

## PART 4

### STANDARD DRAWINGS FOR CONSTRUCTION

#### 4.0. INTRODUCTION

In this document, **Ivins City adopts the most recent edition (currently 2007), including all amendments, of the APWA Utah Chapter's *Manual of Standard Plans***. Part 4 is a listing of all of the drawings from the APWA manual and identifies any local modifications that have been made.

#### 4.1. APPLICATION TO DEVELOPER PROJECTS

All drawings listed with an asterisk (\*) do not apply to developer projects and only apply to City contracts. All other specifications may apply to both a developer project as well as a City contract. In these specifications, any reference to "CONTRACTOR" may also imply a responsibility to the Developer as determined by the Developers private contract with its Contractors. All references to "OWNER" apply to Ivins City. All references to "ENGINEER" refer to Ivins City Engineer or other City representative acting with the scope of assigned duties.

#### 4.2. LOCAL DRAWINGS

All drawings shown in **BOLD** are not references to the APWA manual and are instead attached to Part 4 at the end of the document. These are standard drawings that have been locally prepared for Ivins City and may replace an APWA standard plan or at the very least will govern over any conflict with an APWA specification.

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## **PART 4 GENERAL REQUIREMENTS**

### **Contract Closeout**

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Plan No. 110 Arrow diagram for project close-out (p3)

No Modifications

### **Erosion Control**

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Plan No. 121 Straw bale barrier (p5)

No Modifications

Plan No. 122 Silt fence (p7)

No Modifications

Plan No. 123 Diversion dike (p9)

No Modifications

Plan No. 124 Inlet protection (p11)

No Modifications

Plan No. 125 Equipment and vehicle wash down area (p17)

No Modifications

Plan No. 126 Stabilized roadway entrance (p19)

No Modifications

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## **PART 2 - ROADWAY**

### **Abbreviations and Symbols**

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Plan No. 201 Abbreviations and symbols for roadway drawings (p23)

No Modifications

### **Curb, Gutter, Driveway, Sidewalk**

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Plan No. 205 Curb and gutter (p25)

Ivins Standard Drawing R-01 Curb and Gutter shall be used in place of this APWA standard plan.

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Plan No. 209 Curbs (p29)

No Modifications

Plan No. 211 Waterway (p31)

Ivins Standard Drawing R-02 Cross Gutter shall be used in place of this APWA standard plan.

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Plan No. 213 Waterway transition structure (p33)

Ivins Standard Drawing R-02 Cross Gutter shall be used in place of this APWA standard plan.

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Plan No. 215 Dip driveway approach (p35)

No Modifications

Plan No. 216 Mountable curb driveway approach (p37)

No Modifications

Plan No. 221 Flare driveway approach (p39)

No Modifications

Plan No. 222 Saw-cut driveway approach (p43)

No Modifications

Plan No. 225 Open driveway approach (p45)

No Modifications

Plan No. 229 Piped driveway approach (p47)

No Modifications. Not allowed without prior City approval.

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Plan No. 231 Concrete sidewalk (p51)

Modified as follows:

1. Expansion joints required at 20-foot intervals.
2. Expansion joints filler material shall extend 1” below concrete slab.
3. Contraction joints required at 5-foot intervals on a 5’ sidewalk, plus or minus to fit site geometry.
4. Compact subgrade per geotechnical recommendations.
  - a. May require overexcavation.
  - b. As a minimum, scarify 8 inches, moisture recondition and recompact per APWA Section 32 05 10.

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Plan No. 232 Patterned concrete park strip (p53)

No Modifications. Not allowed without prior City approval.

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Plan No. 235 Corner curb cut assembly (p55)

Ivins Standard Drawing No. R-03 replaces this APWA standard plan.

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Plan No. 236 Tangent curb cut assembly (p61)

No Modifications

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Plan No. 237 Islands and median (p67)

No Modifications

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Plan No. 238 Detectable warning surface (p69)

No Modifications

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Plan No. 241 Parking meter post (p71)

No Modifications

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Plan No. 242 Form strip filler (p73)

No Modifications

### **Roadways**

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Plan No. 251 Asphalt concrete pavement tie in (p75)

No Modifications

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Plan No. 252 Curb and gutter replacement without pavement tie in (p77)

No Modifications

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Plan No. 253 Asphalt concrete pavement overlay (p79)

No Modifications

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Plan No. 255 Asphalt concrete "T" patch (p83)

No Modifications

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Plan No. 256 Concrete pavement patch. (p87)

No Modifications

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Plan No. 261 Concrete pavement joints (p89)

No Modifications

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Plan No. 265 Crack sealing – asphalt pavement (p93)

No Modifications

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Plan No. 266 Crack filling – asphalt pavement (p95)

No Modifications

**Survey Monument**

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Plan No. 271 Corner and boundary markers (p97)

No Modifications

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Plan No. 272 Monument cap and base (p99)

No Modifications

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Plan No. 273 Frame and cover for monument (p101)

No Modifications

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Plan No. 274 Survey monument placement under pavements (p103)

No Modifications

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Plan No. 275 Cover collar for survey monuments (p105)

Modified as follows:

1. Install one #4 rebar in concrete collar.

**General**

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Plan No. 291 Defective concrete (p107)

No Modifications

Plan No. 292 Street name sign (typical) (p109)

Ivins Standard Drawing R-06 Sign Post Installation shall be used in place of this APWA standard plan.



## **PART 3 - STORM DRAIN**

### **Abbreviations and Symbols**

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Plan No. 301 Abbreviations and symbols for storm drains (p113)

No Modifications

### **Catch Basins, Inlets, Outlets and Hardware**

---

Plan No. 302 30" Frame and cover (p115)

No Modifications

Plan No. 303 44" Frame and cover (p119)

No Modifications

Plan No. 304 48" Cover and frame (p121)

No Modifications

Plan No. 305 51" Cover and frame (p123)

No Modifications

Plan No. 308 35 1/2" Grate and frame with adjustable curb box (p129)

No Modifications

Plan No. 309 47 3/4" Grate and frame (p131)

No Modifications

Plan No. 310 48" Grate and frame (p135)

No Modifications

Plan No. 315 Catch basin (p137)

Modified as follows:

1. Precast boxes may be provided. Contractor must submit product data prior to installation.
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Plan No. 316 Combination inlet/cleanout box (p141)

Modified as follows:

1. Precast boxes may be provided. Contractor must submit product data prior to installation.

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Plan No. 317 Curb inlet/outlet (p143)

Modified as follows:

1. Precast boxes may be provided. Contractor must submit product data prior to installation.

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Plan No. 320 Debris grate inlet (p147)

No Modifications

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Plan No. 321 Automatic flap gate (pressurized storm drains) (p149)

No Modifications

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Plan No. 322 Curb outlet (p151)

No Modifications

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Plan No. 323 Pipe outfall access control rack (p153)

No Modifications

**Cleanout Box and Hardware**

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Plan No. 330 Cleanout box (p155)

No Modifications

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Plan No. 331 Cleanout box (p157)

No Modifications

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Plan No. 332 Cast in-place manhole (p159)

No Modifications

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Plan No. 335 Adjust reinforced concrete deck to grade (p161)

No Modifications

**Manhole and Hardware**

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Plan No. 341 Precast manhole (p163)

No Modifications

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Plan No. 345 Concrete deck (p167)

No Modifications. Use Eccentric Deck Plan unless otherwise approved.

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Plan No. 360 Raise frame to grade – plastic form (p169)

No Modifications

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Plan No. 361 Raise frame to grade – grade ring (p171)

No Modifications

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Plan No. 362 Cover collar for storm drains (p173)

Modified as follows:

1. Install one #4 rebar in concrete collar.

### **Piping**

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Plan No. 372 Area drain (p175)

No Modifications

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Plan No. 373 Concrete pier (p177)

No Modifications

### **Trenching**

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Plan No. 381 Trench Backfill. (p179)

No Modifications

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Plan No. 382 Pipe zone backfill (p181)

Modified as follows:

1. See Ivins City Modification to Section 33 05 20 Backfilling Trenches, paragraph 3.3 Pipe Zone for allowable material to be installed within the pipe zone.

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## **PART 4 - SANITARY SEWER**

### **Abbreviations and Symbols**

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Plan No. 401 Abbreviations and symbols for sewer (p185)

No Modifications

### **Manholes and Hardware**

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Plan No. 402 30" Frame and cover (p187)

No Modifications

Plan No. 411 Sanitary sewer manhole (p189)

Ivins Standard Drawing No. S-01 Standard Manhole shall be used in place of this APWA standard plan.

Plan No. 412 Invert cover (p191)

No Modifications

Plan No. 413 Cover collar for sanitary sewer manhole (p193)

Modified as follows:

1. Install one #4 rebar in concrete collar.

### **Piping**

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Plan No. 431 Sewer lateral connection (p195)

Ivins Standard Drawing No. S-05, S-06, and S-07 shall be used in place of this APWA standard plan.

Plan No. 432 Sewer lateral relocation (p197)

No Modifications

Plan No. 433 Pipe drop (p199)

Ivins Standard Drawing No. S-02 Junction & Drop Manhole shall be used in place of this APWA standard plan.

### **Liquid Separation Systems**

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Plan No. 441 Grease trap. (p201)

All grease traps shall be in accordance with City of St. George standards in place of this APWA standard plan.

**Trenching** - See Trenching requirements under Section 3

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## **PART 5 - WATER SYSTEMS**

### **Abbreviations and Symbols**

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Plan No. 501 Abbreviations and symbols for water (p205)

No Modifications

### **Concrete Boxes and Hardware**

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Plan No. 502 27" Frame and cover (p207)

Modified as follows:

1. Inscription shall be "WATER".
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Plan No. 503 38" Frame and cover (p209)

Modified as follows:

1. Inscription shall be "WATER".
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Plan No. 505 Concrete boxes (p211)

No Modifications

### **Fire Hydrants**

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Plan No. 511 Fire hydrant with valve (p213)

Ivins Standard Drawing No. W-02 Fire Hydrant Installation shall be used in place of this APWA standard plan.

### **Meters**

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Plan No. 521 3/4" and 1" meter (p215)

Ivins Standard Drawing No. W-01 3/4" or 1" Water Service Connection shall be used in place of this APWA standard plan.

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Plan No. 522 1 1/2" and 2" meter. (p217)

No Modifications

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Plan No. 523 3" & 4" Compound meter with 2" bypass (p219)

No Modifications

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Plan No. 525 6" Compound meter with 2" bypass (p221)

No Modifications

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Plan No. 527 8" Compound meter with 2" bypass (p223)

No Modifications

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Plan No. 529 10" Turbo meter with 6" turbo meter and 2" bypass (p225)

No Modifications

### **Monitoring Systems**

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Plan No. 535 Electrolysis monitoring station details (p227)

No Modifications

### **Piping**

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Plan No. 541 Water service line. (p229)

Ivins Standard Drawing No. W-01 ¾" or 1" Water Service Connection shall be used in place of this APWA standard plan.

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Plan No. 542 Waterline loop (p231)

Modified as follows:

1. Use joint restraints for thrust control unless otherwise approved.

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Plan No. 543 Fire hydrant relocation (p233)

No Modifications

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Plan No. 551 ¾" and 1" Service taps (p235)

Modified as follows:

1. Use IPS polyethylene pipe for service lines.
2. Service line minimum depth is 36".

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Plan No. 552 1 ½" and 2" Service taps. (p237)

Modified as follows:

1. Use IPS polyethylene pipe for service lines.



## **Thrust Blocks**

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Plan No. 561 Direct bearing thrust block. (p239)

Direct bearing thrust blocks are not allowed except in certain circumstances as approved by the City. Joint restraints shall be used as the standard for thrust control. See Ivins Standard Drawing No. W-04, W-05, and W-06 for PVC restraining systems.

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Plan No. 562 Tie-down thrust restraints (p241)

Tie-down thrust restraints are not allowed except in certain circumstances as approved by the City. Joint restraints shall be used as the standard for thrust control.

**Trenching** - See Trenching requirements under Section 3

## **Valves**

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Plan No. 571 2" Washout valve (p243)

Required on all dead ends except when hydrant is located within 100 feet.

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Plan No. 572 Detector check valve with 3/4" bypass meter (p245)

No Modifications

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Plan No. 573 6" Pressure reducing valve with 2" bypass (p247)

No Modifications

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Plan No. 574 Cover collar for water valve boxes (p249)

Ivins Standard Drawing No. W-03 Valve and Valve Box Installation shall be used in place of this APWA standard plan.

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Plan No. 575 Air release assembly (p251)

Modified as follows:

1. Replace copper tubing with IPS polyethylene pipe.

## **General**

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Plan No. 593 Pressurized irrigation water and potable water interface (p253)

No Modifications

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## **PART 6 – IRRIGATION AND LANDSCAPING**

### **Abbreviations and Symbols**

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Plan No. 601 Abbreviations and symbols for irrigation and landscaping (p259)

No Modifications

### **Gravity Flow System**

---

Plan No. 611 Curb inlet box for irrigation (p261)

No Modifications

Plan No. 613 Irrigation diversion box (p263)

No Modifications

Plan No. 614 Irrigation diversion box (p265)

No Modifications

### **Heads**

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Plan No. 621 Stationary head (p267)

No Modifications

Plan No. 622 Pop-up head (p269)

No Modifications

### **Valves**

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Plan No. 631 Backflow preventer. (p271)

No Modifications

Plan No. 632 Drain valve (p273)

No Modifications

Plan No. 633 Control valve (p275)

No Modifications

Plan No. 635 Isolation shut-off valve (p277)

No Modifications

**Electrical**

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Plan No. 651 Wire runs for landscape irrigation (p279)

No Modifications

**Trees and Plants**

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Plan No. 681 Tree (p281)

No Modifications

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Plan No. 683 Shrubs and bushes (p283)

No Modifications

## **PART 7 - COMMUNICATIONS, LIGHTING, TRAFFIC CONTROL**

### **Street Lighting**

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Plan No. 710 Riser (p287)

No Modifications

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Plan No. 730 Collar for street light pole (p289)

Not applicable to Ivins City. See Ivins Standard Drawings No. L-01, L-02, L-03, and L-04.

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Plan No. 731 Pull box (p291)

No Modifications

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Plan No. 732 Trench for street light conduit (p293)

No Modifications

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Plan No. 733 Joint use trench – street lighting (p297)

No Modifications

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Plan No. 736 Street light pole terminal (p299)

No Modifications

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Plan No. 737 Street light meter pedestal (p301)

No Modifications

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Plan No. 741 Screw-in base street light pole (p303)

Not applicable to Ivins City. See Ivins Standard Drawings No. L-01, L-02, L-03, and L-04.

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Plan No. 742 Direct burial street light pole (p305)

Not applicable to Ivins City. See Ivins Standard Drawings No. L-01, L-02, L-03, and L-04.

### **Light Pole Standards**

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Plan No. 751 Signal pole foundation (p307)

No Modifications

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Plan No. 752 Signal pole wiring (p309)

No Modifications

**Speed Humps**

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Plan No. 761 Speed Bump (p311)

No Modifications

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Plan No. 762 Speed Table (p313)

No Modifications

**PART 8 - GENERAL FACILITIES**

**Design Standards**

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Plan No. 805 Design vehicle – type A. (p317)

No Modifications

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Plan No. 805 Design vehicle – type B. (p319)

No Modifications

**Security Fencing**

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Plan No. 831 Chain link fence (p321)

No Modifications

**Miscellaneous**

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Plan No. 880 Bus stop pad (p323)

No Modifications

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