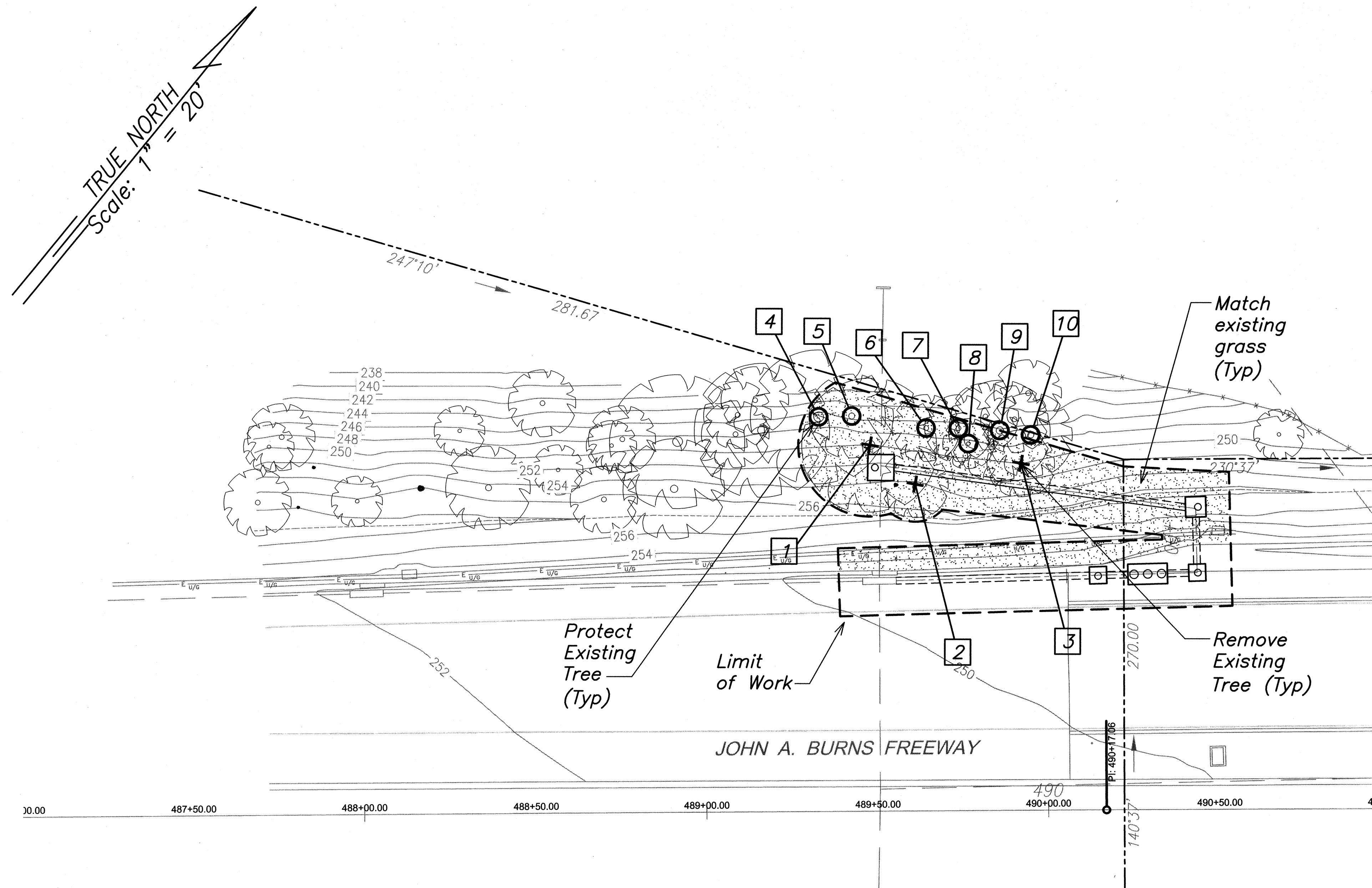


| FED. ROAD DIST. NO. | STATE | PROJ. NO.   | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | HWY-O-01-15 | 2016        | 40        | 52           |



| Tree Disposition Inventory |        |         |                 |        |         |
|----------------------------|--------|---------|-----------------|--------|---------|
| No.                        | Name   | Caliper | Canopy Diameter | Height | Remarks |
| 1                          | Tree   | 28"     | 40'             | 50'    | Remove  |
| 2                          | Tree   | 12"     | 20'             | 20'    | Remove  |
| 3                          | Rubber | 18"     | 20'             | 20'    | Remove  |
| 4                          | Banyan | 36"     | 40'             | 45'    | Protect |
| 5                          | Rubber | 17"     | 25'             | 25'    | Protect |
| 6                          | Tree   | 12"     | 20'             | 40'    | Protect |
| 7                          | Tree   | 6"      | 20'             | 20'    | Protect |
| 8                          | Tree   | 6"      | 15'             | 20'    | Protect |
| 9                          | Tree   | 14"     | 30'             | 30'    | Protect |
| 10                         | Tree   | 10"     | 25'             | 25'    | Protect |

| Tree Disposition Legend |                          |
|-------------------------|--------------------------|
| Symbol                  | Treatment                |
| ○                       | Protect In Place (Fence) |
| ×                       | Remove / Demolish        |

**Note:**  
Contractor shall be responsible for providing temporary irrigation throughout the maintenance and establishment period.

**LANDSCAPE SITE PLAN**  
**PID 106997 (PBMP B)**  
Scale: 1"=20'-0"

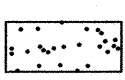
|                   |      |
|-------------------|------|
| ORIGINAL PLAN     | DATE |
| SURVEY PLOTTED BY |      |
| DRAWN BY          |      |
| TRACED BY         |      |
| CHECKED BY        |      |
| NOTED BY          |      |
| QUANTITIES BY     |      |
| CHECKED BY        |      |
| No.               |      |

DAWN EASTERDAY  
LICENSED PROFESSIONAL LANDSCAPE ARCHITECT  
No. 11331  
HAWAII, U.S.A.  
4/30/18  
EXP. DATE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**LANDSCAPE SITE PLAN**  
**PID 106997 (PBMP B)**  
MISCELLANEOUS PERMANENT  
BEST MANAGEMENT PRACTICES, PHASE 2A  
Project No. HWY-0-01-15  
Scale: 1"=20' Date: April 2016  
SHEET No. L-02 OF 52 SHEETS

|                        |       |             |                |              |                 |
|------------------------|-------|-------------|----------------|--------------|-----------------|
| FED. ROAD<br>DIST. NO. | STATE | PROJ. NO.   | FISCAL<br>YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
| HAWAII                 | HAW.  | HWY-O-01-15 | 2016           | 41           | 52              |


| Plant Material List – PID 106997 (PBMP B)   |       |    |                      |             |      |         |        |         |            |
|---|-------|----|----------------------|-------------|------|---------|--------|---------|------------|
| Symbol  | Qty   |    | Botanical Name       | Common Name | Size | Caliper | Height | Spacing | Remarks    |
| Groundcovers  |       |    |                      |             |      |         |        |         |            |
|  | 3,995 | sf | Match existing grass | Grass       | Seed |         |        |         | Hydromulch |
|   |       |    |                      |             |      |         |        |         |            |

Planting Notes:

- Backfill mix shall consist of four (4) parts of amended planting soil to one (1) part organic soil conditioner (see specifications). Add one (1) pound of 10–30–10 fertilizer to one (1) cubic yard of backfill mix. Mix thoroughly on project site prior to any planting operations.
- Quantities are shown for the convenience of the contractor only. The contractor shall perform its own quantity estimates for the purposes of bidding and construction. The contractor shall provide plants and other materials in the quantities necessary to complete the installation as shown on the drawings.

|                  |                   |      |
|------------------|-------------------|------|
| ORIGINAL<br>PLAN | SURVEY PLOTTED BY | DATE |
| NOTE BOOK        | DESIGNED BY       |      |
| No.              | QUANTITIES BY     |      |
|                  | CHECKED BY        |      |

\\NA\DOT\_Highway\2013\7004202\_Dot\_Highway\BMPs\Miscellaneous BMPs\Landscape\CAD\Sheets\Phase 2A\A1 L-03 Landscape Plant List - PID 106997 (BMP B).dwg



4/30/18  
EXP. DATE

*Dawn Easterdal*  
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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**LANDSCAPE PLANT MATERIAL LIST**  
**PID 106997 (PBMP B)**  
**MISCELLANEOUS PERMANENT**  
**BEST MANAGEMENT PRACTICES, PHASE 2A**

Project No. HWY-O-01-15  
Scale: None Date: April 2016

SHEET No. L-03 OF 52 SHEETS



|                   |  |
|-------------------|--|
| DATE              |  |
| SURVEY PLOTTED BY |  |
| PLAN              |  |
| TRACED BY         |  |
| DESIGNED BY       |  |
| QUANTITIES BY     |  |
| CHECKED BY        |  |
| ORIGINAL          |  |
| PLAN              |  |
| NOTE BOOK         |  |
| No.               |  |

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## GENERAL STRUCTURAL NOTES:

### GENERAL:

1. All materials provided and work performed shall conform to the drawings, Hawaii Standard Specifications for Road, Bridge and Public Works Construction (2005 Edition) and Special Provisions.
2. The Contractor shall verify all site conditions before commencing with work.
3. The Contractor shall verify the location of all existing utility lines and notify the respective owners before commencing with work.
4. Unless otherwise noted, all vertical dimensions are measured plumb.
5. The Contractor shall provide all measures necessary to protect the structure during construction. Such measures shall include, but not limited to, bracing shoring for loads due to construction equipment, winds, seismic, stream flow, etc.
6. The Contractor shall be solely responsible for all excavation and dewatering permit requirements and procedures including lagging, shoring and protection of streets and utilities, including treatment and discharge of pumped water.
7. The Contractor shall be solely responsible for coordinating the work of all trades and shall check dimensions. All discrepancies shall be called to the attention of the Engineer and be resolved before proceeding with the work.
8. The Contractor shall comply with all construction permits for this project. In addition, the Contractor shall comply with all applicable laws of the Federal, State, and County governments.
9. Shop drawings required by the specifications shall be submitted to the Engineer for review prior to fabrication.
10. Anchor Bolt, Threaded Rod, Nut, Angle and Grout shall be considered incidental to various Bid Items.

### DESIGN CRITERIA:

AASHTO Load and Resistance Factor Design (LRFD) Bridge Design Specifications, Seventh Edition, 2014, with 2015 Interim Revisions, and State of Hawaii "Design Criteria for bridges, and Structures" dated August 8, 2014.

### DESIGN DATA:

1. Live Loads:
  - a) Pedestrian / Bicycle Load ..... 0.075 KSF (on Shoulders)
  - b) Vehicle Load ..... HL-93
  - c) Future Wearing Surface ..... 0.025 KSF (if located on Pavement Area)

### FOUNDATION EXCAVATION AND DEWATERING:

1. Temporary shoring and dewatering, if required, shall be considered incidental to structure excavation.

### FOUNDATION:

These foundation notes were based on recommendations contained in a Geotechnical Engineering Exploration report by Geolabs, Inc. dated August 5, 2015. The report shall be considered as part of the construction documents and its recommendations shall be implemented unless otherwise directed by the Geotechnical Engineer. Contractor may obtain a copy of the report at the State of Hawaii, Department of Transportation - Highways Division upon request.

1. Manhole Walls:
  - a) Static Lateral Earth Pressures:

|   |        |
|---|--------|
| At-Rest Earth Pressure (Level Backfill) .....                           | 50 PCF |
| At-Rest Earth Pressure (Level Backfill with hydrostatic pressure) ..... | 90 PCF |
  - b) Allowable bearing pressure ..... 3,000 PSF
  - c) Coefficient of friction ..... 0.4
  - d) Passive earth pressure ..... 300 PCF
2. Structural Backfill:
  - a) Structural backfill shall be in accordance with the requirements for Structural Backfill Material A as indicated in Section 703.20 of the Hawaii Standard Specifications for Road, Bridge and Public Works Construction (2005) and the Special Provisions.
  - b) Placement of the structural backfill shall be in accordance with the Standard Specifications and Special Provisions.

### CONCRETE:

1. Schedule of structural concrete 28-day minimum strength:

|                    |                                       |
|--------------------|---------------------------------------|
| All Concrete ..... | 4,000 PSI with W/C ratio of 0.45 max. |
|--------------------|---------------------------------------|

Note: Maximum cement content shall be 800 Lbs per cubic yard.
2. Concrete Mixes shall be submitted to the Engineer for review.
3. Concrete admixtures containing chloride salts shall not be used.

### REINFORCING STEEL:

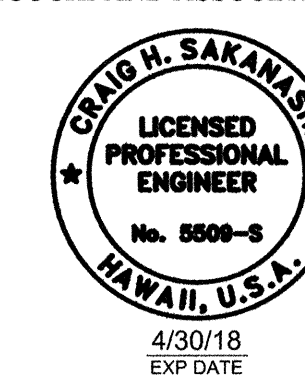
1. Reinforcing bars shall be ASTM A615, Grade 60, unless shown otherwise.
2. Reinforcing splices shall be made only where indicated on the drawings.
3. All reinforcing bars, anchor bolts, dowels and other embedded items are to be securely tied in place before concrete pour.
4. All reinforcing bar bends shall be made cold.
5. Reinforcement shall be detailed in accordance with AASHTO LRFD Bridge Design Specifications, Seventh Edition, 2014, including subsequent Interim Revisions, unless otherwise noted.
6. Welding of reinforcing steel is not permitted, unless otherwise shown on the drawings. Welding of reinforcing steel shall conform to (the latest edition of AWS D1.4 "AWS Structural Welding Code - Reinforcing Steel" of the American Welding Society. Deformed reinforcing bars to be welded shall conform to ASTM A706, Grade 60.
7. Unless otherwise noted, the covering measured from the surface of the concrete to the face of any reinforcing bars shall be as follows:
  - a) Bottom and side of manhole where concrete is deposited on grade ..... 3" clear
  - b) All others ..... 2" clear
8. Minimum clear spacing between parallel bars shall be 1 1/2 times the diameter of the bar, but in no case shall the clear distance between parallel bars be less than 1/2 times the maximum size of the coarse aggregate, or 1 1/2 inches.
9. All dimensions relating to reinforcing bars (e.g. spacing of bars, etc.) are to center of bars, unless otherwise noted.
10. Reinforcing bars shall be securely tied at all intersections and lap spliced except where the spacing of the intersections is less than 12 inches in each direction, in which case alternate intersections shall be tied.

### STRUCTURAL STEEL AND MISCELLANEOUS METAL:

1. All structural steel shall conform to ASTM A992, unless otherwise noted. All steel tubes shall conform to ASTM A500, Grade B. All structural pipes shall conform to ASTM A53, Grade B. Plates shall conform to ASTM A36.
2. All structural steel and miscellaneous metal shall be hot-dipped galvanized after fabrication. All holes (other than stainless steel) shall be punched before galvanizing.
3. All anchor bolts and threaded rods and other hardware including nuts and washers which connect steel to concrete shall conform to ASTM A307, A325N (Type 1), A449 (Type 1) and A36 as noted and be hot-dipped galvanized.
4. All welds shall be in conformance with the structural welding code AWS D1.1:2000 of the American Welding Society. Electrodes for A36, A500 and A992 shall be E70. A992 shall be E70.
5. All stainless steel plates, bars, rods, anchor bolts and shapes shall be Type 316 or 316L. Welding of stainless steel shall be in accordance with the latest edition of AWS D1.6 "Structural Welding Code - Stainless Steel".
6. Stainless steel threaded rods and nuts shall conform to ASTM A276, Type 316L.

| FED. ROAD DIST. NO. | STATE | PROJ. NO.   | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | HWY-O-01-15 | 2016        | 42        | 52           |

SHIGEMURA, LAU, SAKANASHI,  
HIGUCHI AND ASSOCIATES, INC.



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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

### GENERAL STRUCTURAL NOTES

MISCELLANEOUS PERMANENT  
BEST MANAGEMENT PRACTICES, PHASE 2A

Project No. HWY-O-01-15  
Scale: As Shown Date: April 2016

SHEET No. S-01 OF 11 SHEETS