

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED FEDERAL AID PROJECT  
FAU ROUTE 0174 (GRASS LAKE ROAD)  
AT STA 10.98  
MILLENIUM TRAIL  
BICYCLE PATH UNDERPASS  
SECTION 09-P0075-15-BT  
PROJECT NO. SRTS-CMM-4003(180)  
LINDENHURST PARK DISTRICT  
LAKE COUNTY  
C-91- 241-13

FA RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	1
		ILLINOIS	CONTRACT NO. 63778	

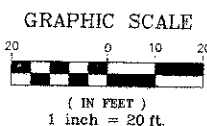
74 + 2 = 76

INDEX OF SHEETS

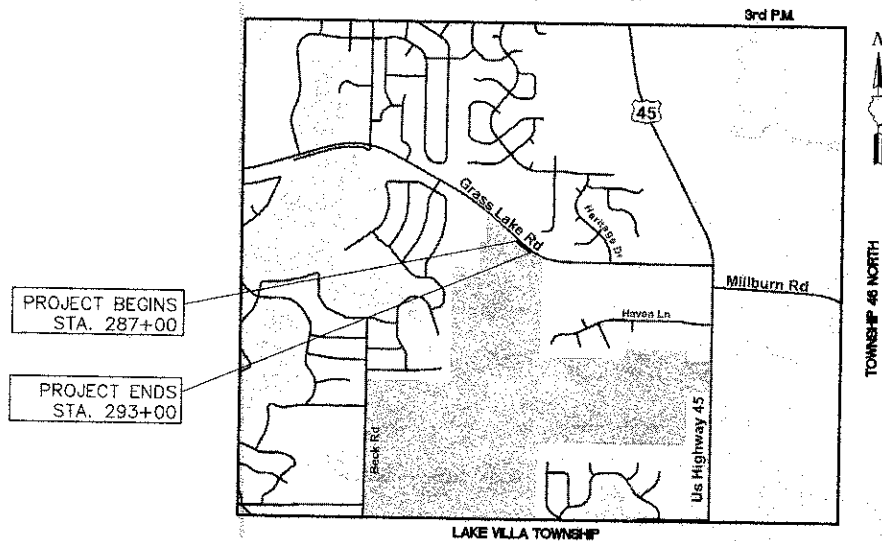
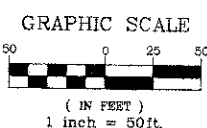
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LOCATION MAP  
(NOT TO SCALE)  
SECTION 09, RANGE 10 EAST



DESCRIPTION OF PROJECT  
THIS IMPROVEMENT CONSISTS OF EARTH EXCAVATION,  
BIKE PATH UNDERPASS STRUCTURE, CONSTRUCTION  
OF STORM SEWERS AND DRAINAGE STRUCTURES,  
AND RECONSTRUCTION OF EXISTING ROADWAY



PROJECT INFORMATION  
GROSS & NET LENGTH OF PROJECT = 600' (0.11 MILES)  
ADT = 9800 VPD (2009)  
POSTED SPEED LIMIT = 45 MPH  
DESIGN SPEED LIMIT = 50 MPH  
FUNCTIONAL CLASSIFICATION = MINOR ARTERIAL

LANDSCAPE DESIGN PLANS PREPARED BY (SHEET 10) :

3D DESIGN STUDIO  
Landscape Architect  
529 N. Barron Blvd  
Graystone, IL 60030  
847-222-4991

SIGNATURE: *[Signature]*  
NAME: DANIEL D. DANZIG  
LICENSE EXPIRES: 2014

CIVILTECH  
Lighting & Structural Engineer  
450 E. Devon Ave., Suite 300  
Nasco, IL 60143  
630-773-3900

SIGNATURE: *[Signature]*  
NAME: GREGORY J. HATLESTAD, S.E.  
LICENSE EXPIRES: 11/30/14

LIGHTING & STRUCTURAL PLANS PREPARED BY (SHEETS 20-38) :

CIVIL PLANS PREPARED BY:

**GHA GEWALT HAMILTON ASSOCIATES, INC.**  
Consulting Engineers  
Branch Office: 800 Lakeside Drive, Suite 5, Gurnee, IL 60031, 847-856-1100, FAX 847-856-1105  
Corporate Headquarters: 860 Forest Edge Drive, Vernon Hills, IL 60061, 847-478-9700, FAX 847-478-0701

SIGNED: *[Signature]* P.E.  
DATE: FEB. 25, 2013  
ILLINOIS LICENSE NO.: 062-051530  
EXPIRATION DATE: NOV. 30, 2013

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

APPROVED *[Signature]* 2013  
LINDENHURST PARK DISTRICT  
*[Signature]*

PASSED *[Signature]* FEBRUARY 28 2013  
DISTRICT ONE ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID  
BASED ON LIMITED  
REVIEW *[Signature]* 2013  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ONE ENGINEER

REVISIONS

NAME	DATE	NAME	DATE
REV.-1	LCDOT PERMIT SUBMITTAL		9-7-12
REV.-2	PRE-FINAL SUBMITTAL		10-19-12
REV.-3	FINAL PS&E SUBMITTAL		12-17-12

PROGRAM & OFFICE ENGINEER: CHARLES F. RIDGLE, P.E. (847)-705-4406 SCHAUMBURG, IL

**JULIE**  
JOINT  
UTILITY  
LOCATION  
INFORMATION FOR  
EXCAVATION  
CALL 811  
**811**  
Know what's below.  
Call before you dig.

EXISTING UTILITIES:  
INFORMATION PRESENTED REGARDING THE LOCATION AND DEPTH OF UTILITY EQUIPMENT (POLES, LINES, WIRES, CABLES, PEDESTALS, TRANSFORMERS, SWITCHGEAR, VALVES, VAULTS, GAS MAIN ETC.) HAS BEEN PROVIDED TO THE ENGINEER BY THE UTILITY COMPANIES.

THE LAKE COUNTY DIVISION OF TRANSPORTATION, AS THE HIGHWAY AUTHORITY OF JURISDICTION, REQUIRES THAT SUCH UTILITY INFORMATION BE DEPICTED ON THIS SET OF ENGINEERING PLANS. THE ENGINEER HAS ENDEAVORED TO ACCURATELY TRANSFER THE INFORMATION PROVIDED BY THE UTILITY COMPANIES ONTO THESE PLANS. UTILITY DEPTH AND LOCATION INFORMATION PROVIDED BY UTILITY COMPANIES SHALL IN NO WAY DIMINISH THE IMPORTANCE OF, NEED FOR, OR MANDATE REGARDING J.U.L.I.E. UTILITY LOCATES.

CONTRACT NO. 63778

**GENERAL NOTES**

- All construction shall be done in accordance with the State of Illinois "Standard Specifications for Road and Bridge Construction" adopted Jan. 1, 2012, the "Supplemental Specifications and Recurring Special Provisions, adopted Jan. 1, 2013, the details in these plans, and the Special Provisions included in the contract documents.
- Where section or subsection monuments are encountered, the Engineer shall be notified before the monuments are removed. The Contractor shall carefully preserve all property marks and monuments until the owner, authorized surveyor or agent has witnessed or otherwise referenced their location.
- The Contractor will be required to relocate or remove and replace signs which interfere with his/her construction operations, and to temporarily reset all such signs during construction operations. This work will be considered as incidental to the contract. All work involving signs shall be governed by the following requirements:
  - Signs shall not be moved until progress of work necessitates it.
  - Every sign removed must be re-erected at a temporary location in a workmanlike manner and be visible to traffic for which it is intended. All such signs must be maintained straight and clean for the duration of the temporary setting.
  - All signs shall be re-erected in permanent locations as the roadway is completed. Horizontal location from the edge of pavement shall be as designated by the engineer.
  - All unused signs will be returned to the Lake County Division of Transportation at 600 W. Winchester Rd. Libertyville, IL.
  - Longer posts may be required at some temporary or permanent sign locations to maintain proper sign elevations.

4. PUBLIC AND PRIVATE UTILITIES: The Contractor will be required to ascertain the exact locations of utilities and exercise care during his/her construction operations so as not to damage them.

5. EARTH EXCAVATION

- The removal of existing bituminous pavement and aggregate base course, unless included in other pay items, shall be considered as EARTH EXCAVATION.
- Excavation required to clean side road ditches, construct driveways or construct side road approaches shall be considered included in the cost of EARTH EXCAVATION.
- All suitable excess material from sewer trenches, side roads, entrances or other necessary excavations shall be used in the construction of the roadway. Placement and compaction of this material shall be considered included in the cost of EARTH EXCAVATION and no additional compensation will be allowed.

6. DRAINAGE

- The cost of connecting existing storm sewers to the proposed drainage system and connecting proposed storm sewer to existing structures shall be considered included in the cost of the "STORM SEWER" of the size required. The necessary pipe used will be paid for at the contract unit price for "STORM SEWER" of the size required.
- All existing drainage facilities, headwalls and fences no longer required, in the opinion of the Engineer, shall be removed. The cost of removal of existing pipe culverts, storm sewers, drainage structures, concrete headwalls, fencing or other obstructions which interfere with the proposed improvements and which are not shown to be removed as a separate pay item shall be considered included in the cost of "MOBILIZATION".

Any of these materials considered suitable for salvage by the Engineer shall be stored within the right-of-way for later removal by the Lake County Division of Transportation. Unusable materials shall be disposed of outside the limits of the right-of-way in accordance with Section 202.03 of the Standard Specifications and as directed by the Engineer. This work will not be paid for separately but shall be considered included in the cost of "MOBILIZATION" and no additional compensation will be allowed. TRENCH BACKFILL and/or PAVEMENT REPLACEMENT and/or AGGREGATE BASE COURSE, TYPE A will be paid for when the work lies under existing pavement areas.

c) During the construction operation when any loose material is deposited in the flow line of ditches, gutters or drainage structures so the natural flow of water is obstructed, the material shall be removed at the close of each working day.

At the conclusion of the construction operations all drainage structures shall be free from all dirt and debris. This work will not be paid for separately but shall be considered included in the cost of "MOBILIZATION".

d) Frame elevations given on the plans are only to assist the Contractor in determining the approximate overall height of the structure. Frames on all new structures will be adjusted to the final elevation of the area in which they are located as part of the structure cost.

e) Unless otherwise noted, locations shown on the plans are to the edge of pavement for structures in the curb and to the center of the structure for all other structures. Flat tops and cones are to be turned so that the frame is closest to the center line of the road, unless otherwise noted on the structure in the plans. All flat tops and cones are assumed to be eccentric. Offsets shown to precast concrete flared end sections are to the outside end of the end section.

f) Bituminous or concrete pavement crossings shall not be left in gravel overnight. This will include the main road, side streets, private entrances, commercial entrances and parking areas. Temporary bituminous patching at the Contractor's expense may be used in lieu of immediate pavement replacement.

g) At locations where the proposed storm sewer crosses over utilities, a 4" Styrofoam cushion shall be placed under the storm sewer when directed to do so by the Engineer. This work shall be considered incidental to the contract.

7. DRIVEWAYS OR ENTRANCES

- Existing bituminous, concrete, and gravel driveways and entrances shall be surfaced to 1 foot inside the right-of-way with bituminous concrete surface course as scheduled in the plans.
- The Contractor shall construct all commercial and private driveways in accordance with the plans and/or as directed by the Engineer.

8. All elevations shown on these plans are on NAVD 1983 datum.

9. The Contractor's attention is called to the fact that some quantities are given in both summary form and on the plan sheets. Care should be taken to avoid duplication of quantities.

10. The Contractor is required to temporarily reset mailboxes that interfere with construction in accordance with Article 107.20 of the Standard Specifications.

**EROSION CONTROL NOTES & CONSTRUCTION SEQUENCING**

THIS PROJECT DISTURBS 3.40 ACRES OF TOTAL LAND AREA. COMPLIANCE WITH THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER PERMIT IS ONLY NECESSARY IF A PROJECT DISTURBS 1 OR MORE ACRES OF TOTAL LAND AREA; AN NPDES PERMIT WILL BE REQUIRED FOR THIS PROJECT.

1. THIS PLAN IS EXPRESSLY MADE A PORTION OF THE CONTRACT FOR ALL CONTRACTORS AND SUBCONTRACTORS WHO ARE SUBJECT TO THE PROVISIONS OF THE PLAN.

2. THE PURPOSE OF THIS PLAN IS TO MINIMIZE AND TO CONTROL THE SOIL EROSION AND RESULTANT SEDIMENTATION, WHICH ARE RELATED TO THE DEVELOPMENT OF THE SITE. ALTHOUGH MOST OF THE MEASURES ARE TEMPORARY IN NATURE, THEY ALL TARGET THE LONG-RANGE CONTROL OF EROSION AND SEDIMENTATION IN DOWNSTREAM AREAS. THE SPECIFIC COMPONENTS OF THIS PLAN ARE DIRECTED TOWARD ALL AREA IMPROVEMENTS. ALL AREAS USED BY THE CONTRACTOR'S OPERATIONS ARE SUBJECT TO THE PROVISIONS OF THIS PLAN. THIS INCLUDES BOTH ACTIVE CUT/FILL ZONES AS WELL AS STOCK PILES AND STAGING AREAS.

3. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION CONTROL DEVICES.

4. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. DISCHARGE LOCATIONS SHALL BE INSPECTED TO ASCERTAIN WHETHER SOIL CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING. ROADS WILL BE KEPT FREE OF STONE, MUD, SILT, ETC. AT ALL TIMES.

5. TO MINIMIZE THE EXTENT OF SOIL EXPOSED AT ANY GIVEN TIME, THE CONSTRUCTION ACTIVITIES WILL BE PHASED IN THE FOLLOWING MANNER.

A. PRIOR TO ANY EXCAVATION ON-SITE, TOED & REINFORCED SILT FENCE WILL BE INSTALLED AROUND THE PERIMETER OF THE AREAS TO BE DISTURBED WHERE SHOWN ON THIS PLAN. SILT FENCING MUST MEET OR EXCEED THE REQUIREMENTS OF AASHTO M 288-00.

B. UPON COMPLETION OF GRADING OPERATIONS, ALL DISTURBED AREAS WILL BE SPREAD WITH TOPSOIL AND SEEDED IMMEDIATELY. EROSION CONTROL BLANKET WILL BE UTILIZED ON ALL DISTURBED AREAS OVER SEED IMMEDIATELY TO STABILIZE THE SOIL AND PROMOTE THE CATCHMENT OF GRASS.

6. PUMPS MAY BE USED AS BYPASS DEVICES, BUT IN NO CASE WILL THE WATER BE DIVERTED OUTSIDE THE PROJECT LIMIT.

7. DURING PERIODS OF EXTENDED DRY WEATHER, THE CONTRACTOR SHALL KEEP A WATER TRUCK ON-SITE FOR THE PURPOSE OF WATERING DOWN SOIL WHICH MAY OTHERWISE BECOME AIRBORNE.

8. ALL WORK SHALL BE PERFORMED UNDER DRY CONDITIONS (I.E., NO FLOWING WATER) WHENEVER POSSIBLE.

9. MATERIAL RESULTING FROM TRENCH EXCAVATION MAY NOT BE SIDE CAST INTO WETLANDS OR WATERWAYS.

10. IN WETLAND AREAS, THE TRENCH SHALL BE BACKFILLED WITH TOPSOIL EXCAVATED FROM THE TRENCH IN THE SAME STRATIFICATION IN WHICH IT WAS REMOVED. GRAVEL BEDDING CANNOT BE USED AS BACKFILL MATERIAL IN THE TRENCH IN WETLAND AREAS.

**HIGHWAY STANDARD LIST**

- LAKE COUNTY HIGHWAY STANDARDS  
 LC0020 TRENCH WIDTHS FOR TRENCH BACKFILL & PAVEMENT REPLACEMENT, BITUMINOUS  
 LC2051 PERIMETER EROSION BARRIER INSTALLATION  
 LC4202 CONCRETE WASHOUT FACILITIES  
 LC6020 SUBSURFACE DRAINS  
 LC6600 ORNAMENTAL FENCE- CLASSIC TWO RAIL  
 LC7000 MODIFIED STANDARD 701011-02  
 LC7200 DIRECTION INDICATOR BARRICADES  
 LC7201 TEMPORARY CONSTRUCTION INFORMATION SIGNS  
 LC7202 MODIFIED MUTCD TYPICAL APPLICATION DIAGRAM TA-3  
 LC7800 TYPICAL PAVEMENT MARKING FOR COUNTY HIGHWAYS  
 LC7802 SHORT TERM PAVEMENT MARKINGS

- IDOT DISTRICT ONE DETAILS  
 BE-805 TEMPORARY LIGHTING AND TRAFFIC SIGNALS FOR SINGLE LANE STAGING  
 TC-11 TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)  
 TC-18 SIGNING FOR FLAGGER OPERATIONS AT WORK ZONE OPENINGS  
 TC-22 ARTERIAL ROAD INFORMATION SIGN

- IDOT HIGHWAY STANDARDS  
 000001-06 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS  
 001001-02 AREAS OF REINFORCEMENT BARS  
 280001-07 TEMPORARY EROSION CONTROL SYSTEMS (NOTE: STRAW BALES NOT PERMITTED)  
 542301-03 PRECAST REINFORCED CONCRETE FLARED END SECTION  
 542311-04 TRAVERSIBLE PIPE GRATE  
 542546-05 FLUSH INLET BOX MEDIAN  
 602011-02 CATCH BASIN - TYPE C  
 602401-03 MANHOLE - TYPE A  
 604036-02 GRATE - TYPE 8  
 701006-04 OFF ROAD OPERATIONS 2L, 2W, 15' (4.5M) TO 24" (600 MM) FROM PAVEMENT EDGE  
 701201-04 LANE CLOSURE, 2L, 2W - DAY ONLY  
 701301-04 LANE CLOSURE, 2L, 2W - SHORT TIME OPERATIONS  
 701306-03 LANE CLOSURE, 2L, 2W - SLOW MOVE OPERATIONS, DAY ONLY 45 MPH  
 701321-13 LANE CLOSURE, 2L, 2W - BRIDGE REPAIR & BARRIER  
 701326-04 LANE CLOSURE, 2L, 2W - PAVEMENT WIDENING 45 MPH+  
 701901-02 TRAFFIC CONTROL DEVICES  
 704001-07 TEMPORARY CONCRETE BARRIER

**POINTS OF CONTACT**

LAKE COUNTY FOREST PRESERVE DISTRICT  
 ATTN: RANDY SEEBACH  
 1899 W. WINCHESTER RD.  
 LIBERTYVILLE, IL 60046  
 (847)-968-3262

LINDENHURST PARK DISTRICT  
 ATTN: TOM LIPPERT  
 2200 E. GRASS LAKE ROAD  
 LINDENHURST, IL 60046  
 (847)-356-6011

VILLAGE OF LINDENHURST  
 ATTN: WESLEY WELSH  
 2301 SAND LAKE RD.  
 LINDENHURST, IL 60046  
 (847)-356-8252

LAKE COUNTY DIVISION OF TRANSPORTATION  
 ATTN: BETSY DUCKERT  
 600 W. WINCHESTER RD.  
 LIBERTYVILLE, IL 60046  
 (847)-377-7400

AT&T/DISTRIBUTION  
 ATTN: PAM SUMMERS  
 65 W. WEBSTER ST.  
 JOLIET, IL 60432  
 (630)-573-6460

COMMONWEALTH EDISON  
 ATTN: TERRI BLECK  
 1500 FRANKLIN BOULEVARD  
 LIBERTYVILLE, IL 60048  
 (847)-816-5254

COMCAST  
 ATTN: MARTHA GERAS  
 688 INDUSTRIAL DR.  
 ELMHURST, IL 60126  
 (630)-600-6352

NORTH SHORE GAS  
 ATTN: JAY HAMMER  
 3001 GRAND AVE.  
 WAUKEGAN, IL 60085  
 (847)-263-4678

WEST SHORE PIPELINE  
 ATTN: BILL O'MALLEY  
 (847)-878-3428

GEOTECHNICAL SOILS REPORTS AND OTHER ADVANCED PLANNING DOCUMENTS WERE PREPARED FOR THIS PROJECT AND ARE AVAILABLE FOR BIDDERS' REVIEW BY CONTACTING THE LEAD LOCAL AGENCY AT TELEPHONE NUMBER (847)-356-6011.

LAKE COUNTY DOT- ACCESS PERMIT GENERAL NOTES

The construction, including materials used, of this utility and facility shall be in accordance with the applicable portions of the most recent editions of the "Standard Specifications for Road and Bridge Construction", "Illinois Manual on Uniform Traffic Control Devices for Streets and Highways", and "Standard Specifications for Traffic Control Items"; including all amendments and successor documents to the aforementioned documents as published or adopted by the Illinois Department of Transportation unless otherwise stated in these engineering plans.

The construction of this access facility shall also be in accordance with the "Lake County Highway Utility and Facility Placement Ordinance," latest edition.

The permittee shall be responsible for any additional work, and all costs thereof, required because of errors or omissions in these engineering plans and for the correction of any construction, maintenance, or safety problems, which become apparent during construction or by inspections made by the person in charge.

The person in charge shall note any changes from these engineering plans and shall notify the Permit Department of the Lake County Division of Transportation about any changes that deviate from the intent of the engineering plans such as changes in drainage, geometric plan, or grading work.

FILE NAME = 4536.705-D11.dwg	USER NAME = DAN STRAHAN	DESIGNED = DJS	REVISED = 9-7-12	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GENERAL NOTES</b>		FAU. RITE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 1:1	CHECKED = TPQ	REVISED = 10-19-12		<b>GRASS LAKE ROAD BIKE PATH UNDERPASS</b>		0174	09-P0075-15-BT	LAKE	74	2
PLOT DATE = 5/29/2012	DATE = 5-29-12	REVISED = 12-17-12	REVISED =	SCALE: N.T.S.		SHEET NO. 1 OF 1 SHEETS		STA. NA TO STA. NA		ILLINOIS FED. AID PROJECT	
								CONTRACT # 63778			

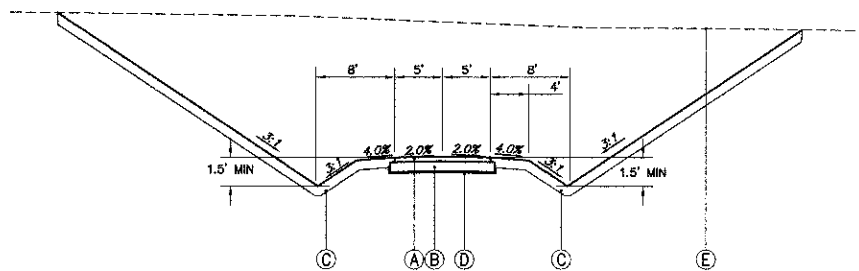
**SUMMARY OF QUANTITIES**

CODE NO.		ITEM	UNIT	TOTAL QUANTITY	0028
20100110	*	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	166	166
20100210	*	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	17	17
20101000		TEMPORARY FENCE	FOOT	330	330
20101200		TREE ROOT PRUNING	EACH	10	10
20200100	*	EARTH EXCAVATION	CU YD	22,457	22,457
20201200		REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	CU YD	1,000	1,000
20400800	*	FURNISHED EXCAVATION	CU YD	1,624	1,624
20800150	*	TRENCH BACKFILL	CU YD	110	110
21001000		GEOTECHNICAL FABRIC FOR GROUND STABILIZATION	SQ YD	1,100	1,100
21101615	^ *	TOPSOIL FURNISH AND PLACE, 4"	SQ YD	18,000	18,000
21400100		GRADING AND SHAPING DITCHES	FOOT	1,650	1,650
25000400	^	NITROGEN FERTILIZER NUTRIENT	POUND	335	335
25000600	^	POTASSIUM FERTILIZER NUTRIENT	POUND	335	335
25100630	*	EROSION CONTROL BLANKET	SQ YD	18,000	18,000
28000250	^	TEMPORARY EROSION CONTROL SEEDING	POUND	550	550
28000305	*	TEMPORARY DITCH CHECKS	FOOT	150	150
28000400	*	PERIMETER EROSION BARRIER	FOOT	2,370	2,370
28000510		INLET FILTERS	EACH	8	8
28100105		STONE RIPRAP, CLASS A3	SQ YD	10	10
28200200		FILTER FABRIC	SQ YD	10	10
30300112		AGGREGATE SUBGRADE IMPROVEMENT, 12"	SQ YD	165	165
35100500		AGGREGATE BASE COURSE, TYPE A 6"	SQ YD	1,100	1,100
35101700		AGGREGATE BASE COURSE, TYPE B 5"	SQ YD	455	455
40200800		AGGREGATE SURFACE COURSE, TYPE B	TON	65	65
40201000	*	AGGREGATE FOR TEMPORARY ACCESS	TON	200	200
40600100		BITUMINOUS MATERIALS (PRIME COAT)	GALLON	300	300
40603080		HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	95	95
40603335		HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50	TON	235	235
44000100		PAVEMENT REMOVAL	SQ YD	265	265
48101200	*	AGGREGATE SHOULDERS, TYPE B	TON	65	65
50200100		STRUCTURE EXCAVATION	CU YD	7,010	7,010

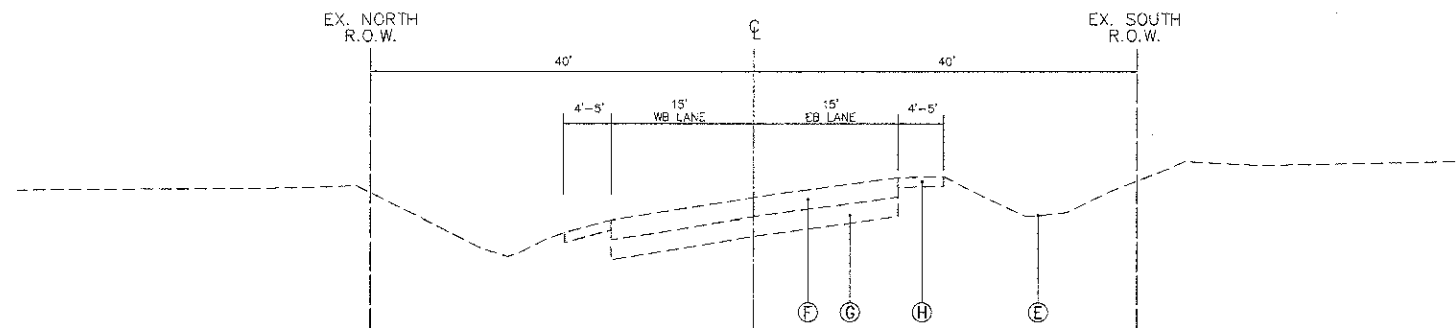
\* DENOTES SPECIAL PROVISION  
 ^ DENOTES SPECIALTY ITEM  
 ^^ DENOTES CONSTRUCTION TYPE CODE 0042

CODE NO.		ITEM	UNIT	TOTAL QUANTITY	0028
50300225		CONCRETE STRUCTURES	CU YD	699	699
50300254		RUBBED FINISH	SQ FT	4,707	4,707
50800205		REINFORCEMENT BARS, EPOXY COATED	POUND	95,770	95,770
50800515		BAR SPLICERS	EACH	116	116
51500100		NAME PLATES	EACH	1	1
54213660		PRECAST REINFORCED CONCRETE FLARED END SECTIONS 15"	EACH	1	1
54213663		PRECAST REINFORCED CONCRETE FLARED END SECTIONS 18"	EACH	1	1
54213675		PRECAST REINFORCED CONCRETE FLARED END SECTIONS 30"	EACH	1	1
54213870		STEEL END SECTIONS 15"	EACH	2	2
5422A015		PIPE CULVERTS, CLASS A, TYPE 2 15" (TEMPORARY)	FOOT	78	78
54244405		FLUSH INLET BOX FOR MEDIAN, STANDARD 542546	EACH	5	5
550A0050		STORM SEWERS, CLASS A, TYPE 1 12"	FOOT	90	90
550A0070		STORM SEWERS, CLASS A, TYPE 1 15"	FOOT	24	24
550A0360		STORM SEWERS, CLASS A, TYPE 2 15"	FOOT	171	171
550A0380		STORM SEWERS, CLASS A, TYPE 2 18"	FOOT	24	24
550A0410		STORM SEWERS, CLASS A, TYPE 2 24"	FOOT	93	93
550A0430		STORM SEWERS, CLASS A, TYPE 2 30"	FOOT	389	389
58000100		MEMBRANE WATERPROOFING	SQ FT	300	300
59100100		GEOCOMPOSITE WALL DRAIN	SQ YD	573	573
60207605		CATCH BASINS, TYPE C, TYPE 8 GRATE	EACH	1	1
60218400		MANHOLES, TYPE A, 4'-DIAMETER, TYPE 1 FRAME, CLOSED LID	EACH	1	1
60235300		INLETS, TYPE A, TYPE 1 FRAME, CLOSED LID	EACH	1	1
66900200	^	NON-SPECIAL WASTE DISPOSAL	CU YD	200	200
66900530	^ *	SOIL DISPOSAL ANALYSIS	EACH	4	4
67100100		MOBILIZATION	L SUM	1	1
70106800		CHANGEABLE MESSAGE SIGN	CAL MO	8	8
70301000		WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	816	816
70400100		TEMPORARY CONCRETE BARRIER	FOOT	250	250
70400200		RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	250	250
70600240		IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 2	EACH	2	2
70600340		IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 2	EACH	2	2
78000200	^	THERMOPLASTIC PAVEMENT MARKINGS - LINE 4"	FOOT	200	200

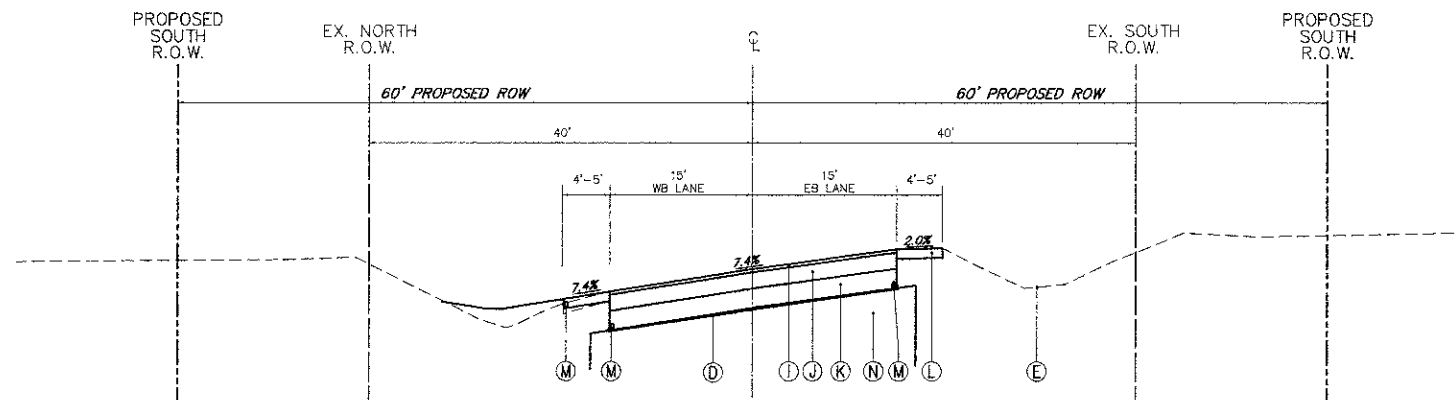




**PROPOSED TYPICAL SECTION- BIKE PATH**  
**STA. 10+00 TO STA. 18+50**  
 (SHOWN AT STA. 11+00)



**GRASS LAKE ROAD - EXISTING TYPICAL SECTION**  
**STA. 289+61 TO STA. 290+39**  
 (SHOWN AT STA. 290+00)



**GRASS LAKE ROAD - PROPOSED TYPICAL SECTION**  
**STA. 289+61 TO STA. 290+39**  
 (SHOWN AT STA. 290+00)

**LEGEND:**

- (A) PROPOSED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50, 3"
- (B) PROPOSED AGGREGATE BASE COURSE, TYPE A, 6"
- (C) PROPOSED TOPSOIL, FURNISH AND PLACE, 4"
- (D) PROPOSED GEOTECHNICAL FABRIC FOR GROUND STABILIZATION
- (E) EXISTING GROUND LINE
- (F) EXISTING HOT-MIX ASPHALT PAVEMENT SECTION
- (G) EXISTING AGGREGATE BASE COURSE, 12"
- (H) EXISTING AGGREGATE SHOULDER, 6"
- (I) PROPOSED HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50, 2"
- (J) PROPOSED HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50, 10"
- (K) PROPOSED AGGREGATE SUBGRADE IMPROVEMENT, 12"
- (L) PROPOSED AGGREGATE SHOULDERS, TYPE B, 6"
- (M) PROPOSED PIPE UNDERDRAIN, 4" PVC
- (N) PROPOSED POROUS GRANULAR EMBANKMENT, SPECIAL

NOTE: PROPOSED ROADWAY CROSS SECTION SHALL MATCH GRADES AND SLOPES FOR EXISTING SUPERELEVATED PAVEMENT SECTION.

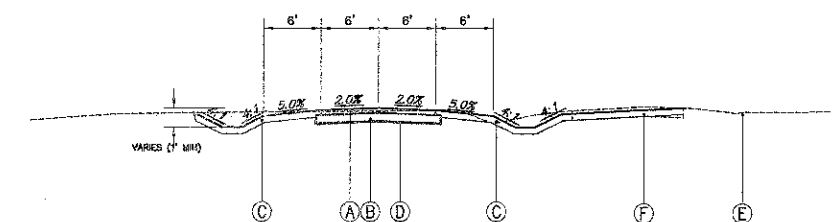
SEE STRUCTURAL PLANS FOR UNDERPASS DETAILS

HOT-MIX ASPHALT MIXTURE REQUIREMENTS	
MIXTURE TYPE	AIR VOIDS
<b>FULL DEPTH PAVEMENT</b>	
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50, 2"	4% @ 50 GYR.
HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50, 10" (4 LIFTS)	4% @ 50 GYR.
<b>BIKE PATH</b>	
HOT-MIX ASPHALT SURFACE COURSE, MIX "D", N50, 3"	4% @ 50 GYR.
<b>TEMPORARY PAVEMENT</b>	
TEMPORARY PAVEMENT (HMA BINDER IL-19.0, N50, 8" (3 LIFTS))	4% @ 50 GYR.

THE UNIT WEIGHT USED TO CALCULATE ALL HOT-MIX ASPHALT SURFACE MIXTURES IS 112 LBS/SQYD/IN.

**AGGREGATE TRAIL LEGEND:**

- (A) PROPOSED AGGREGATE SURFACE COURSE, FA-21, 3"
- (B) PROPOSED AGGREGATE BASE COURSE, CA-6, 5"
- (C) PROPOSED TOPSOIL, FURNISH AND PLACE, 4"
- (D) PROPOSED GEOTECHNICAL FABRIC FOR GROUND STABILIZATION
- (E) EXISTING GROUND LINE
- (F) EXISTING AGGREGATE TRAIL (TO BE REMOVED)



**PROPOSED TYPICAL SECTION- EXISTING TRAIL RELOCATION**  
**STA. 200+40 TO STA. 203+95**  
 (SHOWN AT STA. 202+00)

**SCHEDULE OF QUANTITIES**

SCHEDULE OF EARTH QUANTITIES				
	20200100 EARTH EXCAVATION (CU YD)	20400800 FURNISHED EXCAVATION (CU YD)	50200100 STRUCTURE EXCAVATION (CU YD)	X2070304 POROUS GRANULAR EMBANKMENT (CU YD)
SUBTOTAL BIKE PATH	20386	388	2521	0
SUBTOTAL BIKE PATH- EAST LEG	1703	0	0	0
SUBTOTAL GRASS LAKE ROAD STAGE 1	73	523	2416	1090
SUBTOTAL GRASS LAKE ROAD STAGE 2	3	696	2073	0
SUBTOTAL TRAIL RELOCATION	292	17	0	0
PROJECT SUBTOTAL (CU YD)	22457	1624	7010	1090
REMOVAL & DISPOSAL OF UNSUITABLE MATERIALS (ALLOWANCE):			1000	

\*NOTE- STRUCTURE EXCAVATION NOT INCLUDED IN EARTH EXCAVATION QUANTITY  
 \*\*NOTE- STRUCTURE EXCAVATION FOR BIKE PATH INCLUDES 1,576 CY FOR WALL A AND 945 CY FOR WALL B.

SCHEDULE OF AGGREGATE QUANTITIES						
CODE NO.	ITEM	UNIT	GRASS LAKE RD	PROPOSED BIKE PATH	TRAIL RELOCATION	Total
30300112	AGGREGATE SUBGRADE IMPROVEMENT, 12"	SQ YD	165			165.0
35100500	AGGREGATE BASE COURSE, TYPE A 6"	SQ YD		1100		1100.0
35101700	AGGREGATE BASE COURSE, TYPE B 5"	SQ YD			455	455.0
40201000	AGGREGATE FOR TEMPORARY ACCESS	TON	200			200.0
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON			65	65.0
48100100	AGGREGATE SHOULDERS, TYPE B	TON	65			65.0

SCHEDULE OF HMA QUANTITIES						
CODE NO.	ITEM	UNIT	GRASS LAKE RD STAGE ONE	GRASS LAKE RD STAGE TWO	PROPOSED BIKE PATH	Total
40603080	HOT-MIX ASPHALT BINDER COURSE, IL-19.0, N50	TON	47.5	47.5		95.0
40603335	HOT-MIX ASPHALT SURFACE COURSE, MIX 'D', N50	TON	22.5	22.5	190	235.0
Z0062456	TEMPORARY PAVEMENT	SQ YD	425			425.0

SCHEDULE OF DRAINAGE STRUCTURES										
STRUCTURE #	STATION	OFFSET	54213660 PRECAST REINFORCED FLARED END SECTIONS 15" (EACH)	54213663 PRECAST REINFORCED FLARED END SECTIONS 18" (EACH)	5421375 PRECAST REINFORCED FLARED END SECTIONS 30" (EACH)	54213870 STEEL END SECTIONS 15" (EACH)	FLUSH INLET BOX FOR MEDIAN STANDARD 542546 (EACH)	CATCH BASINS, TYPE C, TYPE B GRATE (EACH)	MANHOLES, TYPE A, 4' DIA., TYPE 1 FR & CL (EACH)	INLETS, TYPE A, TYPE 1 FRAME, CLOSED LID (EACH)
1	15+83	13.2'L					1			
2	15+83	13.2'R					1			
3	15+68	5.0'R								1
4	14+00	13.2'R					1			
5	14+00	13.2'L					1			
6	13+05	13.2'L					1			
7	13+00	13.6'L		1						
8	11+45	13.2'L							1	
9	11+60	33.4'R						1		
10	10+21	140.0'R			1					
11	286+07	31.1'L				1				
12	286+42	31.5'L				1				
13	292+78	40.3'R	1							
PROJECT TOTAL:			1	1	1	2	5	1	1	1

SCHEDULE OF STORM SEWERS & CULVERTS							
PIPE #	5422A015 PIPE CULVERTS, CLASS A, TYPE 2 15" (TEMPORARY) (FOOT)	550A0050 STORM SEWERS, CLASS A, TYPE 1 12" (FOOT)	550A0070 STORM SEWERS, CLASS A, TYPE 1 15" (FOOT)	550A0360 STORM SEWERS, CLASS A, TYPE 2 15" (FOOT)	550A0380 STORM SEWERS, CLASS A, TYPE 2 18" (FOOT)	550A0410 STORM SEWERS, CLASS A, TYPE 2 24" (FOOT)	550A0430 STORM SEWERS, CLASS A, TYPE 2 30" (FOOT)
1		25					
2		17					
3				171			
4			24				
5						93	
6					24		
7							157
8		48					
9							232
10	36						
11	42						
PROJECT TOTAL:	78	90	24	171	24	93	389

SCHEDULE OF STRUCTURAL QUANTITIES						
CODE NO.	ITEM	UNIT	Underpass	Wall A	Wall B	Total
50300225	CONCRETE STRUCTURES	CU YD	698.5	-	-	698.5
50300254	RUBBED FINISH	SQ FT	4707	-	-	4707
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	95770	-	-	95770
50800515	BAR SPLICERS	EACH	116	-	-	116
51500100	NAME PLATES	EACH	1	-	-	1
58000100	MEMBRANE WATERPROOFING	SQ FT	300	-	-	300
59100100	GEOCOMPOSITE WALL DRAIN	SQ YD	573	-	-	573
XX005713	ORNAMENTAL RAILING	FOOT	173	-	-	173
XX007023	STAINING CONCRETE STRUCTURES	SQ YD	341	-	-	341
XX008003	FORM LINER TEXTURED SURFACE, SPECIAL	SQ FT	3063	-	-	3063
Z0013302	SEGMENTAL CONCRETE BLOCK WALL	SQ FT	-	2667	2003	4670
Z0026407	TEMPORARY SHEET PILING	SQ FT	3116	-	-	3116
Z0046304	PIPE UNDERDRAINS FOR STRUCTURES, 4"	FOOT	761	317	245	1323

**CONTROL POINT NO. 3**  
N. 2098719.56 - E. 1070337.65

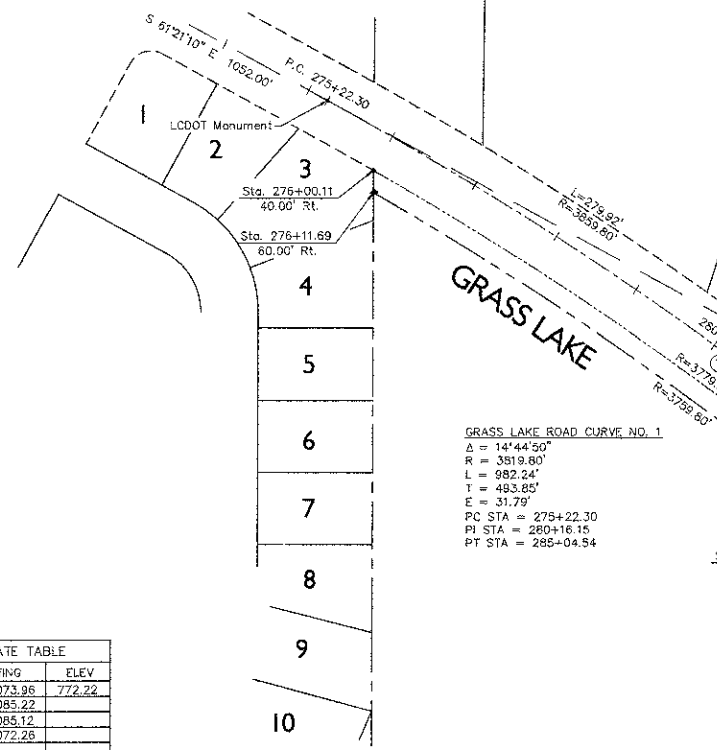
**CONTROL POINT NO. 2**  
N. 2098580.54 - E. 1070090.69

**CONTROL POINT NO. 4**  
N. 2098102.39 - E. 1070501.32

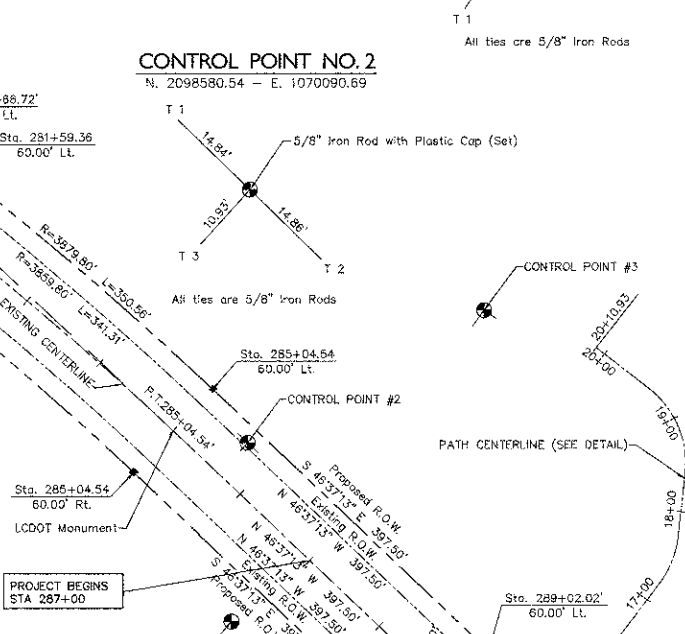
**CONTROL POINT NO. 1**  
N. 2098394.43 - E. 1070073.96

**CONTROL POINT NO. 5**  
N. 2097962.24 - E. 1070538.92

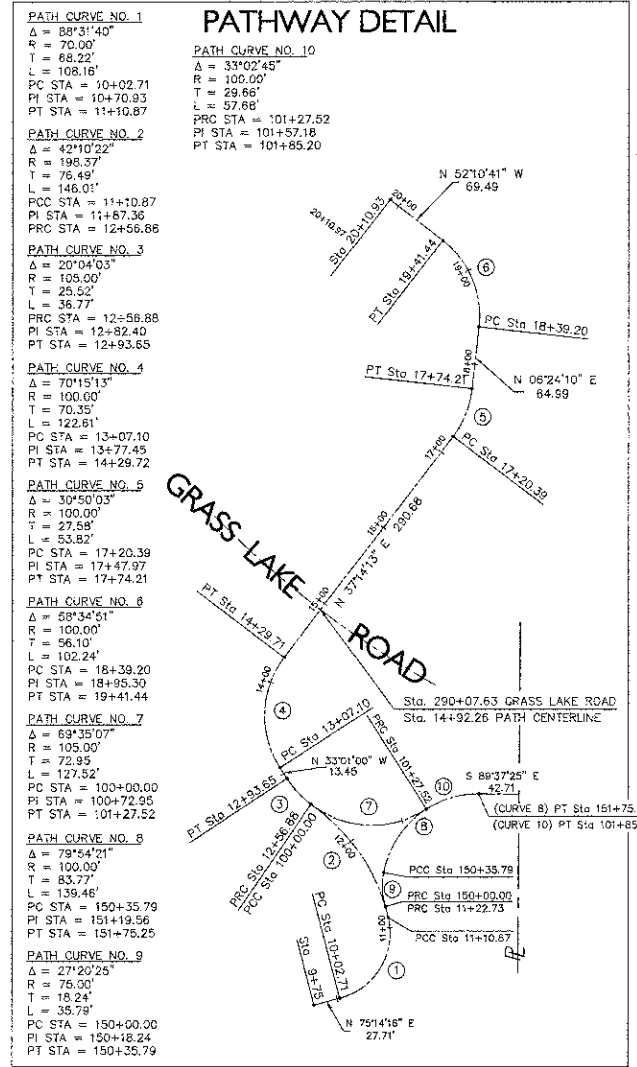
**CONTROL POINT NO. 6**  
N. 2098016.75 - E. 1070308.89



**GRASS LAKE ROAD CURVE NO. 1**  
Δ = 14°44'50"  
R = 3819.60'  
L = 982.24'  
T = 483.85'  
E = 31.79'  
PC STA = 275+22.30  
PI STA = 280+16.15  
PT STA = 285+04.54



**GRASS LAKE ROAD CURVE NO. 2**  
Δ = 42°57'58"  
R = 1305.60'  
L = 754.10'  
T = 395.77'  
E = 75.08'  
PC STA = 289+02.02  
PI STA = 292+97.79  
PT STA = 296+56.12



**PATHWAY DETAIL**

**PATH CURVE NO. 1**  
Δ = 80°31'40"  
R = 70.00'  
L = 68.22'  
PC STA = 10+02.71  
PI STA = 10+70.93  
PT STA = 11+10.87

**PATH CURVE NO. 2**  
Δ = 42°10'22"  
R = 198.37'  
L = 146.01'  
PC STA = 11+10.87  
PI STA = 11+67.36  
PT STA = 12+56.66

**PATH CURVE NO. 3**  
Δ = 20°04'03"  
R = 109.00'  
L = 25.52'  
PC STA = 12+56.66  
PI STA = 12+82.40  
PT STA = 12+93.65

**PATH CURVE NO. 4**  
Δ = 70°15'13"  
R = 100.00'  
L = 70.35'  
L = 122.81'  
PC STA = 13+07.10  
PI STA = 13+77.45  
PT STA = 14+29.72

**PATH CURVE NO. 5**  
Δ = 30°50'03"  
R = 100.00'  
L = 27.58'  
L = 53.82'  
PC STA = 17+20.39  
PI STA = 17+47.97  
PT STA = 17+74.21

**PATH CURVE NO. 6**  
Δ = 50°35'51"  
R = 100.00'  
L = 56.10'  
L = 102.24'  
PC STA = 18+39.20  
PI STA = 18+95.39  
PT STA = 19+41.44

**PATH CURVE NO. 7**  
Δ = 69°35'07"  
R = 105.00'  
L = 72.95'  
L = 127.52'  
PC STA = 103+00.00  
PI STA = 104+72.95  
PT STA = 101+27.52

**PATH CURVE NO. 8**  
Δ = 78°54'21"  
R = 100.00'  
L = 83.77'  
L = 139.46'  
PC STA = 150+35.79  
PI STA = 151+19.56  
PT STA = 151+75.25

**PATH CURVE NO. 9**  
Δ = 27°20'25"  
R = 75.00'  
L = 18.24'  
L = 35.79'  
PC STA = 150+00.00  
PI STA = 150+18.24  
PT STA = 150+35.79

**CONTROL POINT COORDINATE TABLE**

DISC	NORTHING	EASTING	ELEV
CP NO. 1	2098394.43	1070073.96	772.22
T1	2098411.05	1070085.22	
T2	2098387.83	1070085.12	
T3	2098374.46	1070072.26	
CP NO. 2	2098580.54	1070090.69	773.78
T1	2098590.83	1070079.99	
T2	2098570.18	1070101.33	
T3	2098372.46	1070083.35	
CP NO. 3	2098719.56	1070337.65	785.01
T1	2098702.77	1070325.64	
T2	2098710.96	1070349.83	
T3	2098735.95	1070349.36	
CP NO. 4	2098102.39	1070501.32	789.79
T1	2098105.23	1070591.87	
T2	2098095.75	1070595.68	
T3	2098093.47	1070606.64	
CP NO. 5	2097962.24	1070538.92	780.89
T1	2097953.81	1070541.39	
T2	2097970.02	1070540.41	
T3	2097961.16	1070542.24	
CP NO. 6	2098016.75	1070308.89	786.09
T1	2098007.71	1070314.07	
T2	2098025.96	1070303.99	
T3	2098023.27	1070322.39	

**GRASS LAKE RD CENTERLINE COORDINATE TABLE**

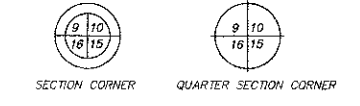
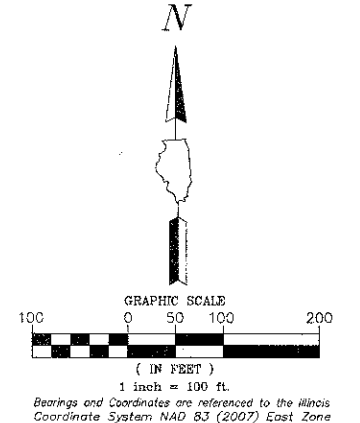
DISC.	STATION	NORTHING	EASTING
PC	275+22.30	2098168.97	1069220.81
PI	280+16.15	2098832.22	1069663.90
PT	285+14.54	2098859.02	1070012.83
PC	289+02.02	2098320.04	1070301.71
INTER	280+37.53	2098251.66	1070382.13
PI	292+97.79	2098048.21	1070569.37
PT	296+56.12	2098043.35	1070985.13

**PATHWAY CENTERLINE COORDINATE TABLE**

STATION	DISC	NORTHING	EASTING
9+75	BOA	2097840.33	1070375.96
10+02.71	PC	2097847.39	1070402.75
11+10.87	PCC	2097931.17	1070453.04
12+56.68	PRC	2098048.97	1070372.45
12+93.65	PT	2098075.71	1070347.47
13+07.10	PC	2098086.39	1070340.14
14+29.72	PT	2098201.99	1070344.38
1/4 INTERSECTION		2098251.65	1070382.13
17+20.39	PC	2098433.41	1070520.27
17+74.21	PT	2098492.77	1070540.03
18+39.20	PC	2098547.35	1070547.28
19+41.44	PT	2098637.49	1070509.22
20+10.93	EOA	2098680.10	1070454.33

**ROW COORDINATE TABLE**

STATION	OFFSET	NORTHING	EASTING
278+00.11	40.00 RL	2099096.27	1069268.52
276+11.89	60.00 RL	2099073.24	1069268.45
281+59.36	60.00 Lt.	2098865.61	1069788.70
281+66.72	40.00 Lt.	2098645.29	1069782.17
282+19.14	60.00 RL	2098726.45	1069786.77
285+04.54	60.00 Lt.	2098636.66	1070054.01
285+04.54	60.00 RL	2098549.45	1069971.59
289+02.02	60.00 Lt.	2098363.65	1070342.92
289+02.02	60.00 RL	2098276.43	1070363.59
292+21.56	60.00 Lt.	2098195.01	1070593.42
292+31.45	40.00 Lt.	2098173.04	1070590.28
292+65.83	40.00 RL	2098085.98	1070583.71
292+73.56	60.00 RL	2098064.40	1070589.57

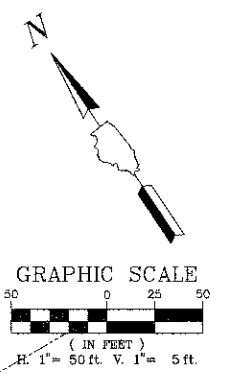


- SECTION LINE
- QUARTER SECTION LINE
- QUARTER SECTION LINE
- PLATTED LOT LINE
- PROPERTY (DEED) LINE
- CENTERLINE
- EXISTING RIGHT OF WAY LINE
- AC --- EXISTING ACCESS CONTROL LINE
- AG --- PROPOSED ACCESS CONTROL LINE
- PROPOSED RIGHT OF WAY LINE
- MEASURED DIMENSION
- RECORD DATA
- COMPUTED DIMENSION

- IRON PIPE OR ROD FOUND
  - SET 5/8" X 30" REBAR
  - + CUT CROSS FOUND OR SET
  - PK FOUND PK NAIL
  - PK SET PK NAIL
- T1 = THESE STAKES REFERENCE FOUND OR SET MONUMENTATION  
T2 SET 5/8 INCH REBAR FLUSH WITH GROUND TO THE FOUND IRON STAKE IDENTIFIED BY COLORED PLASTIC CAP BEARING SURVEYORS PROFESSIONAL NUMBER  
T3 THESE STAKES IN CULTIVATED AREAS, REFERENCE FOUND OR SET MONUMENTATION BURIED 5/8 INCH REBAR 20 INCHES BELOW GROUND TO THE FOUND IRON STAKE IDENTIFIED BY INSCRIPTION BY COLORED PLASTIC CAP BEARING THE SURVEYORS PROFESSIONAL NUMBER.
- BT1 = STAKING OF PROPOSED RIGHT OF WAY.  
SET DIVISION OF HIGHWAYS SURVEY MARKER TO MONUMENT THE POSITION SHOWN. IDENTIFIED BY INSCRIPTION DATA AND SURVEYORS PROFESSIONAL NUMBER.
- M = STAKING OF PROPOSED RIGHT OF WAY IN CULTIVATED AREAS. BURIED 5/8 INCH REBAR 20 INCHES BELOW GROUND TO MARK FUTURE SURVEY MARKER POSITION. IDENTIFIED BY COLORED PLASTIC CAP BEARING SURVEYORS PROFESSIONAL NUMBER.

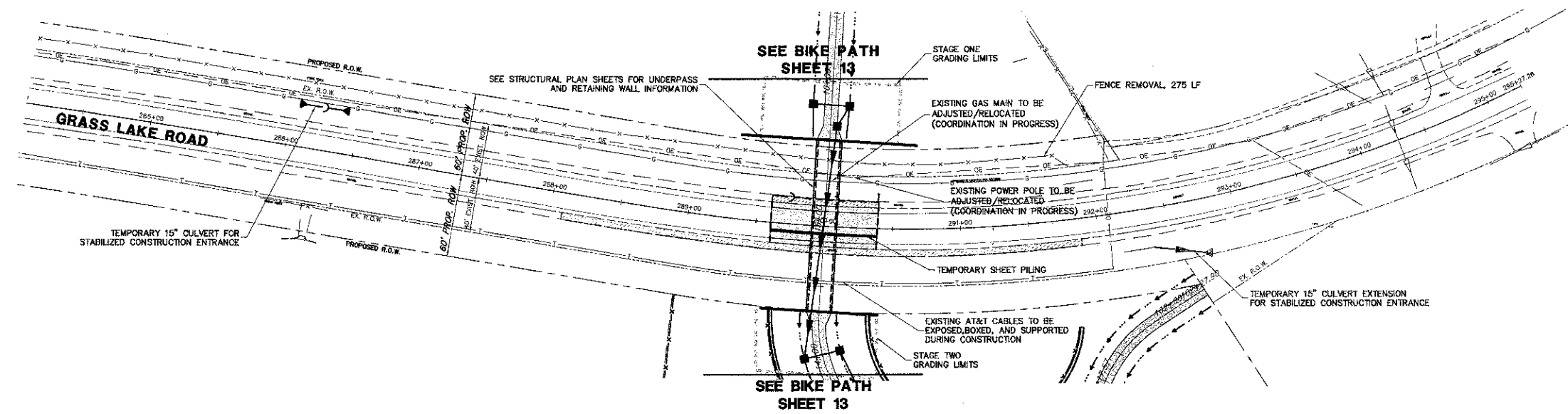
**NOTES:**  
BOA = BEGINNING OF ALIGNMENT  
BOP = BEGINNING OF PROJECT  
PC = POINT OF CURVATURE  
PRC = POINT OF REVERSE CURVATURE  
PT = POINT OF TANGENT  
PI = POINT OF INTERSECTION  
EOA = END OF ALIGNMENT  
EOP = END OF PROJECT  
CP = CONTROL POINT  
BM = BENCH MARK

**BASIS OF ELEVATIONS**  
ELEVATIONS ARE BASED ON LAKE COUNTY BENCH MARK RECOVERY SHEET, MARKER DESIGNATION 1-5, LOCATED AT THE SOUTHWEST CORNER OF GRASS LAKE ROAD LAKE ROAD AND U.S. ROUTE 45 ON THE CORNER OF A CONCRETE SLAB AT THE NORTHEAST CORNER OF THE MILBURN CONGREGATIONAL CHURCH  
ELEVATION = 749.67



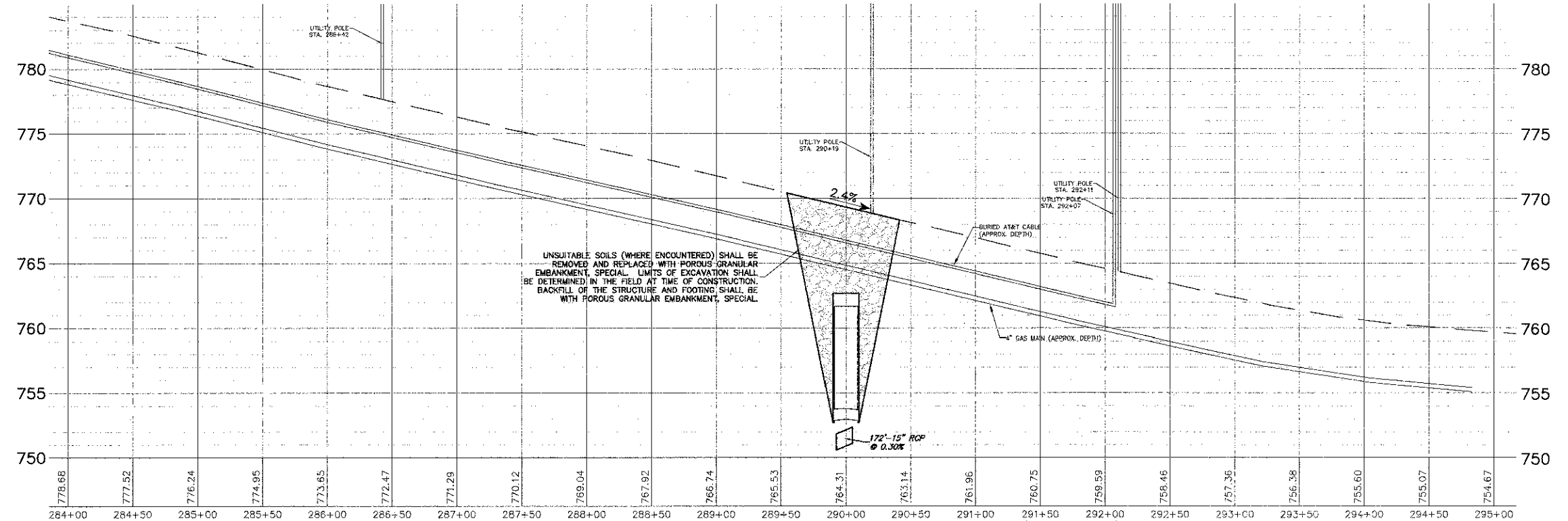
**PROPOSED LEGEND**

- PROPOSED HMA BIKE PATH (SEE TYP. CROSS SECTION)
- PROPOSED GRASS LAKE RD. PAVEMENT SECTION (SEE TYP. CROSS SECTION)
- PROPOSED AGG. SHOULDER (SEE TYP. CROSS SECTION)
- PROPOSED AGG. TRAIL (SEE TYP. CROSS SECTION)
- GRADING & SHAPING DITCHES
- PROPOSED STORM SEWER STRUCTURE
- PROPOSED STORM SEWER/CULVERT

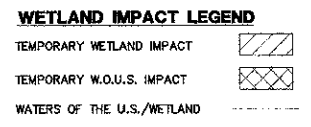
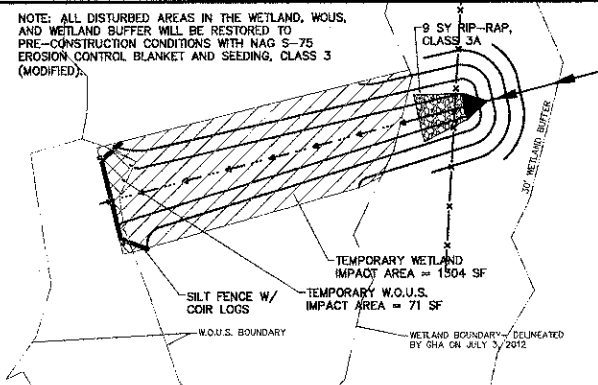


**SUMMARY OF DRY UTILITIES**

	EXISTING EQUIPMENT	EQUIPMENT TO BE RELOCATED
AT&T CORPORATION	BURIED CABLE ALONG SOUTH SIDE OF GRASS LAKE ROAD	AT&T TO EXPOSE, BOX, AND SUPPORT CABLES DURING CONSTRUCTION AND RUN CABLES OVER TOP OF UNDERPASS AFTER CONSTRUCTION IS COMPLETE.
COMCAST	NO FACILITIES WITHIN THE PROJECT LIMITS.	NONE
COMED	OVERHEAD 12KV ALONG NORTH SIDE OF GRASS LAKE ROAD; BURIED CABLE EXTENDING NORTH FROM ROW	UTILITY POLE AT STA 290+19 TO BE RELOCATED
NORTH SHORE GAS	4" STEEL GAS MAIN (BURIED) ON NORTH SIDE OF GRASS LAKE RD.	GAS MAIN TO BE BRACED DURING CONSTRUCTION

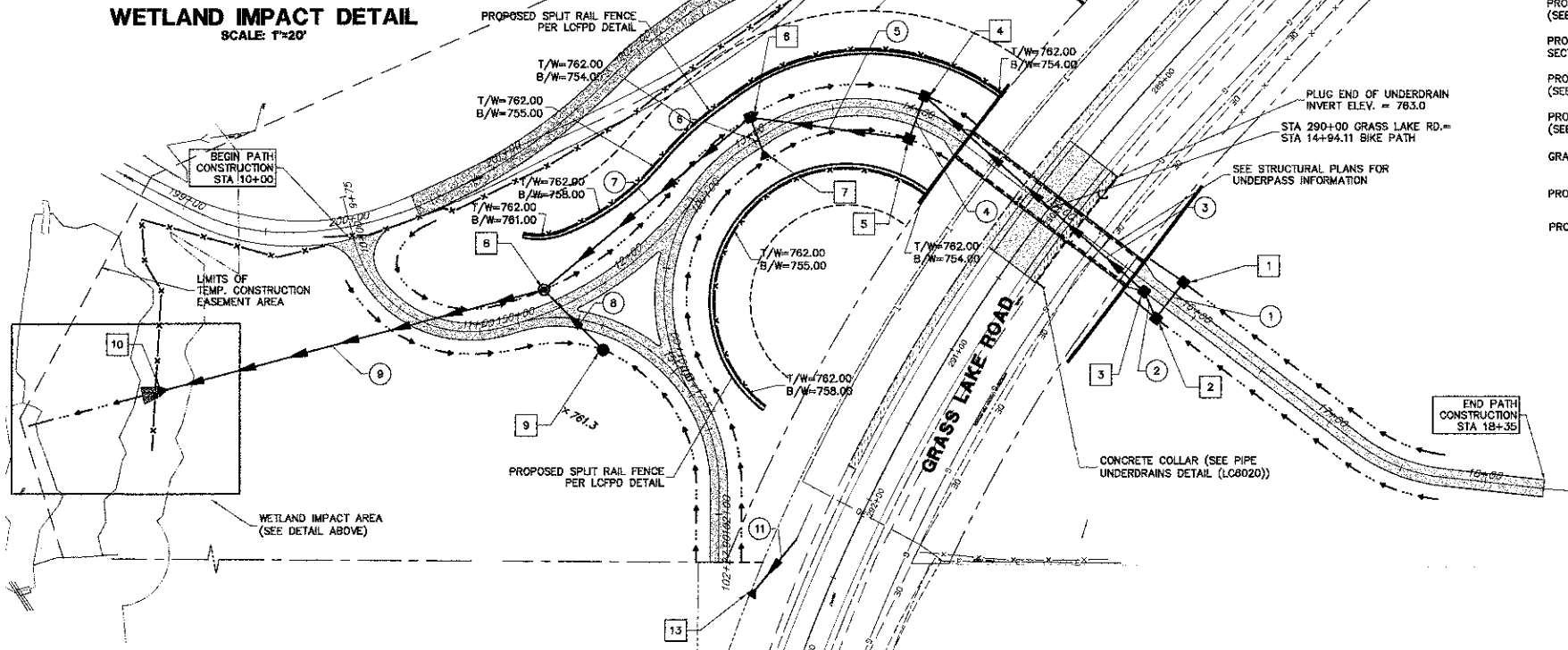




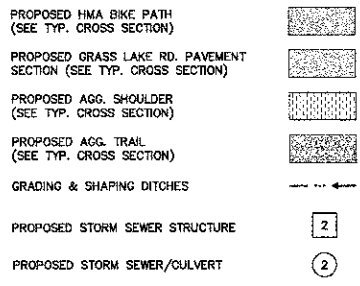


BIKE PATH CONSTRUCTION STAGE 3 (SEE MAINTENANCE OF TRAFFIC PLANS, SHEETS 10-14)

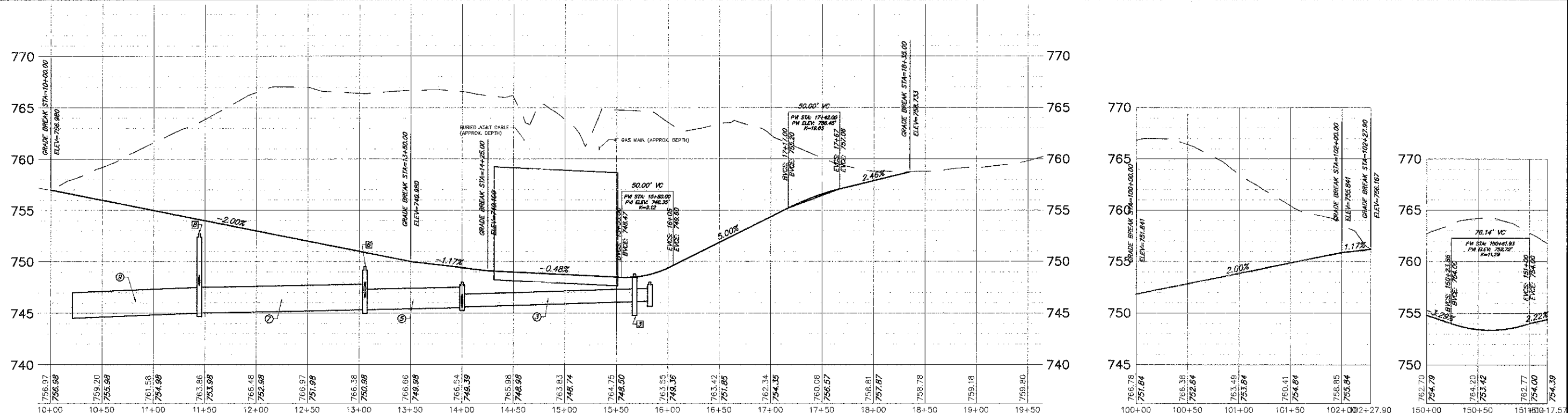
**WETLAND IMPACT DETAIL**  
SCALE: 1"=20'



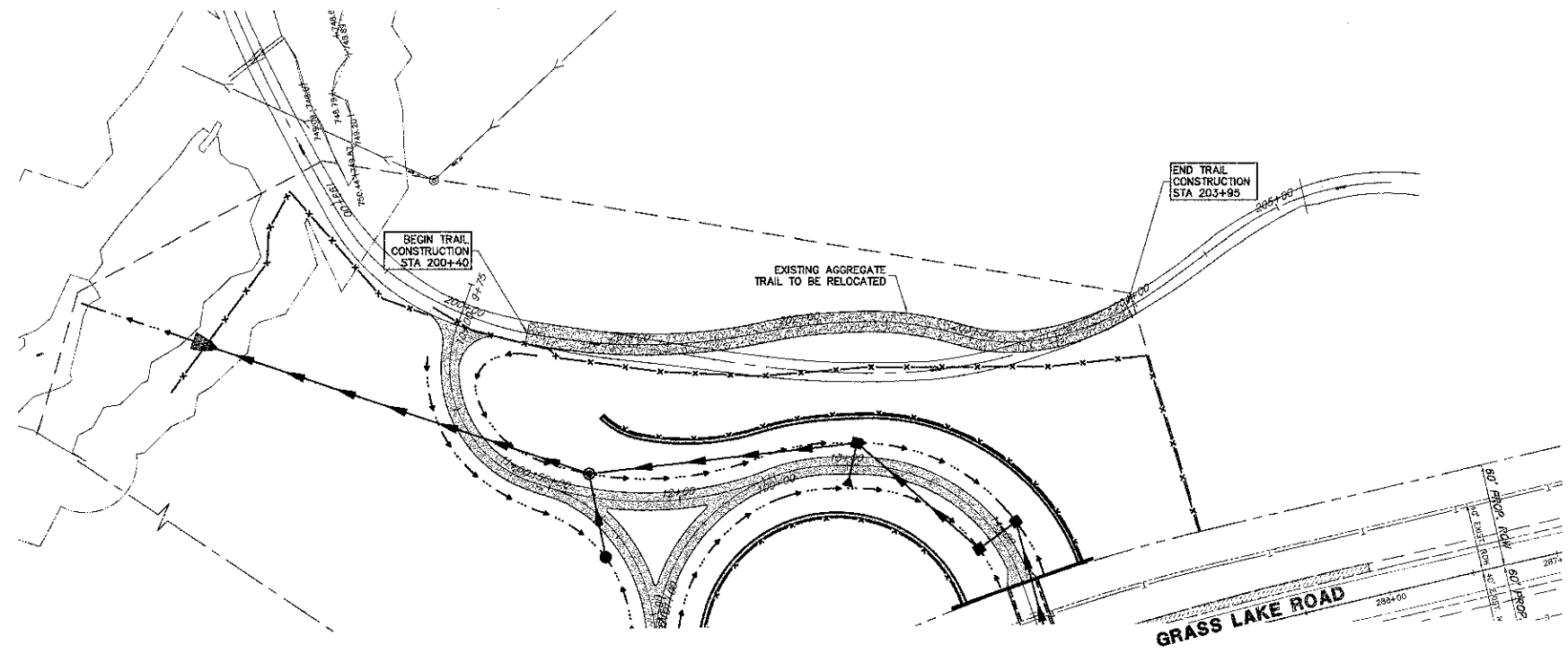
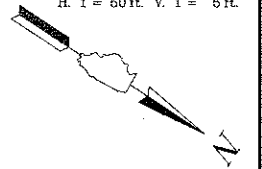
**PROPOSED LEGEND**



- 1 FLUSH INLET BOX FOR MEDIAN, STANDARD 542546  
RIM: 748.00  
INV.: 746.20  
STA: 15+83 O/S: 13.2'L
- 2 FLUSH INLET BOX FOR MEDIAN, STANDARD 542546  
RIM: 748.00  
INV.: 746.15  
STA: 15+83 O/S: 13.2'R
- 3 INLET, TYPE A TYPE 1 FRAME & CLOSED LID  
RIM: 749.80  
INV.: 746.10  
STA: 15+68 O/S: 5.0'R
- 4 FLUSH INLET BOX FOR MEDIAN, STANDARD 542546  
RIM: 747.60  
INV.: 745.58  
STA: 14+00 O/S: 13.2'L
- 5 FLUSH INLET BOX FOR MEDIAN, STANDARD 542546  
RIM: 747.60  
INV.: 745.51  
STA: 14+00 O/S: 13.2'R
- 6 FLUSH INLET BOX FOR MEDIAN, STANDARD 542546  
N.S. INV.: 745.31; E. INV.: 746.50  
STA: 13+05 O/S: 13.2'L
- 7 PRECAST REINFORCED FLARED END SECTION 18" RCP INV: 749.50  
STA: 13+00 O/S: 13.6'R
- 8 STORM SEWER MANHOLE TY 'A', 48" x 48", TY 8 GR  
RIM: 752.70  
N.S. INV.: 745.00; E. INV.: 747.70  
STA: 11+45 O/S: 13.2'L
- 9 STORM SEWER CATCHBASIN TY 'C', 24" x 24", TY 8 GR  
RIM: 752.25  
INV.: 749.25  
STA: 11+80 O/S: 33.4'R
- 10 PRECAST REINFORCED FLARED END SECTION 30" RCP INV: 744.50  
STA: 10+21 O/S: 140.0'R
- 11 STEEL END SECTION, 15" INV: 769.75  
STA: 286+08.6 O/S: 31.1'L
- 12 STEEL END SECTION, 15" INV: 768.80  
STA: 286+42 O/S: 31.5'L
- 13 PRECAST REINFORCED FLARED END SECTION-CONNECT TO EXISTING CULVERT 15" CMP INV: 753.0  
STA: 292+78 O/S: 40.3'R
- 1 27'- STORM SEWERS, CL. A, TY 1, 12" @ 0.19% TRENCH BACKFILL- 1.8 CY
- 2 17'- STORM SEWERS, CL. A, TY 1, 12" @ 0.30% TRENCH BACKFILL- 0.0 CY
- 3 17'- STORM SEWERS, CL. A, TY 2, 15" @ 0.30% TRENCH BACKFILL- 34.5 CY
- 4 24'- STORM SEWERS, CL. A, TY 1, 15" @ 0.29% TRENCH BACKFILL- 4.5 CY
- 5 93'- STORM SEWERS, CL. A, TY 2, 24" @ 0.20% TRENCH BACKFILL- 7.6 CY
- 6 24'- STORM SEWERS, CL. A, TY 2, 18" @ 12.50% TRENCH BACKFILL- 4.3 CY
- 7 157'- STORM SEWERS, CL. A, TY 2, 30" @ 0.20% TRENCH BACKFILL- 0.0 CY
- 8 48'- STORM SEWERS, CL. A, TY 1, 12" @ 3.23% TRENCH BACKFILL- 7.1 CY
- 9 232'- STORM SEWERS, CL. A, TY 2, 30" @ 0.20% TRENCH BACKFILL- 45.1 CY
- 10 36'- PIPE CULVERTS, CL. A, TY 1, 15" (TEMPORARY) W/ TWO STEEL END SECTIONS, 15" TRENCH BACKFILL- 2.8 CY
- 11 42'- PIPE CULVERTS, CL. A, TY 1, 15" (TEMPORARY) W/ STEEL END SECTION, 15" TRENCH BACKFILL- 4.4 CY

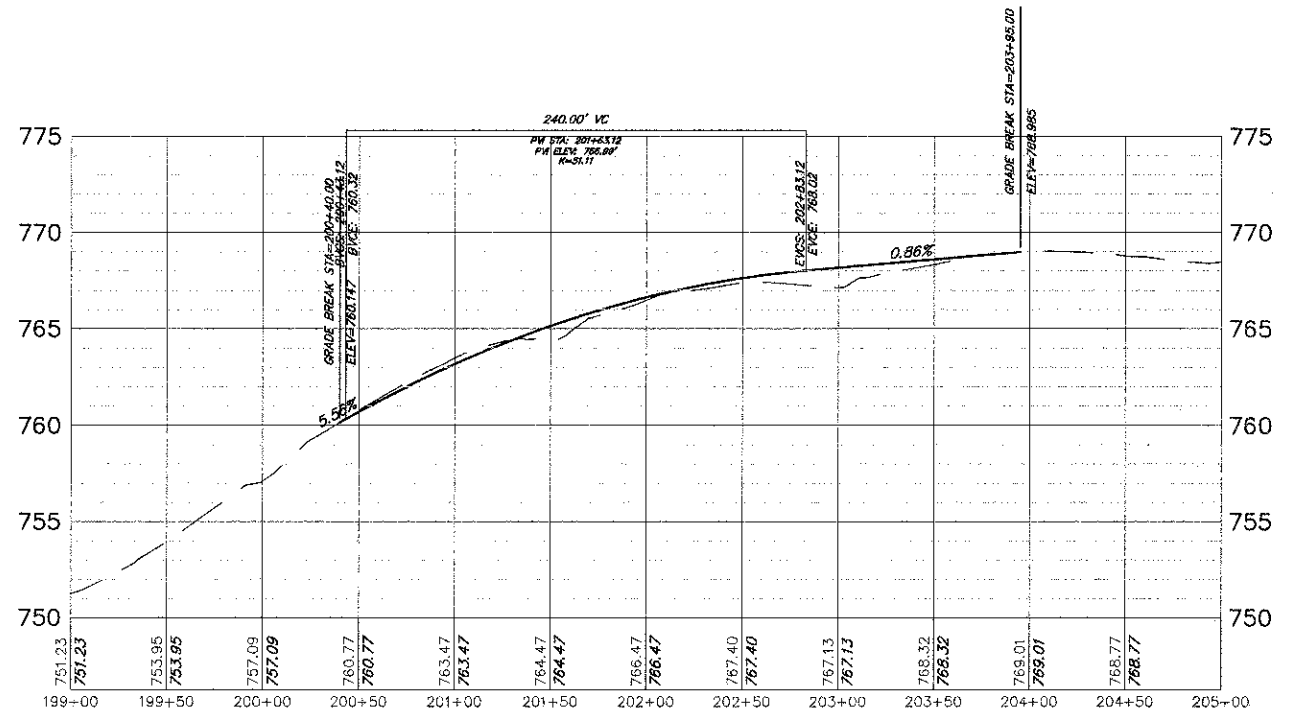


FILE NAME = 4536.705-PR5.dwg	USER NAME = DAN STRAHAN	DESIGNED - DJS	REVISED - 9-7-12	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>PATH PLAN &amp; PROFILE - BIKE PATH GRASS LAKE ROAD BIKE PATH UNDERPASS</b>	FAU. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN - PJS	REVISED - 10-19-12			0174	09-P0075-15-BT	LAKE	74	8	
		CHECKED - TPG	REVISED - 12-17-12			CONTRACT #: 63778					
		DATE - 5-29-12	REVISED -			ILLINOIS FED. AID PROJECT					



**PROPOSED LEGEND**

- PROPOSED HMA BIKE PATH (SEE TYP. CROSS SECTION)
- PROPOSED GRASS LAKE RD. PAVEMENT SECTION (SEE TYP. CROSS SECTION)
- PROPOSED AGG. SHOULDER (SEE TYP. CROSS SECTION)
- PROPOSED AGG. TRAIL (SEE TYP. CROSS SECTION)
- GRADING & SHAPING DITCHES
- PROPOSED STORM SEWER STRUCTURE
- PROPOSED STORM SEWER/CULVERT



FILE NAME = 4536.705-PR5.dwg

USER NAME = DAN STRAHAN  
PLOT SCALE = 1:1  
PLOT DATE = 5/29/2012

DESIGNED - DJS  
DRAWN - PJS  
CHECKED - TPG  
DATE - 5-29-12

REVISED - 9-7-12  
REVISED - 10-19-12  
REVISED - 12-17-12  
REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PATH PLAN & PROFILE - EXISTING TRAIL RELOCATION  
GRASS LAKE ROAD BIKE PATH UNDERPASS**

SCALE: 1"=50' SHEET NO. 1 OF 1 SHEETS STA. 10+00 TO STA. 18+35

FAU. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	9
CONTRACT #			63778	
ILLINOIS FED. AID PROJECT				

**SUGGESTED CONSTRUCTION SEQUENCING**

**PRE-STAGE**

REMOVE EXISTING EASTBOUND PAVED AND GRAVEL SHOULDERS AND CONSTRUCT TEMPORARY PAVEMENT USING IDOT HIGHWAY STANDARD 701201.

INSTALL TEMPORARY TRAFFIC SIGNAL AS PER PLANS.

**STAGE 1**

IMPLEMENT IDOT HIGHWAY STANDARD 701321, "LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER" AND SUGGESTED MOT PROVIDED IN PLANS.

PERFORM WORK WITHIN OR ADJACENT TO GRASS LAKE ROAD WESTBOUND LANES: IMPLEMENT TEMPORARY EROSION CONTROL MEASURE, COMPLETE ROADWAY REMOVAL, PERFORM OFF-ROAD GRADING OPERATIONS, CONSTRUCT NORTH HALF OF UNDERPASS, RE-CONSTRUCT PAVEMENT, AND SHOULDER WIDENING UP TO BINDER COURSE.

**STAGE 2**

REFER TO STAGE 1 NOTES FOR GRASS LAKE ROAD EASTBOUND LANES AND SOUTH HALF OF UNDERPASS.

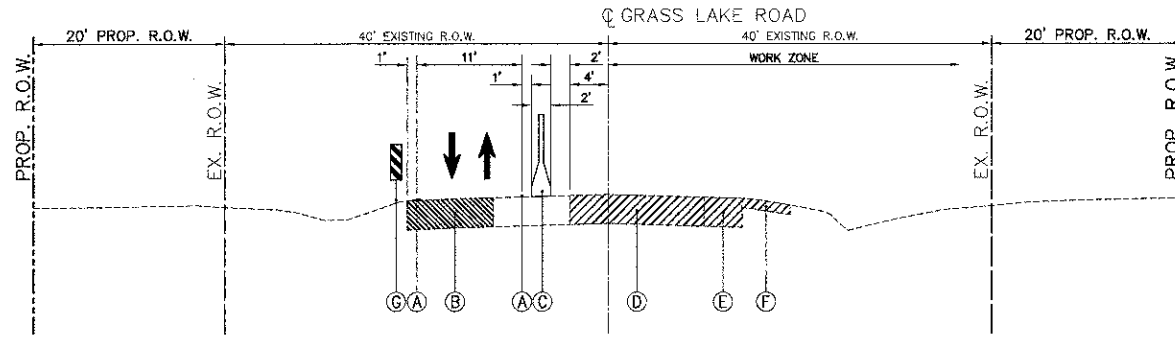
REMOVE TEMPORARY PAVEMENT (TO BE PAID FOR AS "PAVEMENT REMOVAL").

**STAGE 3**

INSTALL SURFACE COURSE USING IDOT STANDARD 701306. INSTALL FINAL PAVEMENT MARKINGS AND RAISED REFLECTIVE MARKERS USING IDOT STANDARD 701311. INSTALL FINAL LANDSCAPING USING IDOT STANDARD 701006.

**GENERAL NOTES - TRAFFIC CONTROL**

1. MAINTENANCE OF ALL TRAFFIC DEVICES TO BE INSTALLED IN ACCORDANCE WITH APPLICABLE PORTIONS OF IDOT STANDARDS 701201, 701306, 701321, AND 701326 AND DISTRICT ONE STANDARDS TC-11 AND TC-13. ADDITIONAL SIGNAGE MAY BE REQUIRED BY THE RESIDENT ENGINEER AT NO ADDITIONAL COST. THIS WORK AND SIGNAGE IS INCLUDED IN THE PAY ITEM FOR TRAFFIC CONTROL AND PROTECTION (SPECIAL).
2. THE MAINTENANCE OF TRAFFIC CONTROL PLANS SHALL SERVE AS A GUIDE FOR SAFE DIVERSION OF TRAFFIC DURING EXECUTION OF THIS CONTRACT. HOWEVER, THE CONTRACTOR MAY MODIFY THE MOT PLANS TO MEET CONSTRUCTION NEEDS, BUT NOT AT THE EXPENSE OF THE PUBLIC SAFETY OR CONVENIENCES. ANY CHANGES TO THE MOT PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
3. THE RESIDENT ENGINEER SHALL BE INFORMED 48 HOURS IN ADVANCE OF ANY CHANGE TO THE MOT PLANS.
4. EXISTING CONFLICTING PAVEMENT MARKINGS SHALL BE REMOVED. THIS WORK SHALL BE PAID FOR AS "PAVEMENT MARKING REMOVAL".
5. REMOVAL OF THE TEMPORARY PAVEMENT MARKINGS SHALL BE PAID FOR UNDER THE PAY ITEM "WORK ZONE PAVEMENT MARKING REMOVAL".
6. THE EXISTING PAVEMENT MARKINGS THAT HAVE BEEN REMOVED SHALL BE REPLACED IN-KIND.
7. THE CONTRACTOR SHALL NOT MOUNT SIGNS ON EXISTING SIGNS.
8. THE CONTRACTOR SHALL PLACE AN ARTERIAL ROAD INFORMATION SIGN AT EACH END OF THE PROJECT AND/OR AS DIRECTED BY THE ENGINEER TO INFORM MOTORISTS OF UPCOMING CONSTRUCTION ACTIVITIES. THE MESSAGE SIGNS WITH THE APPROPRIATE INFORMATION SHALL BE IN PLACE TWO WEEKS BEFORE THE START OF THE CONSTRUCTION ACTIVITY. THIS WORK IS TO BE PAID FOR AT THE CONTRACT UNIT PER SQUARE FOOT, "TEMPORARY INFORMATION SIGNING".
9. THE CONTRACTOR SHALL COORDINATE THE EXACT PLACEMENT OF ADVANCED WARNING SIGNAGE WITH THE RESIDENT ENGINEER.
10. ALL TRAFFIC CONTROL DEVICES USED FOR THE MAINTENANCE OF TRAFFIC, AS DETAILED ON THE PLANS, OR HIGHWAY STANDARDS SHALL BE REFLECTORIZED PRIOR TO INSTALLATION AND CLEANED AS SPECIFIED IN MAINTENANCE OF TRAFFIC SPECIAL PROVISIONS OR AS DIRECTED BY THE ENGINEER.
11. ALL DRUMS, VERTICAL PANELS, AND BARRICADES ADJACENT TO THE EDGE OF TRAVELED WAY SHALL BE EQUIPPED WITH STEADY-BURNING LIGHTS.
12. ALL EXISTING SIGNS WITHIN THE LIMITS OF MAINTENANCE OF TRAFFIC WHICH ARE OBSCURED BY OR OTHERWISE INTERFERED WITH BY THE CONSTRUCTION OPERATIONS AND MAINTENANCE OF TRAFFIC SHALL BE COVERED OR REMOVED BY THE CONTRACTOR UNLESS SPECIFIED IN THE PLANS OR WHEN DIRECTED BY THE ENGINEER. THE WORK SHALL BE IN ACCORDANCE WITH ARTICLE 107.25 OF THE IDOT STANDARD SPECIFICATIONS.
13. THE CONTRACTOR SHALL COORDINATE THE EXACT PLACEMENT OF ADVANCED WARNING SIGNAGE WITH THE RESIDENT ENGINEER.
14. THE CONTRACTOR IS ADVISED THAT IN THE EVENT OF SNOW, HE WILL BE RESPONSIBLE FOR THE IMMEDIATE REMOVAL OF ANY MAINTENANCE OF TRAFFIC AND/OR PROTECTIVE DEVICES THAT WOULD INTERFERE WITH SNOW REMOVAL OPERATIONS PERFORMED BY THE STATE OR LOCAL AGENCY.
15. FOR ADDITIONAL UNDERPASS CONSTRUCTION STAGING INFORMATION AND SHEET PILING RECOMMENDATIONS, SEE STRUCTURAL PLANS.



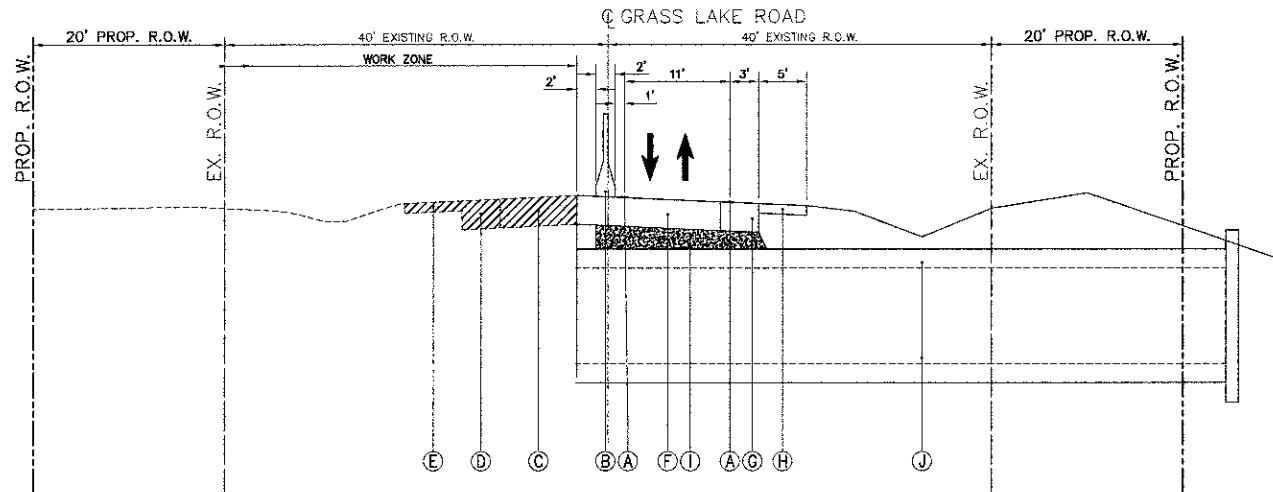
**MOT STAGE 1**  
FROM STA. 289+50 TO STA. 290+50  
(LOOKING WESTBOUND)

**NOTE:**

1. VERTICAL PANELS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE APPLICABLE HIGHWAY STANDARD.
2. ANY EARTH EXCAVATION REQUIRED TO CONSTRUCT THE TEMPORARY PAVEMENT WILL BE CONSIDERED INCLUDED IN THE PAY ITEM "TEMPORARY PAVEMENT".

**MOT LEGEND:**

- (A) TEMPORARY PAVEMENT MARKING 4", WHITE
- (B) TEMPORARY PAVEMENT- HMA BINDER COURSE IL-19.0, N50, 8"
- (C) TEMPORARY CONCRETE BARRIER
- (D) STAGE I REMOVAL - EXISTING PAVEMENT
- (E) STAGE I REMOVAL - EXISTING PAVED SHOULDER
- (F) STAGE I REMOVAL - EXISTING GRAVEL SHOULDER
- (G) DOUBLE VERTICAL PANELS



**MOT STAGE 2**  
FROM STA. 289+50 TO STA. 290+50  
(LOOKING WESTBOUND)

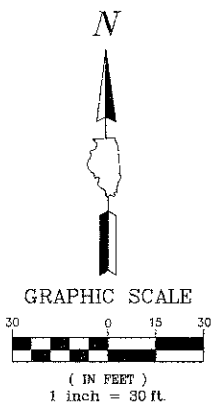
**NOTE:**

1. VERTICAL PANELS WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE APPLICABLE HIGHWAY STANDARD.

**MOT LEGEND:**

- (A) TEMPORARY PAVEMENT MARKING 4", WHITE
- (B) TEMPORARY CONCRETE BARRIER
- (C) STAGE II REMOVAL - EXISTING PAVEMENT
- (D) STAGE II REMOVAL - EXISTING PAVED SHOULDER
- (E) STAGE II REMOVAL - EXISTING GRAVEL SHOULDER
- (F) HMA PAVEMENT (REFER TO TYPICAL SECTION)
- (G) HMA SHOULDER (REFER TO TYPICAL SECTION)
- (H) GRAVEL SHOULDER (REFER TO TYPICAL SECTION)
- (I) AGGREGATE SUBGRADE
- (J) SEE STRUCTURAL PLANS FOR UNDERPASS DETAILS

FILE NAME = 4536.705-TRSTC.dwg	USER NAME = DAN STRAHAN	DESIGNED - JRD	REVISED - 9-7-12	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>MAINTENANCE OF TRAFFIC- NOTES &amp; TYPICAL SECTIONS GRASS LAKE ROAD BIKE PATH UNDERPASS</b>	EAU. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 1:1	DRAWN - PJS	REVISED - 10-19-12			0174	09-P0075-15-BT	LAKE	74	10
	PLOT DATE = 7/30/2012	CHECKED - TPG	REVISED - 12-17-12			CONTRACT # 63778			ILLINOIS, FED. AID PROJECT	
	DATE - 5-29-12	REVISED -		SCALE 1"=10'	SHEET NO. 1 OF 5 SHEETS	STA. 287+00 TO STA. 293+00				



EQUIPMENT AND MATERIALS STORAGE AND STAGING AREA

**CONSTRUCTION NOTES:**

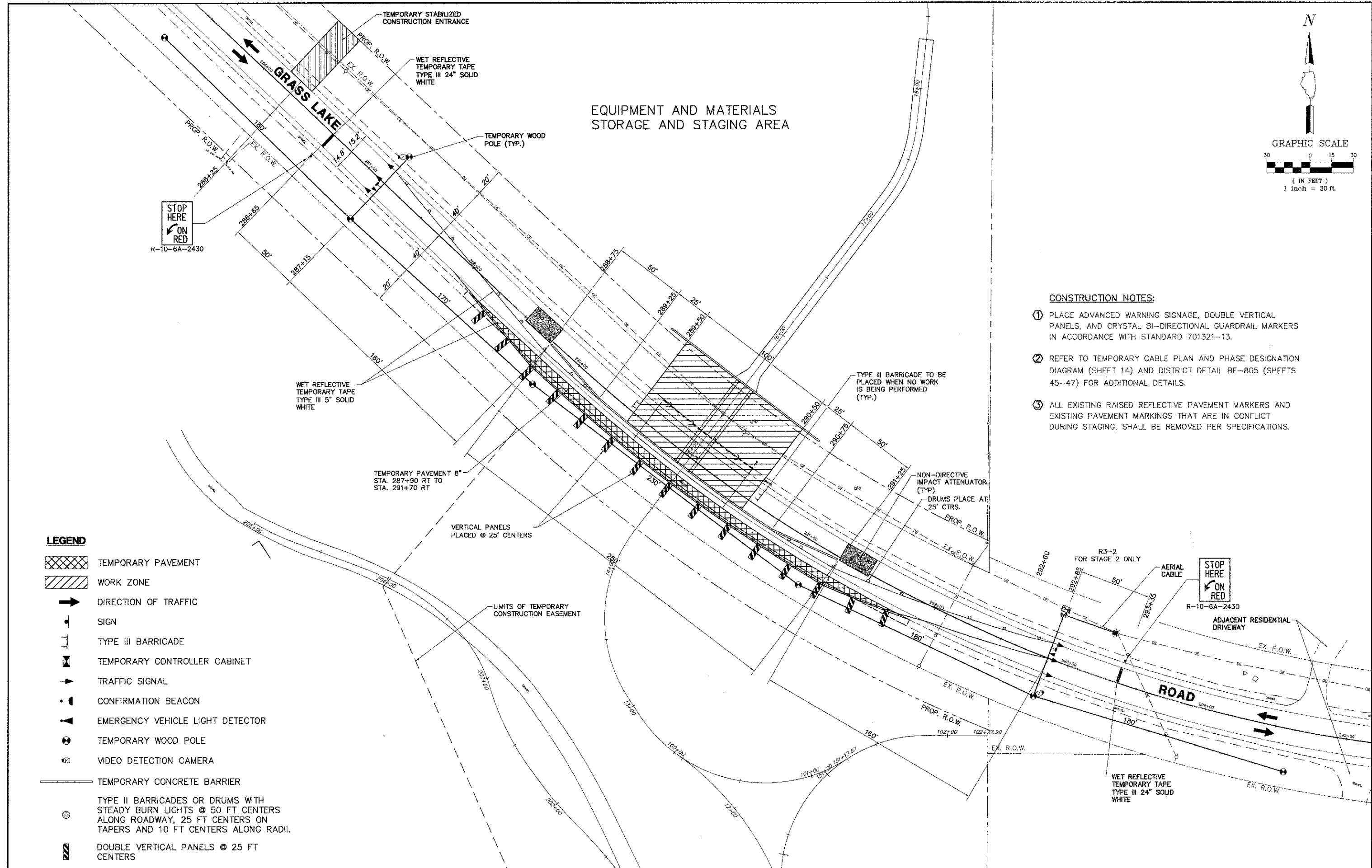
- ① PLACE ADVANCED WARNING SIGNAGE, DOUBLE VERTICAL PANELS, AND CRYSTAL BI-DIRECTIONAL GUARDRAIL MARKERS IN ACCORDANCE WITH STANDARD 701321-13.
- ② REFER TO TEMPORARY CABLE PLAN AND PHASE DESIGNATION DIAGRAM (SHEET 14) AND DISTRICT DETAIL BE-805 (SHEETS 45-47) FOR ADDITIONAL DETAILS.
- ③ ALL EXISTING RAISED REFLECTIVE PAVEMENT MARKERS AND EXISTING PAVEMENT MARKINGS THAT ARE IN CONFLICT DURING STAGING, SHALL BE REMOVED PER SPECIFICATIONS.

**LEGEND**

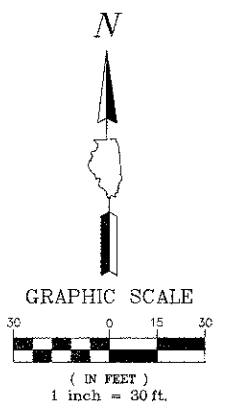
- TEMPORARY PAVEMENT
- WORK ZONE
- DIRECTION OF TRAFFIC
- SIGN
- TYPE III BARRICADE
- TEMPORARY CONTROLLER CABINET
- TRAFFIC SIGNAL
- CONFIRMATION BEACON
- EMERGENCY VEHICLE LIGHT DETECTOR
- TEMPORARY WOOD POLE
- VIDEO DETECTION CAMERA
- TEMPORARY CONCRETE BARRIER
- TYPE II BARRICADES OR DRUMS WITH STEADY BURN LIGHTS @ 50 FT CENTERS ALONG ROADWAY, 25 FT CENTERS ON TAPERS AND 10 FT CENTERS ALONG RADII.
- DOUBLE VERTICAL PANELS @ 25 FT CENTERS

STOP HERE  
ON RED  
R-10-6A-2430

STOP HERE  
ON RED  
R-10-6A-2430



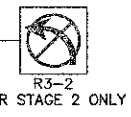
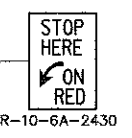
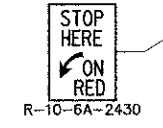
FILE NAME = 4536.705--TRSTG.dwg	USER NAME = DAN STRAHAN	DESIGNED - JRD	REVISED - 9-7-12	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>MAINTENANCE OF TRAFFIC- STAGE 1 GRASS LAKE ROAD BIKE PATH UNDERPASS</b>	FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN - PJS	REVISED - 10-19-12			0174	09-P0075-15-BT	LAKE	74	11	
		CHECKED - TPG	REVISED - 12-17-12			CONTRACT # 63778					
		DATE - 5-29-12	REVISED -			ILLINOIS FED. AID PROJECT					
				SCALE 1"=30'		SHEET NO. 2 OF 5 SHEETS		STA. 287+00 TO STA. 293+00			



**CONSTRUCTION NOTES:**

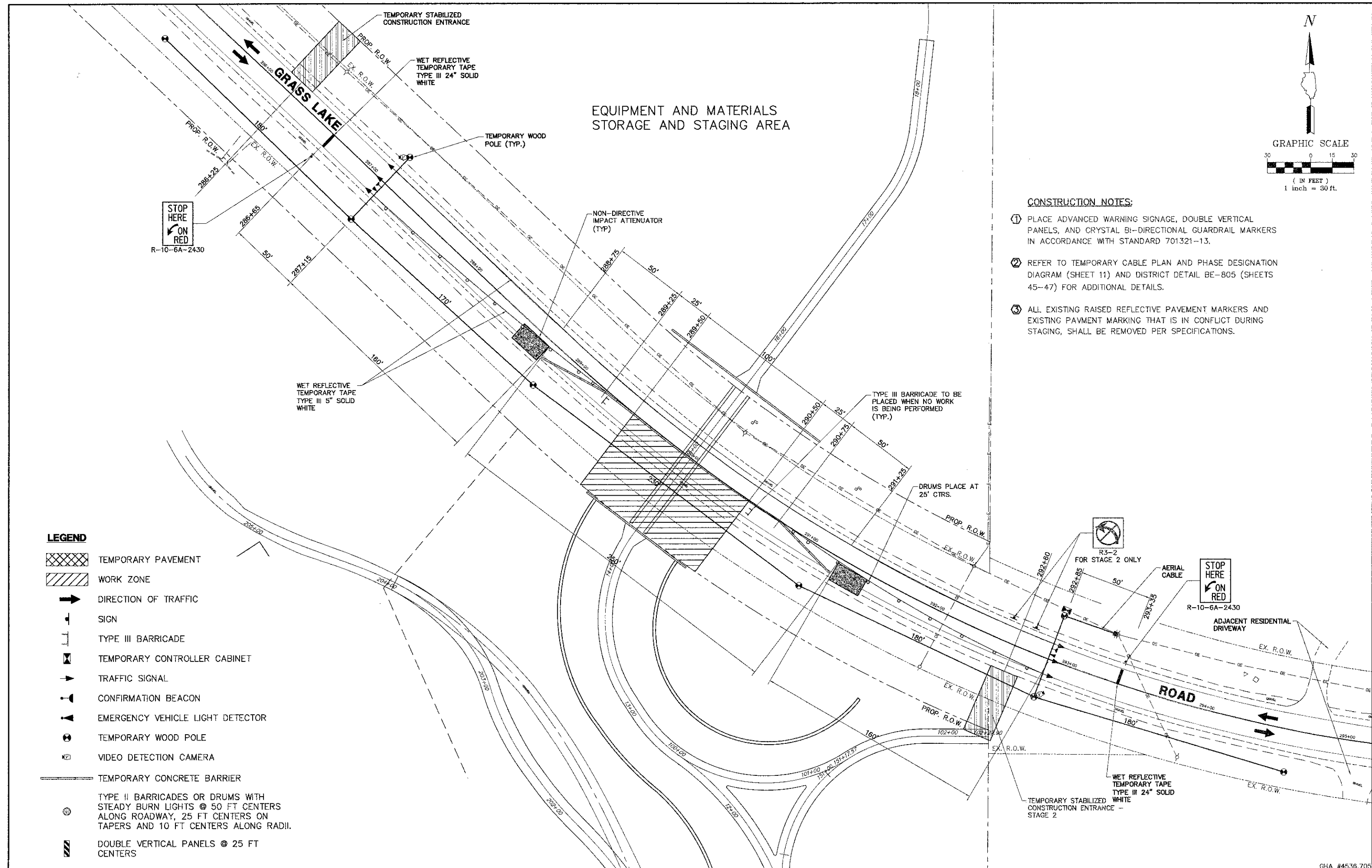
- ① PLACE ADVANCED WARNING SIGNAGE, DOUBLE VERTICAL PANELS, AND CRYSTAL BI-DIRECTIONAL GUARDRAIL MARKERS IN ACCORDANCE WITH STANDARD 701321-13.
- ② REFER TO TEMPORARY CABLE PLAN AND PHASE DESIGNATION DIAGRAM (SHEET 11) AND DISTRICT DETAIL BE-805 (SHEETS 45-47) FOR ADDITIONAL DETAILS.
- ③ ALL EXISTING RAISED REFLECTIVE PAVEMENT MARKERS AND EXISTING PAVMENT MARKING THAT IS IN CONFLICT DURING STAGING, SHALL BE REMOVED PER SPECIFICATIONS.

**EQUIPMENT AND MATERIALS STORAGE AND STAGING AREA**



**LEGEND**

- TEMPORARY PAVEMENT
- WORK ZONE
- DIRECTION OF TRAFFIC
- SIGN
- TYPE III BARRICADE
- TEMPORARY CONTROLLER CABINET
- TRAFFIC SIGNAL
- CONFIRMATION BEACON
- EMERGENCY VEHICLE LIGHT DETECTOR
- TEMPORARY WOOD POLE
- VIDEO DETECTION CAMERA
- TEMPORARY CONCRETE BARRIER
- TYPE II BARRICADES OR DRUMS WITH STEADY BURN LIGHTS @ 50 FT CENTERS ALONG ROADWAY, 25 FT CENTERS ON TAPERS AND 10 FT CENTERS ALONG RADII.
- DOUBLE VERTICAL PANELS @ 25 FT CENTERS



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		DRAWN - PJS	REVISED - 10-19-12			0174	09-P0075-15-BT	LAKE	74	12	
		CHECKED - TPG	REVISED - 12-17-12			CONTRACT # 63778					
		DATE - 5-29-12	REVISED -			ILLINOIS FED. AID PROJECT					

SCALE 1"=30' SHEET NO. 3 OF 5 SHEETS STA. 287+00 TO STA. 293+00

GHA #4536.705

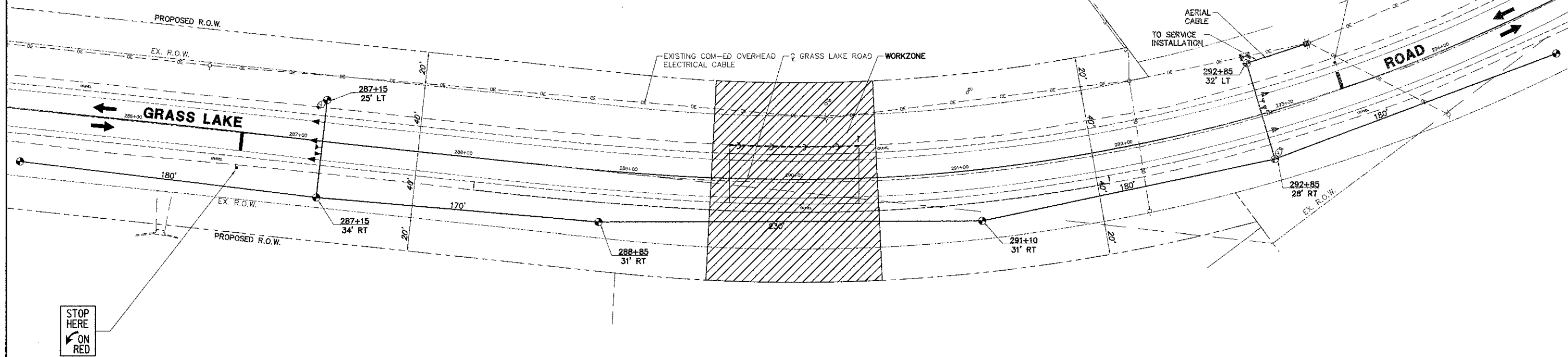
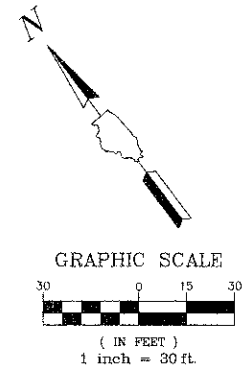
**NOTES FOR TEMPORARY TRAFFIC SIGNALS:**

1. ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR. EVP WILL BE INCLUDED IN "TEMPORARY BRIDGE TRAFFIC SIGNAL INSTALLATION" PAY ITEM.
2. ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY IDOT DISTRICT 1, INSTALLED IN A NEMA TS1 OR TS2 CABINET. ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE CONTRACT.
3. ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE LED AND 12" (300mm) DIAMETER. HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. PEDESTRIAN SIGNALS SHALL INCLUDE SOLID INTERNATIONAL SYMBOLS. PEDESTRIAN SIGNALS WITH COUNTDOWN TIMERS SHALL BE USED WHEN THE EXISTING INSTALLATION UTILIZES COUNTDOWN TYPE OR AS DIRECTED BY THE ENGINEER. COUNTDOWN TYPE PEDESTRIAN SIGNALS ARE NOT TO BE INSTALLED AT A RAILROAD INTERSECTION. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
4. ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROLLER EQUIPMENT. THE COST OF THE TEMPORARY INTERCONNECT SHALL BE INCLUDED IN THE PAY ITEM "TEMPORARY TRAFFIC SIGNAL INSTALLATION".
5. 24" WHITE STOP BAR TO BE INSTALLED AT THE TIME OF THE INSTALLATION AND IMPLEMENTATION OF THE TEMPORARY TRAFFIC SIGNALS.

6. CONTROLLER WITH STEEL BASE CABINET AND BATTERY BACK-UP CABINET SHALL BE MOUNTED ON A WOOD STAND.
7. UNINTERRUPTIBLE POWER SUPPLY (UPS) SHALL BE INCLUDED IN THE "TEMPORARY BRIDGE TRAFFIC SIGNAL INSTALLATION" PAY ITEM.
8. 8 WOOD POLES INSTALLED BY THE TRAFFIC SIGNAL CONTRACTOR (SEE TEMPORARY TRAFFIC SIGNAL PLANS).
9. PROPOSED WOOD POLES FOR ROADWAY LIGHTING SHALL BE USED TO SUPPORT TRAFFIC SIGNAL CABLES. SEE DISTRICT DETAIL BE-805 TEMPORARY LIGHTING AND TRAFFIC SIGNALS FOR SINGLE LANE STAGING (SHEETS 45-47).
10. TRAFFIC SIGNAL AND ROADWAY LIGHTING SHALL UTILIZE A COMBINATION ELECTRIC SERVICE INSTALLATION. SEE DISTRICT DETAIL BE-805 TEMPORARY LIGHTING AND TRAFFIC SIGNALS FOR SINGLE LANE STAGING (SHEETS 45-47).
11. ALL SIGNAL HEADS SHALL BE L.E.D.
12. ALL FIBER CONNECTIONS AND TESTING ARE INCLUDED IN THE "TEMPORARY BRIDGE TRAFFIC SIGNAL INSTALLATION" PAY ITEM.

**CONSTRUCTION NOTES:**

- ① EXACT PLACEMENT OF TEMPORARY WOOD POSTS TO BE DETERMINED BY IN THE FIELD BY THE RESIDENT ENGINEER.
- ② ALL VIDEO DETECTION ZONES ARE TO BE REDEFINED DURING EACH STAGE OF CONSTRUCTION AND ARE INCLUDED IN THE COST OF TEMPORARY BRIDGE TRAFFIC SIGNAL INSTALLATION.
- ③ THE CONTRACTOR SHALL VERIFY THE POWER LOCATION WITH COMED PRIOR TO COMMENCEMENT OF THE WORK.
- ④ ALL PAVEMENT MARKINGS ARE TO BE IN PLACE AT THE TIME OF THE TEMPORARY TRAFFIC SIGNAL TURN-ON.



THIS SHEET TO BE WORKED WITH DISTRICT 1 DETAIL BE-805 "TEMPORARY LIGHTING AND TRAFFIC SIGNALS FOR SINGLE LANE STAGING" (SHEETS 45-47) AND THE MAINTENANCE OF TRAFFIC PLANS.

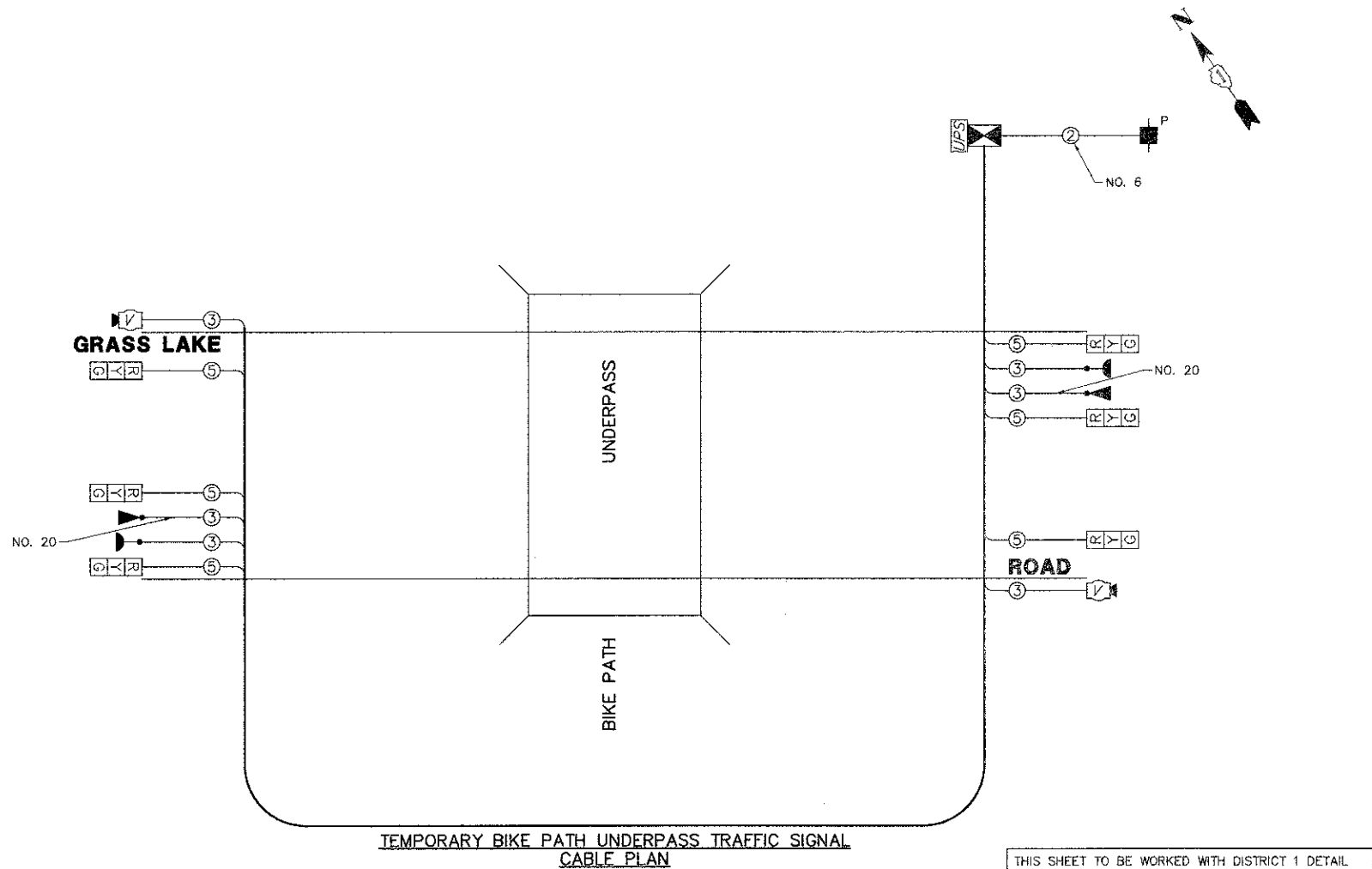
FILE NAME = 4536.705-TRSTG.dwg	USER NAME = DAN STRAHAN	DESIGNED - JRD	REVISED - 9-7-12	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TEMPORARY TRAFFIC SIGNAL PLAN (STAGE 1 AND 2) GRASS LAKE ROAD BIKE PATH UNDERPASS</b>	FAJ RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN - PJS	REVISED - 10-9-12			0174	09-P0075-15-BT	LAKE	74	13	
		CHECKED - TPG	REVISED - 12-17-12			CONTRACT # 63778					
		DATE - 5-29-12	REVISED -			ILLINOIS FED. AID PROJECT					
	PLOT SCALE = 1:1			SCALE 1"=30'	SHEET NO. 4 OF 5 SHEETS	STA. 287+00	TO STA. 293+00				

**SCHEDULE OF QUANTITIES**  
GRASS LAKE ROAD BIKE PATH UNDERPASS

ITEM NO.	QUANT.	UNIT
X8900005	1	EACH

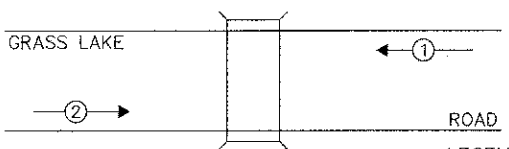
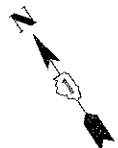
**NOTES FOR TEMPORARY TRAFFIC SIGNALS:**

- ALL CONTROL EQUIPMENT INCLUDING EMERGENCY PRE-EMPTION AND COMMUNICATION DEVICES FOR THE TEMPORARY TRAFFIC SIGNAL(S) SHALL BE FURNISHED BY THE CONTRACTOR. EVP WILL BE INCLUDED IN "TEMPORARY BRIDGE TRAFFIC SIGNAL INSTALLATION" PAY ITEM.
- ONLY CONTROLLERS SUPPLIED BY ONE OF THE DISTRICT APPROVED CLOSED LOOP EQUIPMENT MANUFACTURERS WILL BE APPROVED FOR USE AT TEMPORARY SIGNAL LOCATIONS. ALL CONTROLLERS USED FOR TEMPORARY TRAFFIC SIGNALS SHALL BE FULLY ACTUATED NEMA MICROPROCESSOR BASED WITH RS232 DATA ENTRY PORTS COMPATIBLE WITH EXISTING MONITORING SOFTWARE APPROVED BY IDOT DISTRICT 1, INSTALLED IN A NEMA TS1 OR TS2 CABINET. ONLY ONE BRAND OF CONTROLLER WILL BE ACCEPTED FOR ANY ONE CONTRACT.
- ALL TRAFFIC SIGNAL SECTIONS AND PEDESTRIAN SIGNAL SECTIONS SHALL BE LED AND 12" (300mm) DIAMETER. HEADS SHALL BE PLACED AS INDICATED ON THE TEMPORARY TRAFFIC SIGNAL PLAN OR AS DIRECTED BY THE ENGINEER. PEDESTRIAN SIGNALS SHALL INCLUDE SOLID INTERNATIONAL SYMBOLS. PEDESTRIAN SIGNALS WITH COUNTDOWN TIMERS SHALL BE USED WHEN THE EXISTING INSTALLATION UTILIZES COUNTDOWN TYPE OR AS DIRECTED BY THE ENGINEER. COUNTDOWN TYPE PEDESTRIAN SIGNALS ARE NOT TO BE INSTALLED AT A RAILROAD INTERSECTION. THE CONTRACTOR SHALL FURNISH ENOUGH CABLE SLACK TO RELOCATE HEADS TO ANY POSITION ON THE SPAN WIRE OR AT LOCATIONS ILLUSTRATED ON THE PLANS FOR CONSTRUCTION STAGING. THE TEMPORARY TRAFFIC SIGNAL SHALL REMAIN IN OPERATION DURING ALL SIGNAL HEAD RELOCATIONS. EACH TEMPORARY TRAFFIC SIGNAL HEAD SHALL HAVE ITS OWN CABLE FROM THE CONTROLLER CABINET TO THE SIGNAL HEAD.
- ANY TEMPORARY SIGNAL WITHIN AN EXISTING CLOSED LOOP TRAFFIC SIGNAL SYSTEM SHALL BE INTERCONNECTED TO THAT SYSTEM USING SIMILAR BRAND CONTROLLER EQUIPMENT. THE COST OF THE TEMPORARY INTERCONNECT SHALL BE INCLUDED IN THE PAY ITEM "TEMPORARY TRAFFIC SIGNAL INSTALLATION".
- 24" WHITE STOP BAR TO BE INSTALLED AT THE TIME OF THE INSTALLATION AND IMPLEMENTATION OF THE TEMPORARY TRAFFIC SIGNALS.
- CONTROLLER WITH STEEL BASE CABINET AND BATTERY BACK-UP CABINET SHALL BE MOUNTED ON A WOOD STAND.
- UNINTERRUPTIBLE POWER SUPPLY (UPS) SHALL BE INCLUDED IN THE "TEMPORARY BRIDGE TRAFFIC SIGNAL INSTALLATION" PAY ITEM.
- 8 WOOD POLES INSTALLED BY THE TRAFFIC SIGNAL CONTRACTOR (SEE TEMPORARY TRAFFIC SIGNAL PLANS).
- PROPOSED WOOD POLES FOR ROADWAY LIGHTING SHALL BE USED TO SUPPORT TRAFFIC SIGNAL CABLES. SEE DISTRICT DETAIL BE-805 TEMPORARY LIGHTING AND TRAFFIC SIGNALS FOR SINGLE LANE STAGING (SHEETS 45-47).
- TRAFFIC SIGNAL AND ROADWAY LIGHTING SHALL UTILIZE A COMBINATION ELECTRIC SERVICE INSTALLATION. SEE DISTRICT DETAIL BE-805 TEMPORARY LIGHTING AND TRAFFIC SIGNALS FOR SINGLE LANE STAGING (SHEETS 45-47).
- ALL SIGNAL HEADS SHALL BE L.E.D.
- ALL FIBER CONNECTIONS AND TESTING ARE INCLUDED IN THE "TEMPORARY BRIDGE TRAFFIC SIGNAL INSTALLATION" PAY ITEM.



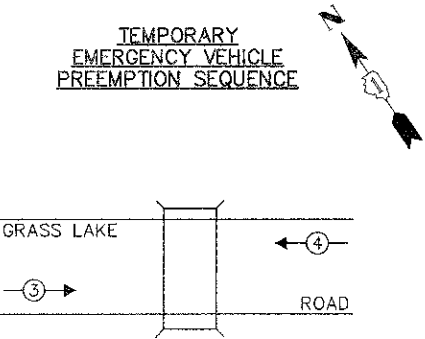
THIS SHEET TO BE WORKED WITH DISTRICT 1 DETAIL BE-805 "TEMPORARY LIGHTING AND TRAFFIC SIGNALS FOR SINGLE LANE STAGING" (SHEETS 71-73) AND THE MAINTENANCE OF TRAFFIC PLANS.

**TEMPORARY CONTROLLER SEQUENCE**



- LEGEND:**
- ◻ ← SINGLE ENTRY PHASE
  - ◯ ← DUAL ENTRY PHASE
  - ◯ ← \* PEDESTRIAN PHASE
  - \* NUMBER REFERS TO ASSOCIATED PHASE
  - ◯ ← \* OVERLAP

**TEMPORARY EMERGENCY VEHICLE PREEMPTION SEQUENCE**



TEMPORARY EMERGENCY VEHICLE PREEMPTORS			
EMERGENCY VEHICLE PREEMPTOR	3	4	
MOVEMENT			

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS					TOTAL WATTAGE
TYPE	NO. LAMPS	WATTAGE		% OPERATION	
		INCAND.	L.E.D.		
SIGNAL (RED)	6	135	17	0.50	51.0
SIGNAL (YELLOW)	6	135	25	0.25	37.5
SIGNAL (GREEN)	6	135	15	0.25	22.5
ARROW	--	135	12	0.10	--
PED. SIGNAL	--	90	25	1.00	--
CONTROLLER	1	--	100	1.00	100.0
LUMINAIRE	--	--	250	0.50	--
L.E.D. ST. NAME SIGN	--	--	64	0.50	--
VIDEO SYSTEM	1	--	150	1.00	150.0
BATTERY BACKUP	--	--	25	1.00	--
ILLUMINATED SIGN	--	--	25	0.05	--
TOTAL =					361.0

ENERGY COSTS - BILLED TO: LINDENHURST PARK DISTRICT  
(ADDRESS) 2200 GRASS LAKE ROAD  
(ADDRESS) LINDENHURST IL, 60046  
ENERGY SUPPLY - CONTACT: NEW BUSINESS  
PHONE: (866) 639-3552  
COMPANY: COM-ED

**TEMPORARY CABLE DIAGRAM LEGEND**

- ☒ CONTROLLER CABINET
- ☒ UNINTERRUPTIBLE POWER SUPPLY
- ☒ SERVICE INSTALLATION (P) POLE OR (G) GROUND MOUNT
- ☒ VIDEO DETECTION CAMERA
- ☒ INDICATES NUMBER OF CONDUCTORS IN CABLE, ALL CONDUCTORS TO BE NUMBER 14 AWG WIRE UNLESS OTHERWISE NOTED

FILE NAME = 4536.705-TRSTG.dwg	USER NAME = DAN STRAHAN	DESIGNED - JRD	REVISED - 9-7-12
		DRAWN - PJS	REVISED - 10-19-12
		CHECKED - TPG	REVISED - 12-17-12
		DATE - 5-29-12	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**TEMPORARY CABLE PLAN, PHASE DESIGNATION DIAGRAM,  
AND EMERGENCY VEHICLE PREEMPTION SEQUENCE  
GRASS LAKE ROAD BIKE PATH UNDERPASS**

SCALE: N.T.S. SHEET NO. 5 OF 5 SHEETS STA. 287+00 TO STA. 293+00

FALL RTE. 0174	SECTION 09-P0075-15-BT	COUNTY LAKE	TOTAL SHEETS 74	SHEET NO. 14
			CONTRACT # 63778	
ILLINOIS FED. AID PROJECT				

GHA #4536.705

**SEDIMENTATION AND EROSION CONTROL NOTES**

- A. THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IS COMPRISED OF THE SOIL EROSION AND SEDIMENT CONTROL PLANS, THE STANDARD DETAILS, THE PLAN NARRATIVE, PLUS THE PERMIT AND ALL SUBSEQUENT REPORTS AND RELATED DOCUMENTS.
- B. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE (SWPPP) AND THE ILLINOIS GENERAL CONSTRUCTION PERMIT (ILR10) AND BECOME FAMILIAR WITH THEIR CONTENTS AND SIGN THE CERTIFICATION FORMS.
- C. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY, PROJECT ENGINEER OR OWNER.
- D. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.
- E. GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES.
- F. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
- G. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
- H. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED. WATER USE MUST NOT CAUSE ADDITIONAL EROSION.
- I. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORM WATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
- J. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS PLAN, AND IN THE (SWPPP), SHALL BE INITIATED AS SOON AS PRACTICABLE.
- K. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT, WASHING SHALL BE IMPLEMENTED AND PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE.
- L. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED BY THE END OF THE DAY.
- M. ON-SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE PLAN AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.
- N. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
- O. ALL CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY. THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF GRAVEL OR BITUMINOUS PAVING FOR ROAD CONSTRUCTION.
- P. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. SOIL STABILIZATION MEASURES SHALL CONSIDER THE TIME OF YEAR, SITE CONDITIONS AND THE USE OF TEMPORARY OR PERMANENT MEASURES.
- Q. SOIL EROSION AND SEDIMENT CONTROL FEATURES SHALL BE CONSTRUCTED PRIOR TO THE COMMENCEMENT OF HYDROLOGIC DISTURBANCE OF UPLAND AREAS.
- R. DISTURBED AREAS SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN 7 CALENDAR DAYS OF THE END OF ACTIVE HYDROLOGIC DISTURBANCE OR REDISTURBANCE.
- S. ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES MUST BE MAINTAINED AND REPAIRED AS NEEDED. THE PROPERTY OWNER SHALL ULTIMATELY BE RESPONSIBLE FOR MAINTENANCE AND REPAIR.
- T. IF DEWATERING SERVICES ARE USED, ADJOINING PROPERTIES AND DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION. DISCHARGES SHALL BE ROUTED THROUGH AN EFFECTIVE SEDIMENT CONTROL MEASURE (e.g. SEDIMENT TRAP, SEDIMENT BASIN, OR OTHER APPROPRIATE MEASURE).
- U. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER OR GOVERNING AGENCY.

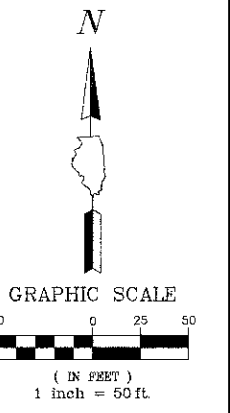
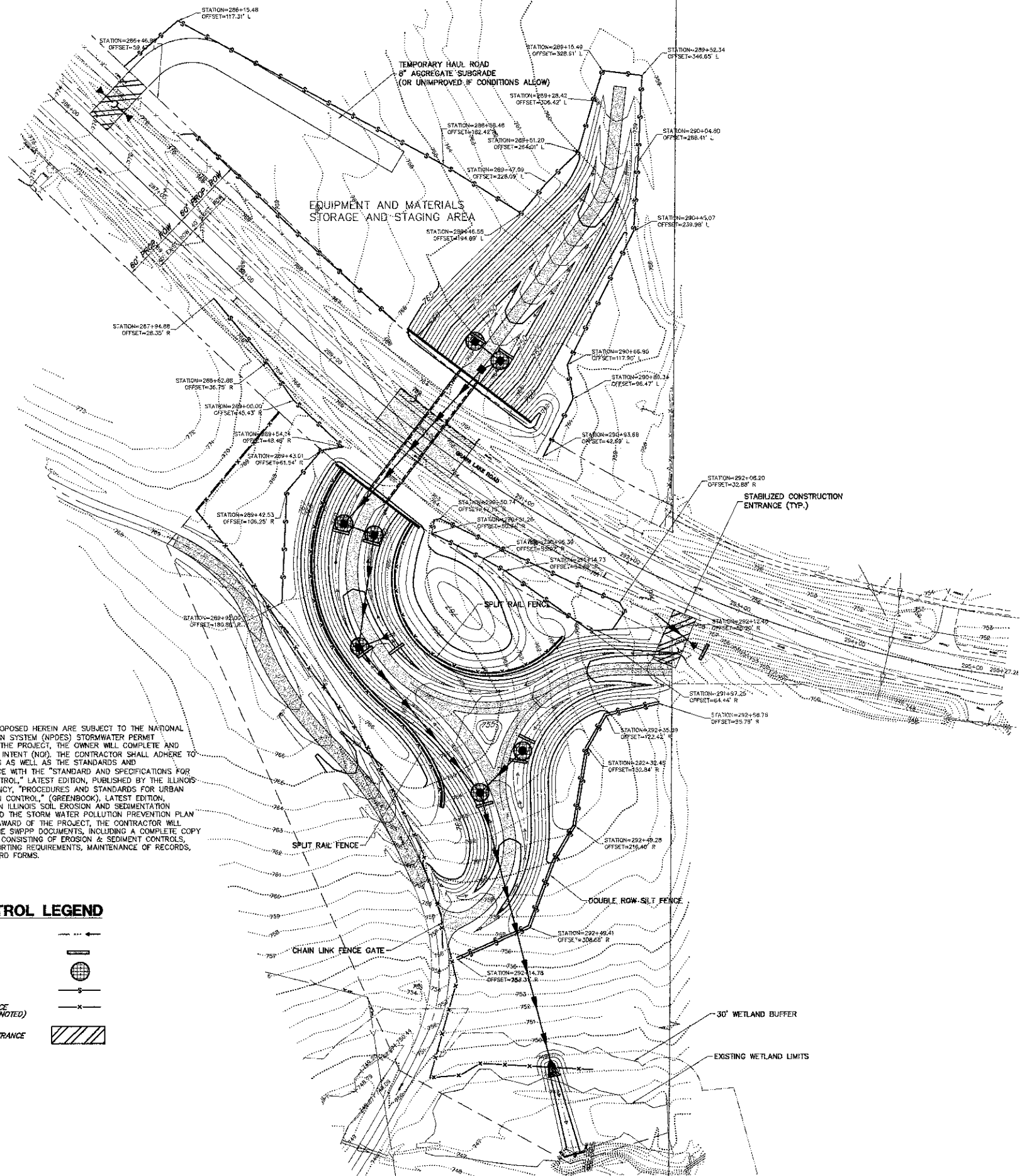
**SEQUENCE OF MAJOR ACTIVITIES**

1. OWNER FILES NOTICE OF INTENT (NOI) AT LEAST 30 DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION OPERATIONS.
2. INSTALLATION OF SOIL EROSION AND SEDIMENT CONTROL MEASURES.
  - ORANGE CONSTRUCTION FENCING AND/OR SILT FENCE AROUND WETLANDS AND OTHER AREAS NOT TO BE DISTURBED
  - PERIMETER SILT FENCE
  - STABILIZED CONSTRUCTION ENTRANCE WITH WASH RACK
  - INLET PROTECTION ON EXISTING STRUCTURES CLOSE TO THE DISTURBED AREA.
3. CONTRACTOR PERFORMS WEEKLY AND "AFTER RAIN EVENT" INSPECTIONS STARTING UPON DISTURBANCE OF THE SITE (DEMOLITION OR INSTALLATION OF SOIL EROSION AND SEDIMENT CONTROL MEASURES).
4. DEMOLITION
5. TREE REMOVAL WHERE NECESSARY (CLEAR & GRUB)
6. CONSTRUCT SEDIMENT TRAPPING DEVICES (SEDIMENT TRAPS, BASINS AND SEDIMENT REMOVAL CHANNELS).
7. DEWATER INTO SEDIMENT REMOVAL CHANNEL, WHICH DISCHARGES TO AN UPLAND AREA. THE HOSE IN THE AREA BEING DEWATERED MUST BE ATTACHED TO A FLOATING DEVICE WITH A SCREEN.
8. CONSTRUCT DETENTION FACILITIES AND OUTLET CONTROL STRUCTURE WITH RESTRICTOR AND TEMPORARY PERFORATED RISER. PERMANENTLY STABILIZE THE AREA WITH TOPSOIL, SEED AND EROSION CONTROL BLANKET.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING PLANT GROWTH IN BOTTOM AND SIDE SLOPES OF BASIN. DEWATERING, AS NEEDED, SHALL BE INCIDENTAL TO THE CONTRACTOR'S SCOPE.
10. ABANDON THE EXISTING SITE STORM DRAINAGE; PROTECTION OF POINTS OF ENTRY INTO EXISTING STORM DRAINAGE SYSTEM.
11. STRIP TOPSOIL, STOCK TOPSOIL AND GRAZE SITE.
12. TEMPORARY CONTAINMENT OF SOIL/AGGREGATE STOCKPILES (SEED AND SILT FENCE AROUND TOE OF SLOPE).
13. INSTALL UTILITIES AND ASSOCIATED INLET & OUTLET PROTECTION.
14. CONSTRUCT BUILDING AND PAVEMENT.
15. FINE GRADE.
16. INSTALL TOPSOIL, SEED, AND PERMANENT EROSION CONTROL.
17. REMOVE TEMPORARY EROSION CONTROL MEASURE - ONLY - WHEN SITE HAS ACHIEVED FULL STABILIZATION.
18. OWNER TO FILE NOTICE OF TERMINATION (NOT).

**EROSION CONTROL LEGEND**

- GRADING & SHAPING DITCHES
- TEMPORARY DITCH CHECK
- INLET FILTERS
- PERIMETER EROSION BARRIER
- CHAINLINK CONSTRUCTION FENCE (UNLESS OF TYPE OTHERWISE NOTED)
- STABILIZED CONSTRUCTION ENTRANCE

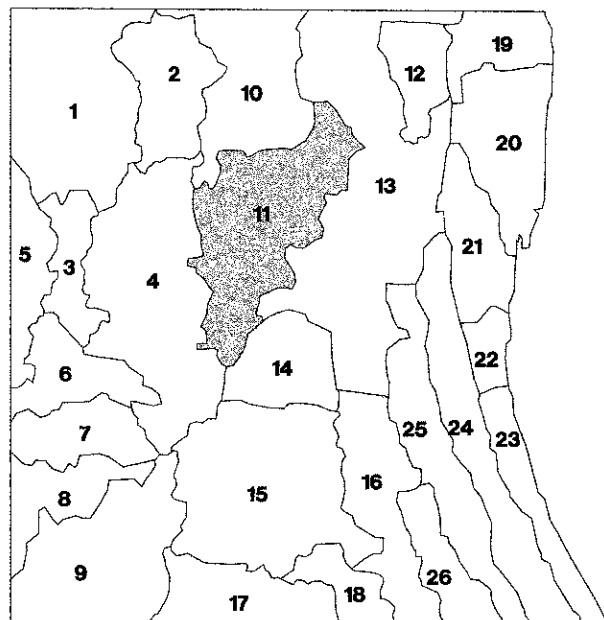
THE CONSTRUCTION ACTIVITIES PROPOSED HEREIN ARE SUBJECT TO THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER PERMIT REQUIREMENTS. UPON AWARD OF THE PROJECT, THE OWNER WILL COMPLETE AND SUBMIT THE REQUIRED NOTICE OF INTENT (NOI). THE CONTRACTOR SHALL ADHERE TO THE NPDES PERMIT REQUIREMENTS AS WELL AS THE STANDARDS AND RECOMMENDATIONS IN ACCORDANCE WITH THE "STANDARD AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL," LATEST EDITION, PUBLISHED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, "PROCEDURES AND STANDARDS FOR URBAN SOIL EROSION AND SEDIMENTATION CONTROL," (GREENBOOK), LATEST EDITION, PUBLISHED BY THE NORTHEASTERN ILLINOIS SOIL EROSION AND SEDIMENTATION CONTROL STEERING COMMITTEE, AND THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS. UPON AWARD OF THE PROJECT, THE CONTRACTOR WILL RECEIVE AND SIGN A COPY OF THE SWPPP DOCUMENTS, INCLUDING A COMPLETE COPY OF NPDES PERMIT REQUIREMENTS CONSISTING OF EROSION & SEDIMENT CONTROLS, MAINTENANCE, OBSERVATION REPORTING REQUIREMENTS, MAINTENANCE OF RECORDS, PROJECT CLOSEOUT, AND STANDARD FORMS.



FILE NAME = 4536.705-PR5.dwg	USER NAME = DAN STRAHAN	DESIGNED - DJS	REVISED - 9-7-12	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SOIL EROSION/SEDIMENT CONTROL PLAN GRASS LAKE ROAD BIKE PATH UNDERPASS</b>	FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN - PJS	REVISED - 10-19-12			0174	09-P0075-15-BT	LAKE	74	15	
		CHECKED - TPG	REVISED - 12-17-12			CONTRACT # 63778					
		DATE - 5-29-12	REVISED -			ILLINOIS FED. AID PROJECT					
				SCALE 1"=50'		SHEET NO. 1 OF 2 SHEETS		STA. TO STA.			



**DRAINAGE BASINS OF LAKE COUNTY**



- I. FOX RIVER WATERSHED
  - 1. UPPER FOX RIVER
  - 2. SEQUOIT CREEK
  - 3. FISH LAKE DRAIN
  - 4. SQUAW CREEK
  - 5. LOWER FOX RIVER
  - 6. MUTTON CREEK
  - 7. SLODOM LAKE DRAIN
  - 8. TOWER LAKE DRAIN
  - 9. FLINT CREEK
- II. DES PLAINES RIVER WATERSHED
  - 10. NORTH HILL CREEK
  - 11. MILL CREEK
  - 12. NEWPORT DRAINAGE DITCH
  - 13. UPPER DES PLAINES RIVER
  - 14. BULL CREEK
  - 15. INDIAN CREEK
  - 16. LOWER DES PLAINES RIVER
  - 17. BUFFALO CREEK
  - 18. APTAKISIC CREEK
- III. LAKE MICHIGAN WATERSHED
  - 19. KELLOGG CREEK
  - 20. DEAD RIVER
  - 21. WAUKEGAN RIVER
  - 22. PETTIBONE CREEK
  - 23. BLUFF / RAVINE
- IV. CHICAGO RIVER WATERSHED
  - 24. SKOKIE RIVER
  - 25. MIDDLE FORK
  - 26. WEST FORK

**LAKE COUNTY SMC**

TYPICAL CONSTRUCTION SEQUENCING

- 1.) INSTALLATION OF SOIL EROSION AND SEDIMENT CONTROL SE/SC MEASURES
  - A.) SELECTIVE VEGETATION REMOVAL FOR SILT FENCE INSTALLATION
    - B.) SILT FENCE INSTALLATION
    - C.) CONSTRUCTION FENCING AROUND AREAS NOT TO BE DISTURBED
    - D.) STABILIZED CONSTRUCTION ENTRANCE
  - 2.) TREE REMOVAL WHERE NECESSARY (CLEAR & GRUB)
  - 3.) CONSTRUCT SEDIMENT TRAPPING DEVICES (SEDIMENT TRAPS, BASINS...)
  - 4.) CONSTRUCT DETENTION FACILITIES AND OUTLET CONTROL STRUCTURE WITH RESTRICTOR & TEMPORARY PERFORATED RISER
  - 5.) STRIP TOPSOIL, STOCKPILE TOPSOIL AND GRADE SITE
  - 6.) TEMPORARILY STABILIZE TOPSOIL STOCKPILES (SEED AND SILT FENCE AROUND TOE OF SLOPE)
  - 7.) INSTALL STORM SEWER, SANITARY SEWER, WATER AND ASSOCIATED INLET & OUTLET PROTECTION
  - 8.) PERMANENTLY STABILIZE DETENTION BASINS WITH SEED AND EROSION CONTROL BLANKET
  - 9.) TEMPORARILY STABILIZE ALL AREAS INCLUDING LOTS THAT HAVE REACHED TEMPORARY GRADE
  - 10.) INSTALL ROADWAYS
  - 11.) PERMANENTLY STABILIZE ALL OUTLOT AREAS
  - 12.) INSTALL STRUCTURES AND GRADE INDIVIDUAL LOTS
  - 13.) PERMANENTLY STABILIZE LOTS
  - 14.) REMOVE ALL TEMPORARY SE/SC MEASURES AFTER THE SITE IS STABILIZED WITH VEGETATION
- \* SOIL EROSION AND SEDIMENT CONTROL MAINTENANCE MUST OCCUR EVERY TWO WEEKS AND AFTER EVERY 1/2" OR GREATER RAINFALL EVENT

**SEDIMENTATION AND EROSION CONTROL NOTES**

- A. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. SOIL STABILIZATION MEASURES SHALL CONSIDER THE TIME OF YEAR, SITE CONDITIONS AND THE USE OF TEMPORARY OR PERMANENT MEASURES.
- B. SOIL EROSION AND SEDIMENT CONTROL FEATURES SHALL BE CONSTRUCTED PRIOR TO THE COMMENCEMENT OF HYDROLOGIC DISTURBANCE OF UPLAND AREAS.
- C. DISTURBED AREAS SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN 7 CALENDAR DAYS OF THE END OF ACTIVE HYDROLOGIC DISTURBANCE, OR REDISTURBANCE.
- D. AREAS OR EMBANKMENTS HAVING SLOPES GREATER THAN OR EQUAL TO 3H:1V, AND APPROVED BY THE ENFORCEMENT OFFICER, SHALL BE STABILIZED WITH SOD, MAT OR BLANKET IN COMBINATION WITH SEEDING.
- E. EROSION CONTROL BLANKET SHALL BE REQUIRED ON ALL INTERIOR DETENTION BASIN SIDE SLOPES BETWEEN NORMAL WATER LEVEL AND HIGH WATER LEVEL.
- F. ALL STORM SEWERS THAT ARE OR WILL BE FUNCTIONING DURING CONSTRUCTION SHALL BE PROTECTED, BY AN APPROPRIATE SEDIMENT CONTROL MEASURE.
- G. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED.
- H. ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES MUST BE MAINTAINED AND REPAIRED AS NEEDED. THE PROPERTY OWNER SHALL BE ULTIMATELY RESPONSIBLE FOR MAINTENANCE AND REPAIR.
- I. A STABILIZED MAT OF AGGREGATE UNDERLAIN WITH FILTER CLOTH (OR OTHER APPROPRIATE MEASURE) SHALL BE LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING A CONSTRUCTION SITE TO OR FROM A PUBLIC RIGHT-OF-WAY, STREET, ALLEY OR PARKING AREA. ANY SEDIMENT OR SOIL REACHING AN IMPROVED PUBLIC RIGHT-OF-WAY, STREET, ALLEY OR PARKING AREA SHALL BE REMOVED BY SCRAPING OR STREET CLEANING AS ACCUMULATIONS WARRANT AND TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA. THIS WORK SHALL BE INCLUDED IN THE "STABILIZED CONSTRUCTION ACCESS" PAY ITEM.
- J. SOIL STOCKPILES SHALL NOT BE LOCATED IN A FLOOD PRONE AREA OR A DESIGNATED BUFFER PROTECTING WATERS OF THE UNITED STATES OR ISOLATED WATERS OF LAKE COUNTY.
- K. IF DEWATERING SERVICES ARE USED, ADJOINING PROPERTIES AND DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION. DISCHARGES SHALL BE ROUTED THROUGH AN EFFECTIVE SEDIMENT CONTROL MEASURE (e.g. SEDIMENT TRAP, SEDIMENT BASIN, OR OTHER APPROPRIATE MEASURE).
- L. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER OR GOVERNING AGENCY.

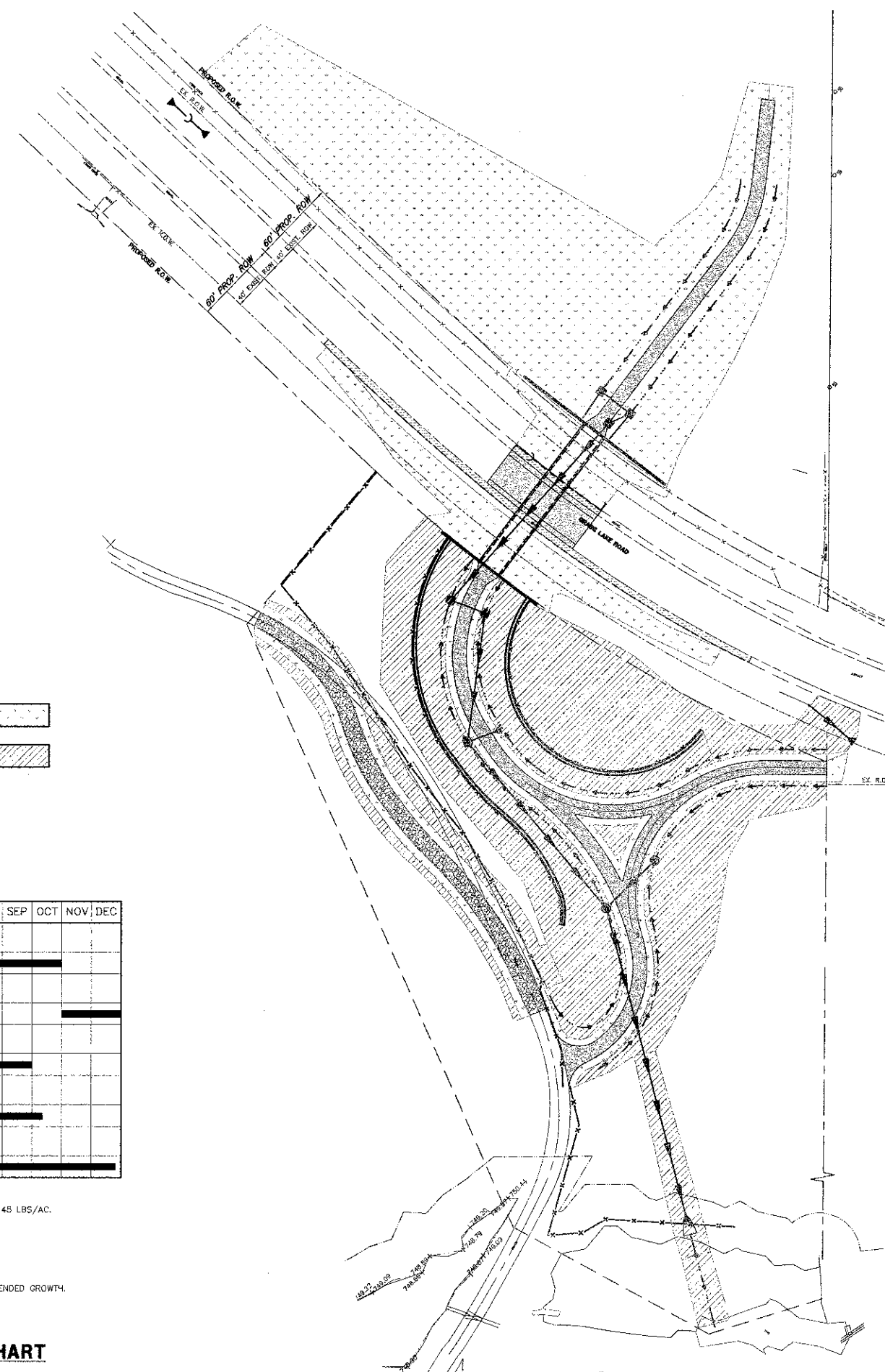
**SEEDING LEGEND**

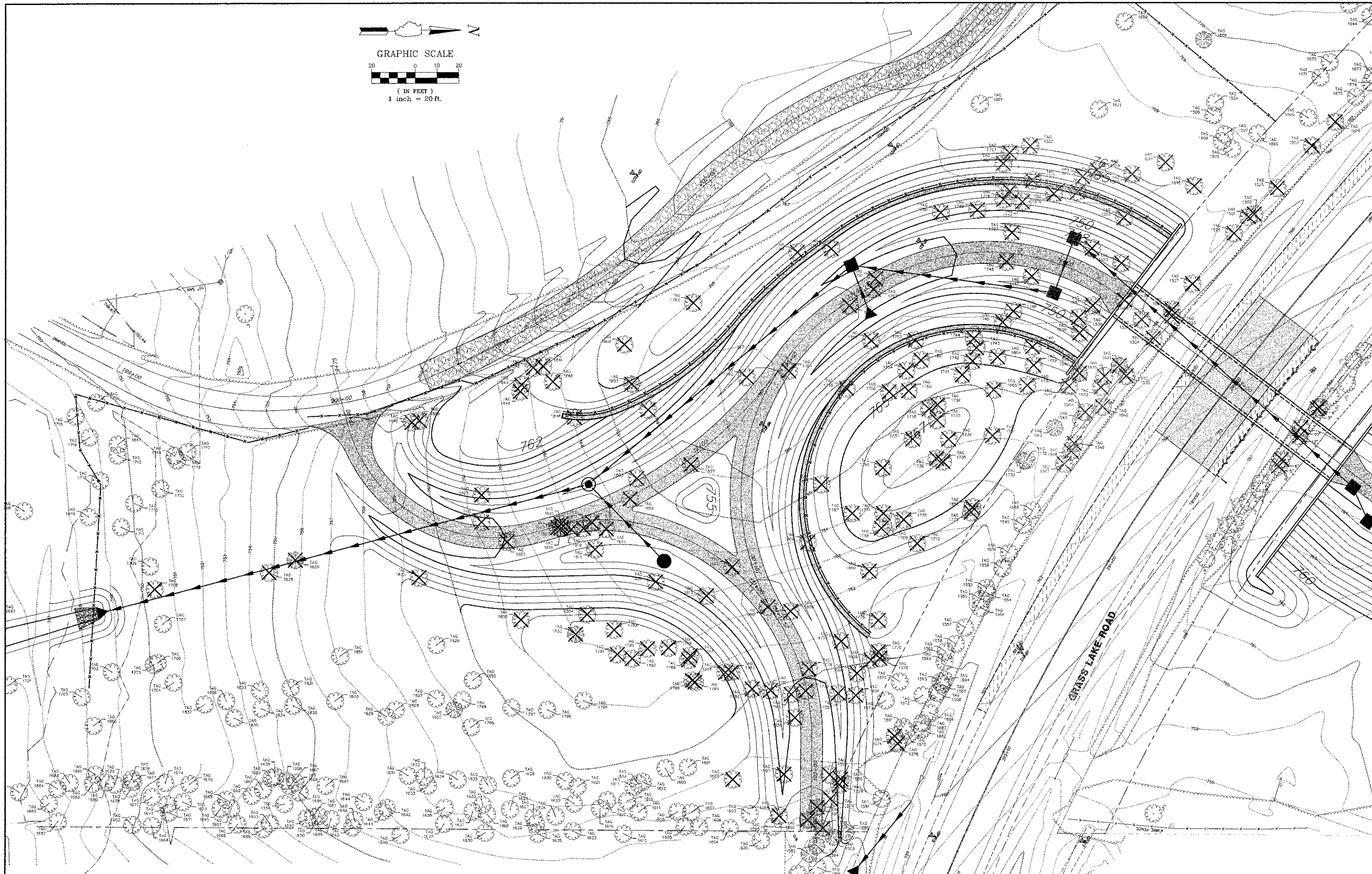
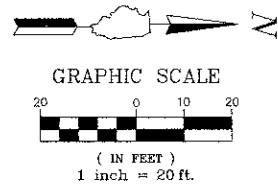
- SEEDING, CLASS 2 (MODIFIED)  
TOPSOIL FURNISH AND PLACE, 4"  
EROSION CONTROL BLANKET
- SEEDING, CLASS 3 (MODIFIED)  
TOPSOIL FURNISH AND PLACE, 4"  
EROSION CONTROL BLANKET

Stabilization Type:	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Permanent Seeding			A	██████████	X	X	X	X	X	X		
Dormant Seeding	B	██████████										
Temporary Seeding			C	██████████	X	X	X	X	X			
Sodding			E	X	X	X	██████████					
Mulching	F	██████████										

- A = MODIFIED 190T SEEDING CLASS AS NOTED (SEE SEEDING SPECIAL PROVISION)
  - B = KENTUCKY BLUEGRASS @ 135 LBS/AC. MIXED WITH PERENNIAL RYEGRASS @ 45 LBS/AC.
  - C = SPRING OATS @ 100 LBS/AC.
  - D = WHEAT OR CEREAL RYE @ 150 LBS/AC.
  - E = SOD
  - F = STRAW MULCH (HYDROMULCH OR USE STRAW BLANKET) @ 2 TONS/AC.
  - XXX = IRRIGATION NEEDED
- IRRIGATION SHOULD BE PROVIDED AS NECESSARY TO THOROUGHLY ESTABLISH INTENDED GROWTH.
- NOTE:  
SPRAYED ON PRODUCTS CANNOT BE USED NOV.-FEB.

**TYPICAL SOIL PROTECTION CHART**





FILE NAME = 4536.705-PRG.dwg  
 USER NAME = DAN STRAHAN  
 PLOT SCALE = 1:1  
 PLOT DATE = 5/29/2012

DESIGNED - DJS  
 DRAWN - PJS  
 CHECKED - TPG  
 DATE - 5-29-12

REVISED - 9-7-12  
 REVISED - 10-19-12  
 REVISED - 12-17-12  
 REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**TREE SURVEY - BIKE PATH  
 GRASS LAKE ROAD BIKE PATH UNDERPASS**  
 SCALE 1"=20'  
 SHEET NO. 1 OF 3 SHEETS  
 STA. TO STA.

FAU. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	16
CONTRACT #				63778
ILLINOIS FED. AID PROJECT				

Tag No.	Common Name	Botanical Name	Size	Cond.	Form	Problems	Comments	Tag No.	Common Name	Botanical Name	Size	Cond.	Form	Problems	Comments	Tag No.	Common Name	Botanical Name	Size	Cond.	Form	Problems	Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
1500	American Elm	Ulmus americana	4.5	2	3	minor deadwood, weak crown, epicormics		1501	Green Ash	Fraxinus pennsylvanica	16	3	3	minor deadwood, weak crown, epicormics		1502	Hill's Oak	Quercus ellipsoidalis	17	4	3	one sided, damaged leader, slight sweep		1503	Green Ash	Fraxinus pennsylvanica	17	4	3	minor deadwood, weak crown, epicormics		1504	Black Cherry	Prunus serotina	32	3	4	minor deadwood, weak crown, epicormics, multiple leaders	Forked at 5'	1505	Bur Oak	Quercus macrocarpa	23	3	4	minor deadwood, weak crown, epicormics, multiple leaders		1506	Hill's Oak	Quercus ellipsoidalis	4.75	2	3	over-topped, slight sweep		1507	Green Ash	Fraxinus pennsylvanica	7	3	3	suckering, twist in trunk		1508	Boxelder Maple	Acer negundo	3.75	3	4	over-topped, vine infested, slight sweep, double leader		1509	Green Ash	Fraxinus pennsylvanica	11	5	4	trunk scar, one sided, slight lean		1510	Black Walnut	Juglans nigra	17	3	4	minor deadwood, one sided, multiple leaders		1511	Green Ash	Fraxinus pennsylvanica	9	4	4	one sided, suckering, over-topped, slight sweep		1512	Black Walnut	Juglans nigra	18	3	3	minor deadwood, vine infested, multiple leaders		1513	Green Ash	Fraxinus pennsylvanica	9	4	4	one sided, suckering, over-topped, slight sweep		1514	Black Walnut	Juglans nigra	14	4	4	minor deadwood, one sided, suckering, double leader		1515	Black Walnut	Juglans nigra	12	3	4	one sided, vine infested, double leader		1516	Black Walnut	Juglans nigra	14	4	4	minor deadwood, sparse foliage, one sided, suckering, multiple leaders		1517	Austrian Pine	Pinus nigra	2.5	3	3	minor deadwood		1518	Austrian Pine	Pinus nigra	2.5	3	3	minor deadwood		1519	Austrian Pine	Pinus nigra	2.5	3	3	minor deadwood		1520	Austrian Pine	Pinus nigra	2.5	3	3	minor deadwood		1521	Green Ash	Fraxinus pennsylvanica	6	3	3	slight lean		1522	American Elm	Ulmus americana	3	2	3	minor deadwood, weak crown, epicormics		1523	Green Ash	Fraxinus pennsylvanica	19	5	5	minor deadwood, weak crown, epicormics, multiple leaders		1524	Cockspur Hawthorn	Crataegus crus-galli	5	2	2		Forked at 2' with 5" 3" co-leaders.	1525	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1526	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1527	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1528	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1529	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1530	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1531	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1532	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1533	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1534	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1535	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1536	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1537	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1538	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1539	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1540	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1541	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1542	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1543	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1544	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1545	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1546	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1547	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1548	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1549	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1550	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1551	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1552	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1553	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1554	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1555	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1556	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1557	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1558	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1559	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1560	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1561	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1562	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1563	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1564	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1565	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1566	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1567	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1568	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1569	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1570	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1571	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1572	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1573	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1574	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean		1575	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean	

NOTE: SHADED ENTRIES INDICATE TREES TO BE REMOVED.

1726	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, damaged leader, multiple leaders	Forked at 1' with 2" co-leader	1801	Cashew	Morus spp.	7	3	3	minor deadwood, weak crotch	Forked at 1' with 4" 3" 3" 2" co-leaders	1879	American Elm	Ulmus americana	3.5	3	4	suckering, over-topped, slight sweep	
1727	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, damaged leader, multiple leaders	Forked at 1' with 2" co-leader	1802	American Elm	Ulmus americana	4	3	3	minor deadwood, weak crotch	Forked at 1' with 4" 3" 3" 2" co-leaders	1880	American Elm	Ulmus americana	1.1	3	3	minor deadwood, weak crotch, suckering, multiple leaders	
1728	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, damaged leader, multiple leaders	Forked at 1' with 2" co-leader	1803	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 1' with 4" 3" 3" 2" co-leaders	1882	Green Ash	Fraxinus pennsylvanica	2.5	3	4	one sided, vine infested, slight lean	
1729	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, damaged leader, multiple leaders	Forked at 1' with 2" co-leader	1804	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 1' with 4" 3" 3" 2" co-leaders	1889	Green Ash	Fraxinus pennsylvanica	2	3	4	twist in trunk	
1730	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, damaged leader, multiple leaders	Forked at 1' with 2" co-leader	1805	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 1' with 4" 3" 3" 2" co-leaders	1884	American Elm	Ulmus americana	2.75	2	4	over-topped, slight sweep	
1731	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, damaged leader, multiple leaders	Forked at 1' with 2" co-leader	1806	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 1' with 4" 3" 3" 2" co-leaders	1885	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	
1732	Cottonwood	Populus deltoides	4	3	4	minor deadwood, damaged leader, multiple leaders		1807	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leaders	1886	Austrian Pine	Pinus nigra	2	3	3		
1733	Eastern Red-cedar	Juniperus virginiana	2.5	3	4	minor deadwood, over-topped, lower branches shaded out		1808	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leaders	1887	Hill's Oak	Quercus ellipsoidalis	5	4	4	minor deadwood, damaged leader, dieback, hollow	
1734	Green Ash	Fraxinus pennsylvanica	2.75	3	3	minor deadwood, trunk scar		1809	American Elm	Ulmus americana	2.5	3	3	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leaders	1889	Bur Oak	Quercus macrocarpa	3	3	4	one sided, over-topped, epicormics	
1735	American Elm	Ulmus americana	1.75	2	3	slight sweep		1810	Green Ash	Fraxinus pennsylvanica	3	3	4	twist in trunk, multiple leaders	Forked at 2' with 4" 3" 3" 2" co-leaders	1890	Green Ash	Fraxinus pennsylvanica	11	5	4	Emerald ash borer, minor deadwood, sparse foliage	
1736	American Elm	Ulmus americana	2	3	3	minor deadwood, one sided		1811	Green Ash	Fraxinus pennsylvanica	3	3	4	twist in trunk, multiple leaders	Forked at 2' with 4" 3" 3" 2" co-leaders	1891	Green Ash	Fraxinus pennsylvanica	11	6		Dead	
1737	American Elm	Ulmus americana	2	3	3	minor deadwood, one sided		1812	Shagbark Hickory	Carya ovata	3	3	3	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leaders	1892	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	
1738	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leader	1813	Shagbark Hickory	Carya ovata	3	3	3	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leaders	1893	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	
1739	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leader	1814	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leaders	1894	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	
1740	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leader	1815	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leaders	1895	Norway Maple	Acer platanoides	8	3	3	weak crotch	Forked at 1' with an 8" co-leader
1741	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leader	1816	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leaders	1896	Green Ash	Fraxinus pennsylvanica	10	3	4	minor deadwood, suckering, slight sweep	Forked at 2' with a 3" co-leader
1742	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leader	1817	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leaders	1897	Green Ash	Fraxinus pennsylvanica	3.5	3	4	one sided, over-topped, slight sweep	
1743	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leader	1818	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leaders	1898	Green Ash	Fraxinus pennsylvanica	7	3	4	twist in trunk, multiple leaders	
1744	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leader	1819	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leaders	1899	Siberian Elm	Ulmus pumila	7	3	4	Elm leaf beetle, one sided, double leader	
1745	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leader	1820	Shagbark Hickory	Carya ovata	3	3	3	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leaders	1900	Siberian Elm	Ulmus pumila	3	3	4	minor deadwood, sparse foliage, suckering, over-topped	
1746	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leader	1821	Shagbark Hickory	Carya ovata	3	3	3	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leaders	1901	Green Ash	Fraxinus pennsylvanica	12	3	3	minor deadwood	
1747	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leader	1822	Shagbark Hickory	Carya ovata	3	3	3	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leaders	1902	Green Ash	Fraxinus pennsylvanica	20	5	3	heavy deadwood, sparse foliage, dieback, multiple leaders	Forked at 4' 5" with a 16" co-leader
1748	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leader	1823	Shagbark Hickory	Carya ovata	3	3	3	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leaders	1903	Siberian Elm	Ulmus pumila	6	4	3	blm leaf beetle, minor deadwood, suckering	
1749	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leader	1824	Shagbark Hickory	Carya ovata	3	3	3	minor deadwood, weak crotch	Forked at 2' with 4" 3" 3" 2" co-leaders	1904	Green Ash	Fraxinus pennsylvanica	4	3	4	one sided, over-topped, twist in trunk	
1750	Green Ash	Fraxinus pennsylvanica	6	3	3	suckering, twist in trunk, multiple leaders		1825	White Oak	Quercus alba	2.5	2	3	twist in trunk		1905	Green Ash	Fraxinus pennsylvanica	3.5	3	4	over-topped, slight lean, twist in trunk	
1751	Green Ash	Fraxinus pennsylvanica	2	3	3	minor deadwood, weak crotch		1826	Cockspur Hawthorn	Crataegus crus-galli	3	3	3	minor deadwood, weak crotch	Forked at 2' with 2" 2" co-leaders	1906	Black Walnut	Juglans nigra	5	3	4	one sided, damaged leader	
1752	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1827	Cockspur Hawthorn	Crataegus crus-galli	3	3	3	minor deadwood, weak crotch	Forked at 2' with 2" 2" co-leaders	1907	Green Ash	Fraxinus pennsylvanica	5.5	3	4	one sided, over-topped, slight lean	Forked at base with #1908 & #1910
1753	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1828	Cockspur Hawthorn	Crataegus crus-galli	3	2	3	weak crotch	Forked at 1.5' with 2" 2" co-leaders	1908	Green Ash	Fraxinus pennsylvanica	7	3	3	weak crotch, multiple leaders	Forked at base with #1907 & #1910
1754	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1829	White Oak	Quercus alba	3	2	3	slight sweep		1909	Green Ash	Fraxinus pennsylvanica	3	3	4	over-topped, slight lean	
1755	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1830	Shagbark Hickory	Carya ovata	2.25	2	2			1910	Green Ash	Fraxinus pennsylvanica	2.5	3	4	over-topped, slight lean, slight sweep	Forked at base with #1907 & #1908
1756	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1831	Quaking Aspen	Populus tremuloides	5	3	4	minor deadwood, trunk scar, twist in trunk		1911	Green Ash	Fraxinus pennsylvanica	11	4	3	minor deadwood, suckering, dieback	
1757	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1832	Cockspur Hawthorn	Crataegus crus-galli	2.75	2	3	minor deadwood, weak crotch	Forked at .5' with 2.5" 1" co-leaders	1912	Green Ash	Fraxinus pennsylvanica	10	4	4	minor deadwood, weak crotch, suckering, over-topped	Forked at 2' with an 8" co-leader
1758	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1833	White Oak	Quercus alba	5	2	3	weak crotch, double leader		1913	Eastern White Pine	Pinus strobus	6	7	2		
1759	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1834	Shagbark Hickory	Carya ovata	2	2	2			1914	Staghorn Sumac	Rhus typhina	3	3	4	trunk scar, over-topped, slight lean	
1760	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1835	Shagbark Hickory	Carya ovata	1.75	2	3	twist in trunk, double leader		1915	Jack Pine	Pinus banksiana	6	3	4	one sided, over-topped	
1761	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1836	Shagbark Hickory	Carya ovata	2.25	3	3	suckering, twist in trunk		1916	Cottonwood	Populus deltoides	14	6		Dead	
1762	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1837	Cockspur Hawthorn	Crataegus crus-galli	3	3	3	minor deadwood, slight lean	Forked at 1' with 3" 2" co-leaders	1917	Eastern White Pine	Pinus strobus	5	3	2	damaged leader	
1763	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1838	Shagbark Hickory	Carya ovata	3	3	3	minor deadwood, weak crotch	Forked at 1' with 3" 2" co-leaders	1918	Austrian Pine	Pinus nigra	4	3	2	minor deadwood	
1764	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1839	Shagbark Hickory	Carya ovata	3	3	3	minor deadwood, weak crotch	Forked at 1' with 3" 2" co-leaders	1919	Siberian Elm	Ulmus pumila	3	2	3	slight sweep	
1765	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1840	Shagbark Hickory	Carya ovata	3	3	3	minor deadwood, weak crotch	Forked at 1' with 3" 2" co-leaders	1920	Eastern White Pine	Pinus strobus	7	2	2		
1766	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1841	Black Cherry	Prunus serotina	2.25	2	2			1921	Sugar Maple	Acer saccharum	5	2	2		
1767	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1842	Black Cherry	Prunus serotina	2.25	2	2			1922	Sugar Maple	Acer saccharum	6	3	3	suckering	Old tag #1515
1768	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1843	Black Cherry	Prunus serotina	2.25	2	2			1923	Shingle Oak	Quercus imbricaria	4	3	3	minor deadwood, twist in trunk, multiple leaders	
1769	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1844	Black Cherry	Prunus serotina	2.25	2	2			1924	Eastern White Pine	Pinus strobus	4	3	3		
1770	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1845	Black Cherry	Prunus serotina	2.25	2	2			1925	Austrian Pine	Pinus nigra	3	3	3	minor deadwood	
1771	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1846	Black Cherry	Prunus serotina	2.25	2	2			1926	Staghorn Sumac	Rhus typhina	3	3	4	trunk scar, one sided, over-topped	Forked at base with a 3" co-leader
1772	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1847	Black Cherry	Prunus serotina	2.25	2	2			1927	Staghorn Sumac	Rhus typhina	4	3	3	over-topped, slight sweep	Forked at 3.5' with a 3" co-leader
1773	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1848	Black Cherry	Prunus serotina	2.25	2	2			1928	Staghorn Sumac	Rhus typhina	4	3	3	over-topped, slight sweep	
1774	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1849	Black Cherry	Prunus serotina	2.25	2	2			1929	Staghorn Sumac	Rhus typhina	2	3	4	minor deadwood, twist in trunk	
1775	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1850	Shagbark Hickory	Carya ovata	2	3	3	leaf spot		1930	Staghorn Sumac	Rhus typhina	4	4	4	minor deadwood, trunk scar, dieback, twist in trunk	
1776	Green Ash	Fraxinus pennsylvanica	2.5	3	4	minor deadwood, weak crotch		1851	Cockspur Hawthorn	Crataegus crus-galli	3	2	3	minor deadwood, weak crotch	Forked at 1.5' with 3" 2.5" 2" co-leaders	1931	Staghorn Sumac	R					

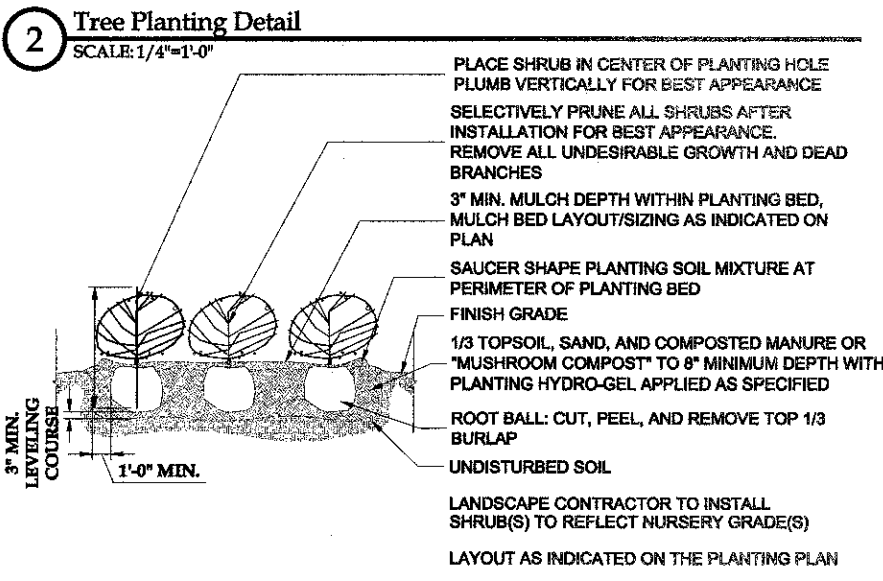
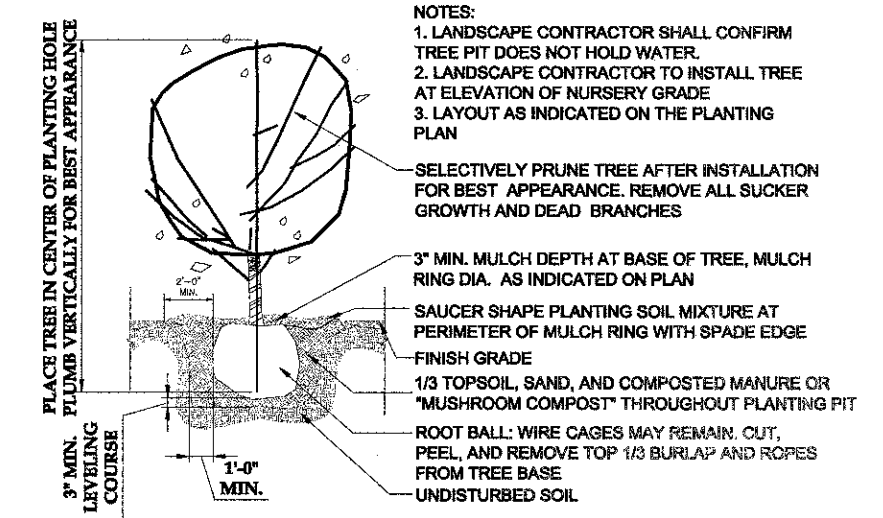
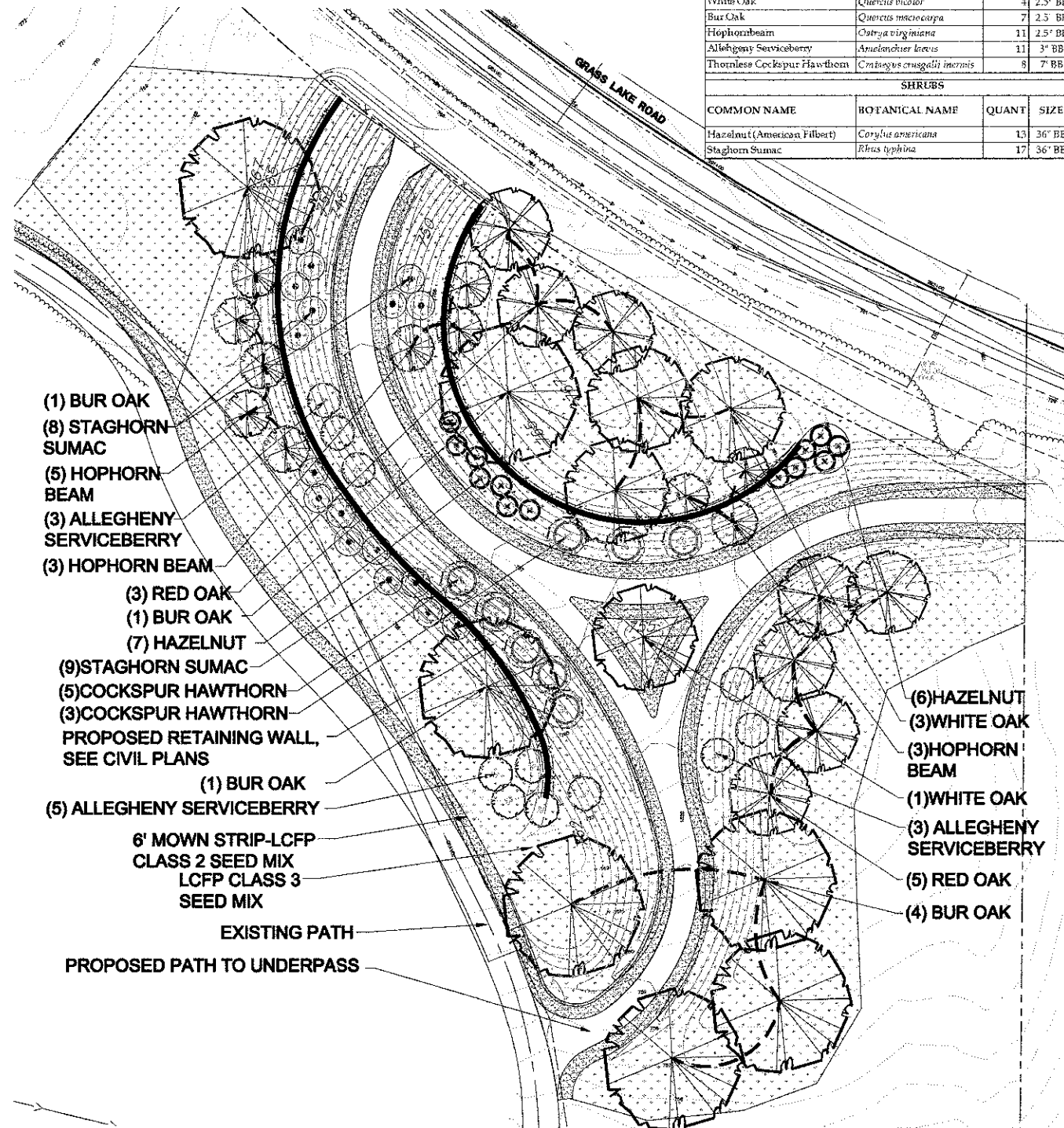
Plant List				
TREES				
COMMON NAME	BOTANICAL NAME	QUANT	SIZE	PLANTING SEASON
Red Oak	<i>Quercus rubra</i>	8	2.5" BB	FALL
White Oak	<i>Quercus bicolor</i>	4	2.5" BB	FALL
Bur Oak	<i>Quercus macrocarpa</i>	7	2.5" BB	FALL
Hophornbeam	<i>Ostrya virginiana</i>	11	2.5" BB	FALL
Allegheny Serviceberry	<i>Amelanchier laevis</i>	11	3" BB	FALL
Thornless Cockspur Hawthorn	<i>Crataegus crusgalli inermis</i>	8	7" BB	FALL
SHRUBS				
COMMON NAME	BOTANICAL NAME	QUANT	SIZE	PLANTING SEASON
Hazelnut (American Filbert)	<i>Corylus americana</i>	13	36" BB	FALL
Staghorn Sumac	<i>Rhus typhina</i>	17	36" BB	FALL

**LANDSCAPE GENERAL NOTES:**

1. ALL PLANTS SHALL RECEIVE MIN. 3" DEPTH OF SHREDDED HARDWOOD BARK MULCH COVER IN PLANTING BED. TREES SHALL RECEIVE 3" DIA. MULCH RING PER TREE PLANTING DETAIL. SHRUBS SHALL BE MULCHED IN GROUPINGS TO MINIMIZE MAINTENANCE REQUIREMENTS.
2. THE LANDSCAPE CONTRACTOR SHALL STAKE AND LAYOUT ALL INSTALLATIONS AND BEDS FOR APPROVAL BY ENGINEER. FAILURE TO RECEIVE REVIEW AND APPROVAL MAY BE CAUSE TO REQUIRE THE REMOVAL OF PLANTS AND REINSTALLATION AT NO ADDITIONAL COST TO THE OWNER.
3. THE CONTRACTOR SHALL SUPPLY LANDSCAPE PLANTING SOIL MIX FOR ALL TREE AND SHRUB PLANTING PITS (AS SHOWN IN THE DETAILS) TO CONSIST OF 1/3 TOPSOIL, 1/3 SAND AND 1/3 COMPOSTED MANURE OR "MUSHROOM COMPOST". THIS MIXTURE IS TO BE ROTOTILLED INTO THE SOIL A MINIMUM OF 8" THROUGHOUT THE BED. CONTRACTOR MUST ALSO WORK INTO A SOIL SUPER-ABSORBENT PLANTING HYDRO-GEL AT A RATE PER THE MANUFACTURER'S RECOMMENDATION ALL SHRUB AND TREE PLANTING PITS.
4. THE CONTRACTOR SHALL RESTORE THE 6" STRIP ALONG THE PATHS WITH LCFP CLASS 2 SEED MIX AS SHOWN ON THE PLANS.
5. THE CONTRACTOR SHALL RESTORE ANY AREAS DISTURBED DURING THE COURSE OF CONSTRUCTION NOT RECEIVING ANY OTHER LANDSCAPE TREATMENT WITH LCFP CLASS 3 SEED MIX WITH BLANKET. (SEE SEEDING SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.)



529 North Barron Boulevard  
 Grayslake, IL 60030  
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Grass Lake Road Underpass  
 Landscape Plan

Sheet Title

scale	AS NOTED
design	3D
date	10.15.12
revision	12.17.12
revision	
revision	

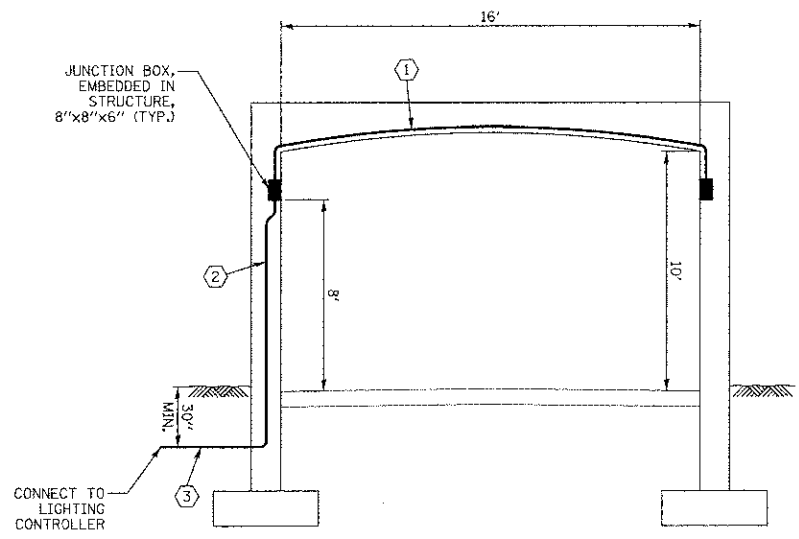
sheet

1 of 1 sheet(s)

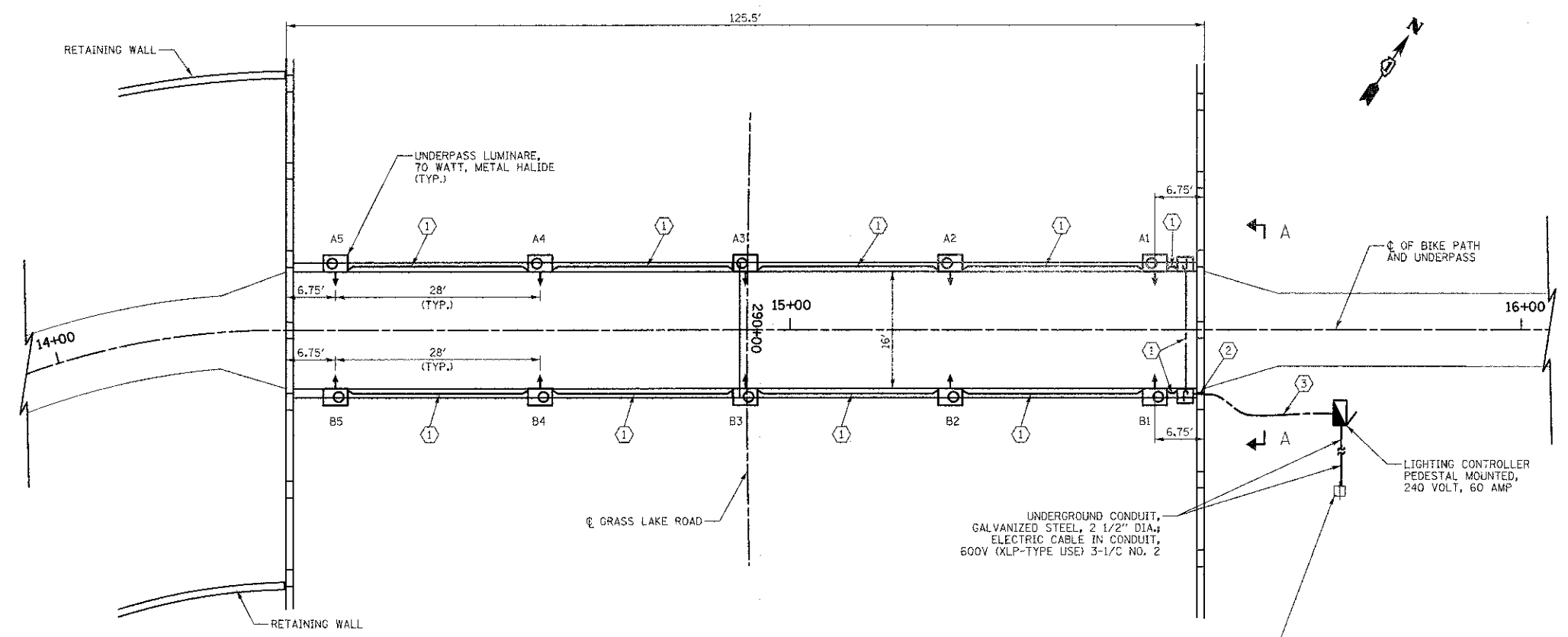
**1 Landscape Plan**  
 SCALE: 1"=30'-0"



**3 Shrub Planting Detail**  
 SCALE: 1/4"=1'-0"



SECTION A-A  
NOT TO SCALE



PLAN VIEW  
SCALE: 1" = 10'

LEGEND

- UNDERPASS LUMINAIRE, 70 WATT, METAL HALIDE
- RIGID GALVANIZED STEEL CONDUIT, TYPE AND SIZE AS NOTED
- UNIT DUCT, TYPE AND SIZE AS NOTED
- JUNCTION BOX, EMBEDDED IN STRUCTURE, 8"X8"X6"
- PROPOSED LIGHTING CONTROLLER PEDESTAL MOUNTED
- EXISTING POWER POLE

- NOTES
- ALL WALL MOUNTED LUMINAIRES ARE MOUNTED 8' FROM THE BOTTOM OF THE LUMINAIRE TO THE FINISHED SURFACE OF THE BIKE PATH.

WIRE AND CONDUIT TABLE

TAG	WIRE	CONDUIT
①	2-1/C NO. 10 AND 1/C NO. 10 GROUND	CONDUIT EMBEDDED IN STRUCTURE, 1" DIA. PVC
②	UNIT DUCT, 600V, 3-1/C NO. 10 1/C NO. 10 GROUND, (XLP-TYPE USE), 3/4" DIA. POLYETHYLENE	CONDUIT EMBEDDED IN STRUCTURE, 2" DIA. PVC
③	UNIT DUCT, 600V, 3-1/C NO. 10 1/C NO. 10 GROUND, (XLP-TYPE USE), 3/4" DIA. POLYETHYLENE	(NONE)

UNDERPASS LUMINAIRE LOCATIONS

LUMINAIRE NO.	STATION	OFFSET
A1	15+50	8.0' LT.
A2	15+22	8.0' LT.
A3	14+94	8.0' LT.
A4	14+66	8.0' LT.
A5	14+38	8.0' LT.
B1	15+50	8.0' RT.
B2	15+22	8.0' RT.
B3	14+94	8.0' RT.
B4	14+66	8.0' RT.
B5	14+38	8.0' RT.

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**CIVILTECH**  
450 E Devon Ave, Suite 300  
Itasca, Illinois 60143  
Tel: 830.773.3900 Fax: 830.773.3975  
www.civiltechinc.com

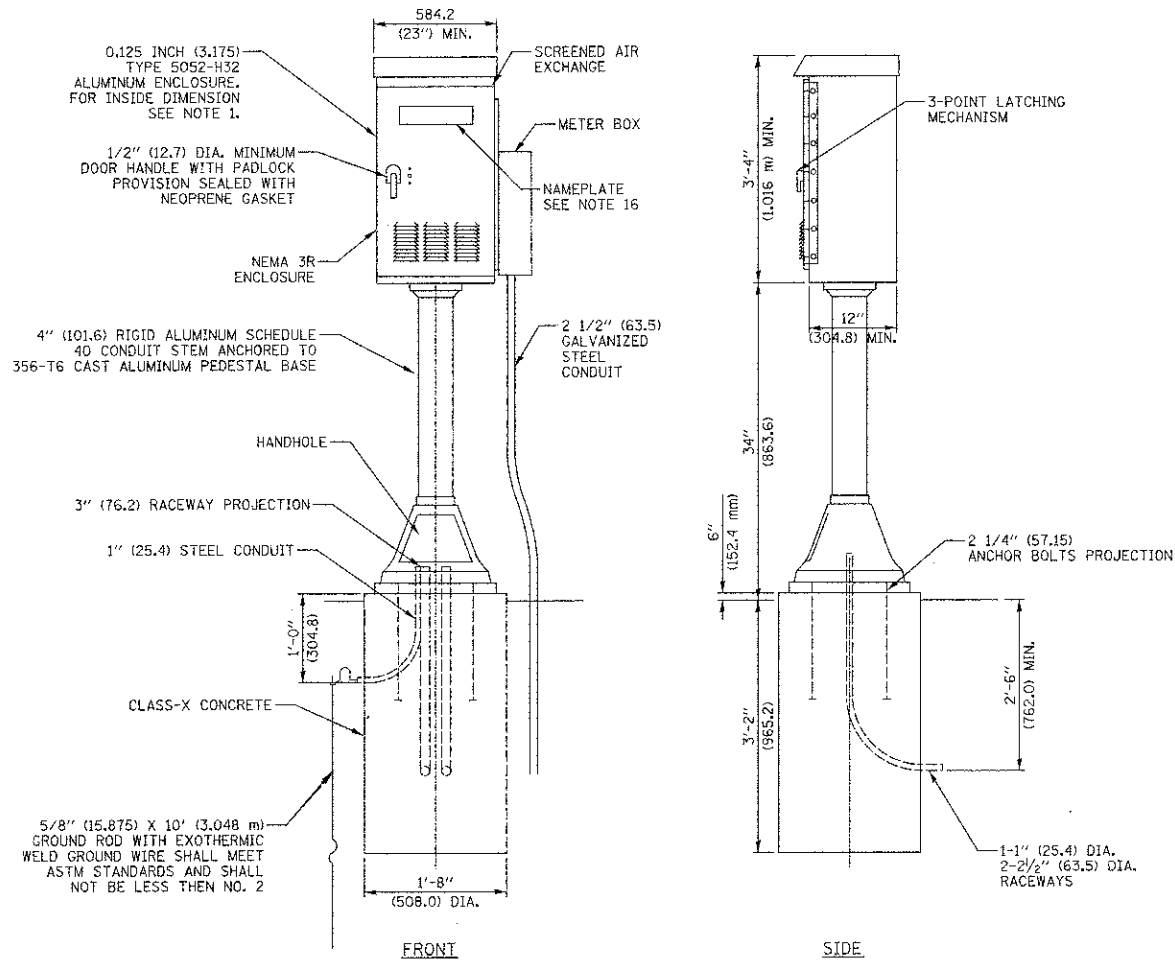
DRAWN	- SJC	REVISED	-
DESIGNED	- SJC	REVISED	-
CHECKED	- DNM	REVISED	-
DATE	- JANUARY 10, 2013	REVISED	-

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

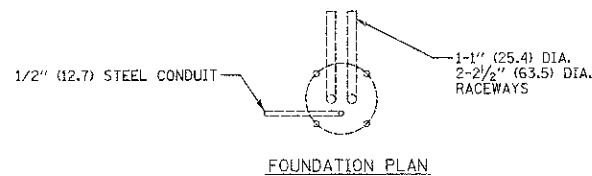
LIGHTING PLAN  
GRASS LAKE ROAD UNDERPASS

SHEET NO. L1 OF L3 SHEETS

F.A.D. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	20
CONTRACT NO.				
ILLINOIS FED. AID PROJECT				



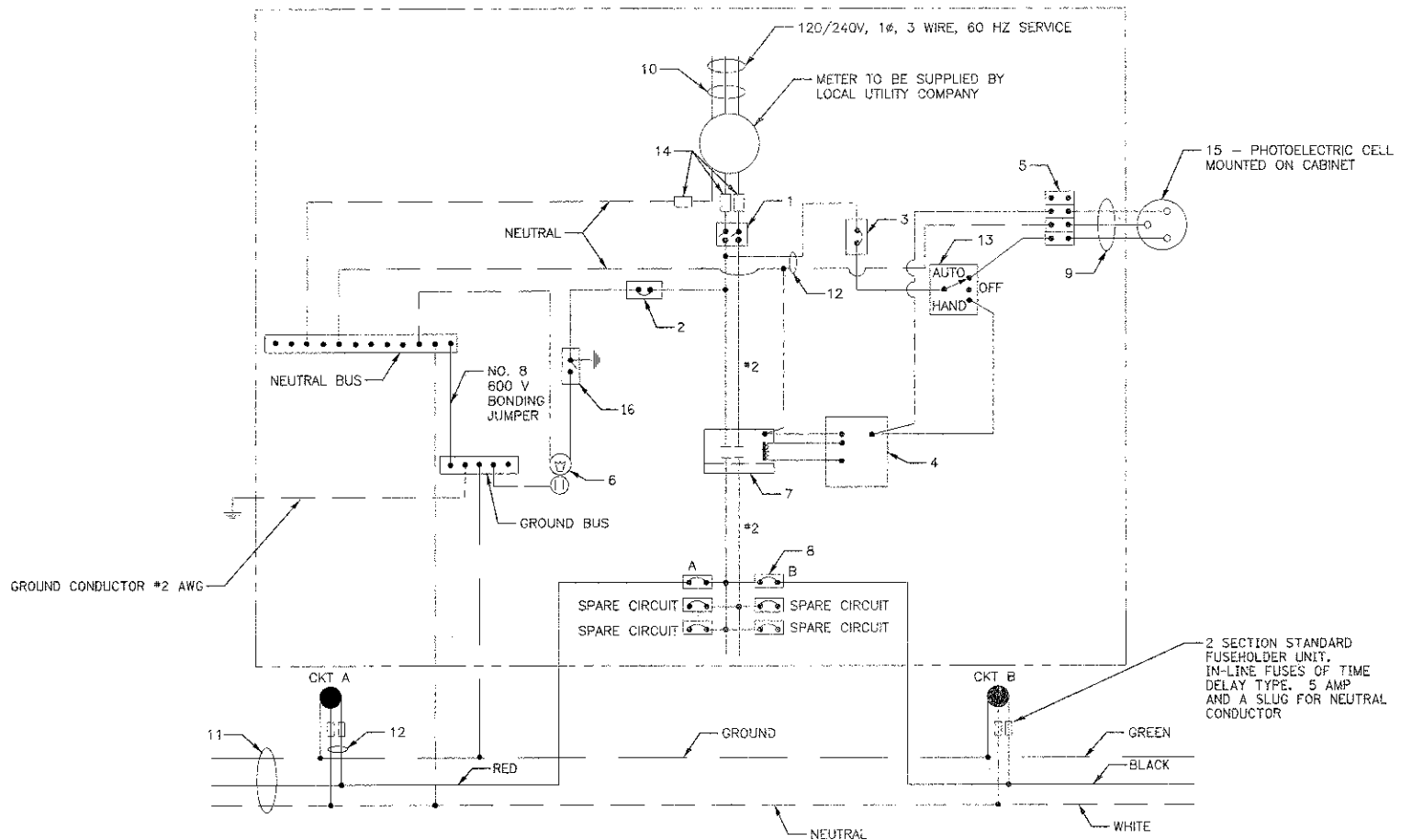
CONTROL CABINET



NOTES:

- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- UNLESS OTHERWISE INDICATED, THE CABINET SHALL BE MOUNTED ATOP A 4-INCH (101.6 mm) RIGID ALUMINUM SCHEDULE 40 CONDUIT STEM ANCHORED TO A CAST ALUMINUM PEDESTAL BASE.
- IN FRONT OF CONTROL CABINET DOOR, REMOVE VEGETATION AND 2" (50.8 mm) TOP SOIL, LEVEL THE AREA AND ON TOP, PLACE LENGTH WISE PARALLEL TO CONTROL CABINET, A CONCRETE PAD 36" (914.4 mm) x 60" (1524 mm) x 4" (101 mm) MIN. SIZE. THE COST OF LABOR AND MATERIALS ARE INCLUDED IN THE COST OF THE CONTROLLER.
- DOOR SHALL BE CONSTRUCTED FROM SAME TYPE OF MATERIAL AND THICKNESS AS CABINET.
- DOOR SHALL BE EQUIPPED WITH THREE POINT LATCHING MECHANISM WITH NYLON ROLLERS AT TOP AND BOTTOM.
- DOOR HINGE SHALL BE A HEAVY GAUGE CONTINUOUS HINGE WITH A 1/4" (6.35 mm) DIA. STAINLESS STEEL HINGE PIN.
- ALL EXTERNAL HARDWARE SHALL BE STAINLESS STEEL.
- CONTROL WIRING TO BE #12 AWG, 600V, TYPE "SIS" GRAY SWITCH BOARD WIRE, STRANDED COPPER.
- METER BOX SHALL BE MOUNTED ON THE SIDE OF CONTROL CABINET, NEAR TO THE SERVICE POLE.
- CABINETS SHALL BE PRIMED AND PAINTED AS SPECIFIED.
- THE HEADS OF CONNECTORS SCREWS SHALL BE PAINTED WHITE FOR NEUTRAL BAR CONNECTION AND GREEN FOR GROUND BAR CONNECTORS.
- ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED AS INDICATED.  
R = RED      BL = BLUE      W = WHITE  
B = BLACK      Y = YELLOW      G = GREEN
- PROVIDE SEALING GROMMETS FOR ALL OPEN WIRING EXTENDED FROM DEVICES IN BOXES OR CABINETS WITHIN THE CONTROL CABINET.
- ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.
- THE CONTROLLER SHALL BE CONSTRUCTED TO U.L. STD. 508 AND BEAR THE U.L. LABEL "ENCLOSED INDUSTRIAL CONTROL PANEL".
- 12" (304.8) X 16" (406.4 mm) STAINLESS STEEL EXTERIOR NAMEPLATE SHALL BE ENGRAVED TO "LAKE COUNTY FOREST PRESERVE DISTRICT".

LIGHTING CONTROLLER PEDESTAL MOUNT

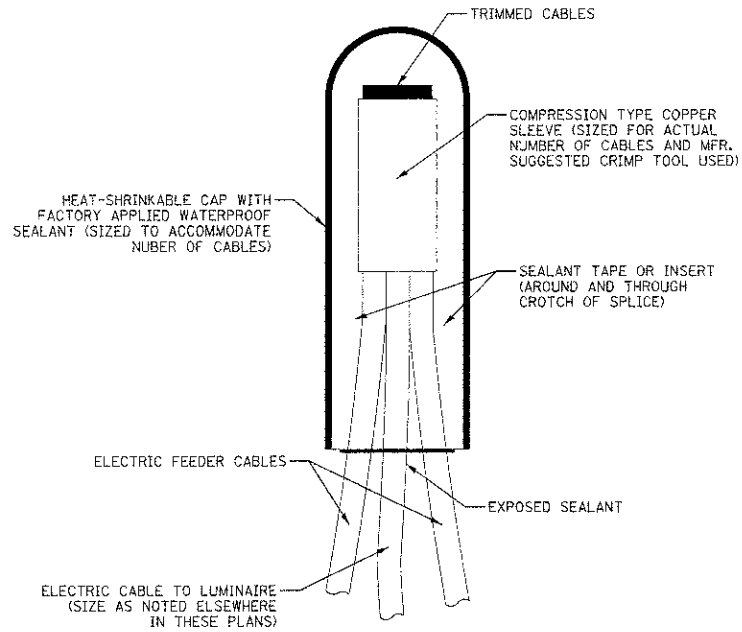


LIGHTING CONTROLLER COMPONENT SCHEDULE

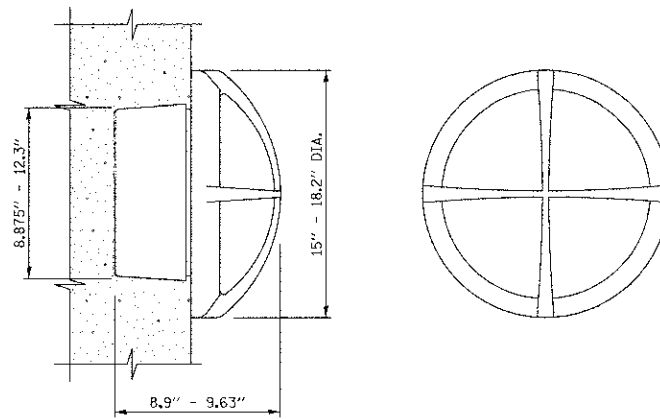
ITEM	SPECIFICATION OR EQUAL
1 MAIN CIRCUIT BREAKER	60 AMPERE, 2 POLE, 240 VOLT RATING INTERRUPTING CAPACITY NOT LESS THAN 25,000 RMS SYMMETRICAL AMPS AT 600V
2 LAMPHOLDER CIRCUIT BREAKER	15 AMPERE, 1 POLE, 120 VOLT RATING INTERRUPTING CAPACITY NOT LESS THAN 14,000 RMS SYMMETRICAL AMPS AT 277V
3 PHOTOELECTRIC CELL CONTROL CIRCUIT BREAKER	15 AMPERE, 1 POLE, 120 VOLT RATING INTERRUPTING CAPACITY NOT LESS THAN 14,000 RMS SYMMETRICAL AMPS AT 277V
4 AUXILIARY RELAY	120 VOLT SPST 60 HZ COIL
5 FOUR POINT TERMINAL BLOCK	600 VOLT
6 LAMPHOLDER AND OUTLET	120 VOLT SWITCHED LAMPHOLDER AND 15 AMP GFI DUPLEX RECEPTACLE
7 REMOTE CONTROL SWITCH	60 AMPERE, 2 POLE, 240 VOLT RATING, ELECTRICALLY OPERATED, MECHANICALLY HELD
8 BRANCH LINE CIRCUIT BREAKERS	20 AMP 1 POLE, 120 VOLT RATING INTERRUPTING CAPACITY NOT LESS THAN 10,000 RMS SYMMETRICAL AMPS AT 277V
9 PHOTOELECTRIC CELL CONTROL WIRE	3-600V XLP NO. 10
10 SERVICE CABLES	3-600V (XLP-TYPE USE) NO. 2
11 BRANCH LINE CABLES	SEE PLANS FOR SIZE
12 LIGHTING POLE WIRE	2-600V XLP NO. 10 CABLES WITH POLE GROUND AND FUSING
13 HAND-AUTO-OFF CONTROL SWITCH	10 AMPERE, 3 POLE, 120 VOLT
14 LIGHTING ARRESTOR	BRACKET MOUNTED SURGE ARRESTOR FOR 120/240V 3W SERVICE
15 PHOTOELECTRIC CELL	120 SECONDS OFF TIME DELAY, 120V
16 MICRO SWITCH	MOUNT WITH ACTUATOR TO SWITCH WHEN DOOR IS OPEN

LIGHTING CONTROLLER WIRING DIAGRAM

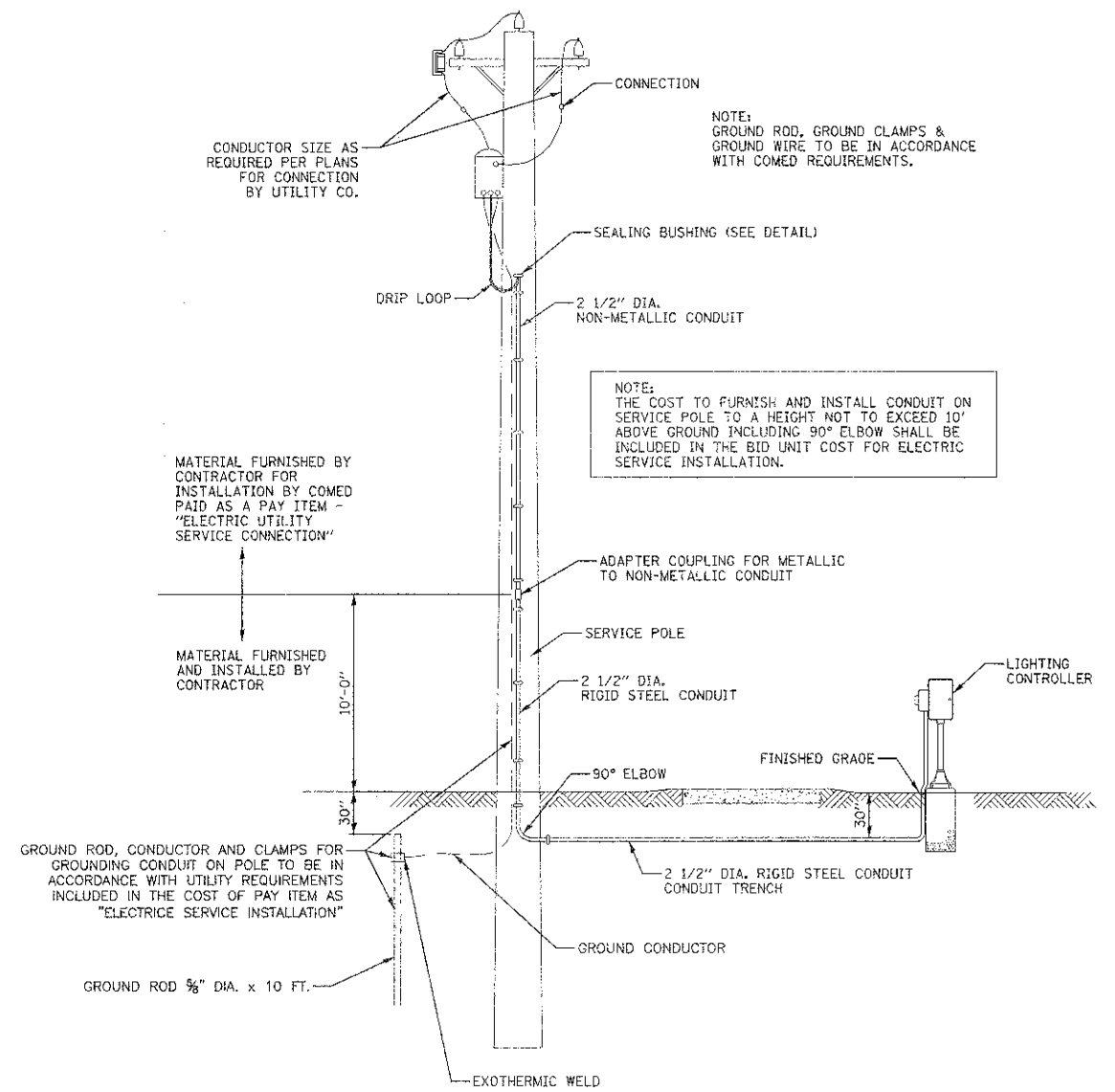
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 9/10/18



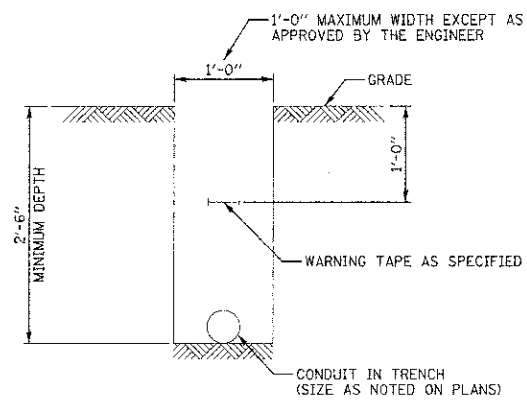
NOTE: NUMBER OF CABLES IN SPLICE MAY VARY  
SPLICING ELECTRIC CABLES  
BASIC MATERIALS AND METHODS



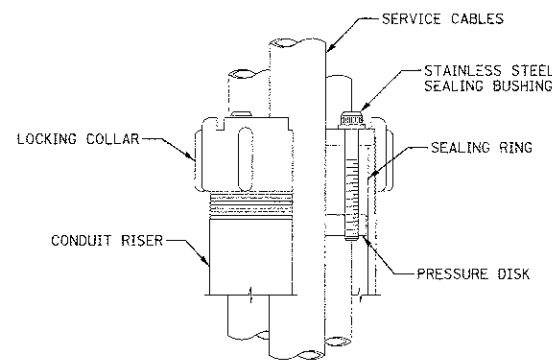
UNDERPASS LUMINAIRE  
DETAIL



PROPOSED SERVICE INSTALLATION  
POLE TOP MOUNTED TRANSFORMER



TYPICAL WIRING IN TRENCH - DETAIL



SEALING BUSHING DETAIL

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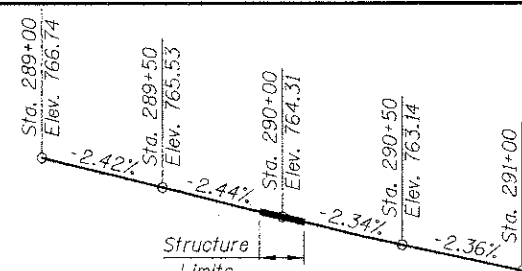
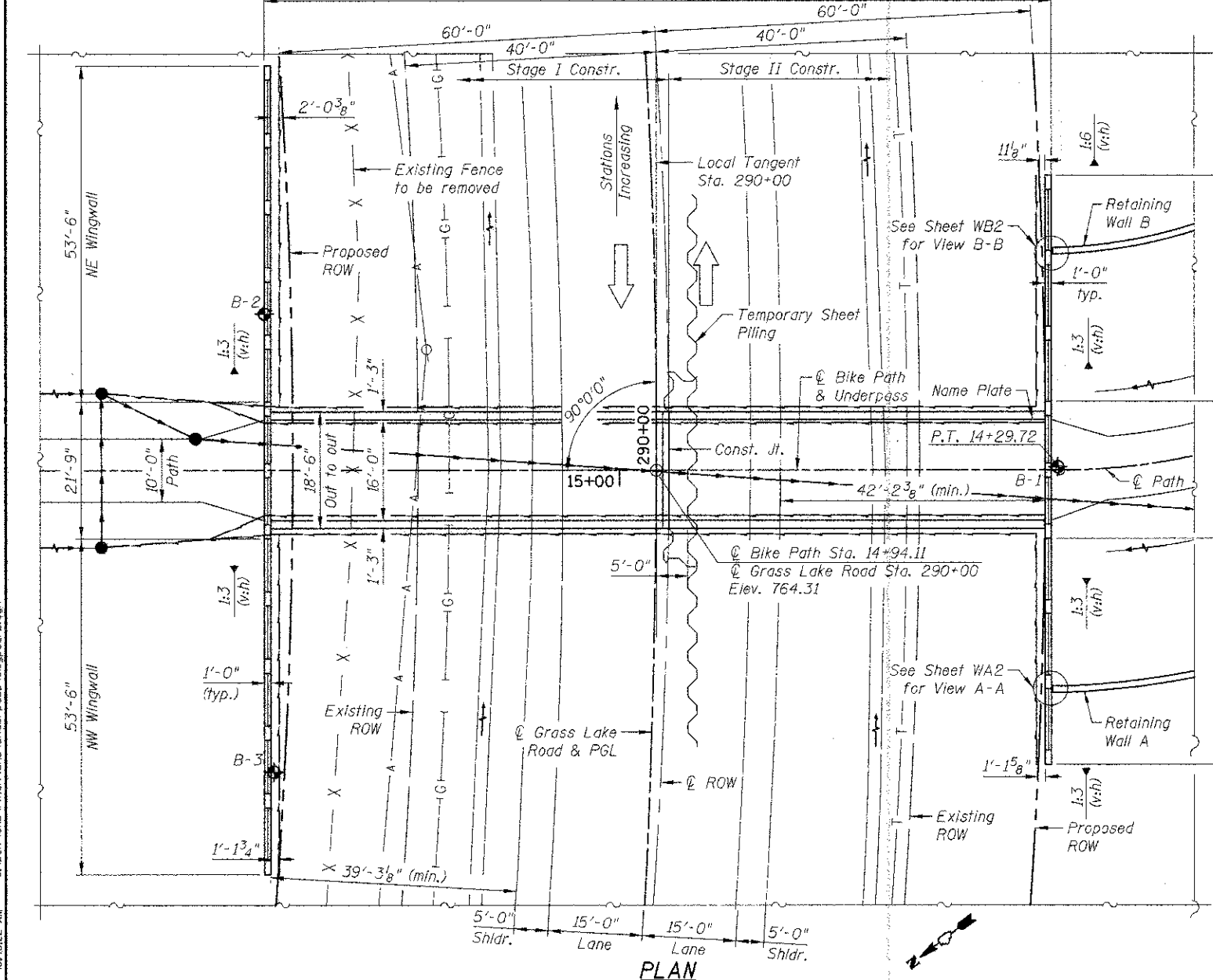
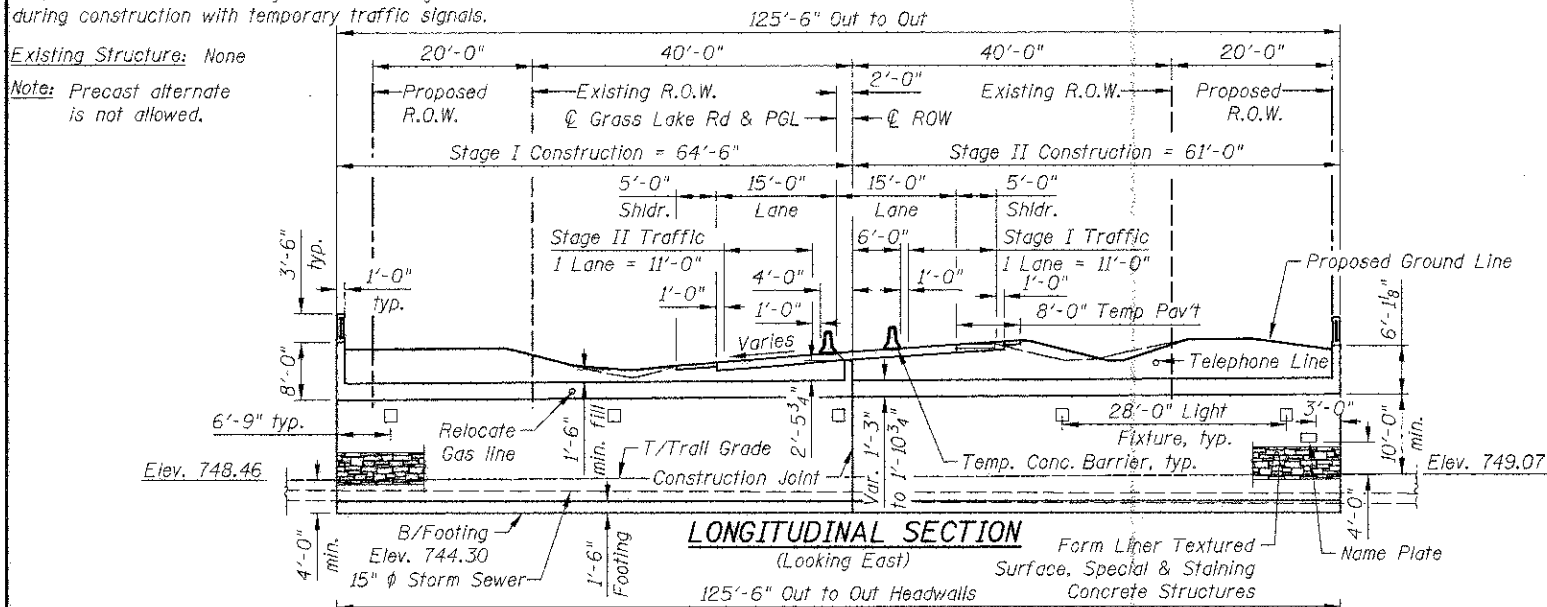


Benchmark: Control Point # 4, 5/8" iron rod with plastic cap set at Sta. 292+70.14 Offset 20.39' Rf. of @ ROW. Elevation 758.79.

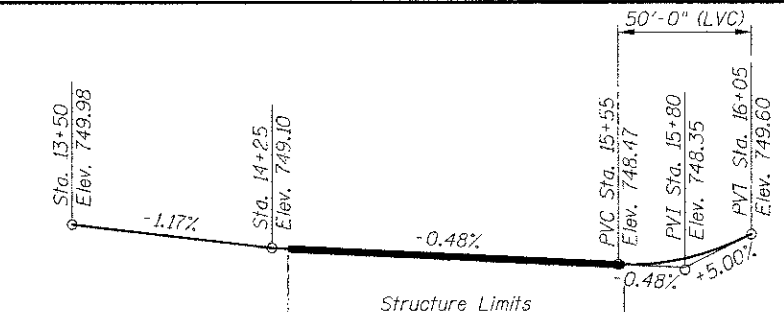
Traffic will be maintained by one-alternating direction lane during construction with temporary traffic signals.

Existing Structure: None

Note: Precast alternate is not allowed.



EXISTING PROFILE GRADE OF GRASS LAKE ROAD  
(Along @ Grass Lake Road)



PROPOSED PROFILE GRADE BIKE PATH  
(Along @ Bike Path)

INDEX OF SHEETS

- S1 General Plan & Longitudinal Section
- S2 General Data
- S3 Underpass Plan & Elevation
- S4 Underpass Details
- S5 North Wingwalls
- S6 South Wingwalls
- S7 Wingwall Details
- S8 Architectural Details
- S9 Bar Splicer Assembly Details
- S10 Underpass Soil Boring Logs

CURVE DATA GRASS LAKE ROAD

(@ of ROW)  
 $\Delta = 42^\circ 57' 58''$   
 $D = 5^\circ 41' 52''$   
 $T = 395.77'$   
 $L = 754.10'$   
 $E = 75.08'$   
 $R = 1,005.60'$   
 $S.E. = \text{Varies}$   
 $P.C. = \text{Sta. } 289+02.02$   
 $P.T. = \text{Sta. } 296+56.12$   
 $P.I. = \text{Sta. } 292+97.79$

CURVE DATA BIKE PATH

$\Delta = 70^\circ 15' 13''$   
 $D = 57^\circ 17' 45''$   
 $T = 70.35'$   
 $L = 122.61'$   
 $E = 22.27'$   
 $R = 100.00'$   
 $P.C. = \text{Sta. } 13+07.10$   
 $P.T. = \text{Sta. } 14+29.72$   
 $P.I. = \text{Sta. } 13+77.45$

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th ed.

DESIGN STRESSES

FIELD UNITS  
 $f'_c = 3,500 \text{ psi}$   
 $f_y = 60,000 \text{ psi (Reinforcement)}$

LOADING HL-93

Allow 50 psf for Future Wearing Surface

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1  
 Design Spectral Acceleration at 1.0 sec. ( $S_{D1}$ ) = 0.075  
 Design Spectral Acceleration at 0.2 sec. ( $S_{D5}$ ) = 0.123  
 Soil Site Class = D

EXISTING GRASS LAKE ROAD ELEVATIONS

Station	Bottom of North Ditch	North EOP	@ Grass Lake Road	South EOP	Bottom of South Ditch
289+00	764.20	765.89	766.74	767.19	765.29
289+50	762.80	764.49	765.53	766.29	764.33
290+00	761.23	763.11	764.31	765.32	763.30
290+50	760.01	761.82	763.14	764.18	762.45
291+00	758.64	760.65	761.96	762.98	761.62

LEGEND

- Soil Boring
- A- Existing Aerial Lines
- X Existing Fence
- G- Existing Underground Gasline
- T- Existing Underground Telephone
- Proposed Storm Sewer
- Power Pole
- Proposed Pipe Underdrain

CIVILTECH ENGINEERING, INC.  
 GREGORY J. HATLESTAD, S.E.



GREGORY J. HATLESTAD, S.E.  
 # 081-005562

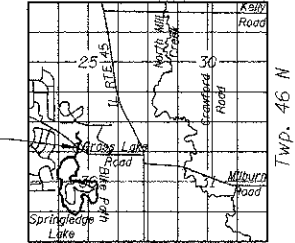
EXP 11/30/2014  
 DATE 2/04/2013

I certify that to the best of knowledge, information and belief, this design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO LRFD Bridge Design Specifications for Highway Bridges.

GRASS LAKE ROAD  
 BUILT 201\_ BY  
 LINDENHURST PARK DISTRICT  
 SEC. 09-P0075-15-BT  
 F.A.U. 0174 STA. 290+00.00  
 LOADING HL-93 STR. NO. 049-3070

NAME PLATE

See Std. 515001  
 Range 10E - 3rd PM



LOCATION SKETCH

GENERAL PLAN & LONGITUDINAL SECTION

GRASS LAKE ROAD OVER BIKE PATH  
 F.A.U. ROUTE 0174  
 SEC. 09-P0075-15-BT  
 LAKE COUNTY  
 STA. 290+00  
 STRUCTURE NUMBER 049-3070

**CIVILTECH**  
 450 E Devon Ave, Suite 300  
 Itasca, Illinois 60143  
 Tel: 630.773.3900 Fax: 630.773.3975  
 www.civiltechinc.com

DRAWN - K. BOCHNOWSKI	REVISED -
DESIGNED - M. LANGE	REVISED -
CHECKED - G. HATLESTAD	REVISED -
DATE - DECEMBER 17, 2012	REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

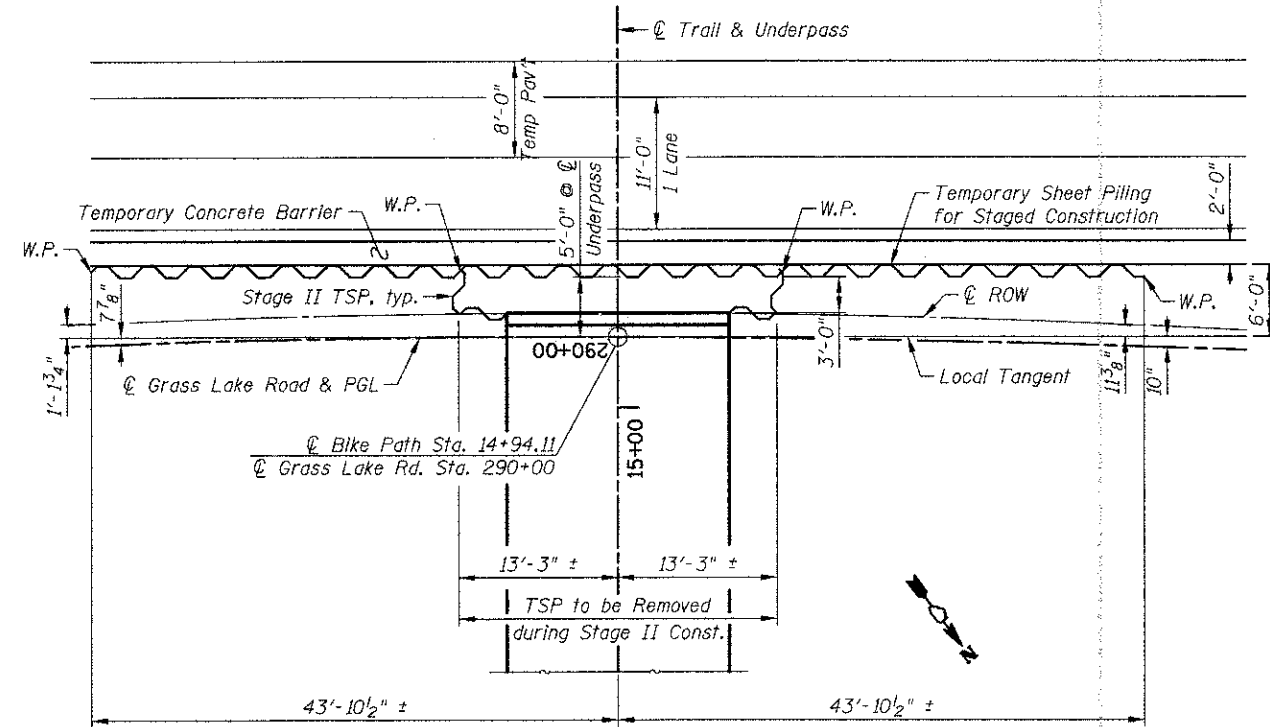
GRASS LAKE ROAD OVER BIKE PATH  
 STRUCTURE NO. 049-3070  
 SHEET NO. S1 OF S10 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	23
CONTRACT NO. 63778				
ILLINOIS FED. AID PROJECT				

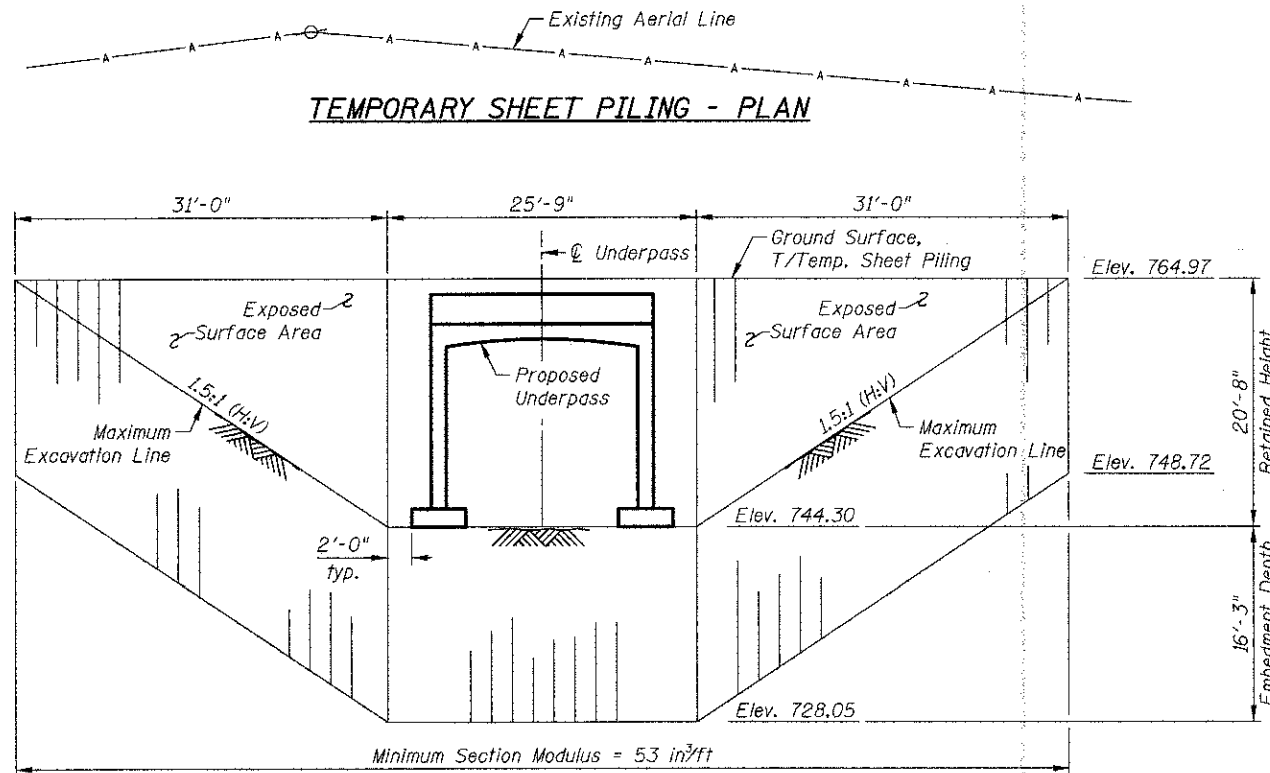
**GENERAL NOTES**

1. Reinforcement bars designated (E) shall be epoxy coated.

TSP = Temporary Sheet Piling  
W.P. = Work Point



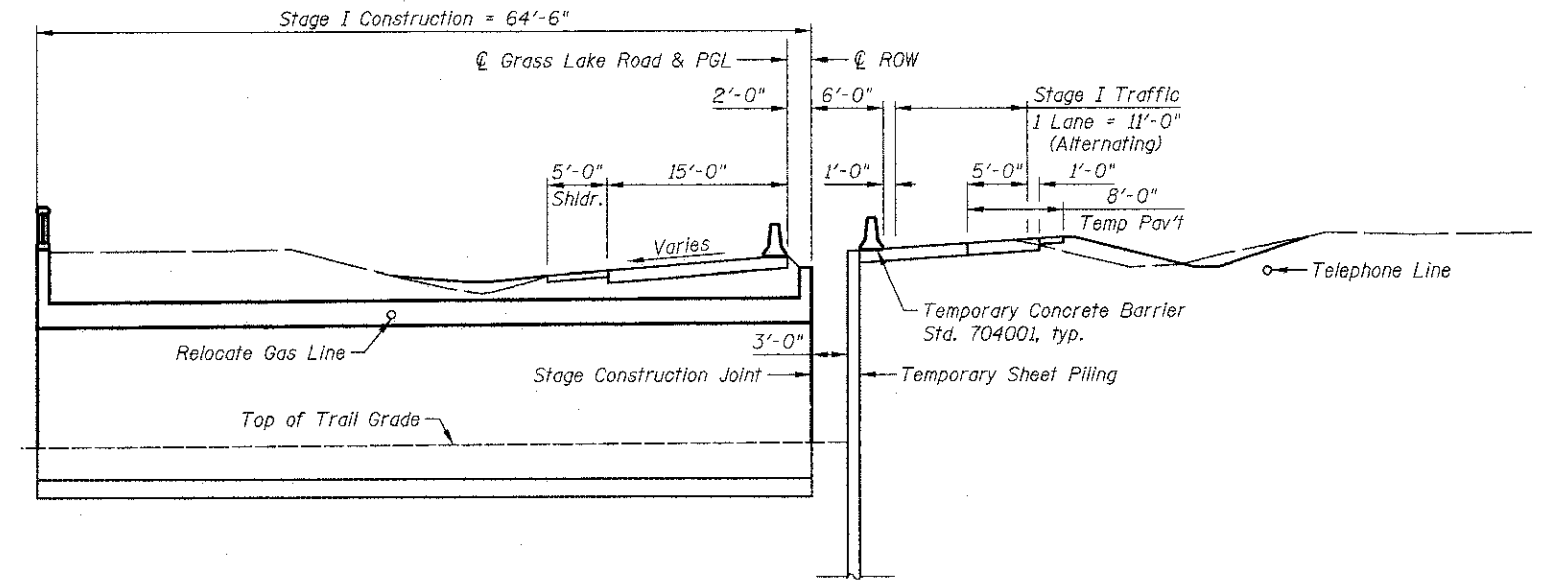
**TEMPORARY SHEET PILING - PLAN**



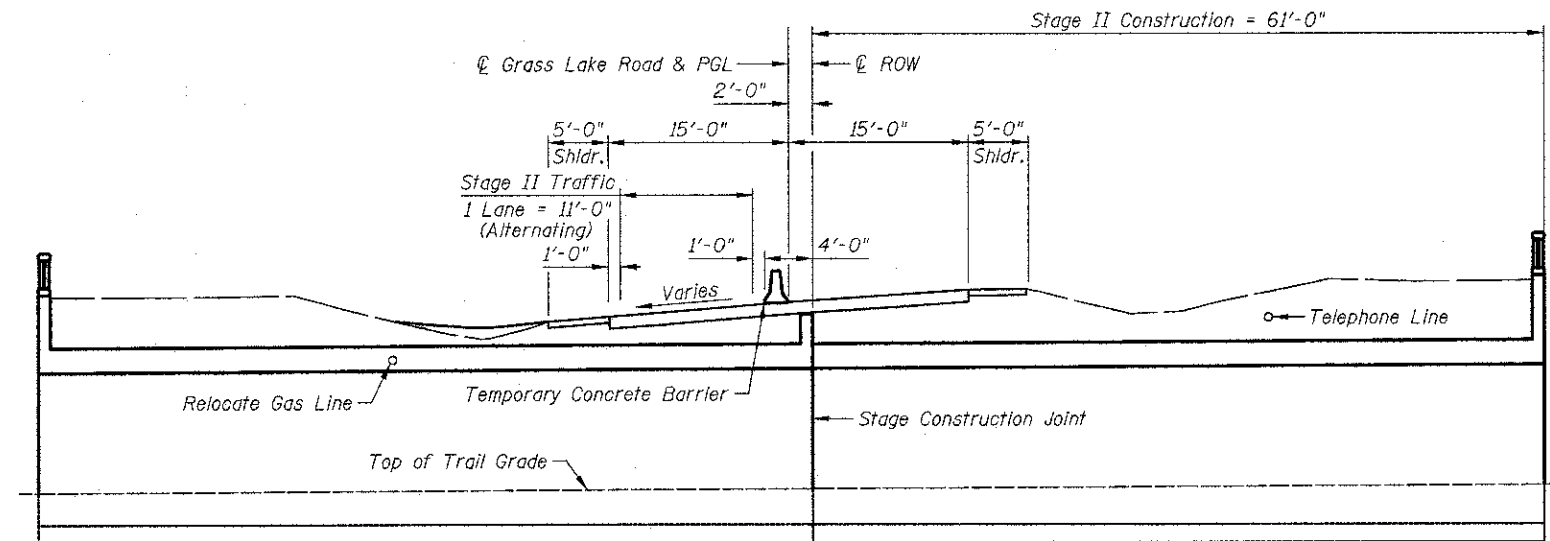
**TEMPORARY SHEET PILING - ELEVATION**

**TOTAL BILL OF MATERIAL**

Item	Unit	Total
Porous Granular Embankment	Cu. Yd.	1,090
Structure Excavation	Cu. Yd.	4,489
Concrete Structures	Cu. Yd.	698.5
Rubbed Finish	Sq. Ft.	4,707
Reinforcement Bars, Epoxy Coated	Pound	95,770
Bar Splicers	Each	116
Name Plates	Each	1
Waterproofing Membrane System	Sq. Yd.	300
Geocomposite Wall Drain	Sq. Yd.	573
Temporary Sheet Piling	Sq. Ft.	3,116
Pipe Underdrains for Structures, 4"	Foot	761
Ornamental Railing	Foot	173
Staining Concrete Structures	Sq. Yd.	341
Form Liner Textured Surface, Special	Sq. Ft.	3,063

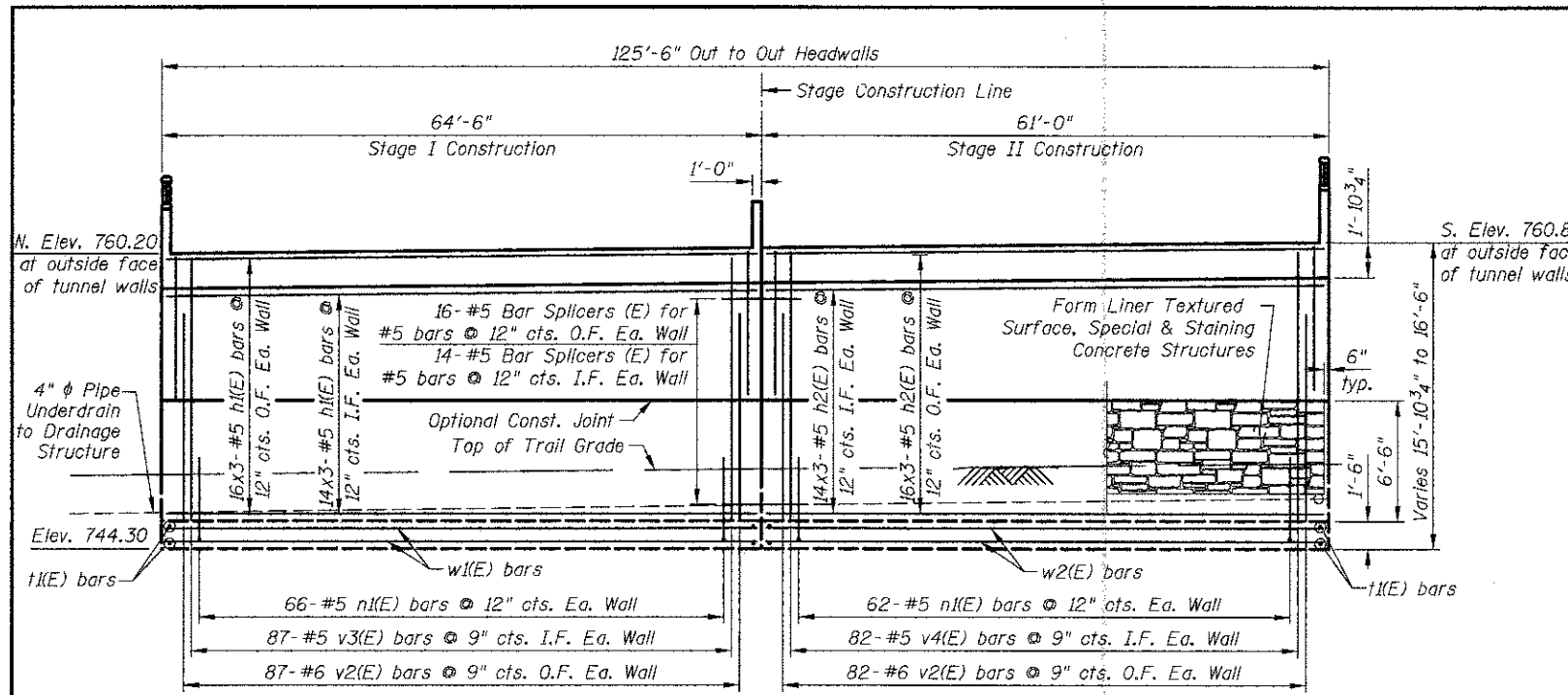


**STAGE I CONSTRUCTION**

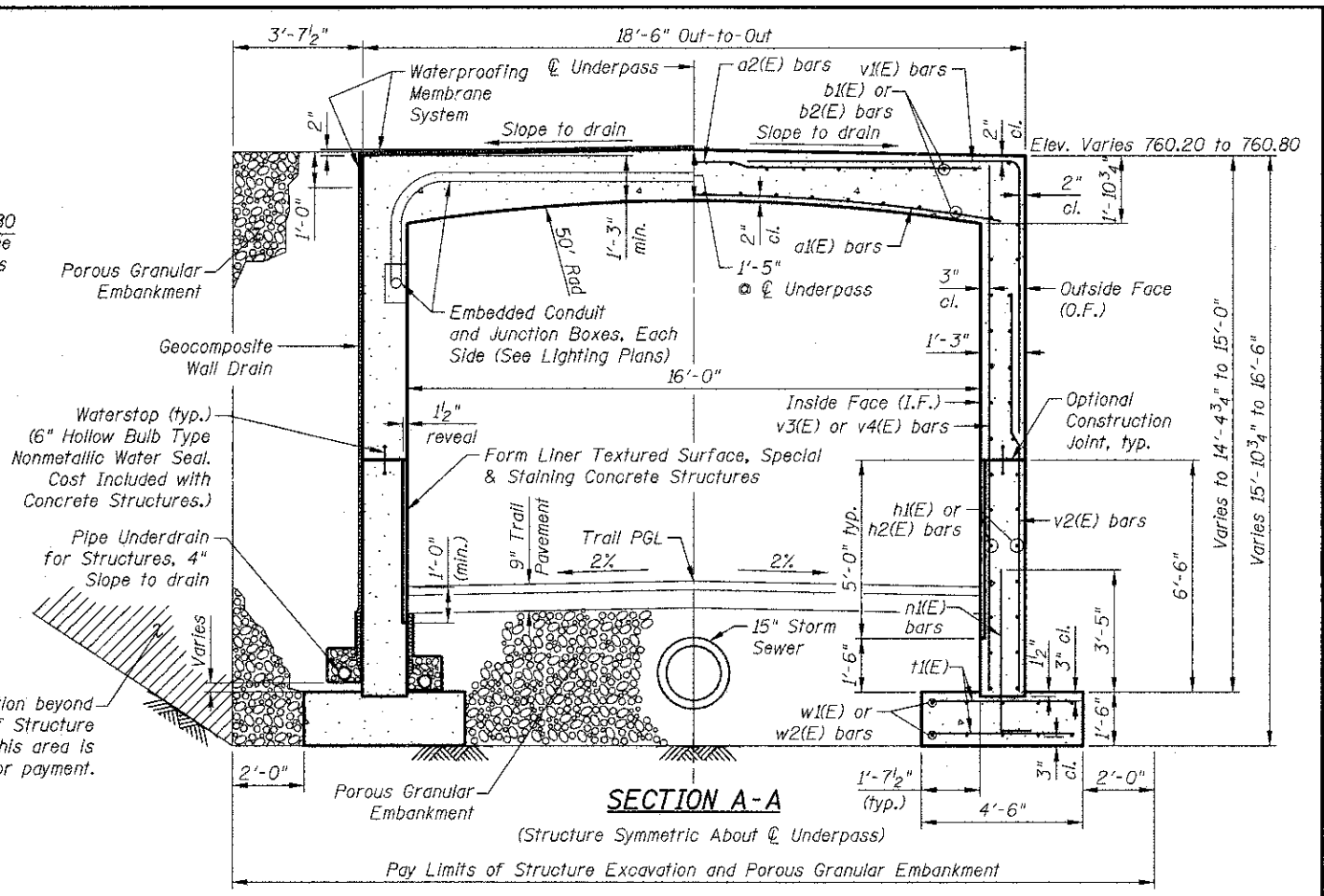


**STAGE II CONSTRUCTION**

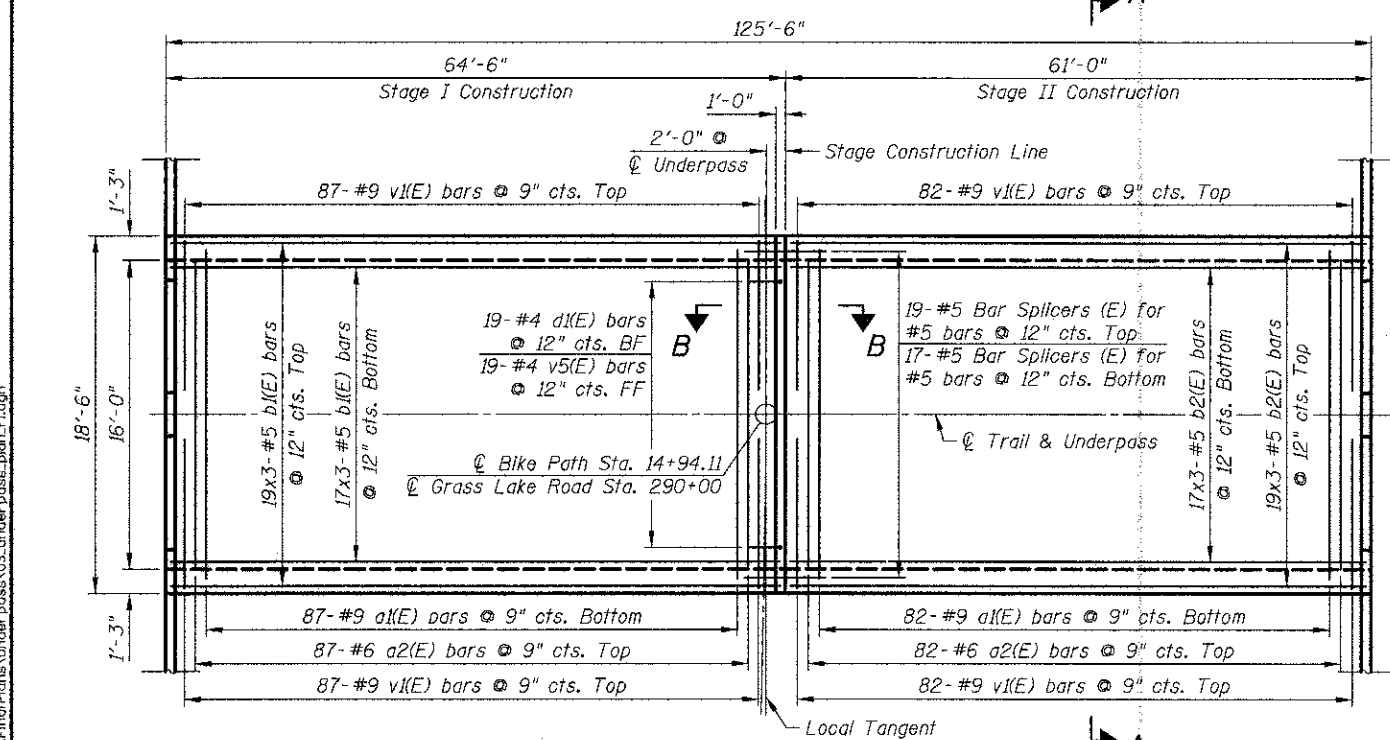
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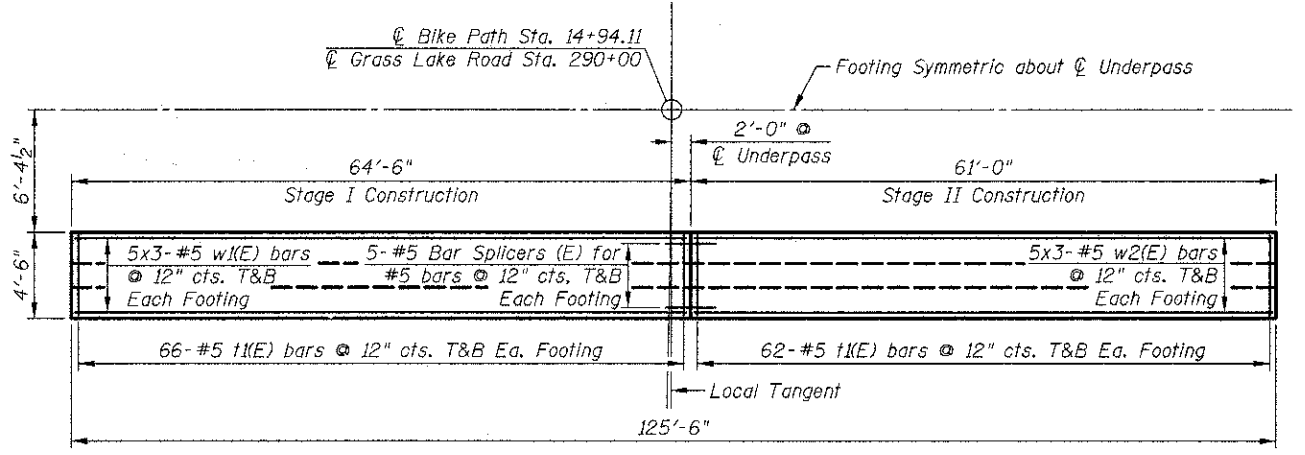
**ELEVATION**  
(East Wall Shown - West Wall is Similar)



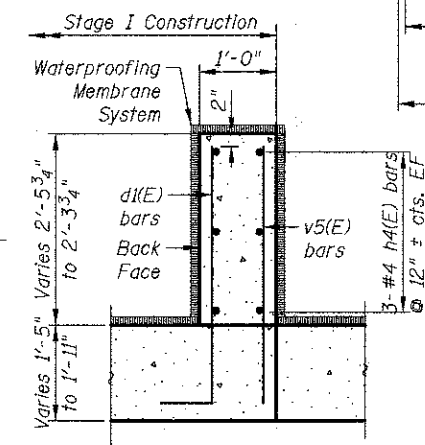
Note:  
Maximum Applied Bearing Pressure = 2,990 psf  
Maximum Allowed Bearing Pressure = 3,000 psf



**TOP SLAB - PLAN**



**FOOTING - PLAN**  
(West Footing Shown - East Footing Similar)



**MINIMUM LAP**

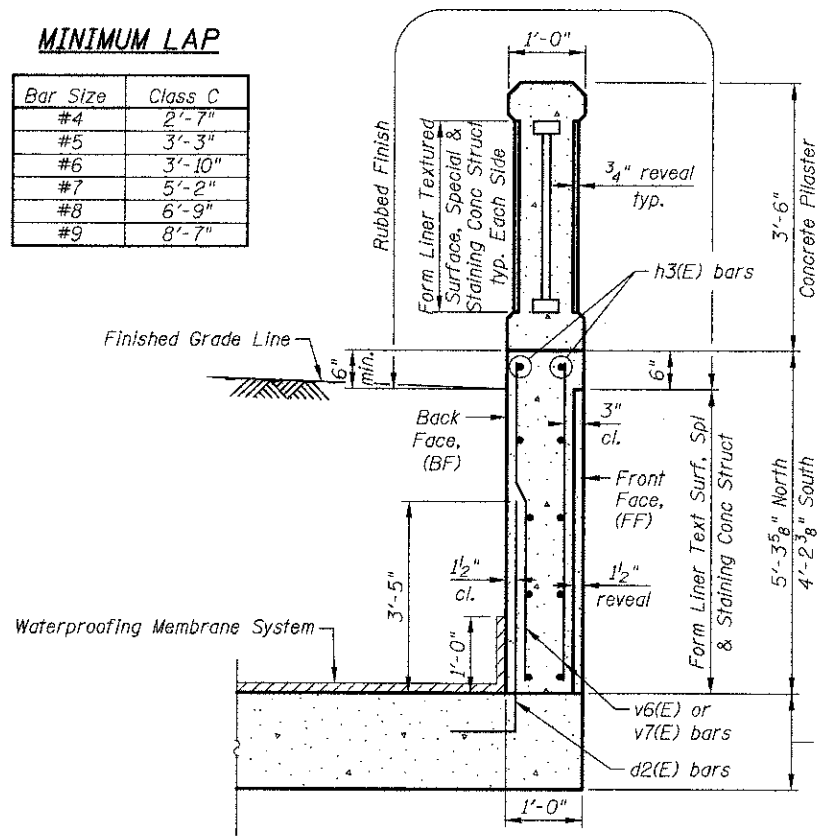
Bar Size	Class C
#4	2'-7"
#5	3'-3"
#6	3'-10"
#7	5'-2"
#8	6'-9"
#9	8'-7"

Note:  
1. See sheet S4 for Bill of Material and Bar Diagrams.  
2. See sheet S5 & S6 for Pipe Underdrain Invert Elevations and S7 for Pipe Underdrain Detail.  
3. See sheet S8 for Architectural Details.

12/12/2012 14:21:15 PM J:\2617\CAD\Final\Plane Underpass\03\_underpass\_plan.rxdgn

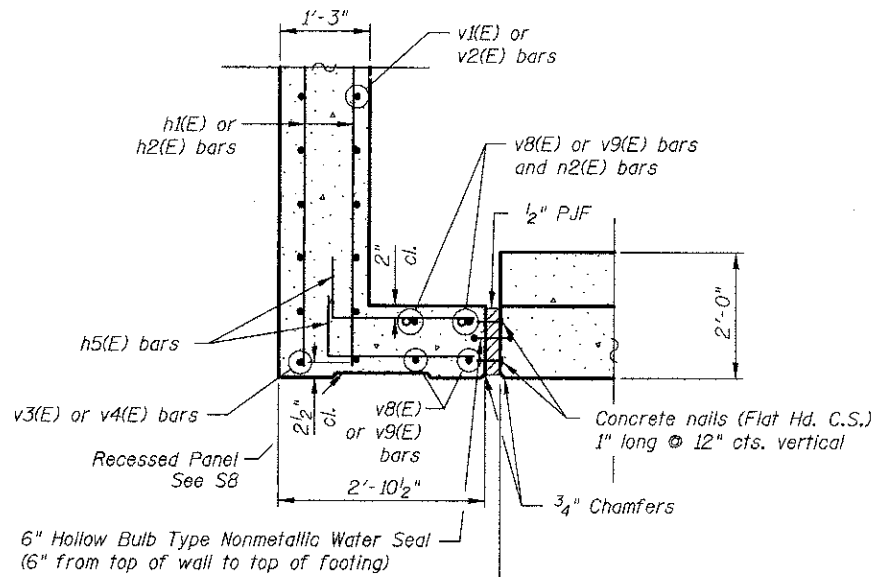
**MINIMUM LAP**

Bar Size	Class C
#4	2'-7"
#5	3'-3"
#6	3'-10"
#7	5'-2"
#8	6'-9"
#9	8'-7"

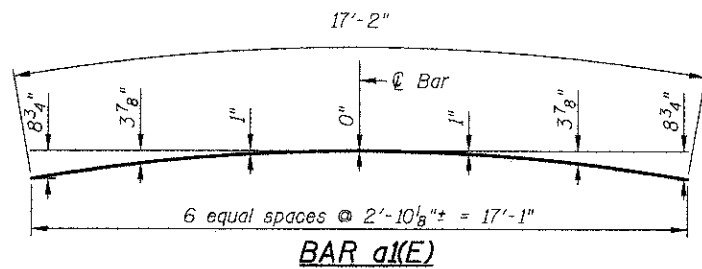


**SECTION C-C**

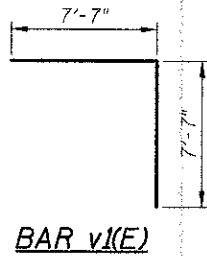
(Plaster and Underpass Reinforcement Not Shown)



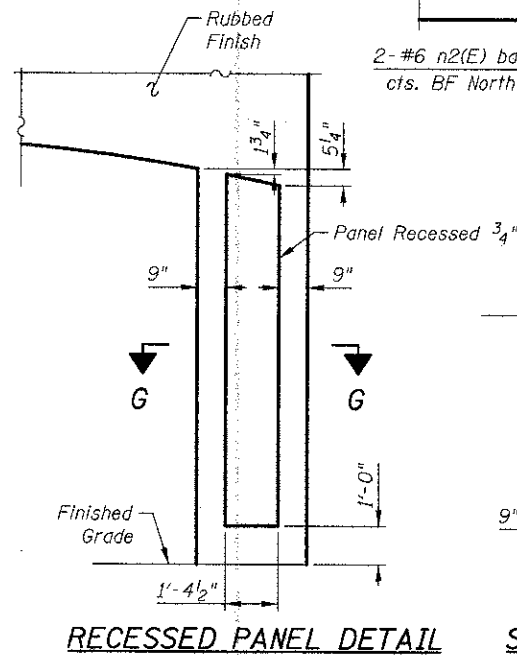
**SECTION D-D**



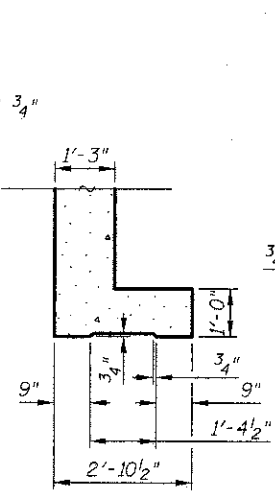
**BAR a1(E)**



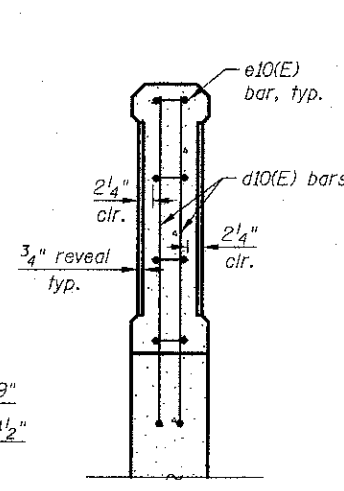
**BAR v1(E)**



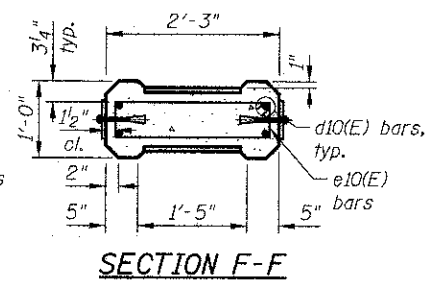
**RECESSED PANEL DETAIL**



**SECTION G-G**



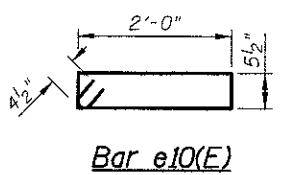
**SECTION E-E**



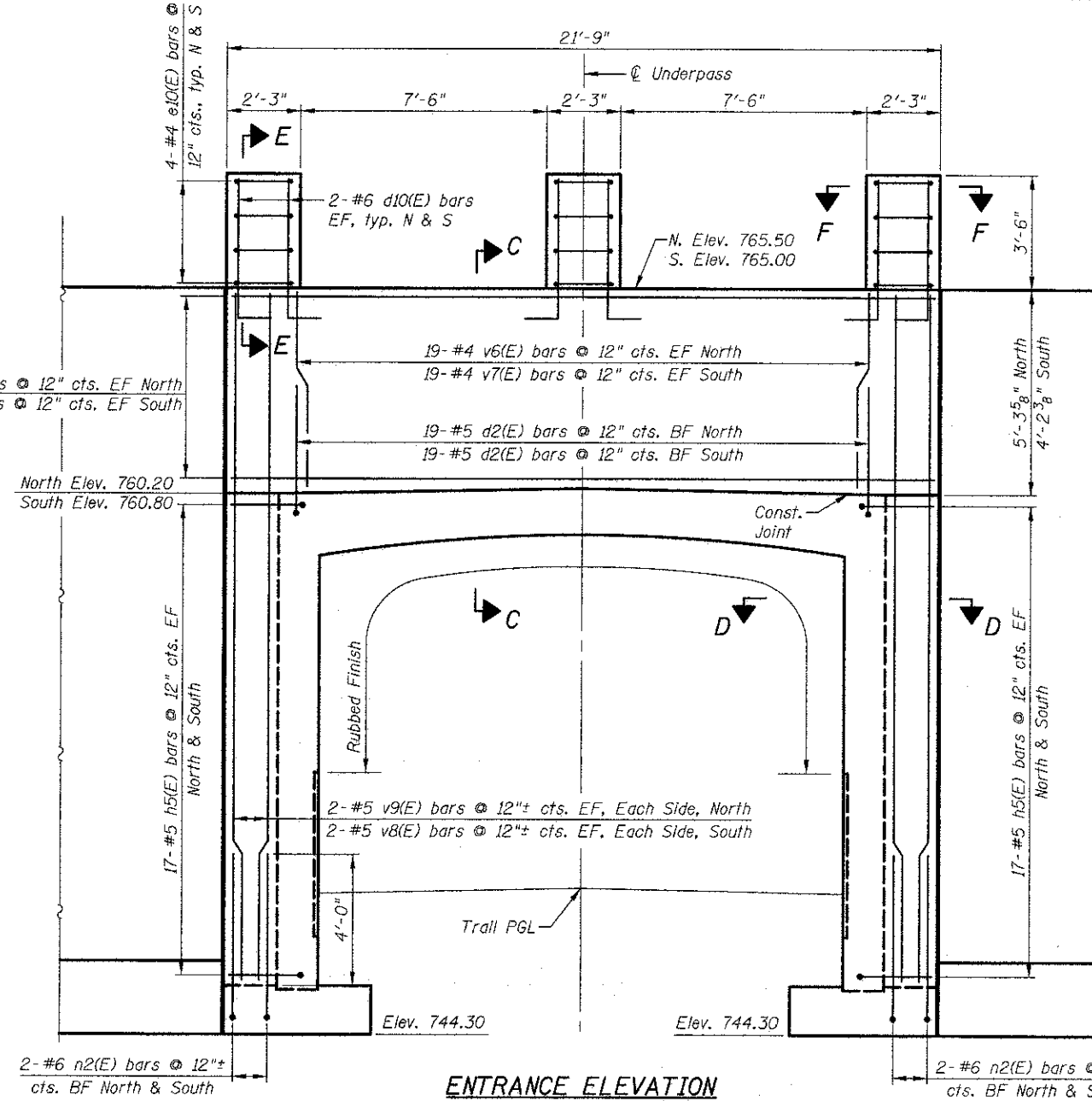
**SECTION F-F**

**BARS d1(E), d2(E), d10(E), h5(E), n1(E) & n2(E)**

Bar	A	B
d1(E)	8"	3'-5"
d2(E)	10"	4'-4"
d10(E)	1'-0"	4'-6"
h5(E)	10"	2'-2"
n1(E)	10"	4'-4"
n2(E)	1'-0"	5'-1"



**Bar e10(E)**



**ENTRANCE ELEVATION**

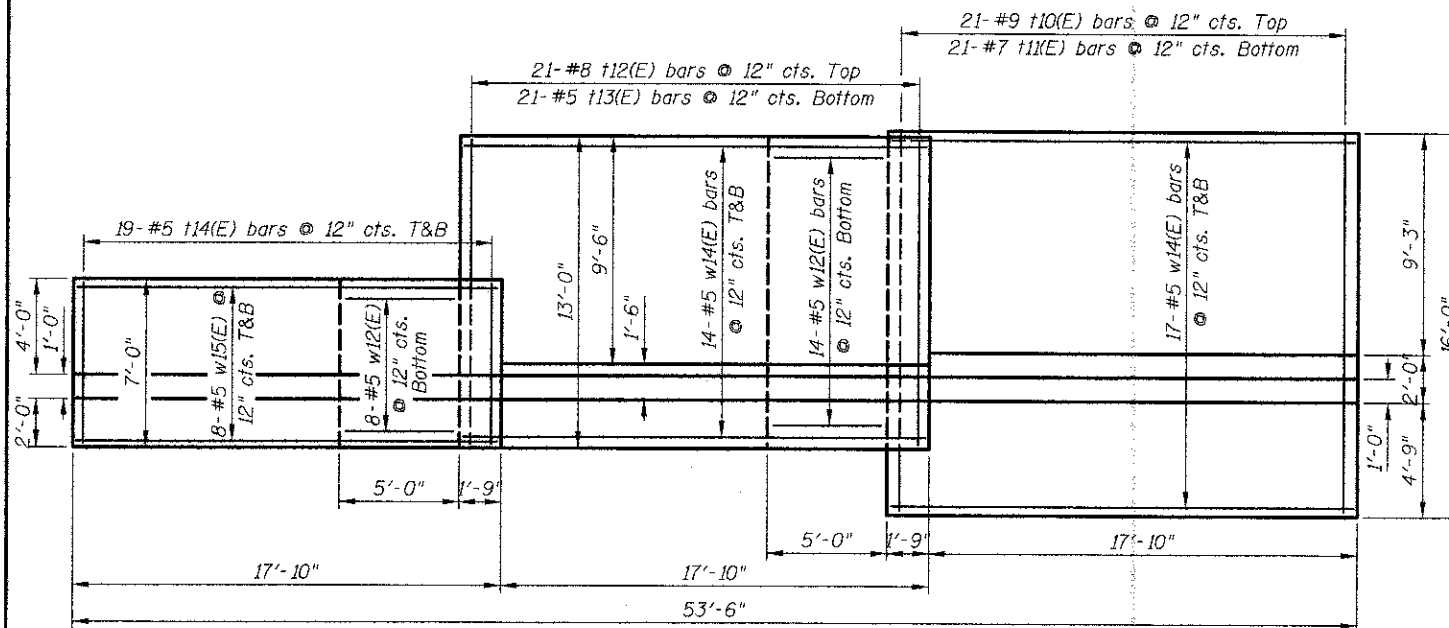
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a1(E)	169	#9	17'-2"	
a2(E)	169	#6	16'-0"	
b1(E)	108	#5	23'-7"	
b2(E)	108	#5	22'-5"	
d1(E)	19	#4	4'-1"	
d2(E)	38	#5	5'-2"	
d10(E)	24	#6	5'-6"	
e10(E)	24	#4	5'-8"	
h1(E)	180	#5	23'-7"	
h2(E)	180	#5	22'-5"	
h3(E)	22	#4	21'-5"	
h4(E)	6	#4	18'-2"	
h5(E)	136	#5	3'-0"	
n1(E)	256	#5	5'-2"	
n2(E)	8	#6	6'-1"	
v1(E)	338	#9	15'-2"	
v2(E)	338	#6	11'-1"	
v3(E)	174	#5	14'-1"	
v4(E)	164	#5	14'-5"	
v5(E)	19	#4	3'-5"	
v6(E)	38	#4	5'-0"	
v7(E)	38	#4	3'-11"	
v8(E)	8	#5	18'-11"	
v9(E)	8	#5	19'-5"	
w1(E)	512	#5	4'-2"	
w1(E)	60	#5	23'-7"	
w2(E)	60	#5	22'-5"	

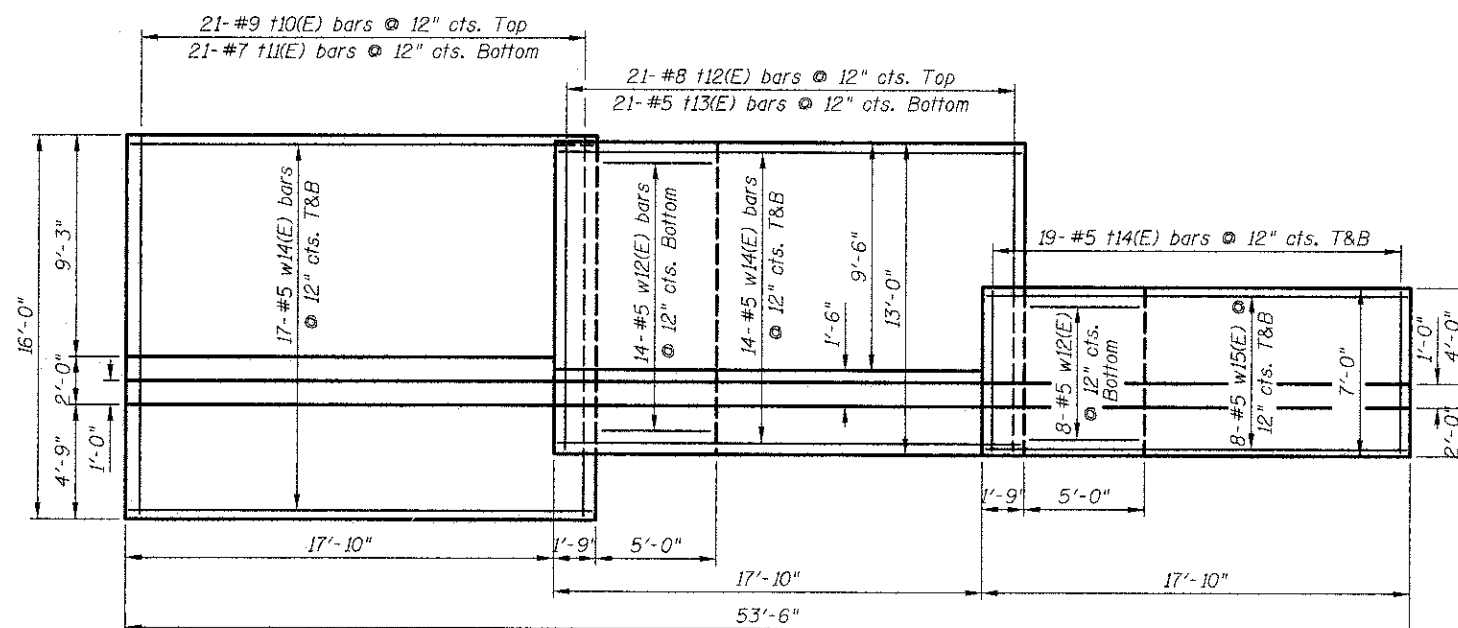
Item	Unit	Quantity
Porous Granular Embankment	Cu. Yd.	785
Structure Excavation	Cu. Yd.	2,361
Concrete Structures	Cu. Yd.	360.8
Rubbed Finish	Sq. Ft.	3,928
Reinforcement Bars, Epoxy Coated	Pound	64,640
Waterproofing Membrane System	Sq. Yd.	300
Geocomposite Wall Drain	Sq. Yd.	383
Pipe Underdrain for Structures, 4"	Foot	573
Staining Concrete Structures	Sq. Yd.	162
Form Liner Textured Surface, Special	Sq. Ft.	1,459

Bars indicated thus 13x3-#6 etc. indicates 13 lines of bars with 3 lengths per line.

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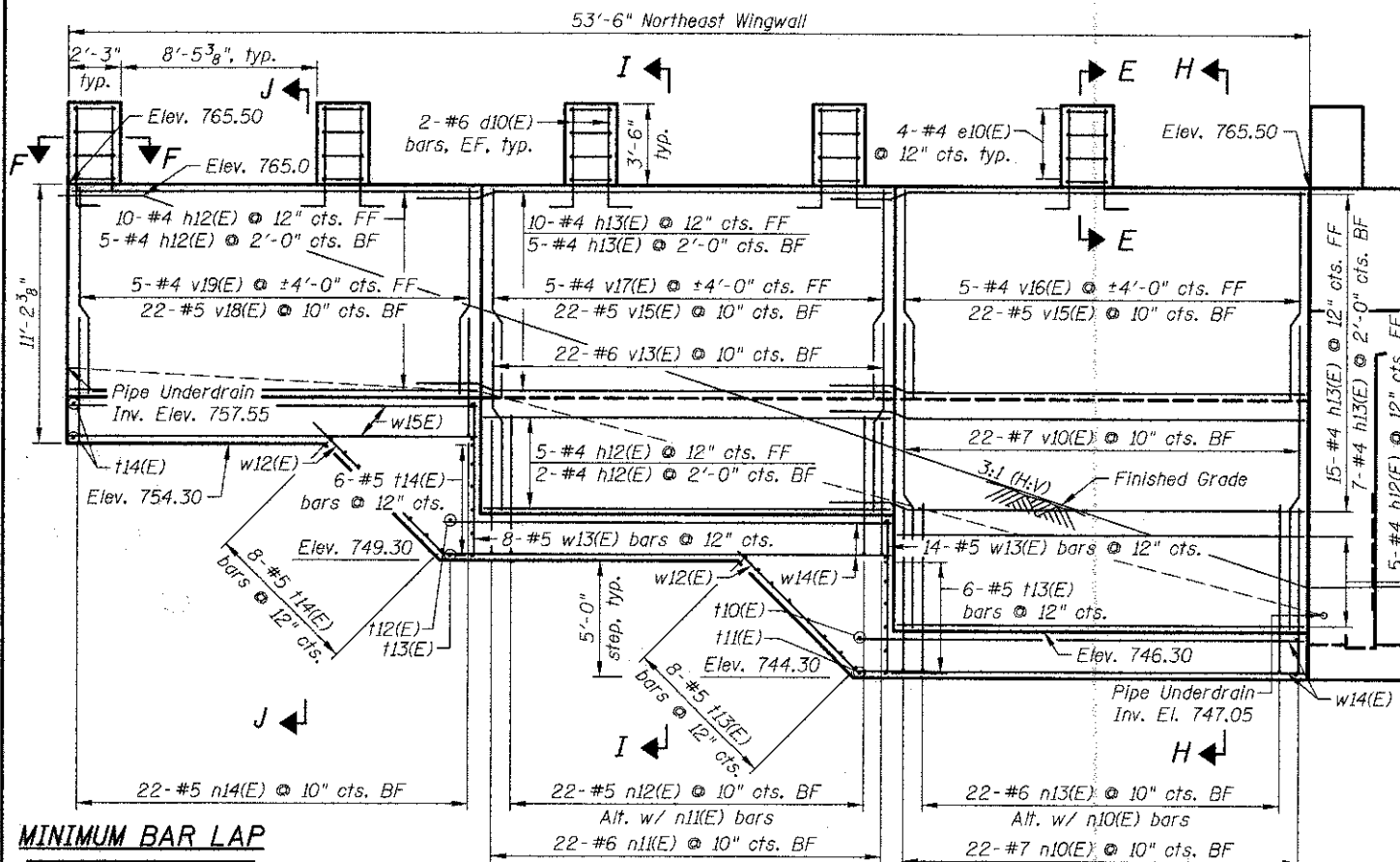


**PLAN**  
Northeast Wingwall

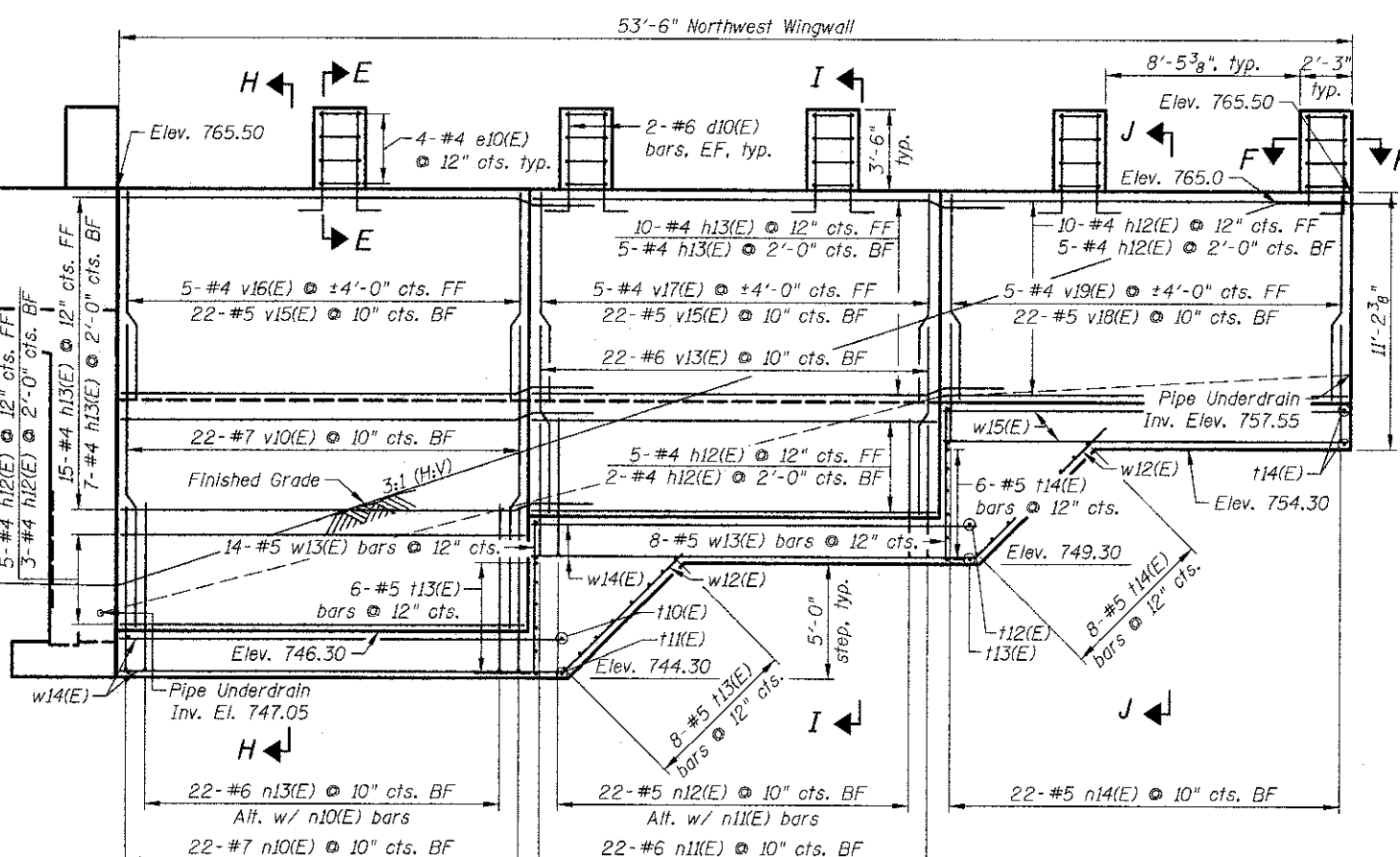


**PLAN**  
Northwest Wingwall

- Notes:
1. See Sheet S4 for Sections E-E and F-F.
  2. See Sheet S7 for Bill of Material, and Sections H-H, I-I, and J-J.
  3. See Sheet S8 for Plaster Rolling Details.



**ELEVATION**  
Northeast Wingwall

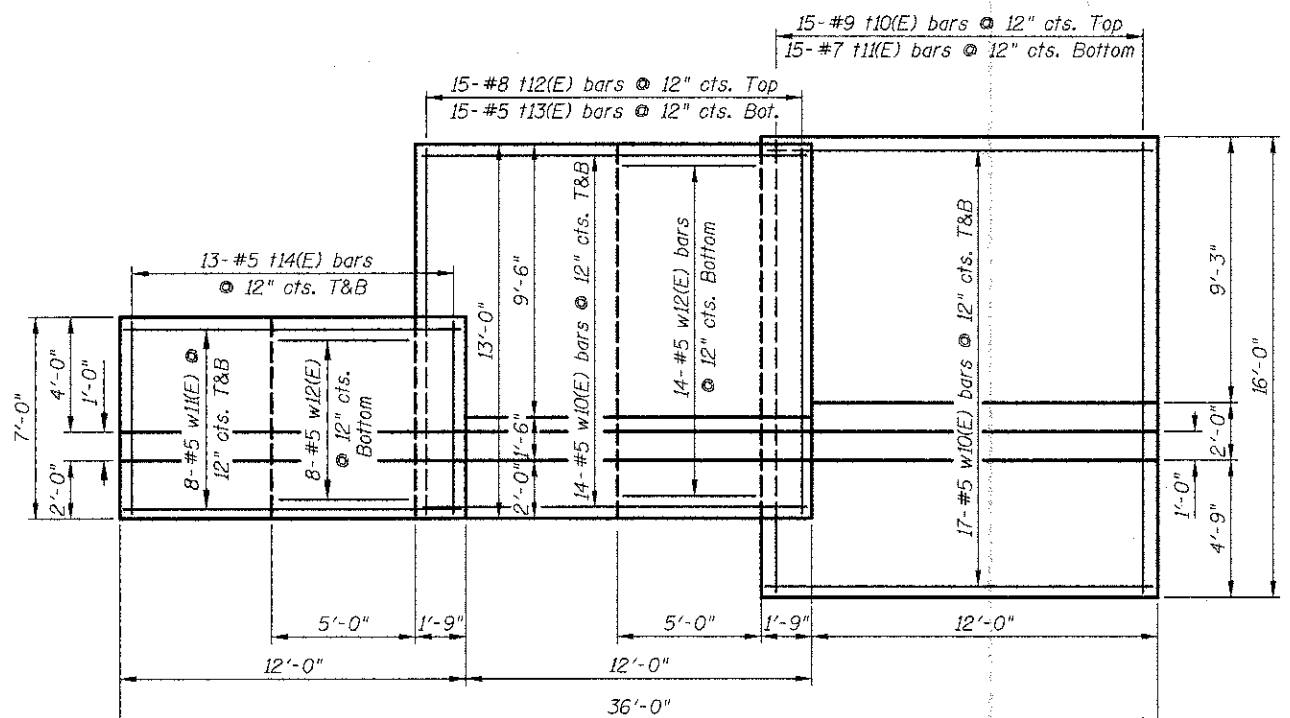


**ENTRANCE ELEVATION**  
North Entrance

**ELEVATION**  
Northwest Wingwall

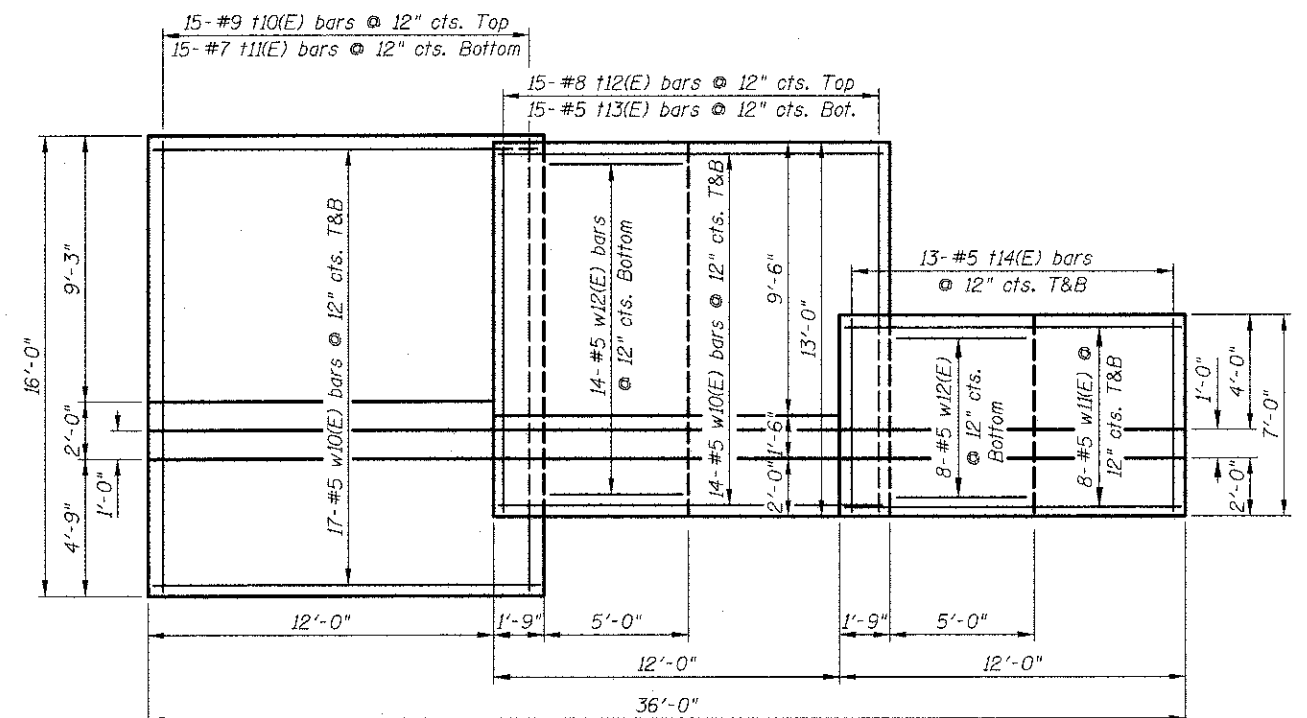
**MINIMUM BAR LAP**

Bar Size	Class C
#4	2'-7"
#5	3'-3"
#6	3'-10"
#7	5'-2"
#8	6'-9"
#9	8'-7"



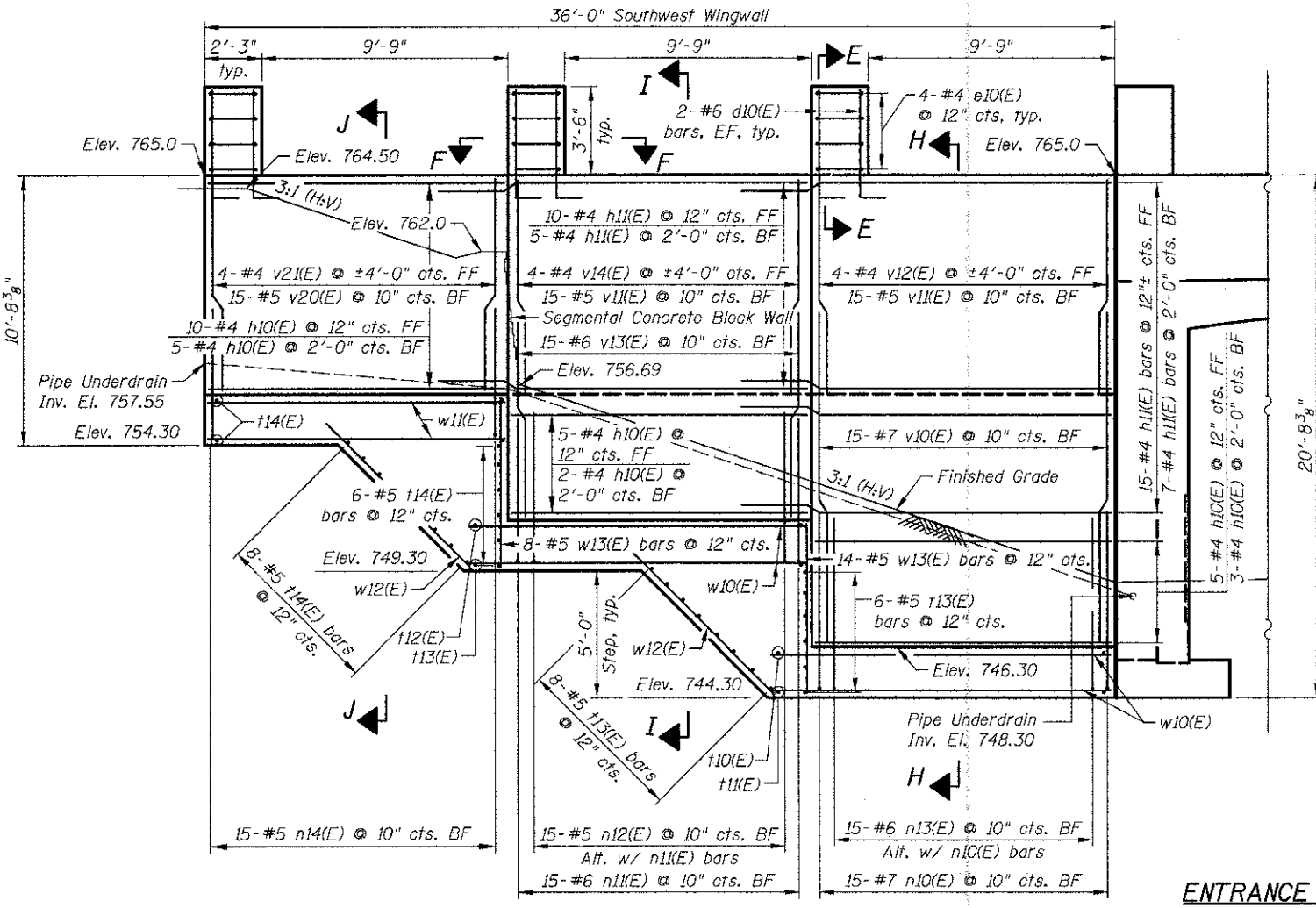
**PLAN**

Southwest Wingwall



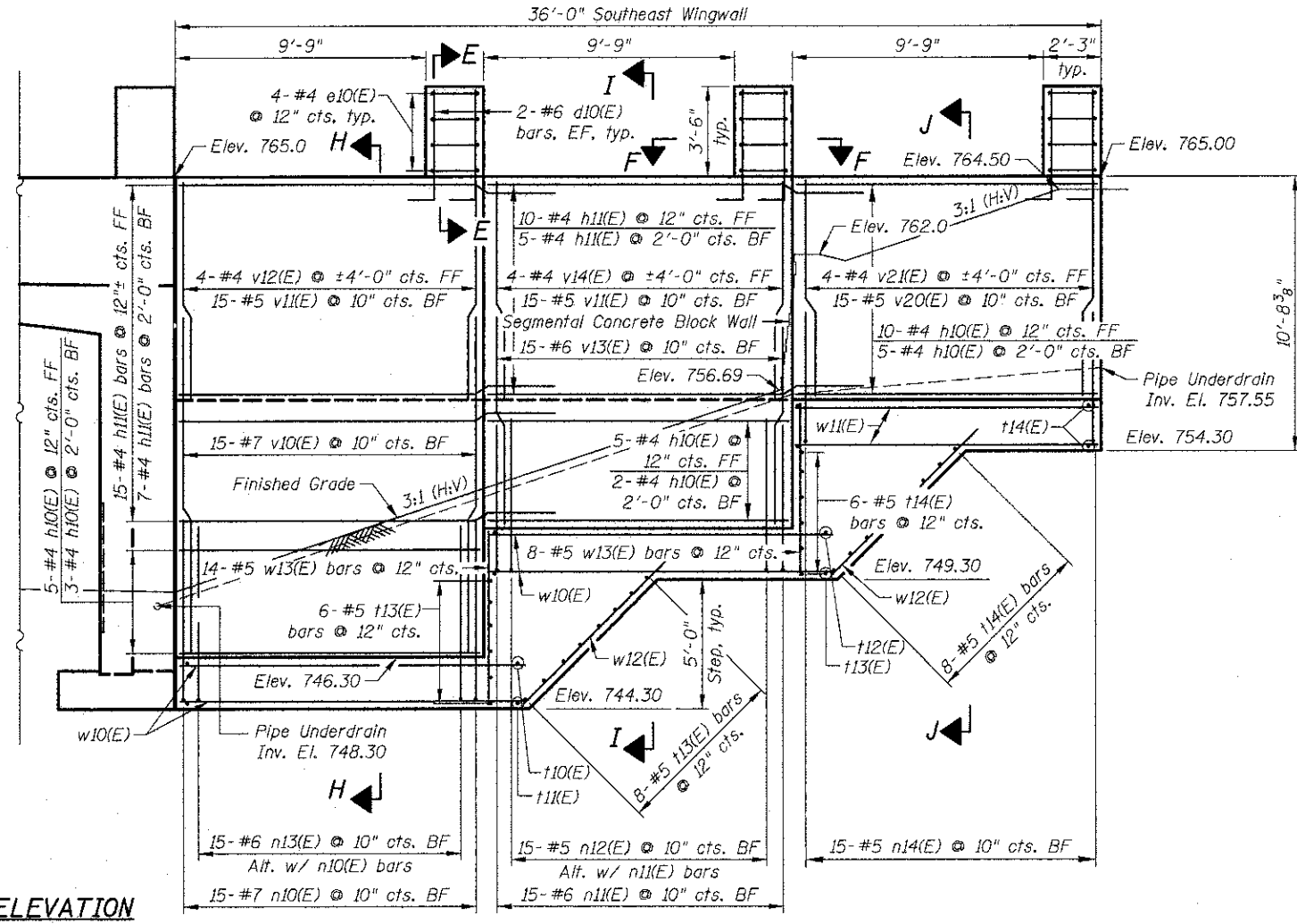
**PLAN**

Southeast Wingwall



**ELEVATION**

Southwest Wingwall



**ELEVATION**

Southeast Wingwall

**ENTRANCE ELEVATION**

South Entrance

12/12/2012 4:49:21 PM J:\2617\CAD\Final Plans Underpass\06\_south\_wingwall\_details.r2.dgn

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DESIGNED	- M. LANGE	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- DECEMBER 17, 2012	REVISED	-

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**SOUTH WINGWALLS**  
**GRASS LAKE ROAD OVER BIKE PATH**  
**STRUCTURE NO. 049-3070**

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	28
CONTRACT NO. 63778				
ILLINOIS FED. AID PROJECT				

SHEET NO. S6 OF S10 SHEETS

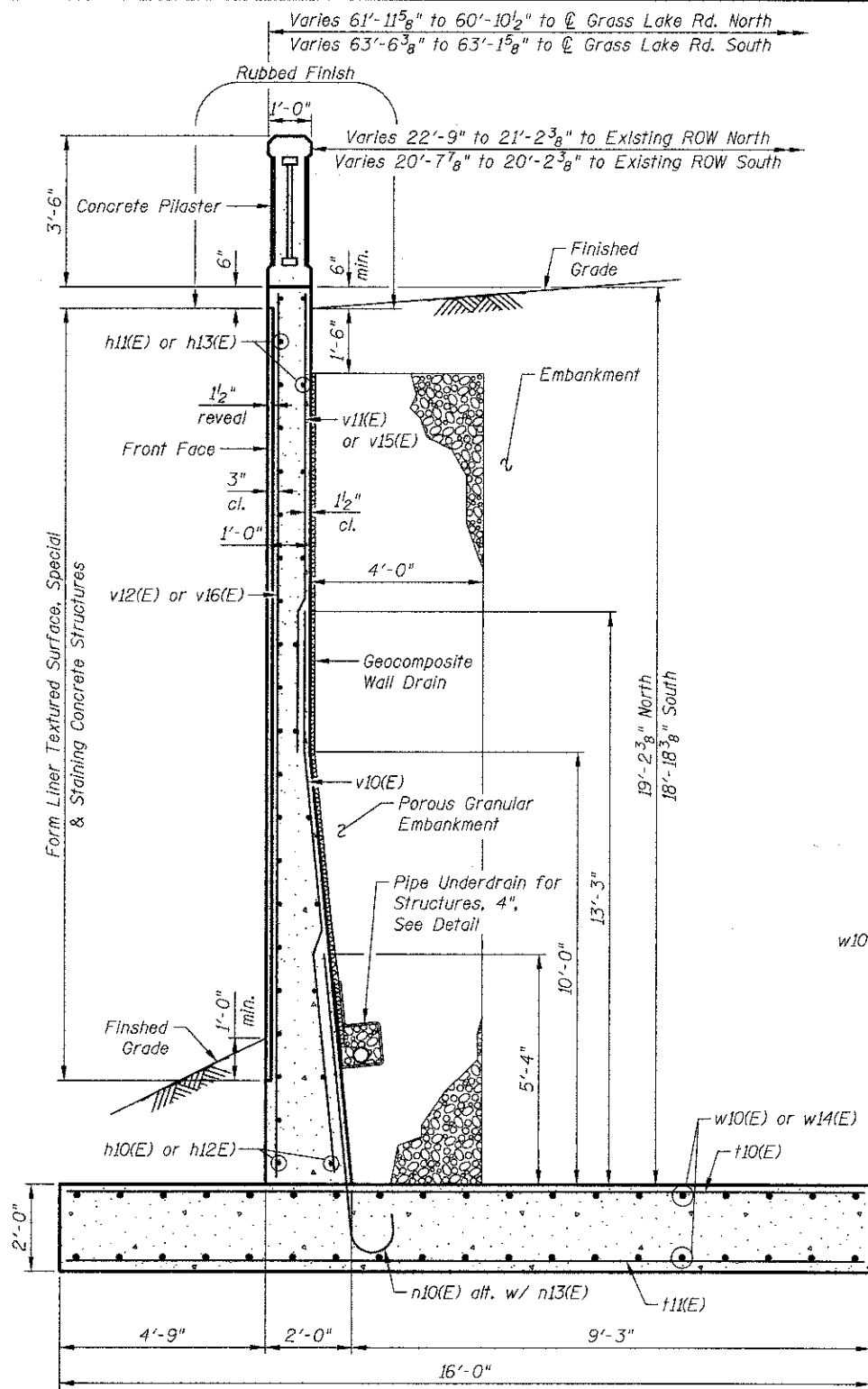
**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d10(E)	64	#6	5'-6"	L
e10(E)	64	#4	5'-8"	U
h10(E)	60	#4	11'-8"	—
h11(E)	74	#4	14'-7"	—
h12(E)	60	#4	17'-6"	—
h13(E)	74	#4	20'-5"	—
n10(E)	74	#7	7'-11"	—
n11(E)	74	#6	6'-5"	—
n12(E)	74	#5	6'-7"	—
n13(E)	74	#6	7'-11"	—
n14(E)	74	#5	5'-9"	—
t10(E)	72	#9	15'-8"	—
t11(E)	72	#7	15'-8"	—
t12(E)	72	#8	12'-8"	—
t13(E)	128	#5	12'-8"	—
t14(E)	184	#5	6'-8"	—
v10(E)	74	#7	13'-1"	—
v11(E)	60	#5	8'-7"	—
v12(E)	8	#4	18'-5"	—
v13(E)	74	#6	8'-1"	—
v14(E)	8	#4	13'-5"	—
v15(E)	88	#5	9'-1"	—
v16(E)	10	#4	18'-11"	—
v17(E)	10	#4	13'-11"	—
v18(E)	44	#5	8'-11"	—
v19(E)	10	#4	8'-11"	—
v20(E)	30	#5	8'-4"	—
v21(E)	8	#4	8'-4"	—
w10(E)	124	#5	13'-5"	—
w11(E)	32	#5	11'-8"	—
w12(E)	88	#5	8'-0"	—
w13(E)	88	#5	6'-7"	—
w14(E)	124	#5	19'-3"	—
w15(E)	32	#5	17'-6"	—

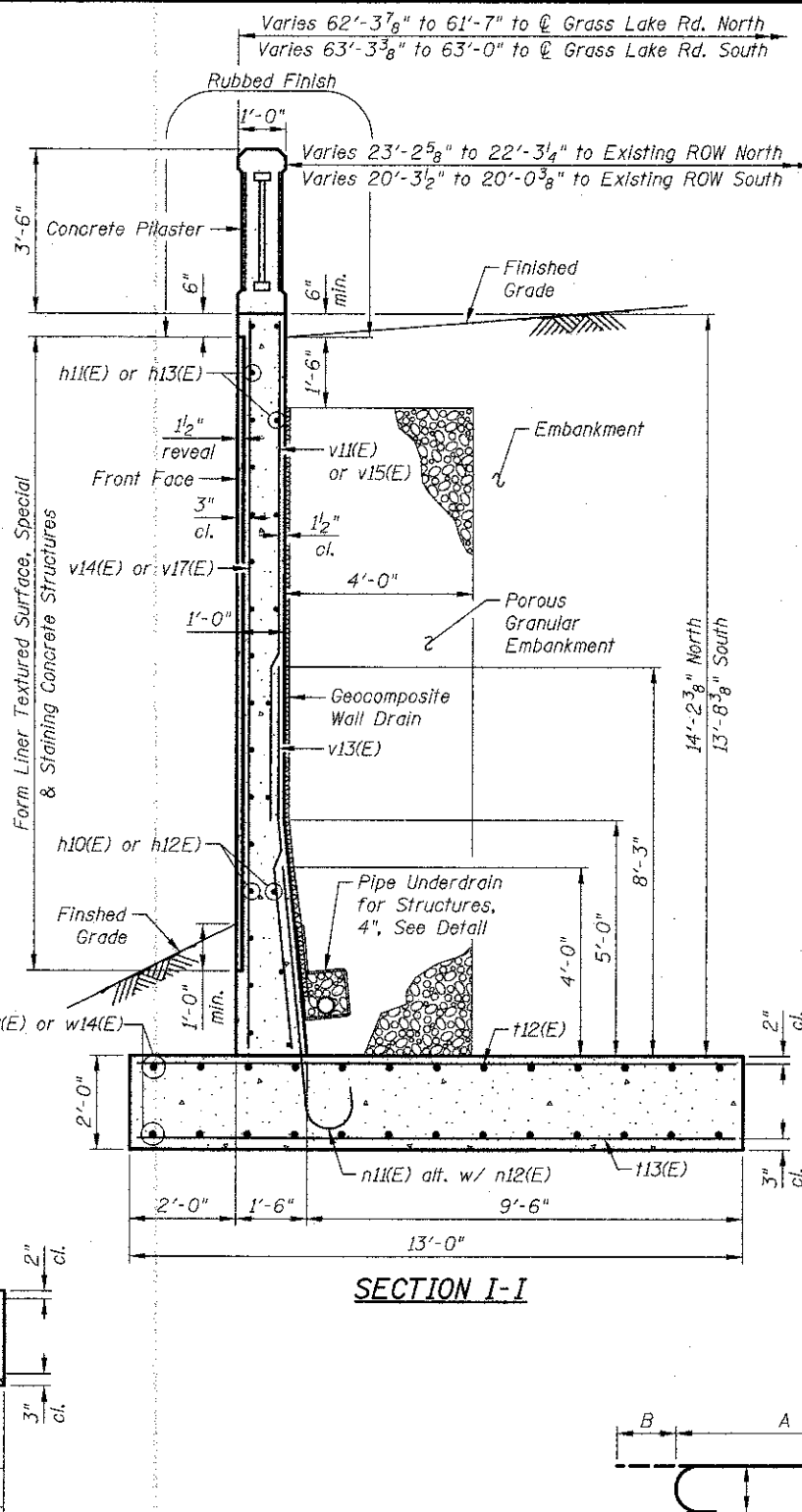
  

Item	Unit	Quantity
Porous Granular Embankment	Cu. Yd.	305
Structure Excavation	Cu. Yd.	2,128
Concrete Structures	Cu. Yd.	337.7
Rubbed Finish	Sq. Ft.	779
Reinforcement Bars, Epoxy Coated	Pound	31,130
Geocomposite Wall Drain	Sq. Yd.	190
Pipe Underdrain For Structures, 4"	Foot	188
Staining Concrete Structures	Sq. Yd.	179
Form Liner Textured Surface, Special	Sq. Ft.	1,604

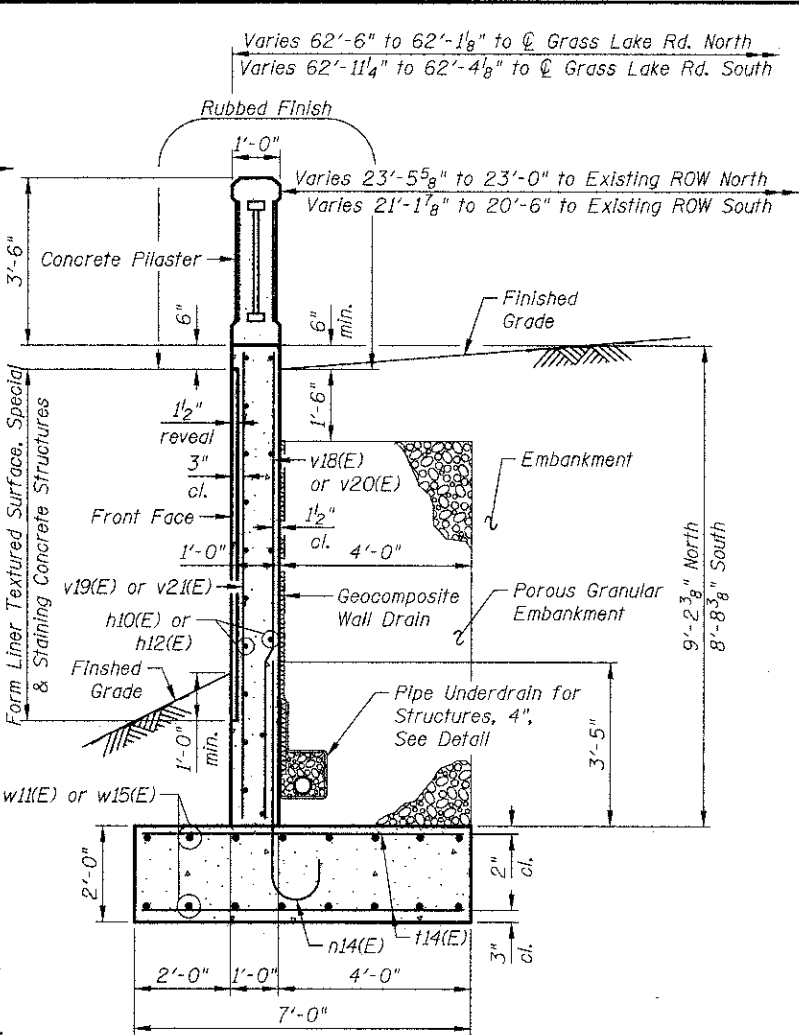
Notes:  
 See Sheet S4 for Concrete Pilasters Details.  
 See Sheets S5 & S6 for Pipe Underdrain Invert Elevations.  
 See Sheet S8 for Pilaster Railing Details.



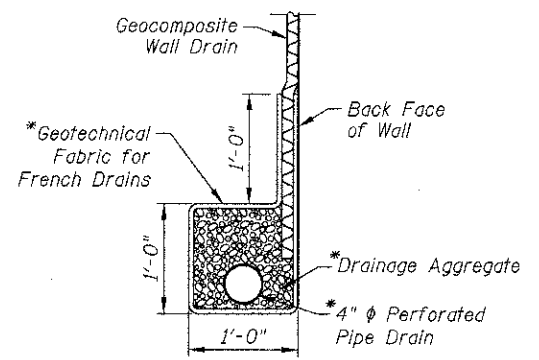
**SECTION H-H**



**SECTION I-I**



**SECTION J-J**



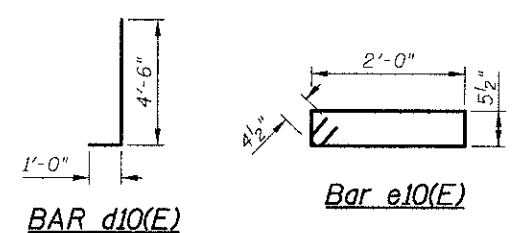
**PIPE UNDERDRAIN DETAIL**

**BARS v10(E) AND v13(E)**

Bar	A	B	C
v10(E)	3'-3"	9'-10"	0'-11 <sup>3</sup> / <sub>4</sub> "
v13(E)	3'-3"	4'-10"	0'-5 <sup>3</sup> / <sub>4</sub> "

**BARS n10(E) THRU n14(E)**

Bar	A	B	C
n10(E)	7'-1"	0'-10"	0'-7"
n11(E)	5'-9"	0'-8"	0'-6"
n12(E)	6'-0"	0'-7"	0'-5"
n13(E)	7'-3"	0'-8"	0'-6"
n14(E)	5'-2"	0'-7"	0'-5"



Note:  
 Maximum Applied Bearing Pressure = 2,975 psf  
 Maximum Allowed Bearing Pressure = 3,000 psf

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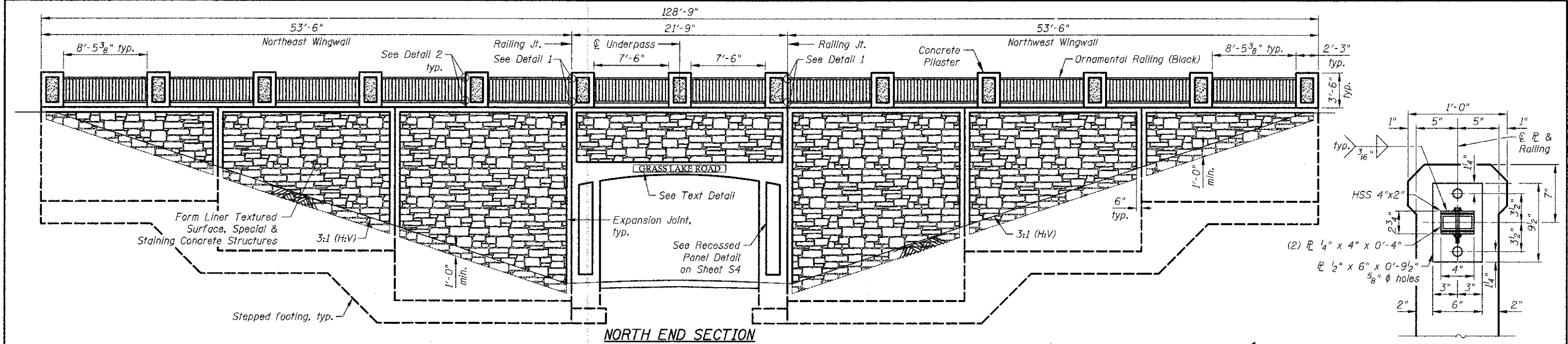
**CIVILTECH**  
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 Itasca, Illinois 60143  
 Tel: 630.773.3900 Fax: 630.773.3975  
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DRAWN	- K. BOCHNOWSKI	REVISED	-
DESIGNED	- M. LANGE	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- DECEMBER 17, 2012	REVISED	-

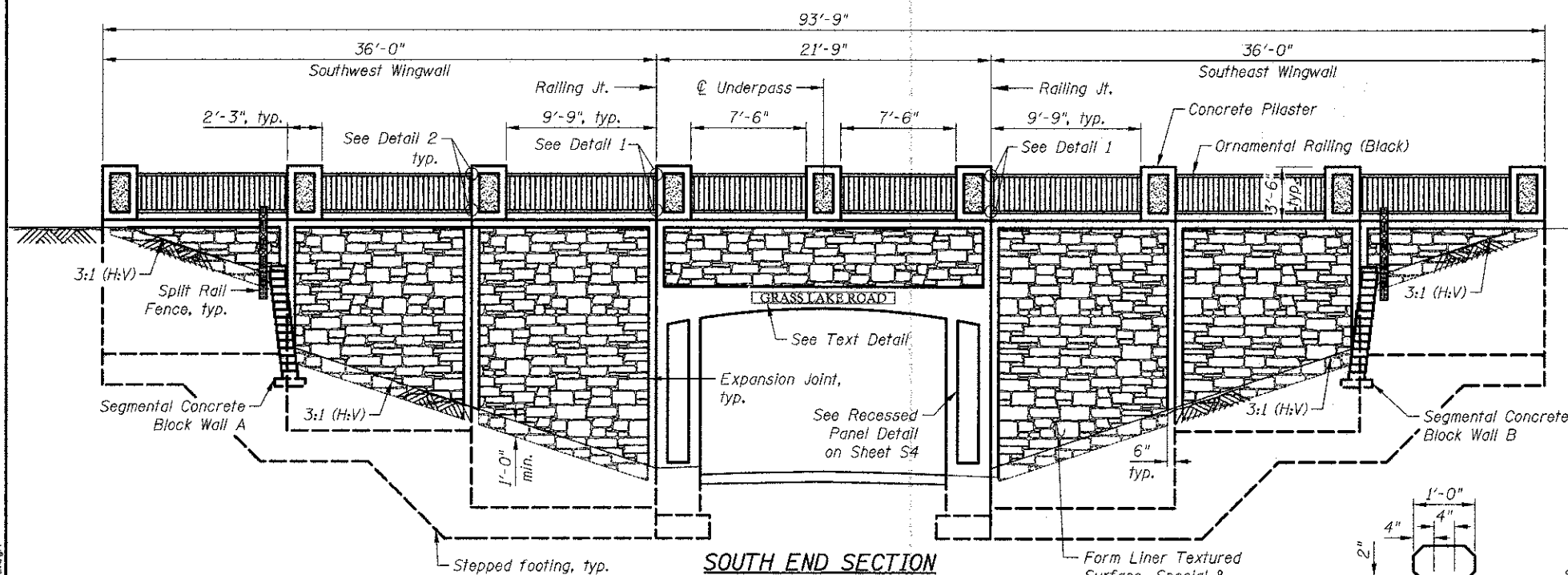
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**WINGWALL DETAILS**  
**GRASS LAKE ROAD OVER BIKE PATH**  
**STRUCTURE NO. 049-3070**  
 SHEET NO. S7 OF S10 SHEETS

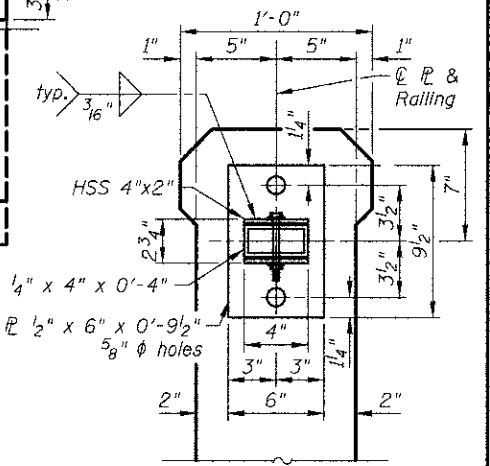
F.A.U. RATE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	29
				CONTRACT NO. 63778
ILLINOIS (FEB. AID) PROJECT				



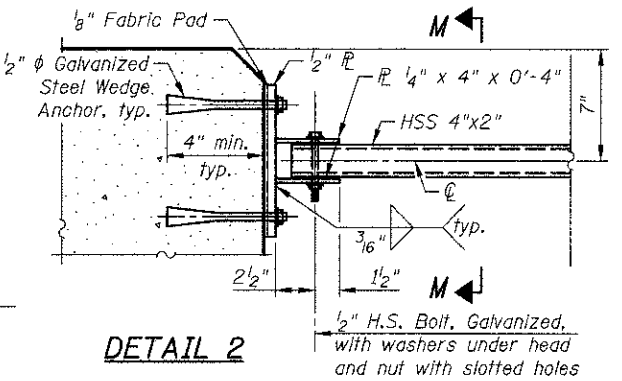
**NORTH END SECTION**



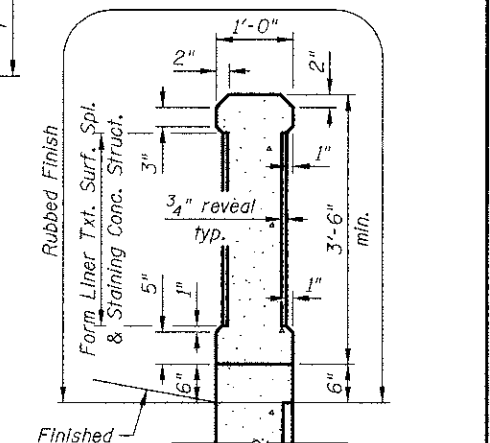
**SOUTH END SECTION**



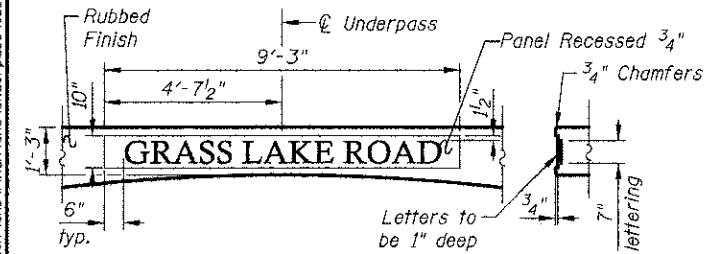
**SECTION M-M**



**DETAIL 2**



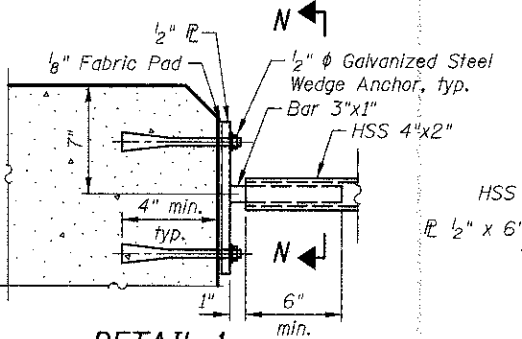
**SECTION K-K**



**TEXT DETAIL**

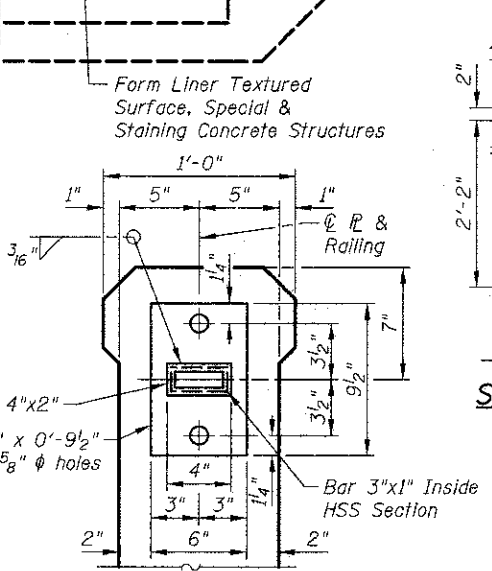
Font Style to be Calisto MT

Letters are to be cast-in-place with a one piece form liner securely attached to the forms and according to Article 503.06(a). Individual letters are not permitted.

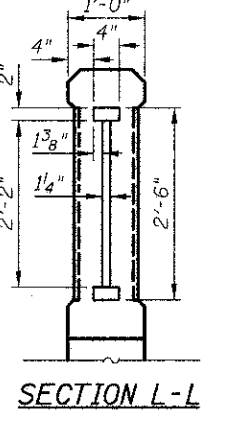


**DETAIL 1**

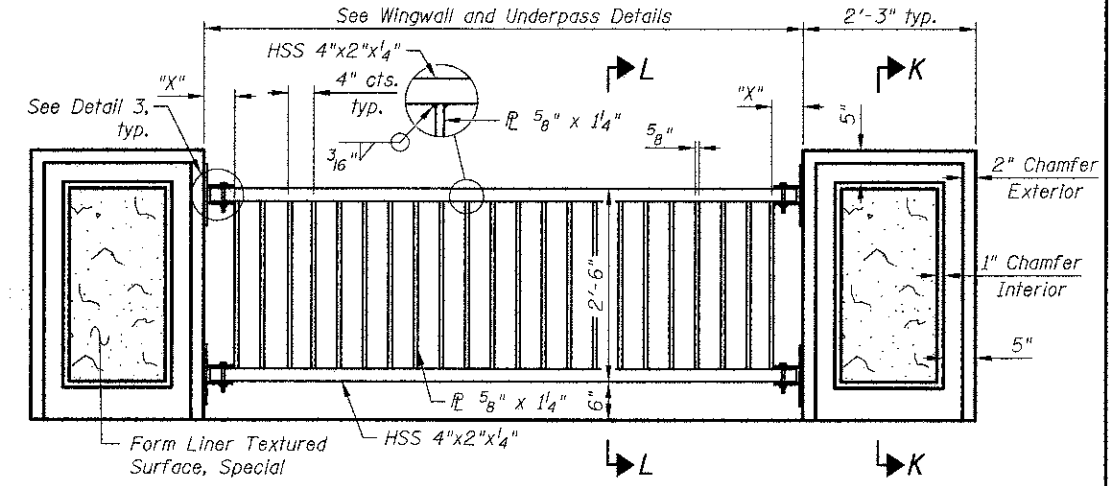
Railing Expansion Joint Detail



**SECTION N-N**



**SECTION L-L**



**TYPICAL RAILING ELEVATION**

Dimension "X" Equals Remaining Distance After Even Plate Spacing

See Wingwall and Underpass sheets for Bills of Material

12/12/2012 14:52:23 PM J:\2617-CAD\Final Plans - Underpass\08\_arch\_details\_r2.dgn

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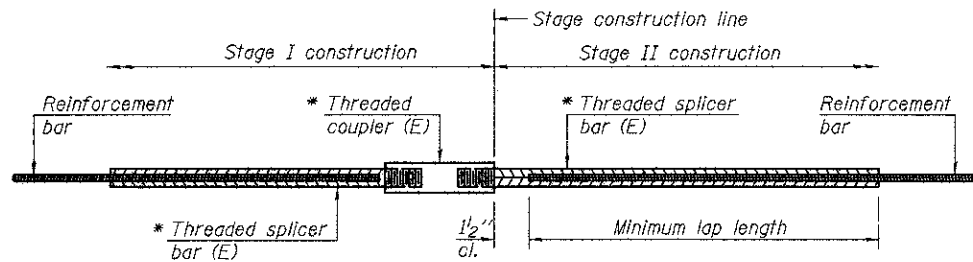
DRAWN	- K. BOCHNOWSKI	REVISED	-
DESIGNED	- M. LANGE	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- DECEMBER 17, 2012	REVISED	-

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**ARCHITECTURAL DETAILS**  
**GRASS LAKE ROAD OVER BIKE PATH**  
**STRUCTURE NO. 049-3070**  
 SHEET NO. 58 OF 510 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	30
CONTRACT NO. 63778			ILLINOIS FED. AID PROJECT	





**STANDARD BAR SPLICER ASSEMBLY**

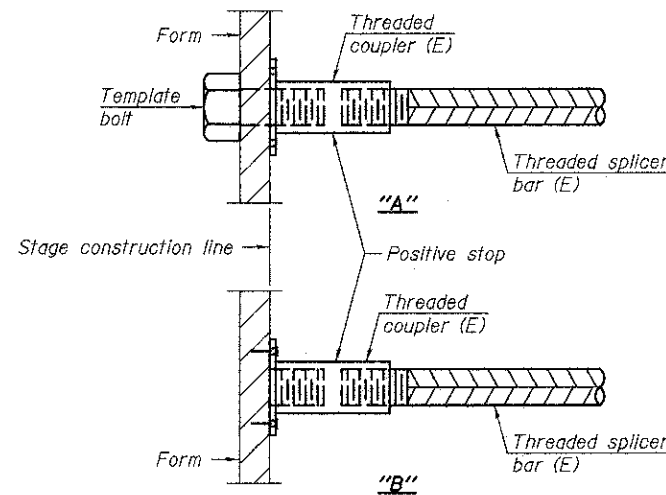
Minimum Lap Lengths				
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

- Table 1: Black bar, 0.8 Class C
- Table 2: Black bar, Top bar lap, 0.8 Class C
- Table 3: Epoxy bar, 0.8 Class C
- Table 4: Epoxy bar, Top bar lap, 0.8 Class C

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

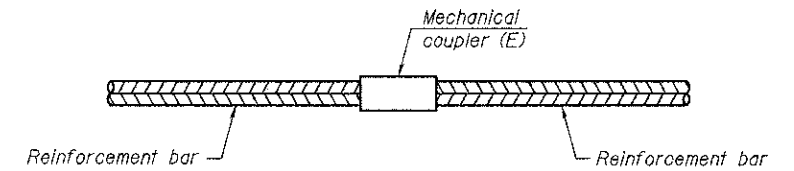
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Underpass Walls	#5	60	Table 3
Top Slab of Underpass	#5	36	Table 3
Footings	#5	20	Table 3



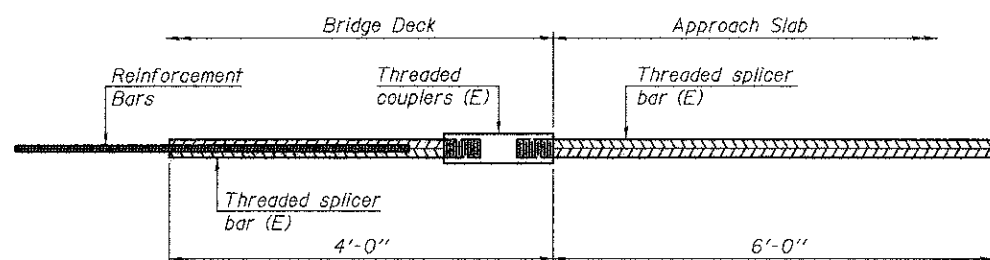
**INSTALLATION AND SETTING METHODS**

- "A": Set bar splicer assembly by means of a template bolt.
- "B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
- (E): Indicates epoxy coating.



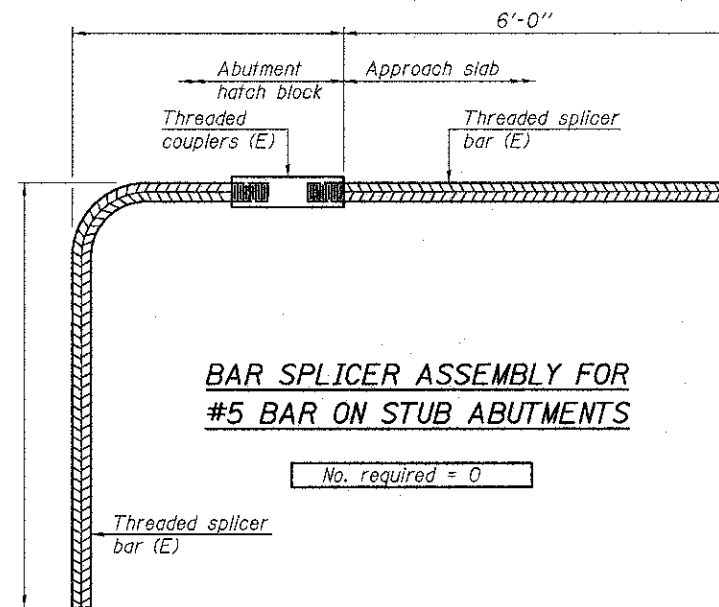
**STANDARD MECHANICAL SPLICER**

Location	Bar size	No. assemblies required



**BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

No. required = 0



**BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS**

No. required = 0

**NOTES**

- Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
- All reinforcement shall be lapped and tied to the splicer bars.
- Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
- See special provision for Mechanical Splicers.
- See approved list of bar splicer assemblies and mechanical splicers for alternatives.

12/12/2012 12:26:25 PM J:\2617\CAD\Final Plans\Underpass\09\_bar\_splicer\_details.dgn



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DESIGNED	- M. LANGE	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- DECEMBER 17, 2012	REVISED	-

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY DETAILS  
 GRASS LAKE ROAD OVER BIKE PATH  
 STRUCTURE NO. 049-3070

SHEET NO. 59 OF 510 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	31
CONTRACT NO. 63778				
ILLINOIS FED. AID PROJECT				

MSET PROJECT NO.: 12352		LOG OF BORING NO. B-1		Page 1 of 1				
PROJECT: Grass Lake Road, Bike Trail Underpass		SITE LOCATION: Lindenhurst, Il.						
BORING LOCATION: South Headwall		CLIENT: Civiltech Engineering, Inc.						
DEPTH (feet)	SOIL TYPE	Material Description	Elevation	SAMPLE		TESTS		REMARKS
				TYPE/INTERVAL	NO.	N-VALUE Blows per ft.	Wc% Dry Unit Weight, pcf Unconfined Compressive Strength, psf	
0		Brown Silty CLAY mixed with Shoulder Gravel, FILL	764.0	SS	1	7	11	
5		Brown to Brown and Grey Silty Clay LOAM, A-6 very stiff to hard	762.0	SS	2	11	16	103
				SS	3	21	17	110
				SS	4	25	17	105
				SS	5	22	19	107
15		Grey CLAY, A-6 hard to stiff	750.5	SS	6	19	18	106
				SS	7	14	19	105
				SS	8	12	20	102
25				SS	9	9	21	101
30		Grey SAND & GRAVEL A-1 medium dense End of Boring at 30.0 Feet	734.3 734.0	SS	10	12	23	100

MSET PROJECT NO.: 12352		LOG OF BORING NO. B-2		Page 1 of 1				
PROJECT: Grass Lake Road, Bike Trail Underpass		SITE LOCATION: Lindenhurst, Il.						
BORING LOCATION: North Headwall		CLIENT: Civiltech Engineering, Inc.						
DEPTH (feet)	SOIL TYPE	Material Description	Elevation	SAMPLE		TESTS		REMARKS
				TYPE/INTERVAL	NO.	N-VALUE Blows per ft.	Wc% Dry Unit Weight, pcf Unconfined Compressive Strength, psf	
0		Dark Brown Silty CLAY, A-6 Topsoil	762.0	SS	1	10	23	90
		Brown to Brown & Grey Silty Clay LOAM, A-6 very stiff to hard	761.2	SS	2	17	15	4.5+ Qp
				SS	3	17	16	107
				SS	4	21	17	113
				SS	5	14	20	107
				SS	6	15	20	104
				SS	7	14	19	104
20		Grey CLAY, A-6 hard to very stiff	744.0	SS	8	13	20	107
				SS	9	13	22	101
25		Grey Silty Clay LOAM, A-4 to A-6 very stiff	737.0	SS	10	9	16	115
30		End of Boring at 30.0 Feet	732.0					

MSET PROJECT NO.: 12352		LOG OF BORING NO. B-3		Page 1 of 1				
PROJECT: Grass Lake Road, Bike Trail Underpass		SITE LOCATION: Lindenhurst, Il.						
BORING LOCATION: North Headwall		CLIENT: Civiltech Engineering, Inc.						
DEPTH (feet)	SOIL TYPE	Material Description	Elevation	SAMPLE		TESTS		REMARKS
				TYPE/INTERVAL	NO.	N-VALUE Blows per ft.	Wc% Dry Unit Weight, pcf Unconfined Compressive Strength, psf	
0		Black to Dark Brown Silty CLAY, A-6 Topsoil	764.0	SS	1	10	19	4.5 Qp
		Brown to Brown & Grey Silty Clay LOAM, A-6 hard	762.6	SS	2	18	15	4.5+ Qp
				SS	3	23	16	107
				SS	4	24	19	108
				SS	5	15	22	102
15		Grey CLAY, A-6 very stiff to stiff	751.0	SS	6	14	19	108
				SS	7	13	20	107
20		Wet SAND & GRAVEL seam at 19.5'		SS	8	12	15	109
				SS	9	9	19	110
30		End of Boring at 30 Feet	734.0	SS	10	19	10	

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 450 E Devon Ave, Suite 300  
 Itasca, Illinois 60143  
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 www.civiltechinc.com

DRAWN -	K. BOCHNOWSKI	REVISED -	
DESIGNED -	M. LANGE	REVISED -	
CHECKED -	G. HATLESTAD	REVISED -	
DATE -	DECEMBER 17, 2012	REVISED -	

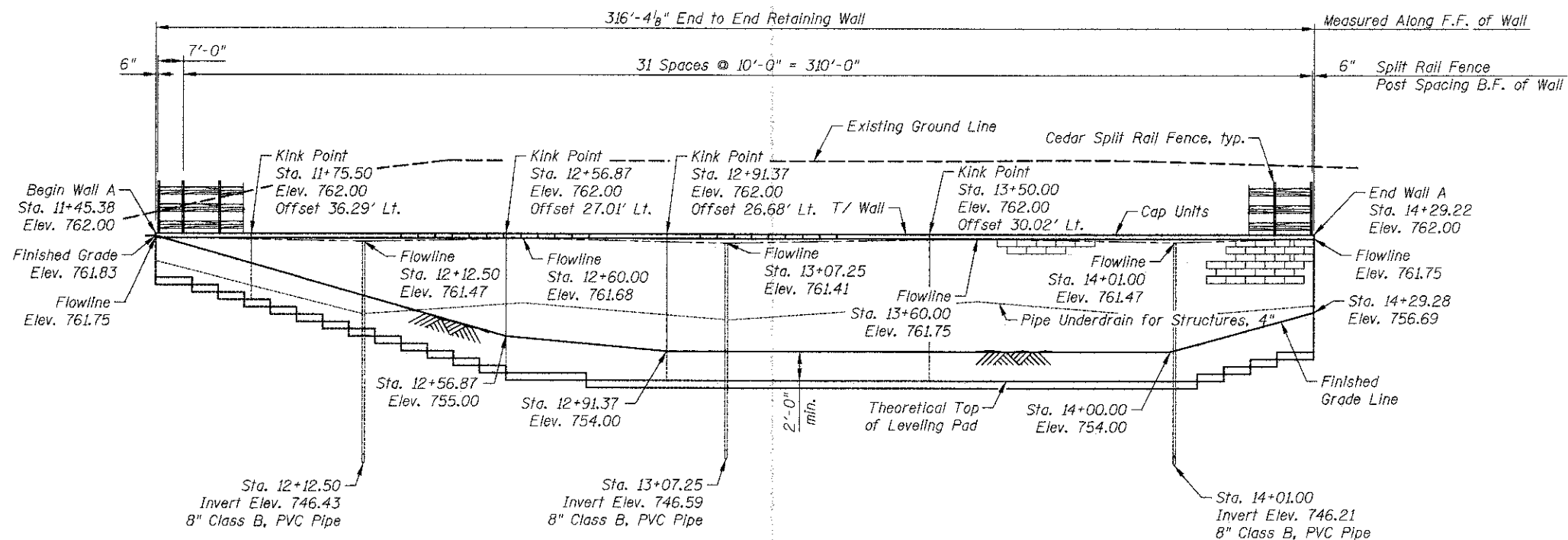
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

UNDERPASS SOIL BORING LOGS  
 GRASS LAKE ROAD OVER BIKE PATH  
 STRUCTURE NO. 049-3070  
 SHEET NO. 510 OF 510 SHEETS

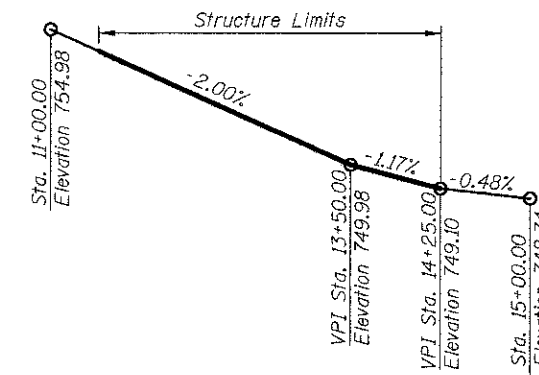
F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	32
CONTRACT NO. 63778				
ILLINOIS FED. AID PROJECT				

Benchmark: Mag nail, WP #21, Bike Path, Sta. 13+35.06, Offset 10.08' Lt., Elevation 766.91.

Existing Structure: None.



**ELEVATION**  
(Looking at front face of wall)  
(Unfolded Elevation)



**PROFILE GRADE BIKE PATH**

**CURVE NO. 2**  
(Along Bike Path 1)  
 $\Delta = 42^\circ 10' 22''$   
 $D = 28^\circ 53' 00''$   
 $T = 76.49'$   
 $L = 146.01'$   
 $E = 14.24'$   
 $R = 198.37'$   
 P.C. = Sta. 11+10.87  
 P.T. = Sta. 12+56.88  
 P.I. = Sta. 11+87.36

**CURVE NO. 3**  
(Along Bike Path 1)  
 $\Delta = 20^\circ 04' 03''$   
 $D = 54^\circ 34' 03''$   
 $T = 25.52'$   
 $L = 36.77'$   
 $E = 3.06'$   
 $R = 105.00'$   
 P.C. = Sta. 12+56.88  
 P.T. = Sta. 12+93.65  
 P.I. = Sta. 12+82.40

**CURVE NO. 4**  
(Along Bike Path 1)  
 $\Delta = 70^\circ 15' 13''$   
 $D = 57^\circ 17' 45''$   
 $T = 70.35'$   
 $L = 122.61'$   
 $E = 22.27'$   
 $R = 100.00'$   
 P.C. = Sta. 13+07.10  
 P.T. = Sta. 14+29.72  
 P.I. = Sta. 13+77.45

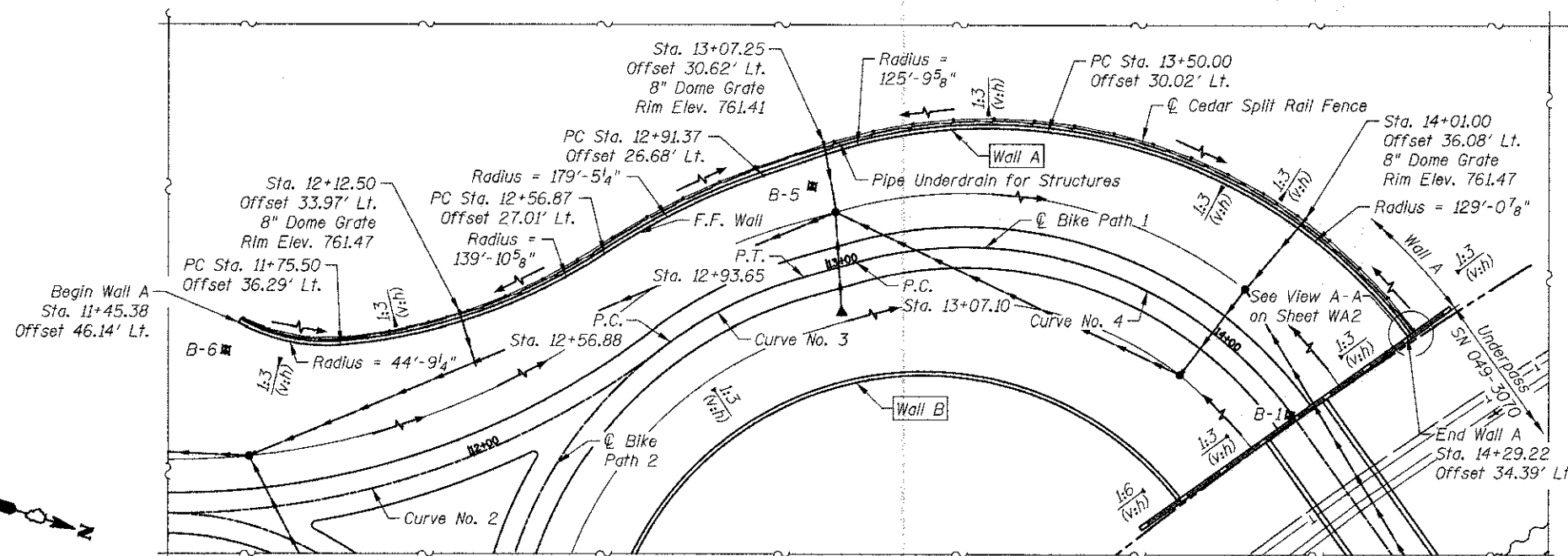
CIVILTECH ENGINEERING, INC.  
GREGORY J. HATLESTAD, S.E.



**DESIGN SPECIFICATIONS**  
2012 AASHTO LRFD Bridge  
Design Specifications, 6th edition

GREGORY J. HATLESTAD, S.E.  
# 081-005562

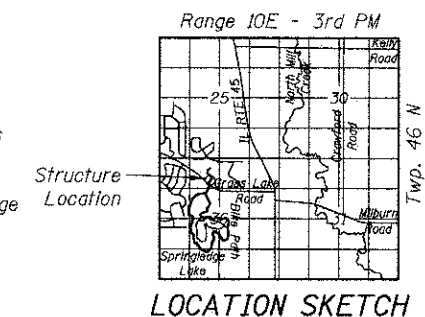
EXP \_\_\_\_\_  
DATE \_\_\_\_\_



**PLAN**

I certify that to the best of knowledge, information and belief, this design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO LRFD Bridge Design Specifications for Highway Bridges.

- Notes:
- Segmental Concrete Block Wall shall be designed for railing loads.
  - Wall offsets are measured from  $\text{C}$  Bike Path 1 to the front face of wall.
  - Radii measured at front face of wall
  - UON - Unless Otherwise Noted
  - F.F. - Front Face
  - B.F. - Back Face



**LOCATION SKETCH**

**GENERAL PLAN AND ELEVATION**  
**WALL A; BIKE PATH**  
**SEC. 09-P0075-15-BT**  
**LAKE COUNTY**  
**STA. 11+45.38 TO STA. 14+29.22**

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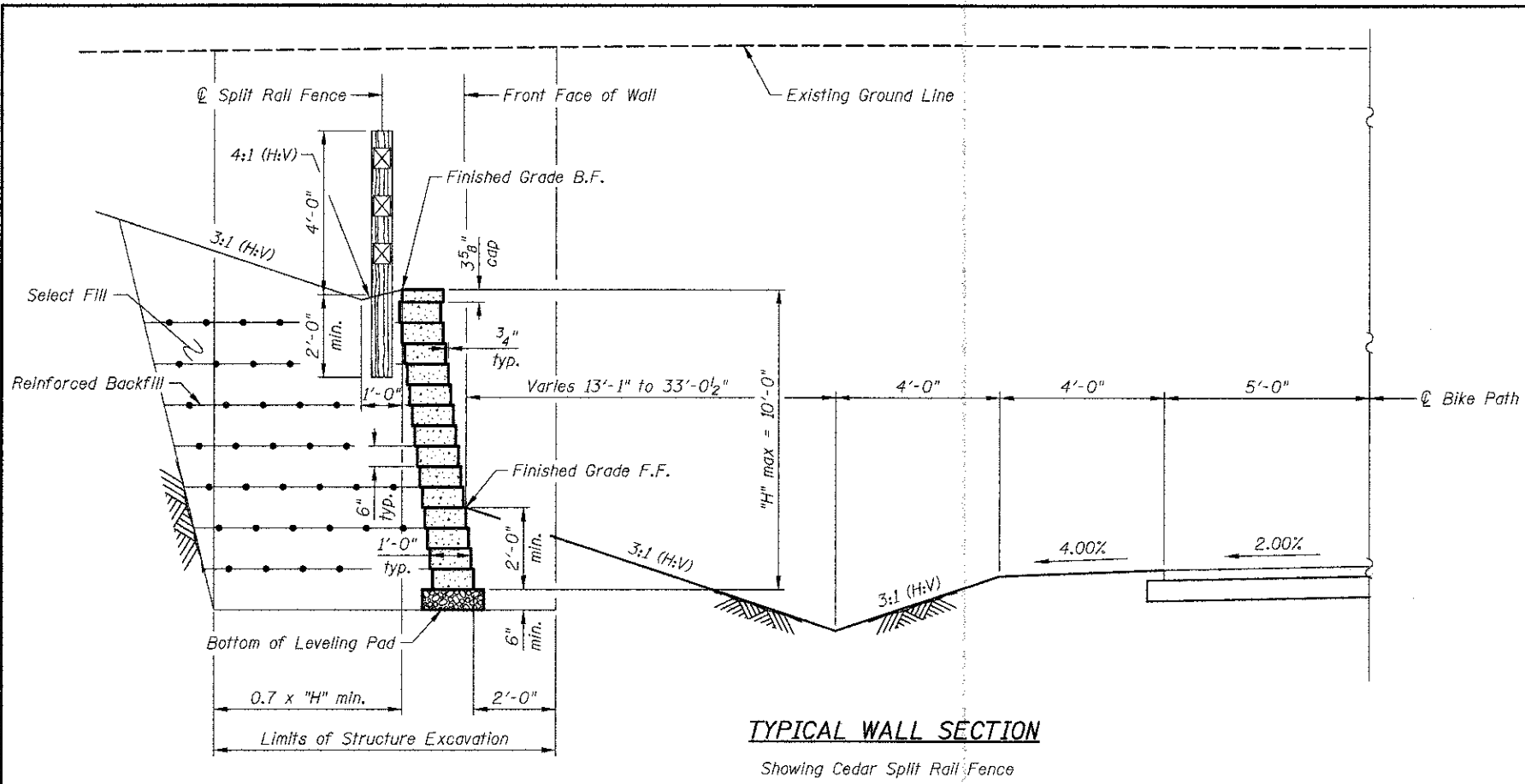
DRAWN	- K. BOCHNOWSKI	REVISED	-
DESIGNED	- M. LANGE	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- DECEMBER 17, 2012	REVISED	-

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION**  
**WALL A; BIKE PATH**

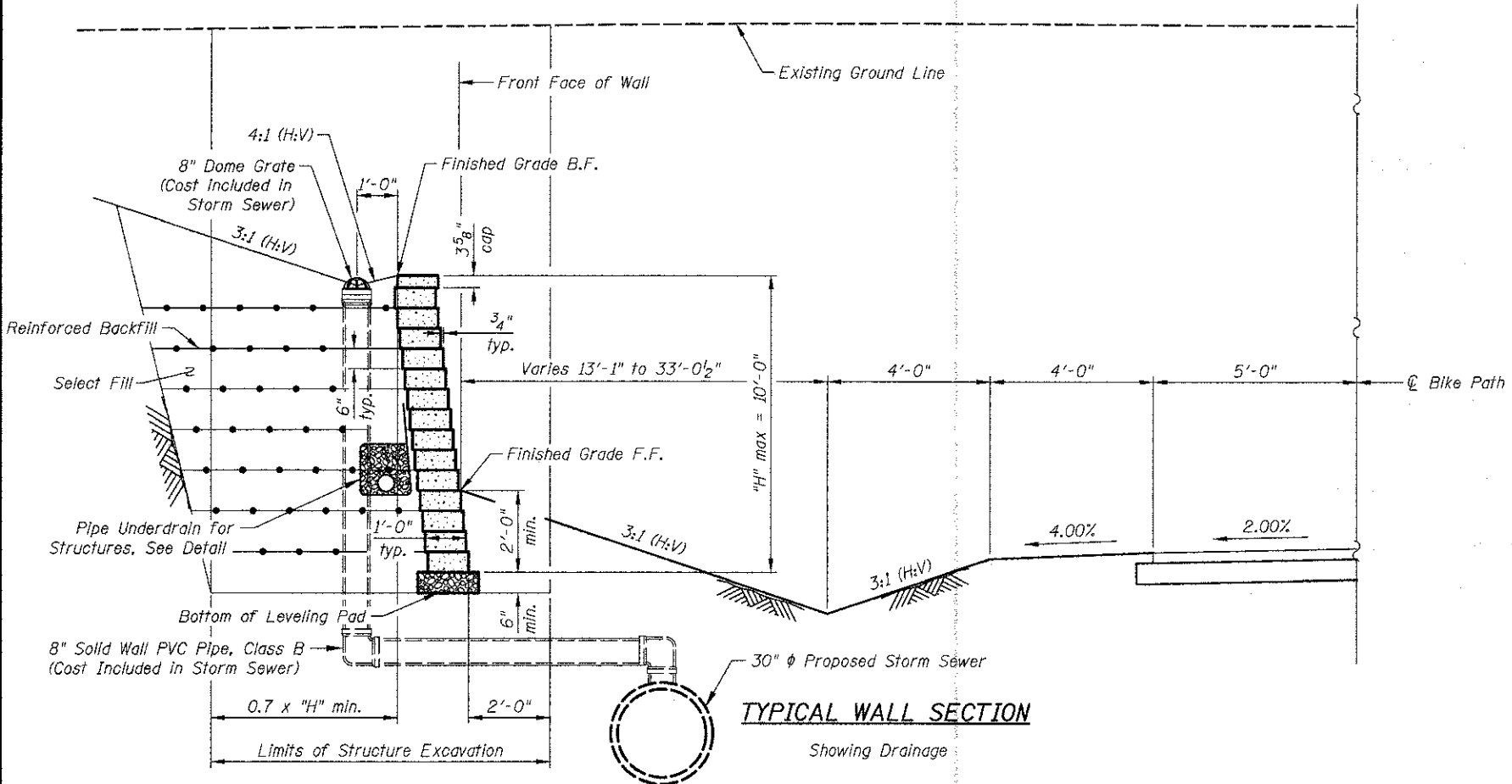
SHEET NO. WA1 OF WA3 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	33
CONTRACT NO. 63778				
ILLINOIS FED. AID PROJECT				



**TYPICAL WALL SECTION**

Showing Cedar Split Rail Fence



**TYPICAL WALL SECTION**

Showing Drainage

**GENERAL NOTES:**

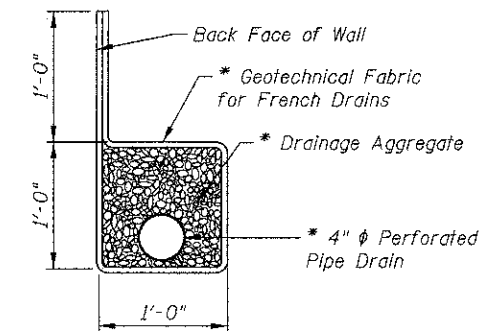
1. Design and installation of Segmental Concrete Block Wall (including need for Soil Reinforcement) to be in accordance with Wall System Manufacturer Design Requirements and Specifications.
2. The blocks shall be Versa-Lok standard units, color Cedar Creek Brown. Units shall be installed according to manufacturer's instructions.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Structure Excavation	Cu. Yd.	1,576
Segmental Concrete Block Wall	Sq. Ft.	2,667
Pipe Underdrains for Structures, 4"	Foot	317

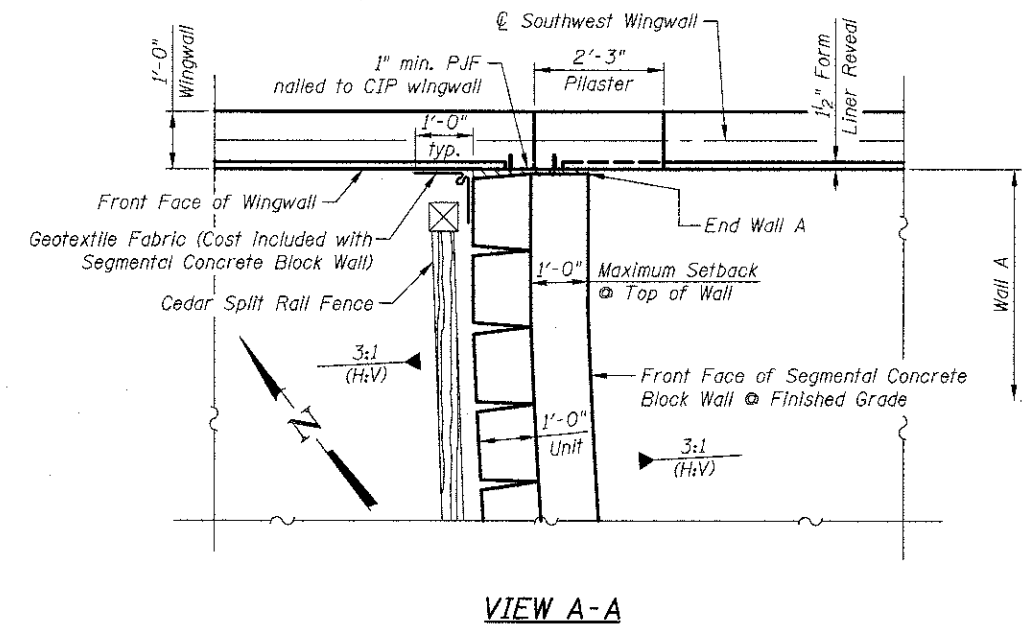
**INDEX OF SHEETS**

WA1	General Plan and Elevation
WA2	General Data
WA3	Soil Boring Logs



**PIPE UNDERDRAIN DETAIL**

\* Included in the cost of Pipe Underdrains for Structures, 4"



**VIEW A-A**

12/12/2012 4:23:42 PM d:\2817\CAD\Final Plans\Wall A\02\_Wall A.dwg



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DRAWN - K. BOCHNOWSKI  
 DESIGNED - M. LANGE  
 CHECKED - G. HATLESTAD  
 DATE - DECEMBER 17, 2012

REVISED -  
 REVISED -  
 REVISED -  
 REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA  
WALL A; BIKE PATH**

SHEET NO. WA2 OF WA3 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	34

CONTRACT NO. 63778  
ILLINOIS FED. AID PROJECT

MSET PROJECT NO.: 12526		LOG OF BORING NO. B-5		Page 1 of 1					
PROJECT: Grass Lake Road Underpass-R. Walls			SITE LOCATION: Lindenhurst, Illinois						
BORING LOCATION: SW of Three			CLIENT: Civiltech Engineering						
DEPTH (feet)	SOIL TYPE	Material Description	Elevation	SAMPLE		TESTS		REMARKS	
				TYPE/INTERVAL	NO.	N-VALUE Blows per ft.	WC%		Dry Unit Weight, pcf
0		Dark Brown Silty CLAY Topsoil 4"	764.0						
		Brown Clay LOAM, A-7-6 very stiff	763.7	SS	1	14	23	96	5.61
4		Brown Silt LOAM, A-2-4 dense	761.0	SS	2	31	9		
		Brown Clay LOAM, A-6 very stiff	758.5	SS	3	20	17	110	7.29
				SS	4	26	18	107	5.98
				SS	5	21	19	108	6.75
		Grey CLAY, A-6 very stiff	749.5	SS	6	17	20	104	3.72
				SS	7	12	20	104	3.10
				SS	8	10	17	110	3.34
				SS	9	9	19	20	106
24		End of Boring at 25 Feet	739.0						

WATER LEVEL OBSERVATIONS, ft.  
DURING DRILLING: NONE  
IMMEDIATELY AFTER DRILLING: DRY  
DELAYED READING AFTER



BORING STARTED: 12/3/12  
BORING COMPLETED: 12/3/12  
LOGGED BY: SPE  
BORING METHOD: CFA

MSET PROJECT NO.: 12526		LOG OF BORING NO. B-6		Page 1 of 1					
PROJECT: Grass Lake Road Underpass-R. Walls			SITE LOCATION: Lindenhurst, Illinois						
BORING LOCATION: SE of Three			CLIENT: Civiltech Engineering						
DEPTH (feet)	SOIL TYPE	Material Description	Elevation	SAMPLE		TESTS		REMARKS	
				TYPE/INTERVAL	NO.	N-VALUE Blows per ft.	WC%		Dry Unit Weight, pcf
0		Dark Brown Silty CLAY Topsoil 12"	762.0						
		Brown Clay LOAM, A-7-6 very stiff	761.0	SS	1	8	20		
4		Brown Silt LOAM, A-2-4 medium dense	759.0	SS	2	22	8		
		Brown Clay LOAM, A-6 hard	756.5	SS	3	30	17	108	6.24
				SS	4	23	17	107	6.98
				SS	5	21	18	108	7.06
		Grey CLAY, A-6 very stiff	748.0	SS	6	13	21	104	3.03
				SS	7	11	20	105	3.49
				SS	8	9	25	99	2.68
20		End of Boring at 20 Feet	742.0						

WATER LEVEL OBSERVATIONS, ft.  
DURING DRILLING: NONE  
IMMEDIATELY AFTER DRILLING: DRY  
DELAYED READING AFTER



BORING STARTED: 12/3/12  
BORING COMPLETED: 12/3/12  
LOGGED BY: SPE  
BORING METHOD: CFA

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Itasca, Illinois 60143  
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DRAWN	- K. BOCHNOWSKI	REVISED	-
DESIGNED	- M. LANGE	REVISED	-
CHECKED	- G. HATLESTAD	REVISED	-
DATE	- DECEMBER 17, 2012	REVISED	-

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

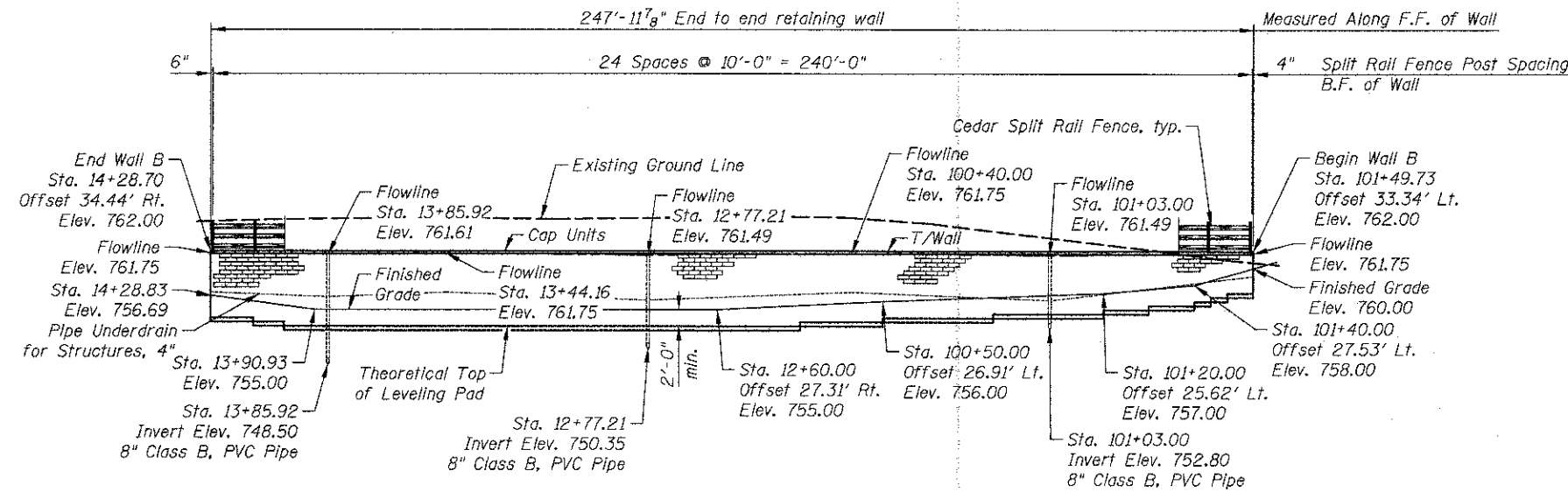
SOIL BORING LOGS  
WALL A; BIKE PATH

SHEET NO. WA3 OF WA3 SHEETS

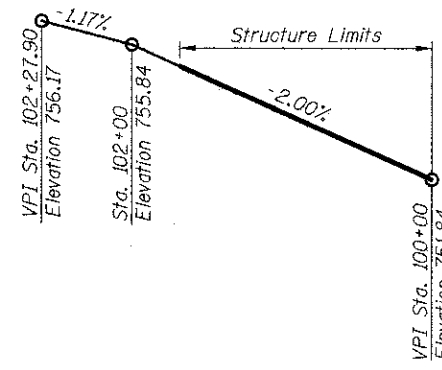
F.A.I. DATE:	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	35
CONTRACT NO. 63778			ILLINOIS FED. ASD PROJECT	

Benchmark: Mag nail, WP #21, Bike Path, Sta. 13+35.06,  
Offset 10.08' Lt., Elevation 766.91.

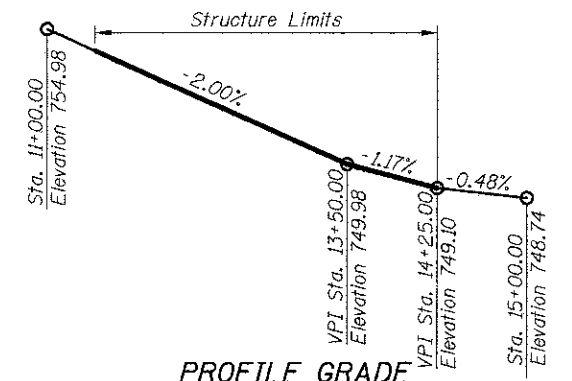
Existing Structure: None.



**ELEVATION**  
(Looking at front face of wall)  
(Unfolded Elevation)



**PROFILE GRADE**  
**BIKE PATH 2**



**PROFILE GRADE**  
**BIKE PATH 1**

**CURVE NO. 2**

(along  $\odot$  Bike Path 1)  
 $\Delta = 42^\circ 10' 22''$  (Lt.)  
 $D = 28^\circ 53' 00''$   
 $T = 76.49'$   
 $L = 146.01'$   
 $E = 14.24'$   
 $R = 198.37'$   
 $P.C. = Sta. 11+10.87$   
 $P.T. = Sta. 12+56.88$   
 $P.I. = Sta. 11+87.36$

**CURVE NO. 3**

(along  $\odot$  Bike Path 1)  
 $\Delta = 20^\circ 04' 03''$  (Rt.)  
 $D = 54^\circ 34' 03''$   
 $T = 25.52'$   
 $L = 36.77'$   
 $E = 3.06'$   
 $R = 105.00'$   
 $P.C. = Sta. 12+56.88$   
 $P.T. = Sta. 12+93.65$   
 $P.I. = Sta. 12+82.40$

**CURVE NO. 4**

(along  $\odot$  Bike Path 1)  
 $\Delta = 70^\circ 15' 13''$  (Rt.)  
 $D = 57^\circ 17' 45''$   
 $T = 70.35'$   
 $L = 122.61'$   
 $E = 22.27'$   
 $R = 100.00'$   
 $P.C. = Sta. 13+07.10$   
 $P.T. = Sta. 14+29.72$   
 $P.I. = Sta. 13+77.45$

**DESIGN SPECIFICATIONS**

2012 AASHTO LRFD Bridge  
Design Specifications, 6th edition

**CURVE NO. 7**

(along  $\odot$  Bike Path 2)  
 $\Delta = 69^\circ 35' 07''$  (Lt.)  
 $D = 54^\circ 34' 03''$   
 $T = 72.95'$   
 $L = 127.52'$   
 $E = 22.89'$   
 $R = 105.00'$   
 $P.C. = Sta. 100+00.00$   
 $P.T. = Sta. 101+27.52$   
 $P.I. = Sta. 100+72.95$

**CURVE NO. 10**

(along  $\odot$  Bike Path 2)  
 $\Delta = 33^\circ 02' 45''$  (Rt.)  
 $D = 57^\circ 17' 45''$   
 $T = 29.66'$   
 $L = 57.68'$   
 $E = 4.31'$   
 $R = 100.00'$   
 $P.C. = Sta. 101+27.52$   
 $P.T. = Sta. 101+85.20$   
 $P.I. = Sta. 101+57.18$

CIVILTECH ENGINEERING, INC.  
GREGORY J. HATLESTAD, S.E.



GREGORY J. HATLESTAD, S.E.  
# 081-005562

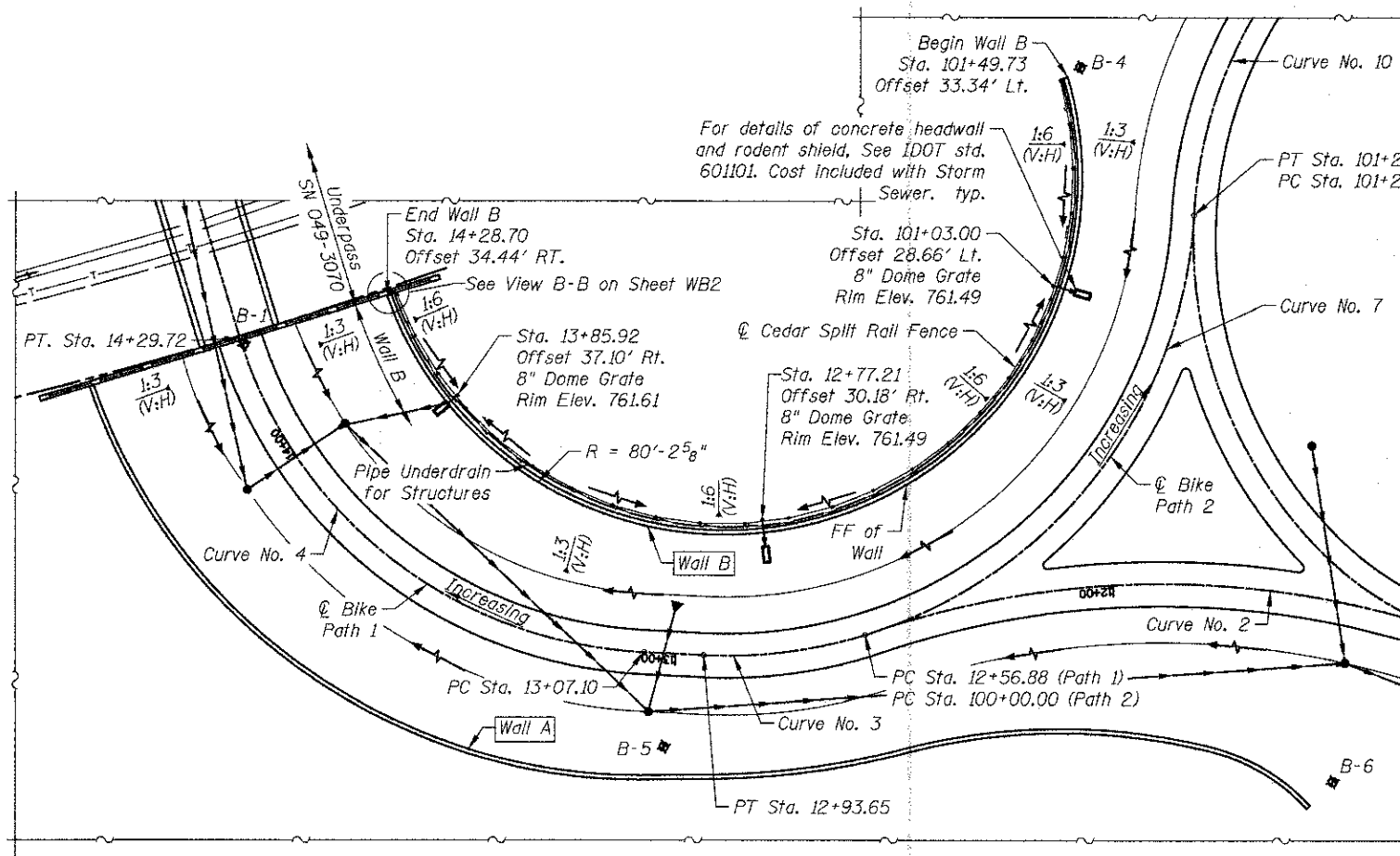
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DATE \_\_\_\_\_

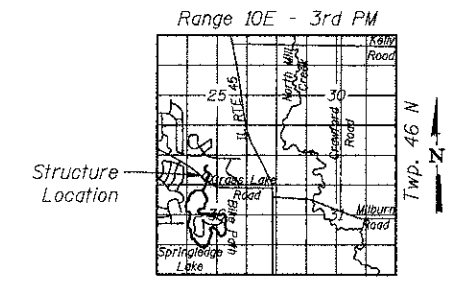
I certify that to the best of knowledge, information and belief, this design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO LRFD Bridge Design Specifications for Highway Bridges.

Notes:

- Segmental Concrete Block Wall shall be designed for ralling loads.
- Wall offsets are measured from  $\odot$  Bike Path 1 or  $\odot$  Bike Path 2 to front face of wall.
- Radii measured at front face of wall.
- UON - Unless otherwise noted
- F.F. - Front Face
- B.F. - Back Face



**PLAN**



**LOCATION SKETCH**

**GENERAL PLAN AND ELEVATION**

**WALL B; BIKE PATH**

**SEC. 09-P0075-15-BT**

**LAKE COUNTY**

**STA. 101+49.73 TO STA. 14+28.70**

14:25:56 PM 12/12/2012 J:\2817\CAD-Final\Plans\WallB\WallB\_GPE.r2.dgn

**CIVILTECH**  
450 E Devon Ave, Suite 300  
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www.civiltechinc.com

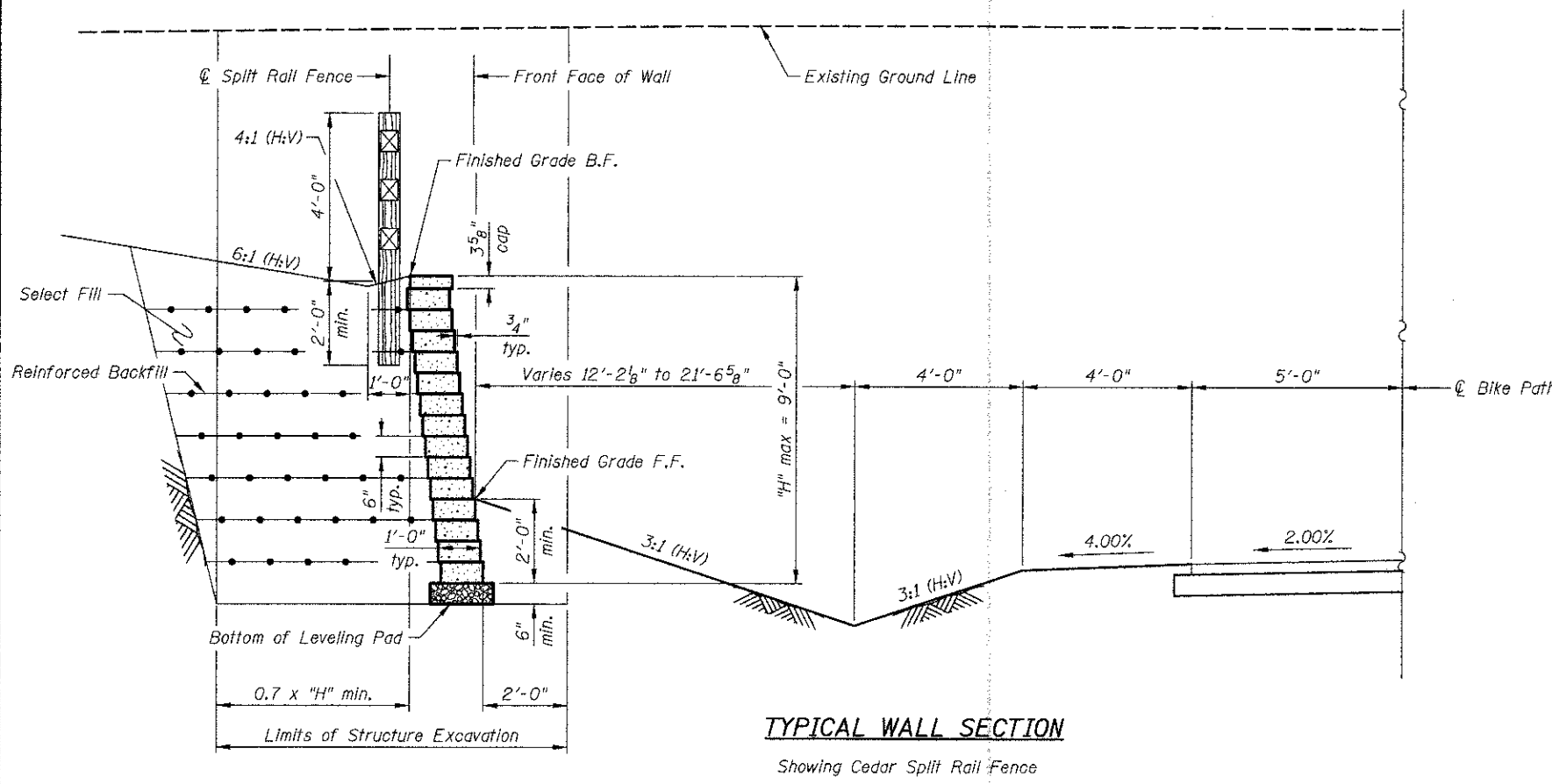
DRAWN - K. BOCHNOWSKI	REVISED -
DESIGNED - M. LANGE	REVISED -
CHECKED - G. HATLESTAD	REVISED -
DATE - DECEMBER 17, 2012	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN & ELEVATION**  
**WALL B; BIKE PATH**

SHEET NO. WBI OF WB3 SHEETS

F.A.U. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	36
			CONTRACT NO. 63778	
ILLINOIS FED. AID PROJECT				



**TYPICAL WALL SECTION**  
Showing Cedar Split Rail Fence

**GENERAL NOTES:**

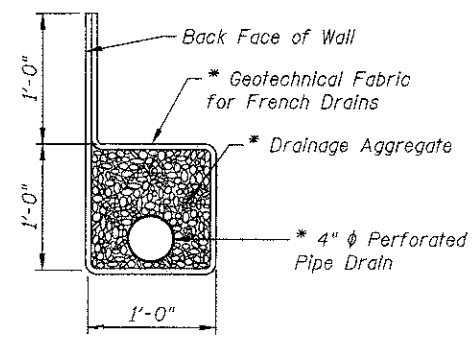
1. Design and installation of Segmental Concrete Block Wall (including need for Soil Reinforcement) to be in accordance with Wall System Manufacturer Design Requirements and Specifications.
2. The blocks shall be Versa-Lok standard units, color Cedar Creek Brown. Units shall be installed according to manufacturer's instructions.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	TOTAL
Structure Excavation	Cu. Yd.	945
Segmental Concrete Block Wall	Sq. Ft.	2,003
Pipe Underdrains for Structures, 4"	Foot	245

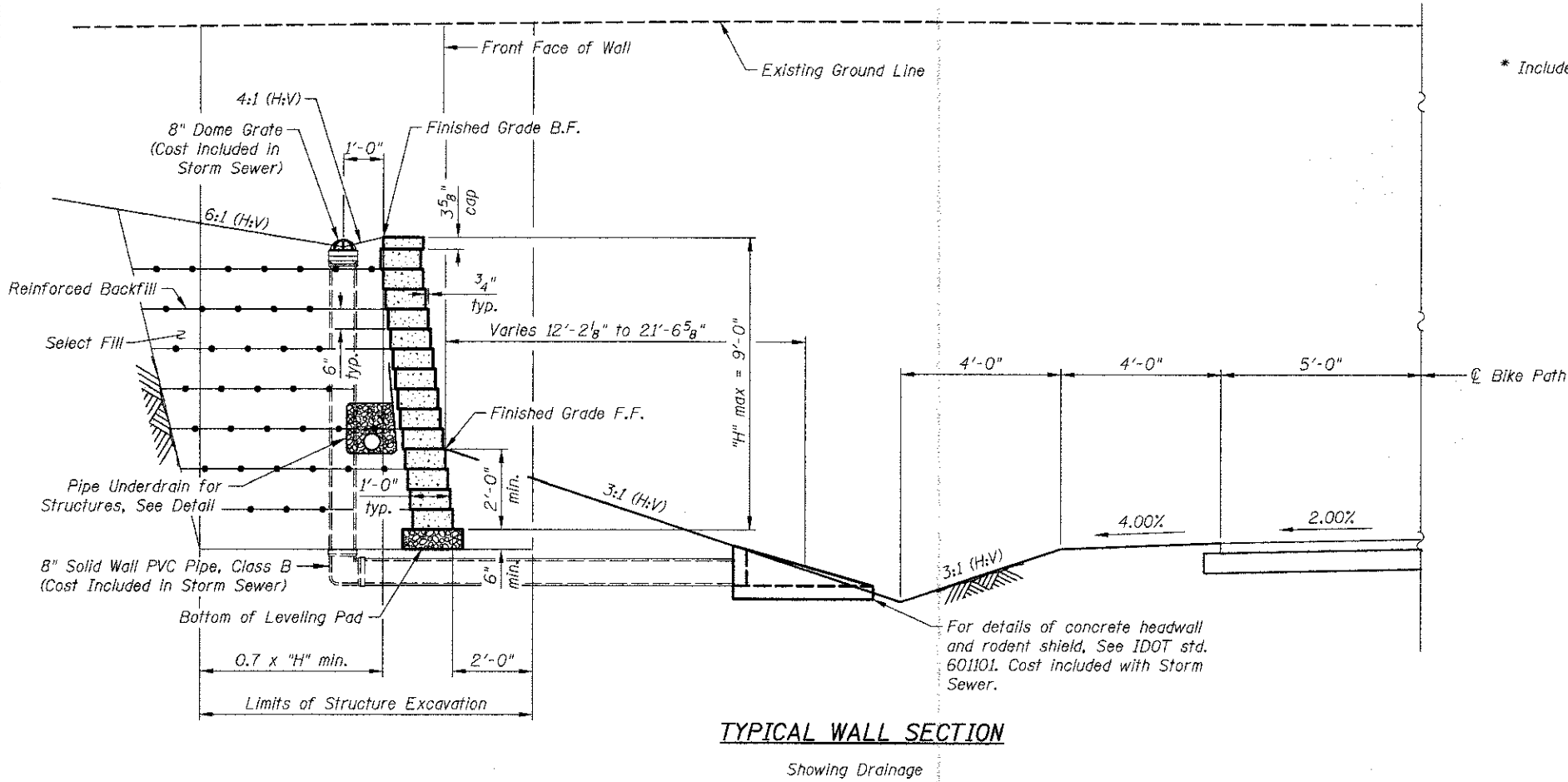
**INDEX OF SHEETS**

- WB1 General Plan and Elevation
- WB2 General Data
- WB3 Soil Boring Log

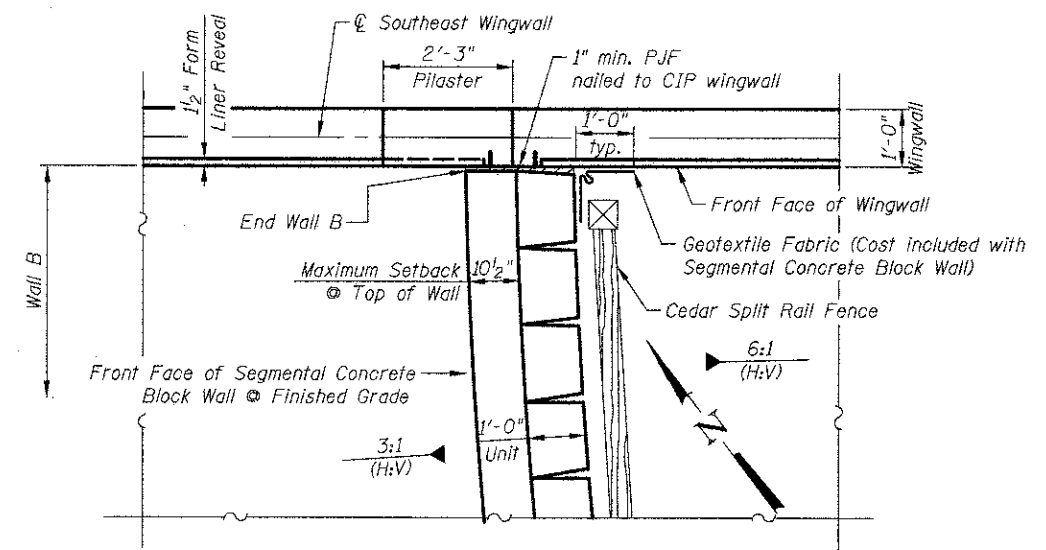


**PIPE UNDERDRAIN DETAIL**

\* Included in the cost of Pipe Underdrains for Structures, 4"



**TYPICAL WALL SECTION**  
Showing Drainage



**VIEW B-B**

12/12/2012 14:25:57 PM J:\2817-CAD\Final Plans\Wall B.02 - Wall B\_General Data.dwg

MSET PROJECT NO.: 12526		LOG OF BORING NO. B-4			Page 1 of 1				
PROJECT: Grass Lake Road Underpass-R. Walls				SITE LOCATION: Lindenhurst, Illinois					
BORING LOCATION: NE of Three				CLIENT: Civiltech Engineering					
DEPTH (feet)	SOIL TYPE	Material Description	Elevation	SAMPLE			TESTS		REMARKS
				TYPE/INTERVAL	NO	N-VALUE Blows per ft.	Wc%	Dry Unit Weight, pcf	
0		Dark Brown Silty CLAY Topsoil	761.0						
		Brown Clay LOAM, A-7-6 hard	760.2	SS	1	13	20	94	4.80
4		Brown Silty LOAM, A-2-4	758.0	SS	2	22	9		
		Brown and Grey Clay LOAM, A-6 hard	755.5	SS	3	26	13		4.5+ Qp
8				SS	4	22	17	109	6.76
12				SS	5	23	19	105	6.01
				SS	6	15	17	108	3.88
16		Grey CLAY, A-6 very stiff	746.5	SS	7	11	20	105	2.33
20		End of Boring at 20 Feet	741.0	SS	8	10	20	103	2.56

WATER LEVEL OBSERVATIONS, ft.  
DURING DRILLING: NONE  
IMMEDIATELY AFTER DRILLING: DRY  
DELAYED READING AFTER:

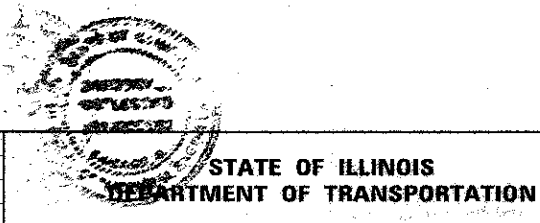


BORING STARTED: 12/9/12  
BORING COMPLETED: 12/3/12  
LOGGED BY: SPF  
BORING METHOD: CFA

12/12/2012 14:25:59 PM J:\261\CAD\Final Plans\Wall B\03\_Wall B\_sofl\_cor'ings.dgn

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DRAWN - K. BOCHNOWSKI	REVISED -
DESIGNED - M. LANGE	REVISED -
CHECKED - G. HATLESTAD	REVISED -
DATE - DECEMBER 17, 2012	REVISED -



**SOIL BORING LOG**  
**WALL B; BIKE PATH**  
SHEET NO. WB3 OF WB3 SHEETS

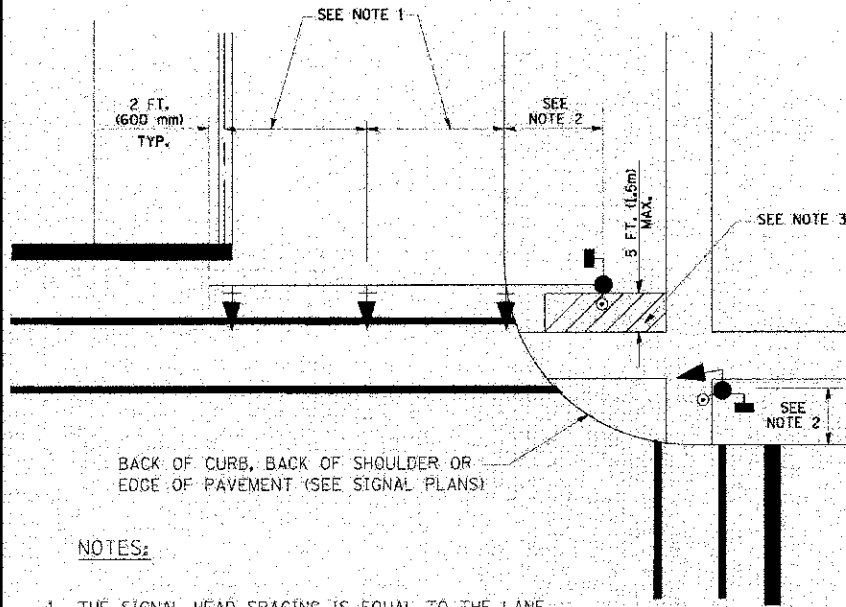
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	38
CONTRACT NO. 63778				
ILLINOIS FED. AID PROJECT				





**TRAFFIC SIGNAL MAST ARM AND SIGNAL POST**

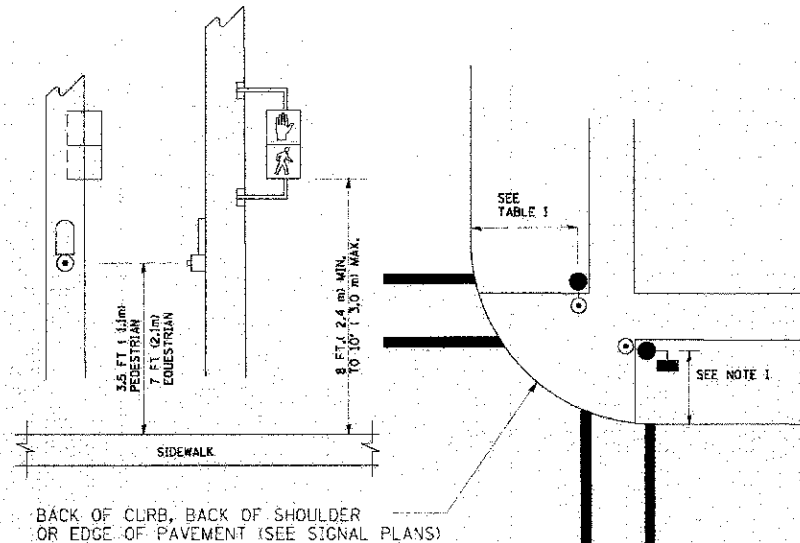
MAST ARM MOUNTED SIGNALS IN EXISTING, PROPOSED OR FUTURE SIDEWALK/BICYCLE PATH AREA. INTERSECTION SHOWN WITH PEDESTRIAN SIGNALS AND PEDESTRIAN PUSHBUTTON DETECTORS.



**NOTES:**

1. THE SIGNAL HEAD SPACING IS EQUAL TO THE LANE WIDTH OR AS SHOWN ON THE TRAFFIC SIGNAL PLAN.
2. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
3. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE MAST ARM SHAFT OR THE SIGNAL POST.
4. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
5. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

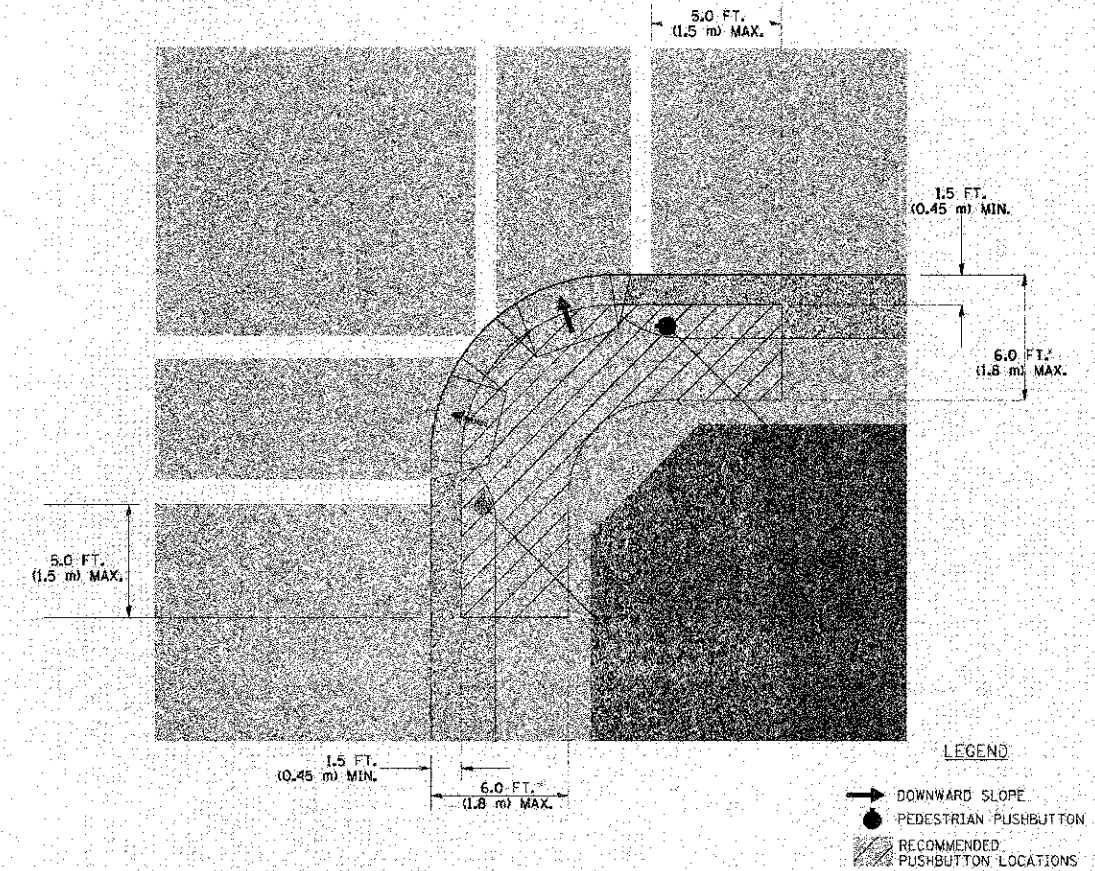
**PEDESTRIAN SIGNAL POST AND PEDESTRIAN PUSH BUTTON POST**



**NOTES:**

1. REFER TO THE TRAFFIC SIGNAL EQUIPMENT OFFSET TABLE.
2. PROVIDE A LEVEL ALL-WEATHER SURFACE (CONCRETE SIDEWALK, ASPHALT BICYCLE PATH SURFACE OR MATCHING MATERIAL TO THE ADJACENT SURFACE) UP TO THE PEDESTRIAN SIGNAL POST OR THE PEDESTRIAN PUSH BUTTON POST.
3. THE FACE OF THE PEDESTRIAN PUSHBUTTON SHALL BE PARALLEL TO THE CROSSWALK TO BE USED.
4. THE LOCATIONS AND INSTALLATION OF PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS SHALL MEET THE REQUIREMENTS OF THE MUTCD AND INFORMATION FOUND IN THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES."

**RECOMMENDED PUSHBUTTON LOCATIONS**



- \* WHERE THERE ARE CONSTRAINTS THAT MAKE IT IMPRACTICAL TO PLACE THE PEDESTRIAN PUSHBUTTON BETWEEN 1.5 FT (0.45 m) AND 6 FT (1.8 m) FROM THE EDGE OF THE CURB, SHOULDER, OR PAVEMENT, IT SHOULD NOT BE FURTHER THAN 10 FT (3 m) FROM THE EDGE OF CURB, SHOULDER, OR PAVEMENT.
- \*\* WHERE THERE ARE CONSTRAINTS ON A PARTICULAR CORNER THAT MAKE IT IMPRACTICAL TO PROVIDE THE 10 FT (3 m) SEPERATION BETWEEN THE TWO PEDESTRIAN PUSHBUTTONS, THE PUSHBUTTONS MAY BE PLACED CLOSER TOGETHER OR ON THE SAME POLE.

**NOTES:**

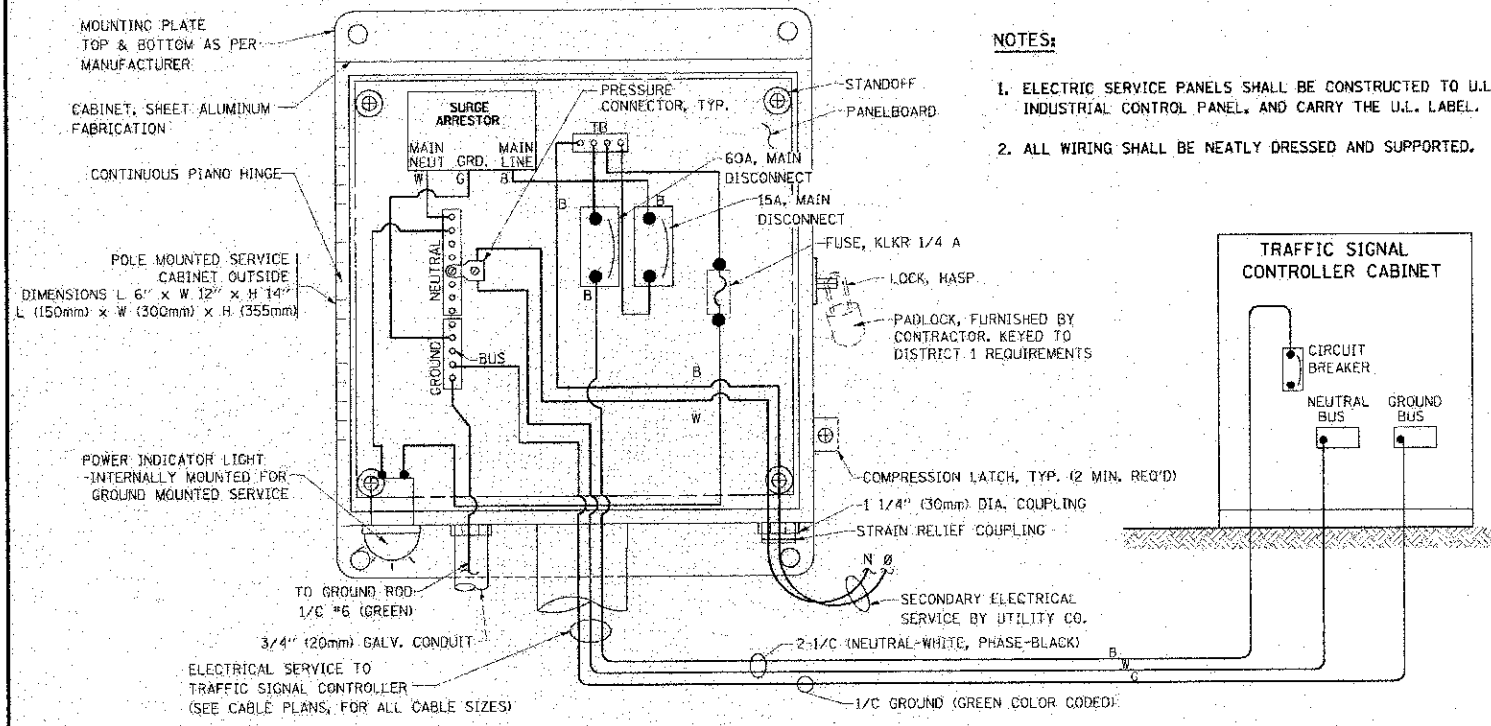
1. PEDESTRIAN SIGNAL HEADS SHALL BE MOUNTED WITH THE BOTTOM OF THE SIGNAL HOUSING INCLUDING BRACKETS NOT LESS THAN 8 FT (2.4 m) OR MORE THAN 10 FT (3 m) ABOVE SIDEWALK LEVEL, AND SHALL BE POSITIONED AND ADJUSTED TO PROVIDE MAXIMUM VISIBILITY AT THE BEGINNING OF THE CONTROLLED CROSSWALK.
2. THE BOTTOM OF THE SIGNAL HOUSING (INCLUDING BRACKETS) OF A VEHICULAR SIGNAL FACE THAT IS NOT LOCATED OVER A HIGHWAY SHALL BE AT LEAST 8 FT (2.4 m) BUT NOT MORE THAN 19 FT (5.8 m) ABOVE THE SIDEWALK OR, IF THERE IS NO SIDEWALK, ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.
3. THE BOTTOM OF THE SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARDS 877001, 877002, 877006, 877011 AND 877012 WITH A MINIMUM OF 16 FT (4.9 m) AND A MAXIMUM OF 18 FT (5.5 m) FROM THE HIGHEST POINT OF PAVEMENT.
4. THE BOTTOM OF THE TEMPORARY SPAN WIRE MOUNTED SIGNAL HOUSING AND ANY RELATED ATTACHMENTS TO A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL BE ACCORDING TO CURRENT STATE STANDARD 880001 WITH A MINIMUM OF 17 FT (5.18 m) FROM THE HIGHEST POINT OF PAVEMENT.
5. THE TOP OF THE SIGNAL HOUSING OF A SIGNAL FACE LOCATED OVER ANY PORTION OF A HIGHWAY SHALL NOT BE MORE THAN 25.6 FT (7.8 m) ABOVE THE PAVEMENT.

**TRAFFIC SIGNAL EQUIPMENT OFFSET**

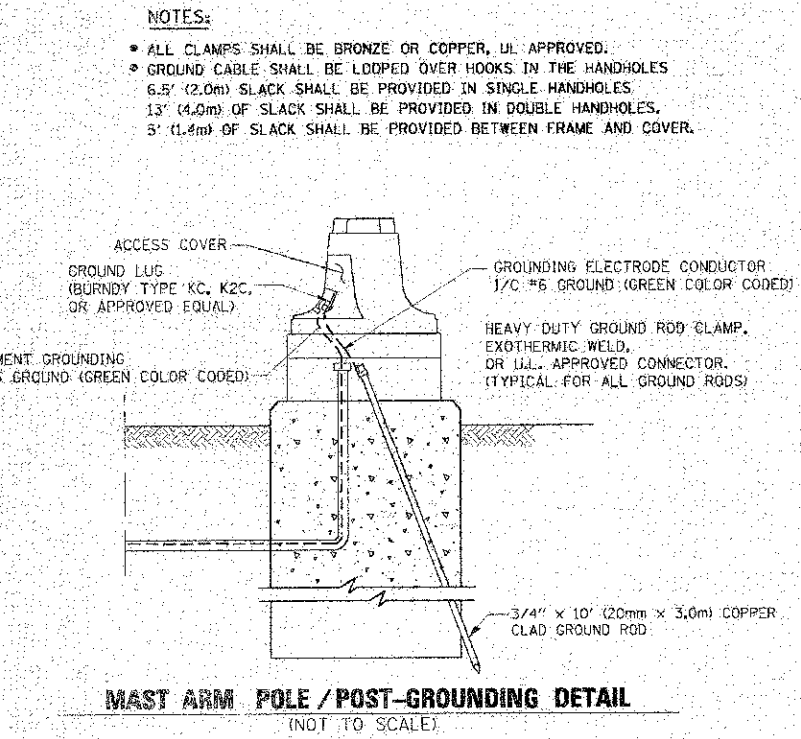
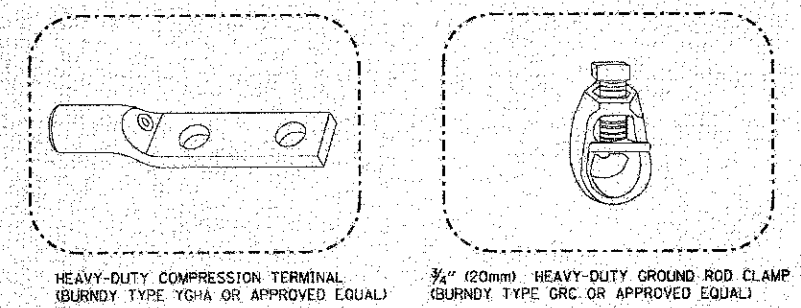
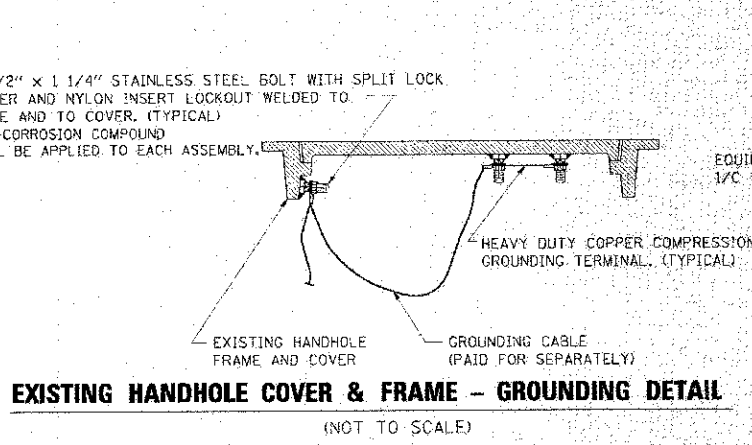
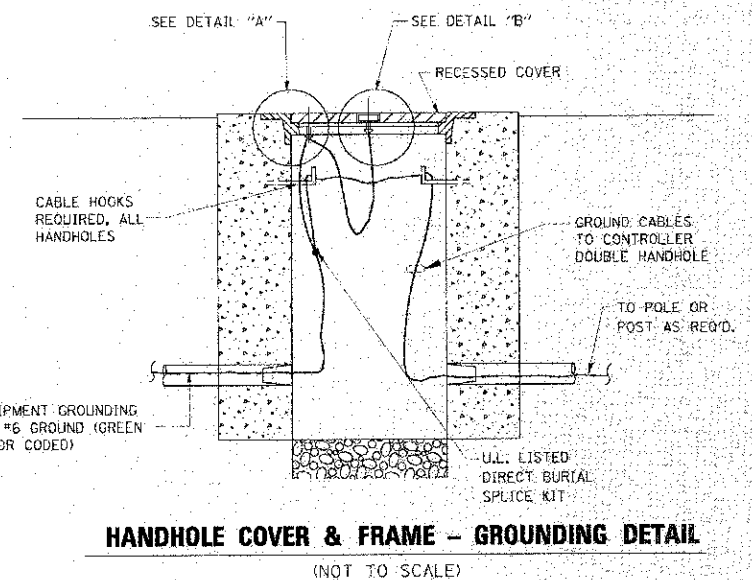
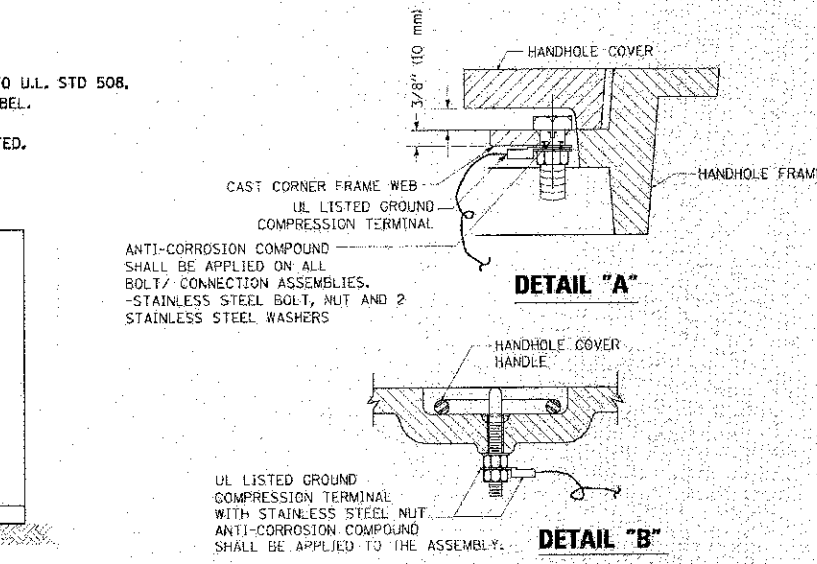
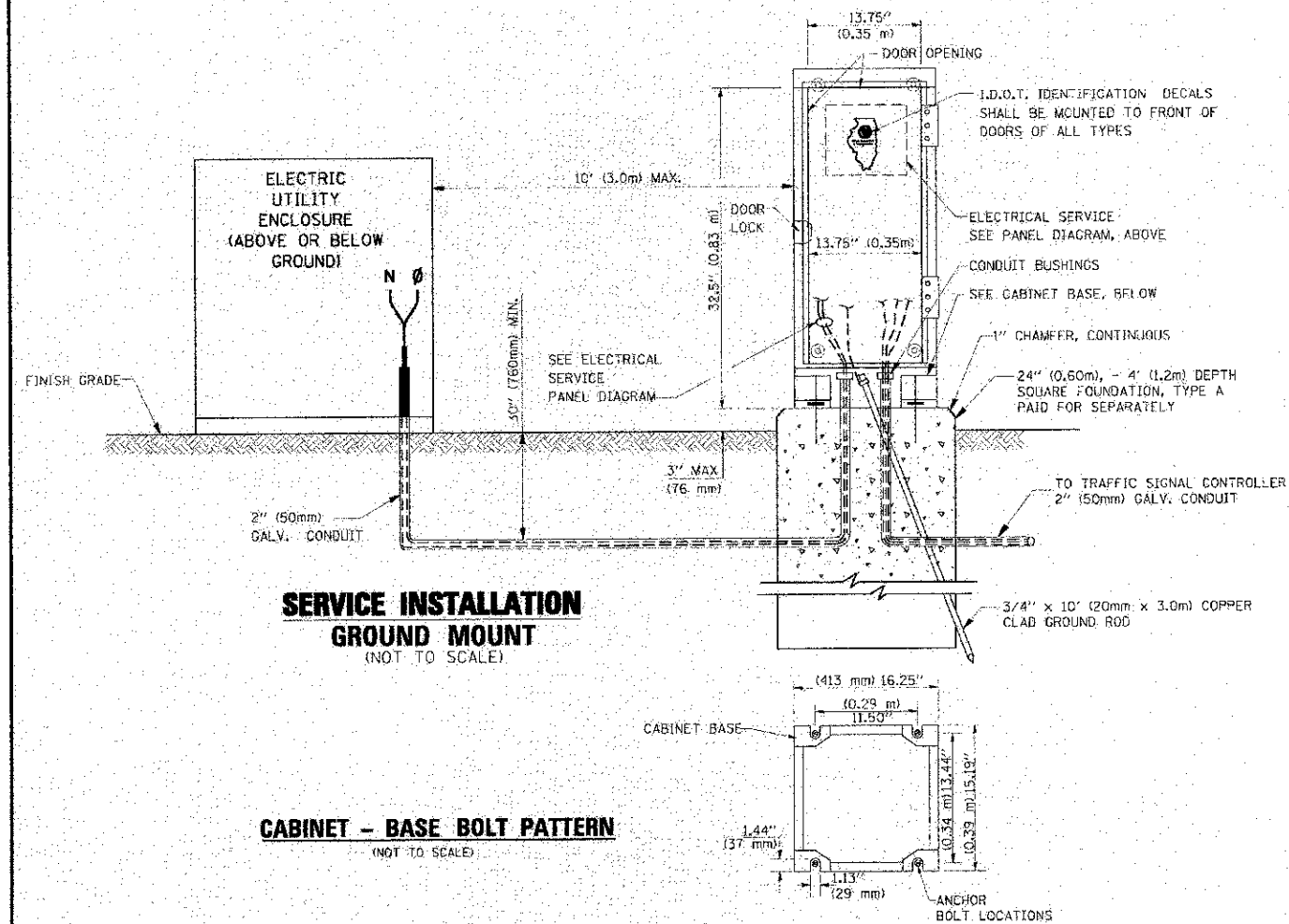
TRAFFIC SIGNAL EQUIPMENT	COMBINATION CONCRETE CURB AND GUTTER (MINIMUM DISTANCE FROM BACK OF CURB TO CENTERLINE OF FOUNDATION)	SHOULDER/NON-CURBED AREA (MINIMUM DISTANCE FROM EDGE OF PAVEMENT TO CENTERLINE OF FOUNDATION)
TRAFFIC SIGNAL MAST ARM POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TRAFFIC SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN SIGNAL POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
PEDESTRIAN PUSHBUTTON POST	4 FT (1.2m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
TEMPORARY WOOD POLE	6 FT (1.8m)	SHOULDER WIDTH + 2 FT (0.6m), MINIMUM 10 FT (3.0m)
CONTROLLER CABINET	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.
SERVICE INSTALLATION, GROUND MOUNT	6 FT (1.8m) MINIMUM DISTANCE SEE NOTE 2	SHOULDER WIDTH + 6 FT (1.8m), MINIMUM 16 FT (4.9m) SEE NOTE 3.

**NOTES:**

1. CONTACT THE "AREA TRAFFIC SIGNAL MAINTENANCE AND OPERATIONS ENGINEER" FOR ASSISTANCE IN LOCATING THE TRAFFIC SIGNAL EQUIPMENT WHEN THERE ARE CONFLICTS WITH DITCHES OR THE MINIMUM OFFSET DISTANCES CANNOT BE MET.
2. MINIMUM DISTANCE FROM THE BACK OF CURB TO THE ROADWAY SIDE OF THE FOUNDATION.
3. MINIMUM DISTANCE FROM THE EDGE OF PAVEMENT TO THE ROADWAY SIDE OF THE FOUNDATION.
4. ANY CHANGES TO THE OFFSETS OF THE FOUNDATIONS, FROM THE MINIMUM DISTANCES LISTED IN THE "TRAFFIC SIGNAL EQUIPMENT OFFSET" CHART AND THE TRAFFIC SIGNAL INSTALLATION PLAN, COULD EFFECT THE PLACEMENT OF THE SIGNAL HEADS, PEDESTRIAN SIGNAL HEADS AND THE PEDESTRIAN PUSHBUTTONS. THE SIGNAL HEAD PLACEMENT ON THE MAST ARMS SHALL REMAIN AS PER THE TRAFFIC SIGNAL INSTALLATION PLAN AND THE "TRAFFIC SIGNAL MAST ARM AND SIGNAL POST" DETAIL ABOVE. THE PROPOSED MAST ARM LENGTHS MAY NEED TO BE REVISED TO MEET THE ABOVE REQUIREMENTS. THE PEDESTRIAN SIGNAL HEADS AND PEDESTRIAN PUSHBUTTONS MUST MEET THE REQUIREMENTS UNDER THE DETAILS ON THIS SHEET.



**ELECTRICAL SERVICE - PANEL DIAGRAM (TYPICAL FOR POLE AND GROUND MOUNTED SERVICE)**  
**SERVICE INSTALLATION POLE MOUNT (SHOWN)**  
(NOT TO SCALE)



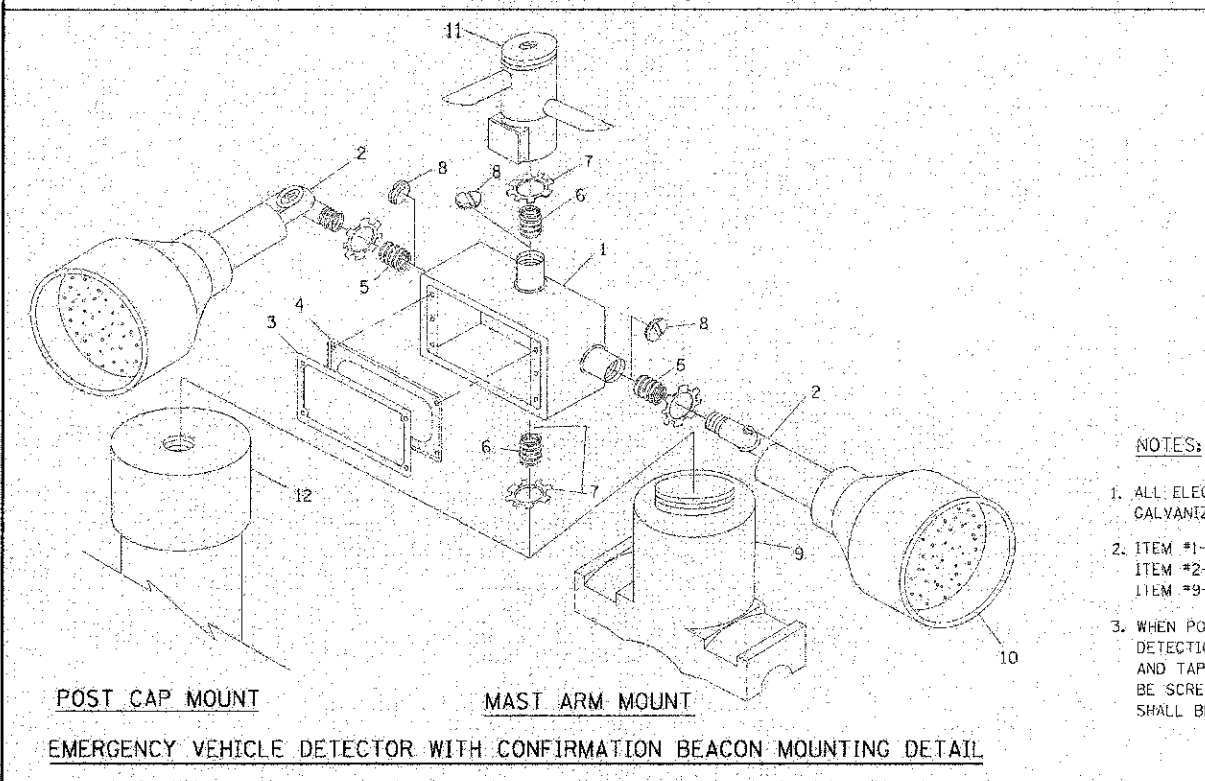
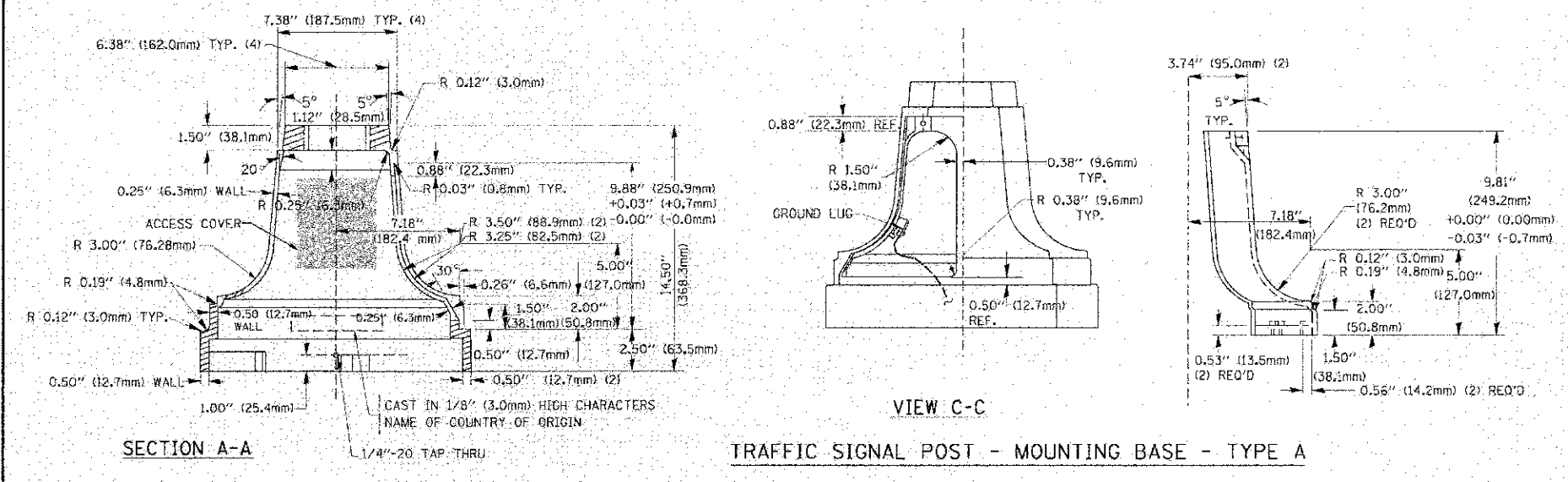
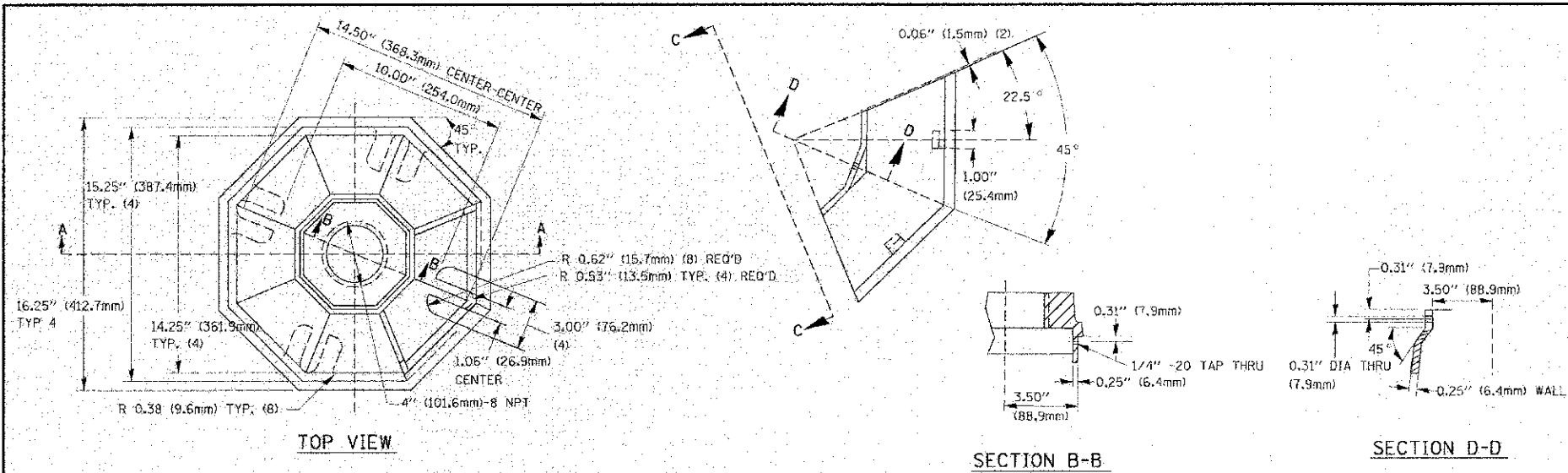
**NOTES:**

**GROUNDING SYSTEM**

- THE GROUNDING SYSTEM SHALL CONSIST OF AN INSULATED CONDUCTOR TYPE XLP, NO. 6 A.W.G., STRANDED COPPER TO BE INSTALLED IN RACEWAYS. THE GROUNDING CABLE SHALL BE INSTALLED IN A CONTINUOUS MANNER AS SHOWN ON THE CABLE PLAN PROVIDED. ALL GROUNDING CONDUCTORS SHALL BE BONDED TO METAL ENCLOSURE (HANDHOLE, POST, MAST ARM, CONTROLLER, ETC.). GROUND ROD SHALL BE 3/4" DIA. x 10'-0" (20mm x 3.0m) LONG, COPPER CLAD, ONE GROUND ROD SHALL BE INSTALLED AT ALL POST FOUNDATIONS, POLE FOUNDATIONS, CONTROLLER CABINET FOUNDATION AND ELECTRICAL SERVICE INSTALLATION AS INDICATED ON THE CABLE PLAN; IF THERE ARE ANY SPECIAL CONDITIONS SUCH AS SUB-SURFACE CONDITIONS OR INSTALLATION PROBLEMS, THE RESIDENT ENGINEER SHALL BE NOTIFIED OR CONTACT THE BUREAU OF TRAFFIC, ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT ONE AT (647) 705-4139.
- THE NEUTRAL CONDUCTOR AND THE GROUND CONDUCTOR SHALL BE CONNECTED IN THE SERVICE INSTALLATION. AT NO OTHER POINT IN THE TRAFFIC SIGNAL SYSTEM SHALL THE NEUTRAL AND GROUND CONDUCTORS BE CONNECTED.
- ALL EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE AT THE GROUND BUS IN THE CONTROLLER CABINET.
- THE CONTRACTOR SHALL PROVIDE A GROUND CABLE WITH CONNECTORS BETWEEN THE HANDHOLE COVER AND HANDHOLE FRAME.

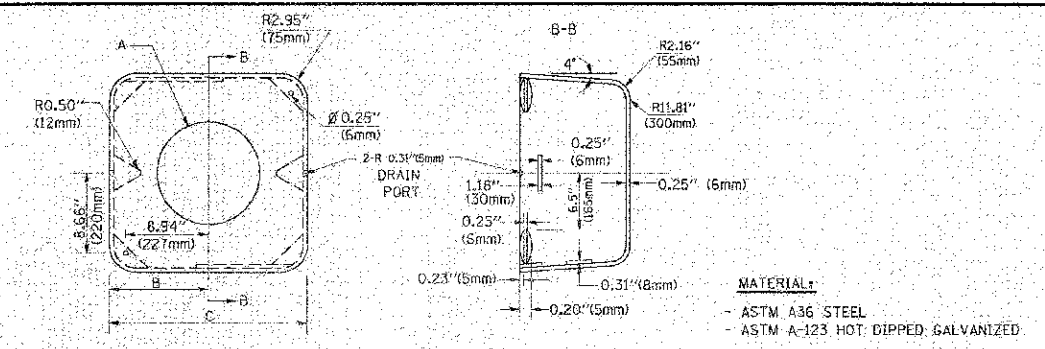
**NOTES:**

- ALL CLAMPS SHALL BE BRONZE OR COPPER, U.L. APPROVED.
- GROUND CABLE SHALL BE LODGED OVER HOOKS IN THE HANDHOLES. 6.5' (2.0m) SLACK SHALL BE PROVIDED IN SINGLE HANDHOLES. 13' (4.0m) OF SLACK SHALL BE PROVIDED IN DOUBLE HANDHOLES. 3' (1.4m) OF SLACK SHALL BE PROVIDED BETWEEN FRAME AND COVER.



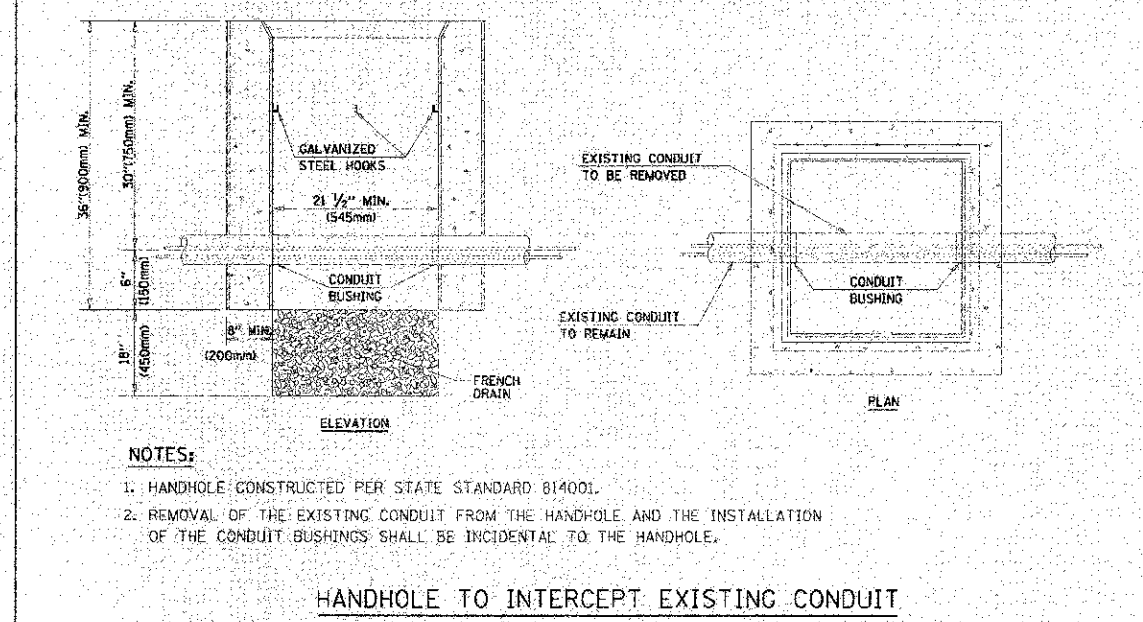
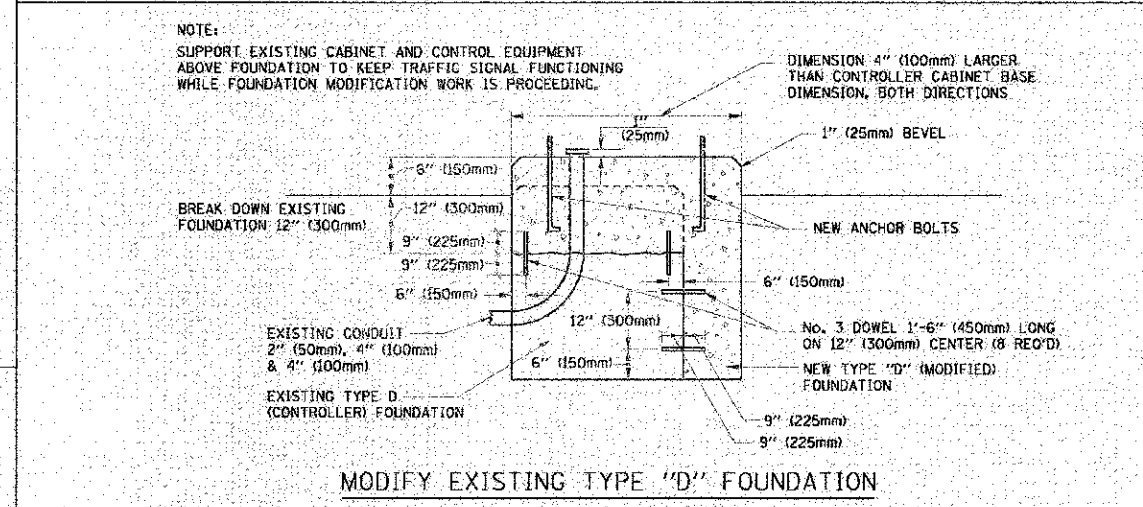
ITEM NO.	IDENTIFICATION
1	OUTLET BOX - GALV., 21 CU. IN. (0.000344 CU-M)
2	LAMP HOLDER AND COVER
3	OUTLET BOX COVER
4	RUBBER COVER GASKET
5	REDUCING BUSHING
6	3/4\" (19 mm) CLOSE NIPPLE
7	3/4\" (19 mm) LOCKNUT
8	3/4\" (19 mm) HOLE PLUG
9	SADDLE BRACKET - GALV.
10	6 WATT PAR 38 LED FLOOD LAMP
11	DETECTOR UNIT
12	POST CAP [18 FT. (5.4 m) POST MIN.]

- NOTES:**
- ALL ELECTRICAL ITEMS, EXCEPT ITEMS #2 AND #11 SHALL BE ALUMINUM OR GALVANIZED
  - ITEM #1- OZ/GEDNEY FSX-1-50 OR EQUIVALENT  
ITEM #2- MULBERRY CON-O-SHADE LAMP SHIELD OR EQUIVALENT  
ITEM #9- "BANU-11" SADDLE BRACKET OR EQUIVALENT
  - WHEN POST MOUNTING IS SPECIFIED, ITEM #9 SHALL NOT BE REQUIRED. THE DETECTION UNIT SHALL BE MOUNTED DIRECTLY ON TOP OF THE CAP BY DRILLING AND TAPPING A 3/4\" (19 mm) HOLE WITH PIPE THREADS. THE POST CAP SHALL EITHER BE SCREWED TO THE TOP OF THE POST OR A MINIMUM OF 3 TIGHTENING SCREWS SHALL BE REQUIRED ON EACH CAP.



A	B	C	HEIGHT	WEIGHT
VARIES	9.5\" (241mm)	19\" (483mm)	7\" (178mm) - 12\" (300mm)	53 lbs (24kg)
VARIES	10.75\" (273mm)	21.5\" (546mm)	7\" (178mm) - 12\" (300mm)	68 lbs (31 kg)
VARIES	13.0\" (330mm)	26\" (660mm)	7\" (178mm) - 12\" (300mm)	81 lbs (37 kg)
VARIES	18.5\" (470mm)	37\" (940mm)	7\" (178mm) - 12\" (300mm)	126 lbs (57 kg)

- NOTES:**
- DIMENSION "A" IS EQUAL TO THE DIAMETER OF THE MAST ARM POLE AT THE TOP OF THE SHROUD. THE SHROUD SHALL BE TIGHT TO THE MAST ARM POLE.
  - THE SUPPLIER SHALL VERIFY THE ABOVE DIMENSIONS BASED ON MAST ARM REQUIREMENTS.
  - THE HEIGHT OF THE SHROUD SHALL COVER THE ANCHOR BOLTS, NUTS AND MAST ARM POLE BASE.





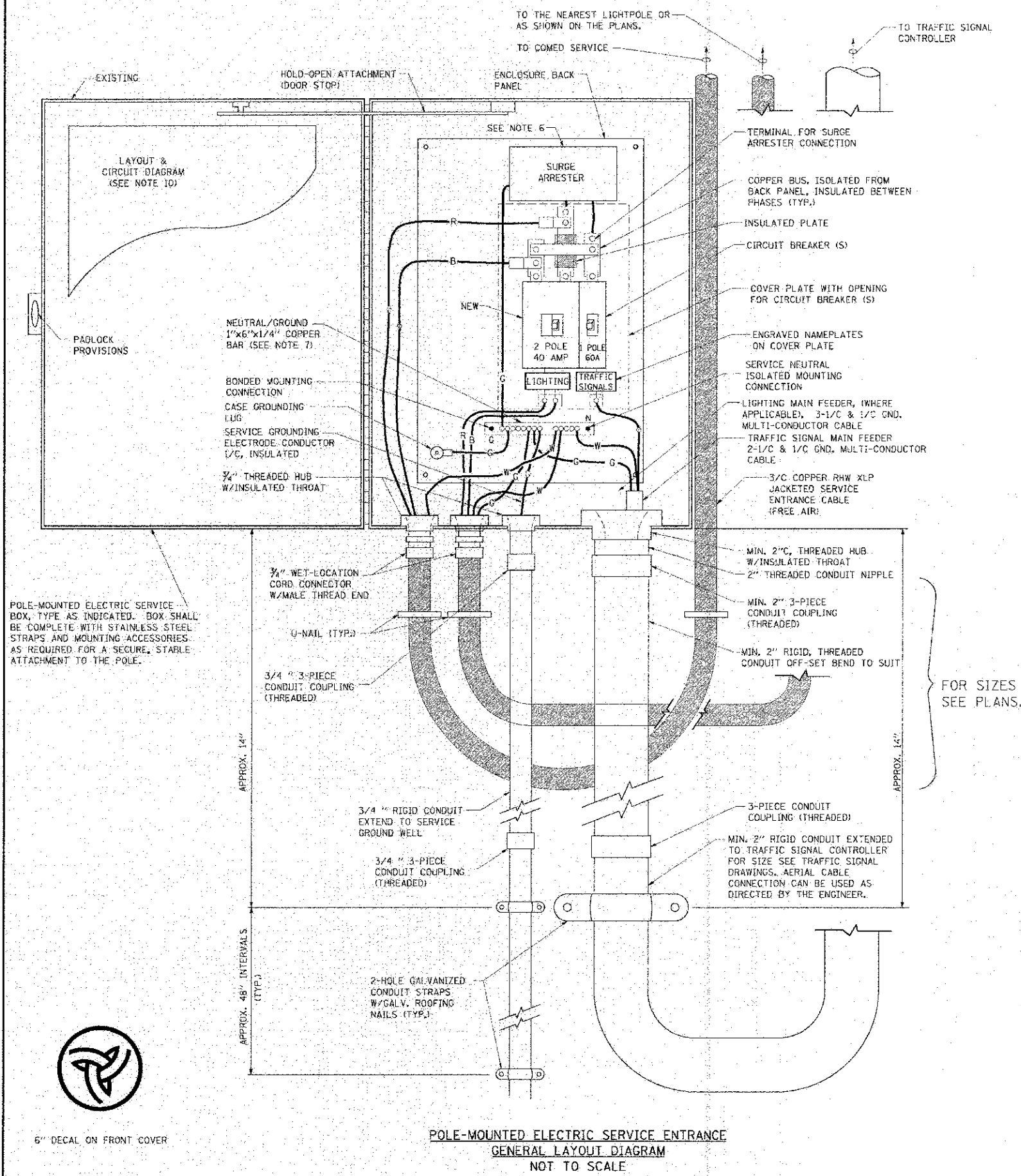
# TRAFFIC SIGNAL LEGEND

ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED	ITEM	REMOVAL	EXISTING	PROPOSED																		
CONTROLLER CABINET				EMERGENCY VEHICLE LIGHT DETECTOR				ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C, UNLESS NOTED OTHERWISE																					
RAILROAD CONTROL CABINET				CONFIRMATION BEACON				COAXIAL CABLE																					
COMMUNICATIONS CABINET				HANDHOLE				VENDOR CABLE FOR CAMERA																					
MASTER CONTROLLER				HEAVY DUTY HANDHOLE				COPPER INTERCONNECT CABLE, NO. 18 3 PAIR TWISTED, SHIELDED																					
MASTER MASTER CONTROLLER				DOUBLE HANDHOLE				FIBER OPTIC CABLE NO. 62.5/125, MM12F																					
UNINTERRUPTIBLE POWER SUPPLY				JUNCTION BOX				FIBER OPTIC CABLE NO. 62.5/125, MM12F SM12F																					
SERVICE INSTALLATION, (P) POLE OR (G) GROUND MOUNT				GALVANIZED STEEL CONDUIT IN TRENCH (T) OR PUSHED (P)				FIBER OPTIC CABLE NO. 62.5/125, MM12F																					
TELEPHONE CONNECTION (P) POLE OR (G) GROUND MOUNT				TEMPORARY SPAN WIRE, TETHER WIRE, AND CABLE				FIBER OPTIC CABLE NO. 62.5/125, (NUMBER OF FIBERS & TYPE TO BE NOTED ON PLANS)																					
STEEL MAST ARM ASSEMBLY AND POLE				COMMON TRENCH				GROUND ROD AT (C) CONTROLLER, (H) HANDHOLE, (P) POST, (M) MAST ARM, OR (S) SERVICE																					
ALUMINUM MAST ARM ASSEMBLY AND POLE				COILABLE NONMETALLIC CONDUIT (EMPTY)				CONTROLLER CABINET AND FOUNDATION TO BE REMOVED																					
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE				SYSTEM ITEM		S		STEEL MAST ARM POLE AND FOUNDATION TO BE REMOVED																					
STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH PTZ CAMERA				INTERSECTION ITEM		I		ALUMINUM MAST ARM POLE AND FOUNDATION TO BE REMOVED																					
SIGNAL POST				REMOVE ITEM	R			STEEL COMBINATION MAST ARM ASSEMBLY AND POLE WITH LUMINAIRE AND FOUNDATION TO BE REMOVED																					
TEMPORARY WOOD POLE (CLASS 5 OR BETTER) 45 FOOT (13.7m) MINIMUM				RELOCATE ITEM	Ri			SIGNAL POST AND FOUNDATION TO BE REMOVED																					
GUY WIRE				ABANDON ITEM	A			INTERSECTION & SAMPLING (SYSTEM) DETECTOR																					
SIGNAL HEAD				12" (300mm) TRAFFIC SIGNAL SECTION				SAMPLING (SYSTEM) DETECTOR																					
SIGNAL HEAD CONSTRUCTION STAGES (NUMBERS INDICATE THE CONSTRUCTION STAGE)				12" (300mm) RED WITH 8" (200mm) YELLOW AND GREEN TRAFFIC SIGNAL FACE				EXISTING INTERSECTION LOOP DETECTOR PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR																					
SIGNAL HEAD WITH BACKPLATE				SIGNAL FACE				EXISTING PREFORMED INTERSECTION LOOP DETECTOR PROPOSED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR																					
SIGNAL HEAD OPTICALLY PROGRAMMED				SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD				PREFORMED INTERSECTION AND SAMPLING (SYSTEM) DETECTOR																					
FLASHER INSTALLATION (S DENOTES SOLAR POWER)				12" (300mm) PEDESTRIAN SIGNAL HEAD WALK/DON'T WALK SYMBOL				PREFORMED SAMPLING (SYSTEM) DETECTOR																					
PEDESTRIAN SIGNAL HEAD				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, OUTLINED				<h2 style="margin: 0;">RAILROAD SYMBOLS</h2> <table style="width: 100%; border: none;"> <thead> <tr> <th style="width: 50%;"></th> <th style="width: 25%; text-align: center;">EXISTING</th> <th style="width: 25%; text-align: center;">PROPOSED</th> </tr> </thead> <tbody> <tr> <td>RAILROAD CONTROL CABINET</td> <td></td> <td></td> </tr> <tr> <td>RAILROAD CANTILEVER MAST ARM</td> <td></td> <td></td> </tr> <tr> <td>FLASHING SIGNAL</td> <td></td> <td></td> </tr> <tr> <td>CROSSING GATE</td> <td></td> <td></td> </tr> <tr> <td>CROSSBUCK</td> <td></td> <td></td> </tr> </tbody> </table>					EXISTING	PROPOSED	RAILROAD CONTROL CABINET			RAILROAD CANTILEVER MAST ARM			FLASHING SIGNAL			CROSSING GATE			CROSSBUCK		
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PEDESTRIAN PUSHBUTTON DETECTOR				12" (300mm) PEDESTRIAN SIGNAL HEAD INTERNATIONAL SYMBOL, SOLID																									
ACCESSIBLE PEDESTRIAN PUSHBUTTON DETECTOR				PEDESTRIAN SIGNAL HEAD, INTERNATIONAL SYMBOL, WITH COUNTDOWN TIMER																									
ILLUMINATED SIGN "NO LEFT TURN"				RADIO INTERCONNECT																									
ILLUMINATED SIGN "NO RIGHT TURN"				RADIO REPEATER																									
DETECTOR LOOP, TYPE J				DENOTES NUMBER OF CONDUCTORS, ELECTRIC CABLE NO. 14, UNLESS NOTED OTHERWISE, ALL DETECTOR LOOP CABLE TO BE SHIELDED																									
PREFORMED DETECTOR LOOP				GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)																									
MICROWAVE VEHICLE SENSOR																													
VIDEO DETECTION CAMERA																													
VIDEO DETECTION ZONE																													
PAN, TILT, ZOOM CAMERA																													
WIRELESS DETECTOR SENSOR																													
WIRELESS ACCESS POINT																													



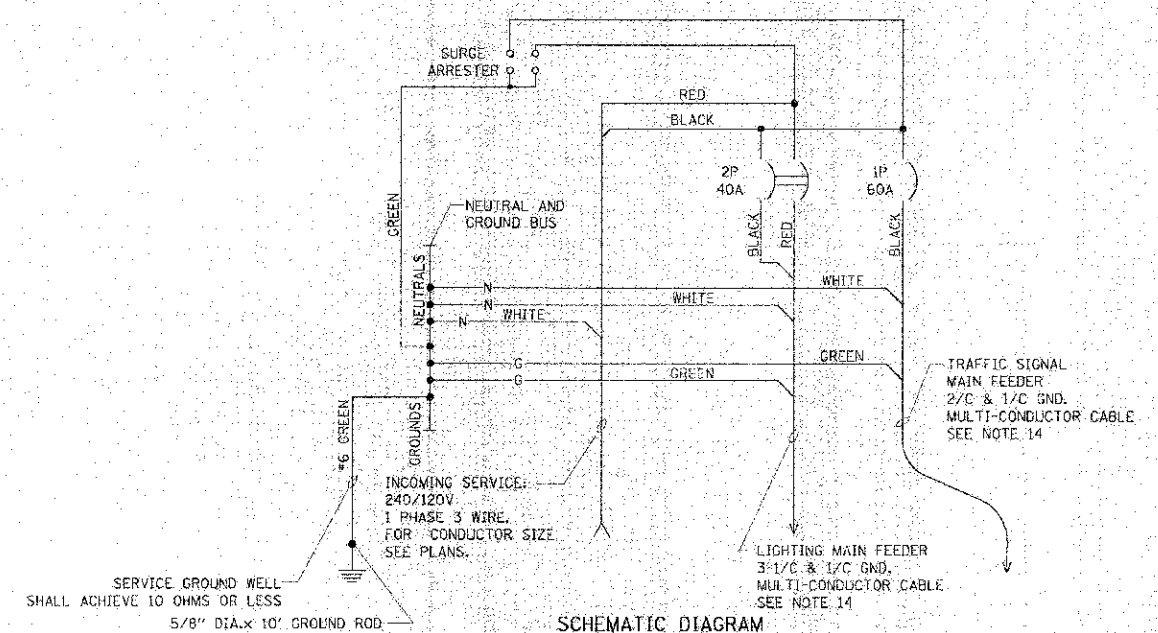






**NOTES:**

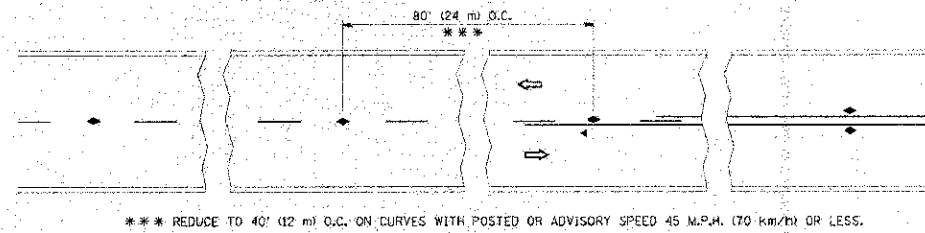
- ELECTRIC SERVICE SHALL BE OF THE VOLTAGE INDICATED OR DESIGNATED BY THE ENGINEER, AND SERVICE DROP CABLE SHALL BE COMPATIBLE WITH THE SERVICE ACCORDINGLY. SOME INSTALLATIONS MAY CALL FOR SERVICE ENTRANCE EQUIPMENT SUITABLE FOR 3-WIRE SERVICE EVEN THOUGH INITIALLY WIRED FOR 2-WIRE SERVICE.
- THE POLE-MOUNTED ELECTRIC SERVICE BOX SHALL BE CONFIGURED AND FULLY EQUIPPED FOR 240/120V 3W SERVICE, COMPLETE WITH LIGHTING MAIN BREAKER AND TRAFFIC SIGNALS MAIN BREAKER AS REQUIRED.
- THE ELECTRIC SERVICE EQUIPMENT ASSEMBLY SHALL BE UL LISTED AS SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT.
- THE ELECTRIC SERVICE EQUIPMENT ENCLOSURE SHALL BE NEMA 4X STAINLESS STEEL, NOMINALLY 12"W X 16"H X 8"D, WITH A PIANO-HINGED DOOR, STEEL BACK PANEL, FAST-ACTING STAINLESS STEEL ENCLOSURE CLAMPS, PADLOCK PROVISIONS AND DOOR STOP, HOFFMAN CATALOG NO. A-16H20B556LP/A-16 P12/A-DSTOPK/C-PMK12, OR APPROVED EQUAL.
- CIRCUIT BREAKERS SHALL BE THERMAL MAGNETIC BOLT-ON TYPE WITH A MINIMUM INTERRUPTING CAPACITY OF 25,000 SYMMETRICAL AMPERES AT 240 VOLTS. THEY SHALL BE LOCKABLE IN THE "OFF" POSITION FOR COMPLIANCE WITH OSHA LOCK-OUT/TAG-OUT REQUIREMENTS. HANDLES SHALL BE TRIP-FREE.
- THE SURGE PROTECTOR SHALL BE SUITABLE FOR THE SERVICE VOLTAGE SINGLE PHASE 60HZ AC, WITH A SURGE ENERGY CAPABILITY OF 2160 JOULES OR BETTER AT 8/20 MICRO-SECONDS, RATED -40 TO 60 DEGREES C., WITH LED-OPERATING INDICATORS, AND SHALL BE UL LISTED PER UL 1449, CUTLER-HAMMER CMOV230L065XST, OR APPROVED EQUAL.
- BUS BARS, CONNECTORS, AND LUGS SHALL BE COPPER, INSULATED AND ISOLATED, AND CONFIGURED TO PREVENT SHORTED CONDITIONS FROM TIGHTENING TERMINATIONS, ETC. THE OVERALL BUS SECTION SHALL BE CONFIGURED BEHIND AN INSULATING BARRIER SHIELD WHICH IS REMOVABLE FOR ACCESS TO CONNECTIONS, OR THE ASSEMBLY SHALL BE A MANUFACTURED SPECIALTY PANELBOARD, CUTLER-HAMMER PRL2A OR APPROVED EQUAL.
- THE COMBINATION GROUND AND NEUTRAL BAR SHALL BE CONFIGURED WITH SEPARATE GROUND AND NEUTRAL SECTIONS AND SPARE TERMINALS AS INDICATED. THE HEADS OF GROUND SCREWS SHALL BE PAINTED GREEN. THE HEADS OF NEUTRAL SCREWS SHALL BE PAINTED WHITE. THE SERVICE NEUTRAL AND SERVICE GROUNDING ELECTRODE CONDUCTOR SHALL BE TERMINATED ADJACENT TO EACH OTHER AT THE DIVIDE BETWEEN THE SECTIONS AND WIRING SHALL BE TERMINATED ONLY UPON THE APPROPRIATE SECTION.
- THE WIRING TERMINALS, INCLUDING THE GROUND/NEUTRAL BAR SHALL BE ARRANGED TO PROVIDE ADEQUATE ROOM FOR PERFORMING FIELD TERMINATIONS.
- A PLASTIC LAMINATED LAYOUT AND CIRCUIT DIAGRAM SHALL BE MECHANICALLY SECURED TO THE INTERIOR SIDE OF THE ENCLOSURE DOOR.
- A 2-COLOR ENGRAVED PLASTIC NAMEPLATE, ATTACHED WITH SCREWS, AND ENGRAVED AS INDICATED, SHALL BE PROVIDED FOR EACH MAIN BREAKER.
- LUGS AND CONNECTORS SHALL BE RATED FOR 75 C CONDUCTOR.
- THE EXACT MOUNTING HEIGHT OF THE BOX SHALL BE FIELD DETERMINED TO AVOID OBSTRUCTIONS AND PUBLIC ACCESS. TYPICAL HEIGHT SHALL BE APPROXIMATELY 10 FEET ABOVE GRADE.



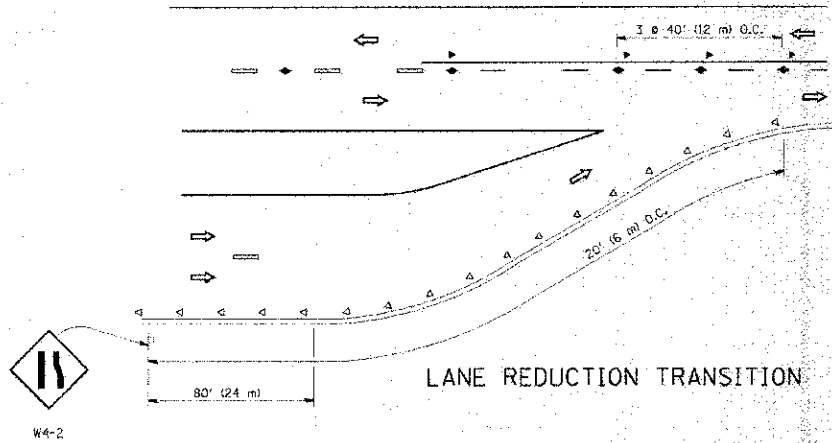
**SCHEMATIC DIAGRAM**

**POLE-MOUNTED ELECTRIC SERVICE ENTRANCE  
GENERAL LAYOUT DIAGRAM  
NOT TO SCALE**

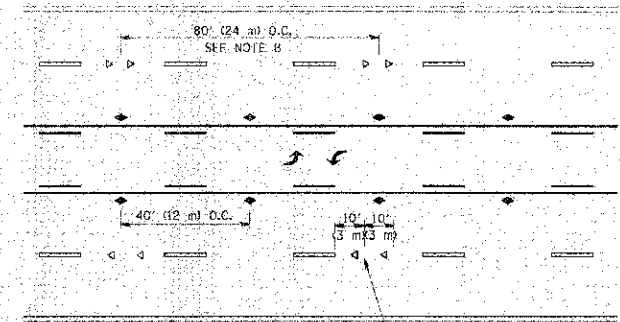
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	PLOT SCALE: 1/8" = 1'-0"	DRAWN:	REVISED:			SCALE: NONE	SHEET NO. 3 OF 3 SHEETS 1 STA.	TO STA:	CONTRACT #: 63778			
	PLOT DATE: 3/14/2012	CHECKED:	REVISED:			ILLINOIS FED. AID PROJECT						
		DATE: 01/14/10	REVISED:									



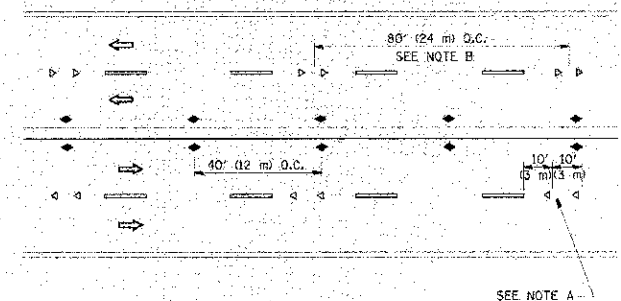
TWO-LANE/TWO-WAY



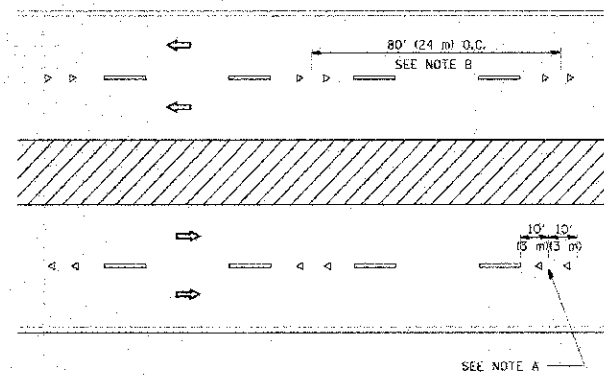
LANE REDUCTION TRANSITION



TWO-WAY LEFT TURN



MULTI-LANE/UNDIVIDED



MULTI-LANE/DIVIDED

GENERAL NOTES

1. MARKERS USED WITH DASHED LINES SHALL BE CENTERED IN THE GAP BETWEEN SEGMENTS.
2. MARKERS USED ADJACENT TO SOLID LINES SHALL BE OFFSET 2 TO 3.50 TO TOWARD TRAFFIC AS SHOWN.
3. MARKERS THROUGH TANGENTS LESS THAN 500' (150 m) IN LENGTH BETWEEN CURVES SHALL BE INSTALLED AT THE LESSER OF THE TWO CURVE SPACINGS.

SYMBOLS

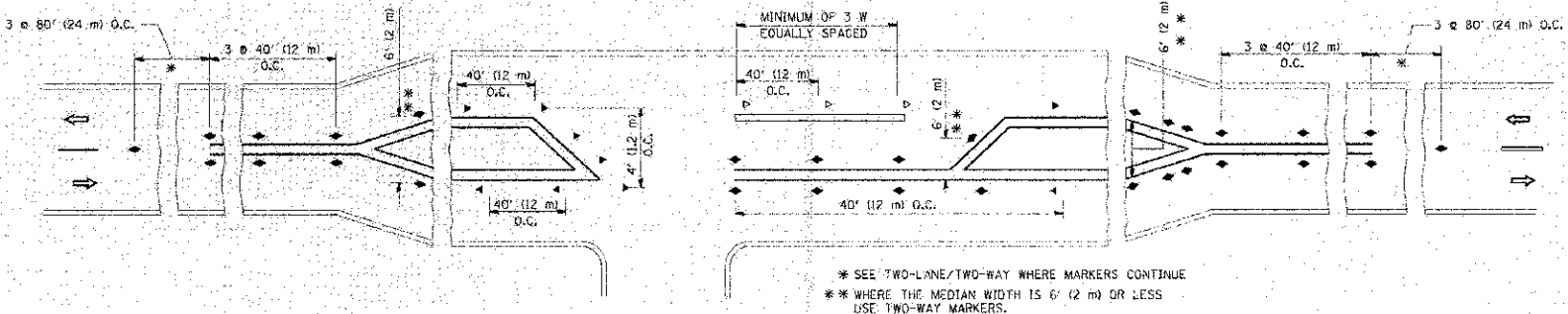
- YELLOW STRIPE
- WHITE STRIPE
- ◀ ONE-WAY AMBER MARKER
- ◄ ONE-WAY CRYSTAL MARKER (W/O)
- ◆ TWO-WAY AMBER MARKER

LANE MARKER NOTES

- A. USE DOUBLE LANE LINE MARKERS SPACED AS SHOWN.
- B. REDUCE TO 40' (12 m) O.C. ON CURVES WHERE ADVISORY SPEEDS ARE 10 M.P.H. (20 km/h) LOWER THAN POSTED SPEEDS.

DESIGN NOTES

1. DOUBLE LANE LINE MARKERS SHALL BE USED UNLESS SPECIFIED OTHERWISE.
2. EXCEPT AS SHOWN ON THE LANE REDUCTION TRANSITION AND FREEWAY EXIT RAMP DETAIL, MARKERS ARE NOT TO BE SPECIFIED ON RIGHT EDGE LINES.
3. THE EXACT MARKER LIMITS, SPACING, AND COLOR SHALL BE INCLUDED IN THE PLANS WHEN STANDARD SPECIFICATIONS ARE NOT BEING USED.
4. MARKERS SHOULD NOT BE USED ALONGSIDE CURBS EXCEPT FOR EXTREMELY SHORT SECTIONS OF CURBS WHERE NOT MORE THAN TWO MARKERS WOULD BE INVOLVED.



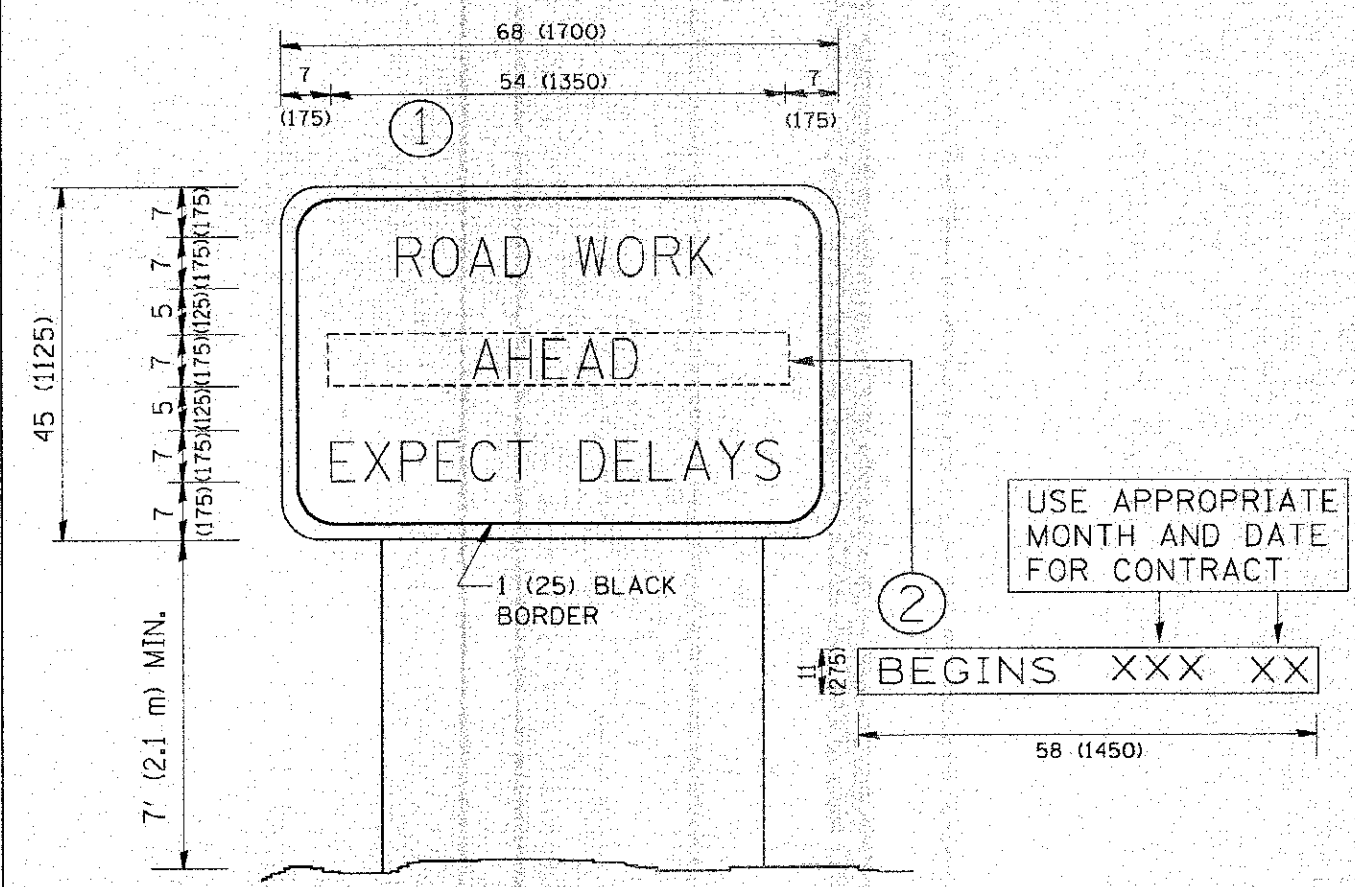
LEFT TURN

All dimensions are in inches (millimeters) unless otherwise shown.

FILE NAME =	USER NAME =	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS (SNOW-PLOW RESISTANT)</b>		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -				SCALE: NONE	SHEET NO. 1 OF 3 SHEETS	STA.	TO STA.	TC-11 CONTRACT NO.
PLOT SCALE =		CHECKED -	REVISED -		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT						
PLOT DATE =		DATE	REVISED -								

FILE NAME = 4536.705-DTI.dwg	USER NAME = DAN STRAHAN	DESIGNED - DJS	REVISED - 9-7-12	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>IDOT HIGHWAY STANDARDS GRASS LAKE ROAD BIKE PATH UNDERPASS</b>		FALL RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - PJS	REVISED - 10-19-12				SCALE: N.T.S.	SHEET NO. 1 OF 3 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT
PLOT SCALE = 1:1		CHECKED - TPG	REVISED -		CONTRACT # 63778						
PLOT DATE = 5/29/2012		DATE - 5-29-12	REVISED -								





**NOTES:**

1. USE BLACK LETTERING ON ORANGE BACKGROUND.
2. ERECT SIGNS IN ADVANCE OF THE LOCATION FOR THE "ROAD CONSTRUCTION AHEAD" SIGN AT LOCATIONS AS DIRECTED BY THE ENGINEER.
3. ERECT SIGN ① WITH INSTALLED PANEL ② ONE WEEK PRIOR TO THE START OF CONSTRUCTION.
4. REMOVE PANEL ② SOON AFTER THE START OF CONSTRUCTION.
5. SEE SPECIAL PROVISION FOR "TEMPORARY INFORMATION SIGNING" FOR ADDITIONAL INFORMATION.
6. ONE SIGN ASSEMBLY EQUALS 25.70 SQ. FT. (2.3 SQ. M.)
7. SHALL BE PAID FOR AS TEMPORARY INFORMATION SIGNING.

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME = W:\data\td\22x34\tc22.dgn	USER NAME = gng11nabst	DESIGNED - -	REVISED - R. MIRS 09-15-97
		DRAWN - -	REVISED - R. MIRS 12-11-97
		CHECKED - -	REVISED - T. RAMMACHER 02-02-99
		DATE - -	REVISED - C. JUCIUS 01-31-07

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SCALE: NONE	SHEET NO. 1 OF 1 SHEETS	STA. TO STA.
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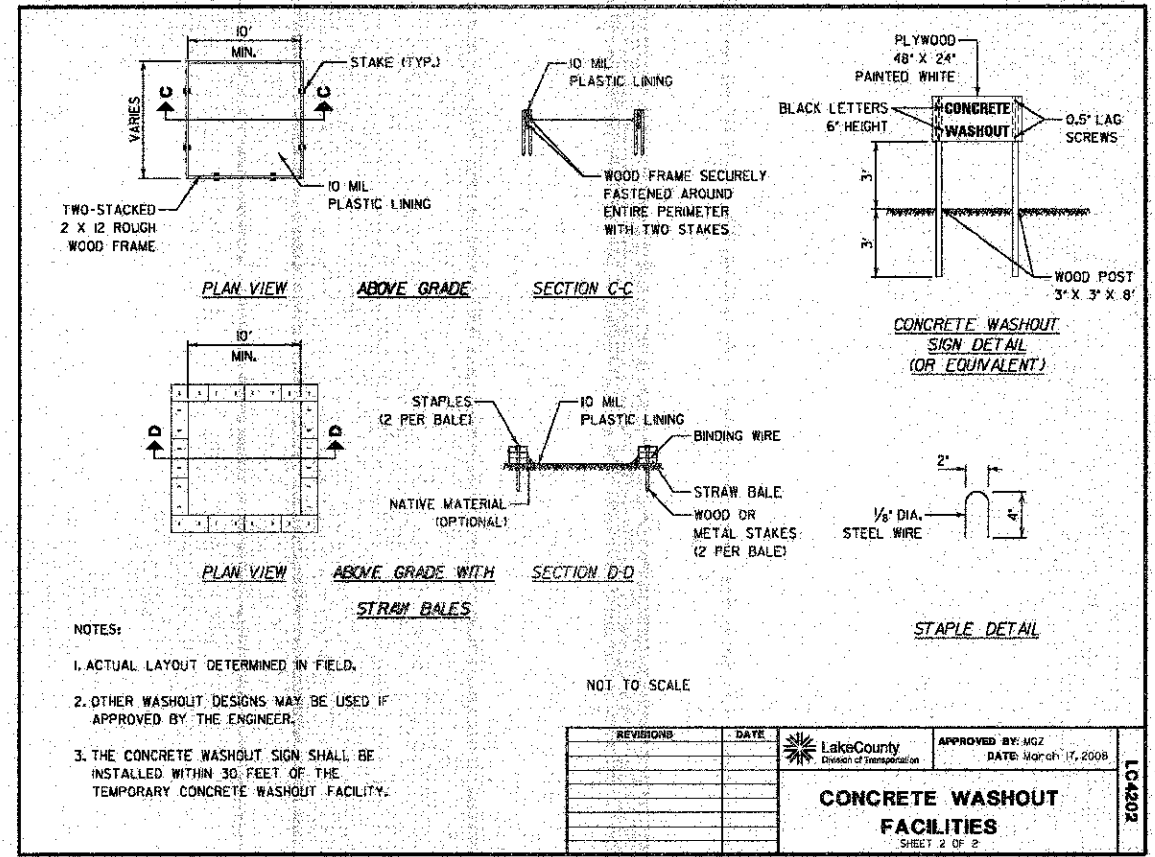
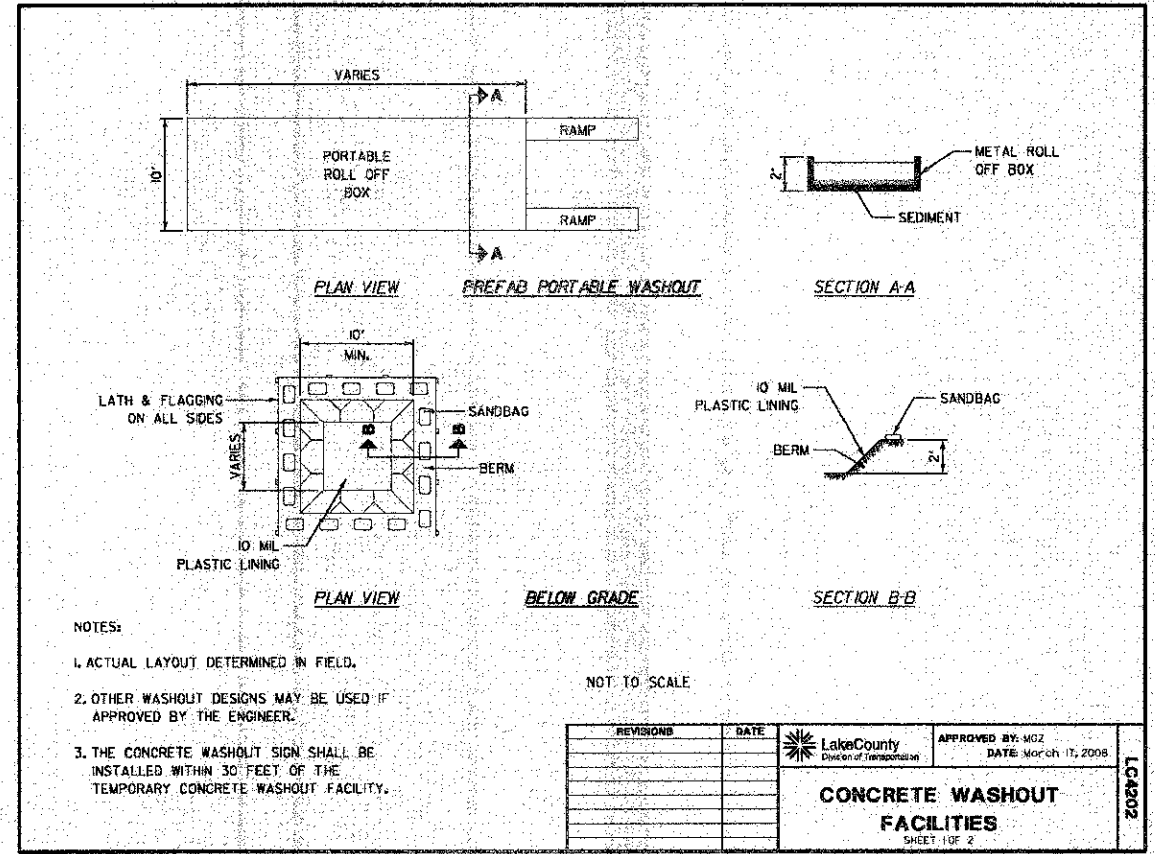
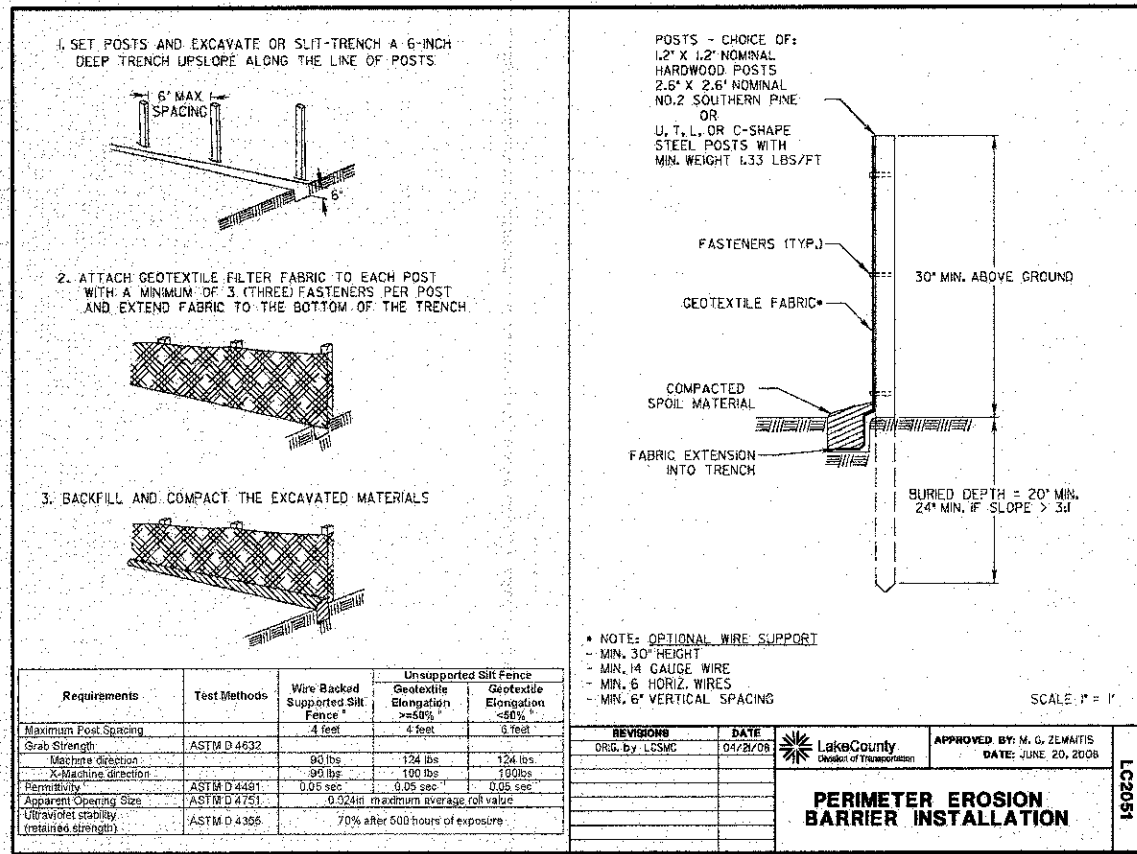
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TC-22				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO.	

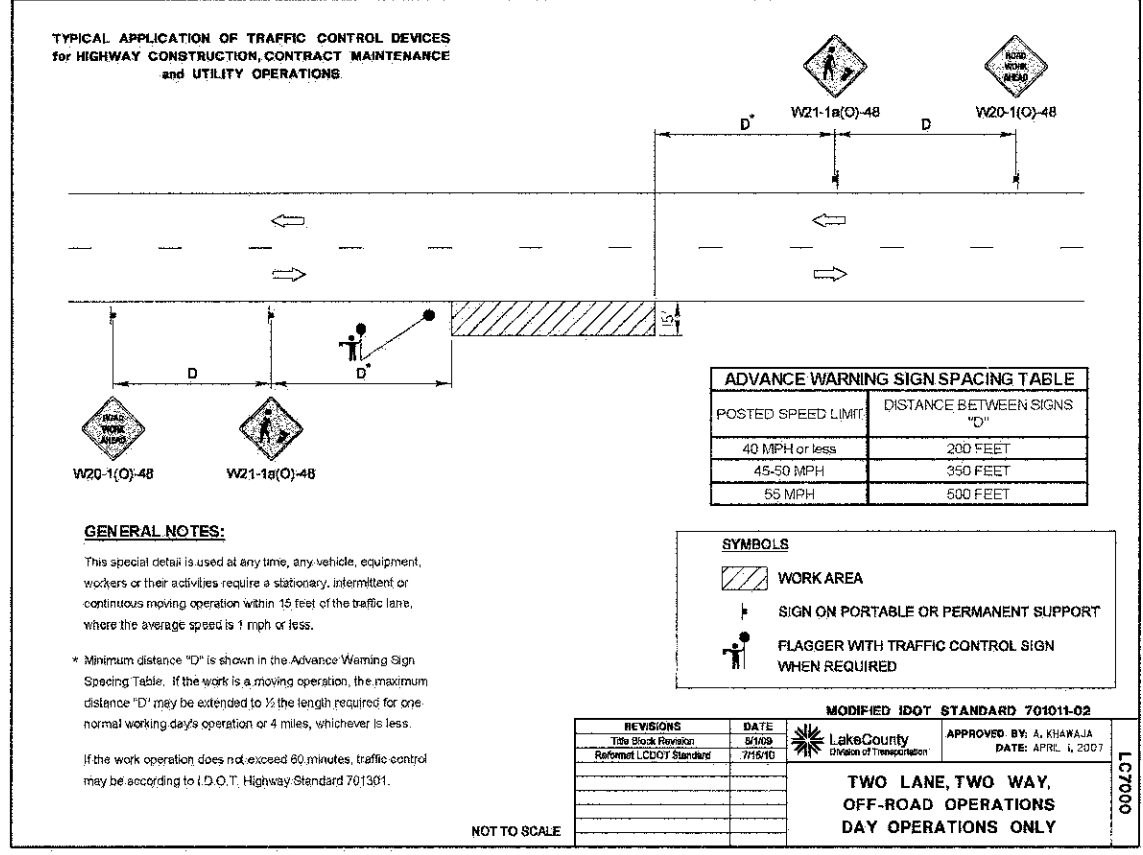
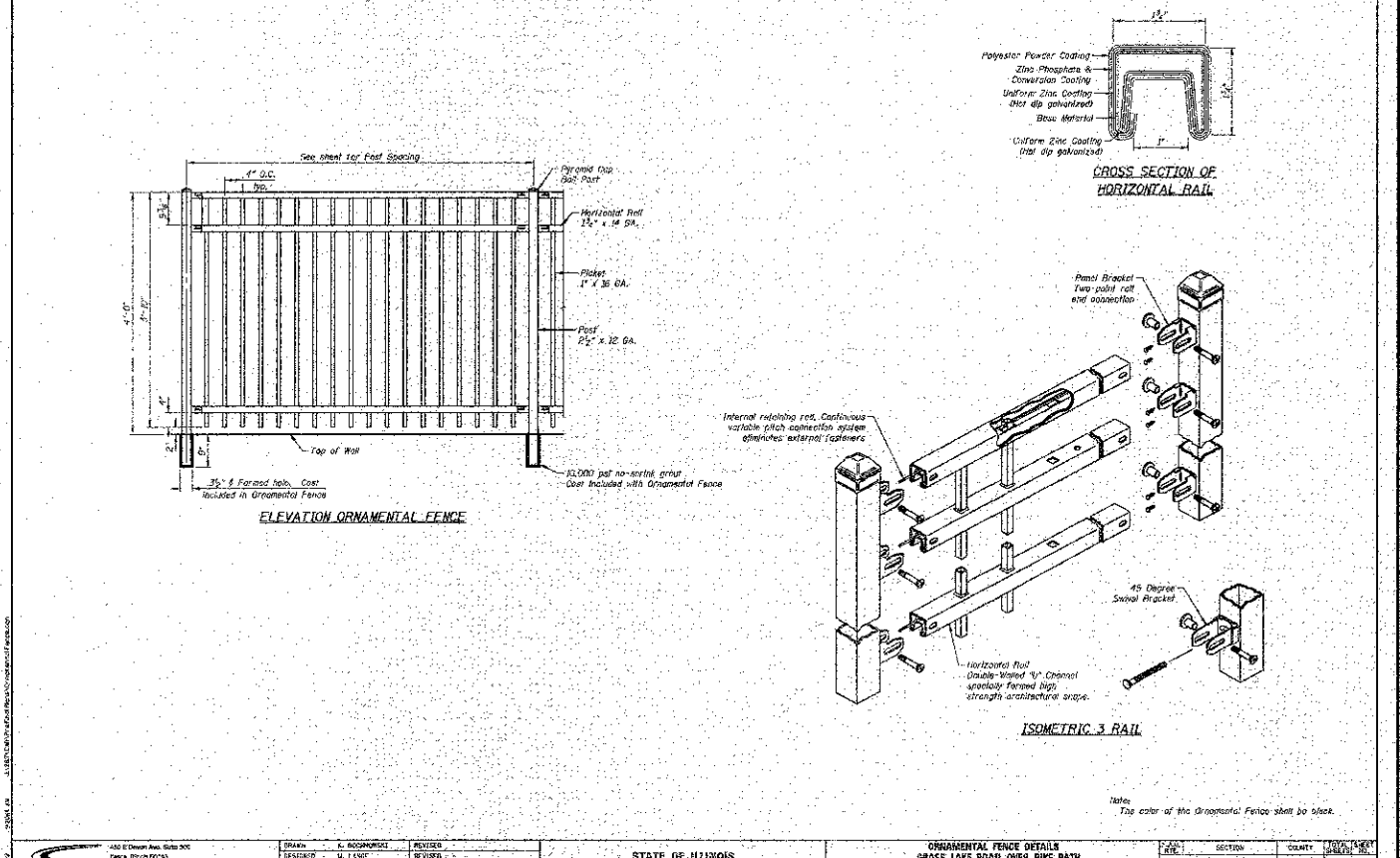
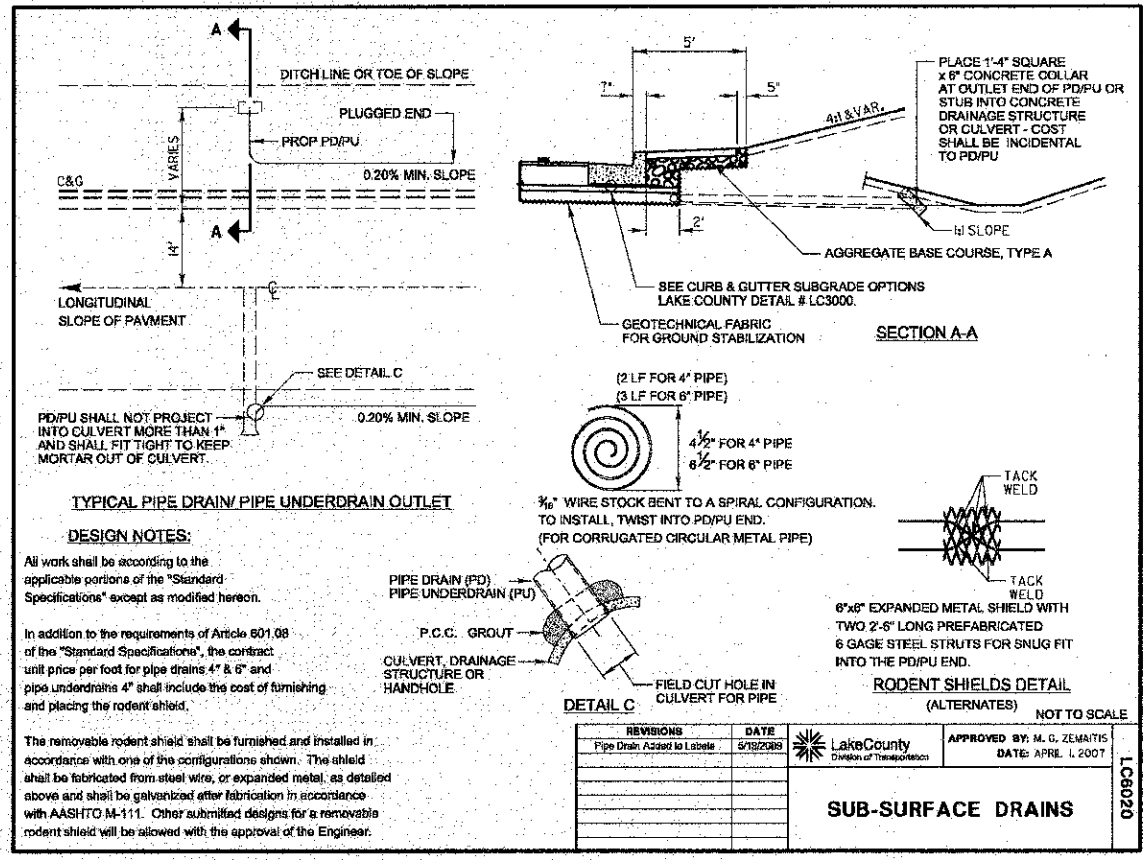
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		CHECKED - TPG	REVISED - 12-17-12
		DATE - 5-29-12	REVISED -

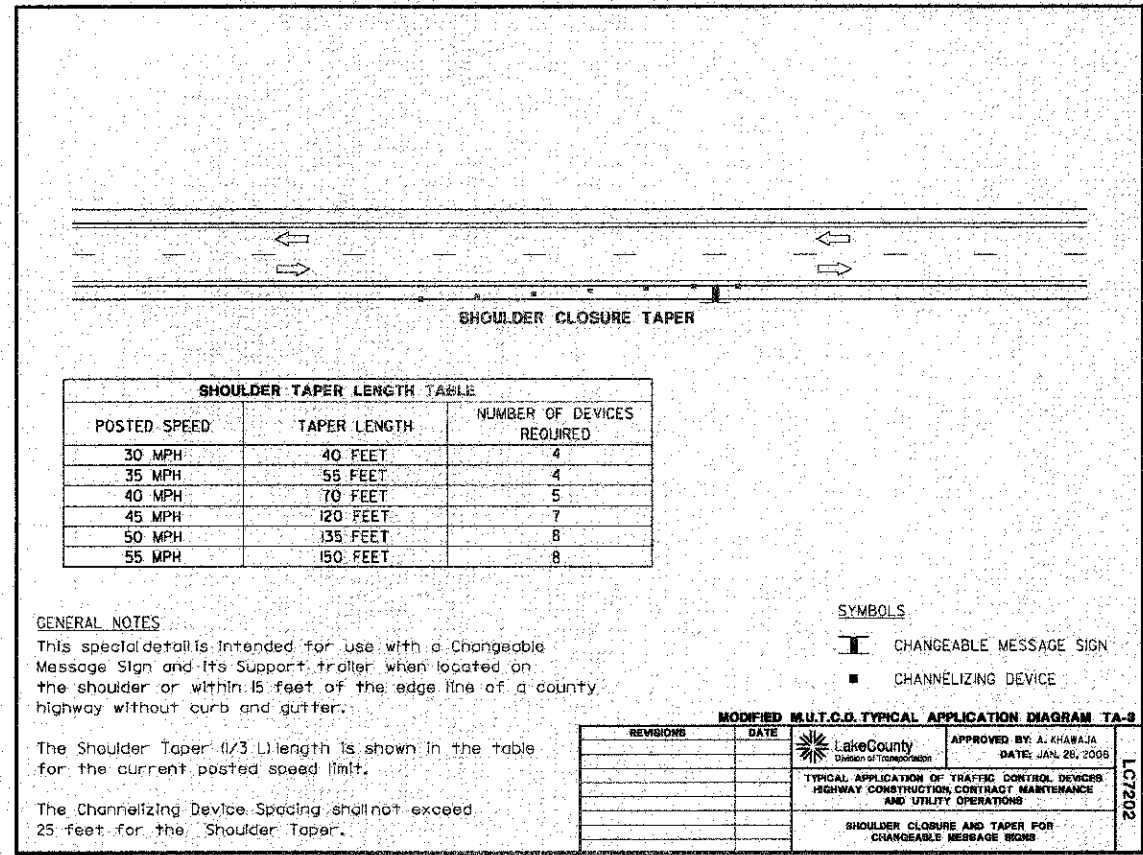
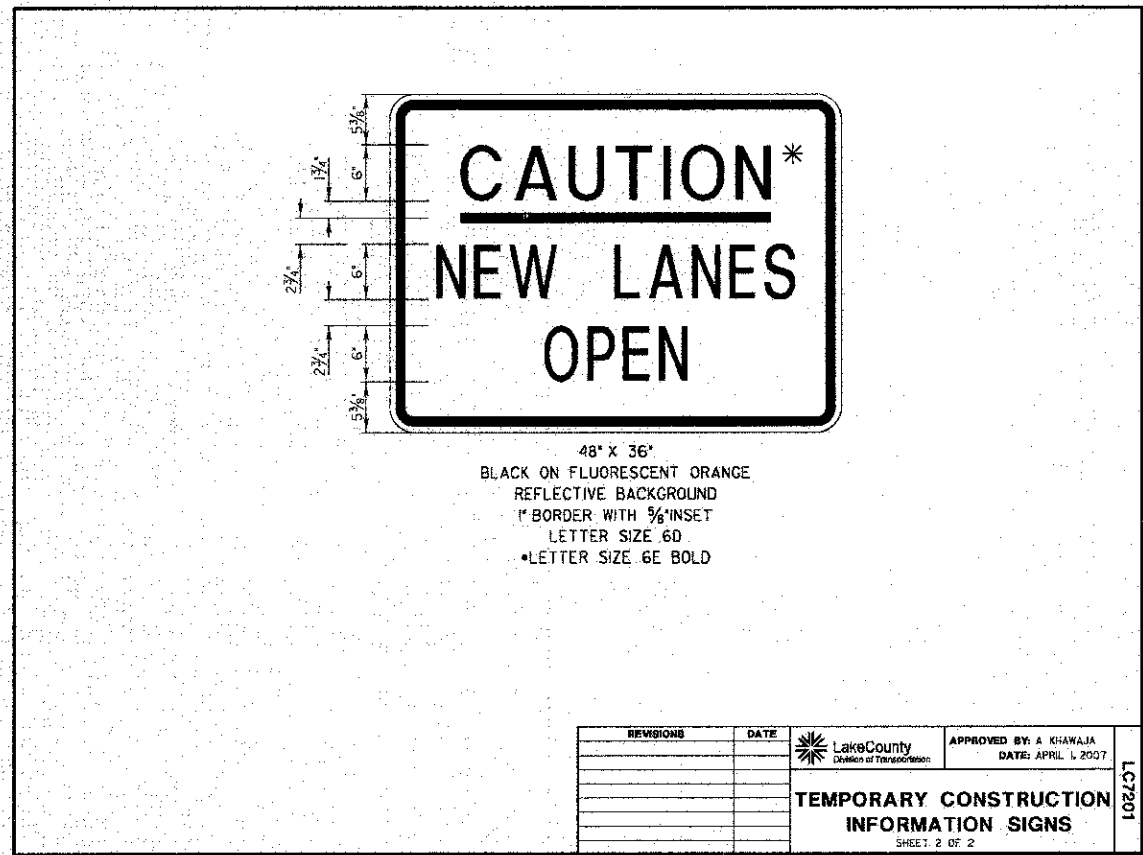
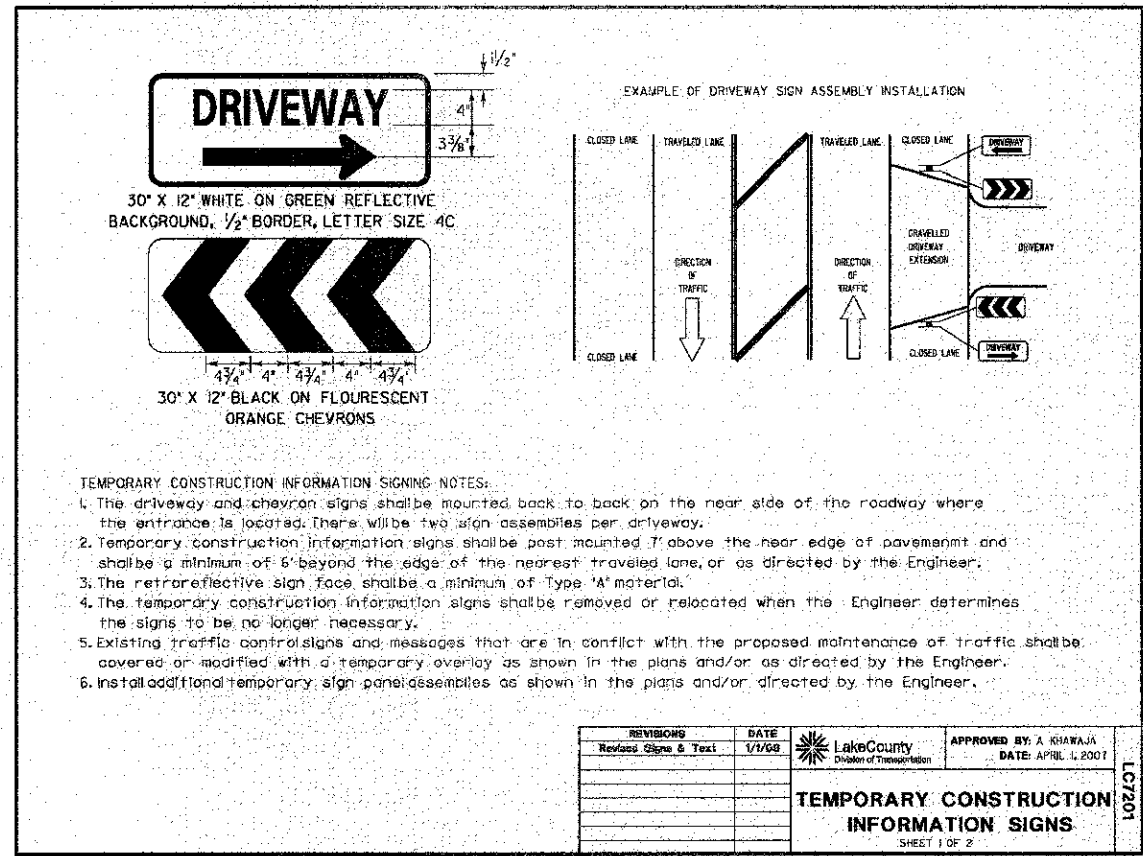
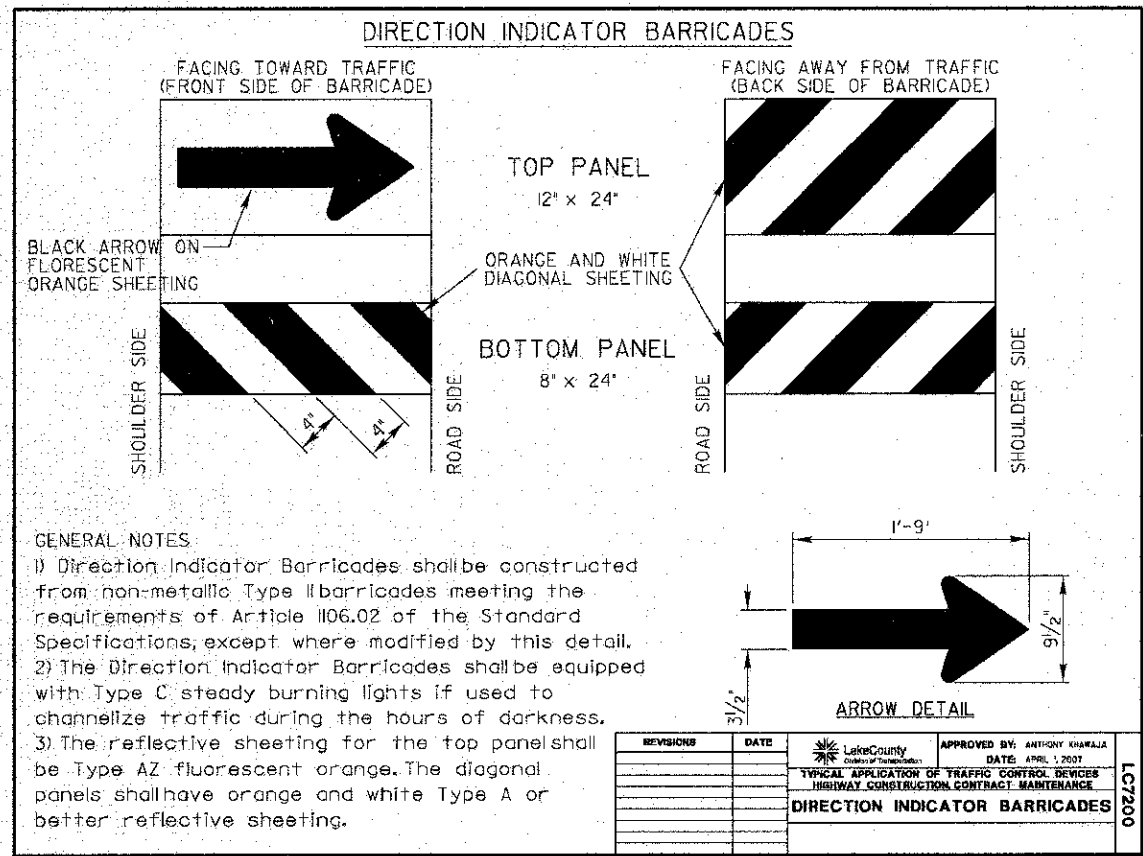
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SCALE: N.T.S.	SHEET NO. 3 OF 3 SHEETS	STA. TO STA.
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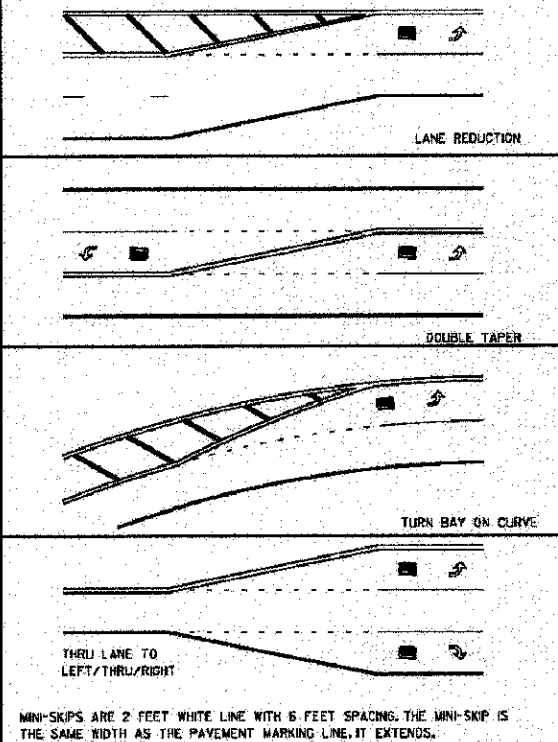
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	50
ILLINOIS FED. AID PROJECT			CONTRACT #: 63778	



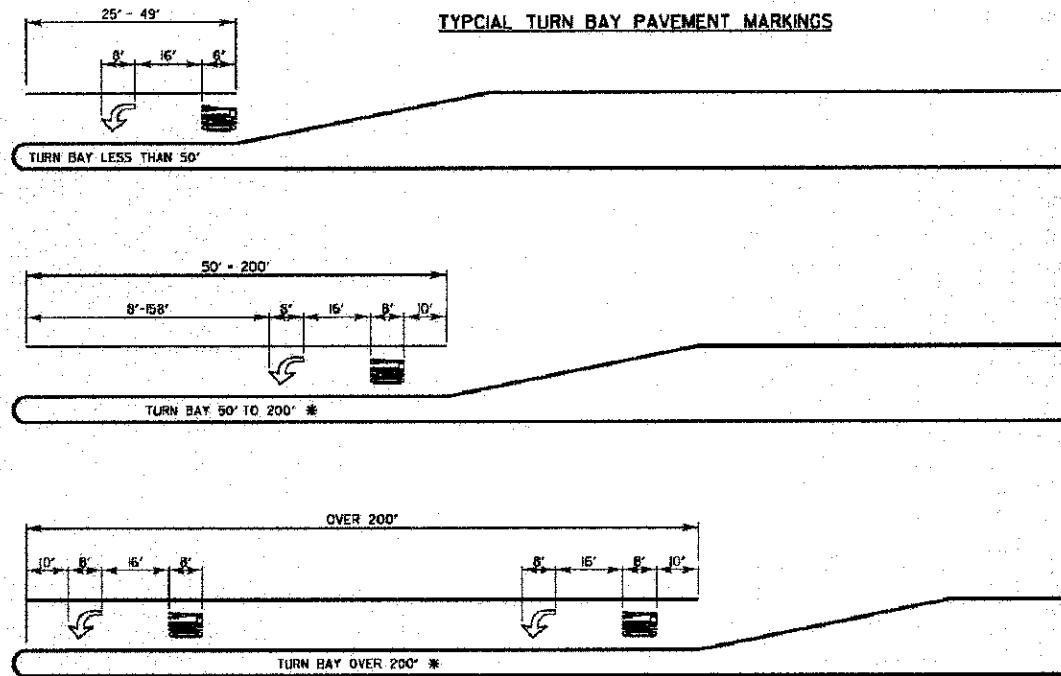




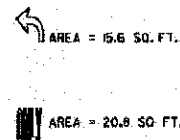
**TYPICAL MINI-SKIP PAYEMENT MARKINGS**



**TYPICAL PAVEMENT MARKINGS**

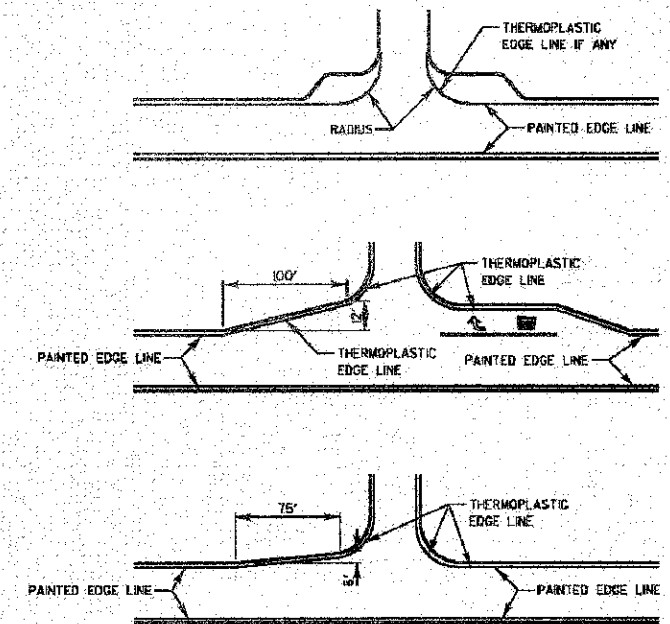


\* AT INTERSECTIONS WITH VIDEO DETECTION, THE ARROW AND ONLY PAYEMENT MARKINGS SHALL BE A MINIMUM OF 30' BEHIND THE STOP BAR.

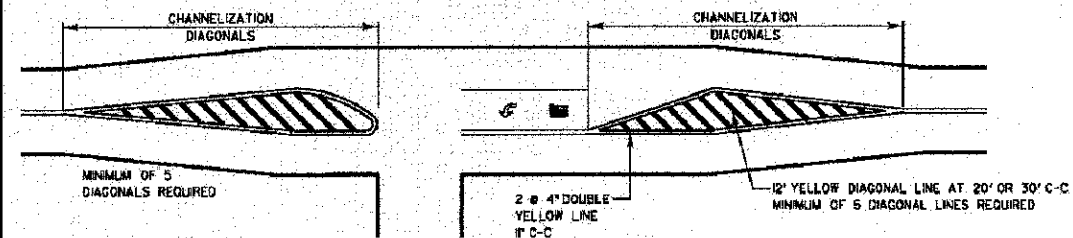


FULL SIZE LETTERS (8") AND ARROWS SHALL BE USED. TURN LANES IN EXCESS OF 400' IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW W/ 'ONLY' INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW W/ 'ONLY'.

**EDGE LINE RADII AT SIDE STREETS**



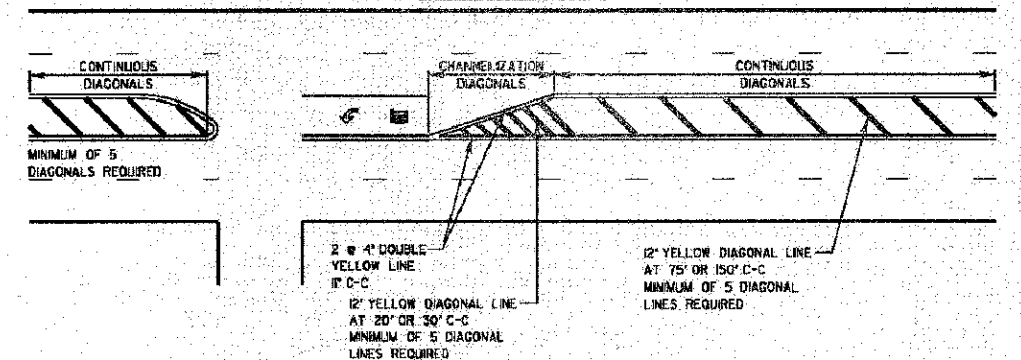
**TWO LANE ROAD**



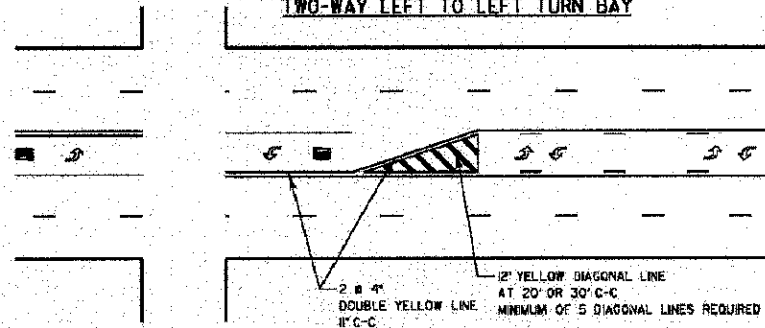
**TYPICAL DIAGONAL SPACING**

SPEED LIMIT RANGE	DIAGONAL SPACING	
	CONTINUOUS	INTERSECTION CHANNELIZATION
30-45 MPH	75 FT.	20 FT.
OVER 45 MPH	150 FT.	30 FT.

**3 TO 5 LANE ROAD**



**TWO-WAY LEFT TO LEFT TURN BAY**



**DUAL LEFT TURN ARROWS**



A MINIMUM OF TWO PAIRS OF DUAL LEFT TURN ARROWS SHALL BE USED. THE DUAL LEFT TURN ARROWS SHALL BE WHITE IN COLOR. THE INTERVAL BETWEEN SETS OF DUAL LEFT TURN ARROWS SHOULD BE 200' AND 300'.

31.2 SQ. FT. MINIMUM OF 2 SETS REQUIRED.

REVISIONS	DATE	APPROVED BY
Reported Railroad Street	8/2/2008	A. KHAWAJA

Lake County Division of Transportation

DATE: APRIL 1, 2007

**TYPICAL PAVEMENT MARKINGS FOR COUNTY HIGHWAYS**

SHEET 1 OF 2

NO.	DESCRIPTION	DATE	BY	SURVEYOR

DESIGNED BY: DJS  
DRAWN BY: PJS  
CHECKED BY: TPG  
DATE: 5-29-12

DISCREP/LINSONS  
PLOTTED BY: [Signature]  
DATE: 6/25/2008



LAKE COUNTY STANDARDS & DETAILS

ROUTE	SECTION	SECTION NUMBER	SHEET	SHEETS
CHXX	XXX	XX-XXXXX-XX-XX	XXX	XXX

FILE NAME = 4536.705-D11.dwg

USER NAME = DAN STRAHAN  
PLOT SCALE = 1:1  
PLOT DATE = 5/29/2012

DESIGNED - DJS  
DRAWN - PJS  
CHECKED - TPG  
DATE - 5-29-12

REVISED - 9-7-12  
REVISED - 10-19-12  
REVISED - 12-17-12  
REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

LCDOT HIGHWAY STANDARDS  
GRASS LAKE ROAD BIKE PATH UNDERPASS

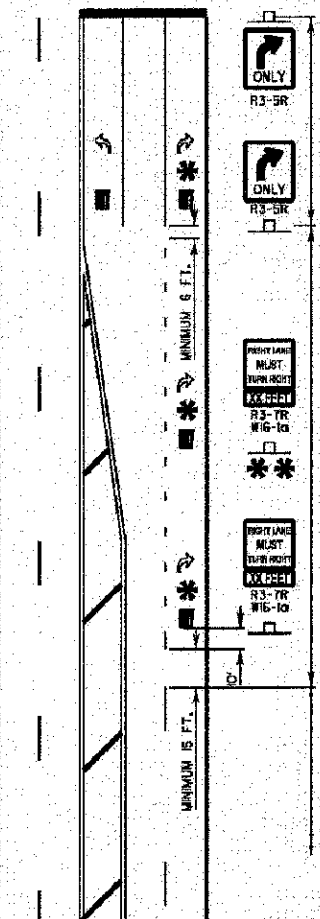
SCALE: N.T.S. SHEET NO. 4 OF 6 SHEETS STA. TO STA.

FAU RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	54

CONTRACT #: 63778  
ILLINOIS FED. AID PROJECT



**THRU LANE TO TURN LANE CONVERSION**



**TYPICAL PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS**

TURN BAY  
6' WHITE LINE  
(ADDITIONAL PAV'T MARKINGS AS SHOWN ON SHEET ONE OF THE L.C.D.O.T. PAV'T MARKINGS DETAIL SHEETS)

TRANSITION ZONE  
6' WHITE 3/12' SKIP DASH LANE LINE

THRU LANE  
4' WHITE 10'/30' SKIP DASH LANE LINE

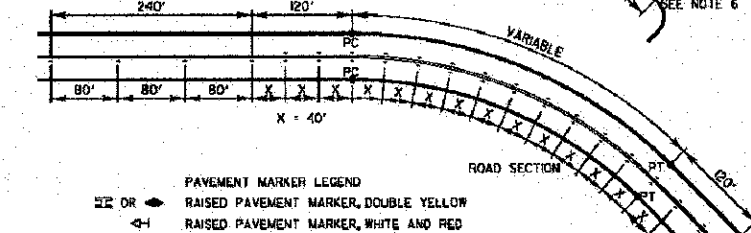
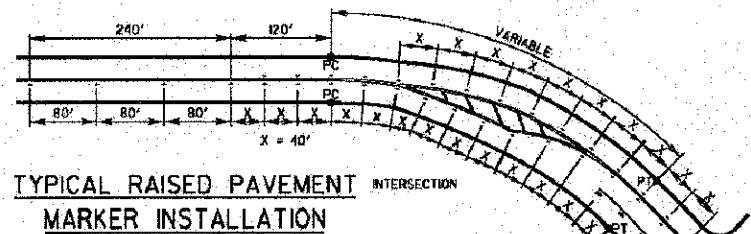
**MINIMUM TRANSITION ZONE LENGTH**

POSTED SPEED	LENGTH
25 M.P.H.	255 FT.
30 M.P.H.	330 FT.
35 M.P.H.	405 FT.
40 M.P.H.	480 FT.
45 M.P.H.	555 FT.
50 M.P.H.	630 FT.
55 M.P.H.	705 FT.

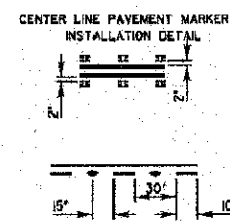
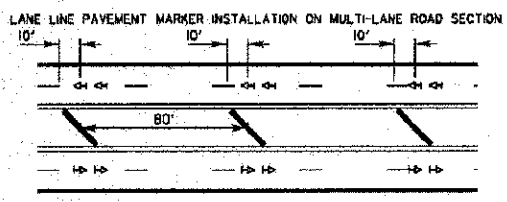
**\* LOCATION OF PAV'T MARKINGS**  
(MEASURED FROM BEGINNING OF TRANSITION ZONE)

POSTED SPEED	LOCATION OF PAV'T MARKINGS
25 M.P.H.	10 FT., 260 FT.
30 M.P.H.	10 FT., 170 FT., 340 FT.
35 M.P.H.	10 FT., 210 FT., 410 FT.
40 M.P.H.	10 FT., 170 FT., 330 FT., 490 FT.
45 M.P.H.	10 FT., 190 FT., 370 FT., 560 FT.
50 M.P.H.	10 FT., 170 FT., 330 FT., 490 FT., 640 FT.
55 M.P.H.	10 FT., 180 FT., 350 FT., 520 FT., 710 FT.

FOR POSTED SPEEDS 40 M.P.H. OR GREATER A SECOND R3-7/W6-1a SIGN INSTALLATION SHALL BE LOCATED HALFWAY BETWEEN THE BEGINNING OF THE TRANSITION ZONE AND THE BEGINNING OF THE TURN LANE

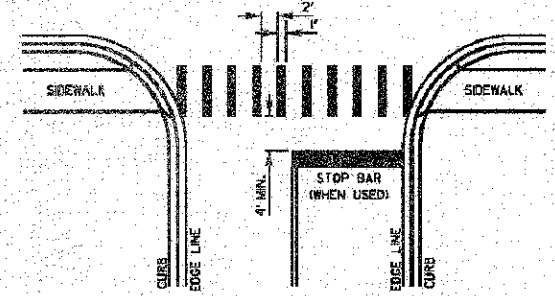


PAVEMENT MARKER LEGEND  
 RAISED PAVEMENT MARKER, DOUBLE YELLOW  
 RAISED PAVEMENT MARKER, WHITE AND RED



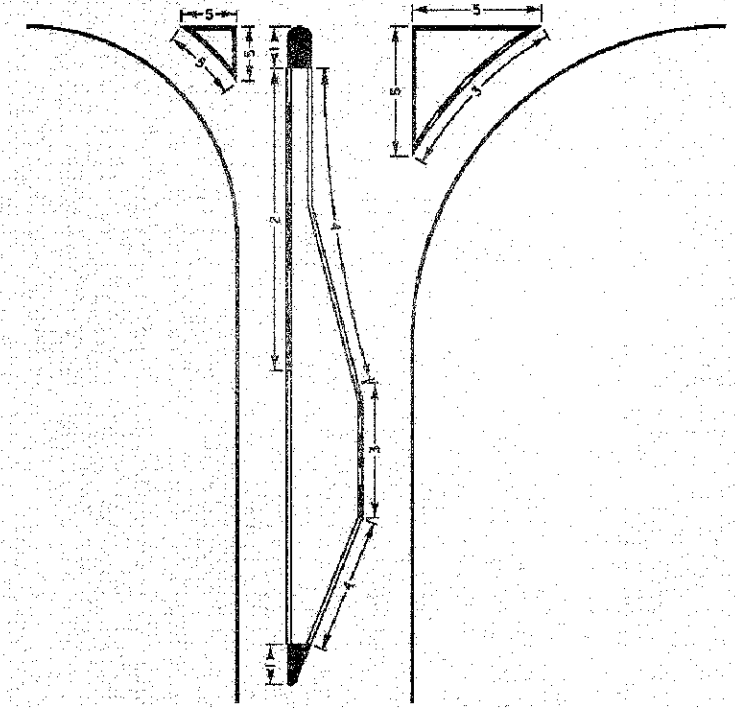
- NOTES:
- CENTERLINE RAISED PAVEMENT MARKERS (RPM's) SHALL BE PLACED ON ALL CURVES OVER 3 1/2 DEGREES ON ALL TWO AND THREE LANE HIGHWAYS, UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
  - SPACING = 40' FOR CENTERLINE MARKERS.
  - ALL RPM's ON CENTERLINE ARE 2-WAY YELLOW. LANE LINE MARKERS ARE WHITE/RED.
  - MARKERS SHALL BE INSTALLED IN ACCORDANCE WITH F.H.W.A. MEMORANDUM HQ-24.
  - MARKERS SHALL BE FIELD ADJUSTED TO BE LOCATED IN CENTER OF THE 30' GAP OF A 30'/10' SKIP/DASH CENTERLINE.
  - RPM's WHICH ARE TO BE LOCATED WITHIN THE INTERSECTION OF A CROSS STREET, SHALL NOT BE INSTALLED.
  - A MINIMUM OF 4 WHITE/RED MARKERS SHALL BE INSTALLED ALONG THE TURN LANE LINE.
  - RPM's INSTALLED ON MULTI-LANE ROAD SECTIONS SHALL BE INSTALLED ON THE WHITE SKIP-DASH LANE LINE ONLY. THESE RPM's SHALL BE INSTALLED IN PAIRS AND SHALL BE 80' CENTER TO CENTER. SPACING WITHIN EACH PAIR SHALL BE 10', CENTERED WITHIN THE 30' SKIP.

**CROSSWALKS**

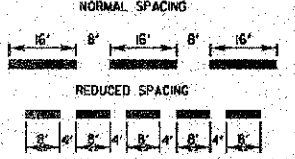


- WIDTH OF THE CROSSWALK IS GENERALLY 6' EXCEPT AT SCHOOL CROSSINGS AND BICYCLE CROSSINGS, WHICH CAN BE 8'.
- THE STOP BAR SHOULD BE INSTALLED A MINIMUM OF 4' IN ADVANCE OF THE CROSSWALK.

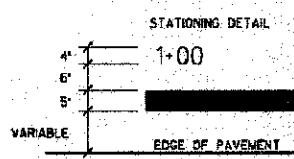
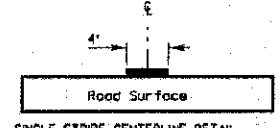
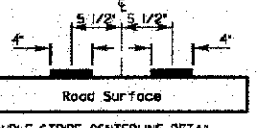
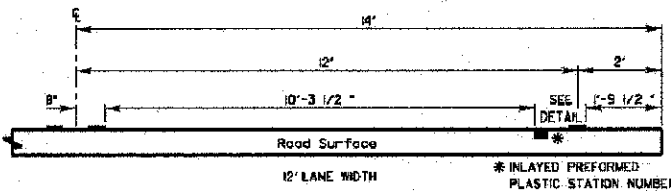
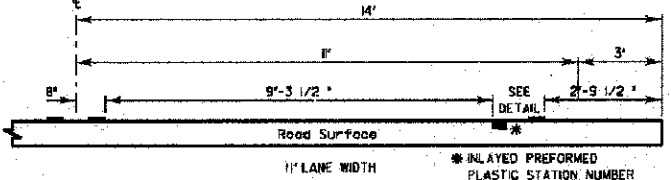
**CURB MARKING**



- NOTES:
- PAINT CURB AND NOSE SOLID FOR 10' OR RADIUS OF NOSE, WHICHEVER IS GREATER.
  - PAINT MINIMUM OF 3 STRIPES IN DIRECTION OF TRAFFIC.
  - REDUCED SPACING USED TO OBTAIN 3 STRIPE MINIMUM.
  - STRIPING RECOMMENDED ONLY WHERE OPERATIONAL PROBLEMS DICTATE.
  - PAINT SOLID WHERE A MINIMUM OF 3 STRIPES CANNOT BE PLACED.



**PAVEMENT CROSS SECTION SHOWING TYPICAL PAVEMENT MARKINGS (2-LANE ROADWAY)**



Note: Centerline markings are 4' lines at 1' centers.

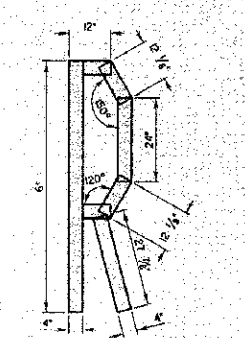
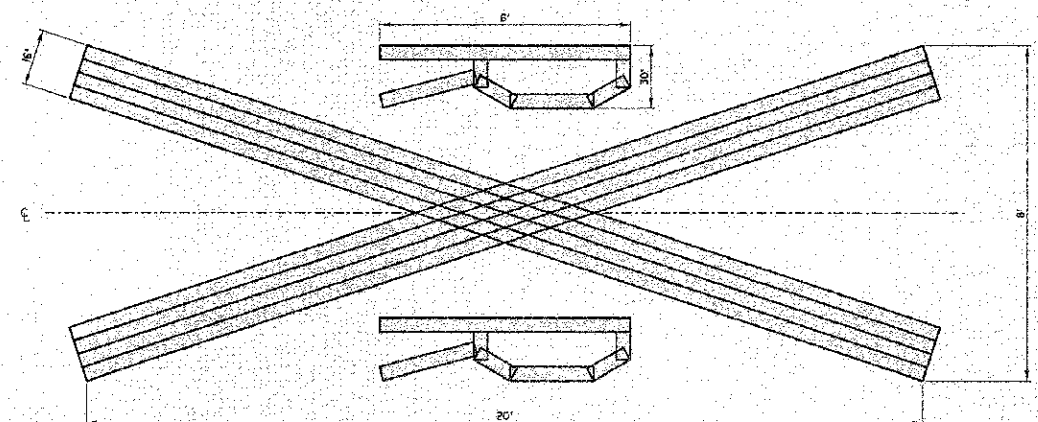
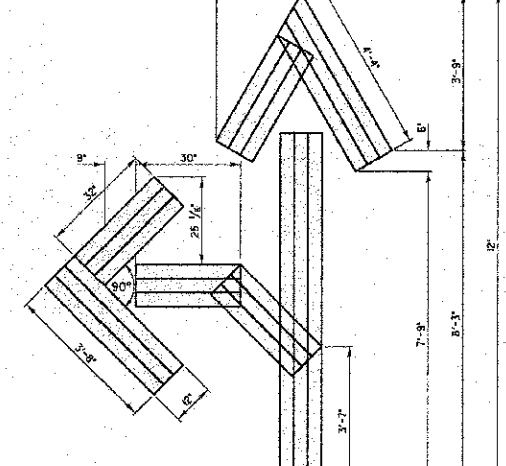
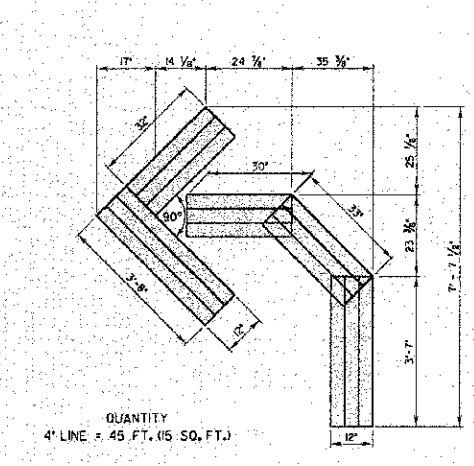
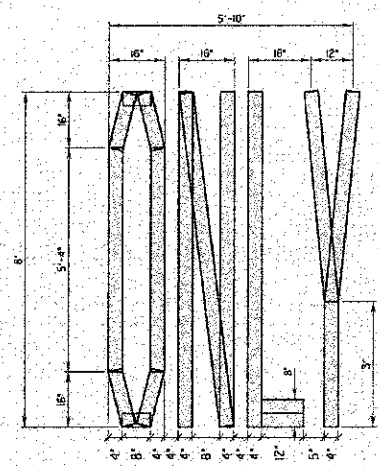
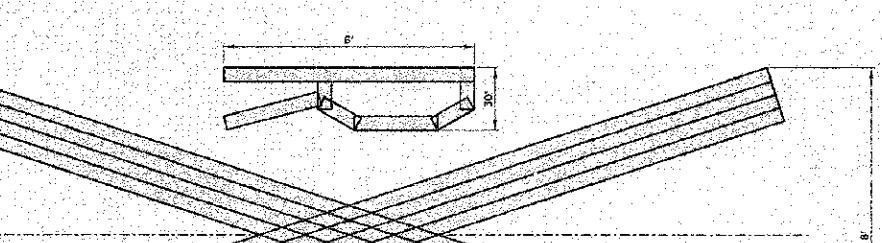
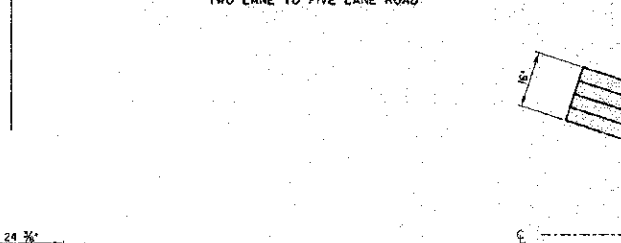
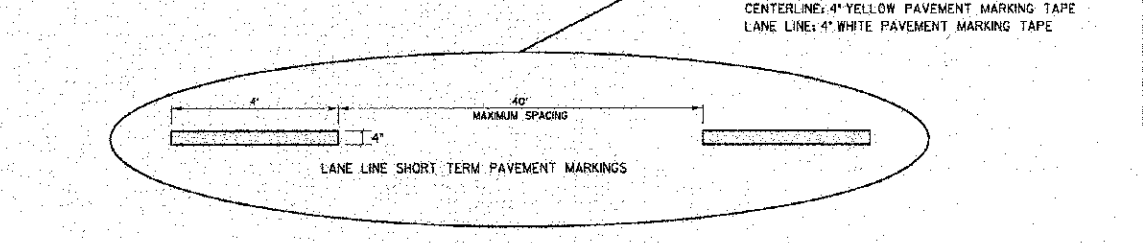
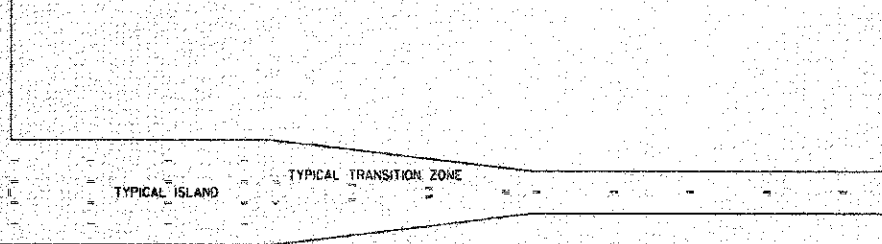
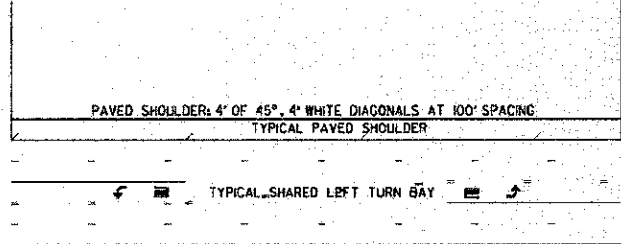
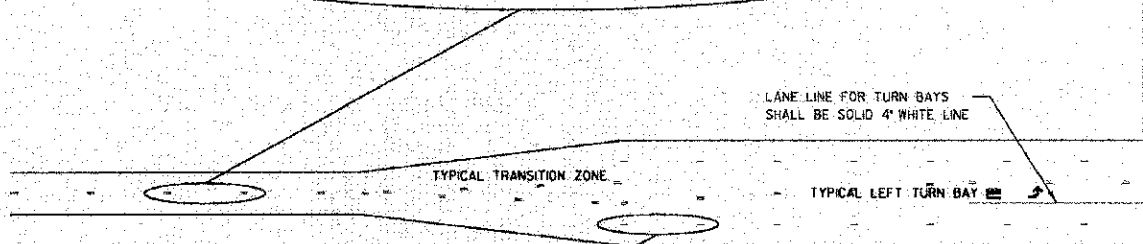
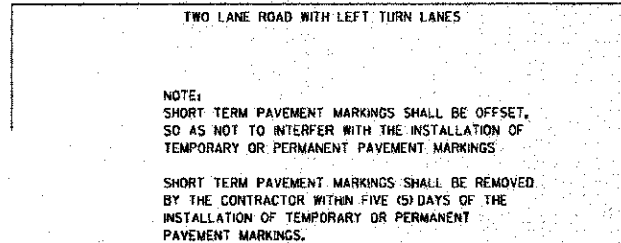
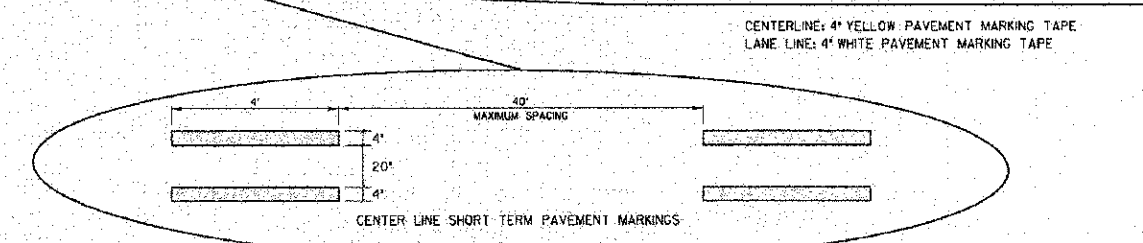
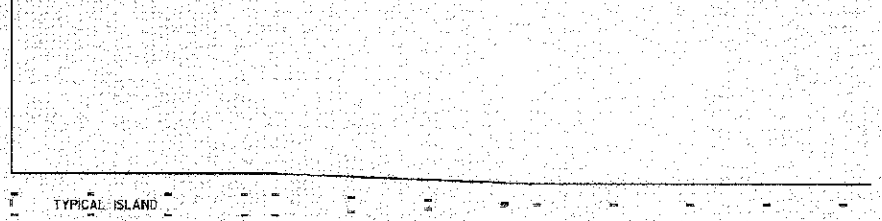
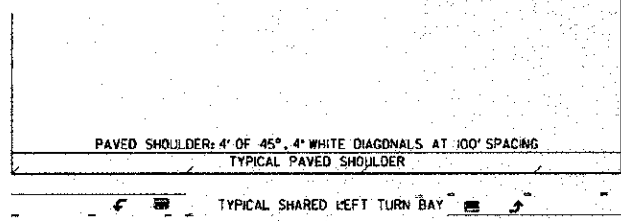
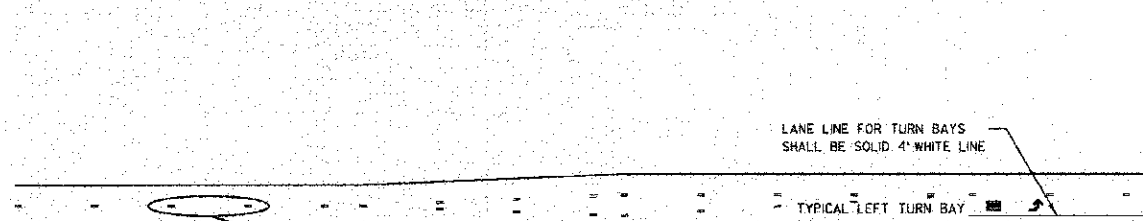
TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING / REMARKS
CENTERLINE OF 2 LANE PAVEMENT	4 IN.	SKIP-DASH	YELLOW	10 FT. LINE WITH 30 FT. SPACE
NO PASSING ZONE LINES FOR ONE DIRECTION FOR BOTH DIRECTIONS	4 IN. 2 @ 4 IN.	SOLID SOLID	YELLOW YELLOW	5 1/2 IN. C.C. FROM SKIP-DASH CENTERLINE 11 IN. C.C. WITH SKIP-DASH CENTERLINE BETWEEN
CENTERLINE ON MULTI-LANE UNDIVIDED LANE LINES	4 IN.	SKIP-DASH	YELLOW	11 IN. C.C.
DOTTED LINES (EXTENSIONS OF CENTERLINE OR TURN LANE MARKINGS)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2 FT. LINE WITH 6 FT. SPACE
EDGE LINES	5 IN. WHITE 4 IN. YELLOW	SOLID	WHITE - RIGHT YELLOW - LEFT	OUTLINE RAISED MEDIAN IN YELLOW TURN ARROW 156 SOFT. STRAIGHT ARROW 115 SOFT. ONLY 200 SOFT. COMBINATION 260 SOFT.
TURN LANE MARKINGS	6 IN. LINE FULL SIZE LETTERS AND SYMBOLS (6 FT.)	SOLID	WHITE	
TWO WAY LEFT-TURN MARKING	2 @ 4 IN. EACH DIRECTION 8 FT. LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10 FT. LINE WITH 30 FT. SPACE FOR SKIP-DASH 5 1/2 IN. C.C. BETWEEN SKIP-DASH LINE AND SOLID LINE SEE TYPICAL TWO-WAY LEFT TURN MARKING DETAIL
CROSSWALK	12 IN. @ 90°	SOLID	WHITE	12 IN. LONGITUDINAL BAR WITH 24 IN. SPACE 6 FT. TO 12 FT. WIDE SEE TYPICAL CROSSWALK MARKING DETAIL
STOP BARS	24 IN.	SOLID	WHITE	PLACE 4 FT. IN ADVANCE OF AND PARALLEL TO CROSSWALK. IF PRESENT OTHERWISE PLACE AT DESIRED STOPPING POINT. SEE TYPICAL PAINTED MEDIAN MARKING DETAIL MINIMUM OF 5 DIAGONALS
PAINTED MEDIANS	2 @ 4 IN. WITH 1/4 IN. DIAGONALS @ 45° NO DIAGONALS USED FOR 4 FT. WIDE MEDIAN	SOLID	YELLOW - 2-WAY TRAFFIC WHITE - 1-WAY TRAFFIC	11 IN. C.C. FOR THE DOUBLE LINE SEE TYPICAL PAINTED MEDIAN MARKING DETAIL MINIMUM OF 5 DIAGONALS
CURE MARKING AND CHANNELIZING LINES	8 IN. WITH 10 IN. DIAGONALS @ 45°	SOLID	WHITE	DIAGONALS IS F.T.O.C. LESS THAN 30 M.P.H. 30 FT. C.C. (30 TO 45 M.P.H.) 30 FT. C.C. OVER 45 M.P.H. MINIMUM OF 5 DIAGONALS
P.V. CROSSING	24 IN. TRANSVERSE LINES OR 15 6 FT. LETTER 16 IN. LINE FOR "X"	SOLID	WHITE	SEE 100' STD. 70000 SOFT AREA OF: 7' x 36 SOFT. / 10' x 54 SOFT.
SHOULDER DIAGONALS	12 IN. @ 45°	SOLID	WHITE - RIGHT YELLOW - LEFT	50 FT. C.C. LESS THAN 30 M.P.H. 75 FT. C.C. (30 TO 45 M.P.H.) 100 FT. C.C. OVER 45 M.P.H. MINIMUM OF 5 DIAGONALS

FOR FURTHER DETAILS OF PAVEMENT MARKING REFER TO PART 01 MARKINGS IN THE ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES; THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND LOAD/STRENGTH STANDARD 70000 EFFECTIVE JAN. 1998.

NO.	REVISIONS / REMARKS	DATE	BY	SURVEYOR
	DESCRIPTION			

Lake County Division of Transportation  
**LAKE COUNTY STANDARDS & DETAILS**  
 CHXX XXX XX-XXXX-XX-XX XXX XXX

# TYPICAL SHORT TERM PAVEMENT MARKINGS



REVISION	DATE	APPROVED BY

DATE: APRIL 1, 2012

CONTRACT #: 63778

FILE NAME = 4536.705-071.dwg

USER NAME = DAN STRAHAN

DESIGNED - DJS

REVISED - 9-7-12

PLOT SCALE = 1:1

DRAWN - PJS

REVISED - 10-19-12

PLOT DATE = 5/29/2012

CHECKED - TPG

REVISED - 12-17-12

DATE - 5-29-12

REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

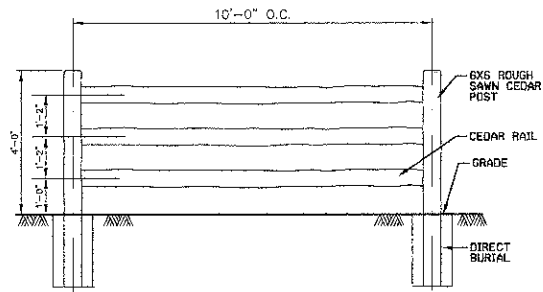
LCDOT HIGHWAY STANDARDS  
GRASS LAKE ROAD BIKE PATH UNDERPASS

SCALE: N.T.S. SHEET NO. 6 OF 6 SHEETS STA. TO STA.

FAU. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	56

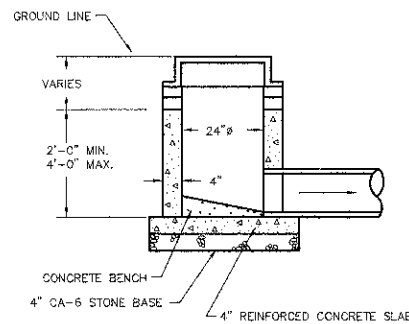
SHORT TERM PAVEMENT MARKINGS

ILLINOIS FED. AID PROJECT



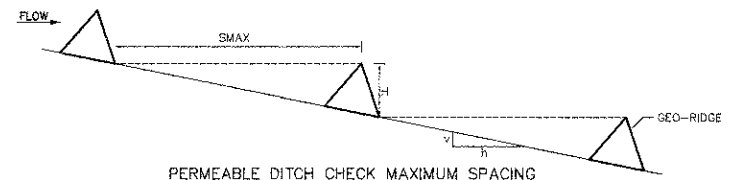
**SPLIT RAIL FENCE - 3 RAIL**

- NOTES:
- CONTRACTOR SHALL SUBMIT AND PROVIDE DATA FOR FENCE POSTS, RAILS, AND ALL OTHER ACCESSORIES.
  - PRIOR TO INSTALLATION OF THE FENCE, SAMPLES OF THE POSTS, RAILS, AND ALL ACCESSORIES SHALL BE PROVIDED TO THE OWNER FOR APPROVAL.
  - POST HOLES LOCATED WITHIN DESIGNATED WETLAND BOUNDARIES SHALL BE CIRC USING AN AUGUR WITH A DIAMETER NO GREATER THAN 80% OF THE POST DIAMETER. MATERIAL EXCAVATED DURING CREATION OF THE HOLE MUST BE DEPOSITED OUTSIDE OF DESIGNATED WETLAND AREA. NO VEHICULAR ACCESS, MACHINERY, OR OTHER TYPES OF ACCESS WHICH MAY IMPACT THE WETLAND OR VIOLATE THE CONDITIONS OF THE RELEVANT WETLAND PERMITS SHALL BE ALLOWED.
  - POST HOLE DEPTH SHALL BE SET TO ACCOMMODATE THE FINISHED DIMENSIONS AS SHOWN IN THE PLANS, APPROXIMATELY 30 INCHES. POST TO BE PRESSED OR LIGHTLY DRIVEN INTO HOLE. CARE SHOULD BE TAKEN TO PROTECT POST FROM DAMAGE DURING INSTALLATION PROCESS.

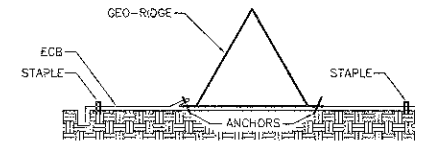


- NOTES:
- PIPE OPENINGS TO BE PRECAST INTO WALLS.
  - PRECAST REINFORCED CONCRETE SECTIONS WITH PREFORMED BITUMINOUS JOINTS AND INTEGRAL PRECAST BOTTOMS.
  - FRAME TO BE LAID IN 3/4" MASTIC BED.
  - ADJUSTING RINGS NOT TO EXCEED 8".
  - NEENAH R-4340-B ROUND BEEHIVE GRATE IN GRASS AREAS.
  - INLETS IN PAVEMENT AREAS SHALL BE NEENAH R-2013-D.
  - TWO 10' LONG 4" PERFORATED PVC SDR 35 FINGER DRAINS REQUIRED IN ALL PROPOSED PAVEMENT AREAS. SEE FINGER DRAIN DETAIL.

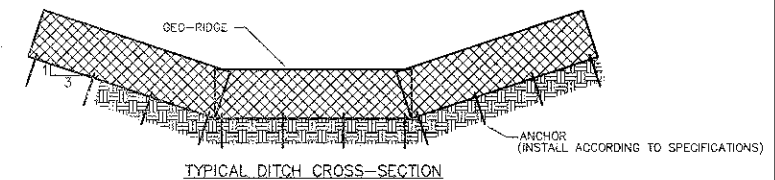
**INLET**



**PERMEABLE DITCH CHECK MAXIMUM SPACING**



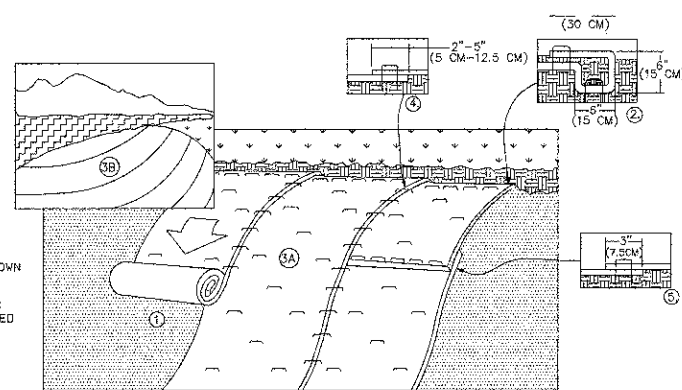
**PERMEABLE DITCH CHECK CROSS-SECTION**



**TYPICAL DITCH CROSS-SECTION**

- NOTES:
- THE PERMEABLE DITCH CHECK SHALL BE GEO-RIDGE, OR EQUIVALENT.
  - THE PERMEABLE DITCH CHECK SHALL BE ANCHORED WITH 10" GALVANIZED ARDOX SPIKES WITH A 3/8" X 1.5" GALVANIZED WASHER.
  - THE EROSION CONTROL BLANKET (ECB) SHALL BE A MACHINE-PRODUCED MAT OF 100% COCONUT FIBER MATRIX STITCH BONDED WITH UV STABILIZED THREAD BETWEEN TWO UV STABILIZED POLYPROPYLENE NETTINGS. THE ECB SHALL BE C125 AS MANUFACTURED BY NORTH AMERICAN GREEN (NAG), OR EQUIVALENT.
  - THE PERMEABLE DITCH CHECK SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
  - THE PERMEABLE DITCH CHECK SHALL BE CLEANED WHEN SEDIMENT HAS ACCUMULATED HALF THE HEIGHT OF THE DITCH CHECK.
  - THE PERMEABLE DITCH CHECK SHALL BE REMOVED ONLY AFTER SITE HAS ACHIEVED FULL STABILIZATION.
  - THE DEGRADABLE VERSION SHALL ONLY BE USED ON TOP OF AN EROSION CONTROL BLANKET, TURF REINFORCEMENT MAT OR STABILIZED AREA.

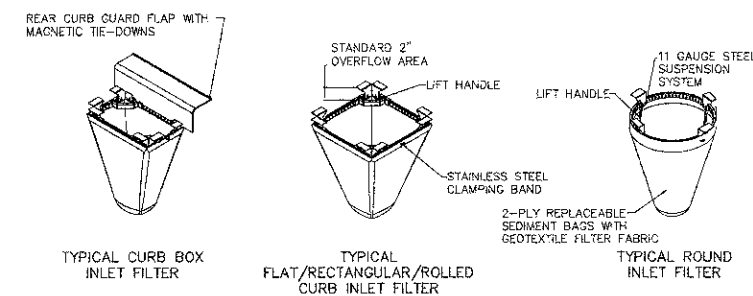
**GEO-RIDGE PERMEABLE DITCH CHECK**



STAPLE PLACEMENTS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. SEE STAPLE PATTERN GUIDES FOR ACTUAL RECOMMENDED PLACEMENTS.

- PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL PRODUCTS (RECP'S), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
  - BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECP'S IN A 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF RECP'S BACK OVER SEED AND COMPACTED SOIL. SECURE RECP'S OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE RECP'S.
  - ROLL THE RECP'S (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. RECP'S WILL UNROLL WITH APPROPRIATE SIDE AGAINST SOIL SURFACE. ALL RECP'S MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
  - THE EDGES OF PARALLEL RECP'S MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON RECP'S TYPE.
  - CONSECUTIVE RECP'S SPICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE RECP'S WIDTH.
- NOTE:  
\*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE RECP'S.

**EROSION CONTROL BLANKET SLOPE INSTALLATION**

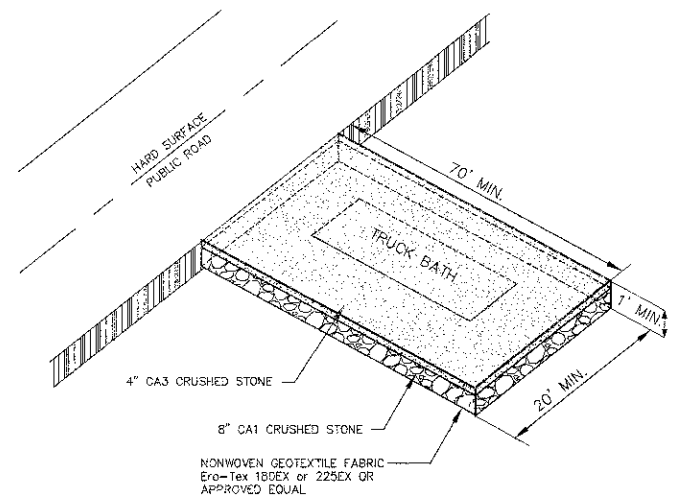


ACCEPTABLE MANUFACTURER'S AS LISTED BELOW 1. INLET & PIPE PROTECTION, INC. Naperville, IL 60564 847 722-0690  
2. MARATHON MATERIALS, INC. Plainfield, IL 60544 800-963-9493

Material Property	Test Method	Value (min. av.)
> Inlet Filter Box Spect (20-min. wt)		
Crab Tensile	ASTM D 4632	100 lbs
Puncture Strength	ASTM D 4633	65 lbs
Trapezoidal Tear	ASTM D 4535	45 lbs
UV Resistence	ASTM D 4355	70% at 500 hrs
App Open Size (AOS)	ASTM D 4791	70 sieve (212 mm) (425 mm)
Permittivity	ASTM D 4491	2.0/sec
Water Flow Rate	ASTM D 4491	145 gpm/galft
> Polyester Geotextile Reinforcement Box Specifications		
Weight	ASTM D 3776	4.55 oz/sqyd +/- 15%
Thickness	ASTM D 1777	.040 +/- .005
> Frame Construction		
436 Structural Steel	ASTM A 576	Tensile Strength > 58,000 psi
11 Gauge, Zinc Plated		Yield Strength > 36,000 psi

MAINTENANCE  
1. CLEAN OUT AFTER EVERY RAIN EVENT

**INLET FILTER BASKET DETAIL**



MAINTENANCE  
1. STREET CLEANING  
2. ENTRANCE CLEANING  
3. TRUCK BATH CLEANOUT  
4. TRUCK BATH WATER MUST BE SEDIMENT FREE BEFORE DISCHARGE.

**TEMPORARY CONSTRUCTION ENTRANCE**

FILE NAME = 4536.705-DT1.dwg

USER NAME = DAN STRAHAN

DESIGNED - DJS

REVISED - 9-7-12

PLOT SCALE = 1:1

DRAWN - PJS

REVISED - 10-19-12

PLOT DATE = 5/28/2012

CHECKED - TPG

REVISED - 12-17-12

DATE - 5-29-12

REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**MISC. CONSTRUCTION DETAILS  
GRASS LAKE ROAD BIKE PATH UNDERPASS**

FAU. RITE SECTION COUNTY TOTAL SHEETS SHEET NO.

0174 09-P0075-15-BT LAKE 74 57

CONTRACT # 63778

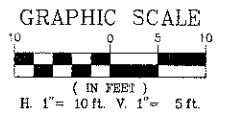
ILLINOIS FED. AID PROJECT

SCALE N.T.S.

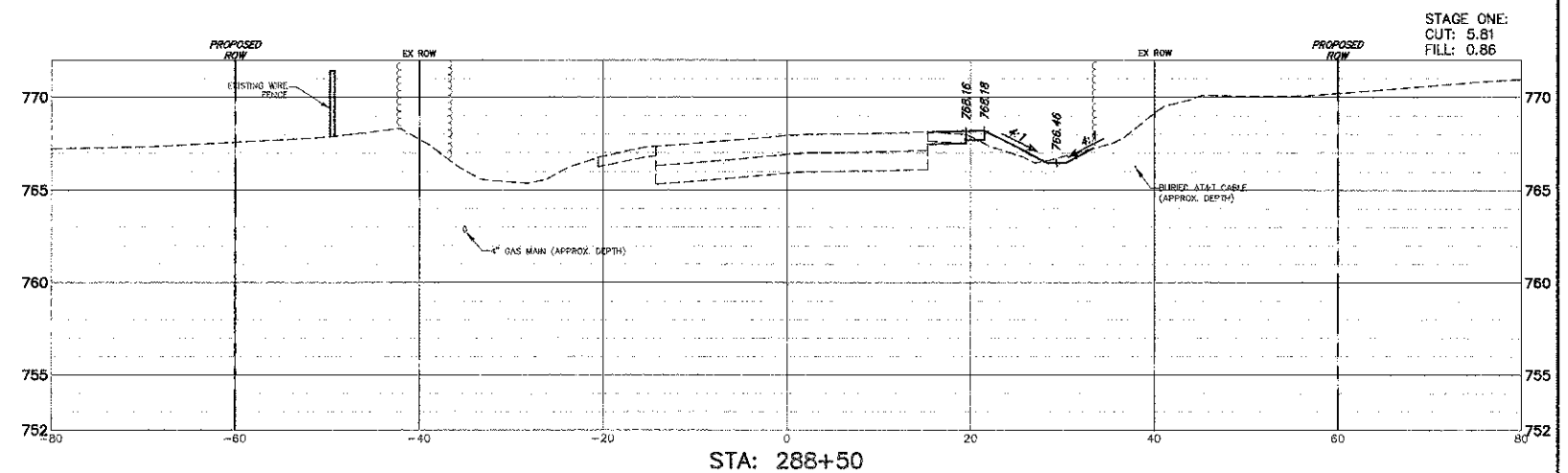
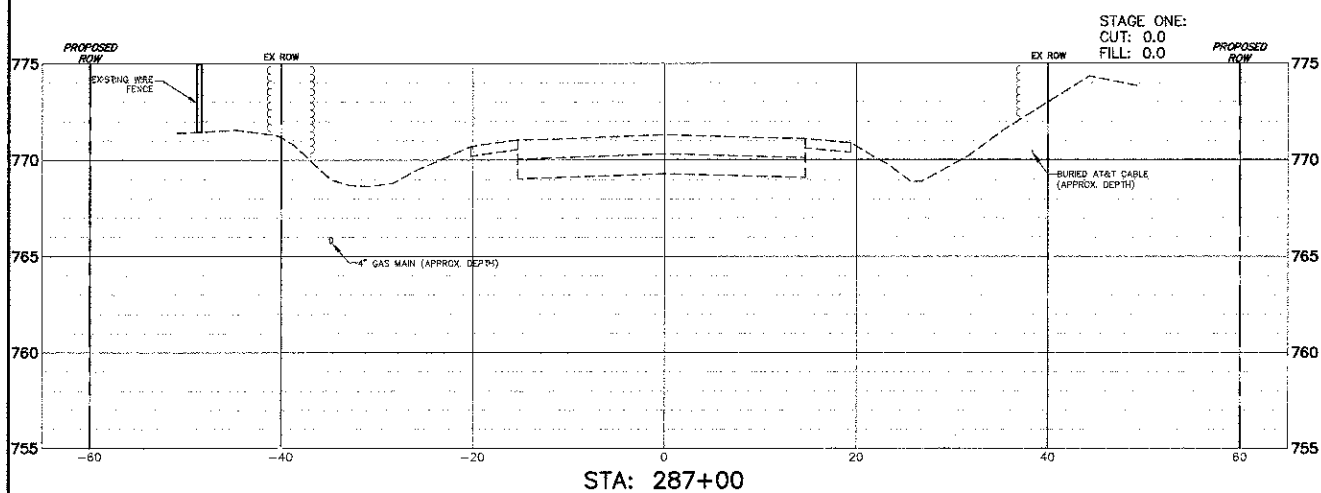
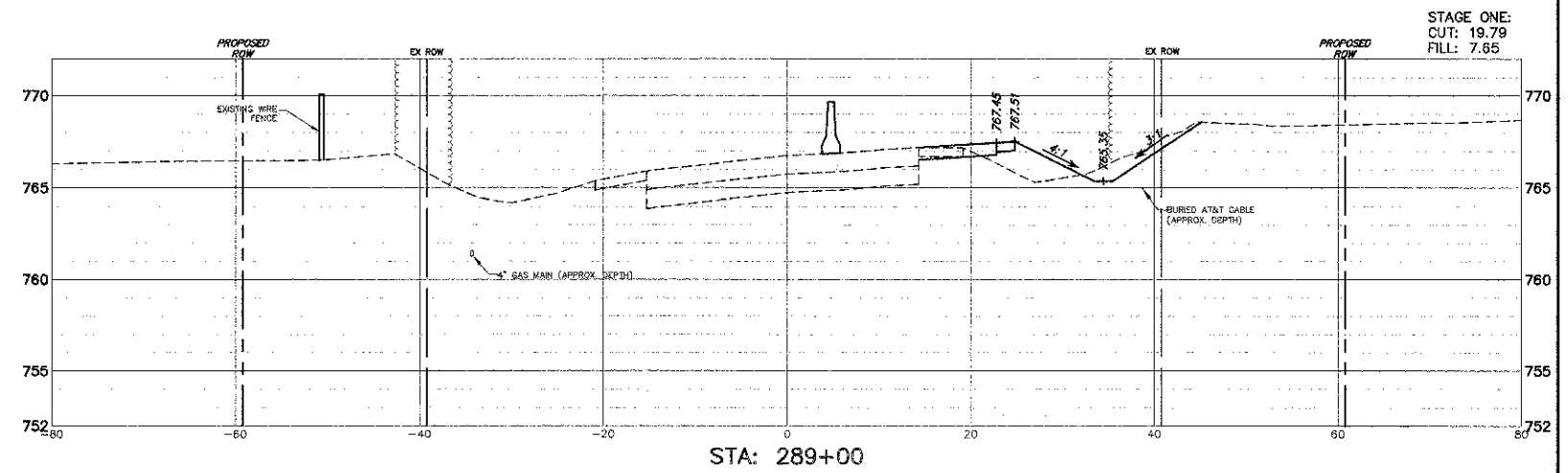
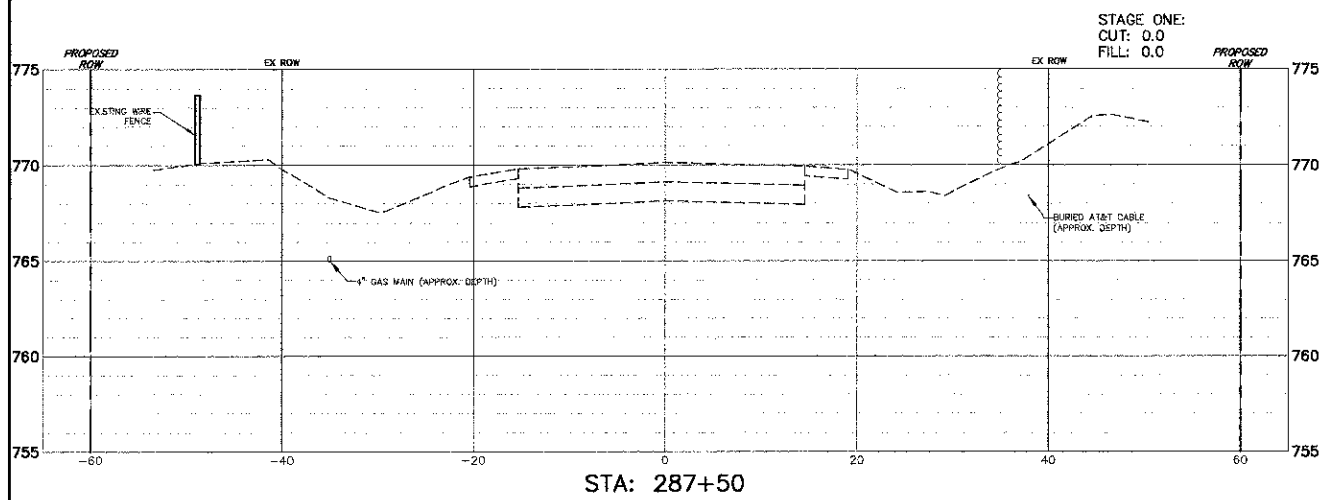
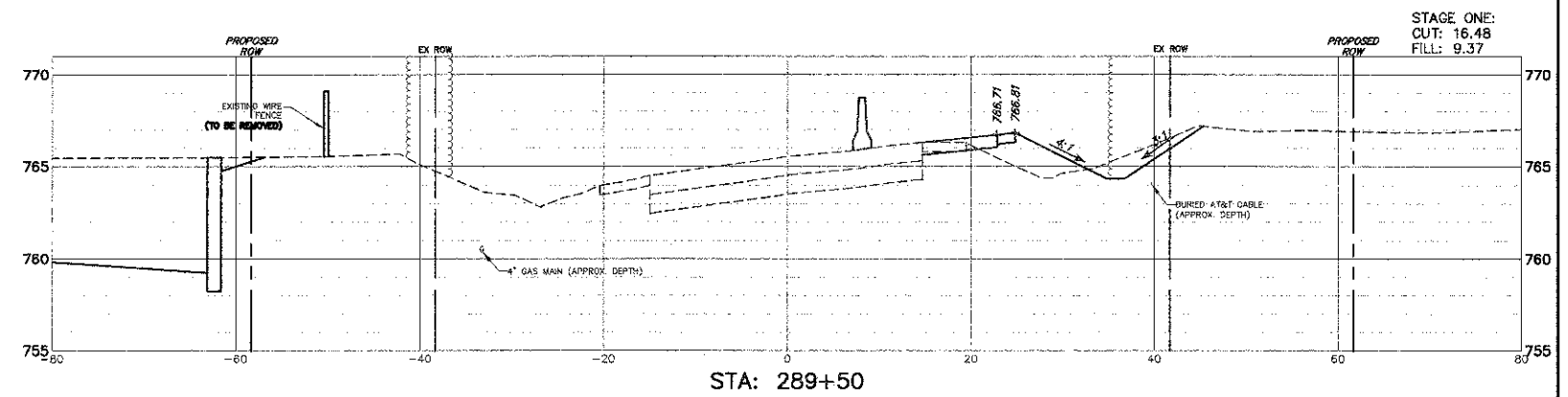
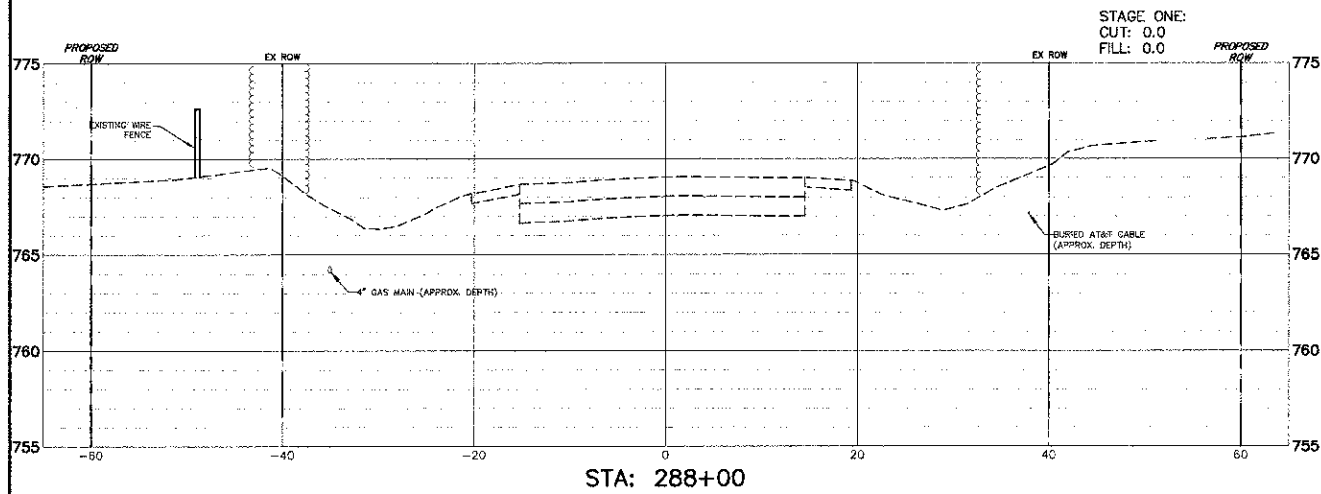
SHEET NO. 1 OF 1 SHEETS

STA.

TO STA.



### STAGE ONE CROSS SECTIONS



FILE NAME = 4336.705-PR5.dwg

USER NAME = DAN STRAHAN

DESIGNED - DJS

REVISED - 9-7-12

PLOT SCALE = 1":1

DRAWN - PJS

REVISED - 10-19-12

PLOT DATE = 5/30/2012

CHECKED - TPG

REVISED - 12-17-12

DATE - 5-29-12

REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GRASS LAKE RD - STAGE 1 CONSTRUCTION - CROSS SECTIONS  
GRASS LAKE ROAD BIKE PATH UNDERPASS

FAU. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	58

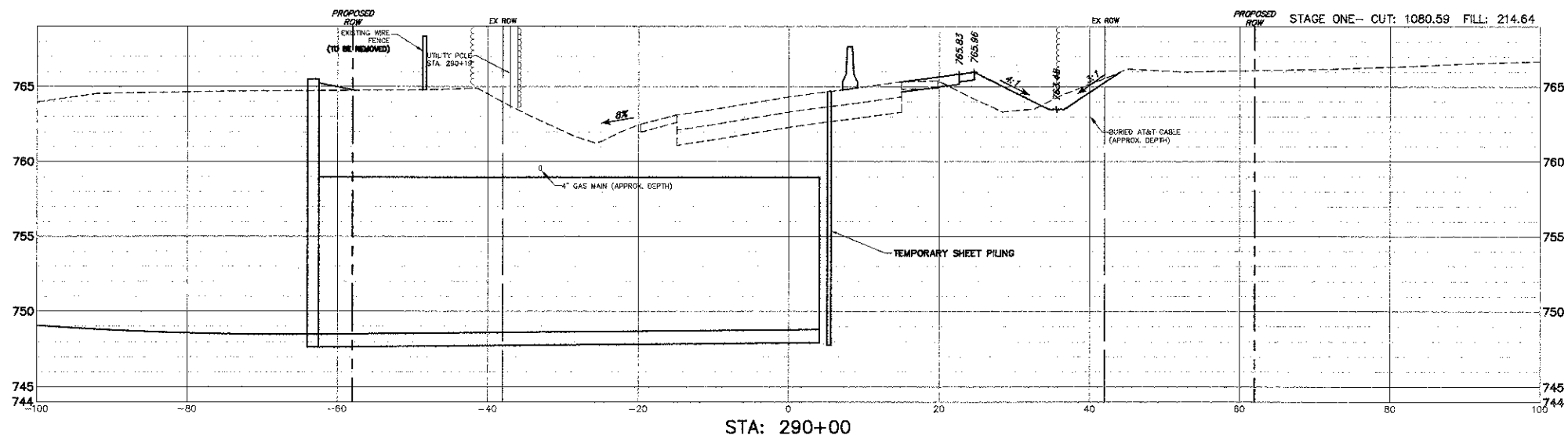
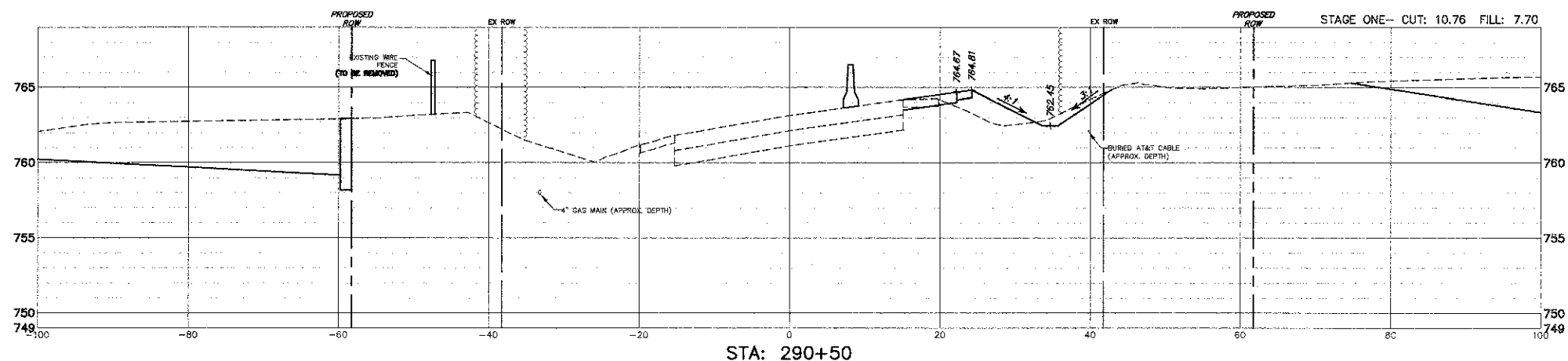
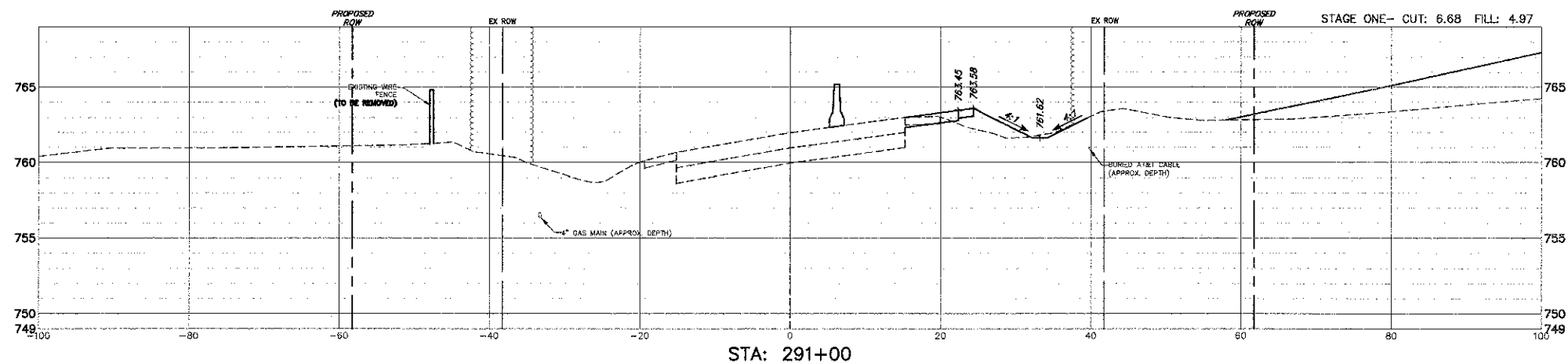
SCALE 1"=10' SHEET NO. 1 OF 3 SHEETS STA. 287+00 TO STA. 288+00

CONTRACT # 63778 ILLINOIS FED. AID PROJECT

GRAPHIC SCALE



( IN FEET )  
H. 1" = 10 ft. V. 1" = 5 ft.



FILE NAME = 4536.705-PR5.dwg

USER NAME = DAN STRAHAN

DESIGNED - DJS

REVISED - 9-7-12

PLOT SCALE = 1:1

DRAWN - PJS

REVISED - 10-19-12

PLOT DATE = 5/30/2012

CHECKED - TPG

REVISED - 12-17-12

DATE - 5-29-12

REVISED -

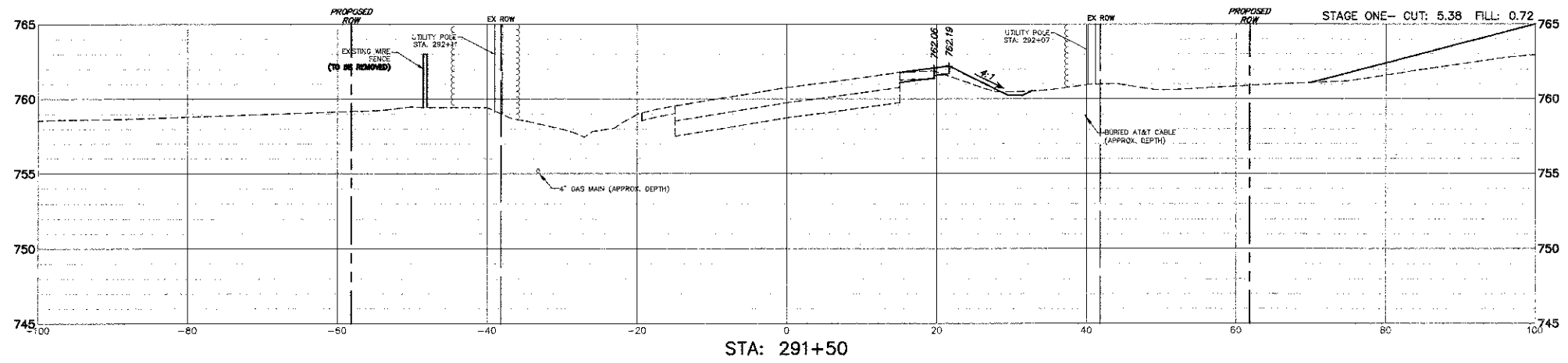
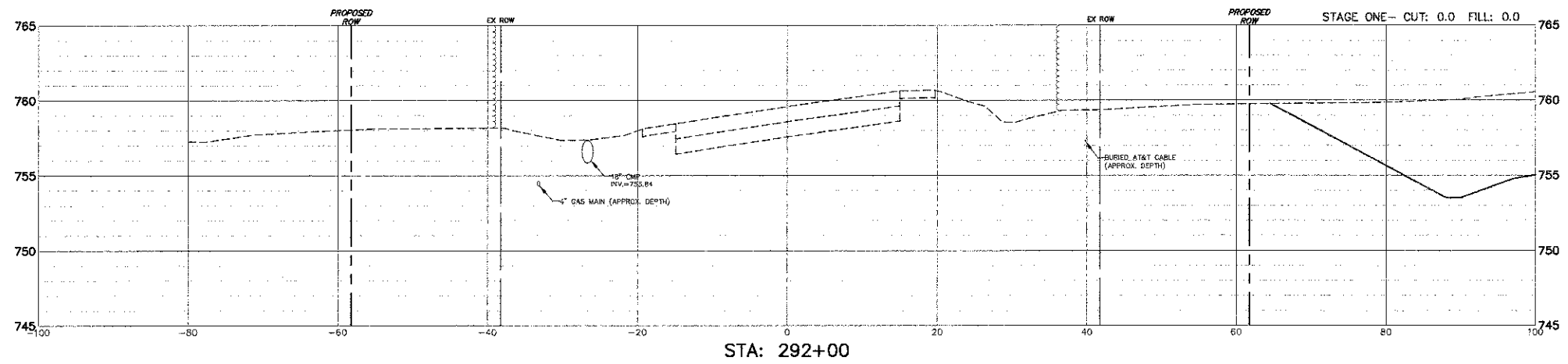
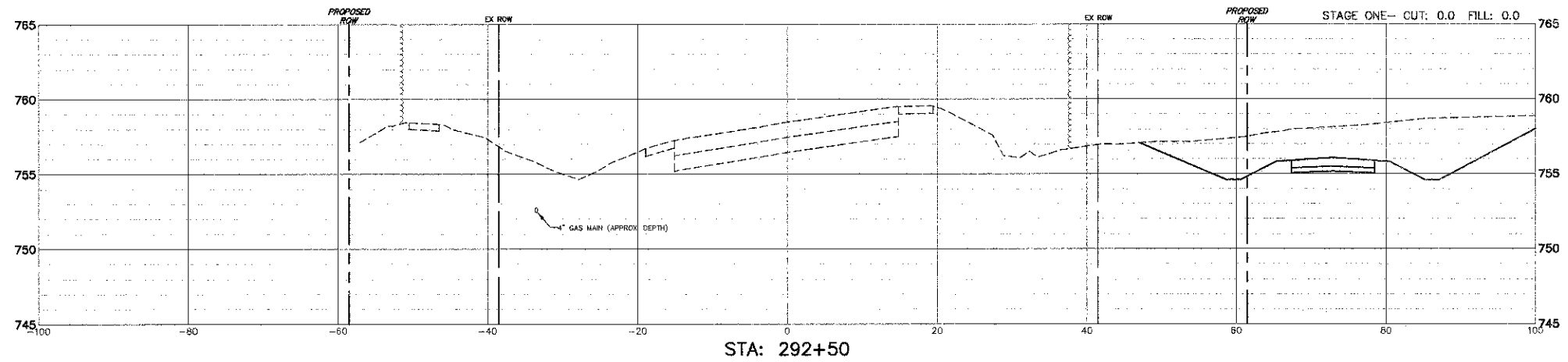
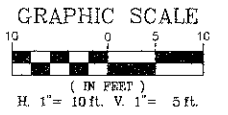
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

GRASS LAKE RD - STAGE 1 CONSTRUCTION - CROSS SECTIONS  
GRASS LAKE ROAD BIKE PATH UNDERPASS

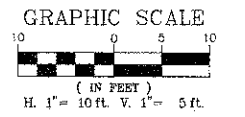
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FAU. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	59
CONTRACT #			63778	

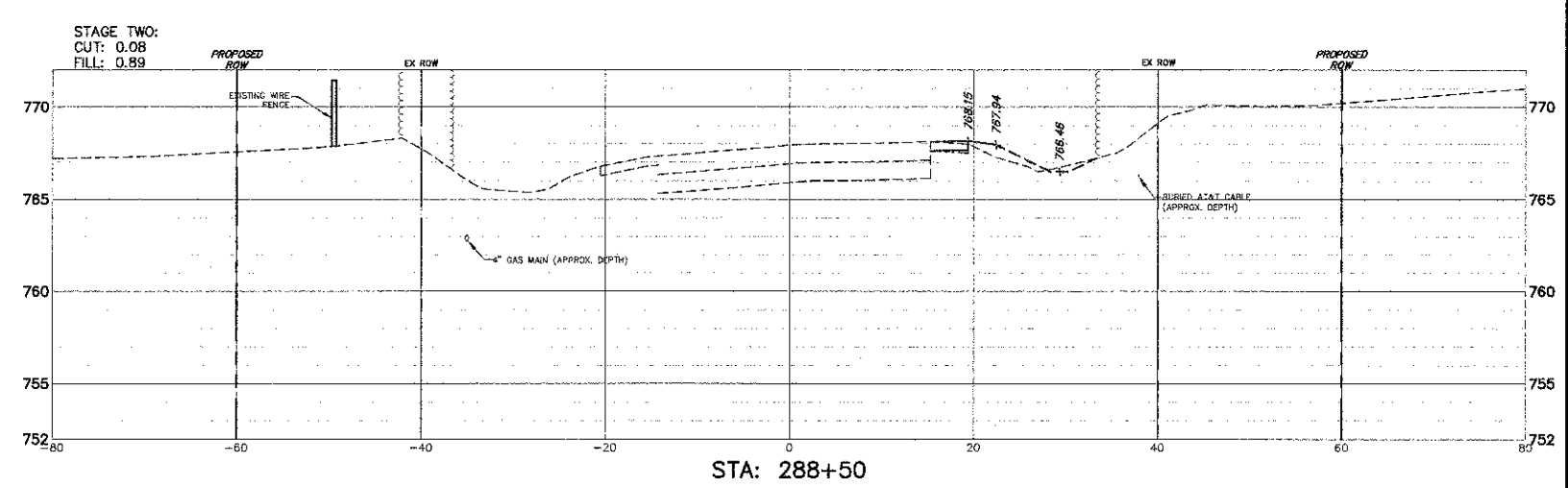
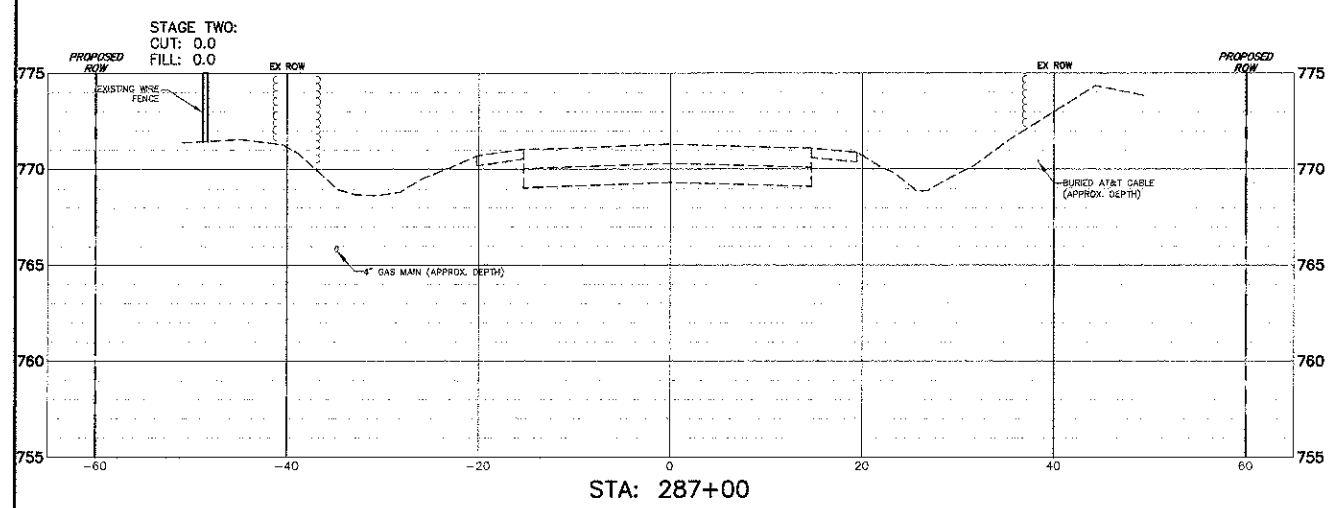
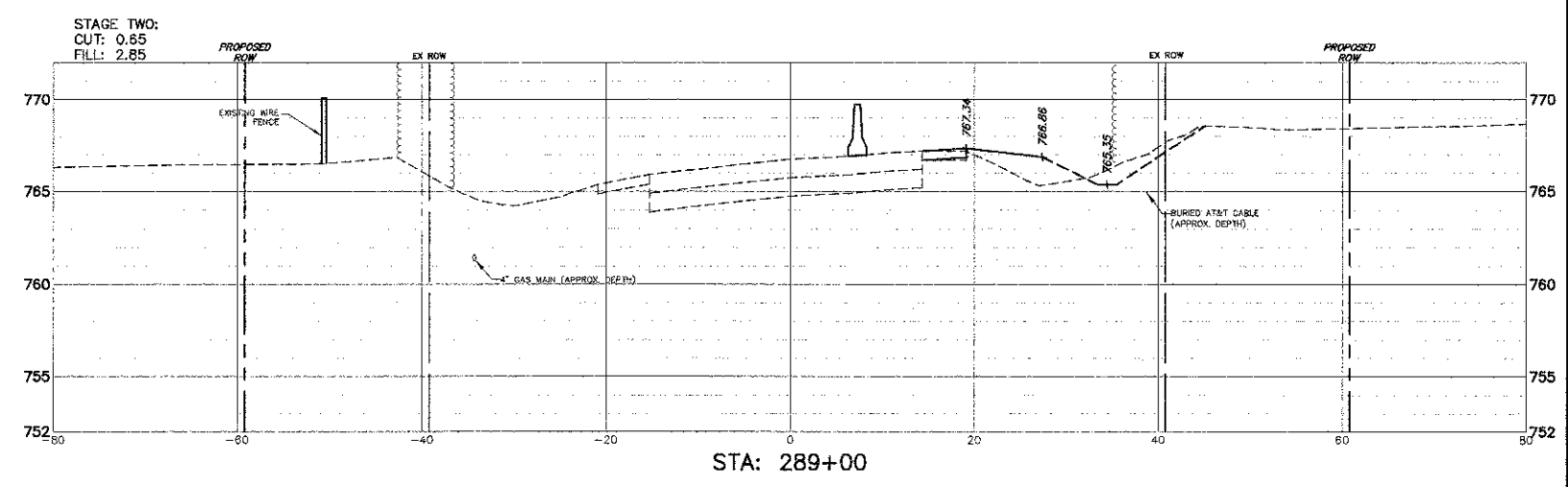
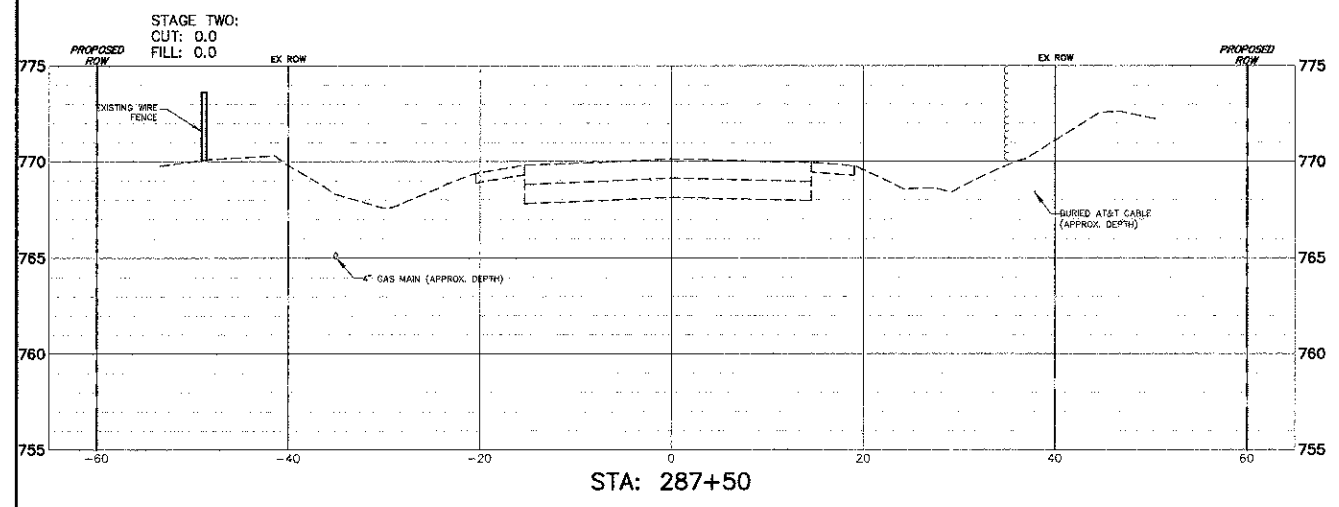
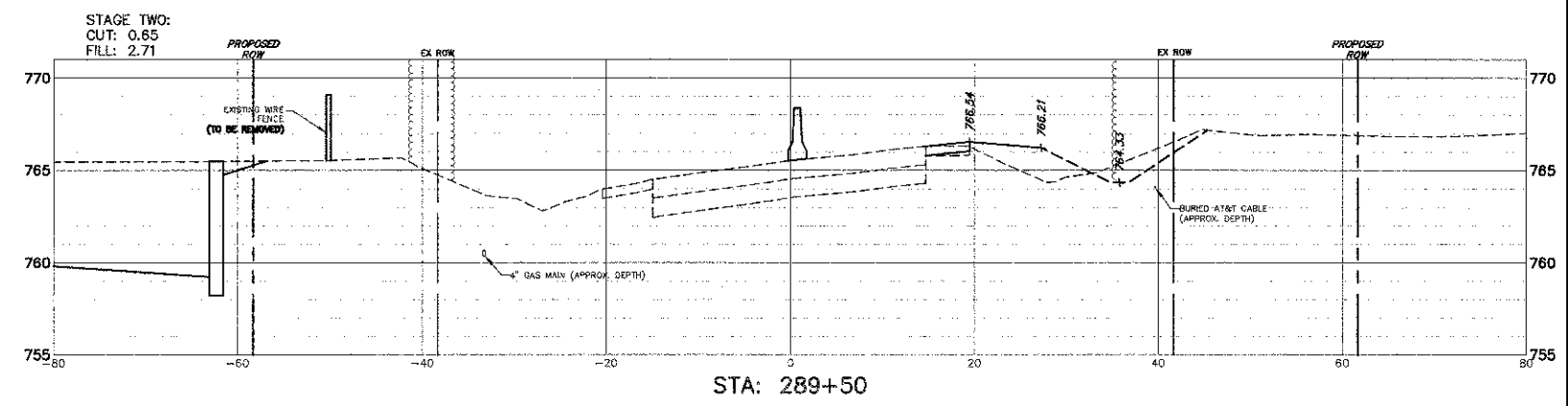
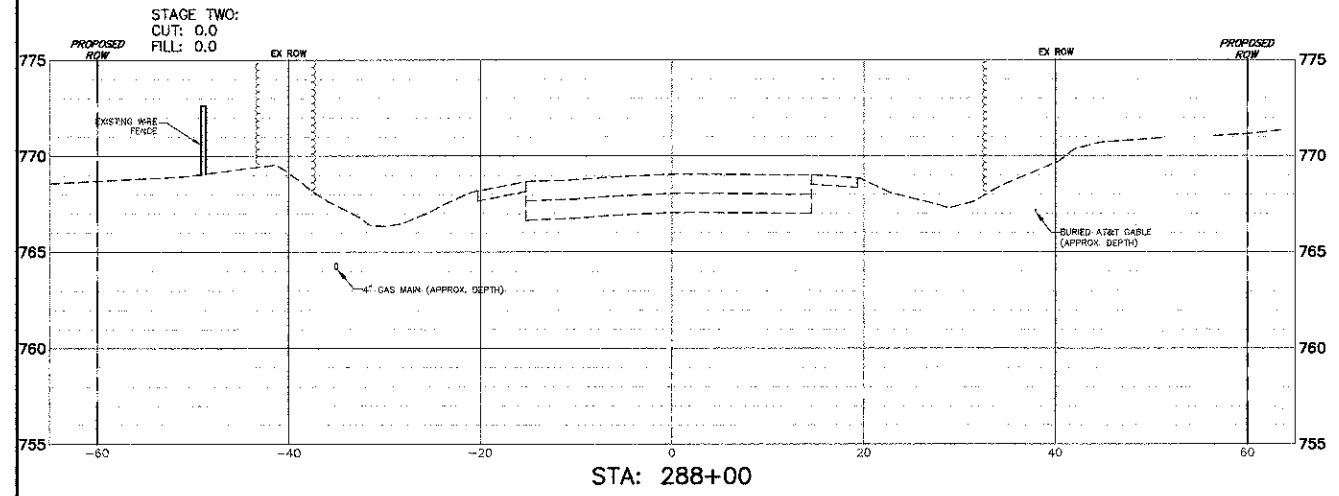
ILLINOIS FED. AID PROJECT



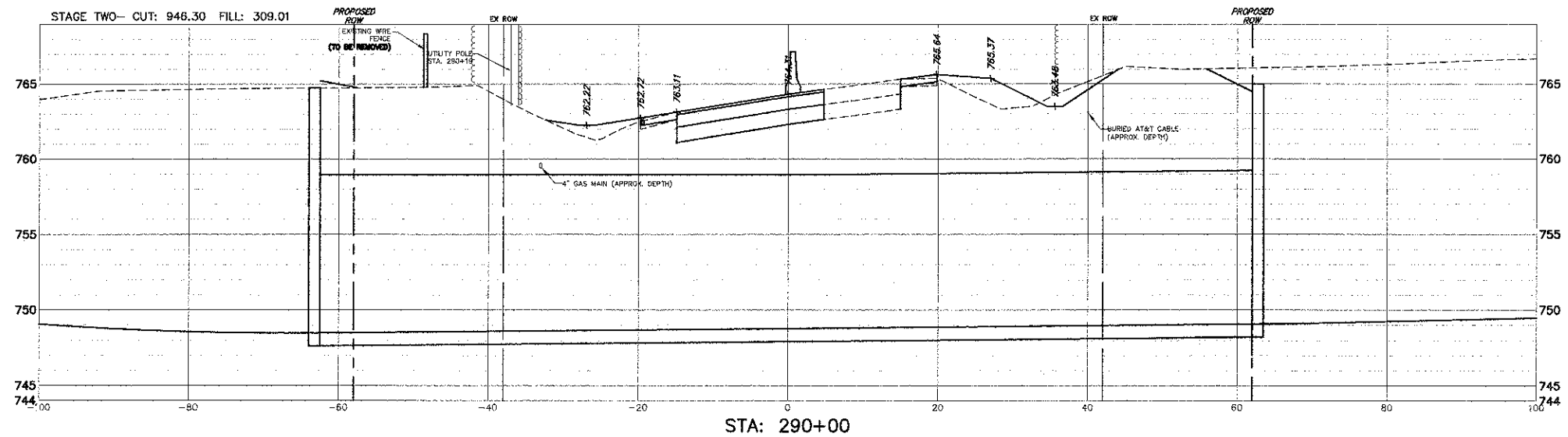
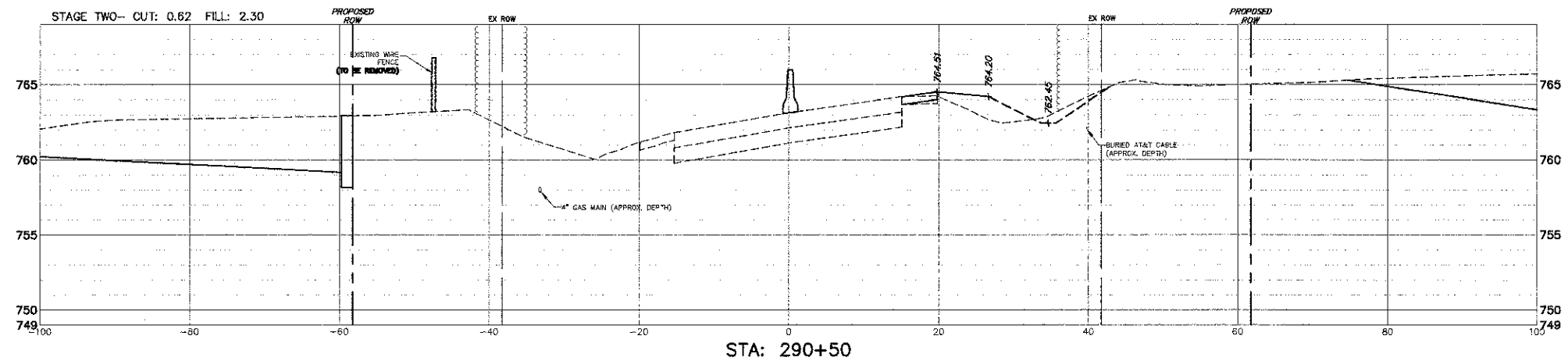
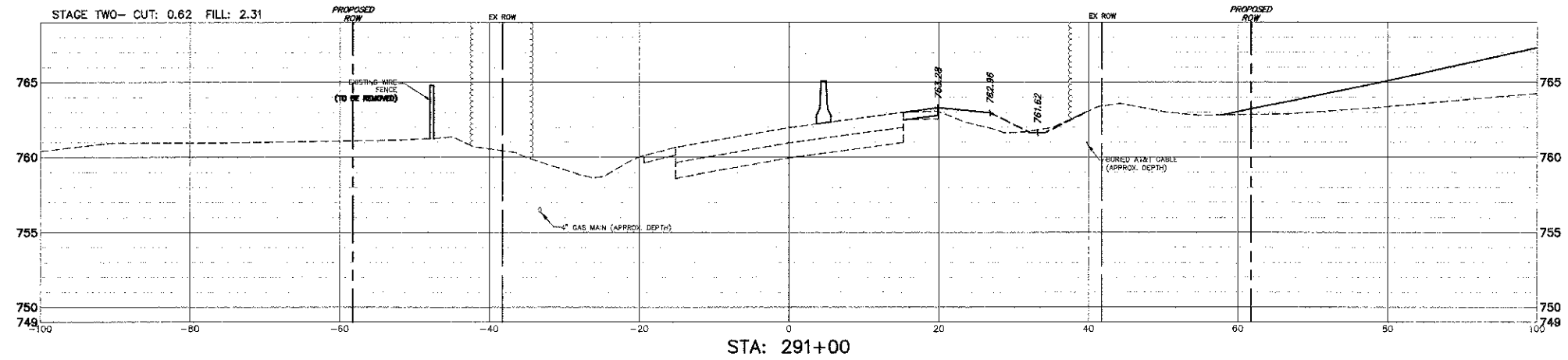
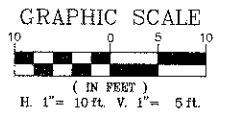
FILE NAME = 4536.705-PR5.dwg	USER NAME = DAN STRAHAN	DESIGNED - DJS	REVISED - 9-7-12	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GRASS LAKE RD - STAGE 1 CONSTRUCTION - CROSS SECTIONS GRASS LAKE ROAD BIKE PATH UNDERPASS</b>	FAU. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
PLOT SCALE = 1:1	CHECKED - TPG	REVISED - 10-19-12	0174			09-P0075-15-BT	LAKE	74	60	
PLOT DATE = 5/30/2012	DATE - 5-29-12	REVISED - 12-17-12	CONTRACT #: 63778							
						SCALE 1"=10'	SHEET NO. 3 OF 3 SHEETS	STA. 291+50 TO STA. 292+50	ILLINOIS FED. AID PROJECT	



### STAGE TWO CROSS SECTIONS



FILE NAME = 4536.705-PR5.dwg	USER NAME = DAN STRAHAN	DESIGNED - DJS	REVISED - 9-7-12	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GRASS LAKE RD - STAGE 2 CONSTRUCTION - CROSS SECTIONS GRASS LAKE ROAD BIKE PATH UNDERPASS</b>	FAU. RTE. SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
PLOT SCALE = 1:1	DRAWN - PJS	REVISED - 10-19-12	0174			09-P0075-15-BT	LAKE	74	61	
PLOT DATE = 5/30/2012	CHECKED - TPG	REVISED - 12-17-12	CONTRACT # 63778			ILLINOIS FED. AID PROJECT				
	DATE - 5-29-12	REVISED -	SCALE 1"=10'			SHEET NO. 1 OF 3 SHEETS		STA. 287+00 TO STA. 288+00		



FILE NAME = 4536.705-PR5.dwg  
 USER NAME = DAN STRAHAN  
 PLOT SCALE = 1:1  
 PLOT DATE = 5/30/2012

DESIGNED - DJS  
 DRAWN - PJS  
 CHECKED - TPG  
 DATE - 5-29-12

REVISED - 9-7-12  
 REVISED - 10-19-12  
 REVISED - 12-17-12  
 REVISED -

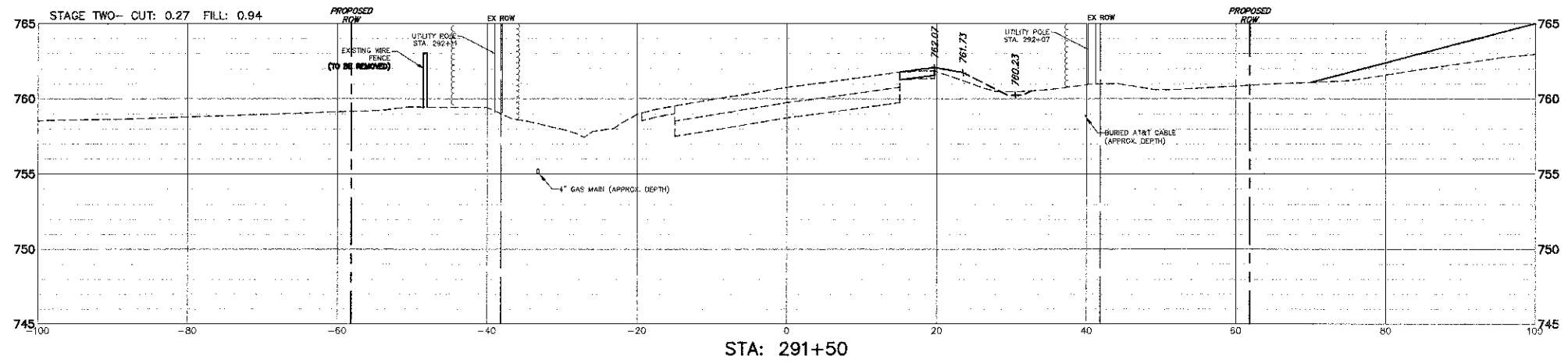
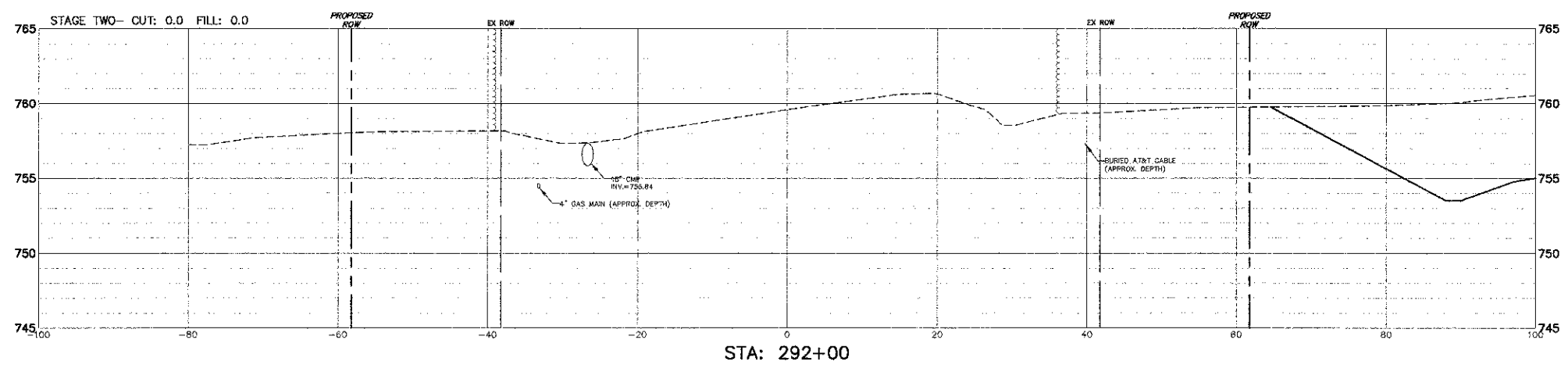
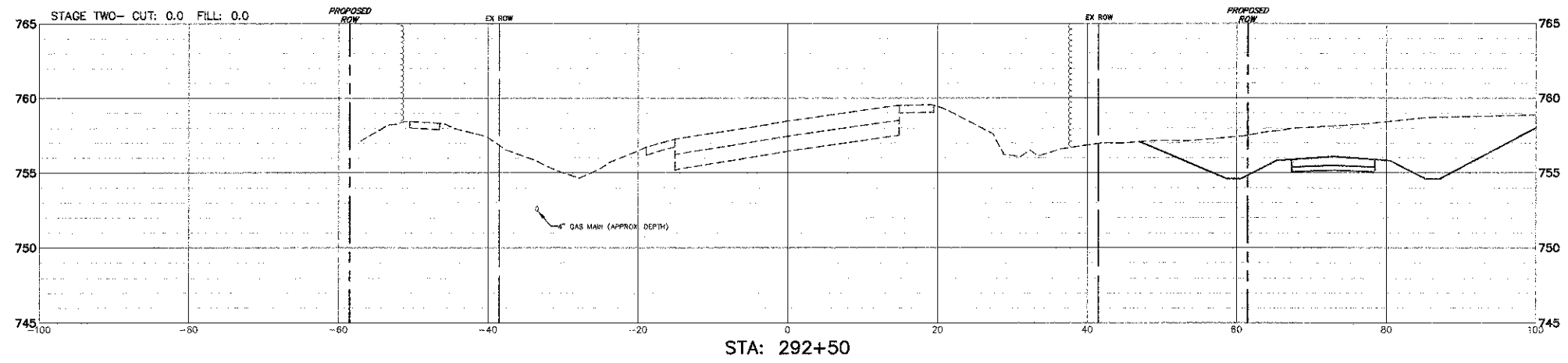
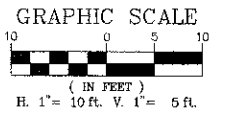
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**GRASS LAKE RD - STAGE 2 CONSTRUCTION - CROSS SECTIONS  
 GRASS LAKE ROAD BIKE PATH UNDERPASS**

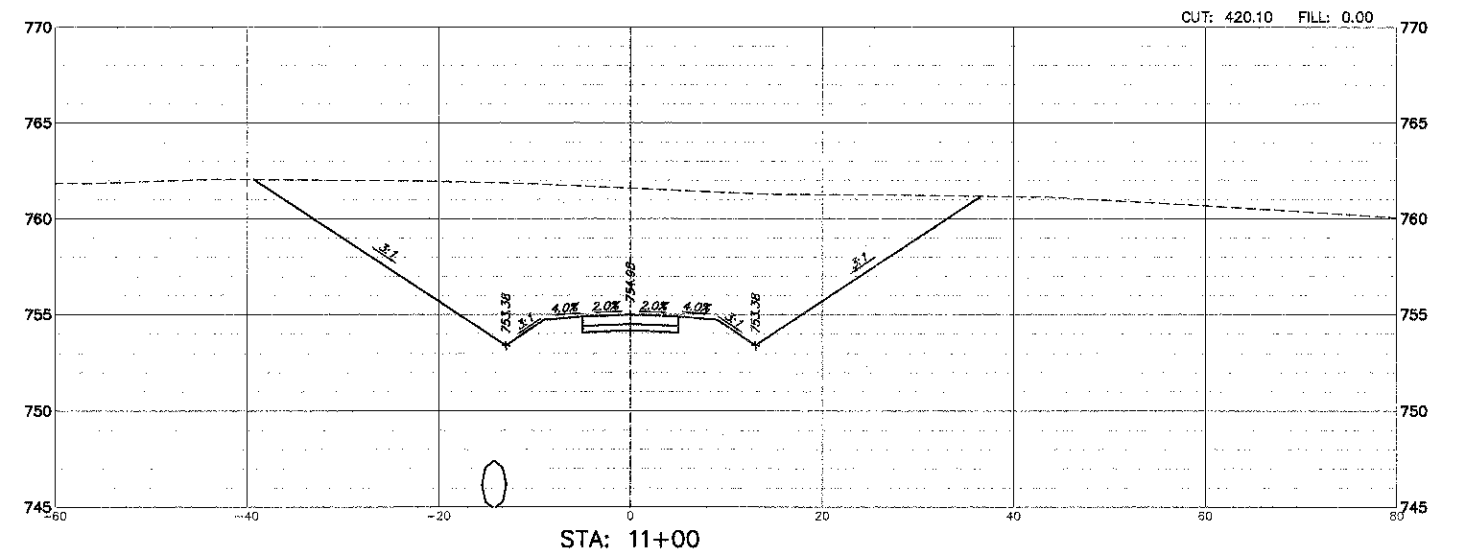
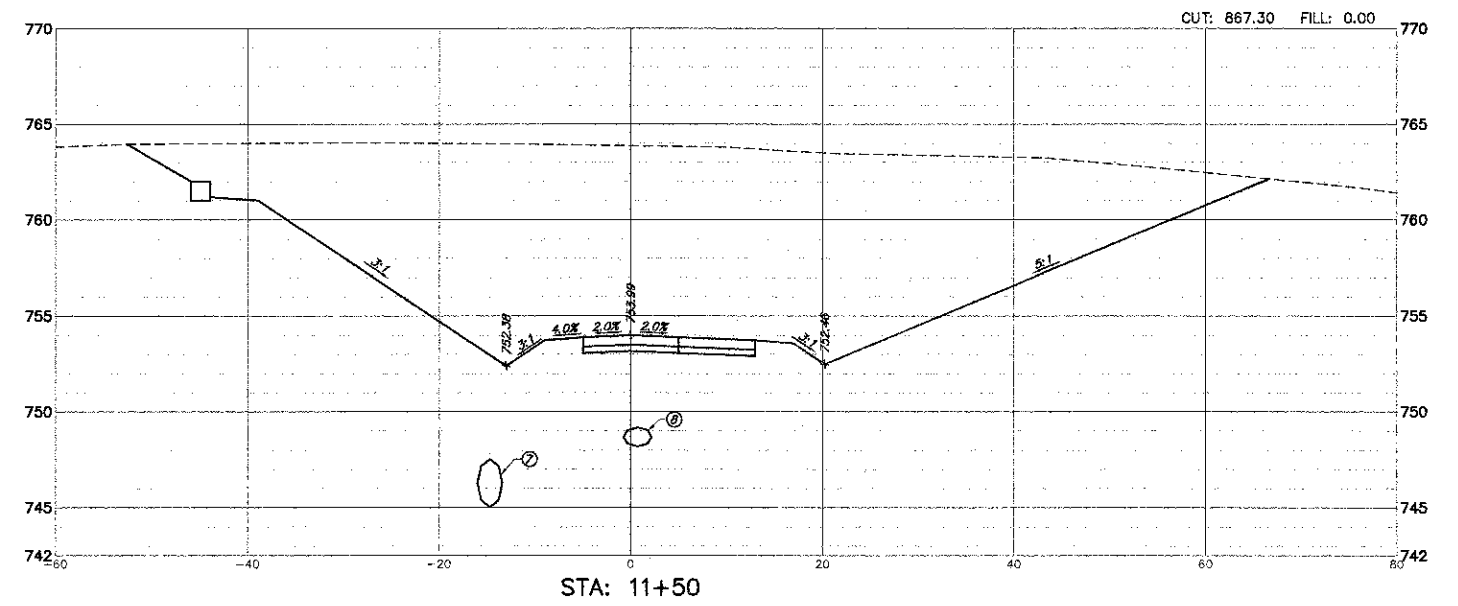
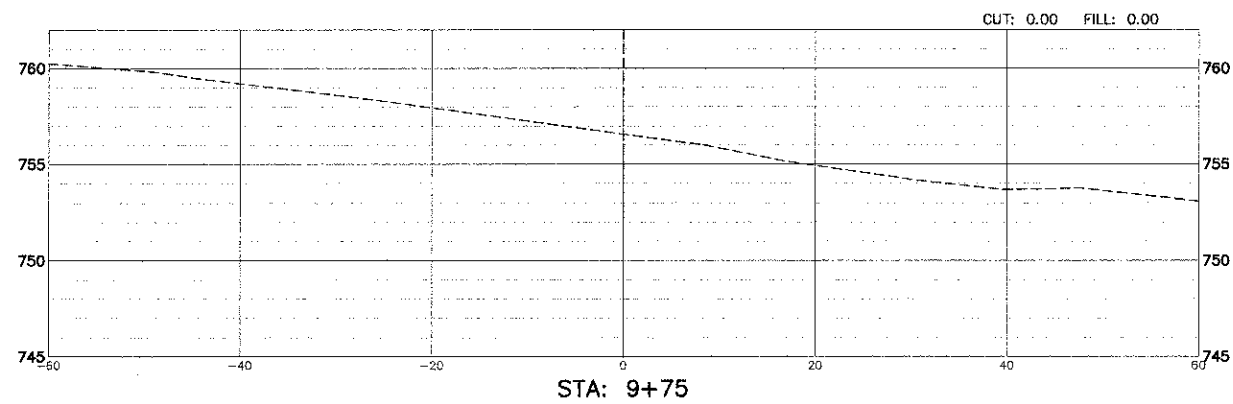
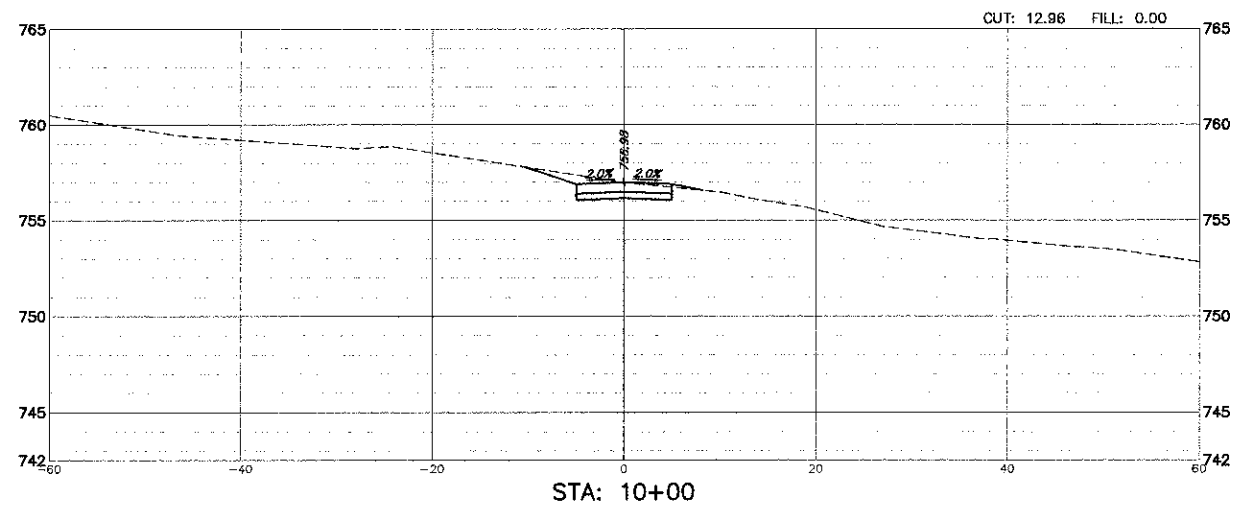
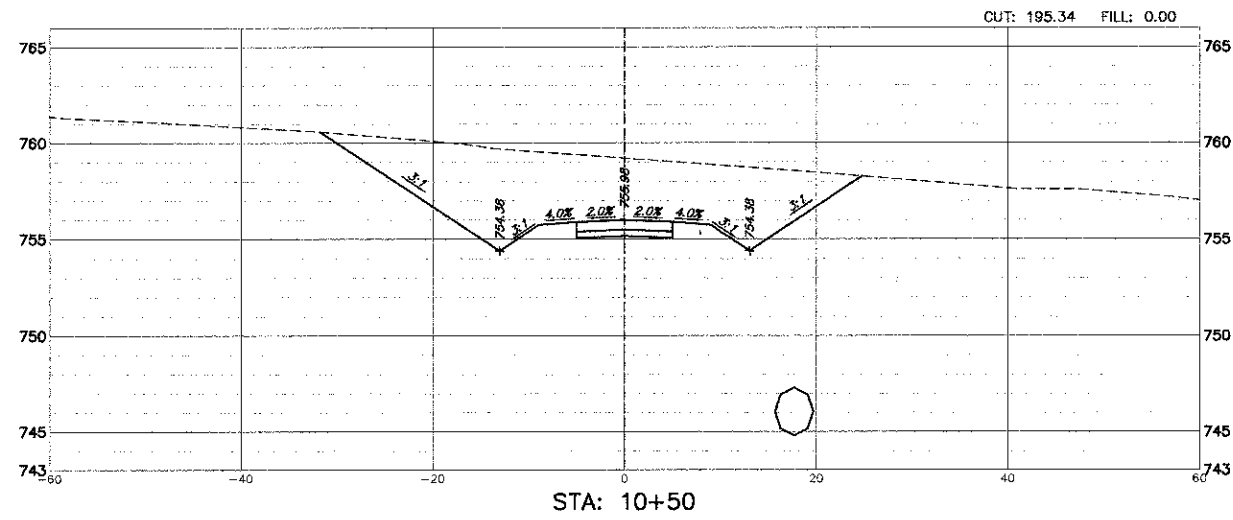
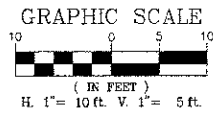
SCALE: 1"=10'  
 SHEET NO. 2 OF 3 SHEETS  
 STA. 291+00 TO STA. 290+00

FAU RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	62
CONTRACT #:			63778	
ILLINOIS FED. AID PROJECT				





FILE NAME = 4536.705-PR5.dwg	USER NAME = DAN STRAHAN	DESIGNED = DJS	REVISED = 9-7-12	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>GRASS LAKE RD - STAGE 2 CONSTRUCTION - CROSS SECTIONS GRASS LAKE ROAD BIKE PATH UNDERPASS</b>	FAU	SECTION	COUNTY	TOTAL	SHEET
	PLOT SCALE = 1:1	DRAWN = PJS	REVISED = 10-19-12			0174	09-P0075-15-BT	LAKE	74	63
	PLOT DATE = 5/30/2012	CHECKED = TPG	REVISED = 12-17-12			CONTRACT # 63778		ILLINOIS FED. AID PROJECT		
				SCALE 1"=10'		SHEET NO. 3 OF 3 SHEETS		STA. 291+50 TO STA. 292+50		



FILE NAME = 4536.705-PR5.dwg

USER NAME = DAN STRAHAN

DESIGNED - DJS

REVISED - 9-7-12

DRAWN - PJS

REVISED - 10-19-12

PLOT SCALE = 1:1

CHECKED - TPG

REVISED - 12-17-12

PLOT DATE = 5/30/2012

DATE - 5-29-12

REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BIKE PATH - CROSS SECTIONS  
 GRASS LAKE ROAD BIKE PATH UNDERPASS

SCALE 1"=10'

SHEET NO. 1 OF 9 SHEETS

STA. 9+75 TO STA. 11+50

F.A.U.  
 RTE  
 0174

SECTION  
 09-P0075-15-BT

COUNTY  
 LAKE

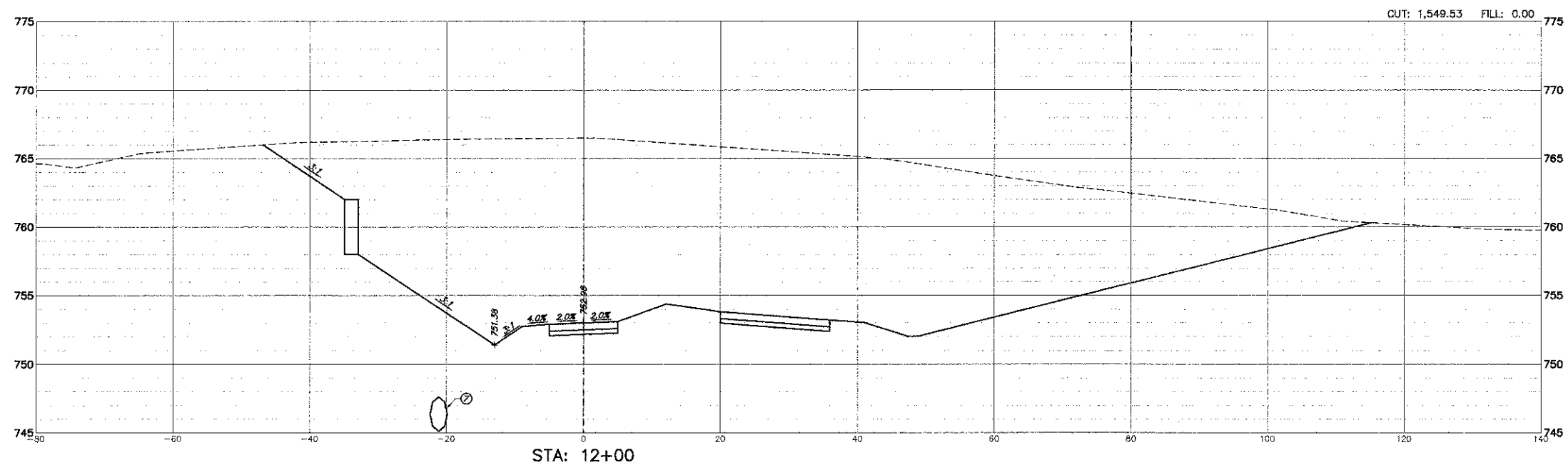
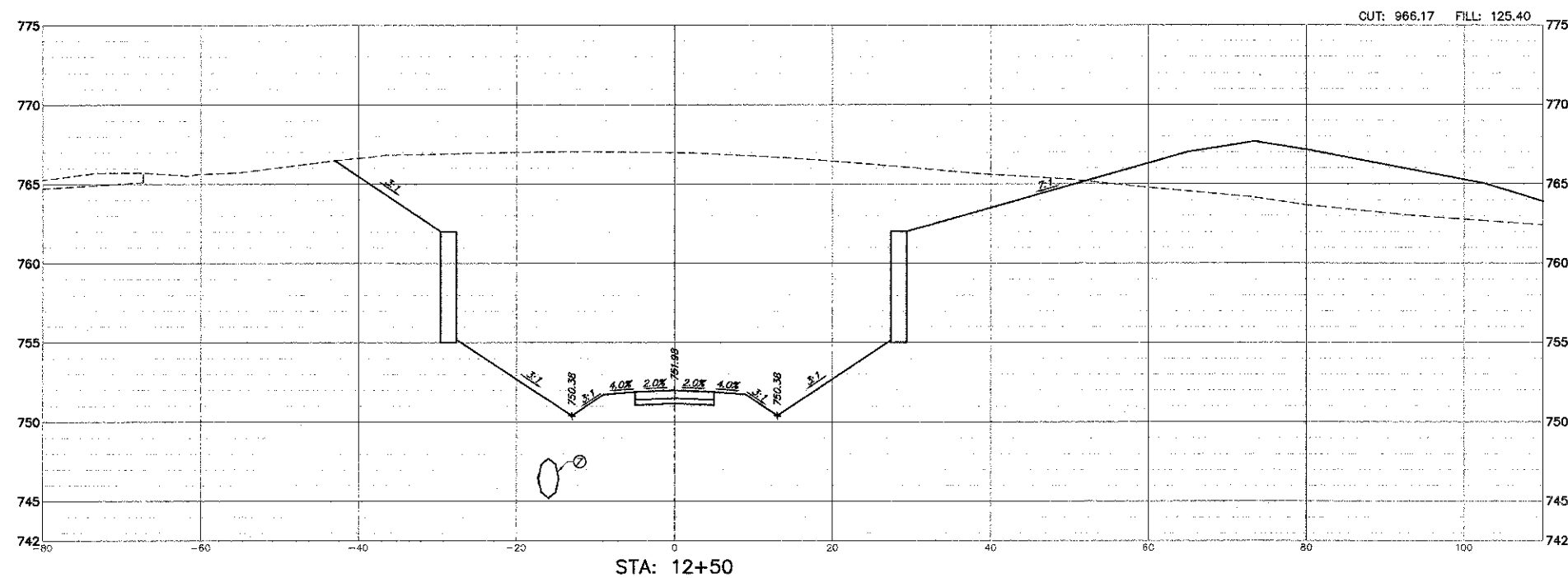
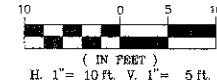
TOTAL SHEETS  
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SHEET NO.  
 64

CONTRACT # 63778

ILLINOIS FED. AID PROJECT

GRAPHIC SCALE



FILE NAME = 4536.705-PR3.dwg

USER NAME = DAN STRAHAN

DESIGNED - DJS

REVISED - 9-7-12

DRAWN - PJS

REVISED - 10-19-12

CHECKED - TPG

REVISED - 12-17-12

DATE - 5-29-12

REVISED -

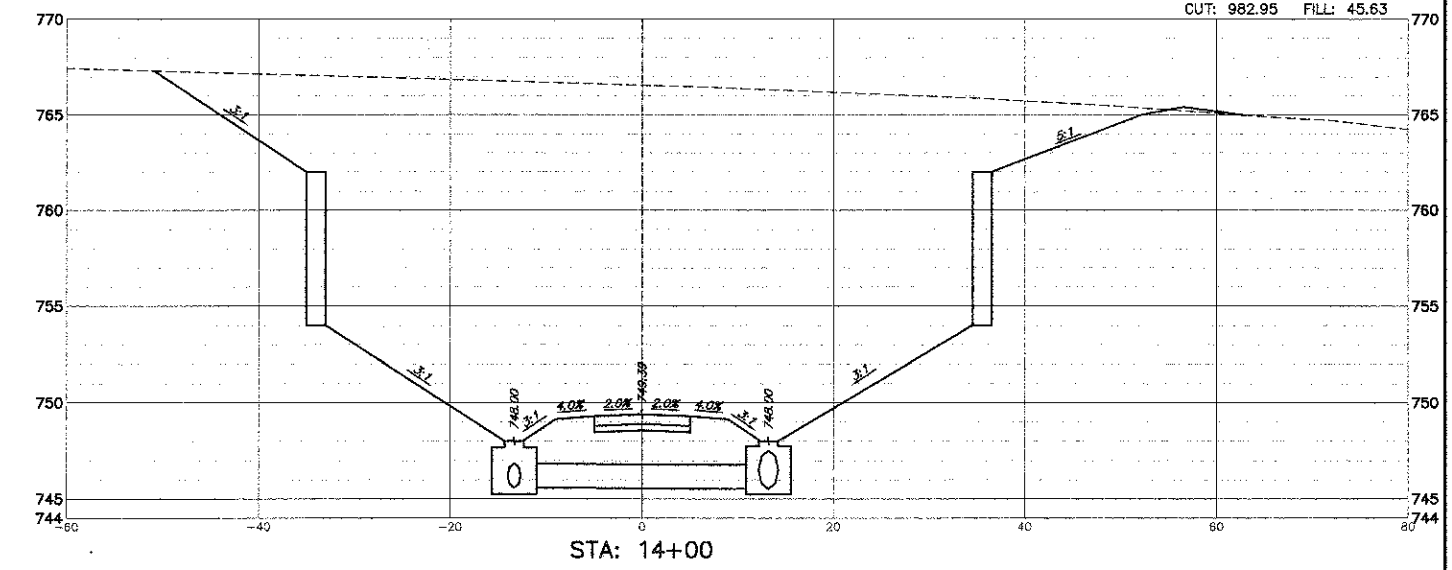
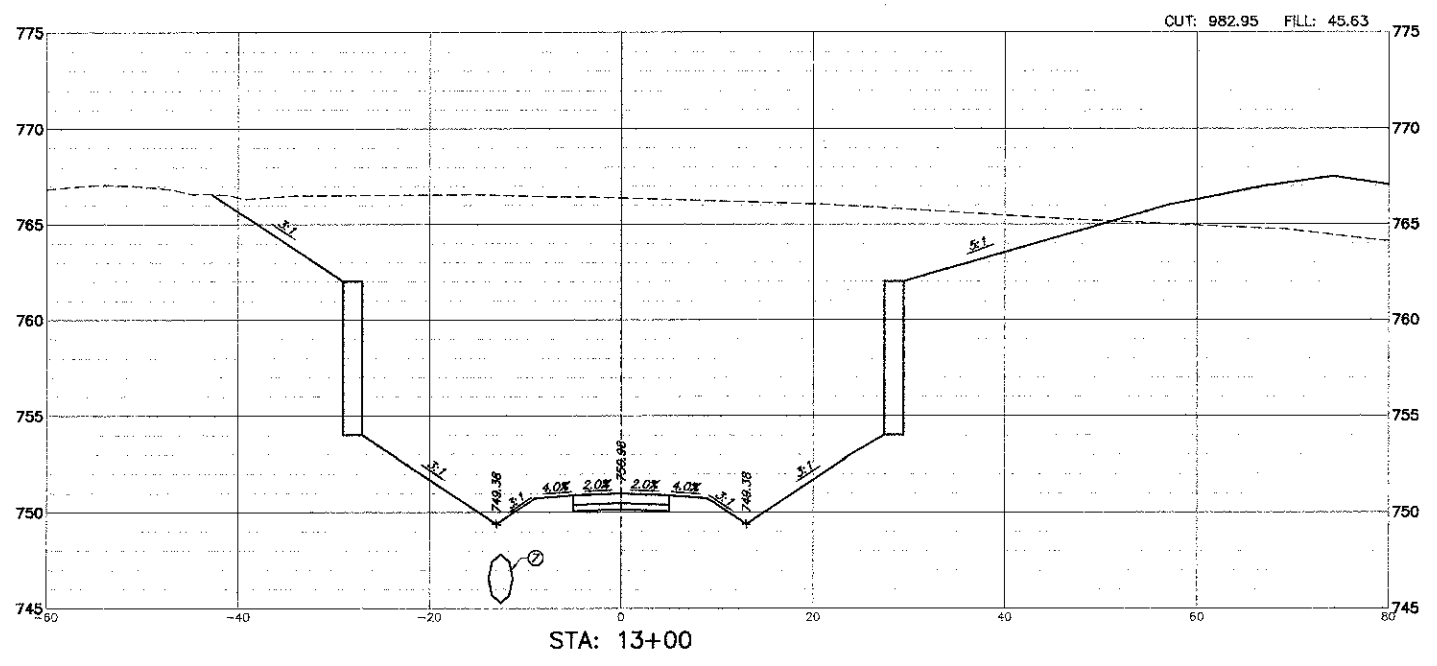
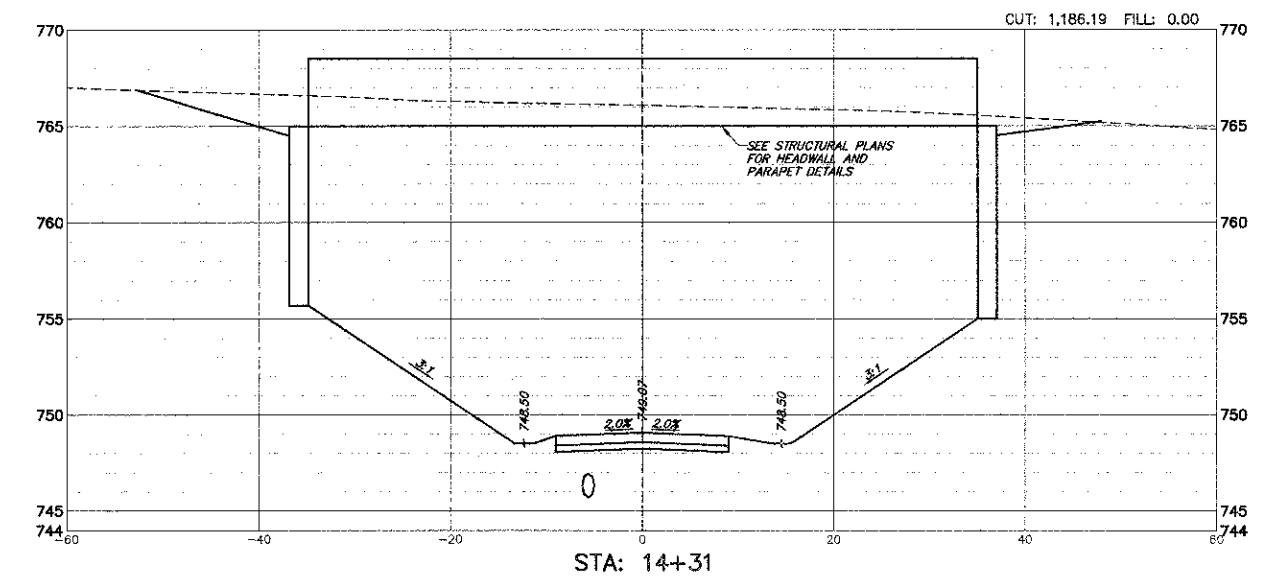
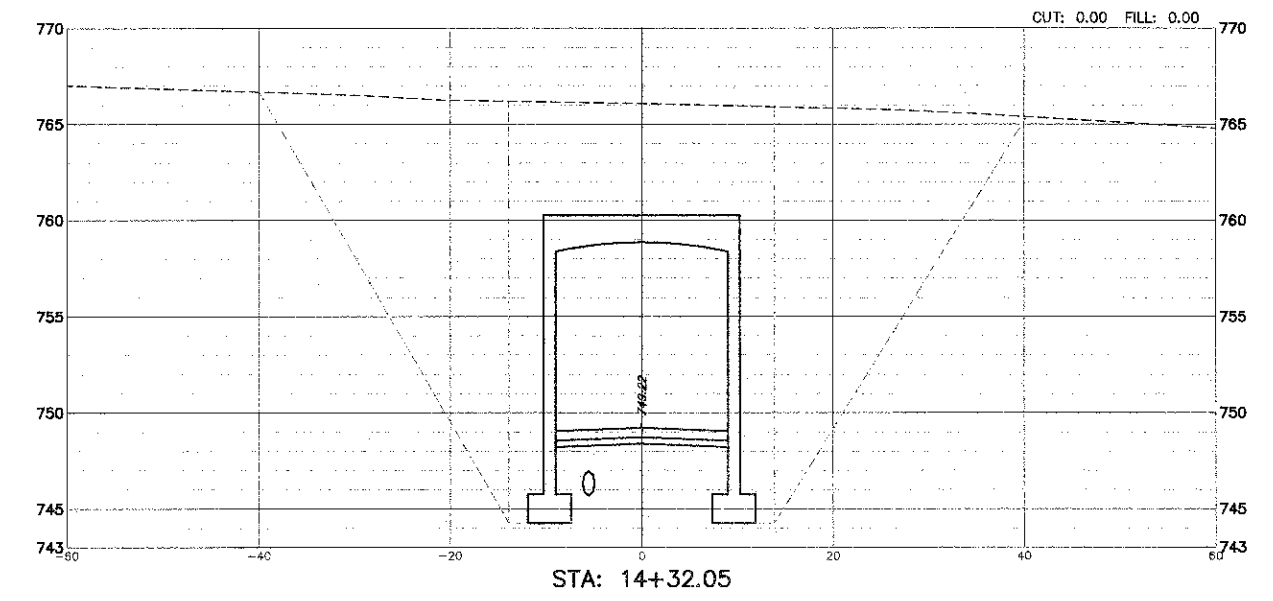
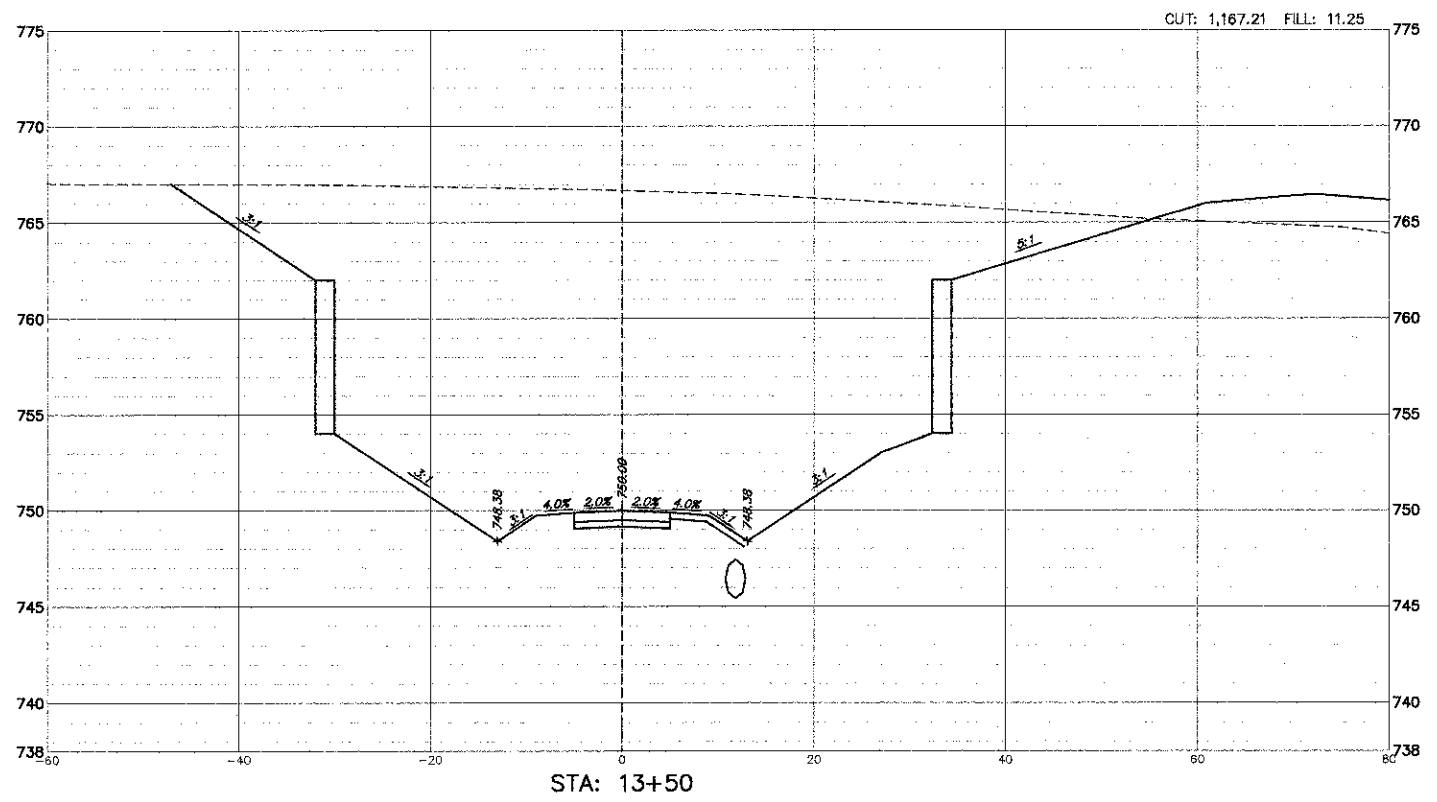
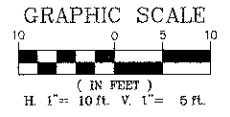
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BIKE PATH - CROSS SECTIONS  
GRASS LAKE ROAD BIKE PATH UNDERPASS

SCALE 1"=10' SHEET NO. 2 OF 9 SHEETS STA. 12+00 TO STA. 12+50

FALL RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	65
CONTRACT #			63778	

ILLINOIS FED. AID PROJECT



FILE NAME = 4536.705-PR5.dwg  
PLOT SCALE = 1:1  
PLOT DATE = 5/30/2012

USER NAME = DAN STRAHAN  
DESIGNED - DJS  
DRAWN - PJS  
CHECKED - TPG  
DATE - 5-29-12

REVISOR -  
REVISION -  
REVISION -  
REVISION -

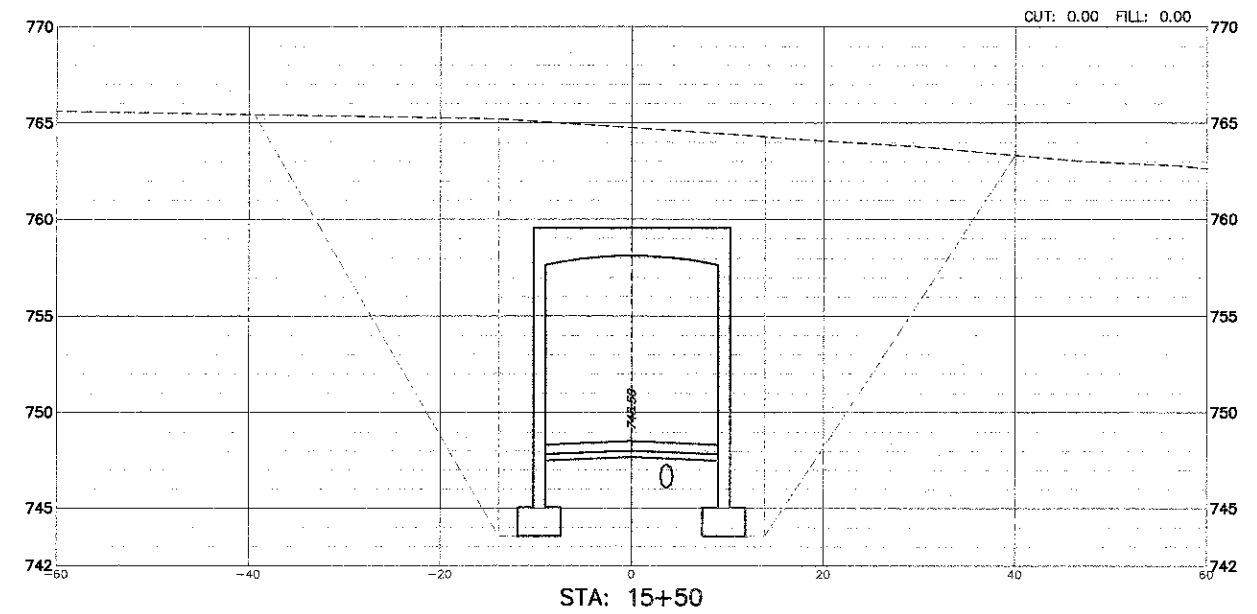
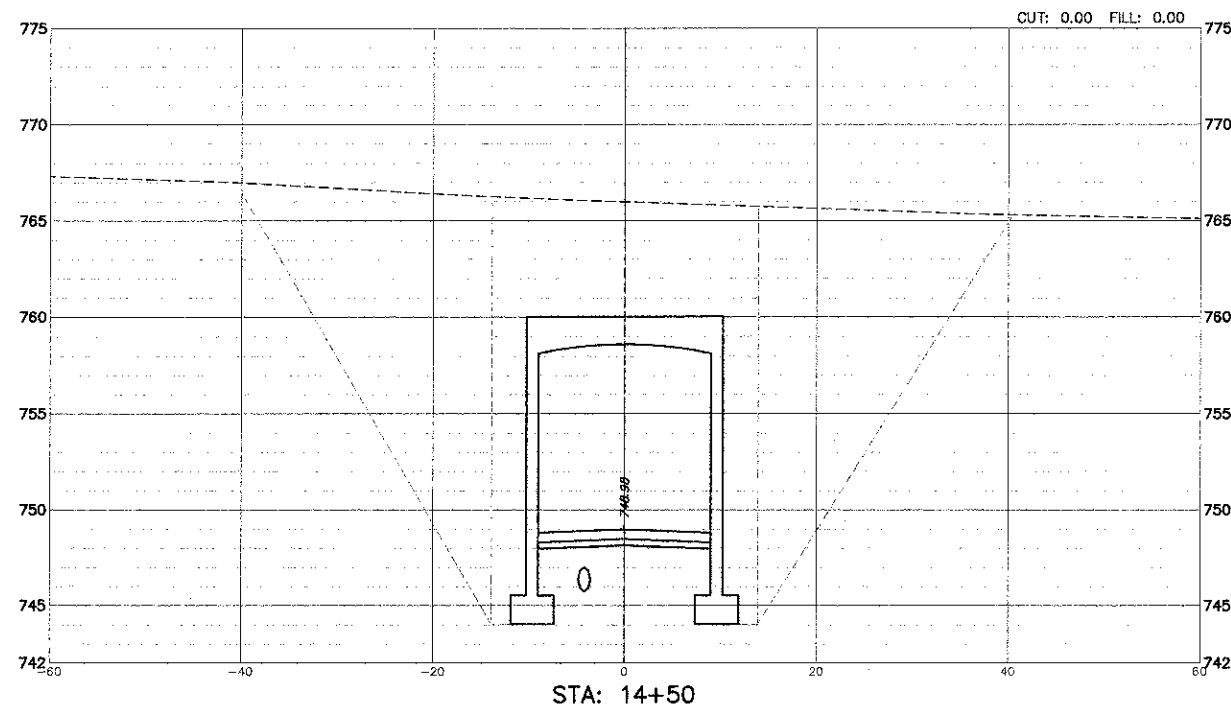
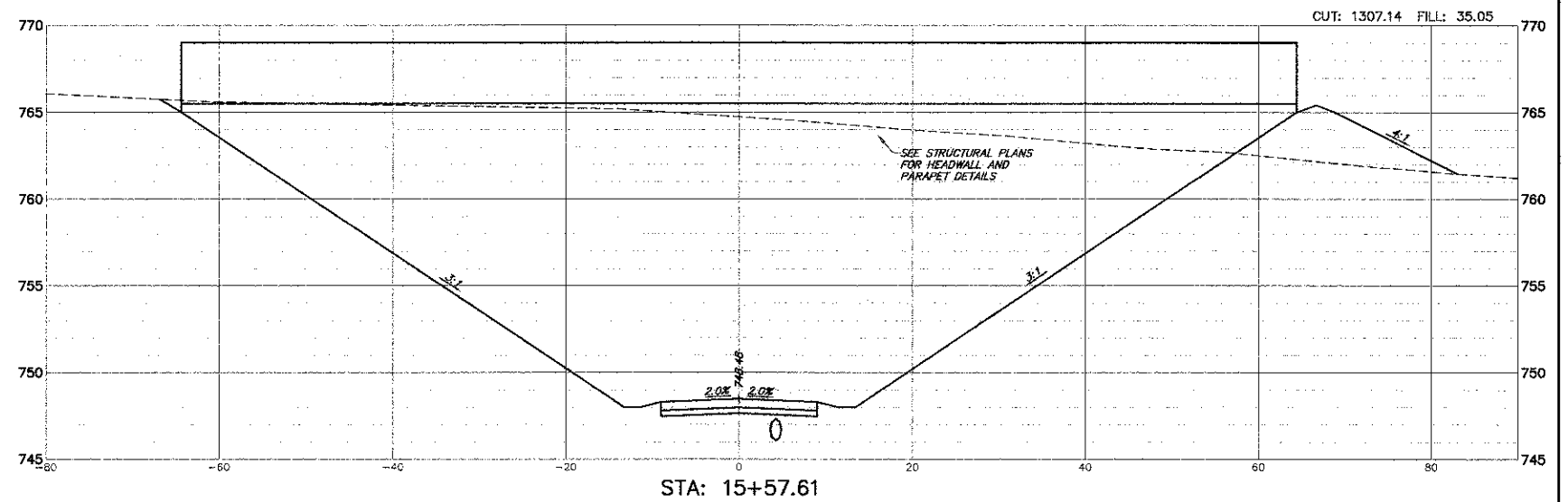
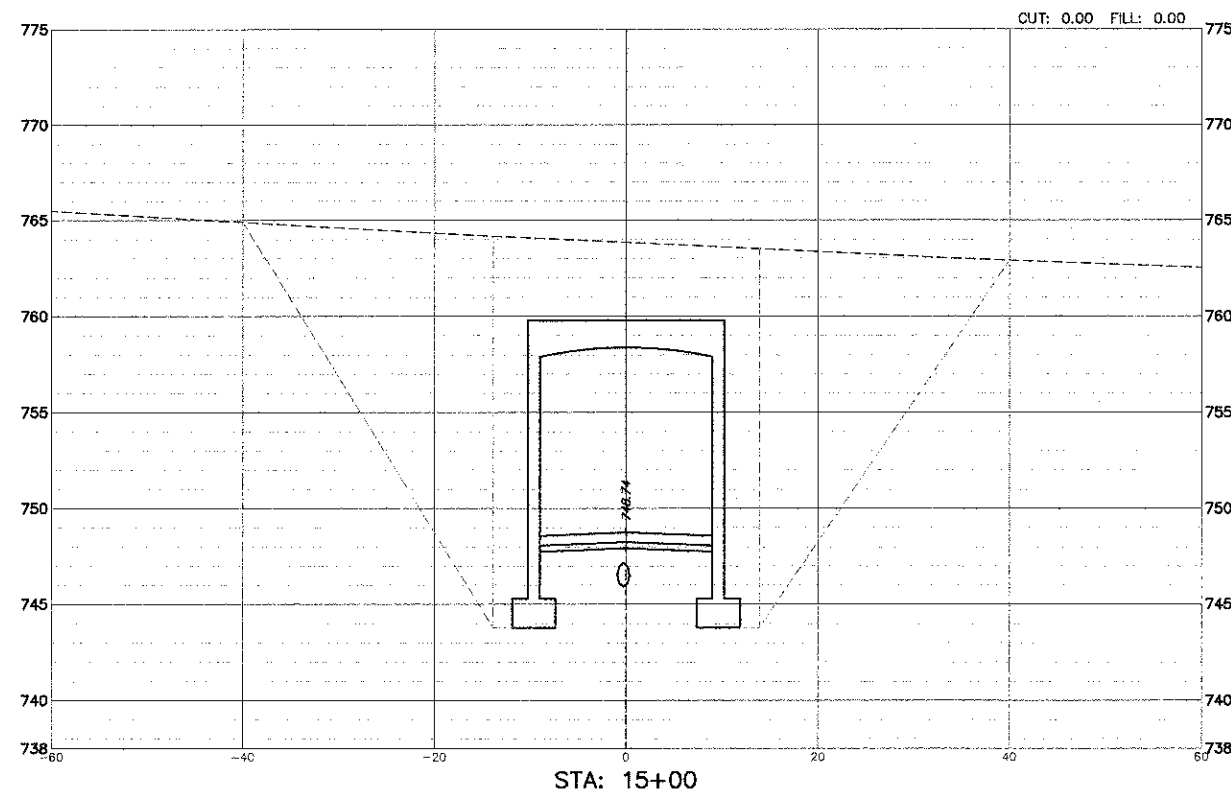
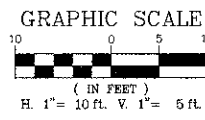
DESIGNED - DJS  
DRAWN - PJS  
CHECKED - TPG  
DATE - 5-29-12

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

BIKE PATH - CROSS SECTIONS  
GRASS LAKE ROAD BIKE PATH UNDERPASS

EAU RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	66
CONTRACT #			63778	
ILLINOIS FED. AID PROJECT				

SCALE 1"=10' SHEET NO. 3 OF 9 SHEETS STA. 13+00 TO STA. 14+32



FILE NAME = 4536.705-PR5.dwg

USER NAME = DAN STRAHAN

DESIGNED - DJS

REVISED - 9-7-12

PLOT SCALE = 1:1

DRAWN - P.S

REVISED - 10-19-12

PLOT DATE = 5/30/2012

CHECKED - TPG

REVISED - 12-17-12

DATE - 5-29-12

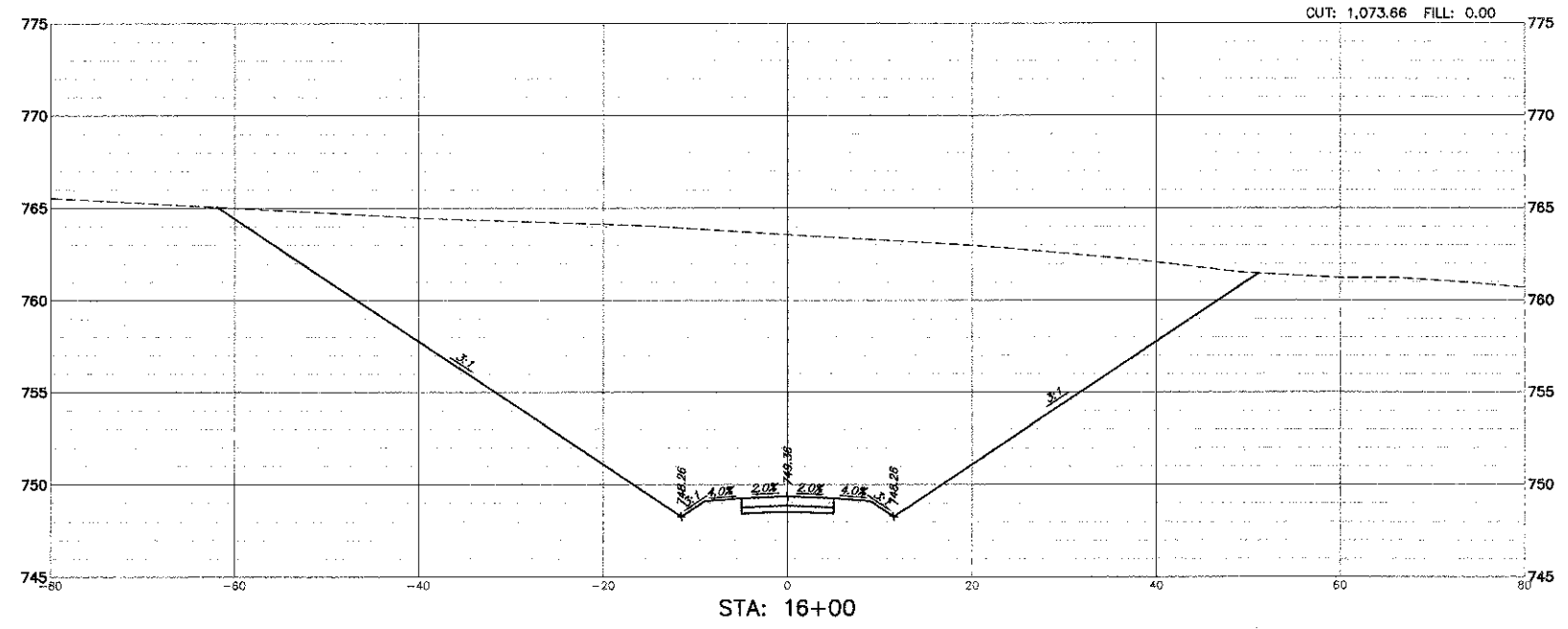
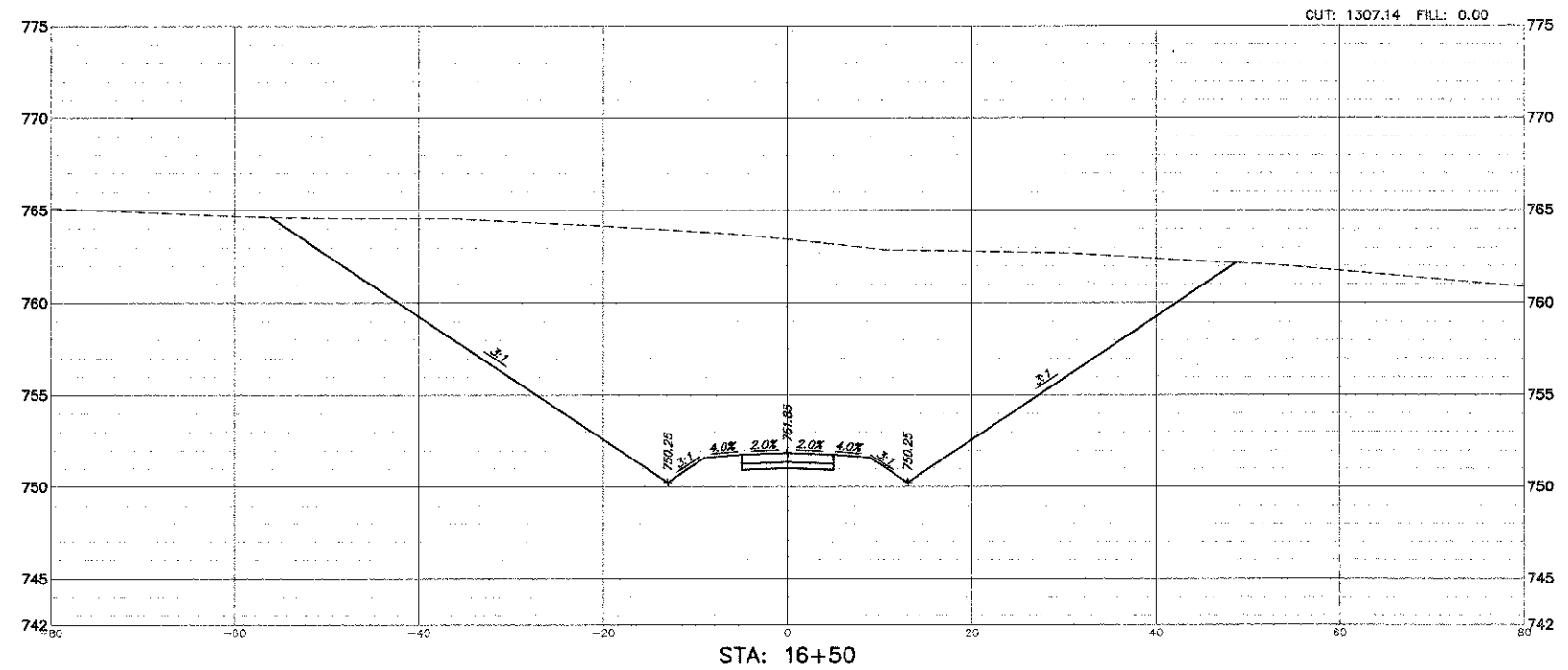
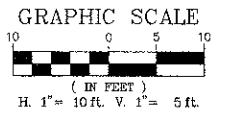
REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

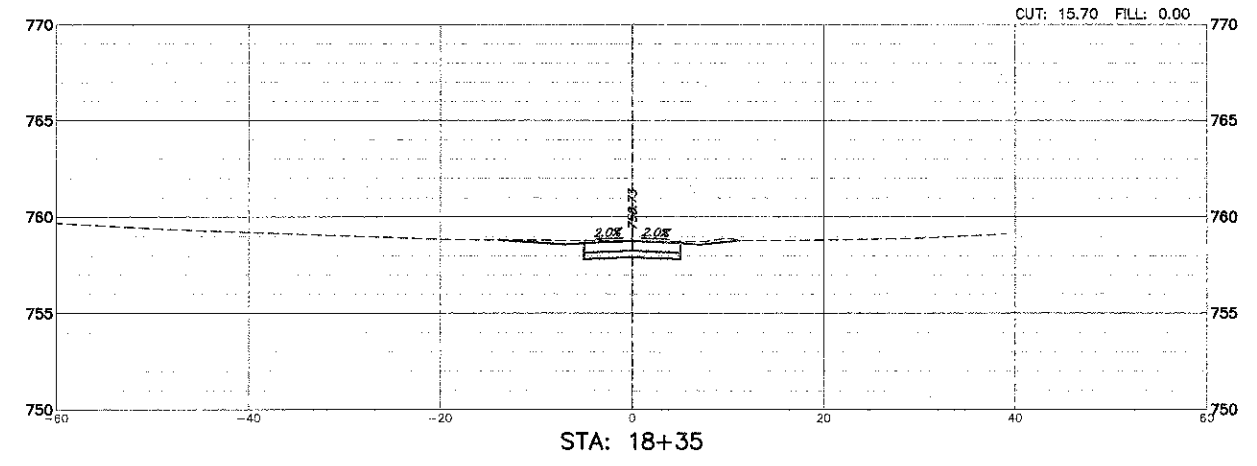
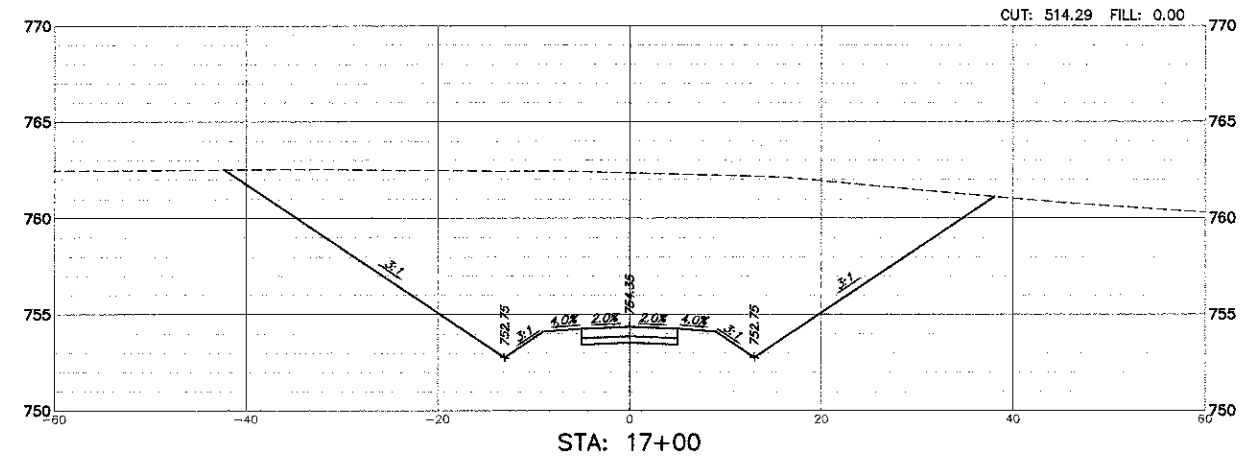
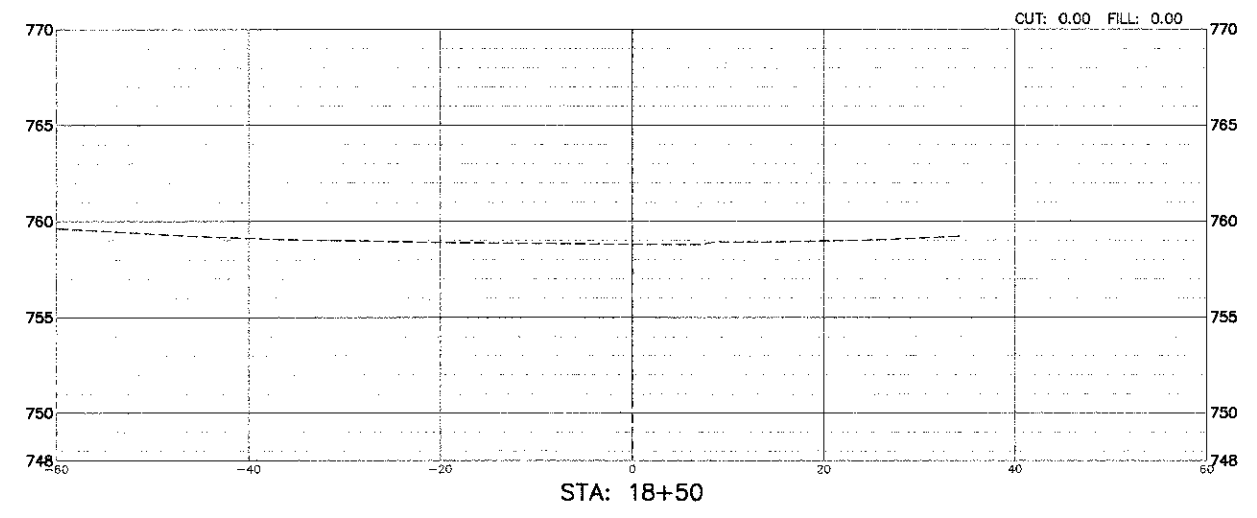
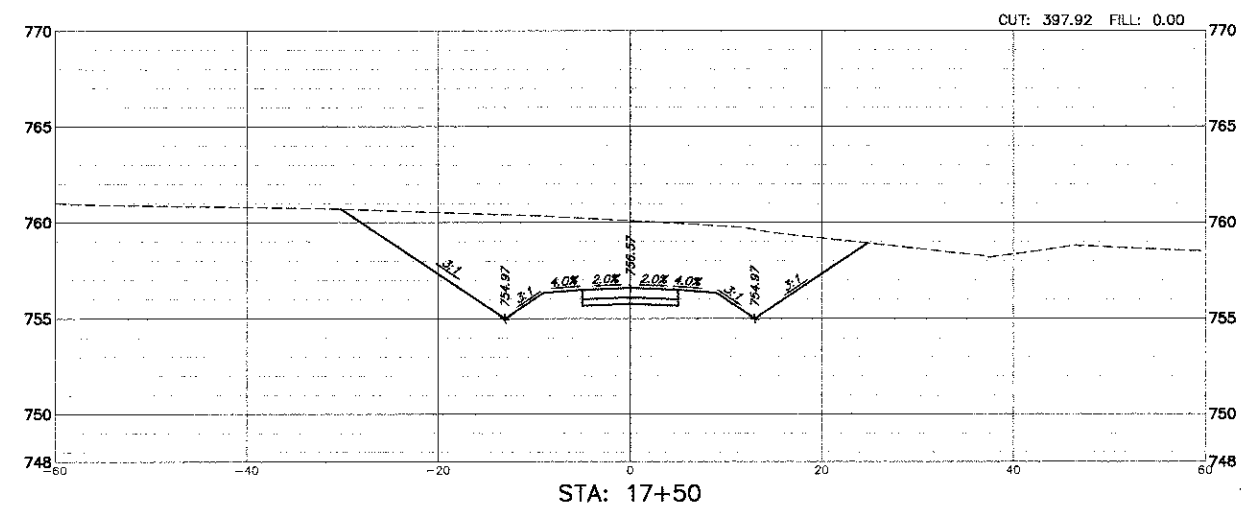
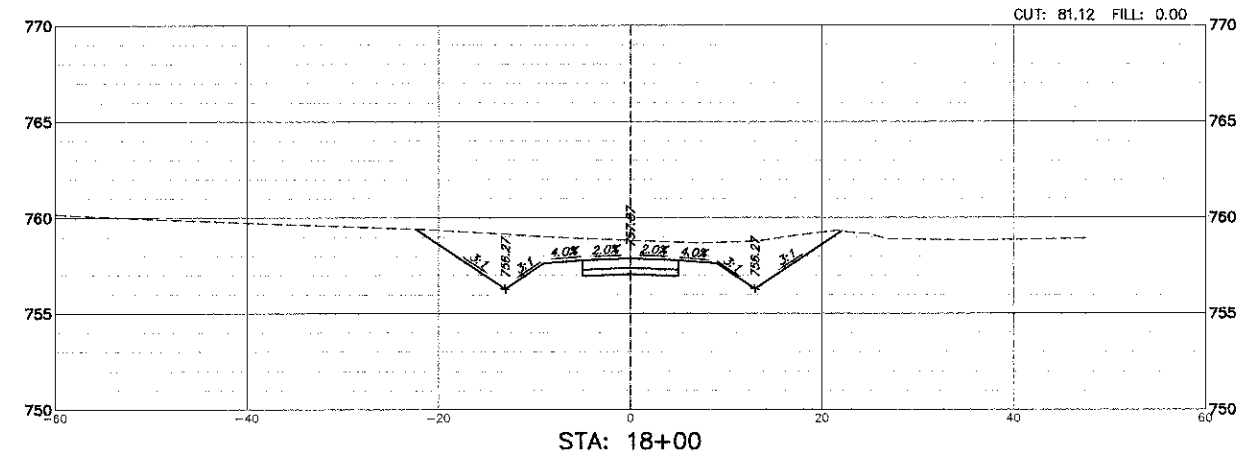
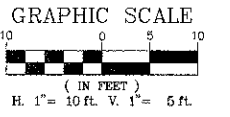
BIKE PATH - CROSS SECTIONS  
 GRASS LAKE ROAD BIKE PATH UNDERPASS

SCALE: 1"=10' SHEET NO. 4 OF 9 SHEETS STA. 14+50 TO STA. 15+57

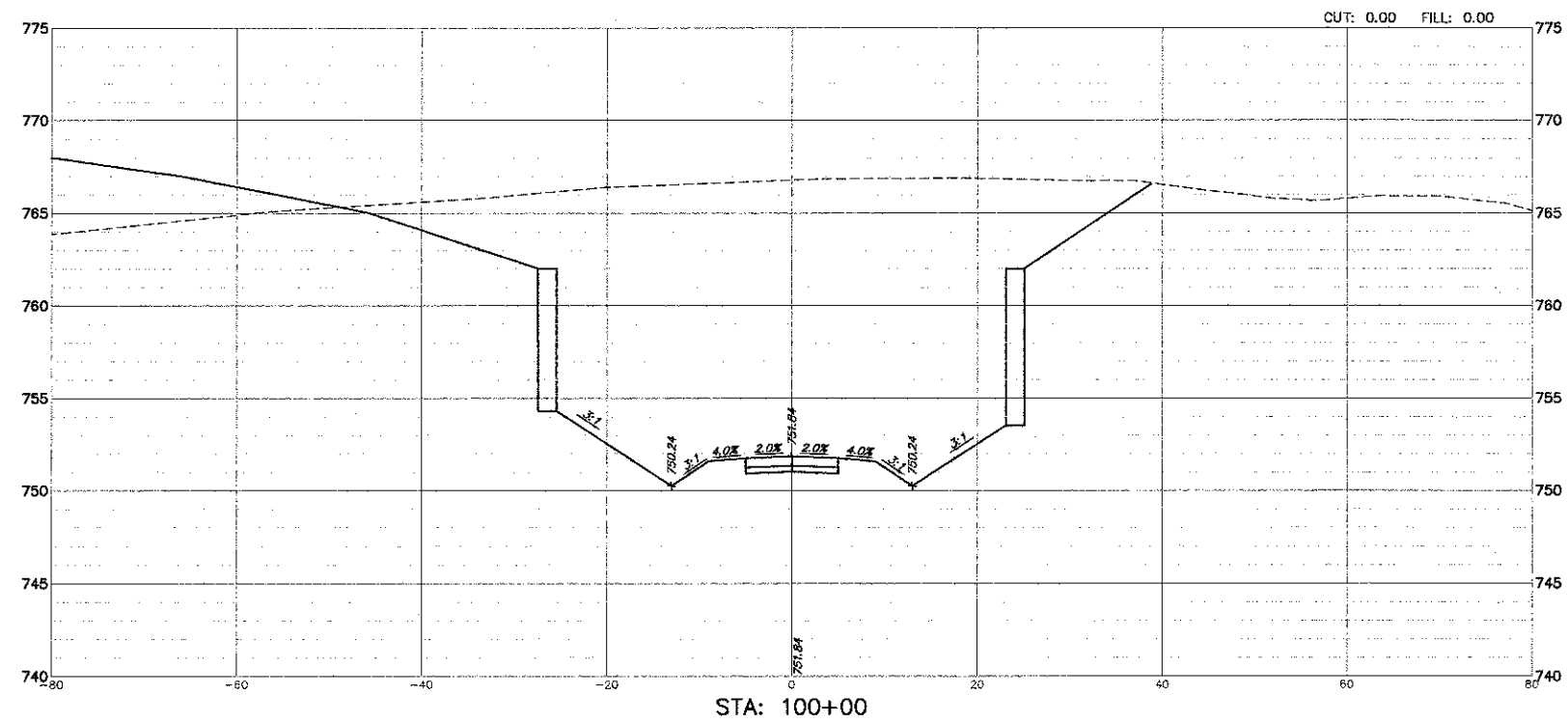
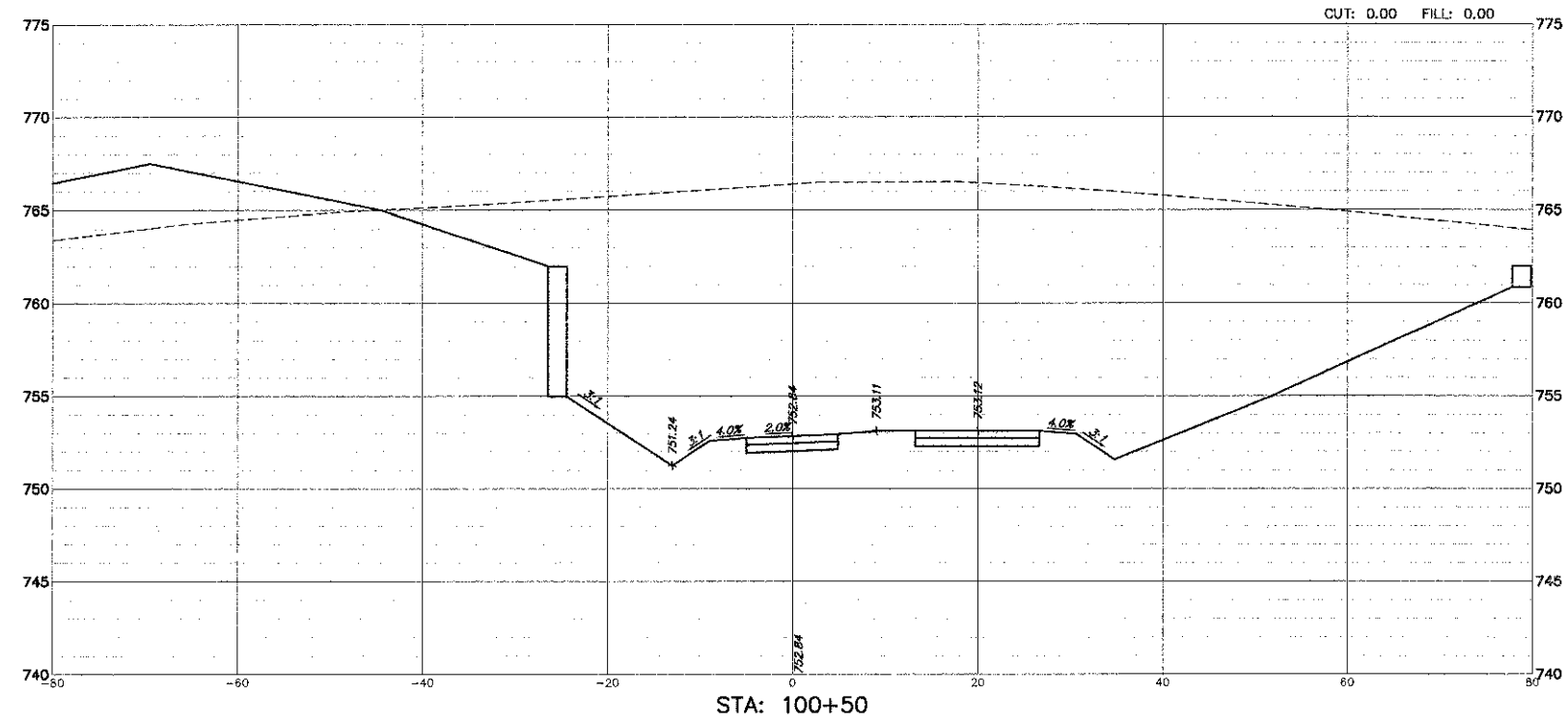
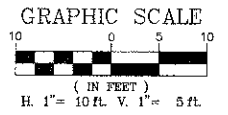
FAU. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	67
CONTRACT #:			63778	
ILLINOIS FED. AID PROJECT				



FILE NAME = 4536.705-PRS.dwg	USER NAME = DAN STRAHAN	DESIGNED - DJS	REVISED - 9-7-12	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BIKE PATH - CROSS SECTIONS GRASS LAKE ROAD BIKE PATH UNDERPASS</b>			FAU. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN - PJS	REVISED - 10-19-12		0174	09-P0075-15-BT	LAKE	74	68				
		CHECKED - TPG	REVISED - 12-17-12		SCALE: 1"=10'			SHEET NO. 5 OF 9 SHEETS		STA. 16+00 TO STA. 16+50		CONTRACT #: 63778	
		PLOT DATE = 5/30/2012	DATE - 5-29-12		ILLINOIS FED. AID PROJECT								



FILE NAME = 4536.705-PRS.dwg	USER NAME = DAN STRAHAN	DESIGNED - DJS	REVISED - 9-7-12	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BIKE PATH - CROSS SECTIONS GRASS LAKE ROAD BIKE PATH UNDERPASS</b>			FAU RIE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN - PJS	REVISED - 10-19-12		0174	09-P0075-15-BT	LAKE	74	69			
		CHECKED - TPG	REVISED - 12-17-12		CONTRACT # 63778							
		DATE - 5-29-12	REVISED -		ILLINOIS FED. AID PROJECT							
	PLOT SCALE = 1:1			SCALE 1"=10'	SHEET NO. 6 OF 9 SHEETS	STA. 17+00	TO STA. 18+50					



FILE NAME = 4536.705-PR5.dwg

USER NAME = DAN STRAHAN

DESIGNED - DJS

REVISED - 9-7-12

PLOT SCALE = 1:1

DRAWN - PJS

REVISED - 10-19-12

PLOT DATE = 5/30/2012

CHECKED - TPG

REVISED - 12-17-12

DATE - 5-29-12

REVISED -

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

BIKE PATH - CROSS SECTIONS  
 GRASS LAKE ROAD BIKE PATH UNDERPASS

SCALE: 1"=10'

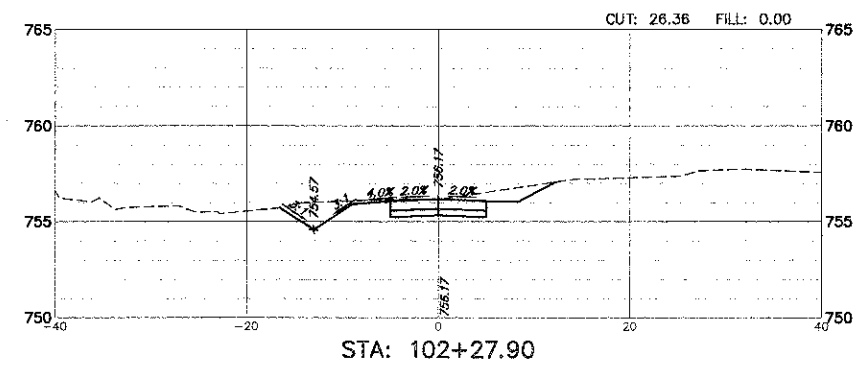
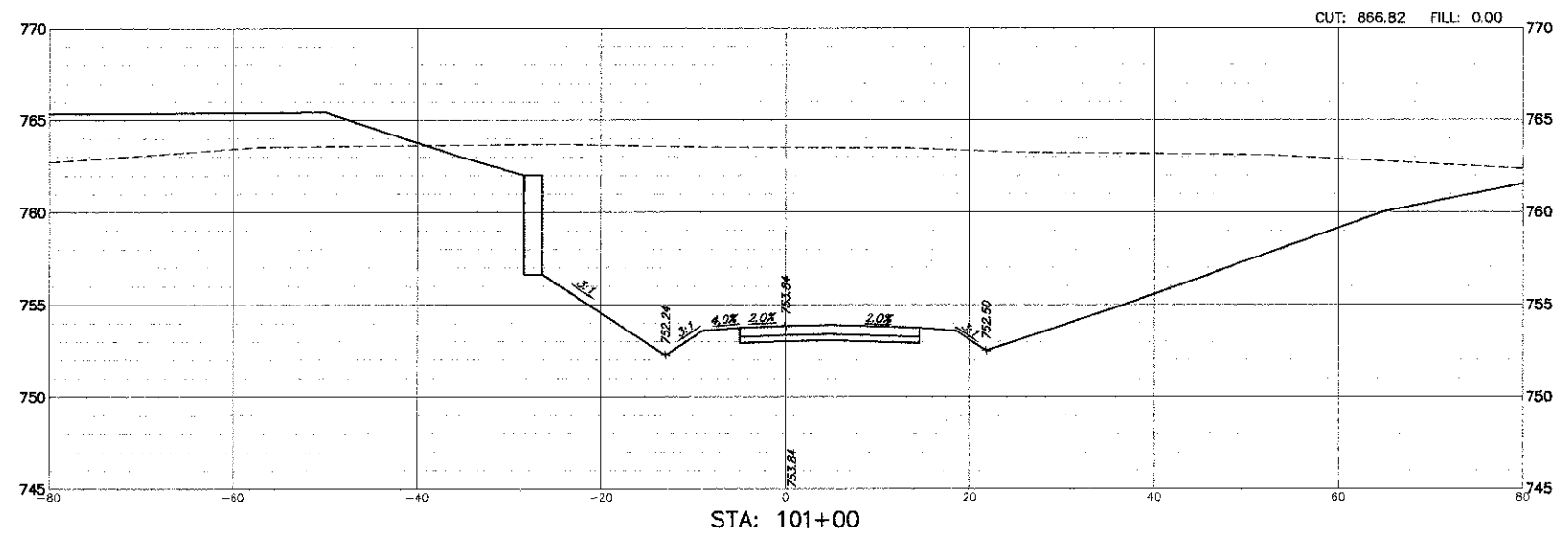
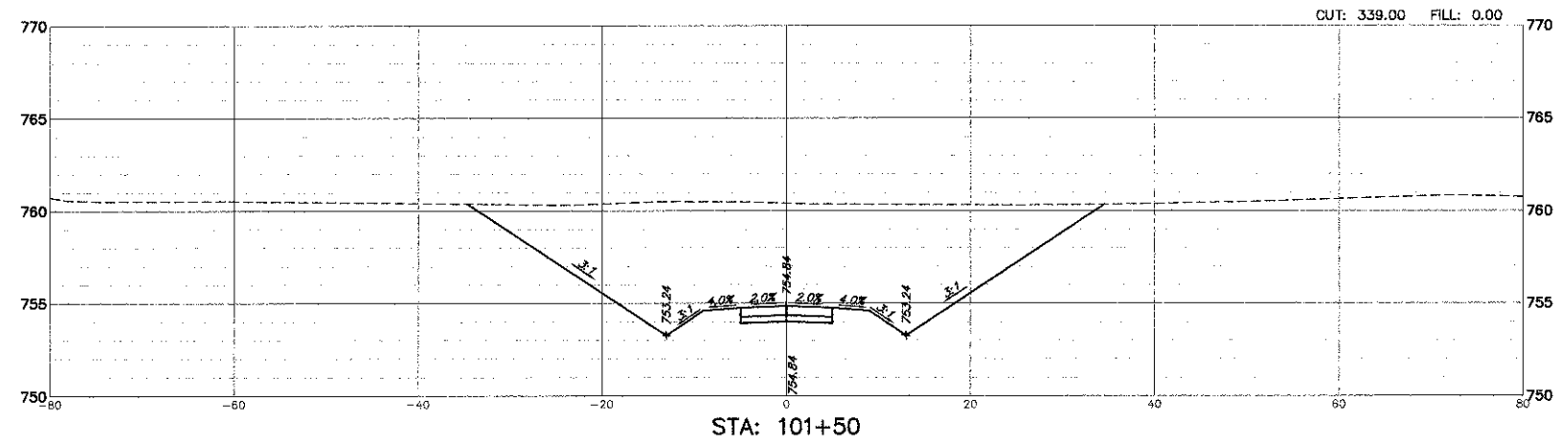
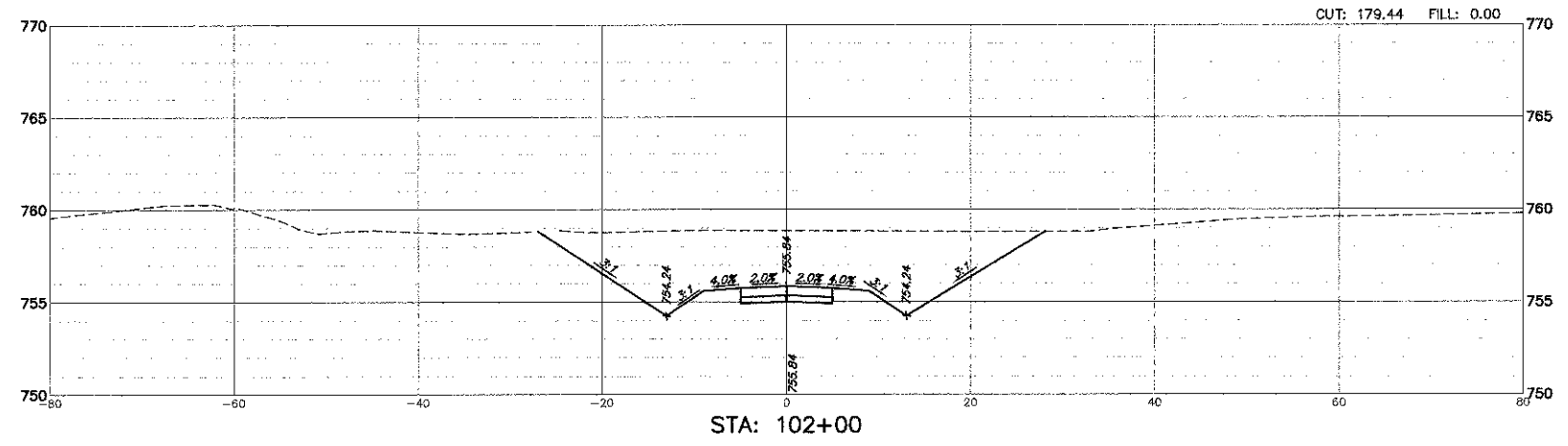
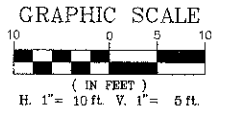
SHEET NO. 7 OF 9 SHEETS

STA. 100+00 TO STA. 100+50

FAU. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	70
CONTRACT #			63778	

ILLINOIS FED. AID PROJECT





FILE NAME = 4536-705-PR5.dwg  
 PLOT SCALE = 1:1  
 PLOT DATE = 5/30/2012

USER NAME = DAN STRAHAN  
 CHECKED - TPG  
 DATE - 5-29-12

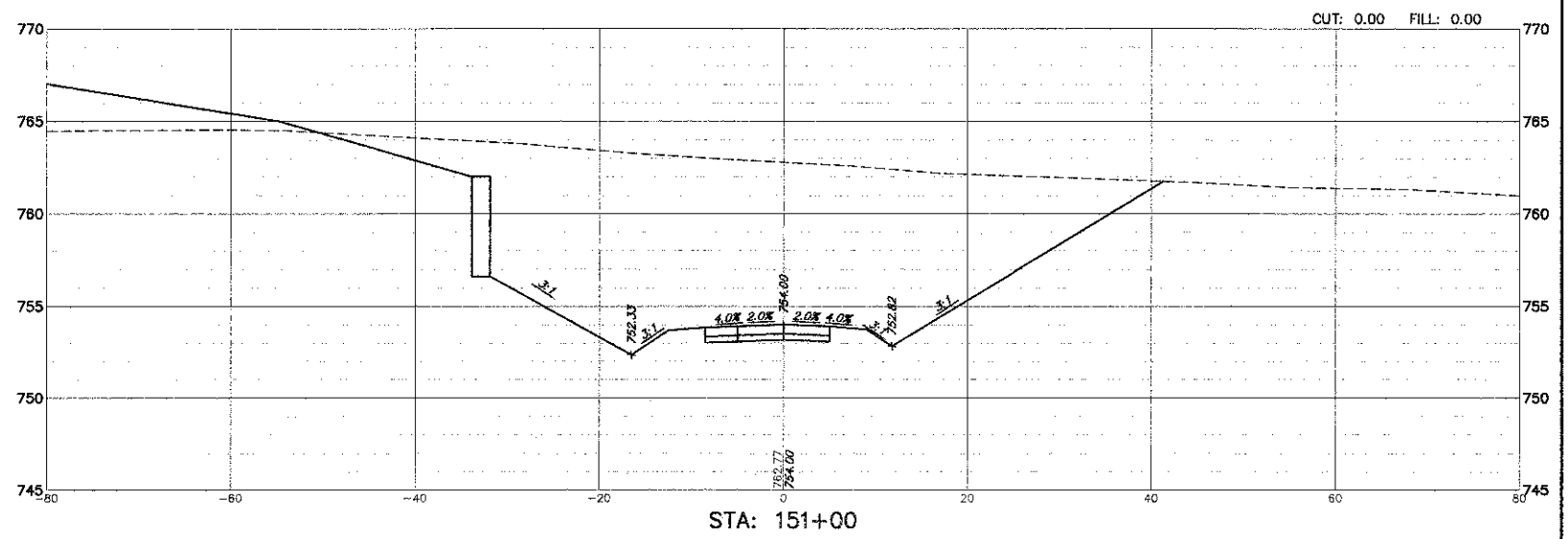
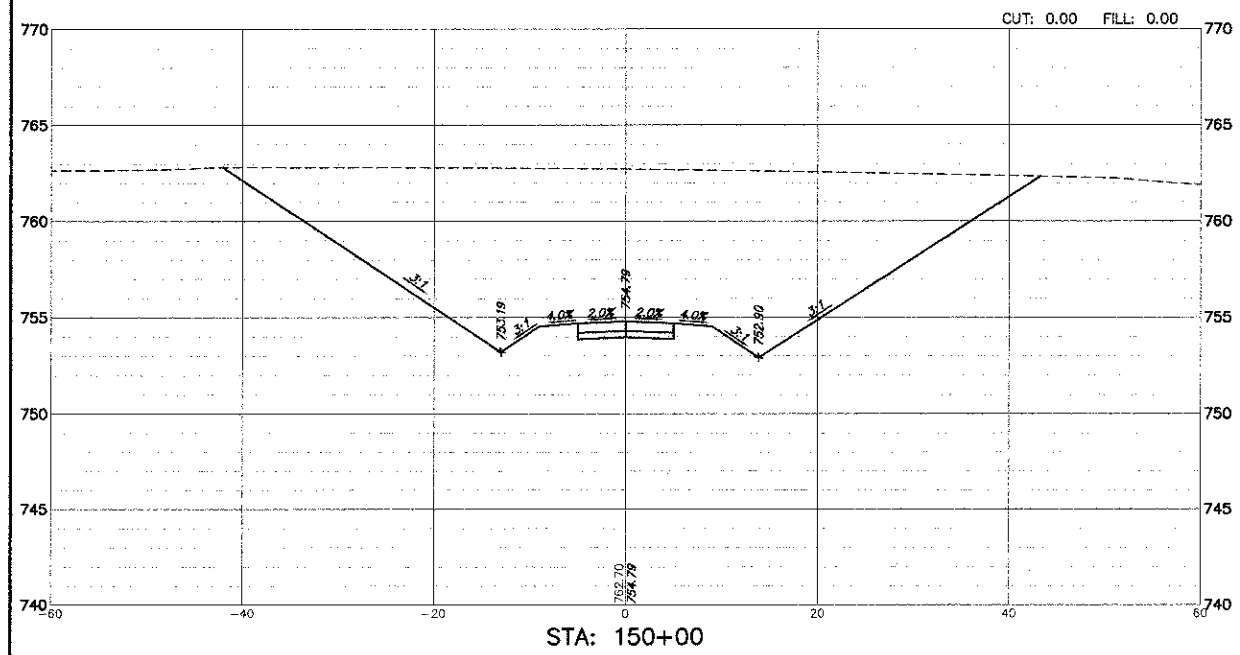
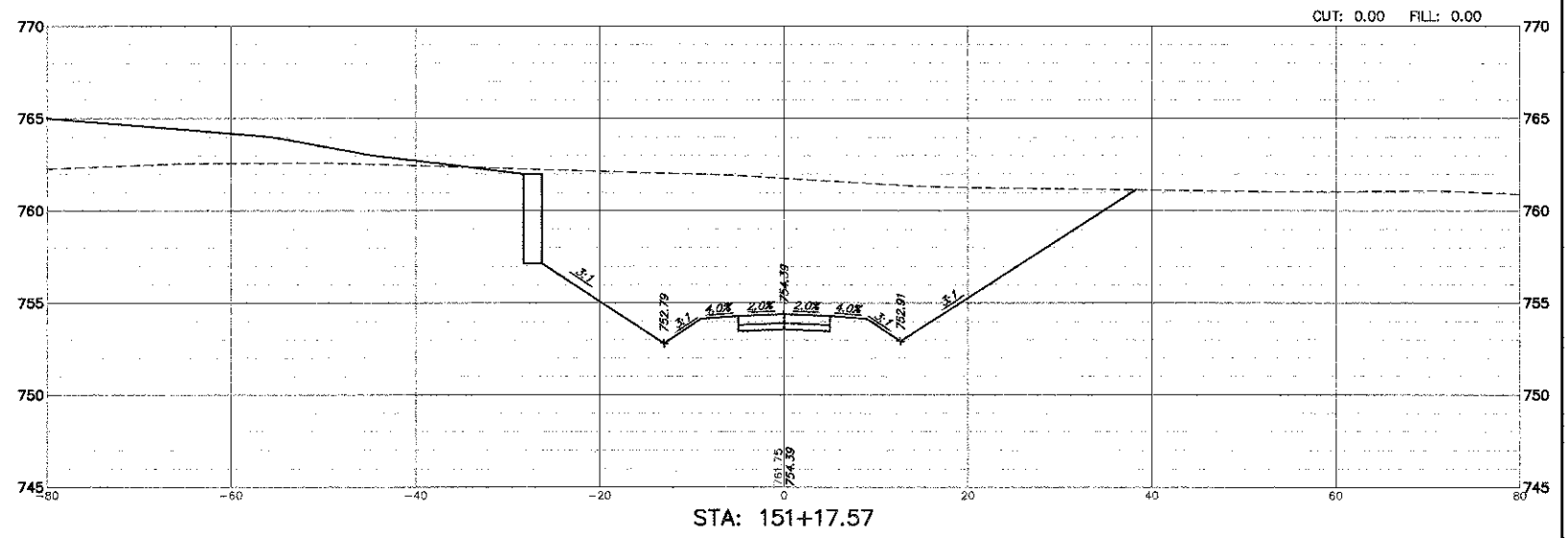
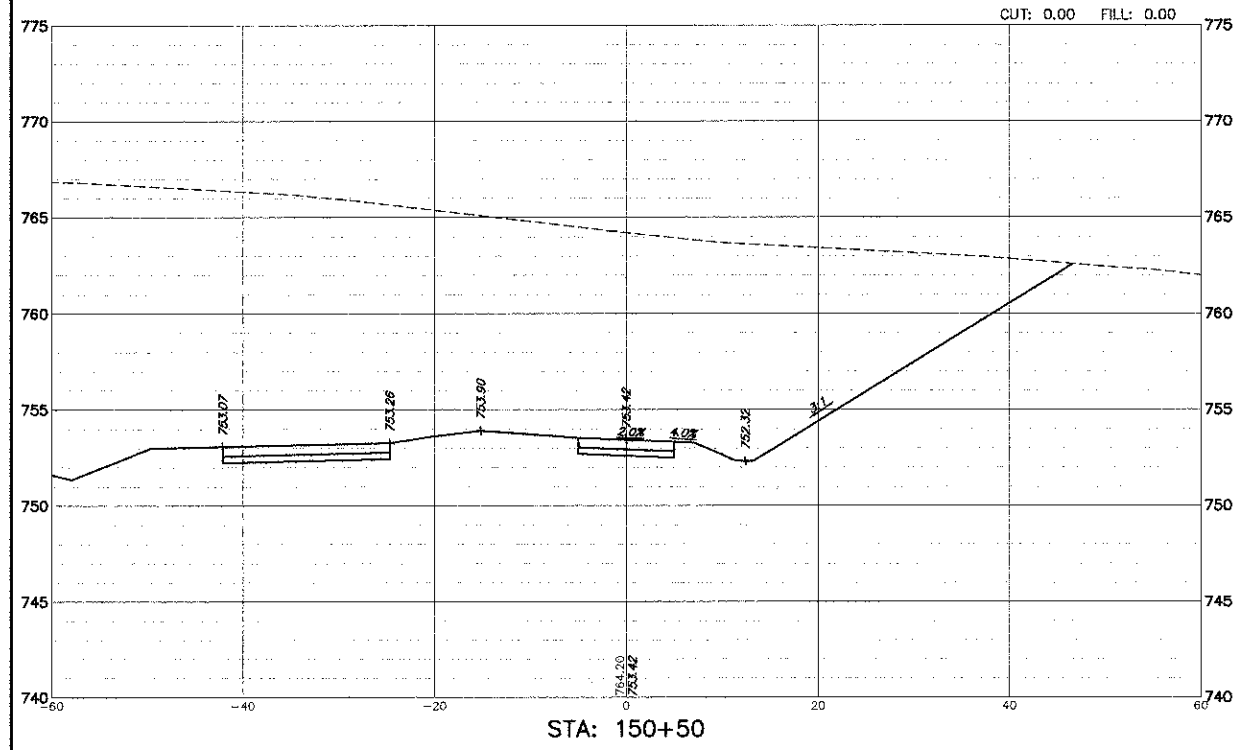
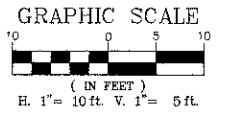
DESIGNED - DJS  
 DRAWN - PJS  
 CHECKED - TPG  
 DATE - 5-29-12

REVISED - 9-7-12  
 REVISED - 10-19-12  
 REVISED - 12-17-12  
 REVISED -

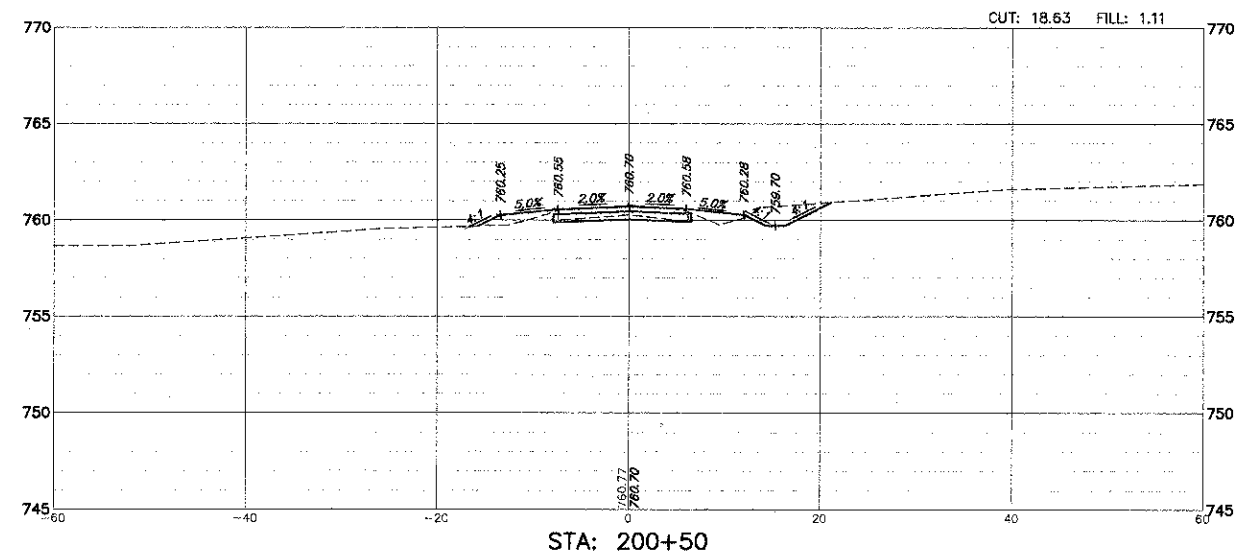
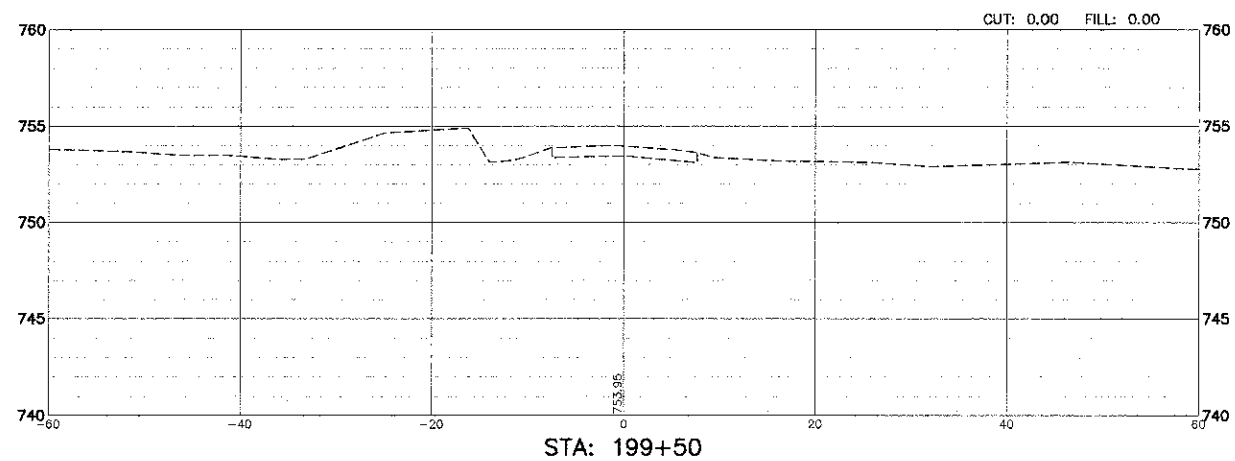
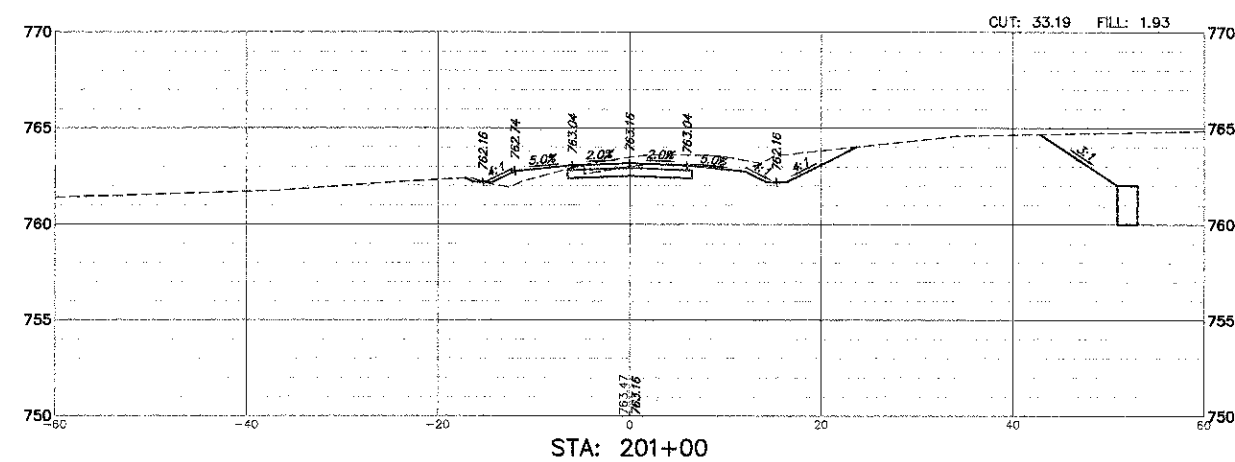
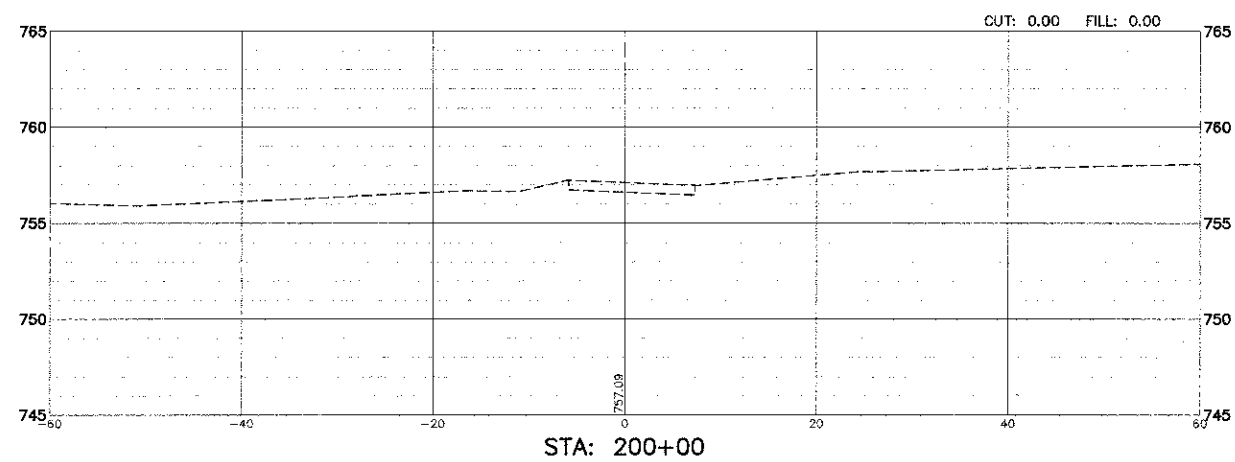
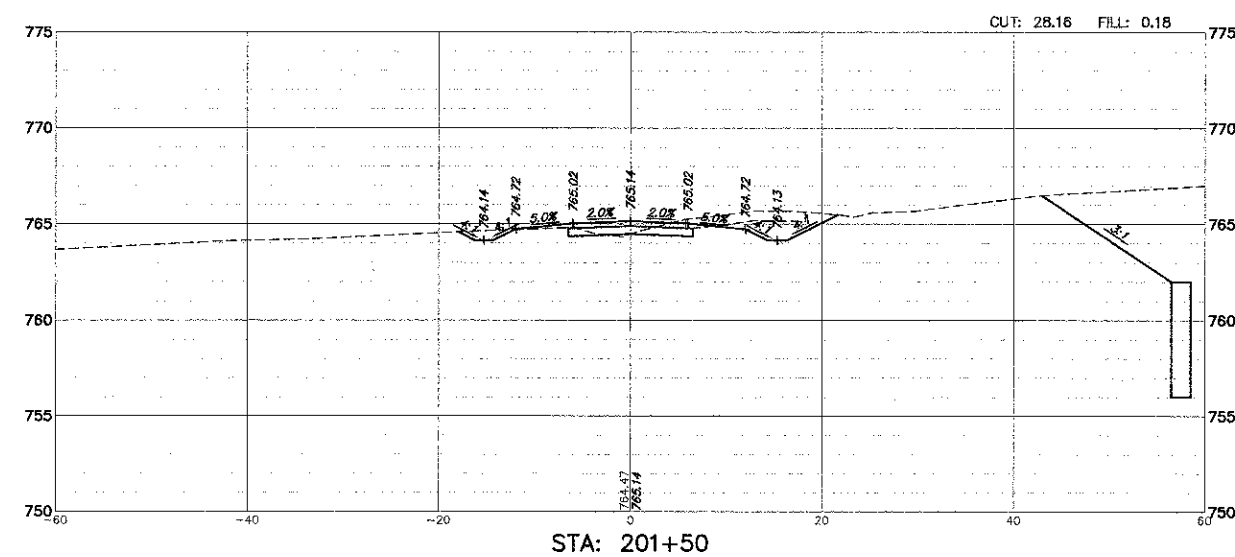
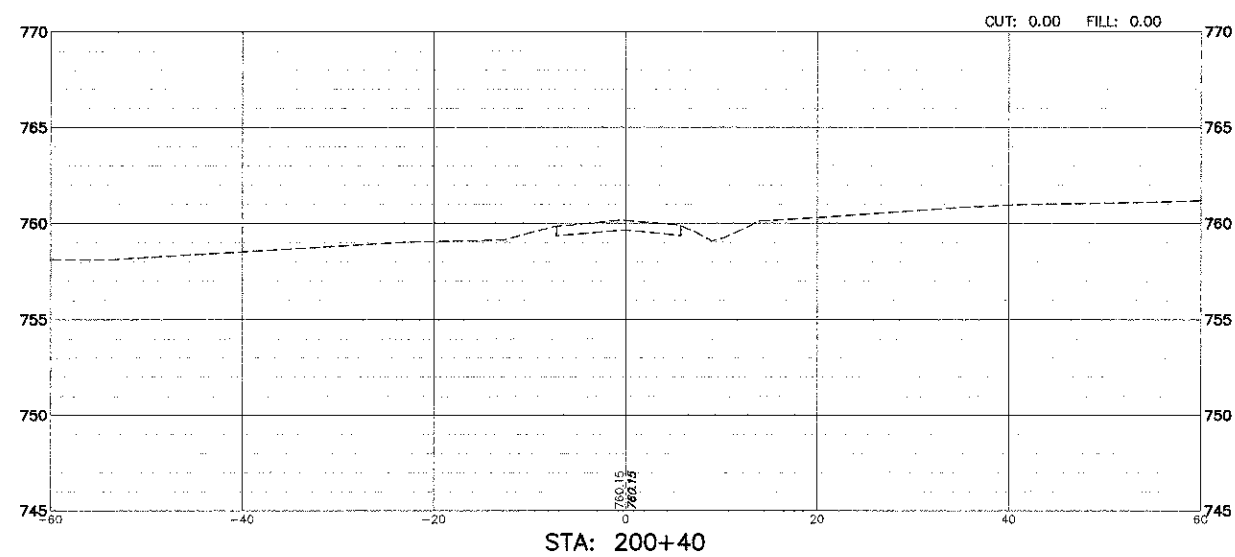
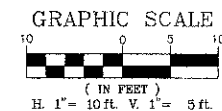
**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

**BIKE PATH - CROSS SECTIONS  
 GRASS LAKE ROAD BIKE PATH UNDERPASS**  
 SCALE: 1"=10' SHEET NO. 8 OF 9 SHEETS STA. 101+00 TO STA. 102+28

FAU. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	71
CONTRACT #:				63778
ILLINOIS FED. AID PROJECT				



FILE NAME = 4536.705-PR5.dwg	USER NAME = DAN STRAHAN	DESIGNED - DJS	REVISED - 9-7-12	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>BIKE PATH - CROSS SECTIONS GRASS LAKE ROAD BIKE PATH UNDERPASS</b>		FAU. RTE. 0174	SECTION 09-P0075-15-BT	COUNTY LAKE	TOTAL SHEETS 74	SHEET NO. 72
	PLOT SCALE = 1:1	DRAWN - PJS	REVISED - 10-19-12		SCALE 1"=10'	SHEET NO. 9 OF 9 SHEETS	STA. 150+00 TO STA. 150+50	CONTRACT # 63778		ILLINOIS FED. AID PROJECT	
	PLOT DATE = 5/30/2012	CHECKED - TPG	REVISED - 12-17-12								
		DATE - 5-29-12	REVISED -								



FILE NAME = 4536.705-PRS.dwg

USER NAME = DAN STRAHAN

DESIGNED - DJS

REVISED - 9-7-12

DRAWN - PJS

REVISED - 10-19-12

CHECKED - TPG

REVISED - 12-17-12

DATE - 5-29-12

REVISED -

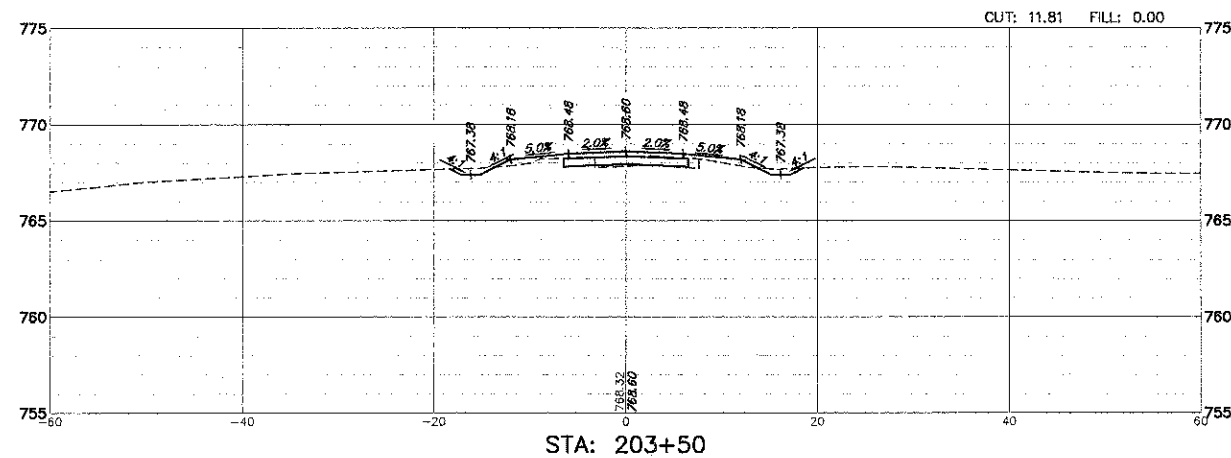
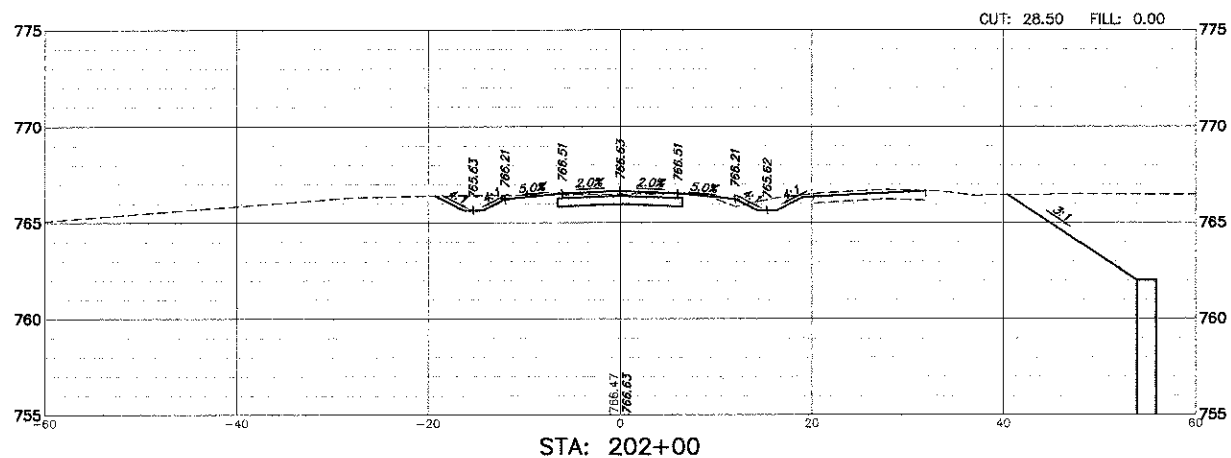
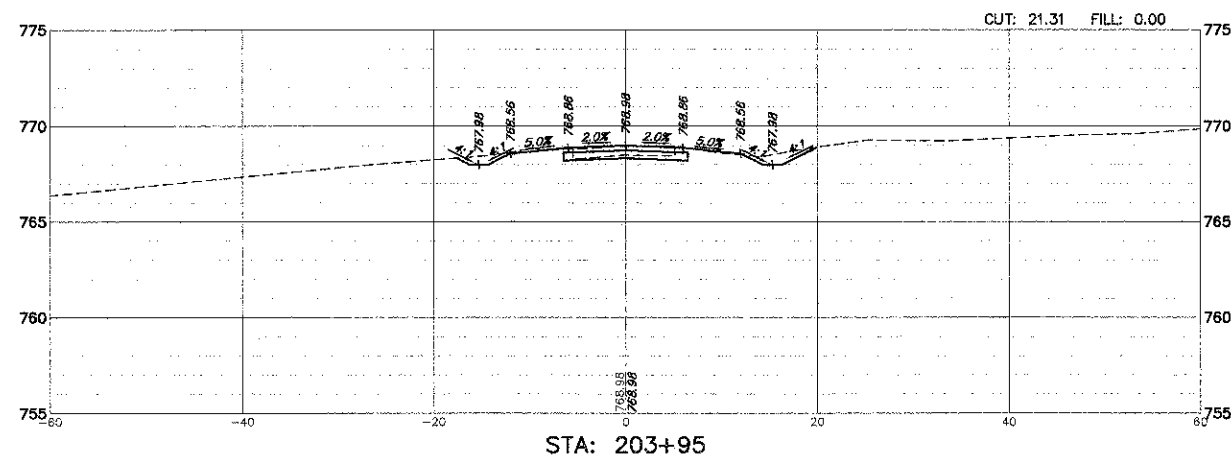
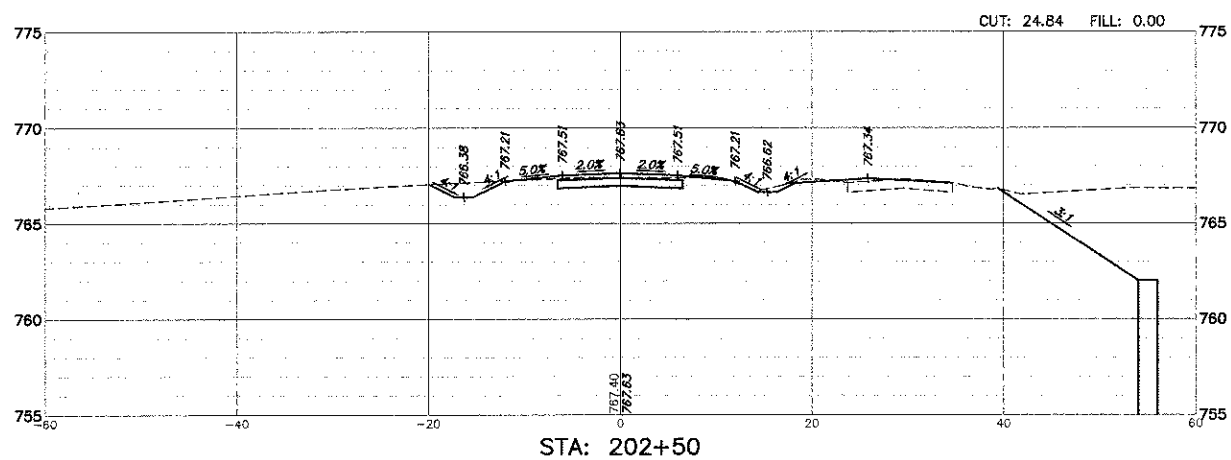
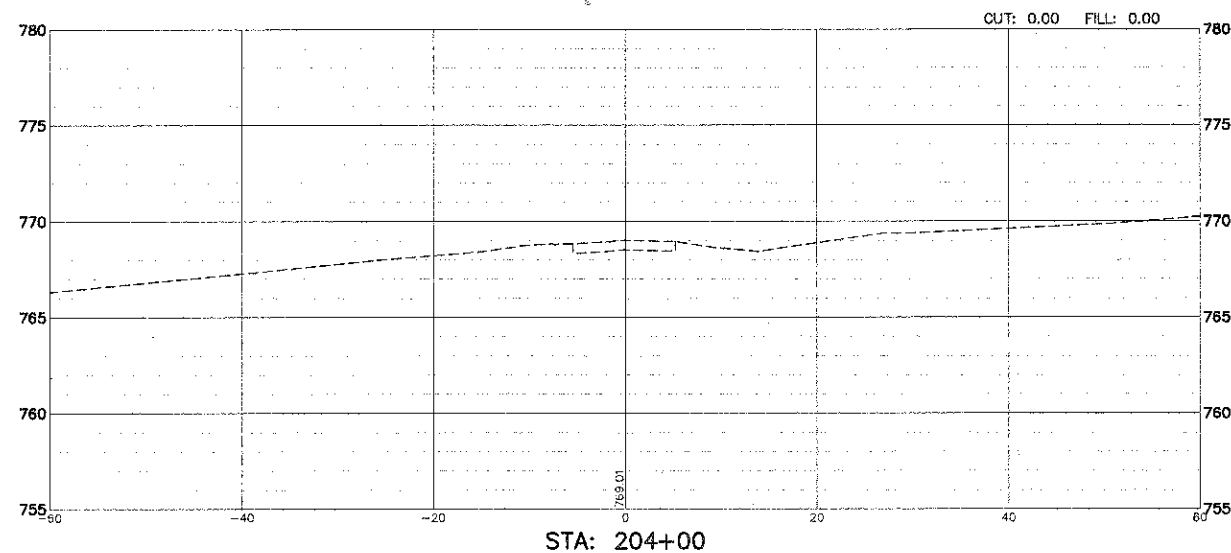
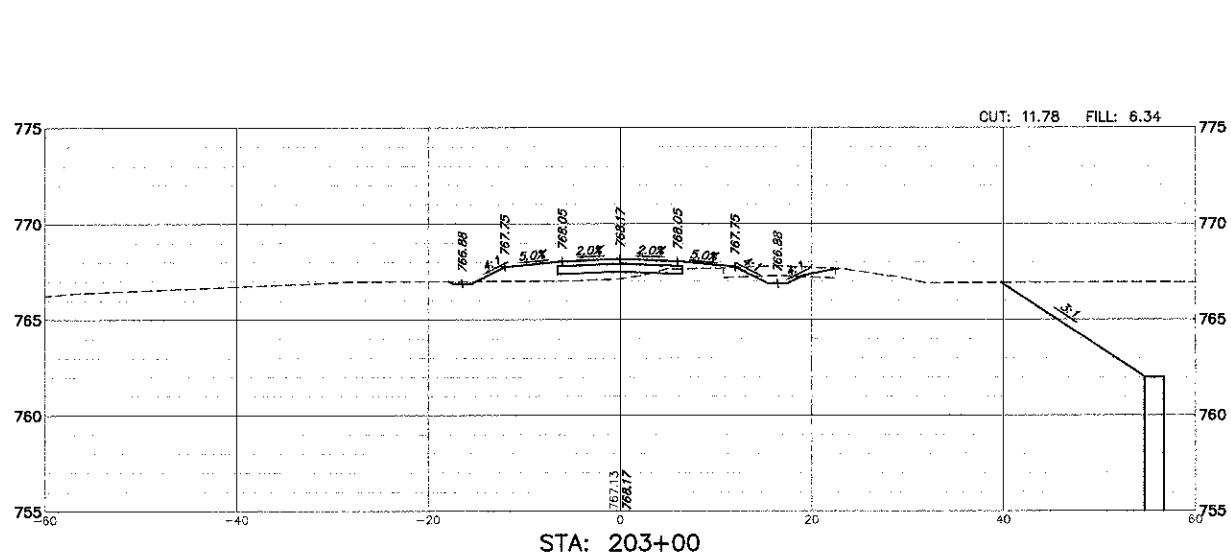
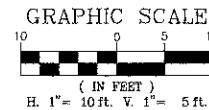
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

EXISTING TRAIL RELOCATION - CROSS SECTIONS  
 GRASS LAKE ROAD BIKE PATH UNDERPASS

FAU. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0174	09-P0075-15-BT	LAKE	74	73
CONTRACT #:			63778	

SCALE 1"=10' SHEET NO. 10 OF 10 SHEETS STA. 151+00 TO STA. 151+17.57

ILLINOIS FED. AID PROJECT



FILE NAME = 4536.705-PR5.gwg	USER NAME = DAN STRAHAN	DESIGNED - DJS	REVISED - 9-7-12	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>EXISTING TRAIL RELOCATION - CROSS SECTIONS GRASS LAKE ROAD BIKE PATH UNDERPASS</b>			FAU RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 1:1	DRAWN - PJS	REVISED - 10-19-12					0174	09-P0075-15-BT	LAKE	74	74
PLOT DATE = 5/30/2012	CHECKED - TPG	DATE - 5-29-12	REVISED - 12-17-12	SCALE 1"=10'			SHEET NO. 10 OF 10 SHEETS	STA. 151+00 TO STA. 151+17.57	CONTRACT # 63778			
ILLINOIS FED. AID PROJECT												