

STATE OF NEBRASKA
DEPARTMENT OF ROADS
ADDENDUM NO. 1
AND
ELECTRONIC BIDDING SYSTEM
AMENDMENT NO. 1
PROJECT NO. EACNH-STPC/E-6-7(114)
CONTROL NO. 20581
CALL ORDER F03
198TH – SKYLINE DRIVE, OMAHA
LETTING DATE: AUGUST 1, 2002

The Schedule of Items is amended as follows:

1. In Group 1A, the quantity for the bid item "Concrete Face Panels" is incorrect. The quantity should read 6,720.000 m2.
2. In Group 1A, the quantity for the bid item "Select Granular Backfill For MSE Wall" is incorrect. The quantity should read 29,959.000 m3.
3. In Group 6B, the quantity for the bid item "Concrete For Overlays – Type K" is incorrect. The quantity should read 67.500 m3.

The EBS generated bid items sheet must show these corrections or the bid will be considered void. For this letting, all EBS amendments will be applied by the Department. Bidders will need to download the new EBL file reflecting these corrections.

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On page 48 of the Special Provisions, the provision titled SPECIAL PROSECUTION AND PROGRESS (Phasing) is void and superseded by the following:

SPECIAL PROSECUTION AND PROGRESS
(Phasing)

- I. The plans depict phasing sequences that are to be used in the construction of this project. Any deviation from these sequences shall require the written approval of the Engineer.
- II. Due to the phasing required for this project, it is likely that the Contractor may have to stockpile excavated material within the project limits for use in later phases of construction.

The majority of the excavated material is available in Phase 2. The Contractor should place as much of this excavated material as possible as embankment throughout the project, as required in later phases, so as not to interfere with traffic movements in current and future phases. If necessary, excess excavated material may be temporarily stockpiled in a large ROW area located south of Sta. 295± to Sta. 298+50±, as shown on plan sheets R6 and R9.

The Contractor should be aware of this possibility and should adjust their bid for "Excavation" and "Excavation, Borrow" accordingly.

III. The phasing plans depict several temporary roadways (crossovers, temporary drives, paving across medians, etc.) which are all paid for as Mg of asphaltic concrete and remove asphalt surface. The earthwork for the majority of these roadways is included in the "Excavation" quantities (i.e., once the surfacing is removed, additional cut or fill is necessary to complete the earthwork in that area) and no "Excavation, Established Quantity" is required for removing that roadway.

For those few temporary roadways whose removal are not a part of original cut and fill quantities, as described above, the removal of the embankment shall be paid for as an overrun of the item "Excavation, Established Quantity".

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The Special Provisions are amended to include the following:

SHEAR CONNECTORS

Shear connectors are now to be installed according to OSHA Instruction, Directive No. CPL 2 – 1.34, dated March 22, 2002.

Section 708, Steel Structures, in the 2001 Supplemental Specifications to the Standard Specifications, is amended as follows:

1. Paragraph 24. of Subsection 708.03 is void.
2. Paragraph 3. of Subsection 708.04 is void.
3. Paragraph 1. and 5. of Subsection 708.05 are void.

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The Special Provisions are amended to include the following:

PORTLAND CEMENT CONCRETE PAVEMENT SMOOTHNESS

Section 602 in the Standard Specifications and Supplemental Specifications are void and superseded by the following:

602.01 – General

1. This specification established a standard for Portland cement concrete pavement smoothness, and defines defective pavement smoothness. The intent of the specification is to produce a finished Portland cement concrete pavement driving surface with a Profile Index no greater than 315 millimeters per kilometer.
2. Pavement smoothness will be evaluated as prescribed in this section when the pay item "Portland Cement Concrete Pavement Smoothness" is included in the contract.

602.02 – Equipment

1. The Contractor shall furnish a California profilograph approved by the Nebraska Department of Roads.
2. The profilograph shall have multiple, non-uniformly spaced, articulated support wheels arranged such that no two wheels pass the same location on the pavement surface at the same time (ASTM Designation : E 1274, Paragraph 5.1.2)
3. The profilograph shall be equipped with a computerized system that will record, analyze, and print the test data.
4. The profilograph shall produce a printed pavement profile trace (profilogram) with a vertical scale of 1:1, and a horizontal scale of 1:300 (1 mm paper=300 mm pavement). The profilogram shall include the following information.
 - a. Project number
 - b. Test date
 - c. Traffic lane
 - d. Test direction
 - e. Test path
 - f. Pass number (1 for initial test; 2,3,etc. for repeat runs)
 - g. Operator's name
 - h. Project stations
 - i. Data filter values
 - j. Blanking (Null) band width
 - k. Profile counts for each test section
 - l. Profile Index for each test section
 - m. Bump locations for each test section

602.03 – Certification and Independent Assurance Testing

1. The Department shall calibrate and certify the Contractor's profilograph annually at a test site established by the Department.
 - a. The profilograph shall be inspected for compliance with general equipment requirements, including wheel configuration, effective length, data analysis system, guidance system, and overall condition.
 - b. The profilograph shall be calibrated for distance measurement by moving it over the prescribed path of a premeasured test distance at walking speed, and determining its distance calibration factor.
 - c. The profilograph shall be checked for vertical measurement accuracy by placing a 25 mm and 50 mm calibration block, measured to the nearest 0.25 mm, under the sensing wheel while the profilograph is stationary. The vertical measurement indicated by the profilograph shall be within 4.0% tolerance of the actual pre-measured block height.
 - d. The profilograph shall be checked for overall performance by moving it over the prescribed path of a premeasured pavement test section at walking speed.

- e. Distance measurement indicated by the profilograph shall be within 0.2 percent tolerance of the actual premeasured test section distance. To ensure accurate distance measurement during test runs, the air pressure of the distance measurement tire must always be maintained at the same level used for calibration.
 - f. The Profile Index reported by the profilograph for the test section shall be within 10.0 percent tolerance of the Profile Index reported by a Nebraska Department of Roads profilograph for the same test section.
 - g. A dated and signed decal will be placed on the profilograph to certify it's acceptability for use on Nebraska Department of Roads pavement construction projects.
2. The Department shall certify the Contractor's profilograph operator at least every 5 years. The operator may be certified by presenting certification from another state highway agency or by completing certification training conducted by the Nebraska Department of Roads.
3. The Department shall schedule and perform Independence Assurance tests for the Contractor's profilographs and operators at least once per construction season. Independent Assurance testing shall be conducted at a randomly selected time on an active construction project. The criteria for the test will be similar to those used for certification.

602.04 – Profilograph Test Procedures

- 1. The Contractor shall perform all pavement smoothness specification tests except the 3-meter straight edge testing as shown in Paragraph 15, below.
- 2. The Engineer shall furnish a report form to the Contractor identifying all required test sections.
 - a. The pavement surface shall be divided into lane-width segments that end at a bridge, railroad crossing, or other designated termini.
 - b. The lane-width segments shall be further divided into individual 200 meters long test sections, in the direction of project stationing. The last test section in a segment is usually shorter than 200 meters.
 - c. If a test section is less than 100 meters long, it shall be combined with the preceding 200 meters long test section for analysis.
- 3. The Contractor's certified profilograph operator shall perform smoothness specification tests in the Engineer's presence. Smoothness testing shall be performed during normal daylight working hours unless otherwise approved by the Engineer. If the Contractor notifies the Engineer of a proposed test, and the Engineer elects not to be present, then the Contractor may proceed unaccompanied.

4. The Contractor shall report test results to the Engineer within 72 hours after initial concrete placement or surface corrective work. The Contractor shall report additional test results to the Engineer as soon as possible, but *not* later than 7 calendar days after completion of the mainline pavement.
5. The profilograph operator shall perform pavement smoothness measurements in the right-hand or left-hand wheel path of all driving lanes, as directed by the Engineer, including climbing and fly-by lanes. In urban areas, where inlet block-outs or manholes are in the right or left-hand wheel path, the pavement smoothness measurements shall be made in a location determined by the Engineer. All wheels of the profilograph shall be on the new pavement for which the Contractor is responsible. The wheel path to be tested shall be designated by the Engineer prior to the beginning of construction.
6. The Contractor shall remove all objects and foreign material from the pavement surface before testing.
7. The profilograph operator shall guide the profilograph along the specified wheel path of each traffic lane at walking speed. Propulsion may be by personnel pushing manually, or by a suitable propulsion unit that does not exceed a speed of 6.5 kilometers per hour. Excessive speed can produce erratic test results.
8. A lateral location indicator shall be used to keep the profilograph in the required test path during testing. Pavement edges, longitudinal pavement markings may be used as reference lines. An additional person may be required to hold the back end of the profilograph on the required path on horizontal curves.
9. Before testing, the profilograph operator shall lower the profilograph's recording wheel to the pavement surface and move the profilograph forward to the beginning location of a test section to stabilize the measurement system. To ensure consistent distance measurement, the profilograph operator shall also check and adjust the recording wheel tire pressure several times a day.
10. All station references on the profilograms and report forms shall be actual project stations. Stations shall be accurately noted on the profilogram at least every 50 meters.
11. The profilograph operator and the Engineer shall sign the profilograms immediately after completion of the tests. If the Engineer was not present at the time of the tests, then the absence shall be noted on the profilograms.
12. The Engineer shall perform or schedule verification tests on at least 10 percent of the pavement surface, using a profilograph owned by the Department.
13. If the verification test, Independent Assurance tests, or other observations indicate that the Contractor's procedures and/or results are not acceptable or accurate, the Engineer may do any of the following:
 - a. Require the Contractor to calibrate the profilograph and re-run the tests.

- b. Disqualify the Contractor's equipment and/or operator.
 - c. Perform the tests for part, or all, of the project with a profilograph owned by the Department, and charge the Contractor \$300.00 per lane kilometer for all testing done by the Department.
14. The following areas of pavement shall be excluded from the Profile Index, unless otherwise specified in the special provisions.
- a. Pavement on horizontal curves having a centerline radius of curvature of less than 300 meters, and pavement within the superelevation transition of such curves.
 - b. Pavement within 15 meters of a transverse joint that separates the pavement from an approach slab to a bridge deck or existing pavement not constructed under the contract.
 - c. Pavement for truck weigh stations or rest areas, acceleration/deceleration lanes, and interchange ramps and loops.
 - d. Pavement within 15 meters of railroad crossing and associated transitions.
 - e. Pavement with a posted speed limit of 70 kilometers per hour or less.
 - f. Mandated blockouts for access at intersections and driveways including 15 meters on either side.
 - g. Pavement that would require handwork by normal industry practices.
 - h. Additional exceptions shown on the summary sheet in the plans.
15. Excluded pavement sections shall be measured for bumps with either a profilograph or a 3-meter straight edge. If the profilograph is used, the deviation shall not exceed 7.6 mm. The deviation of the surface shall not exceed 3 mm if a 3-meter straight edge is used.

602.05 – Evaluation

1. The Contractor shall determine a Profile Index and number of correctable bumps for each test section, record the information on the report form, and provide a copy of the report, along with the corresponding profilograms, to the Engineer.
 - a. The Profile Index shall be calculated by adding the absolute value of the vertical deviations (millimeters) outside of a 2.5 mm blanking band and dividing the sum by the length of the test section (kilometers). The resulting Profile Index is in units of millimeters per kilometer.
 - b. Correctable bumps shall be separately identified on the profilograms. They appear as high points on the profilogram, and correspond to high points on the pavement surface. Correctable bumps are vertical deviations on the pavement surface that exceed 7.6 mm in height above a base line span of 7.62 meters.

602.06 – Pavement Surface Correction

1. The Contractor shall locate and perform all required pavement surface corrective work, with the approval of and in the presence of, the Engineer. The Contractor may

also locate and perform voluntary corrective work as described in Paragraph 4 & 5 of this Subsection.

- a. Corrective work, including bump correction, shall be accomplished by diamond grinding or by removal and replacement, at no cost to the Department.
 - b. Diamond grinding equipment used for surface correction shall be power driven, self-propelled units specifically designed to grind and texture pavements. The cutting head shall be at least 0.9 meters wide and consist of many diamond blades with spacers. The Engineer may approve equipment with a narrower width for irregular and confined areas which will not accommodate larger equipment and for bumps of limited number and area.
 - c. The Contractor shall re-test all corrected test sections with the profilograph.
2. All bumps, as defined in Subsection 602.05, Paragraph 2, shall be corrected until they are at or below the 7.6 mm maximum height.
 3. When the initial Profile Index of a test section is 315 mm/km or less, mandatory bump correction is the only corrective work allowed for that section.
 4. When the Profile Index of a test section exceeds 315 mm/km, the Contractor may perform voluntary corrective work in that section, in addition to mandatory bump correction work.
 5. When the Profile Index of a test section exceeds 473 mm/km, mandatory corrective work shall be performed to reduce the Profile Index of that section to a value of 473 mm/km or less. The Contractor may perform voluntary corrective work in that section, in addition to mandatory work.
 6. When pavement removal and replacement is used for correction, the Contractor shall furnish the replacement material and construction at no cost to the Department.
 - a. All replacement material shall meet the original specifications for the material removed.
 - b. Removal and replacement shall be for the full lane width for a distance determined by the Engineer.
 - c. Replacement material must meet the same smoothness requirements as the removed pavement.

602.07 – Traffic Control

The Contractor shall provide all traffic control for smoothness testing and corrective work at no cost to the Department.

602.08 – Method of Measurement

1. The unit price of the accepted quantity of Portland concrete pavement in each profilograph test section shall be adjusted according to the schedule in Table 602.01, subject to the limitations in Paragraph 2,3 and 4 of this Subsection. Pavement sections excluded from this smoothness specification shall not qualify for incentive pay.

Table 602.01

Payment Adjustment Schedule	
Profile Index Millimeters per Lane Kilometer	Percent of Contract Prices
0 to 63	106
Greater than 63 to 126	104
Greater than 126 to 189	102
Greater than 189 to 315	100
Greater than 315 to 347	98
Greater than 347 to 379	96
Greater than 379 to 410	94
Greater than 410 to 442	92
Greater than 442 to 473	90
Greater than 473	Corrective work required

2. When the initial Profile Index of a test section is 315 mm/km or less, that value shall determine the percent of incentive pay for the section. Mandatory bump correction work performed in that section may increase the percent of pay.
3. When the initial Profile Index of a test section is greater than 315 mm/km, mandatory bump correction and/or voluntary corrective work performed in that section may increase the percent of pay up to the 100 percent level.
4. When the initial Profile Index of a test section is greater than 473 mm/km, mandatory or voluntary corrective work performed in that section may increase the percent of pay up the 100 percent level indicated in Table 602.01.

602.09 – Basis of Payment

1. The overall pay factor for the accepted quantity of Portland cement concrete pavement in all profilograph test sections shall be determined according to the formula in Table 602.02.

Table 602.02

Pay Factor Formula
$PF = \frac{A(1.06) + B(1.04) + C(1.02) + D(1.00) + E(0.98) + F(0.96) + G(0.94) + H(0.92) + I(0.90)}{A + B + C + D + E + F + G + H + I}$
Where:
A=Length of pavement with a Profile Index of 0 to 63 mm/km.
B= Length of pavement with a Profile Index greater than 63 to 126 mm/km.
C=Length of pavement with a Profile Index greater than 126 to 189 mm/km.
D=Length of pavement with a Profile Index greater than 189 to 315 mm/km.
E=Length of pavement with a Profile Index greater than 315 to 347 mm/km.
F=Length of pavement with a Profile Index greater than 347 to 379 mm/km.
G=Length of pavement with a Profile Index greater than 379 to 410 mm/km.
H=Length of pavement with a Profile Index greater than 410 to 442 mm/km.
I=Length of pavement with a Profile Index greater than 442 to 473 mm/km.

- The work of smoothness testing shall be paid for at the lump sum contract unit price. This price shall be full compensation for all smoothness testing as set forth in this specification.

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Plan Sheet 2 is amended to include the following:

STD. PLAN NO. M329-R1 155 mm TO 405 mm CONCRETE PAVEMENT

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On plan sheet 107, the NOTES column is amended to include the following note:

All fasteners shall be M22 high strength bolts, ASTM A325M diameter. As an alternate, 7/8" diameter high strength bolts, meeting the requirements of ASTM A325 may be substituted for M22 bolts.

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On plan sheet 124, the "Section At MSE Wall" detail is void and superseded by the new "Section At MSE Wall" detail as shown on the attached sheet. The changes on the new detail are the addition of "preformed joint filler" at the top of the MSE wall cap and revised "Top of MSE Wall Cap" elevations at both abutments No. 1 and No. 2.

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Plan sheet 137 is amended to include the following:

NOTE: For locations of the exterior traffic light support structures (12),
see sheets 47 and 138.

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Plan sheet 140 is amended as follows:

1. In the NOTES column, the last note which begins "All abutment pile, excluding wing pile, shall be started in holes....." is amended to read:

"All abutment pile shall be started in holes....."

2. The NOTES column is amended to include the following:

STRUCTURAL STEEL FOR SUBSTRUCTURE consists of temporary girder support channels at abutments.

3. In the QUANTITIES column, the quantity for "Concrete for Overlay – Type K" is amended to read:

Concrete for Overlay – Type K	67.5 m3
Overlay	50.5 m3
Post-tensioning Channels	17.0 m3

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Plan sheet 141 is amended as follows:

1. In the "General Plan" detail, the note "Sign Support (See Special Plan No.3)" is amended to read:

Sign Support
(See sheets 55, 57 and 67 – 69)

2. In the "Sectional Elevation" detail, the top of pier footing elevation of 358.750 is amended to read '358.575'.

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On plan sheet 142, in the PILE DATA table, the Pier Cut-off Elevation of 357.650 is amended to read '357.475'.

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Plan sheet 148 is amended as follows:

1. Under the “Girder Seat Elevations” table, the following note is added:

Top of Pier Cap Elevation = 366.275

2. In the “Half Pier Elevation Showing Dimensions” detail, the bottom of pier footing elevation of 357.350 is amended to read ‘357.175’.

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On plan sheet 149, in the “Section C – C” detail, the dimensions of 450 – 1875 – 1875 – 450 are amended to read ‘300 – 1250 – 1250 – 300’.

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Plan sheet 159 is amended as follows:

1. The “Section A – A” detail is void and superseded by the new “Section A – A” detail shown on the attached sheet.
2. The “Typical Section Thru Fence” detail is void and superseded by the new “Typical Section Thru Fence” detail shown on the attached sheet.

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Plan sheet 221 is amended as follows:

1. The SUMMARY OF QUANTITIES table is amended as follows:

LOCATION	CONCRETE FACE PANELS (m2)	SELECT GRANULAR BACKFILL (m3)
204 th West Abut. 1	359	2724
204 th West Abut. 2	299	2074

It should be noted that all other quantities in this table remain unchanged.

2. In the “West Wall Elevation” detail, the “Top of Wall = 377.651” dimension is amended to read “Top of MSE Wall Cap = 377.826”.
3. In the “East Wall Elevation” detail, the “Top of Wall = 376.082” dimension is amended to read “Top of MSE Wall Cap = 376.257”.
4. In the “East Wall Elevation” detail, the two corner top of wall dimensions of “Elevation = 376.804” are both amended to read “Elevation = 376.752”.

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Plan sheet 224 is amended as follows:

1. In both "Typical Section of Wall" details, the triangular areas behind the "Select Granular Material" areas shall be labeled as "Random Backfill".
2. The following note is added:

NOTE: Random backfill is defined as being either Select Granular Backfill or embankment material used in the construction of this project. If embankment materials are used, they shall be compacted as described elsewhere in the plans.

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Plan sheet 228 is amended as follows:

1. The sheet pile wall detail titled "AZ13 (50 ksi), SHEET PILE WALL, SEGMENTS 1 AND 7" void and superseded by the detail titled "SHEET PILE WALL, SEGMENTS 1 AND 7" as shown on the attached sheet.
2. The detail titled "HZ 775 D-14/AZ13 (60 ksi), COMBINATION H/Z SHEET PILE WALL, SEGMENTS 2 THROUGH 6" is void and superseded by the detail titled "COMBINATION PILE/SHEET PILE WALL, SEGMENTS 2 THROUGH 6" as shown on the attached sheet.
3. The DESIGN REQUIREMENTS table is void and superseded by the DESIGN REQUIREMENTS table shown on the attached sheet.

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Upon execution of the contract, the plans will be revised to reflect these changes.

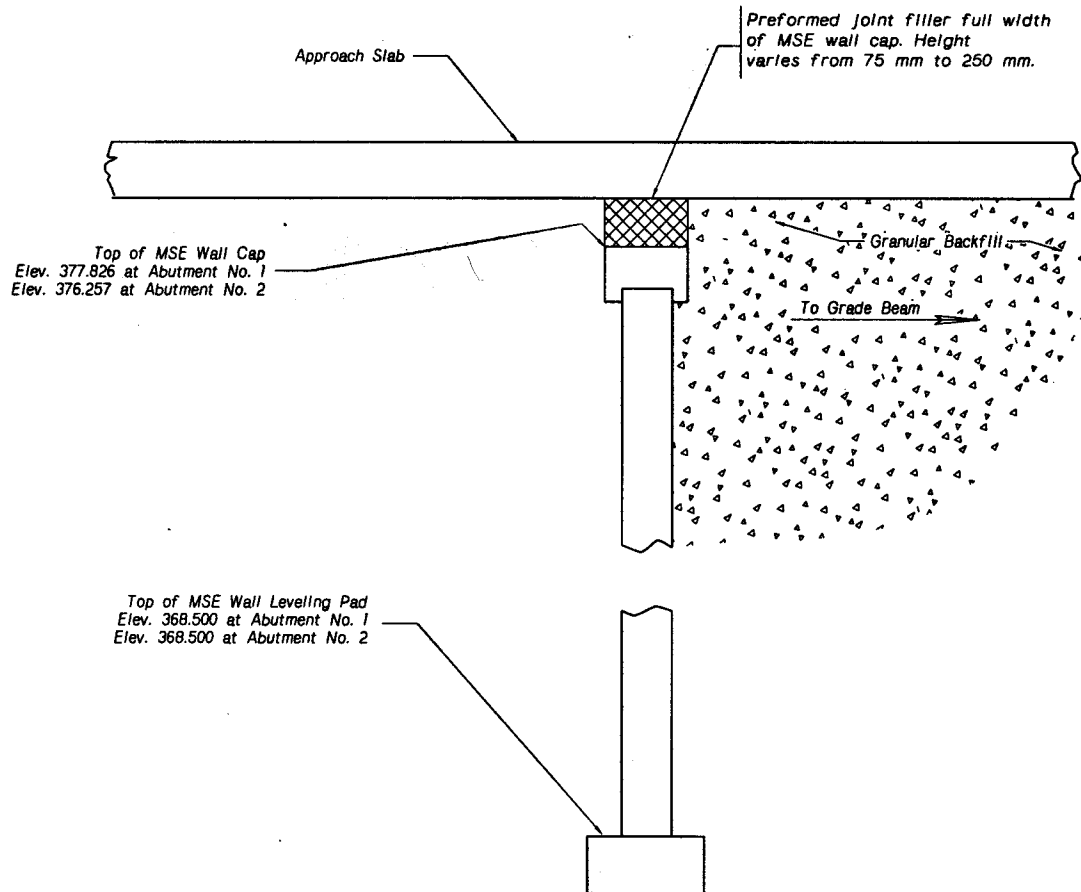
DEPARTMENT OF ROADS

Claude Oie
Construction Engineer

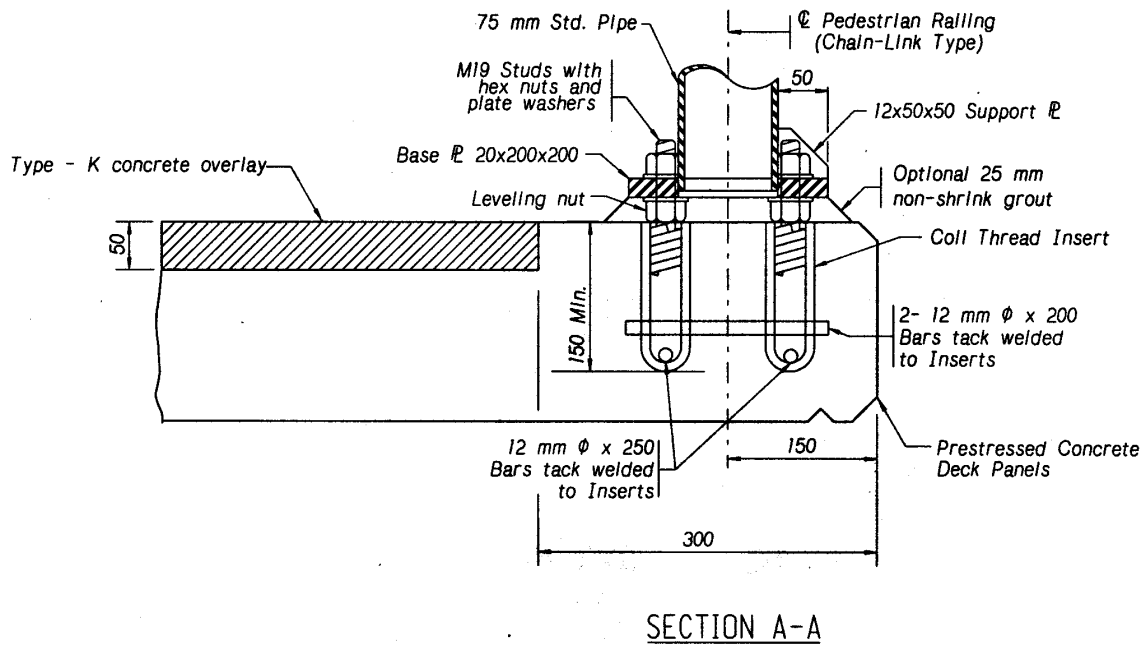
Issued: July 26, 2002

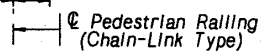
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NOTICE: Only the contractors issued bidding proposals receive this addendum and responsibility for notifying any potential subcontractors or suppliers remains with the contractor.

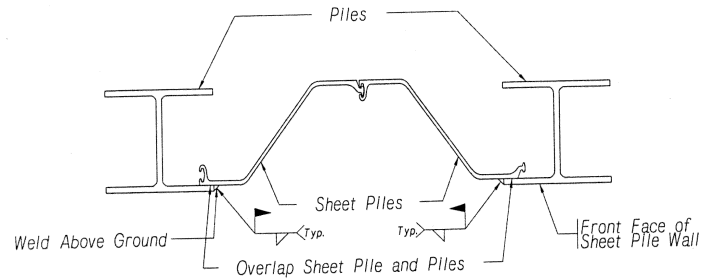


SECTION AT MSE WALL

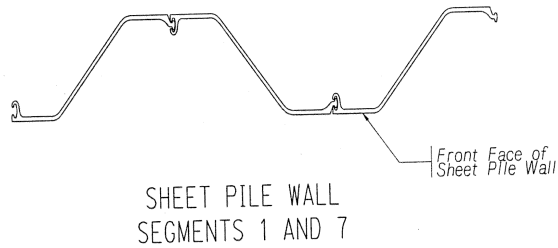




Plan Sheet 159



COMBINATION PILE/SHEET PILE WALL
SEGMENTS 2 THROUGH 6



SHEET PILE WALL
SEGMENTS 1 AND 7

DESIGN REQUIREMENTS				
SEGMENT #	STATION TO STATION	MIN. TIP ELEV. (OR DEEPER) (m)	MINIMUM SECTION MODULUS FOR 60ksi STEEL (cm ⁴ /m)	MINIMUM SECTION MODULUS FOR 50ksi STEEL (cm ⁴ /m)
1	0+33.2 0+45.2	364.50	630	756
2	0+45.2 0+59.2	361.00	3460	4152
3	0+59.2 7745.2	361.00	5615	6738
4	0+77.2 1+09.2	361.00	7255	8706
5	1+09.2 1+19.2	362.00	5615	6738
6	1+19.2 1+44.2	363.50	3460	4152
7	1+44.2 1+63.2	367.00	630	756

NOTE:
Contractor may use either a 50 ksi or a 60 ksi design option
for the segment detail shown. The design should be uniform
within the different segment detail.