

RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	301
STA.		TO STA.		
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CONTRACT 63024

Guided Horizontal Drilling System (HDD) (Continued)

Down hole and Surface Grid Tracking System:

Contractor shall monitor and record x, y, and z coordinate relative to an established surface survey bench mark. The data shall be continuously monitored and recorded at least once per drill pipe-length or at twenty five (25) feet, whichever is more frequent.

Deviations between the recorded and design bore path shall be calculated and reported on the daily log. If the deviations exceed plus or minus 5 feet (horizontal or vertical deviation) from the design path, such occurrences shall be reported immediately to DPU-E. The Contractor shall undertake all necessary measures to correct deviations and return to design line and grade.

Drilling Fluid Pressures and Flow Rates:

Drilling fluid pressures and flow rates shall be continuously monitored and recorded by the Contractor. The pressures shall be monitored at the pump. These measurements shall be made during pilot bore drilling, reaming and pullback operations.

Drill Path:

Prior to drilling Contractor shall utilize all verified locate information to determine drill pathway. Marked up drawings (see site preparation paragraph) shall be on site at all times, and referred to during the drill operation.

Guidance System:

Contractor shall provide and maintain instrumentation necessary to accurately locate the pilot hole (both horizontal and vertical displacements), measure pilot string tensional and axial and measure drilling fluid discharge rate and pressure. The DPU-E Representative shall have access to instrumentation and reading at all times during operation.

Pilot Hole:

The pilot hole shall be drilled along the path shown on the plans and profile drawings or as directed by the DPU-E Representative in the field. Unless approved otherwise by DPU-E, the pilot hole tolerances shall be as follows:

Elevation:

As shown on the plans.

Alignment:

±5 feet and within 3 feet of right-of-way or easement boundary.

Curve Radius:

The pilot hole radius shall be no less than 80% of the maximum bending radius as recommended by the pipe manufacturer of the pipe being installed. In no case shall the bending radius be less than 30 pipe diameter, unless approved otherwise by DPU-E.

Entry Point Location:

The exact pilot hole entry point shall be within ±5 feet of the location shown on the drawing or as directed by the DPU-E Representative in the field.

Exit Point Location:

The exit point location shall be within ±5 feet of the location shown on the drawing or as directed by the DPU-E Representative in the field.

Limitations on Depth:

If not noted on the plans, 5" and 6" HDPE pipe and smaller shall be installed with a depth of 6 feet and 3" HDPE pipe shall be installed with a depth of 3 feet to 6 feet unless it is required to install the pipe deeper due to utility conflicts. Where utilities cross under roads, the depth of cover shall be a minimum of 7' to top of conduit.

Water Main and Non-Water Main Separation Requirements:

The minimum separation requirement between HDPE conduit and a water main shall be 18" minimum.

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Guided Horizontal Drilling System (HDD) (Continued)

Pull Back:

After successfully reaming bore hole to the required diameter, Contractor will pull the pipe through the bore hole. In front of the pipe will be a swivel and reamer to compact bore hole walls. Once pull-back operations have commenced, operations must continue without interruption until pipe is completely pulled into bore hole. During pull-back operations Contractor will not apply more than the maximum safe pipe pull pressure at any time. Maximum allowable tensile force imposed on the pull section shall be equal to 80% of the pipe manufacturer's safety pull (or tensile) strength.

Torsional stress shall be minimized by using a swivel to connect a pull section to the reaming assembly. The pull-back section of the pipeline shall be supported during pull-back operations so that it moves freely and the pipe is not damaged. External pressure shall be minimized during installation of the pull-back section in the reamed hole. Damaged pipe resulting from external pressure shall be replaced at no cost to the DPU-E. Buoyancy modification shall be at the discretion of the Contractor and shall be approved by the DPU-E Representative. The Contractor shall be responsible for any damage to the pull section resulting from such modifications. In the event that pipe becomes stuck, Contractor will cease pulling operations to allow any potential hydro-lock to subside and will commence pulling operations. If pipe remains stuck, Contractor will notify DPU-E Representative. DPU-E Representative and Contractor will discuss options and then work will proceed accordingly. For HDPE pipe with a pulling length greater than 500 LF, the Contractor shall utilize a break-away link. Contractor shall provide a break-away link between the swivel and the pipe or a combination swivel and break link. Break-away link shall be rated at 80% of pipe manufacturer's safe pull (tensile) strength. Break pins shall be color coded for easy identification. Contractor shall provide rated break-away link for each material and pipe size(s) for the project.

Drilling Operation:

The alignment for drilling the pilot hole and installing the conduit are as specified on the drawing. (Size of conduit, length, location and number of duct in pull) the allowable lateral and vertical deviations are as specified by the contractor above. A boring/drilling head shall be used that is compatible with the expected soil conditions and as specified above.

Entrance and exit angles for drilling operation can be whatever the contractor desires such that the elevation profile for the conduit is maintained. See limit of conduit bend radius

The pilot shall be backed reamed to a diameter suitable for the installation of the various conduit sections required

The contractor to furnish the following information;

Reamed diameter for one 3, 5, or 6 inch HDPE conduit _____

Reamed diameter for two 3, 5 or 6 inch HDPE conduit _____

Reamed diameter for three 3, 5, or inch HDPE conduit _____

Reamed diameter for four 3, 5 or 6 inch HDPE conduit _____

Reamed diameter for six 3, 5 or 6 inch HDPE conduit _____

Drilling Fluids:

The composition of the drilling fluids shall be submitted to the owner for approval prior to utilization. No fluid will be approved or utilized that does not comply with permit requirements and environmental regulations.

Composition of Drilling Fluids with MSD sheets _____

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Guided Horizontal Drilling System (HDD) (Continued)

Mixing system:

a self-contained, closed, drilling fluid mixing system shall be of sufficient size to mix and deliver drilling fluid. Mixing system shall continually agitate the drilling fluid during operations.

Drilling Fluids:

Drilling fluid shall be composed of clean water, appropriate additives and clay. Water shall be from an authorized source with a minimum pH of 6.0. Water of a lower pH or with excessive calcium shall be treated with the appropriate amount of sodium carbonate or equal. The water and additives shall be mixed thoroughly and be absent of any clumps or clods. No potentially hazardous material maybe used in drilling fluid.

Delivery System:

The delivery system shall have filters in-line to prevent solids from being pumped into the drill pipe. Connections between the pump and drill pipe shall be relatively leak-free. Used drilling fluid and drilling fluid spilled during drilling operations shall be contained and conveyed to the drilling fluid recycling system. A berm, minimum of 12" high, shall be maintained around drill rigs, drilling fluid mixing system entry and exit pits and drilling fluid recycling system to prevent spills into the surrounding environment. Pumps and or vacuum truck(s) of sufficient size shall be in place to convey excess drilling fluid from containment area to storage and recycling facilities.

Drilling Fluid Recycling System:

The drilling fluid recycling system shall separate sand, dirt and other solids from the drilling fluid to render the drilling fluid re-usable. Spoils separated from the drilling fluid will be stockpiled for later use or disposal.

Control of Drilling fluids:

The Contractor shall follow all requirements of the Frac-Out and Surface Spill Contingency Plan as submitted and approved and shall control operational pressures, drilling mud weights, drilling speeds, and any other operational factors required to avoid hydro fracture fluid losses to formations, and control drilling fluid spillage. This includes any spillages or returns at entry and exit locations or at any intermediate point. All inadvertent returns or spills shall be promptly contained and cleaned up. The Contractor shall maintain on-site mobile spill removal equipment during all drilling, pre-reaming, reaming and pull-back operations and shall be capable of quickly removing spoils. The Contractor shall immediately notify DPU-E of any inadvertent returns or spills and immediately contain and clean up the return or spill.

Disposal

Disposal of drilling fluids shall be the responsibility of the contractor and shall be conducted in compliance with all relative environmental regulations, right of way, work space agreements and permit requirements.

Drilling fluid returns shall be collected within the entrance pit, exit pit or spoils recovery pit. The contractor shall immediately clean up any inadvertent drilling fluid spills or overflows from these pits or equipment.

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WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS		MAP NO.:	CAD FILE: 0056270001060.DWG
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	PROJECT DESCRIPTION TRENCH SECTION DETAILS		DATE: 4-01-08	PROJECT NO.: EUT2-08-03 EUT3
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	ISSUED	WORK REQUEST NO. 56270	SEC:	COMPLETED BY:
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CONTRACT 63024

Guided Horizontal Drilling System (HDD) (Continued)

HDPE CONDUIT PREPARATION AND INSTALLATION:

Contractor shall install the HDPE conduit in accordance with the plans for a complete job and meet the completion date as defined by the city of Naperville.

Contractor to provide sketches of each staging area required to install the conduit, store materials, and setup equipment

All sketches shall be submitted to the city of Naperville for review prior to start of work. This sketch should include approximate square feet of area to be damaged by your construction work force.

The following parameters shall be recorded during the drilling, reaming, and installation, for each push, to ensure design limits are not exceeded.

- Calibrate electronic locator or guidance instrumentation before start of project.
- Locate drill head every 10 feet (minimum)

Depth _____
 Alignment _____
 Azimuth _____
 Pitch _____

- Record the following drilling information every 15 minutes or as necessary

Drilling fluid pressure _____
 Flow rate _____
 Mud weight in _____
 Mud weight out _____
 Rate of penetration _____
 Thrust _____
 Torque _____

- Pre-ream pilot hole
 Record the following information every 15 minutes or as necessary

Mud weight in _____
 Mud weight out _____
 Rate of penetration _____
 Torque _____
 Depth _____
 Alignment _____

- Conduit installation
 Record the following information every 15 minutes or as necessary

Fluid pressure _____
 Flow rate _____
 Mud weight in _____
 Mud weight out _____
 Rate of penetration _____
 Torque _____
 Depth _____
 Alignment _____

Guided Horizontal Drilling System (HDD) (Continued)

- Conduit quality check of conduit

Broken pieces _____
 Out of round, Oval _____
 End frayed _____
 Slit cracked or cut _____
 Belled end distorted _____
 Check specification identification on HDPE conduit _____

- Verify location and depth of HDPE conduit

Record data _____

Show detail with sufficient information _____

Contractor to submit for the owner's review the following 4 items with his bid:

A. Technical specifications and manufacture of guide horizontal drilling system, fluid handling system, guidance and locator system, reamed diameters for various duct configurations, maximum deviations from vertical and horizontal and minimum capabilities of thrust and pullback, spindle torque, drilling fluid pressure and flow rate, provide a schedule using Microsoft Project software of latest edition

B. A work plan showing details and proposed method of construction, number of feet of one, two, three, four duct sections, or six duct sections to be installed in an eight hour day, sequence of operations to be performed, number, size and schedule of construction crew, time and hours and days to be worked in a week, Number of calendar days to complete work, pilot hole drilling procedure, reaming procedure, pulls back/conduit installation procedure, method of monitoring the drilling head and method of verifying conduit location and depth for as built drawings, plus restoration and landscaping plan

C. The contractor shall video tape the entire work area prior to starting the work. The video should document all vegetation condition of the easement and visual obstructions that the contractor will or temporarily move plus delineate with pictures the route with street names right of way and electrical equipment, address, time and date. This video shall be used to restore the work area landscaping to its original/or better condition

D. The Contractor shall identify the following:
 Materials and quantities to be supplied,
 Vendor names supplying materials, equipment, tools and expertise.

After the pipe is in place, cleaning pig/mandrel shall be used to remove residual water and debris. After the cleaning operation, the Contractor shall provide and run a sizing pig/mandrel to check for anomalies in the form of buckles, dents, excessive out-of-roundness, and any other deformations. The sizing pig/mandrel run shall be considered acceptable if the survey results indicate that there are no sharp anomalies (e.g. dents, buckles, gouges, and internal obstructions) greater than 5 percent of the nominal pipe diameter. For gauging purposes, dent location is those defined above which occur within a span of five feet or less. Pipe ovality shall be measured as the percent difference between the maximum and minimum pipe diameter. For gauging purposes, ovality locations are those defined above which exceed a span of five feet

See mandrel requirements at end of this specification. The Contractor shall fabricate, purchase and use mandrel to proofrod all ducts for the entire project.

All conduits shall be subject to television inspection prior to acceptance. Television inspection may be identified at the preconstruction meeting, or later during the project if the inspector has any concerns about the proper installation of the pipe. If television inspection is required by the City, Contractor shall bear all costs incurred in making the inspection and shall bear all costs incurred correcting any deficiencies found during television inspection.

Guided Horizontal Drilling System (HDD) (Continued)

Deficiencies that will require pipe removal and replacement include, but are not limited to:

- Visible damage to the pipe.
- Failure of mandrel test.
- Oval pipe.
- Open joints.
- Foreign material that cannot be removed by other means.

After installation, contractor shall mark the plan drawings or provide new drawings to accurately show the actual installation and alignment of the conduit installed. This information shall be provided to the owner.

The Contractor shall satisfy himself as to all local conditions affecting the Work, including the location of underground facilities. He shall make a thorough examination of the Drawings, Specifications, and premises so that he will be entirely familiar with the details and construction of the installation. No charge for an extra shall be allowed where such extra is due to the Contractor's lack of observation or knowledge of local conditions.

The Contractor shall give his personal attention to the faithful prosecution of the Work and shall keep the same under his personal control. He shall maintain sufficient competent supervisory personnel at the job site at all times to represent the Contractor and to supervise and be responsible for the Work and conduct it in cooperation and in coordination with all other work being done on the premises. He shall maintain on the job as many competent foremen as are required to supervise the various operations. The Contractor shall correct at his own expense all errors in the Work arising from his inaccuracy or from the inaccuracy of his employees.

Directional drilling and pipe installation shall be done only by an experienced Contractor specializing in directional drilling and whose key personnel have at least five (5) years experience in this work. Furthermore, the Contractor shall have installed directionally drilled pipe at least as large as 20 inches in diameter, have performed crossings at least 2,000 feet in length, and successfully installed at least 100,000 feet in length.

All Work shall be executed by workmen or artisans who are skilled in their work or trade, and must be done in a neat and skillful manner as specified or detailed in the Contract and in accordance with the best construction practice.

The Contractor shall furnish and be responsible for all the equipment and methods used in the construction Work. The Contractor shall supply the documentation necessary to provide a permanent record of pulling tensions and all other items as related to the installation of the HDPE conduit. The Contractor shall develop a plan that will be reviewed by the engineer.

All roadways that are humped or sunk due to directional boring work shall be fixed immediately. The Contractor is advised to use a registered surveyor to shoot street elevation grade along the Conduit route crossing the street. The surveyor should establish at least 3 elevation points prior to installing any HDPE conduit in the street. The Contractor shall submit a paving plan and a Traffic Control plan along with the Company's name that will repair the street to the City of Naperville for approval. The Contractor is advised the MINIMUM REQUIREMENT is that the entire trench width of 4 feet from curb to curb shall be removed as if it was open cut. The contractor shall repair by removing all unsuitable soil and backfilling with compacted CA6. Replace the street with 12 inches of B.A.M. tact coat, and then with a 2 inch wearing surface or 10 inches of 4500 psi concrete, tact coat and 2 inches of wearing surface. Then the area 35 feet either side of the repair area for the width of the Street for a depth of 2 inches shall be removed by milling and cutting all edges square. The area is then prepared for an application of a 2 inch thick asphalt-wearing surface with tact coat and finished to level and grade. The street is marked to match the previous stripping and markings. The curb and gutter on both sides of the street shall be removed and reinstalled for a length to the first control joint in either direction or 20 feet total on each side or which ever is smaller. However, the final acceptance and requirements shall come from the City of Naperville's Department of Public Works. The Contractor is advised the work shall be inspected and approved and the field paving work completed prior to submitting the conduit work for payment.

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WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	PROJECT DESCRIPTION TRENCH SECTION DETAILS		DRWN BY: JK, PM	PROJECT NO. 0056270001D61.DWG
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	DATE: 4-01-08	WORK REQUEST NO. 56270	ISSUED:	COMPLETED BY:
		ISSUED:	ENGINEER RPS	APPR:	SCALE: NTS
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Guided Horizontal Drilling System (HDD) (Continued)

The Contractor when installing HDPE conduit is to limit the amount of conduit being ovoid by the installation process. The Conduit being pulled out from an installation at the exit pit shall be controlled so as not to oval the conduit. The conduit is required to be round to allow the installation of couplings, steel pipe, bends or schedule 40 PVC conduit. Force fitting of round conduit on to oval conduit is not acceptable. To provide a round connection for the HDPE, the HDPE has to be cut back to where the conduit is round. In the process of cutting the HDPE back a large amount of scrape can be generated. The Contractor is advised the Conduit supplied by the city is furnished 3% over the required amount to allow for some ovaling. In the event the amount of conduit scraped exceeds 3% the Contractor shall furnish and install all remaining HDPE conduit at the Contractors cost to finish the Project. The use of straight 40-foot lengths of HDPE is not acceptable.

Since some of the construction along the route shall be done in close proximity to existing energized conductors as well as lower voltage distribution circuits now in operation, due caution shall be taken to prevent accidental contact with or damage to any part of these lines, or any other overhead conductors or underground utilities encountered along the right-of-way. It shall be the Contractor's responsibility to locate all facilities by hand digging and/or machine aided digging as deemed necessary. The Contractor shall consider all electric lines overhead or underground Energized at all times.

The Contractor shall comply with the Occupational Safety and Health Act of 1970 (OSHA). The Contractor may obtain copies from the Regional Administrator of the Department of Labor, Dirksen Federal Office Building Chicago, Illinois 60690

Construction Drawings, showing the route of the HDPE conduit installation are attached and are part of this specification and no deviation from these shall be made without written approval from the Engineer.

The Contractor shall be responsible for all damages occurring on or off the right-of-way, including, fence, grass, flowers, vegetables, drain tile, drainage or lack of drainage, shrubs, sheds, buildings, tree, sidewalk, driveway and, crop damage, when such damage was necessary or not a necessary incident to the execution of the work or was occasioned by carelessness or neglect on the part of the Contractor. The Contractor shall obtain signed releases and waiver of liens from all property Owner's along the route of the conduit runs. The Contractor shall provide a completed and signed release form to the City of Naperville's for file. The form shall be used for this project. The Contractor shall submit a waiver of lien from every entity who could lawfully and/or possibly file a lien in excess of \$75 arising out of the Contract and related work. The City of Naperville reserves the right to designate which entities involved in the work must submit waivers

Where soil and sod has been removed, it shall be replaced as soon as possible after the backfilling is completed. All areas disturbed by work shall be restored to its original or better condition. The restoration shall include any necessary top soiling, fertilizing, liming, seeding, or mulching, as shown on the plans as removed/damaged. All such work shall be performed in accordance with the specifications as directed by the Engineer. The Contractor shall be held responsible for maintaining all disturbed surfaces and replacements until final acceptance. Restoration shall be considered incidental to the pay item of which it is a component part.

The Contractor will settle damages and obtain releases, releasing Company as well as Contractor, for damages as outlined above.

The approximate locations of existing roads in the vicinity of the work are shown on the drawings furnished by the Company. Any improvement, maintenance, repair or construction required on roads or easements by the Contractor in performing the work covered by the specification, or in traveling to and from the site of the work, shall be at the expense of the Contractor. Access to the work is from existing roads and easements. All other means of egress and ingress shall be provided by and at the expense of the Contractor.

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Guided Horizontal Drilling System (HDD) (Continued)

High density polyethylene pipe is subject to conformance testing of fusion welds performed in the field. The Contractor shall ensure the field set-up and operation of the fusion equipment, and the fusion procedure used by the Contractor's fusion operator while on site. Upon request by the Engineer, the Contractor shall verify field fusion quality by making and testing a trial fusion weld. The trial fusion weld shall be allowed to cool completely; then test straps shall be cut out and bent strap tested in accordance with ASTM D2657. If the bent strap test of the trial fusion fails at the joint, the field fusions represented by the trial fusion shall be rejected. The Contractor shall make all necessary corrections to equipment, set-up, operation and fusion procedure, and shall re-make the rejected fusions at Contractor's expense.

The quantities shown on the "Unit Pricing Sheet" is approximations/estimates for comparing bids, and no claim shall be made against the Company for excess or deficiency therein, actual or relative. The Company shall be the final judge on completion and acceptance of the work. Within the first fifteen (15) days of each calendar month, the Company shall make partial payments to the Contractor for construction accomplished during the preceding calendar month or period on the basis of completed assembly units furnished and certified to by the Contractor, recommended by the Engineer and approved by the Company solely for the purposes of payment. However, that such approval by the Company shall not be deemed approval of the workmanship or materials. Ninety percent (90%) of each estimate approved for payment shall be paid by the Company to the Contractor of the work. However, that any time after work, which in the sole determination of the engineer, amounts to fifty percent (50%) of the maximum contract price has been completed, the Company may elect, in lieu of paying ninety percent (90%) of each subsequent estimate, to pay each subsequent estimate in full. The Invoice as submitted shall contain the following information:

- Field record of work accomplished, horizontal drilling log sheet with item types, quantities, sketches, signed, dated, and attached to the invoice with WF#
- Purchase order # and date
- Vendor #
- Project #
- Project description.
- Account #
- Period of time invoice covers
- Partial Payment number
- Contractors name, address, telephone #, pager#, fax#, name of person submitting invoice, invoice number, invoice date, number of pages
- Update resources paid and resources remaining on each invoice (a running total)
- Update number of items installed and the number of items remaining. On each invoice (a running total)
- Indicate quantities of each item, price per item, and price extension of each item
- Include total payment in bottom portion of invoice. (A running total is also required.)
- Include WF #
- The invoice shall be supplied in triplicate to the Department of Public Utilities-Electric
- The invoice shall be submitted on Contractors letterhead stationary.
- Completed Signed Waivers of Lien shall accompany all invoices. Include material tickets.
- A copy of the certified payroll for the period covered on the invoice shall be provided
- The Invoice shall have attached an authorization letter, signed and dated of any work required but Not covered in the estimated units.
- The Invoice shall include an address box showing payment to:
Bill To:
Accounts Payable P.O. Box 3020
Naperville ILL 60566-7020
Phone (630) 420-6111

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Upon completion by the Contractor of the construction of the work, the Engineer with the assistance of the Contractor, if deemed necessary by the Engineer, shall prepare a final inventory of the work completed showing the total number, description, type of electrical equipment installed, lengths in feet, location and character of assembly units and, after checking such inventory with the Contractor, shall certify it to the Company, together with the total cost of the construction work performed. All invoices shall clearly state full assembly units installed, quantities, types, sizes, percentage of work completed and date completed.

Upon approval of such invoices by the Company, the Company shall make payment to the Contractor of all amounts to which the Contractor shall be entitled there under which shall not have been paid previously. Final payment shall be made not later than ninety (90) days after the completion of construction of the work, as specified, unless with held because of the fault of the Contractor.

The Contractor shall be paid on the basis of the number of units actually installed at the direction of the Company shown by the inventory on the material tickets, specifications, and lists provided. However, the total cost shall not exceed the maximum contract price for the construction of the work as set forth in the bid award, unless such excess shall have been approved in writing by the Engineer and approved by the Company. The Company shall pay for no work under a verbal agreement or understanding that is not documented in writing and approved. No exceptions. This documentation shall accompany all payment requests for additional, less work or modifications to the work and performed and completed by the Contractor. Failure to document your claim of work with a signed city authorized employee's signature affixed to the invoice or document or approval letter will result in rejecting your invoice.

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GUIDED HORIZONTAL DRILLING SYSTEM (HDD) (CONTINUED)

HORIZONTAL DRILLING LOG SHEET
CITY OF NAPERVILLE DEPARTMENT OF ELECTRIC UTILITIES-ELECTRIC

DATE _____ DRILLING EQUIPMENT TYPE AND SIZE _____
 LOCATION _____ INSPECTOR'S NAME _____
 LENGTH OF PUSH _____ FEET WEATHER _____
 DRILLER NAME _____ COMPANY W.F. _____
 CONTRACTOR'S NAME _____ COMPANY BRAND OF DRILLING FLUID _____
 NUMBER AND SIZE OF HDPE CONDUIT IN PUSH _____

PUSH	STATION START	STATION FINISH	TIME HR/MIN	GUIDANCE				DRILLING FLUID				DRILLING PARAMETERS			COMMENTS (NOTES)		
				DISTANCE FT/IN	ANGLE DEGREE	DEPTH FT/IN	LEFT/RIGHT	FLUID	PRESSURE	FLOWRATE	MUD WEIGHT IN	MUD WEIGHT OUT	RPM	THRUST/PULL LBS		ROP	TORQUE FT-LBS
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

SIGNED BY CONTRACTOR _____ DATE _____ SIGNED BY INSPECTOR _____ DATE _____

R.O.P. - RATE OF PENETRATION

- NOTES:
- 1) CONTRACTOR TO FILL OUT FORM FOR EACH PUSH AND DOCUMENT ALL WORK AND RETURN FILLED OUT FORM TO CITY.
 - 2) IDENTIFY ALL FRAC' OUT, DOWN TIME, UNUSUAL DRILLING CONDITIONS, SOLID ROCK WORK ETC.
 - 3) MSDS SHEET FOR DRILLING MUD SHALL BE SUPPLIED TO THE CITY PRIOR TO DRILLING.
 - 4) THE CONTRACTOR SHALL LAYOUT THE ROUTE IN THE EASEMENT AND WITH IN THE PROPERTY LINES PRIOR TO STARTING WORK. ALL LAYOUT IS TO BE DOCUMENTED AND GIVEN TO THE CITY. THE CONTRACTOR SHALL ENGAGE A LICENSED LAND SURVEYOR TO PROVIDE ROUTE, RIGHT WAY OF WAY LIMITS, ELEVATIONS, LINE AND GRADE AND MEASUREMENTS OF DUCT INSTALLED.
 - 5) THE ABOVE BORING LOG SHALL SHOW ALL UTILITY CROSSING, EXISTING STRUCTURES, OBSTRUCTION ENCOUNTERED OR OTHER LAND FEATURES.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	SPECIFICATION FOR THE INSTALLATION OF HDPE CONDUIT BY THE HORIZONTAL DRILLING SYSTEM (HDD)	DATE: 02-19-08
ELECTRIC STANDARDS		PAGE: 22 OF 25
		C30-1950

WF# INFORMATION		CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC			
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73	CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION			
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT TITLE	MAP NO.	CAD FILE	
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS		0056270001D63.DWG	
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	PROJECT DESCRIPTION	DRWN BY:	PROJECT NO.:	
		TRENCH SECTION DETAILS	JK, PM	EU17-06-03	EU73
		DATE	4-01-08	WORK REQUEST NO.	56270
		ISSUED		CHRD:	
		ENGINEER	RPS	SBC:	
		REVISION	1 2 3	APPV:	
		SCALE:	NTS	COMPLETED BY:	
					SHEET 63 OF 73

GUIDED HORIZONTAL DRILLING SYSTEM (HDD) (CONTINUED)

PVC AND HDPE MATERIAL SPECIFICATION

**TABLE 1
RESIN PROPERTIES
(THE RESIN PROPERTIES SHALL BEET OR EXCEED THE VALUES LISTED BELOW FOR HDPE.)**

SDR 13.5-ASTM D3035/F2160/NEMA TC-7

ASTM TEST	DESCRIPTION	VALUES HDPE
D-1505	DENSITY g/CM ³	.941-.951
D-1238	MELT INDEX, g/10 MIN CONDITION E	.05-.50
D-790	FLEXURAL MODULUS, MPa (PSI)	80,000 MIN
D-638	TENSILE STRENGTH AT YIELD (PSI)	3000 MIN
D-1693	ENVIRONMENTAL STRESS CRACK RESISTANCE CONDITION B,F ₁₀	96 HR.MIN.
D-746	BRITTLINESS TEMPERATURE	-75°C

**TABLE 2
HDPE SPECIFICATION
STANDARD LENGTH AND SIZE - REELS AND COILS FOR HDPE**

NOM. SIZE	NOM. ID	NOM.OD OD	MIN.WALL OD	WEIGHT 100 FT.	PULL TENSILE SAFE LBS.	COLOR	TYPE	WALL	REEL SIZE	REEL LENGTH (FT.) NOTE 5	FULL WT./EA. (LBS.) REEL
3"	2.982	3.500	0.259	113.120	2945	BLACK	S/S	SDR 13.5	96X45X68	1000	1364
									102X54X64	1500	1945
									114X45X85	1500	2100
5"	4.738	5.562	0.412	285.394	7444	BLACK	S/S	SDR 13.5	114X45X85	480	1842
									120X45X78	550/750	2067/2637
6"	5.643	6.625	0.491	405.869	10566	BLACK	S/S	SDR 13.5	120X45X85	450/500	2296/2525

**TABLE 3
SCHEDULE 40 PVC SPECIFICATION**

NOM. SIZE	NOM. ID	NOM.OD OD	MIN.WALL WALL	WEIGHT 100 FT.	PULL TENSILE SAFE LBS.
3"	3.068	3.500	0.216	95.591	2488
5"	5.046	5.562	0.258	184.410	4801
6"	6.065	6.625	0.280	239.415	6233

NOTES:

- 1) HDPE DUCT IS SMOOTH WALL TYPE. SMOOTH INTERIOR AND SMOOTH EXTERIOR.
- 2) ALL REELS AND NON-RETURNABLE STEEL REELS
- 3) ASTM F 2160 - SOLID WALL HIGH DENSITY POLYETHYLENE (HDPE) CONDUIT BASED ON CONTROLLED OUTSIDE DIAMETER (OD).
ASTM D 2239 - POLYETHYLENE (PE) PLASTIC PIPE (SIDR) BASED ON CONTROLLED INSIDE DIAMETER.
ASTM D 3035 - POLYETHYLENE (PE) PLASTIC PIPE (SDR) BASED ON CONTROLLED OUTSIDE DIAMETER.
NEMA TC-7 - SMOOTH WALL COILABLE POLYETHYLENE ELECTRICAL PLASTIC CONDUIT.
- 4) S/S - SMOOTH INSIDE SURFACE AND SMOOTH OUTSIDE SURFACE.
- 5) LENGTHS ARE ±10%.

PULL TENSILE SAFE-BASED ON PLASTIC PIPE INSTITUTE TENSILE CALCULATIONS AND MAXI MAXIMUM TENSILE STRESS RECOMMENDATION OF 1/3 YIELD TENSILE FOR PULLS OF 30 TO 60 MINUTES APPLICATIONS AND PULLING.

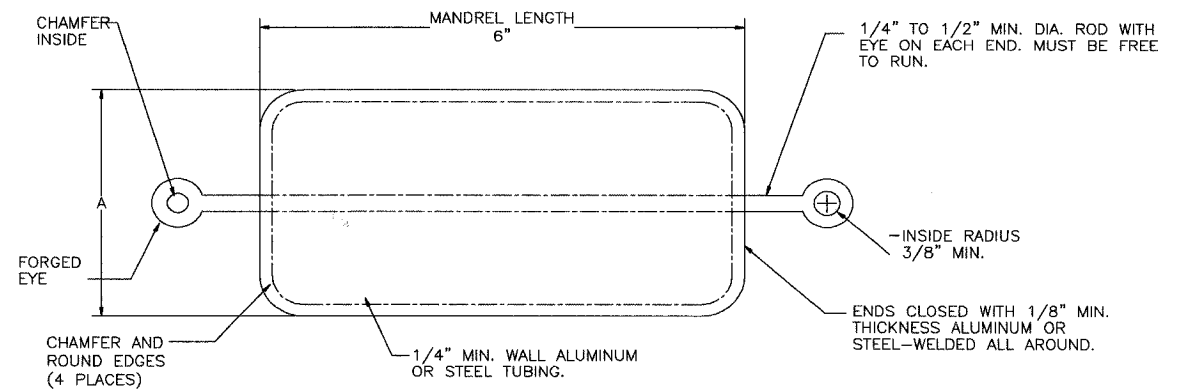
NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	SPECIFICATION FOR THE INSTALLATION OF HDPE CONDUIT BY THE HORIZONTAL DRILLING SYSTEM (HDD)	DATE: 02-19-08 PAGE: 23 OF 25 C30-1950
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F.A. RTE. 2552	SECTION 00-0014-00-PV	COUNTY DUPAGE	TOTAL SHEETS 563	SHEET NO. 305
STA. _____		TO STA. _____		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

CONTRACT 63024

GUIDED HORIZONTAL DRILLING SYSTEM (HDD) (CONTINUED)

**MANDREL
CONTRACTOR TO PROVIDE THE FOLLOWING MANDREL.
CONTRACTOR TO FABRICATE OR PURCHASE MANDREL PER THIS DRAWING**



CONDUIT MANDREL DATA

NOM. CONDUIT SIZE	DIMENSION "A" (MANDREL LENGTH)		WEIGHT (LBS)
	TYPE I	TYPE II	
3"	2-3/4"	2.375"	2
5"	4-3/4"	4.400"	3
6"	5-3/4"	5.263"	4

- 1) TYPE I MANDRELS ARE USED IN SCHEDULE 40 PLASTIC CONDUITS.
- 2) TYPE II MANDRELS ARE ONLY TO BE USED IN SCHEDULE 80 AND HDPE PLASTIC CONDUITS.
- 3) CONTRACTOR TO FURNISH 3", 5" OR 6" MANDRELS IN THE QUANTITY REQUIRED TO COMPLETE THE PROJECT.

AVAILABLE FROM:
INWESCO, INC.
746 N. CONEY AV.
AZUSA, CA 91702
PHONE: (626) 334-9304
FAX: (626) 969-3404
CONTACT: DON SWEETAPPLE

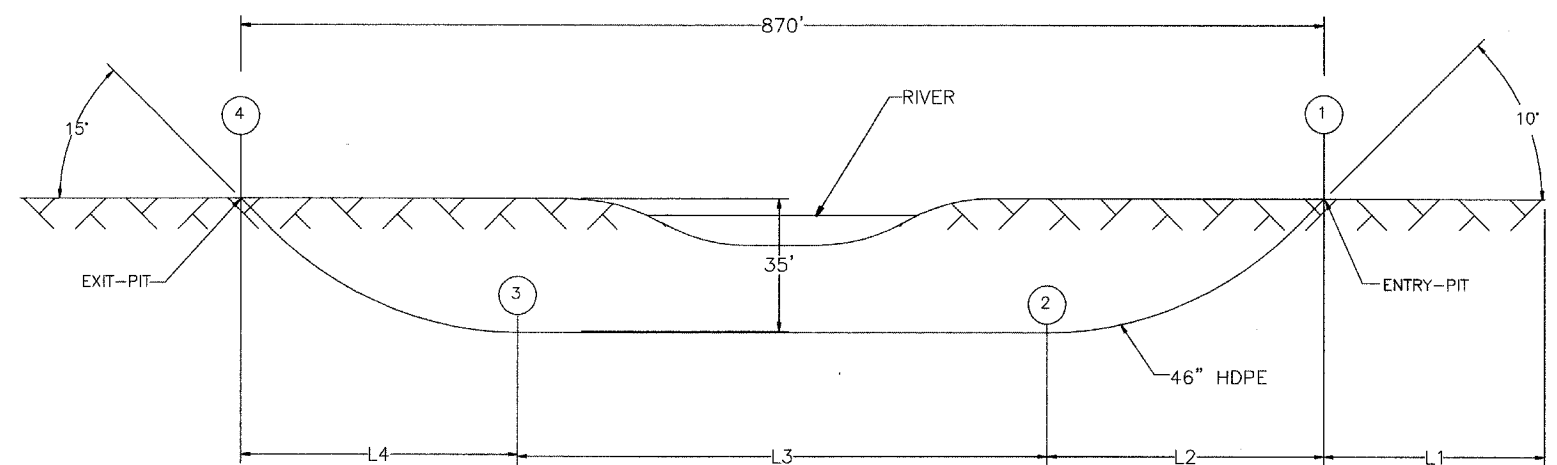
NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	SPECIFICATION FOR THE INSTALLATION OF HDPE CONDUIT BY THE HORIZONTAL DRILLING SYSTEM (HDD)	DATE: 02-19-08 PAGE: 24 OF 25 C30-1950
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WF# INFORMATION		CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC			
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73	CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION			
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT TITLE 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: -	CAD FILE: 0056270001D64.DWG	
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	PROJECT DESCRIPTION TRENCH SECTION DETAILS	DRWN BY: JK, PM	PROJECT NO.: EU12-08-03	EU73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	DATE 4-01-08	ISSUED	WORK REQUEST NO. 56270	CHRD:
		ENGINEER RPS	APPR:	SCALE: NTS	COMPLETED BY:
		REVISION			SHEET 64 OF 73

F.A. RTE. 2552	SECTION 00-0014-00-PV	COUNTY DUPAGE	TOTAL SHEETS 563	SHEET NO. 306
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT 63024				

GUIDED HORIZONTAL DRILLING SYSTEM (HDD) (CONTINUED)

TYPICAL BORE FOR A CROSSING RIVER



TYPICAL RIVER CROSSING, ASSUME THE HDPE PIPE IS 35' DEEP AND APPROXIMATELY 870' LONG WITH A 10 DEG. ENTRY ANGLE AND A 15 DEG. EXIT ANGLE. ACTUAL PULL BACK FORCE WILL VARY DEPENDING ON HACKREAMER SIZE SELECTION, AND USE; BORE HOLE STAYING OPEN; SOIL CONDITIONS; LUBRICATION WITH BENTONITE, DRILLER EXPERTISE, AND OTHER APPLICATION CIRCUMSTANCES.

- L1 = 100' DRAG.
- L2 = DISTANCE TO ACHIEVE DEPTH
- L3 = 870-L2-L4
- L4 = DISTANCE TO ACHIEVE DEPTH

MINIMUM BEND RADIUS AS A FUNCTION OF DIAMETER AND STANDARD DIMENSION RATIO

SDR 13.5				
SIZE	OD in.	WALL in.	MIN. RADIUS in.	WALL in.
3	3.500	.259	40.9	.226
5	-	-	-	-
6	6.625	.491	54.4	.427

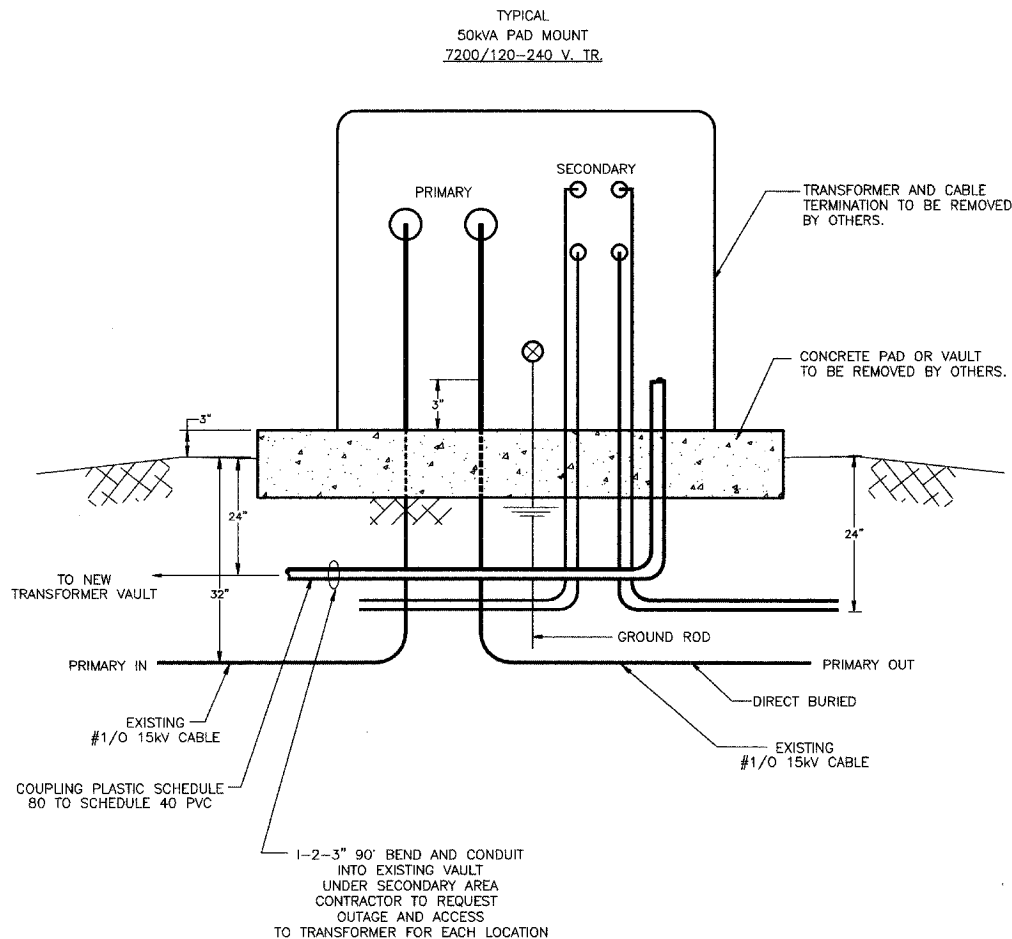
OVALIZATION IS INDEPENDENT OF TENSILE STRENGTH OF MODULUS, BUT IS CONTROLLED BY DIAMETER, WALL THICKNESS AND BENDING RADIUS. THE RADIUS LISTED ABOVE ARE ESTIMATED, AS THE MINIMUM UNSUPPORTED BENDING RADIUS REQUIRED PRODUCING A 5% OVALIZATION. THE VALUES IN THE ABOVE TABLE ARE CALCULATED BASED ON MINIMUM WALL THICKNESS AND ARE A FIRST APPROXIMATION TO OVALITY IN THE BENDING CONDUIT (ACTUAL BENDING RADIUS MAY BE SLIGHTLY SMALLER).
 OVALITY IS CALCULATED AS: OVALITY = [(MAX. OD-MIN. OD)/AVG. OD] X 100.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	SPECIFICATION FOR THE INSTALLATION OF HDPE CONDUIT BY THE HORIZONTAL DRILLING SYSTEM (HDD)	DATE: 02-19-08 PAGE: 25 OF 25 C30-1950
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WF# INFORMATION		CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC			
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73	CALL J.U.U.I.F. 48 HRS. PRIOR TO CONSTRUCTION		MAP NO.:	CAD FILE:
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS		0056270001.DES.DWG	
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	TRENCH SECTION DETAILS		DRAWN BY: JK, PM	PROJECT NO.: EU12-06-03 E1173
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	DATE: 4-01-08	ISSUED	WORK REQUEST NO. 56270	CHKD: SBC: COMPLETED BY:
	ENGINEER RPS	APPR:	SCALE: NTS		
	REVISION 1 2 3				SHEET 65 OF 73

F.A. RTE. 2552	SECTION 00-0014-00-PV	COUNTY DUPAGE	TOTAL SHEETS 563	SHEET NO. 307
STA. TO STA.		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		
CONTRACT 63024				

EXISTING TRANSFORMER CONNECTION DETAIL

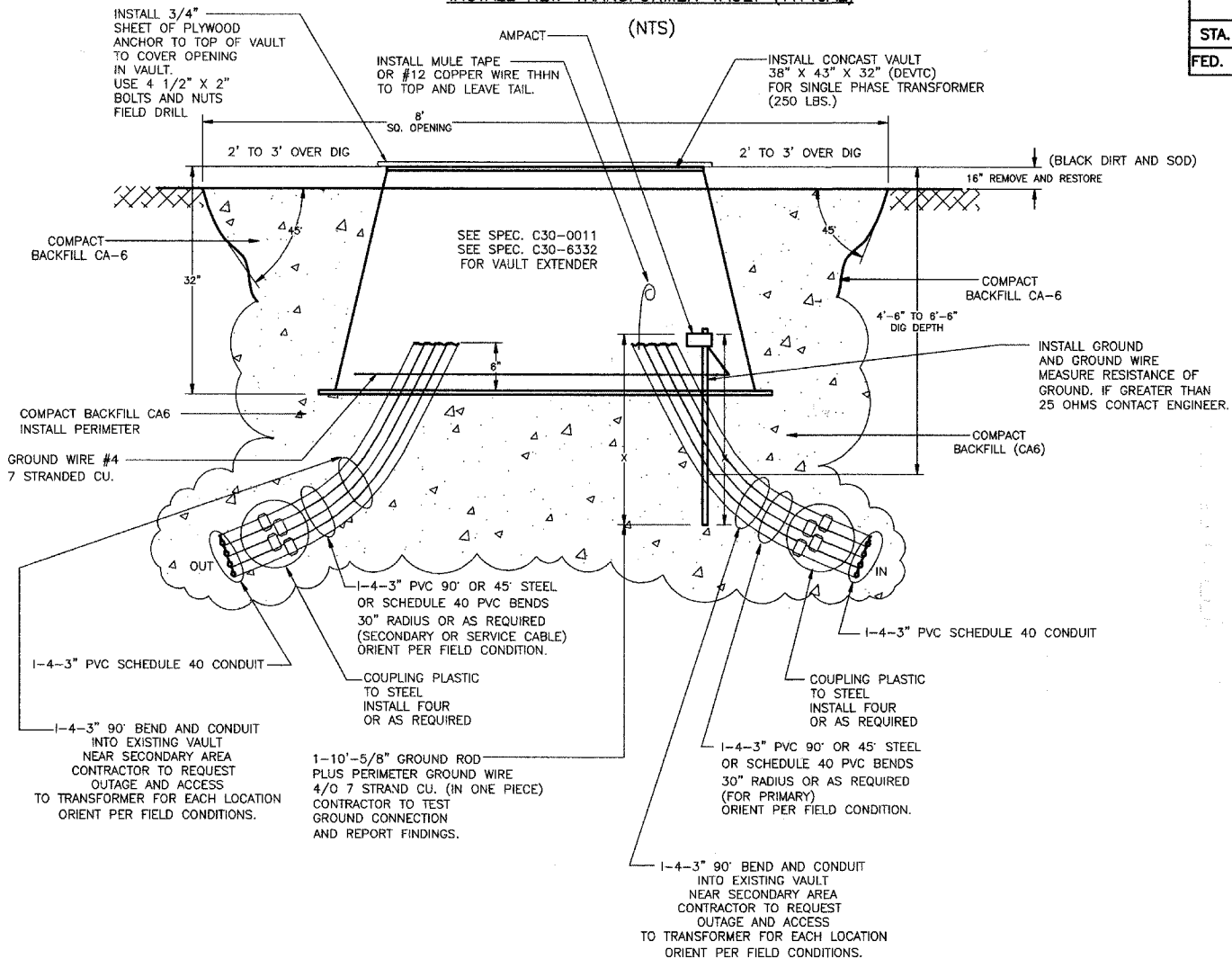


NOTES:

- THIS DRAWING SHOWS AN EXISTING TRANSFORMER WITH CABLE INSTALLED WITH MATERIAL LIST.
- CONTRACTOR TO OBTAIN OUTAGE OF TRANSFORMER PRIOR TO DOING ANY WORK.
- CONTRACTOR TO INSTALL 3", 5" AND 6" CONDUIT INTO EXISTING AS SPECIFIED IN SPECIFICATIONS CAP AND PLUGS ALL CONDUITS.
- ALL GROUNDING CONNECTIONS AND TERMINATORS SHALL BE INSPECTED TO DETERMINE CONDITION OF CONNECTIONS BY THE CONTRACTOR REPORT FINDING.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	EXISTING TRANSFORMER CONNECTION DETAIL	DATE: 04-04-08 Page 1 of 1 56270-600
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INSTALL NEW TRANSFORMER VAULT (TYPICAL)

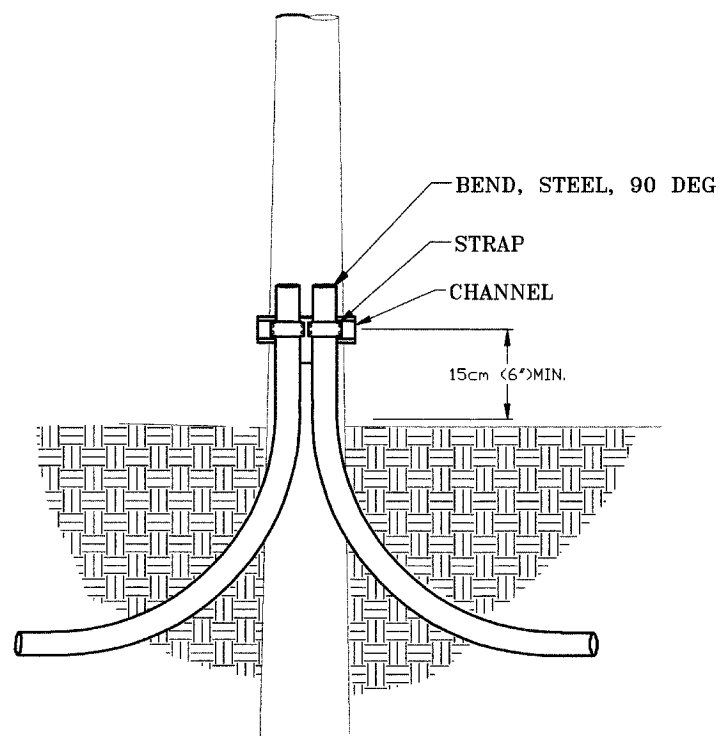


NOTES:

- INSTALL 3/4" CUT TO FIT PLYWOOD OVER OPENING HOLD DOWN WITH 4 BOLTS & NUTS 1/2" HOLES. FIELD DRILL VAULT AND POLYWOOD.
- ESTIMATED WEIGHT - 300 LBS.
- VAULT MATERIAL - FIBERCRETE FORMED.
- INSTALL TOP OF VAULT 6" ABOVE FINAL GRADE.
- INSTALL 2 TO 7 (3" DIA) SCHEDULE 40 90° ELBOWS OR 3" DIA. GALVANIZED ELBOWS INTO VAULT. CONTACT CITY ELECTRICAL ENGINEER (630) 420-6190 FOR LOCATION OF THE ELBOWS IN THE VAULT AND ORIENTATION OF VAULT.
- INSTALL 1-5/8" DIA. X 10'-0" LONG GROUND RODS FOR EACH VAULT. LOCATE ONE ROD AT A CORNER. INSTALL 6" FROM THE CORNER. GROUND ROD TO BE DRIVEN 6" BELOW FINISHED GRADE.
- INSTALL PERIMETER GROUND WIRE #4/0, 7 STRANDS COPPER AND ATTACH TO ONE ROD. (ONE CONTINUOUS PIECE. APPROXIMATELY 16' OF WIRE).
- CONTRACTOR TO ESTABLISH ELEVATION AND LEVEL.
- CONTRACTOR SHALL SUPPORT AND REROUTE UTILITIES AS REQUIRED.
- CA-6 BACKFILL TO BE PLACED 360° AROUND TRANSFORMER VAULT MINUS SURFACE RESTORATION.
- ALL EXCAVATED MATERIAL TO BE REMOVED OFF SITE.
- BENDS TO BE INSTALLED PER FIELD CONDITIONS.
- CUT HOLE IN VAULT AS REQUIRED TO INSTALL CONDUIT.
- INSTALL PLUG FITTING AND TAPE ON ALL CONDUIT BENDS.
- INSTALL VAULT EXTENDER PER C30-6332 (DEVAE).

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	INSTALL NEW TRANSFORMER VAULT (TYPICAL)	DATE: 04-04-08 Page 1 of 1 56270-610
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WF# INFORMATION		CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC			
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73	CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION			
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT TITLE 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.:	CAD FILE D056270001D66.DWG	
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	PROJECT DESCRIPTION TRENCH SECTION DETAILS	DRAWN BY JK, PM	PROJECT NO. EU12-06-03 EU73	
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	DATE 4-01-08	ISSUED	WORK REQUEST NO. 56270	
		ENGINEER RPS	REVISION	CHRG:	
				SBC:	
				COMPLETED BY:	
				APPR:	
				SCALE: NTS	
				SHEET 66 OF 73	



DnB90SA: STANDOFF BEND

Item Code	Description 1	Description 2	DnB90SA		
			Qty	Qty	Qty
285 101 00140	ELBOW, 30"R STL 90 DEG 3"	GALVANIZED	2		
285 101 00180	ELBOW, 36"R STL 90 DEG 5"	GALVANIZED		2	
285 101 00210	ELBOW, 48"R STL 90 DEG 6"	GALVANIZED			2
285 102 00040	COUPLING, PVC 3"	LONG LINE SCH 40	2		
285 102 00110	COUPLING, PVC 5"	LONG LINE SCH 40		2	
285 102 00140	COUPLING, PVC 6"	LONG LINE SCH 40			2
285 199 00005	BRACKET, POLE, 3"	STANDOFF	1	1	1
285 199 00030	STRAP, 3" CONDUIT	WITH 2 BOLT, NUT & WASHERS	2		
285 199 00040	STRAP, 5" CONDUIT	WITH 2 BOLT, NUT & WASHERS		2	
285 199 00050	STRAP, 6" CONDUIT	WITH 2 BOLT, NUT & WASHERS			2
285 199 00070	CHANNEL, 12"	4-WAY T-SLOT	1	1	
285 199 00080	CHANNEL, 24"	4-WAY T-SLOT			1

ASSEMBLY CODES		
CODE	QTY	DESCRIPTION
DnB90SA	1	Standoff Bend Assembly
n is dependent on size		

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	STEEL BEND STUBS AT RISER POLE	DATE: 06-29-04 Page 1 of 2 C30-0320
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NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	STEEL BEND STUBS AT RISER POLE	DATE: 06-29-04 Page 2 of 2 C30-0320
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WF# INFORMATION		CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC			
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73	CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION			
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT TITLE 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: -	CAD FILE: 0056270001D67.DWG	
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	PROJECT DESCRIPTION TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EU12-06-03	EU73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	DATE 4-01-08	ISSUED	WORK REQUEST NO. 56270	CHKD:
		ENGINEER RPS		APRV:	SBC:
		REVISION	1 2 3	SCALE: NTS	COMPLETED BY:

F.A. RTE. 2552	SECTION 00-0014-00-FV	COUNTY DUPAGE	TOTAL SHEETS 563	SHEET NO. 309
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT CONTRACT 63024	

FOUNDATION AGGREGATE
ILLINOIS DEPARTMENT OF TRANSPORTATION
(CAB OR CA9)

- SCOPE
THIS SPECIFICATION COVERS FOUNDATION AGGREGATE CONSISTING OF CRUSHED STONE OR GRAVEL FOR USE IN STABILIZING OR SUSTAINING PILES AND STRUCTURES.
- GENERAL
AGGREGATE SUPPLIED UNDER THIS SPECIFICATION SHALL COMPLY WITH ILLINOIS DEPARTMENT OF TRANSPORTATION SPECIFICATION FOR GRADE CAB (OR GRADE CA9 COARSE AGGREGATE) LATEST REVISION.
- PHYSICAL PROPERTIES
GRADATIONS - THE AGGREGATE SHALL BE MIXED UNIFORMLY, SHALL BE WELL GRADED FROM THE MAXIMUM TO MINIMUM SIZE BETWEEN THE LIMITS SPECIFIED, AND WHEN TESTED WITH LABORATORY SIEVES (SQUARE OPENINGS), SHALL CONFORM TO THE GRADATION GIVEN IN THE FOLLOWING TABLE, WHICH SHOWS THE TOTAL PERCENTAGE PASSING EACH SIEVE.

	PERCENTAGE BY WEIGHT PASSING SIEVE				
	1"	1/2"	#4	#16	#200
CAB	97±3	55±10	10±5	3±1	-
CA9	97±3	60±10	30±10	10±10	6±6

- DELETERIOUS SUBSTANCES - THE AGGREGATE SHALL CONSIST OF TOUGH, DURABLE PARTICLES, REASONABLY FREE FROM AN EXCESS OF SOFT AND UNSOUND MATERIAL AND OTHER OBJECTIONABLE MATTER.
- OTHER PROPERTIES - AGGREGATE SUPPLIED UNDER THIS SPECIFICATION SHALL BE CAPABLE OF PASSING THE REQUIREMENTS FOR SOUNDNESS, RESISTANCE TO ABRASION, FREEZING AND THAWING AND LACK OF EXCESSIVE REACTIVE MATERIALS AS LISTED IN ASTM SPECIFICATION C33. THESE TESTS WILL BE ORDERED ON AGGREGATE OF QUESTIONABLE QUALITY ONLY WHEN THE SIZE OF THE SQUARE OF THE AGGREGATE AND THE POSSIBILITY OF IDENTIFYING FUTURE DELIVERIES FROM THIS SOURCE JUSTIFY SUCH TESTS.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	FOUNDATION AGGREGATE ILLINOIS DEPARTMENT OF TRANSPORTATION (MATERIAL SPECIFICATION)	DATE: 05-01-05 Page 1 of 2 56270-900
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- SAMPLING
SEPARATE SAMPLES SHALL BE TAKEN FROM DIFFERENT PARTS OF THE STOCK PILE. THIS SHOULD BE DONE TO OBTAIN A COMPOSITE SAMPLE REPRESENTING THE AVERAGE OF THE PILE. AFTER THOROUGHLY MIXING THE COMPOSITE SAMPLE, IT SHALL BE POURED THROUGH THE SAMPLE CUTLER TO REDUCE ITS SIZE TO THAT REQUIRED FOR THE TESTS. THE BALANCE SHALL BE DISCARDED.
- TESTING
THE PROPERTIES SPECIFIED IN THIS SPECIFICATION SHALL BE DETERMINED BY TESTS LISTED IN ASTM SPECIFICATION C33 OF LATEST ISSUE.
- PACKAGING
THIS MATERIAL WILL BE PURCHASED EITHER IN BULK OR WEATHERPROOF BAGS, "50 LBS. BAGS".
- SUPPLEMENTARY SPECIFICATIONS
ASTM SPECIFICATION C33-90 OR LATEST REVISION.
- ACCEPTANCE
ALL PROVISIONS OF THE PURCHASE ORDER SHALL APPLY.
- CONSTRUCTION INFORMATION
THE CONTRACTOR SHALL FURNISH ALL ITEMS ON THIS SPECIFICATION.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	FOUNDATION AGGREGATE ILLINOIS DEPARTMENT OF TRANSPORTATION (MATERIAL SPECIFICATION)	DATE: 05-01-05 Page 2 of 2 56270-900
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INSTRUCTION FOR INSTALLING
AND FURNISHING RIP-RAP

THE CONTRACTOR SHALL FURNISH, INSTALL, REMOVE AND REPLACE RIP RAP OF THE TYPE AND SIZE AT THE LOCATION SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. PROPOSED RIP RAP SHALL BE GRADATION #3, 12" MINIMUM THICKNESS. RIP RAP SHALL BE IN ACCORDANCE WITH SECTION 281 OF THE IDOT STANDARD SPECIFICATIONS OF LATEST ISSUE.

RIP RAP INSTALLATION, REMOVAL AND REPLACEMENT WILL BE MEASURED FOR PAYMENT IN PLACE, AND THE AREA COMPUTED IN SQUARE YARDS.

THE WORK FOR RIP RAP IN PLACE OF THE TYPE SHOWN ON THE PLANS AND SPECIFIED HEREIN OR AS SHOWN ABOVE SHALL INCLUDE ALL MATERIAL, LABOR, EQUIPMENT RESTORATION AND APPURTENANCES REQUIRED FOR A COMPLETE ITEM PLUS LEVELING AND GRADING.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	INSTRUCTION FOR INSTALLING AND FURNISHING RIP-RAP	DATE: 05-01-05 Page 1 of 1 56270-910
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COARSE AGGREGATE

- SCOPE
THIS SPECIFICATION COVERS COARSE AGGREGATE CONSISTING OF CRUSHED STONE OR GRAVEL FOR USE IN CONCRETE.
- GENERAL
COARSE AGGREGATE SUPPLIED UNDER THIS SPECIFICATION SHALL COMPLY WITH ASTM SPECIFICATION C33-90 OF LATEST REVISION.
- PHYSICAL PROPERTIES
GRADING - THE COARSE AGGREGATE SHALL BE WELL GRADED BETWEEN THE FOLLOWING LIMITS:

SIZE NO.	NOMINAL SIZE	PERCENTAGE BY WEIGHT PASSING SIEVE						
		1"	3/4"	1/2"	3/8"	#4	#8	#16
8	3/8" TO #4	-	-	100	95 TO 100	10 TO 30	0 TO 10	0 TO 5
7	1/2" TO #4	-	100	90 TO 100	40 TO 70	0 TO 15	0 TO 5	-
67	3/4" TO #4	100	90 TO 100	-	20 TO 55	0 TO 10	0 TO 5	-

- DELETERIOUS SUBSTANCES (CLASS 25) - THE AMOUNT OF DELETERIOUS SUBSTANCES IN COARSE AGGREGATE SHALL NOT EXCEED THE FOLLOWING ITEM:

ITEM	MAXIMUM PERMISSIBLE PERCENTAGE BY WEIGHT OF TOTAL SAMPLE
CLAY LUMPS AND FRAGILE PARTICLES	5.0
SUM OF CLAY LUMPS, FRAGILE PARTICLES AND CHEM.	7.0
COAL AND IGNITE	0.5
MATERIAL FINER THAN #200 SIEVE	1.0

- OTHER PROPERTIES - COARSE AGGREGATE SUPPLIED UNDER THIS SPECIFICATION SHALL BE CAPABLE OF PASSING THE REQUIREMENTS FOR SOUNDNESS, RESISTANCE TO ABRASION, FREEZING AND THAWING AND LACK OF EXCESSIVE REACTIVE MATERIALS AS LISTED IN ASTM SPECIFICATION C33. THESE TESTS WILL BE ORDERED ON COARSE AGGREGATE OF QUESTIONABLE QUALITY ONLY WHEN THE SIZE OF THE SOURCE OF THE AGGREGATE AND THE POSSIBILITY OF IDENTIFYING FUTURE DELIVERIES FROM THIS SOURCE JUSTIFY SUCH TESTS.
- WEIGHT - THE QUANTITY IS IN TONS, UNIT OF ISSUE IS POUNDS. THE WEIGHT SHOULD BE DETERMINED AS LOADED IN THE HAULING UNIT, INCLUDING ANY NATURAL MOISTURE PRESENT. DO NOT ADD WATER.

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- SAMPLING
SEPARATE SAMPLES SHALL BE TAKEN FROM DIFFERENT PARTS OF THE STOCK PILE. THIS SHOULD BE DONE TO OBTAIN A COMPOSITE SAMPLE REPRESENTING THE AVERAGE OF THE PILE. AFTER THOROUGHLY MIXING THE COMPOSITE SAMPLE, IT SHALL BE POURED INTO A PILE AND QUARTERED IN FOUR EQUAL PARTS; OPPOSITE QUARTERS SHALL BE DISCARDED, AND THE QUARTERING REPEATED UNTIL THE DESIRED SAMPLE REMAINS.
- TESTING
THE PROPERTIES SPECIFIED IN THIS SPECIFICATION SHALL BE DETERMINED BY TESTS LISTED IN ASTM SPECIFICATION C33 OF LATEST ISSUE.
- ALL TEST RESULTS AND SAMPLES SHALL BE DELIVERED TO THE DEPARTMENT OF PUBLIC UTILITIES (ELECTRIC) 1392 AURORA AV., NAPERVILLE, IL. 60566.
- SUPPLEMENTARY SPECIFICATIONS
ASTM SPECIFICATION C33-90 OR LATEST REVISION.
- ESTIMATED WEIGHT
WEIGHT PER CUBIC FOOT:
COARSE AGGREGATE - 90 LBS. - 95 LBS. LOOSE
150 LBS. DRY COMPACTED
140 LBS. WET COMPACTED
OPTIMUM MOISTURE
- ACCEPTANCE
ALL PROVISIONS OF THE PURCHASE ORDER SHALL APPLY.
- CONSTRUCTION INFORMATION
THE CONTRACTOR SHALL FURNISH ALL ITEMS ON THIS SPECIFICATION.

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INSTRUCTION FOR INSTALLING, REMOVAL AND REPLACEMENT
OF BITUMINOUS PAVEMENT (TYPE-II)

THIS ITEM SHALL CONSIST OF SAW CUTTING THE EXISTING PAVEMENT, THE REMOVAL OF EXISTING BITUMINOUS PAVEMENT (12" TO 18" MINIMUM) ABOVE THE MILLING SURFACE, THE INSTALLATION OF BITUMINOUS SURFACE MIX THAT MATCHES THE EXISTING TYPICAL SECTION OF THE ROADWAY IN CONFORMANCE WITH PROVISIONS SET FORTH IN THESE DOCUMENTS, AT LOCATIONS WHERE THE PROPOSED IMPROVEMENT CROSSES OR PARALLELS BITUMINOUS ROADWAYS, AS DETAILED IN THESE PLANS.

BITUMINOUS MATERIAL USED TO COMPLETE THIS ITEM OF WORK SHALL CONFORM TO SECTION 406 OF THE STANDARD SPECIFICATIONS. MORE SPECIFICALLY THE BITUMINOUS CONCRETE SHALL BE CLASS 1 SURFACE COURSE, TYPE 2, MIXTURE D.

AFTER SAW CUTTING, ALL LOOSE AND UNSOUND MATERIAL SHALL BE REMOVED FROM THE REPLACEMENT AREA BY MEANS OF PNEUMATIC, MECHANICAL OR OTHER TOOLS AS WILL BE ACCEPTABLE TO THE ENGINEER. MATERIALS REMOVED FROM THE REPAIR AREA SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE JOBSITE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

AREAS OF UNSOUND BASE OR SUB-BASE SHALL BE IDENTIFIED, MEASURED, AND THE ENGINEER SHALL BE NOTIFIED. A TEMPORARY PATCH MAY BE REQUIRED.

THE OPENINGS SHALL BE PROTECTED WITH TYPE I OR TYPE II BARRICADES WITH LIGHTING FOR THE PERIOD BEGINNING IMMEDIATELY AFTER REMOVAL IS COMPLETED UNTIL THE OPENINGS HAVE BEEN FILLED WITH BITUMINOUS MIXTURE AND ALL DEBRIS IS CLEARED AWAY, OR WITH SUFFICIENT STEEL PLATING TO ALLOW TRAFFIC TO PASS. PROTECTION OF THE EXCAVATION SHALL BE IN ACCORDANCE WITH THESE SPECIAL PROVISIONS NOTED HEREIN AS TRAFFIC CONTROL.

PRIOR TO PLACING BITUMINOUS CONCRETE, ALL SURFACES OF THE REPAIR AREA SHALL BE BLOWN FREE OF DUST AND LOOSE AGGREGATE PARTICLES WITH COMPRESSED AIR. A TACK COAT CONFORMING TO SECTION 406 OF THE STANDARD SPECIFICATIONS SHALL BE APPLIED TO ALL SURFACES OF THE REPLACEMENT AREA AT A RATE OF 0.10 GAL OF RESIDUAL BRUMER PER SQUARE YARD. THE OPENING SHALL THEN BE FILLED IN LIFTS OF SURFACE COURSE MIXTURE AND COMPACTED BY MEANS OF A SELF-PROPELLED STEEL WHEEL ROLLER TO NOT LESS THAN 95 PERCENT OF THE MODIFIED PROCTOR DENSITY.

THE FINISHED SURFACE OF THE FINAL REPLACEMENT SHALL BE FLUSH, SMOOTH AND LEVEL TO THE SURROUNDING PAVEMENT SURFACE.

THE FINISHED SURFACE OF THE FINAL REPLACEMENT SHALL MEASURE 2 INCHES IN DEPTH.

WHEN, IN THE OPINION OF THE ENGINEER, BITUMINOUS SURFACE COURSE MIXTURE DELIVERED TO THE WORK SITE FOR PATCHING HAS COOLED TO THE POINT OF BEING UNSATISFACTORY, IT SHALL NOT BE USED IN THE WORK.

THE METHOD OF MEASUREMENT FOR THIS ITEM OF WORK SHALL BE IN SQUARE YARDS, WHICH WILL BE CALCULATED BY THE FIELD MEASUREMENT. MEASUREMENT SHALL BE CONSIDERED FULL COMPENSATION FOR SAW CUTTING, REMOVAL AND DISPOSAL OF EXCAVATED MATERIALS, REMOVAL AND INSTALLATION OF BITUMINOUS MATERIALS TO MATCH EXISTING PAVEMENT SECTIONS, PLACING OF TACK COAT AND BITUMINOUS SURFACE COURSE, TEMPORARY ASPHALT PATCHES, TRAFFIC CONTROL, AND ANY OTHER LABOR, EQUIPMENT, TOOLS OR MATERIALS NECESSARY TO COMPLETE THIS ITEM TO THE SATISFACTION OF THE ENGINEER.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE PER SQUARE YARD FOR BITUMINOUS PAVEMENT REPLACEMENT, TYPE II, WHICH SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, EQUIPMENT AND APPURTENANT NECESSARY FOR A COMPLETE JOB.

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WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC			
CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION			
PROJECT TITLE 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: -	CAD FILE: 0056270001D68.DWG	
PROJECT DESCRIPTION TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EU12-05-03	
DATE 4-01-08	WORK REQUEST NO. 56270	ISSUED BY: RPS	COMPLETED BY:
ENGINEER RPS	SCALE: NTS	APPROVED BY:	SHEET 68 OF 73
REVISION			

F.A. RTE. 2552	SECTION 00-0014-00-PV	COUNTY DUPAGE	TOTAL SHEETS 563	SHEET NO. 310
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
CONTRACT 63024				

TRANSMISSION LINE LANDSCAPING OVERHEAD OR UNDERGROUND

THIS SPECIFICATION COVERS THE REQUIREMENTS FOR THE INSTALLATION OF FLOWERS, PLANTS, TREES, SHRUBS, EVERGREENS AS PART OF THE LANDSCAPING WORK OVERHEAD AND UNDERGROUND LINES AND RELATED FACILITIES IN ACCORDANCE WITH THE JOB DRAWINGS.

I. GENERAL

- THE NUMBER, TYPE AND LOCATION OF PLANTINGS SHALL BE AS SHOWN ON THE JOB OR DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL GIVE HIS PERSONAL ATTENTION TO THE FAITHFUL CARRYING OUT THE WORK. COMPETENT AND SKILLFUL MEN SHALL BE EMPLOYED TO EXECUTE THE WORK WHICH SHALL BE SUPERVISED BY AN EXPERIENCED ARBORIST FOREMAN AT ALL TIMES.
- THE CONTRACTOR SHALL HAVE AVAILABLE AND IN GOOD CONDITION ALL EQUIPMENT NECESSARY FOR THE SAFE TRANSPORTING OF PLANTINGS TO THE SITE AND FOR SETTING PLANTINGS IN FINAL POSITION.
- THE CONTRACTOR SHALL CONTAIN HIS OPERATION WITHIN THE OWNER'S PROPERTY AND SHALL AVOID OR MINIMIZE ANNOYANCE OR DISTURBANCE TO THE PUBLIC.
- CARE SHALL BE TAKEN TO AVOID DISTURBANCE OF ALL AREAS OUTSIDE OF THE WORK AREAS AND ANY DAMAGE THERE TO SHALL BE IMMEDIATELY REPAIRED AND RESTORED TO THE ORIGINAL CONDITION.
- WHEN THE WORK IS COMPLETED, THE CONTRACTOR SHALL RESTORE THE SURFACE OF OWNER'S PROPERTY AND/OR ANY OTHER LAND USED BY THE CONTRACTOR TO ITS ORIGINAL CONDITION. ALL DEBRIS, EXCESS EXCAVATED MATERIAL, AND ALL OTHER MATERIAL WHICH COLLECTS AS A RESULT OF THE CONTRACTOR'S OPERATION, SHALL BE REMOVED IMMEDIATELY.
- ALL BRICKS, MORTAR, DECORATIVE STONE, CONCRETE, STONE, SAND GRAVEL, MODULAR BRICK FORMS, MORTAR OF ALL TYPES, PULVERIZED BLACK DIRT, TREES, FENCE INSTALLATION AND REMOVAL, FLOWERS, SHRUBS, EVERGREEN TREES AND TO BE FURNISHED BY THE CONTRACTOR WITH LABOR TO INSTALL.
- THE CONTRACTOR SHALL REMOVE ONLY THOSE TREES AND SHRUBS SO DESIGNATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER, OR THOSE THAT DIRECTLY INTERFERE WITH THE SAFETY OR QUALITY OF CONSTRUCTION PRACTICES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF TWO DAYS IN ADVANCE OF REMOVAL OF TREES THAT ARE NOT SAFE. THE CONTRACTOR SHALL EXERCISE EXTREME CARE WHEN WORKING NEAR EXISTING TREES AND SHRUBS TO AVOID DAMAGING THOSE NOT SCHEDULED FOR REMOVAL AND SHALL REPAIR ANY DAMAGED PLANTS AT HIS OWN EXPENSE. THE CONTRACTOR SHALL PROTECT ALL OTHER TREES, SHRUBS AND LANDSCAPING FEATURES. TREES REMOVED OR DAMAGED BY THE CONTRACTOR THAT HAVE NOT BEEN DESIGNATED FOR REMOVAL, SHALL BE REPLACED BY THE CONTRACTOR AT NO COST TO THE CITY. TREES TO HAVE BRANCHES OR ROOTS PRUNED SHALL BE DONE IN A NEAT AND CLEAN MANNER (I.E. WITH A SAW DESIGNED FOR PRUNING OR SHEARS OR LOPPERS) AND NOT TORN, PULVED, OR BROKEN WITH CONSTRUCTION EQUIPMENT. THE CONTRACTOR SHALL HAVE THE SERVICES OF A REGISTERED AND CERTIFIED ARBORIST ON SITE DURING THE TREE REMOVAL, TRIMMING AND PRUNING WORK. THE ARBORIST SHALL IDENTIFY THE TYPE, SIZE, DIAMETER AND CONDITION OF ALL TREES AND EVERGREENS PRIOR TO REMOVAL. TRIMMING AND PRUNING AND PROVIDE A REPORT FOR EACH TREE OR EVERGREEN WORKED ON. THE REPORT SHALL BE PROVIDED IN DUPLICATE AND GIVEN TO THE ENGINEER FOR REVIEW. SEE DETAILS OF TREE REQUIREMENTS IN PLAN DRAWINGS OR AS DIRECTED BY THE ENGINEER.

I. GENERAL (CONTINUED)

- TREES SHALL BE INSTALLED A MINIMUM OF FIVE FEET HORIZONTALLY FROM SANITARY SEWERS, SANITARY SERVICES, WATER MAINS, AND WATER SERVICES. TREES SHALL BE INSTALLED A MINIMUM OF TEN FEET HORIZONTALLY FROM UTILITY STRUCTURES AND APPURTENANCES, INCLUDING, BUT NOT LIMITED TO, MANHOLES, VALVE VAULTS, VALVE BOXES AND FIRE HYDRANTS.
- THE CONTRACTOR SHALL PROVIDE THE SERVICES OF A LICENSED AND REGISTERED ARBORIST, A REGISTERED LANDSCAPER ARCHITECT, PLUS A STATE AND COUNTY LICENSED, CERTIFIED AND APPROVED LANDSCAPING SERVICE ASSIGNED AND PERFORM SERVICES FOR THE DURATION OF THE PROJECT. THE ARBORIST AND REGISTERED LANDSCAPER ARCHITECT SHALL OBTAIN ALL PERMITS REQUIRED ON THE PROJECT AS IT RELATES TO SURFACE RESTORATION, VEGETATION, DECORATIVE FEATURES, PROVIDE LANDSCAPING DESIGNS, GARDENS, AND TREES AND SHRUBS AND EVERGREENS AND SOILING, SEEDING AND BLACK DIRT INSTALLATION, AND SHALL DIRECT PRUNING AND TRIMMING OPERATIONS TO FOLLOW THE BEST PRACTICES AND METHODS WHEN IT COMES TO SURFACE RESTORATION, VEGETATION, TREES AND PLANTS. THE ARBORIST AND/OR ARCHITECT SHALL WRITE REPORTS WITH RECOMMENDATIONS, CAUSE AND EFFECT RELATION SHIPS, PROVIDE LANDSCAPING DESIGNS FOR CUSTOMER APPROVAL AND PROVIDE POSSIBLE SOLUTIONS WITH OPTIONS OF ALL WORK BEING DONE OR PROPOSED WHEN REQUESTED TO DO SO BY THE OWNER. THE REGISTRATION NUMBER AND NAME OF THE REGISTERED LANDSCAPE ARCHITECT SHALL BE PROVIDED PRIOR TO STARTING WORK. IN ADDITION, THE CONTRACTOR SHALL PROVIDE THE ARBORIST NAME AND CREDENTIALS. THE COST OF PROVIDING THIS SERVICE IS INCIDENTAL TO THE COST OF THE CONTRACT.
- ALL RESTORATION SHALL NOT BE DONE EXCEPT FOR PREP WORK OF THE AREA, PRUNING OR TRIMMING WHEN THE SUMMER SEASON TEMPERATURE SHALL EXCEED 85 DEGREES FAHRENHEIT OR BELOW 40 DEGREES FAHRENHEIT WINTER TEMPERATURE. ALL RESTORATION SHALL START BY APRIL 1 AND STOP BY NOVEMBER 15, OR SOONER AS WEATHER PERMITS. IF WINTER CONDITIONS PREVENT RESTORATION, FOLLOWING THE WINTER SEASON THE CONTRACTOR SHALL RESUME RESTORATION WORK BY APRIL 1, WEATHER PERMITTING, OF THE NEXT YEAR OR IN ACCORDANCE WITH LOCAL AGENCIES. THE OWNER SHALL RETAIN FUNDS OF A MINIMUM EQUAL TO THE WORK TO BE DONE OR MORE, AND SHALL BE PAID WHEN THE WORK IS COMPLETED. THE GUARANTEE SHALL BE FROM THE DATE THE ENGINEER HAS SIGNED THAT ALL SURFACE RESTORATION IS COMPLETED.
- THIS WORK SHALL CONSIST OF: THE CUTTING, GRUBBING, REMOVAL AND DISPOSAL OF TREES AND EVERGREENS AT THE LOCATIONS SHOWN ON THE PLANS OR SPECIFIED BY THE ENGINEER. NO TREES SHALL BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER. TREE REMOVAL METHODS SHALL BE IN CONFORMANCE WITH IODP ARTICLE 201.04 OF THE STANDARD SPECIFICATIONS.
- CLEARING WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED AS INCLUDED IN THE UTILITY INSTALLATION REQUIRED IN THE CONTRACT.
- THE CONTRACTOR SHALL REMOVE ALL STUMPS, TREES AND EVERGREENS AND DISPOSE OFF SITE, PLUS RESTORE SURFACE WITH A 6" LAYER OF BLACK DIRT AND SOIL.
- THE CONTRACTOR SHALL REQUIRE THAT AN ARBORIST AND ARCHITECT LANDSCAPER LOOK AT EACH TREE FOR DISEASE, FUNGUS OR BEETLE INFESTATION AND SOUND TREE FOR STRUCTURAL SUITABILITY AND GENERAL CONDITION OF TREE BEFORE CUMBERG OR SAW-CUT. A REPORT SHALL BE GIVEN TO THE ENGINEER INDICATING THEIR FINDINGS.
- TREES TO BE REMOVED OR INSTALLED WILL BE MEASURED IN INCH-DIAMETER. THE DIAMETER WILL BE MEASURED AT A POINT FOUR FEET ABOVE THE HIGHEST GROUND LEVEL AT THE BASE OF THE TREE AND WILL BE DETERMINED BY ASSURING THE CIRCUMFERENCE OF THE TREE AND DIVIDING THIS MEASURE CIRCUMFERENCE BY 3.1416.
- TREE REMOVAL OR INSTALLATION WILL BE PAID FOR AT THE CONTRACT UNIT PRICES PER UNIT DIAMETER FOR TREE REMOVAL/INSTALLATION, 6"-2" INCH DIAMETER, AND 13"-30" INCH DIAMETER WHICH SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, EQUIPMENT AND APPURTENANCES NECESSARY TO COMPLETE THE WORK.
- CONTRACTOR IS ADVISED TREE REMOVAL OR INSTALLATION REQUIRES THAT ALL UTILITIES ARE TO BE IDENTIFIED PRIOR TO REMOVAL AND PROVIDE PROPER PROTECTION (WOOD LAGGING GROUND TREES).

II. PLANT MATERIAL

- THE CONTRACTOR SHALL INVESTIGATE SOURCES OF SUPPLY TO ENSURE THAT ALL THE PLANTS DESIGNATED ON THIS PLANTING LIST IN THE SIZE, VARIETY, AND QUALITY NOTED AND SPECIFIED ARE AVAILABLE. FAILURE TO TAKE THIS PRECAUTION WILL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY TO FURNISH AND INSTALL ALL THE PLANT MATERIAL, STRICTLY ACCORDANCE WITH THE CONTRACT REQUIREMENTS, AND WITHOUT ADDITIONAL EXPENSE TO THE OWNER.
- ALL STOCK FURNISHED SHALL BE WELL SHAPED PLANTS AND MUST DETRIBUTE TO NAME. ONE OF EACH SIZE SHALL BE LEGALLY TAGGED WITH A WEATHER PROOF TAG STATING THE SIZE AND STANDARD BOTANICAL NAME AS RECOMMENDED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- ALL BALLED AND BURLAPPED STOCK SHALL CONFORM FULLY TO THE SPECIFICATIONS AS SET FORTH BY THE AMERICAN NURSERYMEN'S ASSOCIATION AND THE ILLINOIS LANDSCAPE CONTRACTORS ASSOCIATION.
- THE CALIBER OF TREE TRUNKS SHALL BE TAKEN SIX INCHES ABOVEGROUND LEVEL FOR TREES UP TO AND INCLUDING FOUR INCHES CALIBER AND 12 INCHES ABOVE GROUND LEVEL FOR TREES OF LARGER CALIBER.
- NO SUBSTITUTION SHALL BE MADE WITHOUT WRITTEN AUTHORIZATION BY THE OWNER'S REPRESENTATIVE.
- UPON NOTICE FROM THE OWNER'S REPRESENTATIVE, ALL PLANTS NOT TRUE TO SIZE, QUALITY, VARIETY AND COLOR SPECIFIED SHALL BE REMOVED BY THE CONTRACTOR AND IMMEDIATELY REPLACED AT THE CONTRACTOR'S EXPENSE WITH PLANTS MEETING THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS. THE DECISION OF THE OWNER'S REPRESENTATIVE SHALL BE FINAL.
- ALL PLANTS SHALL BE DUG WITH REASONABLE CARE AND SKILL IMMEDIATELY PREVIOUS TO SHIPMENT, OR IF DUG IN ADVANCE, ROOTS MUST BE CAREFULLY PROTECTED AT ALL TIMES TO PREVENT EXCESSIVE DRYING AND LOSS OF VITALITY. ROOTS SHALL NOT BE CUT NOR SHALL ANY ROOTS OVER ONE HALF INCH DIAMETER BE CUT OR BROKEN. SPECIAL PRECAUTIONS SHALL BE TAKEN TO AVOID ANY UNNECESSARY INJURY TO OR REMOVAL OF FIBROUS ROOTS.
- EACH SPECIES OR VARIETY SHALL BE HANDLED AND PACKED IN THE APPROVED MANNER FOR THAT PLANT, HAVING REGARD TO THE SOIL AND CLIMATIC CONDITIONS AT THE TIME AND PLACE OF DIGGING, THE TYPE OF TRANSIT, THE DELIVERY SITE, AND THE TIME THAT WILL BE CONSIDERED IN TRANSIT OR DELIVERY. ALL PLANTS MUST HAVE AN CUSTOMARY IN GOOD PRACTICE SHALL BE TAKEN TO ENSURE THAT UPON ARRIVAL AT THE DESTINATION THE PLANTS ARE IN GOOD CONDITION FOR SUCCESSFUL GROWTH.

III. TREES AND EVERGREENS

- IDENTIFY SPECIES USING AN ARBORIST. INSTALL ALL WORK USING A REGISTERED, LICENSED, LANDSCAPING SERVICE. REMOVE, FURNISH, DELIVER, MAKE READY WORK, GRADE, LEVEL, DISPOSAL OF EXCAVATED MATERIAL AND PLANT A TREE OR EVERGREEN OF THE SAME SPECIES, VARIETY AND SAME SIZE. INITIAL, SUITABLE BLACK DIRT FILL, GRADE, INITIAL WITH MULCH AND WATER. IF THIS IS NOT POSSIBLE FOR TREE REPLACEMENT DO THE FOLLOWING: FURNISH, DELIVER AND PLANT WITH THE SAME AT LOCATIONS DESIGNATED BY THE ENGINEER. A NUMBER OF TREES OF THE SAME SPECIES AND VARIETY HAVING A MINIMUM DIAMETER OF 4 INCHES, WHOSE TOTAL INCH DIAMETER EQUALS THE INCH DIAMETER OF THE TREE REMOVED. DIAMETER OF THE PRESENT TREE 4" AND LESS IN DIAMETER SHALL BE MEASURED AT 6 INCHES FROM THE TOP OF ROOT BALL OR AS DENOTED ON THE DRAWINGS. TREES 4" AND LARGER IN DIAMETER SHALL BE MEASURED AT 12 INCHES FROM TOP OF ROOT BALL OR AS DENOTED ON THE DRAWINGS. THE EXCAVATION FOR THE TREE OR EVERGREEN SHALL BE THREE TIMES THE DIAMETER SIZE OF THE ROOT BALL, PLUS 3 TO 4 FEET DEEP AND THE EXCAVATED AND EXISTING GROUND MATERIALS REMOVED FROM THE SITE AND DISPOSED OF OFF SITE. DECORATIVE LOGS INSTALLED AND NEW PULVERIZED DIRT WITH THE PROPER NUTRIENTS APPLIED, SUPPORTED BY ROPE, BE TAKEN DOWN, AND 3 INCH THICK BED OF MULCH AROUND THE TREE COVERING THE EXCAVATED AREA, PLUS WATERING FOR 2 MONTHS UNDER THE DIRECTION OF AN ARBORIST ENGINEER. ALL TREES AND EVERGREENS PLANTED SHALL BE LOCATED AND IDENTIFIED AND DATED AND PUT ON A DRAWING AND THE TREE OR EVERGREEN IDENTIFIED BY SPECIES AND SIZE WITH THE STREET ADDRESS AND GIVEN TO THE ENGINEER FOR THE RECORD. ALL TREES AND EVERGREENS SHALL BE GUARANTEED TO GROW FOR ONE YEAR AND 6 MONTHS FROM THE DATE OF THE AS-BUILT DRAWING, WHICH IS SIGNED AND DATED BY THE ENGINEER.

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II. TREES AND EVERGREENS (CONTINUED)

- THE CONTRACTOR, UPON APPROVAL OF THE ENGINEER, MAY ELECT TO LOCATE UNDER ANY TREE OR EVERGREEN WITH A TRUNK SIZE OF 6 INCHES OR LARGER. HOWEVER, ALL TREES OR EVERGREENS WITH A TRUNK SIZE OF 12 INCHES AND LARGER SHALL BE LOCATED, AUGURING SHALL, WILL EXTEND THE FULL 1/4 INCH OF THE DROP LINE OF THE TREE AND PASS NO CLOSER THAN 1 FT. TO THE OUT SIDE DIAMETER OF THE TRUNK. DEVIATION TO FROM THE CONDUIT CENTERLINE TO AVOID TREE TRUNKS WILL BE PERMITTED WHERE POSSIBLE, BUT AT NO ADDITIONAL COST TO THE OWNER. THE DIRECTIONAL BORING TECHNIQUE MAY BE CONSIDERED AND PERFORMED WITH THE ENGINEER'S APPROVAL AT NO COST TO THE OWNER. ALL WORK TO REMOVE THE TREES OR EVERGREENS ARE UNDER THE SUPERVISION OF AN ARBORIST PROVIDED BY THE CONTRACTOR. ALL EXCAVATION SHALL BE BACKFILLED WITH 6 INCHES OF BLACK DIRT AND LEVELLED AND GRADED.
- SHRUBS, BUSHES, FLOWERS, PLANTS, SMALL TREES AND SMALL EVERGREENS SHALL BE FURNISHED, DELIVERED, AREA PREPARED, BLACK DIRT BACK FILL SHALL MADE LEVEL, GRADE, AND COMPACT AND PROMOTE DRAINAGE, AND PLANT A PLANT OF THE SAME SPECIES VARIETY, SAME SIZE IN HEIGHT, SAME SIZE IN WIDTH, AS COVERED BY ARTICLE 108.01 (C), TYPES 1, 2, 3 AND 4, OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND HIGHWAY CONSTRUCTION OR FURNISH, DELIVER AND PLANT AT LOCATIONS DESIGNATED BY THE ENGINEER, A NUMBER OF PLANTS OF THE SAME SPECIES AND VARIETY WHOSE TOTAL MEASUREMENTS SHALL EQUAL THE MEASUREMENT OF THE PLANT TO BE REPLACED. MEASURED ABOVE THE EXCAVATION FOR THE SHRUBS, BUSHES, FLOWERS, PLANTS, SMALL TREES AND SMALL EVERGREENS SHALL BE TWICE THE SIZE OF THE ROOT BALL AND THE EXISTING GROUND MATERIALS REMOVED FROM THE SITE AND NEW PULVERIZED DIRT WITH THE PROPER NUTRIENTS APPLIED, SUPPORTED BY ROPE THE DOWN, AND 3 INCH THICK BED OF MULCH AROUND THE PLANT COVERING THE EXCAVATED AREA, PLUS WATERING FOR 2 MONTHS UNDER THE DIRECTION OF AN ARBORIST. ALL SHRUBS, BUSHES, FLOWERS, PLANTS, SMALL TREES, SMALL EVERGREENS PLANTED SHALL BE LOCATED AND IDENTIFIED AND DATED AND PUT ON A DRAWING AND THE SHRUBS, BUSHES, FLOWERS, PLANTS, OR SMALL EVERGREENS AND SMALL TREES SHALL BE IDENTIFIED BY SPECIES AND SIZE WITH THE STREET ADDRESS AND GIVEN TO THE ENGINEER FOR THE RECORD. ALL SHRUBS, BUSHES, FLOWERS, PLANTS, SMALL TREES, OR SMALL EVERGREENS SHALL BE GUARANTEED TO GROW FOR ONE YEAR FROM THE DATE OF THE AS-BUILT DRAWING, WHICH IS SIGNED AND DATED BY THE ENGINEER.
- THE CONTRACTOR SHALL REPLACE ALL EXISTING LANDSCAPING SUCH AS: BLACK DIRT, GRASS, PLANTS, TREES, SHRUBS, EVERGREENS, GARDENS, VEGETABLE GARDENS, VINES, BUSHES, FLOWERS AND ROCK GARDENS REMOVED OR DAMAGED. THE CONTRACTOR SHALL VIDEO THE ENTIRE PROJECT TO DETERMINE ALL THE TYPES OF LANDSCAPING PRIOR TO STARTING THE WORK. FAILURE TO DO SO SHALL REQUIRE THAT ALL LANDSCAPING CLAIMED TO BE DAMAGED SHALL BE CONSIDERED DAMAGED AND REPLACED AT THE CONTRACTOR'S COST. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LANDSCAPING CARE OF ALL TYPES AND VARIETY OF LANDSCAPING DURING THE PERIOD OF ESTABLISHMENT FOR NEW AND REPLACED LANDSCAPING AND SHALL COMPLY WITH REQUIREMENTS FOR REMOVAL AND REPLACEMENT OF UNACCEPTABLE AND/OR DEAD LANDSCAPING MATERIALS.
- ALL LANDSCAPING MATERIALS SHALL CARRY A ONE YEAR AND SIX MONTHS GUARANTEE FROM FINAL PAYMENT AND/OR FROM THE DATE THE ENGINEER SIGNS THE AS-BUILT DRAWING ACCEPTING THE WORK.
- AT THE TIME OF SELECTION AT THE NURSERY THE LANDSCAPING MATERIALS MUST BE:
 - IN A LIVE HEALTHY CONDITION;
 - CHECK AND RECORD THE DIAMETER FROM TOP OF ROOT BALL;
 - BALANCED AND SYMMETRICAL APPEARANCE;
 - REPRESENTATIVE OF ITS SPECIES IN COLOR, SIZE AND STRAIGHTNESS;
 - SUFFICIENT DIRT TO PROMOTE GROWTH;
 - NOT INFESTED WITH INSECTS OR FUNGI;
 - ALL LANDSCAPING MATERIALS SHALL BE APPROVED FOR PLANTING BY THE ARBORIST AND/OR LANDSCAPE ARCHITECT.
- ALL LANDSCAPING, PLANTS, ETC., THAT DO NOT MEET THE REQUIREMENTS FOR ACCEPTANCE SHALL BE REPLACED AT THE CONTRACTOR'S COST AT ITS OWN EXPENSE AND SHALL CARRY THE SAME GUARANTEE. TREES, PLANTS, GRASS, SHRUBS, EVERGREENS, GARDENS, VEGETABLE GARDENS, BUSHES, FLOWERS, AND VINES RESTORATION IDENTIFIED ON THE CONSTRUCTION DRAWING, SHALL BE PAID BY UNIT PRICING. HOWEVER, ALL DISTURBED AREAS CAUSED DURING CONSTRUCTION AND/OR NOT SHOWN ON THE DRAWINGS SHALL BE RESTORED BY THE CONTRACTOR AND IS INCIDENTAL TO THE WORK. THE CONTRACTOR IS ADVISED THE WORK AREA IS ON THE ROADWAY PROPERTY AND SHALL BE DONE TO THE DUPAGE COUNTY DEPARTMENT OF TRANSPORTATION REQUIREMENTS. THE ELECTRIC CONTRACTOR IS RESPONSIBLE FOR ALL AREAS.

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III. TREES AND EVERGREENS (CONTINUED)

- THE CONTRACTOR SHALL NOTE THAT SOME LANDSCAPING MATERIALS MAY BE REQUIRED TO BE TRANSPORTED THEN ALL RULES, REGULATIONS, PAYMENT, GUARANTEES, WATERING FOR 2 MONTHS AFTER PLANTING, BASE SIZE, PREP AREA SHALL HAVE THE SAME REQUIREMENTS AS IF INSTALLING NEW LANDSCAPING MATERIALS. ALL TRANSPORTED LANDSCAPING MATERIALS ACTIVITIES SHALL BE DIRECTED AND SUPERVISED UNDER THE SUPERVISION OF THE ARBORIST AND LANDSCAPE ARCHITECT. SEE DRAWING FOR PARTICULARS, TRANSPORTING SHOWN ON THE DRAWING, AND NOT IDENTIFIED UNDER A UNIT PRICE ARE CONSIDERED INCIDENTAL TO THE COST OF THE PROJECT AND SHALL NOT BE PAID FOR SEPARATELY.
- PLANTING PITS FOR BALLED AND BURLAPPED TREES SHALL BE PREPARED AT THE TIME THE STOCK IS DUG SO THAT NO DELAY WILL OCCUR WHEN THE STOCK IS READY TO BE PLANTED. ALL PITS SHALL BE DUG AT LEAST ONE FOOT WIDER THAN THE DIAMETER OF THE BALL. THE PLANTING PIT SHALL BE DEEP ENOUGH TO PROVIDE PROPER DRAINAGE TO ALLOW FOUR INCHES OF GOOD SOIL BENEATH THE BALL, AND TO PERMIT THE PLANTING WHEN IT HAS SETTLED TO STAND AT THE ESTABLISHED GRADE AT THE SAME DEPTH AS IT ORIGINALLY GREW. IF THE SOIL CONDITION IN THE PITS ARE SUCH THAT ADDITIONAL DRAINAGE IS REQUIRED TO ENSURE SUCCESSFUL GROWTH, SUITABLE DRAINAGE SHALL BE PROVIDED BY THE CONTRACTOR. WHATEVER TYPE OF DRAINAGE IS PROVIDED SHALL ELIMINATE SUPERFLUOUS WATER IN THE PIT AND DRAIN AWAY FROM THE PLANTING SITE. EACH TREE SHALL BE PLANTED SO AS TO STAND DIRECTLY WHERE STAKED AND AT THE ESTABLISHED GRADE. IMMEDIATELY AFTER BEING PLANTED, THE TRUNKS OF ALL DECIDUOUS TREES SHALL BE WRAPPED SPIRALLY WITH CREEPE PAPER MANUFACTURED FOR THIS PURPOSE. WRAPPING SHALL BE APPLIED FROM TOP DOWN AND STARTED AT A POINT FAR ENOUGH UP IN THE TREE TO BE WELL SHADED BY BRANCHES ABOVE. LARGE LOWER LIMBS SHALL BE BOUND AND REINFORCED WITH STOUT CORD WOUND SPIRALLY IN THE OPPOSITE DIRECTION OF THE WRAPPING PAPER.
- ALL BALLED AND BURLAPPED SHRUBS SHALL BE PLANTED IN HOLES TWELVE INCHES LARGER IN DIAMETER THAN THE BALL, OF ADEQUATE DEPTH, AND WITH PERPENDICULAR WALLS. THE BALL SHALL BE COVERED TO APPROXIMATELY THREE QUARTERS OF THE DEPTH AND THOROUGHLY WATERED IN PLACE. THE REMAINING ONE QUARTER FILL SHALL BE DRY SOIL WELL COMPACTED INTO PLACE.
- IN AREAS WHERE THE PLANTING OF BALLED STOCK HAS RESULTED IN AN EXCESSIVE AMOUNT OF EXTRA SOIL, SUCH EXCESS SHALL BE REMOVED IMMEDIATELY BY THE CONTRACTOR AND DISPOSED OF OFF SITE.
- PLANTING PITS FOR BARE ROOTED STOCK SHALL BE AMPLIFIED TO RECEIVE THE ROOTS WITHOUT CROWDING AFTER PLACING THE PLANTS IN THE HOLES. THE LATTER SHALL BE THREE QUARTERS FILLED WITH TOP SOIL, WATERED AND THEN FILLED WITH COMPACTED DRY EARTH TO THE LEVEL OF THE FINISHED GRADE. THE PLANTS SHALL BE PLANTED PLUMB AND STRAIGHT. ALL DECIDUOUS BARE ROOTED STOCK SHALL BE PROBABLY ROOT PRUNED BEFORE PLANTING TO REMOVE UNSUITABLE ROOT GROWTH AND TO IMPROVE GROWTH CHARACTERISTICS.

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IV. PLANTING (CONTINUED)

- THIS WORK SHALL CONSIST OF PLANTING TREES AND EVERGREENS OF VARIOUS SIZES AND TRUNK DIAMETER. THE CONTRACTOR SHALL CAREFULLY EXAMINE THE PROPOSED LOCATION FOR FOREIGN UTILITIES, ROOM FOR GROWTH, SUITABLE DRAINAGE AND SUNLIGHT OR SHADE. THE ARBORIST SHALL BE ON THE PROJECT DURING THE ENTIRE PROCESS AND SHALL SUPERVISE THE PLANTING.
 - PRIOR TO PLANTING, EXAMINE THE AREA FOR OVERHEAD OBSTRUCTIONS WHEN DIGGING AND MOVING. CONTRACTOR SHALL UNDERTAKE ANY PRUNING REQUIRED TO REMOVE POORLY POSITIONED OR DAMAGED LIMBS. THE CONTRACTOR SHALL IDENTIFY IF THE SPECIES, OR SOME PORTION THEREOF, IS DISEASED. THE CONTRACTOR SHALL IDENTIFY IF THE TREE OR EVERGREEN IS A SAFELY CONCLUSION PRIOR TO PERFORMING ANY WORK. FOR EXAMPLE, IF IT CREATES A LINE OF SIGHT PROBLEM FOR VEHICLES. IF IN THE OPINION OF THE ARBORIST THE TREE OR EVERGREEN IS NOT PLANTABLE THEN THE TREE SHALL NOT BE PLANTED.
 - CONTRACTOR SHALL EXAMINE THE NEW SITE FOR THE TREE'S HABITAT REQUIREMENTS, FOR EXAMPLE: WIND PROTECTION; TIME OF YEAR, SOIL PH, SUNLIGHT AND MOISTURE REQUIREMENTS; PLANT IN EARLY FALL, BEFORE FIRST FREEZE OR IN THE SPRING BEFORE THE HIBS ON THE TREES OR EVERGREENS BEGIN TO SWELL.
 - THE CONTRACTOR SHALL BE REQUESTED TO PLANT THE FOLLOWING TREE OR EVERGREEN SPECIES: USE 15 GALLON SIZE OR 4" HIGH ON 4" DIA. AS MEASURES (DWARF RED BUCK EYE).
- | | |
|-------------------------|-----------------------|
| RIVER BIRCH | SARGENT CRAB TREE |
| HACKBERRY | NINE BARK, BARKS GOLD |
| HAWTHORN | SUMAC SHRUB |
| AMERICAN LINDEN | ARROW WOOD VIBURNUM |
| SILVER MAPLE | WEICELA FORDIA |
| BUR OAK | MULCH YEW |
| RED OAK | SUMATRAN YEW |
| GREEN ASH | ARBOVITAE GLOBE |
| SUMAC | ARBOVITAE TEGERY |
| COLORADO SPRUCE | ARBOVITAE AMERICAN |
| BALSAM | MULCH PINE |
| SPELICE | BOXWOOD WINTERGREEN |
| PNES OF VARIOUS SPECIES | DWARF RED BUCK EYE |
| CRAB APPLE TREE | CRANBERRY VIBURNUM |
| EMERALD ARBOVITAE | |
- THE CONTRACTOR SHALL PREPARE A DESIGN OF THE PLANTED TREES AS IT FITS ON THE PROPERTY BY AN ARCHITECTED LANDSCAPER. THE DRAWING SHALL BE GIVEN TO THE ENGINEER.
 - THE CONTRACTOR SHALL GET APPROVAL FOR PLANTING FROM THE CITY OF NAPERVILLE PRIOR TO PLANTING.
 - THE CONTRACTOR SHALL IDENTIFY WHAT TYPE OF TREE SHALL BE PLANTED AND PREPARE TREE FOR SHIPPING AND PLANTING.
 - THE CONTRACTOR SHALL MAINTAIN ALL ACTIVITIES WITHIN THE ESTABLISHMENT OR PUBLIC WAYS ANY AND ALL OTHER MEANS TO PERTURB THE WORK. AS AT THE CONTRACTOR'S EXPENSE AND SHALL OBTAIN PERMISSION FROM ALL LAND OWNERS TO USE THEIR PROPERTY.
 - THE CONTRACTOR UNDER THE DIRECTION OF AN ARBORIST SHALL PREPARE THE SITE FOR THE PLANTING. FERTILIZE, WATER, TRIM ADD MULCH, STAKE AS NECESSARY, PROVIDE DRAINAGE AND MAINTAIN FOR ONE YEAR.
 - TREES AND EVERGREENS TO BE PLANTED SHALL BE MEASURED IN INCH DIAMETER. THE DIAMETER WILL BE MEASURED AT A POINT FOUR FEET ABOVE THE HIGHEST GROUND LEVEL AT THE BASE OF THE TREE OR EVERGREEN AND WILL BE DETERMINED BY ASSURING THE CIRCUMFERENCE OF THE TREE AND DIVIDING THIS MEASURE CIRCUMFERENCE BY 3.1416.
 - SEE SPECIFICATION 56270-1210 FOR ADDITIONAL REQUIREMENTS AND BASIS OF PAYMENTS. CONTRACTOR SHALL FOLLOW SPECIFICATION OF TREE, SHRUB AND EVERGREEN PRESERVATION REQUIREMENTS, CONTRACTOR TO PROVIDE TREE SURVEY.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	TRANSMISSION LINE LANDSCAPING OVERHEAD OR UNDERGROUND (CONSTRUCTION SPECIFICATION)	DATE: 05-01-05 Page 6 of 11
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WF# INFORMATION		
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73	
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	
WF# 59483 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC					
CAL. JULY 1, 48 HRS. PRIOR TO CONSTRUCTION					
PROJECT TITLE 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: -	CAD FILE: D056270001069.DWG			
PROJECT DESCRIPTION TRENCH SECTION DETAILS	DRAWN BY: C. PM	PROJECT NO.: EU12-05-03			
ISSUE 4-01 08	WORK REQUEST NO. 56270	CHWD:	DATE:	COMPLETED BY:	
ENGINEER RPS	APPR:	SCALE:	NTS	SHEET 69 OF 73	
REVISION:					

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	311
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT 63024				

IV. PLANTING (CONTINUED)

- ALL TRUNKS AND BRANCHES SHALL BE TOP THINNED OR PRUNED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE. PRUNING SHALL BE ONLY FOR THE PURPOSE OF BALANCING TOPS TO ROOTS AND FOR THE REMOVAL OF INTERFERING BRANCHES AND BAD CROOKS, BUT SHALL NOT CHANGE THE NATURAL GROWTH OR APPEARANCE OF THE PLANT.
- ALL TOP THINNING OR PRUNING SHALL BE PERFORMED WITH THE PROPER TOOLS. PRUNING SHEARS OR LOPPING TOOLS. NORMAL TOP PRUNING OF BALLED STOCK WILL REQUIRE REMOVAL OF APPROXIMATELY ONE QUARTER OF THE BRANCHES, OF BARE ROOTED STOCK APPROXIMATELY ONE THIRD OF THE BRANCHES. ALL PRUNING WOUNDS SHALL BE PAINTED WITH AN APPROVED TREE WOUND DRESSING.

V. FERTILIZER

- FERTILIZER SHALL BE A CONTROLLED RELEASE TYPE, SUCH AS MAGAMP, DISTRIBUTED BY ATTY PHARMAC'S OF AMERICA, P.O. BOX 338, WEST CHICAGO, ILLINOIS 60185, OR APPROVED EQUIV. THE FERTILIZER SHALL BE PLACED DIRECTLY INTO PLANTING PITS IN QUANTITIES AND METHOD AS SHOWN ON PLAN.

APPLICATION RATES AND METHODS FOR MAGAMP

a) 10 IN. BALL	2 OZS. COARSE	PLACE IN BOTTOM OF PLANTING PIT PRIOR TO PLANTING.
b) 12-16 IN. BALL	4 OZS. COARSE	PLACE IN BOTTOM OF PLANTING PIT PRIOR TO PLANTING.
c) 16-20 IN. BALL	8 OZS. COARSE	PLACE IN BOTTOM OF PLANTING PIT PRIOR TO PLANTING.
d) 2 FT. BALL	10-12 OZS. COARSE	PLACE IN BOTTOM OF PLANTING PIT PRIOR TO PLANTING.
e) 3 FT. BALL	1 TO 2 LBS. COARSE	PLACE IN BOTTOM OF PLANTING PIT PRIOR TO PLANTING.
f) BARE ROOT PLANTING 12 IN. TO 8 FT. BALL	2 OZS. TO 2 LBS. COARSE	PLACE IN BOTTOM OF PLANTING PIT AND COVER WITH 1/2 TO 1 IN. SOIL BARRIER.

VI. INSPECTION

- INSPECTION OF ALL STOCK MAY BE MADE AT POINT OF ORIGIN OR POINT OF DELIVERY, OR BOTH BY OWNER'S REPRESENTATIVE. STOCK WHICH CANNOT BE SHOWN FOR INSPECTION ON TWENTY FOUR HOUR NOTICE MAY BE RE-INSPECTED. AN INSPECTION DURING DIGGING WILL BE MADE WHENEVER SUCH EXAMINATION IS DEEMED DESIRABLE. FINAL INSPECTION WILL BE MADE BY THE SAME REPRESENTATIVE WHEN THE MATERIAL IS DELIVERED. THE OWNER RESERVES THE RIGHT TO REJECT ALL STOCK WHICH IS FOUND UNSATISFACTORY UPON DELIVERY.

VII. DELIVERY

- ALL PLANTS SHALL BE PACKED FOR DELIVERY TO ENSURE ADEQUATE PROTECTION AGAINST CLIMATIC, SEASONAL, OR ANY OTHER INJURY DURING TRANSIT. THE ROOTS OF BARE-ROOTED STOCK SHALL BE CAREFULLY PROTECTED WITH WET STRAW, MOSS OR OTHER SUITABLE PACKING MATERIAL WHICH WILL ENSURE THE ARRIVAL OF PLANTS AT THE DESTINATION IN GOOD CONDITION. SPECIAL ATTENTION SHALL BE GIVEN TO ENSURE PROMPT DELIVERY, CAREFUL HANDLING IN LOADING, PROTECTION BY CARAVAS OR OTHER ACCEPTED METHODS IN TRANSIT, AND UNLOADING AT THE POINT OF DELIVERY.
- THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION FOR ALL UNPLANTED STOCK ON THE SITE BY CAREFULLY HEAVING IN OR BY OTHER STANDARD APPROVED PRACTICES.

VIII. ROOT PRUNING

- THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, A REGISTERED ARBORIST, A REGISTERED LANDSCAPE ARCHITECT, AND APPURTENANCES NECESSARY TO PERFORM TREE AND EVERGREEN ROOT PRUNING WORK SHALL BE COMPLETED IN CONFORMANCE WITH SECTION 201 OF THE "STANDARD ROAD SPECIFICATIONS" LATEST EDITION. THIS SHALL BE COMPLETED FOR ALL TREES ENDOING UPON THE CONSTRUCTION AREA. ANY ROOTS ENCOUNTERED SHALL BE TREATED WITH THIS METHOD AS DIRECTED BY THE CITY.
- ROOT PRUNING USING AN APPROVED MECHANICAL ROOT PRUNING SAW, OR LOPPER AS DIRECTED BY A REGISTERED ARBORIST, SHALL BE PERFORMED PRIOR TO DIGGING WHERE NOTED ON THE PLANS, PER CUSTOMER REQUEST OR AS DIRECTED BY THE ENGINEER. WHENEVER ROOTS OF PLANT MATERIAL ARE TO REMAIN EXPOSED DURING CONSTRUCTION, THE DAMAGED ROOTS ARE TO BE REMOVED BY CUTTING THEM OFF CLOSELY. PRUNING SHALL BE DONE IN THE PRESENCE OF THE ENGINEER AND/OR REGISTERED ARBORIST AND IN SUCH A MANNER AS TO PRESERVE THE NATURAL GROWTH HABIT.
- ANY DAMAGE TO THE ROOT ZONE, AS DETERMINED BY THE ENGINEER AND/OR ARBORIST SHALL BE COMPENSATED BY PROVIDING AN EQUIVALENT AMOUNT OF THE TOP VEGETATIVE GROWTH OF THE PLANT MATERIAL WITHIN 1 WEEK FOLLOWING ROOT DAMAGE. FERTILIZER NUTRIENTS SHALL BE APPLIED WITHIN 48 HOURS AFTER ROOT DAMAGE OCCURS. A FERTILIZER WITH A 1:1:1 RATION SHALL BE APPLIED AT THE RATE OF 5 LBS. OF NUTRIENTS PER 1000 SQ. FT.
- APPLICATION SHALL BE ACCOMPLISHED BY PLACING DRY FERTILIZER IN HOLES IN THE SOIL. HOLES SHALL BE 8 TO 12 INCHES DEEP AND SPACED 7 FEET APART IN AN AREA BEGINNING 30 INCHES FROM THE BASE OF THE PLANT. HOLES CAN BE PUNCHED WITH A PUNCH BAR, DUG WITH A SPADE, UNMILLED WITH AN AUGER OR ANY METHOD APPROVED BY THE ENGINEER. APPROXIMATELY 0.02 LB. OF FERTILIZER NUTRIENTS SHALL BE PLACED BY IN EACH HOLE (250 H.O.S. PER 1000 SQ. FT.).
- IF THE ENGINEER OR ARBORIST DETERMINE THAT THE HOLE METHOD OF FERTILIZER PLACEMENT IS NOT PRACTICAL OR DESIRABLE, AN APPROVED METHOD OF UNIFORM SURFACE APPLICATION WILL BE ALLOWED.
- IN THE CASE OF INADEQUATE RAINFALL, AS DETERMINED BY THE ENGINEER, SUPPLEMENTAL WATER SHALL BE APPLIED WITHIN 48 HOURS OF ANY ROOT DAMAGE. THE WATER SHALL BE APPLIED AT THE RATE OF 2 GALLONS PER SQ. YD. OF SURFACE WITHIN THE ROOT ZONE OF PLANT MATERIAL HAVING SUSTAINED DAMAGE TO THE ROOT ZONE. THREE SUBSEQUENT WEEKLY WATERING AT 2 GALLONS PER SQ. YD. SHALL BE APPLIED IF DEEMED NECESSARY BY THE ENGINEER. ADDITIONAL WATERING MAY BE REQUIRED. THE ENGINEER SHALL DETERMINE THIS WORK.

IX. SUPPLEMENTAL WATERING

- THIS WORK SHALL CONSIST OF FURNISHING SUPPLEMENTAL WATERING IN CONFORMANCE WITH DOT ARTICLE 252.09 OF THE STANDARD SPECIFICATIONS.
- SUPPLEMENTAL WATERING WILL BE MEASURED FOR PAYMENT IN UNITS OF 1000 GALLONS OF WATER APPLIED ON THE SEEDED AREAS.
- CONTRACTOR IS ADVISED SUPPLEMENTAL WATERING IS INCLUDED IN THE UNIT PRICING PER STRUCTURES, ERECTION, OR OTHER REMOVAL AND/OR FOUNDATION INSTALLATION. SUPPLEMENTAL WATERING IS AT THE DIRECTION OF THE ENGINEER.

X. MULCHING

- THIS ITEM OF WORK SHALL INCLUDE THE MULCHING OF SEEDED AREAS ALONG THE PROPOSED IMPROVEMENTS AT THE LOCATIONS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.
- MATERIALS AND CONSTRUCTION METHODS SHALL BE IN CONFORMANCE WITH SECTION 251 OF THE STANDARD SPECIFICATIONS. MULCH SHALL BE APPLIED AS HYDRAULIC MULCH AS SPECIFIED IN DOT ARTICLE 251.03 (c). METHOD 3 OF THE STANDARD SPECIFICATIONS. MULCH SHALL BE APPLIED TO ALL SEEDED AREAS WITHIN 24 HOURS FROM THE TIME SEED HAS BEEN APPLIED.
- CONTRACTOR IS ADVISED MULCHING IS INCLUDED IN THE UNIT PRICING PER FOOT FOR INSTALLING CONCRETE FOUNDATION POLE OR REMOVAL.
- MULCHING WILL BE MEASURED IN PLACE IN ACRES OF SURFACE AREA MULCHED. THE PRICE SHALL INCLUDE ALL MATERIALS, LABOR, EQUIPMENT FOR PLACING THE MULCH OVER SEEDED AREAS AS SPECIFIED. MULCHING SHALL BE AT THE DIRECTION OF THE ENGINEER.

XI. CONTRACTOR'S RESPONSIBILITY AND GUARANTEE

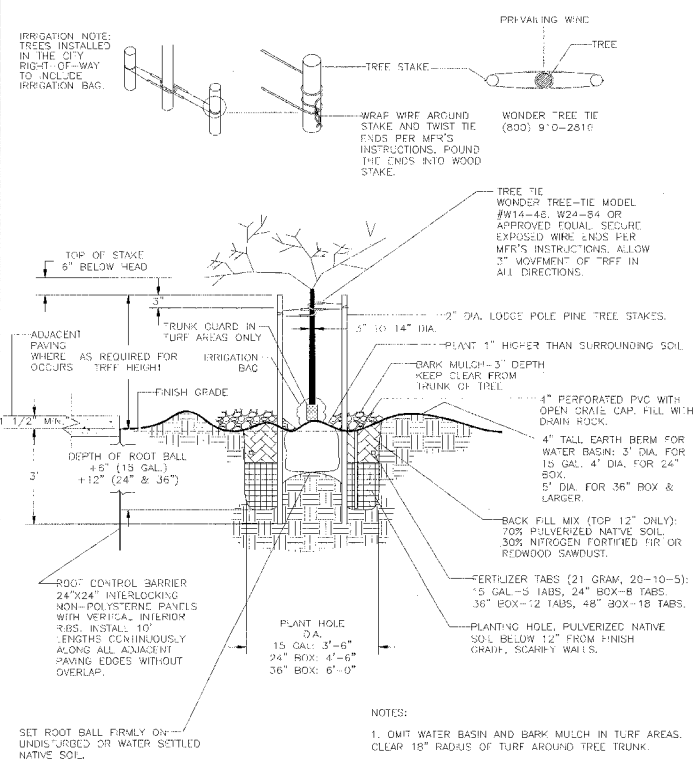
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL PLANTS FOR ONE YEAR FOLLOWING THE DATE OF PLACEMENT INCLUDING WATERING ALL PLANTS AT THE TIME OF PLANTING AND AS NEEDED THROUGHOUT THE GROWING SEASON. HE SHALL VISIT THE SITE MONTHLY DURING THE GROWING SEASON TO CHECK THE PLANTS CONDITION, AND SHALL REPORT HIS FINDINGS TO THE OWNER'S REPRESENTATIVE. IF AT THE TIME OF HIS VISIT, OR DURING A ROUTINE CHECK BY THE OWNER'S REPRESENTATIVE, IT IS DETERMINED THE PLANTS NEED WATER, THE PLANTS SHALL BE WATERED WITHIN THREE DAYS FROM THAT DATE. NOTICE WILL BE GIVEN THE CONTRACTOR BY THE OWNER'S REPRESENTATIVE BY TELEPHONE AND BY LETTER. ALL REPLACEMENT PLANTS SHALL BE SELECTED, DELIVERED AND PLANTED IN ACCORDANCE WITH THIS SPECIFICATION. ALL REPLACEMENT PLANTS SHALL BE GUARANTEED FOR EIGHTEEN MONTHS FROM TIME OF REPLACEMENT AND SHALL RECEIVE THE SAME CARE AND TREATMENT AS THE ORIGINAL PLANTING. THE CONTRACTOR WITH THE WRITTEN REPORT FROM THE ARBORIST, AND THE OWNER'S REPRESENTATIVE WILL DETERMINE, AND WILL AGREE IN WRITING, THE CAUSES OF THE PLANTS DEATH OR DISTORTION. THE CONTRACTOR WILL RECEIVE IN WRITING A LIST OF ALL PLANTS THAT SHALL BE REPLACED. UPON RECEIPT OF THIS LIST, THE CONTRACTOR SHALL WITHIN THE SAME PLANTING SEASON AS THE DATE OF THE LIST, REMOVE ALL PLANTS ON THE LIST AND REPLACE THEM WITH HEALTHY PLANTS. THE CONTRACTOR SHALL FURNISH AND HAVE AVAILABLE DURING THE LENGTH OF THE PROJECT A LICENSED, CERTIFIED ARBORIST FOR RECOMMENDATIONS, PURCHASE OF PLANT MATERIALS, INSTRUCTIONS, SUGGESTION AND GENERAL OVER SIGHT OF ALL ROOT PRUNING AND PLANTING OPERATIONS. CONTRACTOR SHALL FURNISH, DELIVER, INSTALL, STORE, AND MAINTAIN ALL PLANT MATERIALS INCLUDING TREES, SHRUBS AND FLOWERS FOR THE DURATION OF THE CONTRACT AND GUARANTEE PERIOD. ALL WATERING AND WINTER PROTECTION AT THE CONTRACTOR'S COST AND IS INCLUDED IN THE PRICING. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, TOOLS, FERTILIZER, WATER AND PLANT MAINTENANCE ON THIS SPECIFICATION PLUS ALL LANDSCAPING MATERIALS AND LABOR. CONTRACTOR SHALL PROVIDE FOR PROTECTION OF TREES, SHRUBS AND EVERGREENS.

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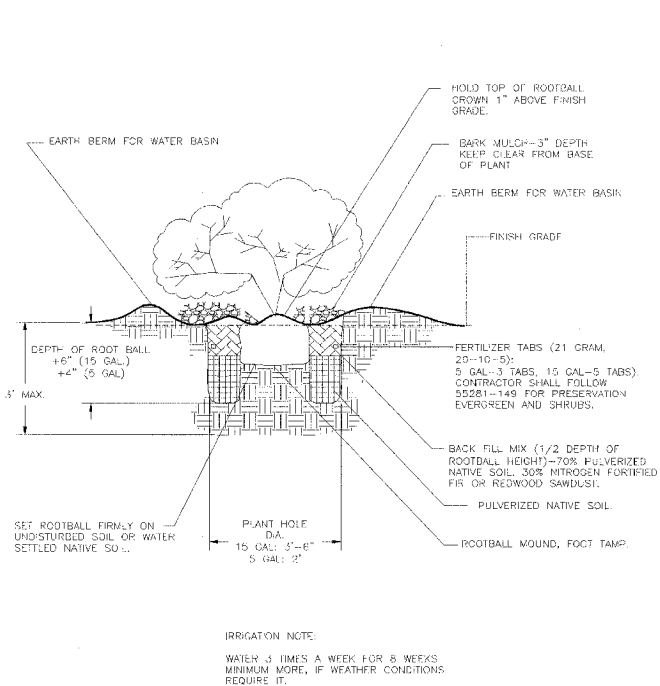
NAPERVILLE PUBLIC UTILITIES DEPARTMENT	TRANSMISSION LINE LANDSCAPING OVERHEAD OR UNDERGROUND (CONSTRUCTION SPECIFICATION)	DATE: 05-01-05 Page 9 of 11 56270-1000
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TREE PLANTING "DETAIL"



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EVERGREEN AND SHRUB PLANTING "DETAIL"



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WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAILY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC			
CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION			
PROJECT TITLE 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: -	CAD FILE: D056270001070.DWG	
PROJECT DESCRIPTION TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EUT-05-03	
DATE 4-01-08	WORK REQUEST NO. 56270	ISSUED	COMPLETED BY:
ENGINEER RPS	APPROV.:	SCALE: NTS	SHEET 70 OF 73

F.A. RTE. 2552	SECTION 00-0014-00-PV	COUNTY DUPAGE	TOTAL SHEETS 563	SHEET NO. 312
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT 63024				

INSTRUCTION FOR INSTALLING AND REMOVING A SILT FENCE

THE CONTRACTOR SHALL FURNISH AND INSTALL AND LINEAR FEET IN PLACE WITH ALL MATERIAL, EQUIPMENT AND LABOR FOR THE INSTALLATION OF A GEOTECHNICAL SILT FENCE FOR TEMPORARY EROSION CONTROL.

GEOTECHNICAL FABRIC FABRIC FOR SILT FENCE SHALL CONSIST OF WOVEN OR NONWOVEN FILAMENTS OF POLYPROPYLENE, POLYESTER OR POLYETHYLENE. NONWOVEN FABRIC MAY BE NEEDLE PUNCHED, HEAT-BONDED, RESIN-BONDED OR COMBINATION THEREOF. THE FILAMENTS IN THE SILT FENCE FABRIC MUST BE DIMENSIONALLY STABLE (I.E. TO EACH OTHER), RESISTANT TO DELAMINATION, AND MUST BE FREE FROM ANY CHEMICAL TREATMENT OR COATING THAT MIGHT SIGNIFICANTLY REDUCE POROSITY AND PERMEABILITY. BOTH FABRICS SHALL BE RESISTANT TO ULTRAVIOLET RADIATION. THE FABRICS SHALL COMPLY WITH THE FOLLOWING PHYSICAL PROPERTIES:

PHYSICAL PROPERTIES	SILT FILTER FENCE FABRIC
GRAB TENSILE STRENGTH (LBS.) ASTM D 4832	200 (MIN.) †
GRAB ELONGATION @ BREAK (%) ASTM D 4832	12 (MIN.) †
BURST STRENGTH (PSI) - ASTM D 751	250 (MIN.) †
TRAPEZOIDAL TEAR STRENGTH (LBS.) ASTM D 4533	-----
WIDTH (FT.)	3.5 (MIN.)
WEIGHT (OZ/SQ) - ASTM D 5776	4.0 (MIN.)
EQUIVALENT OPENING SIZE (EOS) SIEVE NO. CORRESPONDING CS-62215	30 (MIN.) (NON-WOVEN) † 50 (MIN.) (WOVEN) †

† FOR WOVEN FABRIC, TEST RESULTS SHALL BE REFERENCED TO ORIENTATION WITH WARP OR WEAVE, AND WHICHEVER THE CASE MAY BE, BOTH WOVEN AND NONWOVEN FABRIC SHALL BE TESTED WET.

† TEST RESULTS MAY BE OBTAINED BY MANUFACTURER'S CERTIFICATION.

STAKES MAY BE EITHER WOODEN OR METAL POSTS.

THE FILTER BLANKET SHALL BE DELIVERED TO THE WORKSITE IN SUCH A MANNER AS TO FACILITATE HANDLING AND INCORPORATION INTO THE WORK WITHOUT DAMAGE. IN NO CASE SHALL THE FABRIC BE STORED OR EXPOSED TO DIRECT SUNLIGHT THAT MIGHT SIGNIFICANTLY DIMINISH ITS STRENGTH OR TOUGHNESS PRIOR TO ITS INTENDED USE AS A SILT FENCE. THE FABRIC SHALL BE RESISTANT TO ULTRAVIOLET RADIATION FOR THE DURATION OF THE CONSTRUCTION PROJECT.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	INSTRUCTION FOR INSTALLING AND REMOVING A SILT FENCE	DATE: 05-01-05 Page 1 of 2 56270-1100
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INSTRUCTION FOR INSTALLING AND REMOVING A SILT FENCE

EXISTING WOODEN OR METAL POSTS SPACED AT ABOUT 1.5M (5 FT.) INTERVALS MAY BE UTILIZED TO SUPPORT THE FILTER FABRIC. IN NEW CONSTRUCTION WHERE THERE ARE NO EXISTING POSTS AVAILABLE FOR SUPPORT, 1.5 M (5 FT.) LENGTHS OF TREATED 50 MM X 100 MM (2 INCH X 4 INCH) TIMBER OR GALVANIZED METAL POSTS SPACED AT ABOUT 1.5 M (5 FT.) SHALL BE INSTALLED. THE TIMBER OR METAL POSTS SHALL BE SET IN PREVIOUSLY DUG HOLES AND BACKFILLED TO FORM A STABLE SUPPORT FOR THE FABRIC, OR MAY BE DRIVEN PROVIDED THEY ARE PROTECTED BY A SUITABLE DRIVING CAP AND NO DAMAGE IS DONE TO ANY PORTION OF THE POST. THE POSTS SHALL BE SET PLUMB TO THE REQUIRED DEPTH AND ALIGNMENT WITH ADEQUATE MATERIAL STABILITY. A SMALL TRENCH OF ABOUT 150 MM (6 INCH) WIDTH AND 150 MM (6 INCH) DEPTH SHALL THEN BE EXCAVATED ON THE UPSTREAM SIDE OF THE SILT FENCE TO BURY AND ANCHOR THE LOWER PORTION ON THE FABRIC. THE FABRIC SHALL FIRST BE ATTACHED TO THE POSTS BY AN APPLICABLE MEANS. METAL STAPLES OR NAILS CAN BE USED TO ATTACH THE FABRIC TO WOODEN POSTS. WITH THE MINIMUM WIDTH OF THE FABRIC OF 1.1 M (3.5 FT.), ABOUT 300 MM (12 INCHES) SHALL BE BURIED IN THE TRENCH AND THE BACKFILLED WITH NATURAL MATERIAL. TAMPING THE BACKFILL TO PROVIDE GOOD ANCHORAGE AND PREVENT SURFACE WATER RUNOFF FROM UNDERMINING THE FENCE.

THE SILT FILTER FENCE SHALL BE SATISFACTORILY MAINTAINED SO AS TO KEEP FUNCTIONING DURING THE LIFE OF THE PROJECT. THIS SHALL INCLUDE REMOVAL OF TRAPPED SEDIMENT AND CLEANING THE FABRIC OF TRAPPED SEDIMENT.

SILT FENCE WILL BE MEASURED IN LINEAR FEET OF FENCE IN PLACE.

THE WORK INCLUDES ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED MAINTENANCE OF THE FENCE, REMOVAL OF THE FENCE WHEN NO LONGER NEEDED, AND RESTORATION OF THE AREA.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	INSTRUCTION FOR INSTALLING AND REMOVING A SILT FENCE	DATE: 05-01-05 Page 2 of 2 56270-1100
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INSTRUCTION FOR REMOVAL AND REPLACEMENT OF P.C.C. SIDEWALK

THIS ITEM SHALL CONSIST OF THE REMOVAL OF EXISTING AND INSTALLATION OF NEW P.C.C. SIDEWALK OF VARIOUS TYPES AT THE LOCATIONS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER. THIS ITEM SHALL ALSO INCLUDE THE PREPARATION OF 6 INCHES CA-6 SUB-GRADE AND BASE, AND THE PLACEMENT OF A P.C.C. SIDEWALK OF 4 INCHES THICKNESS OR AS SPECIFIED ON THE PLANS, IN ACCORDANCE WITH SECTIONS 423 AND 449 OF THE STANDARD SPECIFICATIONS. CONCRETE SHALL BE IDOT CLASS 51.

SIDEWALK TO BE REMOVED SHALL BE AS INDICATED ON THE PLANS AND MARKED BY THE ENGINEER IN THE FIELD. WHEN THE SIDEWALK IS DAMAGED BY THE CONTRACTOR AND THAT ARE NOT MARKED FOR REMOVAL SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

CONTRACTOR IS ADVISED SIDEWALK REMOVAL AND REPLACEMENT IS INCLUDED IN THE APPROPRIATE UNIT PRICING FOR SWITCH GEAR VAULTS, SIDE WALK SPLICE BOXES, MANHOLES TRENCHES AND HANDHOLES.

P.C.C. SIDEWALK REMOVAL AND REPLACEMENT WILL BE MEASURED FOR PAYMENT IN PLACE, AND THE AREA COMPUTED IN SQUARE FEET. THE SIDEWALK IS 5 FEET WIDE BY 4 INCHES THICK WITH 6 INCHES OF CA-6 COMPACTED BACKFILL UNDER THE SIDEWALK. SIDEWALK INSTALLATION SHALL BE DONE FROM APRIL 15 TO NOVEMBER 15. ALL SIDEWALKS REMOVED AND/OR NOT COMPLETED BEFORE NOVEMBER 15 ARE TO BE TEMPORARILY PATCHED FOR WINTER SERVICE AND MAINTAINED BY THE CONTRACTOR. MEASUREMENT SHALL BE CONSIDERED FULL COMPENSATION FOR SAW CUTTING, EXCAVATING, STEEL PLATING, FLASHING SIGNBOARDS, REMOVAL AND DISPOSAL OF EXCAVATED MATERIALS, REMOVAL AND INSTALLATION OF TRENCH BACKFILL TO PREPARE SIDEWALK TO MATCH EXISTING SIDEWALK, PAVEMENT, AND CURB AND GUTTER, CONCRETE PLACING AND FINISHING, 4 INCHES OF BLACK DIRT AND SOD, PEDESTRIAN TRAFFIC CONTROL, PLACING OF TEMPORARY COLD PATCH AND/OR CA-6 FOR WINTER, USE OF STEEL PLATES ACROSS DRIVEWAYS, ARROW BOARDS, 3 COATS OF CURING/SEALING COMPOUND, TRAFFIC CONTROL LINE AND GRADE PRESURE WASHING OF ADJACENT SIDEWALKS TO REMOVE GREASE, STAINS OR OTHER MATERIALS NECESSARY TO COMPLETE THIS ITEM TO THE SATISFACTION OF THE ENGINEER. ALL SIDEWALKS INSTALLED SHALL BE USEABLE AS INTENDED. ALL VANDALISM OR DAMAGE OF ANY KIND SHALL BE CAUSE FOR REPLACEMENT AT CONTRACTOR'S COST.

SIDEWALK THICKNESS INCREASES TO 6 INCHES WHEN IT IS PART OF A RESIDENTIAL DRIVEWAY AND 9 INCHES THICK WHEN IT IS PART OF A COMMERCIAL DRIVEWAY.

THE CONTRACTOR SHALL BE PAID FOR ALL SIDEWALK REPLACEMENT SHOWN ON THE DRAWINGS AND OR DIRECTED BY THE ENGINEER. THE ALL OTHER SIDEWALKS DAMAGED OR REMOVED BY THE CONTRACTOR IS INCIDENTAL TO THE CONTRACT.

ALL SIDEWALKS UNDERMINED OR DAMAGE OR MADE UNUSABLE OR CRACKED, IN ANY WAY BY THE CONSTRUCTION ACTIVITY SHALL BE REMOVED IN THE ENTIRETY AND INSTALLED NEW BY THE CONTRACTOR AT NO COST TO THE OWNER.

THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAR FOOT FOR P.C.C. SIDEWALK REMOVAL AND REPLACEMENT, OF THE THICKNESS SPECIFIED, WHICH PRICE SHALL INCLUDE ALL REQUIRED EXPANSION JOINTS, SPECIAL TEXTURING, VARIABLE HEIGHT EDGE TREATMENTS AT SIDEWALK RAMPS, DISPOSAL AND SUB-GRADE PREPARATION, FINISHING, PROTECTION OF THE WORK, ALL MATERIALS, LABOR, EQUIPMENT AND APPURTENANCES REQUIRED FOR A COMPLETE ITEM.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	INSTRUCTION FOR REMOVAL AND REPLACEMENT OF P.C.C. SIDEWALK	DATE: 05-01-05 Page 1 of 1 56270-1110
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RESTORATION OF WORK AREA AND ADJACENT AREA

THE CONTRACTOR IS ADVISED THE CUSTOMER MUST BE SATISFIED WITH ALL ASPECTS OF THE RESTORATION. THE CONTRACTOR SHALL START ALL AREAS THAT HAVE BEEN DISRUPTED DUG OR COMPACTED OR OTHER WISE USED BY THE CONTRACTOR'S ACTIVITY. ALL RESTORATION SHALL BEGIN WITHIN THREE WEEKS AFTER THE INITIAL ENTRY ONTO THE CUSTOMERS' PROPERTY. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO FINISH EACH PARCEL OF PROPERTY IN AN ORDERLY AND CONTINUOUS EFFORT TO THE FINISH. LARGE LAPSSES OF TIME FROM STARTING TO FINISH ARE NOT ACCEPTABLE. THE CONTRACTOR SHALL BE REQUESTED TO INCREASE THE WORK FORCE AT NO COST TO SPEED UP THE RESTORATION PROCESS WHEN THE RESTORATION PROCESS TAKES LONGER THAN 6 WEEKS AT ANY LOCATION.

THE WORK AREA SHALL BE KEPT CLEAN AND GOOD HOUSEKEEPING IS THE RULE OF THE DAY. THE STORING STOCK PILING OR LEAVING MATERIALS IN THE WORK AREA OVER NIGHT IS NOT ACCEPTABLE. THE EQUIPMENT SHALL BE RETURNED TO THE STAGING AREAS AT THE END OF EACH DAY. ALL PERSONAL VEHICLES SHALL NOT BE PARKED ON ANY OF THE CITY OF NAPERVILLE STREETS.

THE LANDSCAPING PERIOD IS USUALLY APRIL 1 TO NOVEMBER 1. THE CONTRACTOR SHALL FINISH ALL LANDSCAPING STARTED IN THE WORK YEAR BY NOVEMBER 15 OF THE YEAR STARTED OR SOONER.

THE CONTRACTOR SHALL INSTALL ONLY SALT TOLERANT SOD AND 6 INCHES OF BLACK DIRT IN GREEN AREAS, AND GRASS AREAS OF ALL TYPES, AND/OR DIRT AREAS THAT HAVE BEEN DUG, EXCAVATED, DISRUPTED OR DAMAGED OR WORN BY USE. ALL LANDSCAPING SHALL BE FURNISHED, INSTALLED, ROLLED, STAKED, SUPPLIED AND APPLIED WITH SUFFICIENT QUANTITIES OF WATER AND FERTILIZER TO PROMOTE GROWTH.

THE CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS SUPPLIED AND INSTALLED BY THE CONTRACTOR FOR ONE YEAR FROM THE COMPLETION DATE OF THE CONTRACT. ALL MATERIALS INSTALLED SHALL BE REPLACED WITH NEW MATERIAL IN THE ENTIRETY IF AFTER ONE YEAR THE MATERIALS FAIL.

THE CONTRACTOR SHALL BE SUPPLIED WITH A TREE SURVEY PERFORMED BY THE CONTRACTOR'S ARBORIST AND WILL THE BENCHMARK USED TO RESTORE THE MINIMUM AMOUNT OF LANDSCAPING. THE CONTRACTOR SHALL TAKE A VIDEO OF THE ENTIRE RIGHT-OF-WAY PRIOR TO PERFORMANCE WORK. THIS VIDEO ALSO SHALL BE USED AS A BENCHMARK FOR RESTORATION.

THE CONTRACTOR SHALL PROVIDE A UNIT THAT IS THE TOTAL COST OF ALL LANDSCAPING AND RESTORATION OF THE CITY OF NAPERVILLE'S RIGHTS OF WAYS AND EASEMENTS TO BE DONE AND REQUIRED BUT NOT COVERED UNDER ANOTHER PRICE ITEM AS REQUIRED FOR A COMPLETE THE JOB. THIS UNIT INCLUDES, BUT NOT LIMITED TO, ALL LABOR, TRANSPORTATION, MATERIALS, HAULING, LOADING, UNLOADING, PLACING, INSTALLING, REMOVAL AND DISPOSAL OF ALL MATERIALS OFF-SITE FOR A COMPLETE JOB.

THIS WORK WILL BE PAID FOR AT THE CONTRACT PRICE OF A LUMP SUM AND SHALL INCLUDE ALL LABOR MATERIALS EQUIPMENT TRANSPORTATION AND INCIDENTALS REQUIRED TO PERFORM THE WORK AND MEETS ALL THE GOVERNMENTAL AND CUSTOMER REQUIREMENTS.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	RESTORATION OF WORK AREA AND ADJACENT AREA	DATE: 05-01-05 Page 1 of 2 56270-1130
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RESTORATION OF WORK AREA AND ADJACENT AREA

THE CONTRACTOR IS ADVISED THE CUSTOMER MUST BE SATISFIED WITH ALL ASPECTS OF THE RESTORATION. THE CONTRACTOR SHALL START ALL AREAS THAT HAVE BEEN DISRUPTED DUG OR COMPACTED OR OTHER WISE USED BY THE CONTRACTOR'S ACTIVITY. ALL RESTORATION SHALL BEGIN WITHIN THREE WEEKS AFTER THE INITIAL ENTRY ONTO THE CUSTOMERS' PROPERTY. THE CONTRACTOR SHALL MAKE EVERY EFFORT TO FINISH EACH PARCEL OF PROPERTY IN AN ORDERLY AND CONTINUOUS EFFORT TO THE FINISH. LARGE LAPSSES OF TIME FROM STARTING TO FINISH ARE NOT ACCEPTABLE. THE CONTRACTOR SHALL BE REQUESTED TO INCREASE THE WORK FORCE AT NO COST TO SPEED UP THE RESTORATION PROCESS WHEN THE RESTORATION PROCESS TAKES LONGER THAN 6 WEEKS AT ANY LOCATION.

THE WORK AREA SHALL BE KEPT CLEAN AND GOOD HOUSEKEEPING IS THE RULE OF THE DAY. THE STORING STOCK PILING OR LEAVING MATERIALS IN THE WORK AREA OVER NIGHT IS NOT ACCEPTABLE. THE EQUIPMENT SHALL BE RETURNED TO THE STAGING AREAS AT THE END OF EACH DAY. ALL PERSONAL VEHICLES SHALL NOT BE PARKED ON ANY OF THE CITY OF NAPERVILLE STREETS.

THE LANDSCAPING PERIOD IS USUALLY APRIL 1 TO NOVEMBER 1. THE CONTRACTOR SHALL FINISH ALL LANDSCAPING STARTED IN THE WORK YEAR BY NOVEMBER 15 OF THE YEAR STARTED OR SOONER.

THE CONTRACTOR SHALL INSTALL ONLY SALT TOLERANT SOD AND 6 INCHES OF BLACK DIRT IN GREEN AREAS, AND GRASS AREAS OF ALL TYPES, AND/OR DIRT AREAS THAT HAVE BEEN DUG, EXCAVATED, DISRUPTED OR DAMAGED OR WORN BY USE. ALL LANDSCAPING SHALL BE FURNISHED, INSTALLED, ROLLED, STAKED, SUPPLIED AND APPLIED WITH SUFFICIENT QUANTITIES OF WATER AND FERTILIZER TO PROMOTE GROWTH.

THE CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS SUPPLIED AND INSTALLED BY THE CONTRACTOR FOR ONE YEAR FROM THE COMPLETION DATE OF THE CONTRACT. ALL MATERIALS INSTALLED SHALL BE REPLACED WITH NEW MATERIAL IN THE ENTIRETY IF AFTER ONE YEAR THE MATERIALS FAIL.

THE CONTRACTOR SHALL BE SUPPLIED WITH A TREE SURVEY PERFORMED BY THE CONTRACTOR'S ARBORIST AND WILL THE BENCHMARK USED TO RESTORE THE MINIMUM AMOUNT OF LANDSCAPING. THE CONTRACTOR SHALL TAKE A VIDEO OF THE ENTIRE RIGHT-OF-WAY PRIOR TO PERFORMANCE WORK. THIS VIDEO ALSO SHALL BE USED AS A BENCHMARK FOR RESTORATION.

THE CONTRACTOR SHALL PROVIDE A UNIT THAT IS THE TOTAL COST OF ALL LANDSCAPING AND RESTORATION OF THE CITY OF NAPERVILLE'S RIGHTS OF WAYS AND EASEMENTS TO BE DONE AND REQUIRED BUT NOT COVERED UNDER ANOTHER PRICE ITEM AS REQUIRED FOR A COMPLETE THE JOB. THIS UNIT INCLUDES, BUT NOT LIMITED TO, ALL LABOR, TRANSPORTATION, MATERIALS, HAULING, LOADING, UNLOADING, PLACING, INSTALLING, REMOVAL AND DISPOSAL OF ALL MATERIALS OFF-SITE FOR A COMPLETE JOB.

THIS WORK WILL BE PAID FOR AT THE CONTRACT PRICE OF A LUMP SUM AND SHALL INCLUDE ALL LABOR MATERIALS EQUIPMENT TRANSPORTATION AND INCIDENTALS REQUIRED TO PERFORM THE WORK AND MEETS ALL THE GOVERNMENTAL AND CUSTOMER REQUIREMENTS.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT ELECTRIC STANDARDS	RESTORATION OF WORK AREA AND ADJACENT AREA	DATE: 05-01-05 Page 2 of 2 56270-1130
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WF# INFORMATION

WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73
WF# 59485 WASHINGTON ST. 75TH TO BAINLEY RD. EAST SIDE	JOB 4 EU-73

CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC

CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION			
PROJECT TITLE 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS		MAP NO. -	CAD FILE: 2056270001D71.DWG
PROJECT DESCRIPTION TRENCH SECTION DETAILS		DRAWN BY: JK, PM	PROJECT NO.: EU17-03
DATE 4-01-08	WORK REQUEST NO. 56270	CHKD:	COMPLETED BY:
ISSUED	APPR:	SCALE: NTS	SHEET 71 OF 73
ENGINEER RPS			
REVISION			

F.A. RTE. 2552	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	00-0014-00-PV	DUPAGE	563	313
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
CONTRACT 63024				

PLANTING TREES, SHRUBS, AND EVERGREENS 3" TO 5" DIA., 6" TO 8" DIA., 9" TO 11" DIA. AND 12" TO 15" DIA.

THIS WORK SHALL CONSIST OF PLANTING TREES, SHRUBS AND EVERGREENS OF VARIOUS SIZES AND TRUNK DIAMETERS. THE CONTRACTOR SHALL CAREFULLY EXAMINE THE PROPOSED LOCATION FOR FOREIGN UTILITIES, ROOM FOR GROWTH, SUITABLE DRAINAGE AND SUNLIGHT OR SHADE. THE ARBORIST SHALL BE ON THE PROJECT DURING THE ENTIRE PROCESS AND SHALL DIRECT THE PLANTING.

PRIOR TO PLANTING, EXAMINE THE AREA FOR OVERHEAD OBSTRUCTIONS WHEN DIGGING AND MOVING. CONTRACTOR SHALL UNDERTAKE ANY PRUNING REQUIRED REMOVING POORLY POSITIONED OR DAMAGED LIMBS. THE CONTRACTOR SHALL IDENTIFY IF THE SPECIES, OR SOME PORTION THEREOF, IS DISEASED. THE CONTRACTOR SHALL DETERMINE IF THE TREE OR EVERGREEN IS A SAFETY CONCERN PRIOR TO PERFORMING ANY WORK. FOR EXAMPLE, IF IT CREATES A LINE OF SIGHT PROBLEM FOR VEHICLES. IF IN THE OPINION OF THE ARBORIST THE TREE OR EVERGREEN IS NOT PLANTABLE THEN THE TREE SHALL NOT BE PLANTED. CONTRACTOR SHALL EXAMINE THE NEW SITE FOR THE TREE'S HABITAT REQUIREMENTS. FOR EXAMPLE: WIND PROTECTION: TIME OF YEAR, SOIL PH, SUNLIGHT, DRAINAGE AND MOISTURE REQUIREMENTS. PLANT IN EARLY FALL, BEFORE FIRST FREEZE OR IN THE SPRING BEFORE THE BUDS ON THE TREES OR EVERGREENS BEGIN TO SWELL.

THE CONTRACTOR SHALL BE REQUESTED TO PLANT THE FOLLOWING TREE SPECIES:

USE 15 GALLON SIZE OR 4 FEET HIGH OR 4" DIAMETER AS APPLICABLE.

RIVER BIRCH	SARGENT CRAB TREE
HACKBERRY	NINE BARK DARTS GOLD
HAWTHORN	SUMAC SMOOTH
LINDEN AMERICAN	ARROW WOOD VIBURNUM
MAPLE SILVER	WIEGELA FLORIDA
MAPLE NORWAY	CLEVELAND PEAR
OAK PIN	JAPANESE YEW
RED OAK	SUMATRAN YEW
ASH GREEN	ARBORVITAE GLOBE
SUMAC	ARBORVITAE TECHNY
COLORADO SPRUCE	ARBORVITAE AMERICAN
BALSAM	MUGHO PIVE
SPRUCE	BOXWOOD WINTERGREEN
PINES OF VARIOUS SPECIES	DWARF RED BUCK EYE

THE CONTRACTOR SHALL PREPARE A DESIGN OF THE PLANTED TREE AS IT FITS ON THE PROPERTY BY AN ARCHITECT LANDSCAPER. THE DRAWING SHALL BE GIVEN TO THE ENGINEER.

THE CONTRACTOR SHALL GET APPROVAL FOR PLANTING FROM THE CITY OF NAPERVILLE PRIOR TO PLANTING.

THE CONTRACTOR SHALL IDENTIFY WHAT TYPE OF TREE SHALL BE PLANTED AND PREPARE TREE FOR SHIPPING AND PLANTING

THE CONTRACTOR SHALL MAINTAIN ALL ACTIVITIES WITHIN THE EASEMENTS OR PUBLIC WAYS ANY AND ALL OTHER MEANS TO PERFORM THE WORK IS AT THE CONTRACTORS EXPENSE AND SHALL OBTAIN PERMISSION FROM ALL LAND OWNERS TO USE THEIR PROPERTY.

THE CONTRACTOR UNDER THE DIRECTION OF AN ARBORIST SHALL PREPARE THE SITE FOR THE PLANTING, FERTILIZE, WATER, TRIM ADD MULCH, STAKE AS NECESSARY, PROVIDE DRAINAGE AND MAINTAIN FOR ONE YEAR.

TREES, SHRUBS AND EVERGREENS TO BE PLANTED SHALL BE MEASURED IN INCH-DIAMETER. THE DIAMETER WILL BE MEASURED AT A POINT FOUR (4) FEET ABOVE THE HIGHEST GROUND LEVEL AT THE BASE OF THE TREE OR EVERGREEN AND WILL BE DETERMINED BY ASSURING THE CIRCUMFERENCE OF THE TREE AND DIVIDING THIS MEASURED CIRCUMFERENCE BY 3.1416.

THE BASIS OF PAYMENT:

THIS WORK SHALL BE PAID FOR AT THE CONTRACT PRICE FOR EACH TREE SPECIES INSTALLED COMPLETE AND PLANTED, 3 INCHES TO 5 INCHES, 6 INCHES TO 8 INCHES OR 9 INCHES TO 11 INCHES OR 12 INCHES TO 15 INCHES, THIS INCLUDES EXCAVATING, REMOVING BALL, FERTILIZERS, EQUIPMENT OF ALL TYPES, HAULING, LOADING, UNLOADING, TRAFFIC CONTROL, STORAGE, NEW 6" INCH LAYER OF BLACK DIRT, MULCH, EDGING, STAKING, REMOVE ALL EXCAVATED MATERIAL OFF SITE, REMOVING AND INSTALLING FENCES, TEMPORARY WORK TO GET TO SITE, SETTING AND ALIGNING, PROVIDE TREES WITH ALL WATERING AND FERTILIZER AS REQUIRED, WITH MAINTENANCE AND ONE-YEAR GUARANTEE FROM LAST PAYMENT FOR THE ENTIRE PROJECT.

NAPERVILLE PUBLIC UTILITIES DEPARTMENT	PLANTING TREES, SHRUBS, AND EVERGREENS 3" TO 5" DIA., 6" TO 8" DIA., 9" TO 11" DIA. AND 12" TO 15" DIA.	DATE: 05-01-05 Page 1 of 1 56270-1210
ELECTRIC STANDARDS		

WF# INFORMATION		CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC			
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73	CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION			
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	PROJECT TITLE 75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS	MAP NO.: -	CAD FILE 0056270001072.DWG	
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	PROJECT DESCRIPTION TRENCH SECTION DETAILS	DRAWN BY: JK, PM	PROJECT NO.: EU12-06-03 EU73	COMPLETED BY:
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	DATE 4-01-08	WORK REQUEST NO. 56270	CHRG:	SBC:
	ENGINEER RPS	ISSUED	APR:	SCALE: NTS	SHEET 72 OF 73
	REVISION	1	2	3	

F.A. RTE.	2552	SECTION	00-0014-00-PV	COUNTY	DUPAGE	TOTAL SHEETS	563	SHEET NO.	314
STA.		TO STA.							
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT						
CONTRACT 63024									

ELECTRIC DUCT BANK MATERIALS SUPPLIED BY THE CITY OF NAPERVILLE

Item Description	Part No.	HTE Code	Qty.	Unit
Transformer Vault Single Phase Fiber	284-101-00020	DEVTC	7	Each
Transformer Vault Extender	284-100-00120	DEVTE	3	Each
Transformer Vault 3 Phase Concrete (UCP)	28410200120	DEVT 1000C	n/a	Each
Manhole Type "A" PRECAST UCP	284-103-00140	DEMA	8	Each
Manhole Type "E" PRECAST UCP	284-103-00160	DEME	1	Each
Manhole Type "G" PRECAST UCP	284-103-00170	DEMG	8	Each
Manhole Type "X" PRECAST UCP		DEMXX	n/a	Each
Vault, Switchgear, 74"x76" Fibercrete	284-101-00010	DEVA	5	Each
Transformer Vault Three Phase Concrete	284-102-00110	DEVT1500C	n/a	Each
Pedestal Wide Base up right	284-105-00010	UPA	3	Each
Conduit 3" Dia Schedule 40 PVC Pipe	285-100-00040	D3C	5420	Feet
Conduit 6" Dia Schedule 40 PVC Pipe	285-100-00070	D6C	44285	Feet
Conduit 5" Dia Schedule 40 PVC Pipe	285-100-00060	D5C	40	Feet
Elbow 6" Steel 48" Radius, 90°	285-101-00210	D6B90S	58	Each
Elbow 6" Steel 48" Radius, 45°	285-101-00200	D6B45S	46	Each
Elbow 6" Steel 48" Radius, 22°	285-101-00188	D6B22S	112	Each
Elbow 6" Steel 48" Radius, 30°	285-101-00190	D6B30S	72	Each
Elbow 6" Steel 48" Radius, 11°	285-101-00186	D6B11S	92	Each
Elbow 5" Steel 36" Radius, 90°	285-101-00100	D5B90S	n/a	Each
Elbow 5" Steel 36" Radius, 30°	285-101-00080	D5B30S	4	Each
Elbow 3" Sch. 40 PVC 36" Radius, 90°	285-100-00040	D3B90P	39	Each
Coupling Sleeve 6" PVC Long Line	285-102-00130	D6V	92	Each
Coupling 6" Long Line Schedule 40 PVC	285-102-00140	D6L	380	Each
Coupling 6" Schedule 40 PVC 5°	285-102-00150	D6L5	86	Each
Coupling Sleeve 5" PVC Long Line	285-102-00070	D5V	n/a	Each
Coupling 5" Long Line Schedule 40 PVC	285-102-00080	D5L	n/a	Each
Coupling 5" Schedule 40 PVC 5°	285-102-00120	D5L5	n/a	Each
Coupling Sleeve 3" PVC Long Line	285-102-00030	D3V	18	Each
Coupling 3" Long Line Schedule 40 PVC	285-102-00065	D3L	39	Each
Coupling 3" Schedule 40 PVC 5°	285-102-00040	D3L5	22	Each
Bell Fitting PVC 6" Schedule 40	285-103-00040	D6F	32	Each
Bell Fitting PVC 5" Schedule 40	285-103-00080	D5F	4	Each
Bell Fitting PVC 3" Schedule 40	285-103-00040	D3F	81	Each
Plug, PVC 6" with Pull Tab	285-103-00030	D6P	66	Each
Plug, PVC 5" with Pull Tab	285-103-00070	D5P	8	Each
Plug, PVC 3" with Pull Tab	285-103-00030	D3P	85	Each
Cement PVC Quarts with Brush 24hr Dry Summer	285-199-00090	DMG	96	Each

NAPERVILLE PUBLIC UTILITIES DEPARTMENT LIST OF ELECTRIC DUCT BANK MATERIALS ELECTRIC STANDARDS
 DATE: 05-01-05
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 56270-1320

ELECTRIC DUCT BANK MATERIALS SUPPLIED BY THE CITY OF NAPERVILLE

Item Description	Part No.	HTE Code	Qty.	Unit
Spacer, Base PVC, 6"	285-199-00170	D6R	4282	Each
Spacer, Intermediate PVC 6"	285-199-00180	D6R1	8348	Each
Handhole 4"x8" (Fibercrete)1000	284-104-00030	DEH8	n/a	Each
Handhole 4"x6" (Fibercrete)4/0	284-104-00020	DEH6	1	Each
Handhole 3"x5" (Fibercrete)1/0	284-104-00010	DEH5	2	Each
Stud Driving for End of Ground Rod	283-156-00050	UGDRS	15	Each
Strap 6" Conduit (Riser)	285-199-00050	DRC6	2	Each
Strap, EMT 1/2"	285-199-00200	DEMG	n/a	Each
Conduit, Sch 80 PVC 6"	285-100-00075	DRC6	n/a	Each
Bracket, Pole 3"	285-199-00005	DRC6	1	Each
Chanel, 12"	285-199-00070	DRC6	1	Each
Marker Power Ball Red	284-199-00250	n/a	5	Each
Grounding #2 solid Copper (500 ft / reel)	280-107-00020	UGMH	100	Feet
Grounding 4/0 Stranded Bare Copper/19 strand (500 ft / reel)	280-107-00070	UGMH	3400	Feet
Grounding Rod Copper Clad 5/8"X10'	283-156-00010	UGMH	30	Each
5 Ft ground Rod Copper Clad 5/8" (manholes)	283-156-00030	UGMH	72	Each
Ground Rod Coupling Bronze 5/8" rod	283-156-00040	UGMH	36	Each
Clamp, Cable to Flat Ground	284-199-00184		n/a	Each
Tape Caution Cable (10 Foot Lengths)	284-199-00270	DOT	1800	Each
Elbow PVC 30 Deg 3"	285-101-00025	D3B30P	85	Each
Elbow PVC 45 Deg 3"	285-101-00030	D3B45P	4	Each
Extender Air Switch Vault Fiber	284-101-00100	DEVAE	3	Each
Ground Rod Copper Clad 5/8"	283-156-00010	UGT1	n/a	Each
Copper Bare #4 7 Strand (500 ft /reel)	280-107-00050	UGT3	500	FT
Mule Tape 1250 # (3000Ft on a reel)	450-024-00010		6	Reel
#12 THHN Copper Wire	280-113-00044	TEDOTW	6000	FT
Lag Shield Lead Short	284-199-00460	n/a	n/a	Each
Lag Screw SS	284-199-00470	n/a	n/a	Each
Connector Wedge #4 str to 5/8 Rod	286-100-00320	UGMH	59	Each
Shell Wedge Amp (White)	286-101-00010	UGMH	n/a	Each
Shell Wedge Amp (Blue)	286-101-00010	UGMH	n/a	Each
Break - Away #4 str to #4 str.	286-199-00010	UGMH	n/a	Each
Break Away for Grounding	286-199-00220	UGS	n/a	Each
Frame and Cover for Manholes type "B"	284-103-00050	DEML	39	Each
12" Ring for Manhole	284-103-00100	DEM/R	6	Each
6" Ring for Manhole	284-103-00090	DEM/R6	6	Each
2" Ring for Manhole	284-103-00070	DEM/R2	6	Each
Butyl Mastic	892-370-00004		52	Roll

NAPERVILLE PUBLIC UTILITIES DEPARTMENT LIST OF ELECTRIC DUCT BANK MATERIALS ELECTRIC STANDARDS
 DATE: 05-01-05
 Page 2 of 3
 56270-1320

ELECTRIC DUCT BANK MATERIALS SUPPLIED BY THE CITY OF NAPERVILLE

Item Description	Part No.	HTE Code	Qty.	Unit
Duct Polyethylene 3" coilable on a reel	285-100-00030		1100	Feet
Duct Polyethylene 6" coilable on a reel	285-100-00072		3780	Feet
Bracket Pole 3" stand off	285-199-00005	DRC	1	Each
Strap, 6" conduit with bolts washers	285-199-00005	DRC	2	Each
Channel 24" 4 way T- Slot	285-199-00080	DRC	1	Each
Connector Wedge cu 4/0 to 4/0	286-100-00260	UGMH	38	Each

NAPERVILLE PUBLIC UTILITIES DEPARTMENT LIST OF ELECTRIC DUCT BANK MATERIALS ELECTRIC STANDARDS
 DATE: 05-01-05
 Page 3 of 3
 56270-1320

WF# INFORMATION		CITY OF NAPERVILLE/DEPARTMENT OF PUBLIC UTILITIES - ELECTRIC			
WF# 59481 WASHINGTON ST. 75TH TO OLYMPUS DR. EAST SIDE	JOB 1 EU-73	CALL J.U.L.I.E. 48 HRS. PRIOR TO CONSTRUCTION			
WF# 59482 75TH WASHINGTON ST. TO OLYMPUS DR. NORTH SIDE	JOB 2 EU-73	75TH ST. AND WASHINGTON ST. ROAD IMPROVEMENTS		MAP NO.:	CAC FILE: 0056270001073.DWG
WF# 59484 75TH WASHINGTON ST. TO CLYDE DR. SOUTH SIDE	JOB 3 EU-73	TRENCH SECTION DETAILS		DRAWN BY: JK, PM	PROJECT NO.: EU12-06-03 EU73
WF# 59485 WASHINGTON ST. 75TH TO BAILEY RD. EAST SIDE	JOB 4 EU-73	DATE: 4-01-08	ISSUED	WORK REQUEST NO.: 56270	COMPLETED BY:
		ENGINEER: RPS	APPROVED:	SCALE: NTS	SHEET 73 OF 73
		REVISION:			

GENERAL NOTES

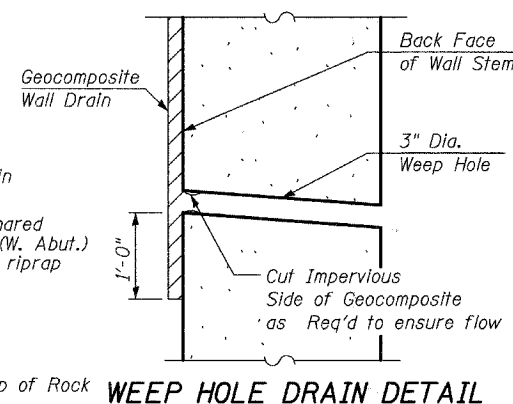
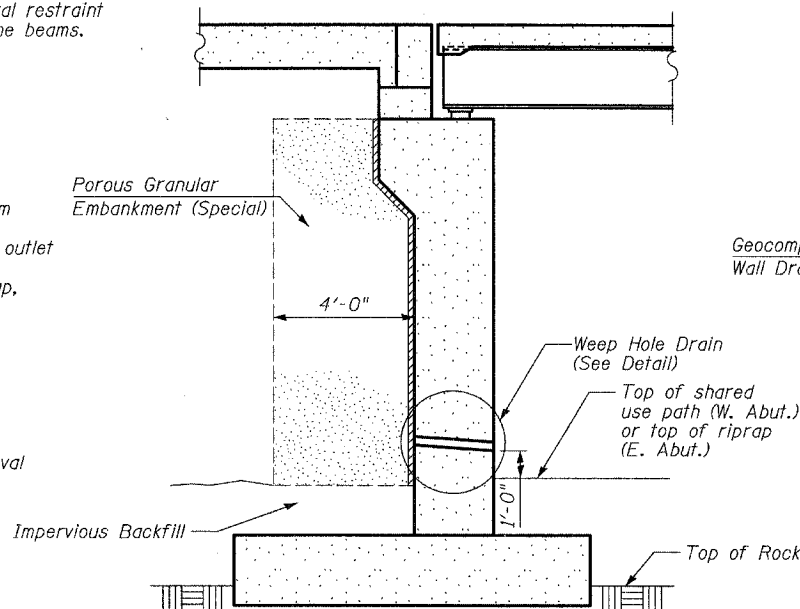
- Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts (In painted areas and M164 Type 3 in unpainted areas). Bolts $\frac{7}{8}$ in. ϕ , holes $\frac{15}{16}$ in. ϕ , unless otherwise noted.
- Calculated weight of Structural Steel:
Grade 50 = 391,840 lbs.
- No field welding is permitted except as specified in the contract documents.
- Reinforcement bars designated (E) shall be epoxy coated.
- Concrete Sealer shall be applied to the designated areas of the Abutment Stems.
- All structural steel shall be AASHTO M 270 Grade 50W (except expansion joints which shall be AASHTO M 270 Grade 36.)
- Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.
- Bearing seat surfaces shall be constructed or adjusted to their designated elevation within a tolerance of $\frac{1}{8}$ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
- Structural steel shall only be painted for a distance of 6 ft. each way from the deck joints. All structural steel shall be cleaned as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".
- All exposed structural steel of the bearings shall be cleaned and shop painted as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".
- Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.
- Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
- The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.
- The Contractor is advised that the existing PPC deck beams are in a deteriorated condition with reduced load carrying capacity. It is the Contractor's responsibility to account for the condition of the beams when developing construction procedures for removal and replacement of the superstructure.
- If the Contractor's procedure for existing beam removal involves placement of cranes or other heavy equipment on the beams, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the beams. To distribute the load to multiple beams, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams. Prior to placement of the timber mats the following shall be done: placement and tightening of transverse tie assemblies, grouting and curing the dowel rods 24 hours minimum, and grouting and curing the shear keys. A temporary means of lateral restraint will be required for fascia beams at expansion ends of beams to prevent movement of the beams.
- The method of dewatering shall be submitted to the DuPage County Division of Environmental Concerns for approval. The following items shall be general conditions as part of the Contractor's operation in the river:
 - Work in and on the banks of the West Branch of the DuPage River shall be timed to take place during low or no-flow condition.
 - Concentrated flow shall be isolated from the work area using non-erodable cofferdam (Jersey barriers, steel sheets, aqua barriers, etc.)
 - If bypass is necessary, the inlet of the hose shall be placed in a sump pit and the outlet placed on a non-erodable, energy dissipating surface prior to joining the river.
 - All discharges from dewatering activities must be filtered by means of a sediment trap, filter bag, polymer system, etc. The dewatering method shall take into account the amount of water being removed from the work area and its sediment load.
 - The side slopes shall be reseeded and stabilized with an erosion control blanket as indicated on the roadway plans prior to accepting flows.
- The river is used at times by canoeists. During removal operations, the Contractor shall prevent debris from falling into the river and shall not dump debris into the river.
- The Contractor shall restrict access beneath the structure during beam or concrete removal operations, beam erection and deck formwork installation that occur above Span 2. The cost shall be included in the pay items associated with this work.

TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

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F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	*	DUPAGE	563	316
FED. ROAD DIST. NO.		BILLINGS	FED. AID PROJECT-	
00-00114-00-PV		CONTRACT NO. 63024		

SHEET NO. - 2

50 - SHEETS

TOTAL BILL OF MATERIAL

Item	Unit	Super.	Sub.	Total
POROUS GRANULAR EMBANKMENT, SPECIAL	CU YD		510	510
STONE RIPRAP, CLASS A4	SQ YD		452	452
REMOVAL OF EXISTING STRUCTURES	L SUM	0.5	0.5	1
STRUCTURE EXCAVATION	CU YD		2,752	2,752
ROCK EXCAVATION FOR STRUCTURES	CU YD		147	147
CONCRETE STRUCTURES	CU YD		970.2	970.2
CONCRETE SUPERSTRUCTURE	CU YD	710.1		710.1
BRIDGE DECK GROOVING	SQ YD	1,919		1,919
PROTECTIVE COAT	SQ YD	3,473		3,473
FORM LINER TEXTURED SURFACE	SQ YD		210	210
FURNISHING AND ERECTING STRUCTURAL STEEL	L SUM	1		1
STUD SHEAR CONNECTORS	EACH	14,646		14,646
REINFORCEMENT BARS	POUND		43,230	43,230
REINFORCEMENT BARS, EPOXY COATED	POUND	148,160	136,690	284,850
BAR SPLICERS	EACH		486	486
PARAPET RAILING, SPECIAL	FOOT	581.4		581.4
NAME PLATES	EACH	1		1
DRILLED SHAFT IN SOIL	CU YD		90.0	90.0
DRILLED SHAFT IN ROCK	CU YD		101.0	101.0
PREFORMED JOINT STRIP SEAL	FOOT	295		295
ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	43		43
ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	21		21
ANCHOR BOLTS, 1"	EACH	128		128
ANCHOR BOLTS, 1/4"	EACH	42		42
BRIDGE SEAT SEALER	SQ FT		590	590
CONCRETE SEALER	SQ FT		2,798	2,798
GEOCOMPOSITE WALL DRAIN	SQ YD		339	339
DRAINAGE SCUPPERS, DS-12	EACH	10		10
DRAINAGE SCUPPERS, DS-11	EACH	4		4
TEMPORARY SOIL RETENTION SYSTEM	SQ FT		1,667	1,667
UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 1	EACH		1	1
UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 2	EACH		1	1
UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 3	EACH		1	1
UNDERWATER STRUCTURE EXCAVATION PROTECTION - LOCATION 4	EACH		1	1
ANTI-GRAFFITI COATING	SQ FT		1,834	1,834
ASBESTOS BEARING PAD REMOVAL	EACH	138		138
CONDUIT EMBEDDED IN STRUCTURE, 2" DIA., PVC	FOOT	566		566

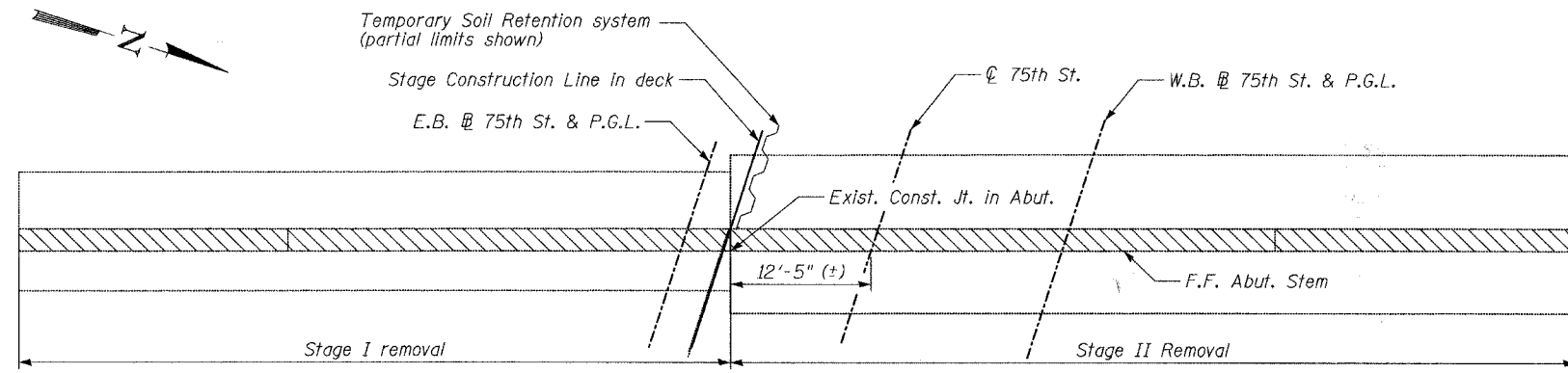
W. BRANCH OF DUPAGE RIVER
BUILT BY
CITY OF NAPERVILLE
SEC. 00-00114-00-PV
F.A.P. 369 STA. 151+38.03
STR. NO. 022-3118 LOADING HS20

NAME PLATE
See Std. 515001

REVISIONS	
NAME	DATE

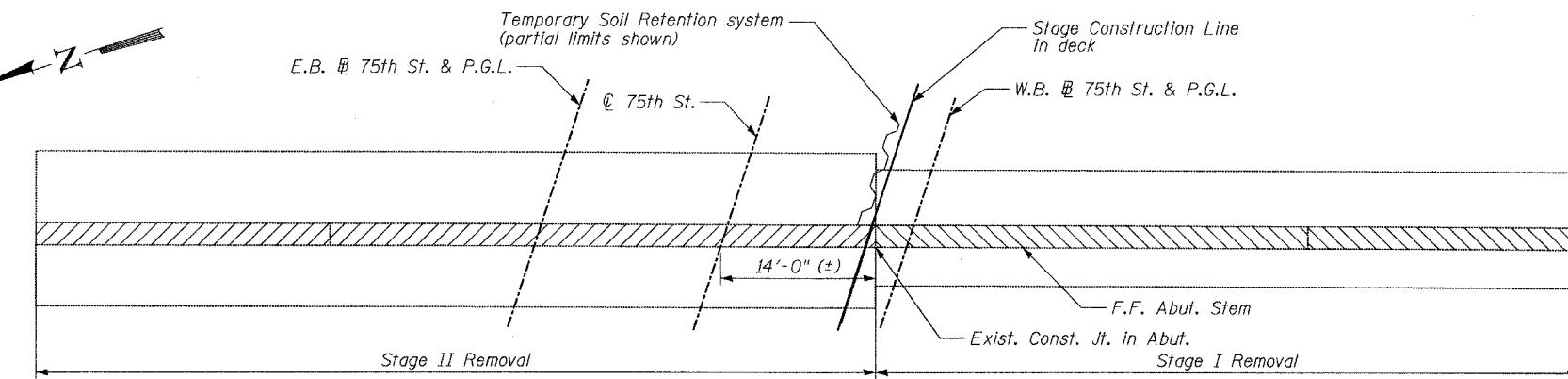
GEN NOTES, SHT INDEX, BILL OF MATERIAL

75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

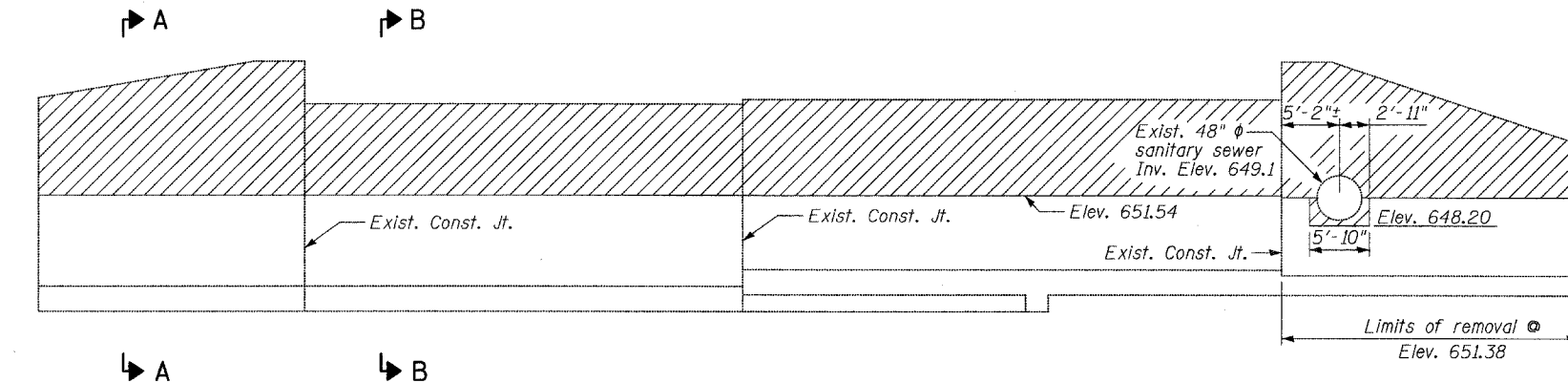


PLAN - WEST ABUTMENT

(See Elevation - W. Abutment below for vertical limits)

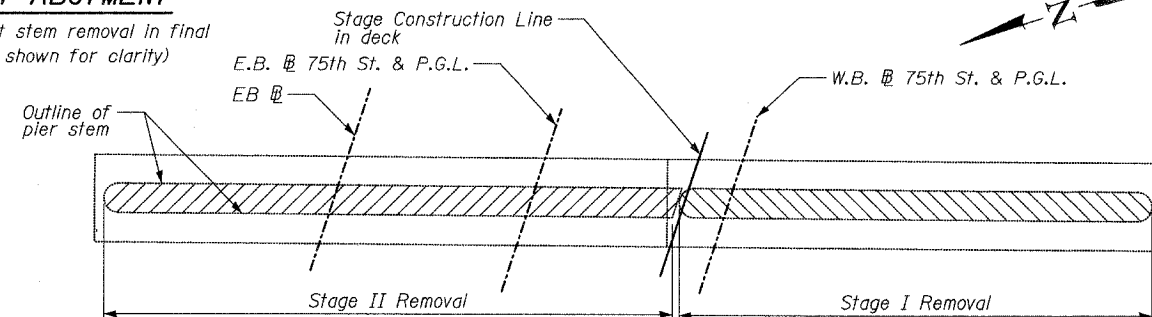


PLAN - EAST ABUTMENT

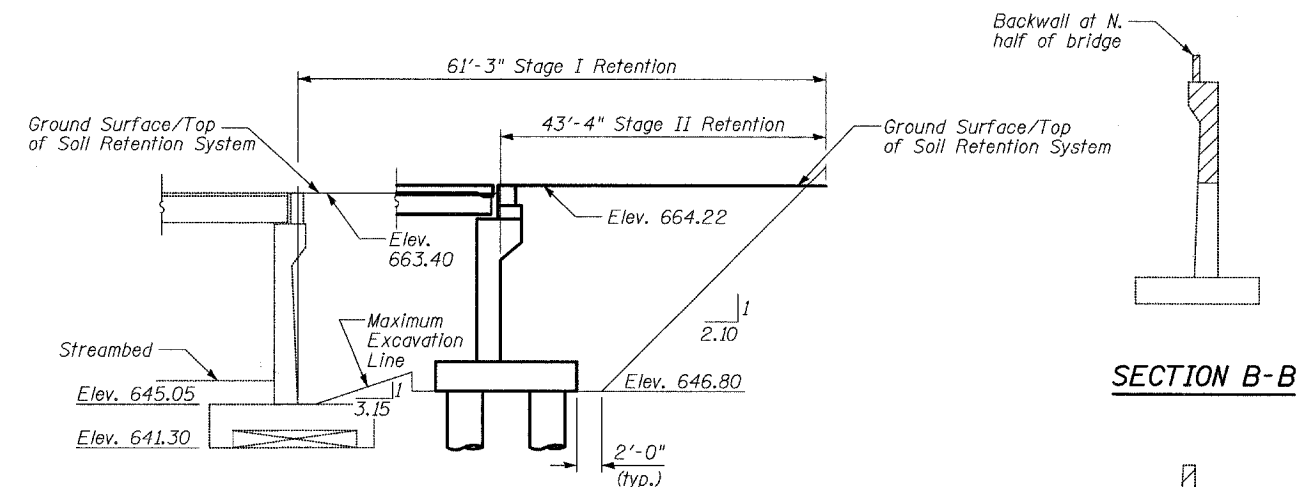


ELEVATION - WEST ABUTMENT

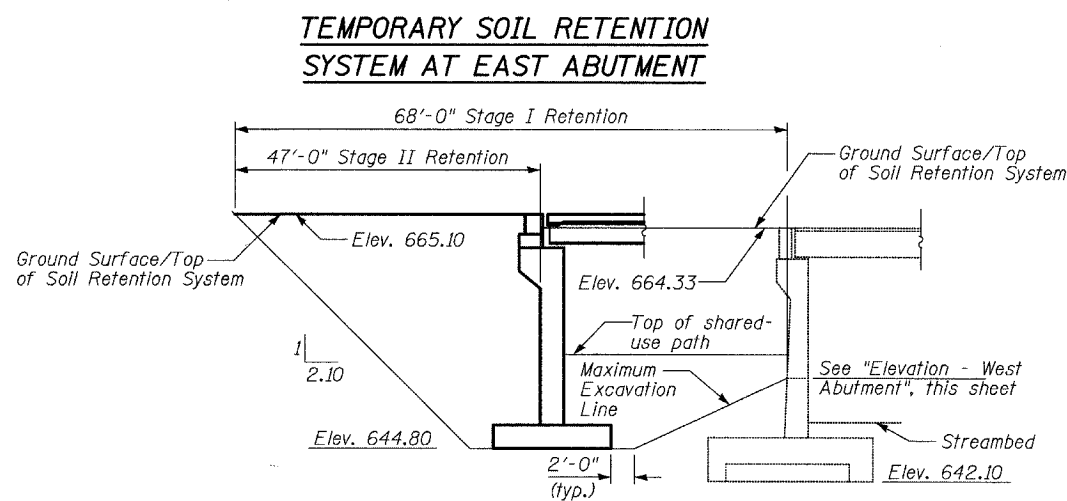
(Indicating limits of abutment stem removal in final configuration. Backwall not shown for clarity)



PLAN - PIERS 1 & 2



SECTION B-B



SECTION A-A

TEMPORARY SOIL RETENTION SYSTEM AT WEST ABUTMENT

NOTES

Denotes concrete removal

NOTES

The Contractor shall connect the first sheet to the existing abutment wall to ensure stability of the sheets driven to the top of the existing footing. This connection shall be reviewed and accepted by the Engineer and included in the cost for Temporary Soil Retention System.

A cantilevered sheet piling design does not appear feasible and additional members or other retention systems may be necessary. The Contractor shall submit a temporary soil retention system design including plan details and calculations for review and acceptance by the Engineer.

All substructure units shall be removed a minimum of 1'-0" below streambed elevation unless otherwise noted.

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REVISIONS	
NAME	DATE

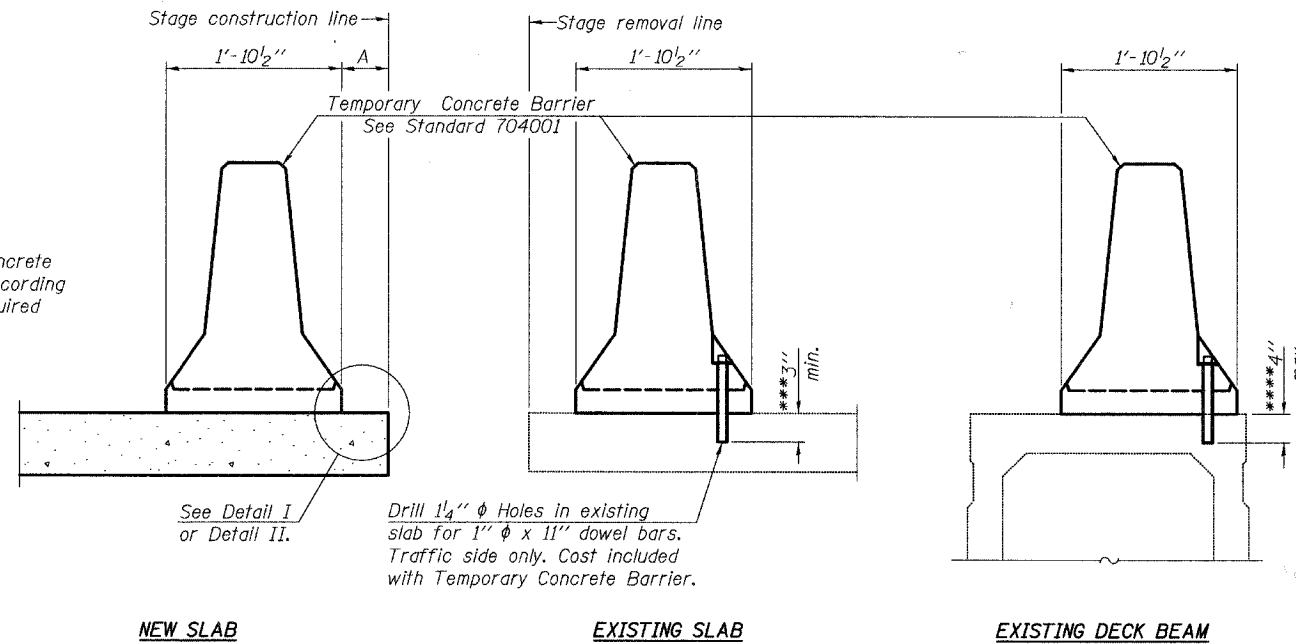
STAGE CONSTRUCTION - 1

75th STREET OVER THE WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

F.A.D. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	*	DUPAGE	563	319
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-		
		00-00114-00-PV	CONTRACT NO. 63024	

SHEET NO. - 5
50 - SHEETS

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



SECTIONS THRU SLAB OR DECK BEAM

NOTES

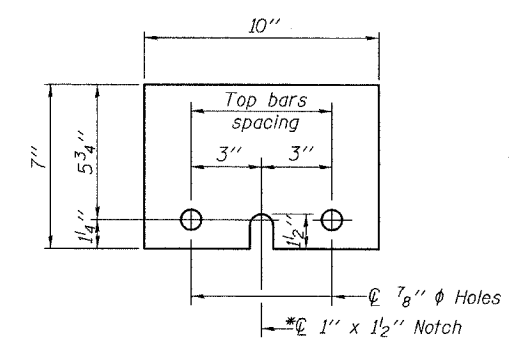
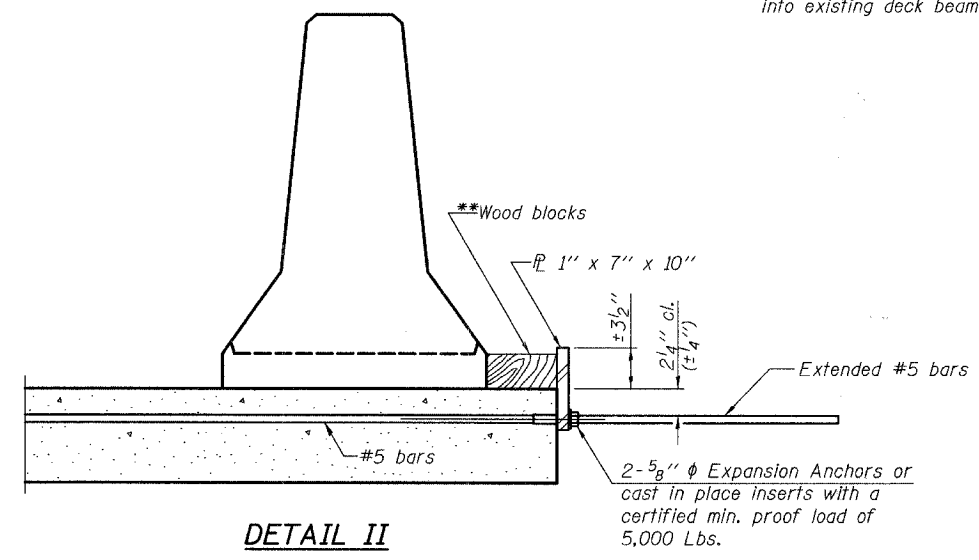
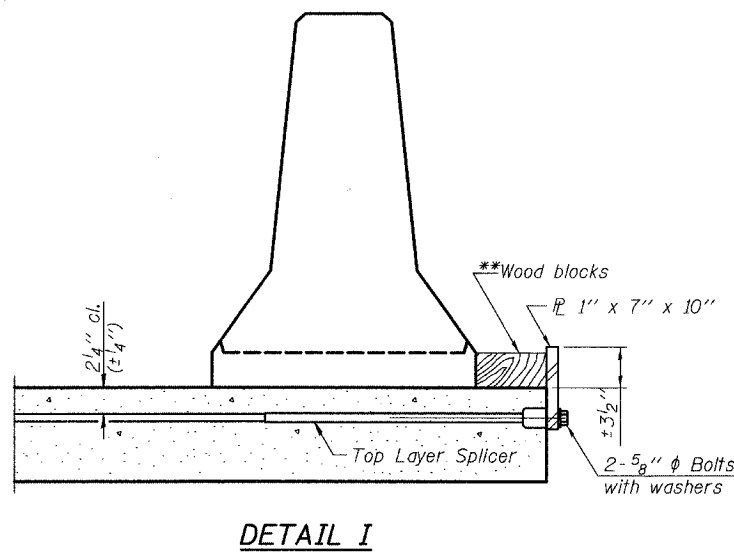
Detail I - With Bar Splicer or Couplers:
Connect one (1) 1"x7"x10" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate C of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1"x7"x10" steel PL to the concrete slab or concrete wearing surface with 2-5/8" φ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate C of each barrier panel.

Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

***Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

***If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



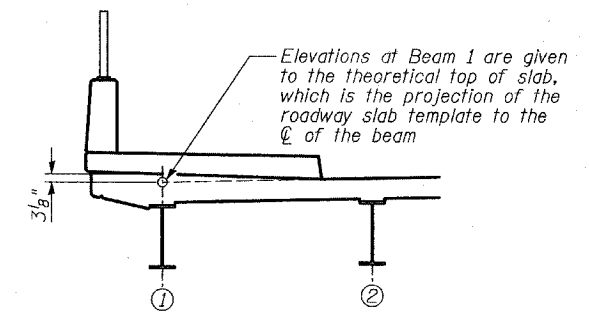
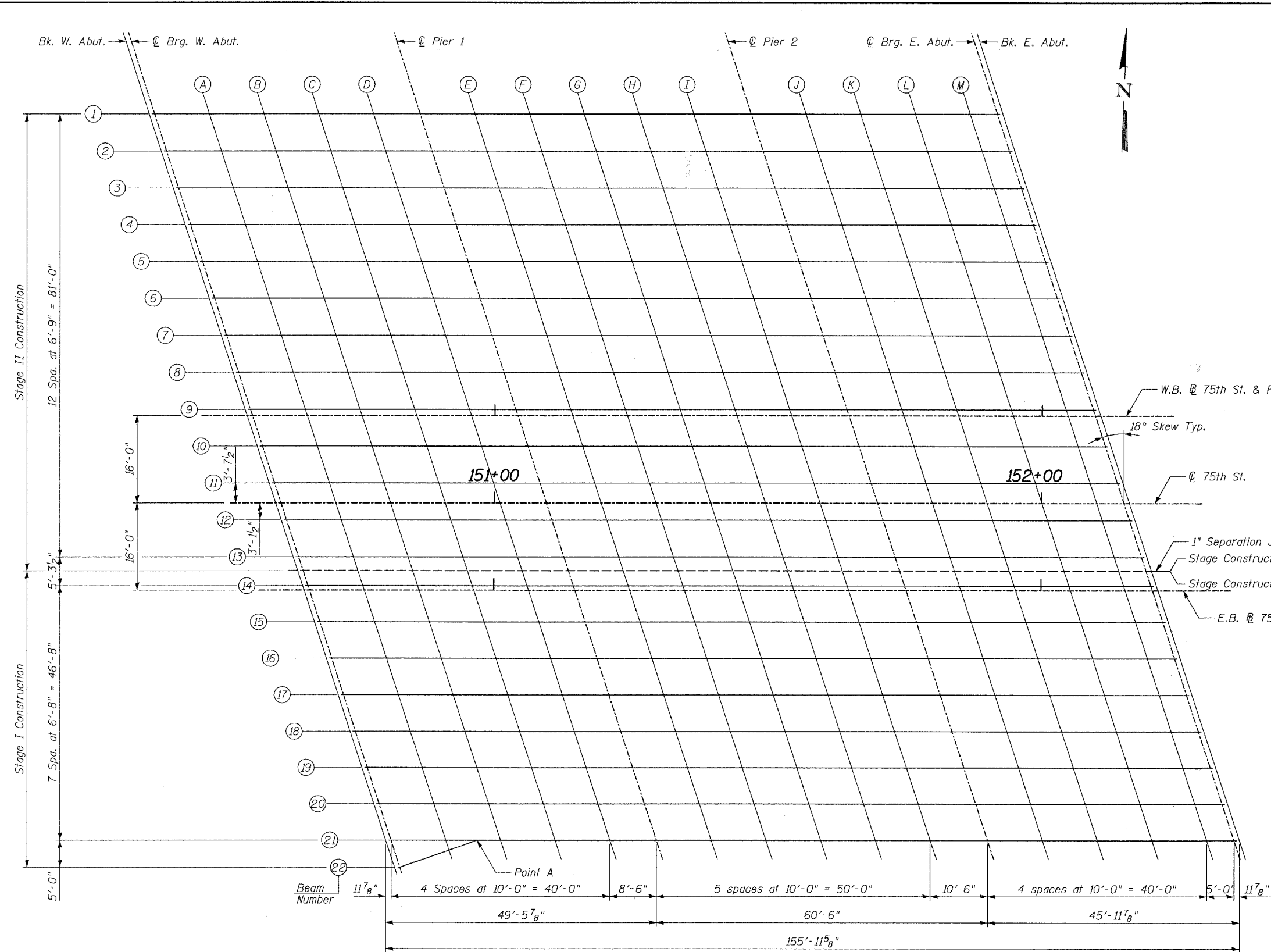
**Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

STEEL RETAINER PL 1" x 7" x 10"
* Required only with Detail II

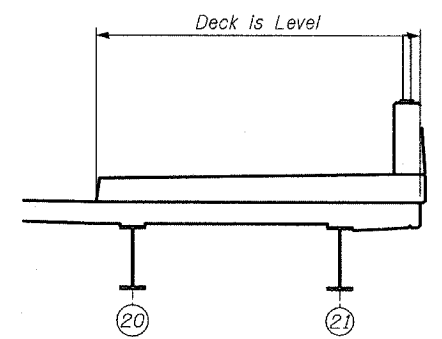
TYLIN INTERNATIONAL

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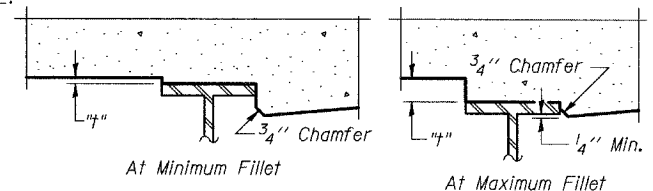
REVISIONS		TEMPORARY CONCRETE BARRIER
NAME	DATE	
		75th STREET OVER THE WEST BRANCH OF THE DUPAGE RIVER FAP 369 SECTION 00-00114-00-PV STA. 151+38.03 DUPAGE COUNTY S.N. 022-3118



DETAIL AT NORTH FASCIA



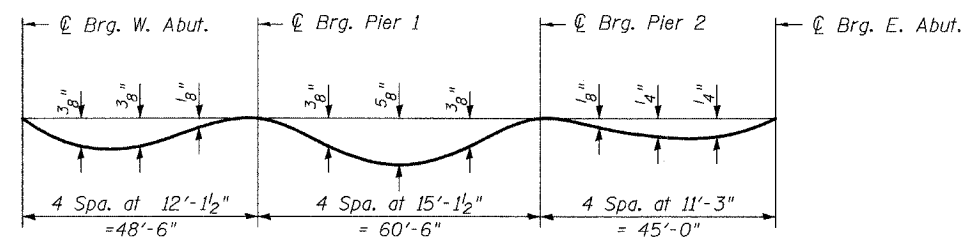
DETAIL AT SOUTH FASCIA



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "t" above top flange of beams.

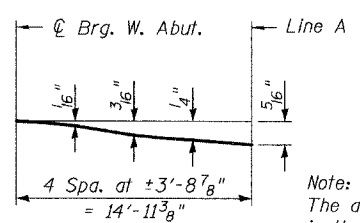
FILLET HEIGHTS

PLAN



BEAMS 1-21

DEAD LOAD DEFLECTION DIAGRAMS BEAM 22
(Includes weight of concrete only)



Note:
The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections.

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DRAWN	- PL
CHECKED	- SP

REVISIONS	
NAME	DATE

TOP OF SLAB ELEVATIONS - LAYOUT

75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

BEAM 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	350+36.82	-55.13	664.22	664.22
Q Brg. West Abut	350+37.80	-55.13	664.22	664.22
Line A	350+47.80	-55.13	664.16	664.19
Line B	350+57.80	-55.13	664.11	664.14
Line C	350+67.80	-55.13	664.05	664.07
Line D	350+77.80	-55.13	663.99	664.00
Q Brg. Pier 1	350+86.30	-55.13	663.94	663.94
Line E	350+96.30	-55.13	663.89	663.90
Line F	351+06.30	-55.13	663.83	663.87
Line G	351+16.30	-55.13	663.77	663.82
Line H	351+26.30	-55.13	663.71	663.76
Line I	351+36.30	-55.13	663.66	663.68
Q Brg. Pier 2	351+46.80	-55.13	663.60	663.60
Line J	351+56.80	-55.13	663.54	663.55
Line K	351+66.80	-55.13	663.48	663.50
Line L	351+76.80	-55.13	663.43	663.45
Line M	351+86.80	-55.13	663.37	663.38
Q Brg. East Abut	351+91.80	-55.13	663.34	663.34
Bk. of East Abut	351+92.79	-55.13	663.34	663.34

BEAM 2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	350+39.01	-48.38	664.35	664.35
Q Brg. West Abut	350+40.00	-48.38	664.35	664.35
Line A	350+50.00	-48.38	664.29	664.32
Line B	350+60.00	-48.38	664.23	664.27
Line C	350+70.00	-48.38	664.18	664.20
Line D	350+80.00	-48.38	664.12	664.13
Q Brg. Pier 1	350+88.50	-48.38	664.07	664.07
Line E	350+98.50	-48.38	664.01	664.03
Line F	351+08.50	-48.38	663.96	664.00
Line G	351+18.50	-48.38	663.90	663.95
Line H	351+28.50	-48.38	663.84	663.89
Line I	351+38.50	-48.38	663.79	663.81
Q Brg. Pier 2	351+49.00	-48.38	663.73	663.73
Line J	351+59.00	-48.38	663.67	663.68
Line K	351+69.00	-48.38	663.61	663.63
Line L	351+79.00	-48.38	663.55	663.58
Line M	351+89.00	-48.38	663.50	663.51
Q Brg. East Abut	351+94.00	-48.38	663.47	663.47
Bk. of East Abut	351+94.98	-48.38	663.46	663.46

BEAM 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	350+41.21	-41.63	664.48	664.48
Q Brg. West Abut	350+42.19	-41.63	664.48	664.48
Line A	350+52.19	-41.63	664.42	664.44
Line B	350+62.19	-41.63	664.36	664.40
Line C	350+72.19	-41.63	664.30	664.33
Line D	350+82.19	-41.63	664.25	664.26
Q Brg. Pier 1	350+90.69	-41.63	664.20	664.20
Line E	351+00.69	-41.63	664.14	664.16
Line F	351+10.69	-41.63	664.08	664.13
Line G	351+20.69	-41.63	664.03	664.08
Line H	351+30.69	-41.63	663.97	664.01
Line I	351+40.69	-41.63	663.91	663.93
Q Brg. Pier 2	351+51.19	-41.63	663.85	663.85
Line J	351+61.19	-41.63	663.80	663.80
Line K	351+71.19	-41.63	663.74	663.76
Line L	351+81.19	-41.63	663.68	663.71
Line M	351+91.19	-41.63	663.63	663.64
Q Brg. East Abut	351+96.19	-41.63	663.60	663.60
Bk. of East Abut	351+97.18	-41.63	663.59	663.59

BEAM 4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	350+43.40	-34.88	664.61	664.61
Q Brg. West Abut	350+44.38	-34.88	664.60	664.60
Line A	350+54.38	-34.88	664.55	664.57
Line B	350+64.38	-34.88	664.49	664.52
Line C	350+74.38	-34.88	664.43	664.46
Line D	350+84.38	-34.88	664.38	664.38
Q Brg. Pier 1	350+92.88	-34.88	664.33	664.33
Line E	351+02.88	-34.88	664.27	664.29
Line F	351+12.88	-34.88	664.21	664.25
Line G	351+22.88	-34.88	664.16	664.21
Line H	351+32.88	-34.88	664.10	664.14
Line I	351+42.88	-34.88	664.04	664.06
Q Brg. Pier 2	351+53.38	-34.88	663.98	663.98
Line J	351+63.38	-34.88	663.93	663.93
Line K	351+73.38	-34.88	663.87	663.89
Line L	351+83.38	-34.88	663.81	663.83
Line M	351+93.38	-34.88	663.75	663.76
Q Brg. East Abut	351+98.38	-34.88	663.73	663.73
Bk. of East Abut	351+99.37	-34.88	663.72	663.72

BEAM 5

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	350+45.59	-28.13	664.74	664.74
Q Brg. West Abut	350+46.58	-28.13	664.73	664.73
Line A	350+56.58	-28.13	664.67	664.70
Line B	350+66.58	-28.13	664.62	664.65
Line C	350+76.58	-28.13	664.56	664.59
Line D	350+86.58	-28.13	664.50	664.51
Q Brg. Pier 1	350+95.08	-28.13	664.46	664.46
Line E	351+05.08	-28.13	664.40	664.42
Line F	351+15.08	-28.13	664.34	664.38
Line G	351+25.08	-28.13	664.28	664.34
Line H	351+35.08	-28.13	664.23	664.27
Line I	351+45.08	-28.13	664.17	664.19
Q Brg. Pier 2	351+55.58	-28.13	664.11	664.11
Line J	351+65.58	-28.13	664.05	664.06
Line K	351+75.58	-28.13	664.00	664.02
Line L	351+85.58	-28.13	663.94	663.96
Line M	351+95.58	-28.13	663.88	663.89
Q Brg. East Abut	352+00.58	-28.13	663.85	663.85
Bk. of East Abut	352+01.56	-28.13	663.85	663.85

BEAM 6

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	350+47.78	-21.38	664.87	664.87
Q Brg. West Abut	350+48.77	-21.38	664.86	664.86
Line A	350+58.77	-21.38	664.80	664.83
Line B	350+68.77	-21.38	664.75	664.78
Line C	350+78.77	-21.38	664.69	664.72
Line D	350+88.77	-21.38	664.63	664.64
Q Brg. Pier 1	350+97.27	-21.38	664.58	664.58
Line E	351+07.27	-21.38	664.53	664.54
Line F	351+17.27	-21.38	664.47	664.51
Line G	351+27.27	-21.38	664.41	664.46
Line H	351+37.27	-21.38	664.36	664.40
Line I	351+47.27	-21.38	664.30	664.32
Q Brg. Pier 2	351+57.77	-21.38	664.24	664.24
Line J	351+67.77	-21.38	664.18	664.19
Line K	351+77.77	-21.38	664.12	664.14
Line L	351+87.77	-21.38	664.07	664.09
Line M	351+97.77	-21.38	664.01	664.02
Q Brg. East Abut	352+02.77	-21.38	663.98	663.98
Bk. of East Abut	352+03.76	-21.38	663.98	663.98

TYLINT INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

REVISIONS	
NAME	DATE

TOP OF SLAB ELEVATIONS - I

75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

BEAM 7

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	350+49.98	-14.63	664.99	664.99
☉ Brg. West Abut	350+50.96	-14.63	664.99	664.99
Line A	350+60.96	-14.63	664.93	664.96
Line B	350+70.96	-14.63	664.87	664.91
Line C	350+80.96	-14.63	664.82	664.84
Line D	350+90.96	-14.63	664.76	664.77
☉ Brg. Pier 1	350+99.46	-14.63	664.71	664.71
Line E	351+09.46	-14.63	664.65	664.67
Line F	351+19.46	-14.63	664.60	664.64
Line G	351+29.46	-14.63	664.54	664.59
Line H	351+39.46	-14.63	664.48	664.53
Line I	351+49.46	-14.63	664.43	664.45
☉ Brg. Pier 2	351+59.96	-14.63	664.37	664.37
Line J	351+69.96	-14.63	664.31	664.32
Line K	351+79.96	-14.63	664.25	664.27
Line L	351+89.96	-14.63	664.20	664.22
Line M	351+99.96	-14.63	664.14	664.15
☉ Brg. East Abut	352+04.96	-14.63	664.11	664.11
Bk. of East Abut	352+05.95	-14.63	664.10	664.10

BEAM 8

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	350+52.17	-7.88	665.12	665.12
☉ Brg. West Abut	350+53.16	-7.88	665.12	665.12
Line A	350+63.16	-7.88	665.06	665.08
Line B	350+73.16	-7.88	665.00	665.04
Line C	350+83.16	-7.88	664.94	664.97
Line D	350+93.16	-7.88	664.89	664.90
☉ Brg. Pier 1	351+01.66	-7.88	664.84	664.84
Line E	351+11.66	-7.88	664.78	664.80
Line F	351+21.66	-7.88	664.73	664.77
Line G	351+31.66	-7.88	664.67	664.72
Line H	351+41.66	-7.88	664.61	664.65
Line I	351+51.66	-7.88	664.55	664.57
☉ Brg. Pier 2	351+62.16	-7.88	664.49	664.49
Line J	351+72.16	-7.88	664.44	664.44
Line K	351+82.16	-7.88	664.38	664.40
Line L	351+92.16	-7.88	664.32	664.35
Line M	352+02.16	-7.88	664.27	664.28
☉ Brg. East Abut	352+07.16	-7.88	664.24	664.24
Bk. of East Abut	352+08.14	-7.88	664.23	664.23

BEAM 9

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	350+54.36	-1.13	665.25	665.25
☉ Brg. West Abut	350+55.35	-1.13	665.24	665.24
Line A	350+65.35	-1.13	665.19	665.21
Line B	350+75.35	-1.13	665.13	665.16
Line C	350+85.35	-1.13	665.07	665.10
Line D	350+95.35	-1.13	665.02	665.02
☉ Brg. Pier 1	351+03.85	-1.13	664.97	664.97
Line E	351+13.85	-1.13	664.91	664.93
Line F	351+23.85	-1.13	664.85	664.89
Line G	351+33.85	-1.13	664.80	664.85
Line H	351+43.85	-1.13	664.74	664.78
Line I	351+53.85	-1.13	664.68	664.70
☉ Brg. Pier 2	351+64.35	-1.13	664.62	664.62
Line J	351+74.35	-1.13	664.57	664.57
Line K	351+84.35	-1.13	664.51	664.53
Line L	351+94.35	-1.13	664.45	664.47
Line M	352+04.35	-1.13	664.39	664.40
☉ Brg. East Abut	352+09.35	-1.13	664.37	664.37
Bk. of East Abut	352+10.34	-1.13	664.36	664.36

WESTBOUND B

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	350+54.73	0.00	665.27	665.27
☉ Brg. West Abut	350+55.72	0.00	665.27	665.27
Line A	350+65.72	0.00	665.21	665.23
Line B	350+75.72	0.00	665.15	665.19
Line C	350+85.72	0.00	665.09	665.12
Line D	350+95.72	0.00	665.04	665.05
☉ Brg. Pier 1	351+04.22	0.00	664.99	664.99
Line E	351+14.22	0.00	664.93	664.95
Line F	351+24.22	0.00	664.87	664.92
Line G	351+34.22	0.00	664.82	664.87
Line H	351+44.22	0.00	664.76	664.80
Line I	351+54.22	0.00	664.70	664.72
☉ Brg. Pier 2	351+64.72	0.00	664.64	664.64
Line J	351+74.72	0.00	664.59	664.59
Line K	351+84.72	0.00	664.53	664.55
Line L	351+94.72	0.00	664.47	664.50
Line M	352+04.72	0.00	664.42	664.43
☉ Brg. East Abut	352+09.72	0.00	664.39	664.39
Bk. of East Abut	352+10.70	0.00	664.38	664.38

BEAM 10

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	350+56.56	5.63	665.35	665.35
☉ Brg. West Abut	350+57.54	5.63	665.34	665.34
Line A	350+67.54	5.63	665.29	665.31
Line B	350+77.54	5.63	665.23	665.26
Line C	350+87.54	5.63	665.17	665.20
Line D	350+97.54	5.63	665.11	665.12
☉ Brg. Pier 1	351+06.04	5.63	665.07	665.07
Line E	351+16.04	5.63	665.01	665.03
Line F	351+26.04	5.63	664.95	664.99
Line G	351+36.04	5.63	664.90	664.95
Line H	351+46.04	5.63	664.84	664.88
Line I	351+56.04	5.63	664.78	664.80
☉ Brg. Pier 2	351+66.54	5.63	664.72	664.72
Line J	351+76.54	5.63	664.66	664.67
Line K	351+86.54	5.63	664.61	664.63
Line L	351+96.54	5.63	664.55	664.57
Line M	352+06.54	5.63	664.49	664.50
☉ Brg. East Abut	352+11.54	5.63	664.47	664.47
Bk. of East Abut	352+12.53	5.63	664.46	664.46

BEAM 11

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	350+58.75	12.38	665.43	665.43
☉ Brg. West Abut	350+59.74	12.38	665.42	665.42
Line A	350+69.74	12.38	665.37	665.39
Line B	350+79.74	12.38	665.31	665.35
Line C	350+89.74	12.38	665.25	665.28
Line D	350+99.74	12.38	665.20	665.20
☉ Brg. Pier 1	351+08.24	12.38	665.15	665.15
Line E	351+18.24	12.38	665.09	665.11
Line F	351+28.24	12.38	665.03	665.07
Line G	351+38.24	12.38	664.98	665.03
Line H	351+48.24	12.38	664.92	664.96
Line I	351+58.24	12.38	664.86	664.88
☉ Brg. Pier 2	351+68.74	12.38	664.80	664.80
Line J	351+78.74	12.38	664.75	664.75
Line K	351+88.74	12.38	664.69	664.71
Line L	351+98.74	12.38	664.63	664.65
Line M	352+08.74	12.38	664.57	664.58
☉ Brg. East Abut	352+13.74	12.38	664.55	664.55
Bk. of East Abut	352+14.72	12.38	664.54	664.54

TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

REVISIONS	
NAME	DATE

TOP OF SLAB ELEVATIONS - II

75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

75TH ST.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	350+59.93	16.00	665.37	665.37
☉ Brg. West Abut	350+60.91	16.00	665.36	665.36
Line A	350+70.91	16.00	665.30	665.33
Line B	350+80.91	16.00	665.25	665.28
Line C	350+90.91	16.00	665.19	665.22
Line D	351+00.91	16.00	665.13	665.14
☉ Brg. Pier 1	351+09.41	16.00	665.08	665.08
Line E	351+19.41	16.00	665.03	665.04
Line F	351+29.41	16.00	664.97	665.01
Line G	351+39.41	16.00	664.91	664.96
Line H	351+49.41	16.00	664.86	664.90
Line I	351+59.41	16.00	664.80	664.82
☉ Brg. Pier 2	351+69.91	16.00	664.74	664.74
Line J	351+79.91	16.00	664.68	664.69
Line K	351+89.91	16.00	664.63	664.65
Line L	351+99.91	16.00	664.57	664.59
Line M	352+09.91	16.00	664.51	664.52
☉ Brg. East Abut	352+14.91	16.00	664.48	664.48
Bk. of East Abut	352+15.90	16.00	664.48	664.48

BEAM 12

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	350+60.94	19.13	665.31	665.31
☉ Brg. West Abut	350+61.93	19.13	665.31	665.31
Line A	350+71.93	19.13	665.25	665.27
Line B	350+81.93	19.13	665.19	665.23
Line C	350+91.93	19.13	665.14	665.16
Line D	351+01.93	19.13	665.08	665.09
☉ Brg. Pier 1	351+10.43	19.13	665.03	665.03
Line E	351+20.43	19.13	664.97	664.99
Line F	351+30.43	19.13	664.92	664.96
Line G	351+40.43	19.13	664.86	664.91
Line H	351+50.43	19.13	664.80	664.84
Line I	351+60.43	19.13	664.74	664.76
☉ Brg. Pier 2	351+70.93	19.13	664.68	664.68
Line J	351+80.93	19.13	664.63	664.63
Line K	351+90.93	19.13	664.57	664.59
Line L	352+00.93	19.13	664.51	664.54
Line M	352+10.93	19.13	664.46	664.47
☉ Brg. East Abut	352+15.93	19.13	664.43	664.43
Bk. of East Abut	352+16.92	19.13	664.42	664.42

BEAM 13

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	350+63.14	25.88	665.19	665.19
☉ Brg. West Abut	350+64.12	25.88	665.19	665.19
Line A	350+74.12	25.88	665.13	665.16
Line B	350+84.12	25.88	665.07	665.11
Line C	350+94.12	25.88	665.02	665.04
Line D	351+04.12	25.88	664.96	664.97
☉ Brg. Pier 1	351+12.62	25.88	664.91	664.91
Line E	351+22.62	25.88	664.85	664.87
Line F	351+32.62	25.88	664.80	664.84
Line G	351+42.62	25.88	664.74	664.79
Line H	351+52.62	25.88	664.68	664.73
Line I	351+62.62	25.88	664.63	664.65
☉ Brg. Pier 2	351+73.12	25.88	664.57	664.57
Line J	351+83.12	25.88	664.51	664.52
Line K	351+93.12	25.88	664.45	664.47
Line L	352+03.12	25.88	664.40	664.42
Line M	352+13.12	25.88	664.34	664.35
☉ Brg. East Abut	352+18.12	25.88	664.31	664.31
Bk. of East Abut	352+19.11	25.88	664.30	664.30

STAGE CONSTRUCTION LEFT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	350+63.94	28.33	665.15	665.15
☉ Brg. West Abut	350+64.92	28.33	665.15	665.15
Line A	350+74.92	28.33	665.09	665.11
Line B	350+84.92	28.33	665.03	665.07
Line C	350+94.92	28.33	664.97	665.00
Line D	351+04.92	28.33	664.92	664.93
☉ Brg. Pier 1	351+13.42	28.33	664.87	664.87
Line E	351+23.42	28.33	664.81	664.83
Line F	351+33.42	28.33	664.75	664.80
Line G	351+43.42	28.33	664.70	664.75
Line H	351+53.42	28.33	664.64	664.68
Line I	351+63.42	28.33	664.58	664.60
☉ Brg. Pier 2	351+73.92	28.33	664.52	664.52
Line J	351+83.92	28.33	664.47	664.47
Line K	351+93.92	28.33	664.41	664.43
Line L	352+03.92	28.33	664.35	664.38
Line M	352+13.92	28.33	664.30	664.31
☉ Brg. East Abut	352+18.92	28.33	664.27	664.27
Bk. of East Abut	352+19.91	28.33	664.26	664.26

STAGE CONSTRUCTION RIGHT

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	250+64.20	-3.58	665.19	665.19
☉ Brg. West Abut	250+65.18	-3.58	665.18	665.18
Line A	250+75.18	-3.58	665.13	665.15
Line B	250+85.18	-3.58	665.07	665.10
Line C	250+95.18	-3.58	665.01	665.04
Line D	251+05.18	-3.58	664.96	664.96
☉ Brg. Pier 1	251+13.68	-3.58	664.91	664.91
Line E	251+23.68	-3.58	664.85	664.87
Line F	251+33.68	-3.58	664.79	664.83
Line G	251+43.68	-3.58	664.74	664.79
Line H	251+53.68	-3.58	664.68	664.72
Line I	251+63.68	-3.58	664.62	664.64
☉ Brg. Pier 2	251+74.18	-3.58	664.56	664.56
Line J	251+84.18	-3.58	664.50	664.51
Line K	251+94.18	-3.58	664.45	664.47
Line L	252+04.18	-3.58	664.39	664.41
Line M	252+14.18	-3.58	664.33	664.34
☉ Brg. East Abut	252+19.18	-3.58	664.31	664.31
Bk. of East Abut	252+20.17	-3.58	664.30	664.30

BEAM 14

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	250+65.09	-0.83	665.13	665.13
☉ Brg. West Abut	250+66.07	-0.83	665.12	665.12
Line A	250+76.07	-0.83	665.06	665.09
Line B	250+86.07	-0.83	665.01	665.04
Line C	250+96.07	-0.83	664.95	664.98
Line D	251+06.07	-0.83	664.89	664.90
☉ Brg. Pier 1	251+14.57	-0.83	664.84	664.84
Line E	251+24.57	-0.83	664.79	664.80
Line F	251+34.57	-0.83	664.73	664.77
Line G	251+44.57	-0.83	664.67	664.72
Line H	251+54.57	-0.83	664.62	664.66
Line I	251+64.57	-0.83	664.56	664.58
☉ Brg. Pier 2	251+75.07	-0.83	664.50	664.50
Line J	251+85.07	-0.83	664.44	664.45
Line K	251+95.07	-0.83	664.39	664.41
Line L	252+05.07	-0.83	664.33	664.35
Line M	252+15.07	-0.83	664.27	664.28
☉ Brg. East Abut	252+20.07	-0.83	664.24	664.24
Bk. of East Abut	252+21.06	-0.83	664.24	664.24

TYLINTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

REVISIONS	
NAME	DATE

TOP OF SLAB ELEVATIONS - III

75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

EASTBOUND @

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	250+65.36	0.00	665.11	665.11
Q Brg. West Abut	250+66.35	0.00	665.10	665.10
Line A	250+76.35	0.00	665.04	665.07
Line B	250+86.35	0.00	664.99	665.02
Line C	250+96.35	0.00	664.93	664.96
Line D	251+06.35	0.00	664.87	664.88
Q Brg. Pier 1	251+14.85	0.00	664.83	664.83
Line E	251+24.85	0.00	664.77	664.79
Line F	251+34.85	0.00	664.71	664.75
Line G	251+44.85	0.00	664.65	664.71
Line H	251+54.85	0.00	664.60	664.64
Line I	251+64.85	0.00	664.54	664.56
Q Brg. Pier 2	251+75.35	0.00	664.48	664.48
Line J	251+85.35	0.00	664.42	664.43
Line K	251+95.35	0.00	664.37	664.39
Line L	252+05.35	0.00	664.31	664.33
Line M	252+15.35	0.00	664.25	664.26
Q Brg. East Abut	252+20.35	0.00	664.22	664.22
Bk. of East Abut	252+21.33	0.00	664.22	664.22

BEAM 15

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	250+67.26	5.83	664.98	664.98
Q Brg. West Abut	250+68.24	5.83	664.97	664.97
Line A	250+78.24	5.83	664.91	664.94
Line B	250+88.24	5.83	664.86	664.89
Line C	250+98.24	5.83	664.80	664.83
Line D	251+08.24	5.83	664.74	664.75
Q Brg. Pier 1	251+16.74	5.83	664.69	664.69
Line E	251+26.74	5.83	664.64	664.65
Line F	251+36.74	5.83	664.58	664.62
Line G	251+46.74	5.83	664.52	664.57
Line H	251+56.74	5.83	664.47	664.51
Line I	251+66.74	5.83	664.41	664.43
Q Brg. Pier 2	251+77.24	5.83	664.35	664.35
Line J	251+87.24	5.83	664.29	664.30
Line K	251+97.24	5.83	664.23	664.25
Line L	252+07.24	5.83	664.18	664.20
Line M	252+17.24	5.83	664.12	664.13
Q Brg. East Abut	252+22.24	5.83	664.09	664.09
Bk. of East Abut	252+23.23	5.83	664.09	664.09

BEAM 16

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	250+69.42	12.50	664.82	664.82
Q Brg. West Abut	250+70.41	12.50	664.82	664.82
Line A	250+80.41	12.50	664.76	664.79
Line B	250+90.41	12.50	664.70	664.74
Line C	251+00.41	12.50	664.65	664.67
Line D	251+10.41	12.50	664.59	664.60
Q Brg. Pier 1	251+18.91	12.50	664.54	664.54
Line E	251+28.91	12.50	664.48	664.50
Line F	251+38.91	12.50	664.43	664.47
Line G	251+48.91	12.50	664.37	664.42
Line H	251+58.91	12.50	664.31	664.36
Line I	251+68.91	12.50	664.26	664.28
Q Brg. Pier 2	251+79.41	12.50	664.20	664.20
Line J	251+89.41	12.50	664.14	664.15
Line K	251+99.41	12.50	664.08	664.10
Line L	252+09.41	12.50	664.03	664.05
Line M	252+19.41	12.50	663.97	663.98
Q Brg. East Abut	252+24.41	12.50	663.94	663.94
Bk. of East Abut	252+25.39	12.50	663.93	663.93

BEAM 17

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	250+71.59	19.17	664.67	664.67
Q Brg. West Abut	250+72.57	19.17	664.67	664.67
Line A	250+82.57	19.17	664.61	664.63
Line B	250+92.57	19.17	664.55	664.59
Line C	251+02.57	19.17	664.50	664.52
Line D	251+12.57	19.17	664.44	664.45
Q Brg. Pier 1	251+21.07	19.17	664.39	664.39
Line E	251+31.07	19.17	664.33	664.35
Line F	251+41.07	19.17	664.28	664.32
Line G	251+51.07	19.17	664.22	664.27
Line H	251+61.07	19.17	664.16	664.21
Line I	251+71.07	19.17	664.11	664.13
Q Brg. Pier 2	251+81.57	19.17	664.05	664.05
Line J	251+91.57	19.17	663.99	664.00
Line K	252+01.57	19.17	663.93	663.95
Line L	252+11.57	19.17	663.87	663.90
Line M	252+21.57	19.17	663.82	663.83
Q Brg. East Abut	252+26.57	19.17	663.79	663.79
Bk. of East Abut	252+27.56	19.17	663.78	663.78

BEAM 18

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	250+73.75	25.83	664.52	664.52
Q Brg. West Abut	250+74.74	25.83	664.52	664.52
Line A	250+84.74	25.83	664.46	664.48
Line B	250+94.74	25.83	664.40	664.44
Line C	251+04.74	25.83	664.34	664.37
Line D	251+14.74	25.83	664.29	664.30
Q Brg. Pier 1	251+23.24	25.83	664.24	664.24
Line E	251+33.24	25.83	664.18	664.20
Line F	251+43.24	25.83	664.13	664.17
Line G	251+53.24	25.83	664.07	664.12
Line H	251+63.24	25.83	664.01	664.05
Line I	251+73.24	25.83	663.95	663.97
Q Brg. Pier 2	251+83.74	25.83	663.89	663.89
Line J	251+93.74	25.83	663.84	663.84
Line K	252+03.74	25.83	663.78	663.80
Line L	252+13.74	25.83	663.72	663.75
Line M	252+23.74	25.83	663.67	663.68
Q Brg. East Abut	252+28.74	25.83	663.64	663.64
Bk. of East Abut	252+29.73	25.83	663.63	663.63

BEAM 19

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	250+75.92	32.50	664.57	664.37
Q Brg. West Abut	250+76.91	32.50	664.36	664.36
Line A	250+86.91	32.50	664.31	664.33
Line B	250+96.91	32.50	664.25	664.29
Line C	251+06.91	32.50	664.19	664.22
Line D	251+16.91	32.50	664.14	664.14
Q Brg. Pier 1	251+25.41	32.50	664.09	664.09
Line E	251+35.41	32.50	664.03	664.05
Line F	251+45.41	32.50	663.97	664.01
Line G	251+55.41	32.50	663.92	663.97
Line H	251+65.41	32.50	663.86	663.90
Line I	251+75.41	32.50	663.80	663.82
Q Brg. Pier 2	251+85.91	32.50	663.74	663.74
Line J	251+95.91	32.50	663.69	663.69
Line K	252+05.91	32.50	663.63	663.65
Line L	252+15.91	32.50	663.57	663.59
Line M	252+25.91	32.50	663.52	663.53
Q Brg. East Abut	252+30.91	32.50	663.49	663.49
Bk. of East Abut	252+31.89	32.50	663.48	663.48

TYLININTERNATIONAL

DESIGNED	- PL
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CHECKED	- SP

REVISIONS	
NAME	DATE

TOP OF SLAB ELEVATIONS - IV

75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

BEAM 20

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	250+78.09	39.17	664.22	664.22
☉ Brg. West Abut	250+79.07	39.17	664.21	664.21
Line A	250+89.07	39.17	664.16	664.18
Line B	250+99.07	39.17	664.12	664.16
Line C	251+09.07	39.17	664.07	664.09
Line D	251+19.07	39.17	664.01	664.02
☉ Brg. Pier 1	251+27.57	39.17	663.96	663.96
Line E	251+37.57	39.17	663.90	663.92
Line F	251+47.57	39.17	663.85	663.89
Line G	251+57.57	39.17	663.79	663.84
Line H	251+67.57	39.17	663.73	663.78
Line I	251+77.57	39.17	663.68	663.70
☉ Brg. Pier 2	251+88.07	39.17	663.62	663.62
Line J	251+98.07	39.17	663.56	663.57
Line K	252+08.07	39.17	663.50	663.52
Line L	252+18.07	39.17	663.45	663.47
Line M	252+28.07	39.17	663.39	663.40
☉ Brg. East Abut	252+33.07	39.17	663.36	663.36
Bk. of East Abut	252+34.06	39.17	663.35	663.35

BEAM 21

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	250+80.25	45.83	664.15	664.15
☉ Brg. West Abut	250+81.24	45.83	664.15	664.15
Line A	250+91.24	45.83	664.15	664.18
Line B	251+01.24	45.83	664.11	664.15
Line C	251+11.24	45.83	664.05	664.08
Line D	251+21.24	45.83	664.00	664.01
☉ Brg. Pier 1	251+29.74	45.83	663.95	663.95
Line E	251+39.74	45.83	663.89	663.91
Line F	251+49.74	45.83	663.83	663.88
Line G	251+59.74	45.83	663.78	663.83
Line H	251+69.74	45.83	663.72	663.76
Line I	251+79.74	45.83	663.66	663.68
☉ Brg. Pier 2	251+90.24	45.83	663.60	663.60
Line J	252+00.24	45.83	663.55	663.55
Line K	252+10.24	45.83	663.49	663.51
Line L	252+20.24	45.83	663.43	663.46
Line M	252+30.24	45.83	663.38	663.39
☉ Brg. East Abut	252+35.24	45.83	663.35	663.35
Bk. of East Abut	252+36.22	45.83	663.34	663.34

BEAM 22

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. of West Abut	250+81.98	51.15	664.15	664.15
☉ Brg. West Abut	250+82.86	50.83	664.15	664.15
Line A	250+91.83	47.65	664.15	664.17
Point A	250+96.95	45.83	664.13	664.16

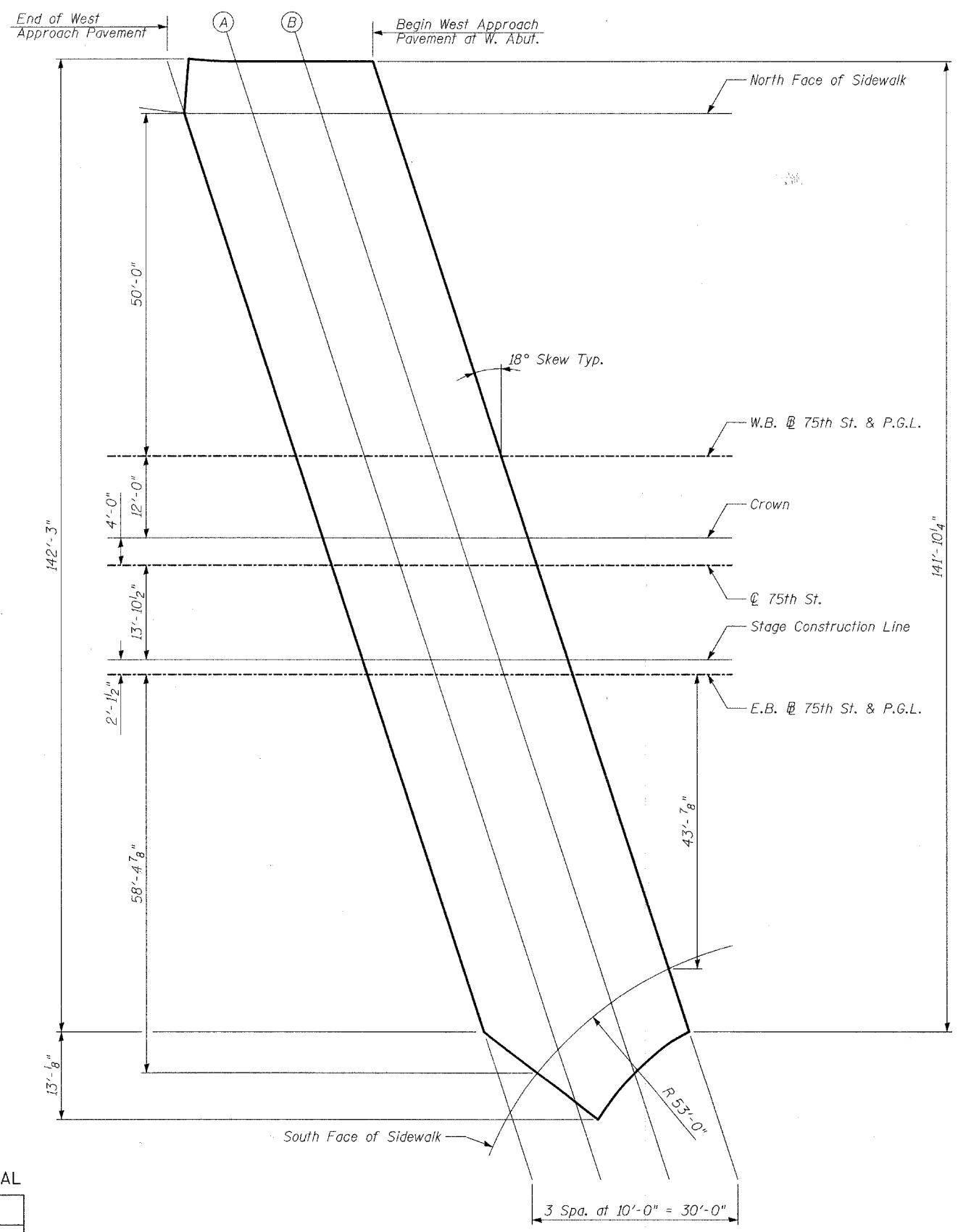
TYL INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

REVISIONS	
NAME	DATE

TOP OF SLAB ELEVATIONS - V

75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
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SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118



PLAN

TYLIN INTERNATIONAL

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DRAWN	- PL
CHECKED	- SP

NORTH FACE OF SIDEWALK

Location	Station	Offset	Theoretical Grade Elevations
End W. Appr. Pav't	350+06.88	-50.06	664.62
A	350+16.90	-50.00	664.49
B	350+26.90	-50.00	664.36
Begin W. Appr. Pav't	350+36.90	-50.00	664.33

WESTBOUND BASELINE

Location	Station	Offset	Theoretical Grade Elevations
End W. Appr. Pav't	350+23.15	0.00	665.45
A	350+33.15	0.00	665.39
B	350+43.15	0.00	665.34
Begin W. Appr. Pav't	350+53.15	0.00	665.28

CROWN

Location	Station	Offset	Theoretical Grade Elevations
End W. Appr. Pav't	350+27.05	12.00	665.67
A	350+37.05	12.00	665.61
B	350+47.05	12.00	665.55
Begin W. Appr. Pav't	350+57.05	12.00	665.50

EASTBOUND BASELINE

Location	Station	Offset	Theoretical Grade Elevations
End W. Appr. Pav't	250+33.78	0.00	665.28
A	250+43.78	0.00	665.22
B	250+53.78	0.00	665.17
Begin W. Appr. Pav't	250+63.78	0.00	665.11

STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations
End W. Appr. Pav't	250+33.09	-2.13	665.32
A	250+43.09	-2.13	665.27
B	250+53.09	-2.13	665.21
Begin W. Appr. Pav't	250+63.09	-2.13	665.11

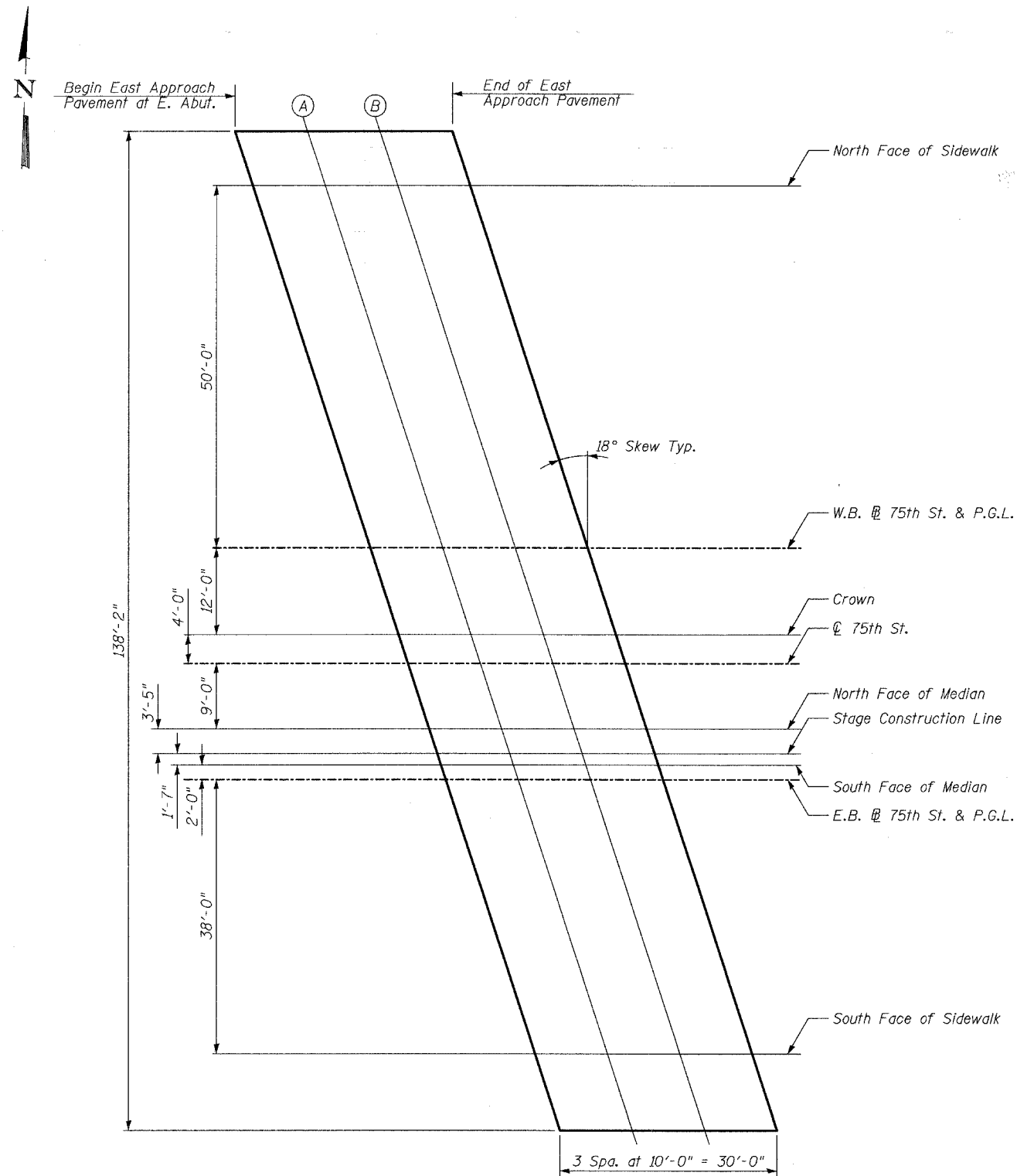
SOUTH FACE OF SIDEWALK

Location	Station	Offset	Theoretical Grade Elevations
End W. Appr. Pav't	250+54.66	58.41	664.09
A	250+61.62	54.89	664.07
B	250+69.39	48.03	664.12
Begin W. Appr. Pav't	250+77.78	43.08	664.17

REVISIONS	
NAME	DATE

TOP OF WEST APPROACH PAVEMENT ELEVATIONS

75th STREET OVER THE WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118



PLAN

TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

NORTH FACE OF SIDEWALK

Location	Station	Offset	Theoretical Grade Elevations
Begin E. Appr. Pav't	351+96.03	-50.00	663.47
A	352+06.03	-50.00	663.38
B	352+16.03	-50.00	663.29
End E. Appr. Pav't	352+26.03	-50.00	663.19

WESTBOUND BASELINE

Location	Station	Offset	Theoretical Grade Elevations
Begin E. Appr. Pav't	352+12.27	0.00	664.37
A	352+22.27	0.00	664.32
B	352+32.27	0.00	664.26
End E. Appr. Pav't	352+42.27	0.00	664.20

CROWN

Location	Station	Offset	Theoretical Grade Elevations
Begin E. Appr. Pav't	352+16.17	12.00	664.53
A	352+26.17	12.00	664.47
B	352+36.17	12.00	664.42
End E. Appr. Pav't	352+46.17	12.00	664.36

NORTH FACE OF MEDIAN

Location	Station	Offset	Theoretical Grade Elevations
Begin E. Appr. Pav't	352+20.40	25.00	664.31
A	352+30.40	25.00	664.25
B	352+40.40	25.00	664.19
End E. Appr. Pav't	352+50.40	25.00	664.14

STAGE CONSTRUCTION LINE

Location	Station	Offset	Theoretical Grade Elevations
Begin E. Appr. Pav't	252+21.75	3.58	664.28
A	252+31.75	3.58	664.22
B	252+41.75	3.58	664.16
End E. Appr. Pav't	252+51.75	3.58	664.10

SOUTH FACE OF MEDIAN

Location	Station	Offset	Theoretical Grade Elevations
Begin E. Appr. Pav't	252+22.26	-2.00	664.25
A	252+32.26	-2.00	664.19
B	252+42.26	-2.00	664.13
End E. Appr. Pav't	252+52.26	-2.00	664.07

EASTBOUND BASELINE

Location	Station	Offset	Theoretical Grade Elevations
Begin E. Appr. Pav't	252+22.91	0.00	664.20
A	252+32.91	0.00	664.14
B	252+42.91	0.00	664.09
End E. Appr. Pav't	252+52.91	0.00	664.03

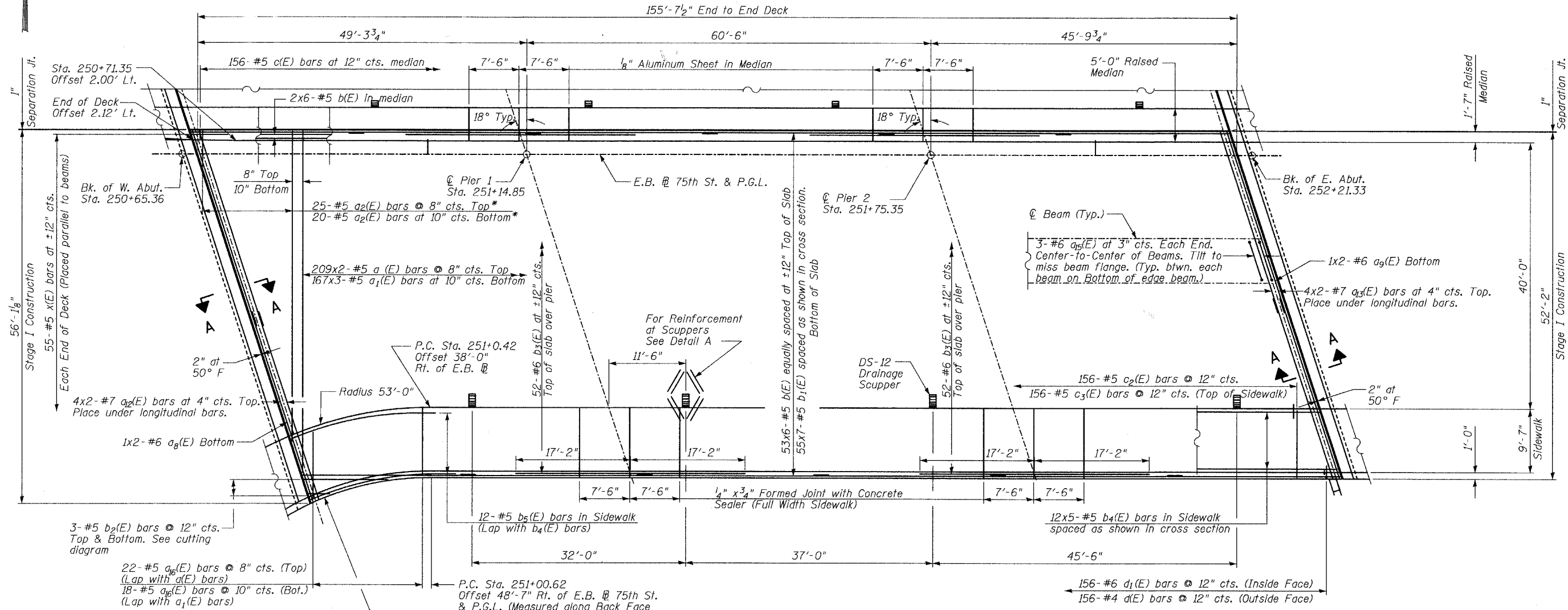
SOUTH FACE OF SIDEWALK

Location	Station	Offset	Theoretical Grade Elevations
Begin E. Appr. Pav't	252+35.26	38.00	663.36
A	252+45.26	38.00	663.29
B	252+55.26	38.00	663.21
End E. Appr. Pav't	252+65.26	38.00	663.14

REVISIONS	
NAME	DATE

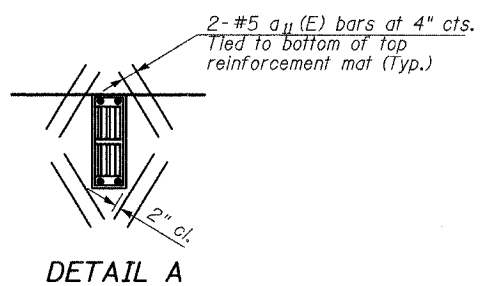
TOP OF EAST APPROACH PAVEMENT ELEVATIONS

75th STREET OVER THE WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118



PLAN

*Order a₂(E) bars full length. Cut to fit skew and use remainder of bars in opposite end



DETAIL A

MINIMUM BAR LAPS

Bar	Lap
#5	2'-2"
#6	2'-7"
#7	3'-5"

NOTES:

- See Sheet 18 for Superstructure Details and Bill of Material.
- Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
- See Sheet 17 for Parapet Reinforcement.
- Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet 20.
- Cut longitudinal bars to clear drainage scuppers.
- Cut longitudinal b(E) bars in median at aluminum sheet locations.
- For Section A-A, see Sheet 16.

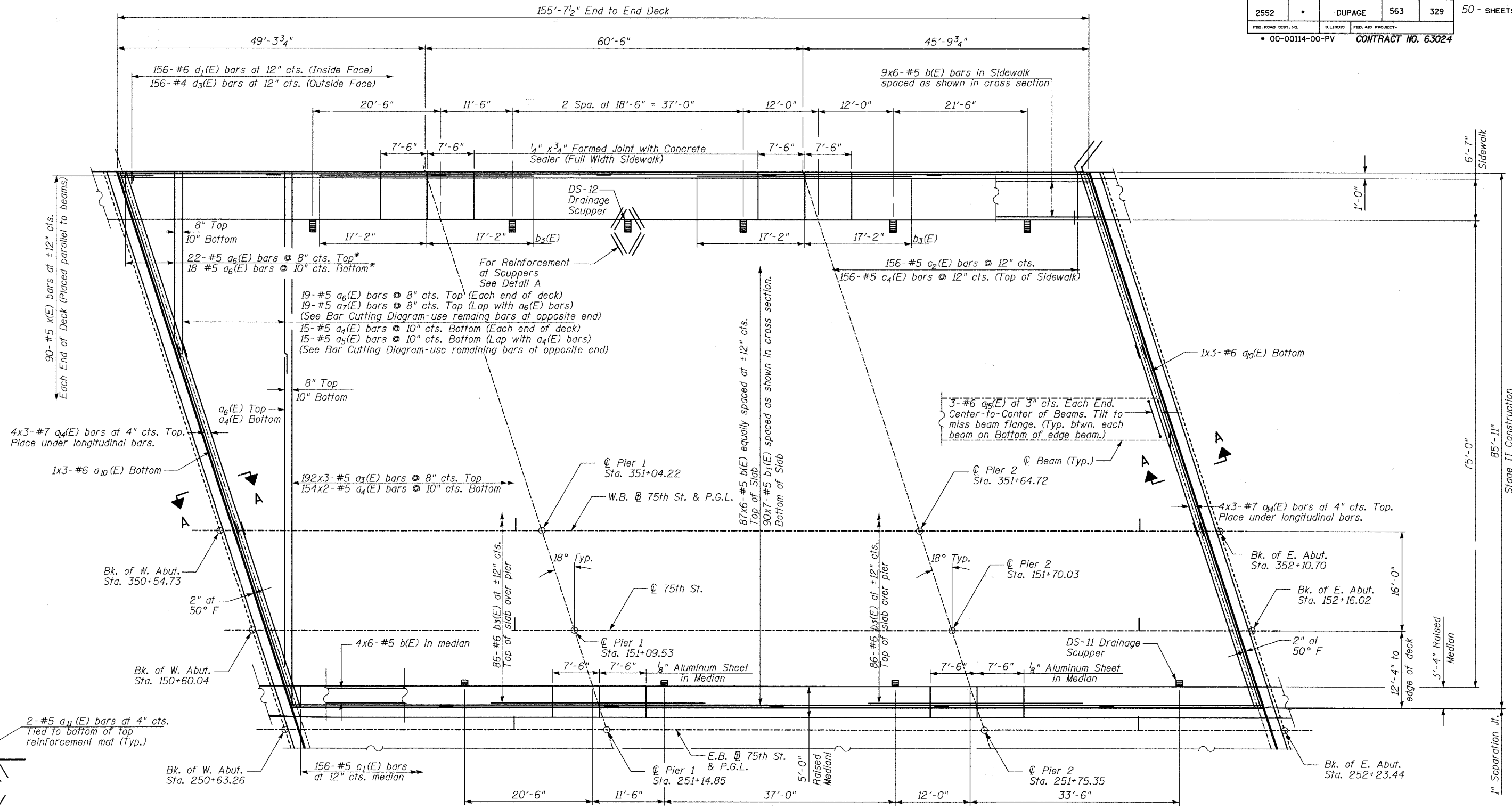
REVISIONS	
NAME	DATE

DECK PLAN - SOUTH HALF

75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

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CHECKED	- SP



DETAIL A

*Order a₆(E) bars full length. Cut to fit skew and use remainder of bars in opposite end

PLAN

NOTES:

- See Sheet 18 for Superstructure Details and Bill of Material.
- Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
- See Sheet 17 for Parapet Reinforcement.
- Dimensions are based on a Rolled Rail Strip Seal Joint. If the Contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet 20.
- Cut longitudinal bars to clear drainage scuppers.
- Cut longitudinal b(E) bars in median at aluminum sheet locations.
- For Section A-A, see Sheet 16.

TYLIN INTERNATIONAL

DESIGNED	PL
CHECKED	SP
DRAWN	PL
CHECKED	SP

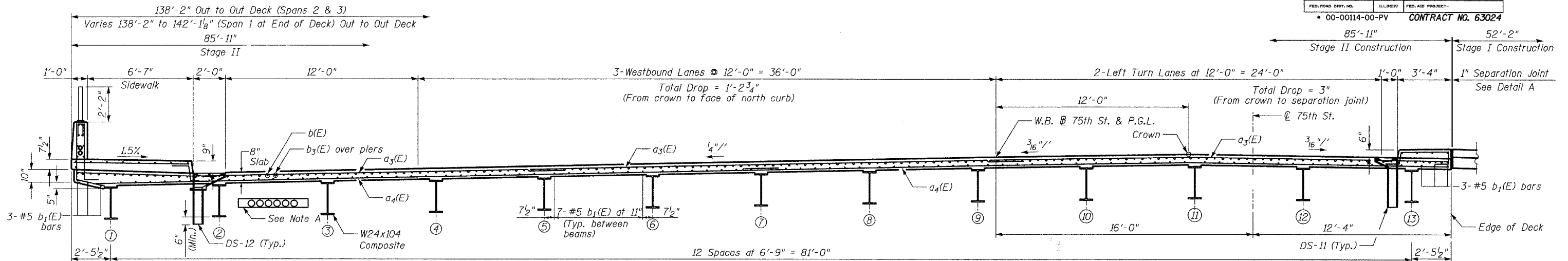
MINIMUM BAR LAPS

Bar	Lap
#5	2'-2"
#6	2'-7"
#7	3'-5"

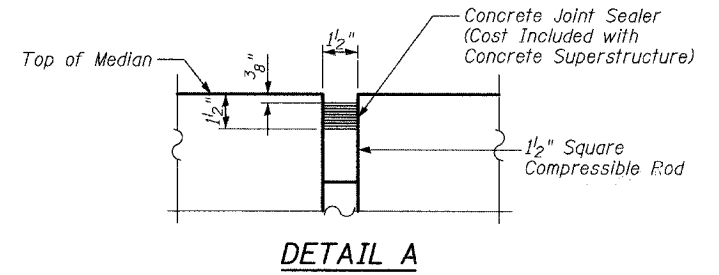
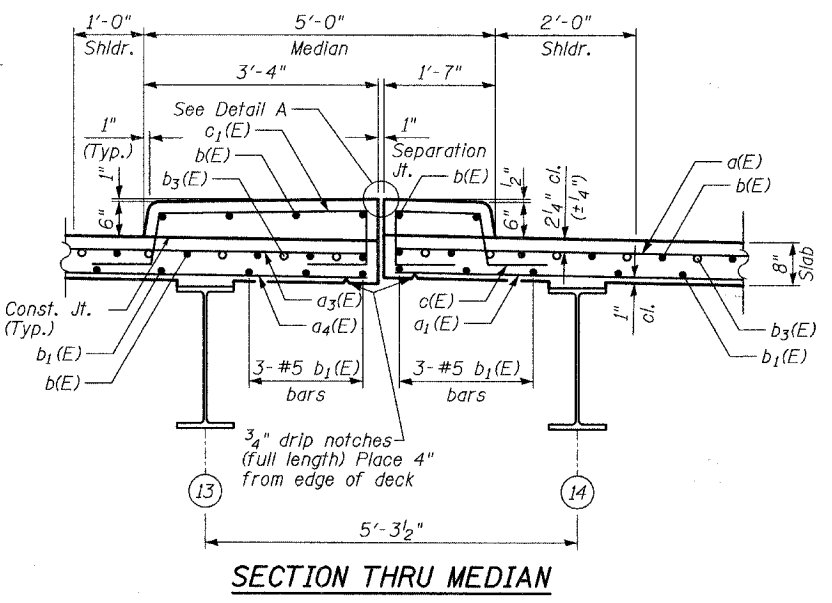
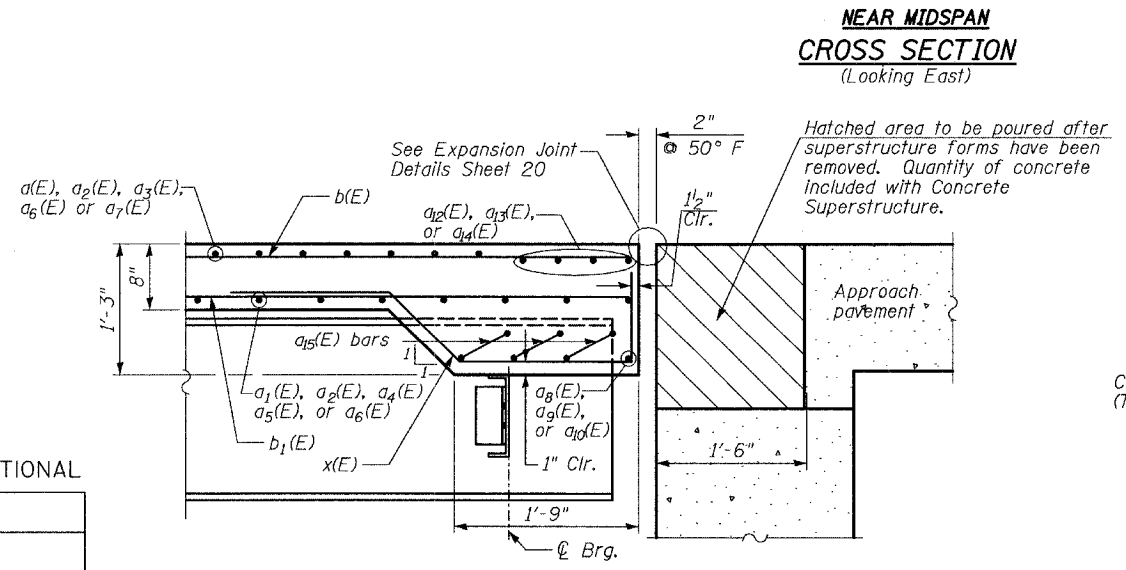
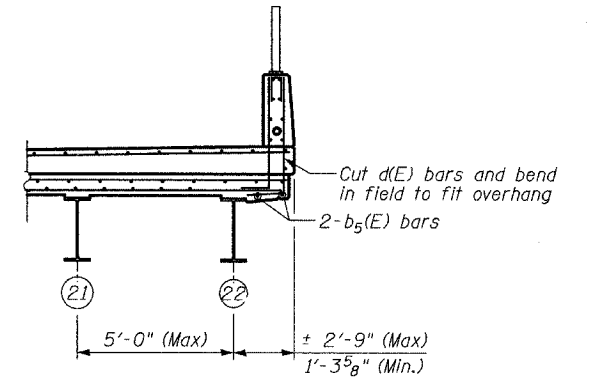
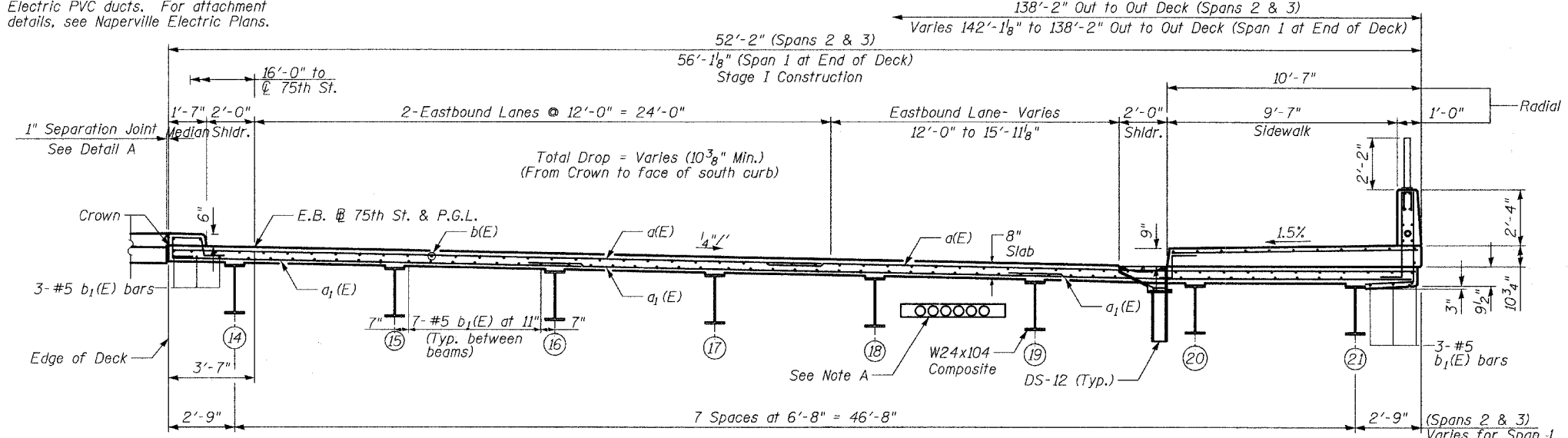
REVISIONS	
NAME	DATE

DECK PLAN - NORTH HALF

75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118



Note A:
Proposed City of Naperville
Department of Public Utilities-
Electric PVC ducts. For attachment
details, see Naperville Electric Plans.



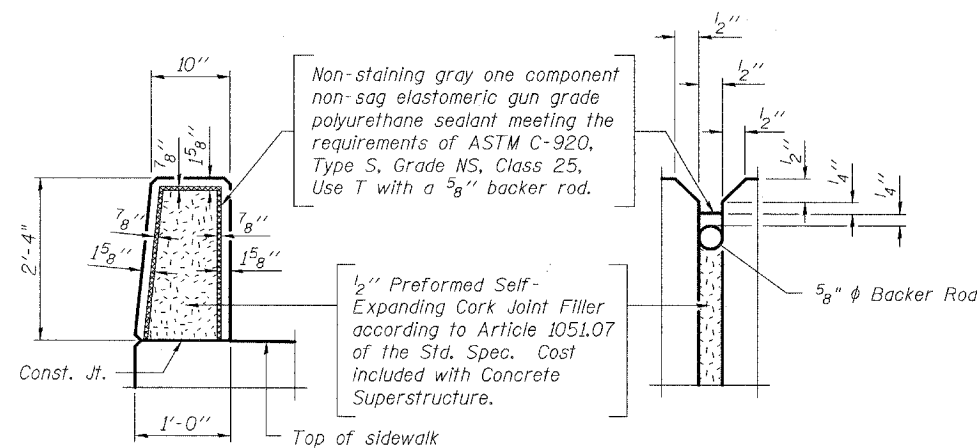
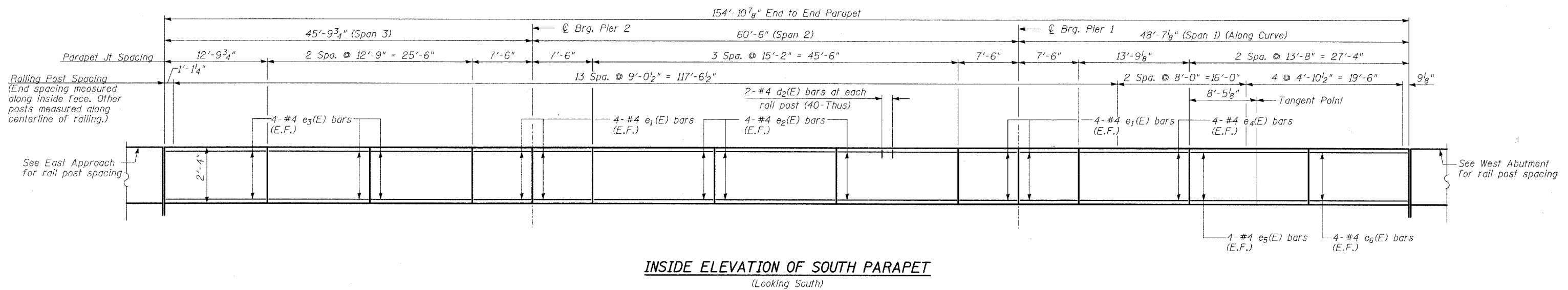
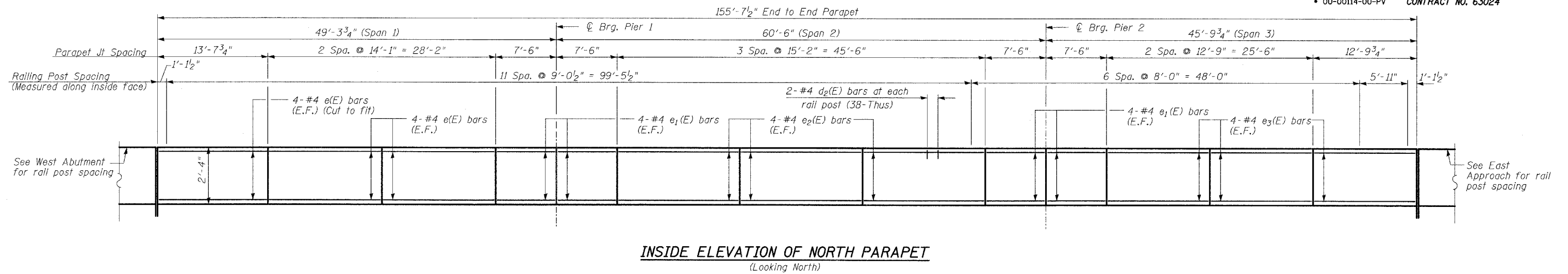
TYLIN INTERNATIONAL

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CHECKED	- SP
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REVISIONS	
NAME	DATE

DECK CROSS SECTION

75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
FAP 369
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DUPAGE COUNTY
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DRAWN	- PL
CHECKED	- SP

REVISIONS	
NAME	DATE

PARAPET ELEVATIONS

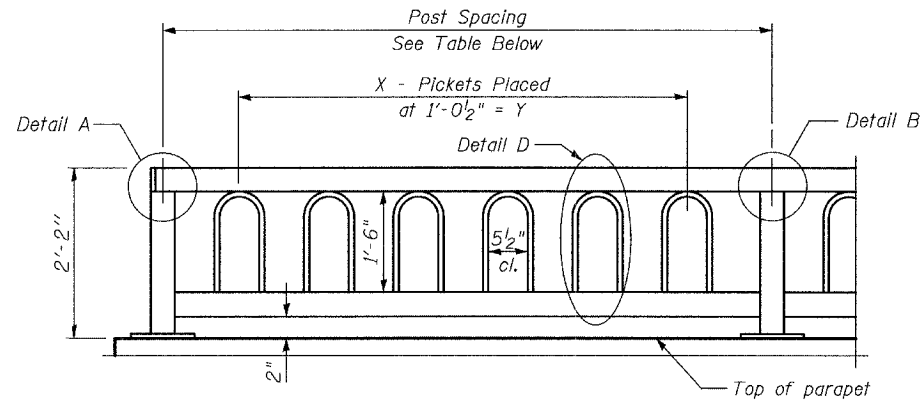
75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
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SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

F.A.S. ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET
2552	•	DUPAGE	563	333
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-	CONTRACT NO. 63024	
			• 00-00114-00-PV	

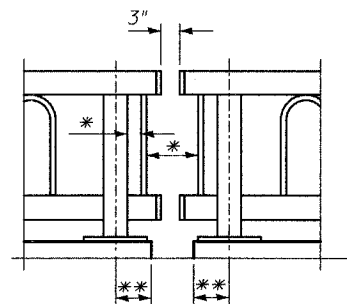
SHEET NO. - 19
50 - SHEETS

NOTES:

- Railing shall be in accordance with Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for Parapet Railing, Special.
- Hollow Structural Steel Tubing shall conform to the requirements of ASTM Designation of 500, Grade B, Structural Steel Tubing. Anchor bolts shall conform to ASTM A307 unless noted otherwise.
- All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36.
- The parapet railing shall be powder coated and the color shall be black.
- The exterior steel surface shall be blast cleaned to Steel Structures Painting Council Surface Preparation Specification No. 6 (SSPC-SP6) requirements using cast steel abrasives conforming to the Society of Automotive Engineers (SAE) recommended Practice J827. The blast method used is a recirculating, closed cycle centrifugal wheel system with abrasive conforming to SAE Shot Number S280.
- All exterior surfaces shall be coated with a Urethane or Triglycidyl Isocyanurate (TGIC) Polyester Powder to a minimum film thickness of 0.002". The coating shall be electrostatically applied and cured in a gas fired convection oven by heating the steel substrate to a minimum of 350 degrees Fahrenheit and a maximum of 400 degrees Fahrenheit. The thermosetting powder resin shall provide both intercoat as well as substrate fusion adhesion that meets 5A or 5B classifications of ASTM D3359.
- Ship railing to the site in a manner to prevent damage to the powder coating.
- For railing post spacing, see Sheets 17, 29, 31, 40, 41, & 50.

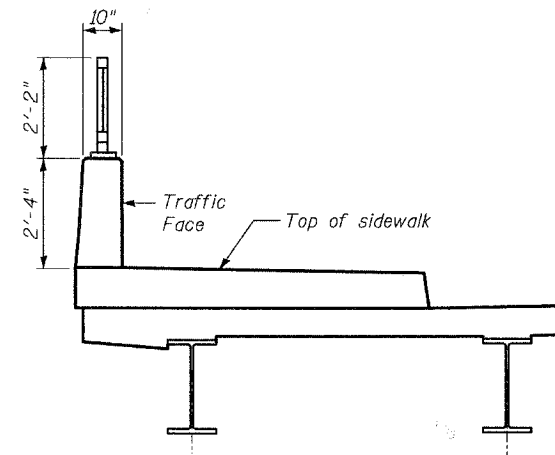


PARAPET RAILING ELEVATION



PARAPET RAILING ELEVATION AT EXPANSION JOINT

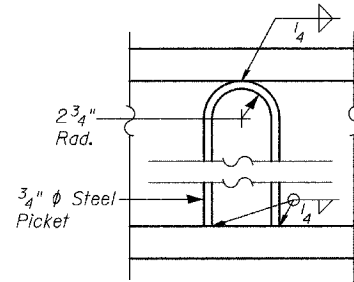
* Max Spacing is 6". Rail Fabricator shall add pickets as necessary.
** Varies- See Plans.



SECTION THRU DECK

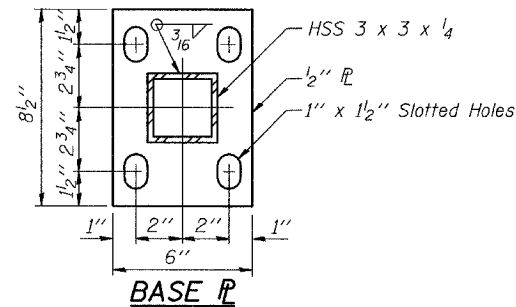
BICYCLE RAILING LAYOUT

Post Spacing	Picket Layout	
	X	Y
3'-10"	3	2'-1"
4'-10 1/2"	4	3'-1 1/2"
5'-11"	5	4'-2"
6'-11 1/2"	6	5'-2 1/2"
8'-0"	7	6'-3"
9'-0 1/2"	8	7'-3 1/2"

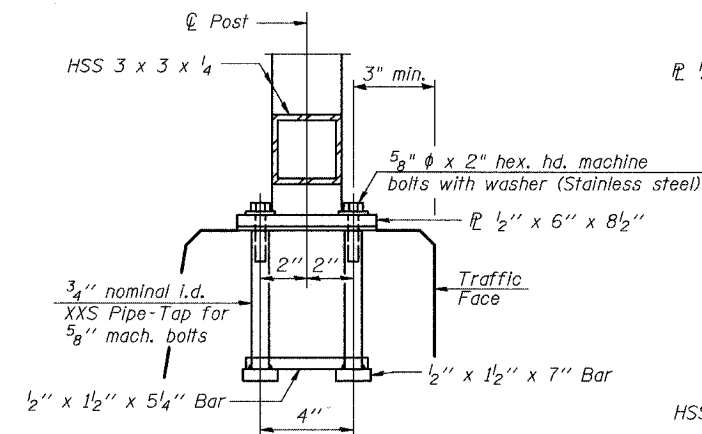
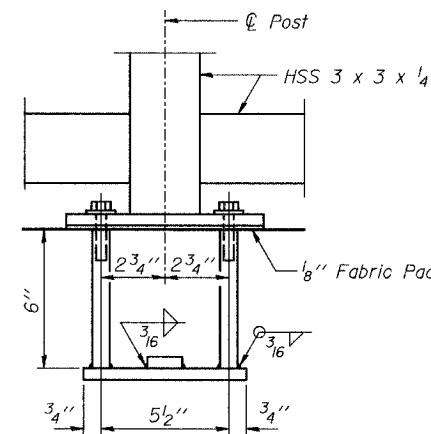


DETAIL D

PARAPET RAILING ELEVATION

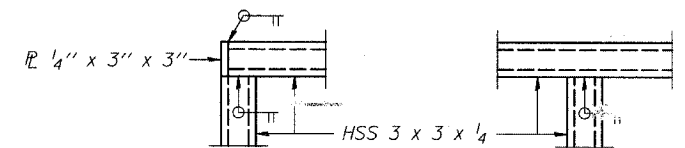


BASE PL



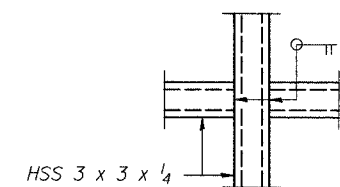
TYPICAL ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" phi anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.



DETAIL A

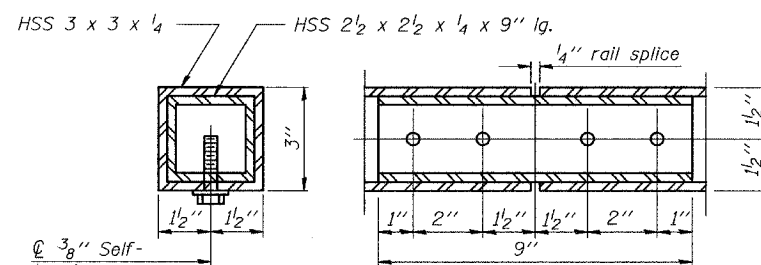
DETAIL B



DETAIL C

BILL OF MATERIAL

Item	Unit	Quantity
Parapet Railing, Special	Foot	581.4



TYPICAL RAIL SPLICE DETAILS

TYLIN INTERNATIONAL

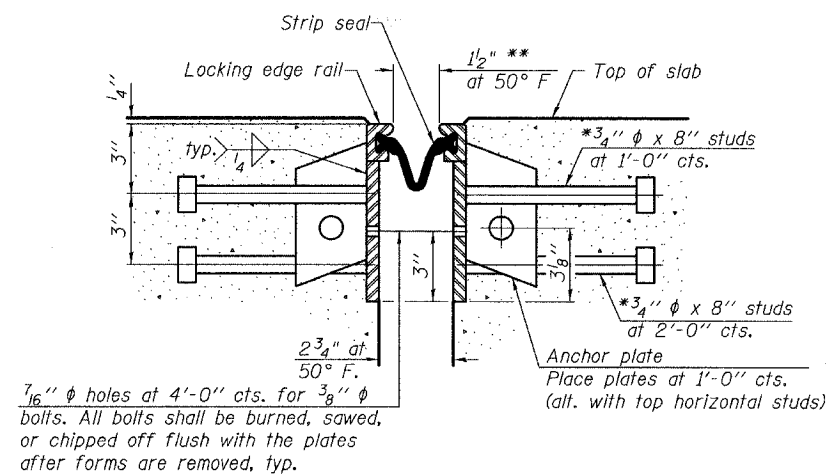
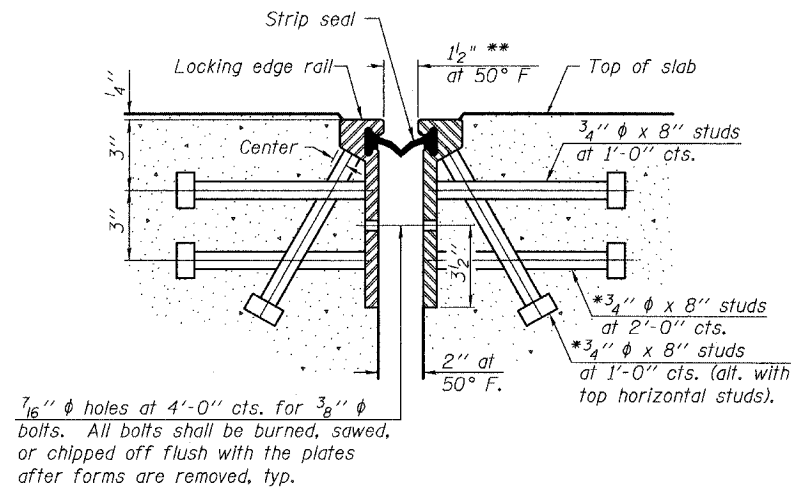
DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

REVISIONS	
NAME	DATE

RAILING DETAILS

75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

*Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.
**When joint is fixed, dimension is set at 1/2".

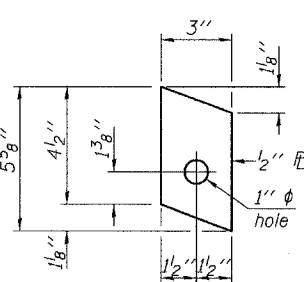
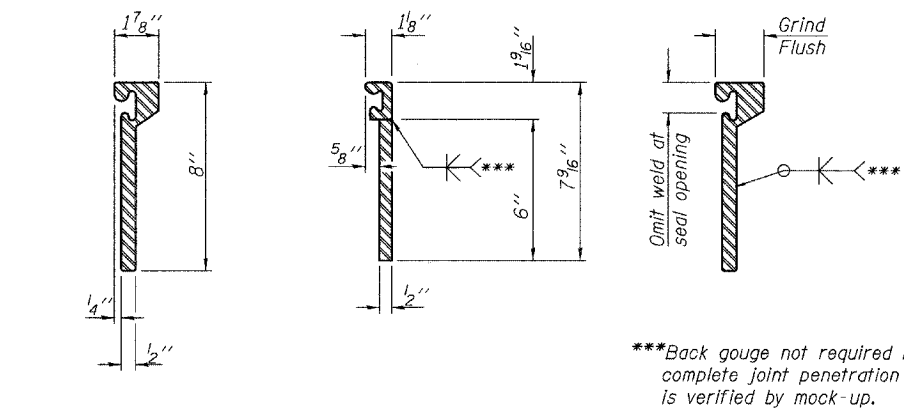
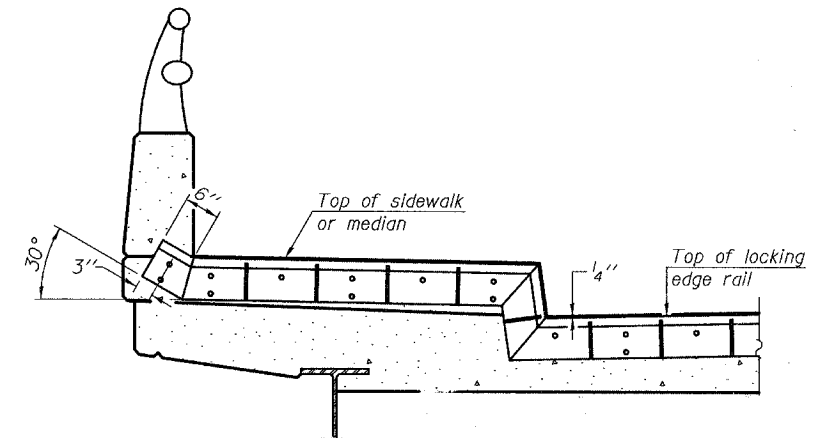
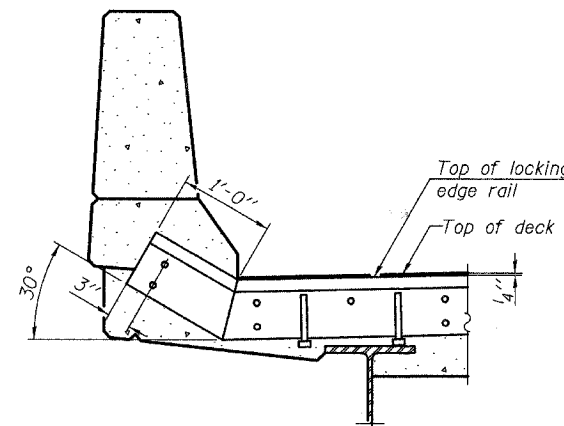


Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches. The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities and stage construction joints. The manufacturer's recommended installation methods shall be followed. The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State. All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

SECTION THRU ROLLED RAIL JOINT

SECTION THRU WELDED RAIL JOINT



ROLLED (EXTRUDED) RAIL

WELDED RAIL

LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.

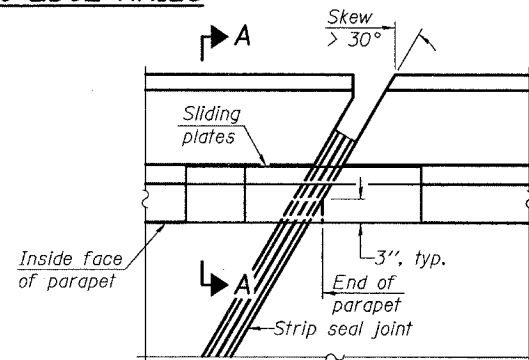
AT PARAPET

AT SIDEWALK OR MEDIAN

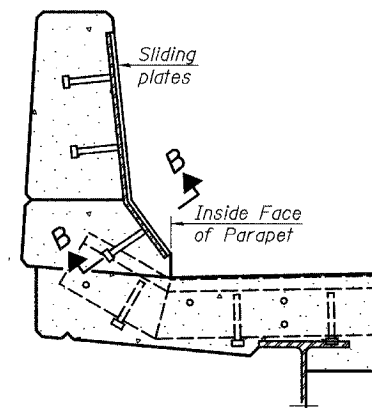
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

TYPICAL END TREATMENTS

LOCKING EDGE RAILS

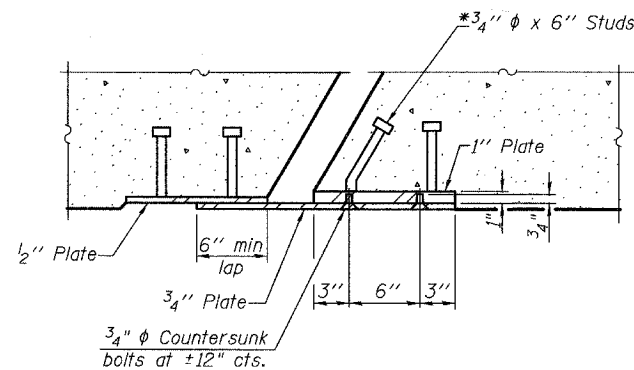


PLAN



SECTION A-A

POINT BLOCK DETAILS
(for skews > 30°)



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	295

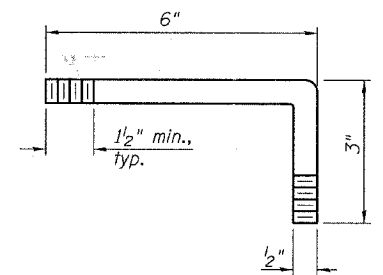
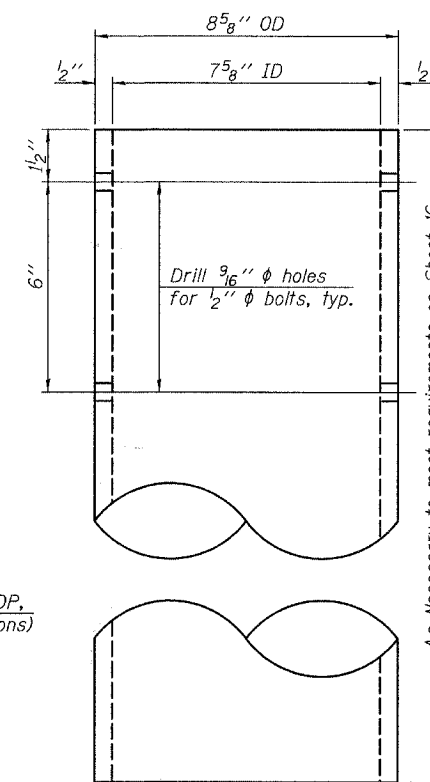
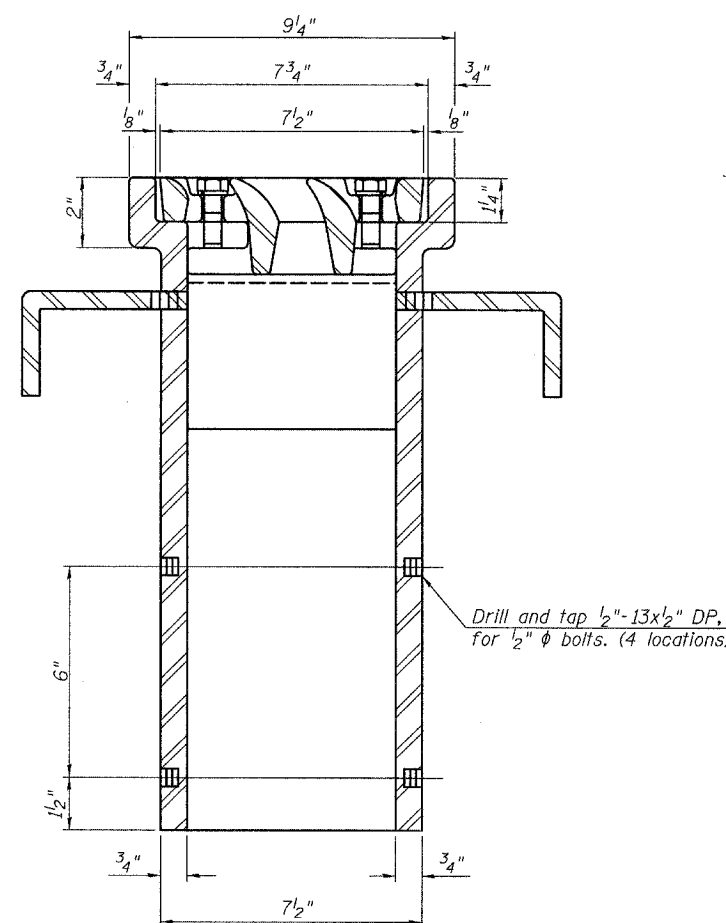
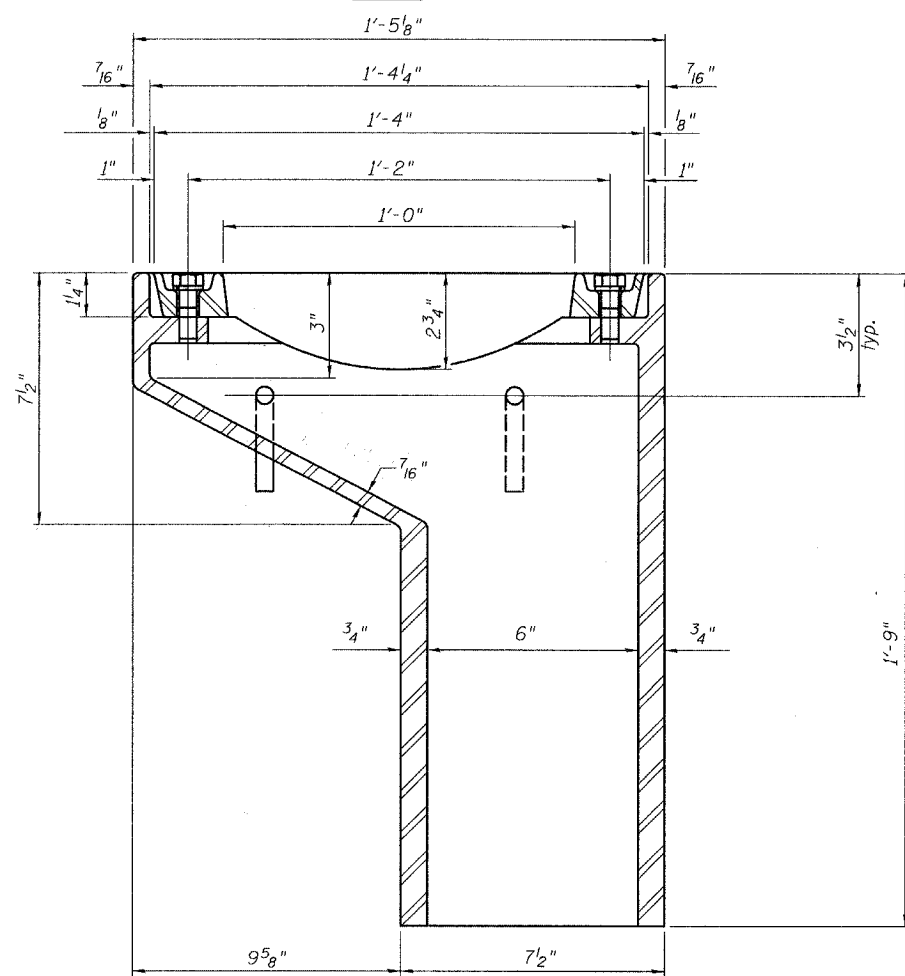
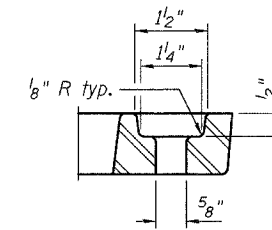
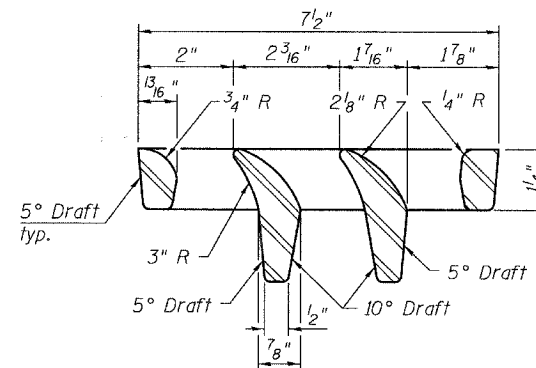
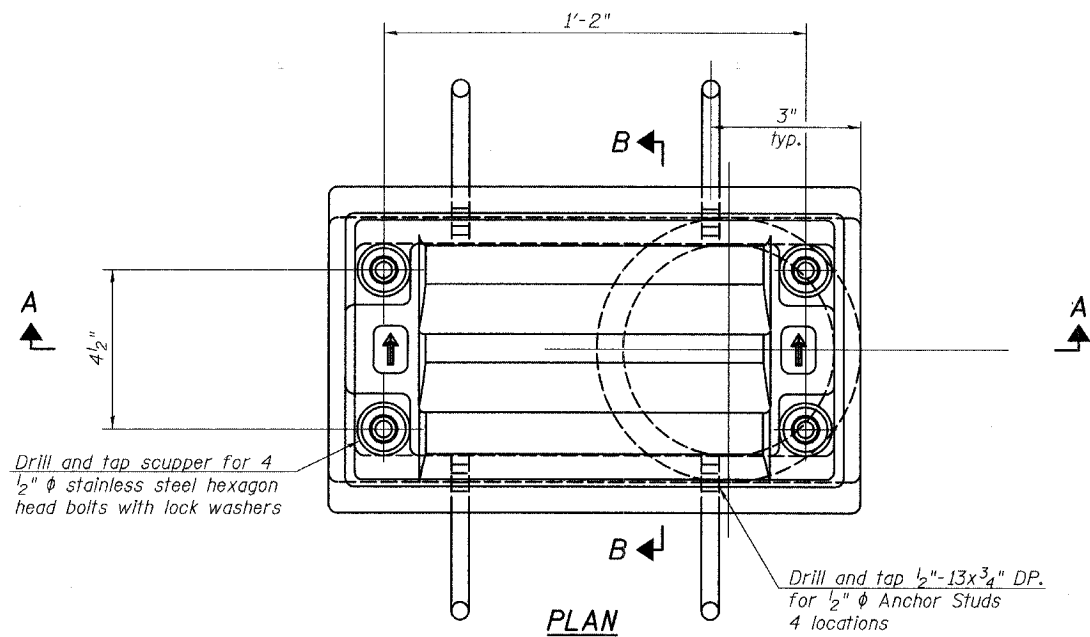
REVISIONS	
NAME	DATE

PREFORMED JOINT STRIP SEAL

75th STREET OVER THE WEST BRANCH OF THE DUPAGE RIVER
PREFORMED JOINT STRIP SEAL
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP



ANCHOR STUD DETAIL

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-11	Each	4

REVISIONS	
NAME	DATE

DRAINAGE SCUPPER, DS-11

75th STREET OVER THE WEST BRANCH OF THE DUPAGE RIVER
 FAP 369
 SECTION 00-00114-00-PV STA. 151+38.03
 DUPAGE COUNTY
 S.N. 022-3118

TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

Notes:

All cast iron parts shall be gray iron conforming to the requirements of AASHTO M 105, Class 35B.

Bolts, anchor studs, washers and nuts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

Downspouts located on the exterior side of a painted steel fascia beam shall be painted with the finish coat specified for the exterior side of the fascia beam.

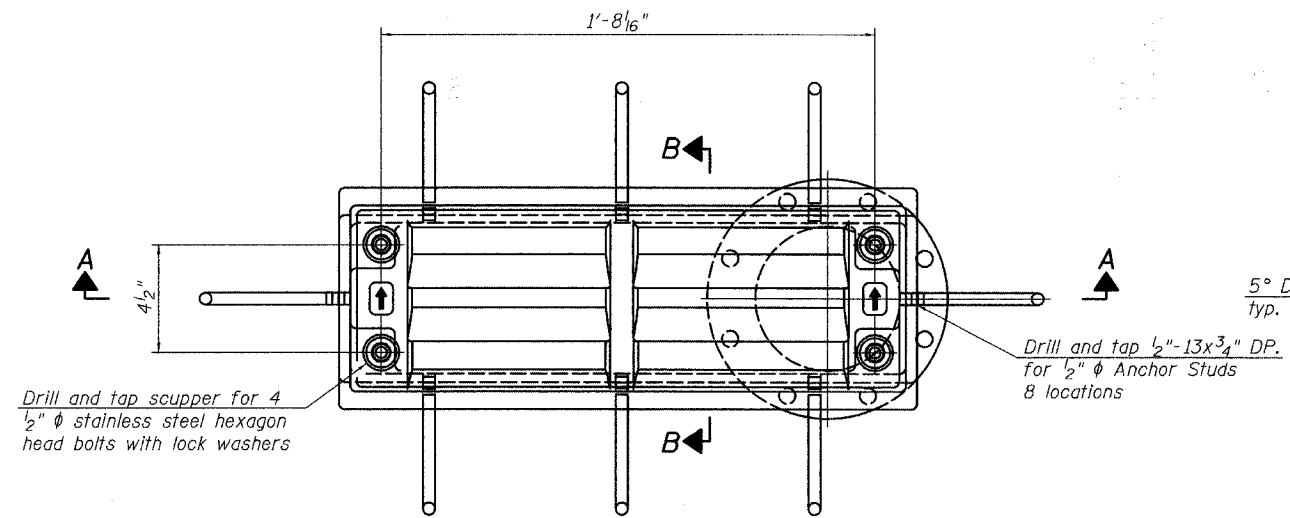
As an alternate, bolts, anchor studs, washers and nuts may be stainless steel according to Article 1006.29(d) of the Standard Specifications.

Structural steel weldments of equal sections and of the same configuration may be substituted for the cast iron scupper frame. Fillet or full penetration welds shall be used for the weldments. Details shall be submitted to the Engineer for approval. Structural steel weldments shall not be substituted for the cast iron scupper grate. Structural steel frames and downspouts shall be galvanized according to AASHTO M111.

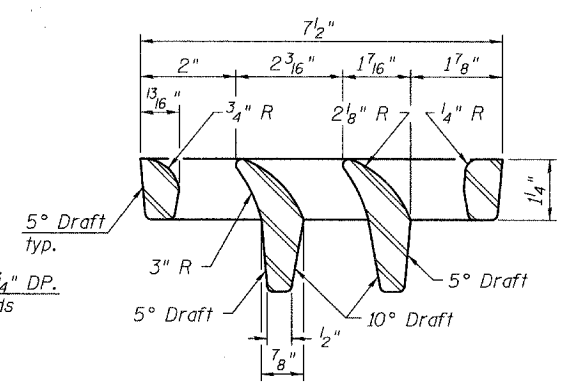
The Contractor shall take appropriate measures to assure that Protective Coat is not applied to the scupper.

Cost of the Grate, Frame, Downspout, Anchor Studs, Bolts, Washers and Nuts including complete installation of the scupper shall be paid for at the contract unit price each for Drainage Scupper, DS-12.

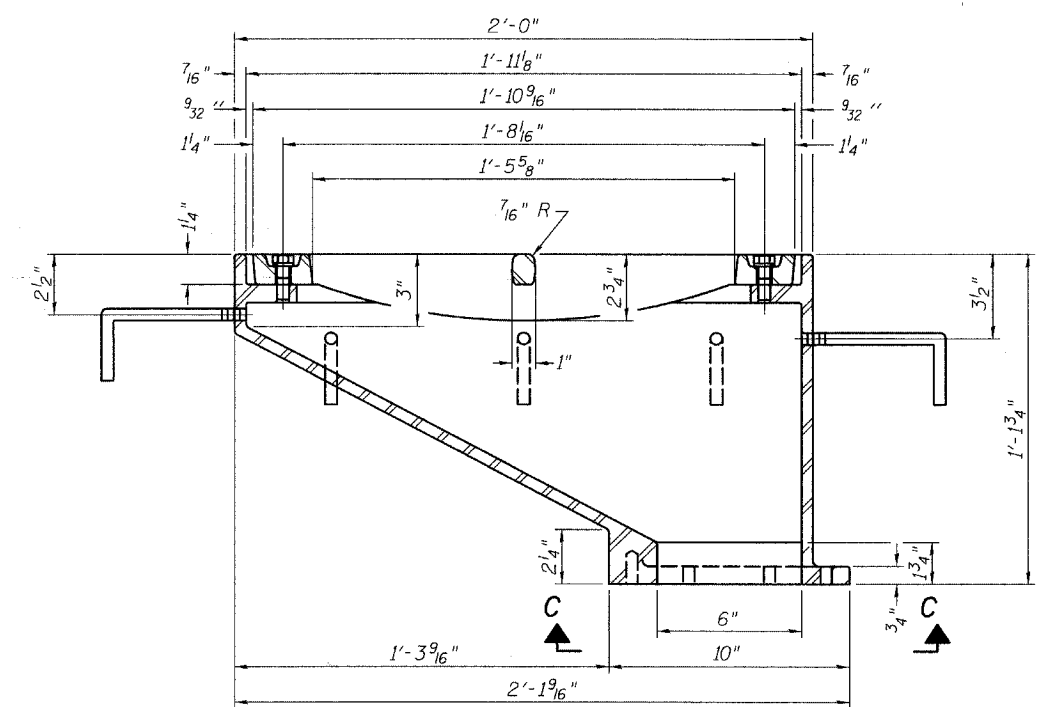
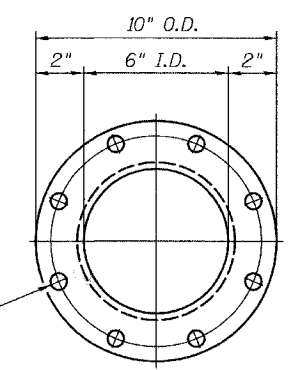
Alternate fiberglass downspout conforming to ASTM D 2996 with a short-time rupture strength hoop tensile stress of 30,000 psi min. may be used in lieu of the cast iron or steel equivalent.



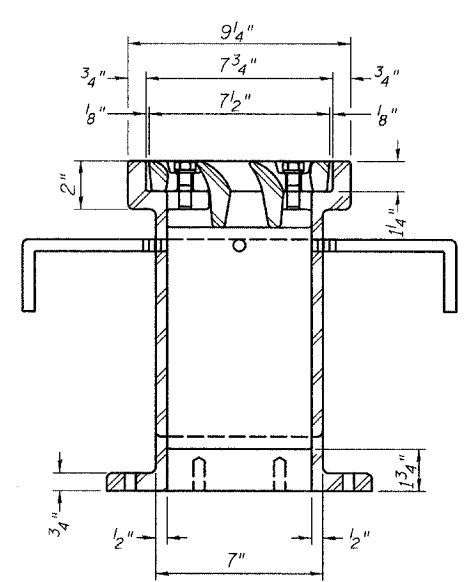
PLAN



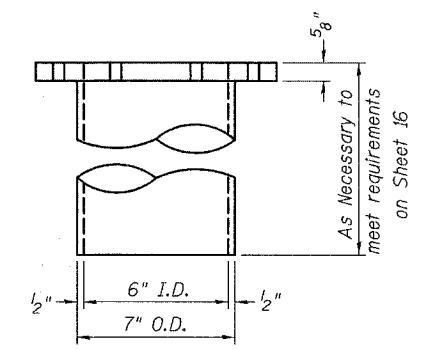
VANE GRATE DETAIL



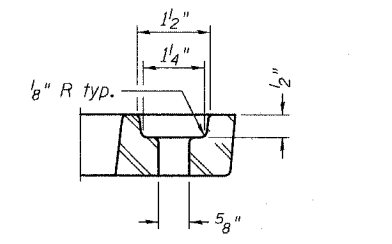
SECTION A-A



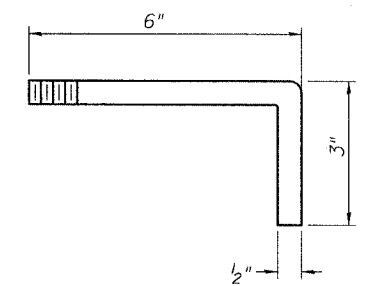
SECTION B-B



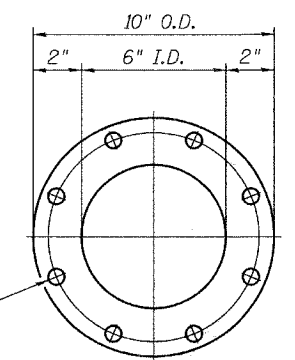
DOWNSPOUT



BOLT HOLE DETAIL



ANCHOR STUD DETAIL



VIEW C-C

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Drainage Scupper, DS-12	Each	10

REVISIONS

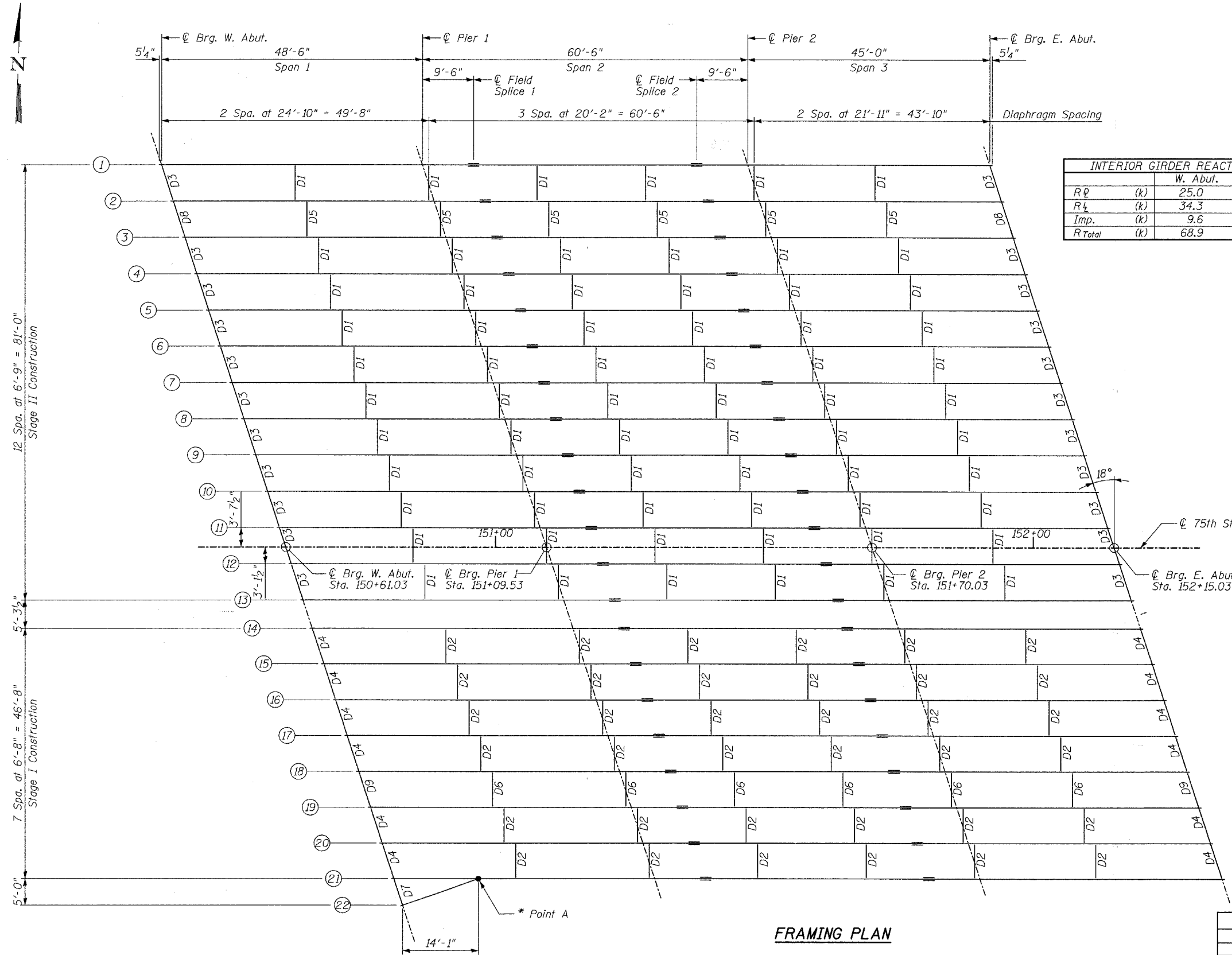
NAME	DATE

DRAINAGE SCUPPER, DS-12

75th STREET OVER THE WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP



	W. Abut.	Pier 1
R _ℓ (k)	25.0	83.5
R _t (k)	34.3	41.0
Imp. (k)	9.6	8.6
R _{Total} (k)	68.9	133.1

	0.4 Sp. 1	Pier 1	0.5 Sp. 2
I _s (in ⁴)	3,100	3,100	3,100
I _{c(n)} (in ⁴)	8,977	--	8,977
I _{c(3n)} (in ⁴)	6,659	--	6,659
S _s (in ³)	258	258	258
S _{c(n)} (in ³)	386	--	386
S _{c(3n)} (in ³)	350	--	350
Z (in ³)	--	289	--
ℓ (k/')	0.82	1.37	0.82
M _ℓ (k-ft.)	130	392	141
sℓ (k/')	0.55	--	0.55
M _{sℓ} (k)	99	--	99
M _t (k)	311	173	349
M _{Imp} (k)	390	49	94
⁵ / ₃ [M _t + M _{Imp}] (k)	668	370	738
M _a (k)	1,167	991	1,299
M _u (k)	1,500	--	1,500
f _s ℓ non-comp (ksi)	6.0	18.2	6.6
f _s ℓ comp (ksi)	3.4	--	4.1
f _s ⁵ / ₃ [M _t + M _{Imp}] (ksi)	20.7	17.2	23.0
f _s (Overload) (ksi)	30.1	35.4	33.7
f _s (Total) (ksi)	--	46.0	--
VR (k)	48.2	--	42.4

* Compact section
** Partially Braced non-compact

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total and Overload) due to non-composite dead loads (in.⁴ and in.³).

I_{c(n)}, S_{c(n)}: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total and Overload) due to short-term composite live loads (in.⁴ and in.³).

I_{c(3n)}, S_{c(3n)}: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total and Overload) due to long-term composite (superimposed) dead loads (in.⁴ and in.³).

Z: Plastic Section Modulus of the steel section in non-composite areas (in.³).

ℓ: Un-factored non-composite dead load (kips/ft.).

M_ℓ: Un-factored moment due to non-composite dead load (kip-ft.).

sℓ: Un-factored long-term composite (superimposed) dead load (kips/ft.).

M_{sℓ}: Un-factored moment due to long-term composite (superimposed) dead load (kip-ft.).

M_t: Un-factored live load moment (kip-ft.).

M_{Imp}: Un-factored moment due to impact (kip-ft.).

M_a: Factored design moment (kip-ft.).

M_u: Compact composite moment capacity according to AASHTO LFD 10.50.1.1 or compact non-composite moment capacity according to AASHTO LFD 10.48.1 (kip-ft.).

f_s (Overload): Sum of stresses as computed from the moments below (ksi).
M_ℓ + M_{sℓ} + ⁵/₃ (M_t + M_{Imp})

f_s (Total): Sum of stresses as computed from the moments below on non-compact section (ksi).
1.3 [M_ℓ + M_{sℓ} + ⁵/₃ (M_t + M_{Imp})]

VR: Maximum ℓ + impact horizontal shear range within the composite portion of the span for stud shear connector design (kips).

FRAMING PLAN

TYL IN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

- NOTES:**
- All structural steel shall conform to the requirements of AASHTO M270, Grade 50W.
 - Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
 - All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

* Point A is the projection of Line A. See Sheet 25 for location of Line A.

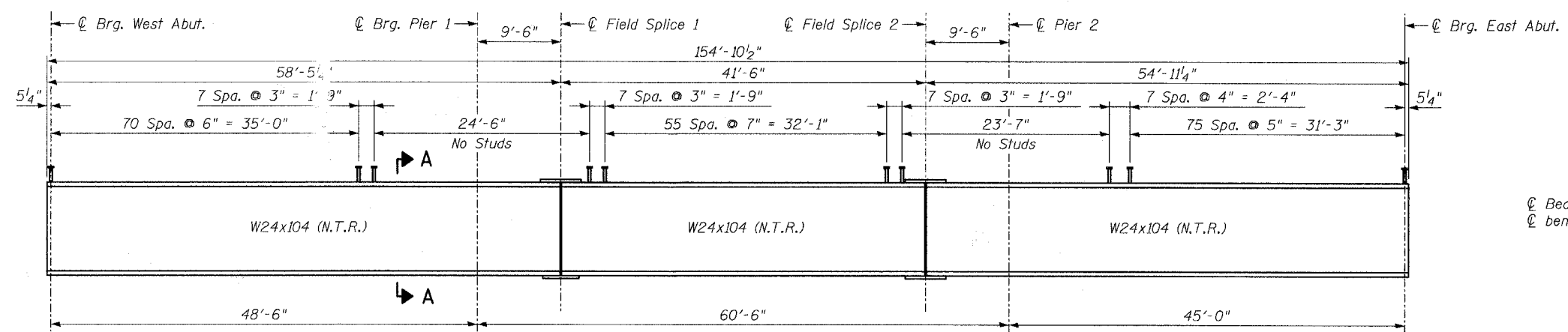
BILL OF MATERIAL

ITEM	UNIT	TOTAL
Furnishing and Erecting Structural Steel	L SUM	1
Stud Shear Connectors	EACH	14,646

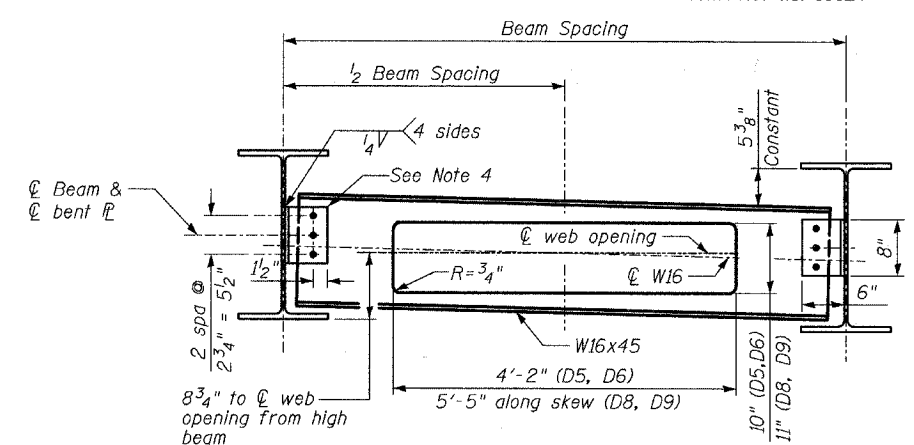
REVISIONS	
NAME	DATE

FRAMING PLAN

75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

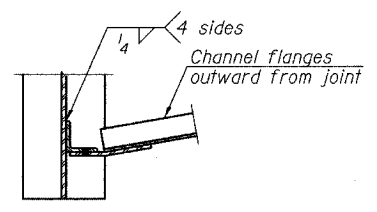


BEAM ELEVATION

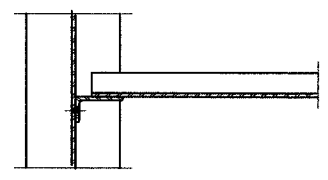


DIAPHRAGM - D5, D6, D8, D9
(6 - D5 Required) (6 - D6 Required),
(2 - D8 Required) (2 - D9 Required)

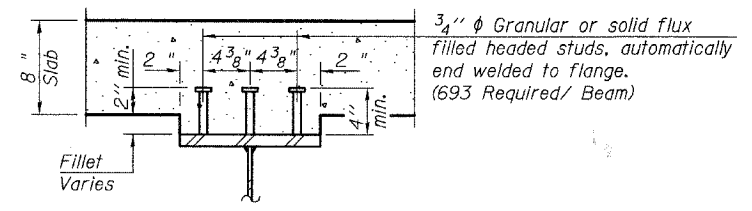
- Notes:
- 3/4" φ HS bolts, 1 5/16" φ holes
 - Two hardened washers required for each set of oversized holes.
 - Web opening intersects W16 at 1/2 Beam Spacing.
 - Use L 6"x4"x1/2" for diaphragm D5 and D6.
Use 6"x4"x1/2" bent flange for D8, D9.



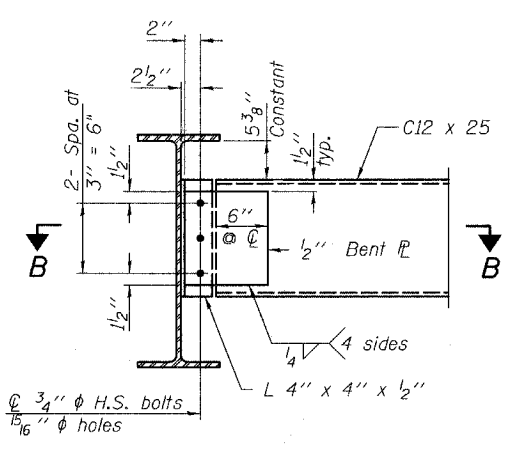
SECTION B-B



SECTION C-C

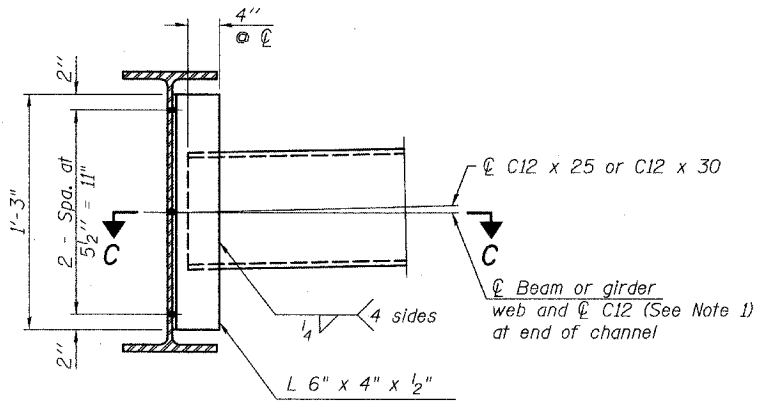


SECTION A-A



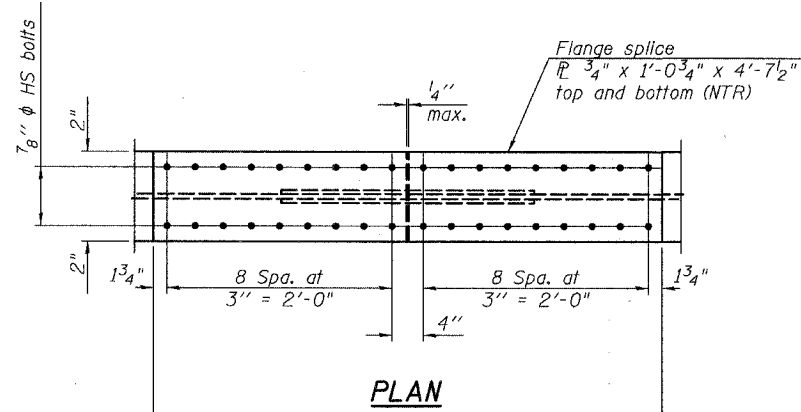
END DIAPHRAGM - D3, D4, D7

- (22 - D3 Required)
(12 - D4 Required)
(1 - D7 Required)
- Note:
- Two hardened washers required for each set of oversized holes.

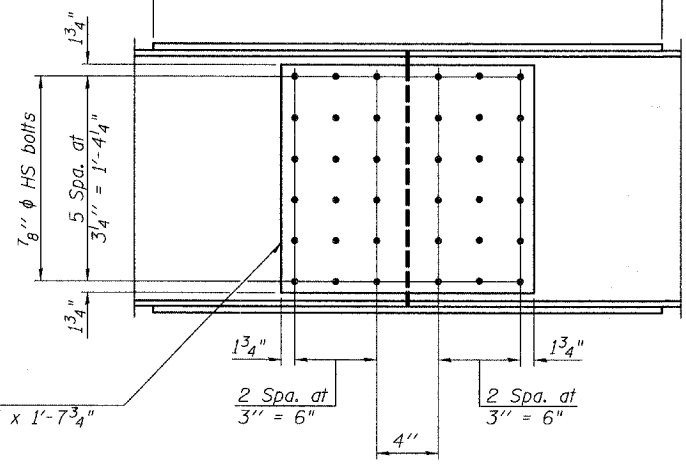


INTERIOR DIAPHRAGM - D1, D2

- (66 - D1 Required)
(36 - D2 Required)
- Notes:
- Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section.
 - 3/4" φ HS bolts, 1 5/16" φ holes
 - Two hardened washers required for each set of oversized holes.



PLAN



ELEVATION

SPLICE DETAIL
(42 - Required)

TOP OF BEAM ELEVATIONS
For Fabrication Only.

Beam	W. Abut.	Brg. Pier 1	F.S. No. 1	F.S. No. 2	Brg. Pier 2	Brg. E. Abut.
Beam 1	663.50	663.17	663.10	662.87	662.83	662.62
Beam 2	663.63	663.30	663.23	663.00	662.96	662.75
Beam 3	663.76	663.45	663.36	663.13	663.08	662.88
Beam 4	663.88	663.56	663.49	663.26	663.21	663.01
Beam 5	664.01	663.68	663.62	663.38	663.34	663.14
Beam 6	664.14	663.81	663.74	663.51	663.47	663.26
Beam 7	664.27	663.94	663.87	663.64	663.60	663.39
Beam 8	664.40	664.07	664.00	663.77	663.72	663.52
Beam 9	664.53	664.20	664.13	663.90	663.85	663.65
Beam 10	664.62	664.30	664.23	663.99	663.95	663.75
Beam 11	664.71	664.38	664.31	664.08	664.03	663.83
Beam 12	664.59	664.26	664.19	663.96	663.91	663.71
Beam 13	664.47	664.14	664.07	663.84	663.80	663.59
Beam 14	664.40	664.07	664.01	663.77	663.73	663.52
Beam 15	664.25	663.92	663.85	663.62	663.58	663.37
Beam 16	664.10	663.77	663.70	663.47	663.43	663.22
Beam 17	663.95	663.62	663.55	663.32	663.28	663.07
Beam 18	663.80	663.47	663.40	663.17	663.12	662.92
Beam 19	663.65	663.32	663.25	663.02	662.97	662.77
Beam 20	663.49	663.19	663.12	662.89	662.85	662.64
Beam 21	663.43	663.17	663.11	662.88	662.83	662.63
Beam 22	663.43	663.35*				

* At Point A

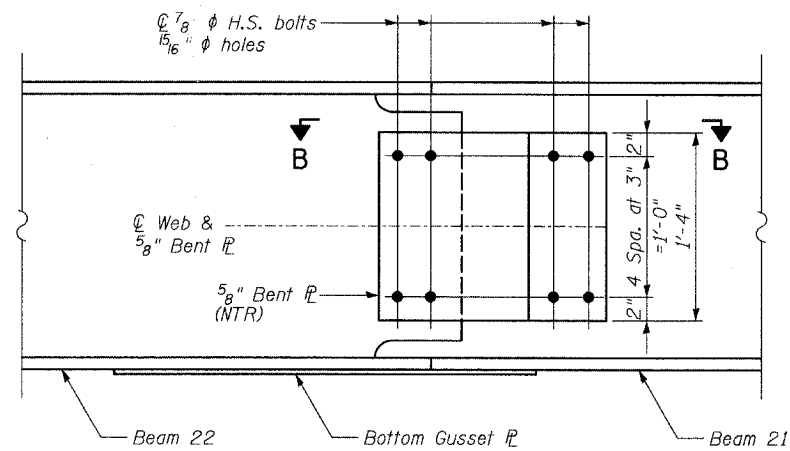
REVISIONS	
NAME	DATE

BEAM ELEVATION AND FRAMING DETAILS

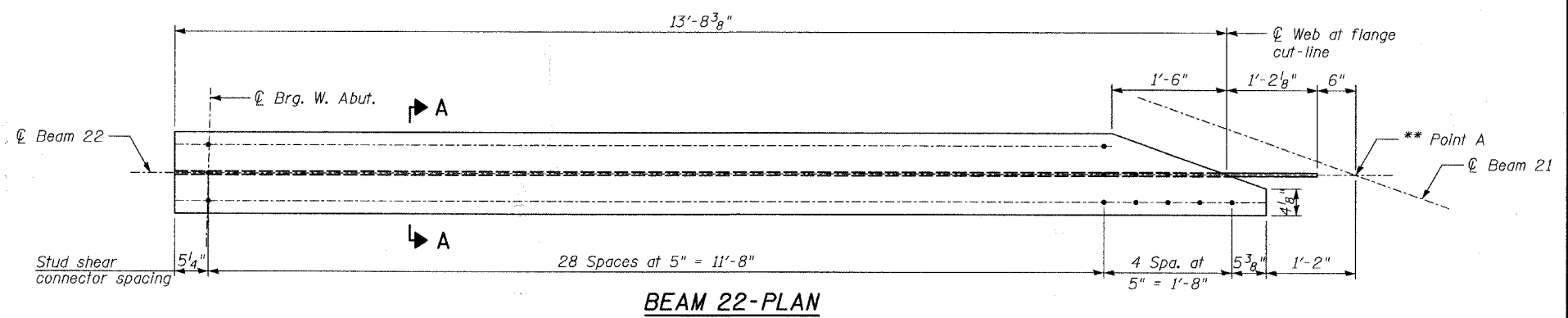
75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
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DUPAGE COUNTY
S.N. 022-3118

TYLIN INTERNATIONAL

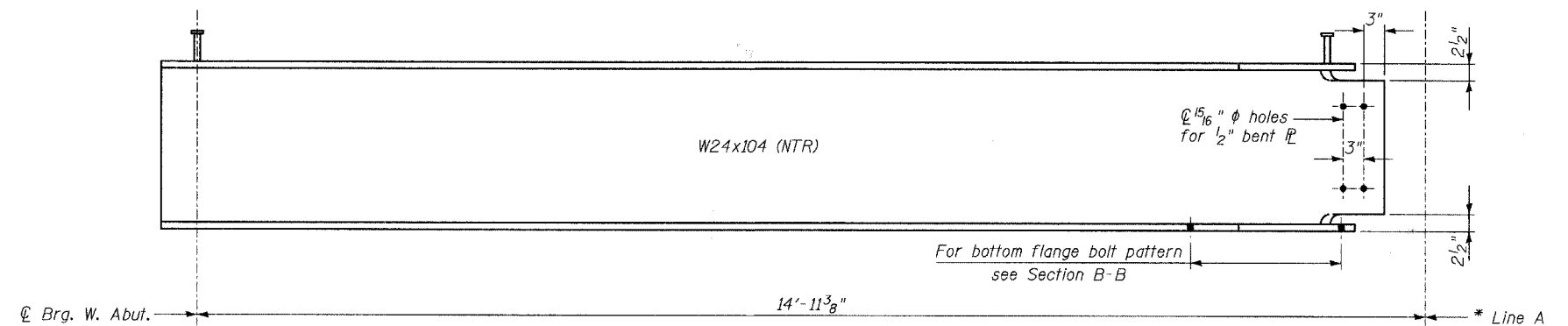
DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP



BEAM CONNECTION-ELEVATION

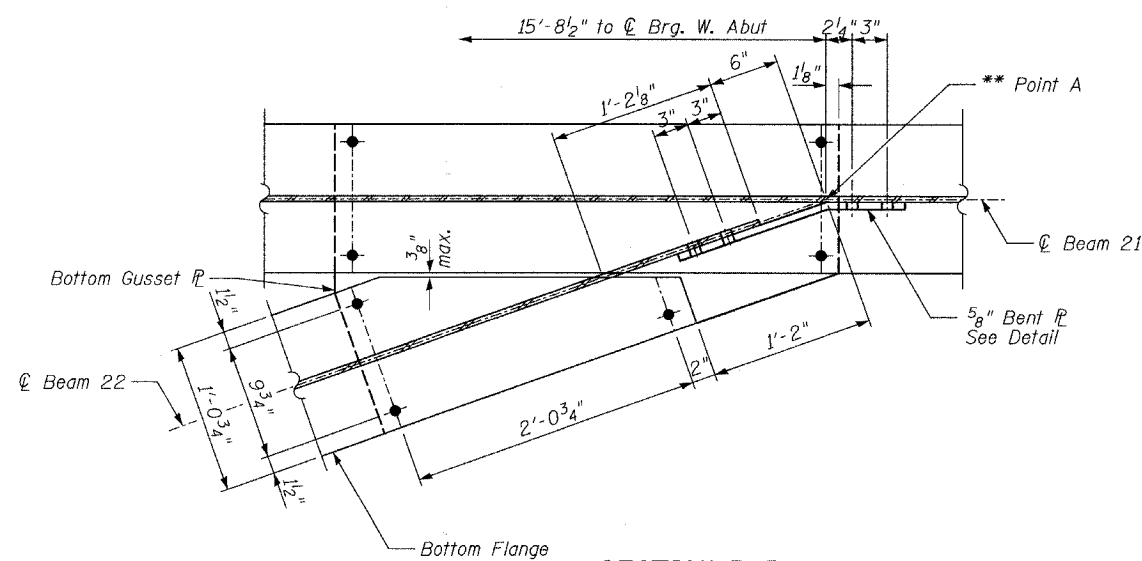


BEAM 22-PLAN



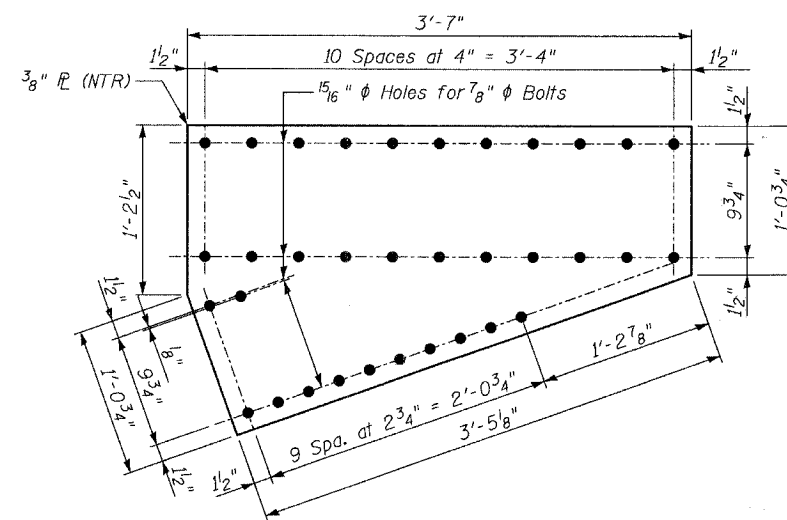
BEAM 22-ELEVATION

* Line A is the intersection of \varnothing web planes of Beams 21 & 22.
** Point A is the projection of Line A.



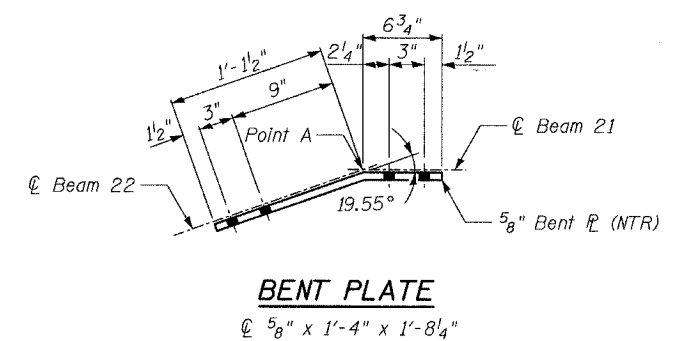
SECTION B-B

Note: Connection between bent plate and the coped web of Beam 22 shall be shop-bolted.



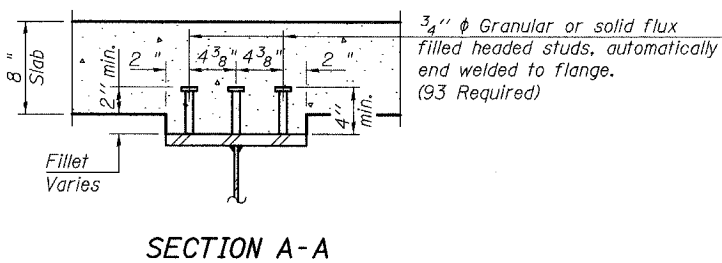
BOTTOM GUSSET PLATE-PLAN

Note: Connection between bottom flange of Beam 22 and bottom gusset plate shall be shop-bolted.



BENT PLATE

\varnothing 5/8" x 1'-4" x 1'-8 1/4"



SECTION A-A

Notes: Bent Plate and Bottom Gusset Plate shall be AASHTO M 270 Grade 50W and NTR.

NTR denotes plates to which Notch Toughness Requirements are applicable

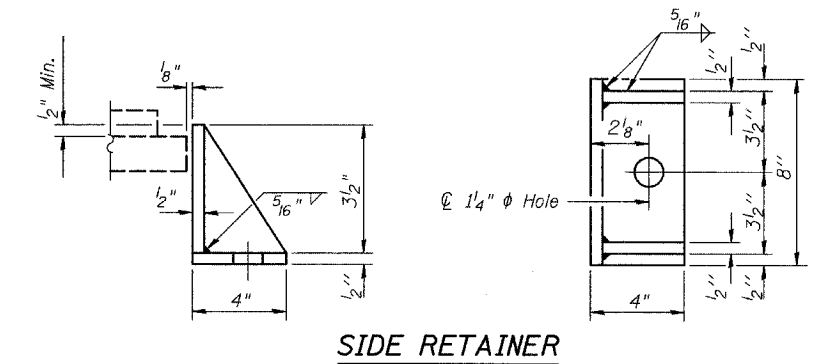
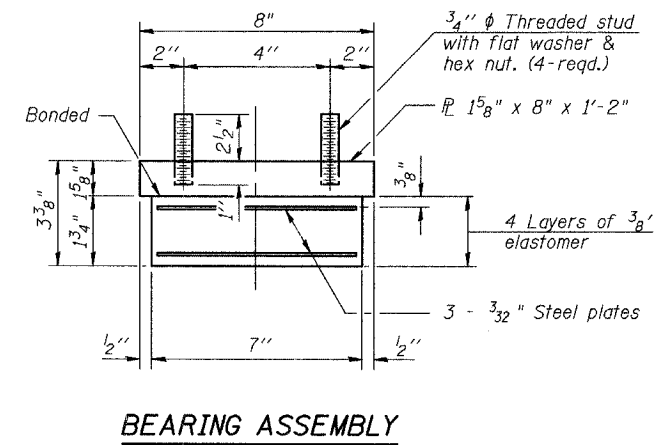
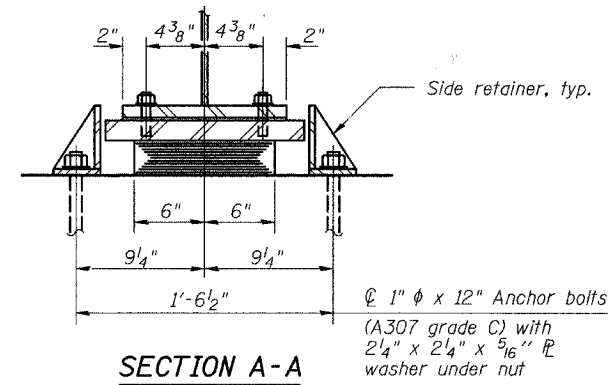
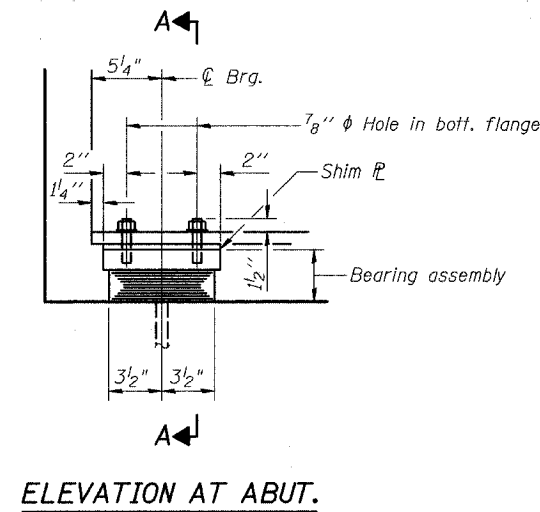
TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

REVISIONS	
NAME	DATE

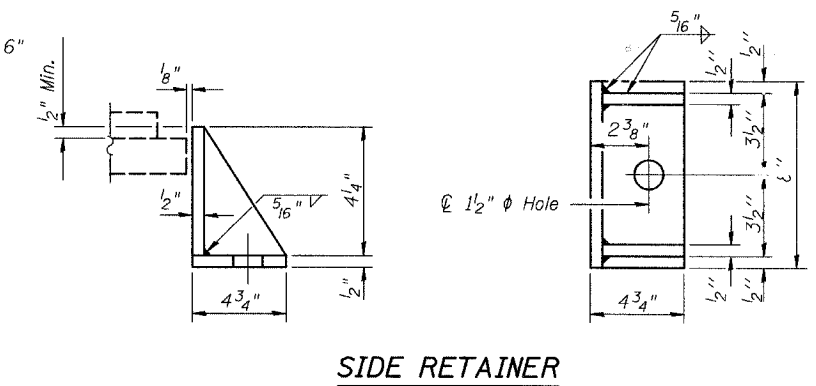
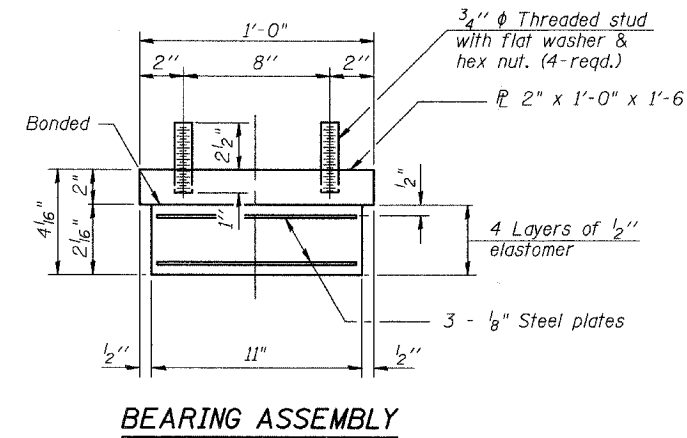
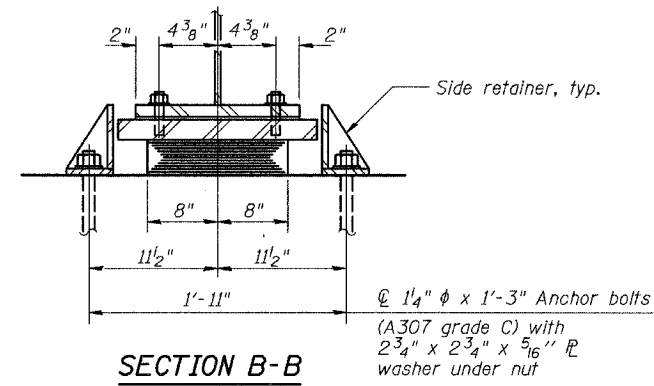
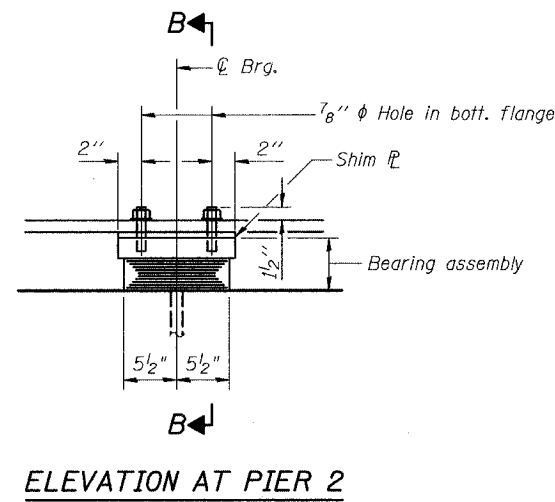
STRUCTURAL STEEL DETAILS

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Note:
Shim plates shall not be placed under bearing assembly.

TYPE I ELASTOMERIC EXP. BRG. AT WEST ABUTMENT



Note:
Shim plates shall not be placed under bearing assembly.

TYPE I ELASTOMERIC EXP. BRG. AT PIER 2

NOTES:

1. For Bill of Material, see Sheet 27.
2. Anchor bolts shall be ASTM F1554 all-thread (or an engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 grade C anchor bolts may be used in lieu of ASTM F1554 grade 36 (fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
3. Anchor bolts for Type I side retainers may be cast in place or installed in holes drilled before or after members are in place.
4. Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
5. Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.
6. The structural steel plates shall conform to the requirements of AASHTO M270 Grade 50W.
7. Two 1/8" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing plans.

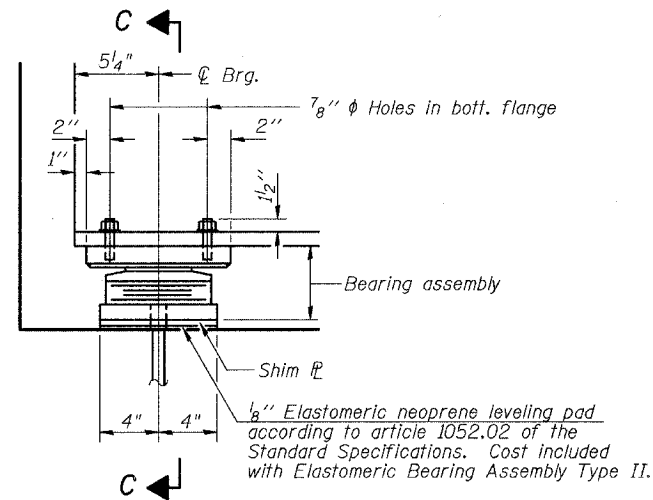
TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

REVISIONS	
NAME	DATE

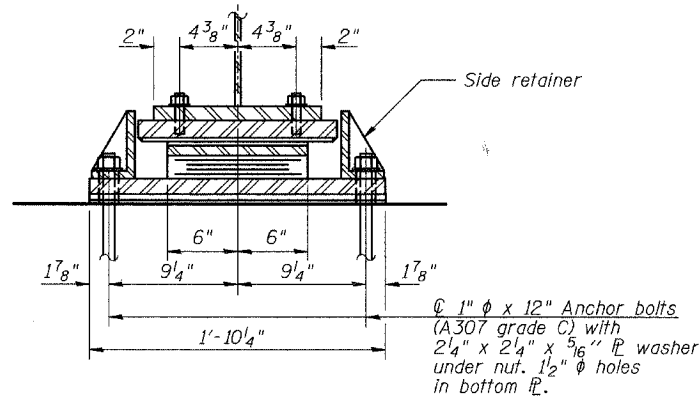
BEARINGS - I

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WEST BRANCH OF THE DUPAGE RIVER
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DUPAGE COUNTY
S.N. 022-3118

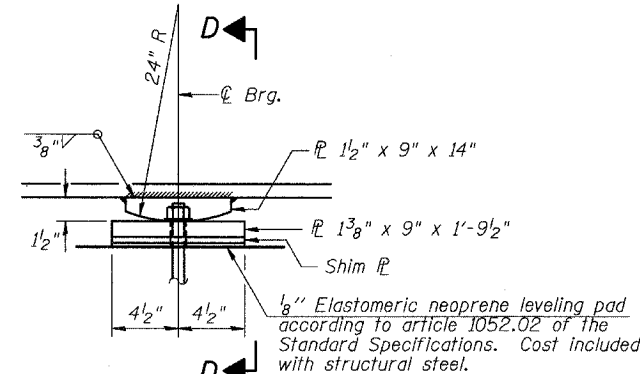


ELEVATION AT ABUTMENT

TYPE II ELASTOMERIC EXP. BRG. AT EAST ABUTMENT

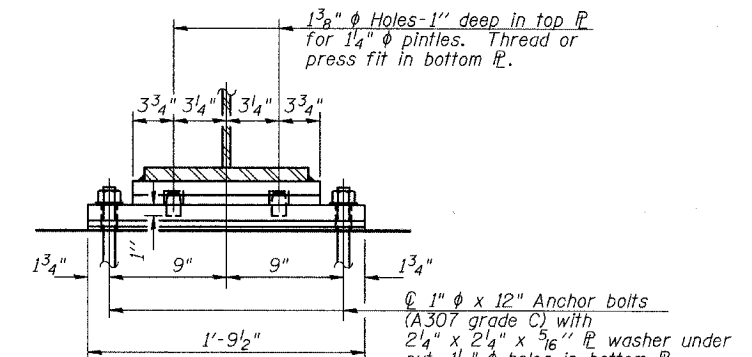


SECTION C-C

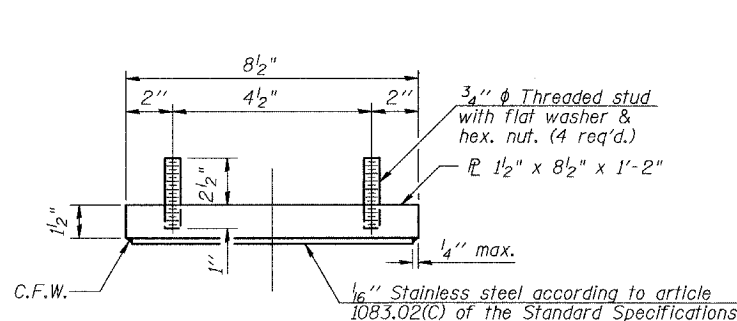


ELEVATION AT PIER 1

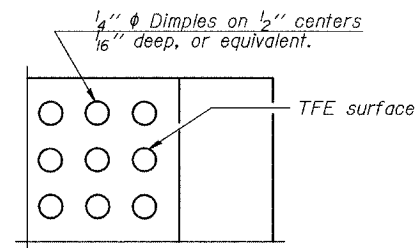
FIXED BEARING AT PIER 1



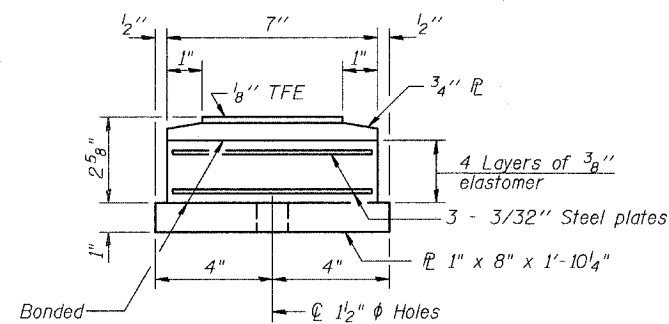
SECTION D-D



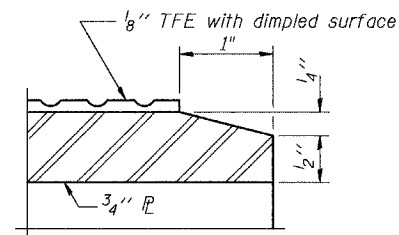
TOP BEARING ASSEMBLY



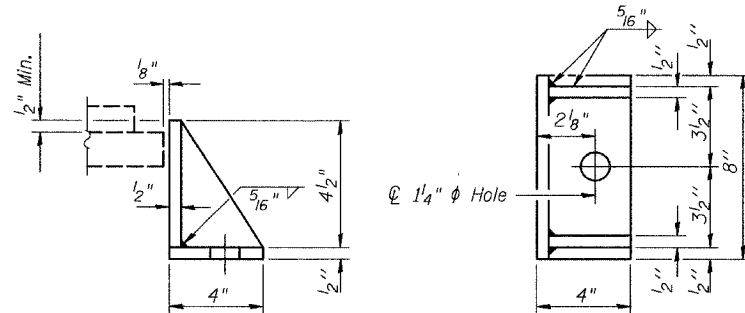
PLAN-TFE SURFACE



BOTTOM BEARING ASSEMBLY

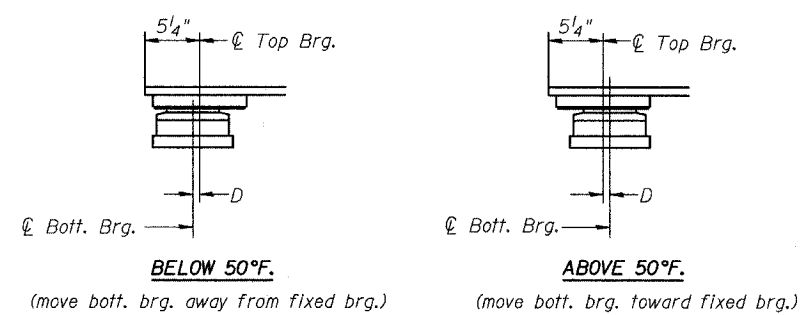


SECTION THRU TFE



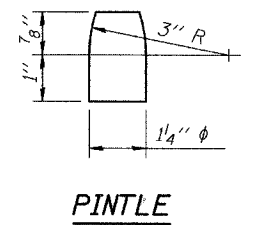
SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



SETTING ANCHOR BOLTS AT EXP. BRG.

D = 1/8 inch per each 100' of expansion for every 15 degree temp. change from the normal temp. of 50 degrees Fahrenheit.



PINTLE

NOTES:

- Anchor bolts shall be ASTM F1554 all-thread (or an engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 grade C anchor bolts may be used in lieu of ASTM F1554 grade 36 (fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
- Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
- Anchor bolts for Type II bearings shall be placed in holes drilled through the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.
- Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
- Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.
- The 1/8 inch TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the federal specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.
- Bonding of 1/8 inch TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
- The structural steel plates of the Bearing Assembly shall conform to the requirements of AASHTO M270 Grade 50W.
- Two 1/8 inch adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Elastomeric Bearing Assembly Type I	Each	43
Elastomeric Bearing Assembly Type II	Each	21
Anchor Bolts, 1 inch diameter	Each	128
Anchor Bolts, 1 1/4 inch diameter	Each	42

TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

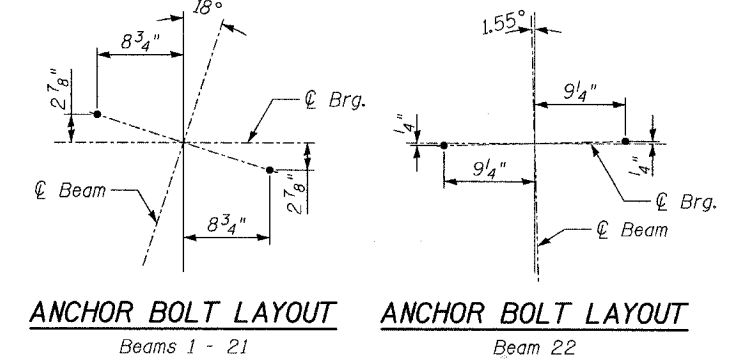
REVISIONS	
NAME	DATE

BEARINGS - II

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WEST BRANCH OF THE DUPAGE RIVER
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DUPAGE COUNTY
S.N. 022-3118

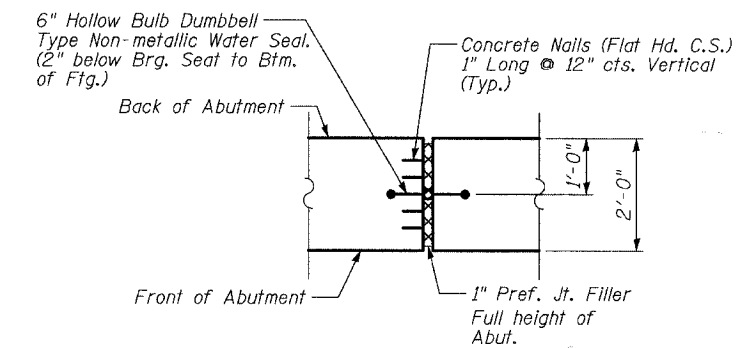
NOTES:

- Space reinforcement in cap to miss anchor bolts.
- All edges shall have standard 3/4" chamfers.
- Bars indicated thus: 11x2-#5 etc. indicates 11 lines of bars with 2 lengths per line.
- For Section A-A see Sheet 31.
- For details of reinforcement and Bill of Material see Sheet 31.
- Pour steps monolithically with cap.
- Provide 11" high by 5'-5" blackout for proposed ducts. Bottom of blackout Elev. 662.06. The Contractor shall furnish 8" φ PVC sleeves for the proposed conduits, see sheet 290 of 565. The centerline of the proposed PVC ducts is at Elev. 662.52 ±. Once the duct package has been installed between the beams, the blackout shall be filled with non-shrink grout in accordance with Section 1024 of the Standard Specifications. The cost shall be included in Concrete Structures.



ANCHOR BOLT LAYOUT
Beams 1 - 21

ANCHOR BOLT LAYOUT
Beam 22



SECTION D-D
Cost of Water Seal included in the cost of Concrete Structures.

MINIMUM BAR LAPS

Bar	Lap
#5	2'-2"
#6	2'-7"
#7	3'-5"
#8	4'-6"

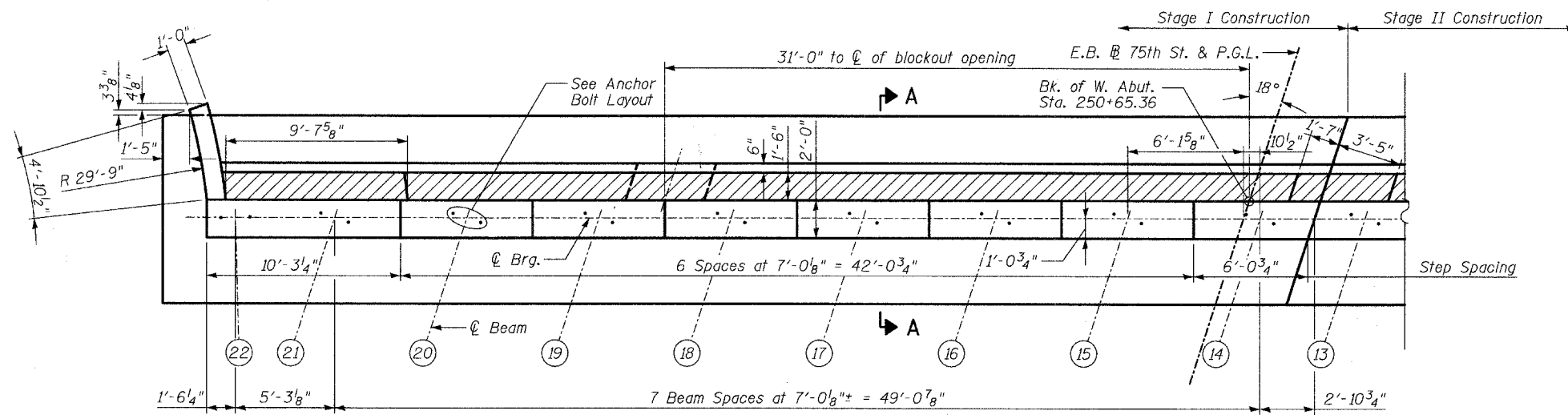
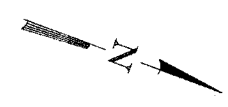
LEGEND
F.F. denotes front face
B.F. denotes back face
E.F. denotes each face

* Cut bars in field for fit.

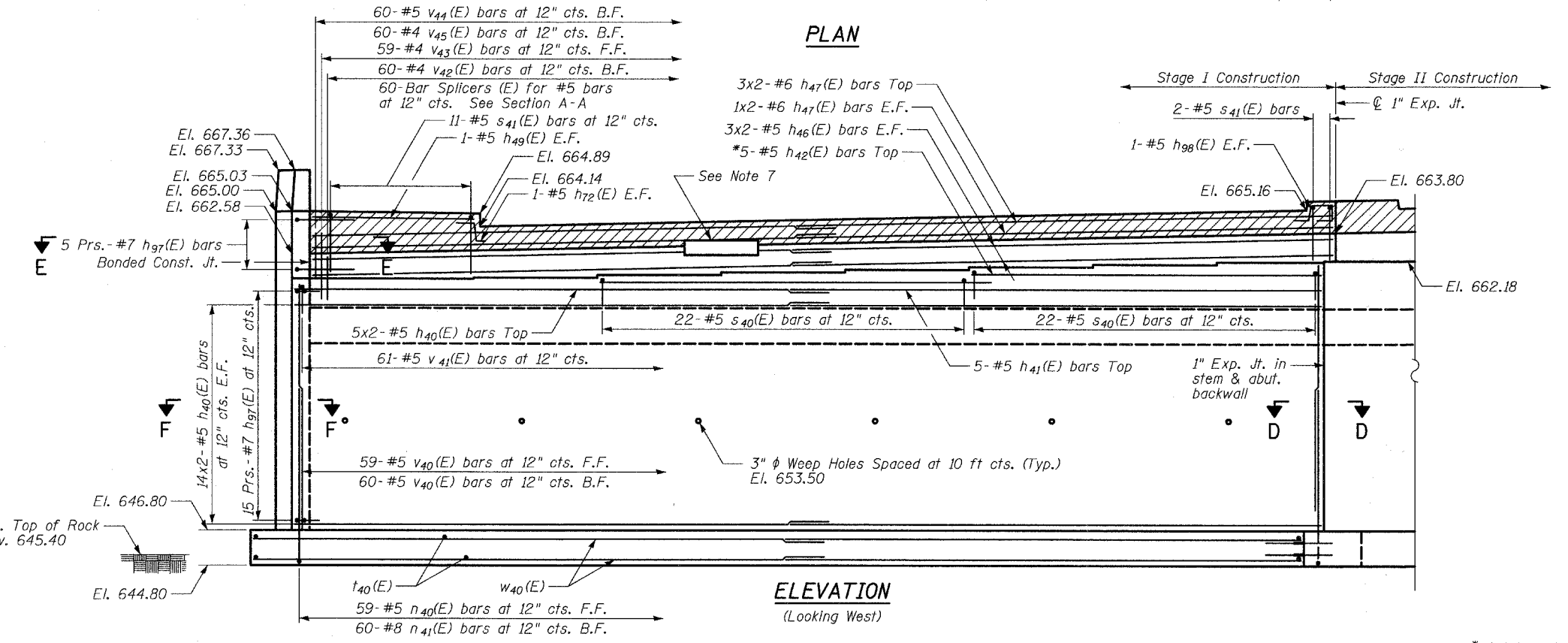
REVISIONS	
NAME	DATE

WEST ABUTMENT - I

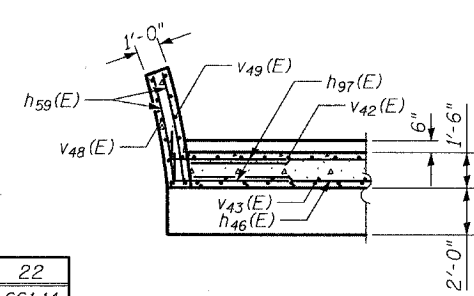
75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
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SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118



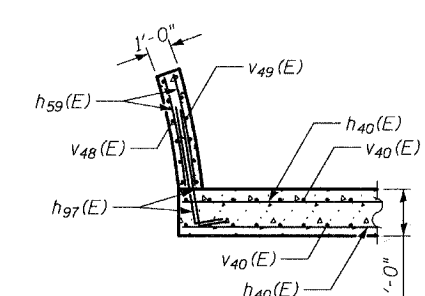
PLAN



ELEVATION
(Looking West)



SECTION E-E



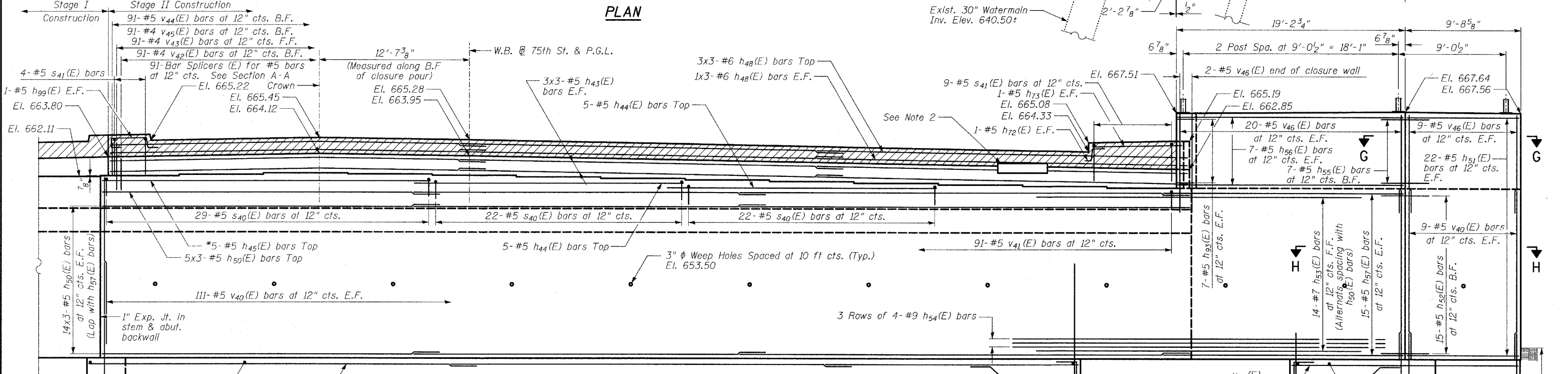
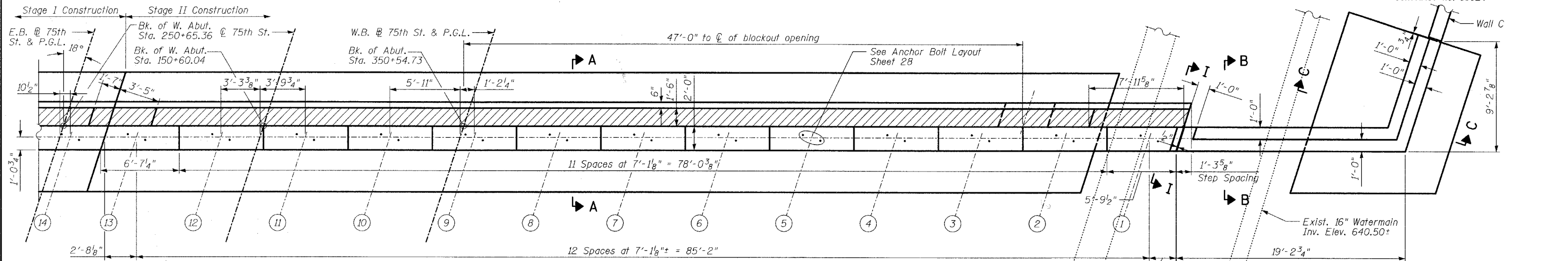
SECTION F-F

SEAT ELEVATIONS

BEAM #	14	15	16	17	18	19	20	21	22
ELEVATION	662.11	661.96	661.81	661.66	661.51	661.36	661.20	661.14	661.14
STEP HT.	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 1/8"	3/4"	0"	0"

TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP



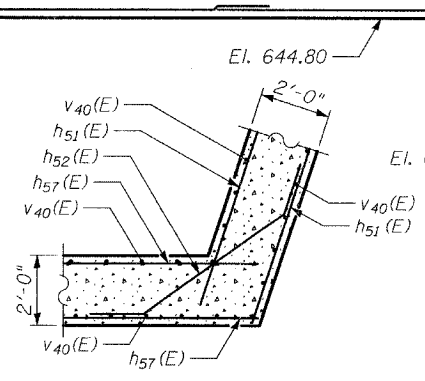
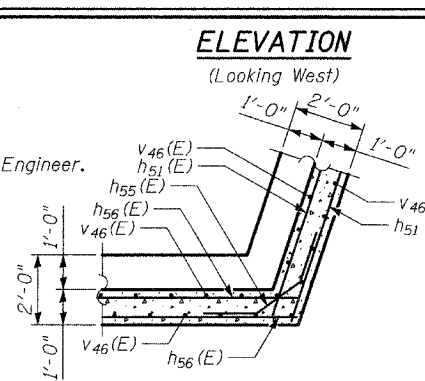
- NOTES**
- Invert elevation of 16" watermain was unavailable at the time of plan preparation. The Contractor shall verify the location and make adjustments as appropriate subject to the approval of the Engineer.
 - Provide 11" high by 5'-5" breakout for proposed ducts. Bottom of breakout Elev. 662.02. The Contractor shall furnish 8" φ PVC sleeves for the proposed conduits, see sheet 290 of 565. The center of the proposed PVC ducts is at Elev. 662.48 ±. Once the duct package has been installed between the beams, the breakout shall be filled with non-shrink grout in accordance with Section 1024 of the Standard Specifications. The cost shall be included in Concrete Structures.
 - For additional General Notes, See Sheet 28.

TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

SEAT ELEVATIONS

BEAM #	1	2	3	4	5	6	7	8	9	10	11	12	13
ELEVATION	661.21	661.34	661.47	661.60	661.72	661.85	661.98	662.11	662.24	662.33	662.42	662.30	662.18
STEP HT.	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/8"	1/8"	1/2"	1/2"



LEGEND

F.F. denotes front face
B.F. denotes back face
E.F. denotes each face

* Cut bars in field for fit.

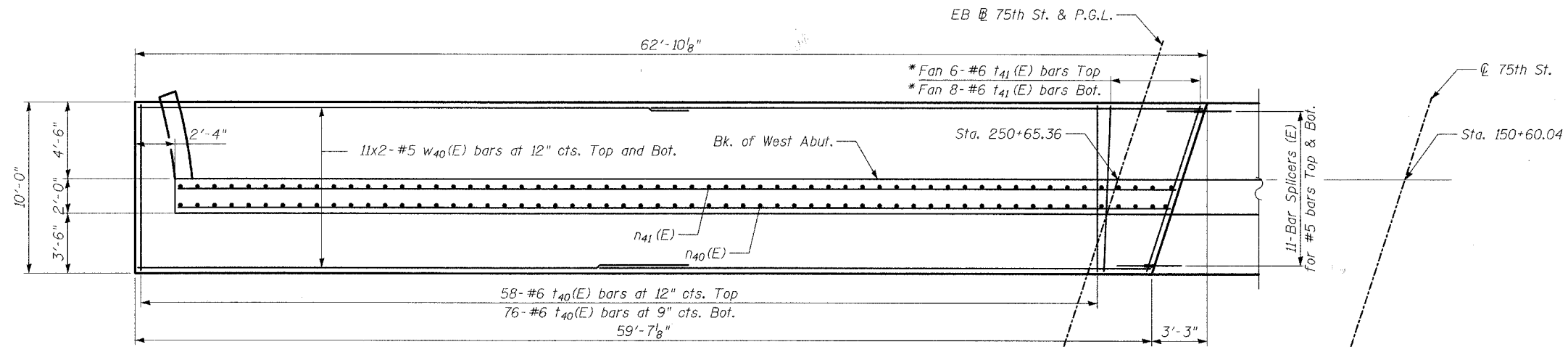
Bar	Lap
#5	2'-2"
#6	2'-7"
#7	3'-5"
#8	4'-6"

REVISIONS

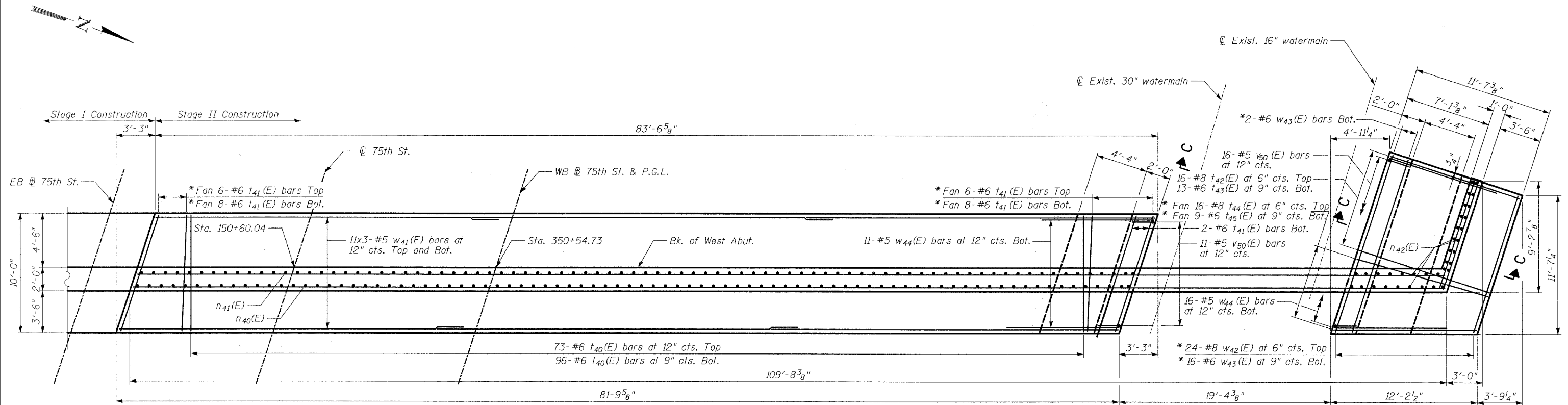
NAME	DATE

WEST ABUTMENT - II

75th STREET OVER THE WEST BRANCH OF THE DUPAGE RIVER
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FOUNDATION PLAN



FOUNDATION PLAN

TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

NOTES

The Contractor shall exercise extreme caution when working around the existing watermain.
The Contractor shall verify the location of the existing watermain. The distance from the centerline of the 30" watermain to the edge of footing shall be 4'-0" min. and 2'-6" minimum from the centerline of the 16" watermain to the edge of footing. The gap between the footings may need to be modified based on the actual location of the watermain subject to the approval of the Engineer.

* Cut bars in field for fit.

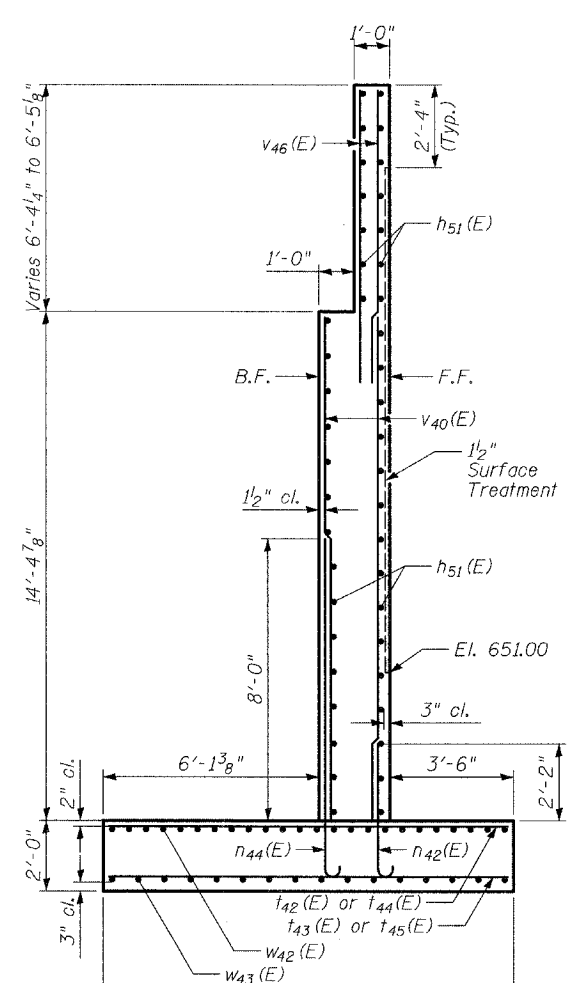
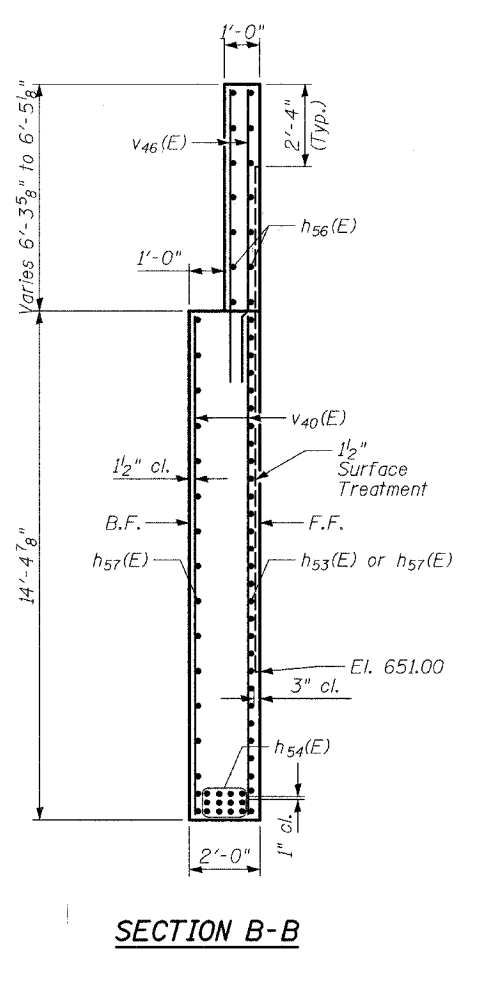
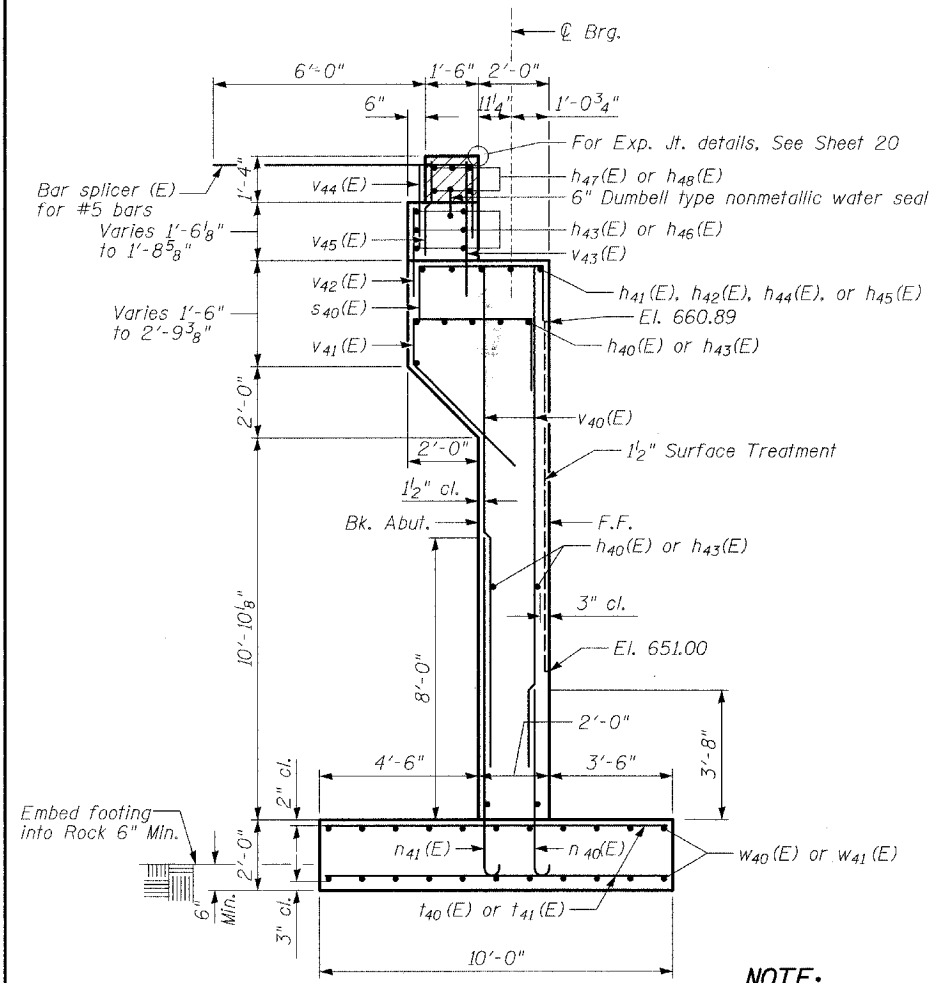
MINIMUM BAR LAPS

Bar	Lap
#5	2'-2"
#6	2'-7"
#8	4'-6"

REVISIONS	
NAME	DATE

WEST ABUTMENT - FOUNDATION PLAN

75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
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BILL OF MATERIAL

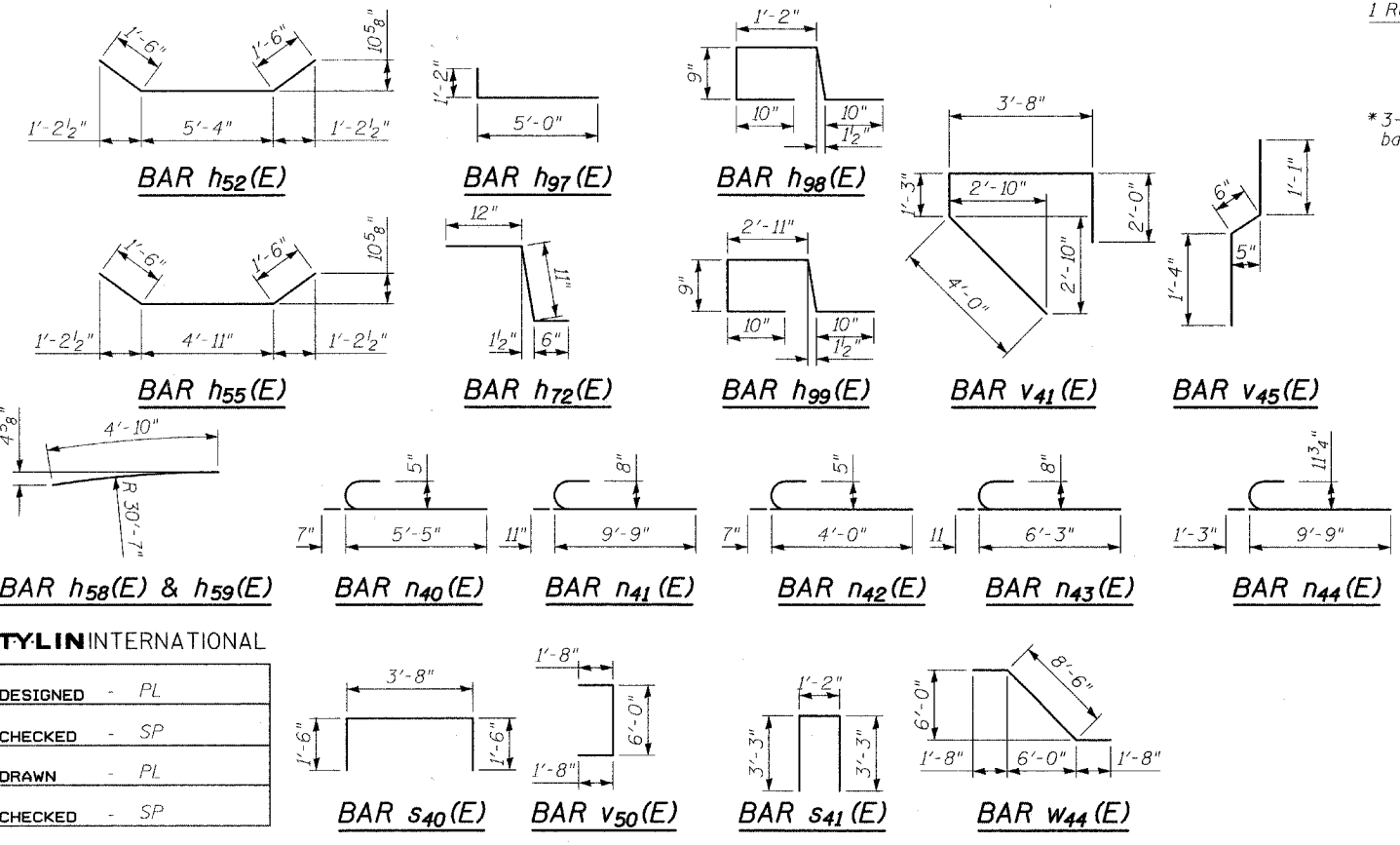
Bar	No.	Size	Length	Shape
h40(E)	66	#5	30'-6"	
h41(E)	5	#5	22'-6"	
h42(E)	5	#5	21'-0"	
h43(E)	18	#5	31'-6"	
h44(E)	10	#5	22'-9"	
h45(E)	5	#5	27'-6"	
h46(E)	12	#5	30'-4"	
h47(E)	10	#6	30'-6"	
h48(E)	15	#6	31'-10"	
h49(E)	2	#5	10'-4"	
h50(E)	99	#5	29'-0"	
h51(E)	44	#5	9'-4"	
h52(E)	15	#5	8'-4"	
h53(E)	14	#7	27'-4"	
h54(E)	12	#9	31'-4"	
h55(E)	7	#5	4'-11"	
h56(E)	14	#5	18'-11"	
h57(E)	30	#5	21'-6"	
h58(E)	6	#4	4'-10"	
h59(E)	38	#7	4'-10"	
h72(E)	4	#5	2'-5"	
h73(E)	2	#5	7'-7"	
h74(E)	8	#5	3'-4"	
h93(E)	14	#5	1'-9"	
h97(E)	40	#5	6'-2"	
h98(E)	2	#5	4'-4"	
h99(E)	2	#5	6'-4"	
n40(E)	143	#5	6'-0"	
n41(E)	144	#8	10'-8"	
n42(E)	23	#5	4'-7"	
n43(E)	5	#8	7'-2"	
n44(E)	16	#9	11'-0"	
s40(E)	117	#5	6'-8"	
s41(E)	26	#5	7'-8"	

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
t40(E)	303	#6	9'-8"	
t41(E)	44	#6	10'-2"	
t42(E)	16	#8	11'-3"	
t43(E)	13	#6	11'-3"	
t44(E)	16	#8	11'-10"	
t45(E)	9	#6	11'-10"	
v40(E)	359	#5	14'-2"	
v41(E)	152	#5	10'-11"	
v42(E)	151	#4	2'-9"	
v43(E)	150	#4	3'-10"	
v44(E)	151	#5	2'-4"	
v45(E)	151	#4	2'-11"	
v46(E)	60	#5	8'-3"	
v48(E)	6	#5	20'-4"	
v49(E)	6	#8	20'-4"	
v50(E)	27	#5	9'-4"	
v65(E)	12	#5	4'-6"	
w40(E)	44	#5	32'-5"	
w41(E)	66	#5	29'-3"	
w42(E)	24	#8	15'-7"	
w43(E)	16	#6	15'-7"	
w44(E)	27	#5	11'-10"	
Structure Excavation		Cu Yd	1,380	
Concrete Structures		Cu Yd	395.7	
Reinforcement Bars, Epoxy Coated		Pound	40,660	
Bridge Seat Sealer		Sq Ft	299	
Concrete Sealer		Sq Ft	1,345	
Geocomposite Wall Drain		Sq Yd	176	
Porous Granular Embankment, Special		Cu Yd	234	
Bar Splicers		Each	173	
Rock Excavation for Structures		Cu Yd	115	
Form Liner Textured Surface		Sq Yd	210	
Anti-Graffiti Coating		Sq Ft	1,834	

NOTE:
1. Hatched area to be poured after Superstructure falsework has been removed. Quantity of Concrete included with Concrete Superstructure.

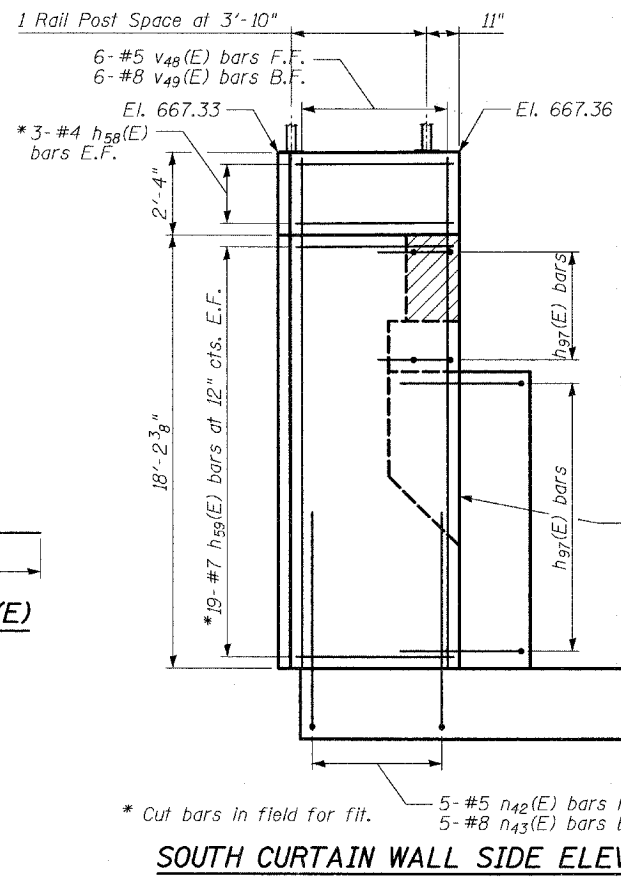
SECTION A-A



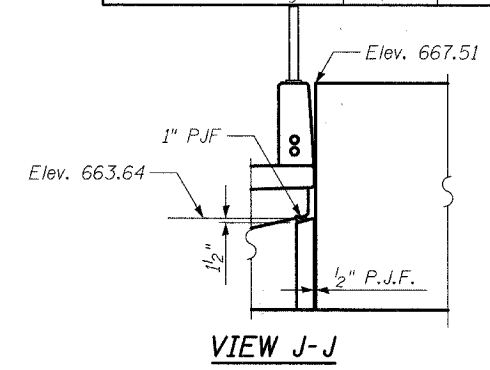
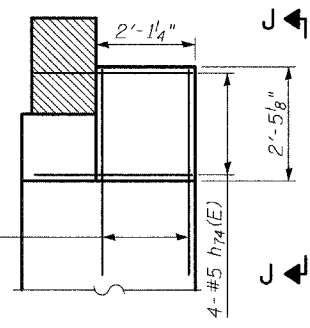
TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

SECTION C-C



SECTION I-I



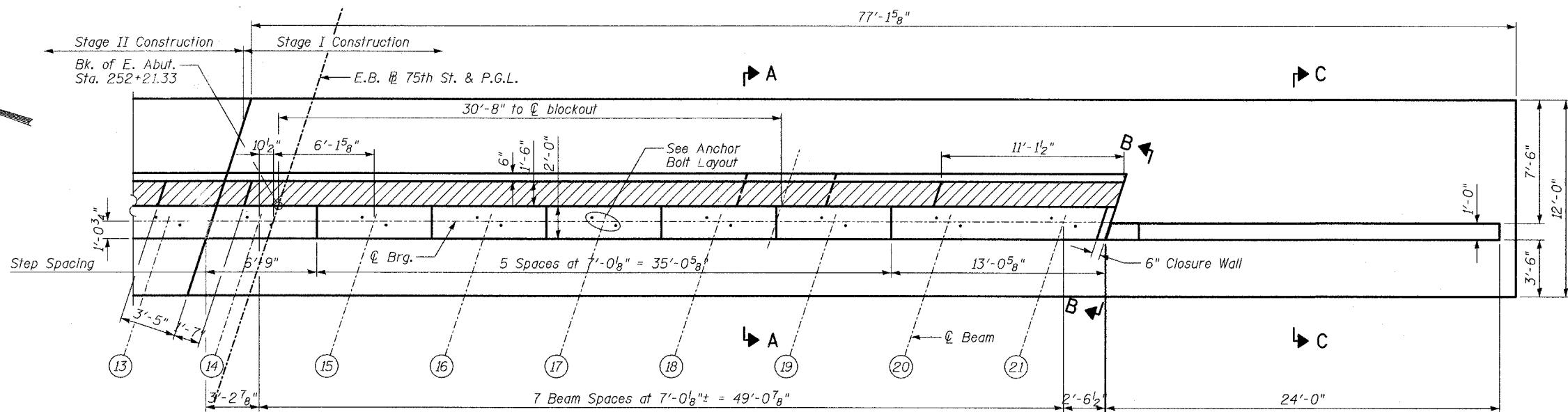
REVISIONS

NAME	DATE

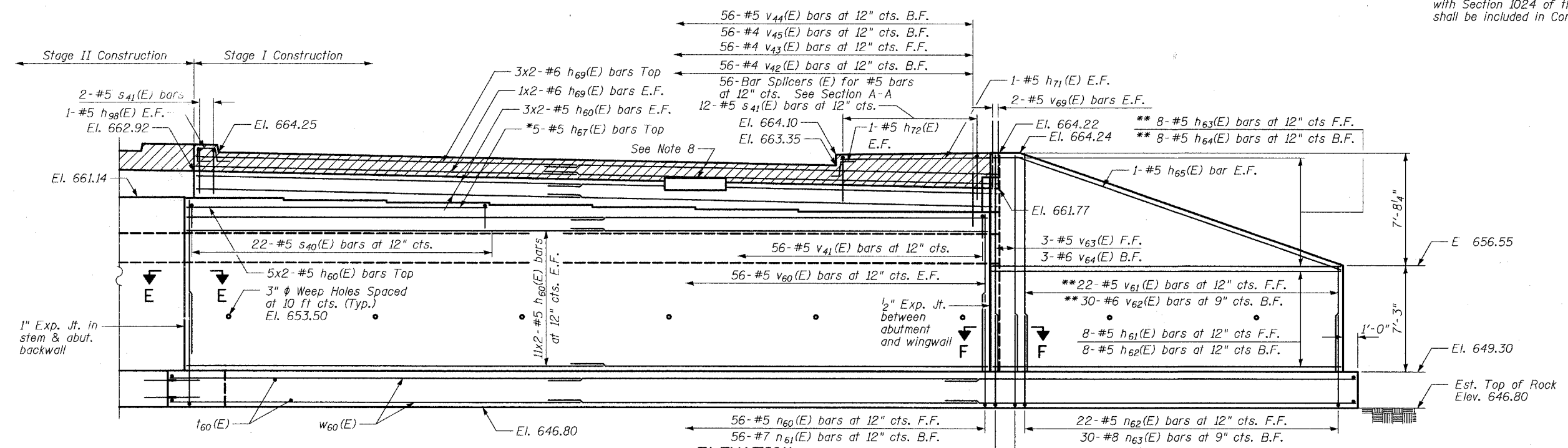
WEST ABUTMENT SECTIONS AND DETAILS

75th STREET OVER THE WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

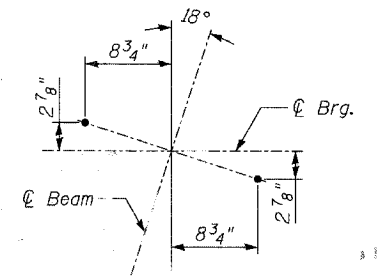
- NOTES:**
- Space reinforcement in cap to miss anchor bolts.
 - All edges shall have standard $\frac{3}{4}$ " chamfers.
 - Bars indicated thus: 11x2-#5 etc. indicates 11 lines of bars with 2 lengths per line.
 - For Section A-A see Sheet 35.
 - For details of reinforcement and Bill of Material see Sheet 35.
 - Pour steps monolithically with cap.
 - See Section B-B for closure wall reinforcement.
 - Provide 11" high by 5'-5" blackout for proposed ducts. Bottom of blackout Elev. 661.18. The Contractor shall furnish 8" ϕ PVC sleeves for the proposed conduits, see sheet 290 of 565. The ϕ of the proposed PVC ducts is at Elev. 661.64 \pm . Once the duct package has been installed between the beams, the blackout shall be filled with non-shrink grout in accordance with Section 1024 of the Standard Specifications. The cost shall be included in Concrete Structures.



PLAN



ELEVATION
(Looking East)

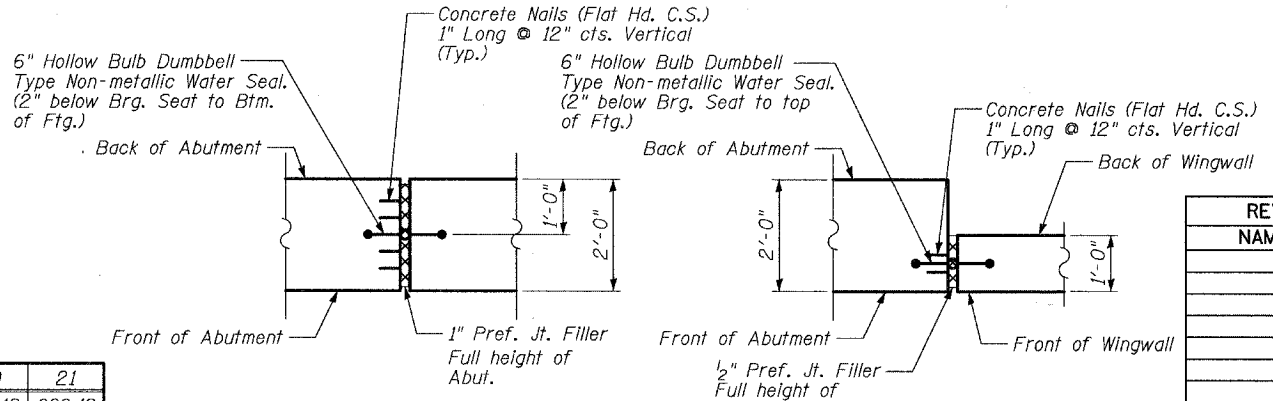


ANCHOR BOLT LAYOUT

MINIMUM BAR LAPS

Bar	Lap
#5	2'-2"
#6	2'-7"
#7	3'-5"
#8	4'-6"

LEGEND
F.F. denotes front face
B.F. denotes back face
E.F. denotes each face



SECTION E-E

Cost of Water Seal included in the cost of Concrete Structures.

SECTION F-F

Cost of Water Seal included in the cost of Concrete Structures.

SEAT ELEVATIONS

BEAM #	14	15	16	17	18	19	20	21
ELEVATION	661.07	660.92	660.77	660.62	660.47	660.32	660.18	660.18
STEP HT.	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 5/8"	0"

REVISIONS

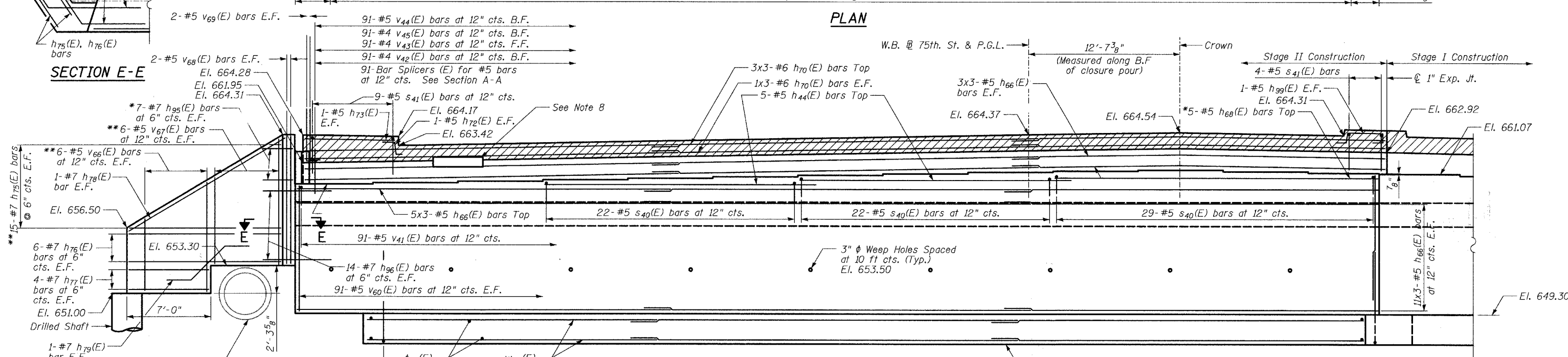
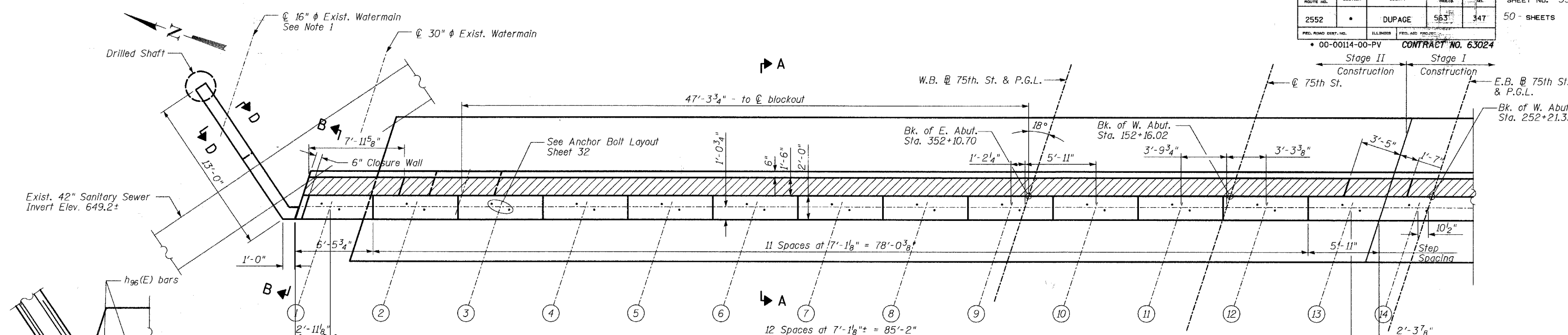
NAME	DATE

EAST ABUTMENT - I

75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

TYLIN INTERNATIONAL

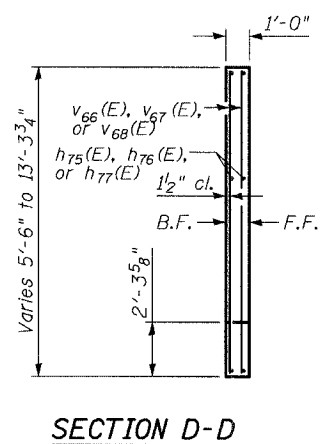
DESIGNED	PL
CHECKED	SP
DRAWN	PL
CHECKED	St



SEAT ELEVATIONS

BEAM #	1	2	3	4	5	6	7	8	9	10	11	12	13
ELEVATION	660.17	660.30	660.43	660.56	660.68	660.81	660.94	661.07	661.20	661.30	661.38	661.26	661.14
STEP HT.	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/4"	1"	1/2"	1/2"	1/2"

- NOTES**
- Invert elevation of 16" watermain was unavailable during plan preparation. The Contractor shall field verify and if necessary provide an opening in the wall to provide 2" clearance to pipe on all sides. The corners of the opening shall be reinforced in a similar fashion as shown on Detail A on Sheet 14 using unused epoxy reinforcement bars.
 - Provide 11" high by 5'-5" blackout for proposed ducts. Bottom of blackout Elev. 662.02. The Contractor shall furnish 8" φ PVC sleeves for the proposed conduits, see sheet 290 of 565. The φ of the proposed PVC ducts is at Elev. 662.48 ±. Once the duct package has been installed between the beams, the blackout shall be filled with non-shrink grout in accordance with Section 1024 of the Standard Specifications. The cost shall be included in Concrete Structures.
 - For additional General Notes, See Sheet 32.
- TYLIN INTERNATIONAL**
- | | |
|----------|------|
| DESIGNED | - PL |
| CHECKED | - SP |
| DRAWN | - PL |
| CHECKED | - SP |



MINIMUM BAR LAPS

Bar	Lap
#5	2'-2"
#6	2'-7"
#7	3'-5"
#8	4'-6"

LEGEND

F.F. denotes front face
B.F. denotes back face
E.F. denotes each face

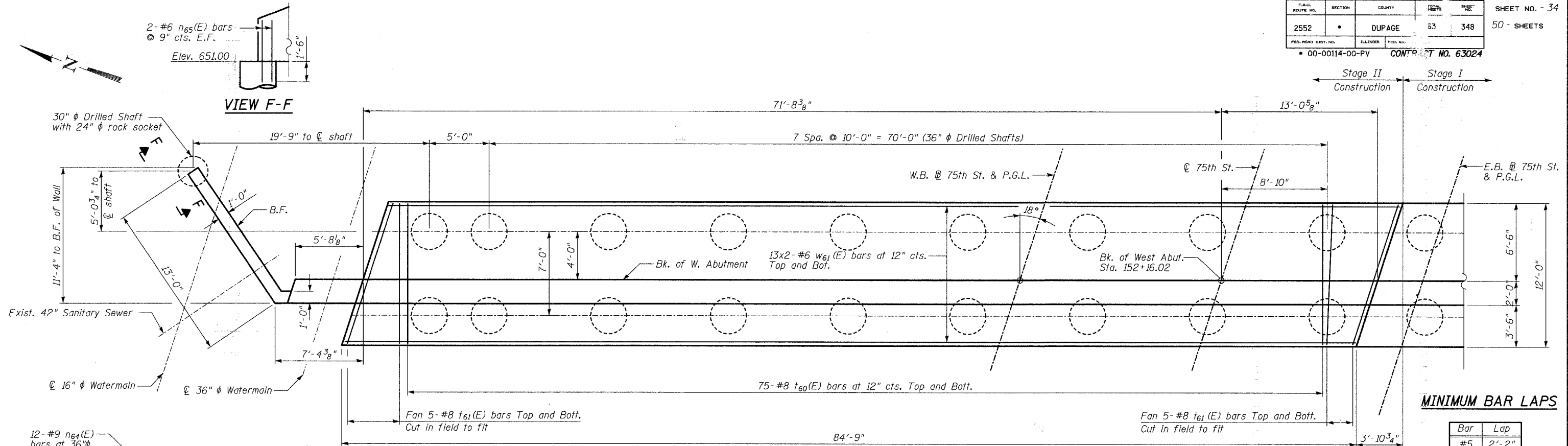
REVISIONS

NAME	DATE

EAST ABUTMENT - II

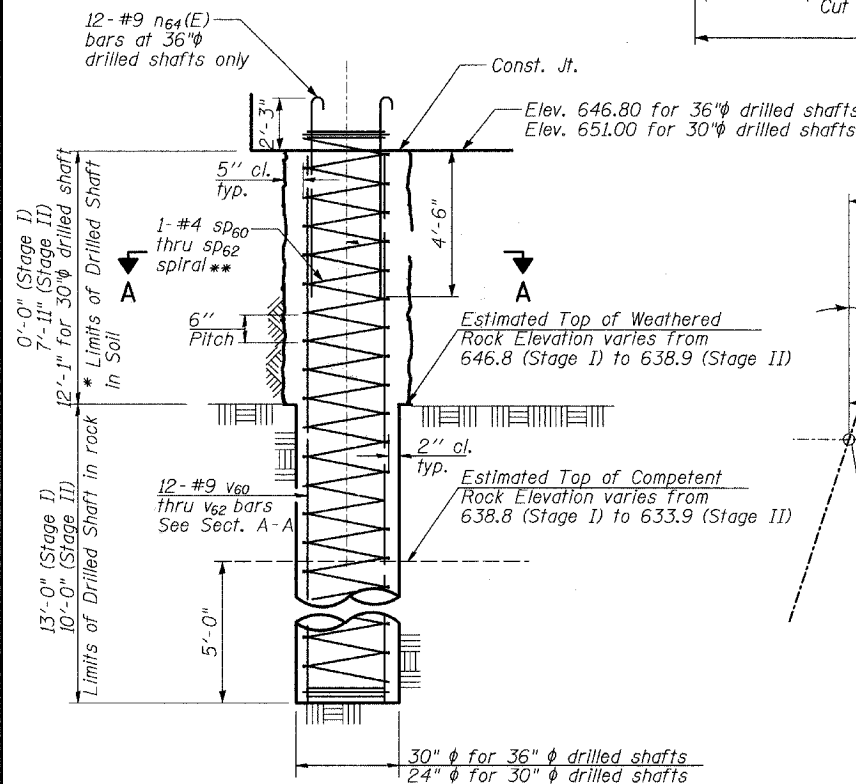
75th STREET OVER THE WEST BRANCH OF THE DUPAGE RIVER
FAP 369
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DUPAGE COUNTY
S.N. 022-3118

* Cut bars in field for fit
** See Cutting Diagram



MINIMUM BAR LAPS

Bar	Lap
#5	2'-2"
#6	2'-7"
#7	3'-5"
#8	4'-6"

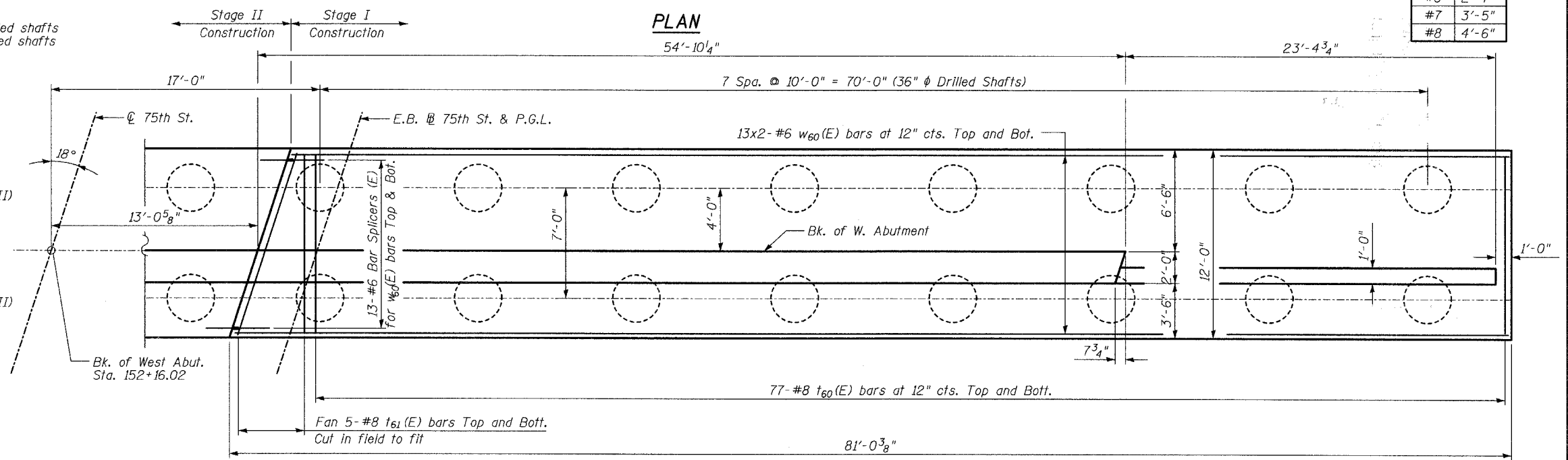


DRILLED SHAFT DETAILS

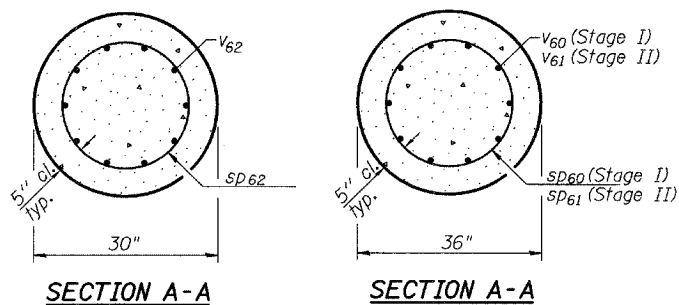
TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

- * The quantities and detailing are based on the estimated elevations shown on the plans. The actual elevations may differ at each shaft and corresponding adjustments shall be made to the drilled shaft and reinforcement quantities and payment limits.
- ** Provide 1/2 extra turns top and bottom of each drilled shaft. Extend spiral 2" into abutment or wingwall cap. Provide min. 4-#4 spacers or equivalent.



PLAN



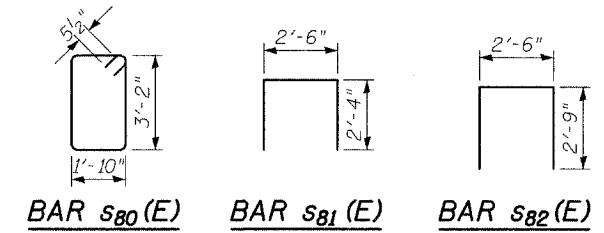
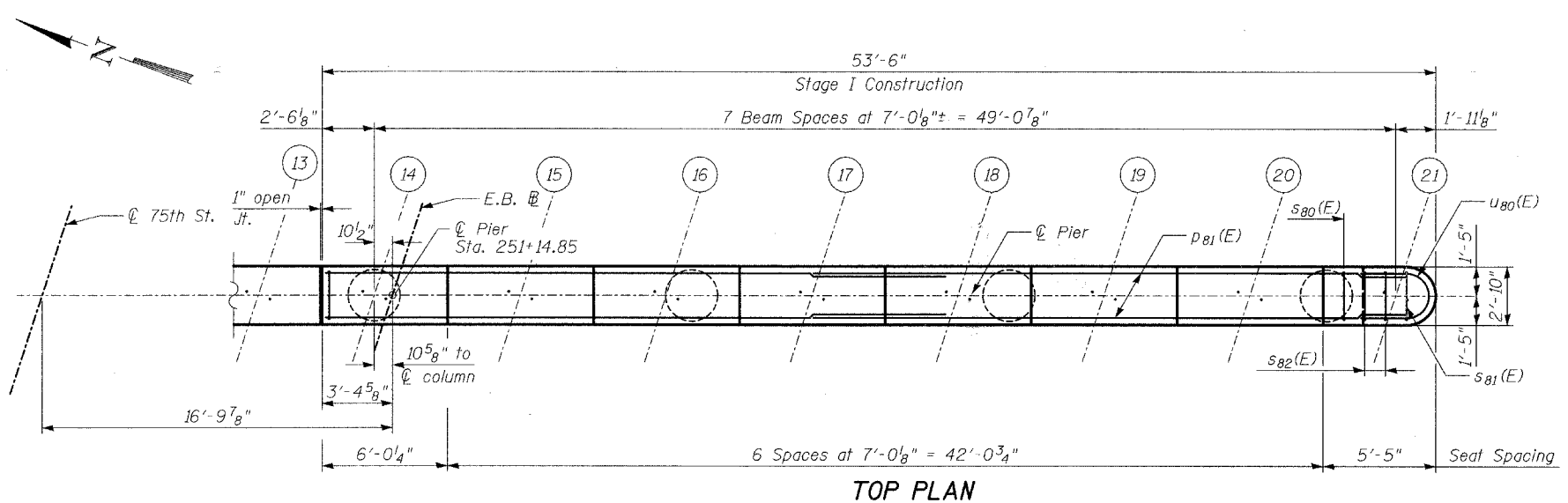
LEGEND

F.F. denotes front face
B.F. denotes back face
E.F. denotes each face

REVISIONS	
NAME	DATE

EAST ABUTMENT - FOUNDATION PLAN

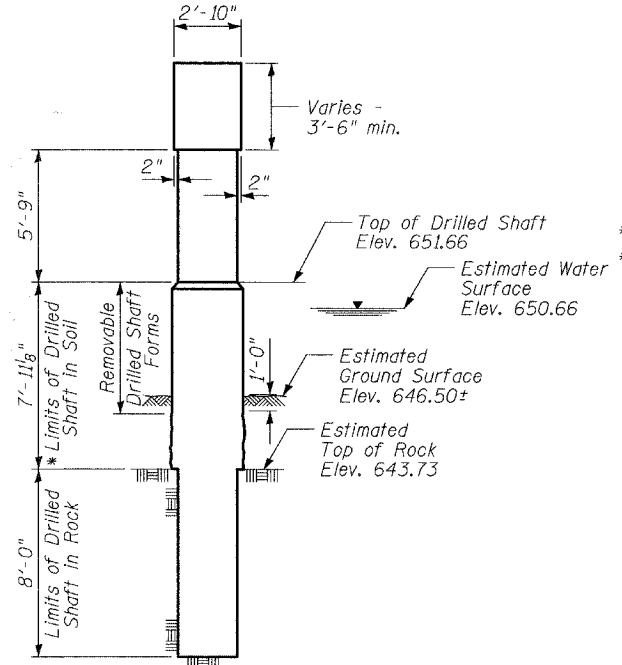
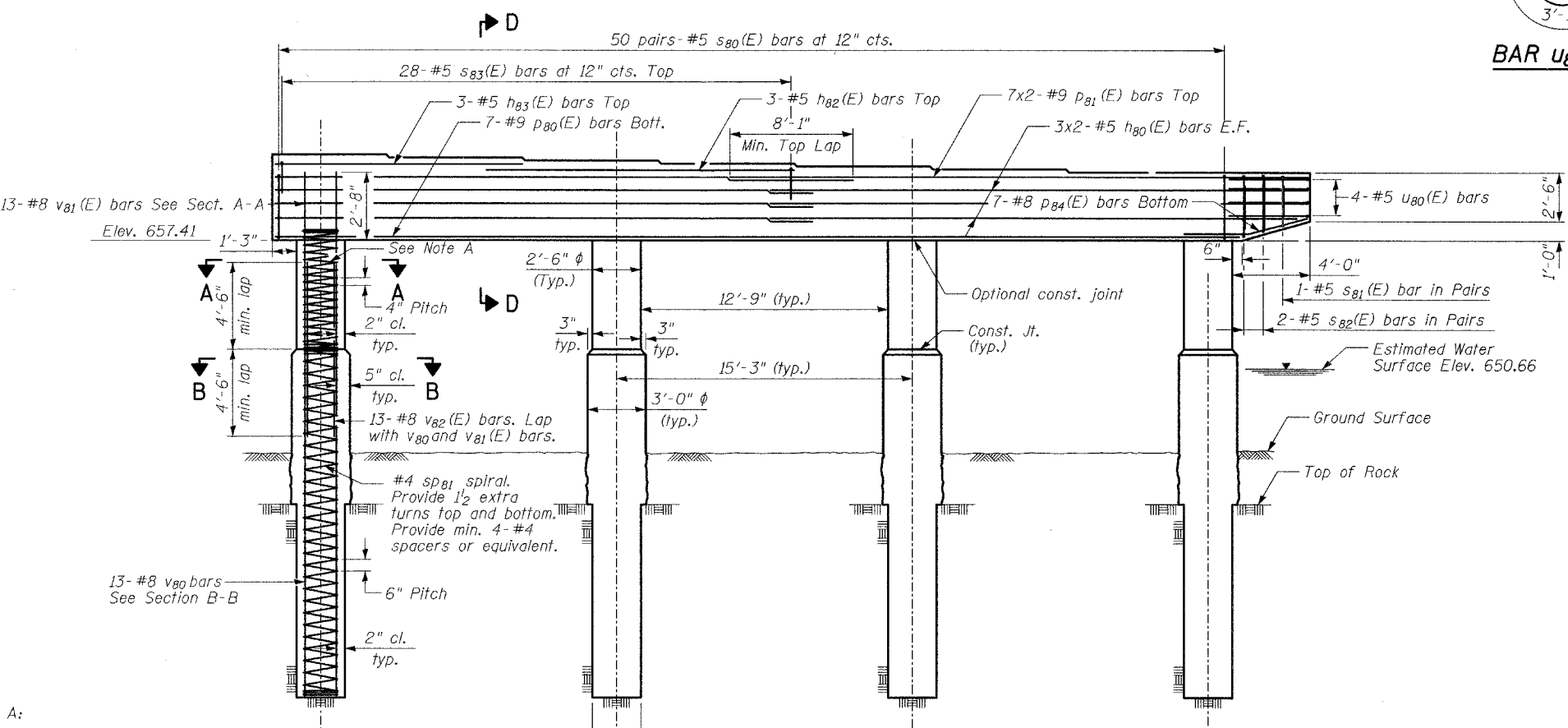
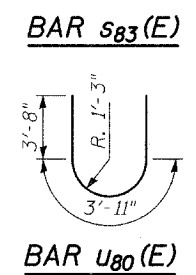
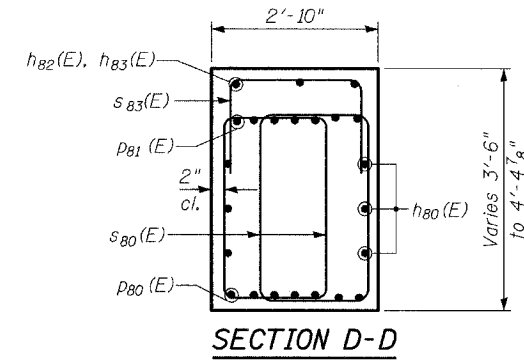
75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118



BAR p84(E) & p85(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h80(E)	12	#5	27'-9"	—
h81(E)	18	#5	31'-3"	—
h82(E)	3	#5	16'-0"	—
h83(E)	3	#5	12'-8"	—
h84(E)	3	#5	23'-3"	—
h85(E)	3	#5	48'-9"	—
h86(E)	3	#5	21'-3"	—
p80(E)	7	#9	49'-8"	—
p81(E)	14	#9	30'-0"	—
p82(E)	14	#9	48'-1"	—
p83(E)	14	#9	44'-3"	—
p84(E)	7	#8	7'-10"	—
p85(E)	7	#8	11'-8"	—
s80(E)	266	#5	10'-11"	□
s81(E)	4	#5	7'-2"	□
s82(E)	12	#5	8'-0"	□
s83(E)	99	#5	5'-6"	□
sp80(E)	10	#4	5'-9"	⋈
sp81	10	#4	15'-11"	⋈
u80(E)	8	#5	11'-3"	C
v80	130	#8	15'-11"	—
v81(E)	130	#8	8'-5"	—
v82(E)	130	#8	9'-0"	—
Concrete Structures		Cu Yd	75.1	
Reinforcement Bars		Pound	7,140	
Reinforcement Bars, Epoxy Coated		Pound	19,540	
Drilled Shaft in Soil		Cu Yd	20.8	
Drilled Shaft in Rock		Cu Yd	14.6	



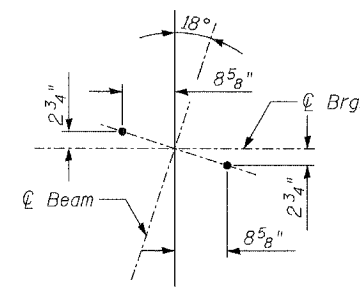
MINIMUM BAR LAPS

Bar	Lap
#5	2'-2"
#9	5'-9"

Typical unless noted otherwise

NOTES

- Cast Steps monolithically with cap.
- Space reinforcement in pier to miss anchor bolts.
- All edges shall have standard 3/4" chamfers.
- Bars indicated thus: 7x2-#5 etc. indicates 7 lines of bars with 2 lengths per line.



ANCHOR BOLT LAYOUT

SEAT ELEVATIONS

BEAM #	14	15	16	17	18	19	20	21
ELEVATION	661.82	661.66	661.51	661.36	661.21	661.06	660.91	660.91
STEP HT.	1 7/8"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	0"

* If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the contractor may propose an adjustment to the top of the drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

Note A:
 #4 sp80(E) spiral Each Column. Provide 1/2 extra turns top and bottom. Extend spiral 2" into pier cap. Provide min. 4-#4 spacers or equivalent.

LEGEND

E.F. Indicates Each Face

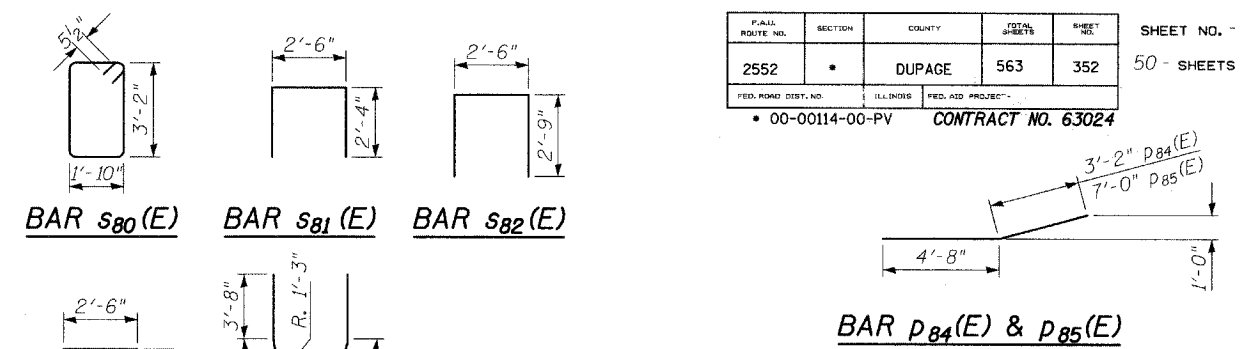
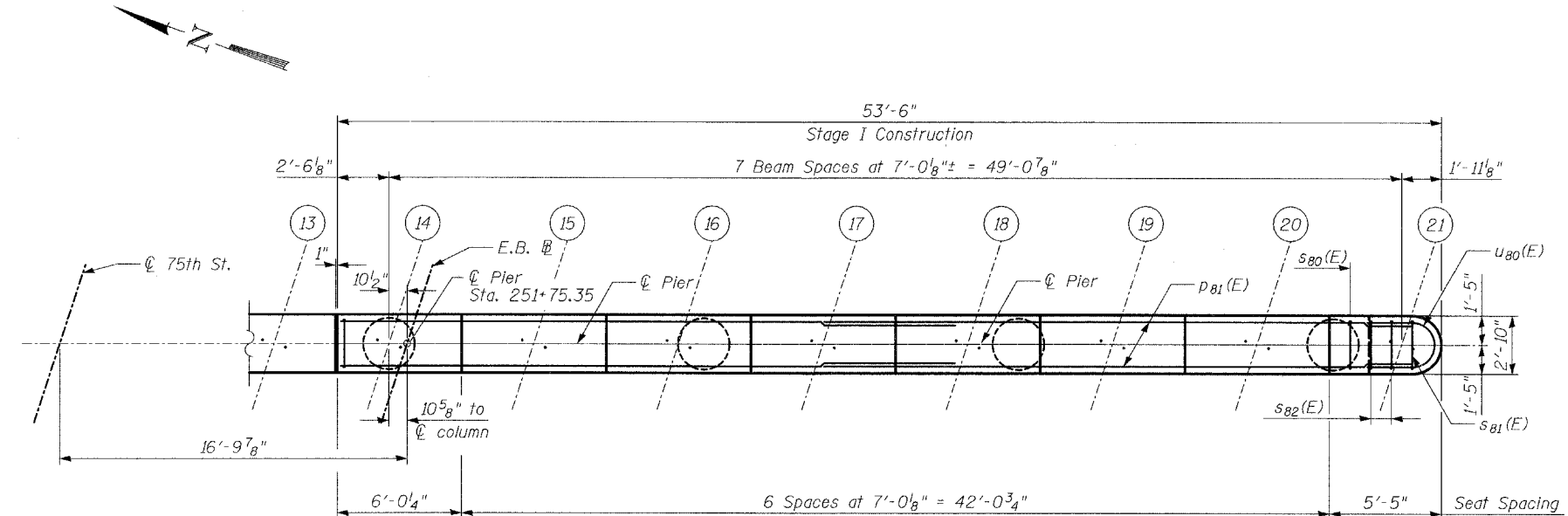
REVISIONS	
NAME	DATE

PIER 1 - SOUTH HALF

75th STREET OVER THE WEST BRANCH OF THE DUPAGE RIVER
 FAP 369
 SECTION 00-00114-00-PV STA. 151+38.03
 DUPAGE COUNTY
 S.N. 022-3118

TYLIN INTERNATIONAL

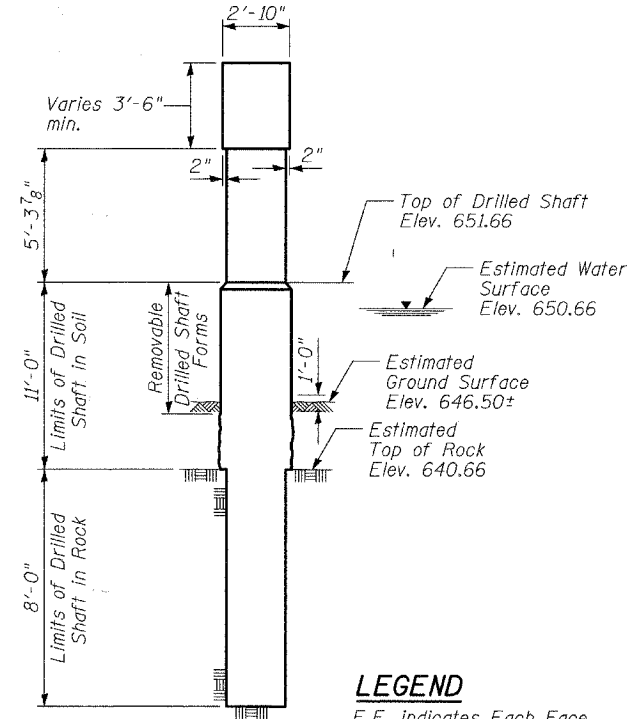
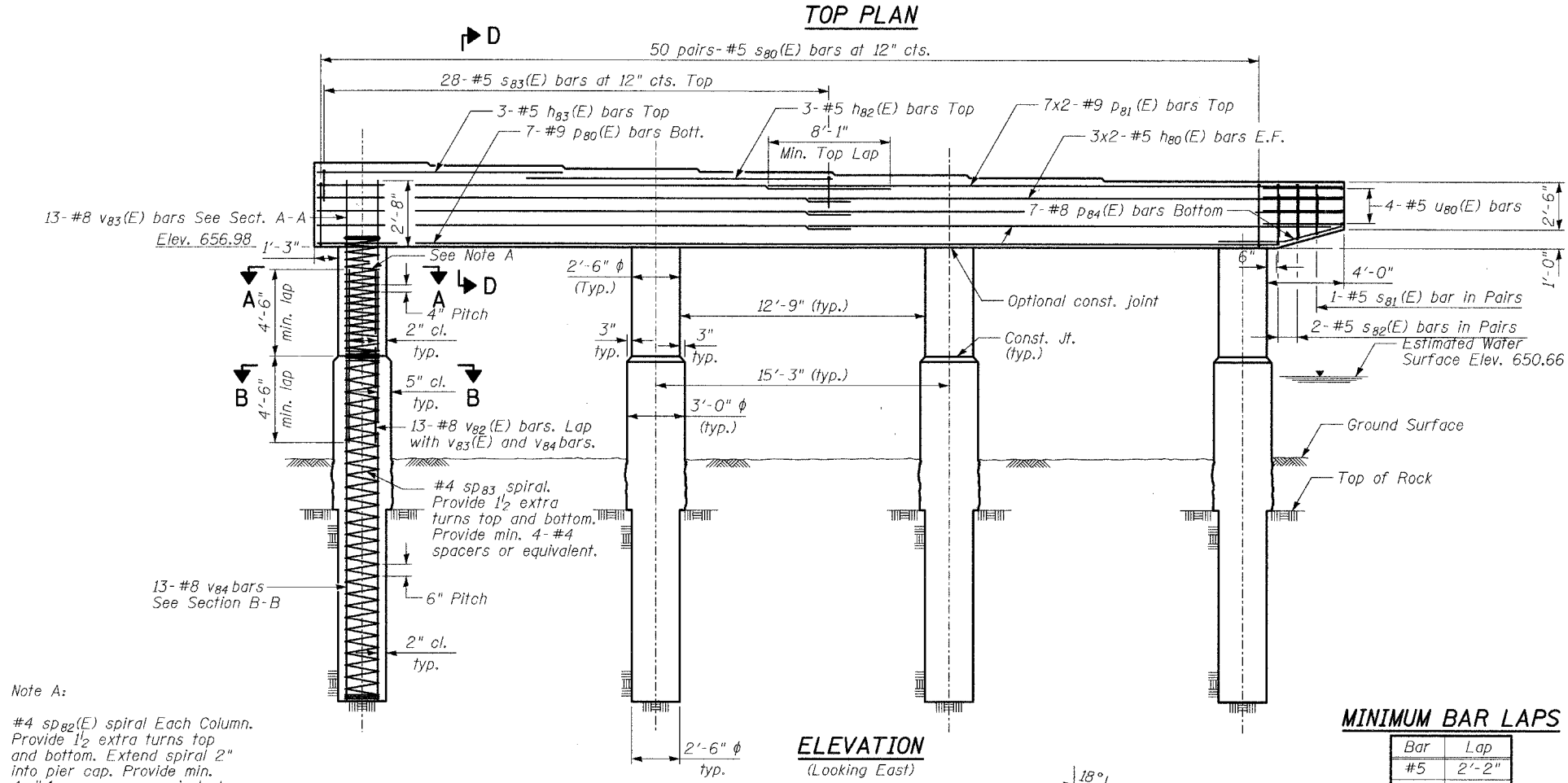
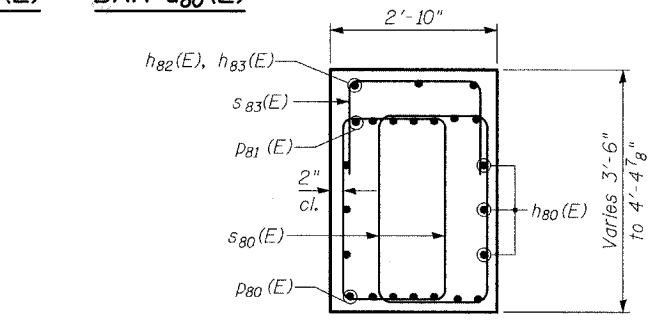
DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h80(E)	12	#5	27'-9"	—
h81(E)	18	#5	31'-3"	—
h82(E)	3	#5	16'-0"	—
h83(E)	3	#5	12'-8"	—
h84(E)	3	#5	23'-3"	—
h85(E)	3	#5	48'-9"	—
h86(E)	3	#5	21'-3"	—
p80(E)	7	#9	49'-8"	—
p81(E)	14	#9	30'-0"	—
p82(E)	14	#9	48'-1"	—
p83(E)	14	#9	44'-3"	—
p84(E)	7	#8	7'-10"	—
p85(E)	7	#8	11'-8"	—
s80(E)	266	#5	10'-11"	□
s81(E)	4	#5	7'-2"	□
s82(E)	12	#5	8'-0"	□
s83(E)	99	#5	5'-6"	□
sp82(E)	10	#4	5'-4"	⋄
sp83	10	#4	19'-0"	⋄
u80(E)	8	#5	11'-3"	C
v82(E)	130	#8	9'-0"	—
v83(E)	130	#8	8'-0"	—
v84	130	#8	19'-0"	—
Concrete Structures		Cu Yd	73.9	
Reinforcement Bars		Pound	8,480	
Reinforcement Bars, Epoxy Coated		Pound	19,300	
Drilled Shaft in Soil		Cu Yd	28.8	
Drilled Shaft in Rock		Cu Yd	14.6	

SECTION D-D



LEGEND
E.F. indicates Each Face

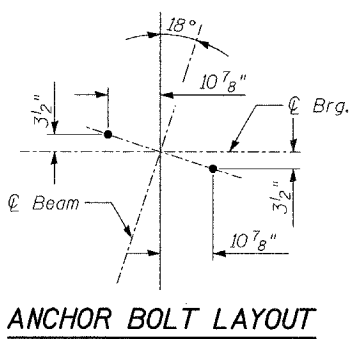
MINIMUM BAR LAPS

Bar	Lap
#5	2'-2"
#9	5'-9"

Typical unless noted otherwise

NOTES

1. Cast Steps monolithically with cap.
2. Space reinforcement in pier to miss anchor bolts.
3. All edges shall have standard 3/4" chamfers.
4. Bars indicated thus: 7x2-#5 etc. indicates 7 lines of bars with 2 lengths per line.



Note A:
#4 sp82(E) spiral Each Column. Provide 1/2 extra turns top and bottom. Extend spiral 2" into pier cap. Provide min. 4-#4 spacers or equivalent.

SEAT ELEVATIONS

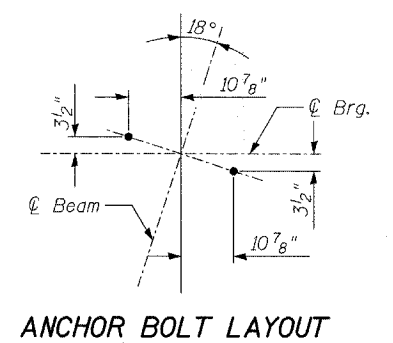
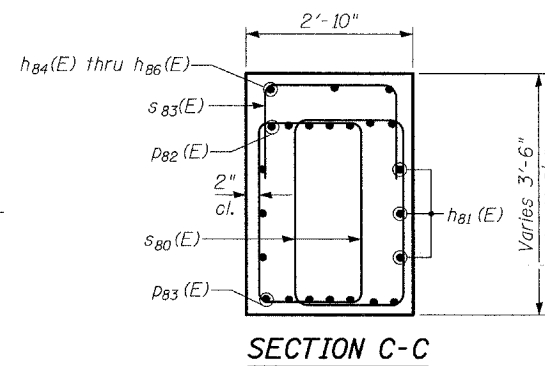
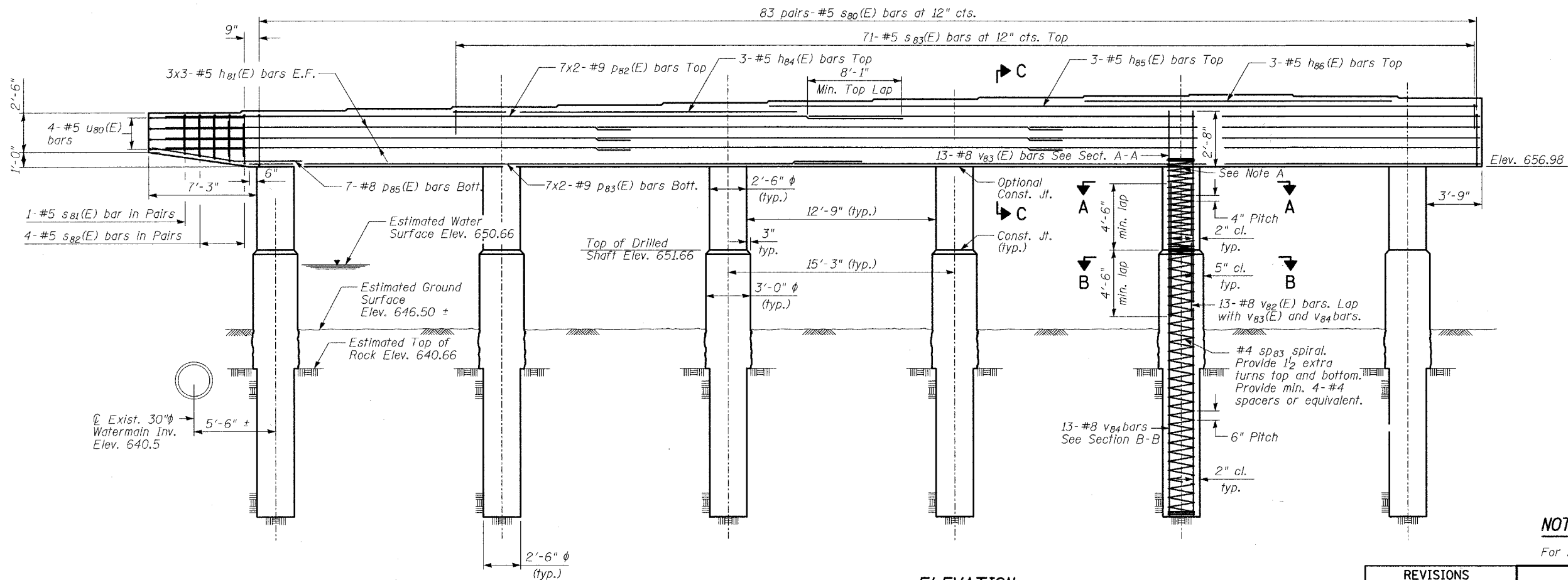
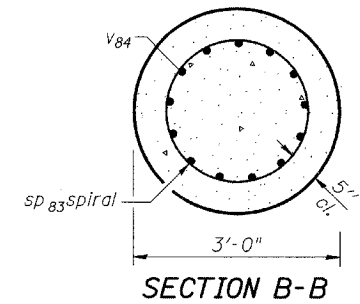
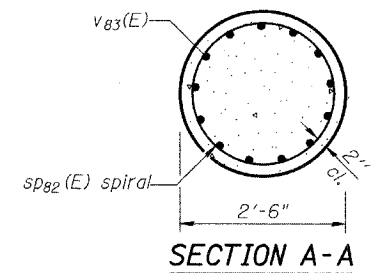
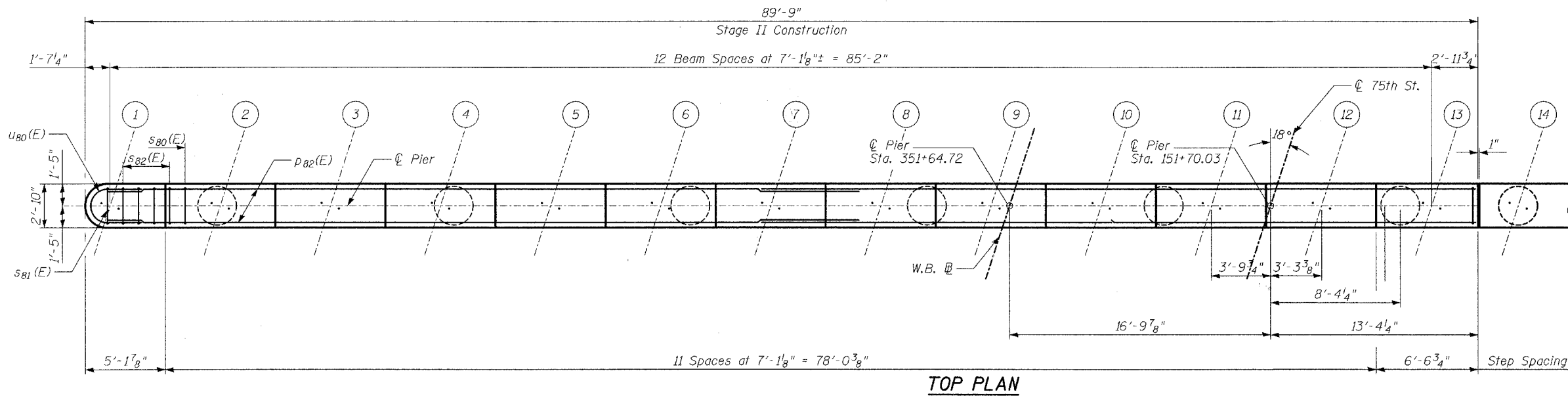
BEAM #	14	15	16	17	18	19	20	21
ELEVATION	661.38	661.23	661.08	660.93	660.78	660.63	660.48	660.48
STEP HT.	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	0"

* If the prevailing water surface elevation during construction is consistently different than estimated on the plans, the contractor may propose an adjustment to the top of the drilled shaft elevation as part of their installation procedure. The top of all drilled shafts within a substructure unit shall be constructed to the same elevation and extend above the prevailing water surface. The quantities and reinforcement detailing are based on the top of shaft and the estimated elevations shown and may change based on the actual elevations encountered at each shaft and the final top of shaft elevation.

TYLIN INTERNATIONAL
DESIGNED - PL
CHECKED - SP
DRAWN - PL
CHECKED - SP

REVISIONS	
NAME	DATE

PIER 2 - SOUTH HALF
75th STREET OVER THE WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118



NOTES:
For Pier Bill of Material and General Notes, See Sht. 38.

TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

SEAT ELEVATIONS

BEAM #	1	2	3	4	5	6	7	8	9	10	11	12	13
ELEVATION	660.48	660.61	660.74	660.86	660.99	661.12	661.25	661.38	661.51	661.60	661.69	661.57	661.45
STEP HT.	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"

Note A:
#4 sp82(E) spiral. Each Column Provide 1/2 extra turns top and bottom. Extend spiral 2" into pier cap. Provide min. 4-#4 spacers or equivalent.

ELEVATION
(Looking East)

LEGEND
E.F. indicates Each Face

MINIMUM BAR LAPS

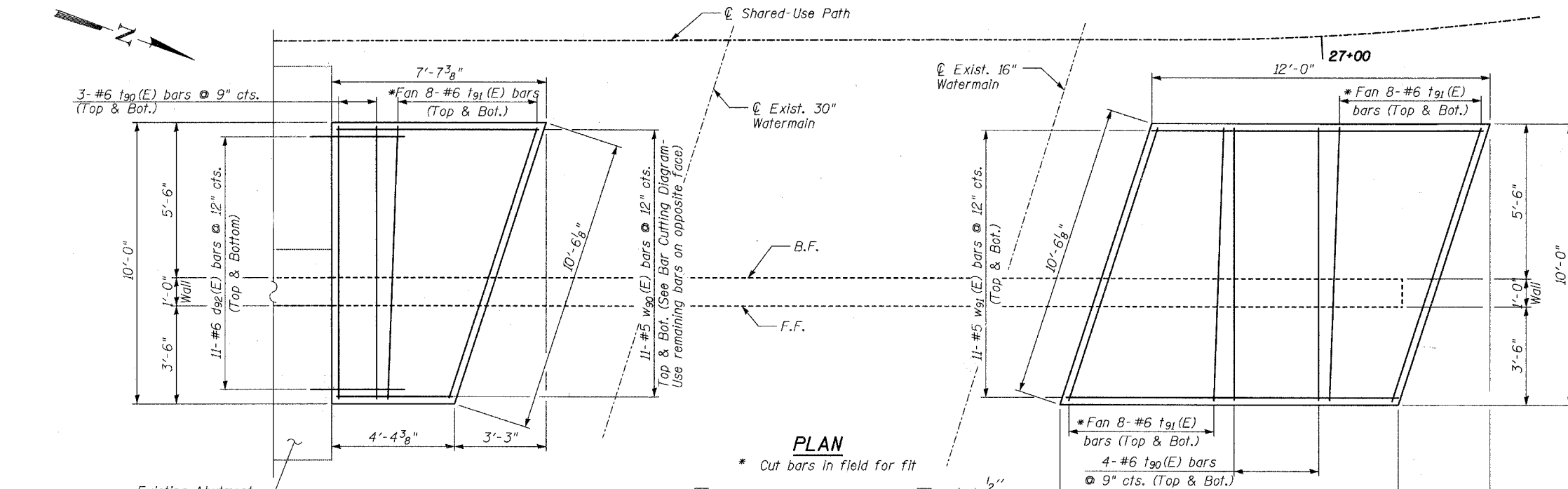
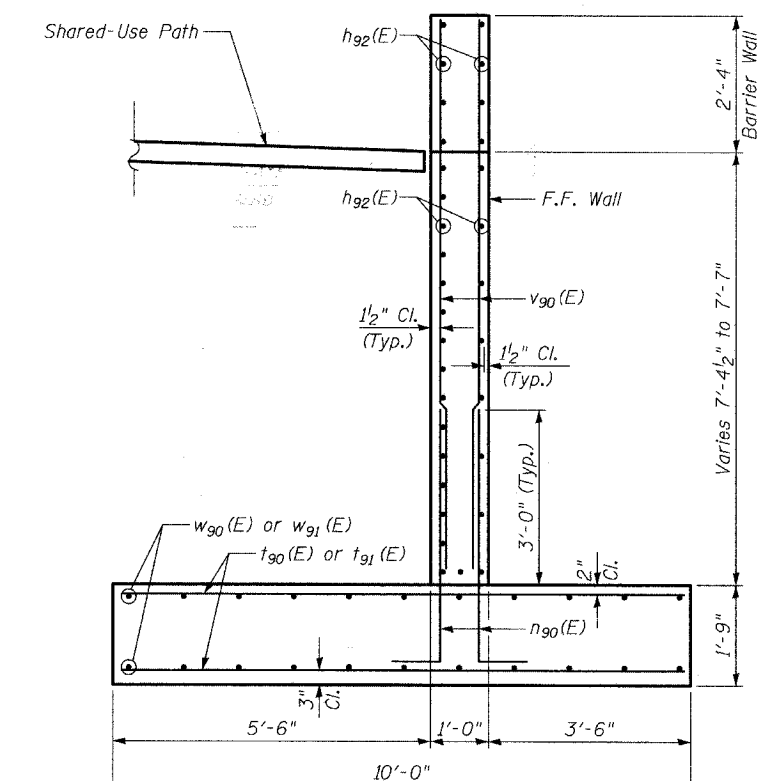
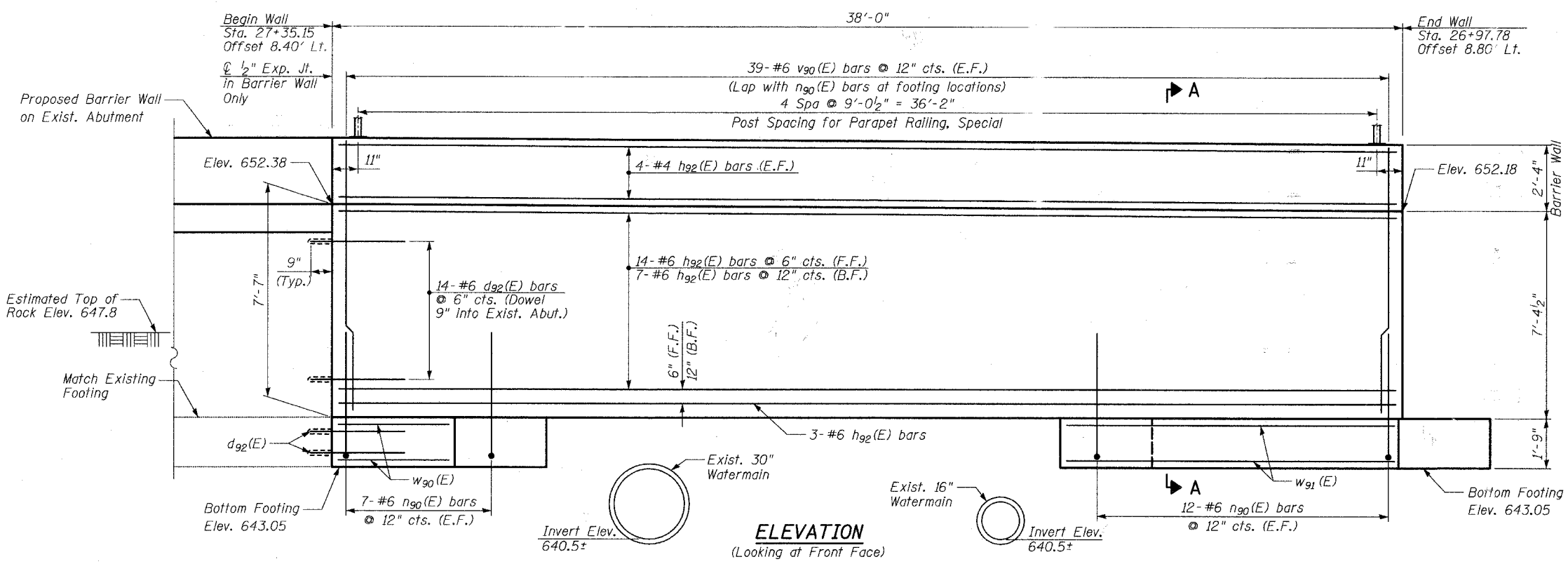
Bar	Lap
#5	2'-2"
#8	4'-6"

Typical unless noted otherwise

REVISIONS	
NAME	DATE

PIER 2 - NORTH HALF

75th STREET OVER THE WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

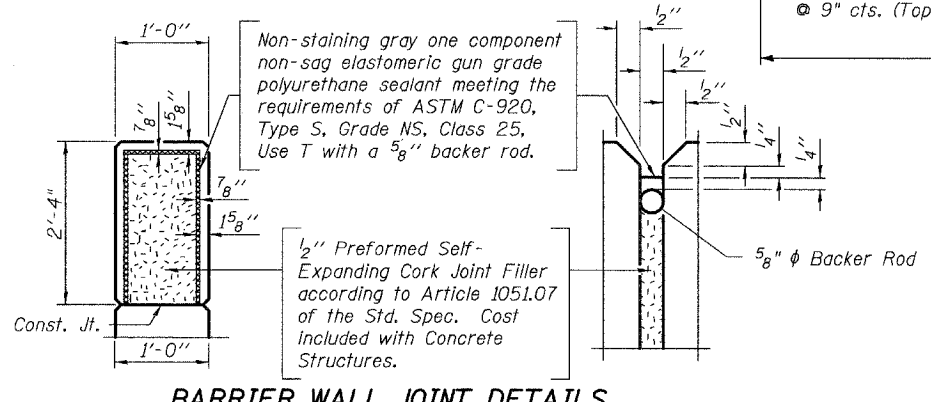
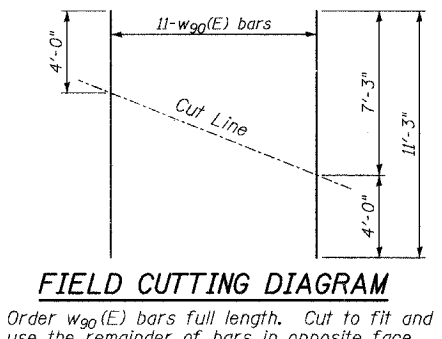


BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
d ₉₂ (E)	36	#6	3'-4"	—	
h ₉₂ (E)	32	#6	37'-8"	—	
n ₉₀ (E)	38	#6	5'-6"	—	
t ₉₀ (E)	14	#6	9'-8"	—	
t ₉₁ (E)	48	#6	10'-2"	—	
v ₉₀ (E)	78	#6	9'-6"	—	
w ₉₀ (E)	11	#5	11'-3"	—	
w ₉₁ (E)	22	#5	11'-8"	—	
Reinforcement Bars, Epoxy Coated				LB	4,650
Concrete Structures				CU YD	25.5
Structure Excavation				CU YD	99
Rock Excavation for Structures				CU YD	32
Porous Granular Embankment, Special				CU YD	42

TYLIN INTERNATIONAL

DESIGNED	- DE
CHECKED	- SP
DRAWN	- DE
CHECKED	- SP



- NOTES**
- B.F. denotes Back Face.
 - E.F. denotes Each Face.
 - F.F. denotes Front Face.
 - Reinforcement bars designated (E) shall be epoxy coated.
 - Drill and Epoxy Grout d₉₂(E) bars according to Article 584 of the Standard Specifications. The cost shall be included in "Reinforcement Bars, Epoxy Coated".
 - Offsets are measured to Back Face of Wall.

REVISIONS

NAME	DATE

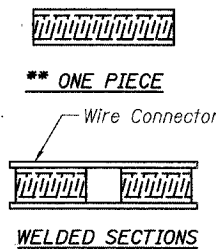
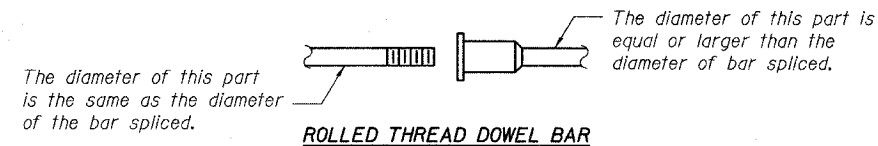
RETAINING WALL
NORTH OF EXISTING WEST ABUTMENT

75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

NOTES

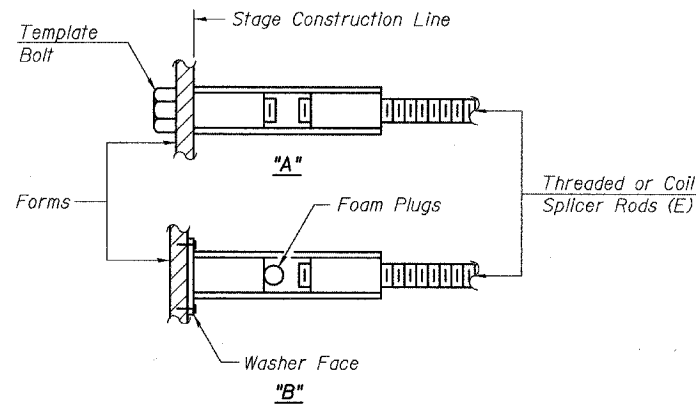
Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity = $1.25 \times f_y \times A_t$
(Tension in kips)
 - ② Minimum *Pull-out Strength = $0.66 \times f_y \times A_t$
(Tension in kips)
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete



BAR SPLICER ASSEMBLY ALTERNATIVES

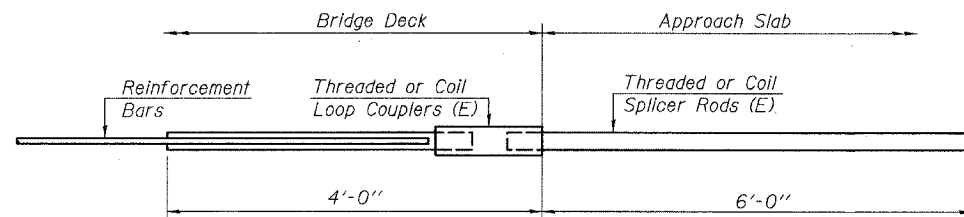
** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

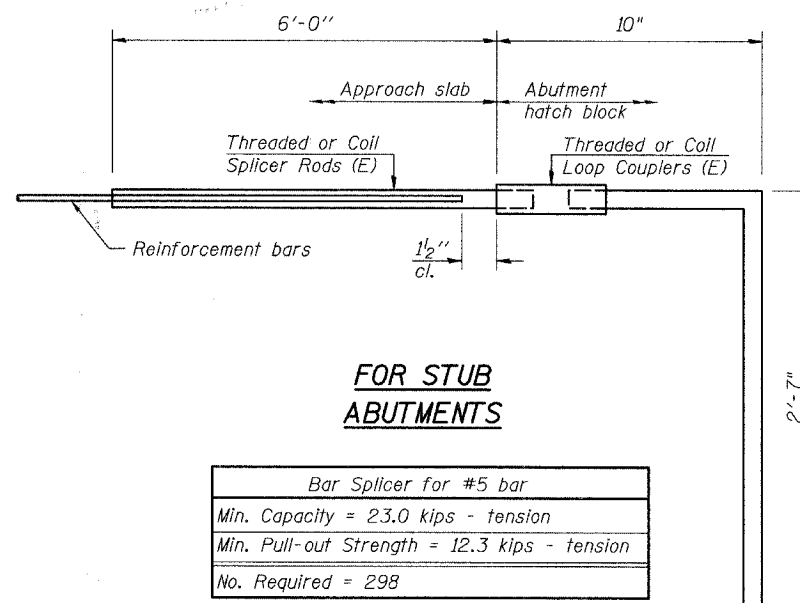
"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



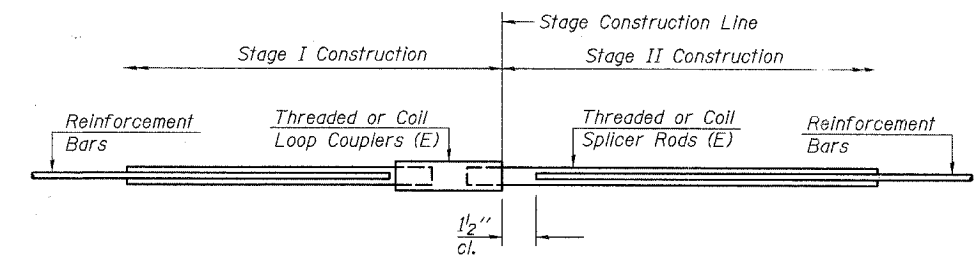
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 0



FOR STUB ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 298



STANDARD

Bar Size	No. Assemblies Required	Location
#5	188	22-West Abutment; 26-East Abutment 70-West Approach Slab; 70-East Approach Slab

REVISIONS	
NAME	DATE

BAR SPLICER ASSEMBLY DETAILS

75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	PL
CHECKED	- SP



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1235 E. DAVIS ST., ARLINGTON HTS., IL 60005
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SOIL BORING LOG

PAGE 1 of 1
DATE July 3-16, 2002
LOGGED BY RH
OBA JOB No. 01252

ROUTE xx DESCRIPTION 75th Street and Washington Street Intersection Improvements
SECTION xx LOCATION Naperville, Illinois
COUNTY DuPage DRILLING METHOD 3.25" Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. xx
Station xx
BORING NO. S-3
Station 251+91.75th Street
Offset 86' Left
Ground Surface Elev. 653.9

DEPTH (ft)	BLOWS (6')	UCS (tsf)	MOIST (%)	DESCRIPTION	DEPTH (ft)	BLOWS (6')	UCS (tsf)	MOIST (%)
				Surface Water Elev. n/a Stream Bed Elev. n/a Groundwater Elevation: First Encounter Dry Upon Completion n/a After xx Hrs. xx ft				
				SANDY GRAVELY TOPSOIL (FIII)				
				UNKNOWN OBSTRUCTION-very dense				
				CLAY LOAM-dark brown (A-4/A-6) Wet, Apparent Fill				
				SILTY SAND with GRAVEL-dark brown-loose (A-2-4)				
				CLAYEY SAND with GRAVEL-dark brown-very dense (A-2-6)				
				Run 1 (-15.0' to -20.0') Silurian System, NIAGARAN Series, Racine Formation Dolomite Weathered river wash deposits from -15.0' to -18.0' including cobbles & gravel, becoming light gray with horizontal bedding @ -18.0'. Horizontal fractures @ -18.3', -18.5', -18.8' & -19.3'. Weathered horizontal fracture with thin clay parting @ -19.5'. RECOVERY = 73 % RQD = 8 %				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrator) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR-No Recovery AS-Auger Sample



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SOIL BORING LOG

PAGE 1 of 1
DATE July 9, 2002
LOGGED BY RH
OBA JOB No. 01252

ROUTE xx DESCRIPTION 75th Street and Washington Street Intersection Improvements
SECTION xx LOCATION Naperville, Illinois
COUNTY DuPage DRILLING METHOD 3.25" Hollow Stem Auger HAMMER TYPE CME Automatic

STRUCT. NO. xx
Station xx
BORING NO. S-4
Station 252+54 75th Street
Offset 47' Right
Ground Surface Elev. 660.8

DEPTH (ft)	BLOWS (6')	UCS (tsf)	MOIST (%)	DESCRIPTION	DEPTH (ft)	BLOWS (6')	UCS (tsf)	MOIST (%)
				Surface Water Elev. n/a Stream Bed Elev. n/a Groundwater Elevation: First Encounter 649.5 Upon Completion n/a After xx Hrs. xx ft				
				TOPSOIL-black-Wet (FIII)				
				ORGANIC CLAY-dark brown to black-Wet (A-7)				
				SAND and FRACTURED STONE-brown-loose to dense (A-1-a)				
				Run 1 (-14.0' to -18.0') Silurian System NIAGARAN Series Racine Formation Dolomite Shelf Highly Weathered & fractured throughout with gravel seams & weathered river wash RECOVERY = 100 % RQD = 12 %				
				Run 2 (-18.0' to -22.0') Silurian System NIAGARAN Series Racine Formation Dolomite Shelf Highly Weathered & fractured throughout				

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrator) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR-No Recovery

TYLIN INTERNATIONAL

DESIGNED	- TB
CHECKED	- SP
DRAWN	- TB
CHECKED	- SP

REVISIONS

NAME	DATE

BORING LOGS - II

75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118



O'BRIEN & ASSOCIATES, INC.
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SOIL BORING LOG

PAGE 1 of 1
DATE October 2, 2002
LOGGED BY RH
OBA JOB No. 01252

ROUTE xx DESCRIPTION 75th Street and Washington Street Intersection Improvements

SECTION xx LOCATION Naperville, Illinois

COUNTY DuPage DRILLING METHOD Rotary Wash HAMMER TYPE CME Automatic

STRUCT. NO. <u>xx</u>	DEPT H	BLOW S	UCS	MOIST	Surface Water Elev. <u>648.3</u>	DEPT H	BLOW S	UCS	MOIST
Station <u>xx</u>	(ft)	(/6")	(tsf)	(%)	Stream Bed Elev. <u>647.3</u>	(ft)	(/6")	(tsf)	(%)
BORING NO. <u>S-5</u>					Groundwater Elevation:				
Station <u>251+12 75th Street</u>					First Encounter <u>n/a</u>				
Offset <u>3' Left</u>					Upon Completion <u>n/a</u>				
Ground Surface Elev. <u>664.6</u>					After _____ Hrs.				

Existing Bridge Deck					SAND, GRAVEL & FRACTURED ROCK-brown & gray-medium dense to very dense (GP)	50/5*			
Blind Drill					Run 1 (-21.0' to -26.0') Silurian System, Niagaran Series, Racine Formation Dolomite. Light gray with rust staining to -22.6'. Fine grained with horizontal bedding. Weathered horizontal fractures @ -21.2', -21.3', -21.4', -21.5', -21.9', -22.2' & -22.4'. Horizontal fracture with thin clay parting @ -23.1'. Horizontal fractures @ -23.2', -24.0' & -24.9'. Horizontal fracture with thin clay parting @ -25.8'. Horizontal fracture @ -25.8'. RECOVERY = 100 % RQD = 62.5 %				ROCK CORE RUN 1
					Run 2 (-26.0' to -31.0') Silurian System, Niagaran Series, Racine Formation Dolomite. Light gray with rust staining from -27.0' to -28.0'. Fine grained with horizontal bedding. Horizontal fractures @ -26.75', -27.25', -27.6', -27.7', -28.3', -28.4', -28.6', -28.8', -29.0', -29.1', -29.5', -29.7', -29.9', -30.1' & -30.7'. RECOVERY = 100 % RQD = 61.7 %				ROCK CORE RUN 2
					End of Boring @ -31.0' Rotary Drilling Methods 21' Casing Used CME Automatic Hammer				
DuPage River									
SAND, GRAVEL & FRACTURED ROCK-brown & gray-medium dense to very dense (GP)	5								
	8								
	10	NP		8					
	7								
	10								
	12	NP		12					

The Unconfined Compressive Strength (UCS) Failure Mode is Indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR-No Recovery AS-Auger Sample



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SOIL BORING LOG

PAGE 1 of 1
DATE September 26, 2002
LOGGED BY RH
OBA JOB No. 01252

ROUTE xx DESCRIPTION 75th Street and Washington Street Intersection Improvements

SECTION xx LOCATION Naperville, Illinois

COUNTY DuPage DRILLING METHOD Rotary Wash HAMMER TYPE CME Automatic

STRUCT. NO. <u>xx</u>	DEPT H	BLOW S	UCS	MOIST	Surface Water Elev. <u>648.3</u>	DEPT H	BLOW S	UCS	MOIST
Station <u>xx</u>	(ft)	(/6")	(tsf)	(%)	Stream Bed Elev. <u>646.3</u>	(ft)	(/6")	(tsf)	(%)
BORING NO. <u>S-6</u>					Groundwater Elevation:				
Station <u>251+75 75th Street</u>					First Encounter <u>n/a</u>				
Offset <u>3' Left</u>					Upon Completion <u>n/a</u>				
Ground Surface Elev. <u>663.6</u>					After _____ Hrs.				

Existing Bridge Deck					Drillers Observation: SAND, GRAVEL & FRACTURED ROCK-medium dense to very dense (GP)	50/5*			
Blind Drill					Run 1 (-23.0' to -28.0') Silurian System, Niagaran Series, Racine Formation Dolomite. Light gray with rust staining throughout. Fine grained with horizontal bedding. Horizontal fractures @ -23.3' & -24.0'. Weathered horizontal fracture @ -24.25'. Horizontal fractures @ -24.9', -25.1', -25.9', -26.3', -26.4' & -26.9'. RECOVERY = 100 % RQD = 81.7 %				ROCK CORE RUN 1
					Run 2 (-28.0' to -33.0') Silurian System, Niagaran Series, Racine Formation Dolomite. Light gray & fine grained with horizontal bedding. Horizontal fracture zone from -28.3' to -28.8'. Horizontal fractures @ -29.1' & -29.4'. Horizontal fracture zone from -30.0' to -30.7'. Horizontal fracture @ -30.8'. RECOVERY = 80 % RQD = 47.5 %				ROCK CORE RUN 2
					End of Boring @ -33.0' Rotary Drilling Methods 23' Casing Used CME Automatic Hammer				
DuPage River									
Drillers Observation: SAND, GRAVEL & FRACTURED ROCK-medium dense to very dense (GP)	50/5*								
	6								
	8								
		12							

The Unconfined Compressive Strength (UCS) Failure Mode is Indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in Italics above moist (%)
NR-No Recovery AS-Auger Sample

F.A.J. ROUTE NO.	SECTION	COUNTY	DATE	SHEET
2552	*	DUPAGE	563	360
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJ. NO.	
00-00114-00-PV		CONTRACT NO. 63024		

SHEET NO. - 46
50 - SHEETS

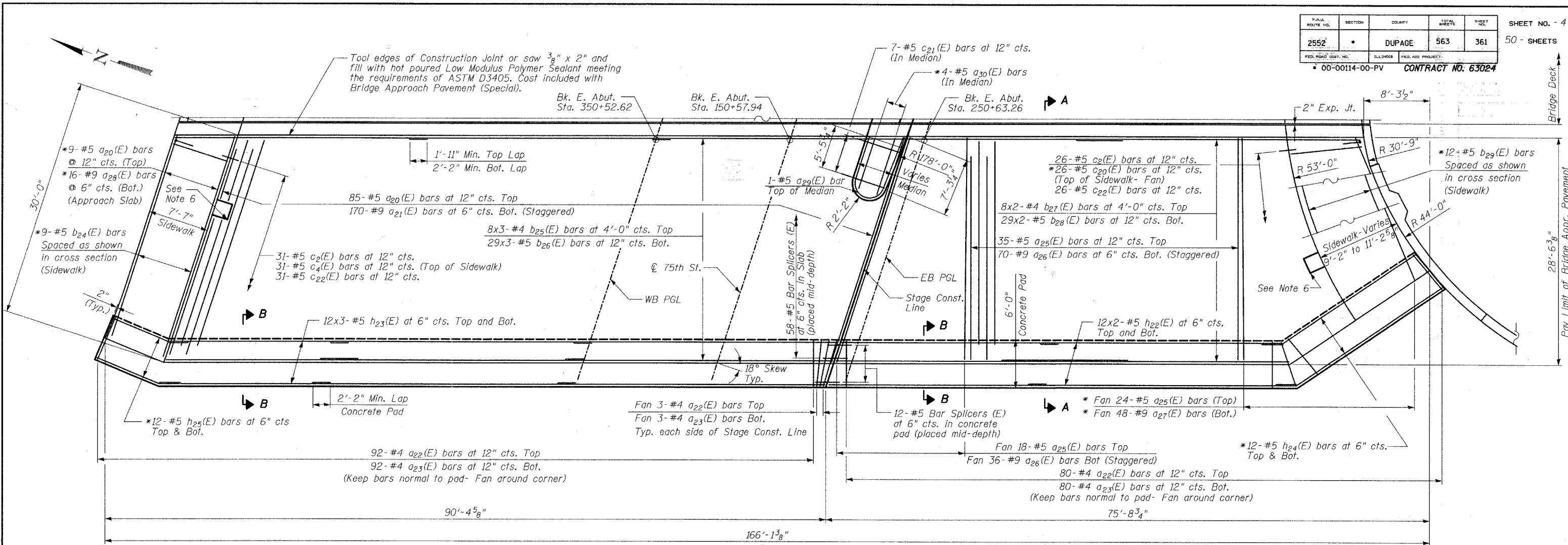
TYLIN INTERNATIONAL

DESIGNED	- TB
CHECKED	- SP
DRAWN	- TB
CHECKED	- SP

REVISIONS	
NAME	DATE

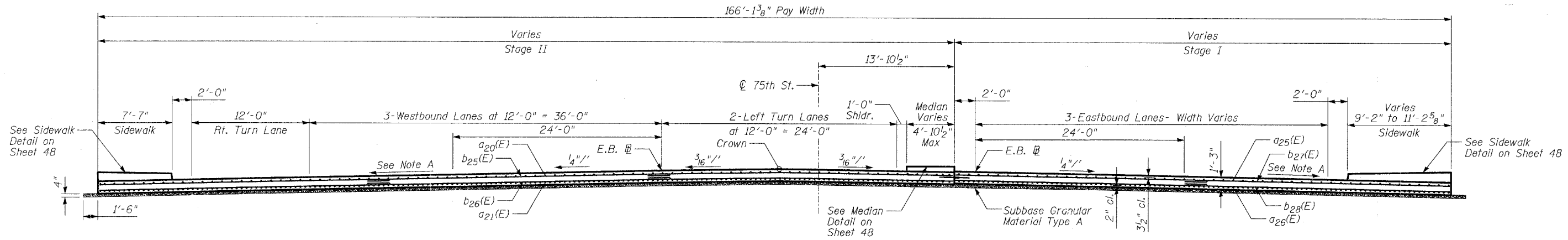
BORING LOGS - III

75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118



PLAN

* Cut bars to fit in field



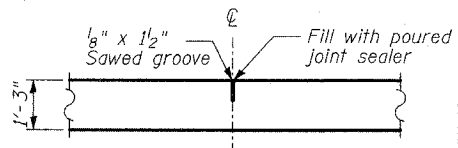
CROSS SECTION THRU APPROACH PAVEMENT

(Looking East Rt. Angle to Baseline)

NOTES:

- With the approval of the Engineer, the contractor will be permitted to reduce the paving widths by substituting a Longitudinal Construction Joint with tie bars, as shown in Standard 420401, in lieu of the Specified Sawed Longitudinal Joint.
- Bars indicated thus 31x2-#5 indicates 31 lines of bars with 2 lengths per line.
- The cost of tie bars, expansion joint, preformed joint seal, polyethylene bond breaker, reinforcement bars, sidewalk, median, the concrete pad (including reinforcement), 4" granular subbase and excavation shall be included in the cost of Bridge Approach Pavement (Special).
- See Sheet 48 for Sections A-A and B-B.
- The Contractor shall provide the details shown in Detail B at the Stage Construction Line and at a lane edge if pavement is poured two or more lanes at a time.

- Proposed catch basin, see Roadway plans for location and type. Form opening in approach pavement to accommodate frame. Cut reinforcement bars at opening and place cut bars around perimeter similar to Detail A on sheet 14.



DETAIL B
(Reinforcement Not Shown)

REVISIONS

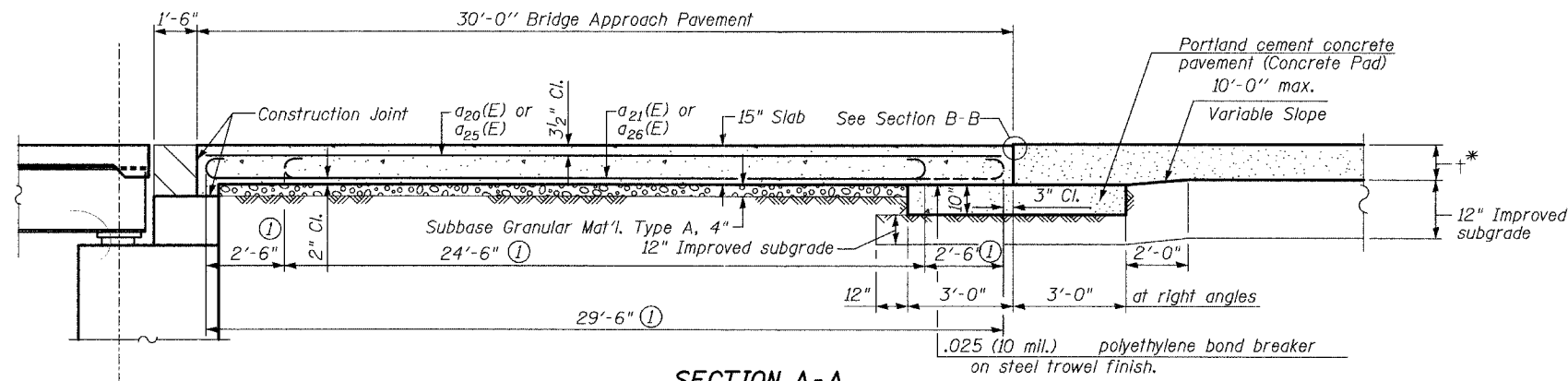
NAME	DATE

WEST APPROACH PAVEMENT LAYOUT

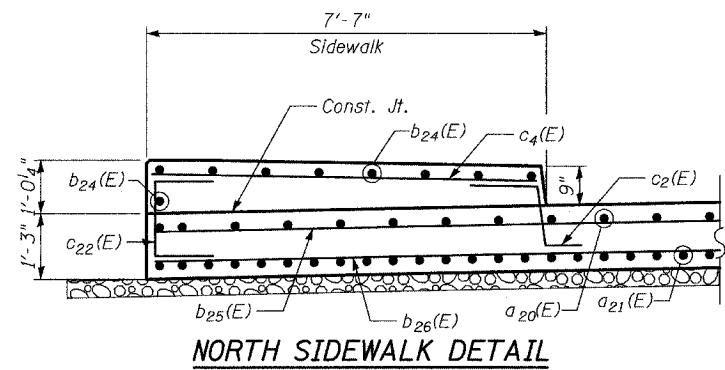
75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

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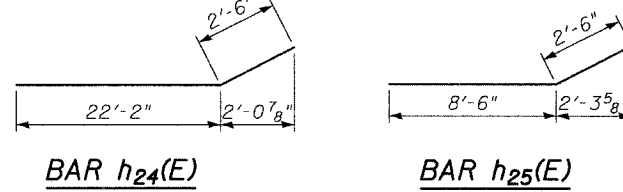
DESIGNED	- DE
CHECKED	- SP
DRAWN	- DE
CHECKED	- SP



SECTION A-A
 ① Stagger $a_{21}(E)$ and $a_{26}(E)$ bars as shown on plan
 * See Proposed Plan and Profile Sheet for thickness

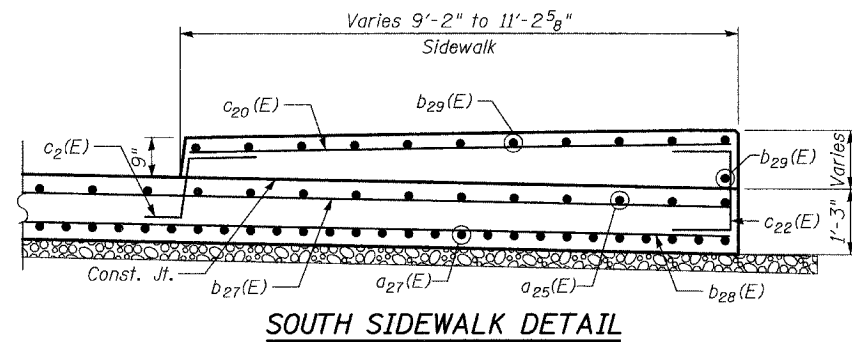


NORTH SIDEWALK DETAIL

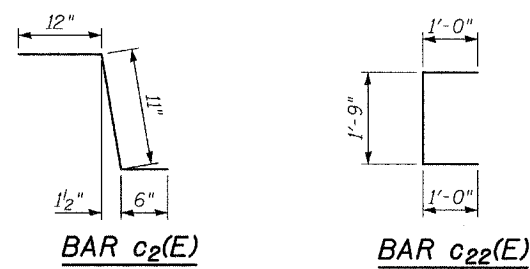


BAR h24(E)

BAR h25(E)

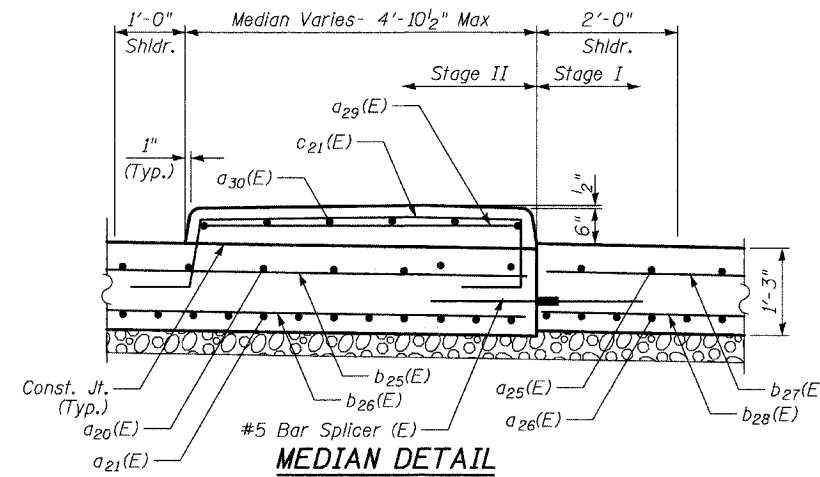


SOUTH SIDEWALK DETAIL

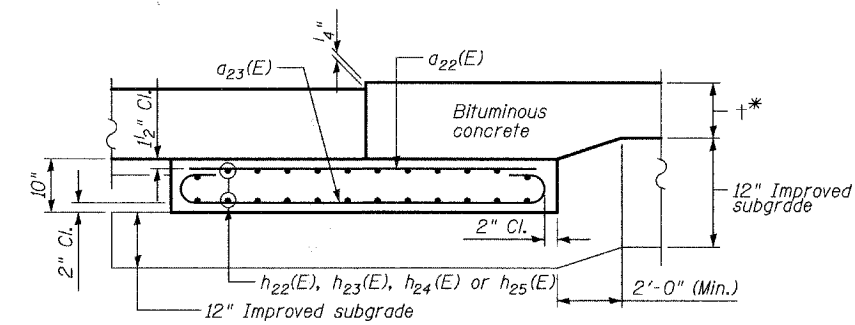


BAR c2(E)

BAR c22(E)

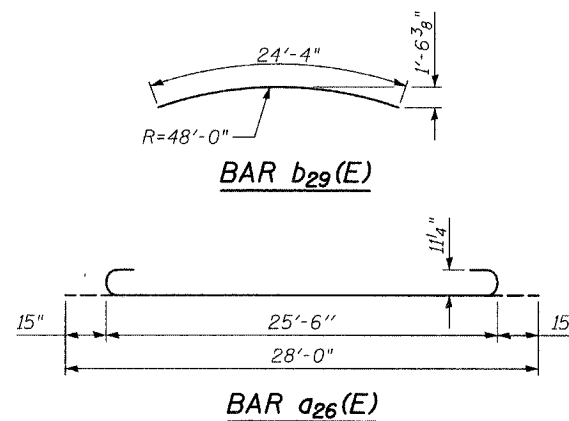


MEDIAN DETAIL



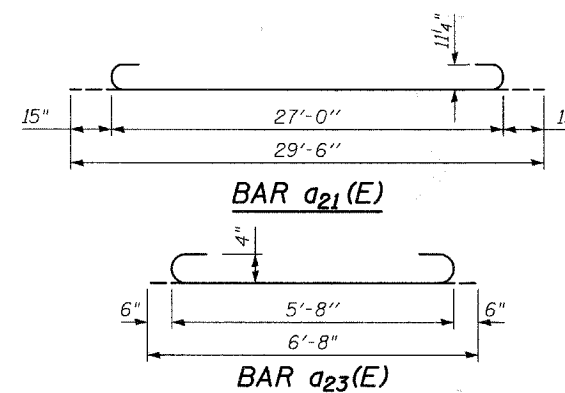
SECTION B-B - FLEXIBLE PAVEMENT

(Showing reinforcement)
 * See Proposed Plan and Profile Sheet for thickness



BAR b29(E)

BAR a26(E)



BAR a21(E)

BAR a23(E)

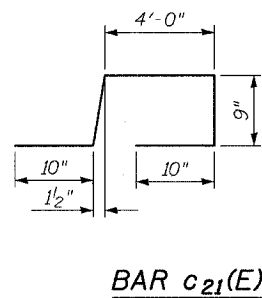
BILL OF MATERIAL

Bar No.	Size	Length	Shape
$a_{20}(E)$	94	#5	29'-6"
$a_{21}(E)$	170	#9	29'-6"
$a_{22}(E)$	172	#4	5'-8"
$a_{23}(E)$	172	#4	6'-8"
$a_{25}(E)$	77	#5	28'-0"
$a_{26}(E)$	106	#9	28'-0"
$a_{27}(E)$	48	#9	28'-0"
$a_{28}(E)$	16	#9	29'-6"
$a_{29}(E)$	1	#5	18'-3"
$a_{30}(E)$	4	#5	8'-6"
$b_{24}(E)$	9	#5	29'-8"
$b_{25}(E)$	24	#4	31'-10"
$b_{26}(E)$	87	#5	32'-0"
$b_{27}(E)$	16	#4	36'-3"
$b_{28}(E)$	58	#5	36'-4"
$b_{29}(E)$	12	#5	24'-4"
$c_2(E)$	57	#5	2'-5"
$c_4(E)$	31	#5	7'-3"
$c_{20}(E)$	26	#5	10'-9"
$c_{21}(E)$	7	#5	7'-2"
$c_{22}(E)$	57	#5	3'-9"
$h_{22}(E)$	48	#5	30'-7"
$h_{23}(E)$	72	#5	29'-3"
$h_{24}(E)$	24	#5	24'-8"
$h_{25}(E)$	24	#5	11'-0"
Bridge Approach Pavement (Special)	SQ YD	494	
Protective Coat	SQ YD	500	
Bar Splicers	EACH	70	
** Reinforcement Bars, Epoxy Coated	POUND	52,080	

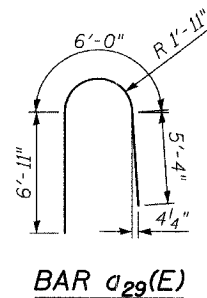
** For Information Only

TYLIN INTERNATIONAL

DESIGNED	- DE
CHECKED	- SP
DRAWN	- DE
CHECKED	- SP



BAR c21(E)

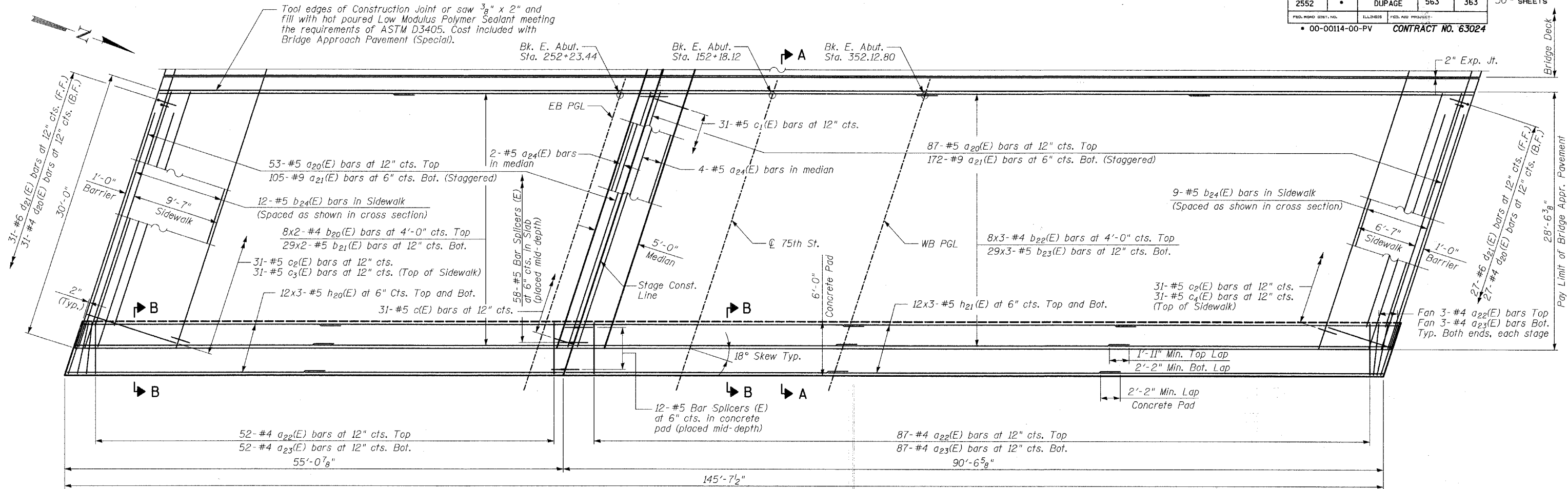


BAR a29(E)

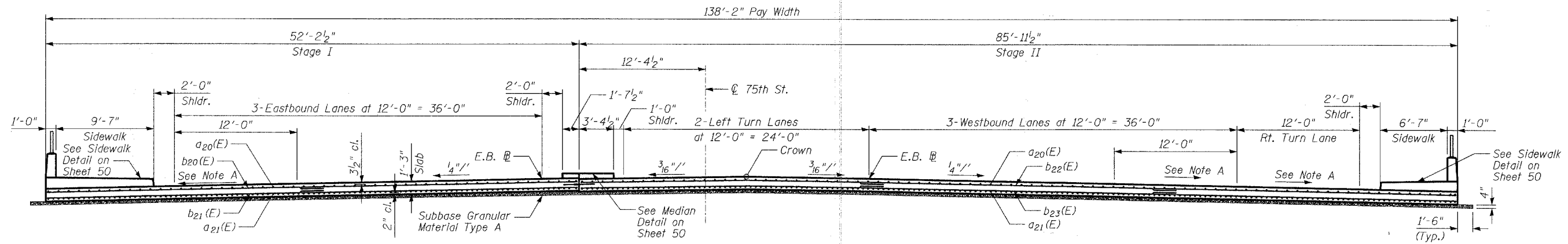
REVISIONS	
NAME	DATE

WEST APPROACH PAVEMENT DETAILS

75th STREET OVER THE
 WEST BRANCH OF THE DUPAGE RIVER
 FAP 369
 SECTION 00-00114-00-PV STA. 151+38.03
 DUPAGE COUNTY
 S.N. 022-3118



PLAN



CROSS SECTION THRU APPROACH PAVEMENT
(Looking West at Rt. Angle to Baseline)

Note A:
Varies 1/4\"/>

NOTES:

1. With the approval of the Engineer, the contractor will be permitted to reduce the paving widths by substituting a Longitudinal Construction Joint with tie bars, as shown in Standard 420401, in lieu of the Specified Sawed Longitudinal Joint.
2. Bars indicated thus 31x2-#5 indicates 31 lines of bars with 2 lengths per line.
3. The cost of tie bars, expansion joint, preformed joint seal, polyethylene bond breaker, reinforcement bars, sidewalk, median, the concrete pad (including reinforcement), 4\"/>

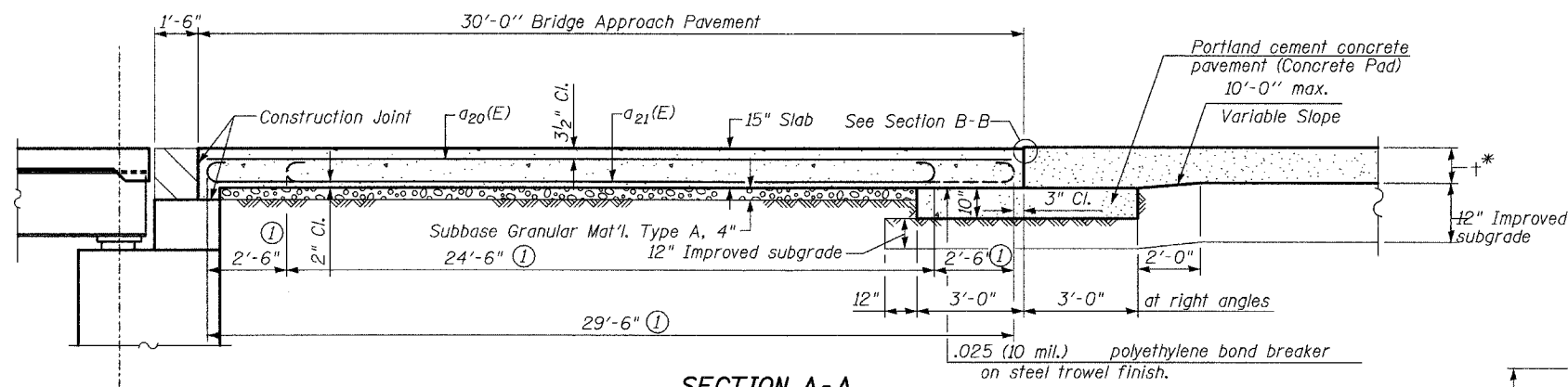
REVISIONS	
NAME	DATE

EAST APPROACH PAVEMENT LAYOUT

75th STREET OVER THE
WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

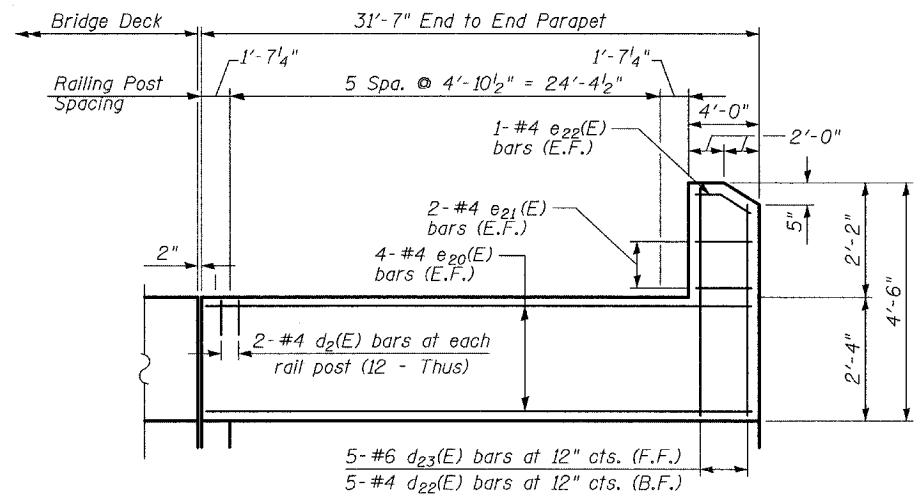
TYLIN INTERNATIONAL

DESIGNED	- DE
CHECKED	- SP
DRAWN	- DE
CHECKED	- SP

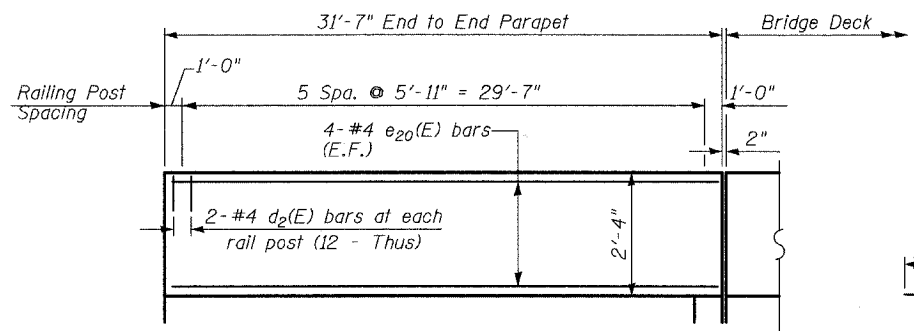


SECTION A-A

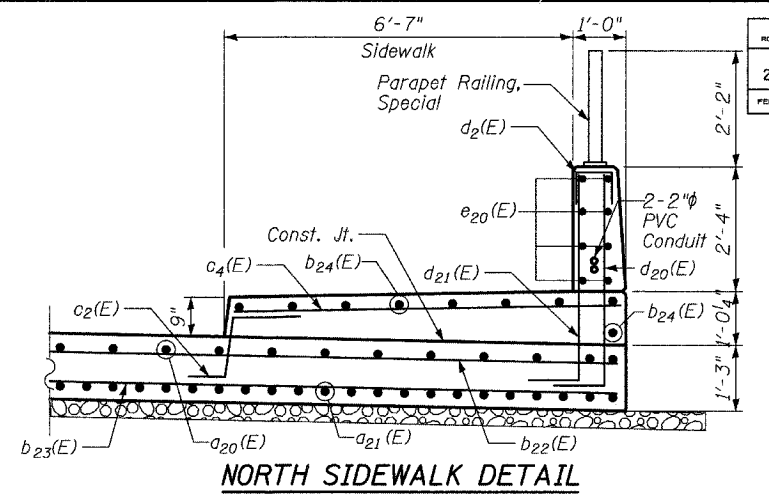
① Stagger $a_{21}(E)$ bars as shown on plan
* See Proposed Plan and Profile Sheet for thickness



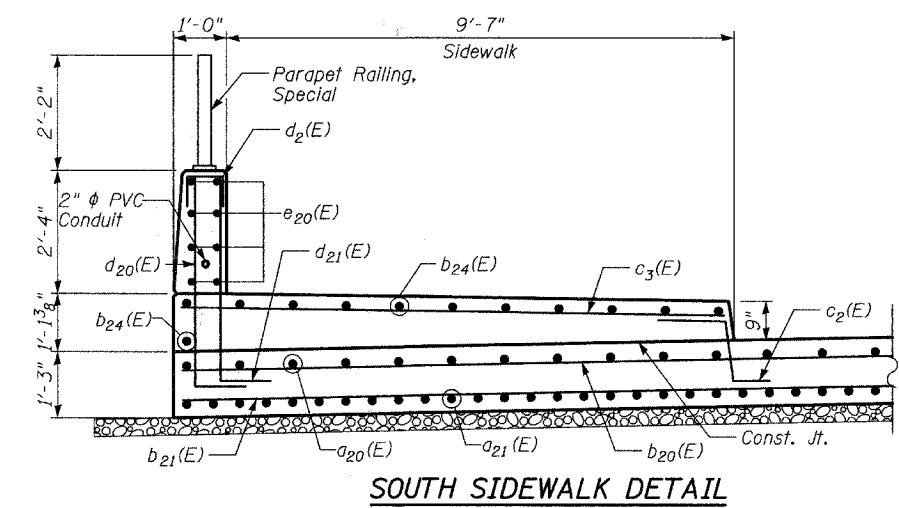
INSIDE ELEVATION OF NORTH BARRIER
(Looking North)



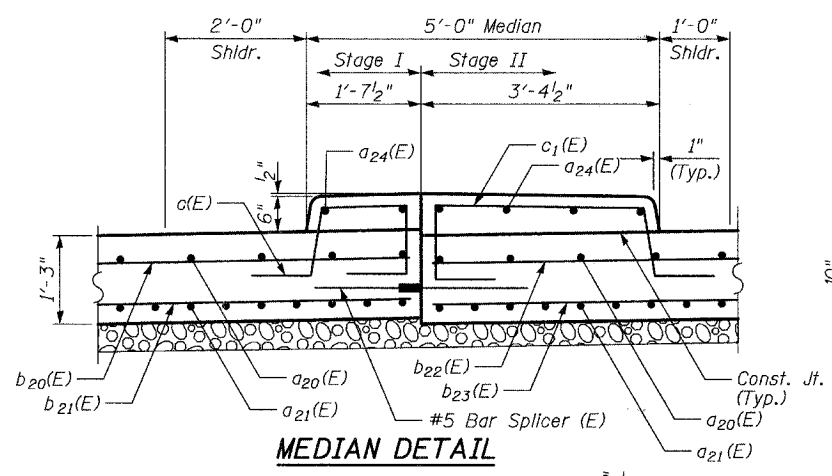
INSIDE ELEVATION OF SOUTH BARRIER
(Looking South)



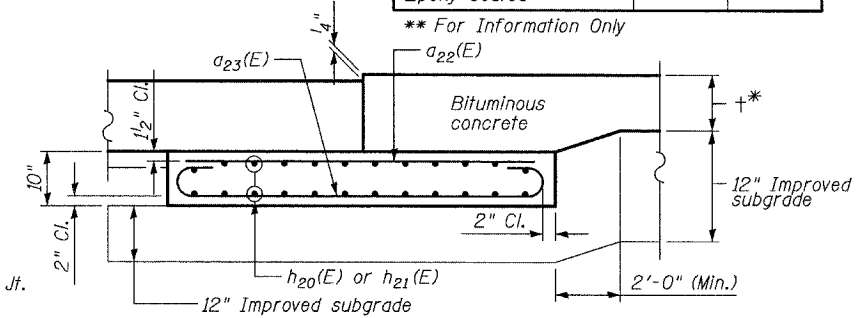
NORTH SIDEWALK DETAIL



SOUTH SIDEWALK DETAIL



MEDIAN DETAIL



SECTION B-B - FLEXIBLE PAVEMENT
(Showing reinforcement)

* See Proposed Plan and Profile Sheet for thickness

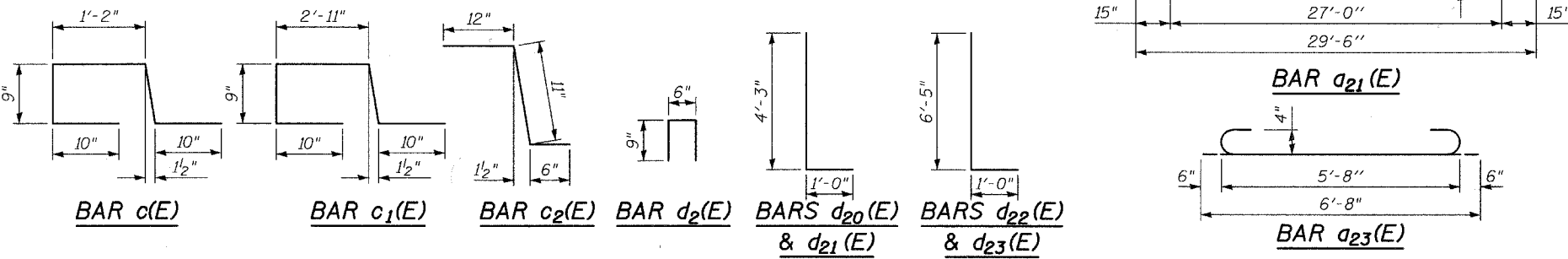
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
$a_{20}(E)$	140	#5	29'-6"	—
$a_{21}(E)$	277	#9	29'-6"	U
$a_{22}(E)$	151	#4	5'-8"	—
$a_{23}(E)$	151	#4	6'-8"	U
$a_{24}(E)$	6	#5	29'-8"	—
$b_{20}(E)$	16	#5	28'-3"	—
$b_{21}(E)$	58	#5	28'-5"	—
$b_{22}(E)$	24	#5	31'-4"	—
$b_{23}(E)$	87	#6	31'-6"	—
$b_{24}(E)$	21	#5	29'-8"	—
$c(E)$	31	#5	4'-4"	U
$c_1(E)$	31	#5	6'-1"	U
$c_2(E)$	62	#5	2'-5"	—
$c_3(E)$	31	#5	10'-3"	—
$c_4(E)$	31	#5	7'-3"	—
$d_2(E)$	24	#4	2'-0"	U
$d_{20}(E)$	58	#4	5'-3"	U
$d_{21}(E)$	58	#6	5'-3"	U
$d_{22}(E)$	5	#4	7'-5"	U
$d_{23}(E)$	5	#6	7'-5"	U
$e_{20}(E)$	16	#4	31'-3"	—
$e_{21}(E)$	4	#4	3'-8"	—
$e_{22}(E)$	2	#4	3'-7"	—
$h_{20}(E)$	48	#5	28'-6"	—
$h_{21}(E)$	72	#5	31'-7"	—
Bridge Approach Pavement (Special)		SQ YD	461	
Protective Coat		SQ YD	503	
Bar Splicers		EACH	70	
Reinforcement Bars, Epoxy Coated		POUND	47,250	

** For Information Only

TYLIN INTERNATIONAL

DESIGNED	- DE
CHECKED	- SP
DRAWN	- DE
CHECKED	- SP



REVISIONS	
NAME	DATE

EAST APPROACH PAVEMENT DETAILS

75th STREET OVER THE WEST BRANCH OF THE DUPAGE RIVER
FAP 369
SECTION 00-00114-00-PV STA. 151+38.03
DUPAGE COUNTY
S.N. 022-3118

Benchmark: Found DuPage County disk on Southwest Wingwall of 75th St. Bridge over the West Branch of DuPage River. Elev. 664.19
 Existing Structure: None

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552		DUPAGE	563	365
SHEET NO. - 1				
8 - SHEETS				

CONTRACT NO. 63024
DESIGN SPECIFICATIONS

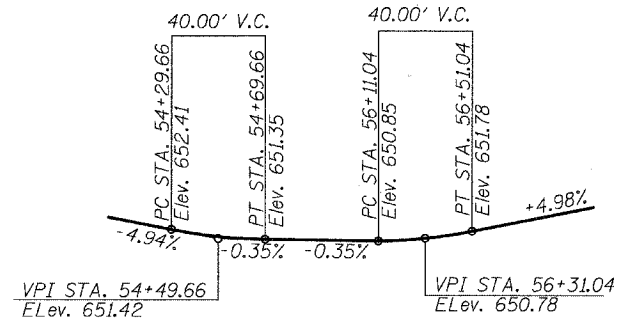
2002 AASHTO

DESIGN STRESSES

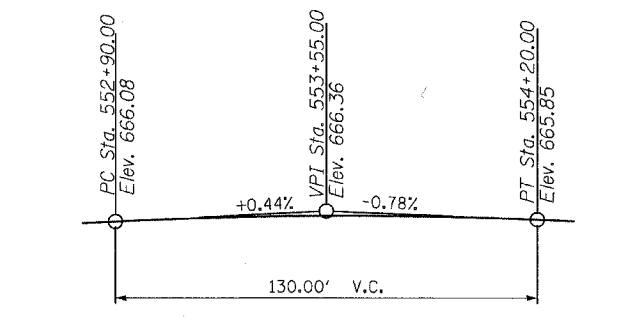
FIELD UNITS
 f'c = 3,500 psi
 fy = 60,000 psi (Reinf.)

PRECAST UNITS
 f'c = 5,000 psi
 fy = 65,000 psi (welded wire fabric)

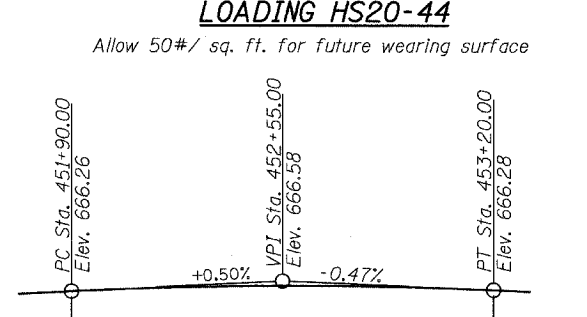
LOADING HS20-44
 Allow 50# / sq. ft. for future wearing surface



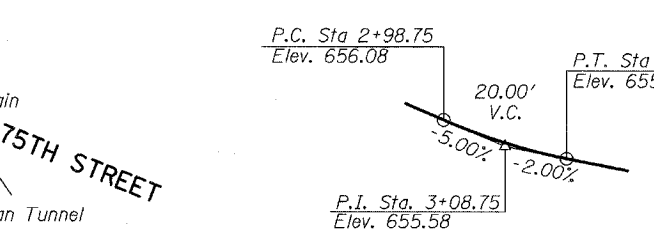
PROFILE GRADE PEDESTRIAN TUNNEL



PROFILE GRADE SB WASHINGTON STREET



PROFILE GRADE NB WASHINGTON STREET

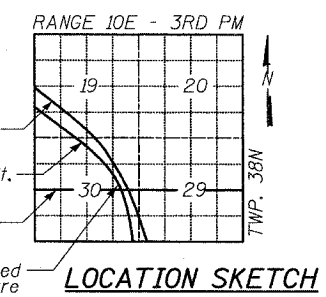


SIDEWALK PROFILE

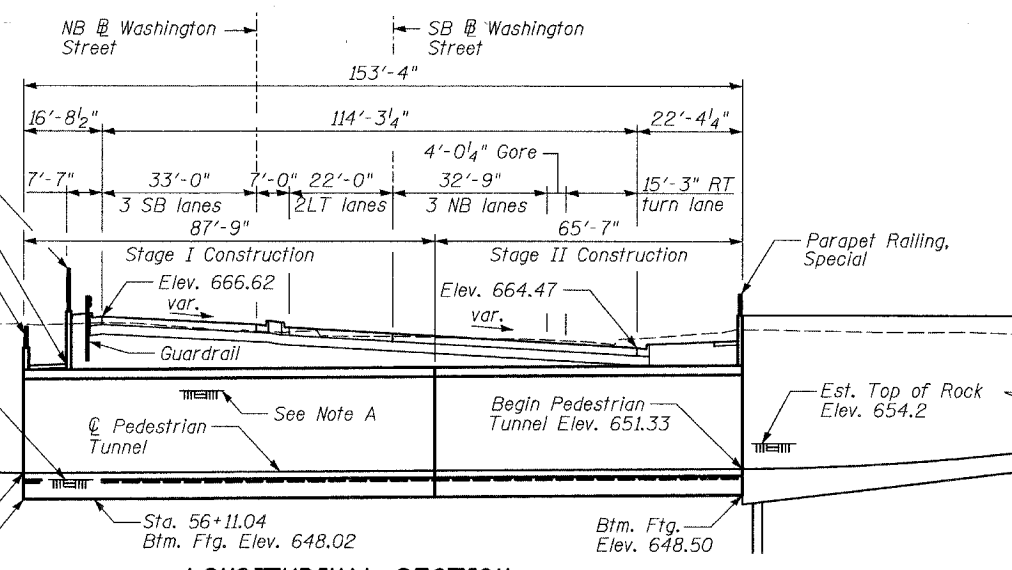


Signed *[Signature]*
 Spiros Pantazis, S.E., Il. Lic. No. 081-006448
 Expires 11-30-2008.
 Date 4/11/08
 For drawings 1 thru 8

I certify that to the best of my knowledge, information and belief, this bridge 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 Standard Specifications of Highway Bridges".

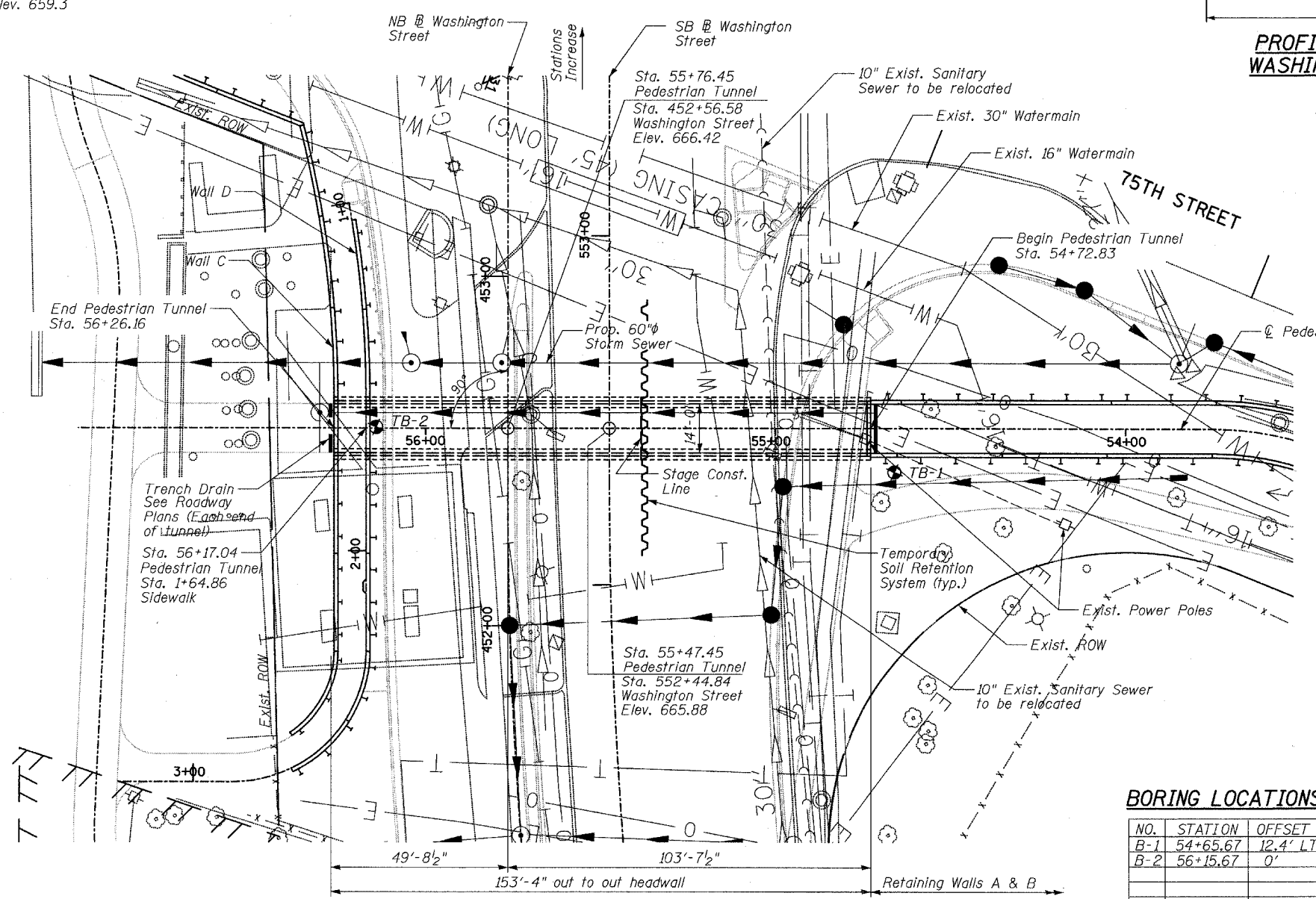


LOCATION SKETCH



LONGITUDINAL SECTION
 (Looking South)
 (Elevations shown are at the C of Pedestrian Tunnel)

Note A:
 Apparent Top of Rock based on Borings done in 2002 by previous gas station facility. Elev. 659.3



PLAN

TYLIN INTERNATIONAL

DESIGNED	- SP
CHECKED	- SP PF
DRAWN	- SP
CHECKED	- SP

BORING LOCATIONS

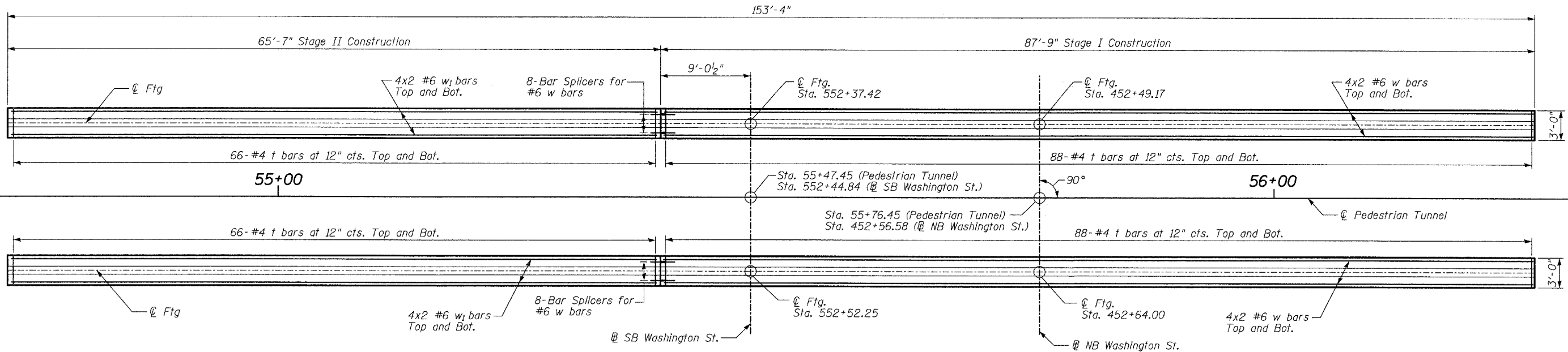
NO.	STATION	OFFSET
B-1	54+65.67	12.4' LT
B-2	56+15.67	0'

REVISIONS

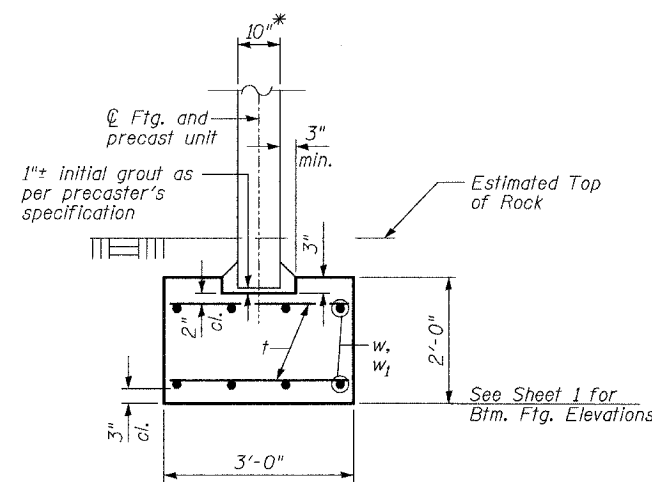
NO.	NAME	DATE

PEDESTRIAN TUNNEL GENERAL PLAN

WASHINGTON - 75TH STREET
 F.A.U. ROUTE 2552
 SECTION 00-00114-00-PV
 DUPAGE COUNTY



FOOTING PLAN



SECTION A-A

* May vary per precaster's design. Keyway width to be adjusted accordingly.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
t	616	#4	2'-9"	—
w	32	#6	45'-1"	—
w ₁	32	#6	34'-0"	—
Rock Excavation for Structures			Cu. Yd.	275.1
Reinforcement Bars			Pound	4940
Concrete Structures			Cu. Yd.	64.4

Minimum lap for #6 bar is 2'-9".

TYLIN INTERNATIONAL

DESIGNED	- SP
CHECKED	- SP PF
DRAWN	- SP
CHECKED	- SP PF

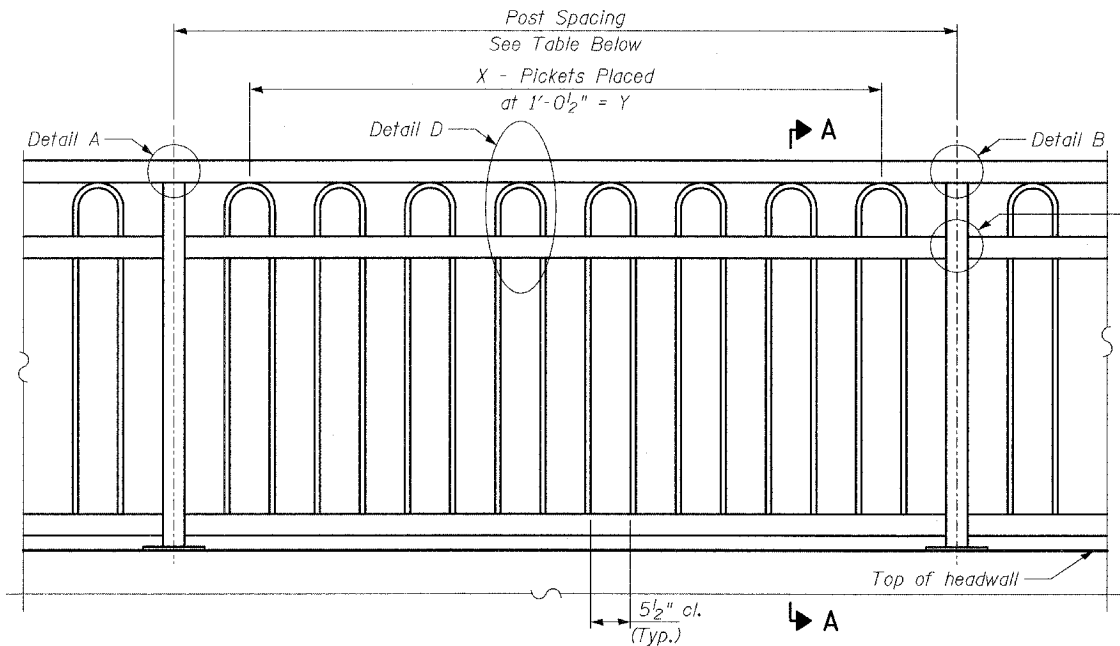
REVISIONS	
NAME	DATE

**PEDESTRIAN TUNNEL
FOOTING DETAILS**

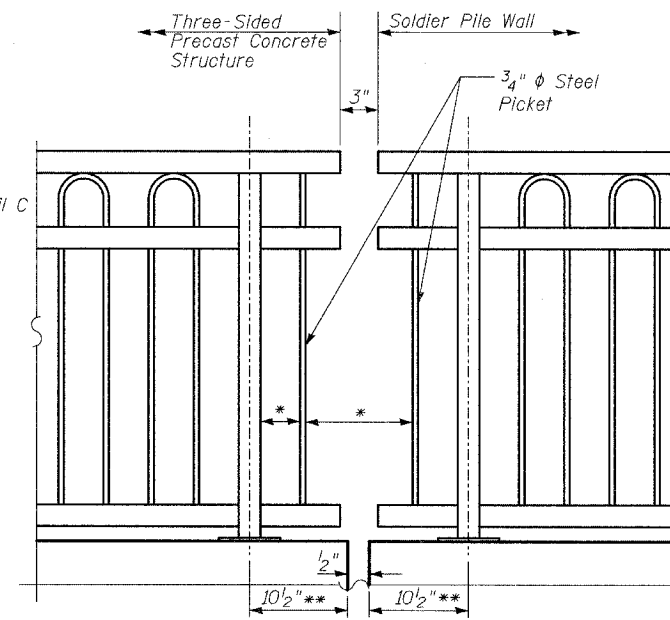
WASHINGTON - 75TH STREET
F.A.U. ROUTE 2552
SECTION 00-00114-00-PV
DUPAGE COUNTY

NOTES:

- Length of railing & edge distance shown are based on a Three-Sided Precast Concrete structure with 10" thick walls. The railing fabricator shall coordinate with the precaster and adjust dimensions accordingly.
- Railing shall be in accordance with Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for Bicycle Railing, Special or Parapet Railing, Special.
- Hollow Structural Steel Tubing shall conform to the requirements of ASTM Designation of 500, Grade B, Structural Steel Tubing. Anchor bolts shall conform to ASTM A307 unless noted otherwise.
- All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36.
- The bicycle railing and parapet railing shall be powder coated and the color shall be black.
- The exterior steel surface shall be blast cleaned to Steel Structures Painting Council Surface Preparation Specification No. 6 (SSPC-SP6) requirements using cast steel abrasives conforming to the Society of Automotive Engineers (SAE) recommended Practice J827. The blast method used is a recirculating, closed cycle centrifugal wheel system with abrasive conforming to SAE Shot Number S280.
- All exterior surfaces shall be coated with a Urethane or Triglycidyl Isocyanurate (TGIC) Polyester Powder to a minimum film thickness of 0.002". The coating shall be electrostatically applied and cured in a gas fired convection oven by heating the steel substrate to a minimum of 350 degrees fahrenheit and a maximum of 400 degrees fahrenheit. The thermosetting powder resin shall provide both intercoat as well as substrate fusion adhesion that meets 5A or 5B classifications of ASTM D3359.
- Ship railing in a manner to prevent damage to the powder coating.

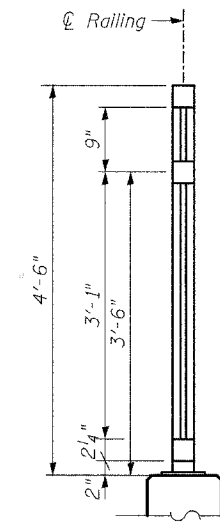


ELEVATION - TYPICAL SECTION



* Max Spacing is 6". Rail Fabricator shall add pickets as necessary.
** See Note 1

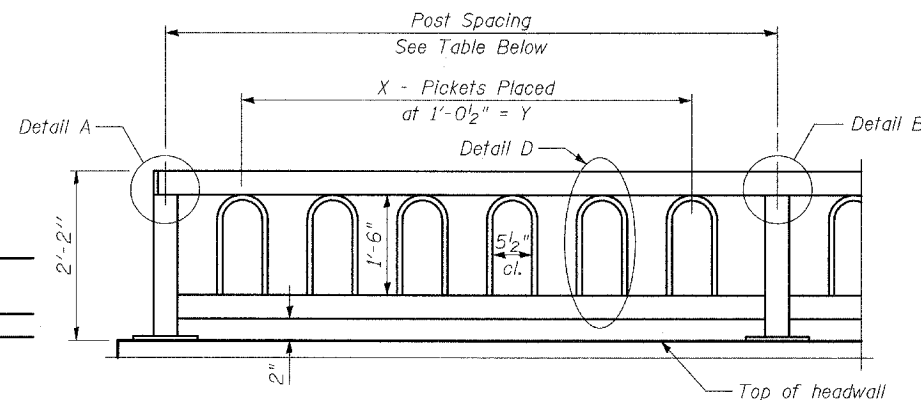
BICYCLE RAILING



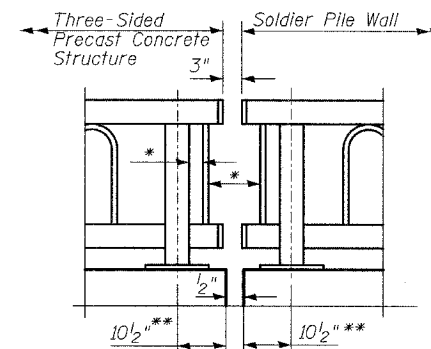
SECTION A-A

BICYCLE & PARAPET RAILING LAYOUT

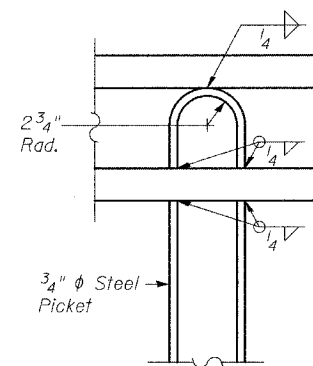
Post Spacing	Picket Layout	
	X	Y
5'-11"	5	4'-2"
6'-11 1/2"	6	5'-2 1/2"
8'-0"	7	6'-3"
9'-0 1/2"	8	7'-3 1/2"



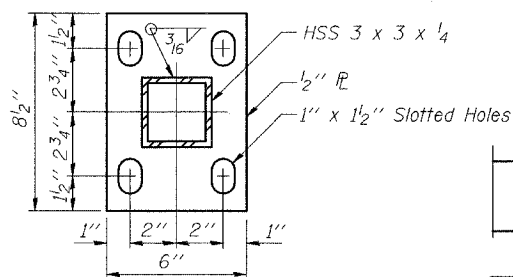
PARAPET RAILING ELEVATION



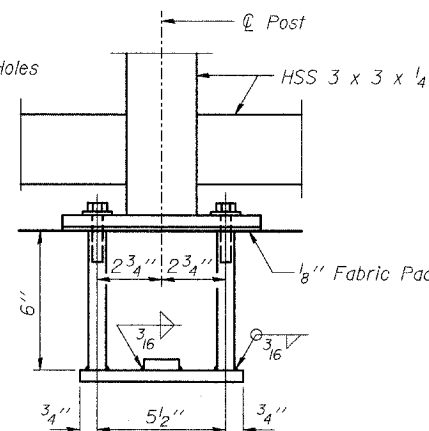
PARAPET RAILING ELEVATION AT EXPANSION JOINT



DETAIL D

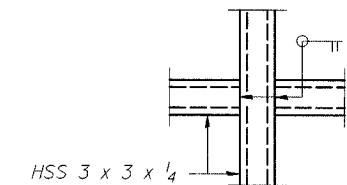
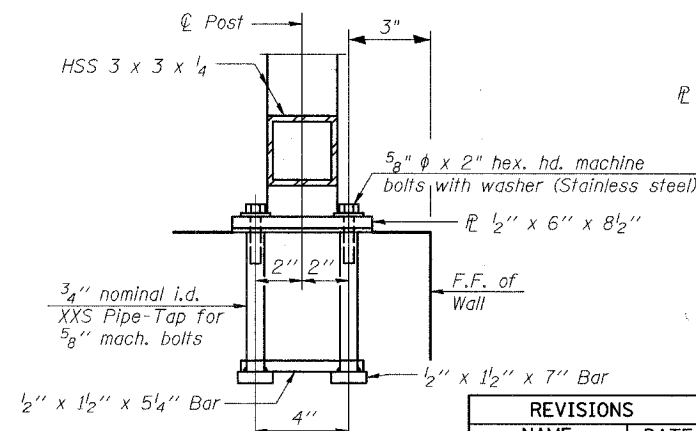


BASE PL

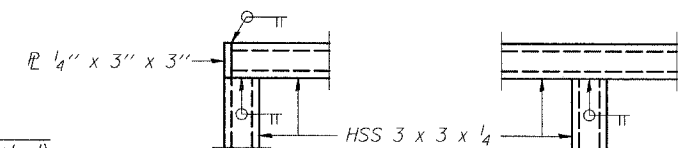


TYPICAL ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" φ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.



DETAIL C



DETAIL A

DETAIL B

BILL OF MATERIAL

Item	Unit	Quantity
Bicycle Railing, Special	Foot	31.4
Parapet Railing, Special	Foot	31.4

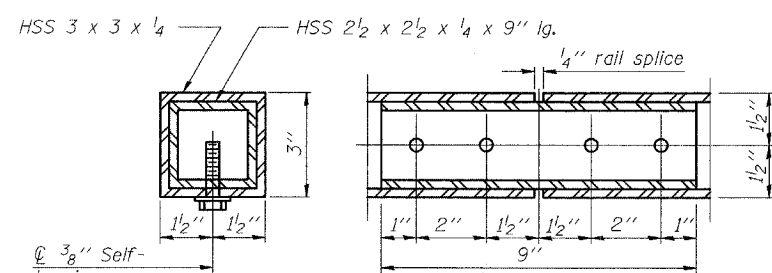
REVISIONS	
NAME	DATE

PEDESTRIAN TUNNEL RAILING DETAILS

WASHINGTON - 75TH STREET
F.A.U. ROUTE 2552
SECTION 00-00114-00-PV
DUPAGE COUNTY

TYLIN INTERNATIONAL

DESIGNED	- SP
CHECKED	- SP
DRAWN	- SP
CHECKED	- SP



TYPICAL RAIL SPLICE DETAILS

NOTES

Bar splicer assemblies shall be of an approved type and shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.
Splicer rods shall be of minimum 60 ksi yield strength, threaded or coiled full length.
All reinforcement bars shall be lapped and tied to the splicer rods or dowel bars.
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars.
Other systems of similar design may be submitted to the Engineer for approval. Approval shall be based on certified test results from an approved testing laboratory that the proposed bar splicer assembly satisfies the following requirements:

- ① Minimum Capacity (Tension in kips) = $1.25 \times f_y \times A_t$
 - ② Minimum *Pull-out Strength (Tension in kips) = $0.66 \times f_y \times A_t$
- Where f_y = Yield strength of lapped reinforcement bars in ksi.
 A_t = Tensile stress area of lapped reinforcement bars.
* = 28 day concrete

The diameter of this part is equal or larger than the diameter of bar spliced.
The diameter of this part is the same as the diameter of the bar spliced.

ROLLED THREAD DOWEL BAR



**** ONE PIECE**

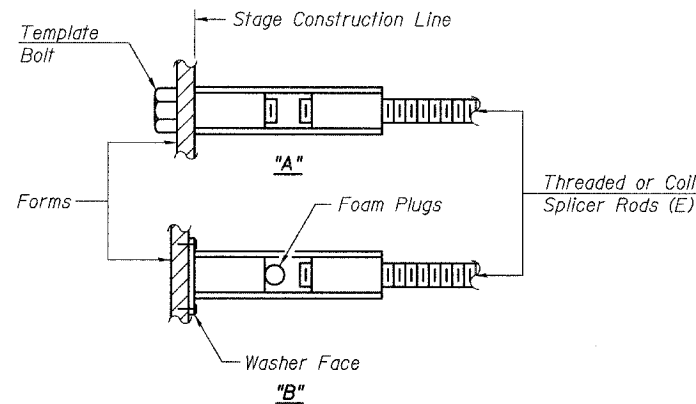
Wire Connector



WELDED SECTIONS

BAR SPLICER ASSEMBLY ALTERNATIVES

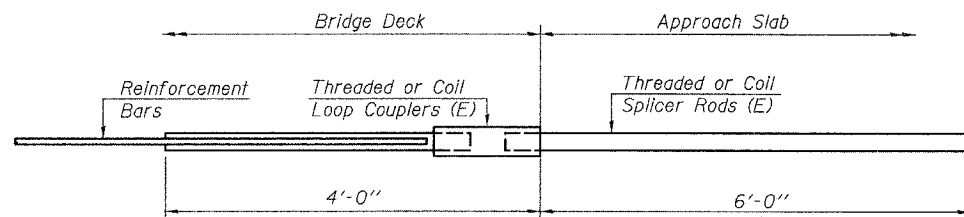
** Heavy Hex Nuts conforming to ASTM A 563, Grade C, D or DH may be used.



INSTALLATION AND SETTING METHODS

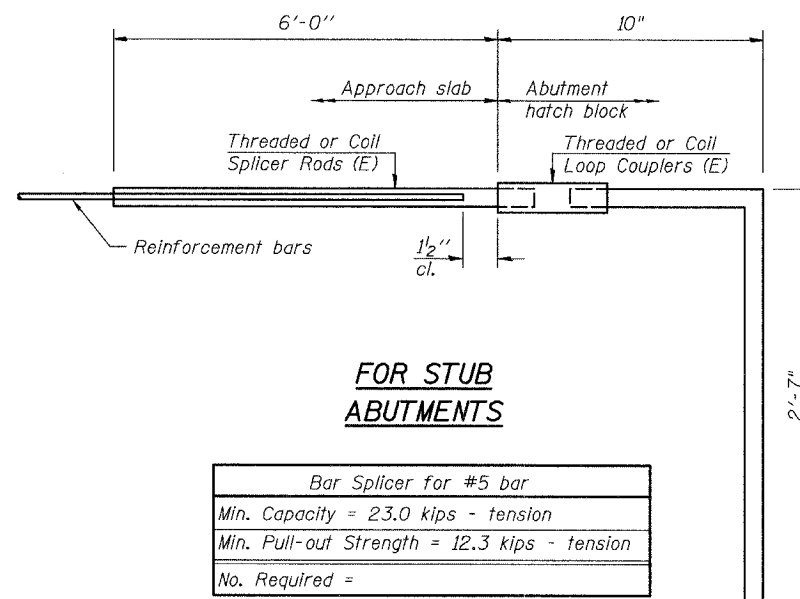
"A" : Set bar splicer assembly by means of a template bolt.
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
(E) : Indicates epoxy coating.

BAR SPLICER ASSEMBLIES			
Bar Size to be Spliced	Splicer Rod or Dowel Bar Length	Strength Requirements	
		Min. Capacity kips - tension	Min. Pull-Out Strength kips - tension
#4	1'-8"	14.7	7.9
#5	2'-0"	23.0	12.3
#6	2'-7"	33.1	17.4
#7	3'-5"	45.1	23.8
#8	4'-6"	58.9	31.3
#9	5'-9"	75.0	39.6
#10	7'-3"	95.0	50.3
#11	9'-0"	117.4	61.8



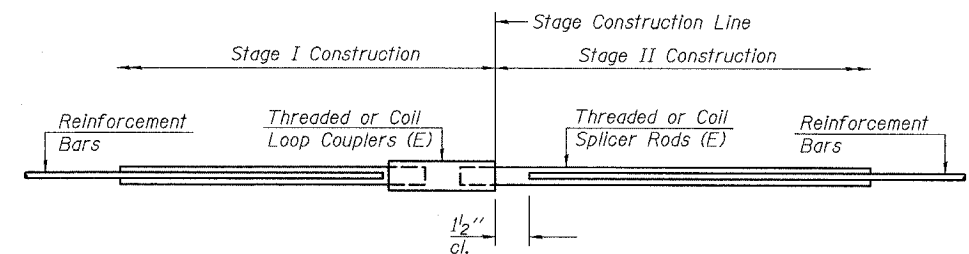
FOR INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required = 0



FOR STUB ABUTMENTS

Bar Splicer for #5 bar
Min. Capacity = 23.0 kips - tension
Min. Pull-out Strength = 12.3 kips - tension
No. Required =



STANDARD

Bar Size	No. Assemblies Required	Location
#6	16	Tunnel Footing at Stage Construction Line

REVISIONS	
NAME	DATE

PEDESTRIAN TUNNEL BAR SPLICER ASSEMBLY

WASHINGTON - 75TH STREET
F.A.U. ROUTE 2552
SECTION 00-00114-00-PV
DUPAGE COUNTY

TYLIN INTERNATIONAL

DESIGNED	- SP
CHECKED	- SP
DRAWN	- SP
CHECKED	- SP



O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
1235 E. DAVIS ST./ARLINGTON HTS., IL 60005
(847)398-1441 • FAX(847) 398-2376

STRUCTURE FOUNDATION BORING LOG

Project: Geotechnical Investigation For The Proposed Washington Street Pedestrian Underpass OBA Job No.: 04303
 Location: Washington Street & 75th Street, Naperville, Illinois Date: March 17, 2006
 County: Cook Bored By: FB
 Client: T.Y. Lin International Checked By: DOB

BORING No.: <u>TB-1</u>	Station: <u>54+66</u>	Offset: <u>12.5' Left</u>	Ground Surface Elevation: <u>665.2</u>	Surface Water Elev.: <u>n/a</u>	Groundwater Elevation: <u>Dry WD</u>	Groundwater Elevation: <u>n/a AB</u>	After Hours: <u></u>	DEPTH (ft)	CORRECTED DEPTH (ft)	SPT (blows)	Q _u (tsf)	Q _u (ksi)	Q _u (ksi)	Q _u (ksi)	Q _u (ksi)
TOPSOIL															
SILTY CLAY-trace sand & gravel-dark brown-stiff (CL) Wet															
SAND & GRAVEL-dense to very dense (GP)															
Drillers Observations: Cobbles from -8.5' to -11.0'.															
Drillers Observations: Apparent weathered bedrock.															
Silurian System, Niagaran Series Dolomite RUN 1 (-14.0' to -19.0') Light brown with rust staining. Horizontal bedding with some chert nodules. Highly fractured & weathered to -14.25'. Horizontal fractures -14.8', -15.25', -15.3', -15.4', -15.7', -16.2', -16.6', -16.9' & -17.6'. Recovery=93.3% RQD=71.7%															
End of Boring @ -19.0'. Hollow Stem Augers to -14.0' Rotary Drilling to Completion D-50 Safety Hammer															

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
 The SPT (N value) is the sum of the last two blow values in each sampling zone (ASTM D 1586) The Unit Dry Weight (pcf) is noted in italics above moist (%)
 NR-No Recovery



O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
1235 E. DAVIS ST./ARLINGTON HTS., IL 60005
(847)398-1441 • FAX(847) 398-2376

STRUCTURE FOUNDATION BORING LOG

Project: Geotechnical Investigation For The Proposed Washington Street Pedestrian Underpass OBA Job No.: 04303
 Location: Washington Street & 75th Street, Naperville, Illinois Date: December 15, 06
 County: Cook Bored By: RJ
 Client: T.Y. Lin International Checked By: DOB

BORING No.: <u>TB-2</u>	Station: <u>56+16</u>	Offset: <u>Centerline</u>	Ground Surface Elevation: <u>666.3</u>	Surface Water Elev.: <u>n/a</u>	Groundwater Elevation: <u>Dry WD</u>	Groundwater Elevation: <u>n/a AB</u>	After Hours: <u></u>	DEPTH (ft)	CORRECTED DEPTH (ft)	SPT (blows)	Q _u (tsf)	Q _u (ksi)	Q _u (ksi)	Q _u (ksi)	Q _u (ksi)
SAND & GRAVEL with Stone (Fill)															
SILTY CLAY-trace sand & gravel-brown & gray-hard (CL) Fill															
SILTY CLAY-trace sand & gravel-brown-stiff (CL) Wet															
SAND, GRAVEL & Cobbles-dense to very dense (GP)															
Silurian System, Niagaran Series Dolomite RUN 1 (-16.0' to -20.5') Light brown with rust staining. Horizontal bedding with some chert nodules. Horizontal fractures -16.4', -16.75', -17.4', -18.0', -18.6', -19.1', -19.4' & -19.75'. Recovery=88.9% RQD=60.0%															
End of Boring @ -20.5'. Hollow Stem Augers to -16.0' Rotary Drilling to Completion CME-75 Automatic Hammer															

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
 The SPT (N value) is the sum of the last two blow values in each sampling zone (ASTM D 1586) The Unit Dry Weight (pcf) is noted in italics above moist (%)
 NR-No Recovery

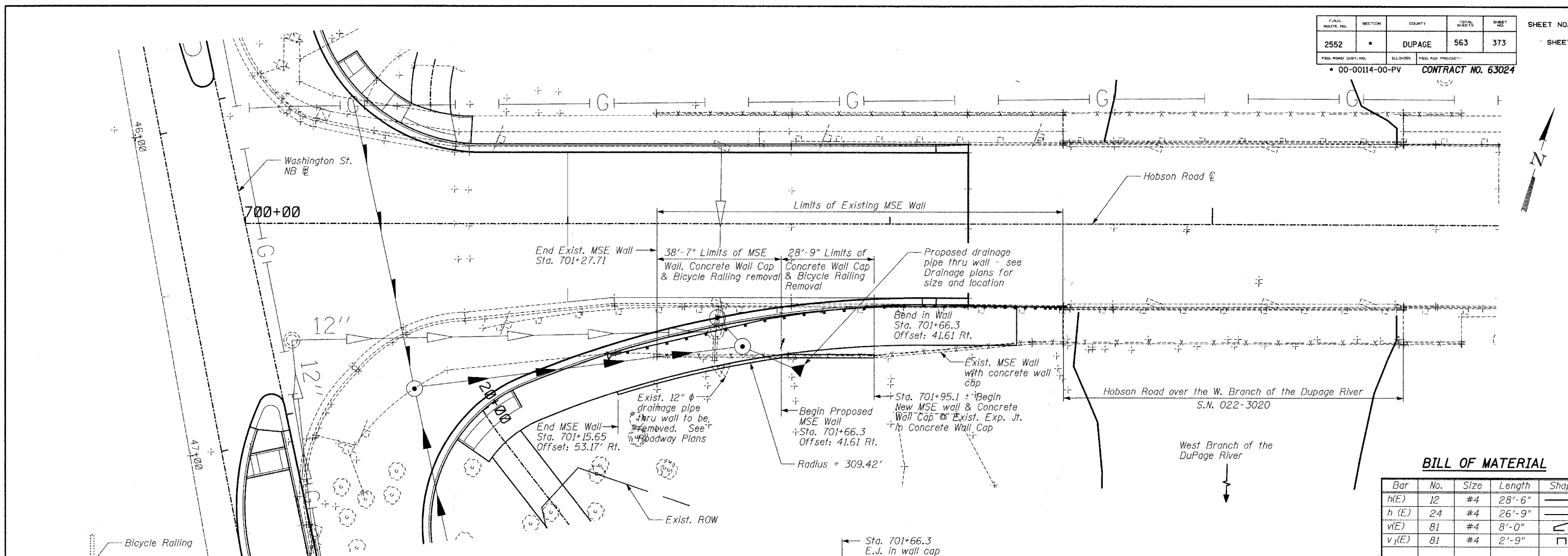
TYLIN INTERNATIONAL

DESIGNED	- TB
CHECKED	- SP
DRAWN	- TB
CHECKED	- SP

REVISIONS	
NAME	DATE

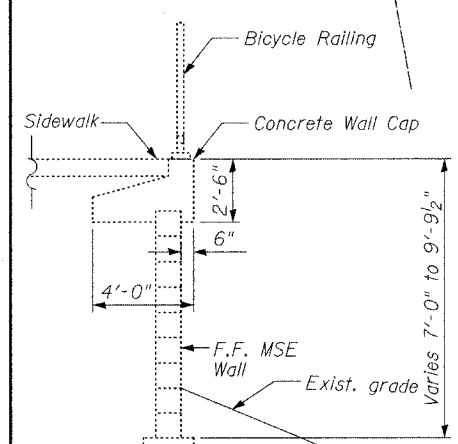
**PEDESTRIAN TUNNEL
BORING LOGS**

WASHINGTON - 75TH STREET
F.A.U. ROUTE 2552
SECTION 00-00114-00-PV
DUPAGE COUNTY

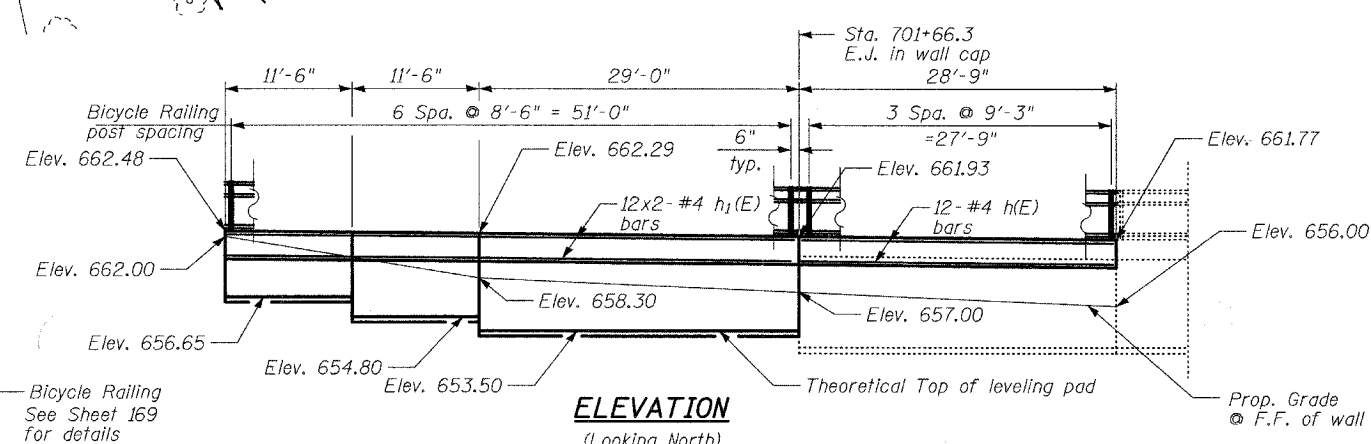


BILL OF MATERIAL

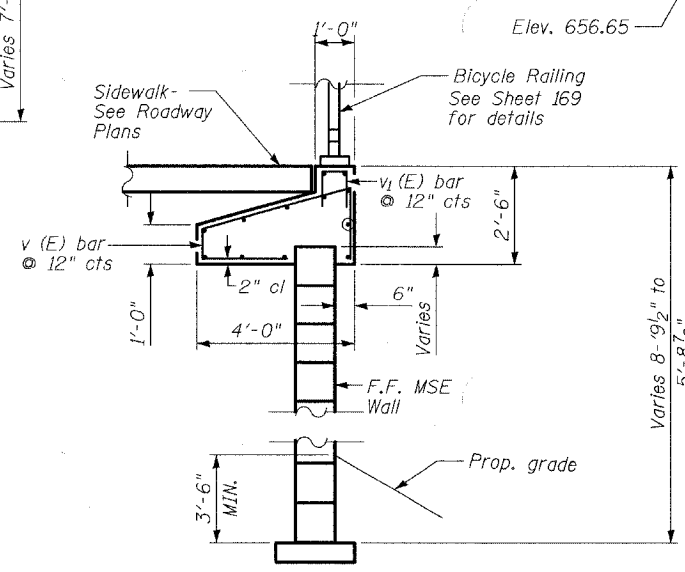
Bar	No.	Size	Length	Shape	
h(E)	12	#4	28'-6"	—	
h (E)	24	#4	26'-9"	—	
v(E)	81	#4	8'-0"	⌊	
v ₁ (E)	81	#4	2'-9"	⌊	
Concrete Structures				Cu Yd	20.2
Reinforcement Bars, Epoxy Coated				Pound	1,240
Bicycle Railing				Foot	80.8
Segmental Concrete Block Wall				Sq Ft	267



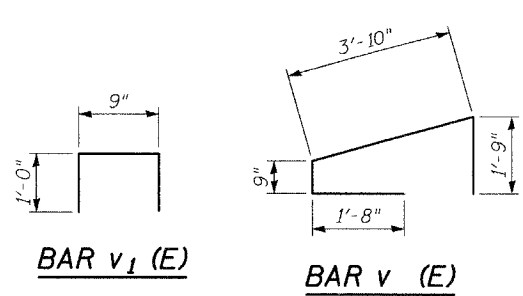
TYPICAL SECTION THRU MSE WALL
(Between Sta. 701+27.7 to Sta. 701+95.1)



ELEVATION
(Looking North)



PROPOSED SECTION THRU WALL



BAR v₁ (E)

BAR v (E)

DESIGN STRESSES
FIELD UNITS

f'_c = 3,500 psi
f_y = 60,000 psi (reinf.)

GENERAL NOTES

- All Offsets are measured to the F.F. of Concrete Cap Wall
- Reinforcement bars designated (E) shall be epoxy coated.
- Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.
- Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.
- The removal of portions of the existing concrete wall cap and MSE Wall shall be in accordance with the applicable portions of Section 501 of the Standard Specifications. This cost shall be included in the cost for Segmental Concrete Block Wall.

REVISIONS

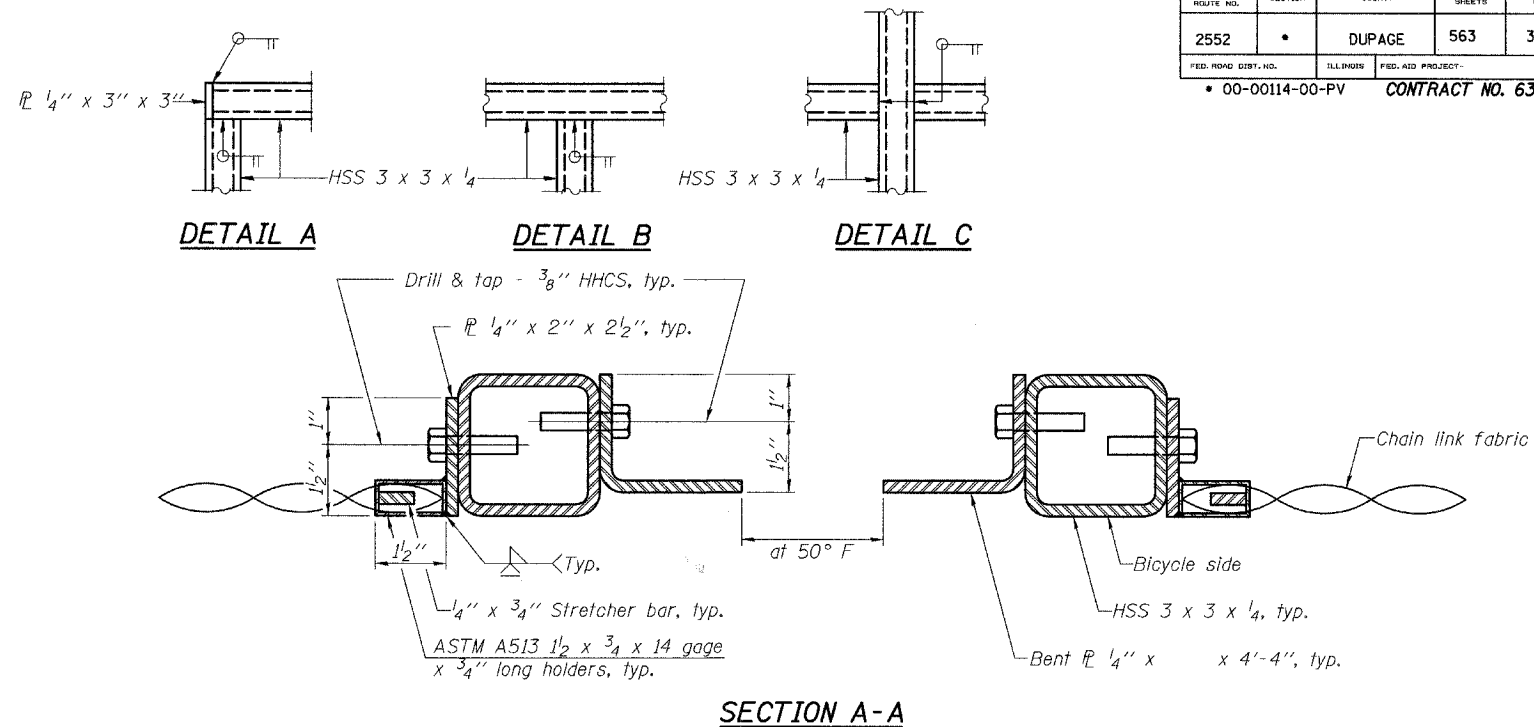
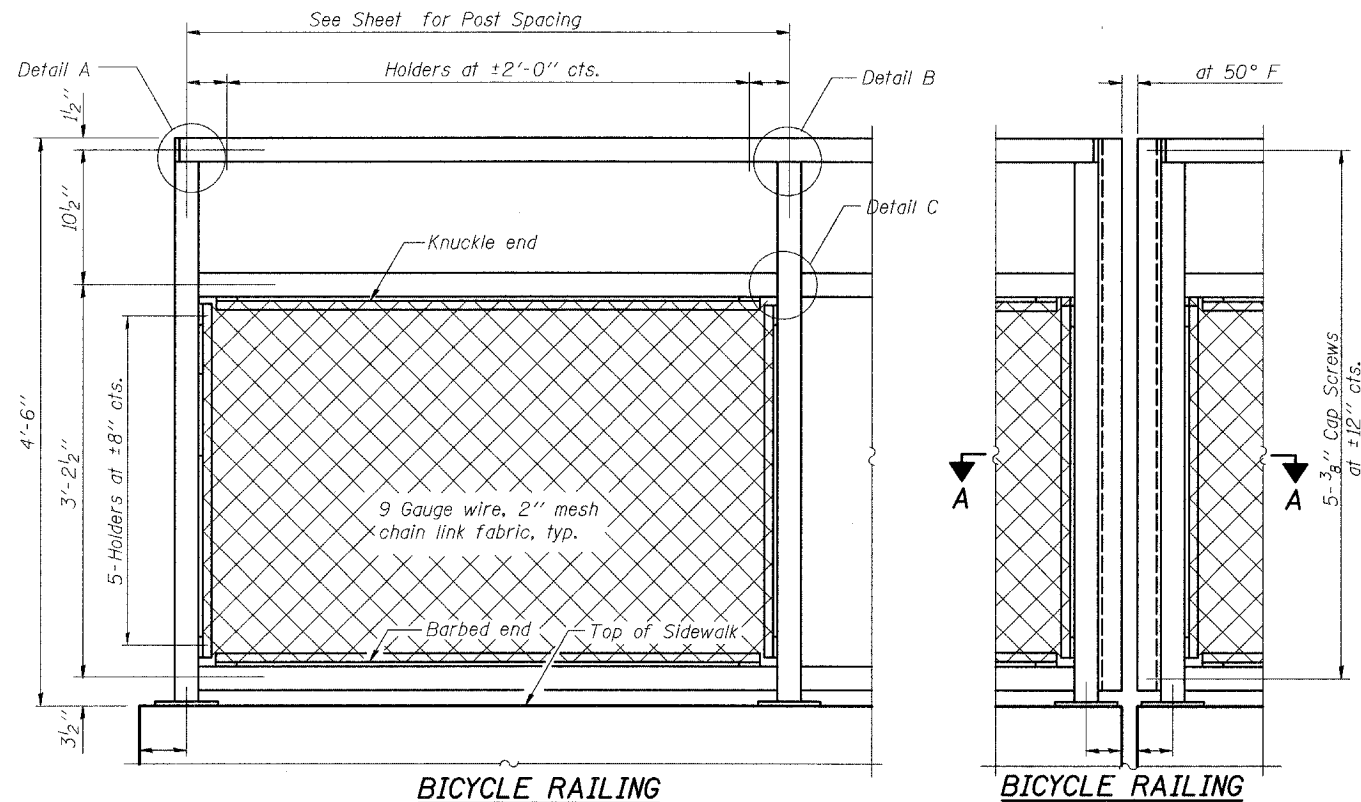
NAME	DATE

HOBSON ROAD
RETAINING WALL

WASHINGTON - 75TH STREET
F.A.U. ROUTE 2552
SECTION 00-00114-00-PV
DUPAGE COUNTY

TYLIN INTERNATIONAL

DESIGNED	- SP
CHECKED	- SP PF
DRAWN	- SP
CHECKED	- SP



NOTES

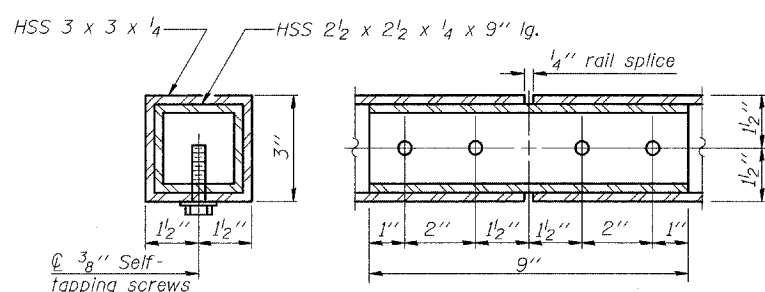
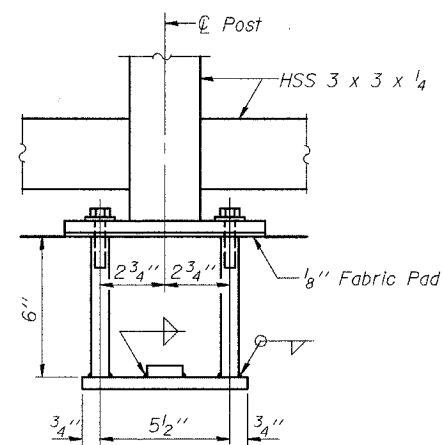
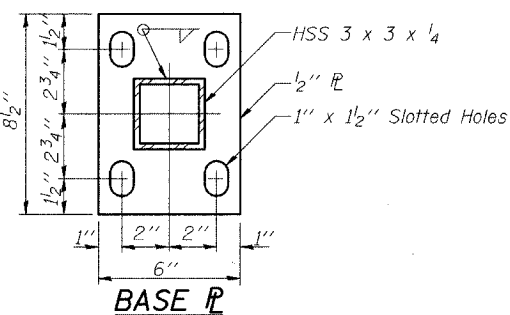
The bicycle railing and parapet railing shall be powder coated and the color shall be brown.

The exterior steel surface shall be blast cleaned to Steel Structures Painting Council Surface Preparation Specification No. 6 (SSPC-SP6) requirements using cast steel abrasives conforming to the Society of Automotive Engineers (SAE) recommended Practice J827. The blast method used is a recirculating, closed cycle centrifugal wheel system with abrasive conforming to SAE Shot Number S280.

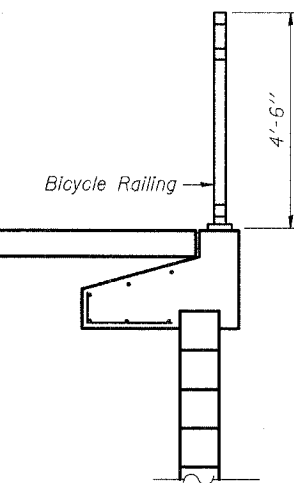
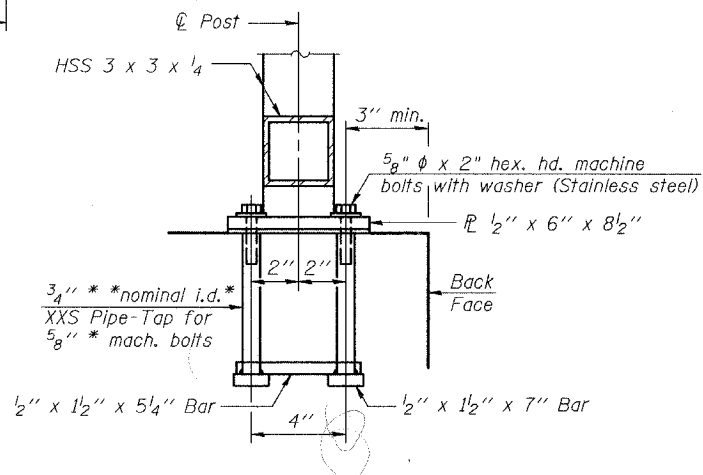
All exterior surfaces shall be coated with a Urethane or Triglycidyl Isocyanurate (TGIC) Polyester Powder to a minimum film thickness of 0.002". The coating shall be electrostatically applied and cured in a gas fired convection oven by heating the steel substrate to a minimum of 350 degrees Fahrenheit and a maximum of 400 degrees Fahrenheit. The thermosetting powder resin shall provide both intercoat as well as substrate fusion adhesion that meets 5A or 5B classifications of ASTM D3359.

Ship railing to the site in a manner to prevent damage to the powder coating.

The chain link fabric shall conform to the requirements of Article 1006.27(a)(1)(d) of the Standard Specifications, and shall be vinyl coated to match the brown powder coating of the bicycle railing.



RAIL SPLICE



SECTION THRU RETAINING WALL

ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" diameter anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

BILL OF MATERIAL

Item	Unit	Quantity
Bicycle Railing	Foot	80.8

REVISIONS	
NAME	DATE

HOBSON ROAD RETAINING WALL RAILING DETAILS

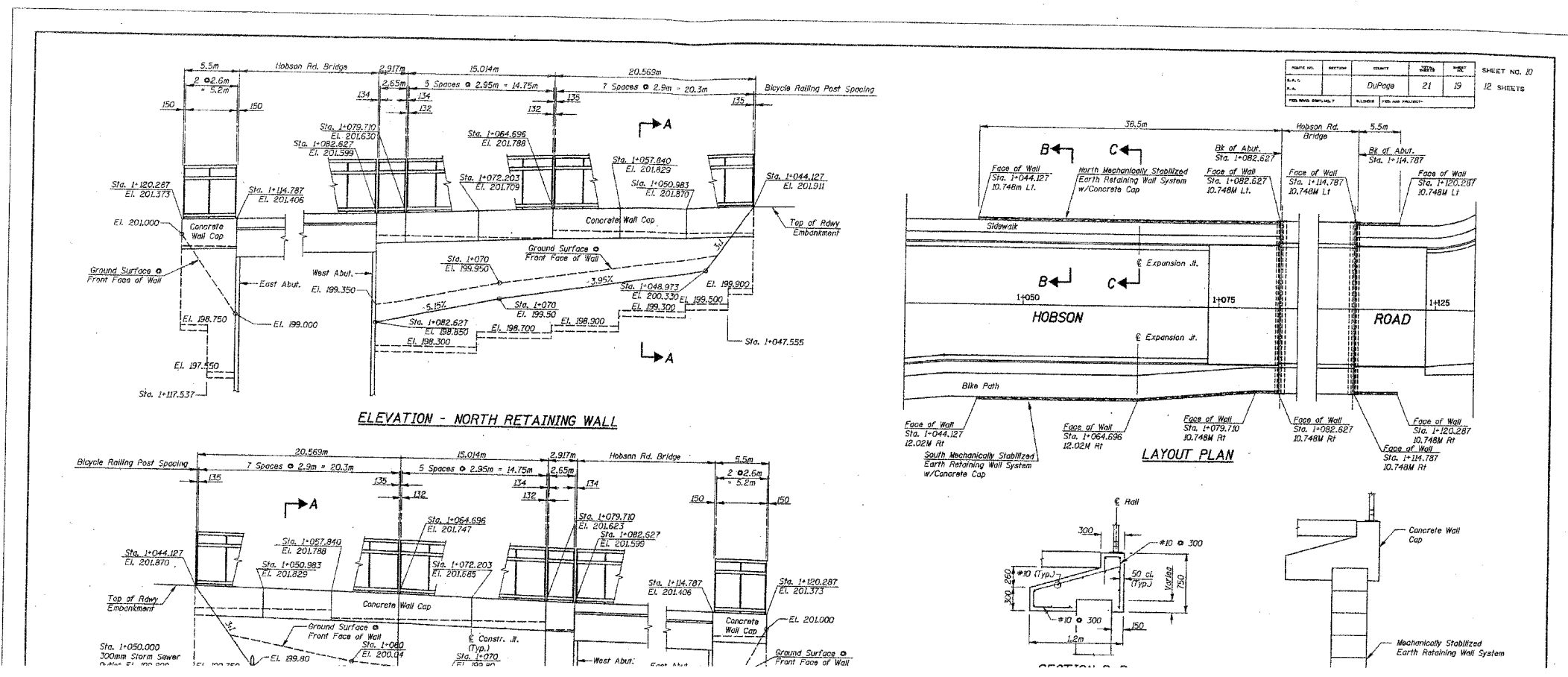
WASHINGTON - 75TH STREET
F.A.U. ROUTE 2552
SECTION 00-00114-00-PV
DUPAGE COUNTY

TYLIN INTERNATIONAL

DESIGNED	- TB
CHECKED	- SP
DRAWN	- TB
CHECKED	- SP

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	*	DUPAGE	563	376
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT-		
			CONTRACT NO. 63024	

SHEET NO. -
- SHEETS



FOR INFORMATION ONLY

NOTE:
ELEVATIONS SHOWN ON EXISTING PLANS
ARE ON A DIFFERENT VERTICAL DATUM
THAN CONTRACT PLANS

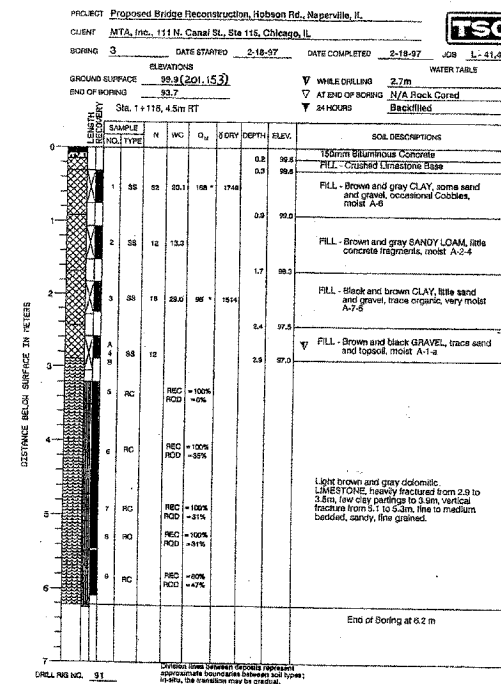
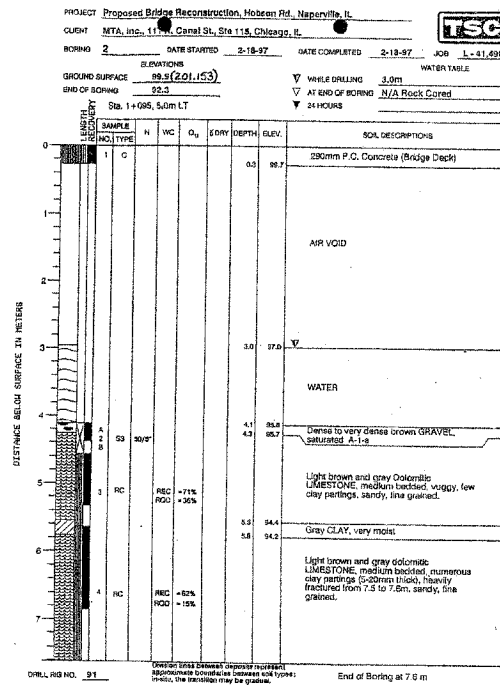
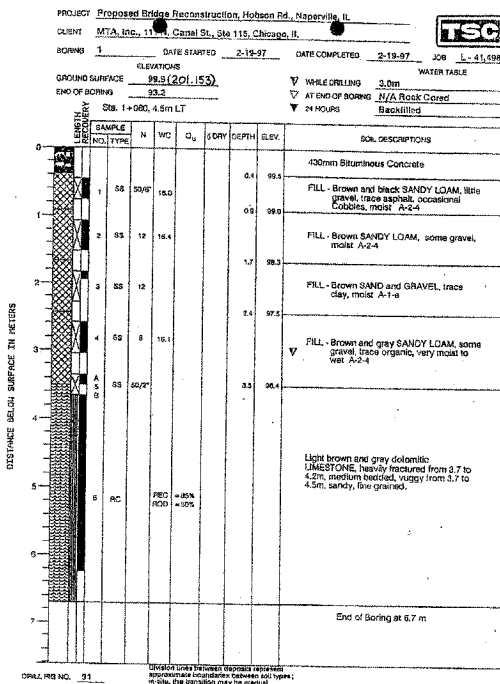
TYLIN INTERNATIONAL

DESIGNED	-
CHECKED	- SP
DRAWN	-
CHECKED	- SP

REVISIONS	
NAME	DATE

**EXISTING HOBSON ROAD BRIDGE
PLANS - 1**

WASHINGTON - 75TH STREET
F.A.U. ROUTE 2552
SECTION 00-00114-00-PV
DUPAGE COUNTY



BORINGS
 HOBSON ROAD (C.H. 2) OVER THE
 WEST BRANCH OF THE DUPAGE RIVER
 DUPAGE COUNTY
 STA. 1+098.707

FOR INFORMATION ONLY

NOTE:
 ELEVATIONS SHOWN ON EXISTING PLANS
 ARE ON A DIFFERENT VERTICAL DATUM
 THAN CONTRACT PLANS

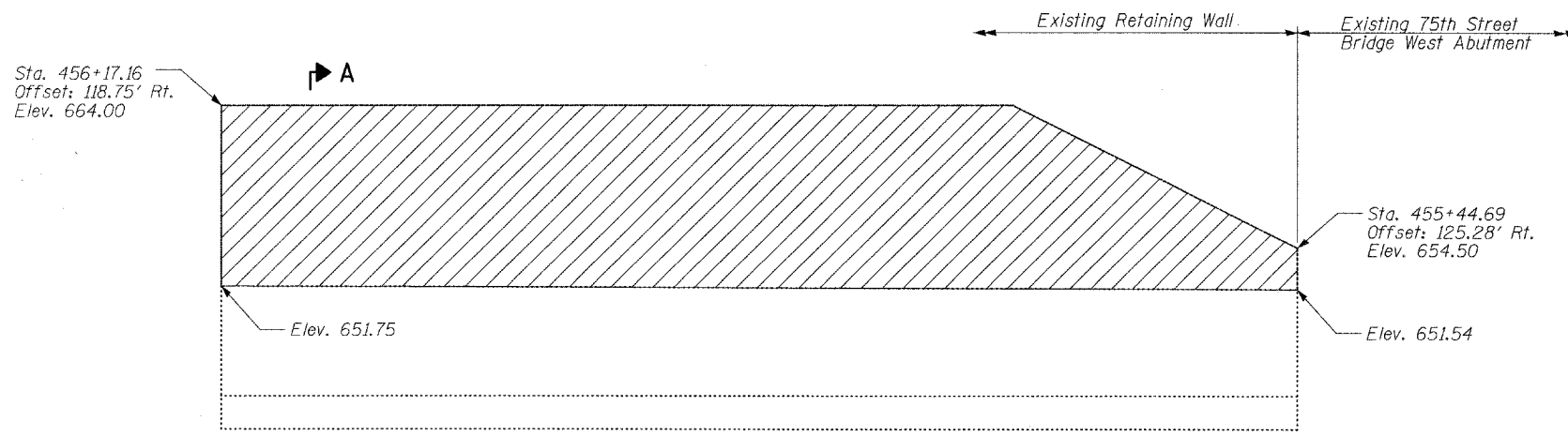
TYLIN INTERNATIONAL

DESIGNED	-
CHECKED	- SP
DRAWN	-
CHECKED	- SP

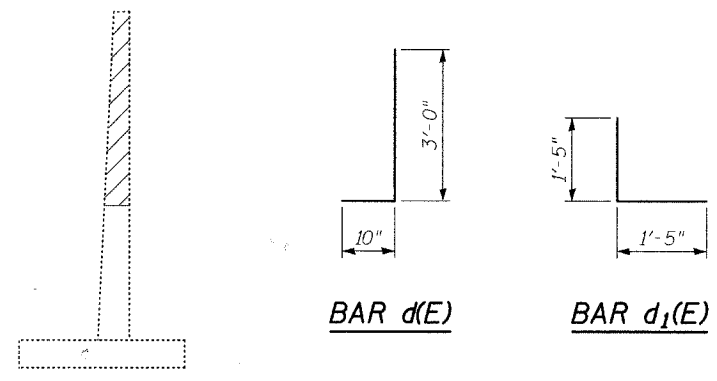
REVISIONS	
NAME	DATE

EXISTING HOBSON ROAD BRIDGE
 PLANS - 3

WASHINGTON - 75TH STREET
 F.A.U. ROUTE 2552
 SECTION 00-00114-00-PV
 DUPAGE COUNTY



ELEVATION OF EXISTING RETAINING WALL
(Looking West)



SECTION A-A

BILL OF MATERIAL

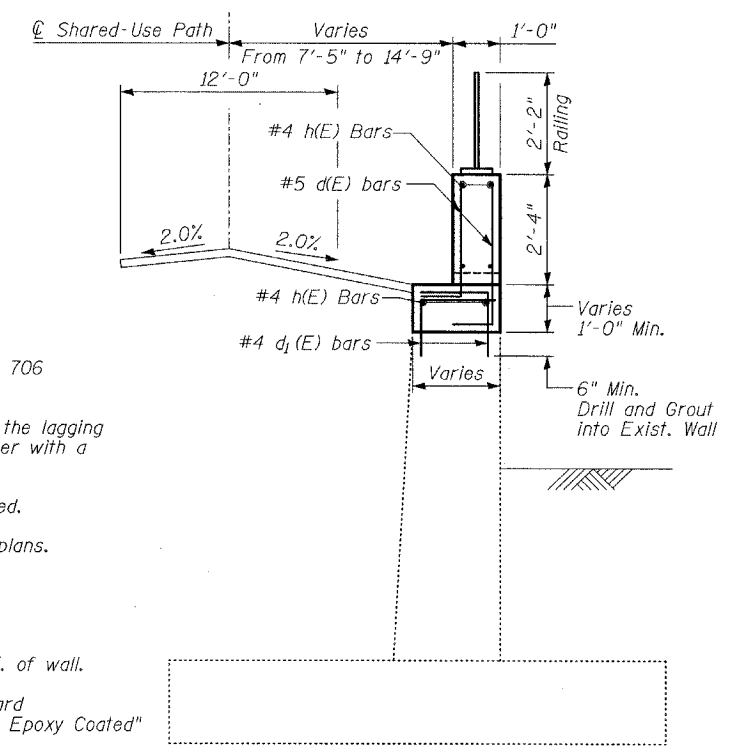
Bar	No.	Size	Length	Shape	
d(E)	150	#5	3'-10"	U	
d1(E)	150	#4	2'-10"	T	
h(E)	30	#4	23'-11"	—	
Reinforcement Bars, Epoxy Coated				LB	1,370
Concrete Structures				CU YD	12
Concrete Removal				CU YD	49
Parapet Railing, Special				FT	73

LEGEND

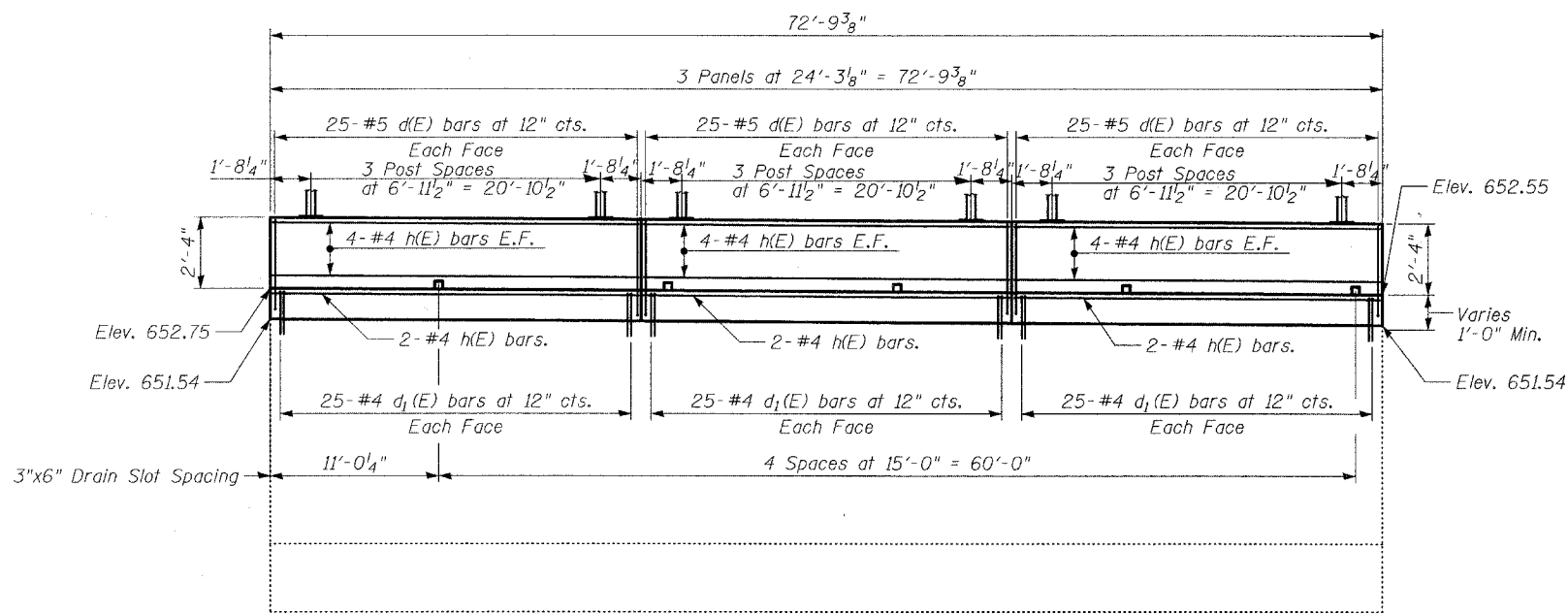
Denotes Limits of concrete removal

NOTES

1. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr. 60 (IL Modified). See Special Provisions.
2. The Contractor is responsible for the design and performance of the lagging using no less than a 3 in. nominal rough-sawn thickness and timber with a minimum allowable bending stress of 1000 psi.
3. All exposed concrete edges shall be chamfered 3/4" except as noted.
4. Protective Coat shall be applied to the barriers as shown on the plans.
5. All construction joints shall be bonded.
6. Reinforcement Bars designated (E) shall be Epoxy Coated.
7. Offsets are measured from the Washington St. NB baseline to F.F. of wall.
8. Drill and epoxy grout bars according to Article 584 of the Standard Specifications. The cost shall be included in "Reinforcement Bars, Epoxy Coated"
9. For details of railing, see Bridge Plans.



TYPICAL SECTION



ELEVATION - BARRIER WALL NORTH OF WEST ABUTMENT

TYLIN INTERNATIONAL

DESIGNED	-
CHECKED	- SP
DRAWN	-
CHECKED	- SP

REVISIONS	
NAME	DATE

REMOVAL AND RECONSTRUCTION OF EXIST. RETAINING WALL SOUTHWEST OF 75TH STREET BRIDGE

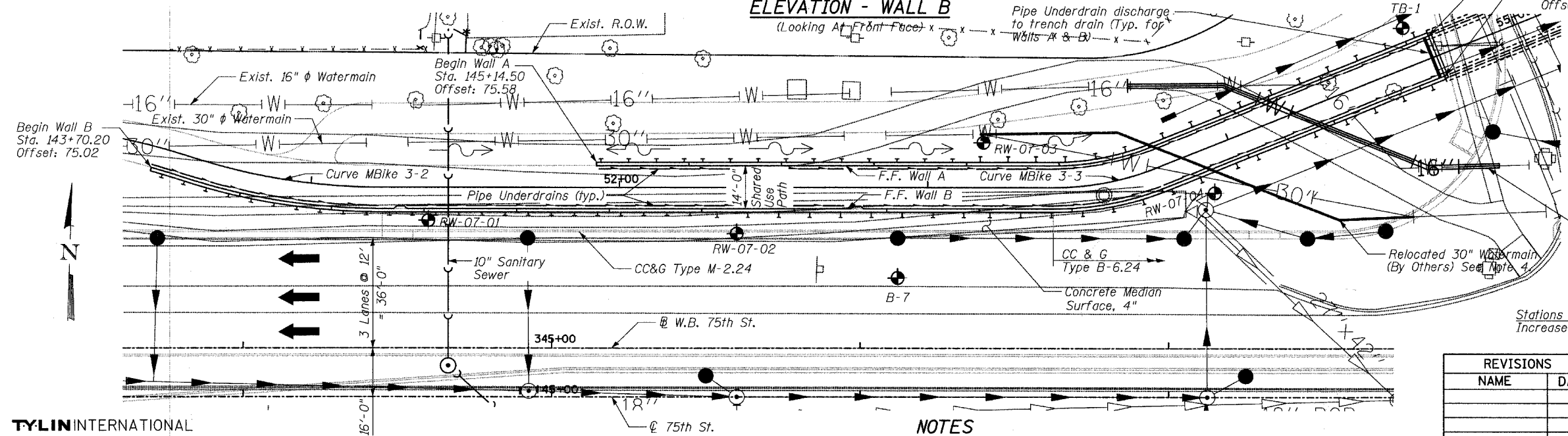
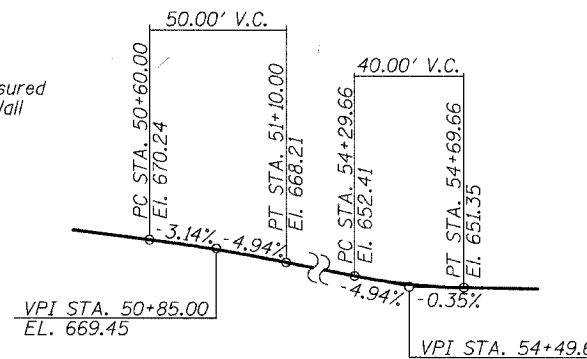
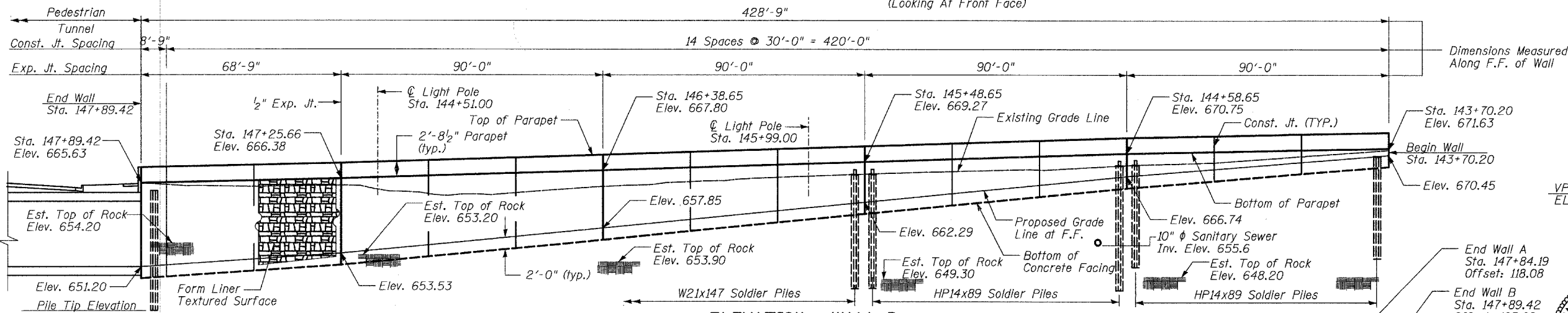
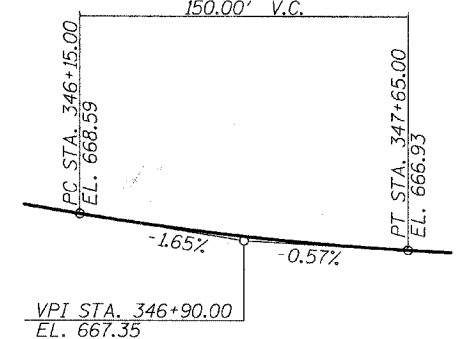
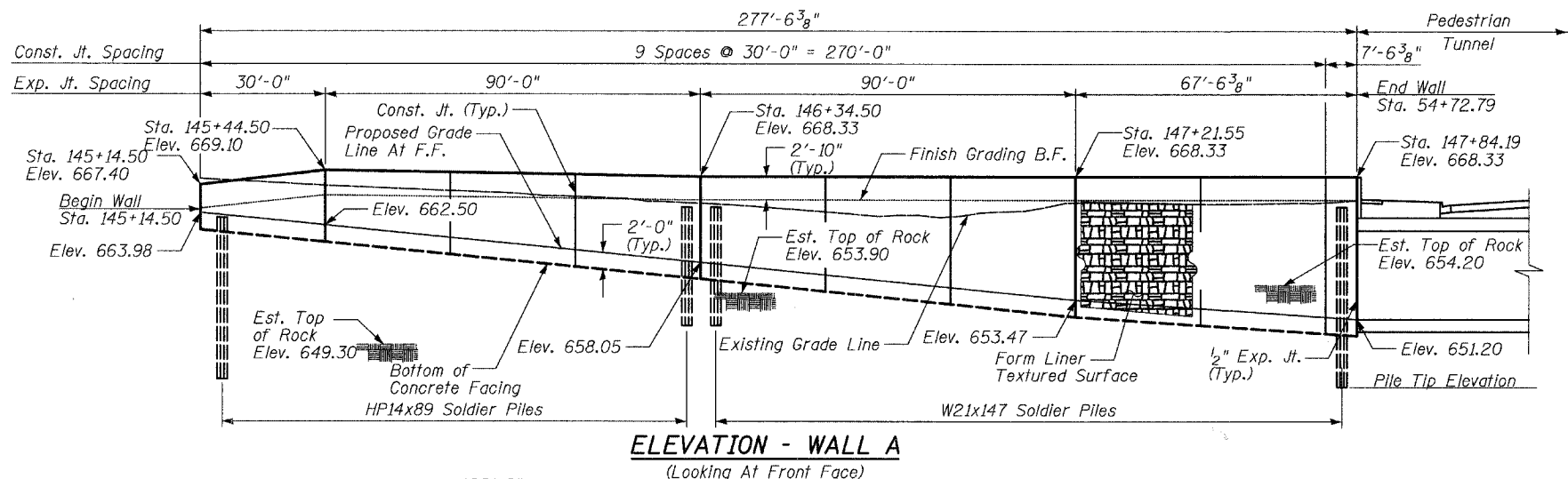
WASHINGTON - 75TH STREET
F.A.U. ROUTE 2552
SECTION 00-00114-00-PV
DUPAGE COUNTY

Benchmark: Found Dupage County disk in southwest wingwall of 75th Street bridge over West Branch of the Dupage River. Elev. 664.19
 Existing structure: None.

Prop. Curve MBIKE3-2
 PI Sta. 50+91.40
 $\Delta = 18^\circ 18' 46''$ (LT)
 $D = 28^\circ 38' 52''$
 $T = 32.24'$
 $R = 200.00'$
 $L = 63.92'$
 $E = 2.58'$
 PC Sta. 50+59.17
 PT Sta. 51+23.09

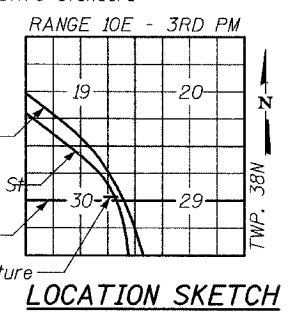
Prop. Curve MBIKE3-3
 PI Sta. 53+58.18
 $\Delta = 21^\circ 57' 04''$ (LT)
 $D = 63^\circ 39' 43''$
 $T = 17.45'$
 $R = 90.00'$
 $L = 34.48'$
 $E = 1.68'$
 PC Sta. 53+40.72
 PT Sta. 53+75.21

F.A.U. ROUTE NO.	SECTION	COUNTY	SHEET NO.	SHEET NO.
2552	*	DUPAGE	563	380
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJ. NO.	CONTRACT NO. 63024	
			150.00' V.C.	



SPIROS PANTAZIS
 CHICAGO, ILLINOIS
 PROFESSIONAL ENGINEER
 Signed: Spiros Pantazis, S.E., Ill. Lic. No. 081-006448
 Expires 11-30-2008.
 Date: 4/1/08

I certify that to the best of my knowledge, information and belief, this bridge 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 Standard Specifications of Highway Bridges".



TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

DESIGN SPECIFICATIONS
 2002 AASHTO

DESIGN STRESSES
FIELD UNITS:
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinf.)
 $f_y = 36,000$ psi (AASHTO M270 Grade 36)

NOTES

- Offsets are measured from the ϕ 75th Street to the front face of wall.
- F.F. - Front Face
- B.F. - Back Face
- The 30" ϕ Watermain is to be relocated/lowered by DuPage County. The soldier pile spacing has been placed based on the anticipated relocated alignment as shown on the plans. The Contractor shall verify the watermain alignment and adjust the pile spacing if necessary. The pile spacing as shown on the plans shall not be exceeded without the approval of the Engineer.

REVISIONS

NAME	DATE

WALLS A AND B GENERAL PLAN

WASHINGTON - 75TH STREET
 F.A.U. ROUTE 2552
 SECTION 00-00114-00-PV
 DUPAGE COUNTY

FAHJ ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	*	DUPAGE	563	381
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT-	
* 00-00114-00-PV		CONTRACT NO. 63024		

SHEET NO. - 2
18 - SHEETS

GENERAL NOTES:

- Existing utilities in conflict with soldier pile wall construction shall be abandoned or relocated according to direction given in roadway plans
- Reinforcement bars shall conform to the requirements of ASTM A 706 Gr. 60 (IL Modified). See Special Provisions.
- The Contractor is responsible for the design and performance of the lagging using no less than a 3 in. nominal rough-sawn thickness and timber with a minimum allowable bending stress of 1000 psi.
- All exposed concrete edges shall be chamfered 3/4" except as noted.
- Protective Coat shall be applied to exposed surfaces of the concrete facing.
- All construction joints shall be bonded.
- Reinforcement Bars designated (E) shall be epoxy coated.

INDEX OF SHEETS

- WALLS A AND B GENERAL PLAN
- WALLS A AND B GEN. NOTES/INDEX/BILL OF MATERIAL
- WALL A PLAN & ELEVATION STA. 51+92.58 TO STA. 52+22.58
- WALL A PLAN & ELEVATION STA. 52+22.58 TO STA. 53+12.58
- WALL A PLAN & ELEVATION STA. 54+05.26 TO STA. 54+72.79
- WALL B PLAN & ELEVATION STA. 54+72.79 TO STA. 54+04.04
- WALL B PLAN & ELEVATION STA. 54+04.04 TO STA. 53+16.72
- WALL B PLAN & ELEVATION STA. 53+16.72 TO STA. 52+26.72
- WALL B PLAN & ELEVATION STA. 52+26.72 TO STA. 51+36.72
- WALL B PLAN & ELEVATION STA. 51+36.72 TO STA. 50+48.59
- WALLS A AND B REINFORCEMENT DETAILS
- WALLS A AND B PILE DETAILS
- WALLS A AND B WALL CROSS SECTION & DETAILS 1
- WALLS A AND B MISCELLANEOUS DETAILS
- WALLS A AND B FENCING DETAILS
- BORING LOGS - 1
- BORING LOGS - 2
- BORING LOGS - 3

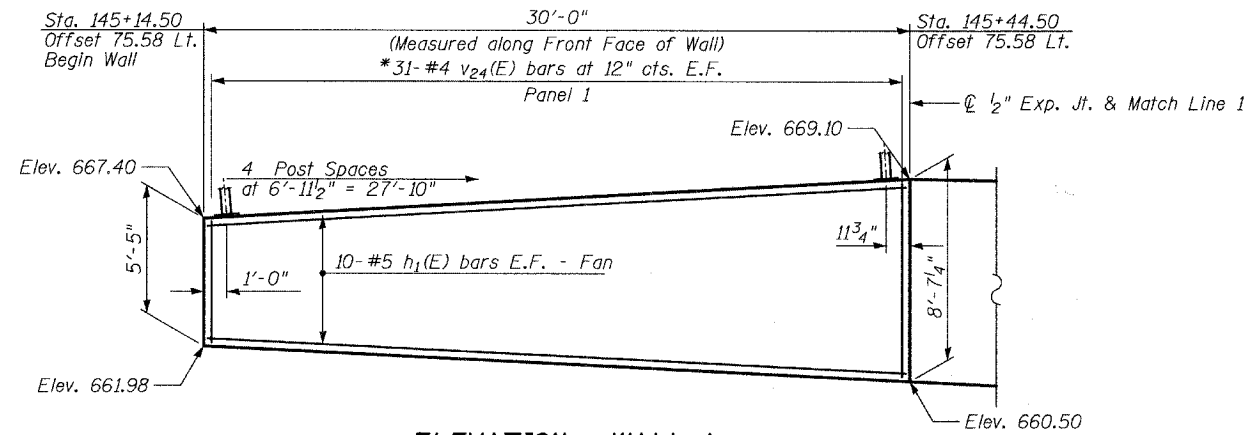
TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structure Excavation	CU YD	710
Rock Excavation for Structures	CU YD	22
Concrete Structures	CU YD	392
Protective Coat	SQ YD	305
Form Liner Textured Surface	SQ YD	776
Stud Shear Connectors	EACH	1,030
Untreated Timber Lagging	SQ FT	6,089
Reinforcement Bars, Epoxy Coated	POUND	44,580
Furnishing Soldier Piles (HP Section)	FOOT	847
Furnishing Soldier Piles (W Section)	FOOT	866
Geocomposite Wall Drain	SQ YD	677
Pipe Underdrains for Structures, 4"	FOOT	707
Conduit Embedded in Structure, 2" Dia., PVC	FOOT	215
Drilling and Setting Soldier Piles (in Soil)	CU FT	5,735
Drilling and Setting Soldier Piles (in Rock)	CU FT	2,670
Parapet Railing, Special	FOOT	707
Anti-Graffiti Coating	SQ FT	6,984

TYLININTERNATIONAL

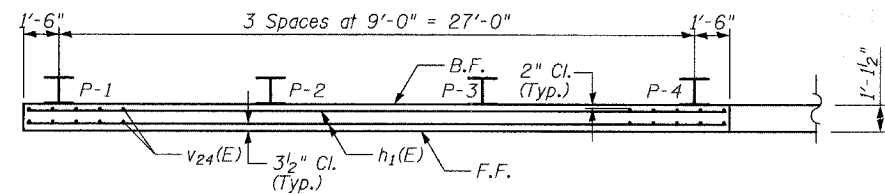
DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

REVISIONS		WALLS A AND B GEN. NOTES/INDEX/BILL OF MATERIAL
NAME	DATE	
		WASHINGTON - 75TH STREET F.A.U. ROUTE 2552 SECTION 00-00114-00-PV DUPAGE COUNTY



ELEVATION - WALL A
(Looking At Front Face)

* See Cutting Diagram.



PLAN

NOTES:

1. B.F. denotes Back Face.
2. E.F. denotes Each Face.
3. F.F. denotes Front Face.
4. Work this sheet with Sheets 4 and 5 of 18.
5. Offsets are measured from the \odot 75th St. to the front face of wall.
6. See Sheet 13 of 18 for limits of architectural finish.
7. See Sheet 15 of 18 for railing details.

TYLININTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

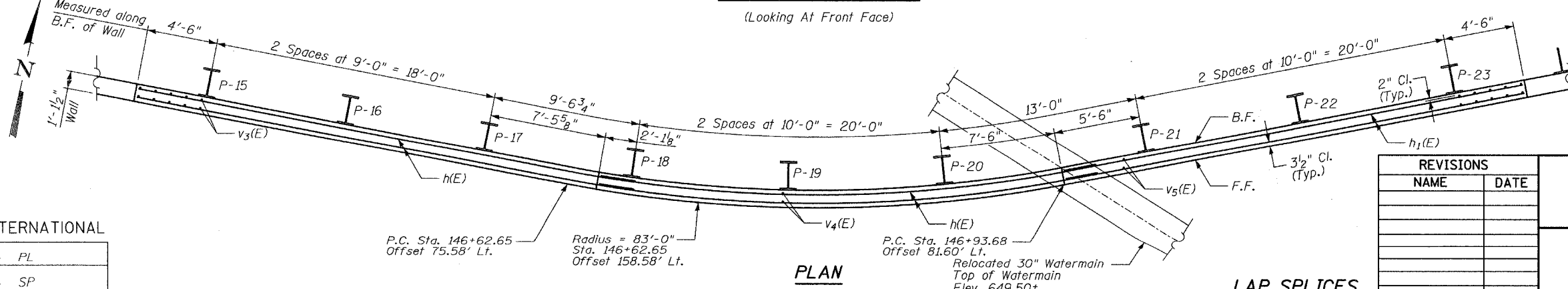
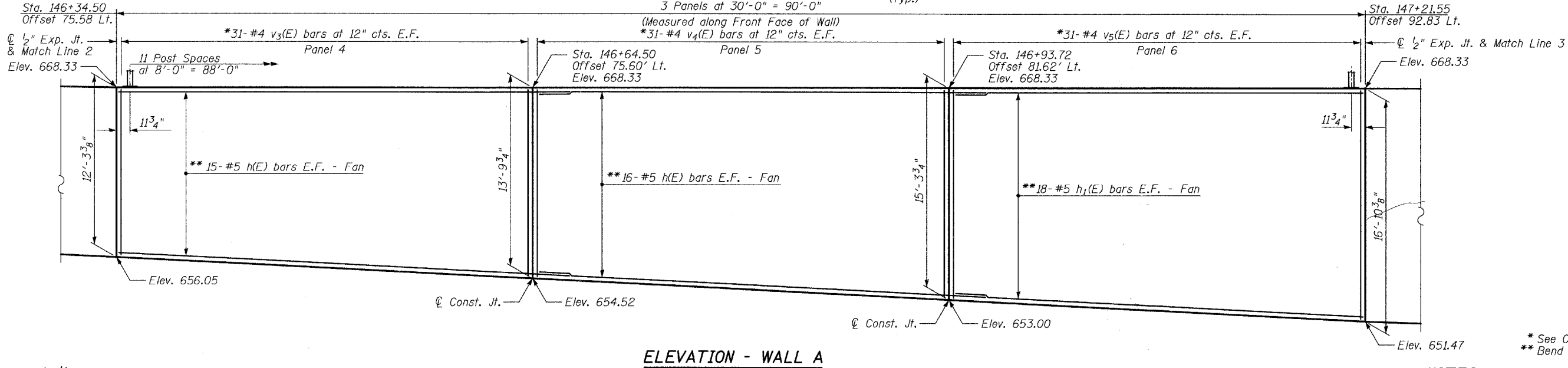
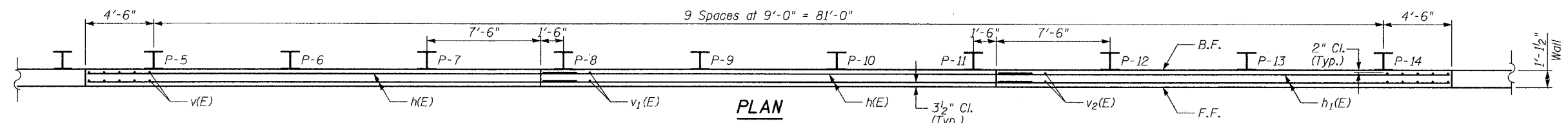
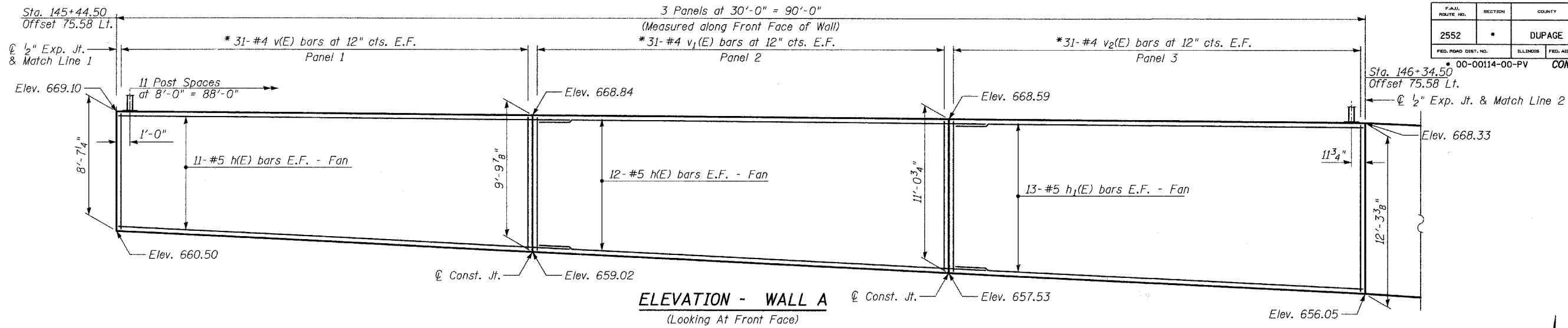
LAP SPLICES

Bar	Lap
#5	2'-2"

REVISIONS	
NAME	DATE

WALL A
PLAN & ELEVATION
STA. 51+92.58 TO STA. 52+22.58

WASHINGTON - 75TH STREET
F.A.U. ROUTE 2552
SECTION 00-00114-00-PV
DUPAGE COUNTY



- NOTES:**
1. B.F. denotes Back Face.
 2. E.F. denotes Each Face.
 3. F.F. denotes Front Face.
 4. Work this sheet with Sheets 3 and 5 of 18.
 5. Offsets are measured from the CL 75th St. to the front face of wall.
 6. See Sheet 13 of 18 for limits of architectural finish.
 7. See Sheet 15 of 18 for railing details.

TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

REVISIONS	
NAME	DATE

WALL A
PLAN & ELEVATION
STA. 52+22.58 TO STA. 53+12.58

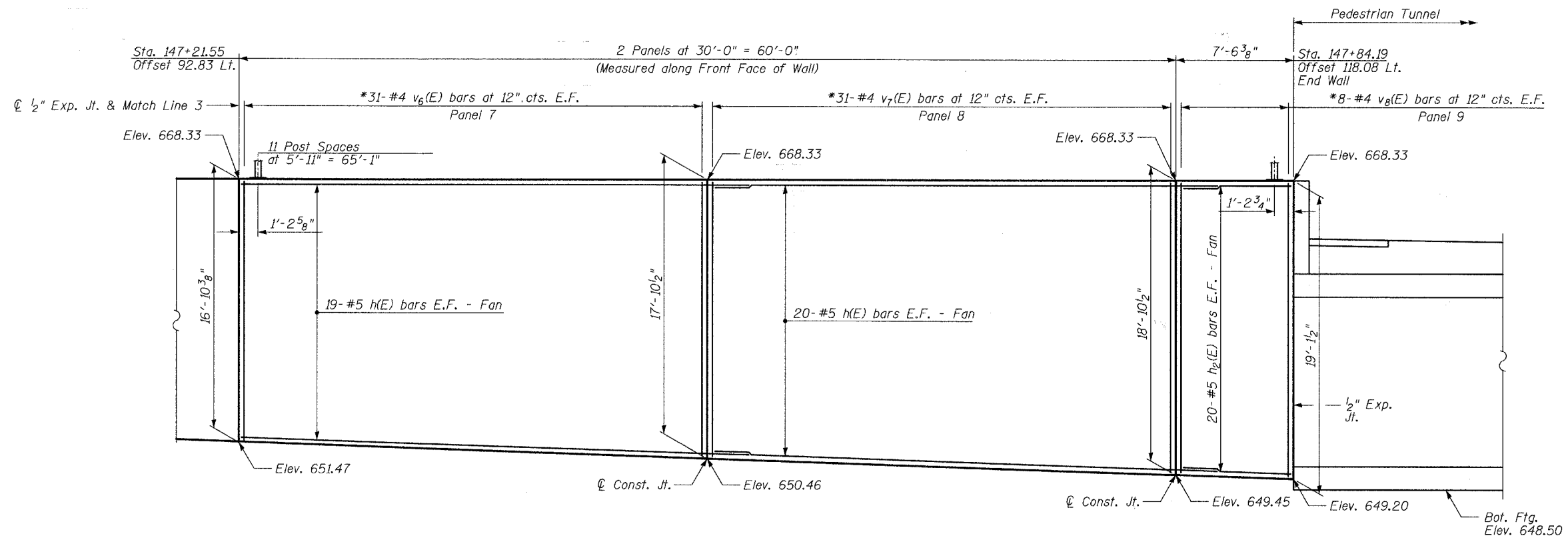
WASHINGTON - 75TH STREET
F.A.U. ROUTE 2552
SECTION 00-00114-00-PV
DUPAGE COUNTY

LAP SPLICES

Bar	Lap
#5	2'-2"

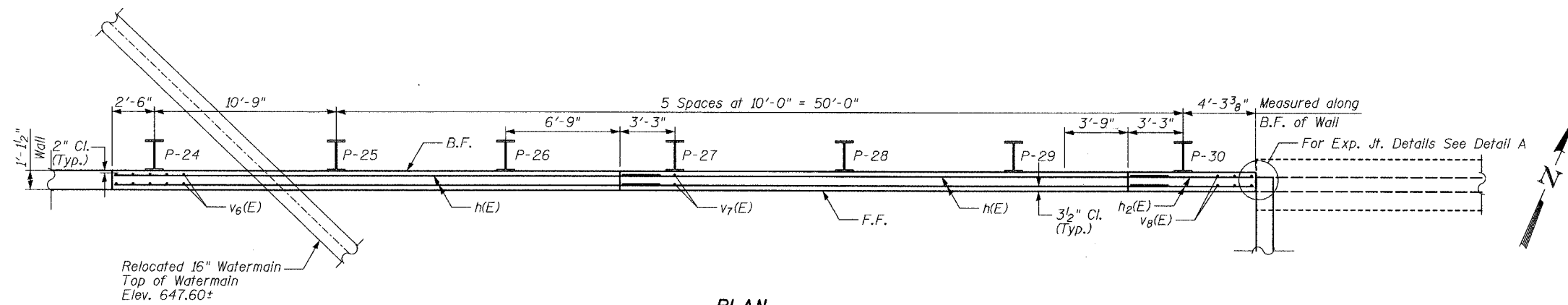
PAV. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552	*	DUPAGE	563	384
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
			* 00-00114-00-PV CONTRACT NO. 63024	

SHEET NO. - 5
18 - SHEETS



ELEVATION - WALL A

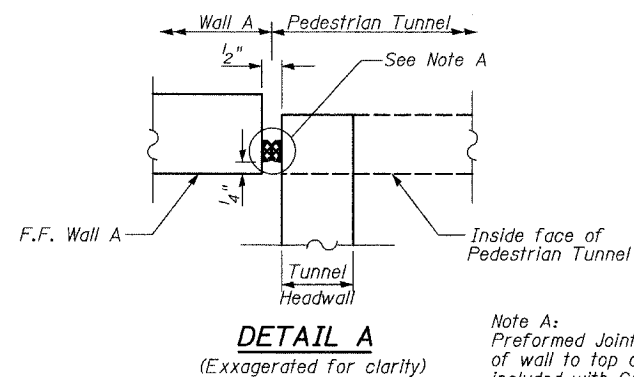
* See Cutting Diagram.



PLAN

LAP SPLICES

Bar	Lap
#5	2'-2"



DETAIL A

(Exaggerated for clarity)

Note A:
Preformed Joint Seal (6" from top of wall to top of tunnel footing). Cost included with Concrete Structures. See Special Provisions for details.

NOTES:

1. B.F. denotes Back Face.
2. E.F. denotes Each Face.
3. F.F. denotes Front Face.
4. Work this sheet with Sheets 3 and 4 of 18.
5. Offsets are measured from the ϕ 75th St. to the front face of wall.
6. See Sheet 13 of 18 for limits of architectural finish.
7. See Sheet 15 of 18 for railing details.

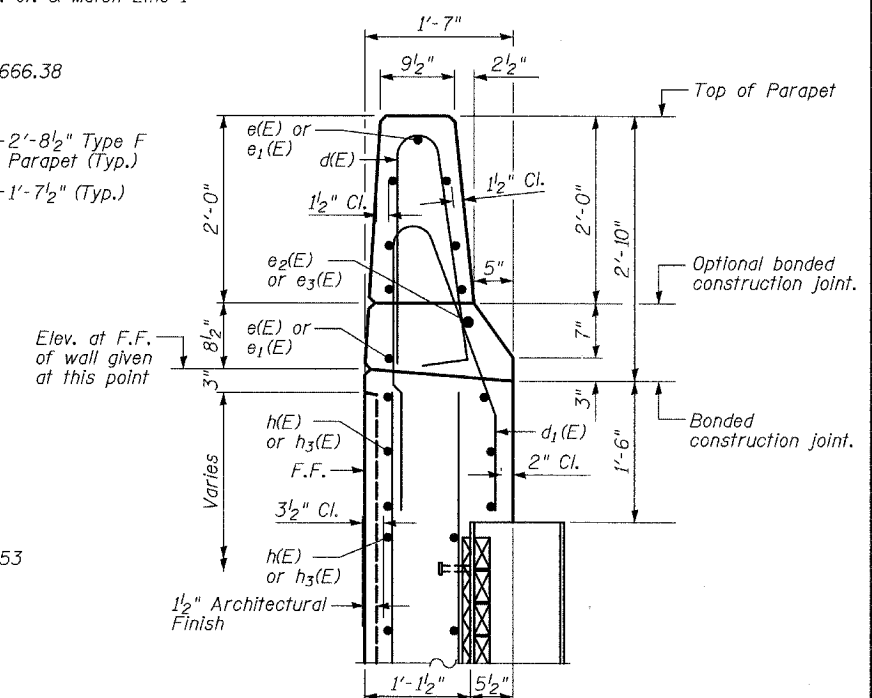
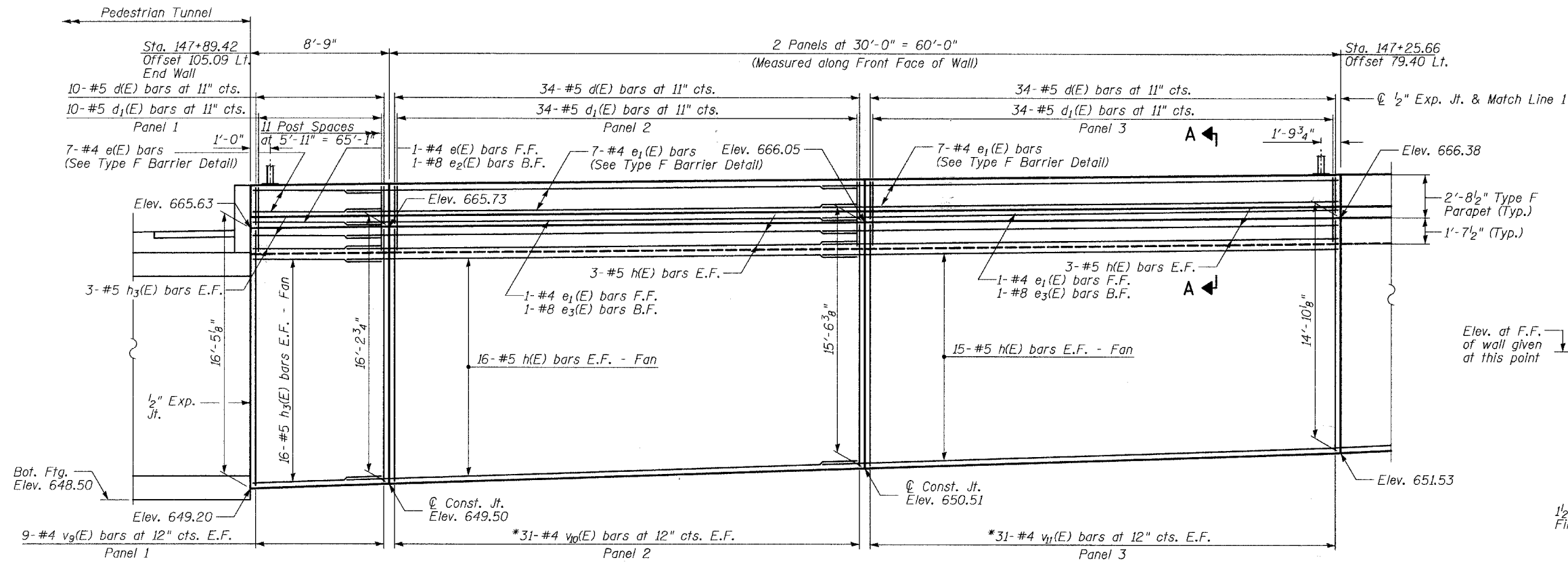
REVISIONS	
NAME	DATE

WALL A
PLAN & ELEVATION
STA. 54+05.26 TO STA. 54+72.79

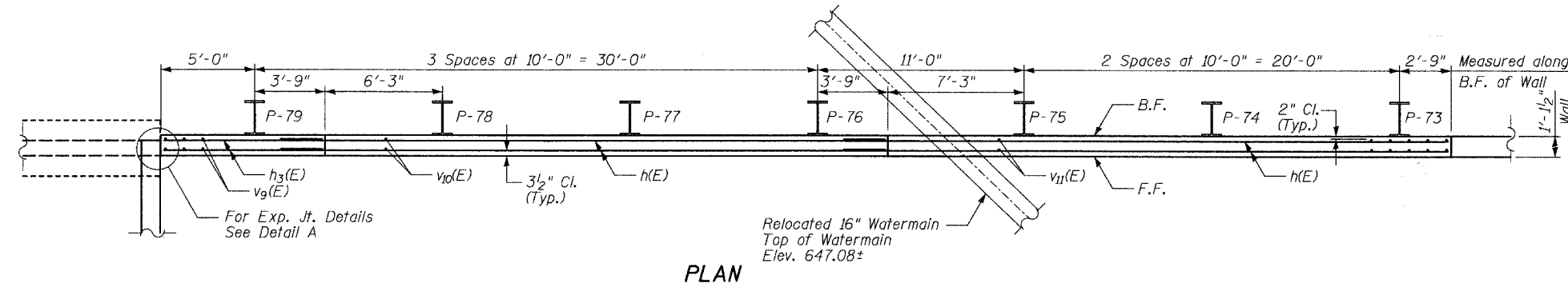
WASHINGTON - 75TH STREET
F.A.U. ROUTE 2552
SECTION 00-00114-00-PV
DUPAGE COUNTY

TYLIN INTERNATIONAL

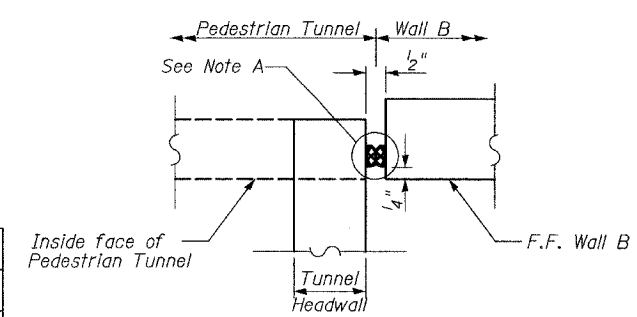
DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP



ELEVATION - WALL B
(Looking At Front Face)



PLAN



DETAIL A
(Exaggerated for clarity)

Note A:
Preformed Joint Seal (6" From top of wall to top of tunnel footing). Cost included with Concrete Structures. See Special Provisions for details.

LAP SPLICES

Bar	Lap
#4	1'-8"
#5	2'-2"
#8	4'-6"

TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

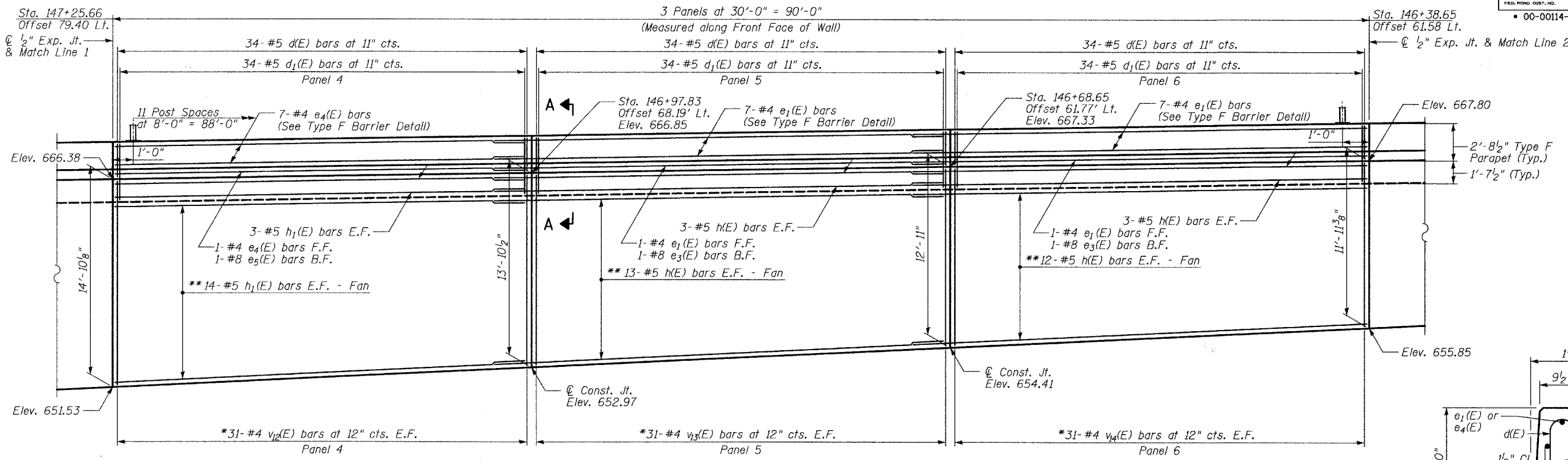
NOTES:

1. B.F. denotes Back Face.
2. E.F. denotes Each Face.
3. F.F. denotes Front Face.
4. Work this sheet with Sheets 7 thru 10 of 18.
5. Offsets are measured from the \odot 75th St. to the front face of wall.
6. See Sheet 13 of 18 for limits of architectural finish.
7. See Sheet 15 of 18 for railing details.

REVISIONS	
NAME	DATE

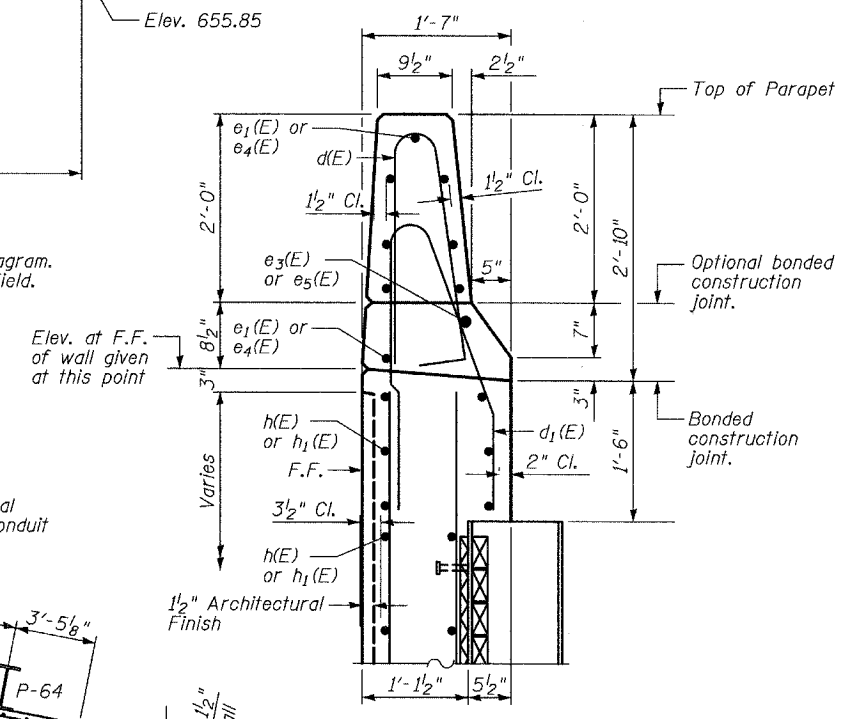
WALL B
PLAN & ELEVATION
STA. 54+72.79 TO STA. 54+04.04

WASHINGTON - 75TH STREET
F.A.U. ROUTE 2552
SECTION 00-00114-00-PV
DUPAGE COUNTY

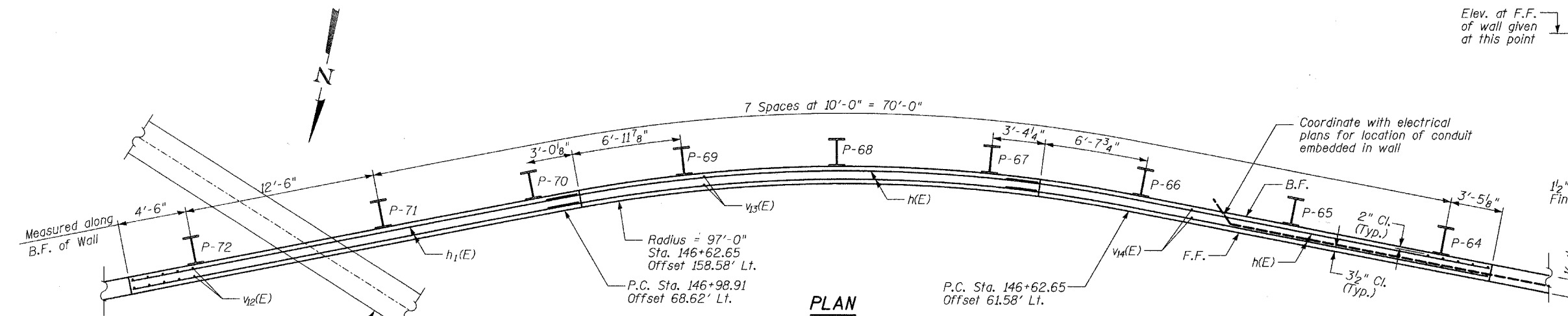


ELEVATION - WALL B
(Looking At Front Face)

* See Cutting Diagram.
** Bend bars in field.



SECTION A-A
TYPE F BARRIER DETAIL



PLAN

TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

NOTES:

1. B.F. denotes Back Face.
2. E.F. denotes Each Face.
3. F.F. denotes Front Face.
4. Work this sheet with Sheets 6 & 8 thru 10 of 18.
5. Offsets are measured from the \odot 75th St. to the front face of wall.
6. See Sheet 13 of 18 for limits of architectural finish.
7. See Sheet 15 of 18 for railing details.

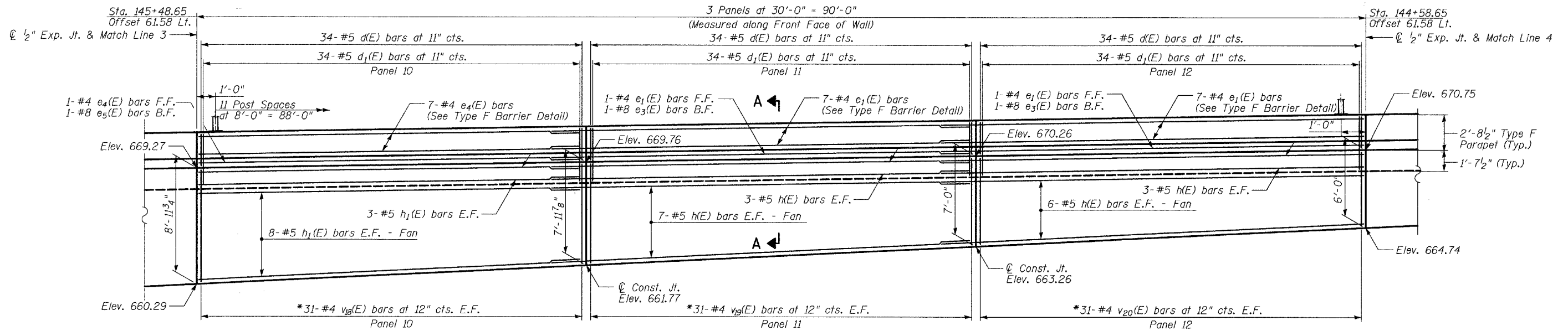
LAP SPLICES

Bar	Lap
#4	1'-8"
#5	2'-2"
#8	4'-6"

REVISIONS	
NAME	DATE

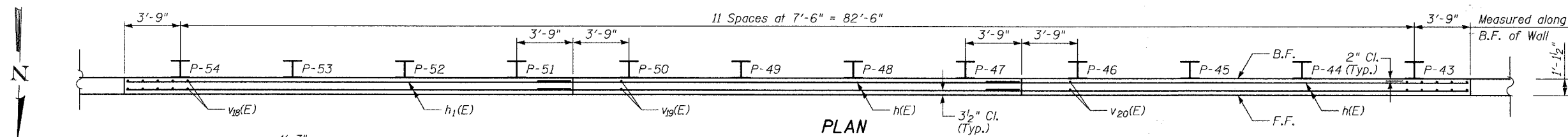
WALL B
PLAN & ELEVATION
STA. 54+04.04 TO STA. 53+16.72

WASHINGTON - 75TH STREET
F.A.U. ROUTE 2552
SECTION 00-00114-00-PV
DUPAGE COUNTY

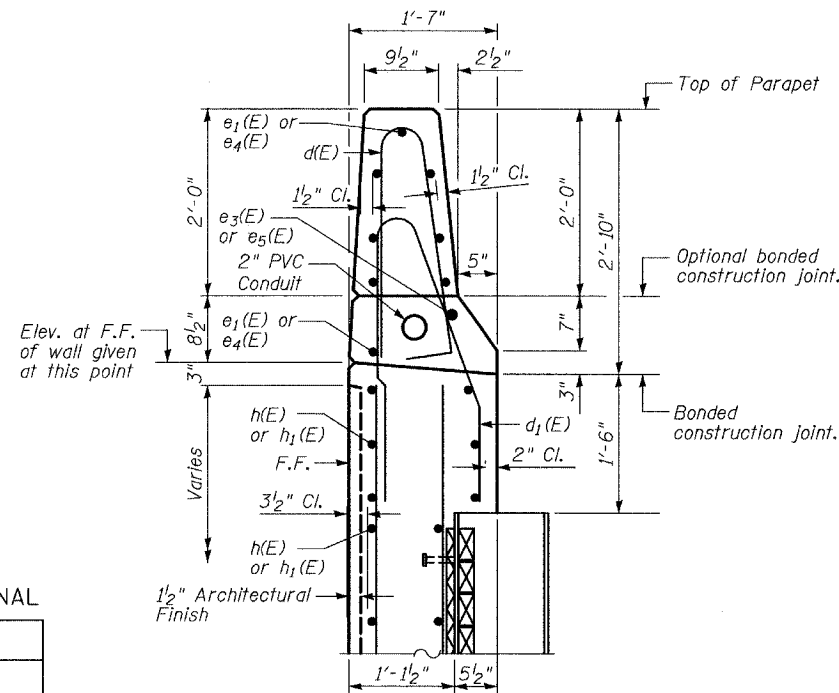


ELEVATION - WALL B
(Looking At Front Face)

* See Cutting Diagram.



PLAN



SECTION A-A
TYPE F BARRIER DETAIL

LAP SPLICES

Bar	Lap
#4	1'-8"
#5	2'-2"
#8	4'-6"

TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

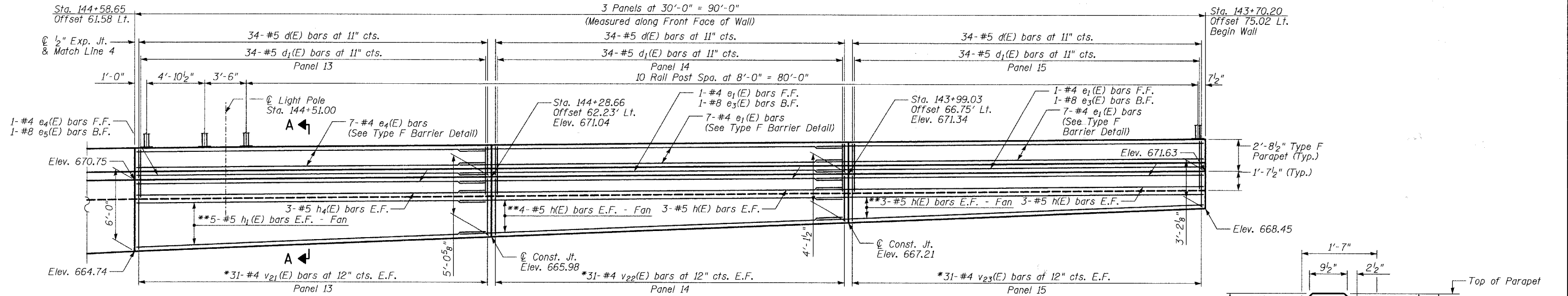
NOTES:

1. B.F. denotes Back Face.
2. E.F. denotes Each Face.
3. F.F. denotes Front Face.
4. Work this sheet with Sheets 6, 7, 8, & 10 of 18.
5. Offsets are measured from the ϕ 75th St. to the front face of wall.
6. See Sheet 13 of 18 for limits of architectural finish.
7. See Sheet 15 of 18 for railing details.

REVISIONS	
NAME	DATE

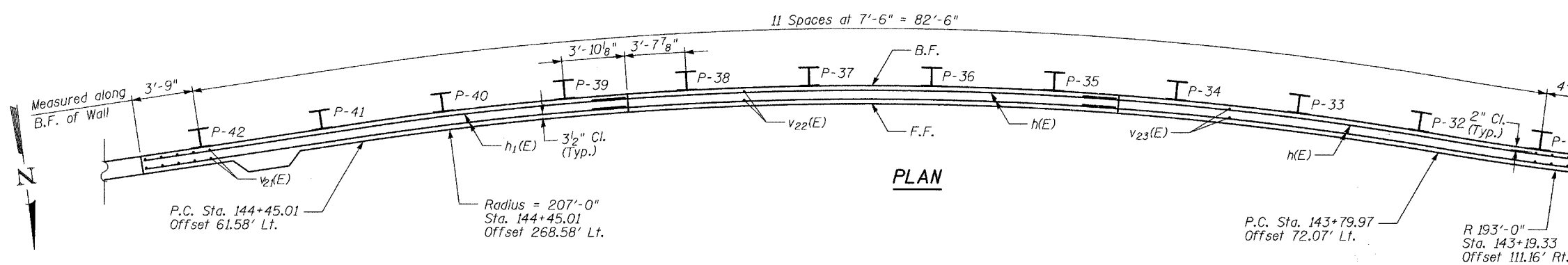
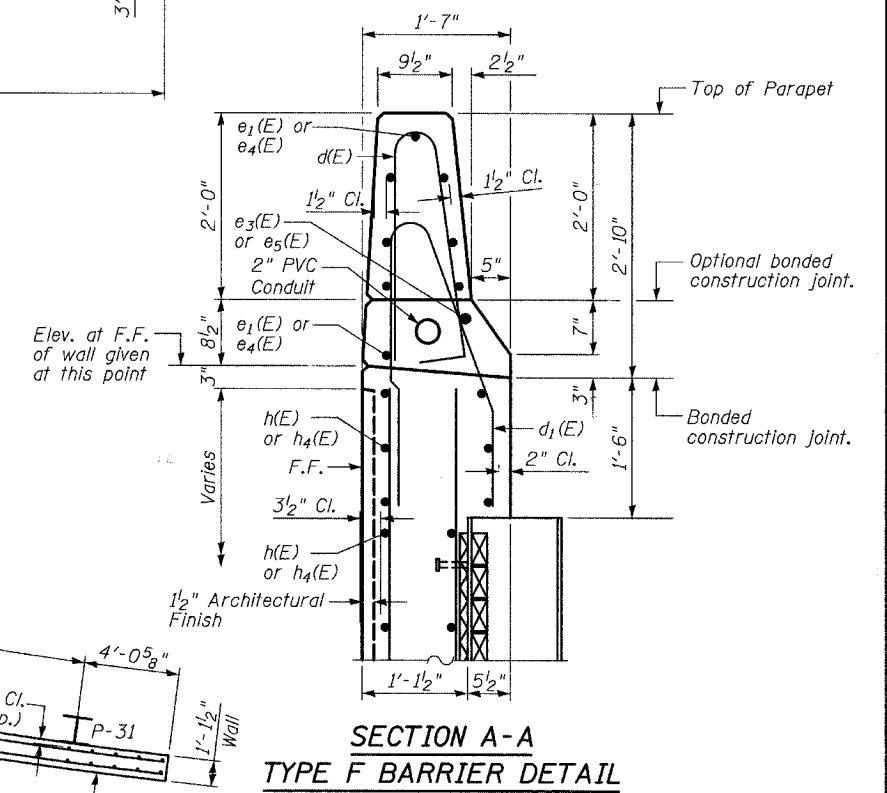
WALL B
PLAN & ELEVATION
STA. 52+26.72 TO STA. 51+36.72

WASHINGTON - 75TH STREET
F.A.U. ROUTE 2552
SECTION 00-00114-00-PV
DUPAGE COUNTY



* See Cutting Diagram.
** Bend bars in field.

ELEVATION - WALL B
(Looking At Front Face)



PLAN

**SECTION A-A
TYPE F BARRIER DETAIL**

- NOTES:**
1. B.F. denotes Back Face.
 2. E.F. denotes Each Face.
 3. F.F. denotes Front Face.
 4. Work this sheet with Sheets 6 thru 9 of 18.
 5. Offsets are measured from the ϕ 75th St. to the front face of wall.
 6. See Sheet 11 of 18 for Light Pole Details.
 7. See Sheet 13 of 18 for limits of architectural finish.
 8. See Sheet 15 of 18 for railing details.

LAP SPLICES

Bar	Lap
#4	1'-8"
#5	2'-2"
#8	4'-6"

REVISIONS

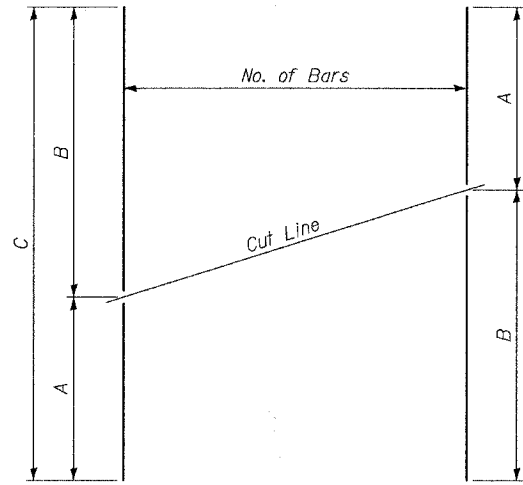
NAME	DATE

**WALL B
PLAN & ELEVATION
STA. 51+36.72 TO STA. 50+48.59**

WASHINGTON - 75TH STREET
F.A.U. ROUTE 2552
SECTION 00-00114-00-PV
DUPAGE COUNTY

TYLIN INTERNATIONAL

DESIGNED	-
CHECKED	- SP
DRAWN	-
CHECKED	- SP



SERIES OF BAR CUTTING DIAGRAM

See table for dimensions.
 Make all cuts normal to bar axis

BAR TABLE SCHEDULE

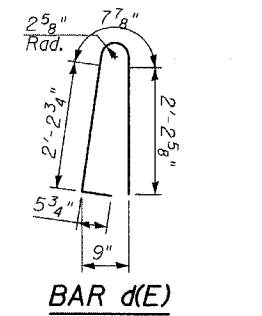
Bar	No. of Sets Req'd	No. of Bars Per Set	A	B	C
v(E)	1	31	8'-4"	9'-6"	17'-10"
v ₁ (E)	1	31	9'-6"	10'-9"	20'-3"
v ₂ (E)	1	31	10'-9"	12'-0"	22'-9"
v ₃ (E)	1	31	12'-0"	13'-6"	25'-6"
v ₄ (E)	1	31	13'-6"	15'-0"	28'-6"
v ₅ (E)	1	31	15'-0"	16'-7"	31'-7"
v ₆ (E)	1	31	16'-7"	17'-7"	34'-2"
v ₇ (E)	1	31	17'-7"	18'-7"	36'-2"
v ₈ (E)	1	8	18'-7"	18'-10"	37'-5"
v ₁₀ (E)	1	31	15'-10"	15'-1"	30'-11"
v ₁₁ (E)	1	31	15'-1"	14'-5"	29'-6"
v ₁₂ (E)	1	31	14'-5"	13'-6"	27'-11"
v ₁₃ (E)	1	31	13'-6"	12'-6"	26'-0"
v ₁₄ (E)	1	31	12'-6"	11'-6"	24'-0"
v ₁₅ (E)	1	31	11'-6"	10'-7"	22'-1"
v ₁₆ (E)	1	31	10'-7"	9'-7"	20'-2"
v ₁₇ (E)	1	31	9'-7"	8'-7"	18'-2"
v ₁₈ (E)	1	31	8'-7"	7'-7"	16'-2"
v ₁₉ (E)	1	31	7'-7"	6'-7"	14'-2"
v ₂₀ (E)	1	31	6'-7"	5'-7"	12'-2"
v ₂₁ (E)	1	31	5'-7"	4'-8"	10'-3"
v ₂₂ (E)	1	31	4'-8"	3'-8"	8'-4"
v ₂₃ (E)	1	31	3'-8"	2'-9"	6'-5"
v ₂₄ (E)	1	31	5'-2"	8'-4"	13'-6"

WALL A BILL OF MATERIAL

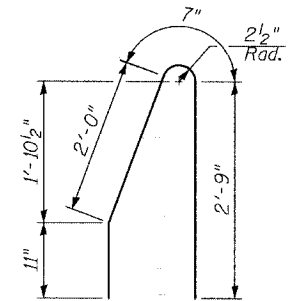
Bar	No.	Size	Length	Shape
h(E)	186	#5	32'-2"	
h ₁ (E)	82	#5	29'-8"	
h ₂ (E)	40	#5	7'-2"	
v(E)	31	#5	17'-10"	
v ₁ (E)	31	#5	20'-3"	
v ₂ (E)	31	#5	22'-9"	
v ₃ (E)	31	#5	25'-6"	
v ₄ (E)	31	#5	28'-6"	
v ₅ (E)	31	#5	31'-7"	
v ₆ (E)	31	#5	34'-2"	
v ₇ (E)	31	#5	36'-2"	
v ₈ (E)	8	#5	37'-5"	
v ₂₄ (E)	31	#5	13'-6"	
Structure Excavation		CU YD	342	
Rock Excavation for Structures		CU YD	13	
Concrete Structures		CU YD	154	
Protective Coat		SQ YD	123	
Form Liner Textured Surface		SQ YD	364	
Stud Shear Connectors		EACH	408	
Untreated Timber Lagging		SQ FT	2,474	
Reinforcement Bars, Epoxy Coated		LB	16,840	
Furnishing Soldier Piles (HP Section)		FT	294	
Furnishing Soldier Piles (W Section)		FT	310	
Geocomposite Wall Drain		SQ YD	275	
Pipe Underdrains for Structures, 4"		FT	278	
Drilling and Setting Soldier Piles (in Soil)		CU FT	1,969	
Drilling and Setting Soldier Piles (in Rock)		CU FT	1,248	
Parapet Railing, Special		FT	278	
Anti-Graffiti Coating		SQ FT	3,276	

WALL B BILL OF MATERIAL

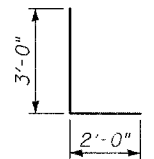
Bar	No.	Size	Length	Shape
h(E)	190	#5	32'-2"	
h ₁ (E)	76	#5	29'-8"	
h ₃ (E)	32	#5	8'-4"	
d(E)	486	#5	5'-7"	
d ₁ (E)	486	#5	6'-3"	
d ₂ (E)	6	#6	5'-0"	
d ₃ (E)	10	#6	10'-0"	
e(E)	8	#4	8'-4"	
e ₁ (E)	80	#4	31'-8"	
e ₂ (E)	1	#8	8'-4"	
e ₃ (E)	10	#8	34'-6"	
e ₄ (E)	32	#4	29'-8"	
e ₅ (E)	4	#8	29'-8"	
v ₉ (E)	18	#5	15'-11"	
v ₁₀ (E)	31	#5	30'-11"	
v ₁₁ (E)	31	#5	29'-6"	
v ₁₂ (E)	31	#5	27'-11"	
v ₁₃ (E)	31	#5	26'-0"	
v ₁₄ (E)	31	#5	24'-0"	
v ₁₅ (E)	31	#5	22'-0"	
v ₁₆ (E)	31	#5	20'-1"	
v ₁₇ (E)	31	#5	18'-2"	
v ₁₈ (E)	31	#5	16'-2"	
v ₁₉ (E)	31	#5	14'-2"	
v ₂₀ (E)	31	#5	12'-2"	
v ₂₁ (E)	31	#5	10'-3"	
v ₂₂ (E)	31	#5	8'-4"	
v ₂₃ (E)	31	#5	6'-5"	
Structure Excavation		CU YD	368	
Rock Excavation for Structures		CU YD	9	
Concrete Structures		CU YD	238	
Protective Coat		SQ YD	182	
Form Liner Textured Surface		SQ YD	412	
Stud Shear Connectors		EACH	622	
Untreated Timber Lagging		SQ FT	3,615	
Reinforcement Bars, Epoxy Coated		LB	27,740	
Furnishing Soldier Piles (HP Section)		FT	553	
Furnishing Soldier Piles (W Section)		FT	556	
Geocomposite Wall Drain		SQ YD	402	
Pipe Underdrains for Structures, 4"		FT	429	
Drilling and Setting Soldier Piles (in Soil)		CU FT	3,766	
Drilling and Setting Soldier Piles (in Rock)		CU FT	1,422	
Parapet Railing, Special		FT	429	
Anti-Graffiti Coating		SQ FT	3,708	



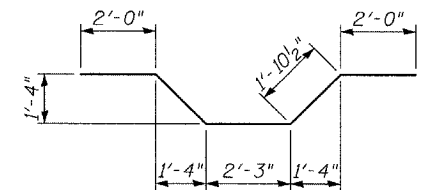
BAR d(E)



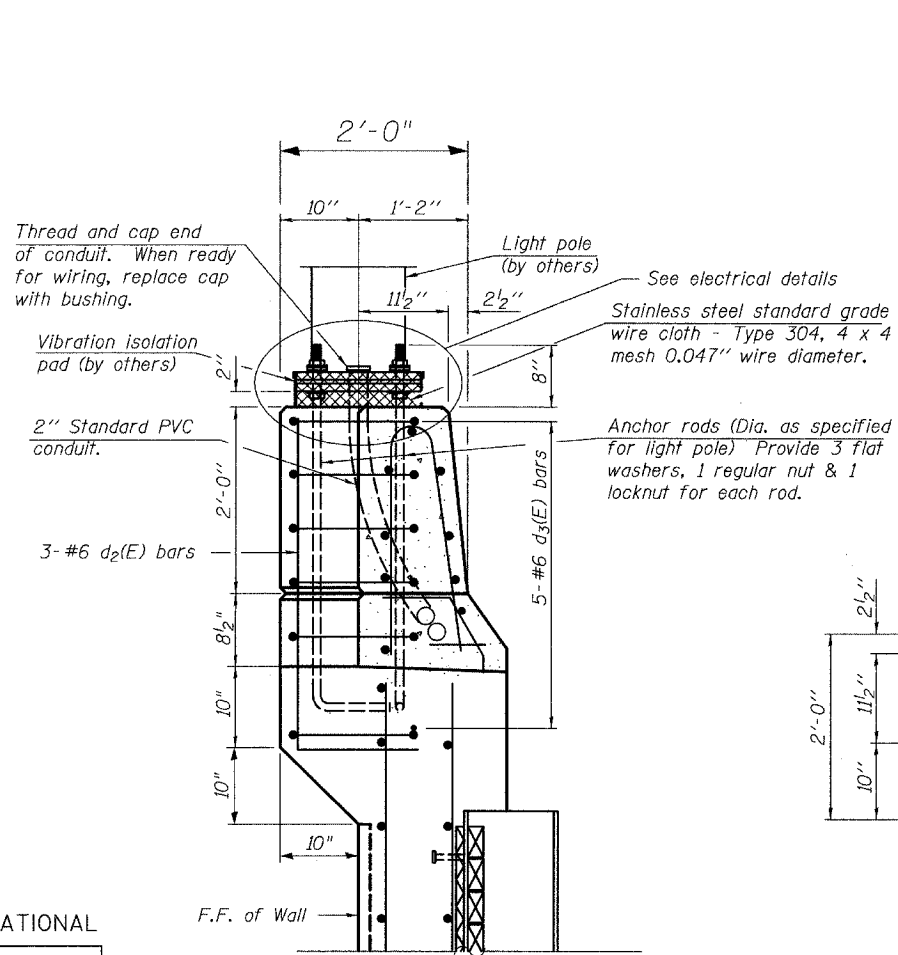
BAR d₁(E)



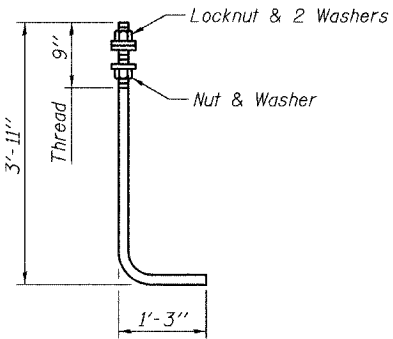
BAR d₂(E)



BAR d₃(E)

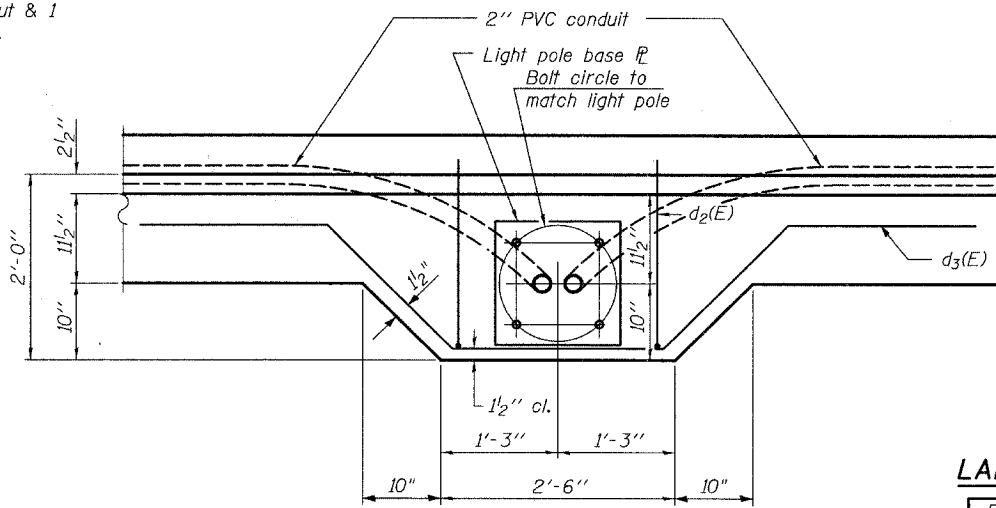


SECTION



ANCHOR ROD

Diameter as specified for light poles.
 (ASTM F 1554 Grade 105)



PLAN

LIGHT POLE DETAILS

Note:
 Cost of anchor rods is included with Concrete Structures.

LAP SPLICES

Bar	Lap
#4	1'-8"
#5	2'-2"
#8	4'-6"

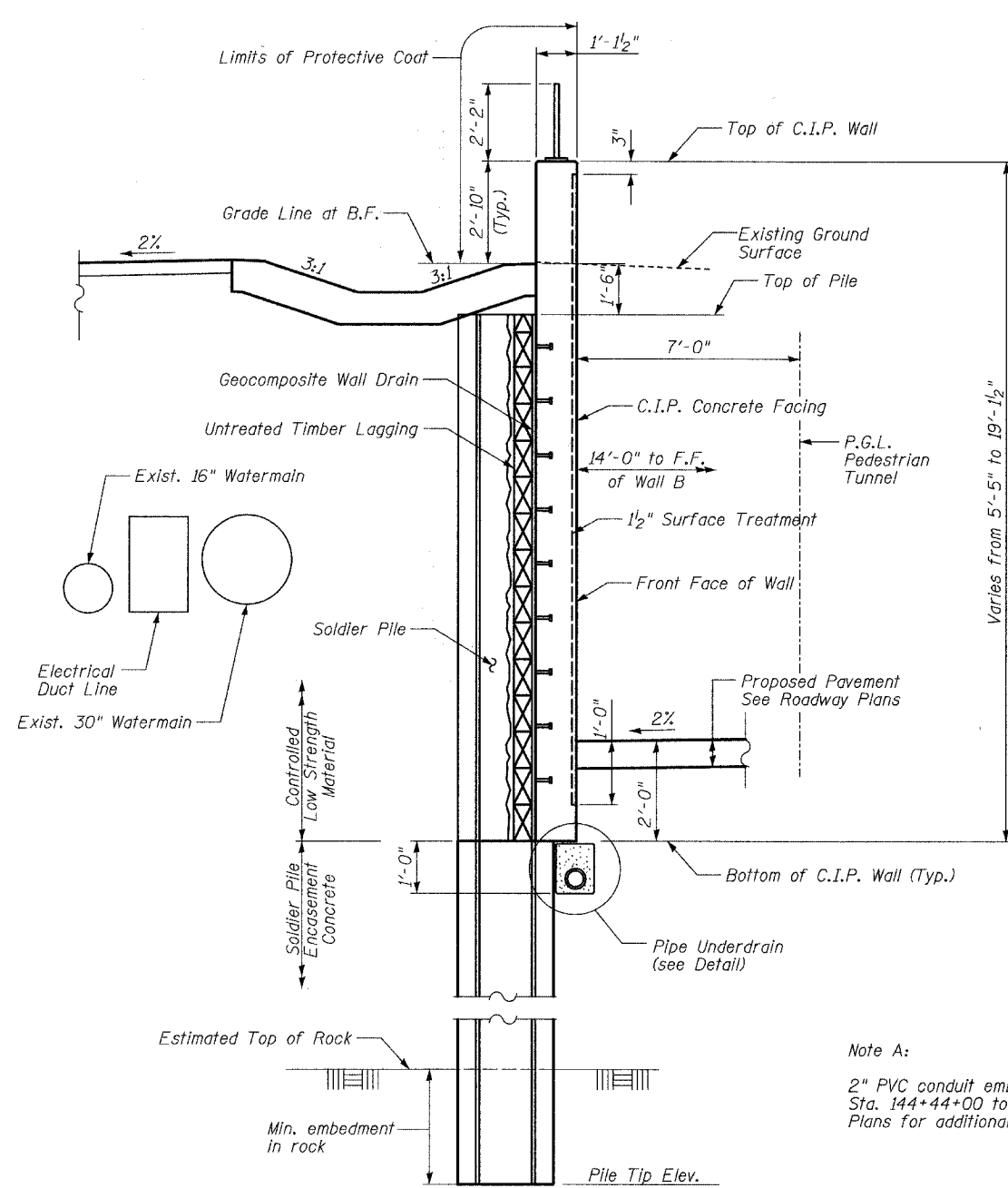
REVISIONS	
NAME	DATE

WALLS A AND B REINFORCEMENT DETAILS

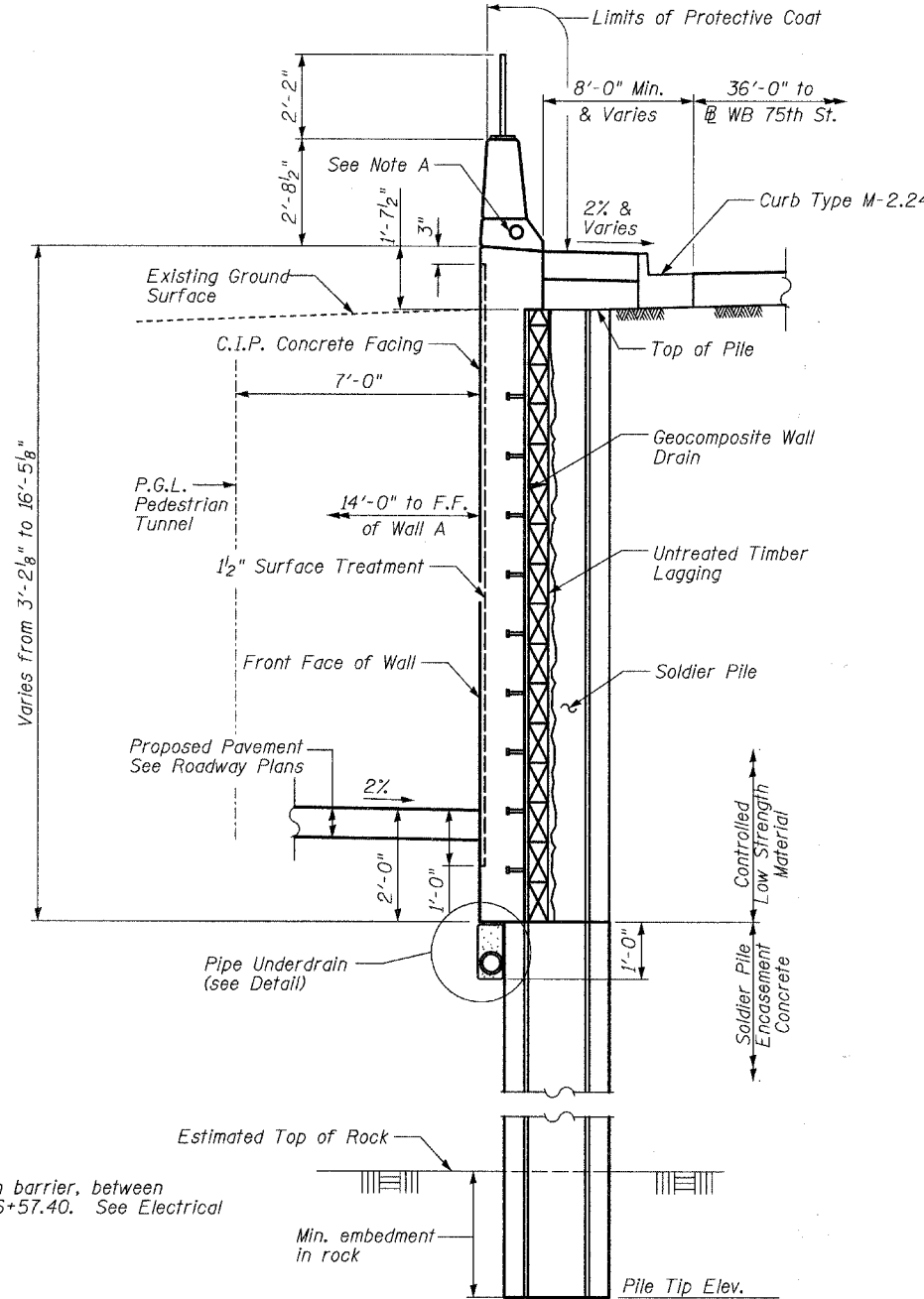
WASHINGTON - 75TH STREET
 F.A.U. ROUTE 2552
 SECTION 00-00114-00-PV
 DUPAGE COUNTY

TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

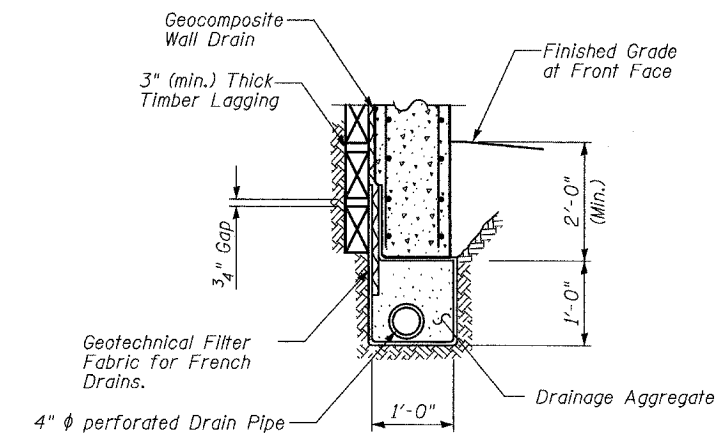


WALL A

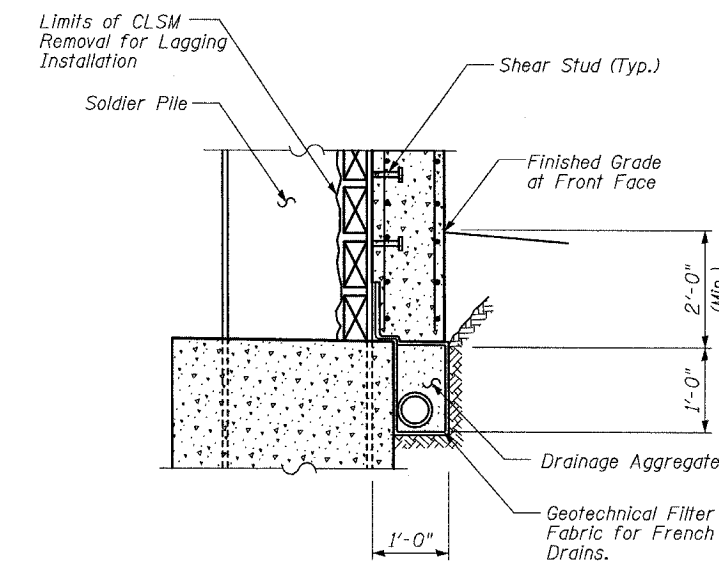


WALL B

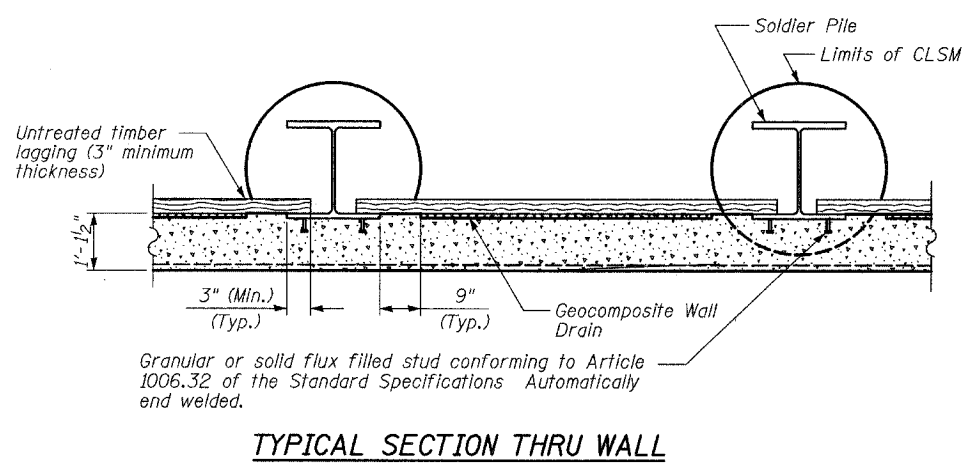
SECTION A-A



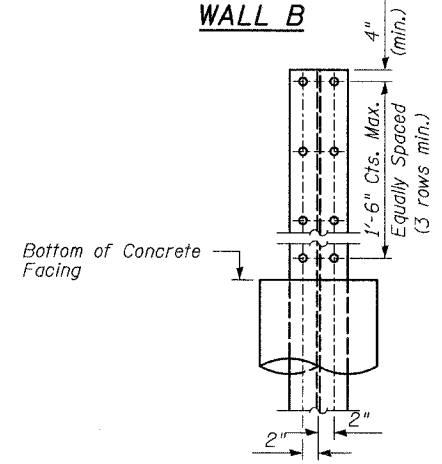
PIPE UNDERDRAIN DETAIL BETWEEN SOLDIER PILES



PIPE UNDERDRAIN DETAIL AT SOLDIER PILE



TYPICAL SECTION THRU WALL



SHEAR STUD CONNECTOR DETAIL

Stud shear connectors shall be 3/4" φ x 6" granular or solid flux filled headed studs, automatically end welded to the front flange of the soldier piles.

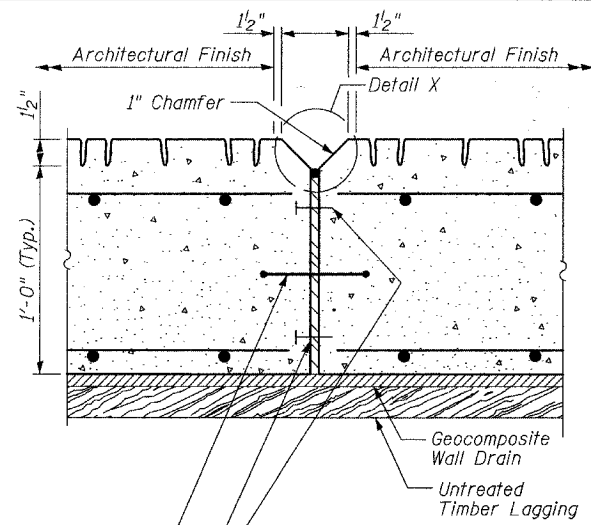
TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

REVISIONS	
NAME	DATE

**WALLS A AND B
WALL CROSS SECTION & DETAILS 1**

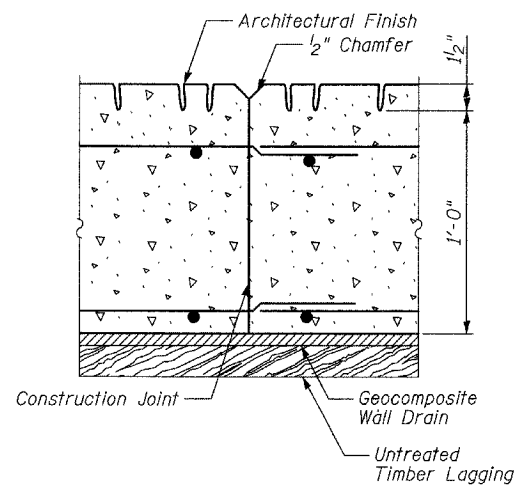
WASHINGTON - 75TH STREET
F.A.U. ROUTE 2552
SECTION 00-00114-00-PV
DUPAGE COUNTY



1/2" Preformed Joint Filler with Concrete Nails, Flat Head C.S. 1" Long @ 12" Cts. Vertical. Cost Included with Concrete Structures.

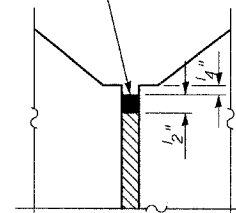
6" Hollow Bulb Type Non-Metallic Water Seal. Cost included with "Concrete Structures" Extend from bottom of facing to 6" below top of facing.

EXPANSION JOINT DETAIL

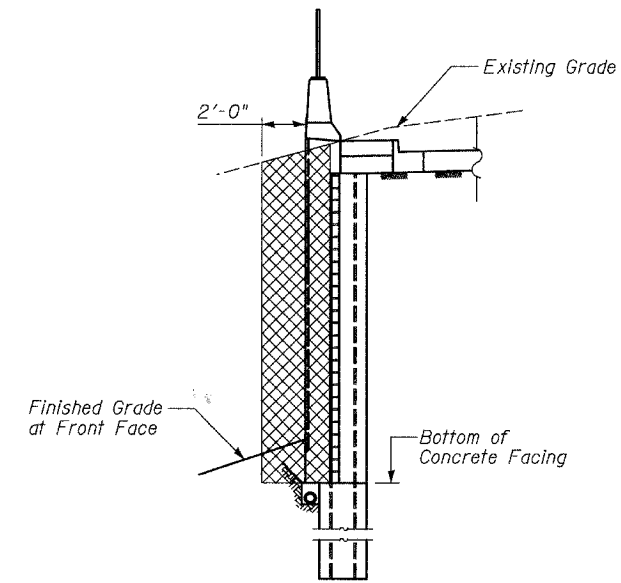


CONSTRUCTION JOINT DETAIL

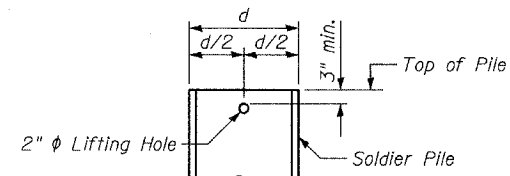
Two component non-staining gray sealing compound with polysulfite liquid polymer gun-grade with primer



DETAIL X



STRUCTURE EXCAVATION
(For Proposed Wall)



LIFTING HOLE DETAIL

Lifting hole to be provided if necessary. Cost included with "Furnishing Soldier Piles (W-Section) or (HP-Section).

NOTE:

The geocomposite wall drain shall be constructed according to Section 591 of the Standard Specifications.

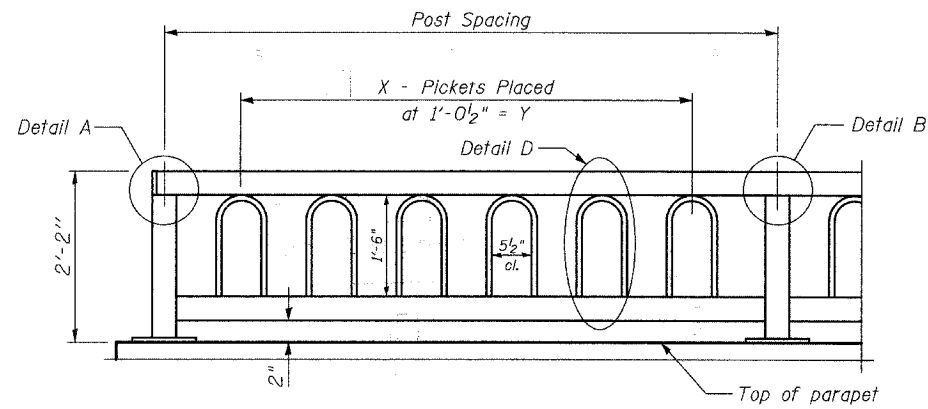
TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

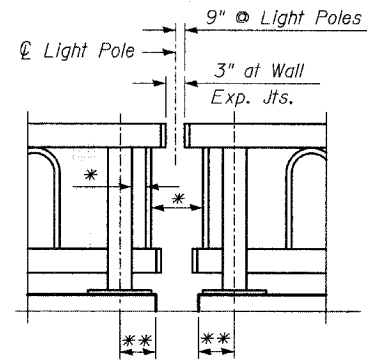
REVISIONS	
NAME	DATE

WALLS A AND B
MISCELLANEOUS DETAILS

WASHINGTON - 75TH STREET
F.A.U. ROUTE 2552
SECTION 00-00114-00-PV
DUPAGE COUNTY

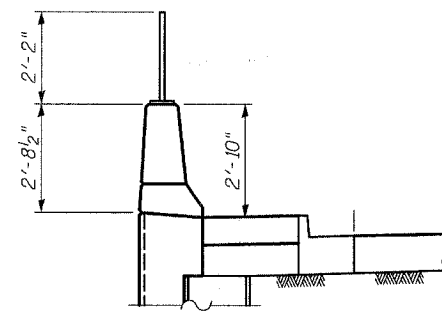


**PARAPET RAILING
ELEVATION**



**PARAPET RAILING
ELEVATION AT EXPANSION JOINT**

* Max Spacing is 6". Rail Fabricator shall add pickets as necessary. Not necessary at light pole locations.
** Varies- See Plans.

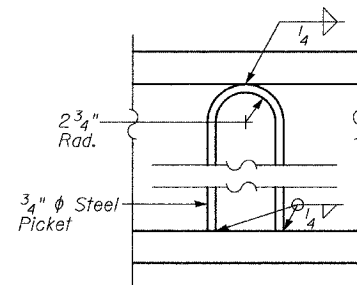


SECTION THRU WALL
(Wall B shown)

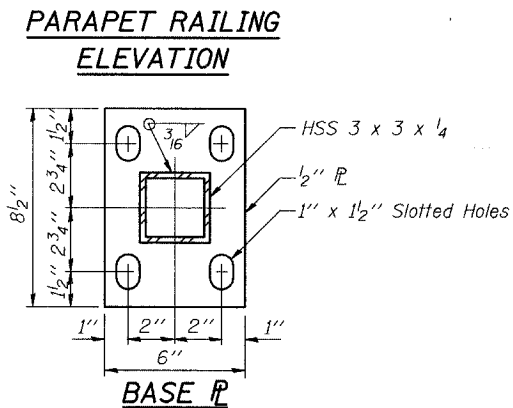
- NOTES:**
- Railing shall be in accordance with Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for Parapet Railing, Special.
 - Hollow Structural Steel Tubing shall conform to the requirements of ASTM Designation of 500, Grade B, Structural Steel Tubing. Anchor bolts shall conform to ASTM A307 unless noted otherwise.
 - All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36.
 - The parapet railing shall be powder coated and the color shall be black.
 - The exterior steel surface shall be blast cleaned to Steel Structures Painting Council Surface Preparation Specification No. 6 (SSPC-SP6) requirements using cast steel abrasives conforming to the Society of Automotive Engineers (SAE) recommended Practice J827. The blast method used is a recirculating, closed cycle centrifugal wheel system with abrasive conforming to SAE Shot Number S280.
 - All exterior surfaces shall be coated with a Urethane or Triglycidyl Isocyanurate (TGIC) Polyester Powder to a minimum film thickness of 0.002". The coating shall be electrostatically applied and cured in a gas fired convection oven by heating the steel substrate to a minimum of 350 degrees Fahrenheit and a maximum of 400 degrees Fahrenheit. The thermosetting powder resin shall provide both intercoat as well as substrate fusion adhesion that meets 5A or 5B classifications of ASTM D3359.
 - Ship railing to the site in a manner to prevent damage to the powder coating.

BICYCLE RAILING LAYOUT

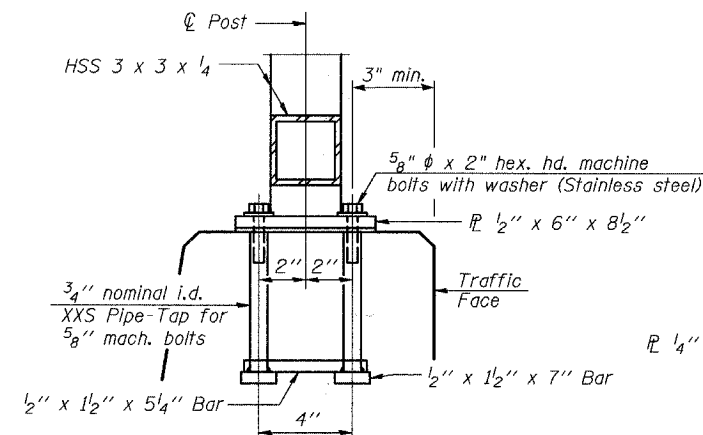
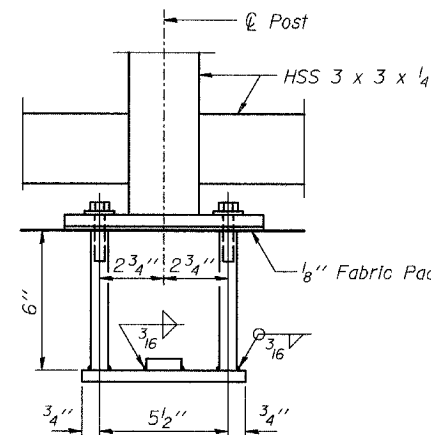
Post Spacing	Picket Layout	
	X	Y
5'-11"	5	4'-2"
6'-11 1/2"	6	5'-2 1/2"
8'-0"	7	6'-3"
9'-0 1/2"	8	7'-3 1/2"



DETAIL D

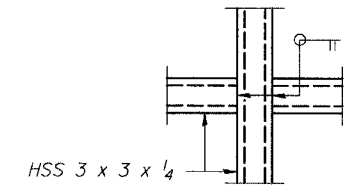


BASE PL

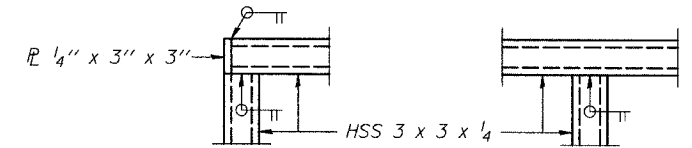


TYPICAL ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" diameter anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

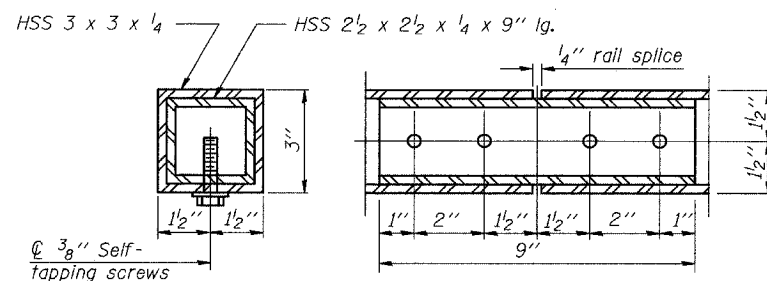


DETAIL C



DETAIL A

DETAIL B



TYPICAL RAIL SPLICE DETAILS

TYLIN INTERNATIONAL

DESIGNED	- PL
CHECKED	- SP
DRAWN	- PL
CHECKED	- SP

BILL OF MATERIAL

Item	Unit	Quantity
Parapet Railing, Special	Foot	707

REVISIONS	
NAME	DATE

**WALLS A AND B
RAILING DETAILS**

WASHINGTON - 75TH STREET
F.A.U. ROUTE 2552
SECTION 00-00114-00-PV
DUPAGE COUNTY



O'BRIEN & ASSOCIATES, INC.
CONSULTING ENGINEERS
1235 E. DAVIS ST., ARLINGTON HTS., IL 60005
(847) 398-1441 • FAX (847) 398-2376

STRUCTURE FOUNDATION BORING LOG

Project: Supplemental Phase 2 Geotechnical Investigation For The Proposed 75th Street and Washington Street Intersection Improvements OBA Job No.: 07546
 Location: Washington Street & 75th Street, Naperville, Illinois Date: 11/2/2007
 County: Cook Bored By: RH
 Client: T.Y. Lin International Checked By: DOB

BORING No.: RW-07-03	Station: 146+40 (75th Street)	Offset: 83.5' Left	Ground Surface Elevation: 665.9	4.0' TOPSOIL-black	D E P T H (ft)	B L O W S (blows)	U C S (tsf)	M O I S T (%)	Surface Water Elev.: n/a	Groundwater Elevation: n/a WD	Groundwater Elevation: n/a AB	After Hours:	D E P T H (ft)	B L O W S (blows)	U C S (tsf)	M O I S T (%)	
																	AS
CLAY-dark brown-medium dense (A-6) Fill																	
662.9																	
SAND, GRAVEL & FRACTURED ROCK-brown-medium dense (A-1)																	
657.9																	
CLAYEY SAND & GRAVEL-brown-medium dense (A-2)																	
654.9																	
Drillers Observation: Fractured rock.																	
653.9																	
Drillers Observation: Apparent bedrock.																	
652.9																	
Silurian System, Niagaran Series Dolomite RUN 1 (-13.0' to -23.0')																	
Porous & weathered with rust staining & some chert nodules to -19.9', becoming fine grained & light gray with horizontal bedding. Numerous horizontal fractures throughout. No vugs or vertical fractures encountered.																	
Recovery=98.75% R.G.D.=51.5%																	
642.9																	
End of Boring @ -23.0'																	
Hollow Stem Augers to -10.0'																	
Rotary Drilling to Completion																	
CME-Automatic Hammer																	
-25																	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
 NR-No Recovery



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CONSULTING ENGINEERS
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STRUCTURE FOUNDATION BORING LOG

Project: Supplemental Phase 2 Geotechnical Investigation For The Proposed 75th Street and Washington Street Intersection Improvements OBA Job No.: 07546
 Location: Washington Street & 75th Street, Naperville, Illinois Date: 11/1/2007
 County: Cook Bored By: RH
 Client: T.Y. Lin International Checked By: DOB

BORING No.: RW-07-04	Station: 147+15 (75th Street)	Offset: 67.5' Left	Ground Surface Elevation: 664.2	4.0' TOPSOIL-black	D E P T H (ft)	B L O W S (blows)	U C S (tsf)	M O I S T (%)	Surface Water Elev.: n/a	Groundwater Elevation: n/a WD	Groundwater Elevation: n/a AB	After Hours:	D E P T H (ft)	B L O W S (blows)	U C S (tsf)	M O I S T (%)	
																	AS
CLAY-dark brown-stiff (A-6) Fill																	
663.9																	
SAND, GRAVEL & FRACTURED ROCK-brown-medium dense to very dense (A-1)																	
661.2																	
Possible cobbles or boulders from -7.0' to -11.0'.																	
653.2																	
Drillers Observation: Apparent bedrock.																	
652.2																	
Silurian System, Niagaran Series Dolomite RUN 1 (-12.0' to -22.0')																	
Porous & weathered with rust staining & some chert nodules to -19.75', becoming fine grained & light gray with horizontal bedding. Numerous horizontal fractures throughout. No vugs or vertical fractures encountered.																	
Recovery=100.0% R.G.D.=53.0%																	
642.2																	
End of Boring @ -22.0'																	
Hollow Stem Augers to -10.0'																	
Rotary Drilling to Completion																	
CME-Automatic Hammer																	
-25																	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer) ST-Shelby Tube Sample VS-Vane Shear Test
 The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206) The Unit Dry Weight (pcf) is noted in italics above moist (%)
 NR-No Recovery

TYLIN INTERNATIONAL

DESIGNED	-
CHECKED	- SP
DRAWN	- TB
CHECKED	- SP

REVISIONS	
NAME	DATE

BORING LOGS - 2

WASHINGTON - 75TH STREET
 F.A.U. ROUTE 2552
 SECTION 00-00114-00-PV
 DUPAGE COUNTY

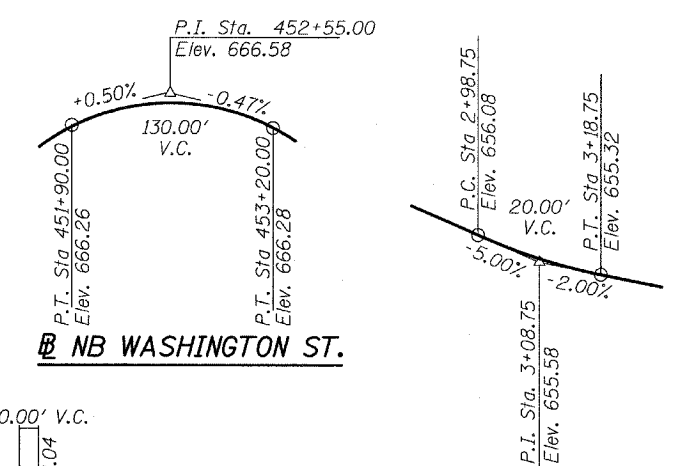
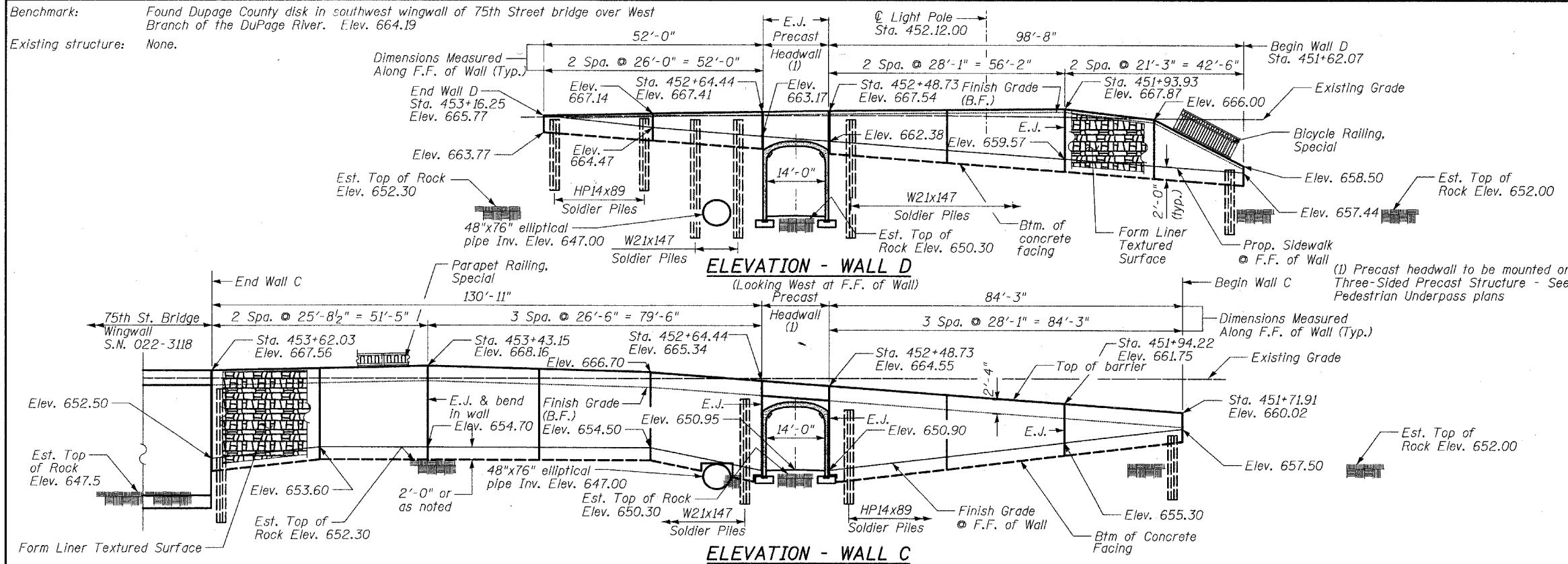
Benchmark: Found Dupage County disk in southwest wingwall of 75th Street bridge over West Branch of the DuPage River. Elev. 664.19

Existing structure: None.

F.A.U. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2552		DUPAGE	563	398
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT-	
00-00114-00-PV		CONTRACT NO. 63024		

SHEET NO. - 1

13 - SHEETS



DESIGN SPECIFICATIONS
2002 AASHTO

DESIGN STRESSES

FIELD UNITS
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinf.)
 $f_y = 36,000$ psi (AASHTO M270 grade 36)

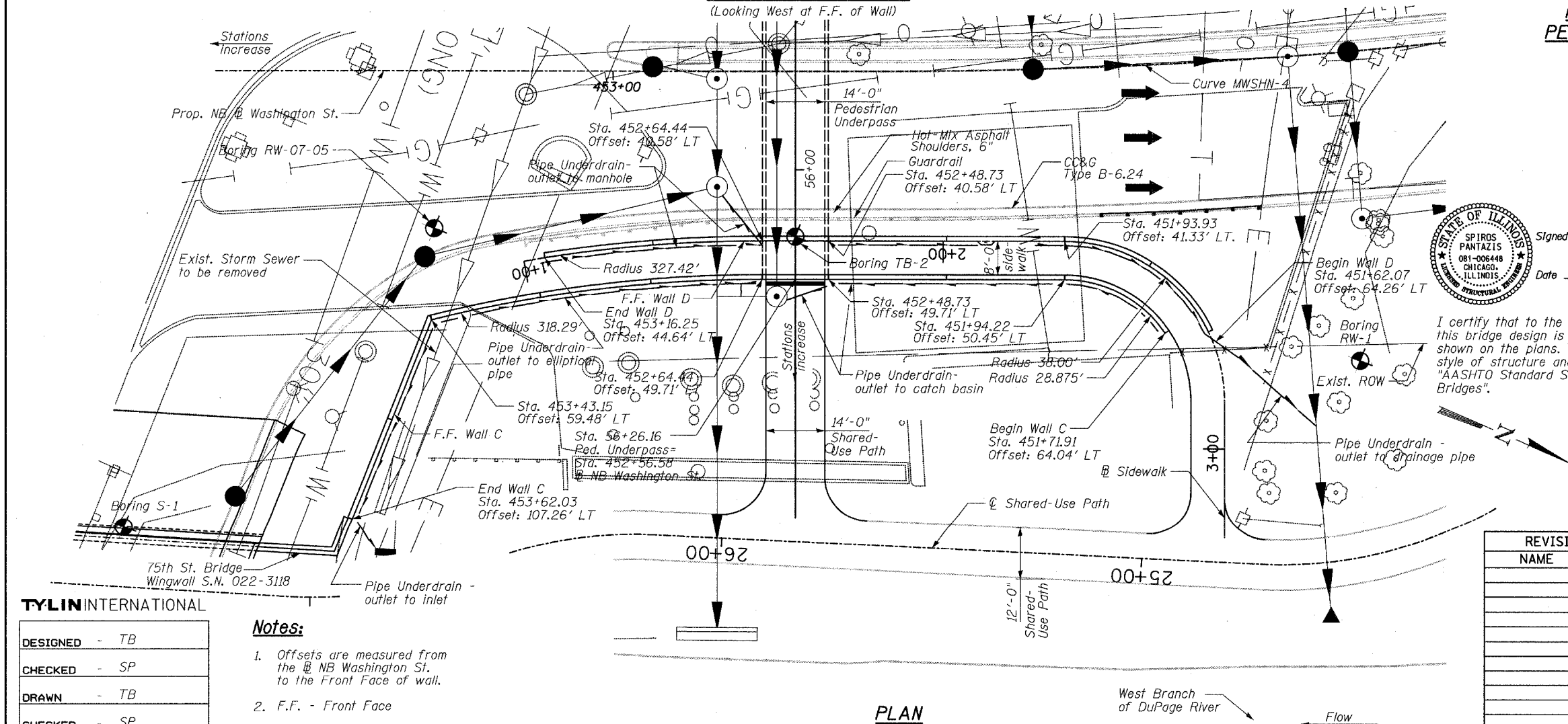
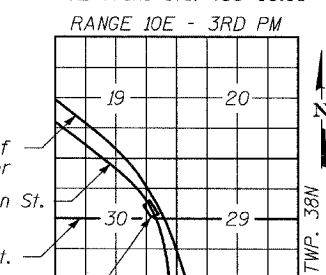
Curve MWSHN-4
 PI Sta. 451+27.61
 $\Delta = 9^\circ 51' 07''$ (RT)
 $D = 4^\circ 29' 38''$
 $T = 109.89'$
 $R = 1,275.00'$
 $L = 219.24'$
 $E = 4.73'$
 PC Sta. 450+17.72
 PT Sta. 452+36.96
 $SE = 4.35'$
 Begin SE Trans Sta. 448+57.72
 Begin Full SE Sta. 450+72.72
 End Full SE Trans Sta. 451+81.96
 End SE Trans Sta. 453+96.96

PROFILE GRADE PEDESTRIAN TUNNEL



Signed: *AP*
 Spiros Pantazis, S.E. II, Lic. No. 081-006448
 Expires 11-30-2008.
 Date: 4/11/08

I certify that to the best of my knowledge, information and belief, this bridge 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 Standard Specifications of Highway Bridges".



REVISIONS	
NAME	DATE

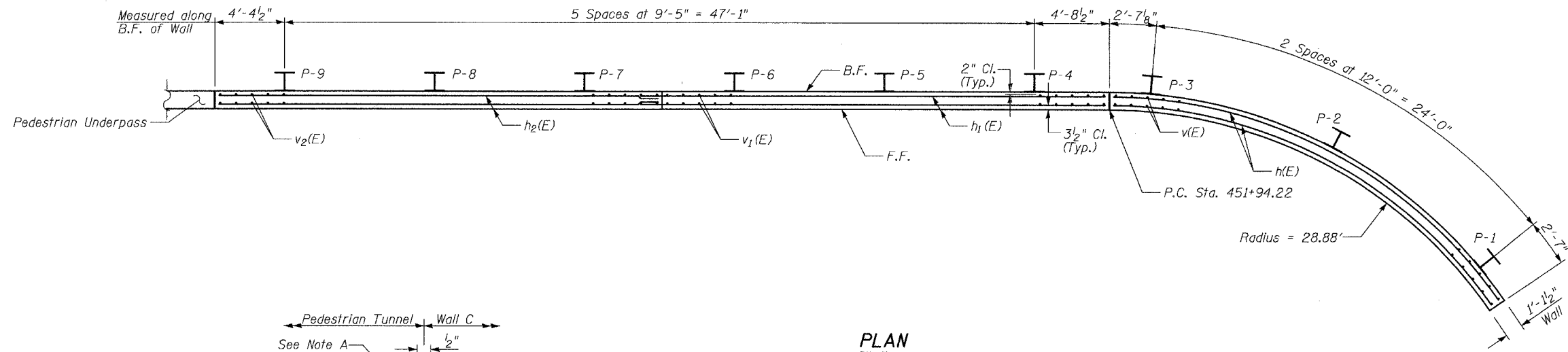
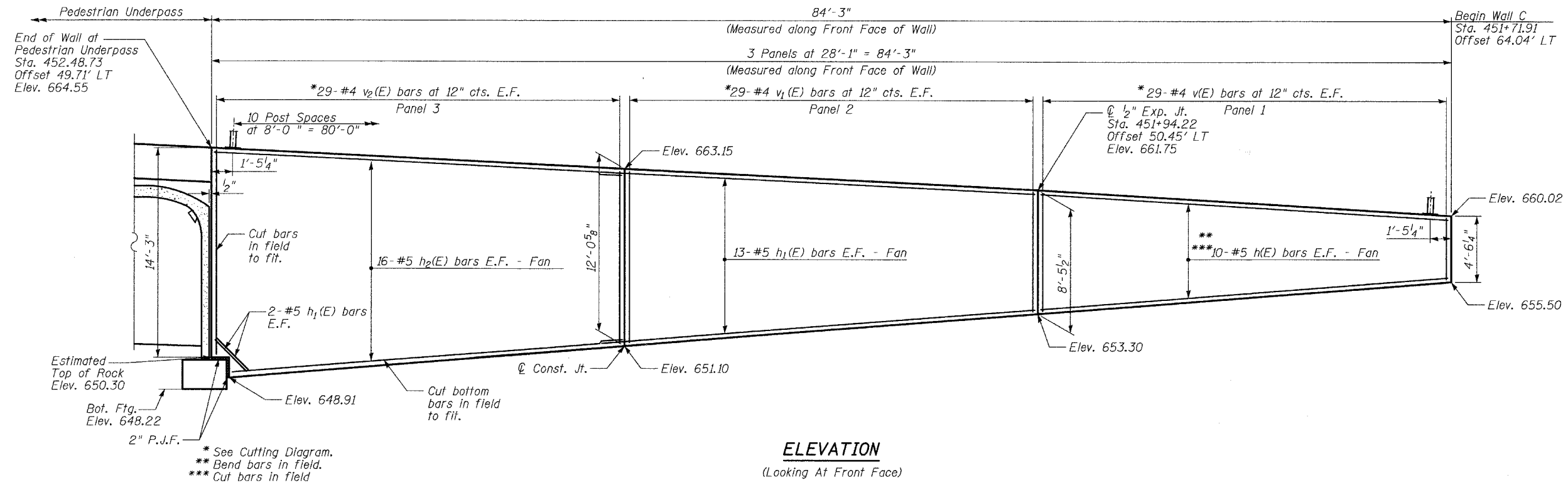
WALLS C & D GENERAL PLAN

WASHINGTON - 75TH STREET
 F.A.U. ROUTE 2552
 SECTION 00-00114-00-PV
 DUPAGE COUNTY

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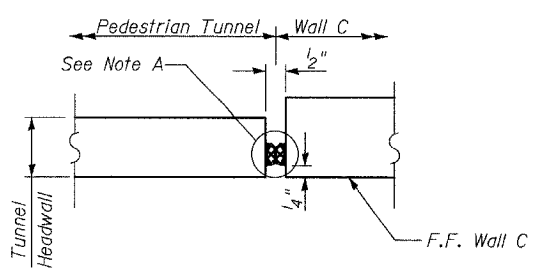
DESIGNED	- TB
CHECKED	- SP
DRAWN	- TB
CHECKED	- SP

- Notes:**
- Offsets are measured from the @ NB Washington St. to the Front Face of wall.
 - F.F. - Front Face
 - B.F. - Back Face



LAP SPLICES

Bar	Lap
#5	2'-2"



Note A:
Preformed Joint Seal (6" from top of wall to top of tunnel footing). Cost included with Concrete Structures. See Special Provisions for details.

- NOTES:**
- B.F. denotes Back Face.
 - E.F. denotes Each Face.
 - F.F. denotes Front Face.
 - Work this sheet with Sheets 4 & 5 of 13.
 - Pile spacing measured along back face of wall.
 - Offsets are measured from the @ NB Washington St. to the front face of wall.
 - See Sheet 8 of 13 for limits of architectural finish.
 - See Sheet 11 of 13 for railing details.

REVISIONS

NAME	DATE

WALL C
PLAN & ELEVATION
STA. 451+71.91 TO STA. 452+48.73

WASHINGTON - 75TH STREET
F.A.U. ROUTE 2552
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DUPAGE COUNTY

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CHECKED	- SP
DRAWN	- TB
CHECKED	- SP