STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

July 31, 2003

MEMO TO: Mr. Jay Bennett, PE, State Roadway Design Engineer
Mr. J. Victor Barbour, PE, State Design Services Engineer

FROM: Cynthia B. Perry, PE Cynthia B. Perry
Plans and Standards Engineer

SUBJECT: Combining State Highway Projects

This is a guide for combining projects into a project with a single WBS Construction Element if the distribution of final right of way plans has occurred on a part or the entire combined project.

The basic assembly of plans for two or more projects into a combined project is as follows:

A. Sheet 1 - Title sheet for the Combined Project (See Attachment no. 1)
   1. Show the contract number and all TIP numbers from the combined projects across the left end of the sheet.

   2. Identify the right of way project limits on the plan layout by TIP numbers and stations. Label each TIP number as a Part (Part I, Part II, Part III, etc.)

   3. A combined length of Roadway, a combined length of Structure, and a total combined project length are needed.

   4. The Project Identification Block in the top right corner of the sheet contains information as follows:
      a. State Project Reference No. – All TIP Numbers
      b. State Project No. - P.E., R/W, Utility and Construction WBS Elements for all TIP numbers.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
DESIGN SERVICES UNIT
1591 MAIL SERVICE CENTER
RALEIGH NC 27699-1591

TELEPHONE: 919-250-4128
FAX: 919-250-4119

WEBSITE: WWW.DOH.DOT.STATE.NC.US

LOCATION:
CENTURY CENTER COMPLEX
ENTRANCE B-2
1020 BIRCH RIDGE DRIVE
RALEIGH NC

c. F.A. Project Number - P.E., R/W, Utility and Construction numbers as applicable to each TIP number.

d. Description - Describe as P.E., R/W, Utility and Construction with each TIP number

B. Sheet 1-A of Combined Project (See Attachment no. 2)
   1. Index of Sheets
   2. General Notes
   3. List of Standards

C. Sheet 2 of Combined Project
   1. Conventional Symbols

D. Sheet 3 of Combined Project
   1. Summary of Quantities

The WBS elements, FA Project numbers and TIP designation are shown on all of the title sheets. However, the combined title sheet is the only one on which the contract number is shown.

The individual parts (TIP projects) are placed behind the combined project sheets. With a few exceptions, each individual TIP is assembled as if it was an independent project rather than a part of the combined project. These exceptions are that the individual parts (TIP projects) do NOT require the index of sheets, general notes, list of standards, conventional symbols or summary of quantities (Number 3 sheet).

The summary sheet totals from other parts shall be listed under the respective summary totals on Part I. These totals must be added and shown as a grand total. This grand total is the figure shown on the SUMMARY OF QUANTITIES (See Attachment no. 3). Only one (1) estimate is prepared for a combined project with a single WBS Construction element.

It may be necessary place all parts of some plans that supplement the Roadway Design plans into Part I of the combined project. An example of this is the need for a temporary traffic phase to operate continuously throughout the various parts of a combined project. This requires placing the entire Traffic Control package in Part I.

A new Calculation of Quantities sheet no. 1 is needed. This sheet reflects information as it should be shown for the combined project. Label each TIP package as a part (Part I, Part II, etc.) over the heading of sheet one for each individual part. Stack the parts in ascending order. Place sheet one for the combined project on top of the stack and fasten it all together. Pay item totals from other parts shall be listed under the totals on Part I.

These totals must be added and shown as a grand total. The grand total is the figure shown in the Summary of Quantities (Number 3 sheet). Show TIP numbers for projects numbers on the applicable parts.

If you have any questions or need additional information, please contact me at (919) 250-4128.

CBP/jgl

Attachments

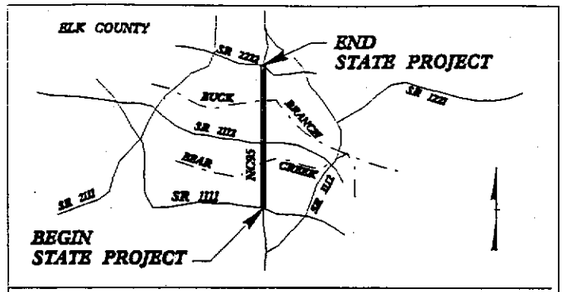
cc: Mr. Scott D. Blevins, PE
Mr. Randy Garris, PE
Mr. Andy Gay, PE
Mr. Ron Davenport, PE

ATTACHMENT #1

TIP PROJECTS: A-99A /A-99B

CONTRACT NO: C000000

See Sheet 1-A For Index of Sheets



VICINITY MAP
(NOT TO SCALE)

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

ELK COUNTY

EXAMPLE

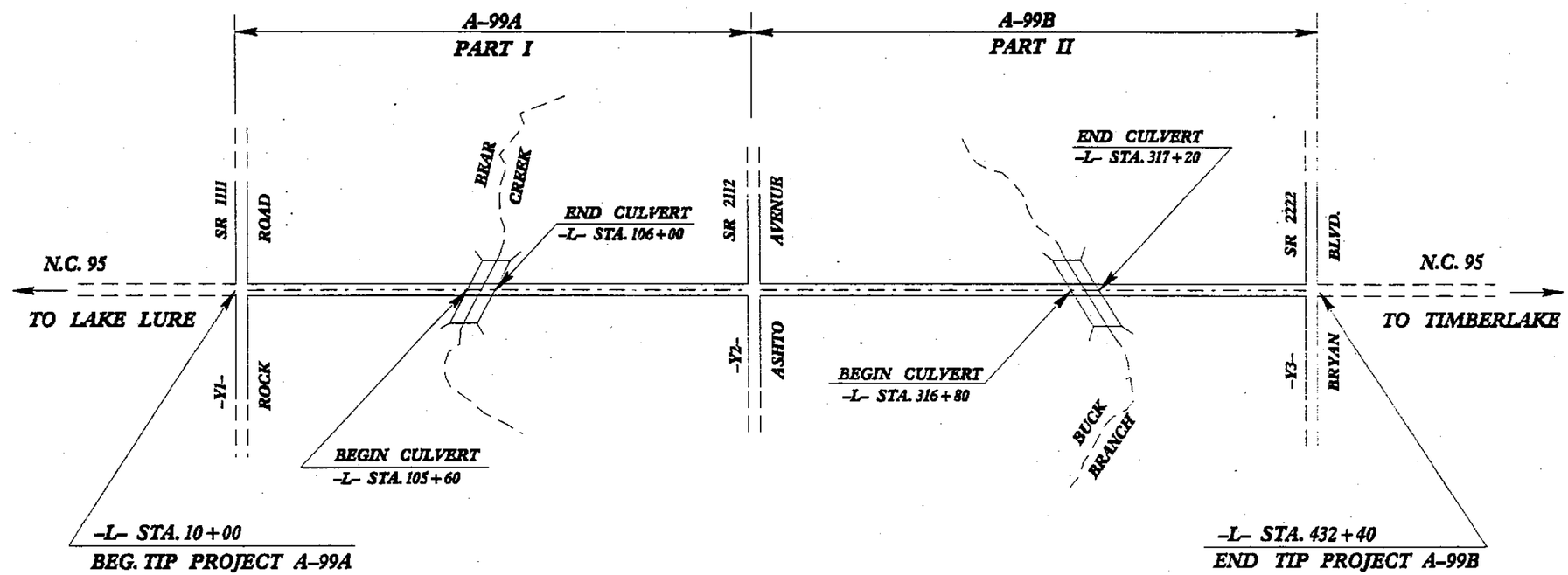
STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	A-99A/A-99B	1	

T.I.P. ELEMENT	F.A. PROJ. NO.	DESCRIPTION
22222.2.1	NH-22-2(2)	A-99A (P.E.)
33333.3.1	NH-33-3(3)	A-99B (P.E.)
44444.4.2	NH-44-4(4)	A-99A (R/W & UTILITY)
55555.5.2	NH-55-5(5)	A-99B (R/W & UTILITY)
66666.6.6	NH-66-6(6)	A-99A/A-99B (CONST.)

LOCATION: NC 95 FROM SR 1111 TO SR 2222

TYPE OF WORK: GRADING, PAVING, DRAINAGE, SIGNING AND STRUCTURES

NAD 83



PROJECT LENGTH

LENGTH ROADWAY TIP PROJECTS A-99A / A-99B	=	7.985 MI.
LENGTH STRUCTURE TIP PROJECTS A-99A / A-99B	=	0.015 MI.
TOTAL LENGTH OF TIP PROJECTS A-99A / A-99B	=	8.000 MI.

Prepared in the Office of:
DIVISION OF HIGHWAYS
1000 Birch Ridge Dr., Raleigh, NC 27610
2002 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE: (A-99A): 4-12-00
RIGHT OF WAY DATE: (A-99B): 6-28-00
LETTING DATE: JANUARY 20, 2004

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER P.E.

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR DATE

ATTACHMENT #2

METRIC

PROJECT REFERENCE NO.	SHEET NO.
A-99A / A-99B	1-A

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

INDEX OF SHEETS, GENERAL NOTES, LIST OF STANDARDS

NORTH CAROLINA PROFESSIONAL SEAL ENGINEER

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	Title Sheet (A-99A/A-99B)
1-A	Index of Sheets, General Notes, List of Standards
2	Conventional Symbols
3	Summary Of Quantities
Part I	
1	Title Sheet (A-99A)
2 thru 2-G	Typical Sections, Pavement Schedule
2-H thru 2-I	Ditch Details
2-J thru 2-N	Detail of Temporary Detours and Cross-Overs
2-O	Contour Grading Plan & Shear Point Diagram
2-P	Detail of Silt Basin Type 'A'
2-Q	Detail of Sand Blanket
2-R	Detail of Modified Concrete Flume
2-S	Detail of Embankment in Pond
2-T	Detail of Structure Anchor Units
3-A thru 3-C	R/W Data Sheet
3-D thru 3-H	List of Pipe, Endwalls, Etc. (For Pipe 1200mm & Under)
3-I	List of Pipe, Endwalls, Etc. (For Pipe 1350mm & Over)
3-J	Guardrail Summary
3-K	Cable Guiderail Summary, Summary of Pavement Removal, Summary of Woven Wire Fence
3-L	Summary of Earthwork in Cubic Meters
4 thru 36	Plan Sheets
37 thru 67	Profile Sheets
TCP-1 thru TCP-	Traffic Control Plans
PM-1 thru PM-	Pavement Marking Plans
EC-1 thru EC-	Erosion Control Plans
L-1 thru L-	Landscape Plans
SIGN -1 thru SIGN-32	Signing Plans
UC-1 thru UC-3	Utility Construction Plans
UO-1 thru UO-11	Utilities By Others
X-1 thru X-202	Cross-Sections
C-1 thru C-	Culvert Plans
S-1 thru S-	Structure Plans
Part II	
1	Title Sheet (A-99B)
2 thru 2-D	Typical Sections, Pavement Schedule
2-E thru 2-F	Ditch Details
2-G	Natural Channel Design Details
2-H	Detail of Intersection (-LREV1- & -Y13B-)
2-J	Detail of Traffic Bearing Steel Cover
2-K	Detail of Sand Blanket
2-L	Detail to Convert Existing Drop Inlet or Catch Basin to Junction Box (Manhole Optional)
3-A thru 3-F	List of Pipe, Endwalls, Etc. (For Pipe 1200mm & Under)
	List of Pipe, Endwalls, Etc. (For Pipe 1350mm & Over)
3-G	Guardrail Summary, Summary Woven Wire Fence, Summary of Pavement Removal
3-H	Summary of Earthwork in Cubic Meters
3-I	Parcel Index Sheet
4 thru 14	Plan Sheets
15 thru 31	Profile Sheets
EC-1 thru EC-	Erosion Control Plans
L-1 thru L-	Landscape Plans
SIGN-1 thru SIGN-	Signing Plans
UO-1 thru UO-11	Utilities By Others
X-1 thru X-79	Cross-Sections

GENERAL NOTES: 2002 SPECIFICATIONS
EFFECTIVE: 01-15-02

GRADE LINE:

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

SUPERELEVATION:

ALL CURVES ON THIS PROJECT SHALL BE SUPERELEVATED IN ACCORDANCE WITH STD. NO. 225.04 OR 225.05 USING THE RATE OF SUPERELEVATION AND RUNOFF SHOWN ON THE PLANS. SUPERELEVATION IS TO BE REVOLVED ABOUT THE GRADE POINTS SHOWN ON THE TYPICAL SECTIONS.

SHOULDER CONSTRUCTION:

SHOULDER CONSTRUCTION ON HIGH SIDE OF SUPERELEVATED CURVES SHALL BE IN ACCORDANCE WITH STD. NO. 560.01 OR 560.02.

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

BERM DITCHES:

BERM DITCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 240.01 AT LOCATIONS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

UNDERDRAINS:

UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.02 USING 3'/900 MM RADII OR RADII AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

GUARDRAIL:

THE GUARDRAIL LOCATIONS SHOWN ON THE PLANS MAY BE ADJUSTED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHOULD CONSULT WITH THE ENGINEER PRIOR TO ORDERING GUARDRAIL MATERIAL.

TEMPORARY SHORING:

SHORING REQUIRED FOR THE MAINTENANCE OF TRAFFIC WILL BE PAID FOR AS "EXTRA WORK" IN ACCORDANCE WITH SECTION 104-7.

END BENTS:

THE ENGINEER SHALL CHECK THE STRUCTURE END BENT PLANS, DETAILS, AND CROSS-SECTION PRIOR TO SETTING OF THE SLOPE STAKES FOR THE EMBANKMENT OR EXCAVATION APPROACHING A BRIDGE.

UTILITIES:

UTILITY OWNERS ON THIS PROJECT ARE:

ALLTEL
CAROLINA POWER & LIGHT
DIXIE PIPELINE COMPANY

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS, EXCEPT AS SHOWN ON THE PLANS.

RIGHT-OF-WAY MARKERS:

RIGHT-OF-WAY MARKERS ON THIS PROJECT SHALL BE PLACED BY OTHERS AND BY CONTRACT IN ACCORDANCE WITH DESIGNATED SYMBOLS AND AS SHOWN IN SUMMARY.

ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January 15, 2002 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO.	TITLE
	DIVISION 2 - EARTHWORK
200.03	Method of Clearing - Method III
225.01	Guide for Grading Subgrade - Interstate and Freeway
225.02	Guide for Grading Subgrade - Secondary and Local
225.03	Deceleration and Acceleration Lanes
225.04	Method of Obtaining Superelevation - Two Lane Pavement
225.05	Method of Obtaining Superelevation - Divided Highways
225.06	Method of Grading Sight Distance at Intersections
240.01	Guide for Berm Ditch Construction
	DIVISION 3 - PIPE CULVERTS
300.01	Method of Pipe Installation - Method 'A'
310.10	Driveway Pipe Construction
	DIVISION 5 - SUBGRADE, BASES AND SHOULDERS
560.01	Method of Shoulder Construction - High Side of Superelevated Curve - Method I
560.02	Method of Shoulder Construction - High Side of Superelevated Curve - Method II
	DIVISION 6 - ASPHALT BASES AND PAVEMENTS
610.03	Guide for Paving Shoulders Under Bridges - Method III
654.01	Pavement Repairs
	DIVISION 8 - INCIDENTALS
806.01	Concrete Right-of-Way Marker
806.02	Granite Right-of-Way Marker
815.03	Pipe Underdrain and Blind Drain
816.04	Markers for Drainage Structure and Concrete Pad
838.11	Brick Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90° Skew
838.27	Reinforced Concrete Endwall - for Single 60" Pipe 90° Skew
838.45	Notes for Reinforced Concrete Endwall - Std. Dwg.s 838.21 thru 838.40
838.57	Reinforced Brick Endwall - for Single 60" Pipe 90° Skew
838.75	Notes for Reinforced Brick Endwall - Std. Dwg.s 838.51 thru 838.70
840.00	Concrete Base Pad for Drainage Structures
840.14	Concrete Drop Inlet - 12" thru 30" Pipe
840.15	Brick Drop Inlet - 12" thru 30" Pipe
840.16	Drop Inlet Frame and Grates - for use with Std. Dwg.s 840.14 and 840.15
840.17	Concrete Median Drop Inlet Type 'A' - 12" thru 72" Pipe
840.18	Concrete Median Drop Inlet Type 'B' - 12" thru 36" Pipe
840.19	Concrete Median Drop Inlet Type 'D' - 12" thru 36" Pipe
840.20	Frames and Wide Slot Flat Grates
840.22	Frames and Wide Slot Sag Grates
840.25	Anchorage for Frames - Brick or Concrete
840.26	Brick Median Drop Inlet Type 'A' - 12" thru 72" Pipe
840.27	Brick Median Drop Inlet Type 'B' - 12" thru 36" Pipe
840.28	Brick Median Drop Inlet Type 'D' - 12" thru 36" Pipe
840.29	Frames and Narrow Slot Flat Grates
840.31	Concrete Junction Box - 12" thru 66" Pipe
840.32	Brick Junction Box - 12" thru 66" Pipe
840.33	Angled Vane Grates and Frames
840.35	Traffic Bearing Drop Inlet - for Cast Iron Double Frame and Grates
840.45	Precast Drainage Structure
840.46	Traffic Bearing Precast Drainage Structure
840.54	Manhole Frame and Cover
840.66	Drainage Structure Steps
840.71	Concrete and Brick Pipe Plug
840.72	Pipe Collar
846.01	Concrete Curb, Gutter and Curb & Gutter
848.02	Driveway Turnout - Radius Type
848.04	Street Turnout
850.10	Guide for Berm Drainage Outlet - 15" and 18" Pipe
850.11	Guide for Berm Drainage Outlet - 24" and 30" Pipe
852.01	Concrete Islands
857.01	Precast Reinforced Concrete Barrier - 41" Single Faced
862.01	Guardrail Placement
862.02	Guardrail Installation
862.03	Structure Anchor Units
865.01	Cable Guiderail
866.02	Woven Wire Fence - with Wood Post

ATTACHMENT # 3

METRIC

PROJECT REFERENCE NO.	SHEET NO.
A-99A	3-1
HIGHWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

COMPUTED BY:		DATE:	3/00
CHECKED BY:		DATE:	4/00

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

LIST OF PIPE, ENDWALLS, ETC.
(FOR PIPE 1350mm & OVER)

STATION	LOCATION LT, RT, OR CL	STRUCTURE NO. FROM	STRUCTURE NO. TO	CLASS III R.C. PIPE (UNLESS NOTED OTHERWISE) (mm) 1350	1500	1650	1800	1950	2100	2250	2400
SIZE		-									
THICKNESS OR GAUGE											
-L- 104+09	CL	16	-	63.6							
-L- 136+20	LT	84	-	32.4							
A-99A				96.0							
A-99B					156.0						
GRAND TOTAL				96.0	156.0						

STATION	BITUMINOUS COATED C.S. PIPE TYPE 8 (UNLESS NOTED OTHERWISE) (mm) 1400	1400 SHOP ELONGATED	1500 3.51	1650 3.51	1800 3.51
SIZE					
THICKNESS OR GAUGE					
-L- 104+09					
-L- 136+20					
A-99A					
A-99B					
GRAND TOTAL					

STATION	STRUCTURAL PLATE PIPE 1500 2.77	1500 3.51	1500 4.27	1650 2.77	1650 3.51	1650 4.27	1800 2.77	1800 3.51	1800 4.27
SIZE									
THICKNESS OR GAUGE									
-L- 104+09									
-L- 136+20									
A-99A									
A-99B									
GRAND TOTAL									

STATION	REINFORCED ENDWALLS WITH R.C. - M3	REINFORCED ENDWALLS WITH C.S. - M3	MASONARY DRAINAGE STRUCTURES CUBIC METERS	TYPE OF CONSTRUCTION PERMITTED BRICK	BLOCK	CONCRETE	PRECAST	M.D.I. FRAME WITH TWO GRATES STD. 840.22	REINF. CONC. FLARED END SECTIONS NO. & SIZE	CORR. STEEL FLARED END SECTIONS NO. & SIZE	REINF. CONC. ELBOWS NO. & SIZE	CONC. COLLARS CL. "B" M3 STD 840.72	CORR. STEEL ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, M3 STD. 840.71	REMARKS
-L- 104+09	3.8														HEADWALL
-L- 136+20	3.8														HEADWALL
A-99A	7.6														
A-99B	9.0		10.0					2							
GRAND TOTAL	16.6		10.0					2							

ABBREVIATIONS

C.B.	CATCH BASIN
M.D.I.	NARROW DROP INLET
D.I.	DROP INLET
M.D.I.	MEDIAN DROP INLET
M.D.I. (N.S.)	MEDIAN DROP INLET (NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE