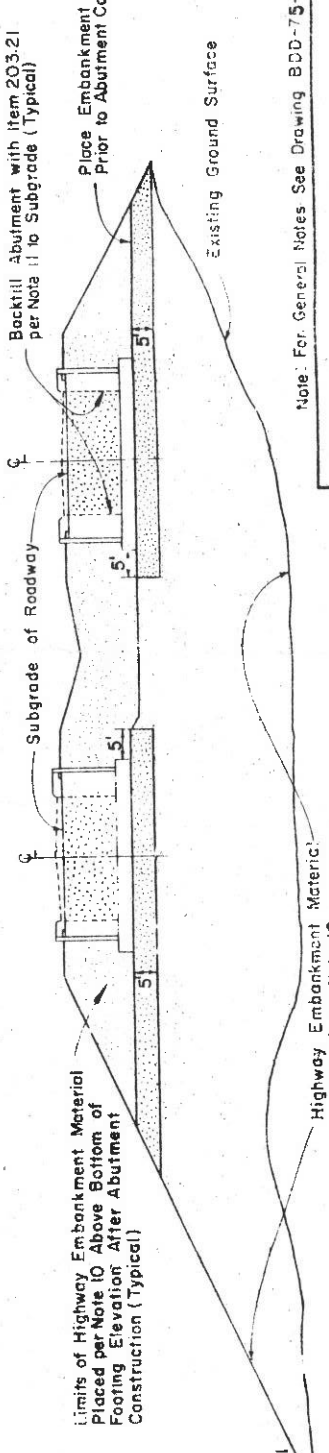
**TYPICAL CROSS SECTION  
THRU SINGLE ABUTMENT**



**TYPICAL CENTERLINE SECTION  
SINGLE OR TWIN ABUTMENTS**



**TYPICAL EMBANKMENT PLAN  
TWIN ABUTMENTS**



**TYPICAL CROSS SECTION  
THRU TWIN ABUTMENTS**

Note: For General Notes See Drawing BDD-75-1

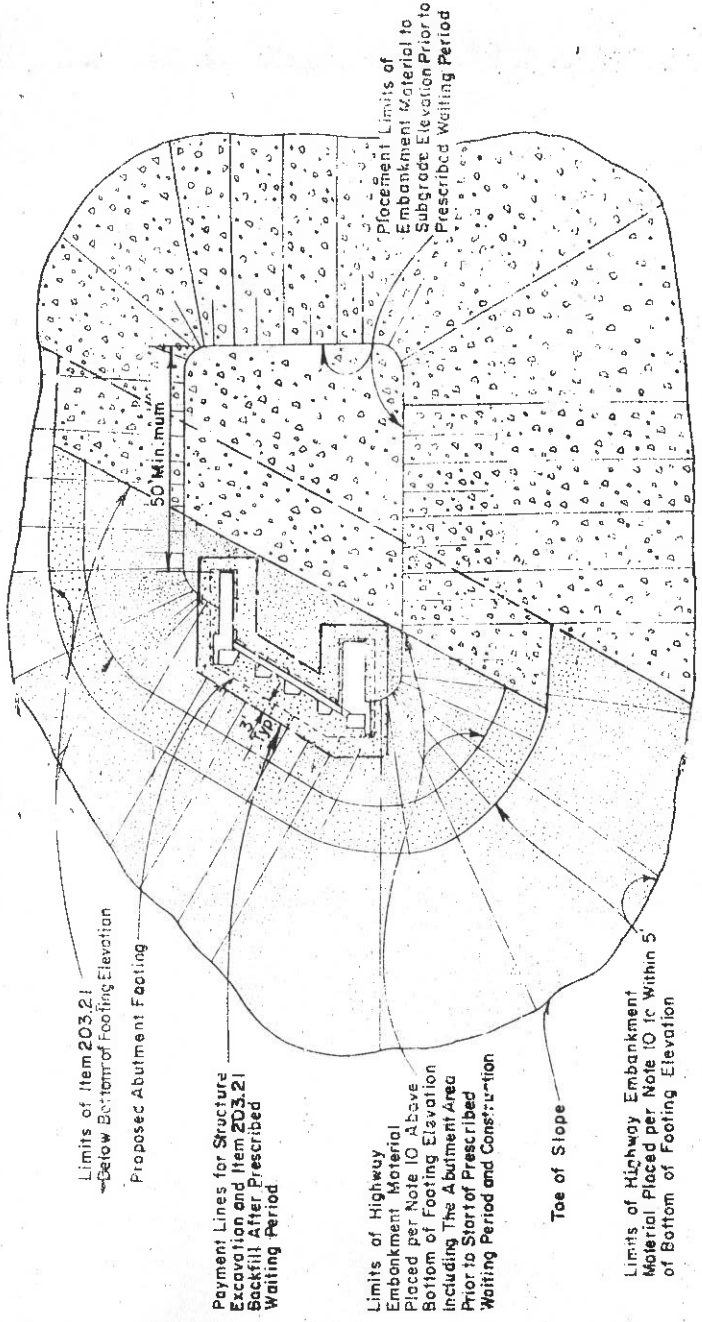
STATE OF NEW YORK  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF CONSTRUCTION

PLACEMENT LIMITS OF ITEM 203.21  
FOR ABUTMENTS FOUNDED ON SPREAD  
FOOTINGS REQUIRING NO CONSOLIDATION  
OF FOUNDATION SOIL

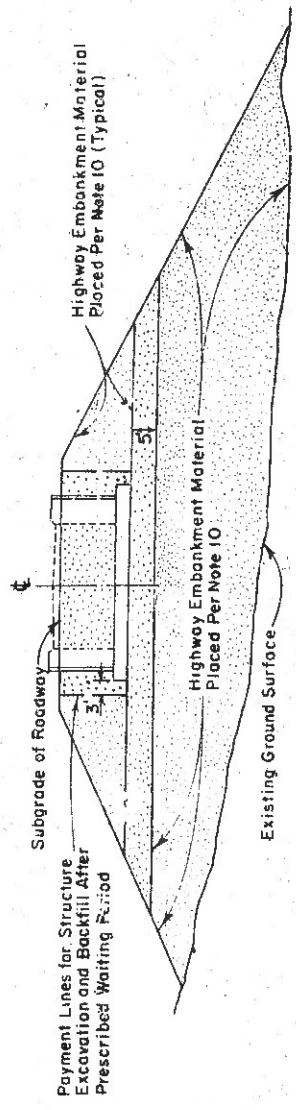
REVISED 2/7/75  
REVISED 9/9/1974  
(1975 Spec. Item No.)

Approved 3/2/1973  
R. M. [Signature]  
Deputy Chief Engineer  
(Structures)

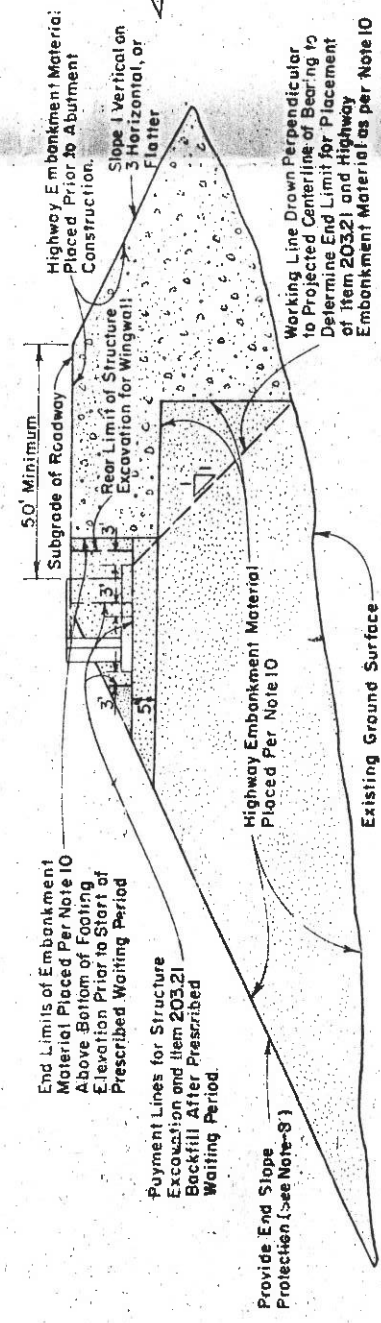
Prepared and submitted for approval by the Soil Mechanics Bureau  
Wm. P. Hoffmann, P.E. 9/21/72  
Director



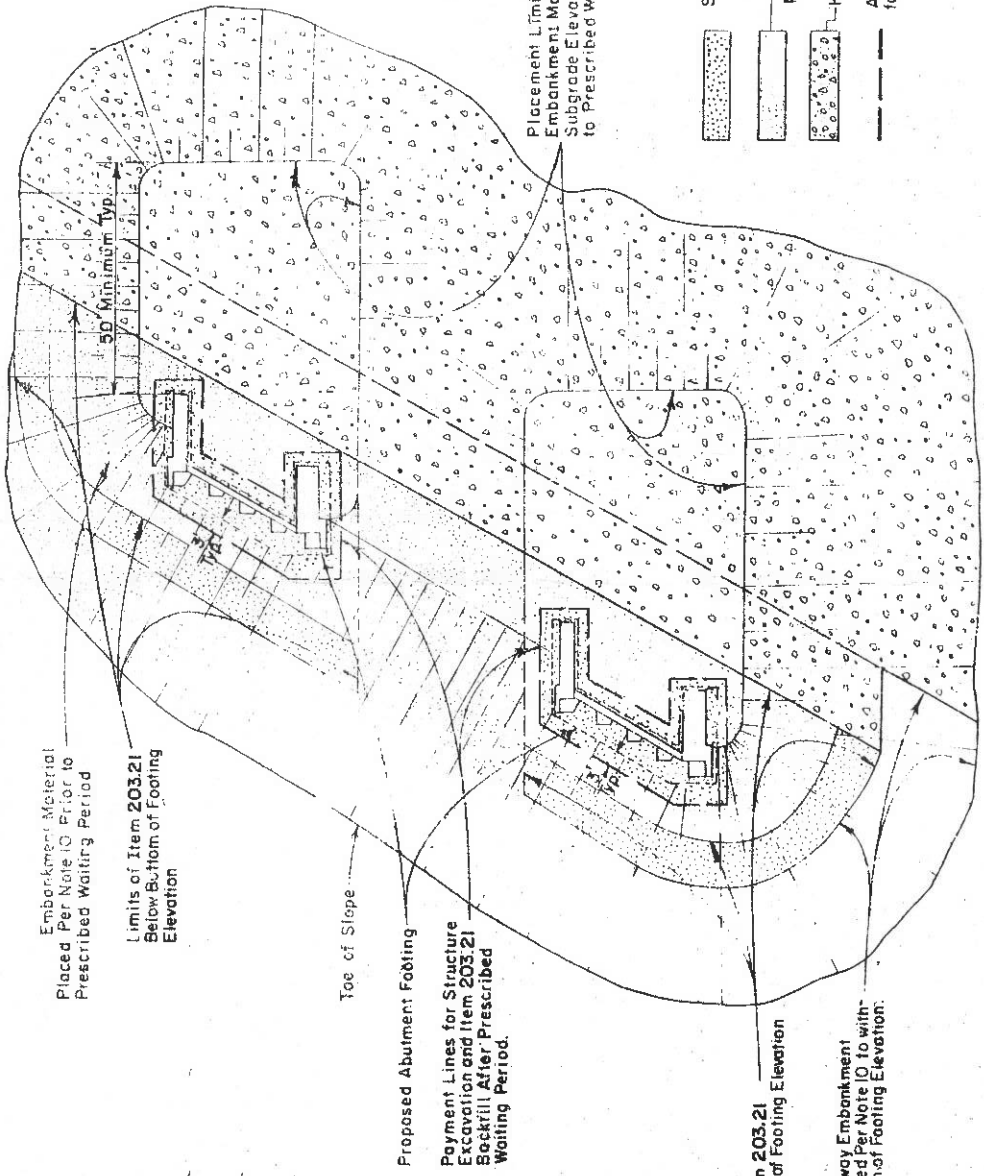
**TYPICAL EMBANKMENT PLAN  
SINGLE ABUTMENT**



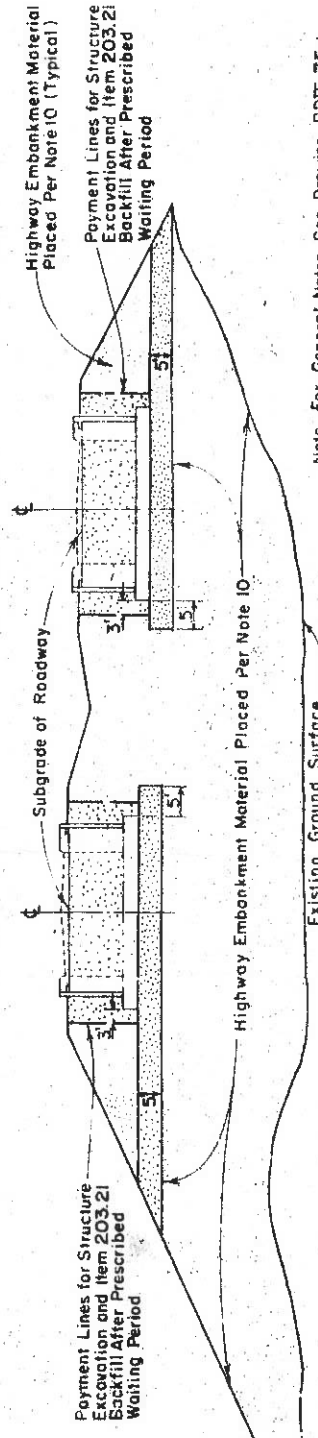
**TYPICAL CROSS SECTION  
THROUGH SINGLE ABUTMENT**



**TYPICAL CENTERLINE SECTION  
SINGLE OR TWIN ABUTMENTS**



**TYPICAL EMBANKMENT PLAN  
TWIN ABUTMENTS**



**TYPICAL CROSS SECTION  
THROUGH TWIN ABUTMENTS**

- LEGEND**
- Select Structure Fill--Bridges (Item-203.21)
  - Highway Embankment Material 6" Topsize (Item-203.03)
  - Highway Embankment Material (Item 203.01 or Item Enclosed Within These Lines Designates Pay for Structure Excavation Item 206.01)

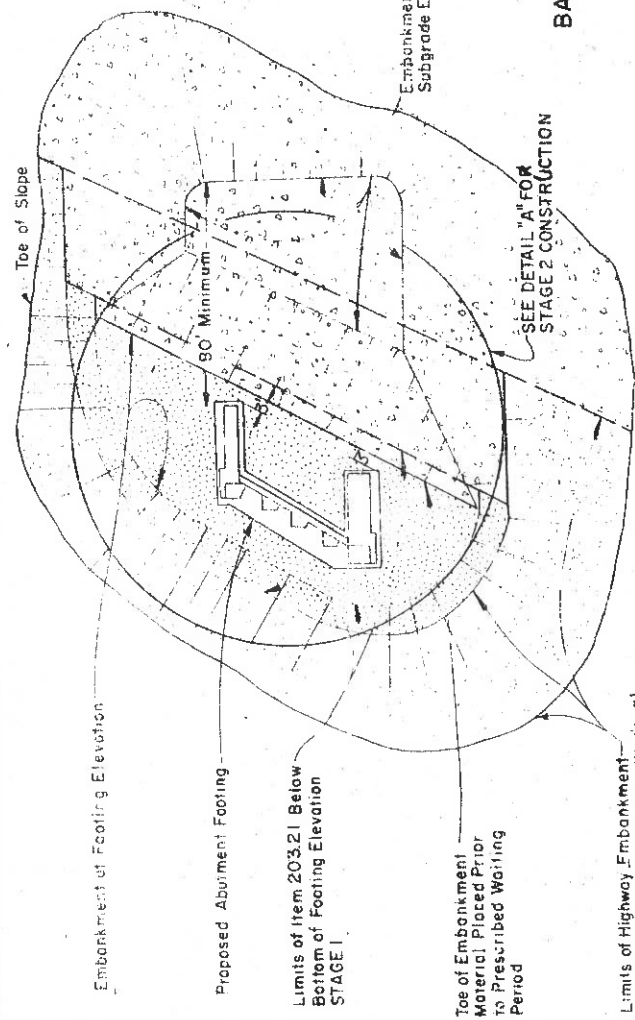
STATE OF NEW YORK  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF CONSTRUCTION  
**PLACEMENT LIMITS OF ITEM 203.21 FOR ABUTMENTS REQUIRING EMBANKMENT CONSTRUCTION TO SUBGRADE PRIOR TO CONSTRUCTION TO CONSOLIDATE FOUNDATION SOIL**

Approved *[Signature]* 3/2  
Deputy Chief Engineer (Structures)

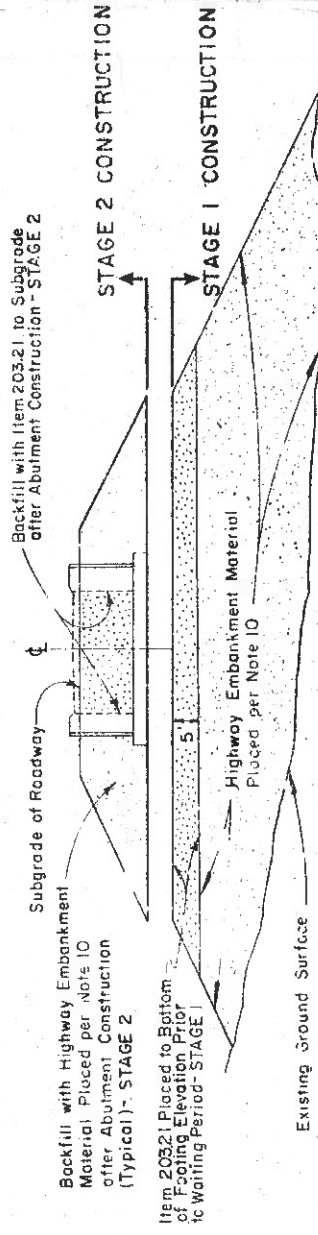
REVISED 2/7/75  
REVISED 9/9/1974 (1973 Spec. Item No.)

Prepared and submitted for approval by the Soil Mechanics Bureau  
*[Signature]* Wm. P. Hofmann, Director

Note: For General Notes See Drawing BDD-75-1

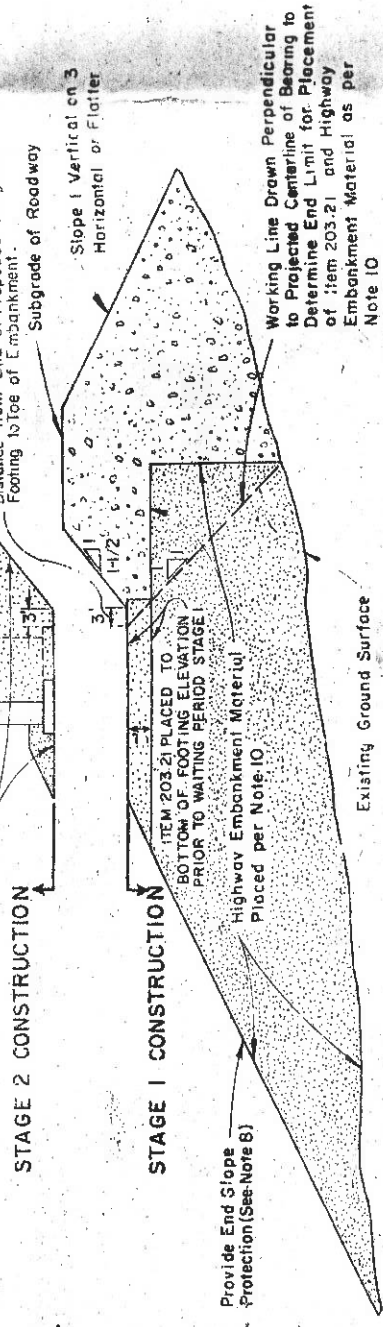


**TYPICAL EMBANKMENT PLAN**  
SINGLE ABUTMENT - STAGE 1  
EMBANKMENT DETAILS PRIOR TO WAITING PERIOD

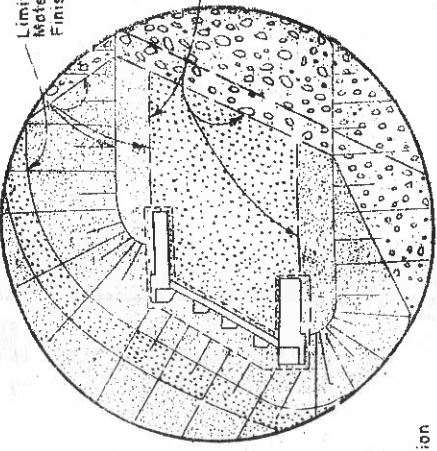


**TYPICAL CROSS SECTION**  
THRU SINGLE ABUTMENT

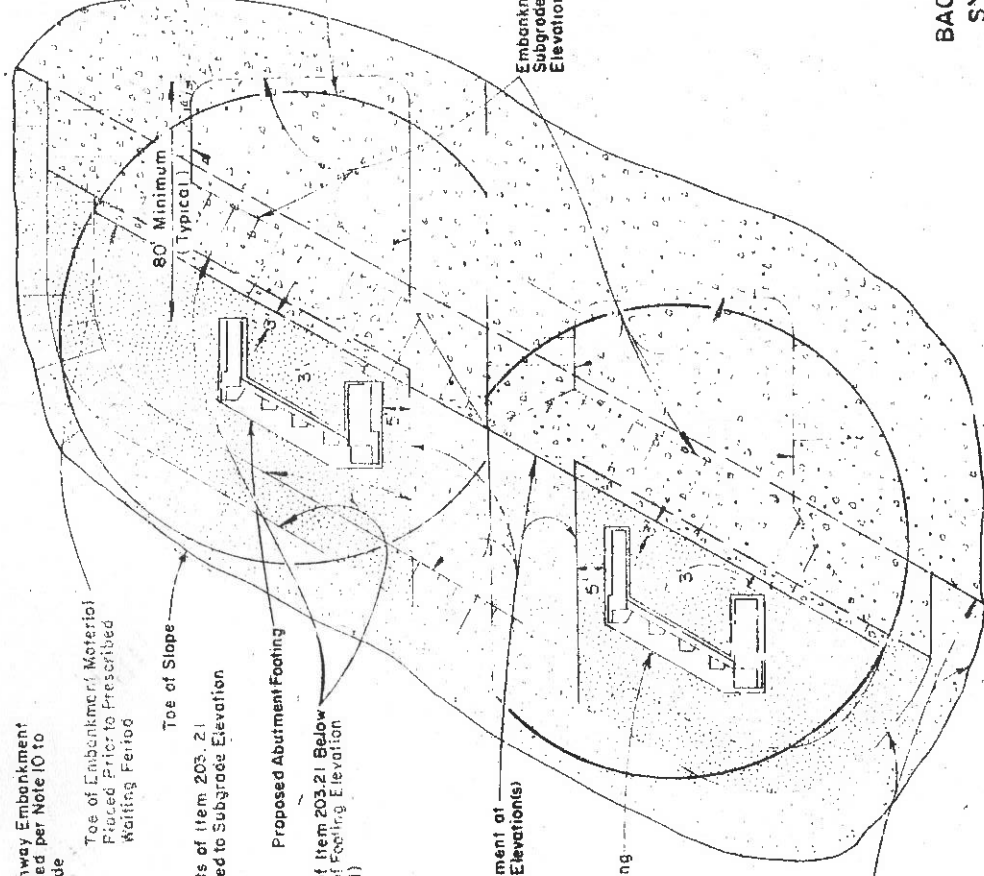
Place Highway Embankment Material and Item 203.21 to these lines prior to prescribed waiting period STAGE 1. See Detail 'A' for Lateral Plan Limits of Backfill Materials after Abutment Construction STAGE 2.



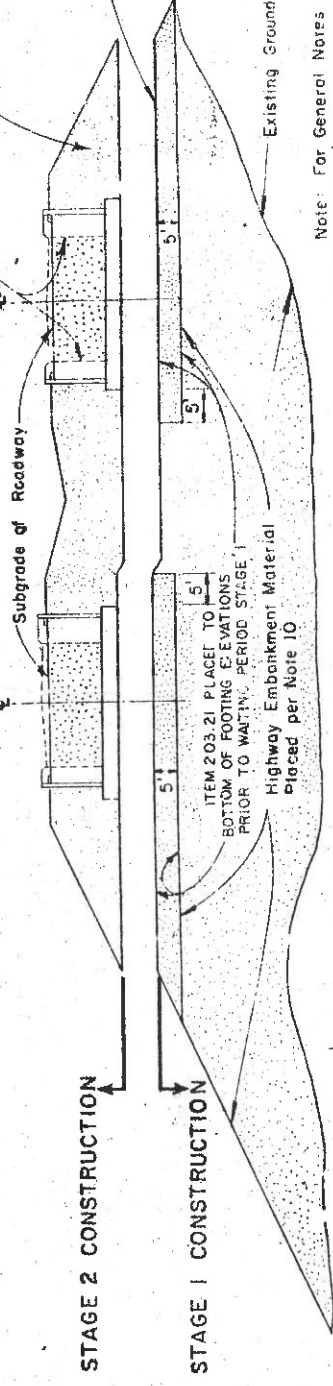
**TYPICAL CENTERLINE SECTION**  
SINGLE OR TWIN ABUTMENTS



**DETAIL 'A'**  
STAGE 2  
BACKFILL DETAILS AFTER WAITING PERIOD



**TYPICAL EMBANKMENT PLAN**  
TWIN ABUTMENT - STAGE 1  
EMBANKMENT DETAILS PRIOR TO WAITING PERIOD



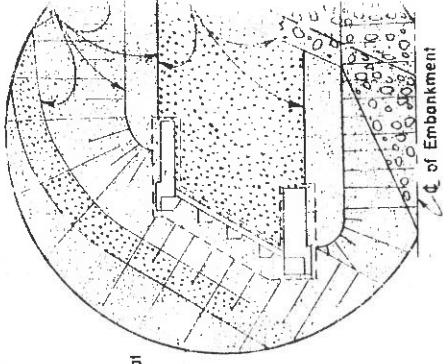
**TYPICAL CROSS SECTION**  
THRU TWIN ABUTMENTS

- LEGEND
- Select Structure Fill - Bridges (Item 203.21)
  - Highway Embankment Material 6" Topsize (Item 203.01 or Item 203.03)
  - Highway Embankment Material (Item 203.01 or Item 203.03)

Prepared and submitted for approval by the Soil Mechanics Bureau  
*Wm. P. Hoffmann, P.E.* 7/25/72  
Wm. P. Hoffmann, Director

REVISED 2/7/75

**DETAIL 'B'**  
STAGE 2  
BACKFILL DETAILS AFTER WAITING PERIOD  
SYMMETRICAL ABOUT  $\phi$  OF EMBANKMENT



STATE OF NEW YORK  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF CONSTRUCTION  
PLACEMENT LIMITS OF ITEM 203.21 FOR ABUTMENTS REQUIRING CONSTRUCTION TO SUBGRADE EXCLUDING ABUTMENT ARE CONSOLIDATE FOUNDATION SOIL ABUTMENT CONSTRUCTION

Approved  
*Wm. P. Hoffmann*  
Deputy Director (Struct)

Note: For General Notes See Drawing B.

Construct Embankment to Footing Elevation Prior to Waiting Period STAGE 1

Backfill with Item 203.21 to Subgrade Abutment Construction (Typical) - STAGE 2  
Backfill with Highway Embankment Material Placed per Note 10 after Construction (Typical)